



Maldives National Skills Development Authority



National Competency Standard for Marine Mechanic

Standard Code: TRN03S18V2

**Qualification Name: National Certificate IV in Marine Mechanic
Qualification Code: TRN03SQ3L418**

Technical Panel members		
Name	Designation	Company
Abdul Latheef Ali	Captain	MNDF
Mohamed Asif	Senior Technician	Stelco
Ahmed Zaki	Manager-Technical	MTCC
Migudhad Abdul Hameed	Service Engineer	MTCC
Abdul Razzaq Adam	Assistant lecturer grade 2	Maldives polytechnic
Developer		
TVET Authority	-	Ministry of Education

KEY FOR CODING

Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC (Three letters)	Construction Sector (CON) Fisheries and Agriculture Sector (FNA) Transport sector (TRN) Tourism Sector (TOU) Social Sector (SOC) Foundation (FOU)
Competency Standard	S
Occupation within an industry Sector	Two digits 01-99
Unit	U
Common Competency	1
Core Competency	2
Optional/ Elective Competency	3
Assessment Resources Materials	A
Learning Resources Materials	L
Curricula	C
Qualification	Q1, Q2 etc
MNQF level of Qualification	L1, L2 etc
Version Number	V1, V2 etc
Year of endorsement of standard, qualification	By two digits Example- 07

1. Endorsement Application for Qualification 01**2. NATIONAL CERTIFICATE III IN MARINE MECHANIC**

3. Qualification code: TRN03SQ1L308
Total Number of Credits :75

4. Purpose of the qualification

The holders of this qualification will be will be competent to work in the Maritime Sector as an Assistant Mechanic. The level one qualification presented here will facilitate preparing students to the entry-level workplace tasks and the competency units are mapped in such a way to fulfill the knowledge and skills requirements of the “Assistant Mechanic” occupation within the local Maritime Industry. Referred mechanics can undertake general functional assessment of the small/medium marine engines and its systems and perform necessary repair and maintenance tasks.

5. Regulations for the qualification

National Certificate III in the Marine Mechanic Qualification will be awarded to those who are competent in units
1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+
16+17+18+19+20+21+22+23+24+25

6. Schedule of Units

Unit No	Unit Title	Code
1	General Industry Knowledge	TRN03S1U01V2
2	Practice good work ethics	TRN03S1U02V2
3	Personal and workplace Hygiene	TRN03S1U03V2
4	Occupational Health and Safety	TRN03S1U04V2
5	Customer care	TRN03S1U05V2
6	Workplace communications	TRN03S1U06V2
7	Policies and procedures	TRN03S1U07V2
8	Firefighting and damage control	TRN03S1U08V2
9	Provide first aid on board	TRN03S1U09V2
10	Operate life-saving appliances and apply survival techniques in the event of vessel abandonment	TRN03S1U10V2

11	Handle and maintenance of workplace tools and equipment and undertake basic workshop calculations	TRN03S1U11V2
12	Maintain the Workshop	TRN03S1U12V2
13	Interpret technical drawings	TRN03S1U13V2
14	Use power tools/hand held operations	TRN03S1U14V2
15	Operate and maintain inboard and outboard engines and propulsion transmission systems	TRN03S1U15V2
16	Test, service and replace battery	TRN03S1U16V2
17	Repair Transmission system	TRN03S1U17V2
18	Hull maintenance	TRN03S1U18V2
19	RO plant	TRN03S1U19V2
20	AC system	TRN03S1U20V2
21	Maintain maritime telecommunication systems and navigational aids	TRN03S1U21V2
22	Service ignition system components	TRN03S1U22V2
23	Service diesel fuel system	TRN03S1U23V2
24	Operate and service engine water pump	TRN03S1U24V2
25	Operate and service diesel/petrol electric generator	TRN03S1U25V2
7. Accreditation requirements		The training provider should place trainees in relevant maritime vessels, workshop/garage or similar training facilities to provide the trainees the hands-on experience exposure related to this qualification.
8. Recommended sequencing of units		As appearing under the section 06

1. Endorsement Application for Qualification 02**2. NATIONAL CERTIFICATE IV IN MARINE MECHANIC****3. Qualification code:**

TRN03SQ2L408

Total Number of Credits :174**4. Purpose of the qualification**

The holders of the level four qualifications are expected to possess all the relevant knowledge and skills to work as Marine Mechanic in the local Maritime Industry. Referred marine mechanics can install, inspect and maintain the propulsion systems, engines, pumps and other pieces of technical equipment that make boats and other maritime vessels function effectively

5. Regulations for the qualification

National Certificate IV in the Marine Maintenance Qualification will be awarded to those who are competent in unit

1+2+3+4+5+6+7+8+9+10+11+12+15+17+18+19+20+

21+26+27+28+29+30+31+32+33+34+35+36

6. Schedule of Units

Unit No	Unit Title	Code
1	General Industry Knowledge	TRN03S1U01V2
2	Practice good work ethics	TRN03S1U02V2
3	Personal and workplace Hygiene	TRN03S1U03V2
4	Occupational Health and Safety	TRN03S1U04V2
5	Customer care	TRN03S1U05V2
6	Workplace communications	TRN03S1U06V2
7	Policies and procedures	TRN03S1U07V2
8	Firefighting and damage control	TRN03S1U08V2
9	Provide first aid on board	TRN03S1U09V2
10	Operate life-saving appliances and apply survival techniques in the event of vessel abandonment	TRN03S1U10V2
11	Handle and maintenance of workplace tools and equipment and undertake basic workshop calculations	TRN03S1U11V2

12	Maintain the Workshop	TRN03S1U12V2
15	Operate and maintain inboard and outboard engines and propulsion transmission systems	TRN03S1U15V2
17	Hull maintenance	TRN03S1U16V2
18	Repair Transmission system	TRN03S1U17V2
19	Operate and monitor RO plant	TRN03S1U18V2
20	Diagnose and Repair AC system	TRN03S1U19V2
21	Maintain maritime telecommunication systems and navigational aids	TRN03S1U20V2
26	Perform engineering measurements	TRN03S1U21V2
27	Undertake inspection and servicing engines (inboard and outboard)	TRN03S1U22V2
28	Undertake inspection and servicing cooling system	TRN03S1U23V2
29	Undertake petrol fuel systems servicing	TRN03S1U24V2
30	Inspect and service marine transmissions and propellers (Outboard and Stern Drive)	TRN03S1U25V2
31	Inspect and service jet drive propulsion system	TRN03S2U01V2
32	Inspect and service electrical systems/components	TRN03S2U02V2
33	Dismantle and evaluate engine blocks and sub-assemblies	TRN03S1U03V2
34	Apply metal to rebuild engine components	TRN03S2U04V2
35	Power Generation and Distribution	TRN03S2U30V2
36	Overhaul Engines and associated engine components	TRN03S2U31V2
7. Accreditation requirements		The training provider should place trainees in relevant maritime vessels, workshop/garage or similar training facilities to provide the trainees the hands-on experience exposure related to this qualification.
8. Recommended sequencing of units		As appearing under the section 06

UNITS DETAILS

Unit Title	Unit Title	Code	Level	No of credits
1	General Industry Knowledge	TRN03S1U01V2	3	3
2	Practice good work ethics	TRN03S1U02V2	3	3
3	Personal and workplace Hygiene	TRN03S1U03V2	3	3
4	Occupational Health and Safety	TRN03S1U04V2	3	3
5	Customer care	TRN03S1U05V2	3	3
6	Workplace communications	TRN03S1U06V2	3	3
7	Policies and procedures	TRN03S1U07V2	3	3
8	Firefighting and damage control	TRN03S1U08V2	3	3
9	Provide first aid on board	TRN03S1U09V2	3	3
10	Operate life-saving appliances and apply survival techniques in the event of vessel abandonment	TRN03S1U10V2	3	3
11	Handle and maintenance of workplace tools and equipment and undertake basic workshop calculations	TRN03S1U11V2	3	3
12	Maintain the Workshop	TRN03S1U12V2	3	3
13	Interpret technical drawings	TRN03S1U13V2	3	3
14	Use power tools/hand held operations	TRN03S1U14V2	3	3
15	Operate and maintain inboard and outboard engines and propulsion transmission systems	TRN03S1U15V2	3	3
16	Test, service and replace battery	TRN03S1U16V2	3	3
17	Hull maintenance	TRN03S1U17V2	3	3
18	Repair Transmission system	TRN03S1U18V2	3	3
19	Operate and monitor RO plant	TRN03S1U19V2	3	3
20	Diagnose and Repair AC system	TRN03S1U20V2	3	3
21	Communication sets and navigational aids	TRN03S1U21V2	3	3

22	Service ignition system components	TRN03S1U22V2	3	3
23	Service diesel fuel system	TRN03S1U23V2	3	3
24	Operate and service engine water pump	TRN03S1U24V2	3	5
25	Operate and service diesel/petrol electric generator	TRN03S1U25V2	3	5
26	Perform engineering measurements	TRN03S2U01V2	4	6
27	Undertake inspection and servicing engines (inboard and outboard)	TRN03S2U02V2	4	6
28	Undertake inspection and servicing cooling system	TRN03S2U03V2	4	12
29	Undertake petrol fuel systems servicing	TRN03S2U04V2	4	12
30	Inspect and service marine transmissions and propellers (Outboard and Stern Drive)	TRN03S2U30V2	4	12
31	Inspect and service jet drive propulsion system	TRN03S2U31V2	4	12
32	Inspect and repair marine electrical systems/components	TRN03S2U32V2	4	12
33	Dismantle and evaluate engine blocks and sub-assemblies	TRN03S2U33V2	4	12
34	Apply metal to rebuild engine components	TRN03S2U34V2	4	12
35	Power Generation and Distribution	TRN03S2U35V2	4	12
36	Overhaul Engines and associated engine components	TRN03S2U36V2	4	12

Packaging of National Qualifications:

National Certificate III in Marine Mechanic will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19+20+21+22+23+24+25

Qualification Code: TRN03SQ1L318

National Certificate IV in Marine Mechanic will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+15+17+18+19+20+21+26+27+28+29+30+31+32+33+34+35+36

Qualification Code: TRN03SQ2L418

Competency Standard for

MARINE MECHANIC

Unit No	Unit Title
1	General Industry Knowledge
2	Practice good work ethics
3	Personal and workplace Hygiene
4	Occupational Health and Safety
5	Customer care
6	Workplace communications
7	Policies and procedures
8	Firefighting and damage control
9	Provide first aid on board
10	Operate life-saving appliances and apply survival techniques in the event of vessel abandonment
11	Handle and maintenance of workplace tools and equipment and undertake basic workshop calculations
12	Maintain the Workshop
13	Interpret technical drawings
14	Use power tools/hand held operations
15	Operate and maintain inboard and outboard engines and propulsion transmission systems
16	Test, service and replace battery
17	Hull maintenance
18	Repair Transmission system
19	Operate and monitor RO plant
20	Diagnose and Repair AC system
21	Maintain maritime telecommunication systems and navigational aids

22	Service ignition system components
23	Service diesel fuel system
24	Operate and service engine water pump
25	Operate and service diesel/petrol electric generator
26	Perform engineering measurements
27	Undertake inspection and servicing engines (inboard and outboard)
28	Undertake inspection and servicing cooling system
29	Undertake petrol fuel systems servicing
30	Inspect and service marine transmissions and propellers (Outboard and Stern Drive)
31	Inspect and service jet drive propulsion system
32	Inspect and repair marine electrical systems/components
33	Dismantle and evaluate engine blocks and sub-assemblies
34	Apply metal to rebuild engine components
35	Power Generation and Distribution
36	Overhaul Engines and associated engine components

BRIEF DESCRIPTION OF THE CURRENT AND FUTURE CONDITIONS IN THE SECTOR:

Maldivians are never far from the sea and can never ignore the sea; be it for survival, security, progress or pleasure. For Maldivians, the maritime transport is not only an economic benefit, but it is also a basic component of their everyday life and national security. There is a growing awareness among the Maldivians that the ocean influences their daily life. Maritime transport also carries practically all the items that the country is in need and provides the basis for transportation and travel between islands.

There are about 10,000 Maritime vessels in the Maldives. Few of them are manned with qualified engineers or a mechanic to look after its marine engine and the auxiliary machines. Therefore, in case of engine failure and black out at high sea, most of the vessels requires assistance from other sources. Some of the cases lead to organize search and rescue program through National Coast Guard. Consequently, the Ministry of Transport and Civil Aviation deems that it is necessary to improve the capacity of the mechanics who are serving on board vessels providing marine transport in the inland water of the Maldives. Such programs further maybe benefited by other leading sectors such as fisheries, tourism and social sector.

DESCRIPTION OF THE WORK AND WORKING CONDITIONS:

Domestic Maritime Transport is a highly professional sector. It increasingly requires professional skills in the nautical and technical field as well as regarding security and logistics. Training in this sector needs to be adapted in line with the advanced demands in order to realize and encourage a competent and up-to-date profession. Programs of recruitment, education and training need to be developed to attract young people in the sector and maintain the necessary skills.

This Course will provide theoretical knowledge to persons with specified practical skill to gain employment in marine related/ mechanically oriented field. And they will be able to operate and maintain marine diesel engines and auxiliary machines on board marine vessels.

On completion of the course the graduates will have developed the skill and knowledge to look of the marine engines.