

Exclusive Interviews with Champions of 2022 Best Apprenticeship Competition (1)

- (2-4) Exclusive Interviews with Champions of 2022 Best Apprenticeship Competition (1)**
- (5) Upcoming Technical Seminar on Vehicle Maintenance (5)**
- (6-7) Safe System of Work for Maintenance of Electric Vehicles**
- (8-9) Interaction and Exchange between Vehicle Maintenance Registration Unit and Secondary Students**
- (10) Latest Developments of the Registration Schemes**
- (11) Prize Quiz Issue No.40**
- (12) Training Institutes**

2 Exclusive Interviews with Champions of 2022 Best Apprenticeship Competition (1)

Organised by the Automobile Training Board under the Vocational Training Council (VTC), the 2022 Best Apprenticeship Competition was concluded with a great success in late November 2022. Mr YIP Chi-man, Champion in the Vehicle Body Repairer/Painter Group, Mr LEE Ling-hin, Champion in the Vehicle Mechanic/Electrician Group, and their supervisors were invited to attend an interview to share with us the reasons for joining the automotive maintenance industry and introduce the contents and characteristics of their apprenticeship training in automotive maintenance. The exclusive interview with Mr YIP Chi-man and his supervisor will be published in this issue and the one with Mr LEE Ling-hin and his supervisor will be published in the next issue. Stay tuned!

Mr YIP Chi-man, Champion in the Vehicle Body Repairer/Painter Group

VRMU = Vehicle Maintenance Registration Unit

YIP = Mr YIP Chi-man

VRMU: Why did you choose to join the automotive maintenance industry in the first place?

YIP: When I was still a child, my father often took me out for car rides, so I have developed strong interests in cars since childhood. When I grew up, I thought about joining the automotive industry. At that time, I came across some seniors in secondary school who had enrolled in the Certificate of Vocational Education (Automotive Technology or Vehicle Body Repair) programme at Youth College, who highly recommended the programme. Out of curiosity, I checked the details of the programme and found that it would not only give me a chance to learn a skill for future development in society, but also meet my needs and goals, so I decided to take the programme.

After completing the first year of the programme, the College recommended me to join the Dah Chong Hong (Motor Service Centre) Ltd (DCH MSC) as an apprentice for on-the-job training. As previous studies at the college had focused on theory and I had rarely had chances of getting hand-on maintenance experiences, I found the maintenance procedure complicated and did not know where to get started. However, with repeated practices and lessons learnt from experiences, coupled with careful guidance coaching of my master, I was able to integrate theory with practice and acquired the body repair and painting skills gradually.

VRMU: Do you ever think about quitting the apprenticeship training?

YIP: To be honest, yes, of course! I cannot stand the heat. The workshop is a bit hot for me, especially in summer. That said, with continuous improvements made by the company to the staff working environment, I have gotten used to working there now. In addition, I am an introverted person, who did not know how to get along with my master and seldom talked to him at the beginning. After realising the problem, my supervisor reached out to me and advise me on how to integrate into the big family in this workshop. My relationship with my master has improved, and we have developed a close friendship since then. I also made self-reflections and found that I should treasure what I have, i.e. a career that I want to pursue and by no means quit halfway.

3 Exclusive Interviews with Champions of 2022 Best Apprenticeship Competition (1)

VRMU: What is the biggest gain from the apprenticeship training?

YIP: The biggest gain is acquiring a skill. The age gap between the older and youngest practitioners in this trade is large. Taking my workshop as an example, the youngest master is already 40 years old. Given that masters have abundant experiences and superb skills, I am very happy that I can learn from their experiences and pass on their craftsmanship. Another big gain is winning the championship in this competition, which means a lot to me. It is not only a recognition of my skill performance, boosting my confidence, but also an affirmation of my academic and work performance, measuring up to the careful guidance and coaching given by my master and the support provided by the company.

VRMU: Could you share with us how did you feel about winning the award? Is there anyone that you would like to thank?

YIP: I was overjoyed when the result was announced. I never thought that I would win. This award is a recognition of my efforts and skills. I would like to thank my company and my master most for their guidance, support and trust in me. They provided me with the venue and tools for special training, and thus an opportunity to shine and compete with other contestants in the competition. Before the competition, the company also arranged for a former champion to guide me on how to further enhance my vehicle body spray painting skill, and take my performance to a new height within a short period of time. I would like to take this opportunity to thank the masters once again for their efforts and guidance. They had to leave their work at hand, so that they could devote their efforts to training me.

VRMU: What advice do you have for young people who want to join the industry?

YIP: For those who want to join the industry, they should have interests in the automotive industry. It is hard for me to work in the workshop in the summer time. You cannot stay the course without enthusiasm. Students who want to take the VTC programme must have good time management to balance on-the-job training and classroom learning. Before joining the industry, students should also collect more relevant information to find out which area of work they would like to join, and plan their career development in advance.

Photo 1: Group photo of Mr WONG Cheuk-fan, Senior Service Manager (left), Mr YIP Chi-man (middle) and the workshop supervisor (right).

Photo 2: Mr YIP Chi-man (middle) took a photo with his master (left) and the workshop supervisor (right) at the workshop. The latter two were very happy with the performance of Mr YIP and encouraged him to keep on with his good work.

Photo 3: Mr YIP Chi-man, who has developed a keen interest in automobiles since childhood, aspires to be an automotive maintenance technician.

Photo 4: Mr YIP Chi-man (left) and his master (right) have a close relationship like father and son, and the master has taught him whatever he knows.

Photo 5: Group photo of the winners and the organiser of the 2022 Best Apprenticeship Competition.

4 Exclusive Interviews with Champions of 2022 Best Apprenticeship Competition (1)

Mr WONG Cheuk-fan, Senior Service Manager, Service Division, DCH MSC

VRMU = Vehicle Maintenance Registration Unit **WONG** = Mr WONG Cheuk-fan

VRMU:What prerequisite do you think that the young people who want to join the industry must have?

WONG: It is mainly interest. Nowadays, young people don't care too much for money, and the main reason for them to opt for the industry is interest. They can gain an in-depth understanding of the operation of the industry and their work preferences by joining an apprentice training scheme. In addition, young people who want to join the vehicle maintenance industry must be hardworking. Workshop and school are totally different environments. Apprentices must be psychologically prepared to leave the comfortable classroom environment for on-the-job training in a workshop. They must also be diligent and responsible at work for any career development in the future.

VRMU: Could you share with us the content and characteristics of your apprentice training in automotive maintenance?

WONG: The company has enough resources to arrange for a group of apprentices of similar age to receive training together. Our Human Resources Department closely monitors the learning progress of the apprentices and arrange team training regularly for them to understand the company culture and integrate into our big family. Regarding lectures on automotive maintenance, they begin with the basics and go more in-depth as they progress. In addition to the basics and maintenance skills, apprentices can also learn the characteristics of new models of vehicles through relevant introduction courses held regularly. Regarding the practical or on-the-job training, masters evaluate the skill level of apprentices, and guide and coach them based on their aptitude. Our main approach towards apprentice training is a mix of veterans and new blood, focusing on passing on experience in person. Masters have years of experience in guiding and coaching apprentices, knowing how to help them achieve continuous improvements. The company also actively participates in competitions organised by different car manufacturers, so that apprentices will have opportunities to represent the company to compete against maintenance staff from all over the world and learn more through the competitions.

VRMU:Do you think vehicle maintenance is challenging nowadays?

WONG: Yes, of course. Nowadays, both internal combustion engine and electric vehicle technologies are in parallel development. For those joining the industry, they can learn the maintenance technologies of these two types of vehicles at the same time, and experience and understand the development of electric vehicle technology at first hand. At this moment, masters and apprentices all begin at the same starting line.

VRMU:Are there any career prospects for apprentices in vehicle maintenance?

WONG: The company has a well-defined career progression path for apprentices. After completing the apprenticeship, they will be promoted to mechanics, and can be further promoted to technicians through our internal assessment mechanism (such as skill tests, written tests, practical tests, etc.). When they accumulate certain experience and acquire considerable skills, they also stand a better chance of being promoted to workshop supervisors, thus becoming part of the management team.

5 Upcoming Technical Seminar on Vehicle Maintenance (5)

The Vehicle Maintenance Registration Unit (VMRU) will hold the fifth technical webinar on vehicle maintenance on the evening of 25 March 2023 (Saturday), which will cover combustion system and emission control (internal combustion engine); steering, braking, suspension; and wheel alignment. Each participant is eligible to earn three continuing professional development (CPD) hours. For details and the registration method, please refer to the information below.

6 Safe System of Work for Maintenance of Electric Vehicles

As electric vehicles (EVs) have no tailpipe emissions, replacing conventional vehicles with EVs can help not only improve roadside air quality but also reduce greenhouse gas emissions. To promote the use of EVs in Hong Kong, in concert with our target of achieving carbon neutrality before 2050, the Government announced the first Hong Kong Roadmap on Popularisation of Electric Vehicles in 2021, setting out the long-term policy objectives and plans to promote the adoption of EVs and their associated supporting facilities in Hong Kong.

Nevertheless, EVs involve complicated electrical and mechanical technologies. The biggest difference between conventional vehicles and EVs is that the latter are equipped with high-voltage devices. The direct current voltage of the electrical devices of EVs can reach 800V or above. Therefore, there are unique occupational safety and health risks associated with the maintenance of EVs. This article will introduce the potential hazards involved and the necessary safety procedures to be adopted in the maintenance of EVs through the five steps to a Safe System of Work.

1. Assessing the task

The risk assessment should be conducted by a competent person who possesses the appropriate knowledge and experience of the maintenance of EVs, and has received training in risk assessment. The person should be familiar with the work, able to identify the safety and health hazards associated with the work under the particular working conditions and working environment, evaluate the risk associated with the work and recommend suitable and adequate safety measures to ensure the safety and health of the workers. In addition, the competent person should review the risk assessment regularly. Whenever there has been a significant change in the working conditions, working environment or working procedures, the risk assessment should be re-conducted.

2. Identifying the hazards – Common potential hazards in the maintenance of EVs

Electrical hazards

- * There are two major electrical hazards in connection with the battery work, namely electric shock and short circuit of live electrical conductors.
- * Electric shock may occur when one makes direct contact with the exposed battery terminals stayed at different potential or the exposed conductor of cables or conductive parts connected with the battery.
- * Short circuit of the battery terminals or other electrical conductors stayed at different potential will cause a high current flow. The sudden release of energy stored in the battery in short time and under an uncontrolled manner may cause a flashover and explosion and result in the rupture of battery housing, spillage of electrolyte, melting down of battery terminals or other metal parts and subsequent splashing of molten metal, etc.

Fire and explosion hazards

- * During the charging of a secondary battery, in particular, when the charging operation is close to completion, explosive gases, such as hydrogen and oxygen, may be generated from the battery due to the action of electrolysis of water contained in the electrolyte solution.
- * Hydrogen is lighter than the air and will accumulate in the air space above the electrolyte solution inside the battery. It may also leak through the battery vents and disperse to the surrounding of the battery room or workplace.
- * Hydrogen gas when mixed with oxygen or air can be explosive. Any spark or naked flame present may cause a fierce explosion of the explosive mixture. Sparks may be generated by electrostatic discharge, abrasion of some metals, normal switching or abnormal tripping of electrical equipment, etc.
- * Oxygen gas will support combustion. A smouldering burn may turn into a blaze in the presence of enriched oxygen. Any grease in the vicinity, which is not ignited in the air normally, may ignite by itself in the presence of enriched oxygen.

Chemical hazards

- * EVs are equipped with a high-voltage battery and a low-voltage battery. The high-voltage battery poses a high risk of hazards and involves specialised technology, so no maintenance should be carried out by non-qualified persons. Regarding the low-voltage battery, chemicals commonly found in rechargeable battery that are hazardous to health include:
 - sulphuric acid and potassium hydroxide as the electrolyte solutions;
 - lead, nickel and cadmium and their compounds as the electrode plates and materials.
- * The acid and alkaline electrolyte solutions are corrosive when they come into contact with the skin and eyes.
- * If suitable and sufficient precautionary measures such as ventilation, personal protection, housekeeping and personal hygiene are not practised, workers may ingest the hazardous chemicals through contaminated food and drinks, and inhale acid mist during battery charging.

7 Safe System of Work for Maintenance of Electric Vehicles

- * Workers may suffer from skin burn or eye injury caused by spillage or splashing of electrolyte if they mishandle or improperly maintain the rechargeable battery.

Mechanical hazards

- * Potential hazards during the operation of machinery and equipment, such as car lifts and maintenance tools, include mechanical injuries like crushing, stabbing, bruising, cutting, entanglement, pinching, spilling tiny objects, laceration and noise nuisance.
- * Mechanical hazards come from the machine itself or operating components. Accidents are likely to occur when a person comes into contact with such parts without any protection (e.g. using a machine without safety devices or lack of guarding devices).
- * Improper maintenance of machinery or operation of machinery by workers not adequately trained or without permission can lead to accidents.

3. Defining safe methods – General safety procedures for the maintenance of EVs

The biggest difference between EVs and conventional vehicles is that the former are equipped with high-voltage devices. Vehicle mechanics should pay attention to the following when they are going to maintain this type of vehicles:

Leaflet about EV maintenance safety:

<https://bit.ly/3CHf4Mg>



The Occupational Safety and Health Council will soon launch a sponsorship scheme for safety equipment for the maintenance of EVs to subsidise small and medium-sized enterprises (SMEs) to purchase safety equipment that complies with safety standards, so as to ensure the work safety of vehicle mechanics. Interested SMEs can fill in the online form (<http://bit.ly/3WXInCd>) to receive the latest information about the scheme in due course.



Online form:

<http://bit.ly/3WXInCd>

Relevant safety equipment

Gloves of insulating material

(In compliance with the latest/revised BS EN 60903 or IEC 60903 or equivalent.)

Insulating mat

(In compliance with the latest/revised BS EN 61111 or equivalent.)

Electrical plug lockout device

(In compliance with the US Occupational Safety and Health Administration's standard for the Control of Hazardous Energy (Lockout/Tagout) under 29 CFR 1910.147 or the American National Standards Institute (ANSI)'s standard for The Control of Hazardous Energy Lockout, Tagout and Alternative Methods under ANSI/ASSP Z244.1 or equivalent.)

Reference

Guidance Notes on Safety and Health at Work - Use and Maintenance of Rechargeable Battery published by the Labour Department

<https://www.labour.gov.hk/eng/public/os/C/battery.pdf>

Dedicated Webpage on the Promotion of Electric Vehicles set up by the Environmental Protection Department

https://www.epd.gov.hk/epd/english/environmentinhk/air/promotion_ev/promotion_ev.html

Technical Guidelines on Charging Facilities for Electric Vehicles published by the Electrical and Mechanical Services Department

https://www.emsd.gov.hk/filemanager/en/content_2/EV_guidelines.pdf

8 Interaction and Exchange between Vehicle Maintenance Registration Unit and Secondary Students

Our previous impression about the vehicle maintenance industry was a trade focusing on workmanship and labour. However, with rapid technological development, widespread use of electronic diagnostic equipment and introduction of electric vehicles, nowadays, it has become common practice in the industry to adopt new methods, such as an on-board diagnostics system, artificial intelligence and big data technologies, in checking broken-down vehicles, thus facilitating the maintenance process. The former “grease monkeys” have transformed into professional “car doctors”, garages have become advanced “car hospitals”, and working bays are looking like “operating theatres”. Vehicle mechanics and workshops can also enhance their professional image and service standards by participating in the Voluntary Registration Scheme for Vehicle Mechanics (VRSVM) and Voluntary Registration Scheme for Vehicle Maintenance Workshops. To inspire the young generation to join the industry, the VMRU of the EMSD actively organise various types of school activities, such as career talks or visits, for the youth to have a deeper understanding of the development of the vehicle maintenance industry, so that students aspiring to join the industry can make early planning of their career development and get well-prepared for their future life and career.

On the afternoon of 13 October 2022, the VMRU staff and representative of the Qualifications Framework (QF) Secretariat held a career talk at Caritas Yuen Long Chan Chun Ha Secondary School, which offers a diploma programme in Automobile Technology in Practice. Since the programme was accredited at QF Level 3 by the Hong Kong Council for Accreditation of Academic and Vocational Qualifications in 2020, the school has become a dual-track school, which offers both the QF accredited programme and the Hong Kong Diploma of Secondary Education curriculum.

60 students from secondary four to secondary six attended the talk that day. Mr NG Kar-wai, Senior Engineer of the EMSD, introduced to them the daily operation of the EMSD and the VRSVM. Ms HAU Ka-man, Senior Manager of the QF Secretariat, added that the VRSVM and the Vocational Qualifications Pathway for the automotive industry were complementary to each other in raising the overall professional standards of vehicle mechanics as well as promoting continuing professional development in the industry. Mr NG and Ms HAU advised students to set a clear direction and goal for study and sharpen their knowledge and skills continuously to keep up with the ever-changing development of automotive technology. Students were also encouraged to apply as registered vehicle mechanics, which would be the perfect starting point to develop their careers in future.

9 Interaction and Exchange between Vehicle Maintenance Registration Unit and Secondary Students

Given students' keen interest in the development of vehicle maintenance industry and huge demands for new blood in the industry, the VMRU arranged for students to visit the vehicle maintenance workshop at the EMSD Headquarters on the afternoon of 12 December 2022, so that they could gain first-hand experience and understanding of vehicle maintenance beyond classroom. On the day of the visit, staff of the EMSD introduced to students and teachers the daily operation of the workshop and demonstrated the operation of various professional equipment and the techniques for vehicle maintenance and fault diagnosis. Students showed great interest in each part of the visit and actively interacted with the workshop staff. It is believed that after this visit, students would have a deeper understanding of the development and career prospects in the vehicle maintenance industry.

Photo 1: Ms AU YEUNG Lai-king Wendy (first right), Principal of Caritas Yuen Long Chan Chun Ha Secondary School, and Mr LIU Tang-man (first left), Senior teacher in charge of the diploma programme in Automobile Technology in Practice, introduced the automobile workshop of the school to Mr NG Kar-wai (second right), Senior Engineer of the EMSD, and Ms HAU Ka-man (third left), Senior Manager of the QF Secretariat.

Photo 2: Mr NG Kar-wai gave a talk on the daily operation of the EMSD and the VRSVM.

Photo 3: Group photo of the VMRU staff, representative of the QF Secretariat and students.

Photo 4: Mr CHU Yee-kong (third right), Regional Manager/Vehicle of the EMSD, briefed the students on the paint spraying process.

Photo 5: The EMSD staff demonstrated the techniques for chassis repair.

Photo 6: Group photo of Mr Eric WONG (front row, second left), Mr Ryan CHU (front row, first left), both Chief Engineers of the EMSD, and the visiting principal, teachers and students.

10 Latest Developments of the Registration Schemes

- 1 Registered vehicle mechanics who have switched to work in another vehicle maintenance workshop **should notify the VMRU by e-mail (vmru@emsd.gov.hk) or fax (3968 7646)** the name, address and telephone number of the new workshop.
- 2 If there is any change in the information of the vehicle maintenance workshop (such as name of the workshop, registration number of the workshop, address, contact number and business registration certificate, etc.) or alteration in the type of workshop being registered, the person-in-charge of the workshop must, **within 14 working days** of such change, notify the VMRU of the change in writing, and submit the relevant documents for processing.

Information on the Voluntary Registration Scheme for Vehicle Mechanics:

Total number of vehicle mechanics	10 303 ^{Note 1}
Number of registered vehicle mechanics (as at end-Jan 2023)	8 260

Information on the Voluntary Registration Scheme for Vehicle Maintenance Workshops:

Total number of vehicle maintenance workshops	2 783 ^{Note 2}
Number of registered workshops (as at end-Jan 2023)	2 019

Note1: 2019 Manpower Survey Report (updated on 13 January 2020) by the Vocational Training Council and the Automobile Training Board

Note2: Database of the VMRU (updated in July 2019)

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Reply Slip

I/My company would like to receive the RVM Newsletters and other information leaflets by
 e-mail/ WhatsApp Please provide the relevant contact details for the above selected means of communication:



Name: _____ Vehicle Mechanic Registration No.: VM _____

E-mail address: _____ WhatsApp: _____

The electronic version of RVM Newsletters is also available on the EMSD website:









https://www.emsd.gov.hk/en/supporting_government_initiatives/registration_scheme_for_vehicle_maintenance/publications_and_circulars/rvm_newsletter/index.html

Note

1. Starting from 15 July 2018, new application for registration as Type Four workshop (i.e. a workshop situated at a residential building or a composite building with domestic part) is no longer accepted. Furthermore, requests for conversion from a registered Type One, Type Two or Type Three workshop to a Type Four workshop will not be entertained.
2. Applicants should affix sufficient postage and provide a return address when posting renewal application forms with envelopes not provided by the EMSD. If the postage is insufficient, the EMSD will not pay for any outstanding postage or accept the mail item concerned, which will be returned to the sender (if a return address is provided) or disposed of by the Hongkong Post.

12 Training Institutes

Providing Continuing Professional Development Courses for Vehicle Mechanics (in random order)

Name of Training Institute	Website/Contents	Enquiry Tel. No.	QR Code
Traffic Services Employees Association	http://www.facebook.com/tseahk	2575 5544	
Pro-Act Training and Development Centre (Automobile)	<p>http://www.proact.edu.hk/automobile Certificate in Vehicle Mechanical Repair#, a programme run by the Pro-Act Training and Development Centre (Automobile) may serve as another means for qualifying as registered vehicle mechanics. Mechanics who are interested in enrolling in the above programme may visit the website of the Centre. # For details and latest developments of the programme, the information issued by the Pro-Act Training and Development Centre shall prevail.</p>	2449 1310	
The Institute of the Motor Industry Hong Kong	<p>http://www.hkimi.org.hk The Institute of the Motor Industry Hong Kong (IMIHK), formerly known as the Institute of the Motor Industry (IMI) - Hong Kong Branch, brings the mission and vision of the IMI to the Hong Kong automobile industry. After the reunification in 1997, the IMI - Hong Kong Branch applied to be renamed the IMIHK in Hong Kong. Eligible members of the trade are welcome to join the IMIHK or enroll in its courses or talks.</p>	2625 5903	
Hong Kong Vehicle Repair Merchants Association Limited	https://www.facebook.com/HKVRMA/	2399 7977	
Hong Kong Vehicle Repairing Industry Employee General Union	http://www.vrunion.hk	2393 9955	
Occupational Safety and Health Council	<p>http://www.oshc.org.hk The Safety Handling of Chemicals course aims to provide employees with basic knowledge of the safe handling of chemicals. The course content includes hazards of chemicals, labelling of chemicals, safety precautions, personal protective equipment, emergency procedures, etc. For more course details, please contact the Occupational Safety and Health Training Centre.</p>	2311 3322	
The Society of Operations Engineers (Hong Kong Region)	http://www.soe.org.hk	2617 0311	
Qualifications Framework recognised courses	http://www.hkqr.gov.hk	2836 1700	

Gentle Reminder

The contents in each issue help you catch up on the development of the registration schemes and enhance the quality of service. Please stay tuned! Each issue is available for downloading on the EMSD website:

http://www.emsd.gov.hk/en/supporting_government_initiatives/registration_scheme_for_vehicle_maintenance/publications_and_circulars/rvm_newsletter/index.html



For enquiries on the contents of the RVM Newsletter, please contact the VMRU of the EMSD.

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