



MINUTES OF MEETING

2021 VAF & AGM

Held at Kangan Institute, Docklands

Thursday 29th and Friday 30th April 2021

DAY 1

Kangan Institute's Automotive Centre of Excellence (ACE)

1 Batman's Hill Dr, Docklands

12.00PM | NETWORKING AND INFORMAL LUNCH

12.45PM | VAF OPENING AND INTRODUCTION – BY ADRIAN LEA

Adrian opened the proceedings and presented the agenda and guest speakers for the next 2 days.

1.05PM | WELCOME – BY GAVIN CRIBB (EDUCATION MANAGER (AUTOMOTIVE CENTRE OF EXCELLENCE))

Introduction / official welcome. Gavin welcomed the group to the institute and expressed the importance of the VAF to our industry. Gavin provided some background of the ACE facility and its operations

1.15PM | MINUTES OF PREVIOUS MEETING – BY ADRIAN LEA

Adrian Lea read and reviewed previous meeting minutes. (November 2020) The minutes were moved by Michael Mavrikakis, and seconded by Gary Atherton.

1.25PM | WEBSITE UPDATE – BY ALAN PLATT

Alan walked through the VAF website and showed members where to find information around the committee of management, minutes of meetings and upcoming initiatives. He also took the group through the VAF Facebook page.

1.38PM | TREASURES REPORT - BY PETER LAWRENCE

\$23,635.78 in working account

1.45PM | CMM REPORT

There was no CMM report as Pat Thornton was an apology for the meeting. However, training package updates and activity were discussed the following day with PwC

1.45PM | TRIBUTE TO GARY ATHERTON - BY ADRIAN LEA (and open forum)

Gary Atherton was recognized for his passion and dedication that he brought not only to the VAF, but to the automotive teaching sector as a whole. Gary was well known across the industry for his dedication and willingness to listen to others.

2.00PM | TAE SCHOLARSHIP PROPOSAL – BY ADRIAN LEA (and open forum)



MINUTES OF MEETING

Feedback from previous years confirmed that the committee members were all in favor of a scholarship model of some kind to encourage potential teachers to step into a teaching career. After a general discussion across the group, the following was agreed on;

- The VAF would commit \$1,000 towards a TAE scholarship.
- Letters of support from RTO's would need to be developed
- Application process / expressions of interest to be developed
- 12 months' completion timeframe
- To be delivered by Inspire (as this can be done on line)

It was suggested that maybe a 'VAF teacher's starter pack' could be developed and provided to new teachers. It was noted that TAFE NSW have a similar initiative and there may be a possibility of sharing templates (through Chris Roberts)

2.30PM | THE VICTORIAN AUTOMOTIVE FORUM (VAF) ANNUAL GENERAL MEETING

The AGM was brought forward to compliment the technical sessions to be held on the 30th.

Adrian Lea provided a summary of the proceedings and presented the current committee structure. (CoM member Michael Pope was an apology). All (8) member positions were split to allow for voting.

2:30PM | 2020 AUUNUAL REPORT - BY ADRIAN LEA

Adrian presented the 2020 Annual Report which was significantly impacted by COVID-19. In 2020 the VAF forums went from a 3x 2day face to face format, to 2x ½ day on line meetings. However, the VAF was still able to deliver a high quality technical PD sessions and engaged record numbers via the online format.

- *The Annual report was moved by Jim Baker and seconded by Gary Atherton*

2.45PM | 2020 ANNUAL FINANCIAL REPRT – BY PETER LAWRENCE

Peter presented the 2020 annual finance report. \$28,900.00 was in the account at the end of 2020.

- *The Annual Financial Report was moved by Ron Locandro and seconded by Chris Anon*

2.50PM | All committee member positions were made redundant and the nomination process was explained

3.00PM – Short Break

3.20PM | AGM Committee of Management Voting commences

Steve Wrathall (VACC) acted as the independent (returning officer).

Position of President

- Alan Platt nominated *Adrian Lea* and was seconded by Gavin Cribb. (there were no other nominees for this role)

Position of Vice President

- Adrian Lea nominated *Gavin Cribb* and was seconded by Gary Atherton. (there were no other nominees for this role)



MINUTES OF MEETING

Position of Treasurer

- Ron Locandro nominated *Peter Lawrence* and was seconded by Adrian Lea. (there were no other nominees for this role)

Position of Secretary

- Alan Platt nominated *Ron Locandro* and was seconded by David Adams. (there were no other nominees for this role)

Position of Webmaster

- Gavin Cribb nominated *Alan Platt* and was seconded by Peter Lawrence. (there were no other nominees for this role)

Position of Committee of Management (#1)

- Allan Platt nominated *Chris Antonopolous* and was seconded by Peter Lawrence. (there were no other nominees for this role)

Position of Committee of Management (#2)

- Ron Locandro nominated *Jim Baker* and was seconded by David Adams. (there were no other nominees for this role)

Position of Committee of Management (#1)

- Ron Locandro nominated *Matt McCormack* and was seconded by Gary Atherton. (there were no other nominees for this role)

3.34PM | AGM OFFICIALLY CLOSED

3.35 GUEST | FOXWELL SCAN TOOL PRESENTATION – BY ADAM RICHARD (ENDEAVOUR TOOLS)

Adam provided a detailed overview of the company and provided a technical presentation of the Foxwell scan tool at work. The vehicle used for the demonstration was a Hyundai i45 ([presentation attached](#))

3.57PM GUEST | AUTOMOTIVE LEARNING RESOURCES – BY STEVE WRATHALL AND KERRIE-ANNE SOMMERFIELD

Kerrie-Anne and Steve presented the suite of learning resources recently developed for the AUR20 training package. In particular Cert II and III in automotive light vehicle. ([flyer attached](#))

4.20PM GUEST | THE AUTOMOTIVE TECHNICIAN (TAT) – BY JEFF SMIT

Jeff showed the group a number of diagnostic 'secrets' and procedures that simply must be followed to ensure work is being carried out efficiently and correctly. Jeff also informed the group on the resources that are available through the TaT publications including 17,000 types of scan data, access to diagnostic programs, technical assistance and more. Further information can be found at <https://www.tat.net.au/>

5.00PM | SESSION CLOSED

(continued next page)



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Thursday 29th and Friday 30th April 2021

DAY 2

Kangan Institute's Automotive Centre of Excellence (ACE)

1 Batman's Hill Dr, Docklands

8:00AM | NETWORKING, TEA AND COFFEE

8.15AM | VAF OPENING AND INTRODUCTION – BY ADRIAN LEA

Adrian opened the proceedings and presented the agenda and guest speakers for the next 2 days.

8.30AM GUEST | THE AUTOMOTIVE TECHNICIAN (TAT) – BY JEFF SMIT

Jeff continued his technical presentation. Jeff showed the group a number of diagnostic 'secretes' and procedures that simply must be followed to ensure work is being carried out efficiently and correctly. Jeff also informed the group on the resources that are available through the TaT publications including 17,000 types of scan data, access to diagnostic programs, technical assistance and more. Further information can be found at <https://www.tat.net.au/>

9.20AM | OPEN FORUM – AUR TRANSITION STRATEGIES AND DISCUSSION

The group discussed in detail how the impacts of the training package transition were effecting students and teaching areas. Adrian Lea and the VAF committee will provide templates and documents that each RTO can use for their case to be heard by PwC and ASQA.

9.30AM GUEST | PRICE WATERHOUSE COOPERS PwC. – BY ALEXANDRA GIFFORD

Alex continued the discussion around AUR transition strategies and provided the group with suggestions on how to move forward. The advice was for individual RTO's to apply direct to PwC (and ASQA) – rather than a combined RTO approach.

Alex also presented recent activity around the AUR training package including;

- Training Package update since last VAF
- AUR Release Version 6.0 - November 2020
- Incl. transition extension request updates
- AISC direction on zero-enrolment deletions - May 2021



MINUTES OF MEETING

Accessory Fitting - Overview of project scope;

New Qualification - AUR22021 Certificate II in Automotive Accessory Fitting.

Updated Units of competency;

- AURLTD101 Select and install performance enhanced suspension system products
- AURVTN112 Install vehicle sunroofs
- AURVTT119 Fabricate and install automotive and marine frames, canopies and side curtains

New Units of competency;

- AURETR049 Install and modify in-car entertainment and convenience systems
- AURLTD008 Replace and refit vehicle steering and suspension components
- AURVTN043 Install protection equipment to vehicles

Battery Electric Vehicle - Overview of project scope

New Qualification - AUR32721 Certificate III in Automotive Electric Vehicle Technology

New units of competency;

- AURETH015 Diagnose and repair heavy electric vehicle rechargeable energy storage systems
- AURETH016 Diagnose and repair complex faults in battery electric vehicle powertrains

Heavy Vehicle Telematics - Overview of project scope

Updated unit of competency;

- AURETR121 Diagnose and repair electronic management, monitoring and tracking systems

New units of competency;

- AURETR051 Diagnose and repair precision agriculture systems
- AURETR052 Diagnose and repair commercial road transport electronic management systems

AURETR053 Diagnose and repair mobile plant electronic management systems ([presentation attached](#))

10.00AM | SHORT BREAK

10.15AM GUEST | TESLA MOTORS TECHNICAL PRESENTATION – BY PHIL AUSTIN & Gerry Sloan

Phil presented an in depth overview of the TESLA strategic direction and technological advancements. The presentation covered;

- Electrical architecture
- battery management strategies
- CAN platforms
- vehicle safety systems and a detailed overview of the vehicles operational systems-

The group was also exposed to a full overview of the TESLA (Model X) that was at the forum - and had an opportunity to see some of its operation systems in action.

11.00AM GUEST | EMISSIONS TEST IM240 – BY ANDREW ROBSON

Andrew provided insight to the complexities of the Vehicle Emissions Laboratory and the data required to perform a IM240 emissions test. (IM240 = Inspection & Maintenance, 240 seconds)



MINUTES OF MEETING

The IM240 test is a transient drive cycle over 240 seconds. Distance is 3.1km with a top speed of 91.2kmh. The test was developed by the US EPA in the mid 1990's and is an offshoot of the US FTP75 which became ADR 37. Andrew showed the preparation of the vehicle and the dyno required to perform this test. Preparation included vehicle reference mass, calculated force equations and number of other technical calculations.

The vehicle on the dyno was the new RAM 1500 mild hybrid that members were encouraged to participate in a 'drive cycle' The amount of preparation of the vehicles to perform the test was extensive and the test must be done within specific parameters. ([presentation attached](#))

11:45AM GUEST | RAM TRUCKS AUSTRALIA TECHNICAL PRESENTATION – BY ANDREW UGLOW

Andrew took us through the new 'mild hybrid' RAM 1500 DT series. The vehicle was quite impressive with a real luxury feel for a 'truck'. Unlike regular stop/start systems, Ram trucks eTorque engines can stay in an engine stop/start 'stop mode' for up to 10 minutes due to clever use of their mild hybrid system. Restarting during a stop/start event is nearly undetectable. The system uses a 48-volt, 0.4-kWh lithium-ion battery and DC-DC converter, which is used to charge and run the truck's 12-volt electrical system. The air-cooled battery doesn't impinge on interior space as it is mounted behind the rear seat.

The group was (pleasantly) surprised to see the level of technology and the finish in the vehicle.

12.30PM | CONCLUSION OF VAF, LUNCH AND NETWORKING

ATTENDEES

Alan Platt	Ringwood Training	Adrian Lea	Box Hill Institute
Gary Atherton	Kangan Institute	Peter Lawrance	
Chris Antonopolous	Ringwood Training	Gavin Cribb	Kangan Institute
David Adams	Chisholm Institute	Nikki Skarbek	Box Hill Institute
Matthew McCormack	GO Tafe	Matt Ellis	Kangan Institute
Duncan Treller	Box Hill Institute	Stelios Stylianou	Kangan Institute
Mark Egan	Box Hill Institute	John Di Carluccio	Kangan Institute
Mark Liberts	Box Hill Institute	Mirko Morovic	Kangan Institute
Dino Rajapakse	Box Hill Institute	Perry Tremewen	Kangan Institute
Ron Locandro	Chisholm Institute	Martin Coram	Kangan Institute
Jim Baker	Chisholm Institute	Steven McHugh	Kangan Institute



MINUTES OF MEETING

Phil Austin	Tesla Motors		
Gerry Sloan	Tesla Motors	On line guests	
Indhiran Padayachee	Lyndhurst Secondary Collage	Greg Maconachie	Gordon Institute
Jeff Smit	TaT	Ben Raulin	Chisholm Institute
Adam Richard	Endeavour Tools	David Camper	Mazda Australia
Damian Bitzios	Kangan Institute	Greg Barker	SuniTAFE
Michael Mavrikakis	Kangan Institute	Anthony Letto	SuniTAFE
Chris Roberts	TAFE NSW		

APOLOGIES:

Michael Cope (Box Hill)



Endeavour Tools

Sales Manager – Adam Rickard

Mobile – 0434 070 830

Email – adam.rickard@endeavourtools.com.au



Power **Probe** Tek

Can**D**o



FOXWELL

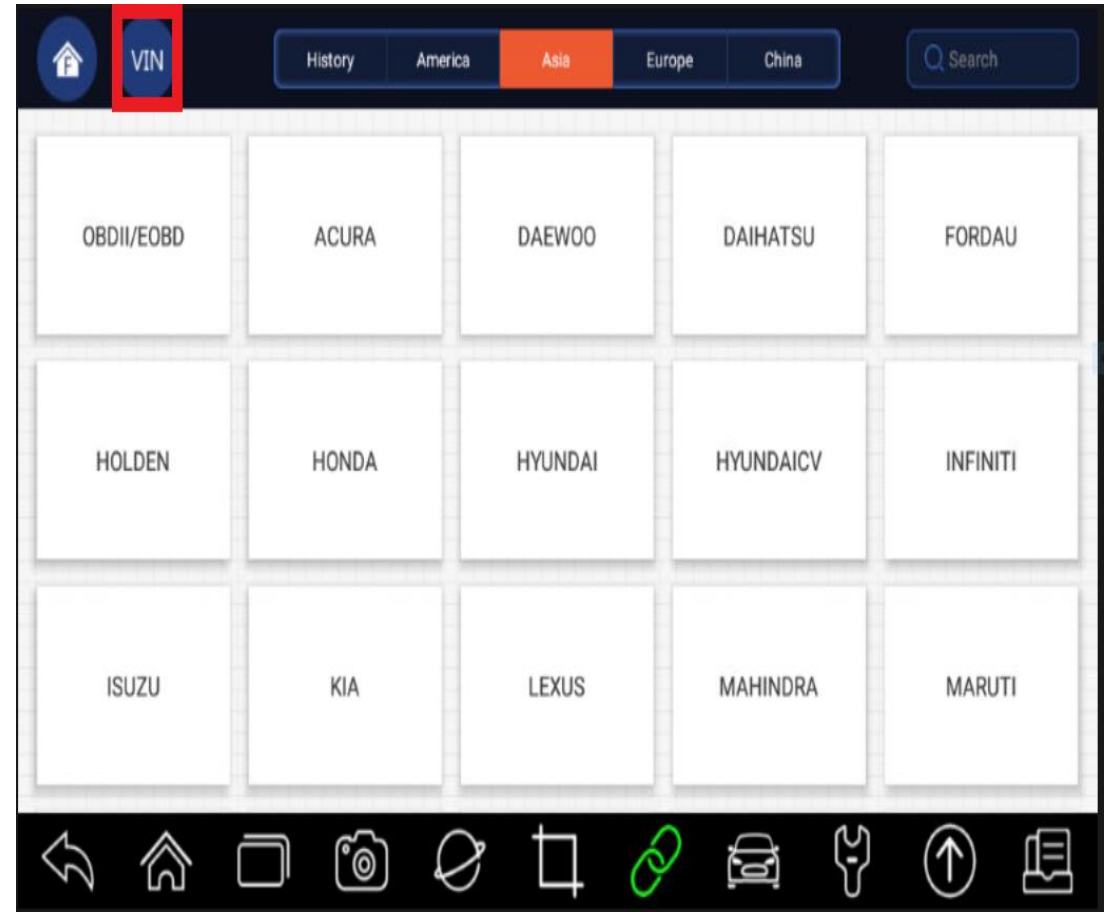
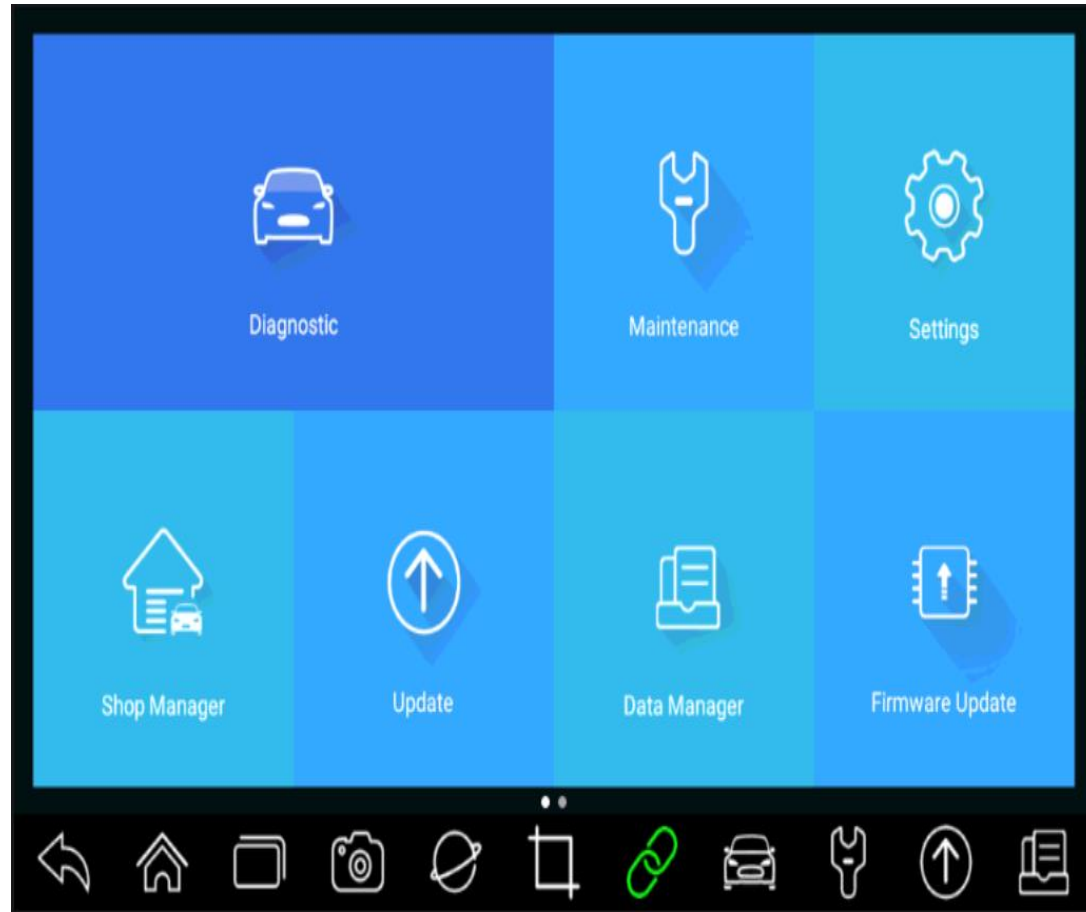


FOXWELL ET6742 EUROPEAN SCAN AND REPORT

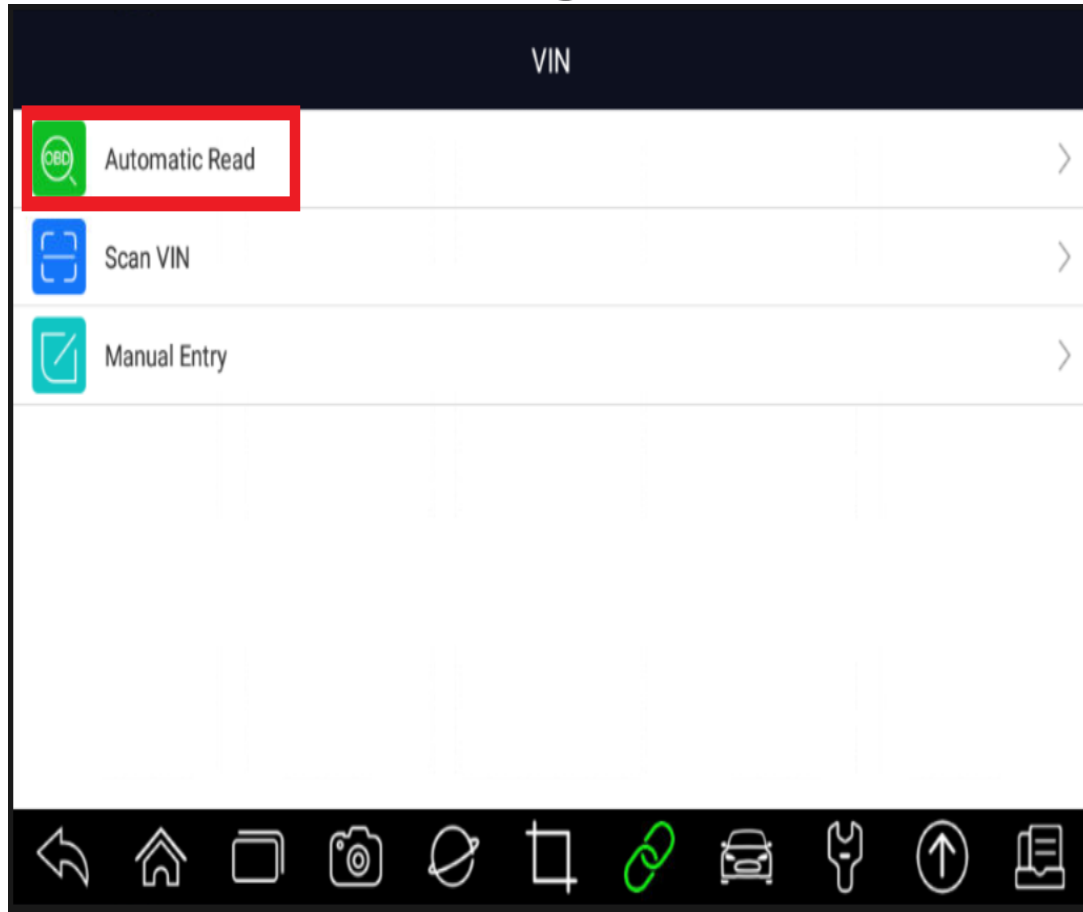
Copyright ENDEAVOUR TOOLS 2020 v0.1



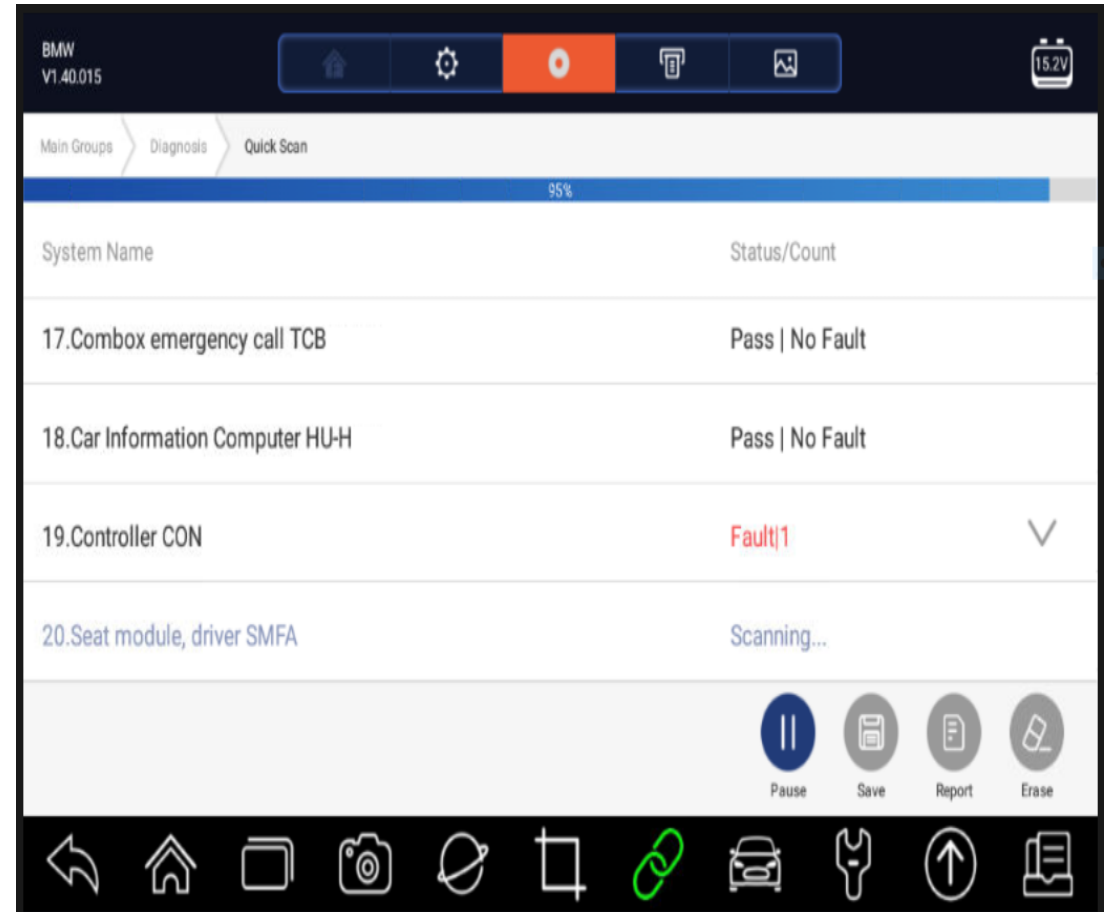
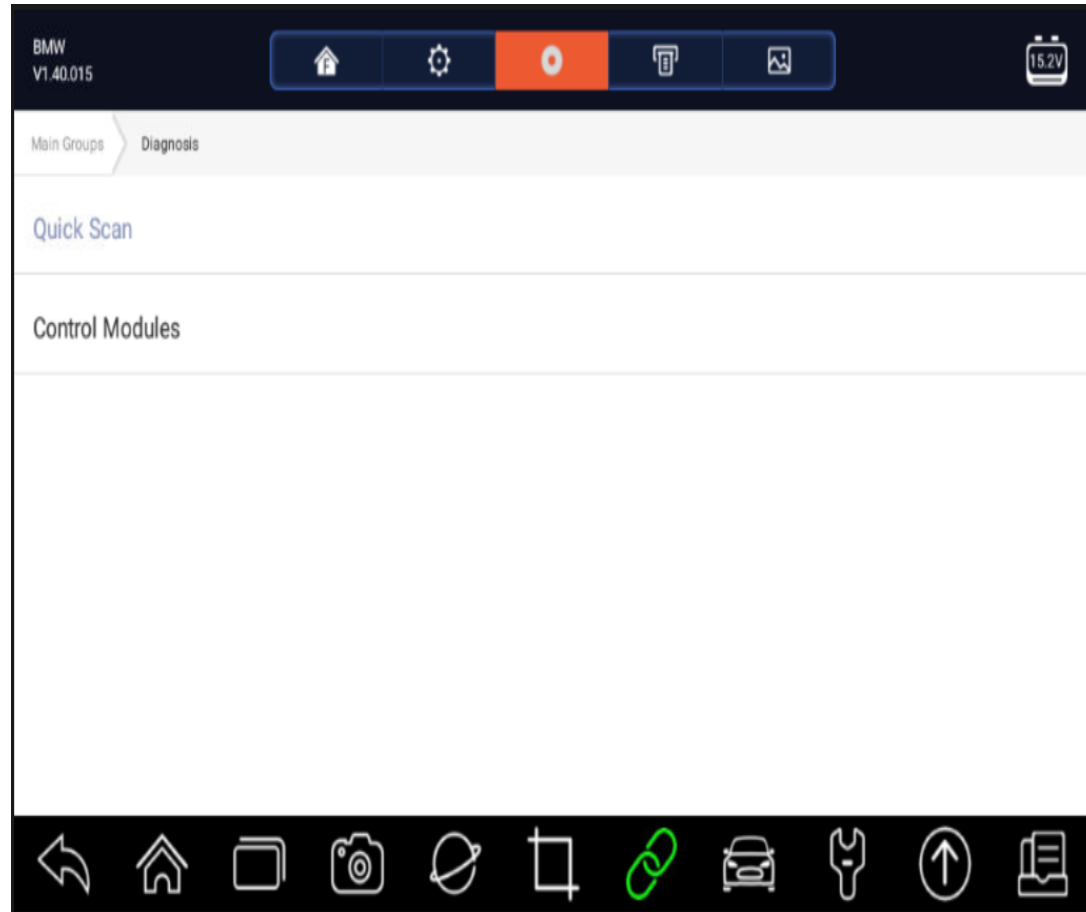
Select diagnosis on the main screen, then VIN scan.



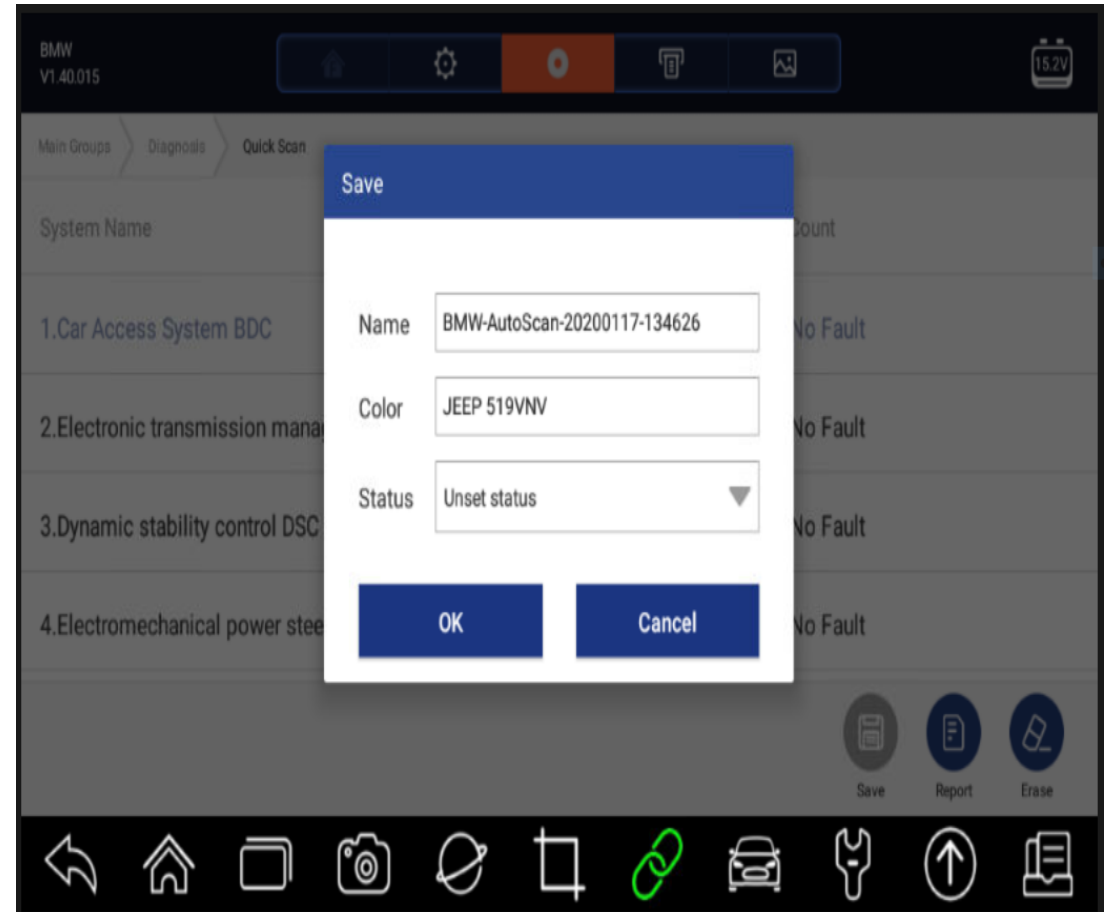
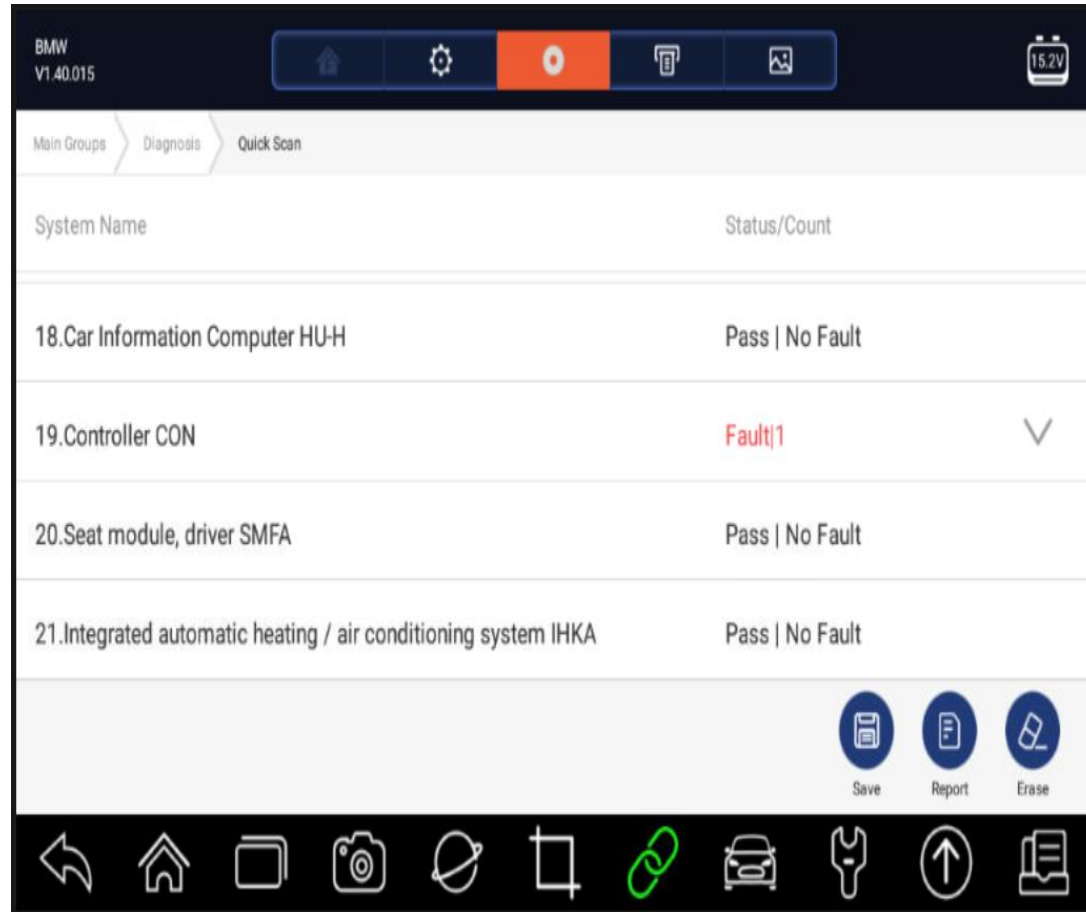
1. Auto read of VIN from the engine ECU. 2. Scan VIN allows the barcode to be read, or convert to text scanning of the VIN from an image.



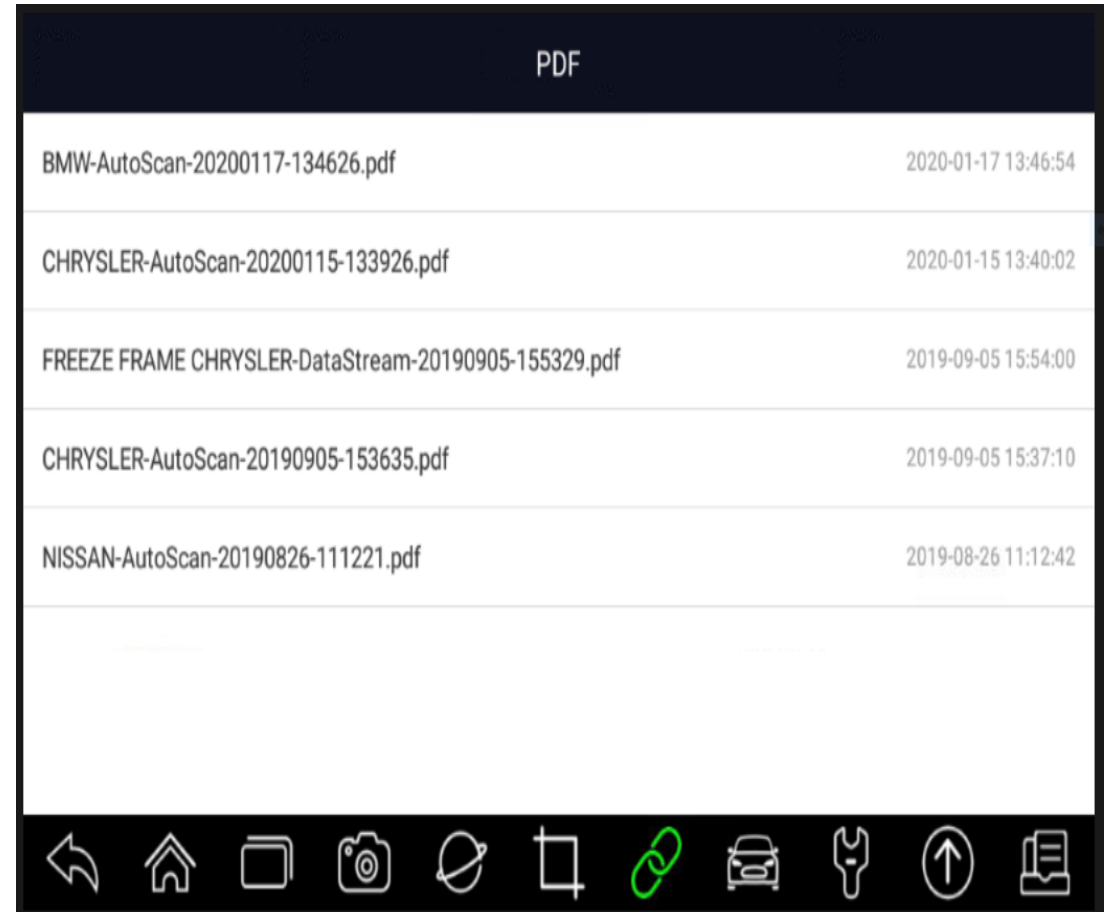
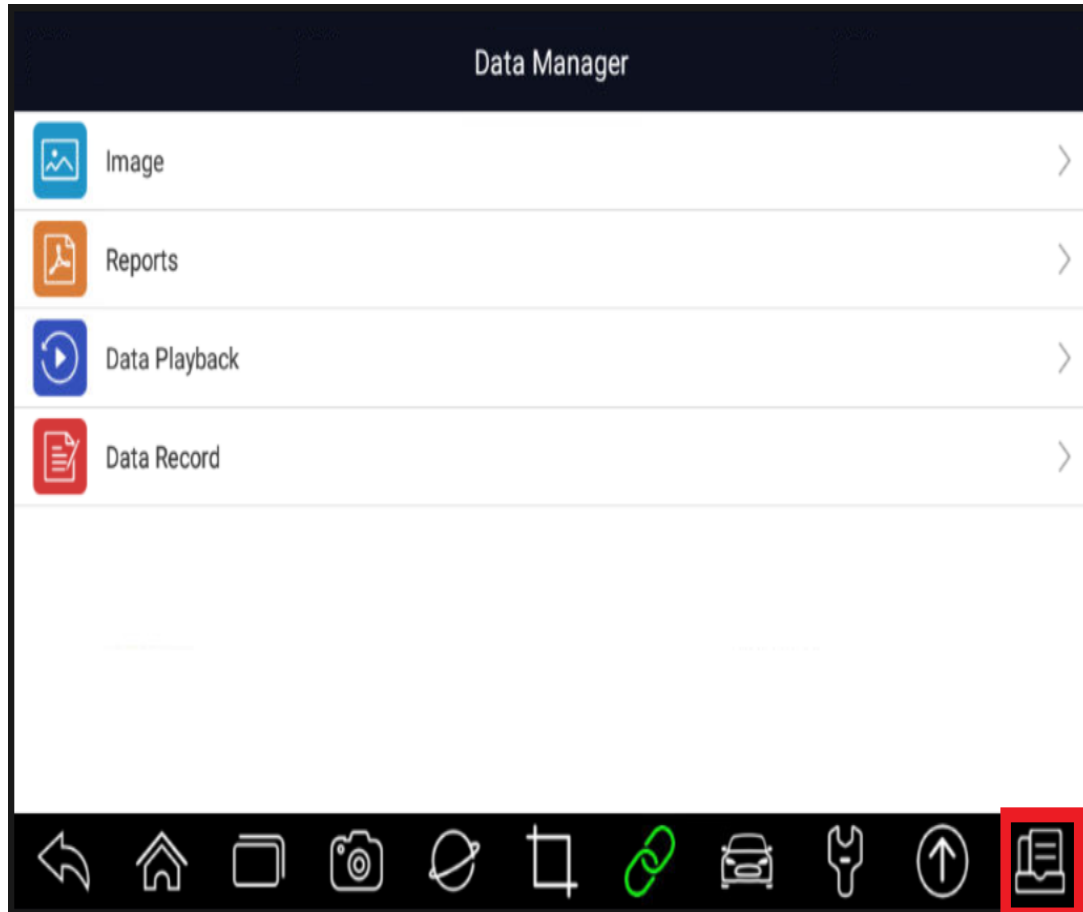
For a scan report select quick scan, or access a module directly.



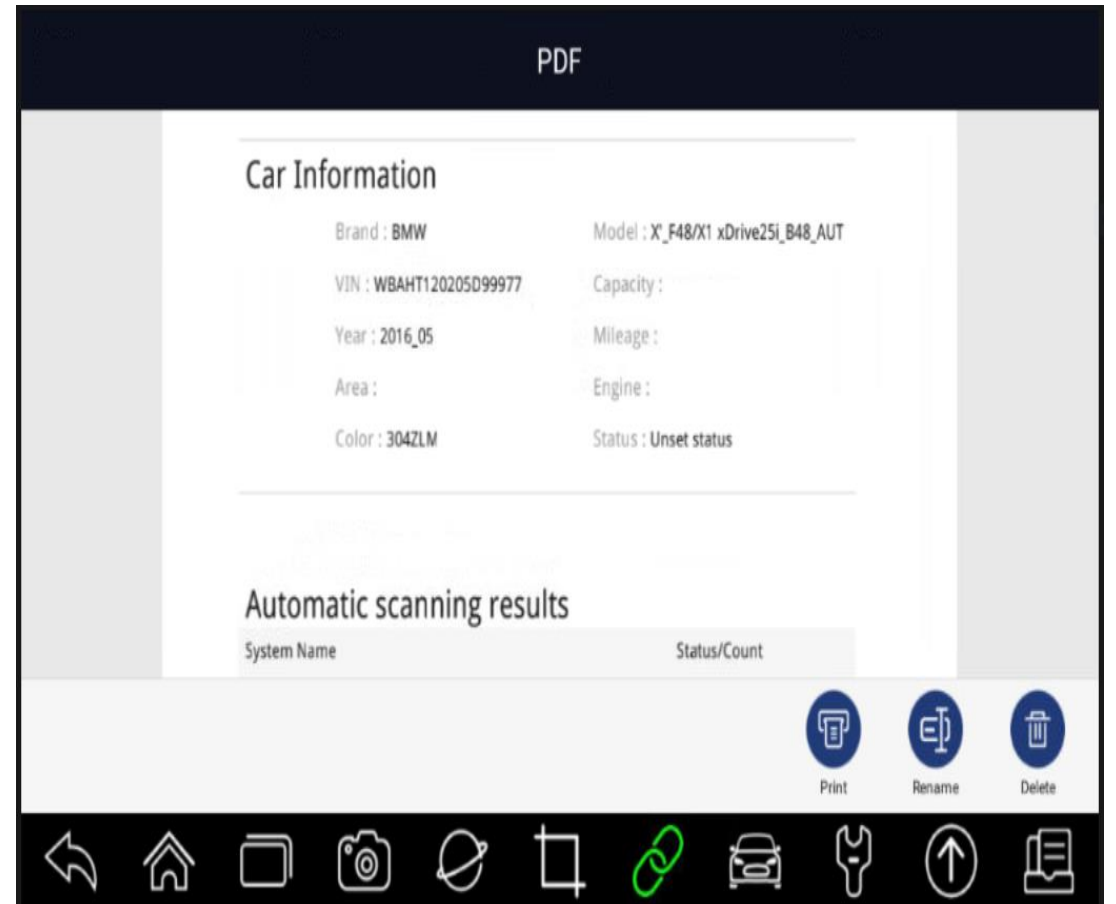
Once the quick scan has finished, the report can be generated and saved as a PDF by tapping the save icon.



The data manager is access by the icon on the lower menu. The report can be accessed while the tool is still in use.



From this screen, the PDF can be printed or sent.





How can we help each other?

Endeavour Tools works directly with Foxwell developing their scan tools.

We want the best tool available, for that we need feedback...

Education only Scan Tool available with full functionality for less then \$4,000.

In conjunction with that scan tool we want to work with the education sector to build the scan tool of tomorrow.

Incentives are on offer to students for their assistance in development.



FULL SCAN FUNCTIONALITY

BI-DIRECTIONAL CONTROLS

FULL SUITE OF SERVICE FUNCTIONS

WIRELESS COMMUNICATION

AUSTRALIAN TECH SUPPORT

3 YEARS FREE UPDATES

VACC automotive training and assessment resources

Developed by industry for industry

- Focused on **practical tasks** to **develop skills**
- Easy to **navigate**
- Designed by **industry subject matter experts, learning designers** and a **Moodle specialist**

Learning content

- Custom high-quality resources
- Content follows a logical sequence
- Information is 'chunked' to aid learning
- Written in clear, easy-to-understand language
- Includes technical drawings, images and videos

Learning tasks

- Aligned to the assessment tasks to maximise student outcomes
- Student and assessor versions

Assessments

- Developed and reviewed by industry subject matter experts, experienced automotive trainers and learning designers
- Student and assessor versions
- Mapped to the unit of competency
- Reviewed by an independent ASQA auditor



VACC apprentice training and assessment resources – the development process



VACC Learning Design Team develop assessments aligned to units of competency and current industry practice



Assessment tools are reviewed by VACC industry subject matter experts



Assessment tools are reviewed by an independent ASQA auditor



VACC Learning Design Team develop learning resources aligned to assessments to maximise student outcomes



Learning content is reviewed by VACC industry subject matter experts



Resources are provided to your RTO to plug into your own LMS



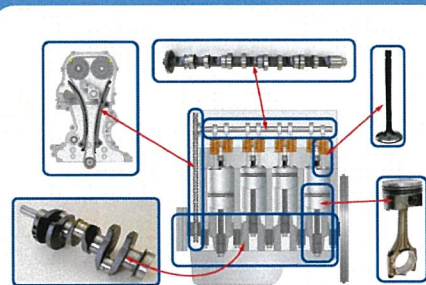
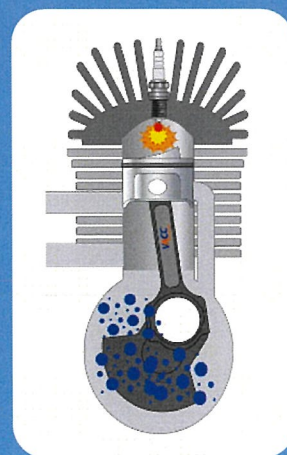
VACC maintains and updates resources

ASSESSMENT TASK 2

Section B - Observation checklist

Marking criteria	Satisfactory		Comments
	Yes	No	
Pre-Job Tasks			
1. Read the job card and accurately described the requirements to the assessor and asks questions for clarification.	<input type="checkbox"/>	<input type="checkbox"/>	
2. Located correct manufacturer specifications for inspecting and servicing a petrol engine and includes key information in the job card	<input type="checkbox"/>	<input type="checkbox"/>	
3. Inspected area, equipment and vehicle for hazards and risks were managed as per safety procedures and recorded on the service checklist	<input type="checkbox"/>	<input type="checkbox"/>	
4. a. Selected appropriate tools and equipment for the task, checked they were working correctly as per workplace procedures. b. The student correctly answered the following question: What is your workplace procedure for identifying, tagging, and isolating faulty equipment?	<input type="checkbox"/>	<input type="checkbox"/>	
5. The student was able to correctly explain the basic operation of the four-stroke spark ignition engine referring to the diagram provided by their assessor.	<input type="checkbox"/>	<input type="checkbox"/>	
6. Student correctly answered the following: a. Identify a precaution you must take to avoid rotating components b. Identify a precaution you could take to avoid injury from hot components	<input type="checkbox"/>	<input type="checkbox"/>	
7. Student correctly answered the following: Before you change the engine oil, describe how will you catch the waste engine oil and store it?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Student correctly answered the following: Who disposes of the waste oil for your workshop?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Student correctly answered the following: a. Identify a precaution you must take when working with high energy ignition systems and high voltage injector systems? b. Identify a precaution you must take when working with high voltage injector systems?	<input type="checkbox"/>	<input type="checkbox"/>	

High quality technical drawings, animations and video



More information and to access a demonstration site, contact:

VACC Skills Development Centre

vacc.info@vaccsdc.com.au or call 9829 1130

VACC
You're in good hands

Victorian Automotive Forum 2021



Agenda

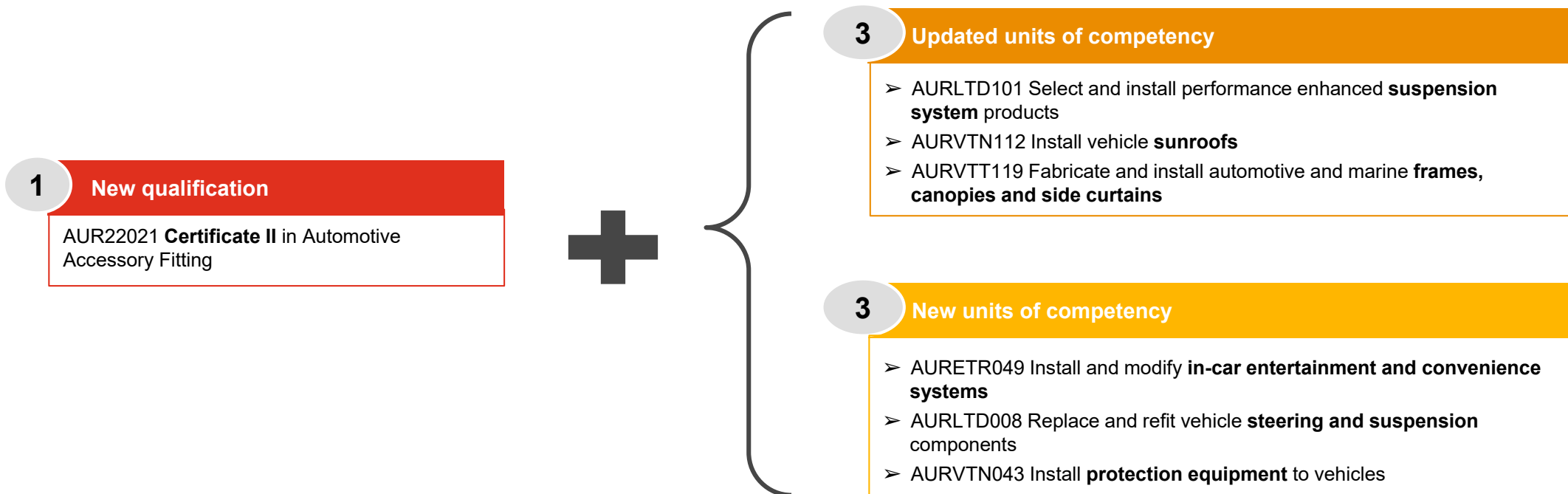
#	Agenda Item	Time allocated
1	Training Package update since last VAF <ul style="list-style-type: none">a) AUR Release Version 6.0 - November 2020<ul style="list-style-type: none">○ Incl. transition extension request updatesb) AISC direction on zero-enrolment deletions - May 2021	10 mins
2	Current Automotive training package projects update <ul style="list-style-type: none">a) High level summary of projects and phasesb) Invitation to contribute, timeline and next steps	5mins
3	Other matters and questions	5 mins

Accessory Fitting - Overview of project scope

What is being proposed?

Accessory fitting is a sought-after job role by employers but there is no clear pathway within the training package that would lead apprentices to it as an occupational outcome. Feedback suggests the creation of an AQF level 2 qualification (i.e. Certificate II) leading to an entry-level job role and supporting units of competency to reflect the skills and knowledge required of an Accessory Fitter.

PwC's Skills for Australia is seeking industry input on the following draft training products to understand the skills and knowledge required of the role of an entry-level accessory fitter in the Automotive industry:



Battery Electric Vehicle - Overview of project scope

What is being proposed?

The current training package does not provide a viable skilling pathway for technicians whose work primarily involves working with battery electric vehicles. Feedback suggests the creation of an AQF level 3 qualification (i.e. Certificate III) related to battery electric vehicles with two streams - one dedicated to light vehicles and the other to heavy vehicles. Two new units of competency have been created as part of this project, related to battery electric vehicle repair skills.

PwC's Skills for Australia is seeking industry input on the following draft training products to understand the skills and knowledge required for those working with battery electric vehicles in the Automotive industry:

1 New qualification

AUR32721 **Certificate III** in Automotive Electric Vehicle Technology



2 New units of competency

- AURETH015 Diagnose and repair heavy electric vehicle **rechargeable energy storage systems**
- AURETH016 Diagnose and repair complex faults in **battery electric vehicle powertrains**

Heavy Vehicle Telematics - Overview of project scope

What is being proposed?

Working with telematics systems and their associated technology also requires the underlying skills and knowledge required to work with advanced digital technology that is currently unrepresented in the training package. The skills gaps in the AUR Training Package in relation to emerging technologies pose a major safety concern due to the lack of industry awareness about their functions and interactions with vehicle safety systems. Feedback suggests the need to create new units of competency that would cover the application of this technology in different heavy vehicle sectors such as precision agriculture, commercial road transport, and mobile plant machinery.

PwC's Skills for Australia is seeking industry input on the following draft training products to understand the skills and knowledge required of those working with heavy vehicle telematics systems in the Automotive industry:

1 Updated unit of competency

- AURETR121 Diagnose and repair **electronic management, monitoring and tracking systems**

3 New units of competency

- AURETR051 Diagnose and repair **precision agriculture systems**
- AURETR052 Diagnose and repair **commercial road transport** electronic management systems
- AURETR053 Diagnose and repair **mobile plant electronic management systems**

Get Involved | 2021 Automotive Projects

What projects can I get involved in?

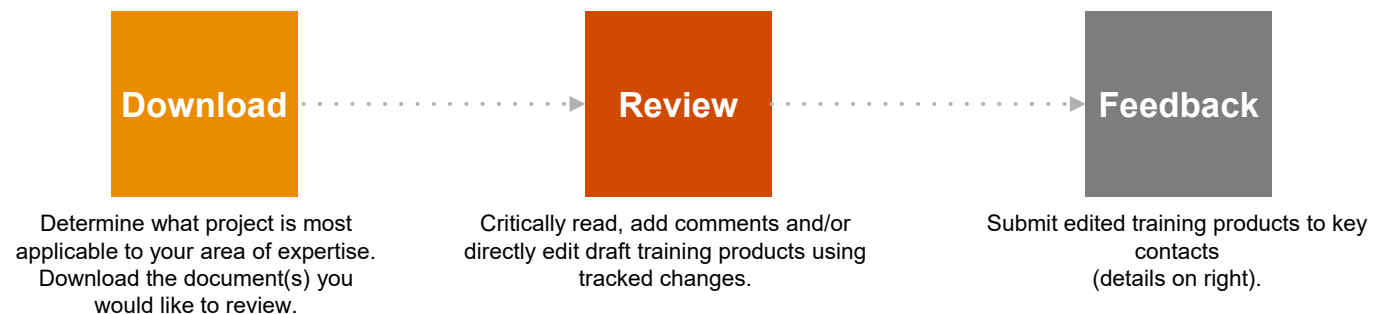
PwC's Skills for Australia is seeking input from **industry representatives, peak bodies, trainers/training providers, subject matter experts, recruiters and anyone with an interest or expertise in the projects.**

The three projects available for your participation, include:

- **Accessory Fitting:** New units of competency and one qualification have been created to meet a skills gap for an automotive accessory fitter. Existing units of competency have also been reviewed and updated remove outdated industry standards.
- **Battery Electric Vehicles:** New units of competency and one qualification have been created to service a new emerging job role of a battery electric vehicle technician which is yet to be fully represented in the AUR Training Package.
- **Heavy Vehicle Telematics:** New units of competency have been created and existing units of competency have been reviewed to meet the skills and knowledge required to diagnose and repair a diverse range of telematics systems

The three projects seek to develop training products that better match the needs of a changing workforce with rapid advancements in technologies. These training products are not represented or clearly defined in the AUR Automotive, Retail, Service and Repair Training Package.

How can I provide feedback?



When can I provide feedback?

The draft training products will be available for review from **Friday, 30 April 2021** until **Monday, 31 May 2021**.

Need to reach out?

Please contact:

Avani Sharma

E: avani.sharma@pwc.com

Note: All proposed training product drafts are subject to change as guided by feedback received during all review periods.

Stay in touch



www.skillsforaustralia.com



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[LinkedIn: Skills for Australia](#)



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Portfolio Lead - Automotive

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Avani Sharma

Senior Consultant

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Thank you

pwc.com

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Welcome to Kangan Institute

Vehicle & Emissions Laboratory

Inspection & Maintenance 240



Inspection & Maintenance 240



Inspection & Maintenance 240



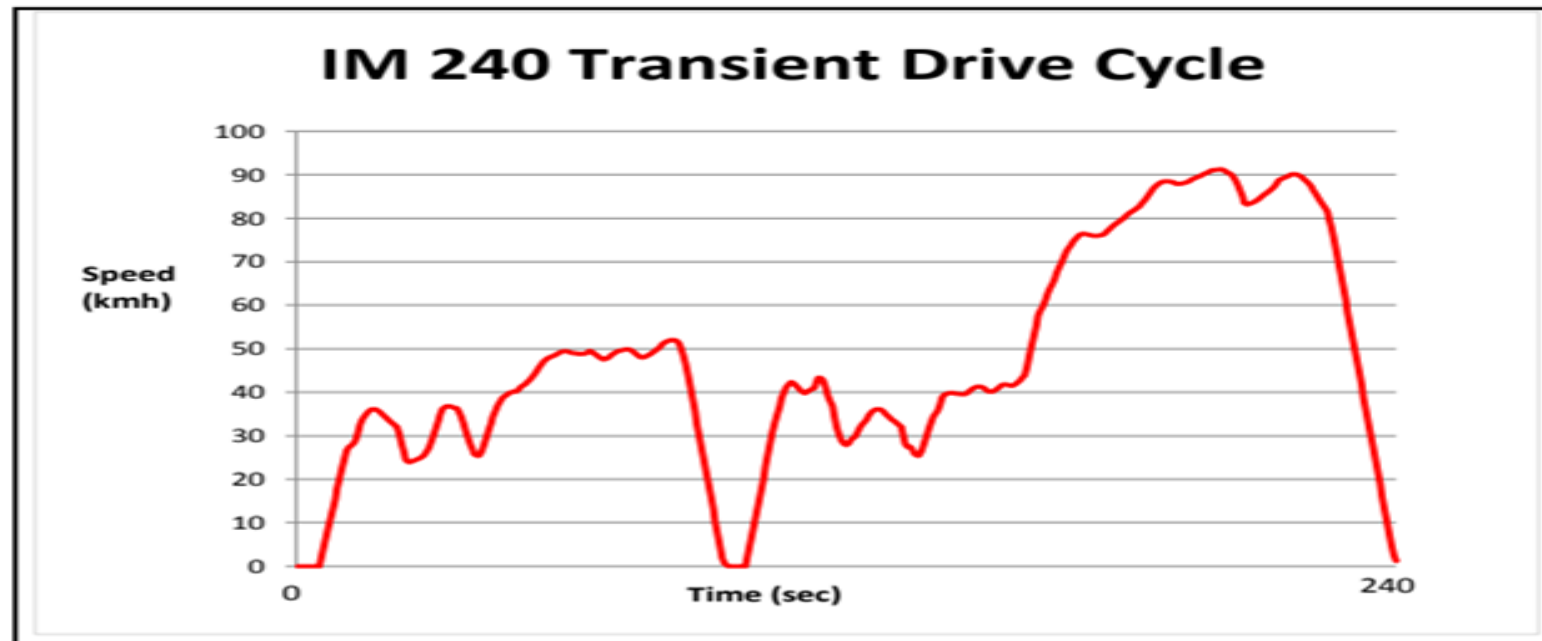


Inspection & Maintenance 240

- Background
 - Enhanced test procedure to measure vehicle emissions under simulated driving conditions
 - Developed by the US EPA in the mid 1990's and is an offshoot of the US FTP75 which became ADR 37
 - It is a transient drive cycle over 240 seconds. Distance is 3.1km with a top speed of 91.2kmh

Inspection & Maintenance 240

- Background



Inspection & Maintenance 240

- Preparation
 - Vehicle
 - Oil, water and general safety.
 - Tyre pressures under ADR37 can be increased to 310 kPa or 45 psi.
 - Reference Mass – Unladen Mass + Vehicle with full capacity of oils, coolant & fuel. Without occupants plus -
 - 136kg (ADR37) or 100kg (ADR79)
 - Vehicles with a reference mass greater than 1760kg have an additional 30% added to the inertia force equation

Inspection & Maintenance 240

- Preparation
 - Dynamometer
 - Active transient
 - AWD dynamometer
 - Road simulation
 - capable



Inspection & Maintenance 240

- Preparation
 - Dynamometer
 - Inertia Force Equation (Road Load Model)
 - Polynomial equation $F_0 + F_1V + V_{\text{loss}} + F_2(V_{\text{rel}})^2$ based on
 - F_0 - rolling resistance
 - F_1 - rolling resistance with products of velocity and drivetrain losses
 - F_2 - aerodynamic drag (F_1 is not included)
 - Not included in the IM240, some manufactures may include road grade (road surface finish) in their equation

Inspection & Maintenance 240

- Preparation
- Inertia Force Equation
- Dodge RAM
- (Real-world force equation is
- $F_0 = 176.7N$
- $F_1 = 1.795E-15$
- $F_2 = 0.04537$)

Dynamometer Setup

Road load model

Model No: Vehicle weight: kg

Model, Year: Undriven wheels: kg

Variant: Driven wheels: kg

Tyre type:

Comment:

Temperature: °C F_0 : N

Wheelbase: mm F_1 : N/km/h^x x:

F_2 : N/km/hⁿ n:

Vehicle losses

V_0 : N $VCAL$: km/h

V_1 : N/km/h ☐ Load

V_2 : N/km/h² ☐ Enable

Dynamometer

☒ Forward direction ☒ A ☒ B

☐ Reverse direction

Inspection & Maintenance 240

- Preparation
 - AVL Portable Emissions Measurement System (PEMS)



Inspection & Maintenance 240

- Preparation
 - Portable Emissions Measurement System
 - Real-world Driving Emissions (RDE)
 - Euro 6E requirement
 - implemented Sept 2017.



Inspection & Maintenance 240

- Preparation
 - Emission Standards
 - *ICV must comply to ADR 37/01 (01/01/1997).*

Emission Std	Category	Ref Mass kg	HC g/km	CO g/km	NOx g/km
ADR 37/01	ICV	Ref ADR37/01	0.26	2.10	0.63



Inspection & Maintenance 240

- Preparation
 - VicRoads not only require the gaseous emissions to be recorded but also the following :-
 - Vehicle speed (actual)
 - Drive cycle demand speed. Permissible error must be $>3.2\text{kmh}$ over 1 second
 - Ambient temperature. No testing permitted above 35°C
 - Relative Humidity
 - Barometric Pressure













Thank you!

Let's go for a drive