

**STANDARD KEMAHIRAN PEKERJAAN KEBANGSAAN  
(NATIONAL OCCUPATIONAL SKILLS STANDARD)**

**CAR ACCESSORIES INSTALLATION AND  
CUSTOMIZATION  
LEVEL 2**



**JABATAN PEMBANGUNAN KEMAHIRAN  
KEMENTERIAN SUMBER MANUSIA, MALAYSIA**



Department of Skills Development (DSD)

Ministry of Human Resources

62530 PUTRAJAYA, MALAYSIA

**STANDARD KEMAHIRAN PEKERJAAN KEBANGSAAN  
(NATIONAL OCCUPATIONAL SKILL STANDARD)**

FOR

**CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION  
LEVEL2**

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## GLOSSARY

Car accessories	Car accessories are an additional part install or affix to standard passenger car. The function is to add value, additional cosmetics elements, enhance comfortable, driving assistance and enhance car handling while driving
Customization	Customization is the process in which an individual or a group of parts or product or to be assembled to suit customer requirement
Tinted film	Tinted film is a thin film/laminate retrofit coating upgrade that can be installed to the interior of glass surfaces in automobiles
Driving assistance	Driving assistance are parts/systems install to passenger car to help the driver in the driving process which able to increase car and road safety while driving
Body kit	Body kit is a collection of exterior modifications to a car, typically composed of front and rear bumpers, side skirts, spoilers, paint jobs, and sometimes front and rear side guards and roof scoops
Suspension System	Suspension is the term given to the system of springs, shock absorbers and linkages that connects a vehicle to its wheels and allows relative motion between the two. Suspension systems serve a dual purpose — contributing to the vehicle's road holding/handling and braking for good active safety and driving pleasure, and keeping vehicle occupants comfortable and reasonably well isolated from road noise, bumps, and vibrations etc
Stabilizer Bar	A sway bar or anti-roll bar or stabilizer bar is a part of an automobilesuspension that helps reduce the body roll of a vehicle during fast cornering or over road irregularities. It connects opposite (left/right) wheels together through short lever arms linked by a torsion spring. A sway bar increases the suspension's roll stiffness—its resistance to roll in turns, independent of its spring rate in the vertical direction
Shock Absorber	A shock absorber is a mechanical device designed to smooth out or dampshock impulse, and convert kinetic energy to another form of energy (usually thermal energy, which can be easily dissipated)
Coil spring	Acoil spring, also known as a <i>helical spring</i> , is a mechanical device, which is typically used to store energy due to resilience and subsequently release it, to absorb shock, or to maintain a force between contacting surfaces
Roof rack	Aroof rack is a set of bars secured to the roof of a motor car.It is used to carry bulky items such as luggage, bicycles, canoes, kayaks, skis, or various carriers and containers.
Kangaroo bar	A kangaroo bar is a device fitted to the front of a vehicle to protect its occupants from collisions, whether an accidental collision with a large animal in rural roads, or an intentional collision with another vehicle in police usage

NVH	Noise, vibration, and harshness (NVH), also known as noise and vibration (N&V), is the study and modification of the noise and vibration characteristics of vehicles, particularly cars and trucks
Sticker	A sticker is a type of label: a piece of printed paper or plastic with pressure sensitive adhesive on one side. They can be used for decoration, depending on the situation. They can come in many different shapes, sizes and colours and are put on things such as lunchboxes, in children's rooms, on paper, lockers, notebooks and so on
Power window	Power windows or electric windows are an automobile windows which can be raised and lowered by depressing a button or switch, as opposed to using a hand-turned crank handle
Car entertainment	Car entertainment or in-vehicle infotainment is a collection of hardware devices installed into automobiles, or other forms of transportation, to provide audio and/or audio/visual entertainment, as well as automotive navigation systems
Car alarm	A car alarm is an electronic device installed in a vehicle in an attempt to discourage theft of the vehicle itself, its contents, or both. Car alarms work by emitting high-volume sound when the conditions necessary for triggering are met.
Central locking	Central locking or Power door locks allow the driver or front passenger to simultaneously lock or unlock all the doors of an automobile or truck, by pressing a button or flipping a switch
Immobiliser	An immobiliser or immobilizer is an electronic security device fitted to an automobile that prevents the engine from running unless the correct key (or other token) is present. This prevents the car from being "hot wired" after entry has been achieved
Troubleshooting	Troubleshooting is a form of problem solving, often applied to repair failed products or processes. It is a logical, systematic search for the source of a problem so that it can be solved, and so the product or process can be made operational again
Instruction Manual	An Instruction manual is an instructional book or booklet that is supplied with almost all technologically advanced consumer products such as vehicles, home appliances and computer peripherals. Information contained in the owner's manual typically includes safety instructions, assembly instructions, installation instructions, maintenance instructions, troubleshooting instructions, product technical specifications etc
CAN Bus	A Controller Area Network (CAN) refers to a network of independent controllers. It is a serial communications protocol that efficiently supports distributed real-time control with a very high level of security. The CAN bus standard was developed by Bosch and Intel and the version of the current standard has been in use since 1990

## TABLE OF CONTENTS

No.	Contents	Pages
<b>Standard Practice</b>		
1.	Introduction	i-ii
2.	Existing Occupational Structure	iii
3.	Occupational Structure Area	iv
4.	Definition of Competency Levels	v
5.	Award Of Certificate	vi
6.	Job Competencies	vi
7.	Working Condition	vi
8.	Employment Prospects	vi
9.	Career Advancement	vii
10.	Sources of Additional Information	vii-viii
11.	Acknowledgement	viii
12.	Committee Members for Development of SP, CPC, CP and CoCU	ix
13.	Competency Profile Chart (CPC)	x
14.	Competency Profile (CP)	1-20
<b>Curriculum of Competency Unit (CoCU)</b>		
1.	Interior Accessories Installation	21-30
2.	Exterior Accessories Installation	31-45
3.	Suspension System Upgrading	46-55
4.	Noise, Vibration and Harshness (NVH) Damping Material Installation	56-66
5.	Electrical Accessories System Installation	67-81
	Summary Hour Duration	82

# STANDARD PRACTICE

(SP)

**STANDARD PRACTICE**  
**NATIONAL OCCUPATIONAL SKILLS STANDARD (NOSS) FOR**  
**CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION**  
**LEVEL 2**

## **1. INTRODUCTION**

### **1.1 Market information**

According to a study by a local market research firm specializing in automotive research, consumers are more willing to spend money on additional auto accessories now more than ever

The study also found that the availability of accessories was influential to selecting a dealer by 23 percent of all buyers. Only 39 percent of salespeople actually tried to sell accessories and less than half of dealers have accessorized vehicles on display. Accessories played an influential role in the sale of 12 percent of all vehicles sold.

The detailed accessory report includes breakout data by vehicle brand, segment, geography and accessory type (appearance, performance, comfort/utility and protection)

Market forecasts show the long term industry outlook and Automotive Parts & Accessories Stores future growth trends. The five-years forecast utilize advanced econometric techniques that project both short-term and long-term market growth outlook. The industry outlook can be used to set a strategy applicable to economic realities.

### **1.2 Occupational overview**

Car accessories are an additional part to be installed or affixed to standard passenger car in Malaysia. The function on car accessories is add value, an additional cosmetics elements for the car, enhance comfortable and car handling while driving.

Automotive accessories & customization may specialize in the type of vehicle to be work on or the types of accessories to be installed. For example, they primarily may work on cars, trucks, vans or commercial vehicles or they may specialize in installing one or more types of after-market products as follows;

- Body kits, window protector, spoilers or other accessories
- Film for tinting windows
- Noise, Vibration and Harshness Damping material
- Suspension upgrading
- Hands-free communication systems.
- Fog lamp, Horn, Day Running Light (DRL), Third Brake Light and internal Cabin Roof Light

Automobile accessories installers are employed by automotive specialty shops. Experienced technician or installers may advance to service manager or shop foreperson positions. Some start their own businesses or purchase existing businesses. Automobile accessories installers, inspectors and testers are part of the larger Motor Vehicle Assemblers in Malaysia. People employed in this classification also can work in the following industries:

- Manufacturing
- Retail trade
- Repair
- Wholesale Trade



## 2. EXISTING OCCUPATIONAL STRUCTURE

SECTOR	AUTOMOTIVE INDUSTRY				
SUB-SECTOR	AFTER SALES				
AREA	PASSENGER VEHICLE				
JOB AREA	Motor Vehicle		Air Conditioning	Tyre	Accessories
LEVEL 5	Motor vehicle After sales Manager		No Level	No Level	No Level
LEVEL 4	Motor vehicle After sales Manager		No Level	No Level	No Level
LEVEL 3	Motor Vehicle Senior Technician	Motor Vehicle Service Consultant	Air Conditioning Senior Technician	Tyre Technician	Accessories Installation Senior Technician
LEVEL 2	No Level	No Level	No Level	No Level	Accessories Installation Technician
LEVEL 1	No Level	No Level	No Level	No Level	No Level

Fig. 1.1 Existing Occupational Structure for Car Accessories Installation and Customization in Malaysia

## Occupational Area Structure

SECTOR	AUTOMOTIVE INDUSTRY				
SUB-SECTOR	AFTER SALES				
AREA	PASSENGER VEHICLE				
JOB AREA	Motor Vehicle		Air Conditioning	Tyre	Accessories
LEVEL 5	Motor vehicle After sales Management		No Level	No Level	No Level
LEVEL 4	Motor vehicle After sales Operation		No Level	No Level	No Level
LEVEL 3	Motor Vehicle Diagnosis	Motor Vehicle Service Consultant	Air Conditioning Installation & Servicing	Tyre Servicing	Car Accessories Installation and Customization
LEVEL 2	No Level	No Level	No Level	No Level	Car Accessories Installation and Customization
LEVEL 1	No Level	No Level	No Level	No Level	No Level

Fig. 1.1 Occupational Area Structure (OAS) for Car Accessories Installation and Customization in Malaysia

### 3. DEFINITION OF COMPETENCY LEVELS

The NOSS is developed for various occupational areas. Candidates for certification must be assessed and trained at certain levels to substantiate competencies. Below is a guideline of each NOSS Level as defined by the Department of Skills Development, Ministry of Human Resources, Malaysia.

Malaysia Skills Certificate Level 1: (Operation Level)	Competent in performing a range of varied work activities, most of which are routine and predictable.
Malaysia Skills Certificate Level 2: (Operation Level)	Competent in performing a significant range of varied work activities, performed in a variety of contexts. Some of the activities are non-routine and required individual responsibility and autonomy.
Malaysia Skills Certificate Level 3: (Supervisory Level)	Competent in performing a broad range of varied work activities, performed in a variety of contexts, most of which are complex and non-routine. There is considerable responsibility and autonomy and control or guidance of others is often required.
Malaysia Skills Diploma Level 4: (Executive Level)	Competent in performing a broad range of complex technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present.
Malaysia Skills Advanced Diploma Level 5: (Managerial Level)	Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources features strongly, as do personal accountabilities for analysis, diagnosis, planning, execution and evaluation.

#### **4. AWARD OF CERTIFICATE**

Candidates after being assessed and verified and fulfilled Malaysian Skill Certification requirements shall be awarded with Malaysia Skills Certificate for Level 3 (Car Accessories Installation and Customization)

#### **5. JOB COMPETENCIES**

A Car accessories installation Level 2 is competent in performing:

- Interior Accessories Installation
- Exterior Accessories Installation
- Suspension System Upgrading
- Noise, Vibration And Harshness (NVH) Damping Material Installation
- Electrical Accessories Installation

#### **6. WORKING CONDITIONS**

Generally they work from under normal working hour from morning to evening depending on organisation nature of business. They may be required to work extra hours to fulfil internal and external requirement. In this operation, they may be needed to work at night to accommodate customer requirements. They need to use / wear appropriate attire and Personal Protection Equipment (PPE) during the commencement of their jobs. They may work individually or in a modular group. The occupation requires high level of physical fitness & alertness, not colour blind, good communication skill, cooperative and ability to understand & execute work instructions from superior

#### **7. EMPLOYMENT PROSPECTS**

There are excellent prospect in private sectors due to shortage of hands-on expert in car accessories installation operation. Car accessories installation L3 trained under this training program is eligible to be employed in the mechanical & electrical service and maintenance sector. This area has a very good job market potential abroad for skilled personnel due to shortage of such highly skilled personnel in this region.

Other related occupation with respect to employment opportunities are:

- Car accessories installation Instructor/ Trainer
- Car accessories installation Equipment Sales & Trading

Other related industries with respect to employment opportunities are:

- Education
- Facilitator
- Training Institution
- Manufacturing
- Services & Utilities

## 8. CAREER ADVANCEMENT

As for career advancement, most competent car accessories installation L3 learns their competency on the job. They usually begin as technician and gradually learn their new skills as they gain experience for career advancement

## 9. SOURCES OF ADDITIONAL INFORMATION

### LOCAL

- **Jabatan Pengangkutan Jalan (JPJ)**  
Ibu Pejabat  
Jabatan Pengangkutan Jalan  
Aras 1-5, Blok D4, Kompleks D  
Pusat Pentadbiran Kerajaan Persekutuan  
62620 Wilayah Persekutuan Putrajaya  
Umum +603 8886 6400  
Faks +603 8888 9645  
E-mel [aduan@jppj.gov](mailto:aduan@jppj.gov).
- **Jabatan Alam Sekitar (JAS)**  
Kementerian Sumber Asli dan Alam Sekitar,  
Aras 1 - 4, Podium 2 & 3  
Wisma Sumber Asli No.25  
Persiaran Perdana, Presint 4  
Pusat Pentadbiran Kerajaan Persekutuan  
62574 Putrajaya, Malaysia  
  
Tel : 03-8889 1972  
Hotline : 1-800-88-2727  
Fax : 03-8888 9987 / 03-8889 1040  
Email [aduan\\_k@doe.gov.my](mailto:aduan_k@doe.gov.my)
- **Malaysian Automotive Association (MAA)**  
F-1-47, Block F, Jalan PJU 1A/3  
Taipan Damansara 2, Parcel 1  
Ara Damansara, 47301 Petaling Jaya  
Selangor Darul Ehsan  
Tel: +6 03-7843 9947  
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Email : [secretariat@maa.gov.my](mailto:secretariat@maa.gov.my)
- **Malaysian Automotive Institute (MAI)**  
Block 2280,  
Jalan Usahawan 2, Cyber 6  
63000 Cyberjaya, Selangor  
Tel : +603 8318 7742  
Fax : +603 8318 7743  
Email : [info@mai.org.my](mailto:info@mai.org.my)

- **National Institute of Occupational Safety & Health (NIOSH)**

Lot 1, Jalan 15/1, Section 15  
43650 Bandar Baru Bangi  
Selangor Darul Ehsan

Tel : 03-8769 2100/03-8911 3800

Fax : 03-8926 2900

Email : general@niosh.com.my

## INTERNATIONAL

- **American Society of Mechanical Engineers (ASME)**

Two Park Avenue  
New York, NY 10016-5990  
800-843-2763 (U.S/Canada)  
001-800-843-2763 (Mexico)  
973-882-1170 (outside North America)  
Email: CustomerCare@asme.org

## 10. ACKNOWLEDGEMENT

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**11. COMMITTEE MEMBERS FOR DEVELOPMENT OF STANDARD PRACTICE (SP),  
COMPETENCY PROFILE CHART (CPC), COMPETENCY PROFILE (CP) AND  
CURRICULUM of COMPETENCY UNIT (CoCU)**

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3.	En. Sharuddin Bin Abdullah	Executive Naza Kia Academy
4.	En. Shahir Anuar Bin Shah Abdullah	Executive Save Cost Business Development & Mechanical Academy
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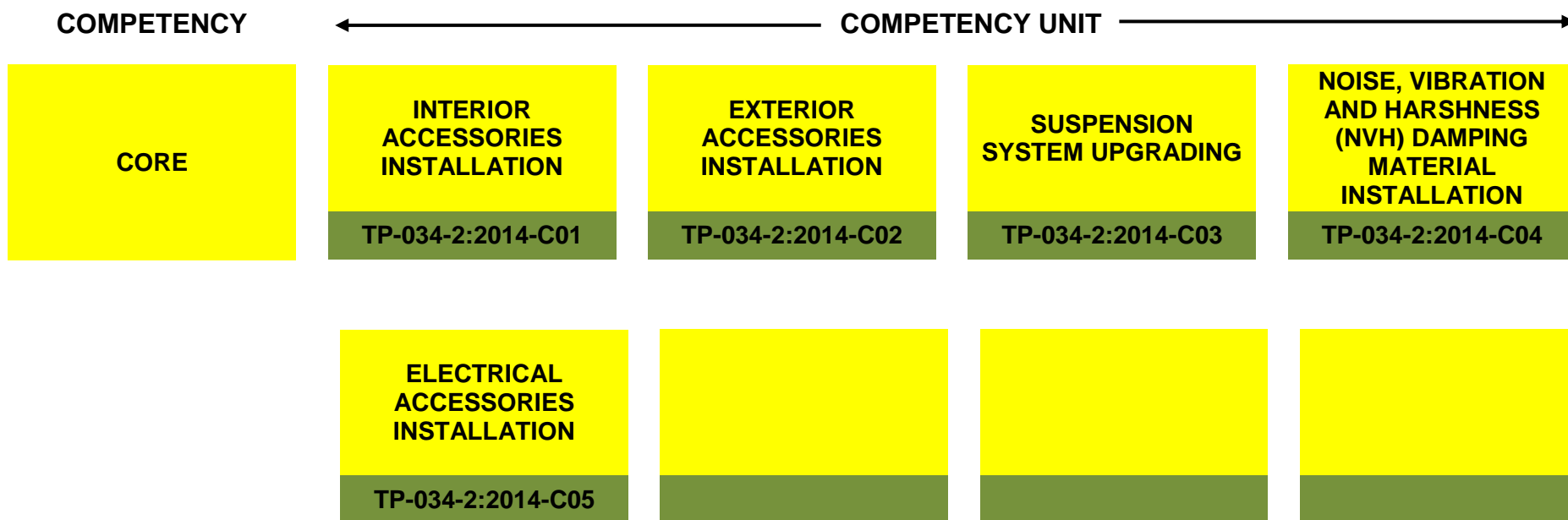
# COMPETENCY PROFILE CHART

## (CPC)



## COMPETENCY PROFILE CHART (CPC)

SECTOR	AUTOMOTIVE INDUSTRY		
SUB SECTOR	AFTER SALES		
JOB AREA	PASSENGER VEHICLE		
NOSS TITLE	CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION		
JOB LEVEL	TWO (2)	NOSS CODE	TP-034-2:2014



# COMPETENCY PROFILE

## (CP)

## COMPETENCY PROFILE (CP)

SECTOR	AUTOMOTIVE INDUSTRY			
SUB SECTOR	AFTER SALES			
JOB AREA	PASSENGER VEHICLE			
NOSS TITLE	CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION			
LEVEL	TWO (2)	NOSS CODE	TP-034-2:2014	
CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
1. <b>INTERIOR ACCESSORIES INSTALLATION</b>	TP-034-2:2014-C01	<p>Interior accessories installation describes the competency in installing new interior accessories parts in the passenger car, including of assessing and select parts as customer requirement, install parts as instruction manual, test the installation and handover car to customer. The interior parts involved are Tinted Film, Facia, Rear View Mirror, Gear Knob, Wood Panel, Foot Paddle, Seat Cover, Arm Rest, Cup Holder, Ionizer and Carpet Mat,</p> <p>The person who is competent in interior accessories installation shall be able to assess interior accessories installation requirement, install tinted film, install vehicle cabin accessories parts, fabricate vehicle carpet mat, and close the assign job</p>	1. Assess interior accessories installation requirement	<p>1.1 Interior accessories installation scope of work determined and confirmed according to customer requirement and job order</p> <p>1.2 Car registration particular recorded and actual car condition inspected according to workshop procedure</p> <p>1.3 Installation works area determined and confirmed according to type of interior accessories installation requirement.</p> <p>1.4 Installation tools and equipment selected, checked and arranged according to interior accessories installation requirement.</p> <p>1.5 Personal Protective Equipment (PPE) used and Fender Cover applied</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
		The outcome of this competency is the ability to install and perform testing to the interior accessories parts to meet customer requirement.	2. Install tinted film	<p>according to workshop procedure.</p> <p>1.6 Interior accessories instruction manual determined and interpreted</p> <p>2.1 Tinted film type determined and selected according to customer and regulatory body requirement</p> <p>2.2 Existing tinted film peel-off, and glass surface cleaned according to Standard Operation Procedure (SOP)</p> <p>2.3 Tinted film measured and pre-cut according to glass surface area</p> <p>2.4 Tinted film surrounding area protected from dust and kept at room temperature.</p> <p>2.5 Cut tinted film placed and position adjusted based to glass surface area</p> <p>2.6 Excessive tinted film measured and trimmed according to Standard Operation Procedure (SOP)</p> <p>2.7 Tinted film condition checked and assessed according to tinted film installation procedure.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			3. Install vehicle cabin accessories parts	<p>3.1 Vehicle cabin accessories parts determined and selected according to customer requirement and job order.</p> <p>3.2 Existing vehicle cabin accessories parts removed and assembly surface cleaned</p> <p>3.3 Vehicle cabin accessories parts installed and tightened according to instruction manual.</p> <p>3.4 Vehicle cabin accessories condition checked and functionality assessed according to instruction manual.</p>
			4. Fabricate vehicle carpet mat	<p>4.1 Carpet mat type determined and selected according to customer requirement and job order</p> <p>4.2 Existing carpet mat removed carefully to avoid dust drop onto floor carpet</p> <p>4.3 New carpet mat laid and measured according to old carpet specification</p> <p>4.4 Measured new carpet mat cut and confirmed based on old carpet specification</p> <p>4.5 New carpet mat condition checked and assess based on car floor surface area.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			5. Close the assign job order.	5.1 Interior accessories functionality tested and condition checked according to customer requirement 5.2 Completed job order checked and submitted to superior/cashier 5.3 Complete car condition checked and handed over to customer 5.4 Work area, tools and equipment cleanse and properly arranged according to workshop housekeeping procedure

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
2. <b>EXTERIOR ACCESSORIES INSTALLATION</b>	TP-034-2:2014-C02	<p>Exterior accessories installation describes the competency in installing new exterior cosmetic parts in the passenger car, including of assessing and select parts as customer requirement, install parts as instruction manual, test the installation and handover car to customer. The exterior parts involved are Front skirt/lips, Rear skirt/lips, Side skirt, Spoiler, Wheel arch/garnish, Kangaroo Bar, Side Step, Sticker &amp; Reflector, Door Visor &amp; Registrations number and Roof Rack/box</p> <p>The person who is competent in exterior accessories installation shall be able to assess exterior accessories installation requirement, install body kit, install kangaroo bar and side step, install sticker and reflector, install door visor, install car registration number, install roof rack/box and close the assign job</p> <p>The outcome of this competency is the ability to install and perform testing to the exterior accessories parts to meet customer requirement</p>	<p>1. Assess exterior accessories installation requirement</p> <p>2. Install body kit.</p>	<p>1.1 Exterior accessories installation scope of work determined and confirmed according to customer requirement and job order</p> <p>1.2 Car registration particular recorded and actual car condition inspected according to workshop procedure</p> <p>1.3 Installation works area determined and confirmed according to type of exterior accessories installation requirement.</p> <p>1.4 Installation tools and equipment selected, checked and arranged according to exterior accessories installation requirement.</p> <p>1.5 Personal Protective Equipment (PPE) used and Fender Cover applied according to workshop procedure.</p> <p>1.6 Exterior accessories instruction manual determined and interpreted</p> <p>2.1 Body kit parts determined and selected according to customer requirement and job order.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
				<p>2.2 Existing Mudflat cover removed and installation area cleaned</p> <p>2.3 Volume for primer &amp; adhesive estimated and applied according to instruction manual</p> <p>2.4 Body kit installed and tightened according to Standard Operation Procedure (SOP)</p> <ul style="list-style-type: none"> <li>• Front skirt/lips</li> <li>• Rear skirt/lips</li> <li>• Side skirt</li> <li>• Spoiler</li> <li>• Wheel arch/ garnish</li> </ul> <p>2.5 Body kit condition and part matching checked according to Standard Operation Procedure (SOP)</p>
			3. Install Kangaroo Bar and Side Step	<p>3.1 Kangaroo Bar and Side Step determined and selected according to customer requirement and job order</p> <p>3.2 Existing Kangaroo Bar and Side Step removed</p> <p>3.3 Installation bracket matching and hole position checked and confirmed according to instruction manual</p>



CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>4. Install sticker and reflector</p> <p>5. Install door visor</p>	<p>3.4 Kangaroo Bar and Step Side fixed and bolt tightened to required torque value</p> <p>3.5 Installed Kangaroo Bar and Step Side condition and strength checked</p> <p>4.1 Type of sticker and reflector determined and selected based on customer requirement and job order.</p> <p>4.2 Existing sticker and reflector removed and cleaned body surface according to instruction manual.</p> <p>4.3 Sticker and reflector position identified and confirmed based on customer requirement.</p> <p>4.4 Sticker and reflector placed and position adjusted based on space area.</p> <p>4.5 Sticker and reflector condition and appearance checked and assessed based on customer requirement.</p> <p>5.1 Type of door visor determined and selected according to customer requirement and job order.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			6. Install car registration number	<p>5.2 Existing door visor removed and body surface cleaned</p> <p>5.3 Primer &amp; adhesive volume estimated and applied according to instruction manual.</p> <p>5.4 Door visor placed and position adjusted according to Standard Operation Procedure (SOP).</p> <p>5.5 Door visor installed according to Standard Operation Procedure (SOP).</p> <p>5.6 New door visor &amp; registration number location and appearance checked according to Standard Operation Procedure (SOP).</p> <p>6.1 Type of car registration number determined and selected according to customer requirement and job order.</p> <p>6.2 Existing registration number removed.</p> <p>6.3 Primer &amp; adhesive volume estimated and applied according to instruction manual.</p> <p>6.4 Car registration number placed and position adjusted according to</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>7. Install roof rack/box</p> <p>8. Close the assign job.</p>	<p>Standard Operation Procedure (SOP).</p> <p>6.5 Car registration number installed according to Standard Operation Procedure (SOP).</p> <p>6.6 Car registration number location and appearance checked according to Standard Operation Procedure (SOP).</p> <p>7.1 Roof rack/box determined and selected according to customer requirement and job order</p> <p>7.2 Installation bracket matching checked and confirmed according to manual.</p> <p>7.3 Roof rack/ box fixed and bolt tightened to required torque value.</p> <p>7.4 Roof rack/box strengthens checked and functionality accessed according to instruction manual.</p> <p>8.1 Exterior accessories functionality tested and condition checked according to customer requirement.</p> <p>8.2 Completed job order checked and submitted to</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
				<p>superior/cashier according to workshop practices</p> <p>8.3 Complete car handed over to customer</p> <p>8.4 Work area, tools and equipment cleanse and properly arranged according to workshop housekeeping procedure</p>
3. <b>SUSPENSION SYSTEM UPGRADING</b>	TP-034-2:2014-C03	<p>Suspension system upgrading describes the competency in installing new suspension system and parts in the passenger car, including of assessing and select parts as customer requirement, install parts as instruction manual, test the installation and handover car to customer. The suspension system parts involved are Stabilizer Bar (Strut Bar), Sport Spring and Adjustable Absorber.</p> <p>The person who is competent in suspension system upgrading installation shall be able to assess suspension system installation requirement, install stabilizer bar, install sport spring and adjustable absorber and close the assign job</p> <p>The outcome of this competency is the ability to install and perform testing to suspension system</p>	1. Assess suspension system upgrading requirement.	<p>1.1 Suspension system upgrading scope of work determined and confirmed according to customer requirement and job order</p> <p>1.2 Car registration particular recorded and actual car condition inspected according to workshop procedure</p> <p>1.3 Installation works area determined and confirmed according to suspension system upgrading requirement.</p> <p>1.4 Installation tools and equipment selected, checked and arranged according to suspension system upgrading procedure</p> <p>1.5 Personal Protective Equipment PPE and Fender Cover selected and applied according to workshop</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
		upgrading parts to meet customer requirement	<p>2. Install Stabilizer Bar (Strut Bar)</p> <p>3. Install Sport Spring and Adjustable Absorber</p>	<p>procedure</p> <p>1.6 Suspension system upgrading instruction manual determined and interpreted</p> <p>2.1 Type of Stabilizer Bar determined and selected according to customer requirement and job order</p> <p>2.2 Existing Stabilizer Bar and attachment removed</p> <p>2.3 Stabilizer Bar and attachment fixed and tightened required torque value.</p> <p>2.4 Stabilizer Bar checked and functionality assessed according to instruction manual.</p> <p>3.1 Sport Spring and Adjustable Absorber determined and selected according to customer requirement and job order.</p> <p>3.2 Car lifted at ergonomic working condition and safety stand applied</p> <p>3.3 Spring &amp; Absorber removed and placed at work bench according to workshop practices</p> <p>3.4 Adjustable Absorber height adjusted and confirmed according to instruction</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			4. Close the assign job	<p>manual and statutory body requirement</p> <p>3.5 Sport Spring and Adjustable Absorber assembled and fixed to the car</p> <p>3.6 Sport Spring and Adjustable Absorber checked and functionality assessed according to instruction manual and customer requirement.</p> <p>4.1 Suspension system functionality tested and condition checked according to customer requirement</p> <p>4.2 Completed job order checked and submitted to superior/cashier according to workshop practices</p> <p>4.3 Complete car handed over to customer</p> <p>4.4 Work area, tools and equipment cleanse and properly arranged according to workshop housekeeping procedure</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
<b>4. NOISE, VIBRATION AND HARSHNESS (NVH) DAMPING MATERIAL INSTALLATION</b>	<i>TP-034-2:2014-C04</i>	<p>Noise, vibration and harshness (NVH) damping material installation describes the competency in installing NVH parts in the passenger car, including of assessing and select parts as customer requirement, install parts as instruction manual, test the installation and handover car to customer. The Noise, Vibration and Harshness (NVH) damping material involved are Padding material, Foam injection and Door Protector</p> <p>The person who is competent in noise, vibration and harshness (NVH) damping material installation shall be able to assess NVH installation requirement, install padding material, perform foam injection, install door protector and close the assign job</p> <p>The outcome of this competency is the ability to install and perform testing to the noise, vibration and harshness (NVH) material to meet customer requirement</p>	<p>1. Assess Noise, Vibration and Harshness (NVH) damping material installation requirement</p>	<p>1.1 Noise, Vibration and Harshness (NVH) damping material installation scope of work determined and confirmed according to customer requirement and job order</p> <p>1.2 Car registration particular recorded and actual car condition inspected according to workshop procedure</p> <p>1.3 Installation works area determined and confirmed according to NVH damping material installation requirement.</p> <p>1.4 Installation tools, equipment and material selected, checked and arranged according to NVH material installation procedure</p> <p>1.5 Personal Protective Equipment (PPE) used and Fender Cover applied according to workshop procedure.</p> <p>1.6 NVH damping material instruction manual determined and interpreted</p> <p>1.7 Existing car noise level checked using Decibel meter and recorded.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>2. Install Padding material</p> <p>3. Perform foam injection</p>	<p>2.1 Padding material determined and selected according to customer requirement and job order</p> <p>2.2 Existing padding material removed and specific area cleaned</p> <p>2.3 Padding material laid out, measured and cut based on available space area.</p> <p>2.4 Primer and adhesive volume estimated and applied according to Standard Operation Procedure (SOP)</p> <p>2.5 Padding material placed and position adjusted suit to space area</p> <p>2.6 Padding material condition and appearance checked according to according to Standard Operation Procedure (SOP)</p> <p>3.1 Foam material determined and selected according to customer requirement and job order.</p> <p>3.2 Specific area (hole) identified and sealed according to instruction manual</p> <p>3.3 Nozzle hose length determined and foam injected/ filled into specific</p>



CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>4. Install door protector</p> <p>5. Close the assign job</p>	<p>hollow section (Side Sill)</p> <p>3.4 Excessive foam material trimmed and eliminated</p> <p>3.5 Injected foam material condition checked and assessed according to instruction manual</p> <p>4.1 Door protector type determined and selected according to customer requirement and job order.</p> <p>4.2 Existing door protector removed and body surface cleaned</p> <p>4.3 Primer and adhesive volume estimated and applied based on according to Standard Operation Procedure (SOP).</p> <p>4.4 Door protector placed and position adjusted based on available space</p> <p>4.5 Door protector position and condition checked according to according to Standard Operation Procedure (SOP)</p> <p>5.1 NVH damping material condition checked according to customer requirement</p> <p>5.2 Noise level checked, recorded and compared with previous reading.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
				<p>5.3 Completed job order checked and submitted to superior/cashier according to workshop practices</p> <p>5.4 Complete car condition checked and handed over to customer</p> <p>5.5 Work area, tools and equipment cleanse and properly arranged according to workshop housekeeping procedure.</p>
<b>5. ELECTRICAL ACCESSORIES SYSTEM INSTALLATION</b>	<i>TP-034-2:2014-C05</i>	<p>Electrical accessories system installation describes the competency in installing electrical accessories system parts in the passenger car, including of assessing and select parts as customer requirement, install parts as assembly instruction manual, test the installation and handover car to customer. The electrical accessories parts involved are Fog Lamp/ Spot Light, Day Running Light (DRL), Third Brake Light, Cabin Roof Light and Horn</p> <p>The person who is competent in electrical accessories system installation shall be able to assess electrical accessories system installation requirement, install Fog Lamp/ Spot Light, install Day</p>	<p>1. Assess electrical accessories system installation requirement</p>	<p>1.1 Electrical accessories system parts installation scope of work determined and confirmed according to customer requirement and job order</p> <p>1.2 Car registration particular recorded and actual car condition inspected according to workshop procedure</p> <p>1.3 Installation works area determined and confirmed according to electrical accessories system installation requirement.</p> <p>1.4 Installation tools and equipment selected, checked and arranged according to electrical accessories system installation procedure</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
		<p>Running Light (DRL), install Horn, install Third Brake Light, install Cabin Roof Light and close the assign job.</p> <p>The outcome of this competency is the ability to install and perform testing to the convenience electrical system parts to meet customer requirement</p>	2. Install Fog Lamp/ Spot Light	<p>1.5 Personal Protective Equipment (PPE) and Fender Cover used and applied according to workshop procedure.</p> <p>1.6 Electrical accessories system parts instruction manual determined and interpreted.</p> <p>2.1 Fog Lamp/ Spot Light determined and selected according to customer requirement and job order</p> <p>2.2 Existing Fog Lamp/ Spot Light removed</p> <p>2.3 Safety to car wiring system installation adhered</p> <p>2.4 Fog Lamp/ Spot Light and car wiring circuit diagram checked and interpreted</p> <p>2.5 Correct connection determined and socket inserted to car wiring circuit.</p> <p>2.6 Fog Lamp/ Spot Light bracket fixed and tightened to required torque.</p> <p>2.7 Fog Lamp/ Spot Light installed and adjusted according to instruction manual.</p> <p>2.8 Fog Lamp/ Spot Light condition checked and functionality assessed according to instruction manual</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>3. Install Day Running Light (DRL)</p> <p>4. Install Horn</p>	<p>3.1 Day Running Light (DRL) type determined and selected according to customer requirement and job order</p> <p>3.2 Existing Day Running Light (DRL) removed</p> <p>3.3 Safety to car wiring system installation adhered.</p> <p>3.4 Day Running Light (DRL) and car wiring circuit diagram checked and interpreted</p> <p>3.5 Correct connection determined and socket inserted to car wiring circuit.</p> <p>3.6 Day Running Light (DRL) installed according to instruction manual.</p> <p>3.7 Day Running Light (DRL) condition checked and functionality assessed according to instruction manual.</p> <p>4.1 Horn type determined and selected according to customer requirement and job order.</p> <p>4.2 Existing a Horn removed</p> <p>4.3 Safety to car wiring system installation adhered</p> <p>4.4 Horn and car wiring circuit diagram checked and interpreted.</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			<p>5. Install Third Brake Light</p> <p>6. Install Cabin Roof Light</p>	<p>4.5 Correct connection determined and socket inserted to car wiring circuit</p> <p>4.6 Horn installed according to instruction manual</p> <p>4.7 Horn condition checked and functionality assessed according to instruction manual.</p> <p>5.1 Third Brake Light determined and selected according to customer specification and job order</p> <p>5.2 Existing Third Brake Light removed</p> <p>5.3 Safety to car wiring system installation adhered.</p> <p>5.4 Third Brake Light and car wiring circuit diagram checked and interpreted</p> <p>5.5 Correct connection determined and socket inserted to car wiring circuit.</p> <p>5.6 Third Brake Light installed according to instruction manual</p> <p>5.7 Third Brake Light condition checked and functionality assessed according to instruction manual.</p> <p>6.1 Cabin Roof Light determined and selected according to customer</p>

CU Title	CU Code	CU Descriptor	CU Work Activities	Performance Criteria
			7. Close the assign job	<p>specification and job order</p> <p>6.2 Existing Cabin Roof Light removed</p> <p>6.3 Safety to car wiring system installation adhered.</p> <p>6.4 Cabin Roof Light and car wiring circuit diagram checked and interpreted</p> <p>6.5 Correct connection determined and socket inserted to car wiring circuit.</p> <p>6.6 Cabin Roof Light installed according to instruction manual</p> <p>6.7 Cabin Roof Light condition checked and functionality assessed according to instruction manual</p> <p>7.1 Electrical accessories functionality tested and condition checked according to customer requirement</p> <p>7.2 Completed job order checked and submitted to superior/cashier according to workshop practices</p> <p>7.3 Complete car handed over to customer</p> <p>7.4 Work area, tools and equipment cleanse and properly arranged according to workshop housekeeping procedures</p>

CURRICULUM of COMPETENCY UNIT (CoCU)  
- CORE

## CURRICULUM of COMPETENCY UNIT (CoCU)

SECTOR		AUTOMOTIVE						
SUB SECTOR		AFTER SALES						
JOB AREA		PASSENGER VEHICLE						
NOSS TITLE		CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION						
COMPETENCY UNIT TITLE		INTERIOR ACCESSORIES INSTALLATION						
LEARNING OUTCOME		The person who is competent in this competency unit shall be able to install Interior cosmetic parts of passenger vehicle (car accessories). Upon completion of this competency unit, trainees will be able to:- <ul style="list-style-type: none"><li>Assess interior accessories installation requirement</li><li>Install tinted film</li><li>Install vehicle cabin accessories parts</li><li>Fabricate vehicle carpet mat</li><li>Close the assign job</li></ul>						
PRE-REQUISITE (if appreciable)								
COMPETENCY UNIT ID		TP-034-2:2014-C01	LEVEL	2	TRAINING DURATION	118	SKILL CREDIT	12
Work Activities	Related Knowledge	Related Skills		Attitude/Safety/ Environmental	Training Hours	Delivery Mode		Assessment Criteria
1. Assess interior accessories installation requirement	i. Type of passengers vehicle <ul style="list-style-type: none"><li>Saloon</li><li>Compact car</li><li>Hatchback</li><li>4 wheel drive</li></ul> ii. Interior accessories installation scope of works <ul style="list-style-type: none"><li>New installation</li><li>Repair</li></ul>	i. Evaluate interior accessories installation requirement and scope of work ii. Prepare job/service & order - car registration number, scope of work and assign responsible		<u>Attitude:</u> i. Patience in assessing interior accessories requirement ii. Communicate effectively with customer on job scope requirement	2 hours          10 hours	Lecture          Demonstration & Observation		i. Interior accessories installation work listed and explained ii. Method of job / service order processing explained iii. Working area selected



Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>Modification</li> </ul> iii. Job service/ & repair order format and content <ul style="list-style-type: none"> <li>Car registration particular</li> <li>Scope of works</li> </ul> iv. Communication skill v. Car accessories suitable working area vi. Type and function of accessories installation tool and equipment <ul style="list-style-type: none"> <li>Tool <ul style="list-style-type: none"> <li>Hand tool sets</li> <li>Cutter</li> <li>Scraper</li> </ul> </li> <li>Equipment <ul style="list-style-type: none"> <li>Hand drill</li> <li>Hand grinder</li> <li>Hot Air Gun</li> <li>Air compressor</li> </ul> </li> <li>Personal Protection Equipment (PPE) <ul style="list-style-type: none"> <li>Goggle</li> <li>Overall</li> <li>Glove</li> <li>Safety shoes</li> </ul> </li> </ul> vii. Purpose of having instruction manual viii. Understanding of	technician iii. Locate working area iv. Prepare interior accessories installation tools and equipment v. Prepare Personal Protection Equipment (PPE) vi. Select interior accessories instruction manual.				iv. Installation tools and equipment determined as per job requirement v. Personal Protection Equipment (PPE) used based on safety procedure. vi. Instruction manual chosen based on job requirement vii. Required safety procedure on interior accessories installation adhered. viii. Communication skill demonstrated according to company's Standard Operation Procedure (SOP). ix. Method and technique in assessing interior accessories



Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>Rubber</li> <li>Plastic</li> </ul> <ul style="list-style-type: none"> <li>vii. Method to maintain and sharpen special swipe tools</li> <li>viii. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ)</li> <li>ix. Purpose of tinted film heating</li> <li>x. Purpose of safe guard dashboard and electrical equipment</li> <li>xi. Mixture of water and body shampoo</li> <li>xii. Tinted film installation orientation method               <ul style="list-style-type: none"> <li>•Front and rear window</li> </ul> </li> <li>xiii. Trimming/Cutting method</li> <li>xiv. Appearance and defect type of tinted film</li> </ul>					<ul style="list-style-type: none"> <li>protect form dust and debris.</li> </ul> <ul style="list-style-type: none"> <li>vii. Method and technique of sharpen special swipe tools demonstrated according to Standard Operation Procedure (SOP)</li> <li>viii. Tinted film install and place adjusted based on glass surface area.</li> <li>ix. Excessive tinted film trimmed</li> <li>x. Tinted film condition checked according to Standard Operation Procedure (SOP)</li> <li>xi. Careful and concern on handling car demonstrated according to Standard</li> </ul>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
						Operation Procedure (SOP)
3. Install vehicle cabin accessories parts	i. Purpose of vehicle cabin accessories installation ii. Type and function of vehicle cabin accessories <ul style="list-style-type: none"> <li>• Facia</li> <li>• Rear view mirror</li> <li>• Gear knob</li> <li>• Wood panel</li> <li>• Foot paddle</li> <li>• Seat cover</li> <li>• Arm rest</li> <li>• Cup holder</li> <li>• Ionizer</li> </ul> iii. Type and function of hand tools <ul style="list-style-type: none"> <li>• Scraper</li> <li>• Allen key set</li> <li>• Wrench set</li> <li>• Screw driver set</li> </ul> iv. Technique of removing vehicle cabin accessories v. Type of grease remover <ul style="list-style-type: none"> <li>• Soft thinner</li> <li>• M5000</li> <li>• Wiping solvent</li> </ul> vi. Method and technique	i. Select vehicle cabin accessories ii. Remove existing vehicle cabin accessories iii. Clean vehicle cabin assembly area/ surface iv. Install vehicle cabin accessories v. Check vehicle cabin accessories installation	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety iii. Careful during installation to avoid defect to passenger cabin equipment.  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)  <u>Environmental:</u> i. Awareness on statutory and regulatory requirement in disposing chemical liquid	8 hours   26 hours	Lecture  Demonstration & Observation	ii. Type and function of vehicle cabin accessories listed and explained iii. Existing vehicle cabin accessories part removed iv. Vehicle cabin accessories parts surface area cleaned based on assembly requirement v. Accessories parts condition checked according to Standard Operation Procedure (SOP) vi. Excess thinner and solvent disposed according to Schedule Waste (SW)





## Employability Skills

Core Abilities	Social Skills
<p>01.01 Identify and gather information.  01.02 Document information procedures or processes.  02.01 Interpret and follow manuals, instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist using standard forms.  02.05 Read/Interpret flowcharts and pictorial information.  03.01 Apply cultural requirement to the workplace.  03.02 Demonstrate integrity and apply practical practices.  03.03 Accept responsibility for own work and work area.  03.04 Seek and act constructively upon feedback about work performance.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and situations.  03.07 Resolve interpersonal conflicts.  06.01 Understand systems.  06.02 Comply with and follow chain of command.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  01.04 Analyse information.  02.08 Prepare pictorial and graphic information.  03.08 Develop and maintain a cooperation within work group.  04.01 Organize own work activities.  04.02 Set and revise own objectives and goals.  04.03 Organize and maintain own workplace.  04.04 Apply problem solving strategies.  04.05 Demonstrate initiative and flexibility.  06.05 Analyse technical systems.</p>	<ol style="list-style-type: none"> <li>1. Communication skills</li> <li>2. Conceptual skills</li> <li>3. Interpersonal skills</li> <li>4. Learning skills</li> <li>5. Leadership skills</li> <li>6. Multitasking and prioritising</li> <li>7. Self-discipline</li> <li>8. Teamwork</li> </ol>

**Tools, Equipment and Materials (TEM)**

ITEMS	RATIO (TEM : Trainees)
1. Screw Driver Set	1:5
2. Job Sheet	1:1
3. Allen Key Set	1:5
4. Hand Tools Set	1:5
5. Wrench Set	1:5
6. Scissor	1:5
7. Spray Can	1:5
8. Car shampoo	As required
9. Tinted Rubber Swipe Tools	1:5
10. Low Lint Cloth	1:5
11. Knife Cutter	1:5
12. Scraper	1:5
13. Glass Table	1:5
14. Tinted Film Rack	1:5
15. Hot Air Gun	1:5
16. Transmitter meter	1:5
17. Personal Protective Equipment (PPE)	1:1
18. Tinted Film Roll	1:25
19. Passenger Cabin Accessories parts	1:5
20. Carpet Mat Roll	1:25
21. Car Window Glass Panel	1:5



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## CURRICULUM of COMPETENCY UNIT (CoCU)

SECTOR		AUTOMOTIVE						
SUB SECTOR		AFTER SALES						
JOB AREA		PASSENGER VEHICLE						
NOSS TITLE		CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION						
COMPETENCY UNIT TITLE		EXTERIOR ACCESSORIES INSTALLATION						
LEARNING OUTCOME		The person who is competent in this competency unit shall be able to install exterior accessories parts of passenger vehicle (car accessories). Upon completion of this competency unit, trainees will be able to:- <ul style="list-style-type: none"><li>• Assess exterior cosmetic installation requirement</li><li>• Install body kit.</li><li>• Install Kangaroo Bar and Side Step</li><li>• Install sticker and reflector</li><li>• Install door visor</li><li>• Install car registration number</li><li>• Install roof rack/box</li><li>• Close the assign job</li></ul>						
PRE-REQUISITE (if appreciable)								
COMPETENCY UNIT ID		TP-034-2:2014-C02	LEVEL	2	TRAINING DURATION	152	SKILL CREDIT	15
Work Activities	Related Knowledge	Related Skills		Attitude/Safety/Environmental		Training Hours	Delivery Mode	Assessment Criteria
1. Assess exterior accessories installation requirement	i. Type of passengers vehicle <ul style="list-style-type: none"><li>• Saloon</li><li>• Compact car</li><li>• Hatchback</li><li>• 4 wheel drive</li></ul> ii. Exterior accessories installation scope of	i. Evaluate exterior accessories installation requirement and scope of work	ii. Prepare job/service & order	- car registration	<u>Attitude:</u> i. Patience in assessing exterior accessories requirement ii. Communicate effectively with	2 hours  10 hours	Lecture  Demonstration & Observation	i. Exterior accessories installation work listed and explained ii. Method of job / service order processing

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	works <ul style="list-style-type: none"> <li>• New installation</li> <li>• Repair</li> <li>• Modification</li> </ul> iii. Job service/ & repair order format and content <ul style="list-style-type: none"> <li>• Car registration particular</li> <li>• Scope of works</li> </ul> iv. Communication skill           v. Car accessories suitable working area           vi. Type and function of exterior accessories installation tool and equipment <ul style="list-style-type: none"> <li>• Tool               <ul style="list-style-type: none"> <li>▪ Hand tool sets</li> <li>▪ Cutter</li> <li>▪ Scraper</li> <li>▪ Allen key set</li> <li>▪ Wrench set</li> <li>▪ Screw driver set</li> </ul> </li> <li>• Equipment               <ul style="list-style-type: none"> <li>▪ Hand drill</li> <li>▪ Hand grinder</li> <li>▪ Power Tools</li> <li>▪ Air compressor</li> </ul> </li> <li>• Personal Protection Equipment (PPE)               <ul style="list-style-type: none"> <li>▪ Goggle</li> <li>▪ Overall</li> </ul> </li> </ul>	number, scope of work and assign responsible technician <ul style="list-style-type: none"> <li>iii. Locate working area</li> <li>iv. Prepare exterior accessories installation tools and equipment</li> <li>v. Prepare Personal Protection Equipment (PPE)</li> <li>vi. Select exterior accessories instruction manual.</li> </ul>	customer on job scope			explained <ul style="list-style-type: none"> <li>iii. Working area selected</li> <li>iv. Installation tools and equipment determined as per job requirement</li> <li>v. Personal Protection Equipment (PPE) used based on safety procedure</li> <li>vi. Instruction manual chosen based on job requirement</li> <li>vii. Required safety procedure on exterior accessories installation adhered.</li> <li>viii. Communication skill demonstrated according to company's Standard Operation Procedure (SOP)</li> <li>ix. Method and technique in</li> </ul>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>Glove</li> <li>Safety shoes</li> </ul> <p>vii. Purpose of having instruction manual</p> <p>viii. Understanding of instruction manual content.</p> <p>ix. Introduction to safety procedure on exterior accessories installation</p>					assessing exterior accessories requirement demonstrated according to company's Standard Operation Procedure (SOP).
2. Install body kit.	<p>i. Variance of passenger car</p> <p>ii. Type of body kit</p> <ul style="list-style-type: none"> <li>Front skirt/lips</li> <li>Rear skirt/lips</li> <li>Side skirt</li> <li>Spoiler</li> <li>Wheel arch/garnish</li> </ul> <p>iii. Type and function of hand tools</p> <ul style="list-style-type: none"> <li>Scrapper</li> <li>Allen key set</li> <li>Wrench set</li> <li>Screw driver set</li> </ul> <p>iv. Type of cleaning agent</p> <ul style="list-style-type: none"> <li>Soft thinner</li> <li>M5000</li> <li>Wiping solvent</li> </ul> <p>v. Introduction to rule and regulation from regulatory body</p>	<p>i. Select body kit</p> <p>ii. Remove existing mudflat cover</p> <p>iii. Clean matching installation surface area.</p> <p>iv. Pre-install body kit parts</p> <p>v. Apply primer and adhesive (if required)</p> <p>vi. Install body kit</p> <ul style="list-style-type: none"> <li>Front skirt/lips</li> <li>Rear skirt/lips</li> <li>Side skirt</li> <li>Spoiler</li> <li>Wheel arch/garnish</li> </ul> <p>vii. Check body kit</p>	<p><u>Attitude:</u></p> <p>i. Handle equipment with care</p> <p>ii. Awareness on customer's car condition and safety</p> <p><u>Safety:</u></p> <p>i. Wear Personal Protective Equipment (PPE)</p> <p><u>Environmental:</u></p> <p>i. Awareness on statutory and regulatory requirement in disposing chemical liquid.</p>	<p>4 hours</p> <p>14 hours</p>	<p>Lecture</p> <p>Demonstration &amp; Observation</p>	<p>i. Type of body kit listed and explained</p> <p>ii. Rule and regulation from regulatory body listed and explained.</p> <p>iii. Existing Mudflat cover removed based on body kit assembly requirement</p> <p>iv. Matching assembly area cleaned based on body kit assembly requirement</p> <p>v. Premier and adhesive applied based</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>Jabatan Pengangkutan Jalan (JPJ)</li> <li>Jabatan Alam Sekitar (JAS)</li> </ul> vi. Introduction to safety precaution in handling adhesive vii. Method and technique of cleaning viii. Method and technique of installation as per Standard Operation Procedure (SOP) ix. Technique of inspection as per Standard Operation Procedure (SOP) <ul style="list-style-type: none"> <li>Appearance (gap, matching, scratch, flush)</li> <li>Strengthens</li> <li>Profile</li> <li>Alignment</li> </ul>					on assembly requirement vi. Body kit installed according to Standard Operation Procedure (SOP) vii. Body kit part matching and strength checked. viii. Excess thinner and solvent disposed according to Schedule Waste (SW) disposal procedure. ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP)

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Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
						installation safety rules and regulation adhered. viii. Work ergonomic adhered. ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).
4. Install sticker and reflector	i. Purpose of sticker and reflector installation ii. Type of sticker and reflector <ul style="list-style-type: none"> <li>• Pattern/shape</li> <li>• Material</li> <li>• Colour</li> <li>• Size</li> </ul> iii. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ) iv. Design and layout sticker position v. Type of swipe special	i. Select sticker and reflector ii. Remove existing sticker and reflector (if required) iii. Clean body surface iv. Identify sticker and reflector position v. Install sticker and reflector vi. Check sticker and reflector condition.	<u>Attitude:</u> i. Cleanliness at work area. ii. Awareness on customer's car condition and safety  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)	4 hours  14 hours	Lecture  Demonstration & Observation	i. Type of sticker and reflector listed and explained ii. Rule and regulation from regulatory body listed and explained iii. Sticker and reflector removed according to removal procedure. iv. Body surface cleaned based on sticker

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	tools <ul style="list-style-type: none"> <li>• Rubber</li> <li>• Plastic</li> </ul> viii. Method and technique of cleaning <ul style="list-style-type: none"> <li>• Wipe</li> <li>• Spray</li> </ul> vi. Technique and method of sticker and reflector installation as instruction manual.           vii. Method of sticker and reflector inspection <ul style="list-style-type: none"> <li>• Bubble</li> <li>• Scratch</li> <li>• Alignment</li> </ul>					assembly requirement. v. Sticker and reflector adjusted and installed according to Standard Operation Procedure (SOP) vi. Sticker and reflector appearance and alignment checked according to customer requirement vii. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP)



Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
5. Install door visor	i. Purpose of door visor installation ii. Type of door visor <ul style="list-style-type: none"> <li>• Shape &amp; size</li> <li>• Material (plastic, aluminium)</li> <li>• Colour</li> </ul> iii. Introduction to rule and regulation from regulatory body <ul style="list-style-type: none"> <li>• Jabatan Alam Sekitar (JAS)</li> </ul> iv. Technique and method of door visor installation as per Standard Operation Procedure (SOP) v. Technique and method of door visor inspection <ul style="list-style-type: none"> <li>• Scratch</li> <li>• Gap</li> <li>• Alignment</li> </ul>	i. Select door visor ii. Remove existing door visor iii. Clean door visor matching surface iv. Apply primer & adhesive agent v. Install door visor vi. Check door visor	<u>Attitude:</u> i. Cleanliness at work area. ii. Awareness on customer's car condition and safety  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)  <u>Environmental:</u> i. Awareness on statutory and regulatory requirement in disposing chemical liquid.	2 hours    10 hours	Lecture   Demonstration & Observation	i. Type of door visor listed and explained ii. Rule and regulation from regulatory body listed and explained iii. Existing door visor removed iv. Door visor matching surface cleaned based on assembly requirement v. Premier and adhesive applied based on assembly requirement. vi. Door visor adjusted and installed according to Standard Operation Procedure (SOP) vii. Door visor appearance and alignment checked viii. Excess adhesive and

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
						<p>premier disposed according to Schedule Waste (SW) disposal procedure</p> <p>ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure</p>
6. Install car registration number	<p>i. Purpose of car registration number installation</p> <p>ii. Type of registration number</p> <ul style="list-style-type: none"> <li>• Plastic</li> <li>• Shape</li> <li>• Emboss metal</li> <li>• Casting metal</li> </ul> <p>iii. Introduction to rule and regulation from regulatory body</p> <ul style="list-style-type: none"> <li>• Jabatan Pengangkutan Jalan (JPJ)</li> <li>• Jabatan Alam Sekitar (JAS)</li> </ul> <p>iv. Method and</p>	<p>i. Select car registration number</p> <p>ii. Remove existing car registration number</p> <p>iii. Apply primer &amp; adhesive agent</p> <p>iv. Select bolt &amp; screw</p> <p>v. Install car registration number</p> <p>vi. Check car registration number</p>	<p><u>Attitude:</u></p> <p>i. Cleanliness at work area.</p> <p>ii. Awareness on customer's car condition and safety</p> <p><u>Safety:</u></p> <p>i. Wear Personal Protective Equipment (PPE)</p> <p><u>Environmental:</u></p> <p>i. Awareness on statutory and regulatory requirement in</p>	<p>2 hours</p> <p>10 hours</p>	<p>Lecture</p> <p>Demonstration &amp; Observation</p>	<p>i. Type of car registration number listed and explained.</p> <p>ii. Rule and regulation from regulatory body listed and explained</p> <p>iii. Existing car registration number removed</p> <p>iv. Premier and adhesive applied based on assembly requirement.</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	technique of car registration number installation v. Car registration number fixing method <ul style="list-style-type: none"> <li>• Screw</li> <li>• Glue</li> <li>• Rivet</li> </ul> vi. Technique and method of car registration number inspection <ul style="list-style-type: none"> <li>• Scratch</li> <li>• Gap</li> <li>• Alignment</li> </ul>		disposing chemical liquid.			v. Car registration number adjusted and installed according to customer requirement and Standard Operation Procedure (SOP) vi. Car registration number appearance and alignment checked vii. Excess adhesive and premier disposed according to Schedule Waste (SW) disposal procedure viii. Careful and concern on handling car demonstrated according to Standard Operation Procedure

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
7. Install roof rack/box	i. Purpose of roof rack/box installation ii. Type of roof rack/box <ul style="list-style-type: none"> <li>• Design</li> <li>• Material (Metal, Aluminium, Poly Urethane (PU))</li> </ul> iii. Type and function of hand tools <ul style="list-style-type: none"> <li>• Allen key set</li> <li>• Wrench set</li> <li>• Screw driver set</li> </ul> iv. Bolt, nut size and strengthen torque requirements v. Method and technique of roof rack/box installation as per instruction manual vi. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ) vii. Method of inspection procedure <ul style="list-style-type: none"> <li>• Appearance</li> <li>• Strengthens</li> <li>• Alignment.</li> </ul> x. Introduction to roof rack/box installation safety procedure	i. Select roof rack/box ii. Check installation bracket/ mounting matching iii. Install roof rack/box iv. Check roof rack/box	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE) ii. Ensure work ergonomic environment	10 hours           38 hours	Lecture           Demonstration & Observation	i. Type of roof rack/box listed and explained. ii. Rule and regulation from regulatory body listed and explained. iii. Installation bracket matching and hole position confirmed based on assembly requirement. iv. Bolt and fasteners type listed and explained. v. Roof rack/box installed according to instruction manual. vi. Roof rack/box appearance and strengthens checked according to instruction manual. vii. Roof rack/box assembly safety rules and

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
						regulation procedure adhered. viii. Work ergonomic adhered. ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure
8. Close the assign job	i. Function of exterior accessories and related parts ii. Procedure of hand over car to customer iii. Type of work order iv. Workshop Standard Operating Procedure (SOP) in completing the job order. v. Technique of cleaning and tools arrangement	i. Test exterior accessories functionality with customer. ii. Complete job order iii. Submit job order to superior/cashier iv. Hand over car to customer v. Clean work area	<u>Attitude:</u> i. Cleanliness at work area ii. Meticulous in completing job order. iii. Communicate politely with customer	2 hours  8 hours	Lecture  Demonstration & Observation	i. Exterior accessories check based on customer requirement listed and explained. ii. Job order updated and submitted to superior iii. Method of car handed over to customer listed and explained. iv. Working area cleaned and arranged based on workshop requirement.

## Employability Skills

Core Abilities	Social Skills
<p>01.01 Identify and gather information.  01.02 Document information procedures or processes.  02.01 Interpret and follow manuals, instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist using standard forms.  02.05 Read/Interpret flowcharts and pictorial information.  03.01 Apply cultural requirement to the workplace.  03.02 Demonstrate integrity and apply practical practices.  03.03 Accept responsibility for own work and work area.  03.04 Seek and act constructively upon feedback about work performance.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and situations.  03.07 Resolve interpersonal conflicts.  06.01 Understand systems.  06.02 Comply with and follow chain of command.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  01.04 Analyse information.  02.08 Prepare pictorial and graphic information.  03.08 Develop and maintain a cooperation within work group.  04.01 Organize own work activities.  04.02 Set and revise own objectives and goals.  04.03 Organize and maintain own workplace.  04.04 Apply problem solving strategies.  04.05 Demonstrate initiative and flexibility.  06.05 Analyse technical systems.</p>	<ol style="list-style-type: none"> <li>1. Communication skills</li> <li>2. Conceptual skills</li> <li>3. Interpersonal skills</li> <li>4. Learning skills</li> <li>5. Leadership skills</li> <li>6. Multitasking and prioritising</li> <li>7. Self-discipline</li> <li>8. Teamwork</li> </ol>

**Tools, Equipment and Materials (TEM)**

ITEMS	RATIO (TEM : Trainees)
1. Job Sheet	1:1
2. Screw Driver Set	1:5
3. Allen Key Set	1:5
4. Hand Tools Set	1:5
5. Wrench Set	1:5
6. Scissor	1:5
7. Knife Cutter	1:5
8. Scraper	1:5
9. Cleaning agent.	As required
10. Personal Protective Equipment (PPE)	1:1
11. Hand Drill sets	1:5
12. Sticker and reflector	1:5
13. Roof Rack/box	1:5
14. Kangaroo Bar and Side Step	1:5
15. Door visor	1:5
16. Model Car.	1:5

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## CURRICULUM of COMPETENCY UNIT (CoCU)

<b>SECTOR</b>	<b>AUTOMOTIVE</b>						
<b>SUB SECTOR</b>	<b>AFTER SALES</b>						
<b>JOB AREA</b>	<b>PASSENGER VEHICLE</b>						
<b>NOSS TITLE</b>	<b>CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION</b>						
<b>COMPETENCY UNIT TITLE</b>	<b>SUSPENSION SYSTEM UPGRADING</b>						
<b>LEARNING OUTCOME</b>	<p>The person who is competent in this competency unit shall be able to install suspension system upgrading parts of passenger vehicle (car accessories). Upon completion of this competency unit, trainees will be able to:-</p> <ul style="list-style-type: none"> <li>• Assess suspension system upgrading requirement.</li> <li>• Install Stabilizer Bar (Strut Bar)</li> <li>• Install Sport Spring and Adjustable Absorber</li> <li>• Close the assign job</li> </ul>						
<b>PRE-REQUISITE (if appreciable)</b>							
<b>COMPETENCY UNIT ID</b>	TP-034-2:2014-C03	<b>LEVEL</b>	2	<b>TRAINING DURATION</b>	120	<b>SKILL CREDIT</b>	12
<b>Work Activities</b>	<b>Related Knowledge</b>	<b>Related Skills</b>	<b>Attitude/Safety/Environmental</b>	<b>Training Hours</b>	<b>Delivery Mode</b>	<b>Assessment Criteria</b>	
1. Assess suspension system upgrading requirement .	i. Type of passengers vehicle <ul style="list-style-type: none"> <li>Saloon</li> <li>Compact car</li> <li>Hatchback</li> <li>4 wheel drive</li> </ul> ii. Suspension system upgrading scope of works <ul style="list-style-type: none"> <li>New installation</li> <li>Repair</li> <li>Modification</li> </ul>	i. Evaluate suspension system installation requirement and scope of work ii. Prepare job/service & order - car registration number, scope of work and assign responsible technician. iii. Locate working area	<u>Attitude:</u> i. Patience in assessing suspension system upgrading requirement  ii. Communicate effectively with customer on job scope .	2 hours    10 hours	Lecture   Demonstration & Observation	i. Suspension system upgrading work listed and explained ii. Method of job / service order processing explained iii. Working area selected iv. Installation tools	

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	iii. Job service/ & repair order format and content <ul style="list-style-type: none"> <li>• Car registration particular</li> <li>• Scope of works</li> </ul> iv. Communication skill           v. Car accessories suitable working area           vi. Type and function of suspension system upgrading tool and equipment <ul style="list-style-type: none"> <li>• Tool               <ul style="list-style-type: none"> <li>▪ Hand tool sets</li> <li>▪ Allen key set</li> <li>▪ Wrench set</li> <li>▪ Screw driver set</li> <li>▪ Spring Clamper</li> <li>▪ Stand</li> </ul> </li> <li>• Equipment               <ul style="list-style-type: none"> <li>▪ Hand drill</li> <li>▪ Power Tools</li> <li>▪ Hand grinder</li> <li>▪ Air compressor</li> <li>▪ Garage jack</li> <li>▪ Lifter</li> </ul> </li> <li>• Personal Protection Equipment (PPE)               <ul style="list-style-type: none"> <li>▪ Goggle</li> <li>▪ Overall</li> </ul> </li> </ul>	iv. Prepare suspension system upgrading tools and equipment           v. Prepare Personal Protection Equipment (PPE)           vi. Select suspension system upgrading instruction manual				and equipment determined as per job requirement v. Personal Protection Equipment (PPE) used based on safety procedure. vi. Instruction manual chosen based on job requirement vii. Required safety procedure on suspension system upgrading installation adhered. viii. Communication skill demonstrated according to company's Standard Operation Procedure (SOP). ix. Method and technique in assessing suspension system

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>▪ Glove</li> <li>▪ Safety shoes</li> </ul> vii. Purpose of having instruction manual viii. Understanding of instruction manual content. ix. Introduction to safety procedure on suspension system upgrading					upgrading requirement demonstrated according to company's Standard Operation Procedure (SOP).
2. Install Stabilizer Bar (Strut Bar)	i. Introduction to passenger car suspension system ii. Purpose of Stabilizer Bar upgrading requirement iii. Type and function of stabilizer bar <ul style="list-style-type: none"> <li>• Front and rear</li> <li>• Trunk and Hood</li> </ul> iv. Lifting method and technique v. Bolt, nut size and strengthen torque requirements vi. Method and technique of installation as instruction manual. vii. Method and technique of inspection <ul style="list-style-type: none"> <li>• Visual</li> </ul>	i. Select stabilizer bar ii. Remove existing Stabilizer Bar and attachment iii. Check installation bracket matching iv. Install new Stabilizer Bar and attachment v. Inspect new Stabilizer Bar assembly	<u>Attitude:</u> <ol style="list-style-type: none"> <li>Handle equipment with care</li> <li>Awareness on customer's car condition and safety</li> <li>Ensure bolt torque securely according to specification</li> </ol> <u>Safety:</u> <ol style="list-style-type: none"> <li>Wear Personal Protective Equipment (PPE)</li> <li>Ensure work ergonomic environment</li> </ol>	8 hours       34 hours	Lecture     Demonstration & Observation	i. Type of Stabilizer Bar listed and explained. ii. Existing Stabilizer Bar and attachment removed iii. Car lifting method and technique demonstrated iv. Installation bracket matching and hole position confirmed based on assembly requirement. v. Stabilizer Bar installed according to

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>• Measurement/ adjustment</li> <li>• Clearance</li> <li>• Noise/ knocking</li> </ul> viii. Introduction to safety procedure on Stabilizer Bar installation					<p>instruction manual.</p> <p>vi. Stabilizer Bar appearance and strengthens confirmed according to instruction manual</p> <p>vii. Method of bolt fixing up to required torque demonstrated.</p> <p>viii. Required safety procedure on Stabilizer Bar installation adhered</p> <p>ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).</p> <p>x. Work ergonomic adhered.</p>

<b>Work Activities</b>	<b>Related Knowledge</b>	<b>Related Skills</b>	<b>Attitude/Safety/ Environmental</b>	<b>Training Hours</b>	<b>Delivery Mode</b>	<b>Assessment Criteria</b>
3. Install Sport Spring and Adjustable Absorber	i. Introduction of passenger car driving comfort ii. Type and function of Sport Spring and Adjustable Absorber <ul style="list-style-type: none"> <li>• Spring overall height &amp; coil diameter</li> <li>• Spring Stiffness rate/ level</li> <li>• Adjustable Absorber comfortable level.</li> </ul> iii. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ) iv. Lifting method and technique v. Bolt, nut size and strengthen torque requirements vi. Method and technique of Adjustable Absorber height adjustment vii. Method and technique of installation as instruction manual. iii. Method and technique of inspection <ul style="list-style-type: none"> <li>• Visual</li> <li>• Road test</li> <li>• Absorber tester</li> </ul>	i. Select sport spring and adjustable absorber ii. Lift car at safety and suitable working condition iii. Remove Spring and Absorber module iv. Adjust Adjustable Absorber height v. Assemble new Sport Spring and adjust Adjustable Absorber vi. Test sport spring and adjustable shock absorber performance	<u>Attitude:</u> <ul style="list-style-type: none"> <li>i. Handle equipment with care</li> <li>ii. Awareness on customer's car condition and safety</li> <li>iii. Ensure bolt torque securely according to specification</li> </ul> <u>Safety:</u> <ul style="list-style-type: none"> <li>i. Wear Personal Protective Equipment (PPE)</li> <li>ii. Adhere to safety requirement on lifting mechanism.</li> <li>iii. Ensure work ergonomic</li> </ul>	12 hours       48 hours	Lecture       Demonstration & Observation	i. Type of Sport Spring and Adjustable Absorber listed and explained. ii. Rule and regulation from regulatory body listed and explained iii. Car lifted and stand installed according to Sport Spring and Adjustable Absorber safety assembly requirement. iv. Spring and Absorber module removed based on assembly requirement. v. Adjustable Absorber height adjusted according to customer requirement. vi. Method of bolt fixing up to required torque demonstrated.

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<p>machine.</p> <p>ix. Introduction to safety procedure on Sport Spring and Adjustable Absorber installation.</p>					<p>vii. Sport Spring and Adjustable Absorber installed according to instruction manual.</p> <p>viii. Sport Spring and Adjustable Absorber appearance check and functionality test according to instruction manual.</p> <p>ix. Required safety procedure on Sport Spring and Adjustable Absorber installation adhered.</p> <p>x. Work ergonomic adhered</p> <p>xi. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
4. Close the assign job	i. Function of suspension system upgrading and related parts. ii. Procedure of hand over car to customer iii. Type of work order iv. Workshop Standard Operating Procedure (SOP) in completing the job order. v. Technique of cleaning and tools arrangement	i. Test suspension system functionality with customer ii. Complete job order iii. Submit job order to superior/cashier iv. Hand over car to customer v. Clean work area	<u>Attitude:</u> i. Cleanliness at work area ii. Meticulous in completing job order. iii. Communicate politely with customer  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)	2 hours    4 hours	Lecture   Demonstration & Observation	i. Suspension system upgrading functionality checked based on customer requirement listed and explained. ii. Job order updated and submitted to superior iii. Method of car handed over to customer listed and explained. iv. Working area cleaned and arranged based on workshop requirement.

## Employability Skills

Core Abilities	Social Skills
<p>01.01 Identify and gather information.  01.02 Document information procedures or processes.  02.01 Interpret and follow manuals, instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist using standard forms.  02.05 Read/Interpret flowcharts and pictorial information.  03.01 Apply cultural requirement to the workplace.  03.02 Demonstrate integrity and apply practical practices.  03.03 Accept responsibility for own work and work area.  03.04 Seek and act constructively upon feedback about work performance.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and situations.  03.07 Resolve interpersonal conflicts.  06.01 Understand systems.  06.02 Comply with and follow chain of command.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  01.04 Analyse information.  02.08 Prepare pictorial and graphic information.  03.08 Develop and maintain a cooperation within work group.  04.01 Organize own work activities.  04.02 Set and revise own objectives and goals.  04.03 Organize and maintain own workplace.  04.04 Apply problem solving strategies.  04.05 Demonstrate initiative and flexibility.  06.05 Analyse technical systems.</p>	<ol style="list-style-type: none"> <li>1. Communication skills</li> <li>2. Conceptual skills</li> <li>3. Interpersonal skills</li> <li>4. Learning skills</li> <li>5. Leadership skills</li> <li>6. Multitasking and prioritising</li> <li>7. Self-discipline</li> <li>8. Teamwork</li> </ol>



**Tools, Equipment and Materials (TEM)**

ITEMS	RATIO (TEM : Trainees)
1. Job Sheet	1:1
2. Allen Key Set	1:5
3. Wrench Set	1:5
4. Torque Wrench Set	1:5
5. Screw Driver Set	1:5
6. Measuring Equipment – Steel Ruler	1:5
7. Spring Clamper	1:5
8. Jack Lifter	1:5
9. Garage Jack	1:5
10. Stand	1:5
11. Hand Drill	1:5
12. Power Tools	1:5
13. Shock Absorber Tester	1:25
14. Cleaning agent.	As required
15. Personal Protective Equipment (PPE)	1:1
16. Stabilizer Bar	1:5
17. Sport Spring	1:5
18. Adjustable Absorber	1:5
19. Model Car	1:5

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## CURRICULUM of COMPETENCY UNIT (CoCU)

SECTOR		AUTOMOTIVE						
SUB SECTOR		AFTER SALES						
JOB AREA		PASSENGER VEHICLE						
NOSS TITLE		CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION						
COMPETENCY UNIT TITLE		NOISE, VIBRATION AND HARSHNESS (NVH) DAMPING MATERIAL INSTALLATION						
LEARNING OUTCOME		The person who is competent in this competency unit shall be able to install Noise, Vibration and Harshness (NVH) damping material of passenger vehicle (car accessories). Upon completion of this competency unit, trainees will be able to:- <ul style="list-style-type: none"><li>• Assess Noise, Vibration and Harshness (NVH) damping material installation requirement</li><li>• Install Padding material</li><li>• Perform foam injection</li><li>• Install door protector</li><li>• Close the assign job</li></ul>						
PRE-REQUISITE (if appreciable)								
COMPETENCY UNIT ID		TP-034-2:2014-C04	LEVEL	2	TRAINING DURATION	115	SKILL CREDIT	11
Work Activities	Related Knowledge	Related Skills		Attitude/Safety/Environmental		Training Hours	Delivery Mode	Assessment Criteria
1. Assess Noise, Vibration and Harshness (NVH) damping material installation	i. Type of passengers vehicle <ul style="list-style-type: none"><li>• Saloon</li><li>• Compact car</li><li>• Hatchback</li><li>• 4 wheel drive</li></ul> ii. Noise, Vibration and Harshness (NVH) damping material	i. Evaluate Noise, Vibration and Harshness (NVH) damping material installation requirement and scope of work.	ii. Prepare job/service & order	Attitude: <ul style="list-style-type: none"><li>i. Patience in assessing Noise, Vibration and Harshness (NVH) damping material installation requirement</li></ul>		2 hours  10 hours	Lecture  Demonstration & Observation	i. NVH damping material installation work listed and explained ii. Method of job / service order processing explained

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
requirement	<p>works</p> <ul style="list-style-type: none"> <li>• New installation</li> </ul> <p>iii. Job service/ &amp; repair order format and content</p> <ul style="list-style-type: none"> <li>• Car registration particular</li> <li>• Scope of works</li> </ul> <p>iv. Communication skill</p> <p>v. Purpose of NVH damping material installation</p> <ul style="list-style-type: none"> <li>• Reduce noise</li> <li>• Strengthen body car structure</li> <li>• Absorb vibration</li> </ul> <p>vi. Introduction to noise level inspection – using Decibel meter.</p> <p>vii. Car accessories suitable working area</p> <p>viii. Type and function of NVH damping material installation tool and equipment</p> <ul style="list-style-type: none"> <li>• Tool <ul style="list-style-type: none"> <li>▪ Hand tool sets</li> <li>▪ Allen key set</li> <li>▪ Wrench set</li> <li>▪ Screw driver set</li> <li>▪ Knife cutter</li> </ul> </li> <li>• Equipment <ul style="list-style-type: none"> <li>▪ Hand drill</li> <li>▪ Air tools</li> </ul> </li> </ul>	<p>- car registration number, scope of work and assign responsible technician.</p> <p>iii. Locate working area</p> <p>iv. Prepare NVH damping material installation tools and equipment</p> <p>v. Prepare Personal Protection Equipment (PPE)</p> <p>vi. Select NVH damping material instruction manual</p> <p>vii. Check existing noise level using Decibel meter</p>	ii. Communicate effectively with customer on job scope			<p>iii. Working area selected</p> <p>iv. Installation tools and equipment determined as per job requirement</p> <p>v. Personal Protection Equipment (PPE) used based on safety procedure.</p> <p>vi. Instruction manual chosen based on job requirement</p> <p>vii. Method and technique of noise level check using Decibel meter demonstrated</p> <p>viii. Required safety procedure on NVH damping material installation adhered.</p> <p>ix. Communication skill demonstrated according to company's Standard</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>▪ Hand grinder</li> <li>▪ Air compressor</li> <li>▪ Decibel meter.</li> <li>• Personal Protection Equipment (PPE) <ul style="list-style-type: none"> <li>▪ Goggle</li> <li>▪ Overall</li> <li>▪ Glove</li> <li>▪ Safety shoes</li> </ul> </li> </ul> <p>ix. Purpose of having instruction manual</p> <p>x. Understanding of instruction manual content.</p>					<p>x. Method and technique in assessing NVH installation requirement demonstrated according to company's Standard Operation Procedure (SOP).</p>
2. Install Padding Material	<p>i. Purpose of Padding Material installation</p> <ul style="list-style-type: none"> <li>• Reduce noise</li> <li>• Absorb vibration</li> </ul> <p>ii. Type of padding material</p> <p>iii. Type of removing tools (scraper)</p> <ul style="list-style-type: none"> <li>• Metal</li> <li>• Plastic</li> </ul> <p>iv. Measuring and cutting tools</p> <p>v. Type of cleaning agent</p> <p>vi. Introduction to rule and regulation from regulatory body – Jabatan Alam Sekitar (JAS)</p>	<p>i. Select padding material</p> <p>ii. Remove existing padding</p> <p>iii. Clean up specific padding area</p> <p>iv. Measure and cut padding material</p> <p>v. Apply primer and adhesive if required</p> <p>vi. Install new padding material</p> <p>vii. Visually inspect padding</p>	<p><u>Attitude:</u></p> <ul style="list-style-type: none"> <li>i. Handle equipment with care</li> <li>ii. Awareness on customer's car condition and safety</li> </ul> <p><u>Safety:</u></p> <ul style="list-style-type: none"> <li>i. Wear Personal Protective Equipment (PPE)</li> </ul>	<p>6 hours</p> <p>26 hours</p>	<p>Lecture</p> <p>Demonstration &amp; Observation</p>	<p>i. Type of padding material listed and explained</p> <p>ii. Rule and regulation from regulatory body listed and explained</p> <p>iii. Existing padding material removed</p> <p>iv. Specific area for padding material cleaned based on padding material</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	vii. Method and technique of padding materials installation as instruction manual viii. Technique of padding materials inspection <ul style="list-style-type: none"> <li>Excessive material</li> <li>Evenness</li> </ul> ix. Type of Personal Protective equipment (PPE) <ul style="list-style-type: none"> <li>Glove</li> <li>Goggle</li> <li>Apron</li> <li>Safety shoes.</li> </ul>		<u>Environmental:</u> i. Awareness on statutory and regulatory requirement in disposing chemical liquid.			assembly requirement v. Padding material measure and cut based on available space. vi. Primer and adhesive applied based on assembly requirement vii. Padding material installed according to Standard Operation Procedure (SOP) viii. Padding material evenness and appearance checked according to Standard Operation Procedure (SOP). ix. Excess adhesive and premier disposed according to

<b>Work Activities</b>	<b>Related Knowledge</b>	<b>Related Skills</b>	<b>Attitude/Safety/ Environmental</b>	<b>Training Hours</b>	<b>Delivery Mode</b>	<b>Assessment Criteria</b>
						x. Schedule Waste (SW) disposal procedure. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).
3. Perform foam injection	i. Purpose of foam injection <ul style="list-style-type: none"> <li>• Strengthen body car structure.</li> </ul> ii. Introduction to rule and regulation from regulatory body – Jabatan Alam Sekitar (JAS) iii. Method and technique of foam injection as instruction manual iv. Type and function of trimming tools <ul style="list-style-type: none"> <li>• Cutter</li> <li>• Knife</li> </ul> v. Method and technique of trimming excessive foam material	i. Select foam material ii. Seal specific area (hole) with masking tape iii. Inject foam into specific hollow section (Side Sill) iv. Trim excessive foam material v. Check foam condition	<u>Attitude:</u> <ol style="list-style-type: none"> <li>i. Handle equipment with care</li> <li>ii. Awareness on customer's car condition and safety</li> <li>iii. Ensure foam material flown into hollow section fully.</li> </ol> <u>Safety:</u> <ol style="list-style-type: none"> <li>i. Wear Personal Protective Equipment (PPE)</li> </ol>	8 hours           32 hours	Lecture          Demonstration & Observation	i. Type of foam material listed and explained ii. Rule and regulation from regulatory body listed and explained iii. Specific hole sealed based on foam injection requirement. iv. Foam injected to Side Sill hollow section according to instruction manual.

<b>Work Activities</b>	<b>Related Knowledge</b>	<b>Related Skills</b>	<b>Attitude/Safety/ Environmental</b>	<b>Training Hours</b>	<b>Delivery Mode</b>	<b>Assessment Criteria</b>
	vi. Inspection technique <ul style="list-style-type: none"> <li>Excessive material</li> </ul>		<u>Environmental:</u> i. Awareness on statutory and regulatory requirement in disposing chemical and liquid.			v. Excessive foam material trimmed vi. Injected foam material checked according to instruction manual. vii. Excess foam material disposed according to Schedule Waste (SW) disposal procedure. viii. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).
4. Install door protector	i. Purpose of door protector installation ii. Type of door protector <ul style="list-style-type: none"> <li>Design</li> <li>Material</li> <li>Colour</li> </ul>	i. Select door protector type ii. Remove existing door protector (if necessary) iii. Clean up specific door protector surface area iv. Apply primer and	<u>Attitude:</u> i. Cleanliness at work area. ii. Awareness on customer's car condition and safety	5 hours  20 hours	Lecture  Demonstration & Observation	i. Type of door protector listed and explained ii. Rule and regulation from regulatory body listed and



Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	iii. Method and technique of door protector removal iv. Method and technique to clean surface area. <ul style="list-style-type: none"> <li>• Wipe</li> <li>• Spray</li> </ul> v. Introduction to rule and regulation from regulatory body – Jabatan Alam Sekitar (JAS) vi. Method and technique of door protector installation vii. Technique and method of door protector inspection <ul style="list-style-type: none"> <li>• Alignment</li> <li>• Flush</li> <li>• Gap</li> </ul>	adhesive if required v. Install new door protector vi. Visually inspect new door protector	<u>Safety:</u> i. Wear Personal Protective Equipment (PPE)  <u>Environmental:</u> i. Awareness on statutory and regulatory requirement in disposing chemical liquid.			explained. iii. Existing door protector removed. iv. Door surface area cleaned based on door protector assembly requirement. v. Primer and adhesive applied based on door protector assembly requirement vi. Door protector installed according to instruction manual. vii. Door protector appearance and alignment checked. viii. Excess adhesive and primer disposed according to Schedule Waste (SW) disposal procedure.

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
						ix. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).
5. Close the assign job	i. Purpose of damping material installation ii. Noise level measurement – using Decibel meter. iii. Procedure of hand over car to customer iv. Type of work order v. Company Standard Operating Procedure (SOP) in completing the job order. vi. Technique of cleaning and tools arrangement	i. Test NVH damping material installation result with customer – using Decibel meter. ii. Complete job order iii. Submit job order to superior/cashier iv. Hand over car to customer v. Clean work area	<u>Attitude:</u> i. Cleanliness at work area ii. Meticulous in completing job order. iii. Communicate politely with customer  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)	2 hours    4 hours	Lecture   Demonstration & Observation	i. Noise level inspection using Decibel meter checked according to instruction manual. ii. Noise level result compared with previous reading iii. Job order updated and submitted to superior iv. Method of car handed over to customer listed and explained. v. Working area cleaned and arranged based on workshop requirement.

## Employability Skills

Core Abilities	Social Skills
<p>01.01 Identify and gather information.  01.02 Document information procedures or processes.  02.01 Interpret and follow manuals, instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist using standard forms.  02.05 Read/Interpret flowcharts and pictorial information.  03.01 Apply cultural requirement to the workplace.  03.02 Demonstrate integrity and apply practical practices.  03.03 Accept responsibility for own work and work area.  03.04 Seek and act constructively upon feedback about work performance.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and situations.  03.07 Resolve interpersonal conflicts.  06.01 Understand systems.  06.02 Comply with and follow chain of command.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  01.04 Analyse information.  02.08 Prepare pictorial and graphic information.  03.08 Develop and maintain a cooperation within work group.  04.01 Organize own work activities.  04.02 Set and revise own objectives and goals.  04.03 Organize and maintain own workplace.  04.04 Apply problem solving strategies.  04.05 Demonstrate initiative and flexibility.  06.05 Analyse technical systems.</p>	<ol style="list-style-type: none"> <li>1. Communication skills</li> <li>2. Conceptual skills</li> <li>3. Interpersonal skills</li> <li>4. Learning skills</li> <li>5. Leadership skills</li> <li>6. Multitasking and prioritising</li> <li>7. Self-discipline</li> <li>8. Teamwork</li> </ol>

**Tools, Equipment and Materials (TEM)**

ITEMS	RATIO (TEM : Trainees)
1. Job Sheet	1:1
2. Allen Key Set	1:5
3. Wrench Set	1:5
4. Screw Driver Set	1:5
5. Cutter	1:5
6. Rubber Scraper	1:5
7. Roller Special Tools	1:5
8. Measuring Equipment – Steel Ruler	1:5
9. Decibel meter.	1:5
10. Hand Drill Sets	1:5
11. Cleaning agent.	As required
12. Personal Protective Equipment (PPE)	1:1
13. Hoses	As required
14. Door Protector	1:5
15. Padding Material	As required
16. Foam - Can type	1:5
17. Model Car	1:5

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5. Frank Fahy, John Walker (1998), Fundamentals of Noise and Vibration, CRC Press, ISBN 0419227008, 9780419227007
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## CURRICULUM of COMPETENCY UNIT (CoCU)

SECTOR	AUTOMOTIVE						
SUB SECTOR	AFTER SALES						
JOB AREA	PASSENGER VEHICLE						
NOSS TITLE	CAR ACCESSORIES INSTALLATION AND CUSTOMIZATION						
COMPETENCY UNIT TITLE	ELECTRICAL ACCESSORIES SYSTEM INSTALLATION						
LEARNING OUTCOME	<p>The person who is competent in this competency unit shall be able to install electrical accessories system parts of passenger vehicle (car accessories). Upon completion of this competency unit, trainees will be able to:-</p> <ul style="list-style-type: none"> <li>• Assess electrical accessories system installation requirement</li> <li>• Install Fog Lamp/ Spot Light</li> <li>• Install Day Running Light (DRL)</li> <li>• Install Horn</li> <li>• Install Third Brake Light</li> <li>• Install Cabin Roof Light</li> <li>• Close the assign job</li> </ul>						
PRE-REQUISITE (if appreciable)							
COMPETENCY UNIT ID	TP-034-2:2014-C05	LEVEL	2	TRAINING DURATION	123	SKILL CREDIT	12
Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria	
1. Assess electrical accessories system installation requirement	i. Type of passengers vehicle <ul style="list-style-type: none"> <li>• Saloon</li> <li>• Compact car</li> <li>• Hatchback</li> <li>• 4 wheel drive</li> </ul> ii. Electrical accessories system installation works.	i. Evaluate suspension system installation requirement and scope of work ii. Prepare job/service & order - car registration number, scope of work and assign	<u>Attitude:</u> i. Patience in assessing electrical accessories system requirement ii. Communicate effectively with	2 hours  4 hours	Lecture  Demonstration & Observation	i. Electrical accessories system installation work listed and explained ii. Method of job / service order processing	

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>New installation</li> <li>Repair</li> <li>Modification</li> </ul> iii. Job service/ & repair order format and content <ul style="list-style-type: none"> <li>Car registration particular</li> <li>Scope of works</li> </ul> iv. Purpose of electrical accessories system installation           v. Communication skill           vi. Car accessories suitable working area           vii. Car accessories workshop layout plan           viii. Type and function of electrical accessories system installation tool and equipment <ul style="list-style-type: none"> <li>Tool               <ul style="list-style-type: none"> <li>Hand tool sets</li> <li>Allen key set</li> <li>Wrench set</li> <li>Screw driver set</li> </ul> </li> <li>Digital Multi meter</li> </ul> <ul style="list-style-type: none"> <li>Personal Protection Equipment (PPE)               <ul style="list-style-type: none"> <li>Google</li> <li>Overall</li> <li>Glove</li> <li>Safety shoes</li> </ul> </li> </ul>	responsible technician. iii. Locate working area iv. Prepare electrical accessories system installation tools and equipment. v. Prepare Personal Protection Equipment (PPE) vi. Select electrical accessories system instruction manual	customer on job scope			explained iii. Working area selected iv. Installation tools and equipment determined as per job requirement v. Personal Protection Equipment (PPE) used based on safety procedure. vi. Instruction manual chosen based on job requirement. vii. Required electrical safety procedure on electrical accessories system installation adhered. viii. Communication skill demonstrated according to company's Standard Operation Procedure (SOP).

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	ix. Purpose of having instruction manual x. Understanding of instruction manual content. xi. Introduction to safety procedure on electrical accessories system installation.					ix. Method and technique in assessing electrical accessories system requirement demonstrated according to company's Standard Operation Procedure (SOP).
2. Install Fog Lamp/ Spot Light	i. Purpose of Fog Lamp/ Spot Light installation ii. Introduction to basic wiring diagram <ul style="list-style-type: none"> <li>• Open circuit</li> <li>• Close circuit</li> <li>• Short circuit</li> </ul> iii. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ) iv. Understanding of car circuit wiring diagram v. Method and technique of installation Fog Lamp/ Spot Light as instruction manual. vi. Method and technique	i. Select Fog Lamp/ Spot Light ii. Remove existing Fog Lamp/ Spot Light. iii. Comply to safety precaution on electrical installation iv. Interpret Fog Lamp/ Spot Light and car wiring circuit diagram v. Identify correct connection wiring socket vi. Install Fog Lamp/ Spot Light vii. Check driving assistance parts functionality.	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety iii. Meticulous in connecting wire and electrical parts.  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE)	5 hours  20 hours	Lecture  Demonstration & Observation	i. Type of Fog Lamp/ Spot Light listed and explained. ii. Rule and regulation from regulatory body listed and explained iii. Existing Fog Lamp/ Spot Light parts removed iv. Required electrical safety procedure on electrical parts



Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	of functionality test <ul style="list-style-type: none"> <li>• Appearance</li> <li>• Brightness</li> <li>• Visibility.</li> <li>• Focus length and height</li> </ul> vii. Introduction to safety precaution on car wiring diagram viii. Personal Protective equipment (PPE) <ul style="list-style-type: none"> <li>• Glove</li> <li>• Goggle</li> <li>• Apron</li> <li>• Safety shoes</li> </ul>		ii. Adhere to safety procedure on electrical accessories system installation			installation adhered. v. Basic wiring diagram listed and explained. vi. Fog Lamp/ Spot Light and car wiring circuit diagram interpreted vii. Correct connection wiring socket determined viii. Fog Lamp/ Spot Light bracket fixed and tightened to required torque. ix. Fog Lamp/ Spot Light installed according to instruction manual. x. Fog Lamp/ Spot Light condition checked and functionality assessed according to instruction manual.

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
						xi. Wire and electrical parts properly checked and confirmed for connection according to instruction manual. xii. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).
3. Install Day Running Light (DRL)	i. Purpose of Day Running Light (DRL) installation ii. Introduction to basic wiring diagram <ul style="list-style-type: none"> <li>Open circuit</li> <li>Close circuit</li> <li>Short circuit</li> </ul> iii. Method and technique of Day Running Light (DRL) installation as instruction manual iv. Method and technique of functionality test <ul style="list-style-type: none"> <li>Connectivity</li> </ul>	i. Select Day Running Light (DRL) ii. Remove existing Day Running Light (DRL) iii. Comply to safety precaution on auto sensor installation iv. Interpret Day Running Light (DRL) and car wiring circuit diagram v. Identify correct connection wiring socket. vi. Install Day Running Light (DRL)	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety iii. Meticulous in connecting wire and electrical parts.	5 hours  20 hours	Lecture  Demonstration & Observation	i. Type of Day Running Light (DRL) listed and explained ii. Existing Day Running Light (DRL) removed iii. Required electrical safety procedure on electrical parts installation adhered

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
	<ul style="list-style-type: none"> <li>Brightness.</li> </ul>	vii. Check Day Running Light (DRL) functionality.	<u>Safety:</u> i. Wear Personal Protective Equipment (PPE) ii. Adhere to safety procedure on electrical accessories system installation			iv. Day Running Light (DRL) and car wiring circuit diagram interpreted. v. Correct connection wiring socket determined vi. Day Running Light (DRL) installed according to instruction manual vii. Day Running Light (DRL) condition checked and functionality assessed according to instruction manual viii. Wire and electrical parts properly checked and confirmed for connection according to instruction manual. ix. Careful and concern on

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
						handling car demonstrated according to Standard Operation Procedure (SOP).
4. Install Horn	i. Purpose of Horn installation ii. Introduction to basic wiring diagram <ul style="list-style-type: none"> <li>• Open circuit</li> <li>• Close circuit</li> <li>• Short circuit</li> </ul> iii. Method and technique of Horn installation as instruction manual iv. Method and technique of functionality test <ul style="list-style-type: none"> <li>• Connectivity</li> <li>• Sound</li> </ul>	i. Select Horn ii. Remove existing Horn iii. Comply to safety precaution on Horn installation iv. Interpret Horn and car wiring circuit diagram v. Identify correct connection wiring socket vi. Install Horn. vii. Check Horn functionality	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety iii. Meticulous in connecting wire and electrical parts.  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE) ii. Adhere to safety procedure on electrical accessories system installation	5 hours  20 hours	Lecture  Demonstration & Observation	i. Type of Horn listed and explained ii. Existing Horn removed iii. Required electrical safety procedure on electrical parts installation adhered iv. Horn and car wiring circuit diagram interpreted. v. Correct connection wiring socket determined vi. Horn installed and tuned according to instruction manual vii. Horn condition checked and

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
						<p>functionality assessed according to instruction manual</p> <p>viii. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).</p> <p>ix. Wire and electrical parts properly checked and confirmed for connection according to instruction manual.</p>
5. Install / Third Brake Light	<p>i. Purpose of Third Brake Light installation</p> <p>ii. Introduction to rule and regulation from regulatory body – Jabatan Pengangkutan Jalan (JPJ)</p>	<p>i. Select Third Brake Light</p> <p>ii. Remove existing Third Brake Light</p> <p>iii. Comply to safety precaution on Third Brake Light installation</p> <p>iv. Interpret Third Brake Light and car wiring circuit diagram</p>	<p><u>Attitude:</u></p> <p>i. Handle equipment with care</p> <p>ii. Awareness on customer's car condition and safety</p> <p>iii. Meticulous in connecting</p>	<p>4 hours</p> <p>14 hours</p>	<p>Lecture</p> <p>Demonstration &amp; Observation</p>	<p>i. Type of Third Brake Light listed and explained</p> <p>ii. Rule and regulation from regulatory body listed and explained</p>

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/Environmental	Training Hours	Delivery Mode	Assessment Criteria
	iii. Introduction to basic wiring diagram <ul style="list-style-type: none"> <li>• Open circuit</li> <li>• Close circuit</li> <li>• Short circuit</li> </ul> iv. Method and technique of Third Brake Light installation as instruction manual           v. Method and technique of functionality test <ul style="list-style-type: none"> <li>• Connectivity</li> <li>• Brightness</li> </ul>	v. Identify correct connection wiring socket vi. Install Third Brake Light. vii. Check Third Brake Light functionality	wire and electrical parts.  <u>Safety:</u> <ol style="list-style-type: none"> <li>Wear Personal Protective Equipment (PPE)</li> <li>Adhere to safety procedure on electrical accessories system installation</li> </ol>			iii. Required electrical safety procedure on Third Brake Light installation adhered iv. Third Brake Light and car wiring circuit diagram interpreted. v. Correct connection wiring socket determined. vi. Third Brake Light installed according to instruction manual. vii. Third Brake Light condition checked and functionality assessed according to instruction manual viii. Careful and concern on handling car demonstrated according to Standard Operation

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
						ix. Procedure (SOP). Wire and electrical parts properly checked and confirmed for connection according to instruction manual.
6. Install Cabin Roof Light	i. Purpose of Cabin Roof Light installation ii. Introduction to basic wiring diagram <ul style="list-style-type: none"> <li>Open circuit</li> <li>Close circuit</li> <li>Short circuit</li> </ul> iii. Method and technique of Cabin Roof Light installation as instruction manual iv. Method and technique of functionality test <ul style="list-style-type: none"> <li>Connectivity</li> <li>Brightness</li> </ul>	i. Select Cabin Roof Light. ii. Remove existing Cabin Roof Light. iii. Comply to safety precaution on Cabin Roof Light installation iv. Interpret Cabin Roof Light and car wiring circuit diagram v. Identify correct connection wiring socket vi. Install Cabin Roof Light. vii. Check Cabin Roof Light functionality.	<u>Attitude:</u> i. Handle equipment with care ii. Awareness on customer's car condition and safety iii. Meticulous in connecting wire and electrical parts.  <u>Safety:</u> i. Wear Personal Protective Equipment (PPE) iii. Adhere to safety procedure on	4 hours  14 hours	Lecture  Demonstration & Observation	i. Type of Cabin Roof Light listed and explained ii. Required electrical safety procedure on Cabin Roof Light installation adhered. iii. Cabin Roof Light and car wiring circuit diagram interpreted iv. Correct connection wiring socket determined. v. Cabin Roof Light installed according to instruction

Work Activities	Related Knowledge	Related Skills	Attitude/Safety/ Environmental	Training Hours	Delivery Mode	Assessment Criteria
			electrical accessories system installation			<p>manual.</p> <p>vi. Cabin Roof Light condition checked and functionality assessed according to instruction manual.</p> <p>vii. Careful and concern on handling car demonstrated according to Standard Operation Procedure (SOP).</p> <p>viii. Wire and electrical parts properly checked and confirmed for connection according to instruction manual.</p>



<b>Work Activities</b>	<b>Related Knowledge</b>	<b>Related Skills</b>	<b>Attitude/Safety/ Environmental</b>	<b>Training Hours</b>	<b>Delivery Mode</b>	<b>Assessment Criteria</b>
7. Close the assign job	i. Function of electrical accessories system and related parts ii. Procedure of hand over car to customer iii. Type of work order iv. Workshop Standard Operating Procedure (SOP) in completing the job order. v. Technique of cleaning and tools arrangement	i. Test electrical accessories system functionality with customer. ii. Fill up job order iii. Submit job order to superior/cashier iv. Hand over car to customer v. Clean work area	<u>Attitude:</u> i. Cleanliness at work area ii. Meticulous in completing job order. iii. Communicate politely with customer	2 hours  4 hours	Lecture  Demonstration & Observation	i. Electrical accessories check based on customer requirement listed and explained. ii. Job order updated and submitted to superior iii. Method of car handed over to customer listed and explained. iv. Working area cleaned and arranged based on workshop requirement.

## Employability Skills

Core Abilities	Social Skills
<p>01.01 Identify and gather information.  01.02 Document information procedures or processes.  02.01 Interpret and follow manuals, instructions and SOP's.  02.03 Communicate clearly.  02.04 Prepare brief reports and checklist using standard forms.  02.05 Read/Interpret flowcharts and pictorial information.  03.02 Demonstrate integrity and apply practical practices.  03.03 Accept responsibility for own work and work area.  03.04 Seek and act constructively upon feedback about work performance.  03.05 Demonstrate safety skills.  03.06 Respond appropriately to people and situations.  06.01 Understand systems.  06.03 Identify and highlight problems.  06.04 Adapt competencies to new situations/systems.  03.08 Develop and maintain a cooperation within work group.  04.01 Organize own work activities.  04.02 Set and revise own objectives and goals.  04.03 Organize and maintain own workplace.  04.05 Demonstrate initiative and flexibility.  01.07 Utilize database applications to locate a process information.  01.08 Utilize spreadsheets applications to locate and process information.  01.11 Apply thinking skills and creativity.  02.09 Prepare flowcharts.  02.10 Prepare reports and instructions.  02.11 Convey information and ideas to people.  03.09 Manage and improve performance of individuals.  03.10 Provide consultations and counselling.  03.11 Monitor and evaluate performance of human resources.  03.12 Provide coaching/on-the-job training.  03.13 Develop and maintain team harmony and resolve conflicts.  03.14 Facilitate and coordinate teams and ideas.  03.16 Identify and assess client/customer needs.  03.17 Identify staff training needs and facilitate access to training.  04.06 Allocate work.</p>	<ol style="list-style-type: none"> <li>1. Communication skills</li> <li>2. Conceptual skills</li> <li>3. Interpersonal skills</li> <li>4. Learning skills</li> <li>5. Leadership skills</li> <li>6. Multitasking and prioritising</li> <li>7. Self-discipline</li> <li>8. Teamwork</li> </ol>

05.01 Implement project/work plans. 05.02 Inspect and monitor work done and/or in progress.	
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### Tools, Equipment and Materials (TEM)

ITEMS	RATIO (TEM : Trainees)
1. Job Sheet	1:1
2. Allen Key Set	1:5
3. Cable Tie	1:5
4. PVC – Black Tape	1:5
5. Wrench Set	1:5
6. Screw Driver Set	1:5
7. Male and Female cable clasper	1:5
8. Digital Multi meter	1:5
9. Soldering sets	1:5
10. Electrical tool sets	As required
11. Polarity meter sets	As required
12. Cable & wire	1:1
13. Cleaning agent.	1:5
14. Personal Protective Equipment (PPE)	1:5
15. Electrical accessories parts	1:5
16. Model Car	1:5

## REFERENCES

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4. Ray A. Jones, Jane G. Jones (2007), A User's Guide to Electrical PPE, Jones & Bartlett Learning, ISBN 0763751146, 9780763751142
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## SUMMARY OF TRAINING DURATION