INDUSTRIAL TRAINING REPORT

BALAI LATIHAN KERJA PADANG

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

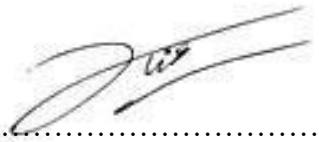
A report submitted in partial fulfillment
Of the requirement for the award of the
Degree of Bachelor of Engineering (Mechanical Aeronautics)

SCHOOL OF MECHANICAL ENGINEERING

UNIVERSITI TEKNOLOGI MALAYSIA

OCTOBER 2020

I declare that this thesis entitled *"INDUSTRIAL TRAINING REPORT"* is the result of my research except as cited in references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : 

Name : Kevin Maulana

Date : 16th October 2020

ACKNOWLEDGEMENT

The author is very grateful to God Almighty, because of His grace and blessings, Author has completed the practical training with valuable experience and knowledge in Balai Latihan Keja from 22nd July – 10th October 2020 in Padang.

Practical or industrial training, known as an internship, is one of the chances in Universiti Teknologi Malaysia in semester break between the third and fourth year for 12 weeks. At this moment, the Author has gained a lot of work experience in the working area with sacrificing holiday time. This internship can be a platform for students to enhance their practical and theoretical knowledge of work in the working area. Through an internship, students can extend their skills and learn the other pieces of knowledge given by lecturers in the university. The students can also learn the requirements needful to be an engineer. This report contains the activity done by the Author in doing the practical training, the theory activities, and discussion. The internship took place in my country, Padang, Indonesia. Furthermore, the author also faces some difficulties in completing this internship. But by the guiding of the peoples here, the author can solve the problem and feel grateful for having them in the learning process. They were helping in giving support, knowledge, opinion, and advice. The author would like to say thank you to:

1. My family in Padang, especially the Author's parents, and closes friends. Thank you for the prayer, support, and always believe in everything that the author has done.
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5. Mr. Harjoni, A.Md. as Automotive Instructor.
6. Mr. Suardi, A.Md. as Automotive Instructor
7. All peoples who helped me without any reward who cannot be mentioned one by one.

The author realizes that this report may have weaknesses and mistakes. Therefore, the author apologizes for the failure and hoping the critics, also a suggestion for improving it better than so it could give a positive impact on others in the future.

Padang, 16th October 2020

Author

DECLARATION

INDUSTRIAL TRAINING REPORT

BALAI LATIHAN KERJA

PADANG

Padang, 16th October 2020

Submmitted to:

Company's Supervisor

Heri Purwanto
Chief of Automotive Instructor

ABSTRACT

The Industrial Training in Balai Latihan Kerja Padang is a pre-working step before entered working stage and to gain knowledge and skills outside campus. The knowledge and skills learned during this training will greatly help, make it easier and bring great benefits to student's future. In addition, students can gain some social and communication skills that will bring a good benefit in future when entern the society.

This report describes and explains the details of this training. In general, this industrial report includes all the activities and assessments conducted during my 12 weeks of industrial training from Balai Latihan Kerja Padang and a brief explanation of the teaching process taking place at the Padang Vocational Training Center especially at the automotive workshop. Apart from that, this report also includes that I have learned throughout the 12 weeks of training and the assignments that had assigned to me.

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CHAPTER 1

1. INTRODUCTION

1.1 Introduction to Industrial Training

Nowadays, the needs for human resources are an increase in terms of quantity and quality. University students play an important role in improving the quality of human resources and prosecuted to acquire as much knowledge and experience as possible in parallel with their major.

An industrial training or internship program is the subject that students must perform to meet the requirements for graduation in Mechanical Engineering at Universiti Teknologi Malaysia. Besides, provide insight into knowledge through industry experience is the goal of this program. Therefore, industrial training programs help develops new fresh graduate students, where students are sent to the industry to learn and gain real-life work experience.

The purpose of industrial training is to expose students to real work of environment experience and at the same time, gain knowledge through hands-on observation and job execution. The gained knowledge is used to face the future in the workplace for the students. The students will also develop skills in work ethics, communication, management, and others. All ethical values and a good working attitude must be followed by students. Moreover, it can help students about the safety practices, regulations, spirit of teamwork, and good relationship between student and another employee.

1.2 Objective of Industrial Training

The objectives of this industrial training such as:

- To expose students to the actual environment and working conditions in their respective fields.
- To gain working experiences in the organization/industry-related field of study.
- To use the knowledge of the Industrial Training, which was followed at university.
- To train students to interact and communicate effectively at all levels in the workplace.
- To inspire a spirit of working as a team.

- To appreciate the ethical values of their profession.
- To allow students to learn from their managers and mentor in the industry.
- To train students to prepare technical reports related to the Industrial Training which was conducted based on UTM Thesis Guide.
- To complete the university requirement for one of the important and core subjects in Mechanical Engineering.
- Allow students to have a firsthand experience of the job before deciding their career path.

1.3 Scope of Industrial Training

The scope of training in the company/organization includes various aspects such as:

- Learn and apply basic principles, theories and concepts of automotive science, especially in the field of motorbikes
- Conduct inspection, supervision and examination of each training participant and the tools used
- Supports various activities carried out by the instructor
- Improve the process and quality of teaching conducted in automotive workshops

1.4 Summary of Industrial Training

For my industrial training, I got a placement at Balai Latihan Kerja Padang. The training started on 22nd July 2020 and ended on 10th October 2020 which total 12 weeks. These 12 weeks of industrial training not only just fulfill the requirement for the Bachelor of Engineering (Mechanical Aeronautics), but more to integrate the theories learned from the classes into the real-life working field. Also, to be able to develop general social skills in a workplace such as teamwork, networking, and communication skills. Overall, it serves as a platform for an individual to be exposed to the working field with a learning environment.

By undergoing 12 weeks of internship at the Padang Vocational Training Center, I had the opportunity to gain experience on how to become a trainer or automotive instructor at the training center provided by government agencies.

During my internship, my main role was as an assistant instructor whose job was to assist the main instructor in giving lessons in the workshop and assisting in the preparation of training reports. From this activity, I was able to improve my communication and time management skills. I am also involved in helping instructors to teach classes both theoretically and practically. Overall, I involve myself in the task of teaching learning materials to all training participants. By doing this, I can improve my soft skills as well as my technical abilities.

There are a few challenges that I faced during this internship, such as communication with an fellow instructors, and staff, and new norm due to pandemic Covid-19, but it helps by exposing me to the challenging engineering industry and understanding all the effort that goes into creating a product from scratch.

This internship also allows me to experience the process engineer role and assist me in deciding my future career opportunity. Overall, this is a fruitful and eventful 12 weeks internship period that helps to grow as an engineer as well as an individual.

CHAPTER 2

2. LITERATURE REVIEW

2.1 Company Profile

Figure 2.1 Picture of Balai Latihan Kerja Padang

Balai Latihan Kerja (BLK) Padang is infrastructure and facilities for training places to gain skills or who wish to deepen expertise in their respective fields. The function of the Balai Latihan Kerja is as a forum for workforce training activities that has training units in it and supports prospective workers who are ready to use and are qualified and competent so that they can compete with other workers, can open their own businesses and reduce unemployment.

Balai Latihan Kerja Padang already has a very long history and has changed its name several times. In 1969 under the name Pusat Latihan Kejuruan Industri (PKLI) Padang was inaugurated by the Minister of Manpower Laksamana Mursalin who is the technical implementation unit within the West Sumatra Provincial Manpower Regional Office located at Jln. Padang Baru No. 81 Padang.

In 1982 PLKI Padang received equipment assistance from IBRD and moved to Jln. Sungai Balang Bandar Buat Sub-district Lubuk Kilangan under the name of Balai Latihan Kerja Industri (BLKI) Padang by the Minister of Manpower and Transmigration Drs. Harun Zain. In 1986 it changed its name to Balai Latihan Kerja (BLK) Padang.

In 1996 the name BLK Padang was changed to Balai Latihan Kerja Khusus Perdagangan (BLKKP) Padang which was inaugurated by the Minister of Manpower, Drs. Abdul Latif.

With the existence of regional autonomy in 2000 the BLKKP Padang was transferred to the regions to become Unit Pelaksana Teknis Daerah (UPTD). BLKKP Padang is under the Manpower and Transmigration Office of West Sumatra Province.

On July 1, 2012 UPTD BLKKP Padang changed its name to UPTP Balai Latihan Kerja Industri (BLKI) Padang under the Directorate General of Training and Productivity Development of the Ministry of Manpower and Transmigration.

Through the Regulation of the Minister of Manpower of the Republic of Indonesia No. 21 of 2015 concerning the Organization and Work Procedure of the Technical Implementation Unit in the Field of Work Training, the BLKI Padang changed its name to Balai Latihan Kerja Padang.

Figure 2.2 The motorbike training conducted by BLK Padang

2.2 Organization Structure

Organizations can be defined as a group of people who together in systematic and effective cooperation in achieving a goal or completing a set task. Besides, Balai Latihan Kerja P is an organization consisting of a group of people working together to achieve the aims that have been set.

For the specified goal to be achieved, a harmonious kinship relationship is required between the people to achieve the organization's goals based on their duties, abilities, and expertise. To achieve that relationship, a structure that governs relationships within an organization or better known as the "Organizational Structure" is required. The organizational structure has a different organizational structure than other organizations, depending on the purpose of the organization.

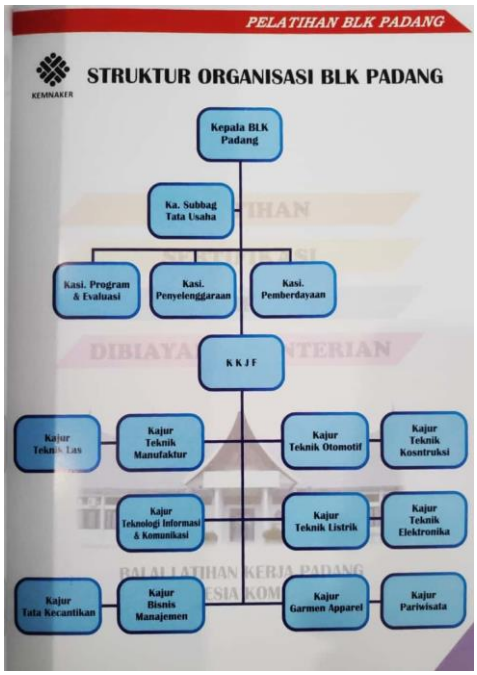

Figure 2.3 Organization structure of Balai

Latihan Kerja Padang

2.3 Company Vision, Mission, Function, and Motto

2.3.1 Vision

“Creating a competent and competitive workforce”

2.3.2 Mission

1. Preparing quality coaching personnel

The training held by BLK aims to have a little bit of each individual training participant to have integrity and quality in terms of skills and knowledge that they get after conducting the training. Each training participant will be given a certificate after completing their chosen program and this indicates that graduates from BLK have certification and can compete in the world of work later.

2. Excellent service in accordance with the Stand Operating Procedure (SOP)

Each BLK training participant will be taught Standard Operating Procedures (SOP) at work. This is related to safety when we are in the work area. Each participant will be required to familiarize themselves with working in accordance with applicable SOP and safety regulations.

3. Increased discipline and work culture, pride and shame of making mistakes

Every training participant looks forward to being instilled in a disciplined attitude and obeying the applicable regulations. This is what plays a role in determining the quality of each individual later in the world of work. This culture of discipline will be instilled with a sense of responsibility and shame if something goes wrong during our work.

4. Work with measurable performance indicators

Every work done by each training participant has indicators that are guided by the reference book in fixing something. This book is an indicator and also a standard for each individual in the workshop in determining the value of a measurement.

2.3.3 BLK Function

1. Preparation of training materials, empowerment, and workforce competency tests

2. Implementation of workforce training

3. To carry out consulting services, empowerment, and cooperation in training institutions

4. Implementation of workforce competency tests

5. Management of data and information in the field of training

6. Monitoring and evaluation

2.3.4 Motto

"Your satisfaction is our priority"

2.4 The number of BLK throughout Indonesia and BLK assisted BLK Padang

Not only in Padang, BLKs are also scattered throughout Indonesia. This allows each region to increase the employment of its people and reduce the existing unemployment rate. The total number of BLK throughout Indonesia is 302 BLK.

- Unit Pelaksana Teknis Pusat (UPTP)
    - Under Kemenaker Indonesia : 17 BLK
- Unit Pelaksana Teknis Daerah (UPTD)
    - Under the Province / Regency / City : 285 BLK

Figure 2.4 The location of Balai Latihan Kerja in Indonesia

2.5 Training program at Balai Latihan Kerja Padang

There were several training program that were introduced in BLK that taught various skills to the trainees, including :

1. ICT vocational
2. Manufacturing engineering vocational
3. Welding engineering vocational
4. Automotive engineering vocational
5. Electrical engineering vocational
6. Construction engineering vocational
7. Refrigeration engineering vocational
8. Tourism vocational
9. Beauty care vocational
10. Garment apparell vocational
11. Business management vocational

CHAPTER 3

3 COMPREHENSIVE TRAINING INFORMATION

3.1 Training Description

In 12 weeks of industrial training, I gained a lot of knowledge and experience at the Balai Latihan Kerja Padang. The instructors have taught me how to teach and understand every subject matter well. Everything I have done in my industrial training will be my responsibility, so I was taught not to be careless in completing my assignments and focus on doing assignments. As an intern, the role of the writer is to support the instructor in teaching training participants various matters relating to the automotive, both theory-based lessons and practical lessons even though using various existing facilities. The author is assisted by company supervisors and other instructors in completing various tasks that exist during industrial training. For more details, it is in the detail section of the task.

3.1.1 Task Details

The following are the details of the activities carried out by the author during the internship, namely:

1. Assisting the instructor in providing lessons related to automotive as a whole both theoretically and practically to every trainee.

Figure 3.1 The theoretical and practical class in automotive workshop

2. Help and ensure the cleanliness of the workshop to keep it clean and tidy. This is not only for beauty alone, but also for keeping the workshop safe and safe to use for everyone in it.

Figure 3.2 Cleanliness of the automotive workshop area

3. Ensure that every activity in the automotive workshop runs smoothly and ensure that each trainee fills in the attendance list provided by the office.
4. Make a power point slide about the material to be taught in class the next dayCheck and ensure the availability of existing tools that will be used by trainees in carrying out practical exercises. In this case, I have to check periodically with the list that has been provided.
5. Assist each trainee in learning and guide them in order to achieve the desired target, namely passing the assessment test with the best score. By helping them to determine the best way to learn for each person.

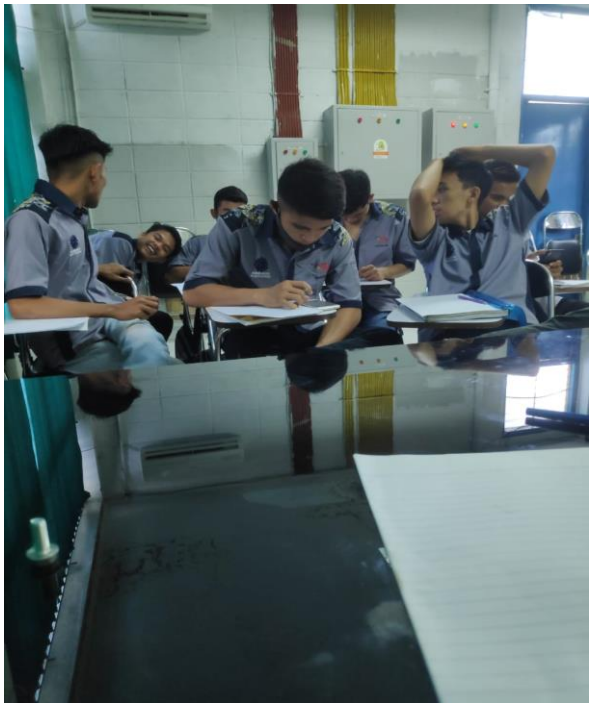

Figure 3.3 Preparation for the automotive class test

6. Assisting instructors in producing training results reports for each given program. This is related to data collection and attendance lists of trainees, assessment of trainees, ensuring each list of equipment used, and sharing of time for training every day.

3.1.2 Problems Faced in Completing Tasks

During the given assignment, the author did not find any major problems. All activities are carried out properly without any mistakes that adversely affect the company. Coupled with the excellent guidance the author gets from company instructors. In the teaching teaching process, teaching also has a big responsibility and

its role is very important because the success of the trainees in receiving all the available material depends on each instructor. The best efforts have been made in teaching so that each trainee can obtain useful knowledge for them to use in their future work world. There are several obstacles experienced by the author including:

1. Only understand automotive lessons as a whole and are less familiar with the various equipment used.
2. There are no clear regulations or targets for the work to be done, especially internships.
3. There are many differences in terms of mechanics in education and industry.
4. In the last 2 months of industrial training, not much has been done and only came to the workshop without doing anything
5. Due to the COVID-19 virus the training program was stopped suddenly in the last 2 months

3.2 Description of Training Program at Automotive Workshop

3.2.1 Injection motorcycle training participants (22/07/2020-04/08/2020)

This training program was conducted for three weeks consisting of 20 training participants. They register themselves through the BLK website to participate in the various types of training provided by BLK. At the time of the automotive field, the types of training available were automotive bicycle service and car injection engine service. These two types of programs are divided into two sections, namely theoretical and practical learning. After completing the training, the participants will conduct a test test where this is done to measure the capability of each trainee in

receiving all the material given for approximately three week.

Figure 3.4 Pre-employment training program

3.2.2 Training program in collaboration with Dinas Sosial (DINSOS) Padang (10/08/2020-28/08/2020)

In this training program, BLK collaborates with the Padang City Social Service. This training program is useful for providing training to underprivileged people in order to improve their skills in motorbike service and this program aims to reduce the existing poverty rate. In this training, the subject matter taught is related to conventional motorcycle servicing.

Figure 3.5 Training program in collaboration with Dinas Sosial (DINSOS) Padang

3.2.3 Training program in collaboration with Kepolisian Republik Indonesia (POLRI) and Tentara Nasional Indonesia (TNI) (31/08/2020-11/09/2020)

In this training program, BLK Padang collaborates with the Indonesian National Police (POLRI) and the Indonesian National Army (TNI). SMA is like the previous training program, this time the automotive vocational school provides training in the conventional motorcycle program. This training is carried out for two weeks and at the end of the training there will be a test test to measure the ability of each training member and what they have learned during the two weeks.

Figure 3.6 Training program in collaboration with POLRI and TNI

CHAPTER 4

4 PROJECT INFORMATION

4.1 Job Description

Balai Latihan Kerja is a government agency under the auspices of the Indonesian Manpower Office. Balai Latihan Kerja Padang is infrastructure and facilities for training to acquire skills or those who wish to deepen expertise in their respective fields. In general, the existence of BLK Padang is to open several vocational fields such as, Motorcycle Engineering Vocational, Computer Technician Vocational, Computer Operator Vocational, Dressmaking Vocational, Cooling Technique Vocational, Housekeeping Vocational, Hair Beauty Vocational, Skin Beauty Vocational, Bridal Makeup Vocational , Vocational Catering and so on. Even the existence of BLK can also facilitate expertise in foreign languages such as English, Japanese and Korean.

There are several requirements to register for the training available. This registration can be done online and accompanied by the specified conditions. This training program is a Pre-Employment program. This Pre-Employment Program is

held free of charge for all people according to their field of interest. Each training participant will be given a Pre-Work Card.

The pre-employment card is a training fee assistance for Indonesians who wish to acquire or upgrade their skills. Because BLK believes that the Indonesian people actually want to always improve their abilities. Designed as a product, the program is packaged in a way that provides value to users as well as provides value to the private sector. The digital path through the marketplace was chosen to make it easier for users to search, compare, select and evaluate. Because only in this way, the product can be continuously improved, grown and relevant. Cooperating with private business actors, this program is a form of cooperation between the government and the private sector in serving the community. Mutual cooperation. For the sake of superior human resources, Indonesia is advanced.

The Pre-employment Card is not only for those who are looking for work, but also workers, employees and employees. In short, all citizens of the nation aged 18 years and over and not currently attending school or college, may register. Because we believe, learning and practicing should not know age. Lifelong learning. However, priority is given to young job seekers because the first steps in the world of work will lead to more brilliant next steps in the future. Responding to the impact of COVID-19, for the time being, the Pre-Work Card will be prioritized for workers and micro / small business actors who are affected by their livelihoods.

4.2 Job Objectives

Balai Latihan Kerja has the aim of producing quality and competitive training personnel. For this reason, each workshop has instructors who are trained in their respective fields. This internship, which I did for approximately 12 months, taught me to become a skilled teacher so that every lesson that was delivered was understood by every trainee. There are two types of programs taught in automotive vocational education, namely car service and motorcycle service. For motorcycle service, there are two types of learning, namely conventional and injection motorbikes. There are several differences in injection motorbikes and conventional motorbikes, including the following:

1. Injection has used electronic devices such as injectors whose job is to spray gasoline into the combustion chamber. While the carburetor still relies on the suction obtained from the movement of the piston in the cylinder.

2. The injection system can balance the volume of gasoline sprayed into the combustion chamber with the needs of the engine, in order to obtain efficient combustion results. As for the carburetor, gasoline is sucked in by the movement of the piston up and down, so how much gasoline is released depends on the movement of the piston.

3. In the gasoline distribution system, the injection system uses an electronic injector. While the carburetor is still using the open-close lid.

4. The injection system is much simpler, especially when servicing. Simply open the air filter, then clean it. While the carburetor, have to dismantle the carburetor body to clean it.

The injection system has better fuel efficiency than non-injection, because in the injection system the mixture of air and fuel is always accurate. The presence of this technology on the one hand offers an optimal level of efficiency while on the other hand it is a new challenge for mechanics to better understand how it works as well as procedures and how to maintain it so as not to go out of business in the future.

The injection system components on a motorcycle consist of several sensors, such as the MAP (Manifold Absolute Pressure) sensor, TP (Throttle Position) sensor, IAT (Intake Air Temperature) sensor, bank angle sensor, EOT (Engine Oil Temperature) sensor, and sensor- other sensors. In this system there is also an ECU (Electronic Control Unit) or ECM and additional components such as alternators (magnets) and regulators / rectifiers that supply and regulate the electrical voltage to the ECU, batteries and other components. In this system there is also a DLC (Data Link Connector), which is a kind of socket that is connected to an engine scanner to find the source of component damage or trouble in the injection system. Functions and How the Motorcycle Injection System Components Work, including the following:

a) ECU / ECM (*Electronic Control Unit or Electronic Control Module*)

This component functions to receive and calculate all information / data received from each existing sensor signal according to engine conditions. Information obtained from sensors includes information about air temperature, engine oil

temperature, cooling water temperature, pressure or the amount of intake air, throttle valve position, engine speed, crankshaft position, and other information. In general, the sensor works at a voltage between 0 volts to 5 volts. Furthermore, the ECM uses the processed information to calculate and determine the time and duration of the injector to spray fuel by sending an electric voltage to the injector solenoid. In some more perfect engines, besides controlling the injectors, the ECU / ECM can also control the ignition system.

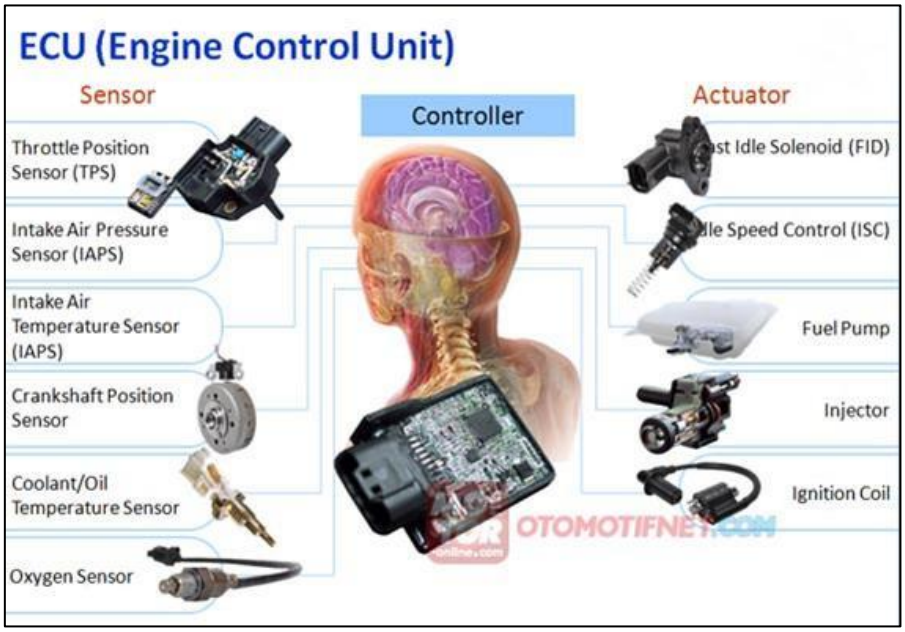

Figure 4.1 Connectivity of each sensor in the motor

b) MAP (*Manifold absolute pressure*) sensor

This component functions to provide a signal to the ECM in the form of information on air pressure entering the intake manifold. In addition to the MAP sensor type, the detection of air entering the intake manifold can be in the form of the amount or weight of air. If the detected amount of air, it is called an air flow meter, whereas if the weight of the air is detected, the sensor is called an air mass sensor.

c) IAT (Engine air temperature) sensor

This sensor has a function to provide a signal to the ECM in the form of information on the temperature of the air entering the intake manifold. The 5 Volt reference / supply voltage from the ECM will then change to a signal voltage whose value is influenced by the intake air temperature.

d) TP (Throttle Position) sensor

Serves to provide a signal to the ECM in the form of information (detection) about the position of the throttle valve / gas valve. The newer generation of these sensors not only consists of contacts that detect idle and full load positions, but is already a potentiometer (variable resistor) and can provide a signal to the ECM at any engine load state. The construction of the last generation of gas valve position sensors is fully electronic, because what drives the gas valve is an electromesin controlled by the ECM without the gas cable connected to the gas pedal or what is called Throttle by wire (TBW). This latest generation allows cleaner emission / exhaust control because the driven gas pedal only provides a voltage signal to the ECM and the opening and closing of the gas valve is also carried out by the ECM electronically.

e) Engine oil temperature (EOT) sensor

This sensor serves to provide a signal to the ECM in the form of engine oil temperature information.

f) Bank angle sensor (BAS)

Serves to provide information on the tilt angle of the vehicle. On motorbikes that use the injection system, they are usually equipped with a bank angle sensor which aims to protect the vehicle when the vehicle falls with a 55 degree tilt angle. So

at that time the ECM will turn off the fuel system (fuel pump and injectors) and turn off the ignition system.

The information sent by the bank angle sensor to the ECM when the motorcycle falls with a predetermined tilt angle will make the ECM give commands to turn off (turn OFF) the injector, ignition coil, and fuel pump. So that the possibility of a motorcycle fire caused by spilled or spilled fuel will be small because the ignition system and the fuel system are immediately stopped even though the ignition is still in the ON position.

The bank angle sensor will detect every tilt angle of the motorcycle. If the slope angle is still below the specified limit, the information sent to the ECM does not cause the ECM to turn OFF the three components above. What about a motorcycle that is cornering / turning? If the motorcycle is being run in a cornering position (even though the slope exceeds 55 degrees), the ECM will not turn off the three components because when the motorcycle is cornering there is a centrifugal force which makes the pendulum tilt in the bank angle sensor not the same as the motorbike's tilt angle. .

So even though the tilt angle of the motorbike has reached 55 degrees, in reality the signal sent to the ECM still indicates that the tilt angle is still below 55 degrees so that the ECM will not OFF the three components.

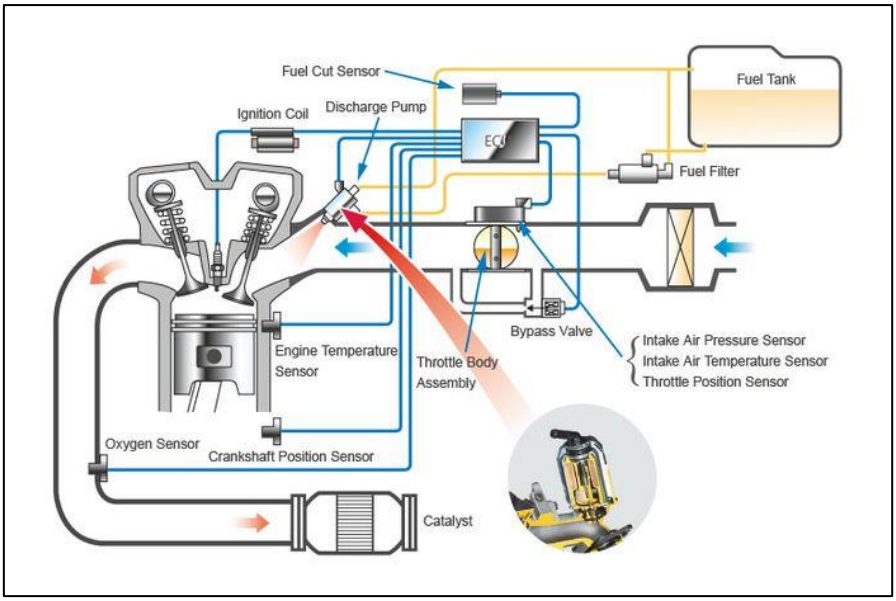

Figure 4.2 Various sensors in injection motorbikes

g) Camshaft position sensor (CMP sensor)

Serves to detect the position of the motorcycle camshaft so that the ignition time can be known.

h) Crankshaft position sensor (CKP sensor)

Serves to detect the rotation of the motorcycle crankshaft so that the piston position is known at TDC (top dead center) or TMB (bottom dead center).

i) Water temperature sensor (WTS sensor)

It functions to detect cooling water in the engine, however motorbikes equipped with this sensor are usually not equipped with an EOT sensor.

4.3 Subjects Taught In Automotive Workshops

All things related to automotive are taught in this automotive workshop. This can be seen by the description of the lessons taught during the training, including:

1. Follow safety, health and work environment procedures
2. Using and maintaining tools and equipment at work
3. Using and maintaining measuring instruments
4. Maintain Operation and Repair Components
5. Reading and Understanding Technical Drawings
6. Maintenance of engine and its components
7. Maintain / service the cooling system and its components
8. Maintain / Service the Gasoline Fuel System
9. Repair and Overhaul Components of the Gasoline Fuel System
10. Install, Test and Repair Lighting and Wiring Systems
11. Repair Ignition System
12. Maintaining Manual and Automatic Clutch Units
13. Maintain the Brake System
14. Checking the Steering System
15. Checking the suspension system
16. Removing, Installing and Adjusting the Wheels
17. Maintain the chain / chain
18. Test, maintain and replace the battery

CHAPTER 5

5 CONCLUSION

5.1 Conclusion

From the above description can be concluded that internship activities are very beneficial for students. Besides, to gain experience in the world of work, during the implementation of internship activities specific to the company that is quite large, with employees who are not only from the region in Indonesia but also from Asia-Pasific, a modern work environment with management that follows the development of the times makes students have a golden opportunity to learn and understand the actual work environment, both in producing output and paying attention to the course of business processes surrounded by the company, adapt to all circumstances.

During my industrial training here, I have acquired various knowledge and industry experience. I have been successful in completing the training program of the industry according to the set period. The experience of working in the field of industry is a wonderful and memorable experience. I will use all the knowledge and will use in realizing the real world of work. The field of work that many challenges

have taught me to know the true meaning of life. Besides, I can improve my personality especially on the aspect of self-discipline and respect and communication to other people.

This industrial training definitely brings a lot of benefits to the students and Host Company as well. The training program with Balai Latihan Kerja Padang will widened the student personal view on future career. This company has offered varieties of opportunities to develop and enhanced the student's skills. Balai Latihan Kerja Padang also offers many structured programs and challenging work assignment to help develop new skills and grow professionally. Thus, individuals are responsible for their own career development. This internship placement in such prestigious company with the knowledge gained will definitely be the cutting edge that differentiates Universiti Teknologi Malaysia graduates with other university graduates within Malaysia and Indonesia.

5.2 Problems and Recommendations

5.2.1 Problems

During the internship program, one of the obstacles I faced was a lack of knowledge in the automotive field even though there were some materials that were similar to the lessons I learned in Aeronautical Mechanical Engineering class. But

from the point of view of a mechanical engineer you will get a lot of fundamental knowledge from engineers in various aspects of life.

Second, in this Covid-19 pandemic situation we face many problems at the workshop. Suddenly there was a suspicion of a positive patient for Covid-19 at the BLK. Thus, all teaching activities were suspended and continued into 2021. Therefore, all employees worked from home for approximately two months and no assignments were assigned either from my mentors or supervisors.

From the overall observation, Balai Latihan Kerja Padang is a very good company for apprentices, especially those who want to become lecturers, instructors from BLK Padang will guide apprentices and they will explain how to teach properly and properly so that they can be accepted by all groups.

5.2.2 To Universiti Teknologi Malaysia

After carrying out internship activities for approximately 12 months at PT. Infineon Technologies Batam, there are suggestions given among others:

a. Provide briefings, consultations, and reviews every month to align the objectives of student internships and targets expected of Universiti Teknologi Malaysia towards its interns especially for Mechanical Engineering Programme.
b. Prepare for apprenticeship provision before entering the internship program. Both the syllabus, the introduction of the world of internships on campus, and the introduction of internship objectives for students.

5.2.3 To Balai Latihan Kerja Padang

a. Provide further opportunities to Universiti Teknologi Malaysia students to be able to do internship activities at Balai Latihan Kerja Padang.
b. Provide several facilities that can support learning such as internet access on computers and laptops for students who are interns at Balai Latihan Kerja Padang.
c. Make a good procedure for every existing intern student so that every activity carried out by interns is clearer

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