

**INDUSTRIAL PRACTICE REPORT
AT PT KRAMA YUDHA RATU MOTOR**



Arranged by:
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**INDUSTRIAL ENGINEERING PROGRAM
FACULTY OF INDUSTRIAL TECHNOLOGY
ATMA JAYA YOGYAKARTA UNIVERSITY
2018**

APPROVAL

The report entitled "Industrial Practice Report At PT Krama Yudha Ratu Motor" is written based on industrial practice at PT Krama Yudha Ratu Motor during the period of December 15th, 2017 to January 31st, 2018 by:

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Jakarta, April 19th, 2018

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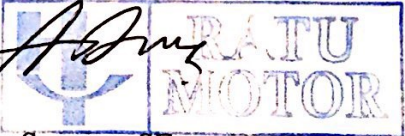
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Adalah benar telah melaksanakan Praktek Kerja Lapangan di PT Krama Yudha Ratu Motor:

Sejak Tanggal : 04 Desember 2017
Sampai Tanggal : 31 Januari 2018

Demikianlah keterangan dari kami, agar dapat dipergunakan dengan baik dan sebagaimana mestinya.

Jakarta, 22 Juni 2018
PT. Krama Yudha Ratu Motor



Ady Suryana, SE
Manager HRD

PREFACE

Thanks to Almighty God for His blessing so that this report entitled “Industrial Practice Report At PT Krama Yudha Ratu Motor” can be done well.

This report is composed as the complementary of industrial practice requirements of Faculty of Industrial Engineering Universitas Atma Jaya Yogyakarta. Other than that, this report is a form of final result of industrial practice process, that shows the knowledge gained from PT Krama Yudha Ratu Motor.

The process of this report completion is guided and helped by many parties. Therefore, appreciation and gratitude is conveyed to:

1. The Dean of Faculty of Industrial Engineering, Dr. A. Teguh Siswanto and Head of Industrial Engineering Study Program, Mrs. Ririn Diar Astanti, S.T., M.MT., D.Eng for giving the opportunity to do industrial practice
2. Supervisor lecturer of industrial practice, Mr. Theodorus B. Hanandaka, S.T., M.T. for the guidance in completing the industrial practice.
3. Trimming Department Manager of PT Krama Yudha Ratu Motor, Mr. Timbul Parhusip for the guidance to do industrial practice.
4. Human Resource Department Personnel of PT Krama Yudha Ratu Motor, Mrs. Sheena for the guidance in completing the industrial practice.
5. Quality Assurance Section Head of PT Krama Yudha Ratu Motor, Mr Suryadi for being the site supervisor during industrial practice.
6. Quality Assurance Regular Sub Section (Foreman) of PT Krama Yudha Ratu Motor, Mr M Teguh Santoso for giving important information needed in during industrial practice.
7. Quality Inspection Regular Unit Head of PT Krama Yudha Ratu Motor, Mr AA Abidin for giving important information needed in during industrial practice.
8. Quality Inspection Regular Member of PT Krama Yudha Ratu Motor, Mr Janur Muhamad Ridwan for giving important information needed in during industrial practice.
9. Quality Assurance Regular Member of PT Krama Yudha Ratu Motor, Mr Suryadi for giving important information needed in during industrial practice.
10. Other personnel of PT Krama Yudha Ratu Motor for the concern during industrial practice.
11. Family for the support.
12. Colleagues of Universitas Atma Jaya Yogyakarta for the support.

Finally, author hopes this report can be useful for the readers especially for the students to add their knowledge about industrial practice experience.

Yogyakarta, March 19th, 2018

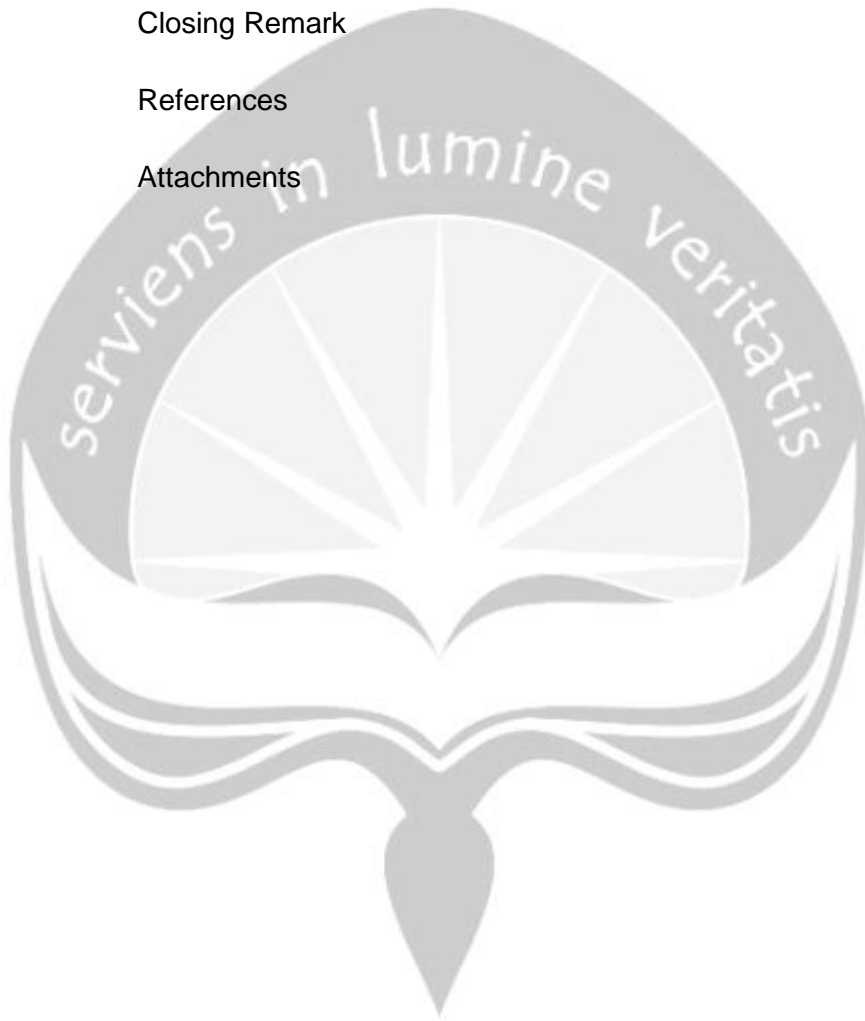
Author



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CHAPTER 1 INTRODUCTION

In this chapter, there will be explanation about background and objective of industrial practice, also place and time of industrial practice implementation.

1.1. Background

Department of Industrial Engineering, Atma Jaya Yogyakarta University (PSTI UAJY) defines the industrial practice as a simulator that enables the students not only to apply the Industrial Engineering knowledge into real-world industry but also to train the student how to be a professional of Industrial Engineer. For this purpose, during the industrial practice the students are requested to work in the host company within a period of month.

The paradigm of industrial practice is that the students are expected to experience the application of Industrial Engineering knowledge in practice in which it can be obtained if during their industrial practice the students do some activities to enhance their understanding in term of planning, designing, improving, implementing and problem solving. Therefore, during the industrial practice period the students are requested to:

- a. Doing all the tasks that have been assigned by the host company
- b. Following all of relevant working procedures of the host company
- c. Capturing the big picture of the enterprise system in the host company and observing its characteristics

Since Industrial Engineer is dealing with the integrated system of some elements which are Man, Machine, Material, Methods, Money, Energy, Environment and Information, therefore during the industrial practice the students should relate all of their activities in term of system perspective. Based on the explanation above, it is clearly seen that industrial practice is not only gathering the data.

According to Document Curriculum of PSTI UAJY, industrial practice is an academic course in which the students should register for the course for 2 credits. Then, in order to fulfill the academic requirement of industrial practice, the students are required to submit an industrial practice report. The performance of the student itself is evaluated both by on-site supervisor and by faculty supervisor.

Based on Curriculum of PSTI UAY, the students of Industrial Engineering International Program Atma Jaya University are equipped with several theoretical backgrounds so that they are able to fill the positions in the areas of but are not limited to:

- a. Logistics and Supply Chain Management
- b. Production Planning and Inventory Control
- c. Marketing
- d. Human Resources Management
- e. Works study and Ergonomic
- f. Product Design
- g. CAD/CAM
- h. Product Development
- i. Occupational Health Safety and Analysis (OHSA)
- j. Purchasing
- k. Business Development
- l. Enterprise Resource Planning
- m. Quality Control
- n. Facility Planning

The actual schedule and nature of work are agreed upon by the student, the host company and faculty instructor before the industrial practice starts. Any change to the schedule and work nature must receive prior agreement from all three parties.

1.2. Objective

The aims of the industrial practice are:

- a. Practice discipline
- b. Improve the interaction between student and his/her ordinate or workmate
- c. Practice adaptability in the working atmosphere
- d. Observe the daily work in the host company
- e. Enhance the Industrial Engineering knowledge in practice by seeing the industrial practice in the host company
- f. Enhance the knowledge of enterprise system

1.3. Place and Time of Industrial Practice Implementation

The industrial practice was held on Desember 15th, 2017 to January 31st, 2018 in

PT. Krama Yudha Ratu Motor. In the industrial practice, the student was placed in Quality Control Department according to the student's competence.



CHAPTER 2 COMPANY BACKGROUND

In this chapter, there will be explanation about company overview, organizational structure, and company management.

2.1. Company Overview

Company overview consists of history, development, and achievement of the company.

2.1.1. Company History and Development

PT Krama Yudha Ratu Motor is an automotive industrial company which is engaged in commercial vehicle assembly of Mitsubishi brand. PT Krama Yudha Ratu Motor is usually abbreviated as KRM. The company was established on 1st of June, 1973 and started the production on January 1975. It is located at Jl. Raya Bekasi Km. 21-22, Cakung, Jakarta, Indonesia.

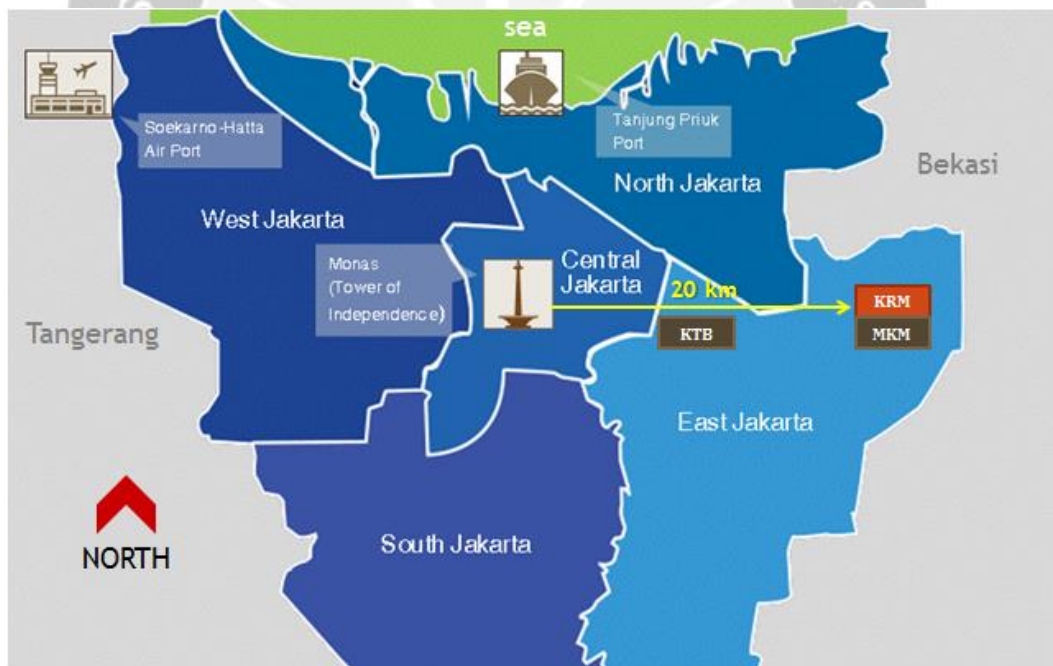


Figure 2.1. Location of PT Krama Yudha Ratu Motor

(Source: PT Krama Yudha Ratu Motor)

The whole land area is 143.035 m² including 20.360 m² for the factory building and 6.600 m² for the other buildings (warehouse, cafeteria/locker, mosque). PT Krama Yudha Ratu Motor is a private company that the initial capital was 100%

from domestic investment. Then, since 2012 the status of the capital became foreign investment. The commercial products of PT Krama Yudha Ratu Motor are T120SS (CJM), Outlander Sport (ZC), Colt L-300 (SL), FM/FN (Fuso), Colt Diesel (TD).

PT Krama Yudha Ratu Motor controls its quality management system with reference to ISO 9001:2008 and ISO 14001:2004 with its main subject is assembly of four wheeled motor vehicle. The control of quality management system is more concerned in parts reception, storage, distribution to production line, then continue to welding process, painting process, and finally trimming process. Strict inspection is applied in the whole production process by all production workers and inspection workers themselves with orientation that next process is customer. Therefore, the application scope of the inspection is from parts reception until delivery to customer by all departments of the company. While, environmental management system is applied to whole area of the company. PT Krama Yudha Ratu Motor does not have its own design and development for the assembly process because the design and development are the rights of the sole agent.

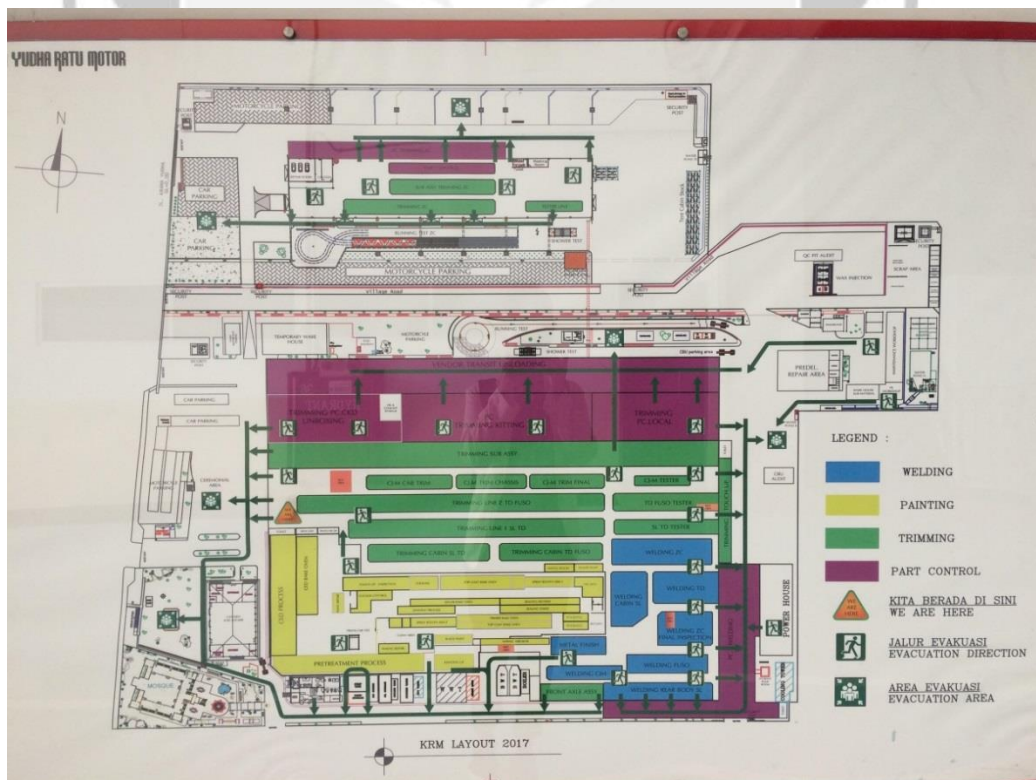


Figure 2.2. Layout of PT Krama Yudha Ratu Motor
(Source: PT Krama Yudha Ratu Motor)

Figure above is layout of PT Krama Yudha Ratu Motor. As figured, there are areas for production process such as welding, painting, and trimming. Also, there are areas for touch up, predelivery, running test, and shower test, which are some activities of quality control. Other than those, some areas for the company facilities are placed such as parking area for both car and motorcycle, canteen, locker area, and Mosque.

2.1.2. Company`s Achievement

PT Krama Yudha Ratu Motor has been doing Kaizen activity as a way to continuously improve all functions in the company that involve whole employees from top to down level of employees. The Kaizen activities in PT Krama Yudha Ratu Motor is done by making daily work improvement and strategic improvement. As for the purpose of the Kaizen activities is to achieve higher productivity and higher profit.

Table 2.1. Kaizen Activities

	Daily Work Improvement	Strategic Improvement
Basic	Bottom up activity	Top down activity
Target	Settle down kaizen mind to all employee	<ul style="list-style-type: none"> • Speedy and effective improvement • Establishment of high profit system
Activity	<ul style="list-style-type: none"> • Setting of short activity period • Extended/challenging target 	
Leader	Assistant Foreman	Supervisor with support by manager
Scope	<ul style="list-style-type: none"> • 5s activity • 7 waste 	<ul style="list-style-type: none"> • Project management improvement (Quality, productivity, just in time) • Safety improvement

Table above is the basic to apply Kaizen activity. To support the Kaizen activity, the company usually work on project. On 2017, there were two projects that had been done. These projects resulted influential improvement that made the company was given Kaizen Award. The projects were first designed in theory.

Then, team of the projects did trial of the theory to prove if the projects could bring improvement for the company or not.

After that, the theory following with the result from the trial was presented to Board of Director (BOD) of the company in a presentation session. This presentation was aimed to show the BOD that the projects were worth it to be applied due to the improvement that could be resulted. With the approval from BOD, the projects were done successfully. The first project was awarded Gold medal of Kaizen Award. It was held on January 5th to 17th, 2017. The project target is optimization parts supply from logistics to CAB (cabin) assembly line side.

Table 2.2. Differences between Condition Before Kaizen Project and After Kaizen Project with Gold Medal Award

Before	After
No rail	Kiting box runs on rail
Supply part to line production with big trolley	Supply part with kitting system
Not easy pick up the parts	More easy pick up the parts
Found parts defects in the assembling process	Defect can be found before parts supply
Multiple parts supply worker	Reduce parts supply worker
Many walking for parts install	Assembly work reduction of walking steps
More time for assembly work	Time reduction for assembly work and supply parts
Irregular parts supply	Just in time parts supply
Temporary supply stop due to delay caused by high traffic on line production.	Traffic reduction

Table 2.3. Impact of Kaizen Project with Gold Medal Award

	Before	After	Abolute Improved	Percentage Improved
Traffic/day (unit of towing car)	162	68	-94	↘ 58%
Route optimization (meter)	244	84	-160	↘ 65%
Working steps (steps/unit)	618	206	-412	↘ 66%
Number of employees	235	231	-4	↘ 1,7%

With kitting box supply system utilization, the company reduced towing`s traffic, walking steps on assembly line, time of asembly work and supply parts, and number of employees for production and logistic that resulted net saving.

The second project was given Silver Medal of Kaizen Award. It was held on May 1st to 18th, 2017. The project target was capacity up TD transfer to CAB at trim line II from 16 to 17 unit/hour. The difference is that before Kaizen Project with Silver Medal Award implemented, the capacity line II was 16 unit/hour (216 seconds) with bottle neck supply CAB by using 1 hoist (over than cycle time), while after the project done, the capacity increased to 17 unit/hour by using 2 hoists and additional CAB stand for seperate job

Table 2.4. Impact of Kaizen Project with Silver Medal Award

	Before	After	Absolute Improved	Percentage Improved
Supply cabin from TC-6 to main line (second)	70	45	-25	↘ 35%
Productivity (unit/hour)	16	17	1	↗ 6%

The second project resulted in reduction of cycle time at supply CAB by using 2 hoists and increasing capacity at line 2 from 16 unit/hour to 17 unit/hour.

2.2. Organizational Structure

Organizational structure of PT Krama Yudha Ratu Motor is served in figure below.

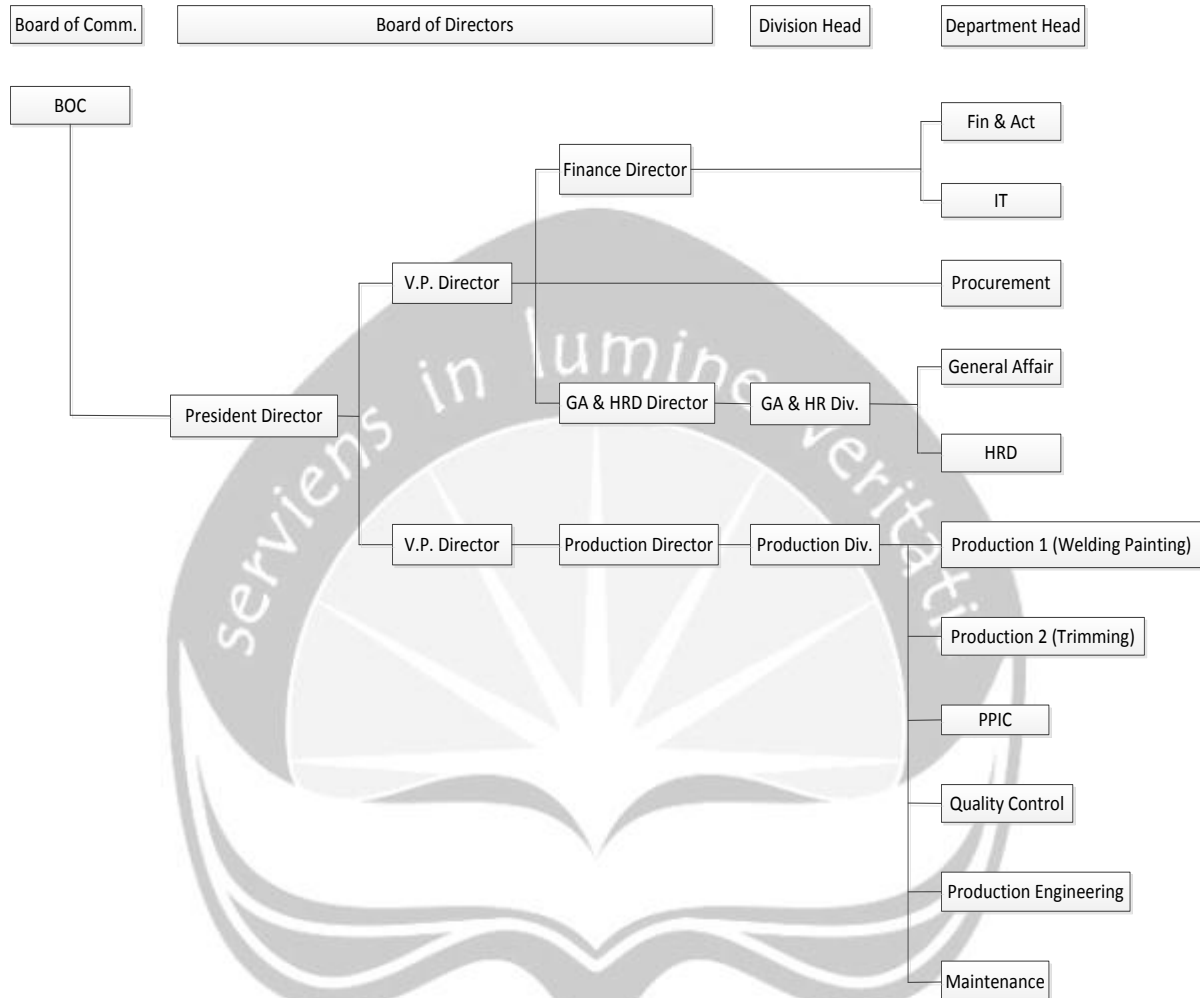


Figure 2.3. Organizational Structure of PT Krama Yudha Ratu Motor

(Source: PT Krama Yudha Ratu Motor)

Responsibilities of organizational structure member of PT Krama Yudha Ratu Motor are as follows:

2.2.1. BOC (Board Of Commissioners)

BOC have responsible to govern the company by determining broad policies and objectives of the company. BOC also the people who choose, lift, support, and supervise the performance of BOD (Board of Directors). Besides, BOC are responsible for the company performance to the shareholders.

2.2.2. BOD (Board of Directors)

BOD in PT Krama Yudha Ratu Motor are led by a President Director who has two Vice President Directors. The President Director lead the company by issuing company policies, then selecting, assigning, and overseeing the duties of the employees and the Division Heads to Department Heads. One of Vice President Directors is responsible for Finance Director and GA & HR (General Affair and Human Resources) Director, while the other one is responsible for Production Director. BOD are responsible for the company performance to the BOC.

2.2.3. Division Head

There are two Division Heads for each GA & HR Division and Production Division. Division Heads are responsible to supervise the performance of the Department Heads, where each division divided into some departments.

2.2.4. Department Head

There are eleven departments in PT Krama Yudha Ratu Motor, and that are:

a. Fin & Act (Finance and Accounting)

Finance is responsible to do all the process of receiving and spending money and has the authority to hold money. Accounting is responsible to record, check or perform analysis, classify, and report all transactions related to office finances. Then, Finance and Accounting Department Head is responsible for those activities.

b. IT (Information Technology)

IT Department is responsible to provide services within the scope of IT, design implementation and maintenance of integrated enterprise information systems that can support the company's efforts in order to improve performance, monitor and control system and application development, conduct analysis, planning and design of IT applications and systems. Then, IT Department Head is responsible for those activities. The Department Heads of Fin & Act and IT are supervised by Finance Director from BOD.

c. Procurement

Procurement Department is responsible to ensure that the procurement process runs smoothly so that the products and services needed can be obtained at the right time, in the right quantity, with the right quality and with the right price. Then, Procurement Department Head is responsible for those activities. Procurement

Department Head is supervised by one of Vice President Directors who are also responsible for Finance Director and GA & HR Director.

d. GA (General Affair)

GA Department is responsible for administration and licensing (including for the implementation of special events and for handling important guests such as government agencies, corporate auditors), management of routine services (Security, cleanliness, office boy / office girl, electricity, water), building management, asset management (stationery, vehicles), waste management, insurance management, outsourcing management, and maintenance of occupational safety and health. Then, GA Department Head is responsible for those activities.

e. HRD (Human Resources Department)

HRD is fully responsible in the recruitment process of employees, conducting coaching and training activities of employees in accordance with company standards, responsible on matters relating to employee absences, salary calculations, bonuses and benefits. HRD also make employee employment contract and renewing the term of the employment contract. HRD is authorized to take disciplinary action against employees who violate company regulations or policies. Then, HR Department Head is responsible for those activities. The Department Heads of GA and HRD are supervised by GA & HR Division Head.

f. Production 1 (Welding and Painting)

The production process of PT Krama Yudha Ratu Motor is commercial vehicle assembly of Mitsubishi brand. The assembly process is divided into some processes that are welding, painting, and trimming. Each process has detailed steps in it. In the division of departments, welding and painting are included in Production 1 Department. Welding is the first process in the assembly. While, Painting is the next process to paint the cabin/body of the vehicle.

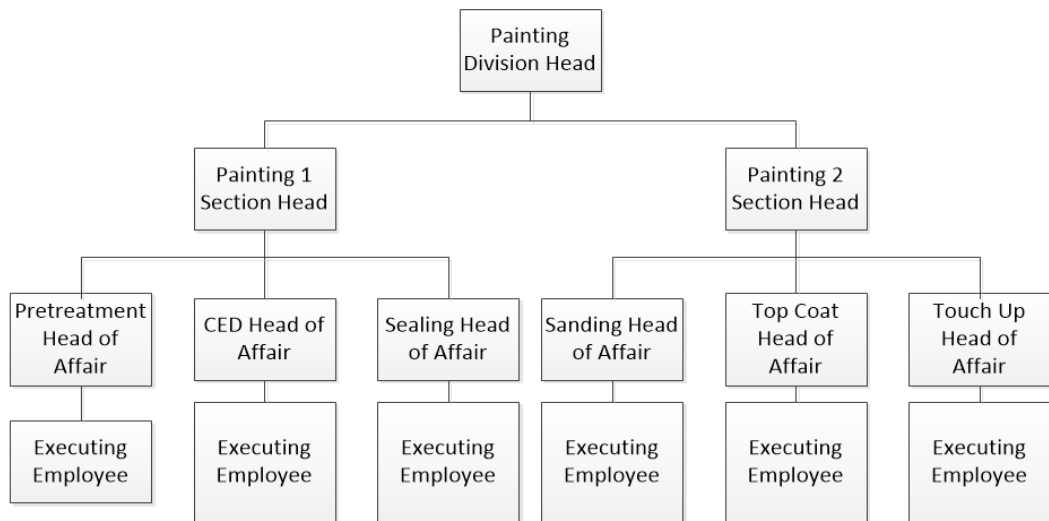


Figure 2.4. Painting Department Organizational Structure

As figured above, painting process is led by a Division Head. The Division Head oversees two Section Heads. The first Section Head oversees three Heads of Affairs that are Pretreatment Head of Affairs, CED Head of Affairs, and Sealing Head of Affairs. The second Section Head oversees three other Heads of Affairs that are Sanding Head of Affairs, Top Coat Head of Affairs, and Touch Up Head of Affairs. The Heads of Affairs oversee executing employees. The executing employees do their work assignment. Then, Production 1 Department Head is responsible for both welding process and those people who participate in painting process.

g. Production 2 (Trimming)

Trimming process is included to Production 2 Department. Trimming is the final process of the assembly to install components in the cabin.

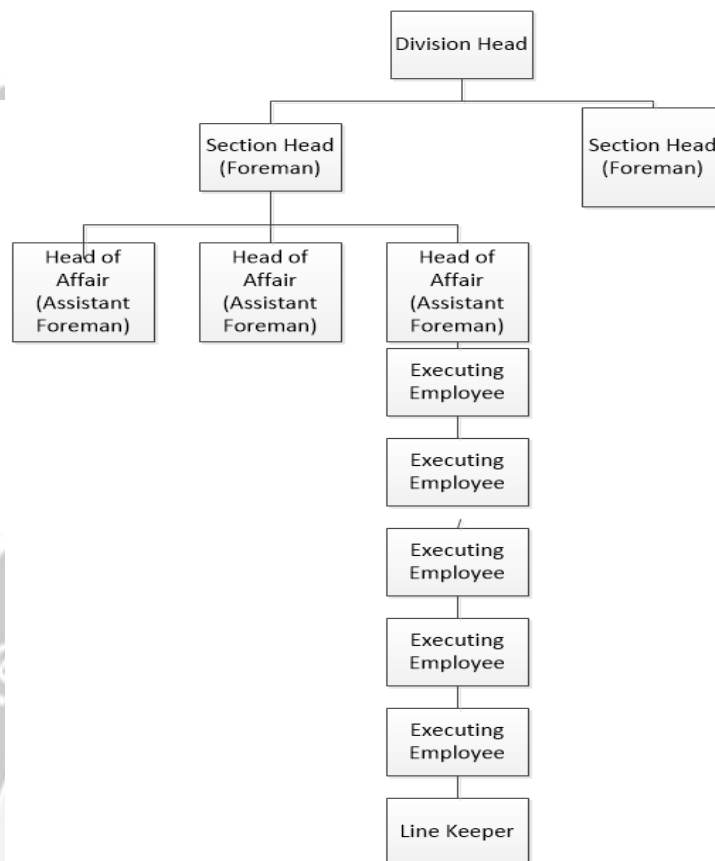


Figure 2.5. Trimming Department Organizational Structure

As figured above, trimming process is led by a Division Head. The Division Head oversees several sections. Each section is led by one Foreman, each Foreman oversees several Assistant Foreman, then the Assistant Foreman oversees several executing employees and one Line Keeper. The executing employees do their work assignment. Then, Production 2 Department Head is responsible for the performance of those people who participate in trimming process.

h. PPIC (Production Planning Inventory Control)

The main responsibility of PPIC is on production scheduling. The production scheduling will be reference for the other department scheduling. The production scheduling is based on order received that must be finished then delivered to the customer in a determined time. PPIC Department Head is responsible to oversee the performance of people who participate in PPIC Department.

i. Quality Control

Quality Control in PT Krama Yudha Ratu Motor is divided into three sections that are Quality Inspection, Quality Assurance, and ISO Team. Quality Inspection does inspection to the final products. While, Quality Assurance does inspection to the

materials that are used in the production process. In other word, Quality Inspection is focused on the products, while Quality Assurance is focused on the process. Other than that, ISO Team is responsible for ISO implementation and certification. Quality Control Department Head is responsible to oversee the performance of people who participate in Quality Control Department.

j. Production Engineering

Production Engineering is responsible for tools and machines that are used in the production process. The department allocate the tools and machines according to the company needs and standards. Then, Production Engineering Department Head is responsible for the performance of those people who participate in Production Engineering Department.

k. Maintenance

The responsibility of Maintenance Department is to maintain or preserve the provided tools, machines, and facilities in PT Krama Yudha Ratu Motor to prevent any breakdown or damage that will disturb the running production process.

Department Heads of Production 1 (Welding & Painting), Production 2 (Trimming), PPIC, Quality Control, Production Engineering, and Maintenance Department are supervised by Production Division Head.

2.3. Company Management

The vision of PT Krama Yudha Ratu Motor is to be the best company in assembly and be able to compete in regional or global level.

Meanwhile, the missions of PT Krama Yudha Ratu Motor are:

- a. Be a company that can give satisfying advantage to the *Shareholders* and give good welfare to all employees
- b. Build reliable human resources and be able to anticipate regional or global development
- c. Commit to eco-friendly industry

Then, the policies of PT Krama Yudha Ratu Motor are:

- a. Human resources development
- b. Enhancement of customer satisfaction
- c. Prime production quality and timely delivery
- d. Always do environment management by preventing environmental pollution and saving natural resources or energy saving
- e. Always do occupational safety and health improvement

- f. Abide the other related regulation and requirement for quality, environment, and occupational safety and health
- g. Always do continuous improvement.
- h. Guarantee every employee and colleague of PT Krama Yudha Ratu Motor to understand be responsible, and care about quality, environment, and occupational safety and health in their activities.

Furthermore, to support the business process of the company, adequate employees are needed. In return, the company gives appropriate wages. Beside the wages, the company also provide allowances and facilities for the employees.

Total number of employees are 1063 people, with working hours:

Monday – Tuesday : 07.10 – 16.20 WIB

Rest 1 : 10.00 – 10.10

Rest 2 : 11.35 – 12.25

Rest 3 : 14.00 – 14.10

Friday : 07.10 – 16.20 WIB

Rest 1 : 10.00 – 10.10

Rest 2 : 11.40 – 13.00

Rest 3 : 15.00 – 15.10

The new employees are given modules that contain work instructions of each of their department, and also trained on the work field. Besides, the employees are also trained for safety and health activities such as first aid training, safety training, and how to use APAR and HYDRANT training.

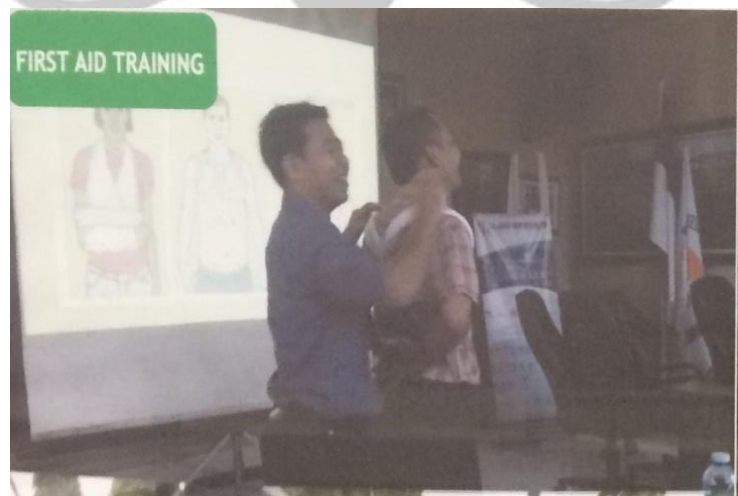


Figure 2.6. First Aid Training

(Source: PT Krama Yudha Ratu Motor)

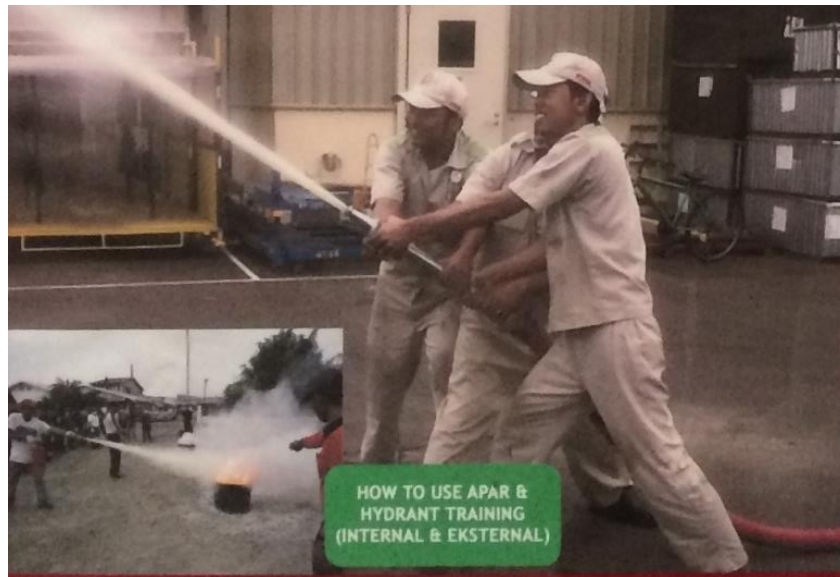


Figure 2.7. How to Use APAR & HYDRANT Training

(Source: PT Krama Yudha Ratu Motor)

To ensure occupational safety and health, the company provides personal protective equipment such as uniform, shoes, and head protector/hat. Some departments or positions have special needs of personal protective equipment that have been provided by the company, for example welding department needs long-sleeved clothes to protect the arms from sparks.

Then, as limitation for the employee in doing their job in PT Krama Yudha Ratu Motor, there are discipline of work, basic obligations, and prohibitions for employees that have been set by the company. If the employees break them, then the employees will be faced disciplinary action such as reprimands, warning letters, prosecution, suspension, and termination of employment. The kind of disciplinary action given depends on the kind of offenses the employees do.

For the facilities, beside facilities in production floor such as the machines, there are facilities outside the production floor such as security, parking area, Mosque, canteen, polyclinic, and cooperative. Those facilities are provided to fulfill the needs of employees. For example, security for the need of safety, parking area for the need to place the vehicles, Mosque for the need of worship, canteen for the need of energy consumption, polyclinic for the need of medicine and treatment for sickness, and cooperative for personal need products.

CHAPTER 3

COMPANY SYSTEM

In this chapter, there will be explanation about business process, company's product, production process, and production facilities.

3.1. Business Process

Business process of PT Krama Yudha Ratu Motor consists of some steps of work in different departments which related to each other to fulfill customer order. The main departments of PT Krama Yudha Ratu Motor is the Production Departments (welding, painting, trimming) who do the assembly process, and Quality Control Department. Nevertheless, the other departments such as PPIC, Procurement Department, etc, also work to support the process of fulfilling customer order so the whole business process can run smoothly.



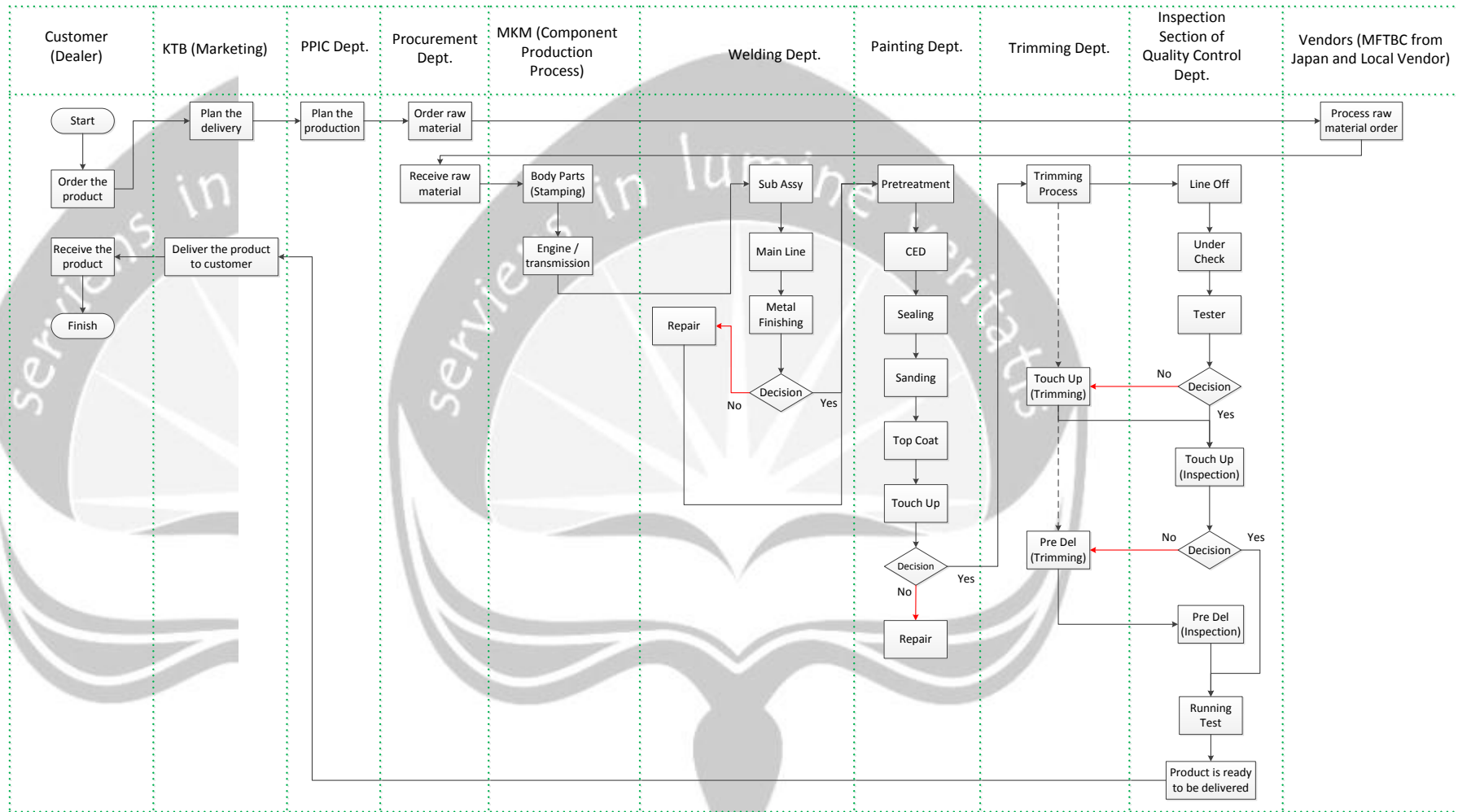


Figure 3.1. Business Process of PT Krama Yudha Ratu Motor

In figure above, there found KTB (Krama Yudha Tiga Berlian Motor) and MKM (Mitsubishi Krama Yudha Motors and Manufacturing). Those companies work together with PT Krama Yudha Ratu Motor to complete the business process by their own role. KTB has its role as marketing, while MKM does its role in component production process. The products of MKM are parts and components, which will be the raw materials for assembly process in PT Krama Yudha Ratu Motor. Herewith the steps of business process in PT Krama Yudha Ratu Motor:

- a. Customer of PT Krama Yudha Ratu Motor is dealer. The customer orders product to KTB.
- b. KTB plans the delivery after receive the order. Then, the delivery planning is forwarded to PPIC Department.
- c. Based on the delivery plan, PPIC Department plans the production activity by making production schedule.
- d. Procurement Department orders the raw material which amount is adjusted by the number of orders from customer. The vendors of raw material are MFTBC (Mitsubishi Fuso Truck and Bus Corporation) from Japan and local vendor.
- e. The vendors process the raw material order then deliver the raw material to Procurement Department.
- f. Procurement Department forwards the raw material to MKM. Then, MKM starts the first steps of production which is body parts stamping and engine transmission.
- g. The products of MKM are parts or components. Then, MKM forwards the parts or components to PT Krama Yudha Ratu Motor to be assembled.
- h. The assembly process starts from welding process by Welding Department. In Welding Department, there are steps i.e. sub assy, main line, metal finishing, and quality checking. If the product is within the spesification, it will be forwarded to painting department. If otherwise, it will be repaired.
- i. There are some steps in Painting Department i.e. pretreatment, CED, sealing, sanding, top coat, touch up, and quality checking. If the product is within the spesification, it will be forwarded to Trimming Department. If otherwise, it will be repaired.
- j. The product is processed in Trimming Department, then the product is forwarded to inspection section of Quality Control Department, who is called Quality Inspection.

- k. Steps in Quality Inspection are line off, under check, tester, touch up (inspection), pre delivery inspection for product that do not pass touch up (inspection), and running test. After running test, the product has been ready to deliver to customer via KTB.
- l. KTB delivers the product to customer`s location.
- m. Customer receives the product.

3.2. Company`s Product

PT Krama Yudha Ratu Motor produces commercial vehicle products of Mitsubishi. There are five kinds of product with different specifications.

3.2.1. Colt T120ss (CJM)

In production land of PT Krama Yudha ratu Motor, Colt T120ss is called CJM. Colt T120ss is commonly used to transport goods such as food product, furniture, etc.



Figure 3.2. Colt T120ss (CJM)

(Source: PT Krama Yudha Ratu Motor)

Below are key points of the specification of Colt T120ss with 1.5L MPI type. It can be used by dealer to show their customers (societies) the spesification of the vehicle they need or want.

Table 3.1. Specification of Colt T120ss (CJM)

Item		Size/Type
Dimension	Overall length (mm)	3720
	Overall width (mm)	1560
	Height (mm)	1825
Engine Type (4G15 - 12 Valve)	Maximum output (rpm)	6000
	Maximum torque (rpm)	3500
	Fuel Distribution	Multi point injection
Chassis	Steering system	Rack & pinion (electronic power steering)
Brake	Front	Ventilated disc
	Rear	Drum, leading, and trailing
Suspension	Front	Mac Pherson Strut
	Rear	Semi elliptic leaf spring
Fuel tank	Capacity (liter)	42
Tire Size	Front/Rear	5.50-13-8PR

3.2.2. Outlander Sport (ZC)

In production land of PT Krama Yudha ratu Motor, Outlander Sport is called ZC. This car is not commonly used for commercial activity such as transporting commercial stuff, but for personal need.



Figure 3.3. Outlander Sport (ZC)

(Source: PT Krama Yudha Ratu Motor)

Below are key points of the specification of Outlander Sport with GLX type are as follows:

Table 3.2. Specification of Outlander Sport (ZC)

Item		Size/Type
Dimension	Overall length (mm)	4300
	Overall width (mm)	1800
	Height (mm)	1625
Engine Type (4B11 16Valve MIVEC DOHC)	Maximum output (rpm)	6000
	Maximum torque (rpm)	4200
	Fuel Distribution	ECI MULTI
Chassis	Steering	Rack & pinion (electronic power steering)
Brake	Front	16" Ventilated disc
	Rear	16" Disc
Suspension	Rear	Multi Link, coil spring with Stabilizer Bar
Fuel tank	Capacity (liter)	63
Tire Size	Front/Rear/Spare	215/60 R17 96H

3.2.3. Colt L-300 (SL)

In production land of PT Krama Yudha Ratu Motor, Colt L-300 is called SL. Colt L-300 is a business vehicle that can be used to transport 10-12 passengers.



Figure 3.4. Colt L-300 (SL)

(Source: PT Krama Yudha Ratu Motor)

Below are key points of the specification of Colt L-300 with standard type.

Table 3.3. Specification of Colt L-300 (SL)

Item		Size/Type
Dimension	Overall length (mm)	4315
	Overall width (mm)	1880
	Height (mm)	1970
Engine	Type	4 inline cylinders, water cooler, 4 steps
	Cylinder capacity (cc)	2477
Chassis	Steering	Recirculating ball type with power steering
Brake	Front	14" Disc
	Rear	Drum leading & trailing, 10"
Suspension	Front	Double wishbone
	Rear	Semi elliptic leaf spring
Fuel tank	Capacity (liter)	47

3.2.4. Fuso (FM/FN)

In production land of PT Krama Yudha Ratu Motor, FUSO is called FM/FN. FUSO is a kind of truck that can be used to transport goods in large quantities or big sizes.



Figure 3.5. FUSO (FM)
(Source: PT Krama Yudha Ratu Motor)

Below are key points of the specification of FUSO with FM 517 HS type.

Table 3.4. Specification of FUSO (FM 517 HS)

Item		Size/Type
Model	Type	4x2
Dimension	Overall length (mm)	7535
	Overall width (mm)	2410
	Height (mm)	2710
Engine (6D16-3AT2)	Type	6 water cooler cylinders, turbo diesel machine with 4 steps, direct injection with turbo intercooler
	Cylinder capacity (cc)	7545
	Maximum output (rpm)	2800
	Maximum torque (rpm)	1400
Chasis	Steering	Ball nut with integral type, power booster telescopic and tilt steering column with steering lock
Brake	Service brake	Air over hydraulic with double circuits
	Parking brake	Internal expand type on propeller shaft
	Auxiliary brake	Exhaust brake
Suspension	Front	Laminated leaf springs with shock absorbers
	Rear	Laminated leaf springs
Fuel tank	Capacity (liter)	200
Driver`s cab	Model	All steel, tilt cab

3.2.5. Colt Diesel (TD)

In production land of PT Krama Yudha ratu Motor, Colt Diesel is called TD. Colt Diesel is a kind of truck that can be used to transport goods in large quantities or big sizes.



Figure 3.6. Colt Diesel (TD)

(Source: PT Krama Yudha Ratu Motor)

Below are key points of the specification of Colt Diesel with FE 71 type.

Table 3.5. Spesification of Colt Diesel (FE 71)

Item		Size/Type
Dimension	Overall length (mm)	Dimension
	Overall width (mm)	1750
	Height (mm)	2055
Engine (4D34-2AT5)	Type	4 steps, direct injection, water cooler diesel machine with turbo intercooler
	Cylinder capacity (cc)	3908
	Maximum output (rpm)	2900
	Maximum torque (rpm)	1600
Chasis	Steering	Ball nut with adjustable steering column (tilt and telescopic)
Brake	Service brake	Double circuits, hydraulic with vacuum servo assistance dual circuit
	Parking brake	Internal expand type on rear transmission
	Auxiliary brake	Exhaust brake

Continued from Table 3.5.

Item		Size/Type
Suspension	Front	Semi elliptic, laminated leaf springs with shock absorber
	Rear	
Solar tank	Capacity (liter)	70

3.3. Production Process

The production process is divided into three processes ie welding, painting, and trimming.

3.3.1. Welding Process

The production process in PT Krama Yudha Ratu Motor is assembly process. Welding process is the beginning step of the assembly process. The employees do the welding process to cabin body parts to combine metal material of the parts. The steps of welding process are sub assy, main line, metal finishing, and quality inspection. Between those steps there is assurance section of Quality Control Department, who is called Quality Assurance who work for checking the quality of the material and the process. Problems that usually happen in welding process are splash of fluid and sparks. Both of the problems may cause defect i.e. indentation on the iron surface.

Beside indentation, there is another kind of defect i.e. spot off. Spot off may be caused by the shape of welding tip, current sharing, spot angle or distance, welding duration, broken wires, etc. There is reparation in metal finishing for those products that do not pass the quality inspection in welding department. The working guide of welding process is SOP (Standard Operation Procedure) and AOS (Assembly Operation Sheet). The self protection tools in welding process are uniform, hat, shoes, leather gloves, cotton protector gloves, cotton covral, grinding goggles, ear plug, leather covral, masker, foot protector, and safety helmet.

3.3.2. Painting Process

Painting process works for protecting cabin body parts from rust and weather, and also to make the appearance luxury. There are six steps of painting process

and between those steps there is also Quality Assurance who works for checking the quality of painting material and the process.

a. Pretreatment

Pretreatment is a process to improve the durability of cabin body parts to rust. Pretreatment is also an adhesion process between the paint and the cabin body parts.

b. CED

CED is a process to coat the primer paint to the cabin body parts by doing deposition of electric current with dye system.

c. Sealing

Sealing is a process of coating certain parts to protect them from leakage, prevent water and dirt stuck in joints / folds that can cause rust on the panel, sound absorbers from vibrations & wind leaks, and also to make the appearance more neat and luxury.

d. Sanding

Sanding is an erosion process of the cabin body parts that is function to clean them from the dirt or paint residue of CED, sealer, and dust. This process is also function to strengthen the stickiness of paint.

e. Top Coat

Top coat is a final coating with coloured paint according to the vehicle type by spraying the cabin body parts with spray gun. The spraying is done with standardized pressure. This process is function to protect the cabin body parts from rust and weather and also to make the appearance more luxury.

f. Touch Up

Touch up is a completion of top coat so any damage can be removed, but only for minor damage.

3.3.3. Trimming Process

Trimming is a process of component installation. The employees in Trimming Department must understand about the vehicle's structures and their functions such as frame, spring, brake, clutch, axle, and many more. Like other production departments, in trimming process there is also Quality Assurance who works for checking the material and the process. Trimming needs high accuracy in every single process in it, because any mistake may effect to driving safety later. For example, tire and propeller shaft are parts that rotate at high speed. If the bolts and nuts are installed loosely and then fell scattered, it may cause accidents.

Furthermore, the employees also must understand about electricity due to the wires installation. It also may effect to driving safety that any mistake in wires installation may lead to fire. Those examples and some others, require the employees to be accurate in doing trimming process. After trimming process, the product will be forwarded to Quality Inspection. If the product does not pass the inspection due to defects found, then it will be sent back to trimming department to be repaired.

There is touch up trimming process that is function to repair the product rejected from Quality Inspection because it is defective product and does not fulfill the spesification. After being repaired in touch up trimming process, the product will be sent back to Quality Inspection. If the product still be rejected, it means the defective product can not be repaired in touch up trimming process. So, the product will be sent back to trimming department to be repaired in pre delivery trimming process. After being repaired in pre delivery trimming process the product will be sent back to Quality Inspection to be checked again.

3.4. Production Facilities

Production facilities is are facilities that are provided in production floor. The facilities are divided into facilities in production departments and transportation facilities in production floor.

3.4.1. Facilities in Production Departments

Facilities in production departments are divided into facilities in welding process, painting process, and trimming process.

a. Welding Department

Facilities in welding department are tools that are used in welding process. Below are the tools and their functions.

Table 3.6. Tools of Welding Process

Tool	Function
Jig	Hold the product being welded
Spot welding tool	Weld/spot certain parts whose distance and number have been determined according to SOP

Continued from Table 3.6.

Tool	Function
Acyteline welding tool	Weld certain parts that have been determined according to SOP
CO ₂ welding tool	Weld certain parts that have been determined according to SOP
½ kg rubber hammer	Set the door
Impact wrench	Tighten the bolt
Limited wrench	Measure bolt tightening
Polisher	Metal finishing
Grinder	Metal finishing
Sander	Metal finishing
Sharpener	Sharpen welding tip
Welding machine (hung)	Welding

b. Painting Department

Facilities in painting department are tools that are used in painting process.

Below are the tools and their functions.

Table 3.7. Tools of Painting Process

Tool	Function
Air gun	Before pretreatment (air blow/ tackrag process)
Tackrag duster	
Brush/sealing gun	Sealing
Sealing tube	
Sander polisher/rotary sander	Sanding (big damage)
Rubber block sanding/sanding paper	Sanding (little damage)

Continued from Table 3.7.

Tool	Function
Spray gun	Top coat
Cutter	Touch up
Crysta block	

c. Trimming Department

Facilities in trimming department are tools that are used in trimming process. Below are the tools and their functions.

Table 3.8. Tools of Trimming Process

Tool	Function
Bolt and nut	Uniting components
Torque	Loosen and tighten bolt and nut
Electrical impact wrench	Loosen and tighten bolt and nut
Multi nut runner	Loosen and tighten bolt and nut
Torque wrench (limited wrench)	Determine and measure the firmness of the nut
Hose clamp	Binder to avoid leakage of liquids or air
Hammer	Nailing, fixing, destroying, and forging metal
Plier	Cutting metal
Spanner	Loosen and tighten bolt and nut
Pin locator	Locate the part and fit it with machined holes

3.4.2. Transportation Facilities

Below are some transportation facilities that are used to deliver materials, parts or components, and tools from one place to other place in production floor:

a. Trolley

Trolley is used to deliver materials, components, or parts in short distance. Trolley is pushed by operators in production floor.

b. Forklift

Forklift is used to deliver materials, components, or parts in short distance. Forklift is powered by machine and operated by operators in production floor.

c. Towing car

Towing car is used to deliver materials, components, or parts in short distance. As forklift, towing car is also powered by machine and operated by operators in production floor.

d. Kitting box

Kitting box is used to place tools, materials, small components, and small parts. In PT Krama Yudha Ratu Motor, there has been designed rail for the kitting boxes to ease the movement of kitting boxes and sort out the transportation system.

e. Hoist

Hoist is used to lift cabin body of the product (vehicle) and deliver it in short distance. Hoist hung on a deigned rail.

CHAPTER 4

INDUSTRIAL PRACTICE ASSIGNMENT

In this chapter, there will be explanation about scope, responsibility and authority, methodology used, and the result of industrial practice assignment.

4.1. Assignment Scope

During the activity of industrial practice in PT Krama Yudha Ratu Motor, author was placed in Quality Control Department. Quality Control Department in PT Krama Yudha Ratu Motor is divided into three sections that are Quality Inspection, Quality Assurance, and ISO Team. Quality Inspection does inspection to the final products. While, Quality Assurance does inspection to the materials that are used in the production process. In other word, Quality Inspection is focused on the products, while Quality Assurance is focused on the process. Other than that, ISO Team is responsible for ISO implementation and certification.

The author's assignment is to collect information about the aspects of Quality Control Department including the organizational structure, the activity, the tools used, and the kinds of defect found. The author complete the assignment by doing observation, interview, and collecting additional information from secondary data collection ie internet and company's data. However, most company's data in form of documents are restricted to be published such as checksheet and learning modules, author was only allowed to study them to collect additional information. Furthermore, according to the discipline of PT Krama Yudha Ratu Motor, author is not allowed to take any picture related to process running in PT Krama Yudha Ratu Motor.

The author was supervised by Mr Suryadi as the Quality Assurance Section Head. In collecting informations for the observation, the author was helped by Mr M Teguh Santoso as Quality Assurance Regular Sub Section (Foreman), Mr AA Abidin as Quality Inspection Regular Unit Head, Mr Janur Muhamad Ridwan as one of Quality Inspection Regular Member, and Mr Suryadi as Quality Assurance Regular Member.

4.2. Responsibilities and Authorities in the Assignment

Responsibilities and authorities of author during industrial practice in PT Krama Yudha Ratu Motor are as follows:

- a. Obey the discipline of PT Krama Yudha Ratu Motor
- b. Collecting information of Quality Control Department organizational structure by doing observation, interview, and search secondary data collection.
- c. Collecting information of activity of Quality Control Department by doing observation and interview.
- d. Collecting information of tools used in quality control activity by doing observation and interview.
- e. Collecting information of defect kinds found in quality control activity by doing observation and interview.
- f. Composing observation result.

4.3. Methodology Used to Complete the Assignment

Methods used in completing the assignment are as follows:

4.3.1. Observation

Observation is an activity to collect information that is done by directly watching the aspect whose information is needed, and writing the result. To complete the assignment, author did the observation in Quality Control Department and write the result.

4.3.2. Interview

Interview is an activity to collect information by asking trusted person or people to provide actual information and documenting the answers by writing or recording. To complete the assignment, author did the interview by directly asking some Quality Control Department member and write the answers.

4.3.3. Secondary Data Collection

Secondary data collection is an activity to collect additional information by searching from internet, company's data, and book. To complete the assignment, author collect additional information from internet and the company's data.

The steps to complete the assignment using methods above are served in flowchart below.

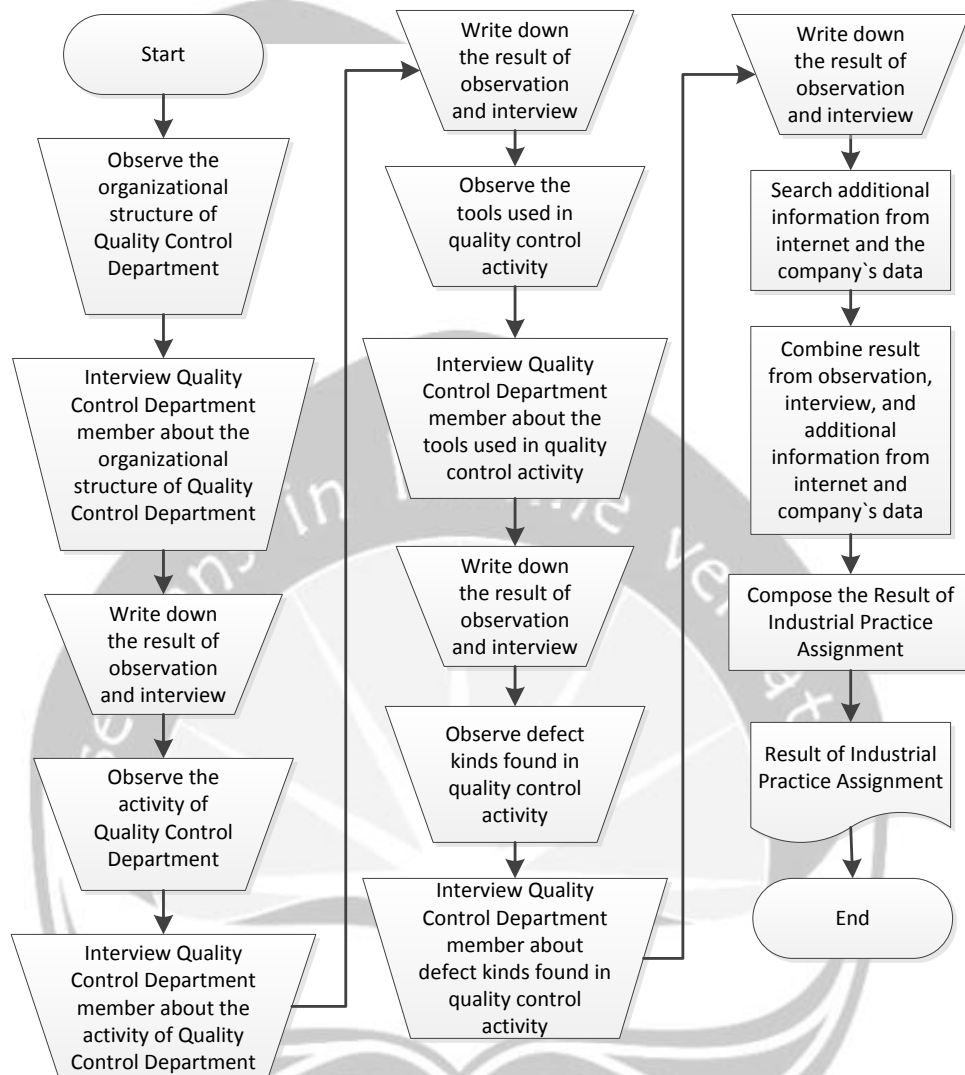


Figure 4.1. Flowchart of Steps to Complete The Assignment

The steps to complete the assignment are as follows:

- a. The organizational structure of Quality Control Department is observed by putting attention to the flow of information in the ongoing process in Quality Control Department
- b. Quality Control Department members are interviewed to get additional information and clarification about the information from previous observation
- c. The result of the observation and interview is written in author's personal note
- d. The process of quality control activity is observed by putting attention to the steps of the ongoing process in Quality Control Department

- e. Quality Control Department members are interviewed to get additional information and clarification about the information from previous observation
- f. The result of the observation and interview is written in author's personal note
- g. The tools used in quality control activity are observed by putting attention to the tools used in the ongoing process in Quality Control Department
- h. Quality Control Department members are interviewed to get additional information and clarification about the information from previous observation
- i. The result of the observation and interview is written in author's personal note
- j. The defect kinds found in quality control activity are observed by putting attention to the defective found in Quality Inspection
- k. Quality Control Department members are interviewed to get additional information about the tools used in Quality Assurance and ISO Team and clarification about the information from previous observation
- l. The result of the observation and interview is written in author's personal note
- m. Additional informations are searched and collected from the company's data and internet
- n. All the result from author's personal note, company's data, and internet are combined
- o. The result of the assignment are composed in industrial practice report
- p. The output of the assignment is result of industrial practice assignment.

4.4. Result of Industrial Practice Assignment

Result of industrial practice assignment are organizational structure of Quality Control Department, process in quality control activity, tools used in quality control activity, and defects found in quality control activity.

4.4.1. Quality Control Department Organizational Structure

The organizational structure of Quality Control Department consists of some level of work as served in the figure below.

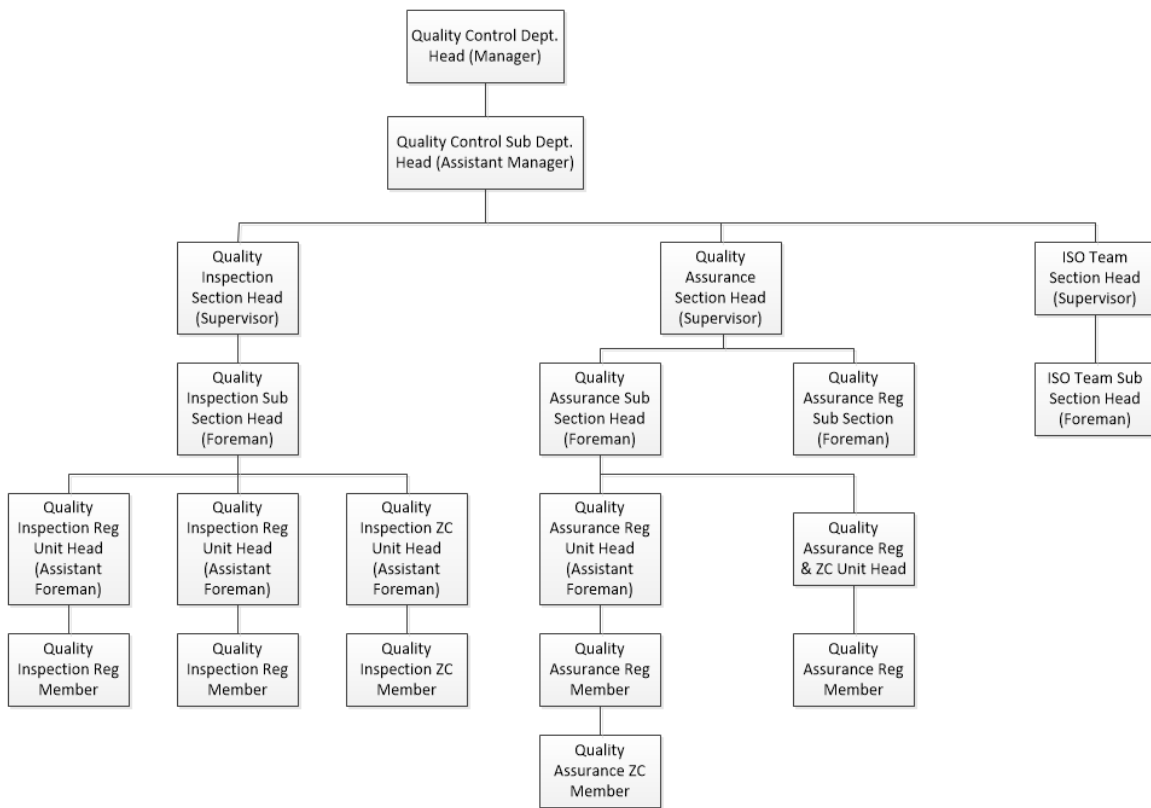


Figure 4.2. Quality Control Department Organizational Structure

The responsibilities of members of Quality Control Department Organizational Structure are as follows:

- a. Quality Control Department Head (Manager) has fully responsible to manage Quality Control Department.
- b. Quality Control Sub Department (Assistant Manager) is responsible to assist the Manager in managing Quality Control Department.
- c. Quality Inspection, Quality Assurance, and ISO Team Section Head (Supervisor) are responsible to supervise the foremen, operator in the area, and responsible to report any accident to the Manager.
- d. Quality Inspection, Quality Assurance, and ISO Team Sub Section Head (Foreman) are responsible to monitor the operators and report any accident to the Supervisor.
- e. Quality Inspection and Quality Assurance Regular Unit Head (Assistant Foreman) are responsible to assist the Foreman in monitoring the operators.
- f. Quality Inspection and Quality Assurance Regular Member (Operator) are responsible to directly operate the quality control activity.

4.4.2. The Activity of Quality Control Department

The activity of Quality Control Department is divided into activity of Quality Inspection, Quality Assurance, and ISO Team.

a. Activity of Quality Inspection

Activity of Quality Inspection consists of some steps of process. Below are steps taken in Quality Inspection.

1) Line Off

Line off is the first step in Quality Inspection to check the product's exterior items such as seat installation, glass, steering wheel, horn, brake pedal, fluid tank, lamp, wiring cabin, door, etc. Beside the exterior items, in line off, the engine room items are also checked such as engine number, engine, radiator and hose, axle, air cleaner, air tank, battery, tire and wheel, cabin hook, etc.

2) Under Check

Under check is the step to check the product's under side items such as turning radius, under floor, axle, engine, radiator, muffler, wiring, air tube (piping), etc.

3) Tester

In tester, the inspection operator doing test to the product. The items checked are side slip, lamp on-off, speedometer, tire, brake, etc. After tester, there is decision making process if the product fulfills the specification or not. If the product fulfills the specification, it will be forwarded to touch up inspection. If the product does not fulfill the specification, it will be sent back to Trimming Department to be repaired in touch up trimming process. The product that has been repaired in touch up trimming process in Trimming Department will be sent back to Quality Inspection to be checked again.

4) Touch Up Inspection

In touch up inspection, the product that has been repaired in touch up trimming process in Trimming Department and the product that fulfill the specification from tester are checked again. After this step there is also decision making if the product fulfills the specification or not. If it fulfills the specification then it will be forwarded directly to running test. But, if it does not fulfill the specification then it will be sent back to Trimming Department to be repaired in pre delivery trimming process. The product that has been

repaired in pre delivery trimming process in Trimming Department will be sent back to Quality Inspection to be checked again.

5) Pre Delivery Inspection

This step is focused on checking the product that has been repaired in pre delivery trimming process in Trimming Department. After this step, the product is forwarded to running test.

6) Running Test

In running test, the inspection operator doing test to the product by running the product in running test area. The items that are checked are driver seat condition, teering wheel, brake vacuum, noise, pedal, transmission control, speedometer, etc. After this step, the product is ready to be delivered to customer.

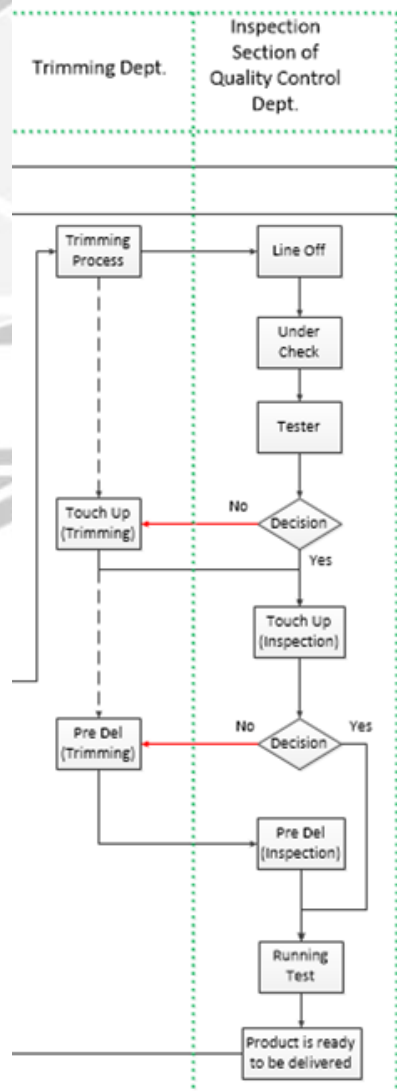


Figure 4.3. Steps of Quality Inspection

b. Activity of Quality Assurance

Quality Assurance members are divided into production process (welding, painting, trimming). They check the materials used in the production process to make sure the materials are qualified to be used. For example in painting process, Quality Assurance take sample of the paint to be checked. The aspects of the paint checked are the resistance, viscosity, contamination, acidity, ash content, temperature, colour, liquid level, etc. Quality Assurance also process statistical data to check any quality improvement or reduction of the data sourced from the samples taken.

c. Activity of ISO Team

PT Krama Yudha Ratu Motor controls its quality management system with reference to ISO 9001:2008 and ISO 14001:2004 with its main subject is assembly of four wheeled motor vehicle. ISO Team members put their focus on ISO implementation and certification in the company. ISO Team interact directly and transfer knowledge with ISO consultants and allocate time and attention to the progress of the company in ISO implementation to achieve ISO certificate in accordance with the planned time and scope.

4.4.3. Tools Used In Quality Control Activity

Tools used in quality control activity are divided into tools used by Quality Inspection, Quality Assurance, and ISO Team.

a. Tools Used by Quality Inspection

Checksheet is an important tool in Quality Inspection because it shows the condition of the product according to the specification written in it. Checksheet will be forwarded from one step into next step of Quality Inspection. Beside checksheet, other tools used in Quality Inspection are divided in the steps below:

1) Line Off

Tool used in line off is special hammer made of steel. This hammer is used to knock some metal parts to check the strength of the parts.

2) Under Check

Tool used in under check is brush to mark some defective parts of the under side of the product.

3) Tester

Tools used in tester are:

- a) Turning radius table: measure the angle of tire turn.
- b) Side slip tester: measure the tire slop.

- c) Brake tester: measure braking force
- d) Speed tester: measure speed
- 4) Touch Up Inspection
Tool used in touch up inspection is checksheet to check the previous condition of the product and the reparation done.
- 5) Pre Delivery Inspection.
Tool used in pre delivery inspection is checksheet to check the previous condition of the product and the reparation done.
- 7) Running Test
Tools used in running test are:
 - a) Torque meter: tighten the steering wheel.
 - b) Shower tester: check if there is any water leakage
 - c) Brake tester: measure braking force
 - d) Noise tester: check the noise

b. Tools used by Quality Assurance

Tools used in Quality Assurance are tools to check the quality of materials used in production process. For example in painting, the tools that are used by Quality Assurance to check the paint quality are chemical tools such as rubber sucker volumetric pipette, erlenmeyer tube, stative and clamp, saccharometer, resistance meter, etc.

Other than that, Quality Assurance also use statistical data tools such as pareto diagram, fishbone diagram, check sheet, histogram, graph, control chart, and scatter diagram. Those statistical tools support Quality Assurance to process statistical data to check any improvement or reduction of quality.

c. Tools Used by ISO Team

Tools used in ISO Team are documents such as quality management system documentation, ISO document and certificate, check list, form, etc.

4.4.4. Defect Kinds Found In Quality Control Activity

Defective materials are found by Quality Assurance. While, defective products are found by Quality Inspection. Defective materials means that the materials are not qualified to be used in production process. For example in painting process, defective materials because of defects found in the paint such as unbalance resistance, weak viscosity, excessive contamination, excessive acidity, excessive ash content, unsuitable temperature, unsuitable colour, unbalance liquid level, etc.

While, defective products means the products are not qualified to be sent to customers because they do not fulfill the specification. The products called defective products because they have defects or incompatibilities. The examples of defects in products are leakage of oil or gas, damage in piping, bolt and nut are not tightly coupled, etc.

Then, checksheet is very useful for Quality Inspection to show what defects are found in each step based on the specification written in it.



CHAPTER 5

CLOSING REMARK

The report entitled “Industrial Practice Report At PT Krama Yudha Ratu Motor” is composed to serve information including result of industrial practice activity that author has done. Author hopes that the information in this report can be useful for the readers who want to add their knowledge or do research according to industrial practice.

Appreciation and gratitude are conveyed to many parties who has supported author in completing the industrial practice, from the plan of industrial practice until industrial practice report making.

Finally, author apologize for any mistake ini this report. Critics and advices will be accepted for the improvement.



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Attachments




Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa, 19-12-2017	13.00-16.20	Menyicil laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

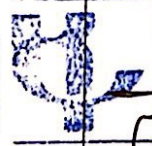
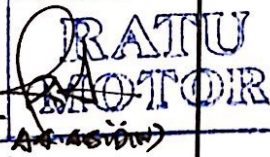
Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 20-12-2017	13.00-16.20	Mengumpulkan data untuk bahan laporan dengan bertanya-tanya pada petugas inspeksi	

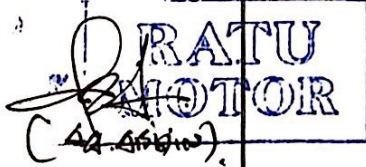
Catatan penting harian:

Catatan dari pembimbing lapangan:



Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 21-12-2017	13.00-16.20	Menyicil laporan	  RATU MOTOR (Asisten)
Catatan penting harian:				
Catatan dari pembimbing lapangan:				


Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 22-12-2017	13.00-16.20	Mengumpulkan data untuk bahan laporan dengan bertanya-tanya pada petugas inspeksi	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 3-1-2018	13.00-14.00	Penjelasan tata tertib untuk kegiatan Praktek Kerja Lapangan di bulan Januari 2018	 (A. Asriani)
		14.15-16.20	Menyicil laporan	 (A. Asriani)
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

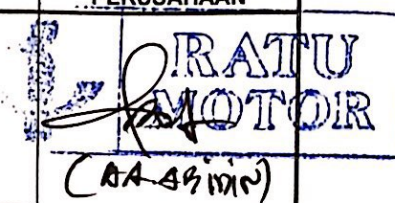
Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 4-1-2018	13.00-16.20	Menyicil Laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

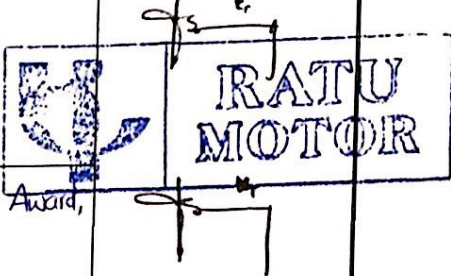
Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa, 9-1-2018	13.00-16.20	Menyicil laporan	 RATU MOTOR (AA 491112)

Catatan penting harian:

Catatan dari pembimbing lapangan:


**Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang**

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 12-1-2018	13.00-16.00	Menyicil laporan	
		16.00-16.20	Mengambil foto poster Kaizen Award, Safety and Health Activities.	




Catatan penting harian:

Catatan dari pembimbing lapangan:

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL
	Selasa, 16-1-2018	13.00-16.20	Menyicil laporan	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				


Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Rabu, 17-1-2018	13.00-14.00	Menyusun proes bimis	
		14.00-16.20	Menyicil laporan	 

Catatan penting harian:

Catatan dari pembimbing lapangan:


**Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang**

NO.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 18-1-2018	13.00-16.20	Menyicil laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

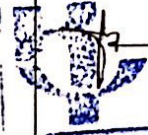
Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Senin, 22-1-2018	13.00-16.20	Menyicil laporan	

Catatan penting harian:

Catatan dari pembimbing lapangan:

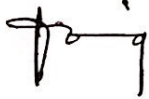

Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Kamis, 25-1-2018	13.00-16.20	Menyicil laporan	 Ratu MOTOR

Catatan penting harian:

Catatan dari pembimbing lapangan:


Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta Catatan Harian Pelaksanaan Kerja Praktek/ Magang

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Jumat, 26-1-2018	13.00-16.20	Menyicil laporan	
16.00-16.20		Mempelajari ketengakerjaan		

Catatan penting harian:

Catatan dari pembimbing lapangan:

**Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta
Catatan Harian Pelaksanaan Kerja Praktek/ Magang**

No.	HARI, TANGGAL	JAM	KEGIATAN	TANDA TANGAN & STEMPEL PERUSAHAAN
	Selasa, 30-1-2018	13.00-16.20	Menyicil laporan	
Catatan penting harian:				
Catatan dari pembimbing lapangan:				

