

## FAMILIARIZATION WITH WORKSHOP

The word workshop is a combination of two separate words work and shop. Regarding work Mr. Webster says, "work is a physical or intellectual effort directed to some end. Either one, physical effort or intellectual effort taken alone is drudgery, properly combined then produce enthusiasm."

Shop directs us to place where this work is being properly utilized. So in short, we can say workshop is a place where physical or intellectual effort gets proper utilization.

Every engineer is in one way or other associated with workshop, whether he may be civil, mechanical, electrical or of any other branch.

Here it is very important to be familiar with workshop. In large to be familiar means to know :

- (1) Some basic types of workshops.
- (2) Types of work carried out.
- (3) Various departments in workshop and this will give general idea of duty expected from the concerned engineer.

We will give some idea of the following basic types of workshops :

- (1) Training workshop and
- (2) Production workshop.

**(1) TRAINING WORKSHOP :** Ours is a training workshop, where boys, students or persons are being trained.

We have following department in this workshop :

**(A) Carpentry and Pattern Shop :**

Here we can know about, various tools useful for working on wood, types of wood and in detail. The suitability of wood for a job, different kinds of joints of wood. How to make a pattern, various kinds of pattern, what is its use. etc.

**(B) Fitting Shop:**

Along with this various hand tools to work on metal, this shop will develop a skill to make a part fit with another.

This skill is very essential, as working with help of machines is not every time suitable for this of work.

**(C) Forging or Smithy Shop :**

This is a place where a work piece is heated and forged to obtain the required shape and size. We study the various tools and equipment's, process and technique for the same.

**(2) FOUNDRY SHOP:**

Here the pattern is moulded, after preparing the mould in sand; the molten metal is poured to obtain required casting. To know in details, we need to learn types of pattern; the processes to mould them, cores for obtaining hollow castings. The various process to prepare them. Sand its varieties and quality for preparing mould and various techniques of testing above things. Which can lead to make a good casting.

**(1) Machine Shop :**

Here we can see basic types of machines such as lathe, drilling machine, hacksaw machine etc. We learn the basic processes for metal removal.

## (2) Production Workshop :

The environment of production workshop is full of activities. You can see the workman doing his work. He may be

- (a) Working himself.
- (b) Observing the work.
- (c) Guiding the workmen.
- (d) Transporting the work to be done.
- (e) Transporting the work to other places for other processes to conduct.
- (f) Supervising the work.

In short, every one concentrating to the assigned work. All these will remain continuous, smooth running if everything goes all right i.e. enough work, enough supply of material, enough enthusiasm etc.

It has an administrative office, which firstly control the planning, purchase, sales & accounts etc.

It has a further drawing and design office, which will design and make the necessary drawings, choose material, make necessary specifications, select the process and material so that its cost is minimized.

After this the work material is sent to concerned shops or departments in workshop where it is produced. It is then inspected for dimension or tested as the case may be; finally various parts are assembled to make the work.

- (3) Similarly people can distinguish some workshop as fabrication workshop or repair and maintenance workshop. Where fabrication of structure work or repair and maintenance work is carried out.

From above discussion an engineer must try to learn in workshop training.

- (1) Various workshop procedures used for changing the shape of material, various processes used, joining assembling of different parts etc.
- (2) Understand the general routine procedure in the workshop, such as allotment of work, material inspection, reporting of faults, first aid and reporting of causality etc.

Majority of engineers are engaged in workshop on shop floor. The following points will help in achieving a successful career.

- (a) Ability to lead, guide and control the group of persons, and take decision without confusion.
- (b) Shop disciplines; such as carrying out orders and instruction, punctuality of yours and your subordinates etc.
- (c) Sense of cleanliness.
- (d) Cost-sense, that is reducing the cost wherever possible.
- (e) Safety consciousness, what factors will lead to safety of personal, equipments or both ?

## Quiz-1

Answer the following briefly :

- 1. Classify types of workshops along with major activities performed in them.
- 2. After visiting your workshop enlist different types of shops it has.
- 3. Enlist different types of machines you have seen in your workshop.
- 4. Write down the points an engineer should consider for achieving successive career?
- 5. What an engineer tries to learn in workshop training?
  - (a) Fitting Shop
  - (b) Carpentry Shop
  - (c) Smithy Shop
- 6. Draw the layout of carpentry and pattern making shops along with positions of different kinds of machines, instructors place etc.

Start answering from only: