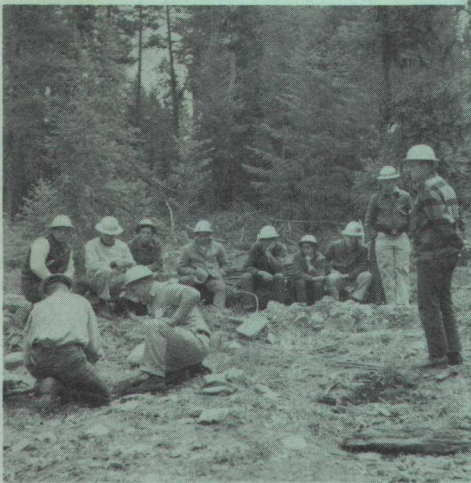


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FOREMANSHIP



F O R E M A N S H I P

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CONTENTS

1. INTRODUCTION - - - - -	1
2. THE FOREMAN'S DUTIES, RESPONSIBILITIES AND AUTHORITY - - - -	2
3. ACCIDENT PREVENTION - - - - -	3
4. FIRST AID- - - - -	6
5. STANDARDS- - - - -	7
6. PLANNING - - - - -	9
7. ORGANIZING - - - - -	14
8. JOB AND SAFETY TRAINING - - - - -	17
9. FIRE SUPPRESSION TRAINING IN REGION 6 - - - - -	28
10. JOB RELATIONS - - - - -	29
11. LEADERSHIP - - - - -	33
12. CREW WELFARE - - - - -	35
13. WORK IMPROVEMENT - - - - -	36
14. DAILY SUPERVISION - - - - -	45
15. COMMUNITY RELATIONS - - - - -	47
16. FOREST SERVICE (GOVT.) PROPERTY - - - - -	49
17. RECORDS AND REPORTS- - - - -	50

INTRODUCTION

Men are not machines. Machinery has and will continue to increase production, provided too much attention is not given to the machines and too little to the men. When the plans are all made and the financing is assured, it's the foreman and his crew who do the work. They are the men who run the machines to build the roads - who plant the trees and build the fences. The fire boss is responsible for suppressing the fire, but it's the foreman and his crew who dig the fire line and fall the snags.

A foreman in the Forest Service holds an important job, and incidentally the man we have in mind may be called a project leader, a chief of party or a crew boss. Plans for practically all types of project work are turned over to him to be carried out on the ground. He is responsible for getting acceptable production with safety - for getting the most out of each dollar - for figuring out improved ways of doing the job. The attainment of these objectives is largely dependent on the quality of supervision provided by the foreman. To members of the crew he represents the Forest Service. To officials of the Forest Service, the foreman represents the crew.

* When a skilled workman or a technically trained man is promoted to a foreman, he finds his job is quite different than formerly. Instead of doing the job himself it is done by the members of his crew. There are exceptions, of course. For example, a foreman in charge of a small crew of experienced men will do considerable work himself after the job is lined out. As the size and inexperience of the crew increases practically all of the foreman's time should be spent on planning ahead, training, watching for and eliminating hazards, and supervising the work of his men. In emergencies, or on a "tricky" job he may step in and help out for a short period of time.

* In general, a foreman is rated by the amount of acceptable work he and his crew produces - by the way he handles his crew, his crew safety record, and the crew member's feelings toward him and the Forest Service - and not by the amount of work he does himself.

* A first-class foreman has two outstanding qualifications. (1) He knows how to do the job, or he finds out how to do it ahead of the time it is to be done. (2) He knows how to deal with and train people. These important qualities can be learned by study, and experience on the job. The material on the pages which follow has been prepared as an aid to training Forest Service foremen. Following initial training, it may be used by them as a reference for continued self-training.

FOREMAN'S DUTIES, RESPONSIBILITIES, AND AUTHORITY

* Responsibility means to be held accountable for something. For example, your boss may tell you to make sure that the machinery on your job is properly lubricated. This is a responsibility.

Duties are jobs given to us to perform. We personally do the job. One of the duties of the tractor operator is to lubricate his tractor.

When a foreman is instructed to provide adequate fire protection for his camp, and to personally inspect it once a week, he has a combination of responsibility and duty. His responsibility is to provide fire protection. His duty is to personally make sure it is in working order.

A foreman has many responsibilities. His more important ones usually are covered in his written job description. Others will be contained in work plans. All of them cannot be covered specifically and the rule of reason must apply. Some will be given to him orally by his boss. Still other responsibilities are considered to be a part of the job.

A foreman's first job--and the one which will keep him out of lots of trouble and misunderstanding--is to find out what his main responsibilities are. Remember, a first rate foreman will take on certain responsibilities without always being told. He wants to get the job done and he does not "pass the buck" by assuming borderline responsibilities are the other fellow's worries.

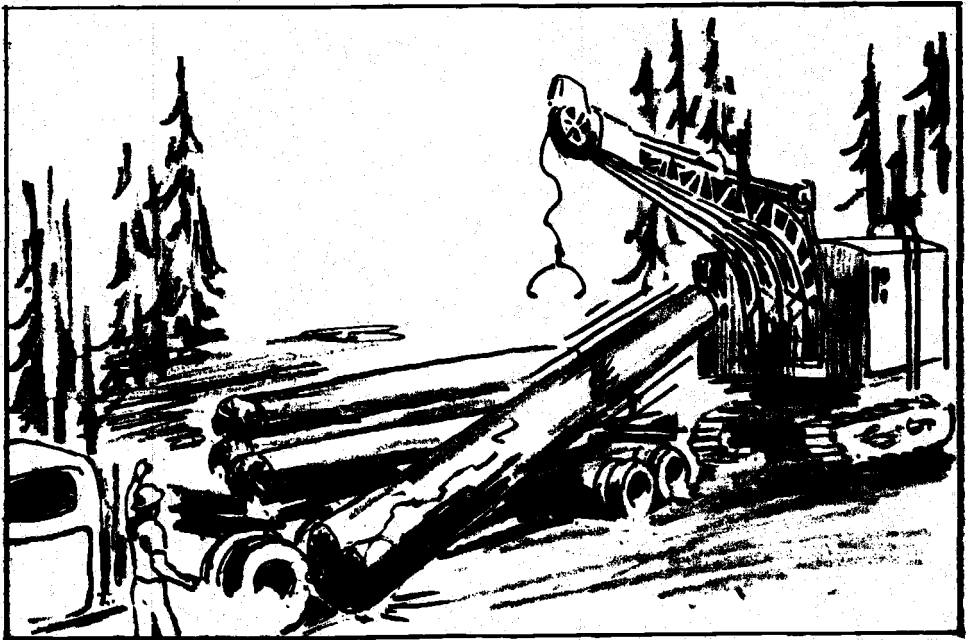
* Authority is the privilege of making decisions or taking action without advance approval of the boss. A foreman's job automatically carries the authority to direct the work of his crew. As a rule foremen are expected to carry out a job in accordance with written plans or specifications. Sometimes instructions on how to do the job will be oral. In either case, foremen should be very careful about changing plans unless a definite understanding regarding changes has been reached between him and his boss.

Generally, your boss will personally go over the job with you before it is started; or, if he cannot do this he will talk it over with you. At this time changes in plans or specifications, if necessary, will be agreed upon.

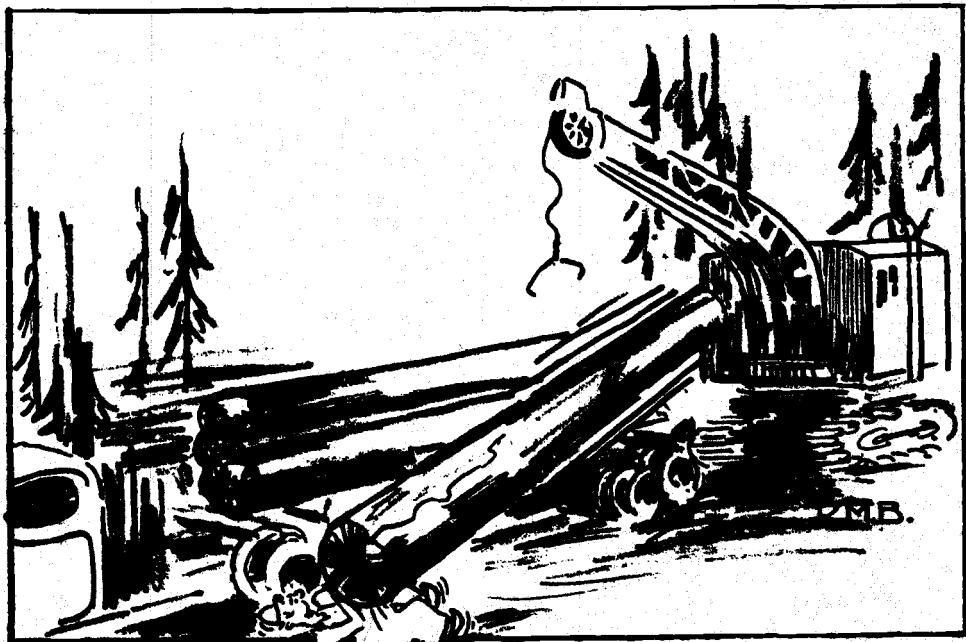
By this time you are thinking: "What do I do in an emergency when I cannot get in touch with the boss?" There is only one answer--'USE YOUR BEST JUDGMENT AND DO SOMETHING.'

The amount of authority given to a foreman will usually depend on his experience, judgment, and the kind of work being done. The important thing is to know what authority you have, and to use it wisely.

WHAT IS AN ACCIDENT ?



THIS? →



OR THIS! →

FIG. 1

ACCIDENT PREVENTION

Accidents are costly to both the injured person and the Government. When a man is killed there is no way of adequately compensating the family for the loss of a father or a son. A personal injury results in an average of 29 days of lost time. There is always the danger of an accident crippling a man for life.

The Government pays a high price for accidents. Compensation payments to the family in case of death in line of duty will average \$12,000. The direct and indirect cost of a personal injury is about \$700. It costs anywhere from \$1,000 to \$100,000 to replace a building and contents lost by fire - if the money is available. Motor vehicles or other heavy equipment damaged in an accident are not repaired for much less than \$50.00 and the bill for major repairs may be several hundred dollars. Accidents of any kind, even though they do not result in personal injuries, slow up the job. They cost money. They hurt the foreman's reputation.

The regrettable feature about all accidents is that 95 out of every 100 could have been prevented. Somewhere along the line there was a failure in planning, training, or supervision. In some cases the injured person took an unnecessary chance, or his mind was not on his work and the unexpected happened.

What is An Accident?

We are inclined to think that an accident is an occurrence that results in a personal injury or damage of some nature. Actually, an accident is any unexpected happening when something goes wrong and in many cases no one is hurt, or damage done. The following are examples of accidents:

1. While driving over paved highway the driver's attention is distracted a few seconds. Suddenly he realizes the right wheels of the vehicle are off the pavement. He slows down and carefully pulls back on the pavement. Nothing happened but nevertheless he had an accident. Running off the pavement was not planned and it was unexpected. Many accidents of this kind have ended up in damage to vehicles, collisions, and personal injury.

2. In using an axe it is highly important to control the direction and force of the blow. If wet leather gloves, a frosty handle, overhanging limbs, or other reasons cause you to lose control of the swing and the axe gets out of control you have had an accident. Loss of control, or poor judgment in how hard to swing, sooner or later results in an axe cut.

3. Falls are accidents. Some falls result in minor injuries, others may be serious, or fatal.

You will think of many other types of accidents. The important thing to keep in mind is that an injury is the result of an accident. Eliminate accidents and you stop injuries.

Ratio between Accidents and Injuries

Study of accident records discloses that out of 330 like-accidents you will have 30 personal injuries. One will be serious or fatal and 29 will be minor injuries. No one has figured out yet which accident will result in an injury. So the key to preventing personal injuries and property damage is to prevent accidents - or to set up safeguards that will prevent accidents from producing injuries. This can be done - not 100% but close to it. Let's consider a few examples of how it is done.

Examples of How Accidents are Avoided

1. How does the driver of a delivery truck drive a half million miles or more without an accident? First of all he keeps his truck in first-class condition. He checks it at least daily. He picks routes of least traffic congestion. He does not back up his truck until he is sure the space behind the truck is clear. He knows and obeys traffic regulations. He avoids driving his way out of a tight situation - he STOPS and sizes it up first. He figures the other driver may do the wrong thing. He keeps his mind on his driving every second.

2. The good axeman keeps his axe sharp. He checks the handle to make sure it is not loose in the head. He clears away limbs and brush that might catch his axe. He sizes up the point where the cut is to be made. He gets a good footing to keep his balance. His first swing or two are trial blows. He uses the proper angle of cut to prevent glancing. He swings away from his legs and feet. He keeps his mind on his job.

3. A real woodsman seldom falls down. He wears proper foot gear. He does not jump off a log unless he can see where he will land. He is wise to slippery rocks and loose bark. He watches his footing and seldom gets caught off guard.

4. Some types of accidents or hazards cannot be reduced or prevented. For example, in bridge construction it can be expected that someone may lose his balance and fall. Life nets are stretched under the bridge to catch the man and prevent an injury if he should fall. In other words, you may not be able to prevent the fall (the accident) but be taking adequate precautions you can prevent injury.

The same general idea is used when breaking rock--you cannot prevent particles of rock from flying but the use of goggles will prevent an eye injury. Dust around a rock crusher, or fumes in a paint room, cannot be eliminated but the use of a respirator will prevent inhaling dust and fumes.

Accident Prevention Plan

The forest supervisor, district ranger or shop superintendent has an action plan for accident prevention on his unit. The foreman's part in this plan is usually covered in his written instructions and discussed firsthand.

Foremen are generally given a copy of the "Forest Service Safety Code." These rules or standards are based on long experience and should be followed. If you should find a rule which you think is not workable, suggest to your supervisor what change should be made. Until it is changed, it is good practice to abide by the rules.

There are three general types of men in most crews:

1. The green men who have no fixed work habits—neither good nor bad.
2. The older man who may have some strong ideas on how things should be done.
3. The experienced man who is a good worker but who may have some unsafe work habits.

Each type of man will require a somewhat different approach.

When a crew is first assembled and before they go to work, the foreman should tell them (in his own words) that the Forest Service wants to prevent accidents. Personal injuries cause suffering and loss of time and money to the injured person. Injuries slow up the job and cost the Government money. Explain that you will show inexperienced men how to do their work safely. In the case of experienced men, it may be necessary to explain to them there are several ways to do a job, that their way may be all right, but ask them to cooperate by doing the job in accordance with established procedure.

If a man cannot or will not work safely, and there is no job which he can do safely, the foreman should recommend his transfer or discharge. A good foreman will:

1. Not keep a man on his crew whose physical or mental condition makes him a hazard to himself or others in the crew.
2. Always size up a job before work is started on it.
3. Spot the hazards involved and figure out how they can be eliminated, reduced, or controlled.
4. Make sure his crew is made aware of the hazards and has been trained in what to do about each one.
5. Train each member of his crew in the right way to do the job before putting him on that job.
6. Insist on safe practices being followed.
7. Set a good example.

FIRST AID

It is a well supported fact that generally persons who have been trained in First Aid are only half as likely to have disabling accidents as those who have had no First Aid.

Forest Service policy requires that every foreman or other person who supervises work must be qualified in First Aid. State laws, for example, Oregon and Washington, also make this requirement. Qualification assumes that a current First Aid card is held by the foreman, showing that a Red Cross or other acceptable first aid course has been passed within the preceding three years. A brief summary of injury types and First Aid treatment will be found in the Forest Service Safety Code.

First Aid kits and manuals should be a part of the equipment on every motor vehicle and for every work crew. The maintenance of these kits in clean usable condition is a responsibility of every foreman.

STANDARDS

TRAIL HANDBOOK

**SAFETY
CODE**

SIGN HANDBOOK

FIRE FIGHTING
OVERHEAD
NOTEBOOK

FIG. 2

STANDARDS

Standards have been set for almost all types of Forest Service work. Some standards under which we operate are established by an Act of Congress. For example, the way national forest timber must be sold. The Secretary of Agriculture issues regulations which govern the action of all bureaus in the Department. In effect, they are standards. The Chief of the Forest Service sets standards which apply to all regions. For example, the Chief's policy (or standard) in Fire Control is to "control every fire as soon as possible on the day discovered, or failing in this, not later than 10:00 a.m. on the day following discovery."

The regional forester, forest supervisor, and district ranger set certain standards within the limits of their responsibility. Here is one example of how the Chief's fire control policy is carried out in the region:

- (a) The regional forester's "getaway" standard for a smokechaser traveling by saddle horse is 5 minutes or less after he receives the fire report, locates the fire on his map, and receives his travel instructions.
- (b) The forest supervisor may set a forest standard requiring the smokechaser to keep his horse tied during periods of bad fire weather.
- (c) The district ranger may set a district standard requiring the smokechaser to have his horse saddled during certain hours on bad fire days.

The main reasons for standards are:

- 1. To enable administrative officers to establish and maintain necessary controls.
- 2. To control quality, quantity and cost of work.
- 3. To obtain desirable uniformity of action between regions, forests or ranger districts.
- 4. To best serve the public interest.

Standards on how to do a job are established only after long experience or after studies have been made to determine the best method. Standards are changed from time to time in light of new experiences, better methods, or on account of money available for the job. There is a good reason for every standard even though the reason may not always be apparent.

The Forest Service foreman is concerned with two types of standards:

- 1. Those which have to do with planning and people.
- 2. Job Standards. These are contained in handbooks such as the telephone handbook, Fire Fighting Overhead notebook, written specifications for Timber Stand Improvement or plans and specifications for a building. Once in awhile you may receive only oral instructions for doing a job--no written standards are available.

The following good practices will save the foreman and his boss a great deal of trouble and get better work done:

1. When a foreman learns he is going to be assigned to a job with which he is not thoroughly familiar, he should obtain and review, well in advance, the standards for the job. If any part of the standards are not clear to him, he should obtain additional information before starting the job.
2. When a foreman receives oral instructions for a job which is new to him, he should make a few notes or a sketch concerning it in his notebook. This gives him something definite to refer to later.
3. Standards do not cover every little detail on how to do a job. The Forest Service expects its foremen to use their judgment in figuring out how to get things done. Do not hesitate to ask questions on points that are not clear.
4. Occasionally there is not enough money to do the entire job up to standard. When this is the case, find out before starting the job what work must be done, and what work can be postponed.

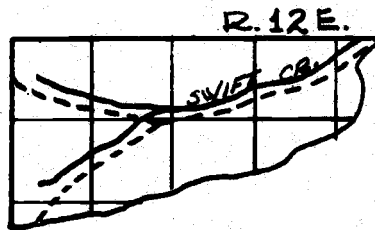
PLANNING

DETERMINE IN ADVANCE:

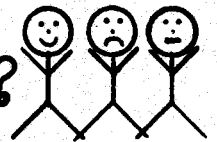
WHAT IS THE JOB ?

WHY IS THE JOB BEING DONE ?

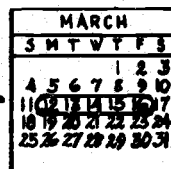
WHERE ?



WHO IS GOING TO DO THE JOB ?



WHEN ?



HOW ?

TRAIL HANDBOOK

COST CONTROL ? \$\$\$\$

FIG. 3

PLANNING

A foreman makes or carries out several kinds of plans.

- A mental plan for doing a simple job.
- A plan for the day's work.
- A road construction plan.
- A project plan.

Even the most simple job requires at least a mental plan. For example, before you start to repair a break in a telephone line you decide; what tools and materials will be needed; the quickest and best route of travel; can the job be done on the way to other work. On larger jobs an experienced foreman does not attempt to carry all the details of the action plan in his head. He makes reminder notes in a field notebook.

A plan will help a foreman to do a better job because:

- He will have all needed information in one place.
- It helps him to determine needs for the job; men, equipment, materials, training, safety precautions.
- It prevents wasted effort, high costs, misunderstandings, accidents, idle time, criticism.
- A crew has greater respect and will turn out more work for a foreman who knows how to keep the job moving.

It should be recognized that even the most carefully prepared working plan cannot always be carried out without some changes. It's better to revise a plan if necessary than not to have a plan at all.

How to Make a Work Plan

Six things, let's call them elements, should be taken into consideration when making a work plan. They are:

1. What is the job?
2. Why is the job being done?
3. Where is the job to be done?
4. Who is going to do it?
5. When should it be done?
6. How is the job to be done?

In most of our work the first five elements are usually self-evident. For example, if your boss tells you: "The culvert 1/8 mile west of mile post No. 5 on the Clear Creek Road is unsafe. Tomorrow morning take your crew and whatever equipment is needed and replace the culvert with a 36" galvanized iron culvert." These instructions cover what, why, where, who and when. Your planning job will be centered on how to do the job.

If, however, the boss should hurriedly tell you to replace the culvert on Clear Creek you would need more information before you could go ahead with the job. By obtaining needed information before starting the planning job, or starting the job, you will avoid misunderstandings and trouble. There is a good reason for considering each of the six elements listed above when making a working plan. Let's examine the reasons for each one.

1. WHAT. The first step in making a working plan is to know, or find out, what is to be done. As a rule, there is no question about it. The boss gives you plans and specifications for the job, or he tells you what he wants done. If your instructions on what to do involve several jobs, it's a good idea to get out your notebook and make a reminder list. If you are not sure of what's to be done, ask a few questions.

2. WHY. Strictly speaking we don't need to know why a job is being done in order to do it. But we can do a better job of planning if we know why a job is being done. Furthermore, the members of a crew will take more interest in doing the job and will produce more and better work if they know why it is being done.

3. WHERE. The location of where the job is to be done is usually clear. Mistakes with respect to location can be costly and embarrassing. Make sure ahead of time where the job is to be done.

4. WHO. The foreman is responsible for the work of his crew. He may delegate certain responsibilities to crew leaders or members and hold them responsible for results, but when this is done the foreman is finally responsible. We will go into this subject in more detail when we discuss "Organizing" and "Supervision".

5. WHEN to do the job does not present a problem in planning when the foreman is assigned just one job; for example, "piling slash" on right-of-way clearing, or "pruning trees". However, most Forest Service work consists of a series of jobs which should be performed in proper sequence. For example, the job of building a barbed wire fence involves brushing out, digging post holes, setting posts, stringing wire and so on. When the job is properly planned the holes are dug before the posts are distributed. The posts can then be unloaded from the truck alongside the holes. This eliminates carrying and extra handling.

Forest Service standards determine "when" certain jobs must be done. In order to assure prompt aggressive action on fires, Fire Control has established certain standards, i.e.,

(a) The get-away time when taking initial action on a fire is three minutes when traveling on foot or by car, after recording information on the location of fire and receiving travel instructions.

(b) The fire boss is expected to have his fire crews on the fire line ready to go to work at daybreak.

Interruptions.

There is a lot of satisfaction in carrying through a job to completion as planned. But occasionally something occurs to interrupt plans. A man quits, a piece of machinery breaks down, or materials are not delivered on schedule. The wise foreman anticipates certain interruptions and in the back of his mind he has an alternate plan which he can put into effect on short notice. His men are not standing around waiting for the foreman to figure out what to do next.

Job Completion.

Another part of planning is to estimate when a job will be finished. This is especially important to the foreman in charge of two or more small crews or a scattered crew where he cannot be with all of the men all the time. In cases of this kind the foreman tells his crew leaders or experienced men what job to do next and such other information as may be needed. Failure to do this is the main reason for men standing around waiting for the foreman to show up.

Looking Ahead.

The old saying of "I'll cross the bridge when I get to it" does not apply to planning the job. The time to plan the job is before you start work on it—think out today what you are going to do tomorrow and next week. Keep several jumps ahead.

6. HOW to do the job is the final and most important step in planning. It involves consideration of the following:

- a. Working plans and specifications
- b. Materials
- c. Equipment
- d. Crew
- e. Hazards
- f. Cost

The following will illustrate the application of the above listed points in planning for the construction of a log stringer bridge:

(a) Working plans and specifications: Check to determine just how the job is to be done. Are the plans complete or is additional information needed? Are you familiar with construction problems involved, or will you need some help?

(b) Materials. When materials for the job have been delivered it's a good idea to check them against specifications and to be sure no items are missing. In some cases the foreman will be expected to make a list of materials needed. Should all materials be on hand before the job is started? Or should certain items be delivered at specified times as the job progresses? Another part of the planning job may be to locate the trees to be felled for the bridge stringers and to figure out how to get them to the site.

(c) Equipment. Next is the question of determining what tools, machinery, and equipment will be needed. Are they available on the forest, and in good working order? How long will heavy equipment be needed and when? A good foreman does not depend on memory—he makes a list in his field notebook.

(d) Crew. When the crew has not been hired or assembled your boss is quite likely to ask you how many and what kind of men will be needed. Here is where you get out your notebook again to make a list of the number and kind of men needed. For example, for the construction of a 50 ft. span log stringer bridge with concrete abutments you might recommend hiring a crew about as follows:

1 bridge carpenter

2 carpenter helpers

1 concrete man

1 combination "Cat" operator
and rigging man

1 powder man (3-4 days)

1 truck driver

3 laborers

This list is made on the assumption experienced men can be obtained. When this is not the case and men with limited experience must be used, they will need some job training. This means another job of planning which will be discussed later.

(e) Hazards of one kind or another are present in almost all Forest Service work. Accidents do not result primarily because of the presence of hazards but because the hazards are not recognized and guarded against. The foreman's job is to think through or preferably go over the new job before work is started on it. He records in his notebook the hazards which are likely to be encountered. For example, if you are to get gravel from a gravel pit, it is good practice to size up the pit before sending in the crew. You may find some work needs to be done to remove a dangerous overhang. When the hazards of the new job are "spotted" you are ready to take

whatever action is necessary to control them. This may include job training, cautioning an experienced crew, taking extra precautions, removing the hazard or even changing your plan for doing the job.

(f) Cost Control. All forest officers concerned with the job, and especially the foreman, have a joint responsibility for obtaining full value for each dollar spent. The foreman should be interested in knowing what his labor costs are per mile of fence construction or planting costs per acre. What improvements can be made in work methods to get more work done safely? How can I do a good job with the money available? The answer to these questions for the most part goes back to good planning.

A word of caution is in order in a discussion of costs. Remember this—taking short cuts which require unnecessary risks to save a few dollars are never good business in the long run. One accident might injure or kill a man and cost more than can be saved in a whole season. Besides an avoidable accident can spoil an otherwise good record.

The foreman who takes a little time each day to plan ahead seldom gets in a "jam". He knows what he is going to do and how he will do it. He is a good foreman.

ORGANIZING

An organization consists of a group of people working together to accomplish a given objective. In Forest Service work the objective (or job) might be to put out a fire, build a trail, or in the case of a supervisor, to manage a forest so as to serve the best interests of the people. As the size and scope of the job increases the organization must be expanded to handle the job.

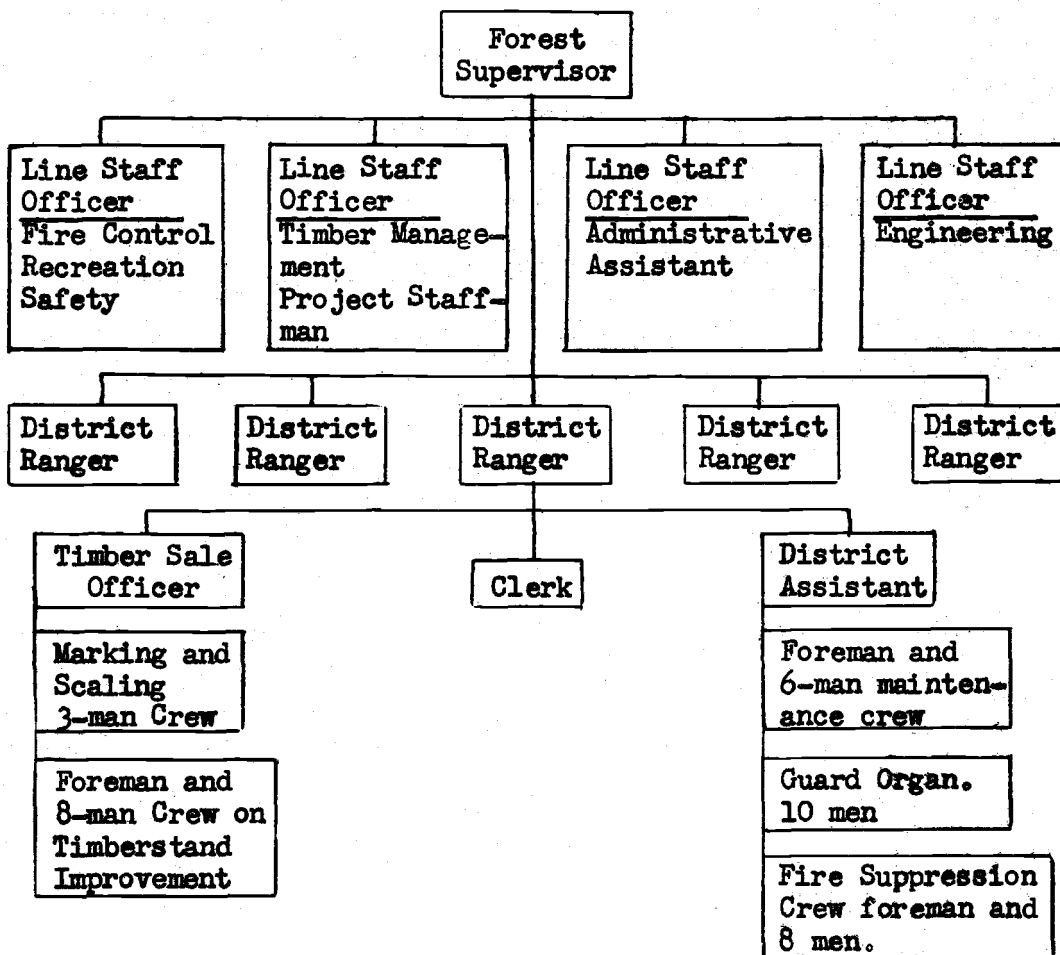


Figure 4.

Organization on a National Forest

During the past 25 years public demands for development and use of forest resources—timber, forage, water, wildlife, recreation has been steadily increasing. Management of a present day national forest is big business and the organization necessary to handle the work has, of necessity, been expanded. The diagram above illustrates a typical forest organization.

Forest Supervisor's Organization:

The forest supervisor is responsible to the regional forester and the community for administering the use of all the resources on the forest. He is provided with 2 or more assistants who are called staff officers. (Ref. Figure 4 on the preceding page). On some forests, a staff officer may have an assistant who is called a project staffman. The forest supervisor delegates to his staff officers responsibility for certain forest work. The pattern of staff organization on a forest varies in accordance with the volume of work.

Each staff officer assists the district rangers with planning the work for which he (the staff officer) is responsible. He gives on-the-job training as needed. He checks on the work to see that it is being performed to established standards, and he keeps the supervisor currently informed regarding the status of the work for which he is responsible.

The District Ranger's Organization:

The district ranger is responsible to the forest supervisor for all work on the ranger district. On a large district with a heavy work load the ranger may have two assistants; one on timber sales and one on fire control and maintenance. As shown in Figure 4, the ranger usually delegates to his district assistant responsibility for handling fire control and improvement or maintenance work.

Organizing Your Crew:

This takes us to your job--the foreman in charge of a crew. Even with an experienced crew the foreman has a certain amount of organizing to do; with an inexperienced crew he has to start from the bottom. Organizing is simply the process of getting the right man on the right job with the proper tools and equipment so as to make the best use of each man's abilities - and to get the job done up to standard as economically as possible.

The first step in organizing a crew is to figure out what jobs are to be done. The next step, when you are acquainted with the men in your crew, is to assign the men to the work they are best qualified to perform. In the event a foreman is placed in charge of a crew with whom he is not acquainted, he must find out by questioning something about each man's past experience. Then on the basis of experience, age and physique, each man is assigned to the job he seems best qualified to do. After a trial on the job it is frequently necessary to make some changes. The following are a few tips on organizing a crew:

1. After the men in a crew have worked together for a few days they have a tendency to team up. If two men take a liking to each other and work well together don't break up the team unless the work is such you have to separate them.

2. Men of about the same age usually prefer to work together.

3. A fast worker will tend to increase the production of a slower worker - but if there is too much difference in output either one may get discouraged.

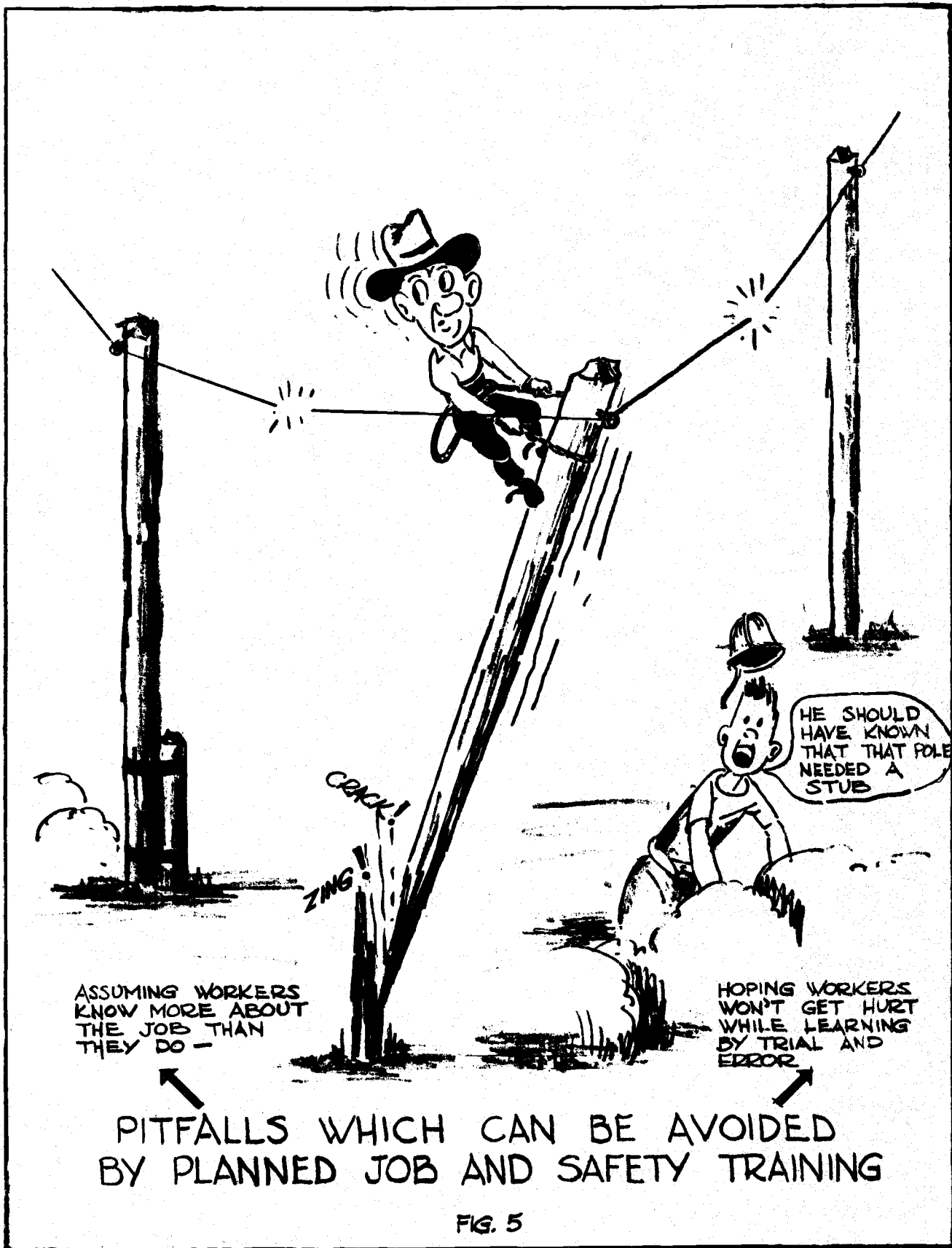
4. A man who does not talk very much sometimes resents working with someone whom he thinks talks too much. In almost every crew there is the man who would rather talk than work - and he keeps other men from working. Usually this problem can be solved by giving the "talker" a one man job.

5. If, after good job instructions and practice you see that a man has no aptitude for a certain job, try to shift him to a job that he is able to do. A poor axeman might make a good shovelman.

6. On some types of work it is necessary for the foreman to be away from his crew for short periods of time - or to divide his crew into two or more work parties. In cases of this kind it is good practice to informally designate a member of the crew or smaller work party as being in charge while you are gone. Make sure that the man placed in charge understands his responsibilities - particularly accident prevention.

7. Finally, a foreman makes this mental test of his crew organization:

- (a) Does each man know what his job is?
- (b) Insofar as the job permits are the abilities of each man being used to the best advantage?
- (c) Have sources of friction and trouble been eliminated?
- (d) Is the crew working together as a team?



JOB AND SAFETY TRAINING

Once in awhile a foreman may have assigned to him a crew of experienced men. But it is more likely he will start the season's work with some green men - or for one reason or another he loses an experienced man and has to replace him with an inexperienced man. It's the foreman's job to give green men whatever training they need in order to do a satisfactory job. If a man is interested in learning to do a job - if he is physically qualified for it and if he has reasonable aptitude - he can learn to do almost any job if he is properly instructed.

One of the foreman's most important jobs is to give such on-the-job training to the men in his crew as may be needed. Experience over a period of many years brings out that if a foreman understands and uses a few basic principles of job instruction he has an easier job of instructing a green man - and the man learns a lot more quickly and easily.

Before explaining how to handle on-the-job instruction it will be helpful to review some of the things we all know about "how we learn" but which we sometimes overlook when we have a job of instructing to do.

Some Facts About Learning

1. When we have the privilege of deciding whether or not we will learn something new - we don't even get started on learning unless we are interested in acquiring this new information or skill. For example, some one may suggest to you "why don't you learn what makes an airplane fly". You reply that you are not interested in what makes it fly - and that ends it.

Youngsters in school have a tough time with some subjects because they are not interested in them - and the teacher, in some instances, is either unable or unwilling to find ways to make the subject interesting. Some students will work hard to get a good grade in a subject that is very distasteful to them. The good grade, not what they learn, is the incentive.

This all boils down to one important thing we should remember - people will learn easier and more quickly if they are interested in learning and if they feel there is a reason and need for learning.

2. The things we learn may be divided into two classes: (a) information or knowledge, (b) skill or doing ability. For example, an inexperienced person can find out all about driving a car by studying the "operator's manual". But when he gets in the driver's seat he finds he is unable to do what he knows he is supposed to do. He has the knowledge but not the skill.

3. Learning to do a job, which includes a number of operations, is accomplished more easily and quickly if a few of the operations are learned before going on to the next 2 to 4 operations. If you were going to instruct

a man in your crew to start a diesel engine equipped with a gas engine starter he should first be instructed in how to start the starter engine. Have him start it 2 or 3 times to be sure he can do it correctly before taking up how to start the diesel. In other words make two instruction jobs of it - the man will learn more quickly.

4. We learn how to do a job by doing it. Don't expect the learner to do the job just right the first time he tries. Learning is the process of eliminating errors until we can do the job just right.

5. If the learner has or gets the impression that the instructor does not know his subject or possess the skill, interest in learning from him decreases and may reach the zero point.

6. Difficulty in learning is encountered if one or more of the following conditions exist:

- (a) Learner is timid, lacks confidence in himself or is afraid of the job.
- (b) Learner not interested in the job - thinks he knows it all.
- (c) Instruction too fast.
- (d) Expected to absorb too much at one time.
- (e) Unable to observe demonstration closely.
- (f) Poor learning situation - distractions.

7. Telling is the least effective method of job instruction because: (1) people, as a rule, are not good listeners; (2) people can't remember involved or lengthy oral instructions - they forget; (3) most of us are unable to visualize how to do the job even though we listen closely to oral instructions. Often the instructor's telling is not well thought out and given in clear 1-2-3 order.

8. Showing (demonstration) is much better than telling for getting across instruction in jobs which involve mental and/or physical action. People retain far more of what they see than what they hear. Instruction limited to just showing does have some weakness because: (1) the learner does not always know what to look for - also fine points are missed. If you were instructing someone to drive a car he could see that you release the clutch to engage the transmission gears. He may not notice that you engage the clutch gradually to keep from jerking the car.

9. The combination of telling and showing is the best method of instruction for most F. S. jobs because the learner can both see and hear.

10. Following instruction, the use of questions beginning with "why", "when", "where" and "which" cannot be answered by the learners with "yes" or "no" is a good learning device. The fact that the learner must think of both the question and the answer tends to fix the new information in his mind.

The quantity and quality of production a foreman gets out of his crew is largely dependent on how well the men are trained. With a well-trained crew the job runs along smoothly. When they are not trained the foreman is "on the jump" from one emergency to another. When men are instructed so they will do the job the right, safe way from the start, the foreman has less grief and the men get greater satisfaction out of their work. There has been developed over the years a method (or procedure) of instruction which gets results provided it is followed. It is based on the above Facts About Learning.

HOW TO INSTRUCT

First: PREPARE the learner for instruction.

- (a) Put him at ease. Most of us are under some tension in starting out on a new job - we are worried about our ability to learn. The work situation is new and strange. Ref. Some Facts About Learning #6.
- (b) State the specific job to be learned. The learner is seriously handicapped if he does not know for sure what he is supposed to learn.
- (c) Find out what he knows about the job. To determine the level for starting instruction - neither too low or too high.
- (d) Develop interest and desire to learn. Usually people are more interested in learning to do a job if they understand the reason for the job and why it is done in a certain way. For example, piling slash is more interesting if it is thought of as being a part of good forest management and not just making slash piles.
- (e) Place learner in correct learning position. Learner should see demonstrations from same relative position as instructor - if learner is on opposite side everything is in reverse.

In practice this first step of instruction is accomplished in just a minute or two. After the foreman knows and becomes acquainted with his crew he may not need to do more than "State the specific job to be learned" and depending on the job, to "develop interest and desire to learn." Quite often a member of the crew will ask the foreman "How do you do this job?" In cases like this the foreman goes ahead with instruction - there is no need for preparing the learner.

Second: INSTRUCT

- (a) By telling, showing, illustrating, use of questions. Telling and showing enables the learner to hear and see. Illustrating means to make use of pictures, sketches, diagrams, etc., as a substitute for the real thing. Occasionally instead of telling the learner, the instructor can use questions which will prompt the learner to apply his knowledge to a new situation or problem.
- (b) One step at a time. Most jobs involve a series of operations or steps which we do without thinking about it - for this reason we tend to hurry our explanation and demonstration and the learner misses something. Good instructors make it a practice to emphasize each operation by saying: First you do this _____, Second you do so and so _____.

(c) Stress the key points. A good share of every job is fairly easy to learn. It's the 5 or 10% of most jobs that is difficult or tricky and represent the real skill required to do the job. Key point is the term used for whatever is the key to performing a step correctly.

Key Point Means:

- (1) Those things that "make or break" the job.
- (2) Hazards - in many jobs these rank #1.
- (3) Anything that makes the job easier to do - "knack", "trick", "feel", "special information", "timing".

For example, in starting a 2-cycle pumper engine most of the above types of key points are involved. (1) Too much "choke" will flood the engine and it won't start; (2) Precautions must be taken to avoid hitting a by-stander with the knot on the end of the starter rope; (3) The "knack" is knowing how much to choke and how to stand. A "trick" in starting the engine is to turn it as far off compression as possible and then give the starting rope a sharp firm pull; (4) You "feel" the engine compression; (5) Removing the spark plugs to clear the gas out of a flooded engine illustrates "special information".

(d) No more than learner can master. The average learner can follow through on instruction which does not involve more than 4 or 5 operations or steps - beyond this they usually cannot follow you. For this reason the instructor should stop after covering the first 3-5 steps and have the learner do that much - then continue with instruction on the next 3-5 steps. In other words instruction in a complicated job should follow a pattern of instruction - practice - instruction - practice.

Third: TRY OUT PERFORMANCE

(a) Have the learner do the job and correct errors. The learner obtains a general idea of how to do a job from listening to and observing a demonstration. We actually learn to start an engine, drive a car or fall a snag by doing the job - and no other way. Learning to perform a manipulative type of job is in reality developing a habit pattern. For this reason the learner's errors must be corrected before the wrong way has a chance to become fixed. The "knack" of good instruction is in knowing when to let the learner fumble and when to step in and correct the error.

(b) Have the learner explain key points. Instruction usually includes some explanation. The instructor may think he has made things clear. But he must be sure the learner understands. To do this the instructor requests the learner to explain back the key points. This requires the use of questions like: What safety precautions do you take before starting _____? Why do you always do _____? How do you know _____? Questions starting with "what", "why", "how", call for more than a "yes", or "no" answer and enables you to tell if the learner understands.

(c) Continue until you know that the learner knows. This means to stay with the learner until you are sure he is doing the job correctly. He may be slow and awkward, but he will gain proficiency with practice.

Fourth: FOLLOW UP

(a) Put him on his own. The one and only purpose for on-the-job training is to impart to the learner the knowledge and skill required to do a job properly and safely. The sooner a man starts to do the job after he has been instructed the less likely he is to forget. Get him started on the job as soon as possible.

(b) Tell him where to go for help. A Forest Service foreman's job is such that he can't give close supervision to his crew all the time. If he finds it necessary to leave a new man after he has instructed him in how to do a job - he should tell him where to go for help in case he gets in trouble. Usually this will be to an experienced member of the crew. If you depend on a member of your crew to give a new man additional instruction be sure he does the job the same way you do it or he will get the new man "all balled up".

(c) Check frequently and encourage questions. Check the man's work often enough to make sure he is continuing to do the job the right, safe way. People will usually have questions about a new job after they have worked at it for awhile - but they will hesitate to ask questions unless you make them feel you are interested and willing to answer.

(d) Taper off coaching. As soon as a man gets the "hang" of the new job, reduce checking on him to normal supervision. Men don't like too close supervision.

The above explanation of How to Instruct has of necessity been rather lengthy. From just reading, it may leave the impression of being complicated. Actually it is not - and you will find it is pretty close to the method you have always used in job instruction. Here is a summary of How to Instruct.

First: Prepare the learner for instruction.

Put him at ease (if he is a new man - or appears nervous.)

State the specific job to be learned.

Find out what he knows about the job.

Develop interest and desire to learn.

Place learner in correct learning positions.

Second: Instruct:

Tell him, show him - illustrate and use questions.

Instruct one step or operation at a time.

Stress key points.

No more than he can grasp.

Third: Try Out Performance:

Have learner do the job and correct errors.

Have learner explain to you the key points.

Question him - What? Why? How? When?

Continue practice until you know he knows.

Fourth: Follow up:

Put him on his own.

Tell him who to see for help.

Check frequently and encourage questions.

Taper off coaching to normal supervision.

Getting Ready for Job Instruction

This job is essentially one of planning and preparation. Planning is concerned with making an appraisal of what job instruction is needed by each member of the crew, and when it should be given. Selecting the best location for various phases of the instruction job is likewise a planning job. Preparation involves: (1) obtaining equipment and materials needed for instruction, and (2) making a "job breakdown" for the more important instruction jobs. The easiest and quickest way of making an appraisal of training needs is by use of what is called a Training Time Table. A training time table for a 10-man Fire Suppression Crew is illustrated below.

	Fire Training Subjects												
	Fire Suppression Policy	Fire Behavior	Fire Fighting Methods	General Accident Prevention	Care of Fire Outfit	Control Line Location	Chopping: Axe - Pulaski	Cutting Brush	Clearing Fire Line	Digging Fire Line	Cooling down with dirt	Bucking Logs	Falling Snags
Names of men in crew and previous experience.													
1. BENDER (5 seasons fire ex.)	6/10	6/10	x	6/11	x	x	x	x	x	x	x	x	x
2. JENSEN (Good Woodsman)			6/10		x	6/11							
3. MILLER (Guard 1 season)					x		x	x				x	
4. FOSTER (Some radio ex.)					6/11							x	
5. DURHAM (Army Eng. 2 yrs.)							x						
6. GLIDE (Forestry Student)													
7. LANSING (Forestry Student)													
8. EASTON (Forestry Student)													
9. BURNETT (Local - 18 yrs. old)													
10. CHESTER (Truck Driver)													

Symbols:

- ☐ Blank space indicates instruction needed.
- ☒ 6/11 Date set for completion of instruction-Use as necessary in planning.
- ☐ Instruction given.
- ☒ x Competent (May have been acquired through previous experience.)
- ☐ - Does not need to do this job.

The first job in preparing a training time table is to list the jobs to be done. Next list the names of the men in the crew - start with the name of the most experienced man. By reference to the sample above you can readily see how the symbols are used. All the men need instruction in Fire Suppression Policy and Fire Behavior. Two men are experienced fallers - the foreman figures he should have 5 fallers so 3 men are checked for training - the other 5 men do not need this training. The last job is to indicate the dates when instruction in each job should be completed.

The same plan as illustrated above can be used for any type of project work where a number of jobs are involved. If a crew is assigned to a job like tree planting and all of the men in the crew are doing the same job, and they all need training, there is no need for a training time table.

Second: You will recall in our discussion of How To Instruct, Ref. Page 19, it was pointed out that the good instructor instructs "one step at a time", and that he stresses key points. When we are thoroughly experienced in a job we do most of it more or less automatically. For this reason there is a strong tendency to overlook certain important details when we instruct someone in how to perform the job.

To illustrate this, take the job of chopping off a 6" pole. You ask an experienced axeman how he does it and he will tell you he just takes his axe and chops the pole off. Actually he does a number of things without thinking about it. He automatically inspects his axe and selects the location for his cut. He checks for clearance behind and overhead and trims off branches if necessary. His stance, and grip on the axe are taken without thinking about it. The same is true for the width and angle of the cut.

When instructing an inexperienced man in how to chop with an axe all of the points discussed above must be explained and demonstrated. The only sure way to keep from overlooking some of them is to make out what is called a "job breakdown". This is just a reminder list of the "instruction steps", and "key points" which should be covered in instruction. A pencil list in a field notebook will do. Here is a sample job breakdown.

JOB: Chopping with an Axe

Instruction Steps

Key Points

- | | |
|----------------------|--|
| (1) Location of Cut. | (1) Knots - rocks - clearance. |
| (2) Clearance. | (2) Overhead - behind - safety. |
| (3) Stance. | (3) Solid - balance - safety. |
| (4) Grip. | (4) Control - hands - gloves - weather. |
| (5) Main cut. | (5) Width - angles of cut - clear out chips. |
| (6) Finish cut. | (6) Control - feet in clear. |

A job breakdown should be brief. It is a note from yourself to yourself. A lot of writing is neither desirable nor necessary. The best way of making a job breakdown is actually to do the job and write down the "instruction steps" of the job as you do it. Selecting the instruction steps is a matter of good judgment. The main idea is not to include too much in each instruction step or to put down every little detail.

After deciding on the "instruction steps" go back to #1 and raise the question: Is there anything about performing this step of the operation "that can make or break the job?" "Is there a safety factor involved?" "Or is there a special knack or trick to doing this step correctly?" If so - these are "key points". Repeat the same procedure for each important step.

Third: Decide on the best available location for giving instruction. A foreman does practically all of his instructing on the job so this is usually no problem. It is important to have ready the proper tools, equipment or materials needed for instruction. When you have everything ready you can carry your instruction job through to completion - you gain the respect of the men in your crew.

To summarize "getting ready to instruct" you should have:

1. A training time table (this is your action plan).
2. Job breakdowns for the more important instruction jobs.
3. Select best available location for instruction - have ready tools, equipment and materials needed.

You may feel "getting ready to instruct" as outlined above will take a lot of your time. It will take some time - but not nearly as much as is used where job instruction is not planned ahead. Or where time is taken to repeat poor instruction. Some foremen run themselves ragged patching up mistakes - and they wonder why they don't get production.

One thing should be emphasized right here. When workmen are properly instructed in the right, safe way to do a job - and when you insist on the job being done that way, you will eliminate the most common cause of on-the-job accidents.

It would be much easier and quicker to show you how to instruct 3 or 5 inexperienced men how to chop off a pole with an axe, using the method outlined above. Since that is not possible the next best way is to give you a narrative description of how to tackle this instruction job. Visualize this situation.

Example of Job Instruction:

Visualize you are the foreman in charge of a 10-man fire suppression crew. You have found that 4 of the young men in your crew have had practically no experience in using an axe. You decide to break up this instruction job into 4 units of instruction. (1) how to inspect and carry an axe,

(2) cutting brush, (3) chopping off poles, and (4) cutting down small damaged trees. A job breakdown is prepared (in your notebook) for each instruction unit. The first unit of instruction will be given in camp - the other 3 in a small clearing near camp where brush and poles of the right size are available. Five good axes, 1 for yourself and 1 for each of the 4 men, are selected. You are now ready to instruct.

First: You prepare these men for instruction as follows: "In our work this summer on fire and maintenance we will use an axe a great deal. You fellows have lived in a large city all your lives and I can understand why you have had no opportunity to use an axe (you are putting the men at ease). An axe is used in our work for cutting brush, chopping off poles and occasionally cutting down small damaged trees. Before showing you how to use an axe on these jobs I am going to explain and demonstrate to you how to inspect an axe and how to carry it. (State the specific job). You can all learn to be good axemen with practice, and you will have plenty of opportunity for practice. I want to make sure that you get started in using an axe in the right way - the safe way". (Creating interest and desire to learn).

Second: Instruct the men in how to inspect and carry an axe - one step at the time - "hit" the key points.

Third: Hand each man an axe and have him inspect it. Ask each man in turn to explain one of the following:

1. What do you look for when inspecting the handle?
2. Why is proper bevel of the cutting edge important?
3. How do you test for looseness of the handle in the head?
4. Why is it safer to carry your axe at your side rather than over your shoulder?

Second Unit of Instruction: Cutting Brush

1. Prepare the learner for instruction.

"Now that you know how to inspect an axe - and how to carry it - we will go over to the edge of camp where I will show you how to cut brush (state specific job.) You will have plenty of brush to cut in clearing fire lines (develop interest.) Bring your axe along and carry it as I carry mine."

2. Instruct
3. Try out performance and correct errors - ask questions.

Third Unit of Instruction: Chopping Off Poles

1. Prepare the learner for instruction:

"In clearing a fire line, piling slash, or maintaining a trail it is frequently necessary to cut off fallen trees or poles. It is usually faster to cut material up to 6" in diameter with an axe than to saw it - and many times you won't have a saw along. Chopping off a pole is a fairly simple job but there is a right way to make a cut - and to prevent slashing your \$20.00 boots."

2. Instruct (mentally follow job breakdown).

Location of Cut

"The first thing you do in chopping off a pole is to pick the location for your cut. If exact location is not important - and you can move a foot or so either way - pick a spot that is free of knots. A knot can cause your axe to glance - it slows up your cut - and a real hard knot may damage your axe.

"Glance underneath the pole to check for rocks, they are hard on an axe.

"When possible move one way or the other to get in the clear of limbs or brush that will interfere with your swing. With a little practice you will automatically pick the location for the cut."

Clearance

"Limbs or brush - overhead or behind you - that may catch your axe when you make your swing will cause you to lose control of it. When you lose control you are just as likely to strike your head or your foot as the pole. For your own protection as well as that of your fellow workers you will take time to trim out any material that may catch your axe. Keep clear of fellow workers. This is a must and there are no exceptions."

Stance

"To use an axe safely you must keep control of it. This means your footing must be solid - so your swing won't throw you off balance. You can't keep your balance standing on one foot. Do not crowd your work."

Grip

Explain and demonstrate the position of the hands. Emphasize the need for wiping off a wet or frosty handle before using the axe. Tie this back to keeping control. Caution the men about the danger of wearing wet leather gloves.

Main Cut

Explain and demonstrate:

Width of chip, angle of cut - 45 degrees about right - danger of axe glancing if angle is too flat - slow cutting if angle is steep. Importance of clearing out chips.

Finish Cut

Explain and demonstrate:

- a. Stepping over pole to finish cut.
- b. Or swinging away from feet on last cut.
- c. Shorten swing to avoid chopping into the ground.

3. Try out Performance.

Place the men 10-12 feet apart and have them practice chopping. Correct errors as they are noted.

Ask each man in turn questions on each of the key points you explained during instruction.

The pattern of job instruction explained above will help you to get better results on the job. Men will learn easier and more quickly. They will do the job the right, safe way from the start. You have less mistakes to correct. You will have a smooth running outfit. You will gain the respect of your men.

Teaming Up The Green Man With an Experienced Man:

This method of "breaking in" a green man is quite common. It gets fairly good results if the job is not too complicated; if the experienced man knows how to do the job correctly; if the experienced man does not take for granted the green man knows more about the job than he actually does; if the right, safe way to do the job is stressed, and if mistakes are corrected before they become a fixed habit pattern; if the green man will ask questions on points which are not clear to him.

This system of breaking in a green man is not too dependable - too many "ifs" - too many loopholes for something to go wrong. However, an experienced man can be used to instruct a green man provided the foreman first coaches the experienced man in how to do the job. Here is how to do it:

1. Explain to the experienced man that you are going to coach him in how to instruct (break in) a green man in how to do a certain job. For the time being you will take the part of the experienced man and he will take the role of the green man.
2. Carry out instruction - just the way you want it done. Don't talk about method of instruction.
3. Reverse roles. Have the experienced man instruct you in the same job. Continue practice until he gets the hang of it.
4. Have the experienced man instruct a green man. Observe instruction but don't interrupt. After instruction has been completed, talk it over. Commend strong points - patch up weak spots.

FIRE SUPPRESSION TRAINING IN REGION 6

Every foreman and his crew in Region 6 is subject to fire duty. As a rule the foreman trains his crew in how to fight fire. Fire crew foreman should be familiar with the following:

1. The Fire Suppression Chapter of the R-6 Fire Control Handbook. This chapter was written by the most experienced firemen in the Region. It covers subjects such as: What makes a fire burn; factors which influence the spread of fire; how to put out small fires; fire behavior; fighting medium and large size fires; fire fighting organization and responsibilities (this includes the foreman's job); fire fighting strategy, management, methods and techniques.
2. A Training Course in Fire Behavior. U.S.F.S. California Region, 1950.
3. Fire Fighting Overhead Notebook. This notebook contains a condensed outline of various fire overhead positions and includes a reminder list of a foreman's job on the fire line, on snag falling, and on mop-up. It also contains requisition forms for tools and lunches.
4. Foreman Fire Time Book and Notebook. This combination time and notebook is furnished fire crew foremen. It contains brief safety and first aid instructions; instructions to foremen on timekeeping and sheets for keeping the time of the crew; and also a reminder list of the fire foreman's job and requisition forms referred to under #3 above.
5. Snag Falling With Hand and Power Saws. This handbook explains and illustrates the step by step procedure for: determining lean; clearing a work space; how to remove loose bark; making the undercut and back cut; and safe practices in falling snags.

There is nothing mysterious about fire training, and for the "doing" jobs the same method of instruction as just explained should be followed. You can make a training time table for your own use similar to the sample shown on Page 22. It will assist you to keep track of progress in your fire training.

The Region 6 Training Handbook, Chapter I, Fire Control Training, contains instruction plans for all basic Fire Control subjects, and also plans for training a fire suppression crew.

A foreman in charge of a crew on spring maintenance has the opportunity to work in considerable fire training in connection with the regular work. On any kind of woods or maintenance work the crew will learn to use hand tools. When walking to and from work, or on the job, the men can practice pacing. On road and trail maintenance there is a good chance to work in some instruction on reading and using a fireman's map by having the crew locate themselves on the map - and spotting the location of roads, trails and other features. Section line boards can be explained. The country can be studied with the thought - this summer I may be sent to this locality to fight a fire. The man in the crew can be encouraged to study reading material on detection, smoke-chasing and fire suppression.

JOB RELATIONS

Two equally skilled workmen were promoted to foremen. They were assigned to the same kind of work - and there was little if any difference in the men in each crew. Foreman A got off to a good start and was respected by the men in his crew.

Foreman B got in trouble the first week. He accused one of his men of failure to carry out his instructions. The argument got "hot" and the rest of the crew were listening. Foreman B decided it was time to let the crew know who was "boss" - so he told the man he did not need or want him on his crew and that he could report to the district ranger for another assignment. The crew felt the foreman was in the wrong and they decided to make it tough for him. They found plenty of ways to needle the foreman and the situation grew from bad to worse.

Foreman B was a good workman, but what he lacked was experience in handling men. If he had understood and followed a few tested principles for maintaining good job relations with the men in his crew - and if he had known how to handle a problem, he would have avoided the difficulties he got into. Before discussing how to maintain good job relations and how to handle a problem a few words of clarification are necessary.

A foreman gets results through people.

First of all let's take another look at the foreman's job. Here is what we find. When a foreman plans a job he thinks in terms of material, equipment and "people" - the men in his crew. The quality, quantity and cost of production are dependent on "people" - men in his crew. Training, accident prevention, welfare, grievances all involve people - the men in his crew. As a matter of fact, there is no part of the foreman's job which does not involve people. A foreman gets results through people.

Minimum standards for Supervision

Good foremanship means that the foreman gets the men in his crew to do what he wants done when it should be done - and according to the standards for the job. This is the minimum for good supervision. A "top" foreman will accomplish this by supervising his crew in such a way that the men will get personal satisfaction and enjoyment out of their work.

People are Individuals

You have heard a foreman say "I treat them all alike". This is a fine idea when it means to be fair to all of the men or to guard against playing favorites in work assignments. But treating them all alike is not a good idea in many other ways because people are not all alike. Family backgrounds, education, health, temperament, home life and other similar factors all combine to make people different.

These differences in people show up on the job in numerous ways - quick or slow to learn; accident prone or safety minded; sensitive to criticism or thick skinned. A foreman must get well acquainted with each

man in his crew in order to know best how to handle each individual. The foreman's objective is to make the best use of each man's ability and to maintain good working relations with and between the men in the crew.

Foundations for Good Relations

Successful foremen have found there are a few basic "good practices" which help them to establish and maintain good relations with the men in their crew - and which will assist in preventing grievances from arising. These "good practices" are commonly known as "Foundations for Good Relations." They are:

✱ 1. Let each worker know how he is getting along: Most men want to know how they are getting along on a new job. Men who have been on the same job for some time want to be assured that their work is satisfactory. People also want to know if they are not doing all right and what is needed to correct shortcomings. In brief: figure out and tell each man what is expected of him - if his work is satisfactory tell him so at an opportune time - if his work is not satisfactory point out ways to improve. If a man's work is slipping don't delay taking action - the longer you wait the more difficult the problem becomes. When you find it necessary to criticize one of your men, do it in private and in a friendly manner. Make your criticism constructive. Your objective is to help the man - not to bawl him out.

2. Give Credit When Due: Have you ever worked for a boss who was quick to find fault, but who seldom if ever had a word of praise for a job well done? How did you feel about helping him out when he was "in a hole?" Men like to know that extra performance or the completion of a tough job is appreciated.

Foremen should not hesitate to commend outstanding performance by a member of his crew, or the crew as a whole. And don't overlook giving the good dependable worker an occasional "pat on the back" - because his work is neither spectacular nor poor he can be easily overlooked. From time to time when your boss is on the job call his attention to outstanding work of your men.

3. Tell the men in your crew about changes that will affect them: People like to know ahead of time about decisions which affect them - and they like to know the reasons for a decision. Resentments build up, not so much because of certain action, but because it comes without warning. When possible, tell your men in advance about changes in work assignments; about jobs coming up; staying in camp for fire duty; taking leave and similar actions. When feasible give your crew a chance to express their opinions before a decision is made. You may not be able to carry out their suggestions, but they will feel better for having their say.

4. Make the Best Use of each Man's Ability: It is a well established fact that people will turn out more work, and are more satisfied, when they are assigned to a job which allows them to make full use of their abilities. This trait of human nature should be kept in mind when assigning jobs to the men in the crew. Interest in the job is also a factor affecting production and job satisfaction. Insofar as good judgment dictates, the men in the crew should be given a chance to try out on a job in which they are interested.

* * * * *

The day-to-day application of these basic rules will materially assist in maintaining harmonious job relations. But no set of rules or practices will insure a foreman against having an occasional problem. The important thing to remember is that people must be treated as individuals.

How to Handle a Problem

A problem is defined as any circumstance, involving people, which requires action. A foreman's problems are, as a rule, concerned with the men in his crew. The following are a few examples of typical foremen problems; a good man threatens to quit; crew member over-stays leave - does not notify foreman; crew house is not kept clean.

When a problem does come up the thinking process regarding it should be about as follows:

1. Is this just an incident which most likely won't happen again - or is it a problem which is sufficiently serious to warrant my taking or recommending action?

2. Is this one distinct problem or is it a part of two or more problems?

3. Does it involve just one person or several?

4. What is it I want to accomplish as a result of the action I take?

Putting it another way - what are my objectives from the standpoint of (1) the man who is directly involved; (2) the crew; (3) production?

To illustrate the foregoing, let's assume a member of a foreman's crew violated a well-known safety rule. Referring to the pattern of thinking outlined above it is a problem and not an incident. It is one problem and involves one person - but if prompt action is not taken it will create other problems and may involve the whole crew. The foreman's objective in handling the problem is to bring about willing adherence to safety rules by the offender and by all members of the crew. An accident could result in injury to one or more of the crew and could seriously affect production.

Now let's suppose you are going to take action on this problem. Before taking any action, ask yourself these two questions. (1) will the action I have in mind help the man and help production? (2) is this the best time and place to take action? Hasty, ill-advised action

will not accomplish desired results and it may further complicate the problem or create others. Here is a pattern for handling a problem which will help you do a better job.

First: Get the Facts - all the facts which may have some bearing on the problem. In some cases this may necessitate looking up the man's record - his age, length of service, experience, etc. What about his background and home life: What Forest Service policies, practices and rules are involved? What is the man's side of the story - what are his opinions and feelings? Remember: what a man thinks - right or wrong - is a fact to him and must be considered as such. Finally ask yourself this question, "Have I got the whole story?"

Second: Now that you have all the facts the job is to fit them together and consider their bearing on a problem. You now begin to consider what courses of action might be taken. In other words, any one or a combination of several things might be done. The question (in light of what you want to accomplish and in view of policies, practices safety rules) is what is the best action? Don't jump to conclusions.

Third: You are now ready to take action. Before doing so ask yourself: "Is this a problem that my boss would expect me to handle, or should I refer it to him?" As a rule you will be expected to handle the less serious problems which fall within the limits of your authority. In serious cases, such as game violations, intoxication while on official duty, misuse of Government funds, unauthorized use of Government motor vehicles, the foreman is required to prepare and promptly submit to his boss a written report. The boss decides what action should be taken.

Another thing to keep in mind is the matter of timing. When a man is tired, nervous, or "hot under the collar", he is not receptive to suggestions or a reprimand. Timing is a matter of good judgment. As a rule action in the nature of a reprimand should be given in private. If action should be taken, don't put it off. Don't pass the buck.

Fourth: After action has been taken check results. What to look for depends entirely on the problem. For example, it may be a change in attitude or habits, improved quality of work, or compliance with safety rules.

LEADERSHIP

A foreman's position should automatically make him the leader of his crew. It does—but only as long as the crew accepts him as their leader. In the minds of the crew a foreman is either a leader, a "pusher", or a "weakster". A crew respects a foreman who is a leader—they will stick with him and "put out" for him on the job. Men don't like a "pusher" for the simple reason that they don't like to be pushed around. The Forest Service expects its foremen to be leaders and not "pushers".

Books have been written on the one subject of leadership—it's a big subject. What we are concerned with here is to discuss a few of the more important qualities which a foreman must either have, or should acquire, to be a good leader.

1. A foreman must lead. A foreman in charge of a fire suppression crew was told to build a piece of fire line down in a canyon. The fire was crowning out a small patch of second growth and made quite a roar. The foreman knew the crew was scared—and he knew there was no particular danger. So he told the crew to wait on top until he went down to look things over. He said, "I will call you if everything is O.K." In a few minutes he called to the crew to come down and they did so without any hesitation.

The Chief of a city fire department directed 3 hosemen to take a line into a warehouse which was on fire. The situation was extremely hazardous. One of the hosemen said to the Chief: "You go in first and we will follow you". The Chief said he had other things to do and walked away. The story got around and in due time the Chief was relieved. He could not hold his job without the respect of his men.

2. A foreman must set an example for the crew. Doing "as I say and not as I do", won't work. A foreman must believe a job is worth while if he expects the crew to feel the same way about it. If a foreman believes a certain job being done is a waste of time and money the crew can tell what he thinks. The foreman gives his feelings away even though he does not say a word.

If the foreman wants his crew to roll out at 6:30 a.m. he must be the first one up—not the last. The crew won't be any better housekeepers than the foreman. By example, a foreman tends to shape the thinking and action of his crew. "To be, rather than to seem" is a good motto.

3. A leader (the foreman) must have a plan of action—and he must know how he will carry it out. There is nothing more discouraging than working for a man who can't make up his mind on how a job is to be done—or who starts his men out on a job one way and then stops them to begin again some other way. You can't be a leader if you don't know where you are going or how you are going to get there.

4. A foreman must know how to do the job. We respect a man who has the "know how". We lose respect for the fellow who claims to know but does not. This does not mean a foreman has to be able to do everything—but he should have a pretty good idea of how things should be done.

5. Good instruction is an important quality of leadership. Have you ever been assigned to a job that you did not know how to do? What did you think of the boss when he "panned" you for making a mistake? Men want their work to be right. They take pride in accomplishment. They respect the foreman who, through job instruction and coaching, gets them off to a good start. A colored worker summed it up this way: "Boss—you shows me how—I catch on quick."

6. A leader should understand human behavior. A. R. Standing, Chief, Division of Personnel Management, Forest Service, Region 6, has stated in his discussions on this subject: "To do a good job of supervision, we should know the underlying causes of human behavior. We know that some people are happy and optimistic, others are frustrated and morose. We know some organizations have good morale but it is lacking in others. We know that some acts of supervisory officers get good results—high production and morale. Others get bad results—low production, discouragement, resentment. Why does this happen? What are the basic causes? People differ widely in intellect, character, personality and attitude. It is known, however, that deep down they have common characteristics. All men are said to have basic needs or drives. These are usually cally 'basic urges'. The following list includes the basic urges usually accepted:

"a. Desire for security, for self and family. This includes assurance of shelter, food and clothing, freedom from fear, and prestige and esteem of others. It also includes the need for love of one's family and friends—and a feeling of belonging to a group.

"b. Normal home and family life.

"c. Opportunity for self-assertion. Domination in competition.

"d. A feeling of worthwhileness—achievement—accomplishment—development and growth.

"It is essential for a number of reasons that supervisory officers understand the effect of the basic urges on people. In the first place, they should make sure that management practices provide for realization of these urges by the people they supervise. For example, a feeling of security comes from knowing what lies ahead; from being adequately trained to do what is expected; by being free from arbitrary actions; by working under safe conditions; by being correctly informed on how well one is doing. The desire of people for self-expression and worthwhileness can be directed to obtaining excellence and satisfaction in work. Good supervision provides for employee participation in planning, development of standards, and other phases of the work. It is pretty much up to the boss to determine by his methods of supervision the extent to which the basic urges are realized or suppressed."

7. Invite and give due consideration to suggestions.

8. Don't make promises that you cannot keep.

CREW WELFARE

Camping out for a few days is fun for most people—living in a field camp for several weeks or months is a different story. A crew will be more likely to stay with a tough job, or work under severe weather conditions if the food is good and if the camp is reasonably comfortable. There is a direct relationship between production and turnover in the crew and the situation in the camp.

Setting up and maintaining a comfortable field camp is not so much a matter of costly equipment as it is planning for and providing facilities men have a right to expect from the Forest Service. The following is a reminder list of some of the more important items:

1. Currently maintained sanitary facilities.
2. Hot water and simple facilities for washing, shaving and bathing.
3. Tents equipped with mats or rough floor.
4. Heating stoves during spring, fall and winter.
5. Enough light to permit reading without eye strain.
6. Arrangements for reasonably regular delivery of mail and purchase of personal supplies. Men in remote back-country camps will appreciate receiving reading material. It is common practice for the supervisor, staff and rangers to save their periodicals and magazines for this purpose.
7. Good meals on time. A sanitary kitchen.
8. First aid facilities.
9. Eliminate or safeguard hazards in or near the camp.
10. Camp Jobs and Housekeeping. Some men are good housekeepers, others are not. Arrangements should be made regarding who cuts the wood, starts the fires, sweeps the floor, and takes care of other camp jobs. As a general rule it is up to the foreman to set the standards for housekeeping in his camp and to insist on compliance with these standards. One of the best ways to get compliance with housekeeping rules is to post in a conspicuous place an itemized list. Humor has been found to be most effective.

WORK IMPROVEMENT

Work Improvement is the development and use of easier, quicker, and more economical ways of doing a job. It involves studying and improving work methods to get more and better work done in less time and with less effort. The primary objective of work improvement is to make better use of available labor, material and equipment. The results may be saving in time, or energy, or any combination of these.

Methods for Simplifying a Job

Two methods for work simplification are commonly used in the Forest Service. They are described and illustrated below. Occasionally a third rather complicated method involving the use of flow charts, time studies, and motion pictures are used.

1. Take "time out" to examine how the job (or certain operations in the job) is being performed - and mentally raise the question; "Is there a better way to do this job so we can get more and better work done with less effort?" The following cases illustrate this method.

(a) A crew of three men commenced work on road maintenance. The foreman operated the patrol grader. Al and Bill, the other two men, took care of the necessary hand work. Al drove the truck - and after letting out Bill to start work Al would drive down the road a quarter mile or so. Al parked the truck alongside the road and worked back until he met Bill. Then they both walked back to the truck and the same process was repeated.

The foreman noticed Al and Bill were spending quite a bit of time on unproductive walking - and on questioning Al he found that Bill had never driven a truck and did not have a USDA operator's permit. The foreman arranged for Al to coach Bill in how to drive the truck (Bill could drive a passenger car and had a state license) and when he became proficient he obtained for Bill a USDA operator's permit. The work procedure was then changed as follows:

Al dropped off Bill as before and then drove down the road about 1/4 mile and parked the truck. Al then worked on the road ahead of the truck. When Bill arrived at the truck he drove it down the road about 1/4 mile beyond where Al was working. This eliminated unproductive walking time.

(b) On a road construction job eight axemen were used for clearing the right-of-way. This crew was furnished with two files (equipped with handles) and two whetstones for touching up their axes. Considerable time was lost by members of the crew walking back from where they were working and hunting for the files and whetstones. The foreman arranged to equip each axeman with a file and a whetstone and thereby eliminated the loss of time explained above. The crew kept their axes sharp and more work was done

with less effort. At the same time the work was made safer because men handle a sharp axe with more caution than a dull one. This case illustrates how production was increased and the job made safer by a small investment in files, file handles and whetstones.

(c) Until recent years it was common practice to use climbers on all telephone line maintenance work - regardless of the location of the line. Someone, most likely a foreman, figured out that in maintaining a telephone line alongside a road it would be easier and safer to use a light ladder on overhead work - especially when the line was attached to trees. The use of a ladder, when it could be used, increased production.

* * * * *

2. A more detailed method, or approach, to work simplification requires following through a sequence of four definite steps. They are as follows:

First: Break Down the Job: This means to list on paper each detailed step of the job as it is performed by the present method. The purpose of this breakdown is to get a complete and accurate picture of how the job is done. It brings out many details about the job we never realized were there. The best place to make a breakdown is right on the job and not from memory. Be sure to let the man doing the job know what you are trying to accomplish - sell him on the idea - get him to help you. Turn to Page 38 for an illustration of this and succeeding steps.

Second: Question each detail with these questions:

- | | |
|-----------------------------|----------------------------------|
| 1. Why is it necessary? | 4. When should it be done? |
| 2. What is it's purpose? | 5. Who should do it? |
| 3. Where should it be done? | 6. How is the best way to do it? |

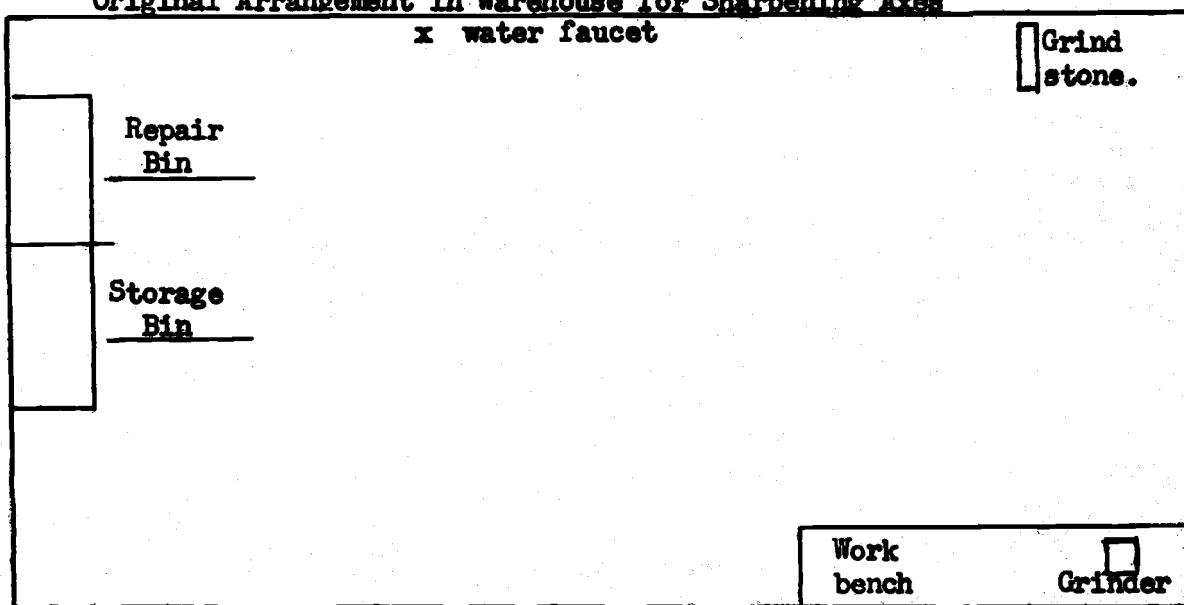
These questions are asked in a definite order. Asking "how" before "why" and "what" would be a waste of time if a detail were found unnecessary. All questions should be asked of each detail before proceeding to the next.

"Why" is the first question. The answer will distinguish necessary from unnecessary or doubtful details. "What" is a companion question to "why". Its purpose is to find out if the detail has a useful purpose or adds quality to the product.

If the detail is necessary we continue with the other four questions. "Where should it be done" is concerned with finding the best place to do each detail. "When" has to do with finding the best time or proper sequence. In raising the question "who is best qualified" we should think in terms of (a) the most logical person, (b) skill required, (c) experience, (d) physical strength.

Sketch of
Original Arrangement in Warehouse for Sharpening Axes
x water faucet

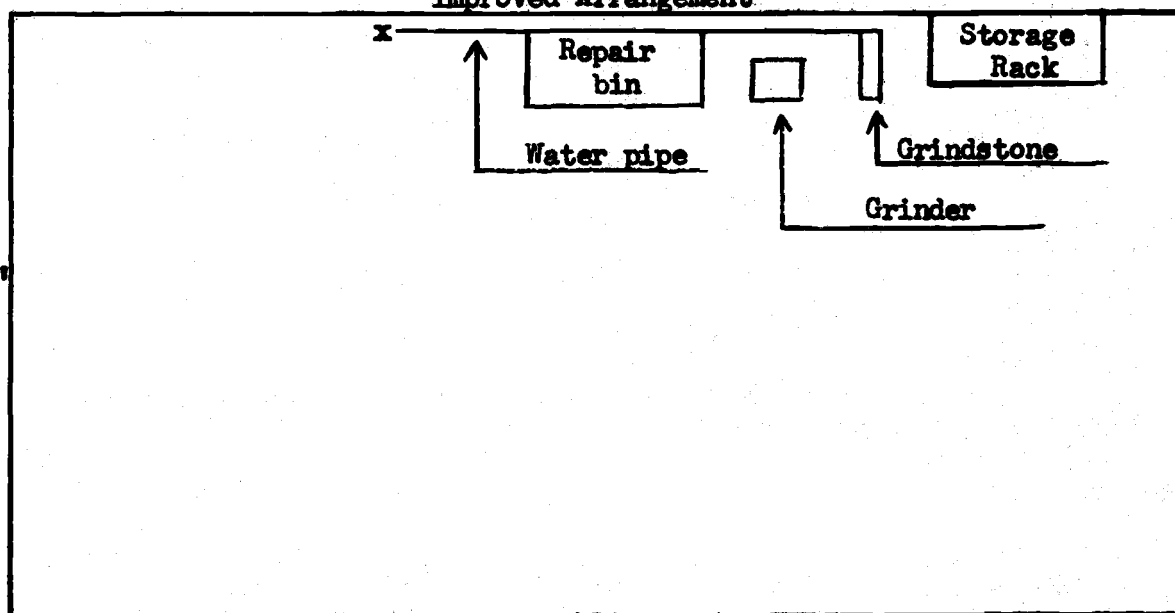
15'



30'

and
Improved Arrangement

15'



30'

The answer to "how is the best way" opens the door to improved methods. Here is where the real thinking takes place.

Third: This step in the sequence is concerned with developing the new method. It is accomplished by:

1. Eliminating unnecessary details.
2. Combining details when practicable.
3. Rearranging for better sequence.
4. Simplifying necessary details.

If you are working on the simplification of a job which has been performed by your crew as a whole, or by certain individuals in the crew, it is extremely important to obtain their cooperation in developing the new method. Remember - people resist change, particularly when they have no part in developing the new method.

5. List on paper the details of the new method - many ideas die before they are put into effect or are written down.

Fourth: Take Action to Apply the New Method. You may have the authority to put the new method into effect - but before doing so be sure you are in the clear with your boss and with regulations. If you need approval from your boss keep in mind it may be necessary to sell him on your proposed method. A brief write-up on your proposed method supplemented with sketches, if practical, will help you to obtain necessary approvals. Be sure to give credit to those individuals who helped you develop the new method.

Sharpening axes is one of the many common jobs which is done on every ranger district. A district ranger on one of the forests decided he would make a study of the method being used by his headquarters fireman. In making this study he used the method just explained - and proceeded as follows: (Reference Page 38 for sketch of warehouse).

The Job: Inspect, grind and whet an axe.

1. BREAK DOWN THE JOB

<u>Details of Present Method</u>	<u>Notes on Present Method</u>	<u>Analysis of Present Method and Action Needed for Improvement</u>
1. Walk from grinder to repair bin and pick up axe.	30 feet away at opposite end of shop. NOTE: Reference Page 38 for sketch.	Why is it necessary? Not necessary if repair bin is moved near grinder - Eliminate.
2. Walk back to grinder.	Distance - 30 feet.	Why? Not necessary. Eliminate.

<u>Details of Present Method</u>	<u>Notes on Present Method</u>	<u>Analysis of Present Method and Action Needed for Improvement</u>
3. Check axe for defects.		<u>Why?</u> To prevent defective tools from getting out on job. <u>What is its purpose?</u> Maintain quality. <u>Where</u> should it be done? Same place. <u>When</u> should it be done? Before grinding. <u>Who</u> should do it? Tool sharpener. <u>How</u> should it be done? Same as usual.
4. Put axe down.		<u>Why?</u> Not necessary if job is rearranged.
5. Put on goggles.	Goggles hung on wall back of work bench.	<u>Why?</u> To prevent eye injuries. <u>When?</u> Just before starting to grind. Make a container for goggles and place above grinder.
6. Start grinding motor.		6-10 <u>Why?</u> Necessary.
7. Grind one bit to proper taper.	Grinder on top of work bench - too high.	<u>How?</u> Lower grinder to more convenient working level.
8. Check to keep from grinding too close to edge.		
9. Grind opposite bit.		
10. Turn off motor.		
11. Take axe to grindstone.	15 feet away along opposite wall.	<u>Why?</u> Not necessary if location can be changed - Rearrange.
12. Put axe down.		<u>Why?</u> Not necessary if job rearranged.
13. Start grindstone motor.	Switch on wall back of grindstone.	<u>Why?</u> Necessary. <u>How?</u> Rearrange location of switch.

<u>Details of Present Method</u>	<u>Notes on Present Method</u>	<u>Analysis of Present Method and Action Needed for Improvement</u>
14. Check amount of water in grindstone water can.	Usually insufficient to complete job.	14-19 <u>Why?</u> Eliminate. <u>How?</u> Pipe water to grindstone.
15. Walk to faucet and get a can of water.	Distance 15 feet.	
16. Return to grindstone with water.	Distance 15 feet.	
17. Fill grindstone water can.	_____	
18. Return pail to faucet.	Distance 15 feet.	
19. Walk from faucet to grindstone.	Distance 15 feet.	
20. Grind 1 bit of axe	_____	20-22 <u>Why?</u> Necessary. <u>How?</u> Okay
21. Walk to window and inspect cutting edge.	Window 5 feet from grinder.	21+ <u>How?</u> Rearrange location of grindstone for better light.
22. Grind opposite bit.	_____	
23. Repeat Step #21.		
24. Switch off grindstone motor.	_____	<u>Why?</u> Necessary.
25. Take axe to work bench.	Distance 15 feet.	25-26 <u>Why?</u> Eliminate and place container for whetstone on grindstone.
26. Get whetstone.	On shelf back of work bench.	
27. Pick up axe.	_____	<u>Why?</u> Eliminate.
28. Whet cutting edges.	_____	<u>Why?</u> Necessary.
29. Inspect cutting edges.	_____	<u>Why?</u> Necessary.
30. Take axe to storage rack.	Distance 30 feet.	<u>Why?</u> Not necessary. <u>How?</u> Relocate storage rack.

The ranger and the headquarters fireman were probably surprised to find 30 details in the method which had been used to grind an axe. They could see how the job could be improved before they were halfway through the breakdown. We all get into the habit of doing a job a certain way and are prone to accept that way as being satisfactory. A thorough breakdown of a job is the only way to uncover all the details which are being performed. You will find as much "pay dirt" in the common day-to-day jobs as in the more complicated ones.

2. QUESTION EVERY DETAIL. The ranger and his headquarters fireman were now ready to question each detail. Notes under the subhead Analysis of Present Method and Action Needed for Improvement will show how they tackled the job.

3. DEVELOP THE NEW METHOD. By eliminating, combining, rearranging and simplifying, the new method for grinding an axe was developed.

Details of New Method

- | | |
|-----------------------------|-------------------------------|
| 1. Inspect axe for defects. | 10. Start grindstone motor. |
| 2. Put on goggles. | 11. Adjust water. |
| 3. Start grinder motor. | 12. Grind one bit. |
| 4. Grind one bit. | 13. Inspect. |
| 5. Inspect. | 14. Grind opposite bit. |
| 6. Grind opposite bit. | 15. Inspect. |
| 7. Inspect. | 16. Switch off motor. |
| 8. Switch off motor. | 17. Whet axe with stone. |
| 9. Step over to grindstone. | 18. Place axe in storage bin. |

You will note there are 18 details in the new method compared to 30 details in the old method.

4. APPLY THE NEW METHOD. The ranger had authority to put the new method into effect immediately. Water pipe and fittings were available at the station and no cash outlay was needed. No regulation was involved. The use of the new method increased production in sharpening axes. Less walking and carrying axes from place to place in the shop made the job safer.

Cost of Work Improvement

The method of doing a great many Forest Service jobs has been improved at no additional cost other than the incidental time of figuring out the improved method. Production can almost always be increased by using power equipment. For example, a chain saw for felling snags or a power shovel to load gravel. The Forest Service uses power equipment when it is available and feasible to do so. But the field in which you, as a Forest Service foreman, can make the greatest contribution to work improvement and increased production is in the day-to-day jobs where little or no cost is involved.

Authority

We discussed in Section 2 the general principles which govern the extent of a foreman's authority to make decisions or to make changes in plans. How far a foreman can go in work improvement depends on the job or procedure, and the understanding he has with his boss regarding his authority. For example, a forest has a standard procedure for the actual planting of trees. The foreman in charge of a planting crew could not change that standard, until he was authorized to do so.

Regulations

Regulations, especially those pertaining to Safety and Fiscal procedures, control to some degree the manner in which a job must be done. Until the Safety Code was modified in 1948 it was mandatory to haul "caps" and "powder" in separate vehicles regardless of quantity or distance. On large jobs there was no objection to this regulation. Foremen in all parts of the Region suggested that on small remote jobs it should be permissible to haul a few caps and sticks of powder in one vehicle (providing a special container was used for the caps, that the caps were placed in the driver's compartment and the powder was hauled in the back of the truck or pickup). They reasoned that this modification of the Safety Code would expedite the work and would not increase the hazard. This suggestion for work improvement was included in a revision of the Safety Code. Regional foresters are now authorized to place into effect the modification described above.

A Word of Caution

At the beginning of this section it was explained that the primary objective of work improvement is to make better use of available labor, material and equipment. Everyone will agree that these objectives are worth while and surely there should be no opposition to new ideas or improved methods which would accomplish these aims. In actual practice however, you will find there are obstacles to getting action on new ideas or improved methods. For the most part they are due to very common traits of human nature. When we recognize and take into account these traits of human nature we are in a better position to cope with them.

There is a strong tendency on the part of most people to resist change. You have probably noticed after the first day or two in a field camp the men will sit at the same place at the table. It's more or less an unwritten law to not sit down at another fellow's place. Most repetitive types of jobs are performed as a matter of habit. We do the job more or less automatically. A different way of performing the job disturbs our habit pattern and for this reason we don't like to change.

Another trait of human nature is to assume that because a job has been done a certain way for a long time that way is satisfactory. If we are to make progress in work improvement our thinking must be that the length of time a job has been performed in a certain way does not necessarily prove it is the best way and that a better way will only be found when we are willing to work at it.

We are inclined to look at a new idea with suspicion. If we would spend at least as much time figuring out how a new idea could be made to work, as we generally spend in thinking of reasons why it won't work, we would make more progress in work improvement.

Gold Is Where You Find It:

The men in a crew are closest to the job, and every once in a while come up with an idea for improving the way it is being done. Be receptive to a new idea. If it appears to have merit, give it a trial. If it works, give the man credit for it.

DAILY SUPERVISION

We have discussed the important elements of a foreman's job. Daily supervision is the art of applying the things we have discussed to the day to day work situation. Your goal is to develop a crew that will do the job in accordance with standards - and to make your supervision such that they will get personal satisfaction and enjoyment while they work.

Experienced foremen have learned that some individuals require more supervision than others. As a rule, and depending on the men in your crew and the job, the least supervision is the best supervision. Before this rule can be applied the job must of course be planned - the men must be trained. With this done you can delegate jobs to your trained men. An experienced trained man, who is interested in his job, gets personal satisfaction in taking responsibility for a job.

When responsibility is delegated to one of your men give him a chance to use his head. His method of solving a problem may not be exactly the way you would do it, but unless your way is definitely better you should not insist on him changing to your method.

Daily supervision involves checking on the work of your crew. You check on the quantity and quality of the work and adherence to safe working practices. If it is not up to standard you have a problem and action must be taken. Here again the principles we discussed in Job Relations apply. If quality of work is substandard why is it substandard? Get the facts. Maybe you will find the man did not understand - or he was not properly trained. When you have the facts the action which should be taken will usually be clear.

On some jobs you may have one or more subforemen or project leaders working under your general supervision. Where this is the case you deal with the subforeman and not with his men. Make sure they understand their responsibilities, especially as it pertains to accident prevention.

Maybe you have worked for a foreman who would come up behind you while you were working and not make his presence known to you. When you noticed him you wondered how long he had been watching you. Or the foreman might have watched you work for awhile and then he walked away without saying anything. Workmen resent these traits in a foreman and rightfully so. A few words with each man as you check his work, and an occasional "pat on the back" for a job well done is the "oil" which keeps the foreman-crew relations running smoothly.

As a rule, when we start a job we want to see it through to completion. This trait of human nature applies to the work situation and should be kept in mind by the foreman. A foreman should endeavor to plan the work so that his men can finish the job they start. Men soon lose interest in the work if they are shifted unnecessarily from one job to another.

The test of your ability to supervise a job comes when the "going" gets rough and everything seems to go wrong. What you do under these circumstances is reflected in the crew. If you allow yourself to lose your temper

or get "jumpy" the crew will follow your lead. If you keep your head, your action will have a steadying influence on your crew. Seldom, if ever, does getting "sore" help correct a tough problem.

A Fair Day's Work

Generally speaking, the production of a crew will be no higher than the standard set by the foreman. For example, if a planting crew foreman is satisfied if the crew plants 400 trees per man-day, it is not likely that the crew will better this very much. On the other hand, if the foreman tells the men that a good crew will plant 600 trees per man-day in this kind of country and that he expects his crew to do as well after they get "hardened in" to the job the men have a goal or standard to "shoot at".

A good way to get and hold the men's interest in production is to keep a simple progress record. Depending on the type of work, the record might show trees planted per day - miles of trail maintained, stations of right-of-way cleared - or a number of trees pruned. A crew is also interested in total progress on the job - when it is 25% finished, 50% finished and so on.

Where most of the crew are young men there is no harm in stimulating friendly competition - provided such competition does not lead to accidents.

The Forest Service does not expect its foremen to be "hard-boiled drivers" but it does expect them to get a fair day's work from each man. Satisfactory work accomplishment cannot be shown where too much travel occurs during the regular work day.

COMMUNITY RELATIONS

A foreman in charge of a road maintenance crew noted his patrol grader operator had turned off the forest road he was working on to grade a short piece of road leading to a rancher's buildings. He drove up to the ranch buildings just as the operator was turning his machine around in the yard. The foreman asked the operator if he was lost. The operator replied that the rancher had asked him to take a few minutes to grade his road and he thought it was all right to do so. The foreman said something about "to _____ with the farmer and his road" and that he was hard-pressed to get the forest roads maintained. The rancher heard the foreman's remarks and told him along other things to _____ with the Forest Service. The squabble came to the ranger's attention and he had to make a special trip to straighten the matter out.

The background information which the foreman did not have, or obtain, was that the rancher had been a good fire cooperator for many years - and right or wrong it had been customary to grade the rancher's short piece of road in interest of cooperation. The foreman was correct in telling his operator he had no authority to grade the rancher's road. But the way he handled the situation was poor - and he certainly did not help community relations.

Another foreman working some distance from the ranger district headquarters drove to a small town once a week to pick up supplies and the mail. While in town he could not resist playing a pinball machine for a few minutes. People noticed this and soon word got around that a Forest Service foreman spent his time in town gambling - which of course was not true. The foreman did bring discredit to the Service by not sticking strictly to official business during official hours.

The purpose of citing these cases is to illustrate what a foreman, or any other forest officer for that matter, should not do to maintain good community relations. In the local community a foreman represents the Service both on the job and off the job. A foreman is just as much a forest officer as a district ranger or a forest supervisor. As such he is expected to be courteous and tactful at all times in dealing with the public. His conduct on and off the job in the local community should be above reproach.

Another factor which affects community relations, or more specifically the public's impression of forest officers, is personal appearance. Two elements of personal appearance are singled out for discussion.

1. Whiskers. The following is an excerpt from a pamphlet prepared by the California Region and entitled "What Every Forest Officer Should Know".

"Nature's unfortunate attempt to beautify the male sex can be classified as beards, mustache and whiskers, alias stubble.

"Mustaches can be dismissed from our story by the simple statement that the walrus type is barred and the prophylactic or eyebrow effect is tolerated but not encouraged.

"Beards are subdivided into spinach, shag, brush, herbage and zits. They are of many classes, from the flowing patriarchial chest protector to goatee and jaw draperies of the almost extinct rube. They have been in and out of style among all nations throughout the ages until the germ theory and the safety razor gave them an antiseptic kick in the pants as far as modern civilized man is concerned.

"Whiskers, or stubble, as here defined, are the sprouts that appear on the human male map and may be caused by earthquakes, sieges, shipwrecks, trench warfare, polar expeditions, motion pictures and forest fires. Usually, however, they are the result of neglect, indifference and laziness. Very rarely they are caused by a bad case of sunburn. But this is no excuse in the Forest Service where field men are supposed to acquire a natural tan at the outset of their careers and retire with a permanent and nonfading color.

"Getting down to cases: Whiskers are the cause of unkind remarks, both written and oral, by the public as well as the meticulous inspector. Our permanent force should know this, and our seasonal men, especially those who most often meet the public, should have it impressed on them in no uncertain terms. All clean-shaven men cannot be guaranteed to rate A-1 when it comes to the final accounting, but no Forest Officer can hope for a "clean" record unless he has a clean face. Exemption is granted only to fire fighters, depending on the size and duration of a fire, and in the event of face irritations."

2. Wearing Apparel. Rough field clothes are appropriate on the job. On trips to town on official business, when contacting the public, and in camp, the best clothes for a Forest Service foreman is an inexpensive uniform consisting of a regular Forest Service shirt, cotton twill trousers, and a hip length jacket, (either green shade or tan) and a forest green felt hat. The forest generally has local policies and standards for uniform wear.

FOREST SERVICE (GOVT.) PROPERTY

Forest Service property is divided into two general classes: (1) land and permanent improvements thereon and (2) equipment and supplies. Equipment and supplies are further classified as expendable and nonexpendable. Expendable items, as the term implies, are things that are used up such as building materials, files, batteries. Nonexpendable property includes such things as machinery, instruments or sleeping bags.

All nonexpendable property on a ranger district is charged to the district ranger. He is responsible to the forest supervisor for keeping a record of such property and for its proper care and use. The district ranger in turn transfers to members of his organization the equipment they need for the job. He most likely will make out and request you to sign a temporary property transfer for equipment turned over to you.

Nonexpendable property which is worn out on the job, or damaged is stored in the field camp or returned to ranger headquarters for proper accounting. Payment can be required for property which is lost, damaged or destroyed because of negligence.

An employee of the Forest Service (or any Federal Agency) who leaves unlocked a vehicle assigned to him - and as a result Govt. property in the vehicle, or the vehicle is stolen - is guilty of negligence. In special situations such as on a fire where danger to a vehicle without keys is greater than the danger of theft it is permissible to leave the keys in the vehicle. From a practical point of view the foregoing applies more to passenger cars and pickups than to trucks. Govt. vehicles cannot be used for other than official use.

Govt. property of any description cannot be used for other than official use. Requests for loans of tools and equipment can be refused in a friendly manner. The only exception to this policy is a situation where life and property are threatened.

The policy outlined above may appear overly strict. Experience over the years indicates a strict policy is necessary to safeguard and insure proper use of Govt. property. The importance of proper care and maintenance of equipment should be explained to the crew. Provide them with the facilities for proper maintenance. Money saved on repairs will help out on increased employment.

RECORDS AND REPORTS

A supervisory officer is rated on how he performs his over-all job and this includes required record keeping. Actually the records a foreman is required to keep are not much of a chore unless he puts off doing the job until he gets behind. It is a good idea to keep up your records each day.

Your boss will let you know what records he wants you to make. And he may ask you to compile information for reports of one kind or another. Our purpose here is to discuss briefly the records which are kept by all Forest Service foremen. Instructions on how to keep each type of record may be obtained by a qualified man on the district.

1. The time record kept by the foreman is the original document from which the forest payroll is made. Any error in timekeeping is sure to mean a delay to the men in receiving their checks. Some of the important points to keep in mind when posting the time record are:

- (a) The correct spelling of each man's name - surname, given name and initial.
- (b) Accounting for all hours of each day for the pay period.
- (c) A clear understanding of how to indicate project charges, fire time, overtime, leave, quarters and meal deductions.
- (d) Having the men in the crew sign the time record when deductions are made.
- (e) Having the foreman (or in case of a large crew, the authorized timekeeper) sign the time record.

Pay periods end officially on Saturday, but so far as the crew is concerned they usually end on Friday. Except during the fire season the men usually want to leave camp over the weekend. With this in mind, it is good practice to have the time record ready for signing when the men come in from work Friday evening. They resent waiting an hour or two for the foreman to complete the time records.

2. Diary: All supervisory officers are required to keep a diary. The entry for each day should neither be too brief nor too lengthy.

3. Equipment Use Report. This report usually includes the periodic equipment inspection report, the "equipment use" report, and the gas and oil record. Forms are provided for keeping the record for these reports. On some forests the job of posting the daily records is delegated to the operator or truck driver.

4. Accomplishment and Cost Reports. Practically all Forest Service work is planned ahead. Projects or jobs are scheduled in order of priority. An estimate is made on the cost of each scheduled job and funds are set up to finance the work. Accomplishment reports are used by administrative officers to check on the progress of the job and the use of funds. It is a means of keeping control. As a rule, foremen are furnished with forms or a map with an overlay for recording accomplishment. Figures used in accomplishment reports should be based on the foreman's best judgment and not on a guess.

Cost records and reports are usually prepared in the ranger's or supervisor's office. Occasionally, when special information on costs is needed, a foreman will be requested to keep cost records and submit a report.

One way of stimulating and maintaining interest in the job is to keep the crew informed on progress of the job, cost per unit, (for example, the cost per mile of trail maintenance) and a comparison of actual costs with estimated costs.

5. Accident Reports: A standard procedure has been established for all government agencies for reporting personal injury and property damage accidents. You will be furnished with standard forms as follows:

1. Compensation Commission Forms (CA 1 and 2)
2. Operator's Report of Motor Vehicle Accident (SF 91)
3. Supervisor's Report of Accident (SF 92)

A good boss will instruct his foreman in how properly to fill in these reports. In the event of an accident it is essential that the required reports be filled in promptly and accurately and submitted to ranger headquarters.

In summary, record keeping is an important part of the foreman's job. They should be kept currently. They should be legible and accurate and should be submitted on time. This job, like a work job, requires some planning. If you drive a pickup or truck, some records might be taken along in a carrying case and filled in during the day. Time can be saved on the record keeping job in camp by rigging up a place to keep records and a table on which to do this work.