III—Job Methods

The Training Within Industry program of Job Methods was developed in order to provide management with a tool whereby supervisors could acquire skill in improving methods.

The outlines for the five 2-hour sessions for a group of ten supervisors, a guide for the trainer, and the various forms used in the group are bound in the following section.

JOB METHODS

SESSIONS OUTLINE

and

REFERENCE MATERIAL

Copy No. _____

For the Personal Use of

_____

As a War Production Trainer

TRAINING WITHIN INDUSTRY SERVICE
Bureau of Training
WAR MANPOWER COMMISSION
1943

Job Methods

A TRAINING WITHIN INDUSTRY PROGRAM

A plan to help the supervisor produce greater quantities of quality products in less time by making the best use of the manpower, machines, and materials that are now available

TRAINING WITHIN INDUSTRY SERVICE
Bureau of Training
WAR MANPOWER COMMISSION
1943

WAR MANPOWER COMMISSION

WASHINGTON, D. C.

SEPTEMBER 1943.

TO THE WAR PRODUCTION TRAINER:

As you help war production supervisors use this JOB METHODS program, you have a rare opportunity to serve the Nation in this emergency.

You also have a major **obligation** to the Nation, as well as to each supervisor.

The situation is a very practical one. Most of the men with whom you will work have had years of experience. They have latent ideas which, if properly developed, will increase production, reduce lost time, prevent waste of material, and increase the use of machinery and equipment. These men command your respect because of their knowledge.

Your function is to show them how to fully develop their ideas for practical use and present them successfully to their Managements. You have two jobs to do: One is to help the supervisor to acquire skill in the use of this "precision tool" for improving job methods; the other is to improve your own ability in training supervisors how to use it effectively.

You should strive with all the energy and diligence you possess to lead each group in the very best possible way—and to do a still better job with each succeeding group.

To assure a uniformly high standard, you should ALWAYS work from this outline. Never deviate from it. Don't trust to your memory, regardless of how many times you may present the plan. It is not difficult and if you follow instructions you can't fail. Furthermore, you will find it a fascinating job.

Once again, leadership in this Jobs Methods Program presents a **personal opportunity** and an **obligation.**

Sincerely,

C. R. Dooley

Director,
Training Within Industry.

SKILL IN IMPROVING JOB METHODS MEETS ONE OF THE SUPERVISOR'S FIVE NEEDS

1. **Knowledge of the Work.**—Materials, machines, tools, processes, operations, products, and how they are made and used.
2. **Knowledge of Responsibilities.**—Policies, agreements, rules, regulations, schedules, interdepartmental relationships.

   These two knowledge needs must be met currently and locally by each plant or company.

   Such knowledge must be provided if each supervisor is to know his job and is to have a clear understanding of his authority and responsibilities as a part of management.

3. **Skill in Instructing.**—Shortening training time by breaking down each job into units easily learned, making the learner receptive, presenting the instruction, trying out his performance, following up for results.
4. **Skill in Improving Methods.**—Utilizing materials, machines, and manpower more effectively by having supervisors study each operation in order to eliminate, combine, rearrange, and simplify details of the job.
5. **Skill in Leading.**—Increasing production by helping supervisors to improve their understanding of individuals, their ability to size up situations, and their ways of working with people.

   These three skills must be acquired individually. Practice and experience in using them enable both new and experienced supervisors to recognize and solve daily problems promptly.

   Training Within Industry Service assists companies in giving their supervisors a start in acquiring these skills through three 10-hour programs: Job Instruction, Job Methods, Job Relations.

These skills, acquired through this training, must become a part of day-to-day OPERATIONS. In no other way can production be so quickly influenced and manpower conserved.

Confidence and resourcefulness in how to proceed, not standardized solutions and rules, are developed. These enable supervisors to get good teamwork, to give better service, and to get out more production.

MORE PRODUCTION THROUGH SKILLED SUPERVISION!

SESSIONS OUTLINE

FOR THE

FIVE TWO-HOUR SESSIONS

Paragraphs in quotation marks are to be presented either by using the exact words of the text or expressing the exact meaning in the Trainer's own words. In case of the latter, special care should be taken to convey the exact meaning every time.

Wherever the expression "(some discussion)" appears, there should be brief discussion to make the point clear or to reach agreement with the group.

Words in **bold face** are key words which provide the Trainer with a quick clue to the statement made in the sentence.

BEFORE YOU BEGIN SESSION I

BE SURE YOU HAVE THESE MATERIALS

1 Attendance Record
1 Suggested Introduction
14 Present Method Layouts
14 Proposed Method Layouts
14 JM Instruction Cards
14 Present Method Break-Downs
14 Proposed Method Break-Downs
28 Blank Break-down Sheets

Demonstration Kit consisting of:

1 Fixture
2 Jigs
2 Staplers
1 Stamp Pad
250 Brass Cards
250 Copper Cards
1 "TOP" Stamp

BE AT THE PLANT 30 MINUTES BEFORE SESSION IS DUE TO OPEN

See the Plant Executive. Make certain he is prepared to open the meeting with a suitable introduction. Give him a copy of the SUGGESTED INTRODUCTION if he has not already received one.

BE AT THE MEETING ROOM 15 MINUTES AHEAD OF TIME

Arrange CHAIRS around the conference TABLE. If there is no table, place chairs in the shape of a "U."

Put a FINISHED SHIELD on the table, also ONE COPPER SHEET and ONE BRASS SHEET.

Place TWO CHAIRS, to be used as SUPPLY BOXES, SIX FEET BACK of the table.

Put a supply of COPPER SHEETS on one chair, and of BRASS SHEETS on the other.

Place TWO waste-paper BASKETS to the RIGHT of the table (to serve as SCRAP BINS).

Put one STAPLER, the STAMP PAD, and STAMP on the table.

Place a waste-paper BASKET to the LEFT of the table (to serve as a TOTE BOX).

Put the extra STAPLER, the JIGS and FIXTURE, out of sight of the Group.

Place SAMPLE HAND-OUT SHEETS and INSTRUCTION CARDS on the table.

WORK FROM THE OUTLINE—DON'T TRUST TO MEMORY

OUTLINE FOR SESSION I

TIME TABLE

1. INTRODUCTION BY THE PLANT EXECUTIVE

Allow 5 min.

Suggested introduction

- Program **name** and **purpose.**
- **Need for Job Methods** in this company.
- Pledge of **cooperation and support.**
- **Schedule** of Sessions II, III, IV and V.

5 min. to here

- **Introduction** of the **trainer.**

---

2. INTRODUCTION BY THE TRAINER

Allow 10 min.

Establish an informal atmosphere *See p. 70*

- **Write your name** on the blackboard and **state** your **industrial connection.**
- Use **name cards** if practicable. Have members put **names** of their **departments** on cards.
- Have **each** member **say** a **word about** his **job.**
- **"This** is an **informal conference,** similar to Job Instruction Training Sessions. **Ask questions** at any time. **No notes** are necessary."
- Cover the **"five needs" of every supervisor.** (Not over 3 minutes.) *See p. 71*

"What is our purpose?"

- "I'm **not** here **to tell** you **how to run** your **jobs or** to **discuss** the **technical** part of your **work.** We **will discuss** one problem common to all of us: **How to improve Job Methods."**

TIME TABLE

– "This Job Methods **program will help you produce greater quantities** of **quality products** in **less time by making** the **best use** of the **manpower, machines,** and **materials now available.**"

– "This **program will not make people work harder,** or in a hurry, as you will see as the program unfolds."

– "We all realize that the **responsibility for production** is **assigned** to us as **supervisors.**"

– **"We must increase production in spite of** acute **shortages** of manpower, machines, and materials."

"Why do we need increased production?"

– "This is the **critical year of** the **war.**"

– **"Today, thousands** are **risking** their **lives—tomorrow,** thousands **more will face** the same **risk.**"

– **"Best quality** fighting **equipment** and **in huge quantities** will help **win** this **war.**"

15 min. to here

– **"Your** complete **cooperation and support** of this program **will help** to **meet** the **crisis.**"

---

3. JOB METHODS IMPROVEMENT IS NOT A NEW PROBLEM

Allow 5 min.

"Where is the best source of ideas for giving us this necessary increased production now?"

– "It is **the supervisor,** the person **who knows** more about **the jobs** under him than anyone else." (Some discussion.)

– **"Everyone** in this group no doubt **has** some **ideas on how to improve methods."**

– "Perhaps **we have never** fully **developed them all.**"

TIME TABLE

"Job methods improvement has always been a regular part of every supervisor's job"

– "Most of the **progress** we enjoy **today is** the **result of improvements** in production methods."

– **Cite examples of improvements** on: Automobiles, Radios, Planes. Get **members** to **compare old and new models.**

– "These **results** have been **accomplished by improvements developed** and applied **by** practical **supervisors** like ourselves."

– **"Ordinarily** these improvements are **made slowly."**

– "But our **fighting forces can't wait.** They **need them today! Time is short!"**

"The purpose of this plan is to make it easier for us to improve our job methods"

– "It will provide **a practical plan** to help us."

– "This **plan** has been **tried and proved** in hundreds of war production plants."

– "It was **developed by** practical **industrial men."**

– **"We'll discuss** the **plan and** see **how** it can be **used** on our jobs right now."

– **"During** the *next four* **sessions** each of us **will** have a chance to **use the plan** on jobs in our departments."

– **"A certificate** from the War Manpower Commission will be given to each member who presents an **improvement—attends all five sessions and pledges to use the plan."**

– **"I have used** this **plan on my** own **jobs and know** how well **it works."**

20 min. to here

TIME TABLE Allow 5 min.

4. DESCRIBE THE USE OF THE DEMONSTRATION JOB

"This plan can be best demonstrated by showing how it was applied to an actual job" *See p. 71*

- "The **job** is **from a war plant—not this plant."**
- **"Observe** this **job in terms of any job** in your own department."
- "The **same** kinds of **improvements** made on this job can be made **on any job which includes one or more of three** basic **types of work."**
- **Ask members of the group to name the different types of work done in their Departments.** *See p. 72*

Blackboard

1. Material Handling
2. Machine Work
3. Hand Work

- "The demonstration job includes **material handling, machine work,** and **hand work. These** are the features to be compared to **your** jobs—**not** this product, **nor** this operation."
- "Let's be sure none of us thinks **this plan** doesn't apply to **our work,** just because we don't make this particular product."
- **Note:** Discuss and stress until thoroughly understood.

Describe the job

- **Product:** Radio Shields. **(Show sample.)**

TIME TABLE

– **Materials:** Copper and Brass Sheets, 5″ x 8″ x 1/64″. (**Explain** use of **cardboard. Show sample**)

– **Operations:** Inspect, Assemble, Rivet, Stamp, and Pack. (**Explain** use of **stapler** in place of Riveting Machine. **Show stapler, stamp and pad**)

– **Operators: 4 men** at 4 **benches.**

25 min. to here

– **Work place:** Supply, Scrap, and Tote Boxes.

Allow 10 min.

5. DEMONSTRATE THE PRESENT METHOD

Follow present method layout and present method break-down exactly

See pp. 72 to 74

– **Do the job at a good pace.**
Tell them **what** you are **doing.**

– **Get, inspect** and **lay out 12 copper** sheets.

– **Get, inspect** and **lay out 12 brass** sheets.

– **Stack sets** of sheets to the right of Riveter.

– **Rivet** each Set. (**Do at least 3**)

– **Stamp** each Shield. **Pile** Shields on Table.

– **Place** 12 Shields **in tote box.**

– **Carry 75-lb** tote **box 50 feet to** the **scale.**

– **Weigh and** make out **ticket.**

– **Handler takes** tote **box 100 feet to Packing Dept.**

– **Packer unloads box, puts 200** Shields **in case.**

– **Packer closes, stencils,** and **weighs** case.

– **Empty** tote **boxes returned** by Handler.

TIME TABLE

HAND OUT PRESENT METHOD LAYOUT

– **Point out flow of material** and bench arrangement.

Discuss the 3 types of work on the demonstration job

– **Material handling**—"Carrying Boxes." (some discussion)

– **Machine work**—"Riveting." (some discussion)

35 min. to here

– **Hand work**—"Laying out, Lining up, Stamping." (some discussion)

Allow 10 min.

6. DEMONSTRATE THE PROPOSED METHOD

A better way of doing this job

See pp. 74 to 75

– "Let's **look at a better method** of doing this job. It was worked out **by** the **foreman** with the help of an operator—**after they applied** the **Job Methods plan.**"

– **"Consider** this **improvement in terms of any job** in your department."

– "First we will see **what** they did, and then develop **how** they did it."

Set up the proposed method and explain the changes

– "The **sheets** were **delivered onto** the **bench.**"

– **Explain and show** Riveting **fixture and guides.**

– **Describe and show jigs** for sheets.

– **"Less experienced operators** were **used** with the new method. More **experienced,** stronger **men** were **upgraded.**"

– **Explain slots** for scrap.

– **"Cases** were **placed** at the bench **by the handler.**"

TIME TABLE

Perform the proposed method

See pp. 75 to 76

- **Follow proposed method layout and proposed method job break-down exactly.**
- Place **sheets in jigs.**
- **Pick up sheets and inspect.**
- **Assemble and place in fixture.**
- **Rivet** bottom—then rivet top. (**Do at least 3**)
- **Place** Shields **in front of fixture.**
- **Place** 20 Shields **in case.** (**Explain count**)
- **Handler** takes Cases **to** the **Packing Department.**
- **Packer closes, weighs,** and **stencils** the Cases.

HAND OUT PROPOSED METHOD LAYOUT

- **Point out flow of material** and Bench Arrangement.
- **Compare with present** method **layout.**

45 min. to here

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7. RESULTS OF THIS JOB METHODS IMPROVEMENT

Allow 5 min.

Question the Members for Their Estimate of the Improvement in the use of Manpower, Machines, and Material.

- **As to Production?—"Each Operator Produced Three Times as Many Shields Per Day."** (some discussion)
- **As to Machine Use?—"Each Machine Riveted 50 percent More Shields Per Day."** (some discussion)
- **As to Scrap?—"Scrap Material was Reduced** from **15 percent** to less than **2 percent,** due to less handling of sheets." (some discussion)

TIME TABLE

– **"Improvements** were made **by making better use of manpower, machines,** and **materials."**

"The operator did not have to work harder or in a hurry on this proposed method"

– "Doing jobs in a **hurry results in bad work."** (some discussion)

– **Act out** a **"speed-up"** of the **present method** to prove the above point. **Actually hurry!**

– "This **would create waste**:—the very thing we are trying to eliminate."

– **"Absolutely not one worker should be speeded-up in any application of the Job Methods plan!"**

– **"Improved job methods give good work**—because production is increased **by eliminating unnecessary parts** of the job—**and making** the **necessary parts easier and safer to do."**

"The principles used in the demonstration apply to all jobs that include material handling, machine work, or hand work"

– "This **demonstration** job is **only a sample job."**

– **"Hundreds** of other **jobs in** the **same plant** were **improved in** the **same way."**

– "Let's **see how** the Job Methods **plan was used by** this **foreman** in making this improvement."

– **"Also** let's see **how** this **plan will help us** make many improvements **on our jobs."**

– "The details of this **plan** are **printed on** this pocket-sized **instruction card."**

HAND OUT INSTRUCTION CARDS—1 to **each** member

50 min. to here

– NOTE.—**Clean up the table.**

TIME TABLE
Allow 2 min.

8. PRESENT THE JOB METHODS PLAN

Present the 4-step plan from the instruction card

– **Read** the **purpose.**

– **Read only** the **4 main steps.**

– NOTE.—**Keep the card in your hand from now on.**

– "These 4 **steps** are all that were **used by** the **foreman in** improving this **sample job.**"

– **"Let's apply** the **4 steps to** the **sample job to see how** the **foreman used** this **plan."**

– **"Also** to find out **how we can apply the plan to our jobs."**

52 min. to here

– NOTE.—**Erase blackboard.**

Allow 8 min.

9. STEP I: BREAK DOWN THE JOB

Read entire STEP I

BLACKBOARD

STEP I.—BREAK DOWN The Job List **ALL** Details

"A job break-down is the starting point for all job methods improvements"

– **"Listing all details gives a complete record and accurate picture of** how the **job** is done."

– "It **indicates** the **NEED for improvements."**

– "It **brings out** many **details** about the job **we never realized** were there."

TIME TABLE

– "A detailed **break-down gives** us the **facts.**"

– **Cite personal examples** of familiar details difficult to remember: **Buttons—pockets—steps on porches—windows in rooms—etc.**

– "The **more detailed and accurate the breakdown, the more complete the improvements will be.**"

– **"Let's define a detail**—'Every single thing that is done, every inspection, every delay.' "

– **Develop** the first **five details of** the **demonstration** job **on** the **blackboard** quickly and accurately.

Blackboard

1. Walk to box of Copper Sheets
2. Pick up 15 to 20 Copper Sheets
3. Walk to bench
4. Inspect and lay out 12 sheets
5. Walk to box and replace extra sheets

– Point out **how easily and quickly** these **five details** were **listed.**

– "Here is a **copy of** the **complete break-down** for this job as **made by the foreman.**"

HAND OUT THE PRESENT METHOD BREAK-DOWN

– **Compare** first five details on **break-down** with those on **blackboard.**

– **Discuss the details.**

– "The **little time** you spend listing details often uncovers **BIG improvements.**"

– **Explain items at top of break-down sheet.**

TIME TABLE

– Explain use of **notes column** as **a reminder** of Distances, Tolerances, Waste, Safety, etc.

– Explain the **difference between** the break-downs for **Job Instruction** and those for **Job Methods.**

– **"In Job Instruction,** only the **important steps** are listed. **A step may include several details."**

– "Because, when instructing, many **steps** are obvious and need not be listed."

– **"In Job Methods,** on the other hand, **ALL details must be listed."**

– "Because **nothing** can be **omitted when studying the method** of production."

"A break-down is an easy, common-sense way to get all the facts about any job method quickly and accurately"

– **"The best place to make a break-down is on the job; not from memory."**

– **"Let** the **operators know what** you are doing **and why** you are doing it."

– "Show him the break-down; let him help you make it; tell him about these meetings; show him the card; do whatever is appropriate; be frank and open."

– "We have seen how **easy** it was **to make** a **break-down for** the **demonstration** job."

– **"How many** of us **can make a break-down** of a job in our own department **by listing all details** the way Bill Brown did?"

– **Ask** for a **show of hands.**

– **"Now** we will **find** out **how** a **job break-down** is **used in** applying **STEP II."**

60 min. to here

– NOTE.—**Erase the 5 details ONLY.**

TIME TABLE Allow 15 min.

10. STEP II: QUESTION EVERY DETAIL

Read Item 1 of STEP II

– "The **success of** any **improvement depends on our** ability to develop a **questioning attitude.**"

– "We must **question everything** that is done; **every single detail** of the job."

– "These **six** very important **questions taught us** practically **all we know.**"

– **"Young people ask questions** to get knowledge. **Many of us stop** questioning things **too soon."**

– "We must **deliberately question all** the **details** of the job we want to improve."

– "The **answers** to these questions will **give** the **information** we need **to make improvements."**

– **Ask** Group **members to read** you the **questions.**

Add on blackboard

STEP II
QUESTION

Why?
What?
Where?
When?
Who?
How?

– "These **questions** are **asked in definite order."** (some discussion)

– "Asking **'How' before 'Why' and 'What' would waste time if** the **detail was** found **unnecessary."**

TIME TABLE

– **"ALL questions** should be **asked of each detail before proceeding to** the **next** detail."

– **"Let's examine each** of the six **questions."**

"First.—WHY is it necessary?"

– "We **ask** this question **first** for each detail."

– "We want to **distinguish necessary** details **from** those that are **unnecessary or doubtful."**

– "This is a **most important** question."

– "It provides the **information** that **leads to big improvements if** we find **many unnecessary details."**

– "It is often the **hardest** to get **answered** properly."

– "Therefore we **have** a **check question to** make sure we **get sound** and reasonable **answers."**

"Second.—WHAT is its purpose?"

– "We want to **find out if** the **detail has** a **useful purpose or adds quality** to the product."

– **"If not,** we will **reconsider** its **necessity."**

– **" 'What** is its **purpose?'** is a **check question on 'Why** is it **necessary?' "**

"Beware of taking action on flash ideas for improvements"

– **"As we get** definite **answers** to these questions, **flash ideas** for improvements will **come** to our minds **rapidly."**

– **"Hold** these **ideas, but note** the **answers on** the Break-down Sheet."

TIME TABLE

– **"Don't decide on** anything **yet. Keep** on **questioning. A better** and more complete **idea usually develops."**

– **"If** the **detail** is **necessary—Continue with** the **other** four **questions."**

"Third.—WHERE should it be done?"

– "We ask this question **to find the best PLACE** to do each detail."

– "In which **department?** In which **section?** On which **machine, bench,** or **equipment?"**

"Fourth.—WHEN should it be done?"

– "We ask this question **to find the best TIME** to do each detail."

– "Should the detail be done **first or last?** In **what order?** Must it be done **before or after** some **other details?"**

– **"When will** the necessary **men, machines, materials,** equipment, or tools **be available?"**

"Fifth.—WHO is best qualified to do it?"

– "We ask this question **to find the best PERSON** to do each detail."

– **"Who** is best for the job **from** the **standpoint of skill? Experience? Physical strength?"**

"Sixth.—HOW is 'the best way' to do it?"

– "We **ask** this **of every necessary detail** only **after** we have asked **Where? When?** and **Who?"**

– "We want **to find** out if there is **a BETTER WAY** to do each detail."

TIME TABLE

– **"Usually** there is a **better way,** but to find it we **must** first **question** the **'how?' of** the **necessary details."**

Read Item 2 of STEP II and comment as follows:

– "These **are** very **important factors** in any job."

– **"Each** item should be **questioned** the **same as** the **details** in the Job Break-down."

– **Cite** an **example,** if appropriate, as you discuss any of the following:

– **"Materials, machines, equipment,** and **tools** are **often scarce** and hard to get."

– **"A small change in design may make** possible a **big** Job **Methods improvement."**

– "An **improvement in** the **layout** of the area or the work-place **may save floor or bench space."**

– **"Poor safety** and **poor housekeeping can** cause **waste** of **lives, time,** and **space."**

"Now, let's see how Bill Brown used these questions on the details of his job"

– Ask the Group to **follow** the **present method break-down.**

– "Bill Brown got these answers to his questions."

– "Whenever he got a good 'clue,' he wrote it down in the **notes column."**

– **DETAIL No. 1.—WALKING.** **Answers**

– **Why?** ____ } **Not necessary if sheets can be**
What? ____ } **moved nearer to bench.**
(Write in **notes** column: **"No,** if sheets nearer bench.")

TIME TABLE

– **DETAIL No. 2.—PICK UP COPPER SHEETS.**

– **Why?** ..... **Necessary to assemble the shield.**

What? ..... **Necessary to assemble the shield.**

Where? ..... **Close to riveter.**
(Write: "Close to Riveter")

When? ..... Any time **before assembly.**

Who? ..... **Riveting operator.**

How? ..... Must be a **better way.**
(Write: "Better way")

– **DETAIL No. 3.—WALK TO BENCH.**

– **Why?** ..... Unnecessary to walk over; unnecessary to walk back.
(Write: "Same as #1")

– **DETAIL No. 4.—INSPECT AND LAY OUT COPPER SHEETS.**

INSPECTION (4a)

– **Why?** ..... **Necessary to maintain quality.**

What? ..... **Necessary to maintain quality.**

Where? ..... At the **riveting bench.**

When? ..... **Just before assembly.**
(Write: "Just before assembly")

Who? ..... **Riveting operator.**

How? ..... Look for a **better way.**
(Write: "Better way")

TIME TABLE

LAYOUT (4b)

– **Why?** ..... **Not necessary, adds no quality** to the product if the sheets are moved close to bench.
(Write: **"No,** if sheets nearer bench")

– **DETAIL No. 5.—WALK TO BOX AND REPLACE EXTRA SHEETS.**

– **Why?** ..... If **no** need to **walk** to box to **get** sheets, **no** need to **walk** to **replace.**
(Write: "Same as #1")

– **DETAIL No. 6.—WALK TO BOX OF BRASS SHEETS.**

– **Why?** ..... If **no** need to **walk** for **copper** sheets, why walk for **brass** sheets?
(Write: "Same as #1")

– **DETAIL No. 7—PICK UP BRASS SHEETS.**

– **Why?** ..... Same as with Copper sheets.
(Write: "Same as #2")

– **DETAIL No. 8.—WALK TO BENCH.**

– **Why?** ..... More walking.
(Write: "Same as #1")

– **DETAIL No. 9.—INSPECT AND LAY OUT.**

– **Why?** ..... Same as with Copper sheets.
(Write: "Same as #4")

– **DETAIL No. 10.—WALK TO BOX AND REPLACE EXTRA SHEETS.**

– **Why?** ..... More walking to replace sheets.
(Write: "Same as #1")

– **DETAIL No. 11.—WALK TO BENCH.**

– **Why?** ..... More walking.
(Write: "Same as #1")

TIME TABLE

– **DETAIL No. 12.—STACK 12 SETS. (CRISS CROSS)**

– **Why?** ..... Not necessary if layout is not necessary.
(Write: **"No,** if no layout")

DETAILS No. 13 to No. 20 Inclusive.—RIVETING.

– "Bill questioned Details 13 to 20 in exactly the same way. He questioned **each** detail **separately."**

– "To conserve time in this meeting, let's just look at the information he noted."

– "On each detail, Bill felt there must be a "better way." (Write: "Better Way" after each)

– **DETAIL No. 21—STAMPING.**

– **Why?** ..... Specification calls for it.

What? ..... **Doubtful**—Could find **no** good **reason for** this **detail.** Let's find out why?
(Write: "Find out")

– **DETAILS No. 22 to No. 30** inclusive.—Were questioned by Bill Brown in the same way.

– "He **QUESTIONED** the necessity of **CARRYING AND WEIGHING** the tote boxes."

– "And he found that **COUNTING** and **PACKING** could be done **ANYTIME** and **ANYWHERE AFTER** riveting."

TIME TABLE

– **"While** he was **questioning and getting** definite **answers he did not make any changes."**

1 hr. 15 min. to here

– **"When all details** on the break-down **have been thoroughly questioned**—then we are ready to **use STEP III."**

Allow 15 min.

11. STEP III: DEVELOP THE NEW METHOD

Read TITLES of Items 1, 2, 3, 4 of STEP III

Blackboard—Add

STEP II	STEP III
QUESTION	**DEVELOP**
Why?	
What?	
Where?	
When?	
Who?	
How?	

– **"Answers to** the **questions** asked **in STEP II lead to developing** a New Method **in STEP III."**

– **"We** can **increase production** only **when details are eliminated, combined, rearranged, or simplified."**

– **"Notice** the **order of** the first four **items**—To **'eliminate' after 'simplifying' would waste time."**

"Item 1.—ELIMINATE unnecessary details."

– "The **answers to Why? and What? lead** us **to eliminate unnecessary** details."

– **"We eliminate** details **to avoid unnecessary use** of Manpower, Machines, and Materials."

TIME TABLE

Blackboard—Add

STEP II QUESTION	STEP III DEVELOP
Why? What?	→ Eliminate!
Where? When? Who? How?	

"Let's see how Bill Brown eliminated unnecessary details"

- **Have group** check or **cross off each detail** on the Present Method Breakdown as it is eliminated.

- "From his notes, Bill **decided** that **details No. 1, 3, 5, 6, 8, 10, 11** (Walking) would be **unnecessary if** the **sheets** could be **delivered nearer** the **bench.**"

- "Bill found **room on** the **bench** for the supply boxes. He found it was **no extra work** for the **handler.** So **he eliminated** all of **these** details."

- "The **details No. 4b, 9b** and **12** (Laying out and Stacking) **added no quality** if sheets were moved to bench—**so** he **eliminated them.**"

- **"Detail No. 21** was found to be **unnecessary,** therefore it was **eliminated."—EXPLAIN STAMPING STORY.** *See p. 76*

- **"Details No. 23 and 24** (Carrying and Weighing) served **no** useful **purpose** since Shields were sold by count. So these details were **eliminated."**

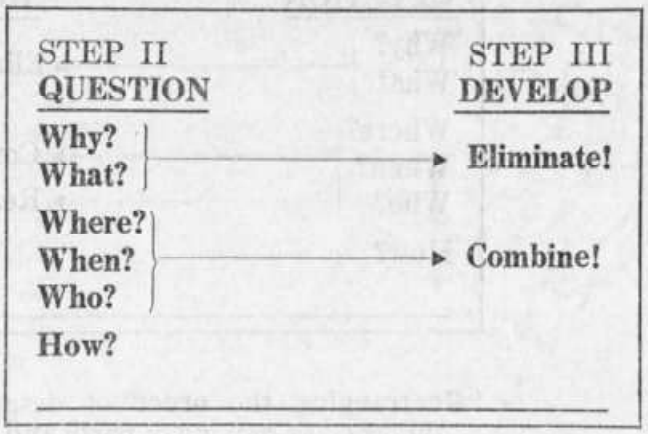
"Item 2.—Combine details when practical."

- "The **necessary details** should be **combined whenever** it is **practical** and **possible."**

TIME TABLE

– "The **answers to Where? When?** and **Who? are leads for combining** necessary details."

Blackboard—Add



– "Possibilities for **combining** details are often discovered by finding the **best place, best time,** and **best person** to do each detail."

– **"Details** are **combined to reduce inspections and handlings** between operations."

"Let's see how Bill Brown combined some of the necessary details on the demonstration job"

– "He had asked of **details Nos. 22, 26, 27 Where? and When?** should the **shields** be **packed and by Whom?."**

– "He **decided** to bring the **cases** to the **bench** and **pack** them there. Therefore the **three** details were **combined."**

"Item 3.—REARRANGE details for better sequence."

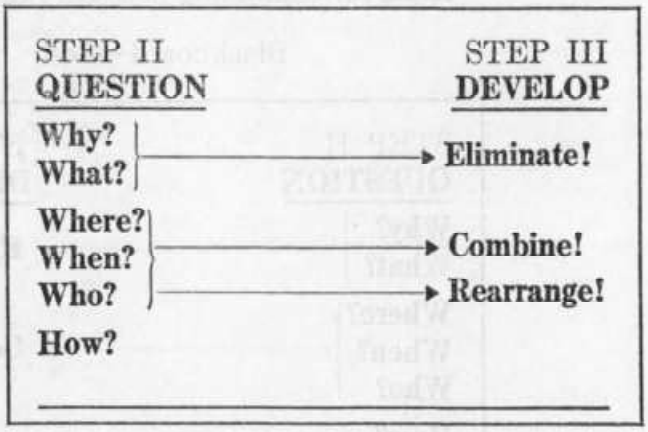
– "If **necessary details can't** be **combined,** they **may be rearranged** for better sequence or order."

– "We **rearrange** details **to reduce handlings and back-tracking."**

– "The **answers to Where? When?** and **Who?** also give **leads for rearranging** necessary details."

TIME TABLE

Blackboard—Add



– **"Rearranging** the **order** of details often **saves** unnecessary **moving** of **parts and avoids** unnecessary **picking up** and **putting down** details."

"Let's see how Bill Brown rearranged some of the necessary details on the demonstration job"

– "Because **he** had **changed** the **location of** the **supply boxes,** he had **to rearrange** the details of **picking up** the Copper and Brass **sheets."** (Nos. 2 and 7)

– "Since he **no longer laid out** the **sheets,** he **had to rearrange** the **inspection** details." (Nos. 4a and 9a)

– "It was **not necessary to carry boxes to** the **scale, and** the **cases** were **packed at** the **bench. So** he **rearranged** the **delivery of cases to** the **Packing** Department." (No. 25)

"Item 4.—SIMPLIFY all necessary details."

– "We **'simplify' to make** the **necessary details safer and easier** to do."

– "The **answers to How?** give us **leads for simplifying** necessary details."

TIME TABLE

Blackboard—Add

STEP II QUESTION	STEP III DEVELOP
Why? What?	→ Eliminate!
Where? When?	→ Combine!
Who?	→ Rearrange!
How?	→ Simplify!

– **Read** and **explain** the **principles** under **Item 4.**

– **Pre-position materials, tools, etc.**—"To put into the best position for easiest pick up, ahead of time. In racks or holders."
. . . Pen Desk Set.
. . . Tools in rack.

– **Proper work area**—"Convenient reaching area."
. . . Varies with arm length.

– **Gravity feed hoppers**—"Using gravity to bring parts to the best place in the work area."
. . . Kitchen match dispenser.
. . . Magazine-feed furnace.

– **Drop delivery chutes**—"Disposing of a part or piece by dropping it through a chute to a container."
. . . Mail Chute.
. . . Coal Chute.

– **Both hands**—"Letting the two hands do useful work."
. . . Typewriter . . . Linotype.
. . . Simultaneous hand assembly.

– **Jigs**—"*Movable* mechanical holding devices."
. . . Clamp . . . Guide . . . Template.

TIME TABLE

– **Fixtures**—"*Fixed* mechanical holding devices usually used in connection with a machine."
. . . Tool Rest . . . Holder.

"Let's see how Bill Brown applied these principles to simplify the details noted—'Better Way'." *See pp. 76 and 77*

– **Show how** the **proposed methods and work-place** were **developed from** the **card** by Bill Brown and the operator.

– Start with the **sheets on** the **bench—one riveter,** and **cases** beside the operator.

– **Demonstrate** all **changes** as you describe them.
(From the card)

– "The sheets were **pre-positioned** in the proper work area."

– **"Jigs** were designed **to hold** the **sheets."**

– "An **angle arm** was added to **make the work easier."**

– "Now **both hands** could do useful work in picking up the sheets."

– "But it was still necessary to **line up** the sheets **by hand**—and to **use one hand for holding."**

– **"A fixture** was designed **to position two riveters."**

– **"Guides** were added **to line up** the **sheets."**

– "Now **both hands** could be used for riveting."

– **"Slots** were cut **in the bench and scrap boxes** were placed **under the bench."**

– So scrap could be discarded by **drop delivery.**

TIME TABLE

– **"Thickness** of the **fixture** was made so a pile of 20 completed shields was flush with the top."

– **"Cases** for finished shields were **pre-positioned** within **easy reach."**

– **"Gravity feed**—only principle **not used."**

– "The **principles on** the **card** were **used**—and **only these** principles."

NOTE.—**The group may offer ideas for further improvements**

– They **may suggest: Foot operated riveters . . . 4 riveters** in one Fixture . . . **A bar over 2** Riveters . . . Possibly a woman can do the job.

– **Compliment** the **members for** doing the **right** kind of **thinking**—you **know they** will **apply it to their jobs.**

Review how STEP II and STEP III are used in order to insure a complete improvement.

– "The answers to **Why? and What? identify unnecessary details to be eliminated."**

– "The **answers to Where?, When?, and Who? give leads for combining and rearranging."**

– "The **answers to How? supply leads for** developing 'the one **best way'** today **by simplifying."**

"Item 5.—Work out your idea with others"

– "We can often get **VALUABLE IDEAS** from the **'BOSS.'"**

– "He is the one who knows what changes will take place and where more production is necessary."

– "He can give us practical leads."

TIME TABLE

– "We can get **help from fellow supervisors.**" (some discussion)

– "Our **operators** can **help** us. Working out an idea **with** an **operator** is **especially** important." (some discussion)

– "Remember how **Bill Brown** 'worked with' one of his **operators.**"

– **"Operators** have **good ideas** too; often just as many as **we** have—**sometimes more!"**

– **"Don't** work out an idea and **spring** it on an operator. **None** of **us** would like that. Neither would the operator."

– "When he **helps** work out an idea he gets **real satisfaction."**

– "An **interested** and **satisfied worker** is just as **important** as the **idea** itself."

– **"Usually everyone** is **glad to help if we ask him."**

"Item 6.—Write up your proposed new method"

– **"Many ideas 'die' before** they are **put into effect or** are **written down."**

– **"Write up exactly what** your **new method will do and how** it can be **done."**

– **"A written proposal is a** complete **summary of** your proposed **improvement."**

– "We **will discuss how to write** up a **proposal** in detail, **during Session II."**

– **"After we have** made a **job break-down—questioned** every detail—**and developed** the New Method—**we** are prepared to **put it to work."**

1 hr. 30 min. to here

TIME TABLE Allow 8 min.

12. STEP IV: APPLY THE NEW METHOD

Read entire STEP IV

Blackboard—Add

Step IV—**APPLY** The New Method

– **"Improvements are of no value unless put to work."**

– "Using **STEP IV insures** the **success** of improvements."

– **"Lack of STEP IV,** in the past, **has prevented many** good **improvements** from **being put to work."**

"Item 1.—SELL your proposal to the BOSS"

Blackboard—Add

Step IV.—**APPLY** The New Method **Sell—**

– "To **get** his **approval for** a **trial."**

– **"Give** him a **short, complete story—facts only—** in your written proposal."

– **"Use break-down sheets, samples, sketches."**

– **"Put it up to the boss at the appropriate time—** Watch your timing!"

HAND OUT PROPOSED METHOD BREAK-DOWN

– **Compare with present method break-down. Show how** they can be **used as** a **selling story.**

– **"Also use written proposals to explain what** this improvement will do **and how it can be done!"**

TIME TABLE

– **"List production increases and better uses** of Manpower, Machines, Material, Space, Equipment—**also quality and safety** improvements."

"Item 2.—SELL the new method to the OPERATORS"

– "So it will **get a fair test."**

– **"Perhaps** only **one** helped develop it, **but several** will have to **use it."**

– **"Instruct** Operators in new methods **carefully. Use** the **Job Instruction plan."**

– **"Get** the **operators' cooperation and ideas** on all improvements." (some discussion)

"Item 3.—Get FINAL APPROVAL of all concerned on SAFETY, QUALITY, QUANTITY, COST"

Blackboard—Add

Step IV—APPLY The New Method
Sell—Approvals—

– "Getting **approvals will prevent trouble."**

– **"Get approval of** immediate **supervisor on all factors."**

– "Where necessary, get approval for:"

– **"Safety**—Safety Engineers and Operators."

– **"Quality**—Inspectors and Laboratory."

– **"Quantity**—Production and Planning Depts."

– **"Cost**—Cost Department."

– **"Follow** regular **organization lines."**

TIME TABLE

"Item 4.—PUT the new method TO WORK—use it until a better WAY is developed"

Blackboard—Add

Step IV—**APPLY** The New Method **Sell—Approvals—Use—**

– **"Avoid waiting, get action** as **quickly** as possible. **Waiting 'kills'** more **ideas** than lack of brains." (some discussion)

– **"Right now** is the time when **we need every** practical **improvement working** for us."

– **"Check** to be sure **the operators** don't slip back to the old, more familiar method."

– "Remember **there will always be a better way. Keep searching for** further **improvements."**

"Item 5.—Give CREDIT where credit is due"

Blackboard—Add

Step IV.—APPLY The New Method **Sell—Approvals—Use—Credit**

– **"One stolen idea will stop all others."**

– **"Stopping ideas is sabotage."**

– "We want to **be sure we give proper credit and show** sincere **appreciation."**

– **"Ask** the **boss to say a word of apprec'ation** to the person who made or helped with the improvement."

– ' The **more credit** we give the **more ideas** we get."

1 hr. 38 min. to here

TIME TABLE Allow 7 min.

13. SELL THE USE OF THE JOB METHODS PLAN

Review the 4-step plan

– **Read each step and the main items** under each.

– "These 4 **steps** were all the **foreman used** to make the improvement **on** the **demonstration job.**"

– "These **principles** are **all we need to make** thousands of valuable **improvements.**"

– Stress **importance of LEARNING** Instruction **CARD.**

"Would more improvements right now—today—help you with your present production problems?" (some discussion)

– **Use the following 5 paragraphs if more "selling" is necessary:**

– **"One** improvement **each week** would **make** any Supervisor's **job easier,** reduce **'bottlenecks' and cut down** the number of **'trouble'** jobs."

– "One **improvement today** is **worth ten times as much now** as it would be next year."

– **"We can't afford to be 'TOO BUSY'** to find time to continually search for improvements."

– **"Our** fighting **forces need greater quantities** of **quality products** in **less time to win** this **war."**

– **"Improvements must be made now!"**

"Will this Job Methods plan make it easier for you to develop and apply improvements?" (some discussion)

TIME TABLE

– **If any say "no," point out** that the **plan will help on any** production **job** that includes Material Handling, Machine Work, or Hand Work.

– **To break down,** "Our work is different" **attitude, point out** that these **principles** have been **applied by others** to:

– Mass Production and Job Shops.

– Process, Assembly, Machine-tool, and Foundry Work.

– Airplanes, Tanks, Guns, Ships, Munitions, Chemical and Lumber Manufacturing.

1 hr. 45 min. to here

– **Get all to agree** that, **"It can be done."**

Allow 10 min.

14. ASSIGN IMPROVEMENT DEMONSTRATIONS FOR SESSION II

"This is the whole story—Let's put it to work"

– **"Everyone will make** Job Methods **improvements."**

– **"Pick out a short job in your department** on which you need Greater Quantities of Quality Products in Less Time. Perhaps, **one** that's **giving** you **trouble."**

– **"Don't try to find** one that might show **startling improvement."**

– "Take **any job**—perhaps the **first** one that you think of—or the **first** one you **see** as you walk through the department."

– "Make a Job **BREAK-DOWN** of **the present method."**

– **"QUESTION every detail** on the Break-down."

TIME TABLE

– **"DEVELOP** the **new method."**

– "Make a **proposed method job break-down."**

– "If you **don't find** an **improvement on** the **first job, tackle another** one."

– "Get ready to **tell** us **how you APPLIED or will APPLY** the **new method."**

– "Bring **break-downs** and **samples, sketches, material, equipment,** and **tools to show both** the **present** and **proposed methods** to the Group."

– "About **20 minutes for both methods."**

– Ask **members to name** the **job** they will "tackle" for improvement.

– **"DO NOT BRING in any SECRET PRODUCTS or processes. Check this with your boss."**

Assign 3 improvement demonstrations for Session II

– **Get 3 volunteers** for Session II.

– **"Any short job** in your own **department."**

– **"All improvements must be NEW IDEAS**—no ancient history!"

– **Be sure they understand exactly what to do** for Session II.

– **Have them tell you** what they are going to do.

HAND OUT BLANK BREAK-DOWN SHEETS

1 hr. 55 min. to here

– 2 to **each** member—1 for **present,** 1 for **proposed.**

TIME TABLE Allow 5 min.

15. RESISTANCE AND RESENTMENT— AND CLOSING

"Two human failings have stopped many improvements from being put to work."

– **"The first of these is RESISTANCE to new ideas."**

– "Don't be surprised if someone with whom you are checking over an idea tells you, 'The Present Method has been successful for twenty years— **why change it?'** That is a **natural** reaction."

– **"Be careful of** the natural **resistance everyone** seems to **have** toward new improvements."

– "We **all** tend to **defend past practice, precedent, tradition, custom, habit**—and to argue against any new ideas."

– **Cite** some **examples** of resistance to such things as: Balloon Tires, Hydraulic Brakes, Clipper Planes.

– **"Don't let resistance interfere** with improvements."

– "The **principles of the Job Methods plan** are **not new.** They were **developed thirty years ago."**

– "Job Methods is a **streamlined and simplified** version of tried and proved **principles."**

"The second failing is RESENTMENT of criticism"

– "Perhaps **someone may interpret** our **search for a better method as personal criticism."**

TIME TABLE

– "It is **up to us to explain our purpose, which is** a constructive search for a better way **to get out the production needed for** the **war** effort."

– **"Let's not be afraid to** bring in improvements that may **infer criticism of ourselves,** i. e. 'Why didn't you think of that one before?' "

– **"Our discussion of each** job **improvement will be** only **constructive, not personal criticism."**

– "Let's **be sure** that **fear of criticism doesn't stop** any of our **ideas** for improvements."

Close promptly with these remarks

– **"Remember the job we** all **have to do** in this War of Production."

– "Keep in mind that **improving job methods is** part of **our fighting assignment."**

– Stress how **job methods improvements will help** in our drive to **produce greater quantities** of **quality products** in **less time.**

– **"Learn** the **instruction card** before Session II."

– **"Remember** your **assignments** for Session II."

– "Bring in **break-downs, sketches, materials,** etc.— for actual demonstrations."

– **"Session II** will be held on:

..... from ..... to ....."
(Day) (Hour) (Hour)

– **Collect name cards** for use at other Sessions. **Record attendance.**

End of 2d hr.

BEFORE YOU BEGIN SESSION II

BE SURE YOU HAVE THESE MATERIALS

Extra JM Instruction Cards
Extra Blank Break-down Sheets
14 Sample Proposals
14 Proposal Sheets
3 Proposal Reports
Attendance Record

BE AT MEETING ROOM 15 MINUTES BEFORE SESSION IS DUE TO OPEN

Arrange chairs. Look after ventilation, blackboard, chalk, eraser, etc.

REMEMBER

In Session II the emphasis is on STEP I: Break down the job.

WORK FROM THE OUTLINE—DON'T TRUST TO MEMORY

If you are invited to visit operations in the Plant, BE ABSOLUTELY SURE YOU DON'T YIELD TO THE TEMPTATION OF GIVING AN "EXPERT'S" OPINION AS TO IMPROVEMENT OF ANY OPERATION YOU OBSERVE.

OUTLINE FOR SESSION II

TIME TABLE
Allow 5 min.

1. OPENING THE SESSION

Opening remarks

- **Keep** the **meeting informal.** Hand out **name cards.**
- **Express appreciation of the group's interest** in improvement of Job Methods as indicated by their coming promptly.
- "We **have seen** how the **4-step** Job Methods **Plan** was **applied to** a **sample job.**"

5 min. to here

- "We will **now see how** these principles can be **applied to our** own **jobs.**"

Allow 10 min.

2. REVIEW SESSION I

Review purpose and 4 steps of the Job Methods plan

- **Emphasize** the **purpose.**
- **Have** the **group** give you the **4 steps and** the **main items** under each.

Blackboard

STEP I.—BREAK DOWN The Job
List **ALL** Details

STEP II **QUESTION**	STEP III **DEVELOP**
Why? / **What?**	→ **Eliminate!**
Where? / **When?**	→ **Combine!**
Who?	→ **Rearrange!**
How?	→ **Simplify!**

STEP IV.—APPLY The New Method
Sell—Approvals—Use—Credit

TIME TABLE

15 min. to here

– **Review** the **use of each step and each item** as you put them on the black board.

– Stress the **relation of STEP II** to **STEP III.**

Allow 1 hour 20 min.

3. PRACTICE DEMONSTRATIONS—TWO JOBS

"The purpose of each demonstration is to learn by doing"

– **"When** we're **convinced** the **plan** can be **practically applied, we can make many improvements."**

– "We are **interested in both** the **improvements and** the **application of** the **4-step plan."**

"To get maximum benefit and to make the demonstrations clear to everyone each member will follow this procedure"

– **Brief the following 8 points on the blackboard:** *See p. 77*

– **"Describe** briefly the **job** you have 'tackled' and explain samples and sketches you will use."

– "Demonstrate the **present method."**

– **"Show present** method **break-down** and **read details."**

– "Explain **what information** and leads you **obtained from** the **answers to questions in STEP II."**

"Explain **how** this **information helped** you to **eliminate, combine, rearrange and simplify** details **while developing** the **new method** in **STEP III."**

– "Demonstrate the **proposed method."**

– "Explain **how you used,** or will use, the items under **STEP IV to help** you **apply** the **new method."**

– **"Sum up** the **improvements** on your job."

TIME TABLE

Ask group members to follow the demonstration with the Job Methods instruction card before them

- **"Check** to be sure **each part of every step** has been considered."

- "Make **notes for constructive comments and** for **questions** *after* demonstration is finished."

- "There will be **no discussion DURING demonstration**—only questions on points **not clear."**

Call on the first volunteer

- **Ask** the volunteer: "Is this **improvement new?** Have you made a **present and a proposed breakdown?"**

  - If **either** answer is **"No," call** on the **second volunteer.**

- **Have** the **volunteer follow** the **demonstration procedure** outlined above.

How to comment on each demonstration

- **Compliment** the **volunteer on** the **good points** that show proper application of the Job Methods Plan.

- Ask **members** if there are **questions about** the **demonstration** they want to ask or further improvements they want to suggest.

- **Discuss** the **application of each part of** the 4 **steps** and exactly how they helped the supervisor make his improvement.

- **Stress:**—"Was it **worked out with** the **operator(s)?"**
  —**"How was credit given** (or planned)?"

TIME TABLE

- **Be sure you don't take the attitude of an "EXPERT." You should ONLY LEAD THE DISCUSSION.**

- On **questions involving company policy,** the **supervisor** should be **referred to his own management.**

- **Sum up** the **results of** the **improvements** in terms of increased production and machine use, savings in materials, better quality, safety, and housekeeping, etc. (use blackboard).

- **Record each improvement on the Attendance Record** and the **Proposal Report.**

Stress the use of STEP I on each demonstration.

- The **correct** way to make a **break-down** should be **clearly and completely explained before proceeding** to the next demonstration.

- Show **how** easily a **break-down** can **PROPERLY** be **made** by **using** the **volunteer's job.**

- **Write** out **on** the **blackboard** entire **present breakdown** (or a substantial part).

- Repeat the **definition of** a **detail:** "Every single thing that is done, every Inspection, every Delay."

- Stress **advantage** of plenty **of notes.**

- Emphasize the **value of** the **break-down.**

- "We **cannot investigate** all **details properly before listing** them **carefully.**"

- "We **must have all** the **facts.**"

- "The **success** of the improvement **depends on information obtained from** questioning a **complete breakdown.**"

TIME TABLE

Call on the second volunteer (if time permits)

- Use **same procedure as** with **first volunteer.**
- Be sure to **sum up carefully all improvements** in the demonstration (use blackboard).
- Record the improvement on the Attendance Record and the Proposal Report.
- **Continue to stress** importance of the **break-down.**
- **List** all **details on** the **board to** further **emphasize** the **importance of** the **break-down.**
- Use both **present and proposed** methods if necessary.
- Prove that a **break-down** of the Present Method **listing all details and facts makes it easy to "question"** thoroughly **and** to **"develop"** completely.

1 hr. 35 min. to here

Allow 10 min.

4. EXPLAIN USE OF THE PROPOSAL SHEET

Explain importance of writing up proposed new method

- "Too **many** proposed **improvements 'die' before** they are **put into practice or** put down **on paper."**
- "The **write-up is** a good **device for SELLING** the improvement **to** the **boss."**
- "It is very **useful in getting final approval** on Safety, Quality, Quantity, Cost, etc."
- "Practical **improvements** can be **passed on and used by others** in the Plant."

How to write up a proposal

- **HAND OUT SAMPLE PROPOSAL.**
- **Read** the **proposal and discuss** it in detail.

TIME TABLE

– "It is **important to list** the **improved uses** of Manpower, Machines and Material **at** the **beginning of** the **proposal.**"

– "Improvements in **quality, design, safety, housekeeping,** etc., should **also** be included."

– "We must tell **exactly how** the **improvement** can be **made and what** will be **accomplished.**"

– Stress the **importance of heading, signature, samples, sketches,** and **job break-down** sheets.

– "The names of **those who** should **receive credit** should **also** be **shown.**"

– **Explain how** the **check list** of **questions on** the back of **proposal** sheet should be **used.**

– "The **questions** will help us **check** the **completeness** of our improvement."

– "They may **give** us some **new ideas.**"

– "At least, they will **stimulate** our **thinking** improving the job."

"Each member will write up a proposal"

– "It should be written-up similar to the **sample.**"

HAND OUT PROPOSAL SHEETS

– "Those **who put on** their **demonstrations** are now ready to **write up proposals** in final form."

– "These **members** will **read** their **proposals** to the Group **during Session III.**"

1 hr. 45 min. to here

– **"Others** will **wait until after** the **demonstrations** to write up and present their proposals."

TIME TABLE Allow 10 min.

5. ASSIGN DEMONSTRATIONS FOR SESSION III

Ask for 4 volunteers for Session III demonstrations

- "Any **short job** in your department. **Not a secret** product or process."
- "Tackle the **first job you come to** when you walk into your department."
- **"All demonstrations** must be made by applying **this Job Methods plan."**
- "We **don't want** a review of **improvements** that have been **already** put **in effect."**
- "Each Volunteer will **make** a **job break-down** of the job he has selected—**question** every detail—**develop** a New Method—**and** work out a **plan for applying** the New Method."
- "Also make a **break-down** of the **new method."**
- "If you **can't improve** the **first** job you tackle; **break down, question,** and **develop another** one."
- Ask **each** Volunteer to **name** the **job** on which he will apply the 4-Step Plan.
- **Have volunteers tell** you **what they are going to do** to follow the 4-Step Plan.
- **Check** with the others in the **group to be sure all** are **working on** a **job and** all are **using** the **4-step plan.**
- "Demonstrations are scheduled for **20 minutes for both present and proposed** methods."
- Invite **any who want help** to **stay** after Session.

1 hour 55 min. to here

TIME TABLE
Allow 5 min.

6. REVIEW AND CLOSING

Review

- Stress the value of **learning** the **purpose,** the 4 **steps and** the **items** under each step.

- **Review** the use of the **proposal sheet and** the **check list** of **questions.**

Closing the session

- **Sell** the idea that **"learning by doing"** is the **only way to gain confidence.**

- "Job Methods **improvement is** a regular **part of** the supervisor's **daily job."**

- Point out the **personal advantage to** supervisors who **make good improvements regularly.**

- Stress the value of having their **proposals carefully worked out** with everybody concerned **before turning them in** for final approval.

- **Close promptly** with the reminder that Session III will be held on

_____ (Day) from _____ (Hour) to _____ (Hour).

End of 2d hr.

- Collect **name cards.** Record attendance.

BEFORE YOU BEGIN SESSION III

BE SURE YOU HAVE THESE MATERIALS

Extra JM Instruction Cards
Extra Blank Break-down Sheets
Extra Proposal Sheets
Proposal Reports
Attendance Record

BE AT MEETING ROOM 15 MINUTES BEFORE SESSION IS DUE TO OPEN

Arrange chairs. Look after ventilation, blackboard, chalk, eraser, etc.

REMEMBER

The emphasis in Session III is on STEP II: Question every detail.

WORK FROM THE OUTLINE—DON'T TRUST TO MEMORY

OUTLINE FOR SESSION III

TIME TABLE
Allow 5 min.

1. OPENING THE SESSION

Opening remarks

- Hand out **name cards.**
- **Express** your **appreciation of** the **interest** shown by the group at the last Session.
- **Compliment those who presented** constructive **improvements** during Session II.

5 min. to here

Allow 5 min.

2. REVIEW SESSIONS I AND II

Review the purpose, the 4 steps, and the proposal sheet

- **Stress** the importance of **using** the Job Methods **plan to make** the **best use of all** the Manpower, Materials, and Machines now **available.**
- **Have** the **group** tell you the **4 steps.** Have them **put** their **cards in** their **pockets** during the review.
- **Review** the use of **EACH STEP** as you put it on the board.

TIME TABLE

Blackboard

STEP I.—BREAK DOWN The Job
List ALL details

STEP II QUESTION	STEP III DEVELOP
Why? What?	→ **Eliminate!**
Where? When? Who?	→ **Combine!** / → **Rearrange!**
How?	→ **Simplify!**

STEP IV.—APPLY The New Method
Sell—Approvals—Use—Credit

10 min. to here

– **Review** use and importance **of proposal sheet.**

Allow 1 hr. 40 min.

3. PRACTICE DEMONSTRATIONS—FOUR JOBS

Stress the value of demonstrations

– **"Learning by doing gives** us **confidence."**

– "We **see** the **practical application** of these principles **to our jobs."**

– **"Everyone** of us **has** the same **opportunity** to **show his ability** in making improvements."

Ask each volunteer to follow this procedure

– **Brief the following 8 points on the blackboard:** *See p. 77*

– **"Describe** briefly the **job** you have 'tackled' and explain samples and sketches you will use."

– "Demonstrate the **present method.**"

TIME TABLE

– **"Show present** method **break-down and read details."**

– "Explain **what information** and leads you **obtained from** the **answers to** the **questions in STEP II."**

– "Explain **how** this **information helped** you to **eliminate, combine, rearrange and simplify** details **while developing** the **new method** in **STEP III."**

– "Demonstrate the **proposed method."**

– "Explain **how you used,** or will use, the items under **STEP IV to help** you **apply** the **new method."**

– **"Sum up** the **improvements** on your job."

Ask group members to follow the demonstration with the Job Methods instruction card before them

– **"Check** to be sure **each part of every step** has been considered."

– "Make **notes for constructive comments and questions to use AFTER** demonstration is finished."

– "There will be **no discussion** during **demonstration**—only questions on points not clear."

Call on the first volunteer

– **Ask** the volunteer: "Is this **idea new?** Have you made a **present and proposed break-down?"**

– If **either** answer is **"No," call** on the **next volunteer.**

– **Have** the **volunteer follow** the **demonstration procedure** outlined above.

TIME TABLE

How to comment on each demonstration

- **Compliment** the **volunteer on** the **good points** that show application of the Jol Methods Plan.

- Ask **members** if there are **questions about** the **demonstration** they want to ask or further improvements they want to suggest.

- **Discuss** the **application of each part of** the 4 **steps** and exactly how they helped the supervisor make his improvement.

- **Stress:**–"Was it **worked out with** the **operator(s)?"**
  –**"How was credit given** (or planned)?"

- **Be sure you do not assume the attitude of an "expert." You should ONLY LEAD the discussion.**

- On **questions involving company policy,** the **supervisor** should be **referred to** the **management.**

- **Sum up** the **results of** the **improvements** in terms of increased production and machine use—savings in materials—better quality, safety, and housekeeping—etc. (use blackboard)

- **Record each improvement on** the **Attendance Record and** on the **Proposal Report.**

Stress the use of STEP II during this practice period

- **Stress** the **importance of** a **questioning attitude** throughout this Session.

- Get the **group to ask Why? What? Where? When? Who? How? Questions** during the discussion **after** each **demonstration.**

- Review the **relation** of **Step II** to **Step III.**

TIME TABLE

– Stress the **importance** of **asking** each **bracket** of **questions** for **each** detail.

– Emphasize the **need** for **holding back "flash ideas"** and noting them on the breakdown sheets.

– "The **best improvements** are **developed** only after **careful** and **complete questioning.**"

– Explain **why** it is **essential to complete STEP II before starting STEP III.**

– Stress the **importance of questioning** all **factors in Item 2** of STEP II and **how these** may **affect** the **details** of the job.

Demonstrations No. 2, No. 3, No. 4 (same as No. 1)

– **Sum up** the **improvements** on each job. (use blackboard)

– **Record each improvement on Attendance Record** and on **Proposal Report.**

1 hr. 50 min. to here

"The four members who put on demonstrations will write up their proposals and read them at Session IV."

Allow 5 min.

4. PROPOSALS ON SESSION II DEMONSTRATIONS

Ask members who put on demonstrations during Session II to read their written proposals.

– Ask for **comments and suggestions.**

– **Recommend** that the **proposals, break-down sheets,** sketches, samples **be submitted at once for approval and action.**

1 hr. 55 min. to here

– **Record results of improvements on Proposal Report.**

TIME TABLE Allow 5 min.

5. ASSIGN DEMONSTRATIONS FOR SESSION IV —AND CLOSE

Ask for volunteers for Session IV demonstrations

- "Any **short job.** **Not a secret** product or process."
- **"Must be NEW improvements."**
- **"Follow** the **4-step plan."**
- "Make a **break-down** of the **proposed method."**
- **Check** the **jobs** with volunteers.
- Invite **any who want help** to **stay** after Session.

Closing the session

- Point out the high points of each demonstration and **compliment** the **group on** their **progress.**
- Remind the group that **similar improvements will** go far to **help win the war.**
- **Emphasize** the **urgent need for every improvement.**
- **Stress** the value of **taking time to** develop New Methods that **save time, machines** and **material.**
- **Close promptly** with a reminder about Session IV on ..... (Day) from ..... (Hour) to ..... (Hour)
- Collect **name cards.** Record attendance.

End of 2d hr.

BEFORE YOU BEGIN SESSION IV

BE SURE YOU HAVE THESE MATERIALS

Extra JM Instruction Cards
Extra Blank Break-down Sheets
Extra Proposal Sheets
Proposal Reports
Attendance Record

BE AT MEETING ROOM 15 MINUTES BEFORE SESSION IS DUE TO OPEN

Make an appointment with the Plant Representative to see him on the day Session V will be held and 45 minutes before it opens. The object is to review with him the Methods Improvements presented at Sessions II, III, and IV which you have listed on your PROPOSAL REPORT.

Between the close of Session IV and the time of your appointment, prepare the PROPOSAL REPORT you will discuss with the Plant Representative.

In the Meeting Room arrange chairs, look after ventilation, blackboard, crayon, eraser, etc.

REMEMBER

The emphasis in Session IV is on STEP III: Develop the new method with others.

WORK FROM THE OUTLINE—DON'T TRUST TO MEMORY

OUTLINE FOR SESSION IV

TIME TABLE
Allow 5 min.

1. OPENING THE SESSION

Opening remarks

- Hand out **name cards.**
- **Express** your **appreciation of** the **interest and enthusiasm** shown by the group.
- **Compliment those who presented** constructive **improvements** at Session III.
- **Stress** the **need for** developing **improvements** and for getting action so they will be put into effect.
- **Ask if** the **improvements** proposed during Sessions II and III **have been put into effect.**

NOTE.—**This will give you something concrete to talk over with the plant representative.**

5 min. to here

TIME TABLE
Allow 5 min.

2. REVIEW PREVIOUS SESSIONS

Review purpose and 4 steps of the Job Methods plan

– **Ask** a **member to state** the **purpose without** looking at the **instruction card.**

– Ask the **group** to **develop** the **4 steps without** using the **card.**

Blackboard

> **Step I.—BREAK DOWN** The Job
>
> **Step II.—QUESTION** Every Detail
>
> **Step III.—DEVELOP** The New Method
>
> **Step IV.—APPLY** The New Method

10 min. to here

– **Point out** some outstanding **applications of** the **4 steps in** Session III **demonstrations.**

Allow 1 hr. 35 min.

3. PRACTICE DEMONSTRATIONS—FOUR JOBS

Point out the advantage to all members of applying the Job Methods principles to all jobs

– "The **demonstrations** at Sessions II and III **illustrated** the **importance of learning by doing."**

Ask each volunteer to follow this procedure

– **Brief the following 8 points on the blackboard:** *See p. 77*

– **"Describe** briefly the **job** you have 'tackled' and explain samples and sketches you will use."

– "Demonstrate the **present method."**

– **"Show present** method **break-down and read details."**

TIME TABLE

– "Explain **what information** and leads you **obtained from** the **answers to** the **questions in STEP II.**"

– "Explain **how** this **information helped** you to **eliminate, combine, rearrange, and simplify** details **while developing** the **new method** in **STEP III.**"

– "Demonstrate the **proposed method.**"

– "Explain **how you used** or will use the items under **STEP IV to help** you **apply** the **new method.**"

– **"Sum up** the **improvements** on your job."

Ask group members to follow the demonstration with the Job Methods instruction card before them

– **"Check** to be sure that **each part of every step** has been considered."

– "Make **notes for constructive comments and questions** *after* demonstration is finished."

– "There will be **no discussion DURING demonstration**—only questions on points not clear."

Call on the first volunteer

– **Ask** the volunteer: "Is this **idea new?** Have you made a **present and** a **proposed break-down?"**

– If **either** answer is **"NO"—call** on the **next volunteer.**

– **Have** the **volunteer follow** the **demonstration procedure** outlined above.

How to comment on each demonstration

– **Compliment** the **volunteer on** the **good points** that show application of the Job Methods Plan.

TIME TABLE

– Ask **members** if there are **questions about** the **demonstration** they want to ask or further improvements they want to suggest.

– **Discuss** the **application of each part of** the **4 steps** and exactly how they helped the supervisor make his improvement.

– **Stress:** –"Was it **worked out with** the **operator(s)?"**
–**"How was credit given** (or planned)?"

– **Be sure you do not assume the attitude of an "expert." You should ONLY LEAD the discussion.**

– On **questions involving company policy,** the **supervisor** should be **referred to** the **management.**

– **Sum up** the **results of** the **improvements** in terms of—increased production and machine use—savings in materials—better quality, safety and housekeeping—etc. (use the blackboard)

– **Record each improvement on** the **Attendance Record** and on the **Proposal Report.**

Stress the use of STEP III during this practice period

– **Show again** the **relation of STEP II to STEP III.**

Blackboard

STEP II **QUESTION**	STEP III **DEVELOP**
Why? / **What?**	→ **Eliminate!**
Where? / **When?** / **Who?**	→ **Combine!** / → **Rearrange!**
How?	→ **Simplify!**

TIME TABLE

– **"Eliminating all unnecessary** details **eliminates waste.** This will **save manpower, machines,** and **materials** that are badly needed."

– **"Combining** and **rearranging** details **reduces handling and backtracking."**

– **"Simplifying** all **necessary details** by applying the principles on the card **makes** the **work easier** and **safer** for the operator."

– "Thus, we can produce **greater quantities** of **quality products** in **less time by** making the **best** possible **use of** the **manpower, machines, and materials available."**

Demonstrations No. 2, No. 3, No. 4 (same as No. 1)

– **"The four members who put on demonstrations** will write up their proposals and submit them at Session V."

1 hr. 45 min. to here

– **"Those who put on their demonstrations at Session V will bring in their written proposals and revise them (if necessary) during the discussion periods."**

Allow 10 min.

4. PROPOSALS ON SESSION III DEMONSTRATIONS

Ask members who put on demonstrations at Session III to read their written proposals to the group

– Ask for **comments and suggestions.**

– **Recommend** that the **proposals, break-down sheets,** sketches, samples, etc. **be submitted at once** for **approval and ACTION.**

– **Remind** the **group** it is important **to give credit** where credit is due.

TIME TABLE

– **Stress** the great importance of **continuing** to **search for better ways.**

1 hr. 55 min. to here

– **Record** the **results of improvements on** the **Proposal Report.**

Allow 5 min.

5. ASSIGN DEMONSTRATIONS FOR SESSION V —AND CLOSE

Ask for remaining volunteers for Session V demonstrations.

– "Any **short job. Not** a **secret** product or process."

– **"Must be NEW improvements."**

– **"Follow** the **4-step plan."**

– "Make a **break-down** of the **proposed** method."

– **Check** the **types of jobs** with volunteers.

– Invite **any who want help** to **stay** after Session.

Closing the session

– Review the outstanding **improvements in** the **demonstration jobs and compliment** the **group on** their **progress.**

– Point out the **personal satisfaction and** the **advantages to** the **supervisor who increases production** by improving Job Methods.

– **Close promptly** with a reminder about Session V

on ..... (Day) from ..... (Hour) to ..... (Hour).

End of 2d hr.

– Collect **name cards.** Record attendance.

BEFORE YOU BEGIN SESSION V

BE SURE YOU HAVE THESE MATERIALS

Extra JM Instruction Cards
Extra Blank Break-down Sheets
Extra Proposal Sheets
Proposal Reports
Attendance Record

BE AT PLANT 45 MINUTES BEFORE SESSION IS DUE TO OPEN

See the Plant Representative and review with him the PROPOSAL REPORT on the Demonstrations made by members of the Group during Sessions II, III, and IV.

Tell the Plant Representative that in closing Session V you will ask each member of the Group to PLEDGE he will BREAK DOWN and QUESTION at least ONE JOB EVERY WEEK, and to PLEDGE he will DEVELOP and APPLY as many IMPROVEMENTS as possible on these jobs according to the Job Methods Plan.

In this discussion strive to further develop the Plant Representative's interest so he will see that his Company's management gives constructive and continuing ENCOURAGEMENT to the Job Methods Plan and to the supervisors who have participated in it.

BE AT MEETING ROOM 15 MINUTES BEFORE SESSION IS DUE TO OPEN

Arrange chairs. Look after ventilation, blackboard, chalk, eraser, etc.

REMEMBER

The emphasis in Session V is on STEP IV: Apply the new method.

WORK FROM THE OUTLINE—DON'T TRUST TO MEMORY

WITHIN TWO DAYS AFTER SESSION V

Make it a point to complete the ATTENDANCE RECORD and your PROPOSAL REPORT ON ALL DEMONSTRATIONS made by the group. Submit the ORIGINAL to the Plant Representative and one copy to the TWI DISTRICT OFFICE; keep a copy for yourself. See that the TWI DISTRICT OFFICE receives the Attendance Record PROMPTLY.

TIME TABLE
Allow 5 min.

OUTLINE FOR SESSION V

1. OPENING THE SESSION

Opening remarks

- Hand out **name cards.**

- **Express** your **appreciation of** the **interest** the Group has shown during the four sessions.

- **Compliment those who presented** constructive **improvements at** Session IV.

5 min. to here

- **Cite** one or two **recent improvements** which are **the result of applying the** Job Methods **plan.**

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2. REVIEW PREVIOUS SESSIONS

Allow 5 min.

Review purpose and 4 steps of the Job Methods plan

- **Ask** the **group to give** the **4 steps and** state **purpose** —**without** looking at **instruction card.**

- **Review use of steps.**

Blackboard

Step I.—BREAK DOWN The Job
Step II.—QUESTION Every Detail
Step III.—DEVELOP The New Method
Step IV.—APPLY The New Method

10 min. to here

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3. PRACTICE DEMONSTRATIONS—TWO JOBS

Allow 1 hr. 10 min.

Value of demonstrations

- "Learn to **present new method before group.**"

- "Develop **experience** by **observing how others improve** their job **methods.**"

TIME TABLE

– "Through group discussion **we benefit from** the **experience of others.**"

Ask each volunteer to follow this procedure *See p. 77*

– **Brief the following 8 points on the blackboard:**

– **"Describe** briefly the **job** you have 'tackled' and explain samples and sketches you will use."

– "Demonstrate the **present method.**"

– **"Show present** method **break-down and read details."**

– "Explain **what information** and leads you **obtained from** the **answers to** the **questions in STEP II."**

– "Explain **how** this **information helped** you to **eliminate, combine, rearrange, and simplify** details **while developing** the **new method** in **STEP III."**

– "Demonstrate the **proposed method."**

– "Explain **how you used** or will use the items under **STEP IV to help** you **apply** the **new method."**

– **"Sum up** the **improvements** on your job."

Ask group members to follow the demonstration with the Job Methods instruction card before them

– **"Check** to be sure that **each part of every step** has been considered."

– "Make **notes for comments and questions** to use **AFTER** demonstration is finished."

– "There will be **no discussion DURING demonstration,** only questions on points not clear."

TIME TABLE

Call on the first volunteer

- **Ask** the volunteer: "Is this **idea new?** Have you made a **present and a proposed break-down?"**

  - If the answer to **either** is **"No," call** on the **next volunteer.**

- **Have** the **volunteer follow** the **demonstration procedure** outlined above.

How to comment on each demonstration

- **Compliment** the **volunteer on** the **good points** that show application of the Job Methods Plan.

- Ask **members** if there are **questions about** the **demonstration** they want to ask or further improvements they want to suggest.

- **Discuss** the **application of each part of** the **four steps** and exactly how they helped the supervisor make his improvement.

- **Stress:**–"Was it **worked out with** the **operator(s)?"**
  –**"How was credit given** (or planned)?"

- **Be sure you do not assume the attitude of an "expert." You should ONLY LEAD the discussion.**

- On **questions involving company policy,** the **supervisor** should be **referred to** the **management.**

- **Sum up** the **results** of the **improvements** in terms of increased production and machine use, savings in materials, better quality, safety and housekeeping—etc. (use blackboard).

- **Record each improvement on** the **Attendance Record and** on the **Proposal Report.**

TIME TABLE

Stress the use of STEP IV during this practice period

- Discuss the **value of** a **complete, clear** and **concise write-up for** the **"Boss."**
  - Also **break-down sheets** (Present and Proposed), **sketches,** samples, **savings** in **manpower,** machines and materials.
- **Talk over** the various reasons why operators may need to be **sold** on the new method, even though it was **worked out** with one or more of them earlier (in Step III).
- Discuss effective ways for **selling** new methods to operators.
- "Securing **final approval from all** concerned is **necessary to** assure **proper authorization** for making changes in methods **and to avoid difficulties."**
- Stress the **importance of quick action** in putting the New Method to work.
  - "Constant **checking** is **necessary to make sure** the new **method remains in effect."**
  - **"Keep** on **searching for** a **better method."**
- **"Give** credit where credit is **due."**
  - **"Credit is** a **powerful incentive** to producing more and better ideas."
  - **"Credit** should be given to **every person who helped** make an improvement."
- **"Failure to give credit may stop all** other good **ideas** that might come from the Department or the Plant."
- "Proper **credit** is **indispensable to** the **success of** the Job Methods **plan."**

TIME TABLE

– **Ask the "Boss"** to give **credit** to **those who** have **helped** you.

Demonstration No. 2 (same as No. 1)

– **Sum up** the **improvements** on each job.

1 hr. 20 min. to here

– **Record each improvement on Attendance Record** and on **Proposal Report.**

Allow 20 min.

4. PROPOSALS ON SESSIONS IV AND V DEMONSTRATIONS

Ask members who put on demonstrations during sessions IV and V to read their completed proposals to the group

– Ask for **comments** and **suggestions.**

– **Recommend** that the **proposals, break-downs, etc.** be **submitted at once** for **approval and ACTION.**

1 hr. 40 min. to here

– **Record results of improvements on** the **Proposal Report.**

Allow 10 min.

5. REVIEW THE JOB INSTRUCTION PLAN

Stress the importance of instructing operators properly

– **"Failure to properly instruct** operators **may mean failure** of the **new method."**

– **"To be sure** the **new method** is done **exactly right, instruct** the worker **carefully**—following the *Job Instruction Plan."*

Ask members to tell you the four get-ready points of the Job Instruction plan

1.—"Have a **time table."**

2.—**"Break down** the Job—**List** the **principal steps and** the **key points."**

TIME TABLE

3.—"Have **everything ready.**"

4.—"Have the **work place** properly **arranged.**"

Ask members to give the 4 basic steps of the Job Instruction plan (**YOU** review sub-heads briefly).

– **"Step 1—Prepare** the **worker."**

– **"Step 2—Present** the **operation."**

– **"Step 3—Try out performance."**

– **"Step 4—Follow up."**

– " 'If the **worker hasn't learned,** the **instructor hasn't taught'** applies to **all jobs."**

1 hr. 50 min. to here

– **"Be sure** this **plan** is **used every time** an **operator is instructed** in a New Method."

Allow 10 min.

6. SUMMARY AND CLOSING APPEAL

Summarize the Job Methods plan

– **Review** the **purpose.**

– **"Carrying out** this **purpose** will **help** you **personally, and** it will **help win the war."**

– **Review** the **four steps** completely.

– Be sure every member has an **instruction card.**

– Urge every member to **keep** the **instruction card** with him **and** to **use it every time** he begins **to improve** a Job **Method.**

– "All the **principles** that are **needed to improve hundreds** of our **jobs** are **on** this **card."**

TIME TABLE

The group member's responsibility

- "Now that our five meetings are over and **each** of us has **demonstrated, 'it can be done,'** we have a **responsibility. It begins here** and now."

- "This **plan** is **only as good as we make it**—by applying it today, tomorrow, and every day to every job and keeping on applying it."

- **Ask** the **MEMBERS** of the group **TO PLEDGE** that they will **break down and question** at least **one job every week.**

  - **And to pledge** they will **develop and apply** as many **improvements** on **these jobs** as they can.

- Assure the group of **management's support, and pledge to give** proposals **prompt action.**

Closing appeal

- "Our **men and women** on the fighting front **are risking** their **lives to win this war** today, tomorrow, and every day of the week."

- "We all know by now that **improvements** in job methods **will** definitely **help** us **produce greater quantities of quality products in less time."**

- "I know you will **put** the **Job Methods plan to work** every time you can so you can do even more **for** the **war effort."**

- "And, I know that the **improvements** you make **will be** a **credit to you and** to the **company."**

- "Take time to **study every job. Encourage others** to take Job Methods so they can help."

TIME TABLE

– "It has been a real **pleasure to work with you.** I wish you the **best of success.**"

– Record the attendance.

End of 2d hr.

REFERENCE

MATERIAL

The following pages were prepared to assist you in your capacity as Trainer to make a convincing presentation. These pointers were prepared after hundreds of ten-hour sessions had been closely observed to find the best way to get results.

In presenting this Job Methods program an otherwise convincing demonstration is often spoiled by a point that was improperly made because it appeared to be of minor importance. You will avoid this if you will study the pages that follow. Practice the demonstrations until you have mastered each step and successfully timed your explanation with each move you make.

To help you become thoroughly competent in making the demonstrations, the explanations accompanying each step are given in full in this Reference Material. A clear understanding of the points to be made is absolutely necessary to a successful demonstration. These points are covered in detail on the pages which follow. References to these explanations appear in the Sessions Outline in the right hand margin and are printed in italics.

In addition, there are suggestions for establishing an informal atmosphere to put the group at ease; also, suggestions for making clear where the Job Methods program fits in as one of a supervisor's five needs.

Illustrations, stories and examples of your own that show the practical application of the items presented are very desirable and should be used whenever appropriate. However, no item in the Sessions Outline is to be omitted or changed.

This does not mean that the paragraphs in quotation marks are always to be given to the group exactly word for word as given in the Sessions Outline. The Trainer may use his own words so long as the exact meaning is preserved at all times.

"ESTABLISH AN INFORMAL ATMOSPHERE"

The personal impression you make during the first 5 or 10 minutes is a big factor. If favorable, it makes the work easier. If unfavorable, you must make considerable effort later to overcome this impression.

The manner of your delivery and the tone of your voice should show clearly that you are in earnest, that you feel strongly about the importance of the work, and that you fully respect the present knowledge and experience of the group. Here are some ideas that will help you to open the session successfully.

1. Establish your own industrial background by briefly relating your own industrial connection. If this is done while writing or printing your name on the blackboard, it will set a pattern each one present will naturally follow.
   - Have Group members state their own connections briefly. This is done not so much for the information they give but to put them at ease. It is something they can do correctly and easily. Allow about 15 seconds for each member.
   - Have members print their names and departments (and company's name, if several companies are represented) on a card which is placed before them.
   - You can say that your difficulty in remembering names makes this cooperation on their part a help in conducting the sessions.
2. If plant regulations permit smoking, you may light a pipe or a cigarette and thus encourage informality. But keep in mind that a pipe or a cigarette can be a nuisance to you while trying to talk or write.
   - When you have encouraged informality in this manner, put the pipe or cigarette aside until later in the session when it will not interfere with conducting the meeting.
3. Your only purpose is to help them to make better use of what they now know. They were selected for their skill and experience. They probably know more about that part of their job than anyone else in their Department.
4. At all times avoid the atmosphere of the classroom. The members of your group are mature persons and they resent any suggestion of the "school teacher and school boy" relationship. Make it a point to avoid using terms such as "class," "student," "classroom," "teacher." Instead, use terms such as these: "group," "worker or learner," "get-together," "meeting," "instructor," etc. Keep before the group the fact that TRAINING is a normal part of a supervisor's job—it isn't something "special" or "apart." Think and speak of a meeting devoted to training just as you would of any other important meeting that has to do with PRODUCTION.
5. Tell the group they will discuss shop problems, as a group of men in the shop, and there's nothing technical.
   - There will be a chance to actually try out the plan and practices discussed.
6. Tell the group that not so long ago you were "on their side of the table," when you took this training yourself. You know it is not too difficult to "get on to" and you have tried it out in practice. It works. Being able to "pass it along" is a satisfaction to you. It's a real privilege to be associated with something that can be of so much help to the war effort.

THE FIVE NEEDS OF A SUPERVISOR

On the first page of the Outline for Session I, there is a paragraph which reads as follows: "Cover the **'five needs'** of **every supervisor."** This appears near the bottom of page 5. The Trainer's job at this point is to explain in a few words how Skill in Improving Job Methods is one of the supervisor's five most necessary qualifications.

Before you attempt to explain the five needs at this point, study the FIVE NEEDS STORY on page 2. Then, consider the following brief presentation given below as one way of telling this story clearly and in the shortest time.

Make it a point to take no more than three minutes at the outside to tell this story. Otherwise, your time table all through Session I will be upset.

Write the five needs on the blackboard as you tell the story.

"Let's look at a supervisor's job—and the knowledge and skill he must have to manage it successfully."

"First, he must have Knowledge of the Work." (Tell briefly what this covers and write on the blackboard: '1—Knowledge of Work')

"Second, he must have Knowledge of his Responsibilities." (Tell briefly what this covers and write on the blackboard: '2—Knowledge of Responsibilities')

"These two needs vary with each company and plant, and the necessary knowledge to fill these needs must be provided by the plant organization itself. Often knowledge that is necessary in one plant is of no use at all in another plant."

"A third need of every supervisor is Skill in Instructing." (Tell briefly what this covers and write on the blackboard: '3—Skill in Instructing')

"The fourth need is Skill in Improving Methods." (Tell briefly what this covers and write on the blackboard: '4—Skill in Improving Methods')

"And the fifth is Skill in Leading People." (Tell briefly what this covers and write on the blackboard: '5—Skill in Leading')

"The Skill of Improving Methods is the part of the supervisor's job that we're going to tackle in these Sessions. Training Within Industry gives the same kind of help on developing Skill in Instructing and Skill in Leading People."

"Practice and experience in using these three skills helps the supervisor to recognize and solve his daily problems. The supervisor who 'gets these three skills under his belt' can use them anywhere. They are his for all time."

THE DEMONSTRATION JOB

"The principles of the Job Methods plan can be best demonstrated by showing how they were applied to an actual job. The job we will use for demonstration is from another war plant—not this plant. Watch this demonstration job in terms of any job in your own department."

"While we have tried to pick a typical job as a sample for demonstration it was impossible to select one that would be exactly like those performed in your shop or department. The sample job we picked out was chosen simply to show how the Plan definitely improves Job Methods."

"First we show you the PRESENT METHOD of doing this job and then, the PROPOSED METHOD. The same kinds of improvements that were made on this job can be made on any job which includes ONE or MORE of the three basic types of work."

JOB METHODS PLAN APPLIES TO ALL JOBS

Ask several members of the group to name the kinds of work done in their departments. From their answers, develop the fact that ALL of the operations on ANY production job can be classified under ONE or MORE of three basic types of work: (1) Material Handling (2) Machine Work (3) Hand Work.

(NOTE.—Thinking, Inspection, and other "nonproductive" operations are parts of all three types of work)

Write the three types of work on the blackboard.

"The demonstration job includes: (1) Material Handling (2) Machine Work and (3) Hand Work. These are the features to be compared to your jobs—not this product, nor this operation. Make it a point to watch these three basic types of work during the demonstration; observe them in terms of any job in your own department."

Emphasize that these three types of work are included in the demonstration job and that these three types of work are comparable to their jobs. IT IS VERY NECESSARY TO MAKE THIS COMPARISON CLEAR. In this way you will overcome the objection that the Plan does not apply to their jobs because "their work is different." It reduces any job of any kind to the common denominator of ONE or MORE of the three general types of work.

MATERIAL AND EQUIPMENT

"The sample Job selected for demonstration is the making and packing of Radio Shields. (SHOW SAMPLE RADIO SHIELD) Each Shield consists of a 5-inch-by-8-inch Copper Sheet riveted to a similar Brass sheet, at four points. Each completed Shield has the word 'TOP' stamped in the lower right-hand corner of the Brass Sheet. The two sheets are each about fifteen one-thousandths or one sixty-fourth of an inch thick. (SHOW SAMPLE SHEETS) You will notice we are using cardboard in place of Copper and Brass because these metals are scarce and substitutes serve our purpose for the demonstration."

1. "The operations performed on the sheets are Inspecting, Assembling, Riveting, Stamping, and Packing."

2. "The operations are performed by FOUR OPERATORS, each working at his own bench."

3. "On each bench there is a hand-operated riveting machine represented by this paper stapler. (SHOW THE STAPLER)

4. The substitution will serve our purpose. It is impossible to carry riveting machines from group to group, and they are needed for war production."

5. "There is a rubber stamp and a stamp pad beside the riveting machine for the purpose of stamping each Shield." (SHOW THE STAMP AND PAD)

THE PRESENT METHOD

"We will now demonstrate the PRESENT METHOD of making and packing the Shields."

"There are four sets of machines and equipment, one for each of the four operators. We will follow the job of completing the Shields as performed by one of the operators whom we will call 'Jim Jones.' The same job was being done by the three other men. Another man, a Material Handler, worked with these operators. He serviced other operators on the same floor as well."

"The Copper and Brass sheets were delivered in Tote Boxes by the Material Handler at a point six feet away from the work bench. He brought the Shields from the Punching and Stamping Department. Two scrap bins, one for Copper and one for Brass, were located at the right of the bench. The Tote Box for Finished Shields was on the left side of the bench." (SHOW POSITIONS OF BOXES AND BINS)

Picking-up, Laying Out and Inspecting

"From his bench Jones walked six feet to the Supply Box containing Copper Sheets. He picked up 15 to 20 Copper Sheets although he was only going to lay out 12 on the bench. He did not pick up the exact number of sheets because they were thin and it was hard to pick up the right number. Also, there were usually among them sheets that had been scratched or dented and they could not be used. With the Copper Sheets in one hand, he walked six feet back to the bench."

"Jones then laid out 12 sheets on the bench, in three rows of four to a row. As he laid them out, he inspected each one for scratches and dents. Only one side of the sheet had to be inspected because a scratch or dent bad enough to spoil its quality shows through. The sheets he rejected, he dropped into the Copper Scrap bin. To do this he had to take two steps toward the bin." (SHOW ONE OR TWO DAMAGED SHEETS AND PUT THEM IN THE BIN)

"Since a few sheets were usually left over, he walked back to the Supply Box and replaced the extra sheets. Then he walked three feet from the Copper Supply Box to the Brass Supply Box and picked up 15 to 20 Brass Sheets. Again, he did not pick up exactly 12 because the sheets were thin, and more than likely he would have had to scrap some of them."

"Jones then returned to the bench and inspected and laid out 12 Brass Sheets. He put one on top of each Copper Sheet. This had to be done carefully, since they scratched easily. Defective sheets were thrown in the Brass Scrap Bin. As before, he had to take two steps in order to throw the defective sheets into the proper bin. (REJECT ONE OR TWO) If he had any Brass sheets left—usually he did—he had to make another trip to the Supply Box, six feet away, in order to return them and walk six feet back to the bench again."

"Jones then stacked the 12 sets of sheets crosswise (criss-cross) near the right side of the riveter and he sat down in front of it."

Riveting and Completing the Shield

"He then picked up a set of sheets with his right hand, and lined them up so the holes matched and the edges of the sheets were even. The line-up tolerance was five one-thousandths of an inch. Lining up to this close tolerance called for a good deal of experience. When the sheets were lined up, he positioned them in the riveter, riveted the top left-hand corner, moved the sheets, riveted the other top corner, and removed them from the riveter. Then he reversed the sheets and riveted the bottom corners."

"He removed the Shield, reversed it, and placed it on the bench. He stamped the word 'TOP' on the right-hand corner of the Brass Sheet, inking the stamp on the stamp pad. Then he set the completed Shield aside on the bench." (RIVET AND STAMP AT LEAST 3 SHIELDS)

"Having laid out 12 sets of sheets, he repeated the process described above until all 12 sets were riveted, stamped, and piled on the bench. Then he carried the 12 Shields to the Tote Box for Finished Shields, placed them in the box and returned to the bench."

Weighing and Packing

"He repeated this process until the Tote Box for Finished Shields was full. Then, he picked it up and carried it to the scale and weighed it. The scale, used by the entire department, was 50 feet away from his bench. The Tote Box weighed about 75 pounds, so a strong man was required. (PICK UP THE BASKET OR CHAIR YOU ARE USING AS A TOTE BOX AND CARRY IT TO THE REAR OF THE CONFERENCE ROOM. MAKE IT LOOK REALISTIC! USE PROPER LIFTING PROCEDURE) Jones made out a weight ticket and placed it in the Tote Box. After placing the box beside the scale, he returned to his bench and started on another box of Shields."

"When two or three Tote Boxes of Finished Shields had accumulated near the scale, the Material Handler took them on a two-wheel hand truck to the Packing Department, a distance of 100 feet. In the Packing Department, the first thing the Packer did was to remove the Shields from the Tote Box, check-inspecting them as he went along. Then the Packer counted out 200 of them and packed them in a wooden case supplied by the Material Handler. The Packer nailed the cover on the case, weighed it, and stenciled the delivery address on the outside. He marked the weight on the delivery slip and set the case aside for shipment. The Tote Boxes he had emptied were returned by the Material Handler to a point close by the riveting operator's work bench."

DISTRIBUTE PRESENT METHOD LAYOUT and review the FLOW of MATERIAL from the supply boxes to the shipping platform. Point out the NUMEROUS HANDLINGS.

"Can you identify the Material Handling, the Machine Work, and the Hand Work that were performed on this job?" (REFER TO MATERIAL HANDLING, MACHINE WORK, AND HAND WORK ON THE BLACKBOARD AND HAVE VOLUNTEERS IN THE GROUP IDENTIFY EACH TYPE OF WORK)

EQUIPMENT FOR THE PROPOSED METHOD

"Now, let's look at the PROPOSED METHOD for doing the same job. This improved method was developed with the help of the operator, Jim Jones, and put to work by the Foreman of the department by applying the principles of the Job Methods Plan. For convenience, we will call the Foreman, Bill Brown."

"First, let's look at the improvement that was made. Then, we will discuss HOW Bill Brown applied this Job Methods Plan and HOW each of us can use the Plan to improve any job in our department or company."

"Watch these improvements closely. Not only for the way in which they apply to this sample job but how the principles which made the improvements possible may be applied to ANY job in our department which includes Material Handling, or Machine Work, or Hand Work."

"Here are the results: The Tote Boxes of Copper and Brass Sheets were placed directly on the bench by the Material Handler. It made no difference to him whether he placed them on the bench or six feet away. No extra work was required." (PLACE PILES OF SHEETS ON THE TABLE)

Riveting Machines, Fixtures and Jigs

"Two riveting machines were placed side by side on the bench. It was not necessary to buy new machines because the second machine was taken from one of the other benches. Then, a simple fixture was made to fit around the two riveters. The riveters were spaced very carefully—in exact locations so that rivets would go through two holes in the sheets at the same time. In addition, the fixture was equipped with two guides that fit the sheets. When the operator slips the sheets between the guides, the sheets are lined up automatically before riveting. This lining-up is within the tolerance limits of five one-thousandths of an inch." (SHOW GROUP HOW THE RIVETERS FIT INTO THE FIXTURE, AND HOW THE SHEETS FIT BETWEEN THE GUIDES, AND ARE AUTOMATICALLY LINED UP)

"Two jigs were made to hold the sheets. (SHOW JIGS TO GROUP) One of them is for the Copper Sheets, the other for the Brass Sheets. One jig was placed at the right side of the fixture and the other at the left. An arm was placed on each jig at an angle of 45 degrees so the sheets are held in position where they can be easily picked up by the operator. This angle arm was suggested by Jim Jones."

"The Scrap Bins were placed under the work bench and two slots were cut in the bench so damaged sheets could be dropped into the bins. The slots are directly in front of the jigs. Cutting the slots was also suggested by Jim Jones, the operator."

New Arrangements for Packing and Shipping

"Shipping cases were placed beside the operator so he could put the completed shields directly into the shipping case. The Material Handler brings in empty cases and takes away the full ones."

"Since there were no longer any heavy Tote Boxes to be carried from one place to another and the sheets were lined up automatically, it became possible for operators with less experience and less physical strength to do the work satisfactorily. The result was that four strong, well-experienced operators were UPGRADED to more important work where this experience and these physical qualifications could be used to better advantage. Jim Jones was pleased that his contribution had helped improve the job."

THE PROPOSED METHOD

"Doing the job by the IMPROVED METHOD, the first thing the operator does is to put a pile of Copper Sheets in the right-hand jig and a pile of Brass Sheets in the left-hand jig."

"He 'fans' them out as he puts them into the jigs so they can be picked up one at a time very easily." (DEMONSTRATE BY FILLING THE JIGS)

"With his right hand, the operator picks up one Copper Sheet and with his left hand he picks up one Brass Sheet. He inspects both sheets, dropping any defective ones down the proper slot. And, he puts the good sheets together in pairs with the Brass Sheet on top. Then he puts each pair of sheets in the fixture. It is no longer necessary to line them up so the holes and edges will be in the same position. The guides on the fixture do this automatically."

The Simplified Riveting Process

"He rivets the two bottom corners at the same time since he has two riveting units and can operate them with two hands at the same time. Then he removes the sheets, reverses them, and places them in the fixture guides to rivet the two top corners. He does the bottom first,

so the square corners will be flush against the guides on the fixture. Thus, he does not have to watch to see that the cut-away corners meet because, when the bottom has been riveted, the sheets are already very tightly pressed together and the cut-off corners meet exactly. As soon as it is riveted, he places the finished Shield in front of the fixture." (RIVET AT LEAST 3 SHIELDS)

"He repeats the process 19 times until he has completed 20 Shields. He does not have to count or weigh them because the height of the fixture had been so designed that when 20 Shields are stacked in front of it, the top of the pile is exactly flush with the top surface of the fixture. The Shields are sold and delivered by count, not by weight."

"When he has finished 20 Shields, he places them in the shipping case at his right. As soon as one case has been filled with 200 Shields, he sets an empty case on the one he has just filled. When four or five cases are full, the Material Handler delivers the cases that are full to the Packing Department. There, the Shields are spot-check inspected by the Packer who nails on the cover, weighs the case, puts the weight on the delivery slip, and sets the case aside for shipment."

DISTRIBUTE PROPOSED METHOD LAYOUT. Point out the FLOW OF MATERIALS AND COMPARE WITH PRESENT METHOD LAYOUT.

"WHY THE TOP STAMP WAS UNNECESSARY"

"The stamp and stamp pad used in the PRESENT METHOD to put the word TOP on each completed Shield are not used under the PROPOSED METHOD. The reason is that Bill Brown, the Foreman, was in a position to ask the Engineering and Inspection Departments WHY this stamping was NECESSARY. He was given the following answer: 'Are you fellows still doing that? It is not necessary to stamp the word TOP on the newly designed Shields that have the upper left hand corner cut off. There is only one way they can be assembled NOW. The stamp should have been left off 6 or 8 months ago when the design was changed.'"

"Someone forgot to tell the Foreman about the stamp and forgot to change the blueprint and specifications."

HOW THE RIVETING DETAILS IN STEP III WERE SIMPLIFIED

Arrange the work place with the sheets ON the bench, packing case beside the operator, ONE riveting machine on the bench, and the CARD in YOUR HAND. Make a careful and logical explanation as you demonstrate ALL the significant moves and developments worked out by the foreman.

"Let's see how Bill Brown, with some help from his operator, Jim Jones, simplified the details noted 'better way.' He used these principles and ONLY these principles."

This is the way Bill said he reasoned out the improvements. He used the card to get ideas.

- He read: "PRE-POSITION the materials in the proper work area."
  - He moved the sheets near the riveting machine.
  - But they were still awkward to pick up.
- Again he consulted the card: "Use JIGS and fixtures for holding."
  - This gave him an idea. Why not make jigs to hold the sheets?
  - Jim Jones suggested putting an angle arm that would fan out the sheets on each jig, so he could always pick up one sheet with each hand.
  - So Bill had the jigs made up.

- But it was still necessary to LINE UP the sheets by hand.
- Also one hand had to be used for holding while doing the riveting.
- As Bill studied the problem an idea developed: Since there were two punchings, why not try TWO riveting machines?

- He looked at the card and read: "Use jigs and FIXTURES for holding."
  - This seemed to be a good idea, so he had a fixture designed to HOLD and EXACTLY SPACE the riveting machines.
  - Once the fixture was made, he saw at a glance the need for guides to line up the sheets.
  - Now, one hand need not be used for holding. BOTH HANDS could be used for riveting.

As Bill and Jim tried out the improvement, they came to a defective sheet. It was necessary to get up and go to the scrap bin to get rid of it.

- They consulted the card again: "Use drop delivery chutes."
  - The operator picked up this idea and asked whether slots could not be cut in the bench.
  - This was done and the scrap boxes were placed under the slots.
  - Now, it was NOT necessary to get up so as to discard scrap.
- Bill then made the job still "EASIER" by having the fixture made of just the right thickness so that a pile of 20 completed Shields would be flush with the top of the fixture.
  - The empty cases for finished Shields WERE PRE-POSITIONED within easy reach.
  - Then it was a simple matter to place the Shields directly in the packing cases until they were filled.

"This was the REASONING Bill went through, with some help from one of his workmen, when they worked out the proposed method. They used the principles on the card and only these principles.

THE EIGHT STEPS OF A PRACTICE DEMONSTRATION

A great help to the Trainer and the group members is to list on the blackboard (in very abbreviated form) the eight steps for putting on a practice demonstration. These demonstrations take place during Sessions II, III, IV and V.

In their briefest form, without regard to conventional abbreviation, the eight points would be written like this:

1. Describe the job
2. Demo present method
3. Read details—present
4. Info. from Step II
5. How info. used in Step III
6. Demo proposed method
7. How use Step IV
8. Sum up

LIST OF TRAINING MATERIALS USED IN THE FIVE TWO-HOUR SESSIONS

Item	*Form Number*
SUGGESTED INTRODUCTION	JM–1
PRESENT METHOD LAY-OUT	JM–2
PROPOSED METHOD LAY-OUT	JM–3
BREAK-DOWN SHEETS	JM–4
PRESENT METHOD BREAK-DOWN	JM–5
PROPOSED METHOD BREAK-DOWN	JM–6
JOB METHODS INSTRUCTION CARD	JM–7
SAMPLE PROPOSAL	JM–8
PROPOSAL SHEET	JM–9
PROPOSAL REPORT	JM–10
SUPERVISOR'S CERTIFICATE	JM–11
ATTENDANCE RECORD	JM–12
DISCUSSION GUIDE	JM–13

DEMONSTRATION KIT, consisting of:

1	Fixture	1	"Top" Stamp
2	Jigs with angle arms	1	Stamp Pad
		250	Copper Cards
2	Staplers	250	Brass Cards

JOB METHODS BREAKDOWN SHEET

Operation: Inspect, Assemble, Rivet, Stamp and Pack Product: Radio Shields Department: Riveting and Packing

Your name: Bill Brown Operator's name: Jim Jones Date: June 14, 1944

List of All Details for {PRESENT / ~~PROPOSED~~} Method Every single thing that is done—Every inspection—Every delay	Notes Reminders—Tolerances—Distance—Time Used—Etc.	Ideas Write them down—Don't trust your memory
1. Walk to box of copper sheets.	Placed 6 feet from bench by handler.	
2. Pick up 15 to 20 copper sheets.		
3. Walk to bench.		
4. Inspect and lay out 12 sheets.	Scratches and dents. Scrap in bins.	
5. Walk to box and replace extra sheets.		
6. Walk to box of brass sheets.	Placed 3 feet from copper box by handler.	
7. Pick up 15 to 20 brass sheets.		
8. Walk to bench.		
9. Inspect and lay out 12 brass sheets.	One on top of each copper sheet.	
10. Walk to box and replace extra sheets.		
11. Walk to bench.		
12. Stack 12 sets near riveter.		
13. Pick up one set with right hand.		
14. Line up sheets and position in riveter.	Line-up tolerance .005".	
15. Rivet top left corner.		

(OVER)

16—40147-1

List of All Details for { PRESENT / ~~PROPOSED~~ } Method Every single thing that is done—Every inspection—Every delay	Notes Reminders—Tolerances—Distance—Time Used—Etc.	Ideas Write them down—Don't trust your memory
16. Move sheets and rivet top right corner.		
17. Remove, reverse, and position in riveter.		
18. Rivet bottom right corner.		
19. Move sheets and rivet bottom left corner.		
20. Remove, reverse, and place shield on table.		
21. Stamp identification and pile on table.	"TOP" on brass—lower right corner.	
Repeat No. 13 to No. 21—11 times.		
22. Carry 12 shields to tote box and place in box.		
23. Carry full tote box to scale and weigh.	50 feet from bench to scale.	
24. Make weight ticket and place in box.	Approximately 75 pounds—gross.	
25. Carry tote box to packing department.	By handler—100 feet.	
26. Take shields out of tote box.	By packer.	
27. Pack shields in shipping case. 200/case.	Check inspection. Wood cases supplied by handler.	
28. Close, weigh, and stencil case.		
29. Mark weight on delivery slip.		
30. Set case aside for shipment.	Empty tote boxes returned by handler.	

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JOB METHODS BREAKDOWN SHEET

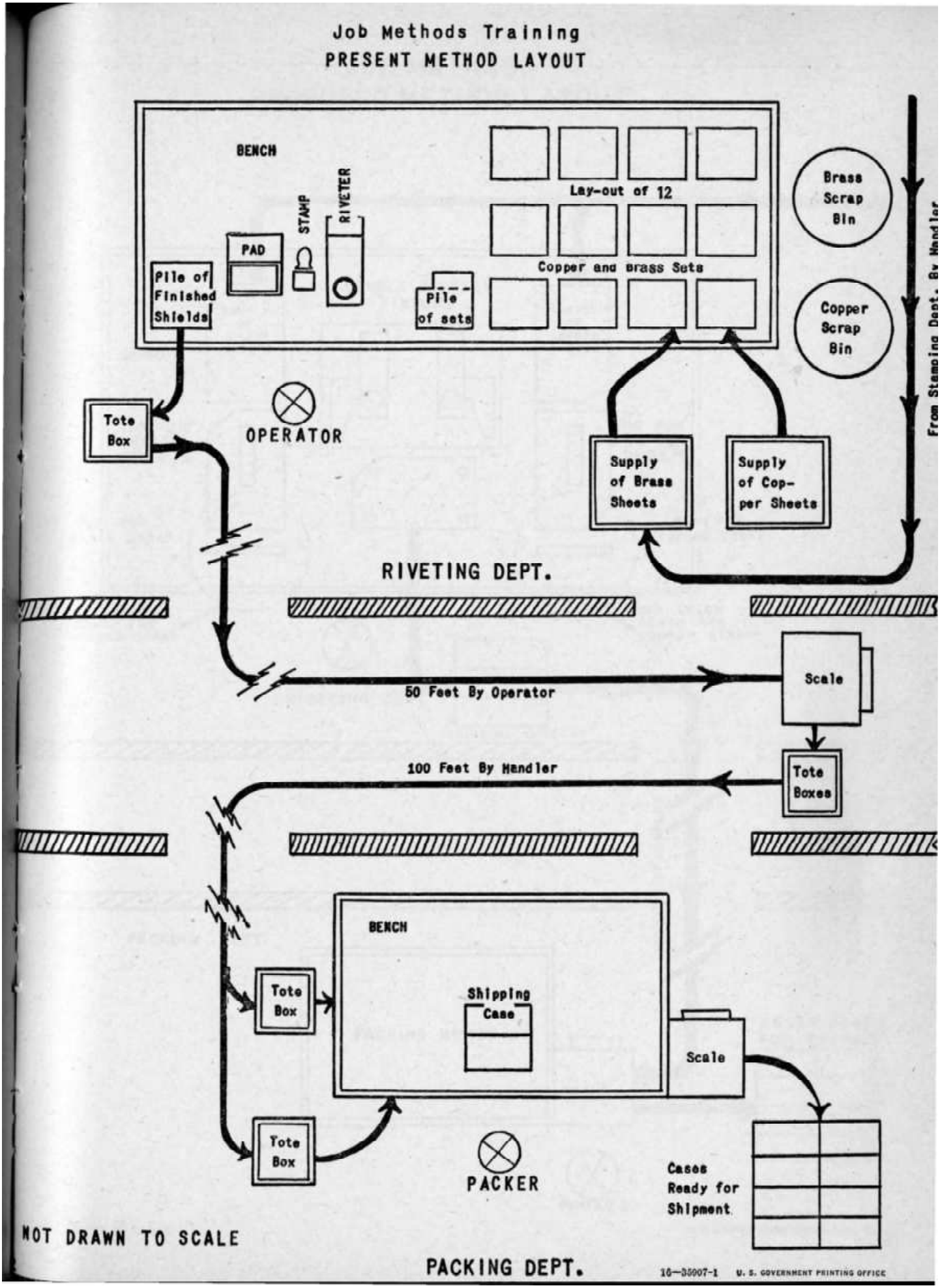
Operation Inspect, Assemble, Rivet, Pack Product Radio Shields Department Riveting and Packing

Your name Bill Brown Operator's name _____ Date June 14, 1944

List of All Details For {~~Present~~ / Proposed} Method Every single thing that is done—Every inspection—Every delay	NOTES Reminders—Tolerances—Distance—Time used—Etc.	IDEAS Write them down—Don't trust your memory
1. Put pile of copper sheets in right jig	Boxes placed on table by Handler	
2. Put pile of brass sheets in left jig		
3. Pick up 1 copper sheet in right hand and 1 brass sheet in left hand		
4. Inspect both sheets	Scratches and dents. Drop scrap through slots	
5. Assemble sheets and place in fixture	Fixture lines up sheets and locates rivet holes. Brass sheet on top	
6. Rivet the 2 bottom corners		
7. Remove, reverse, and place sheets		
8. Rivet the 2 top corners		
9. Place Shield in front of fixture Repeat No. 3 to No. 9 incl.—19 times		
10. Put 20 Shields in shipping case—200/case	Cases placed by Handler	
11. Carry full cases to Packing Dept.	By Handler with hand truck	
12. Close, weigh, and stencil cases	Check inspection by Packer	
13. Write weight on delivery slip		
14. Set cases aside for shipment		

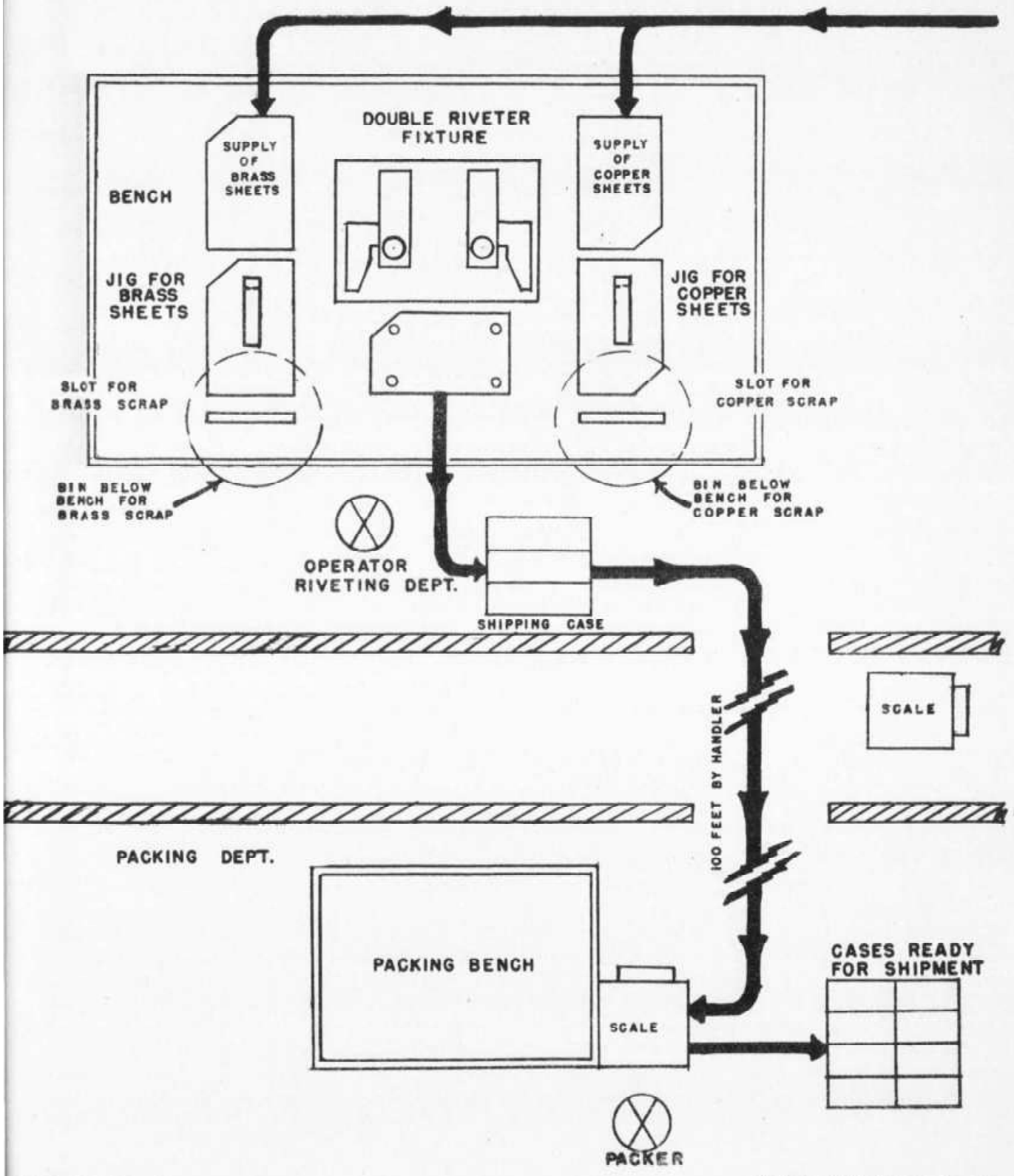
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Job Methods Training
PRESENT METHOD LAYOUT



16—35007-1 U. S. GOVERNMENT PRINTING OFFICE

JOB METHODS
PROPOSED METHOD LAYOUT



NOT DRAWN TO SCALE

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JOB METHODS
PROPOSAL

To R. V. Swift, Supt. Date June 14, 1944

From Bill Brown, Riveting Dept. Department Riveting

Product or Part Radio Shields

Operation Inspect, Assemble, Rivet & Pack

Following is my proposal for improving the method for doing this work:*

We can produce 2400 shields per day per operator instead of 800, - have each riveting machine drive 4800 rivets instead of 2200, - decrease material scrap from 15% to less than 2% and use 2 inexperienced operators instead of 4 experienced men by making the following changes:-

1. Have brass and copper sheet stock delivered to a specified place on riveting benches by the material handlers.
2. Put 2 riveting machines on each bench and use a riveting fixture to line up and hold the sets of sheets so 2 rivets can be driven at the same time.
3. Use 2 jigs made from scrap material to hold sheets alongside of fixture so sheets can be picked up with both hands.
4. Eliminate the "TOP" stamp because it is not necessary on the present style shield.
5. Have shipping cases delivered to riveting benches and let the operators pack shields in cases by count.
6. Cut slots in bench so scrap can be dropped into scrap bins.

See Job Breakdown Sheets and sketch attached.

Credit is due Jim Jones for helping with this improvement.

*Note.—Tell exactly HOW you believe this improvement can be accomplished. Use another sheet for additional information or sketches if needed.
Attach Present and Proposed Break-down sheets.

(over)

JM-9

16—34947-2

(PROPOSAL—REVERSE SIDE)

Before turning in your PROPOSAL, be SURE you have rechecked the New Method with th Job Methods 4-STEP PLAN.

STEP I.—BREAK DOWN the job.

1. List ALL the details of the job EXACTLY as done by the Present Method.
2. Be sure details include all:
   - Material Handling.
   - Machine Work.
   - Hand Work.

STEP II.—QUESTION every detail. Use these types of questions:

1. WHY is it necessary?
2. WHAT is its purpose?
3. WHERE should it be done?
4. WHEN should it be done?
5. WHO is best qualified to do it?
6. HOW is "the best way" to do it?

Also QUESTION the—

MATERIALS

Can better, less expensive or less scarce materials be substituted?
Can the scrap from this job be used for another product?
Have defects and scrap been reduced to a minimum?
Are the material specifications entirely clear and definite?

MACHINES

Is each operating at maximum capacity?
Is each in good operating condition?
Are they serviced regularly?
Is the machine best for this operation?
Should a special set-up man or the operator make all the set-ups?
Can use be made of the machine's or operator's "idle" time?

EQUIPMENT AND TOOLS

Are suitable equipment and tools available?
Have they been supplied to operators?
How about gauges, jigs, and fixtures?
Have equipment, tools, been properly prepositioned to permit effective work?

PRODUCT DESIGN

Could quality be improved by a change in design or specifications?
Would a slight change in design save much time or materials?
Are tolerances and finish necessary?

LAYOUT

Is there a minimum of back-tracking?
Are the number of handlings and the distances traveled at a minimum?
Is all available space being used?
Are aisles wide enough?

WORK-PLACE

Is everything in the proper work area?
Can gravity-feed hoppers or drop-delivery chutes be used?
Are both hands doing useful work?
Has all hand-holding been eliminated?

SAFETY

Is the method the SAFEST as well as the easiest?
Does the operator understand all safety rules and precautions?
Has proper safety equipment been provided
Remember, accidents cause WASTE of manpower, machines, and materials!

HOUSEKEEPING

Are working and storage areas clean and orderly?
Is "junk" taking up space that could be used for additional operators, machines benches, and operations?
Do away with anything that is unnecessary
Be sure necessary things are in proper places.
See that good Shop Housekeeping reduces delays, waste, and accidents!

STEP III.—DEVELOP the new method.

1. ELIMINATE unnecessary details.
2. COMBINE details when practical.
3. REARRANGE for better sequence.
4. SIMPLIFY all necessary details.

STEP IV.—APPLY the new method.

1. SELL your Proposal to your Boss and Operators.
2. Get final approval of all concerned on SAFETY, QUALITY, QUANTITY, COST.
3. Put the New Method to work. Use it until a <u>better</u> way has been developed
4. Give CREDIT where credit is due.

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JOB METHODS TRAINER'S GUIDE

Foreword

Since the goal of every sincere trainer is to do the job competently and throughly, this guide merely offers some of the thinking behind the manual and serves to clarify reasons for this thinking.

There are three separate features in presenting Job Methods Training, KNOW the manual, UNDERSTAND the manual, and KNOW the objectives to be attained in each session.

This guide is developed to make your job convincing and the program clear.

Think of the ten-hour session as a challenge to you to convince every member that the principles are sound and the plan practical.

Keep before the group continuously that Job Methods Training is a PRODUCTION TOOL that may be used daily for results, not a course that merely broadens knowledge.

SESSION I

Introduction by the Plant Executive

Many trainers wonder why this is a must of the program. The reasons should be obvious. We all like to get started on the right foot, and if the plant executive pledges cooperation and support, the members of the group immediately react to the importance of the program.

It lends a flavor of cooperation and production interest that helps you, the group, and management.

FIVE MINUTES, NO MORE. And if the executive wants to know what to say, refer him to the written introduction for ideas.

Introduction by the Trainer

Remember the old adage, "First impressions are lasting impressions!" This is your opportunity to sell yourself to the group, and it is a mighty important sale.

We all like a friendly, informal atmosphere. We like the man who can be himself. Be natural, be one of the group, get in the "first name" habit quickly.

Tell the members without fanfare of your background, merely to justify that you are a practical man with industrial background and not a formal educator.

Distribute the name cards, it breaks the spell of listening. Have each man say a few words about himself, it gets them talking. Often it breaks the ice with the skeptics. A few remarks to tie your background in with his helps SELL yourself, if done naturally.

Remember, reasons are powerful so now is the best time to develop the reasons behind the need for T.W.I. Training.

Develop the "five needs" of every supervisor, get their agreement that this is sound reasoning, and fits their job.

Now, what comes next?

You have sold yourself to the group and the need for supervisory "tools of production", now, isn't it natural to sell the tool on which you will concentrate for ten-hours, Job Methods Improvements.

Sell the purpose, the need, that it isn't a new idea, and the Mr. Supervisor, the man right in the group is one of the best sources for ideas and always has been. What you are going to do is to offer a plan that has been tried and proven, developed by men who KNOW the problems of production, and that you KNOW the plan will work because you have worked it yourself.

Watch for the paragraph, "During the next four sessions each of us will have a chance to use this plan on jobs from our own departments!" Here is the opportunity to clearly explain in a few words, what will be expected of them. Each will apply these principles to a small job, ANY small job in fact, and the ideas must be new, not already in effect. This emphasis will sharpen attention for the remainder of Session I. Don't overlook this opportunity, it will help you.

To whet their appetites a little, tell them that certificates will be given those who complete five sessions, something to always remind them of their contribution to the war effort.

If you have handled yourself well to this point, you have done a swell job of selling yourself, and the idea that the program fits them like a glove.

Describe the Use of the Demonstration Job

The preliminaries are completed, now it's time to toe the rubber and start pitching.

Up to now there has been a lot of telling. And telling gets tiresome, so the pace changes. What could be more logical than to select a job, any job, and use this job as a means to clarify the program by demonstration.

But Mr. Skeptic is going to say that's fine, but what does the "any job" have to do with my work?

"My work is different!"

Anticipating this hurdle, you make sure that this cannot be said. You patiently develop the three types of work from the group and drive home that in any job that has any one of these three types of work, these principles apply.

To make sure the die-hards aren't still skeptical, stick your neck out, and ask if anyone can think of a job in his department that does not have at least one of these types of work. This clinches it, for any job can be shown to have at least one of the three types of work.

Now the group is ready to really absorb the demonstration, for they are thinking in terms of some job in their own departments, as compared to the demonstration. THIS IS REALLY AN IMPORTANT PART OF THE PROGRAM. UNLESS YOU GET IT OVER CORRECTLY YOU MAY FIND THE GOING ROUGH.

Present Demonstration

There is just one way to make this effective. Practice makes perfect, and practice you must.

The order is logical and simple. Describe the job so that the group can visualize the product and the work place. Then do the job. The way you do it will help you greatly later in the program, so do it exactly as directed in the manual.

Anticipating that someone may still be a little hazy, you then hand out the "Present Method Layout" and review the flow of material and lay out. Just another means to make sure they understand the job. Good instruction, isn't it?

Then to make sure the group has grasped the three types of work, have them point out the Material Handling, Machine Work, and Hand Work.

Demonstrate the Proposed Method

Contrast is impressive, so now since the group is interested in results, why not show the results. Sure, it's a little showmanship, but it's sound and impressive.

First we tell them what happened after the foreman applied the principles and later they will see just how it was developed.

Keep in mind that now you are merely showing "What" happened, and this will keep you away from the "How" it happened that comes later. All you are doing is demonstrating the results, NOT how they were developed.

Again the clearest way is to describe the changes, and then perform the Proposed Method.

As after the Present Method demonstration, to make sure each member understands, hand out the Layout Sheet of the "Proposed Method" and review it. Then compare it with the Present Method. The contrast is convincing.

Sell the improved method by selling the results in terms of production, machine use and scrap. Make it impressive.

These results might be accomplished at the expense of the operator, so to make absolutely sure no one gets this idea, KNOCK OUT once and for all that the operator works harder, or in a hurry, or that he or she is speeded up. Act out the speed up, show how this always creates waste and then emphasize

that there is NO speed up in Job Methods Improvement. Improving methods increases production by ELIMINATING the UNNECESSARY PARTS OF THE JOB AND MAKING THE NECESSARY PARTS EASIER AND SAFER TO DO.

Stress that after all, these principles are applicable to any job, as was actually the case in the foreman's plant and that hundreds of other jobs were improved.

Now we are going to see HOW it was done by applying the principles and how each in the group can do the same thing on one of their jobs.

Hand out the cards. This is the "textbook". It's all on both sides of the cards.

While you are distributing the cards, clear off the table for you will want to build up the job later and this is the best time to get things in order, so that the group will clearly see the next buildup.

Present the Job Methods Plan

Just explain the four main principles on the card as a lead into the four-step plan.

Step I

The value of every step must be clearly established both as to content and ease of application.

It will all fall in line if we follow the manual and understand the strategy.

First present Step I by reading it in detail.

Then as another aid to clarification, use the board to focus attention on Step I, and the fact that each must LIST ALL DETAILS. (Don't forget the line across the board for this will help you space the following steps.)

You have made a flat statement, now it must be justified. Drive home the reasons why a breakdown is the foundation of all improvements.

To illustrate we know few of the facts on our every day activity, the examples of buttons on the shirt, eyelets in the shoe, etc., bring this home to the group. More contrast, more showmanship, but it works. To effectively handle this section follow this pattern:

a. State that you will diverge for a few moments to illustrate that we seldom know the details of things we do day in and day out.

b. Select a member of the group. Ask "Do you know how many buttons are on your shirt?" (or a similar question regarding any other article you select). If he answers "Yes" go to another member. If he answers "No!" ask if he would like to guess.

c. After he has guessed right or wrong and counted them, make the statement, "Now you <u>know</u>, you have the <u>facts</u>!"

d. Repeat for at least one other member on another article.

If you use other approaches, you may end up with a slightly pink face.

Then comes the description of a detail. Nothing complicated, nothing burdensome.

To show how EASY it is to list details, refer to the Radio Shield Present Method, and have the group develop with you the FIRST FIVE Details. Now you can appreciate how necessary it is to perform the Present Method correctly, for what you DID THEN will determine what you GET BACK NOW. Lead the group and keep on the beam. No long discourses or discussions, for you are doing this for a definite purpose. When the five details are listed, have the group volunteer the time taken to list the five details. Not over <u>2 minutes</u> if you have handled yourself correctly.

Now you hand out the breakdown. Does it look like a long burdensome job? No! Because you have cushioned the presenting of it by developing the five details so easily and quickly.

Compare the five details on the board with those on the breakdown. Then by simple mathematics, the whole breakdown of thirty details can be done in a few minutes. Drive home the fact, "Did it pay to spend 15 or 20 minutes on a breakdown that will increase production 3 times?" Any sensible person agrees. Drive home the importance that NO MATTER HOW BUSY WE ARE, IT ALWAYS PAYS TO TAKE TIME TO SAVE TIME. The busier we ARE the more Job Methods can HELP US.

This can be most effective. Practice it, refine your presentation, make it flow smoothly and effectively.

Just follow your manual for the balance of Step I. It's right down their line of experience.

Step II

Step II is probably the most difficult to interpret, yet it is the tool which starts the ball rolling to gather information.

The first few paragraphs give you a splendid opportunity to express your individuality and impress the value of a questioning attitude.

Then to the blackboard to list the questions with the help of the group, and then the explanation of each of the six questions. You MUST KNOW and UNDERSTAND the use of these six questions. They must be a part of you, so that irrespective of the detail, the job, the action, or whatever it is, you can apply them intelligently.

Then comes Item 2, Step II and again you must understand the importance of these items. Not just lip service, real understanding.

This furnishes the explanation, now comes the application to the Radio Shield sample. If you UNDERSTAND the six questions, this is duck soup. If you don't, you need a life preserver. Don't make it complicated, don't make an engineering job of it. Just handle it in an easy logical way, and get the

group to list the notes on their breakdown sheets. Keep emphasizing and re-emphasizing that this is the information gathering step. No changes. No flash ideas in use, just gathering every bit of useful information in the way of notes.

Ask your questions and answer them. Just be Bill Brown, the foreman, and if the group tries to cross you up, throw your arms around old "Bill Brown". He made the breakdown, he asked the questions, NOT YOU. Bill can be an awfully handy person.

This gives the group a pattern on the "HOW" of applying Step II.

Step III

Now you are ready to do something about all the information gathered in Step II.

Use the blackboard as indicated in the manual to again give the group visual as well as spoken relationship between Step II and Step III.

Now let's look at the logic of the presentation. Think for a minute how anyone might handle Step III on the job. First they would eliminate everything unnecessary, then combine as many necessary details as possible, rearrange the remaining details that could not be combined, and finally simplify all details that might be simplified.

That's exactly the way it's handled except that you demonstrate the development right through from ELIMINATE TO SIMPLIFY.

When you reach item 4, "Simplify the necessary details", you merely amplify the principles of simplification by simple homely comparisons that all may understand, and then demonstrate "How" Bill Brown used these principles just as anyone in the group might use them on his own job.

It's so direct and convincing. By this time the light begins to dawn, and the whole picture enfolds.

From here on the going gets smooth. The manual guides you, the reasoning is sound and then each item stands out with logic and clarity.

Section 12 to end

You may wonder about a few of the items after Step IV.

For example: Why go around the conference table and have each man state the job he will tackle?

Once a man has stated his job, he has bought the program, it focuses his attention on a specific job. He has started to think and question. Just exactly what you as the trainer want. Remember that most men have, not one, but many jobs in mind.

Be careful that the group understands that you will not hold them exactly to the job they have mentioned, if they find another that they think more suitable. Be informal and flexible.

Caution them that NO improvements already developed are acceptable. The improvement must be new, their idea.

Another question, "Why bring up Section 15"? Just anticipation and if you can beat the other fellow to the punch, you are on to as the group leader.

Now it isn't a tough job if you UNDERSTAND the manual, is it? What you do in Session I, the way you handle yourself, and the interest you develop pays dividends in Sessions 2, 3, 4, 5.

The challenge is yours. Remember, all of us can always refine and improve. Follow the manual but make the manual be yourself, so that your performance sparkles.

A job well begun is a job well done.

OBJECTIVES OF SESSION II-III-IV-V

Before discussing the handling of each of the remaining sessions, you should have a clear conception of the overall objectives to be accomplished during the ten hours, and what your fundamental thinking must be to reach these objectives.

Objective #1 - To make sure that each member understands each and every part of the 4-step Job Methods Plan.

Objective #2 - To convince every member that the principles of Job Methods Improvement apply to ANY job that has Material Handling, Machine Work, or Hand Work, whether repetitive or not.

This may sound very elimentary, but let's not fool ourselves. It is much easier said than done.

Certainly the improvements are important, but NOT AS IMPORTANT AS A CLEAR UNDERSTANDING OF THE USE OF THE PLAN, and how it applies. Then, let's always keep Objective #1 foremost, keeping in mind that for some members it may be Session V before they see the light. Remember if they fail, YOU have failed.

Keep always before you that your obligation is to <u>sell</u> the plan, so that at the conclusion of ten hours each will agree that the JOB METHODS PROGRAM is a PRODUCTION TOOL, that may be used daily on ANY job.

The way you handle Session II determines to a great extent the ultimate success of the ten hours.

Let's review for a minute just where you are in the development of the program and how much the group has absorbed. You will be a genius, or a magician, if every member of the group has a CLEAR picture of the use of the four-step plan. Let's assume the progress of any group is as fast as the SLOWEST MEMBER.

Therefore, the best for which you may hope, is that the group has absorbed 50% of what you put over in Session I, and you had to do a bang-up job if you approached this figure. The best assumption to take is, "Let's start over as far as understanding".

Remember too, the group has seen only the Radio Shield Job, not a job from their plant and you still may have skeptics.

It is, therefore, important to you as the trainer to make Session II impressive. This is the SPOT THAT YOU CAN REALLY DO A SELLING JOB. If you do, Session III, IV, and V really roll. If you don't, you may still be fighting a few by the end of Session V.

Treat Session II as a CLARIFICATION SESSION, of what you attempted to put over in Session I.

The most natural thing to do first would be to review the 4-step plan by questioning the group, and developing it on the board. Just a quick way to pull the group together and focus attention of the USE OF THE PLAN (Objective 1).

While doing this, test your group for understanding. Ask some leading questions, that develop the "reasons why" we perform each step. Encourage questions from the group. Remember, some members will have a questioning attitude, while others hesitate to appear "slow to grasp" before the group. A clear answer to one question may clarify the thinking of the several in the group. Get the answers from the group whenever possible. USE the conference technique.

Now you are ready for the demonstrations but before you begin Demonstration #1, clearly outline the points to be followed in each demonstration.

Some trainers use a corner of the blackboard if large enough, and list each point, following the manual. Others have a prepared sheet which they place conveniently in the room (preferably in the back, or side of the room) which can be used as a guide.

Also ask each member to keep notes on the USE of the plan (Remember Objective #1) as well as questions to be asked after the demonstration is concluded.

The manual calls for two important questions before the demonstration, "Do you have a Present and Proposed Breakdown?", and "Is the Improvement a new one?" If you desire a red face and complete chaos, just neglect to ask these questions. We might let you learn from bitter experience, but frankly we think too much of you. Call for another volunteer IF THE DEMONSTRATOR ANSWERS 'NO' TO EITHER QUESTION. ALLOW NO EXCEPTIONS.

The first demonstration is all important. A few simple rules to follow:

1. Go to the back of the room and be one of the group. If the demonstrator talks to you, he will at least talk through the group, not away from them.
2. Keep notes inconspicuously, but for goodnass sakes KEEP NOTES on the good points, as well as the bad.
3. Interrupt ONLY if demonstration is off the beam or not understandable. Ask the group to follow your example.
4. When the demonstration is completed, have the demonstrator return to his place at the table, and you take charge. Many times it is embarrassing to the demonstrator to have questions fired at him while Mr. Group leader lolls comfortable back in his chair. DON'T LET IT HAPPEN.

5. Follow the procedure outlined in the manual.

Now let us review some things that cannot be put in the manual for every group is different and IT'S UP TO YOU TO HANDLE THE SITUATION INTELLIGENTLY.

After you have complimented the demonstrator on the good points, and there are good points in every demonstration, (It's up to you to detect them) and opened up the questioning period and discussed ideas for further improvement from the group, YOU now begin to SELL THE PLAN.

Nine times out of ten on Demonstration #1 you get steps on the breakdown and not details. If by a miracle you get details, don't pat yourself on the back. It's usually just a coincidence. Take the breakdown and go to work.

List the details on the board correctly. You will have to work mostly with the demonstrator because he knows the job, but keep group participation at least by agreement UNTIL enough details are listed so that EVERYONE underetands just what a DETAIL is in Job Methods! On the average, twenty details are usually sufficient. This is where you SELL STEP I and SELL you must. Very often it immediately brings out the ridiculousness of the way the job is done. MAKE SURE THAT EVERY DETAIL IS LISTED.

Are you finished? No you're just getting started. Pick out several details and question them with the IDEA OF THE GROUP DEVELOPING AN IMPROVEMENT THAT THE DEMONSTRATOR DIDN'T FIND. THIS IS DONE BY THE USE OF THE PLAN, NOT FROM YOUR BACKGROUND OF EXPERIENCE.

Don't be an expert. It's dangerous!

If you are able to develop an improvement, your whole program is MADE. You are well on your way toward Objective #1 and Objective #2. You have demonstrated that there is nothing up your sleeve, that the plan works on any job, and to prove it here is a job you never saw before from their plant. What a job you can do from here in with this kind of handling.

Follow the manual for the use of ALL FOUR STEPS and then sum up the improvements on the board.

IF THIS TAKES THE WHOLE TWO HOURS, TAKE IT. It will pay dividends in the remaining three sessions.

If you have time for the second demonstration, fine, but don't force it. Make SURE the first is completed clearly and thoroughly.

If you do put on the second demonstration, repeat the procedure of handling the first demonstration.

Don't be an expert. It is dangerous!

You can see the logic of this technique. It is far better to have clear understanding and realization of the value of each step, than to have a startling improvement that confuses thinking of the group.

Allow ten minutes to cover the use and handing out of the proposal sheets. This is another important part of the plan. DON'T NEGLECT IT.

Then four volunteers for Session III, Review and Closing.

If you have carefully followed this plan you should have brought out:

1. A clear understanding of a detail and how to breakdown a job.
2. The importance of Step I in relation to the maximum improvement.
3. The realization of the members to demonstrate SMALL JOBS. (Many try in Session II to rearrange the plant and perform miracles. Drive for the small jobs to start. The larger ones may follow later.)

After you have completed Session II, sit down by yourself and analyze just what happened. Possibly you can improve your handling for subsequent groups, as well as the remaining sessions.

SESSION III

From here on you begin to roll IF you have capably handled Session II.

The group should have a pretty fair understanding of the 4-step Plan.

After the preliminaries of thanking the group for their interest, and complimenting those who presented their demonstrations in Session II, ask everyone to put their cards in their pockets.

Then develop the 4-step Plan on the blackboard by group participation. Again plenty of "reasons why". Just another of the many opportunities to continue to sell Objectives #1, and #2.

Follow the manual regarding the procedure to be followed during each demonstration, and again list on the board the eight points, or refer to prepared chart. (As listed in Session II of Trainer's guide).

While referring to these eight points, stress the following interpretations for the demonstrator:

1. When reading the details of the breakdown, read only sufficient details to make sure that they are details, and not steps. (Possibly 10 - 15 will suffice).
2. When explaining how Step II was used, question in detail only 3 or 4 details and then read the balance of notes, as listed on the breakdown after applying the questions. (This is to save time and keep the demonstration from dragging by lengthy repitition).

You will find that this will give you an accurate picture of whether the improvement was developed from the plan, or whether the breakdown was developed from the improvement. (Believe it or not, this happens).

Follow the simple rules outlined in Session II while the demonstration is in progress, as follows:

1. Ask if the "Improvement is a new idea".

2. Ask if the Present and Proposed Breakdowns are prepared.

   (If the answer to 1 and 2 are NO call on next volunteer)

3. Clear the blackboard and suggest sketches for clarification.

4. Take a seat in the back of the room.

5. Keep notes inconspicuously.

6. Allow no interruptions, unless absolutely necessary.

7. Take charge at the conclusion of the demonstration and have all questions and discussion ONLY when the demonstrator has resumed his seat at the table.

Your strategy of handling demonstrations from here on differs somewhat from Session II.

Compliment the good points as before. Then open the discussion for questions and further improvements.

Then to the USE of the plan. (Objective #1)

If the breakdown shows steps, go to the board again and break down a <u>few</u> steps into details, from the group. Request the demonstrator to rewrite the breakdown for practice, and submit at the next session.

If the details are well listed, compliment the volunteer, and READ several to give the group. (Another shot at the proper way to <u>list</u> the details).

Some trainers effectively ask, "Did the breakdown HELP YOU with this improvement?" or "Could you have made as complete an improvement without a breakdown?" The answer will be affirmative providing you have used judgment in asking the question.

Ask for group reactions on the breakdown, directed toward the importance of Step I.

Now you must clarify Step II so bring out forcefully just what this pattern is. If you want to do it effectively, list a few details on the board

and question them as a pattern. (If the details are on the board, use them). Again bring out group participation and clarify any confused thinking.

Remember the TWO important points on questioning details.

1. Question ONLY the ACTION part of the detail.
2. Question each detail with all questions necessary before proceeding to the next detail.

Discuss Step III by group participation and how it was used.

Discuss Step IV by group participation.

Sum up the improvements <u>on the board</u>.

After the first demonstration, AGAIN REVIEW the use of Step II as directed in the manual.

Proceed with as many demonstrations as possible, always keeping in min that we are driving for Objective #1, and #2 and any failure to use the plan, or any step, will be reflected in confused group thinking. Correct errors, continuing to repeat the reasons behind each step. In other words, CONTINUE TO SELL.

Allow ten minutes before the end to read Proposals and demonstrations in Session II. Encourage group comments.

Close the session following the manual.

Again, have a little mental chat with yourself. Pick out the weak points and eliminate them from your handling of demonstrations. Emphasize and smooth out the strong points. You will know. Use Methods Improvement on your <u>own job</u>.

SESSION IV

This is handled very similar to Session III. Since there has been additional practice and additional clarification, your job should become easier, if you have followed instructions.

This time, after the preliminaries, list on the board only the 4 main steps, although the development of these steps is practically the same as in previous sessions.

Follow the procedures outlined in Session III in presenting the demonstrations.

Follow the seven rules outlined for the trainer during the demonstration. (Listed in Session II and III)

In Session IV, Step III is stressed and clarified, but NOT at the expense of the other three steps.

Make sure that every bit of confusion is clarified. CONTINUE TO SELL THE PLAN.

Allow ten minutes at the end for the reading of proposals and closing.

FOLLOW THE MANUAL.

Have another chat with yourself on the results obtained. Remember the adage, "When we are through improving, we ARE THROUGH."

SESSION V

This session should be the icing on the cake. There may be a few wrinkles to iron out, so make sure that everything is clear.

Again follow the manual by reviewing the plan. Only the 4 main steps on the board, but plenty of discussion and "reasons why" in developing each.

Finish the remaining demonstrations, following the pattern outlined in Session III and IV. Use the same techniques and group discussion.

The main emphasis in Session V is Step IV, and this can be interestingly presented, for it means so much to the success of the program. It further helps considerably from a practical standpoint to emphasize the use of Methods Improvement as a Production Tool, and a continuing PROGRAM.

After the Proposals for demonstrations from Session IV and V have been read and constructively commented upon, spend 10 minutes on the old keystone, Job Instruction Training.

Have the group develop for you the 4 "Get Ready Points" AND the 4 MAIN STEPS of Job Instruction Training, and then emphasize how this program can be of value in making Job Methods a continuing production tool.

Follow the manual in closing.

Have the group leave, after the 10 hours with a sincere conviction that Job Methods Improvement is a sound program, based on sound principles, and really a tangible tool that will help each and every member. Emphasize that <u>every</u> supervisor is a link in the chain to help win the war, by the use of the methods principles every day on every job.

If possible close the session by having a plant executive outline what will be expected of the group in the future, and <u>how</u> management will cooperate.

You, Mr. Trainer, have an opportunity to be of great service to the war

effort, to the company who has placed these people in your hands, and to Training Within Industry.

Make the most of it.

Be proud of your performance and contribution.

TRAINING WITHIN INDUSTRY HAS CONFIDENCE IN YOU.