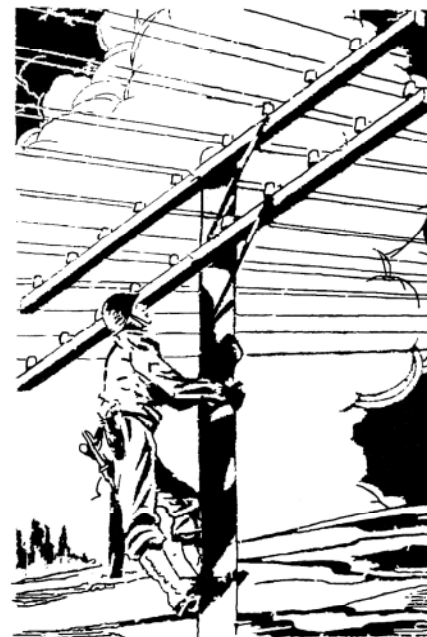


BASIC WIRE COMMUNICATION



LINEMAN'S HANDBOOK

Issued by
**WIRE-
TRAINING
SECTION**

**CENTRAL SIGNAL CORPS REPLACEMENT
TRAINING CENTER
CAMP CROWDER MISSOURI**

M. Skinning - The process of removing insulation from wire.

N. Staggering - The off-setting of splices in the two conductors of twisted pair wire so as to prevent bulkiness and short circuits.

O. Switching Central - The facility employing a telephone switchboard to inter-connect telephones to trunk lines which terminate at another switching central.

P. Terminals - Contact or binding posts conveniently arranged for connecting equipment on circuits.

Q. Test Station - An installation of one or more terminal strips cut in on a long trunk or local circuit for test purposes.

R. Wire Boom - A device sometimes used in laying field wire from a truck.

S. Wire Circuit - An electrical circuit composed of one or more wire conductors.

T. Wirehead - A forward test point to which all trunks and long local circuits for a switching central are brought prior to connection to the switchboard.

U. Wire Lines - One or more circuits.

V. Wire Pike - A small pole about 9 feet long used to place field wire lines off or on a road or limbs of trees etc.

IDENTIFICATION

NAME _____

RANK _____

SSN (Specialist Serial Number) _____

EQUIPMENT

Climbers Size _____

Body Belt Size _____

Pliers _____)

Knife _____) Complete Set _____

Pouch _____)

Date of starting Wire Training Section

_____ . _____ 1943.
month day

KNOW THESE MEN

Commanding General, CSCTC

Commanding General, CSCRTC

Chief of the Wire Training Section

Ass't. Chiefs Wire Training Section

CHIEFS OF SUB-COURSE

Basic Wire Communication

Pole Line Construction

Switchboard Operation

Switchboard Installation

Field Line Construction

Command Post Exercise

Drafting

E. Gaff - A spur on the inside of pole climbers which engages in the pole.

F. Local Battery - A term used to describe a telephone system in which ringing power is supplied at each telephone usually from a hand generator.

G. Magneto - A hand-operated generator of alternating current, utilized to operate telephone ringers and switchboard line indicators. (Local Battery telephones use a magneto for signaling, hence are sometimes referred to as a magneto telephone).

H. Marline - A small, loosely twisted, twine of two strands used for tying field wire or rubber cable to a support.

I. Monocord Switchboard - A field switchboard in which each line terminates in a single jack and plug.

J. Repeating Coil - A transformer of approximately unity ratio used to superimpose additional circuits on field wire lines.

K. Seizing Wire - Soft drawn copper wire used to improve field wire splices, mechanically and electrically.

L. Side-tone - The audible sound produced in a telephone receiver when the transmitter of the same telephone set is actuated by sound waves produced by speaking or blowing into the mouthpiece.

WIRE

CHARACTERISTICS	WIRE W-110	WIRE W-110-B
Number of Conductors	2 Twisted	2 Twisted
Tensile Strength	340 Pounds	246 Pounds
Transmission Distance		
Unloaded	10-15 Miles	11-17 Miles
Loaded	14-22 Miles	16-24 Miles
Length on Reel		
DR-4-Filled	1/2 Mile	1/2 Mile
DR-5-Filled	1 Mile	1 Mile
Composition	5 Steel & 2 Copper Strands	4 Steel & 3 Copper Strands

DEFINITIONS

- A. Common Battery - A term used to describe a telephone system which has ringing power supplied to it from a central source (or switchboard).
- B. Construction Center - A central point other than a switchboard from which wire crews may be controlled.
- C. Field Telephone - A portable telephone designed for field use.
- D. Field Telephone Switchboard - A portable telephone switchboard designed for field use.

WIRE TRAINING SECTION

Building, operating and servicing of wire lines between various units is an important Signal Corps function. The Wire Training Section trains Draftsmen, Field Linemen, Pole Linemen and Telephone Switchboard Operators.

You men have completed your Basic Training as a soldier in which you learned several things about the army and how to do your part. In Basic School, your instruction was to teach you the Basic principles of being a soldier. Now all you men have been selected to attend the "Wire Training Section".

Don't get us wrong; don't think for a minute that we wish you to forget your Basic Training as a soldier; and don't think that the specialized technical training we give you here brings with it any escape whatsoever from any of the hardships and peril which is the lot of all soldiers. More than that, every Signal Corps soldier must have all the fighting heart and skill that ordinary soldiers must have plus the mastery of his specialty.

You are now in "Basic Wire Communication", a sub-section or course of the Wire Training Section. In Basic Wire Communication, we give you in our teaching a good foundation for your service as a wire communication specialist. But remember, men, we can put all our effort in your training and it will be of no use unless you are willing to learn. Remember, too, "A PINT OF SWEAT IN TRAINING WILL SAVE A GALLON OF BLOOD IN BATTLE".

This has been proven true by many a student from this Replacement Training Center. The battle front to you may seem far distant, but you will soon see, if you have not already, that time is very short. Eagerness to learn now may mean life to you on the battle front. Work hard, be eager, and get ahead.

As has been stated before, you men are now in Basic Wire Communication, which lasts one week. You men know that without a good foundation you can not have a very good house. The same is true in your specialty. You will not be able to do the more advanced work required of you as you progress in your course without a good basic foundation.

To give this Basic Wire Communication to you, we will teach you the following subjects:

PHONETIC ALPHABET

LETTERS	SPOKEN AS	LETTERS	SPOKEN AS
A	Able	N	Nan
B	Baker	O	Oboe
C	Charlie	P	Peter
D	Dog	Q	Queen
E	Easy	R	Roger
F	Fox	S	Sugar
G	George	T	Tare
H	How	U	Uncle
I	Item	V	Victor
J	Jig	W	William
K	King	X	X-ray
L	Love	Y	Yoke
M	Mike	Z	Zebra

NUMERALS

NUMBER	SPOKEN AS	
0	Ze-ro	Numbers are transmitted as numerals or digits except in the case of an even hundred or thousand, when the word hundred or thousand is used. EXAMPLE: 7000 - Sev-ven Thow-zan 500 - Fi-yiv Hun-dred
1	Wun	
2	Too	
3	Thuh-ree	
4	Fo-wei	
5	Fi-yiv	
6	Six	
7	Sev-ven	
8	Ate	
9	Niner	

comes too littered, the ten (10) minute break period will be used to police up.

7. Fire Rooms -- No one is allowed in fire rooms at any time. (Except the fireman).

8. Appointments -- Any student who has an appointment with the dentist or doctor must have an appointment slip from the dentist, doctor, or first sergeant.

9. M.D. Excuses -- Any student who, for some physical disability cannot climb, must have an excuse from a medical officer advising us of this fact or else must climb.

10. Assembly -- Students will assemble under section signs in the morning and in the afternoon. They will assemble by their Battalion signs when leaving at noon and in the afternoon when dismissed from class.

11. Marching -- You will march to and from school in strict military formation and at attention.

12. Respect toward Officers -- When an officer approaches an area where men are relaxing during a break, the men will call attention and all salute.

SPECIALIST SERIAL NUMBER

Your S.S.N. is either "238" Pole Lineman, "641" Field Linemen, or "650" Switchboard Operator.

You may fill out the following with your instructor.

My S.S.N. is _____

P (Pole Linemen)
F (Field Linemen)
S (Switchboard Operator)

SPECIALTY	SUB-SECTION	WEEKS
_____	Basic Wire Communication	_____
_____	Pole Line Construction	_____
_____	Switchboard Operation	_____
_____	Field Line Construction	_____
_____	Switchboard Installation	_____
_____	Command Post Exercise	_____
_____	Drafting	_____
TOTAL		_____
		HOURS

BASIC WIRE COMMUNICATION

1. Orientation _____
2. Splicing _____
 - a. Seizing Wire Splice
 - b. Infantry Splice
 - c. "T" Splice
3. Ties _____
 - a. Clove Hitch
 - b. Knob Tie
 - c. Overhead Loop-tie
 - d. Ground Loop-tie
 - e. Square Knot-tie
4. Pole Climbing _____
 - a. Climbing
 - b. Fitting & Placing Crossarms
5. Miscellaneous _____
 - a. Installation of EE-8A
 - b. Test Station Installation
 - c. Training Film
 - d. Draw and Return Tools
6. Review & Tests _____

RULES TO REMEMBER

There are a few simple rules to remember. They are meant to aid you in your conduct here in school and to help us teach you properly what you must learn.

1. Personal Equipment -- Men may bring canteens if they require water between classes. Leggings must be worn each day.

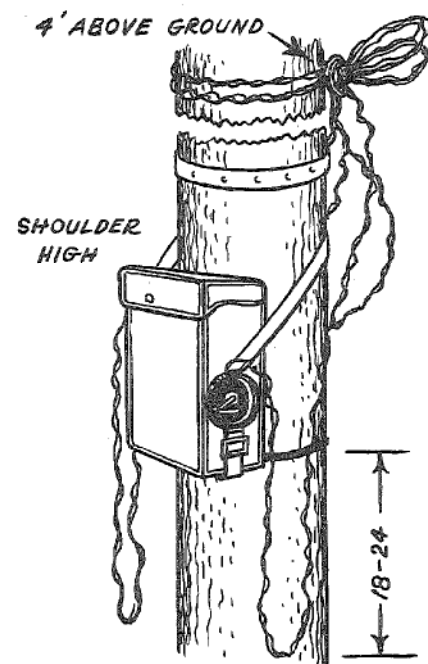
2. Tools -- Tools, when signed for are the responsibility of the man signing for them. It is up to him to see that he takes care of them to prevent their loss or damage.

3. Instructors are of various ranks-- but to the student they are all to be shown courtesy and the same discipline will prevail at all times.

4. Latrine -- We have no latrine in our school buildings but have been assigned to use the barracks directly in front of building 1440, the number on that barracks being 1362.

5. Breaks -- Classes are of fifty (50) minutes duration and a break of ten minutes is given between each. This time is the only time for smoking and attending to your personal needs, except in case of emergency. For such emergency cases you may see the instructor for permission to leave a class.

6. Police of Area -- The area is to be policed at all times. If the area be-



NOTES

FIG 9 FIELD TELEPHONE, EE8A, INSTALLED

NOTES

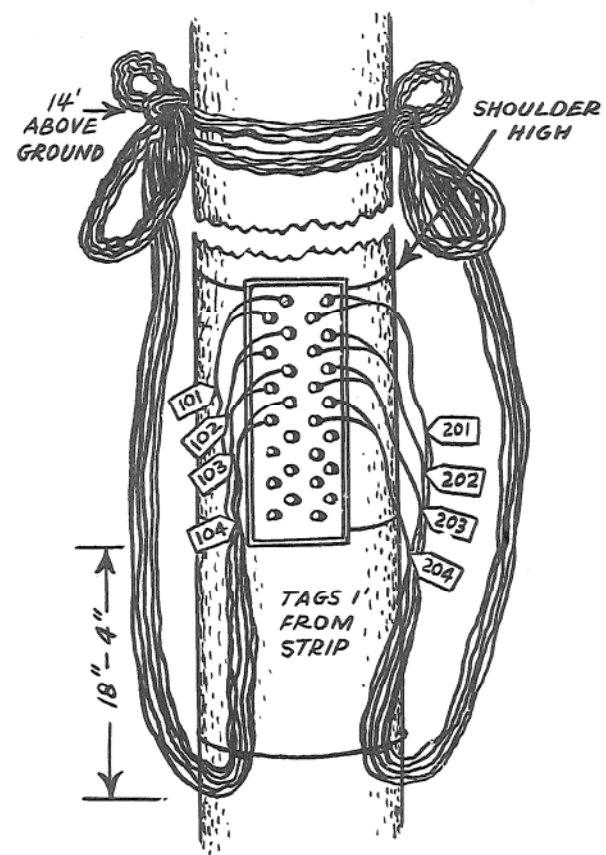
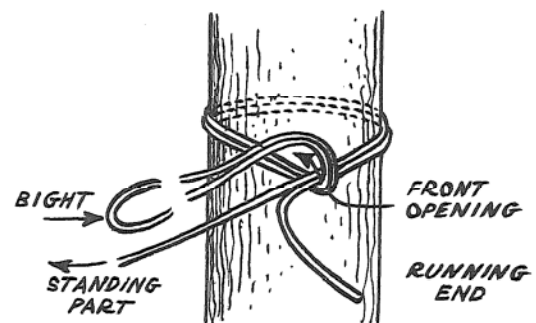


FIG 8 TEST STATION INSTALLATION



NOTES

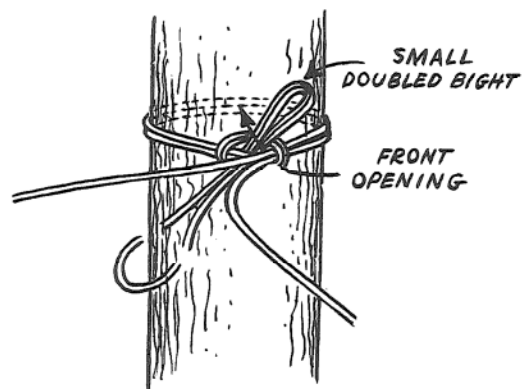


FIG 7 THE LOOP TIE

NOTES

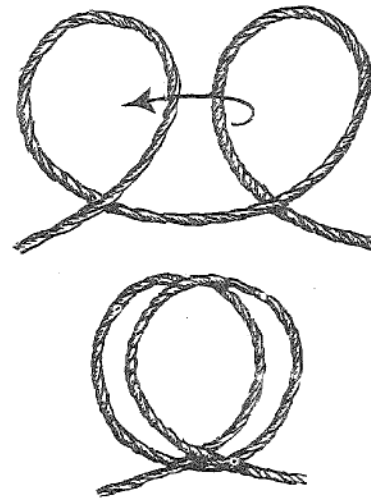


FIG. 6 CLOVE HITCH TIE

NOTES

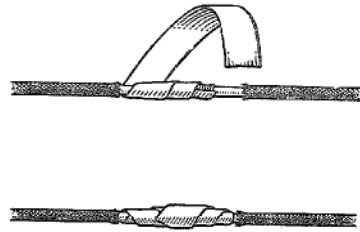


FIG. 4 APPLYING RUBBER TAPE

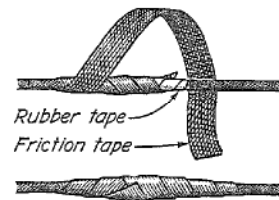


FIG. 5 APPLYING FRICTION TAPE



FIG. 1 TYING SQUARE KNOT

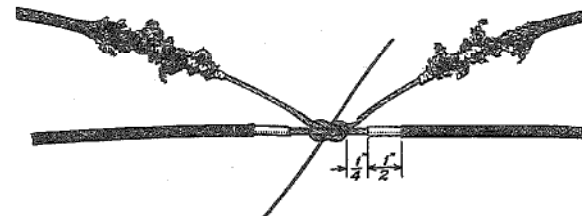


FIG. 2 SEIZING WIRE INSERTED THROUGH LOOP

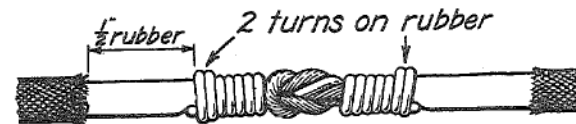


FIG. 3 SPLICING ON ONE CONDUCTOR AFTER SEIZING IS COMPLETED