

## UNIT VII - FENCING

### Lesson 5: Fence Mending Techniques

**Competency/Objective:** Identify fence mending techniques.

#### **Study Questions**

1. What are the methods of tightening fence wires?
2. What are the tools available for mending broken wires?
3. What are the different methods of splicing?
4. How are posts replaced in an existing fence line?

#### **References**

1. *Agricultural Structures (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 1999, Unit VII.
2. Transparency Master
  - a) TM 5.1: Using a Compression Sleeve
  - b) TM 5.2: Splicing Woven Wire
3. Activity Sheet
  - a) AS 5.1: Splicing Wire



## UNIT VII - FENCING

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#### TEACHING PROCEDURES

A. ***Review***

Lesson 4 described the advantages of high tensile and electric fencing and how these types of fences are built. All fences require maintenance and repair, because use and age causes fences to deteriorate and break. Repairs are generally simple and are effective in extending the life of the fence. This lesson, Lesson 5, outlines the practices for keeping a fence in good order.

B. ***Motivation***

Discuss some of the problems that occur that make fence repairs necessary. Examples are breaks in a wire or post, vegetation growing into the wire, rot or fire damage to wood posts, fasteners coming loose, etc.

C. ***Assignment***

D. ***Supervised Study***

E. ***Discussion***

1. Discuss procedures for tightening wire with students. Refer back to Lessons 3 and 4 for information on stretching different types of wire.

**What are the methods of tightening fence wires?**

- a) Stretching the wire at a post
    - 1) Detach the wire from an anchor post and loosen it at the line posts.
    - 2) Stretch the wire at the anchor post.
    - 3) Reattach the wire to the posts.
  - b) Stretching the wire in the middle of the fence line
    - 1) Cut the wire in the middle of the fence.
    - 2) Attach the fence stretchers at this point.
    - 3) Stretch the wire.
    - 4) Splice the ends of the wire together.
2. Display the tools used to mend wires while discussing them with students. Mention that fencing pliers can perform the task of hammering, splicing, and compressing sleeves, though usually not as efficiently as specialized tools.

**What are the tools available for mending broken wires?**

- a) Claw hammer
- b) Fencing pliers
- c) Fence stretchers
- d) Splicing tools
  - 1) Sleeve compressor
  - 2) Woven wire splicing tool

3. Using some smooth wire, demonstrate how to splice wire to the class. TMs 5.1 and 5.2 can also be used to illustrate the use of a compression sleeve and a woven wire splicing tool. Have students complete AS 5.1.

**What are the different methods of splicing?**

- a) Barbed or smooth wire
    - 1) Preferred method - crimp splice using a metal compression sleeve
      - (a) Thread both ends of the wire through the sleeve.
      - (b) Press the sleeve together tightly using the fencing pliers.
    - 2) Wrap splice
      - (a) This type of repair seldom produces as tight a bond.
      - (b) Lacerations to the hands are more likely.
  - b) Woven wire
    - 1) Twist the wires together tightly using a splicing tool or pliers.
    - 2) These splices may cause lacerations to the hands, so heavy gloves should be worn.
4. Discuss the process for replacing fence posts if the existing posts can no longer support the fence effectively.

**How are posts replaced in an existing fence line?**

- a) Detach the wire from the post and remove the post from the ground.
  - 1) Sometimes posts can be loosened by rocking them back and forth and then pulled out by hand.
  - 2) Posts may also be removed using post pullers or a jack.
  - 3) Sometimes a post breaks off at ground level.
    - (a) If possible, the new post is set to one side of the old post.
    - (b) If it is not possible, digging up the old post is necessary.
- b) Set the new post in place.

**F. Other Activities**

Using smooth wire, have students practice making splices with compression sleeves. They may also practice wrap splices.

**G. Conclusion**

For agricultural operations, fence repairs are frequently a necessity. Mending fences may require tightening wires, splicing broken wires, or installing new posts. These repairs are generally fairly simple and require relatively few tools.

**H. Answers to Activity Sheet**

- 1. Crimp splice
- 2. Crimp splice
- 3. Older wires generally will not splice well and could break.

**I. Answers to Evaluation**

- 1. d
- 2. b
- 3. c
- 4. A sleeve compressor and woven wire splicing tool
- 5. Post pullers or a jack

6. The wires are twisted together tightly using a splicing tool or pliers.

## EVALUATION

Circle the letter that corresponds to the best answer.

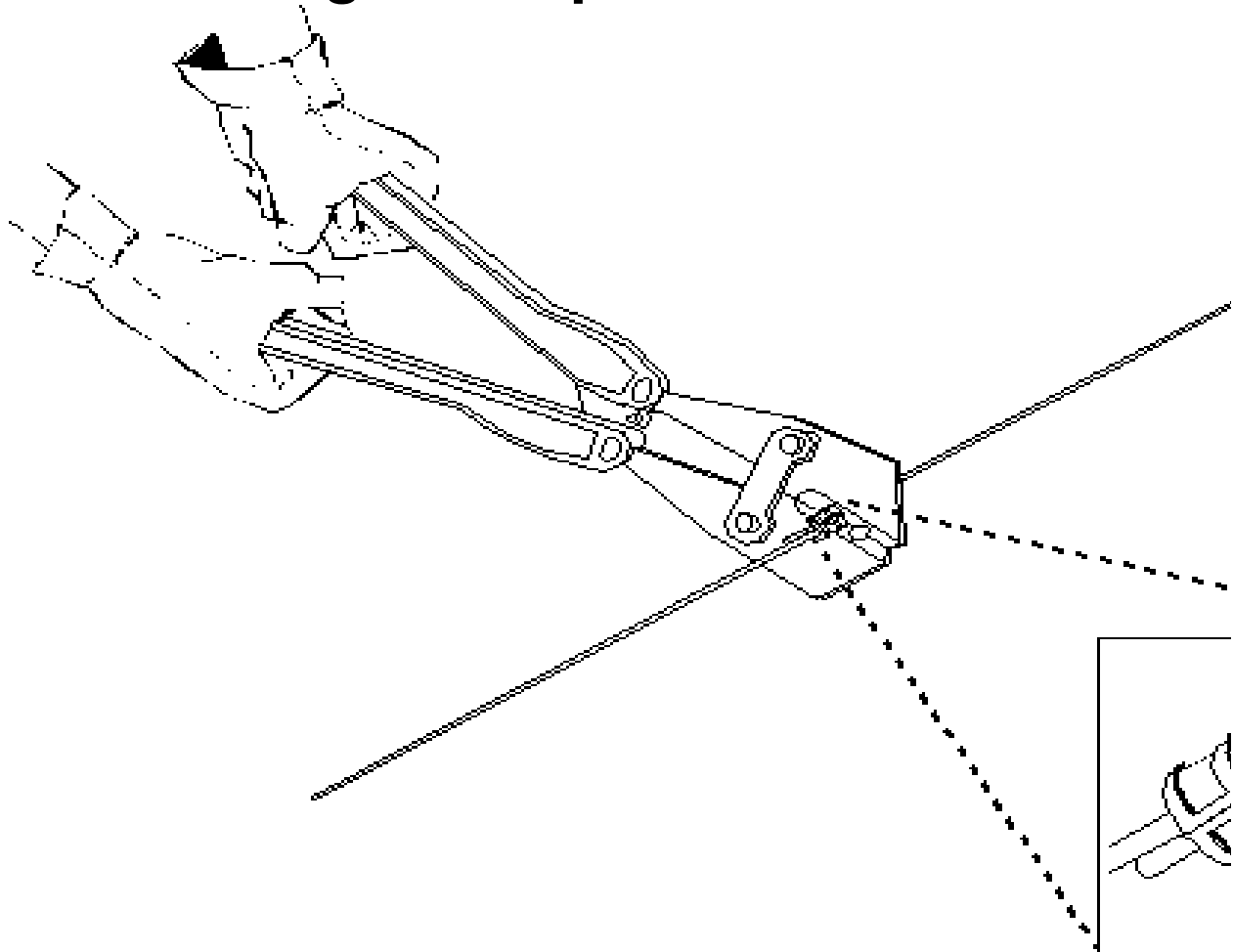
1. What is the preferred method of splicing barbed or smooth wire?
  - a. Using a smooth wire splicing tool
  - b. Twisting the wire with fencing pliers
  - c. Tying the wire by hand
  - d. Using a compression sleeve
2. Which of these steps would be done first when tightening fence wires?
  - a. Fasten the wire tightly to the posts.
  - b. Detach the wire from the anchor post.
  - c. Attach the fence stretchers at the post.
  - d. Remove the fasteners along the length of the wire.
3. What should be done if a post breaks off at ground level?
  - a. The broken post should be driven deeper into the ground.
  - b. The broken post should be pulled out of the ground with a chain.
  - c. The new post should be set to one side of the broken post.
  - d. The new post should be set on top of the broken post.

Complete the following short answer questions.

4. What are two specialized tools for mending broken wires?
  - a.
  - b.
5. If a post is difficult to remove by hand, what can be used to move the post?
6. How are the wires of a woven wire fence spliced together?



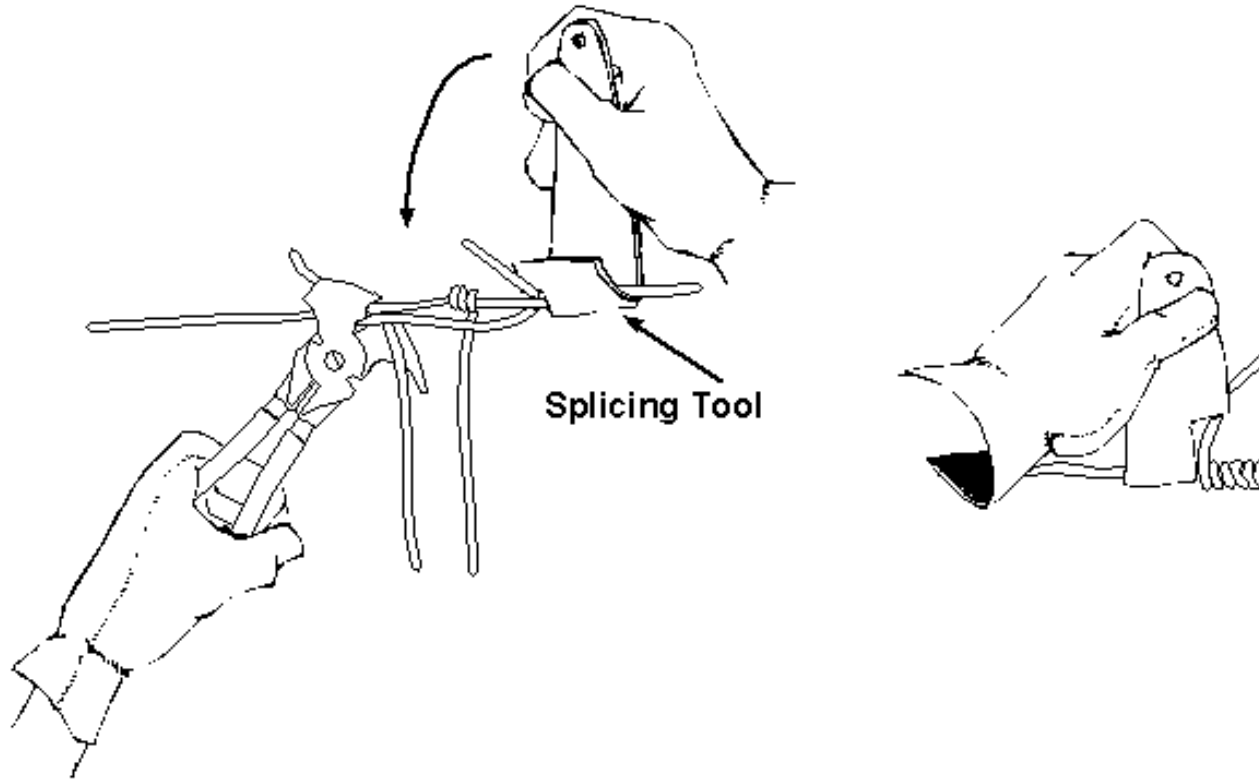
## Using a Compression Sleeve







## Splicing Woven Wire





## Lesson 5: Fence Mending Techniques

Name \_\_\_\_\_

**Splicing Wire****Objective:** Practice wire splicing techniques.**Materials and Equipment:**

14-gauge soft electric wire, cut into four 2-foot pieces  
Compression sleeve  
Sleeve compressor or fencing pliers

**Procedure:****Crimp splice**

1. Insert the ends of two sections of wire into the compression sleeve.
2. Crimp the sleeve down using the sleeve compressor or fencing pliers.

**Wrap splice**

1. On one of the other pieces of wire, form a 2-inch loop. Wrap the tail of the wire around the main wire three or four times.
2. Holding the looped wire in your left hand, run the other wire about 8 inches through the loop with your right hand.
3. Bend the wire in your right hand back over to the right. Wrap this wire around the wire in your right hand at least three or four times.

**Key Questions:**

1. Which splice would be quicker to apply?
2. Which splice uses tools?
3. What effect would the general condition of the wire (age, rust, etc) have on the second type of splice?

