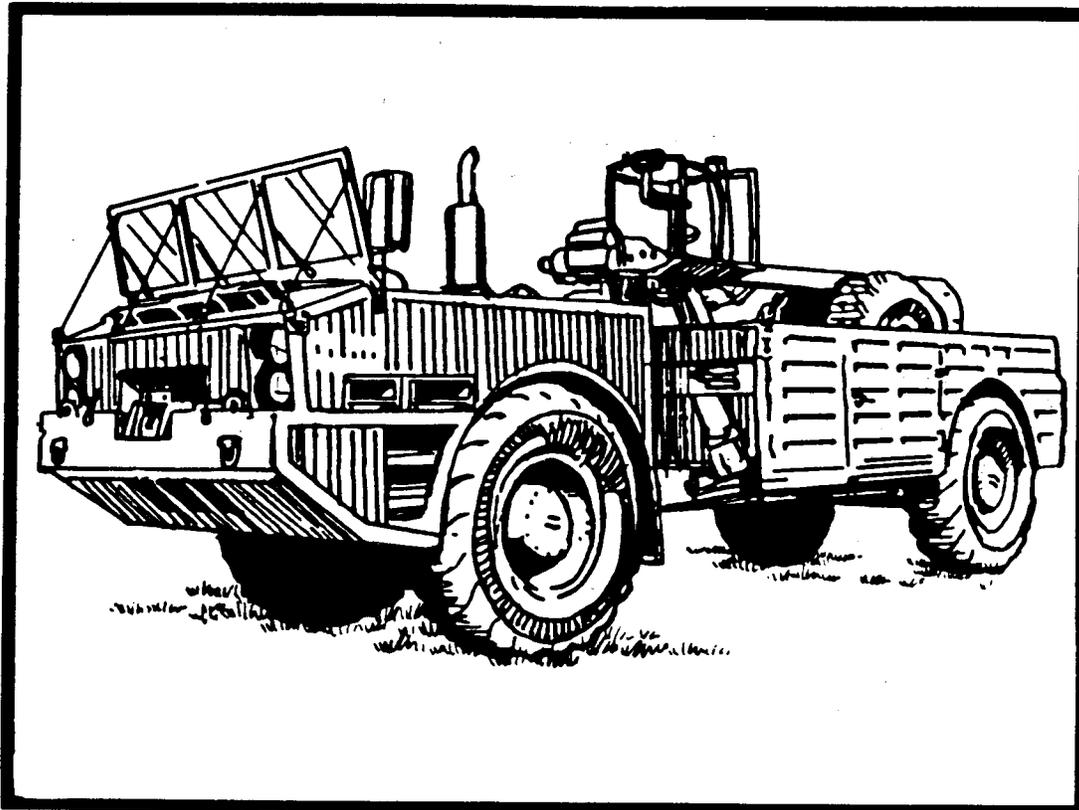
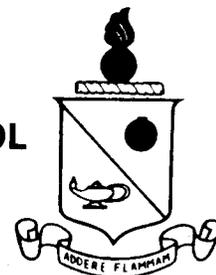


LIFT/SWING LOAD WITH 10-TON WRECKER (M553)

TEC Lesson 499-091-1915-A



PRODUCED BY
US ARMY ORDNANCE CENTER AND SCHOOL
ABERDEEN PROVING GROUND, MD



STUDENT/SUPERVISOR INSTRUCTIONS AND PRETEST/POSTTEST
ARE CONTAINED WITHIN THIS LESSON.

**READ THE STUDENT/SUPERVISOR INSTRUCTIONS CAREFULLY.
BE SURE YOU UNDERSTAND THEM COMPLETELY
BEFORE CONTINUING THE LESSON.**

STUDENT/SUPERVISOR INSTRUCTIONS

AUDIENCE

- MOS 63S10 Soldiers.
- Skill level I.

TRAINING OBJECTIVES

Given the necessary materials and equipment, the soldier will be able to

- lift/swing a load with an M553 wrecker.

MATERIAL/EQUIPMENT/PERSONNEL REQUIRED

- M553 (10-ton wrecker).
- Load 3,000-5,000 pounds.
- Basic issue items (BII).
- Ground boards (2 each).
- One assistant.
- Pencil, paper, and this lesson.

TIME REQUIRED

- Individual mode: 30 minutes.
- Group mode: 45 minutes.

REFERENCES (with changes if applicable)

- TM 9-2320-233-10.

STUDENT INSTRUCTIONS

- Take the pretest for this lesson before you begin the lesson. If you pass, you need not take the lesson.
- Be sure that you have all materials required to complete this lesson.
- Take this lesson.
- Observe all warnings and safety precautions.
- Follow instructions - do not take shortcuts!
- Take the posttest. If you do not pass, take the lesson and the test again.
- DO NOT WRITE IN THIS BOOKLET.

SUPERVISOR INSTRUCTIONS

- Be sure that the student has the material, equipment or personnel required to complete this lesson.
- Record starting and stopping times.
- Allow the student 30 minutes to complete this test.

PRETEST/POSTTEST

Type of Lesson: **Ordnance**
MOS: **63S10**

TEC Lesson
499-091-1915-A

LIFT/SWING LOAD WITH 10-TON WRECKER (M553)

Directions to the Test Administrator:

The soldier is to be given the pretest and posttest in a shop or field environment. It's important that the soldier select and use the proper technical publications. The test should be performed in accordance with safety precautions.

The following items are to be furnished to the soldier by the test administrator:

M553 (10-ton wrecker).
BII.
Concrete block.

The following items are to be selected by the soldier during the test:

TM 9-2320-233-10 (with change(s) if applicable).
Pencil and paper.

Pretest Directions:

Prior to administering the pretest, the test administrator should say to the soldier:

"You will be allowed one attempt to pass this test. You must perform the task with no mistakes. If you receive a "NO GO" on a task element, you will be stopped and directed to take this lesson."

The test administrator will then read the test item to the soldier. (The test item follows the posttest directions below.)

Posttest Directions:

The soldier is to be allowed three attempts to pass this test.
The soldier may use notes while taking the posttest.

PRETEST/POSTTEST

PRETEST/POSTTEST (continued)

If the soldier receives a "NO GO" on a task element, the test administrator should offer corrective guidance and allow the soldier to continue the attempt. If the soldier receives a second "NO GO" or is having obvious difficulty, the test administrator is to stop the attempt and inform the soldier of the mistake(s). The test administrator will then direct the soldier to review the lesson and take the posttest again.

Prior to administering the posttest, the test administrator should say to the soldier:

"You have three attempts to pass this test. You may use any notes you have during the test."

The test administrator should then read the test item to the soldier.

Test Item:

"After selecting the appropriate technical manuals, you will lift/swing a load with the 10-ton wrecker (M553). You have 30 minutes to complete this task. Remember, you must do the following:

- a. Select and use publications properly.
- b. Select and use tools properly.
- c. Follow procedures outlined in this lesson.
- d. Observe safety precautions.
- e. Complete task within the allotted time.

" Do you have any questions? "

PRETEST/POSTTEST ANSWER KEY/CHECKLIST

School: **Ordnance**
MOS: **63S10**

TEC Lesson
499-091-1915-A

LIFT/SWING LOAD WITH 10-TON WRECKER (M553)

Each student must correctly perform all steps. A time limit of 30 minutes is allowed. If the student does not correctly perform all steps, he should take/retake this lesson.

While lifting and swinging a load with the 10-ton wrecker, did the soldier:

1. Select and use technical manuals correctly?
2. Select and use tools properly?
3. Use a ground guide to back the wrecker into position for the load to be lifted?
4. Place transmission in neutral?
5. Lock transmission lever in neutral?
6. Lock steering wheel?
7. Set parking brake?

Go	No Go	Go	No Go	Go	No Go

PRETEST/POSTTEST ANSWER KEY/CHECKLIST

School: **Ordnance**
 MOS: **63S10**

TEC Lesson
499-091-1915-A

	Go	No Go	Go	No Go	Go	No Go
8. Turn off engine?						
9. Unlock crank handle?						
10. Lower outriggers with hand crank?						
11. If ground is soft, place ground support under each outrigger?						
12. When outrigger is fully lowered, relock the hand crank by putting handle in storage hold?						
13. Engage the hydraulic pump handle in engine compartment properly according to temperature?						
14. Remove load binder from crane hook?						
15. Release boom lock blocks on boom support?						
16. Start engine?						
17. Set engine rpm between 1,500 and 1,700 with governor control lever?						
18. Turn crane switch (dash panel) "ON"?						
19. Move to crane operator's seat?						

PRETEST/POSTTEST ANSWER KEY/CHECKLIST

School: **Ordnance**
 MOS: **63S10**

TEC Lesson
499-091-1915-A

	Go	No Go	Go	No Go	Go	No Go
20. Turn wrecker crane switch "ON"?						
21. Raise boom by pulling boom hoist control lever back?						
22. Rotate crane to desired position using crane swing lever?						
23. Extend boom over load by pushing boom telescope lever forward?						
24. Observe cautions?						
25. Lower crane hook by pushing crane hoist lever forward?						
26. Signal ground guide to attach hook to load?						
27. Raise boom?						
28. Raise crane hook until load clears side of wrecker?						
29. Observe caution?						
30. Swing crane until load is over area on which it is to be placed?						
31. Lower load?						
32. Remove crane hook?						

PRETEST/POSTTEST ANSWER KEY/CHECKLIST

School: **Ordnance**
 MOS: **63S10**

TEC Lesson
499-091-1915-A

	Go	No Go	Go	No Go	Go	No Go
33. Raise crank hook?						
34. Retract boom?						
35. Position boom on boom support?						
36. Turn crane wrecker switch "OFF"?						
37. Secure boom and hoist for travel?						
38. Turn crane switch (dash panel) "OFF"?						
39. Reduce engine speed to idle?						
40. Shut off engine?						
41. Raise outriggers?						
42. Secure outriggers?						
43. Observe safety precautions?						
44. Complete task within allotted time?						
45. Complete DA Form 2404 correctly?						

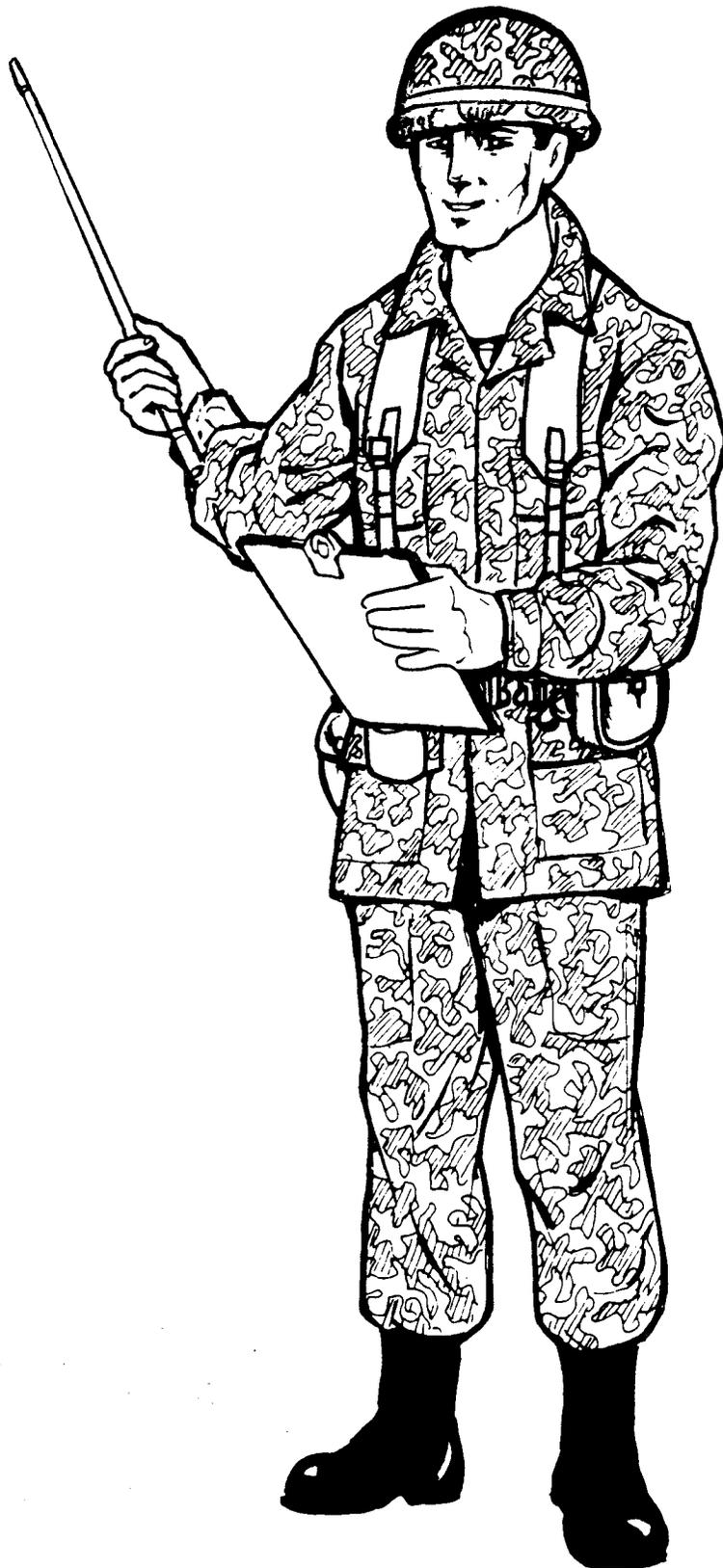
INTRODUCTION

This lesson is designed to teach you the procedures and techniques for lifting and swinging a load with a 10-ton wrecker (M553).

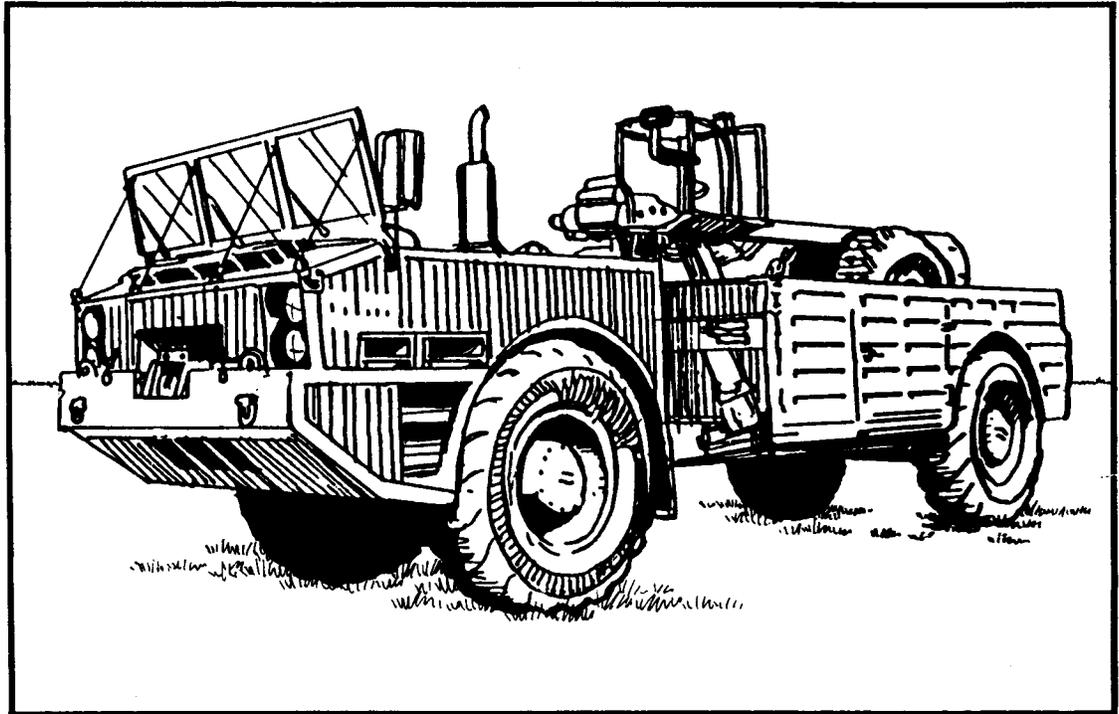
Before you take this lesson, you should have read all operating procedures for the M553 in TM 9-2320-233-10. If you have not done so, do it at this time and then continue.

You are encouraged to take notes while you are working through the lesson. You will be allowed to use these notes during the posttest.

Now that you know what you are required to do and what equipment you will be using, let's begin.



The 10-ton wrecker (M553) is one of a series of trucks called **goers**. The 10-ton wrecker has a tractor body and a trailer body, which are **jointed in the middle**. The jointing lets each vehicle section roll by itself.

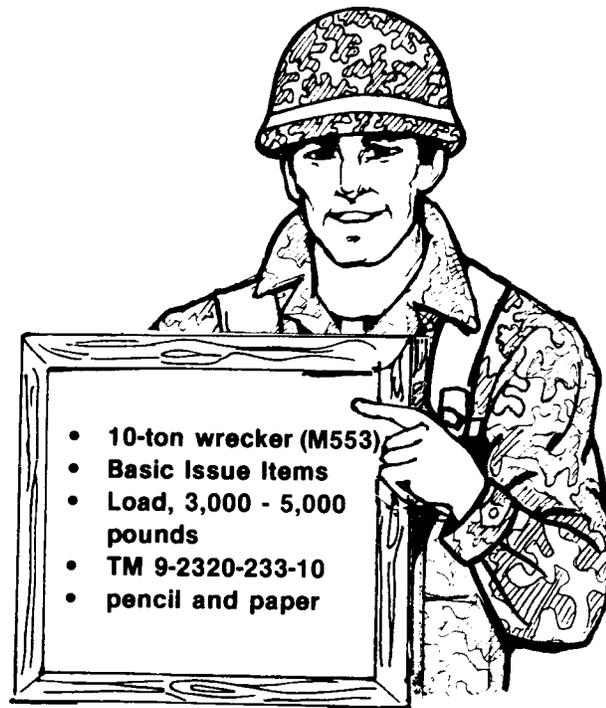


WARNING

Never put yourself between the tractor body and the trailer body when the Goer is moving or when the engine is running. Serious injury or death can be the result.

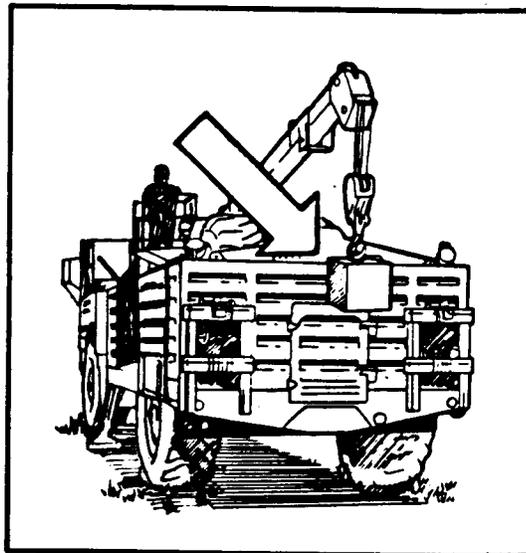
To take this lesson, you'll need all the items listed in the Student/Supervisor Instructions in the MATERIAL/EQUIPMENT/ PERSONNEL REQUIRED and REFERENCES sections.

Remember, when using the technical manuals, always make sure each is the latest edition.



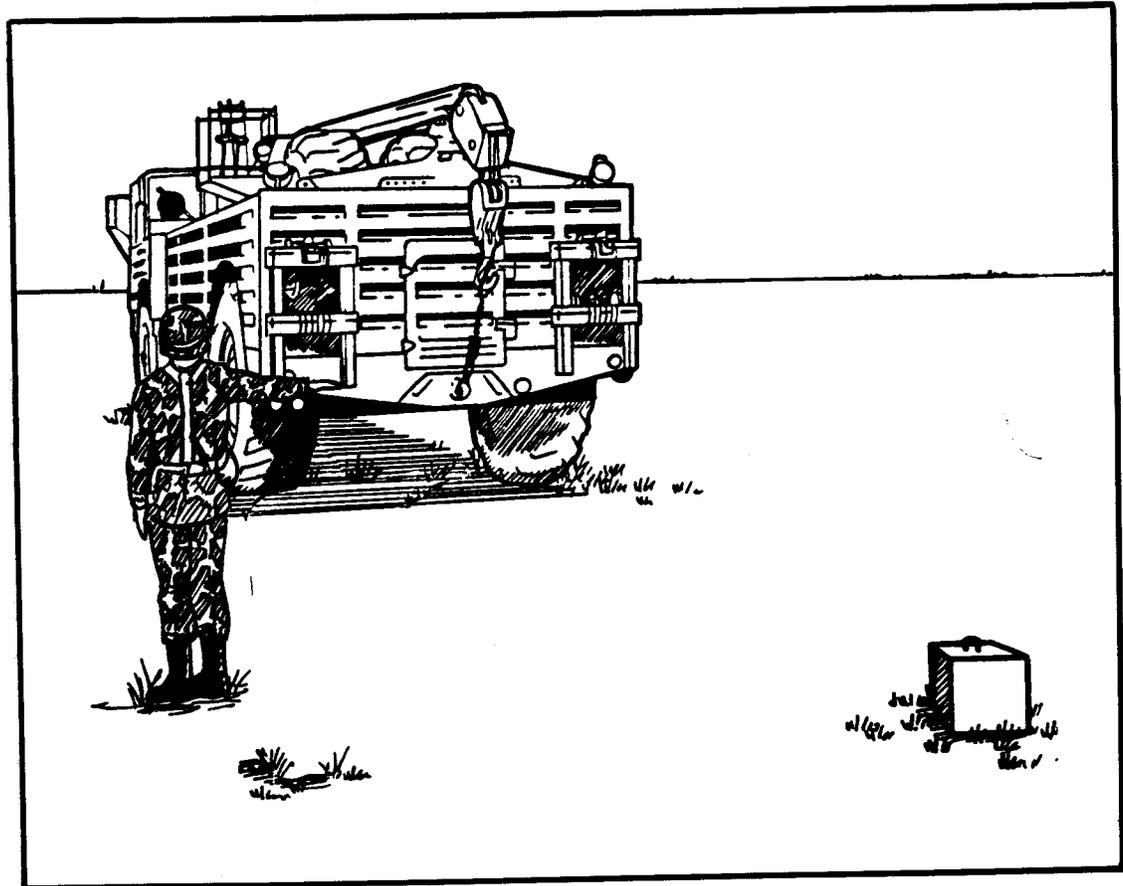
For the purpose of this lesson, the load to be lifted will be a concrete block.

But, in a non-teaching situation, you might be asked to lift/swing something like a power pack or other such items.

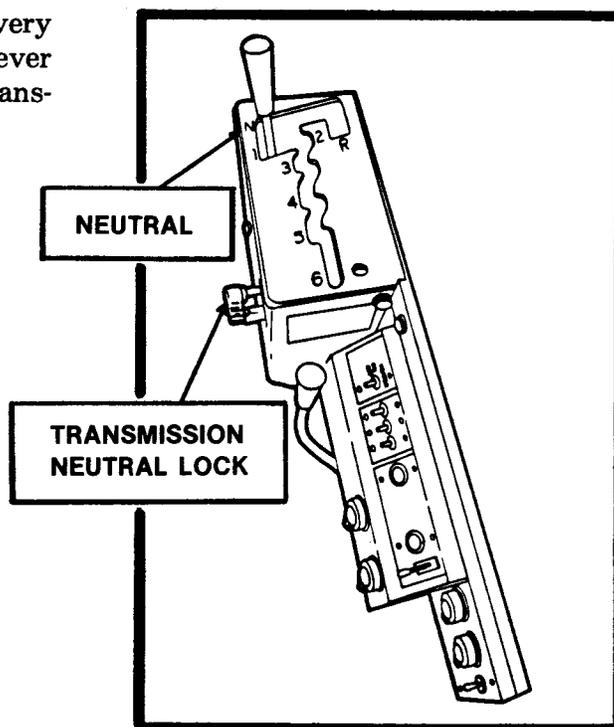


Now, let's begin. Using a ground guide, back the 10-ton wrecker in perspective to the load to be lifted.

Never back the wrecker without using a ground guide. Damage to the wrecker or to the load to be lifted, or serious personal injury could result.



After placing the wrecker in recovery position, place the transmission lever in neutral and lock it with the transmission lever lock.

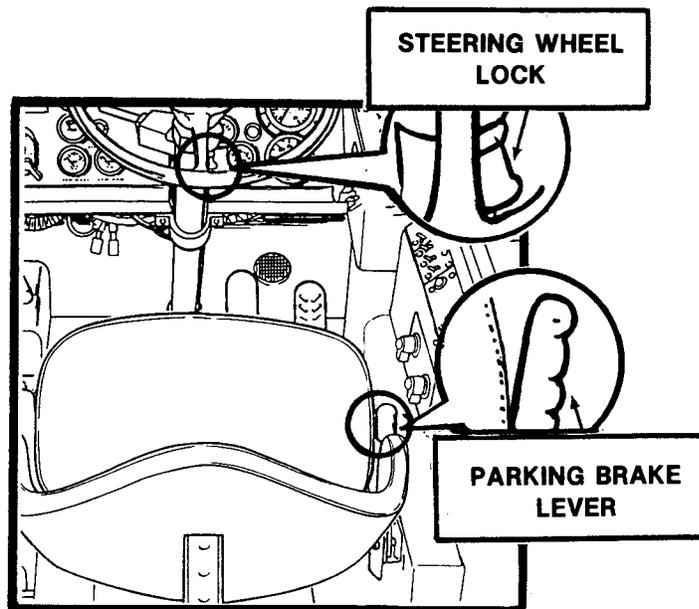


As the 10-ton wrecker operator, you are responsible for making sure the disabled vehicle is recovered without damaging the equipment or causing personal injury.

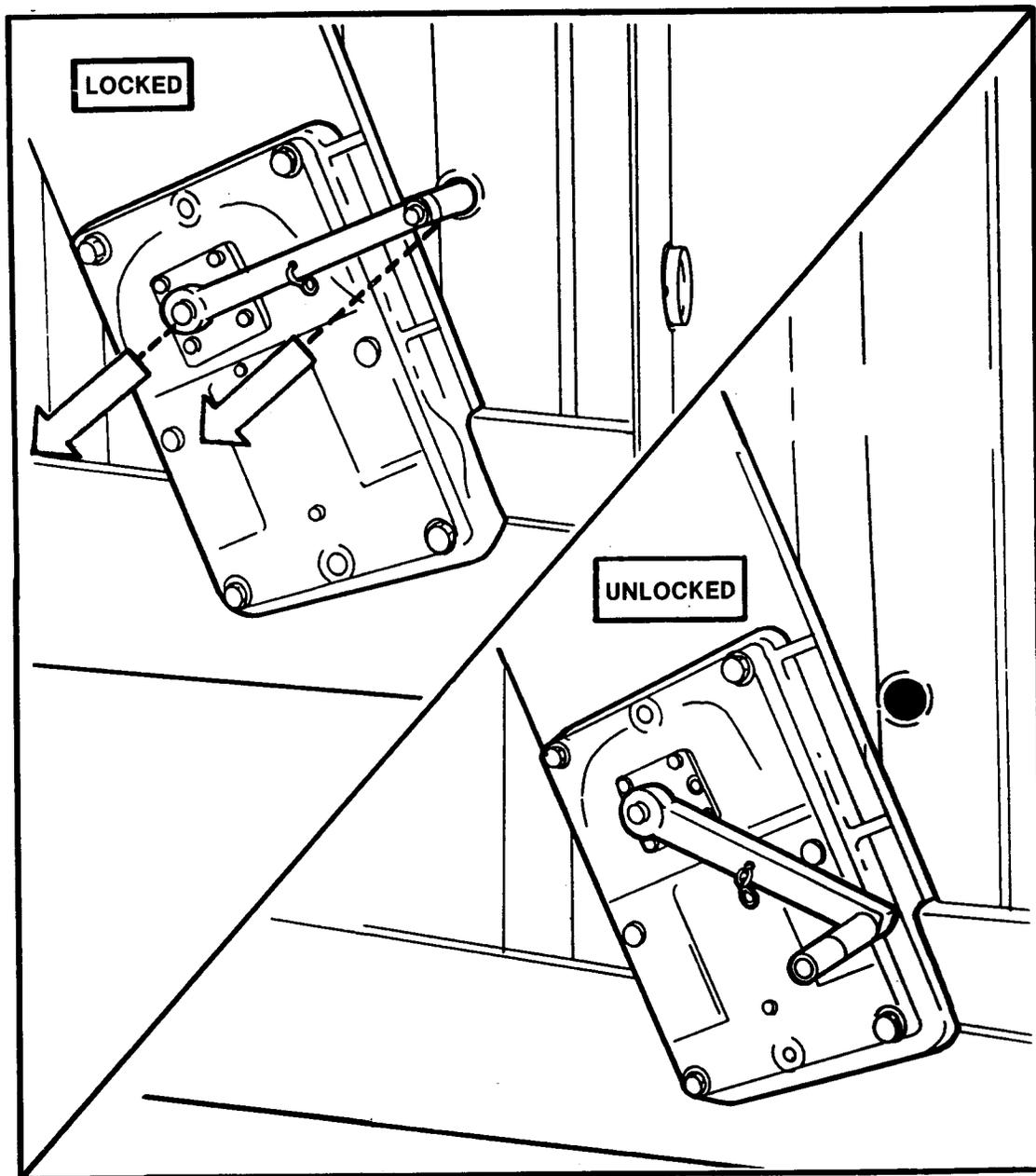
So do the following before going any further with recovery:

1. Lock the steering.
2. Lock the handbrake.

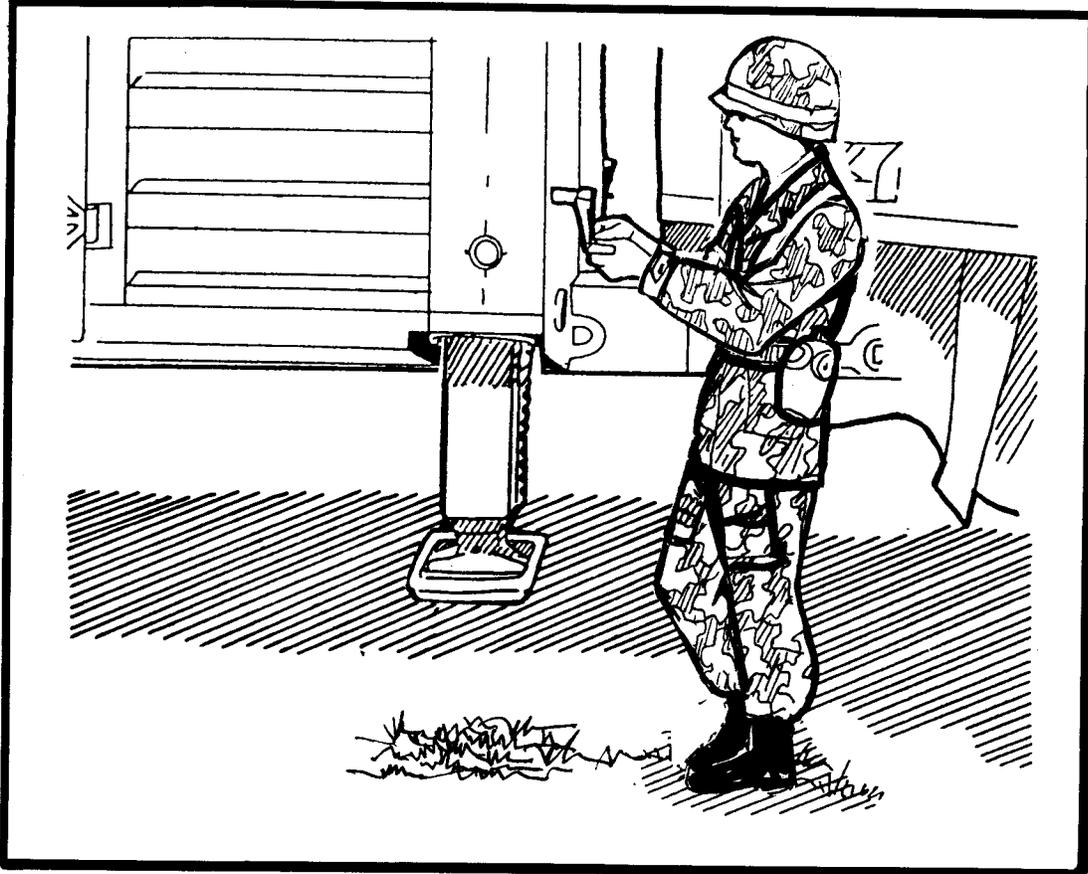
Then, turn the engine **OFF**.



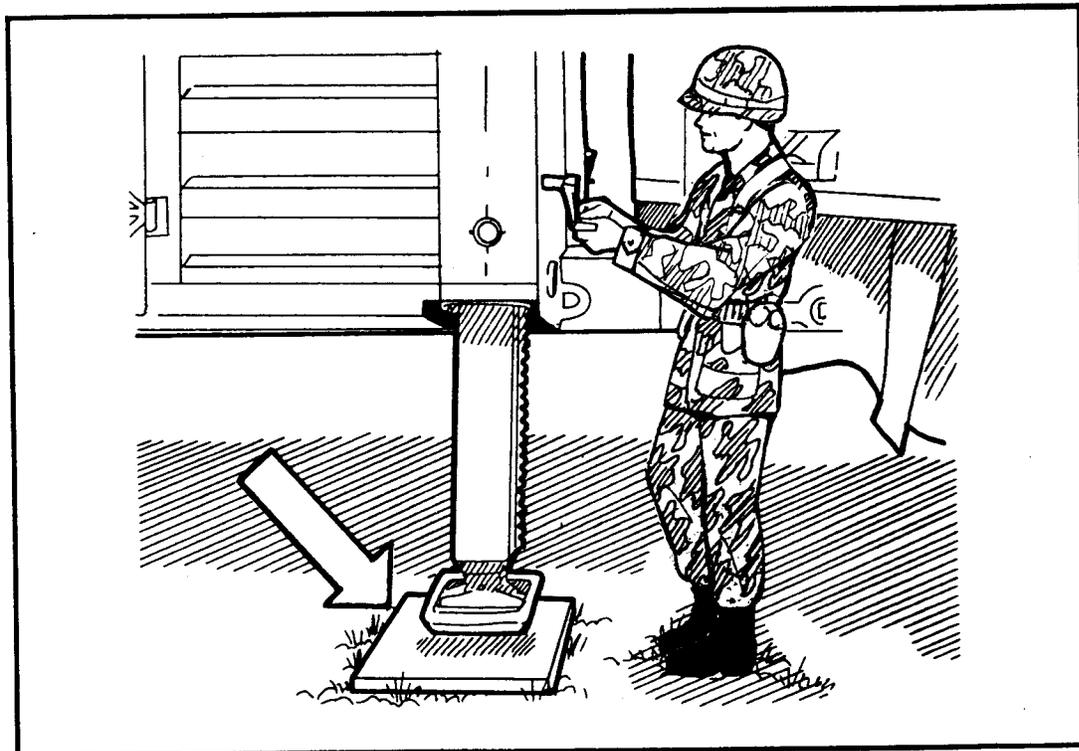
Next, you unlock the crank handle by removing it from the storage hold. Then turn it around and put it back on.



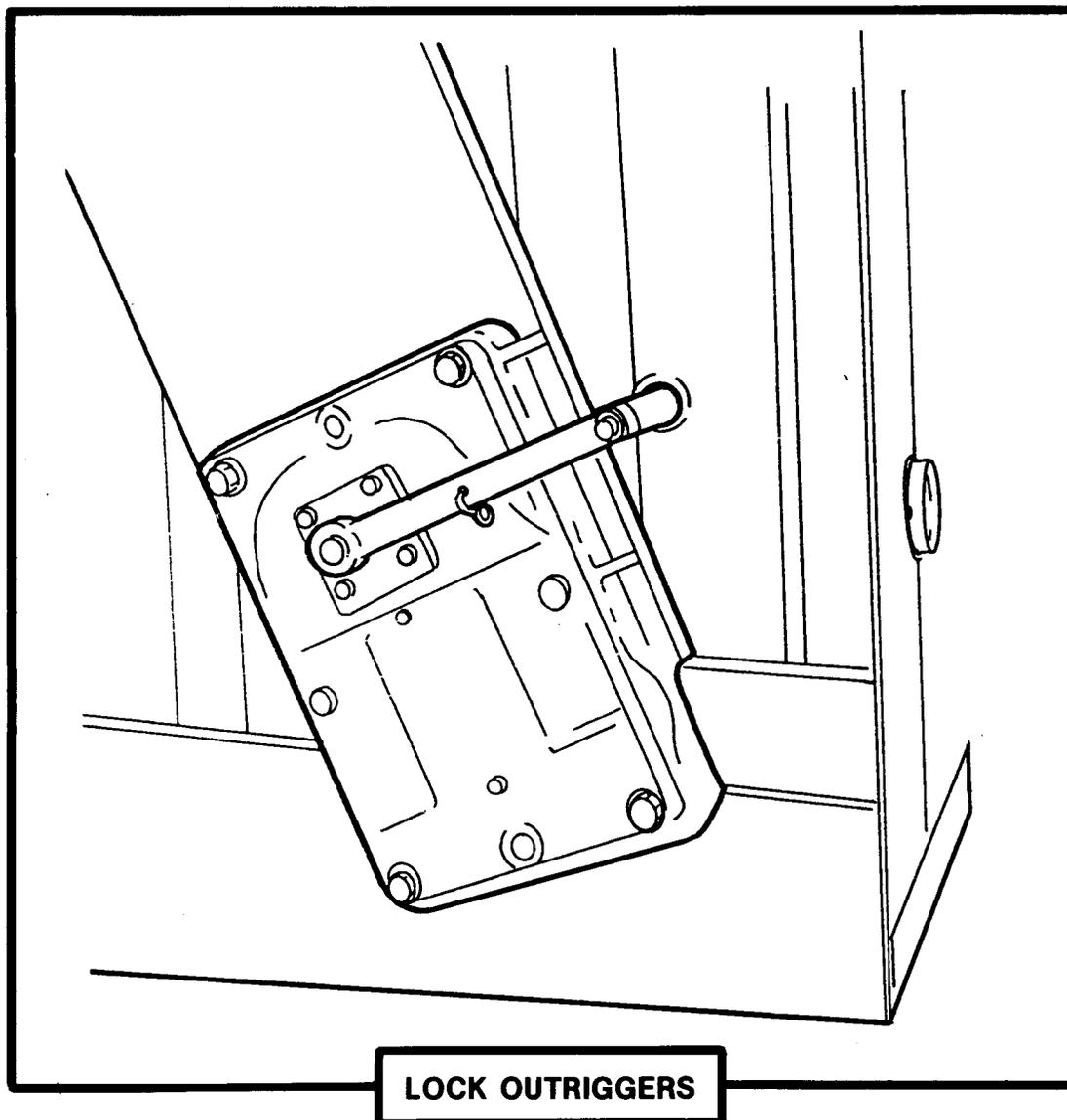
Now, using the crank handle, lower the outriggers. Do this on each side of the wrecker.



If the ground you are working on is soft, place a ground board under each of the outriggers to make the wrecker more stable.

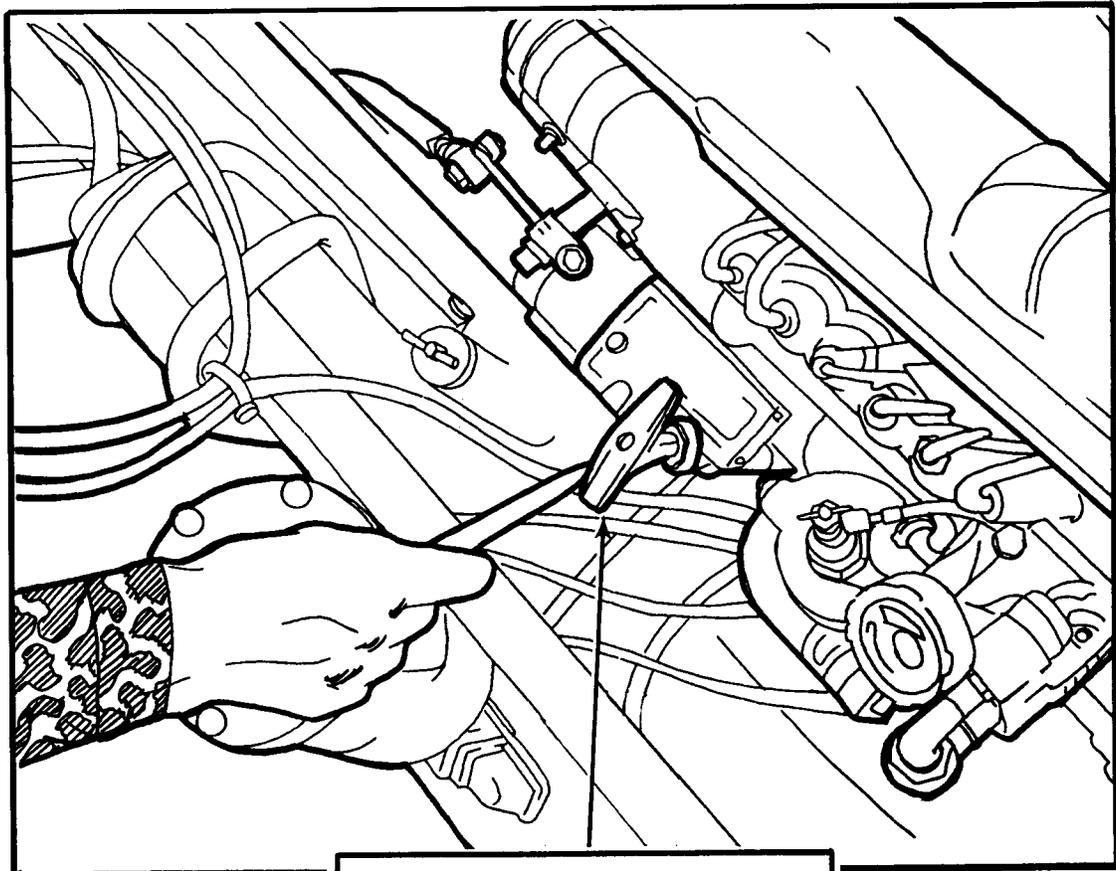


When the outriggers are fully lowered, you have to lock them in place. To lock the outriggers, take out the crank, turn it around, and put the handle in the storage hole.



Now, engage the hydraulic pump handle, which is located in the engine compartment.

Engaging the hydraulic pump handle requires two people. Have an assistant (in the driver's compartment) pull the accelerator pedal up, hold the engine shutoff switch down, turn the master switch on, and bump the starter. While the starter is being bumped, push down on the hydraulic pump handle in the engine compartment until it's engaged. Turn the handle right or left to lock it.



HYDRAULIC PUMP HANDLE

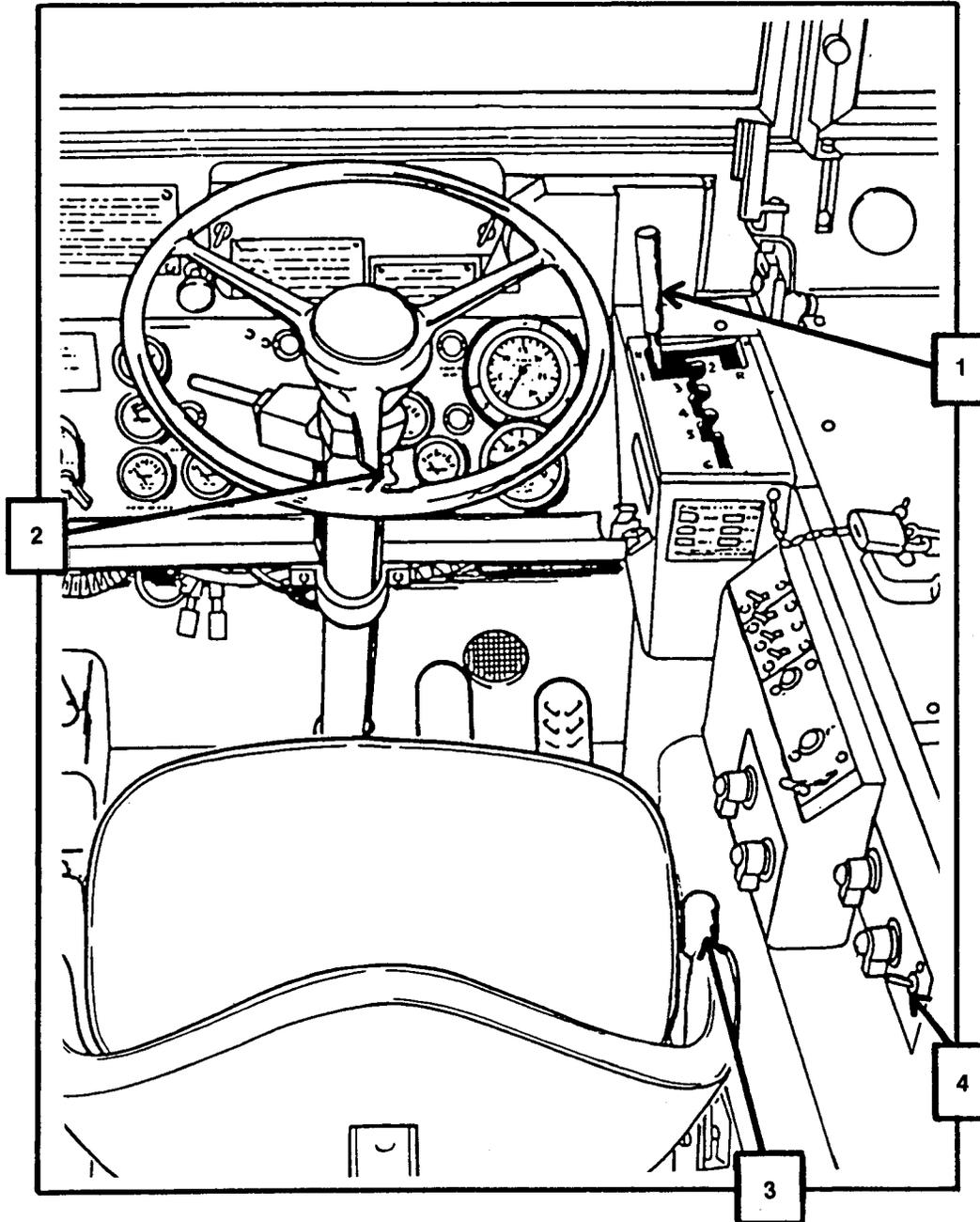
CAUTION:

Engine must be shut off before moving the hydraulic pump engaging handle.

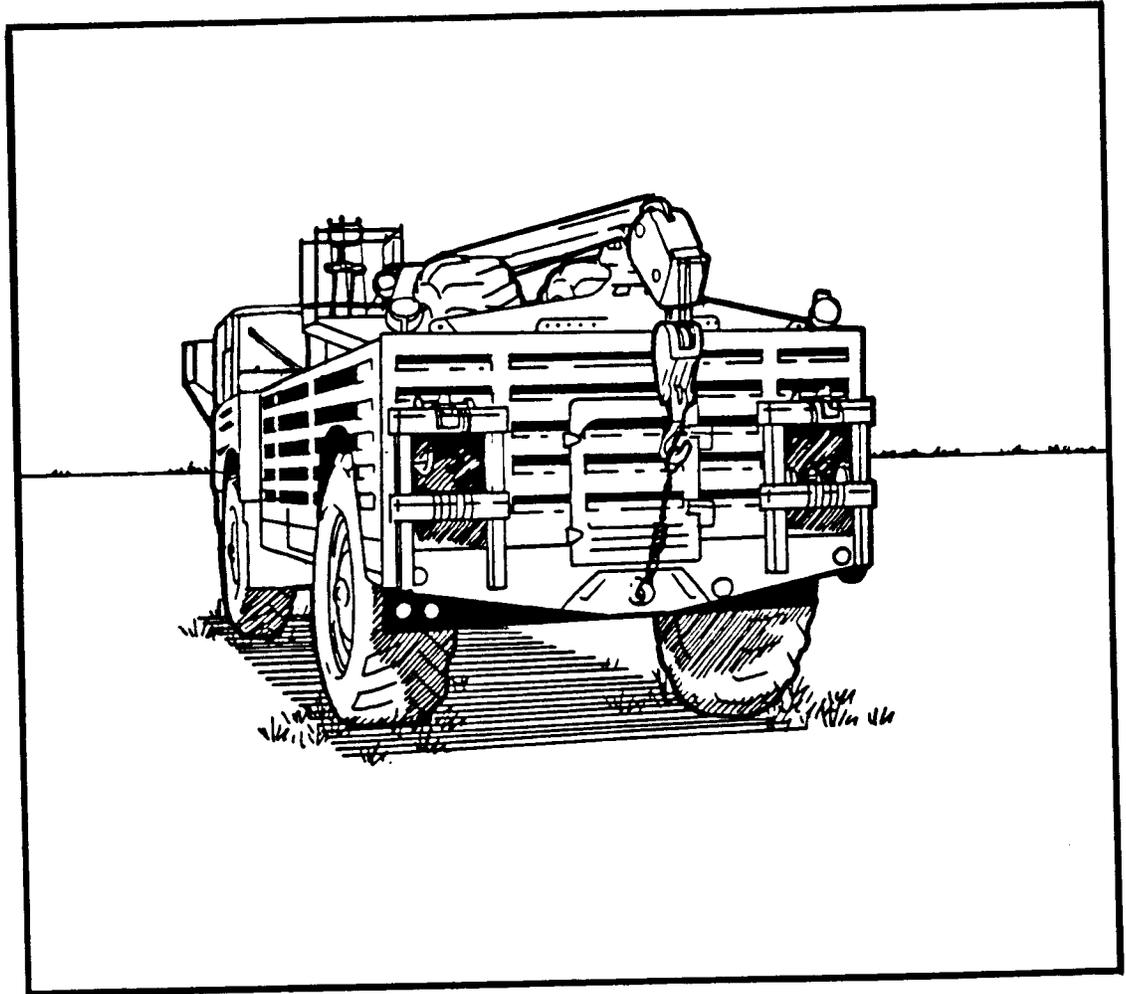
Stop. Take practice exercise.

Before you begin lift/swing procedures, you should:

1. Place the transmission in _____.
2. _____ the steering wheel.
3. _____ the parking brake.
4. Turn the engine _____.



5. What do you use to lower the outriggers?
6. What should you do if the ground is soft?
7. After the outriggers are lowered, you should perform a procedure in the engine compartment. What is it?



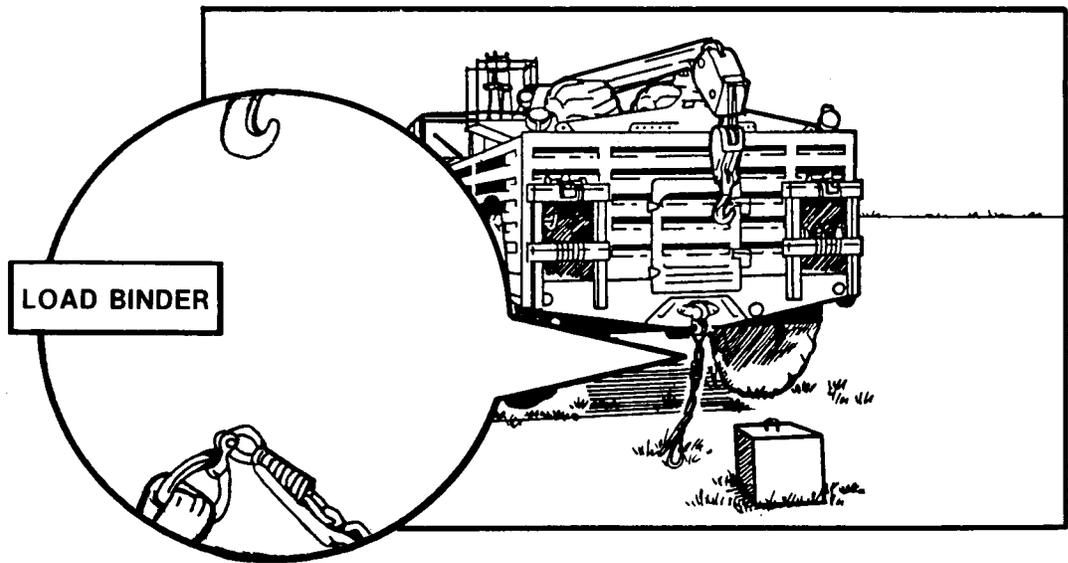
Check your answers with those at the right.

If any of your answers were incorrect, study this part of the lesson again. If all of your answers were correct, continue with the lesson.

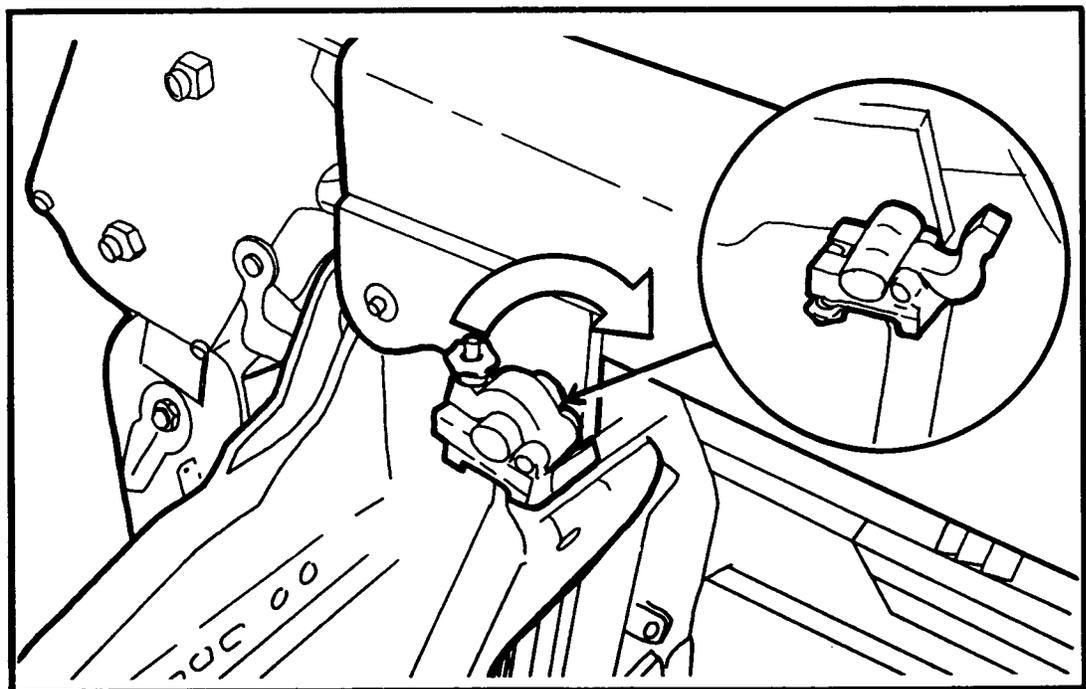
**ANSWERS TO PRACTICE
EXERCISE**

1. neutral
2. lock
3. set
4. off
5. hand crank
6. place a board under each outrigger
7. engage hydraulic pump handle

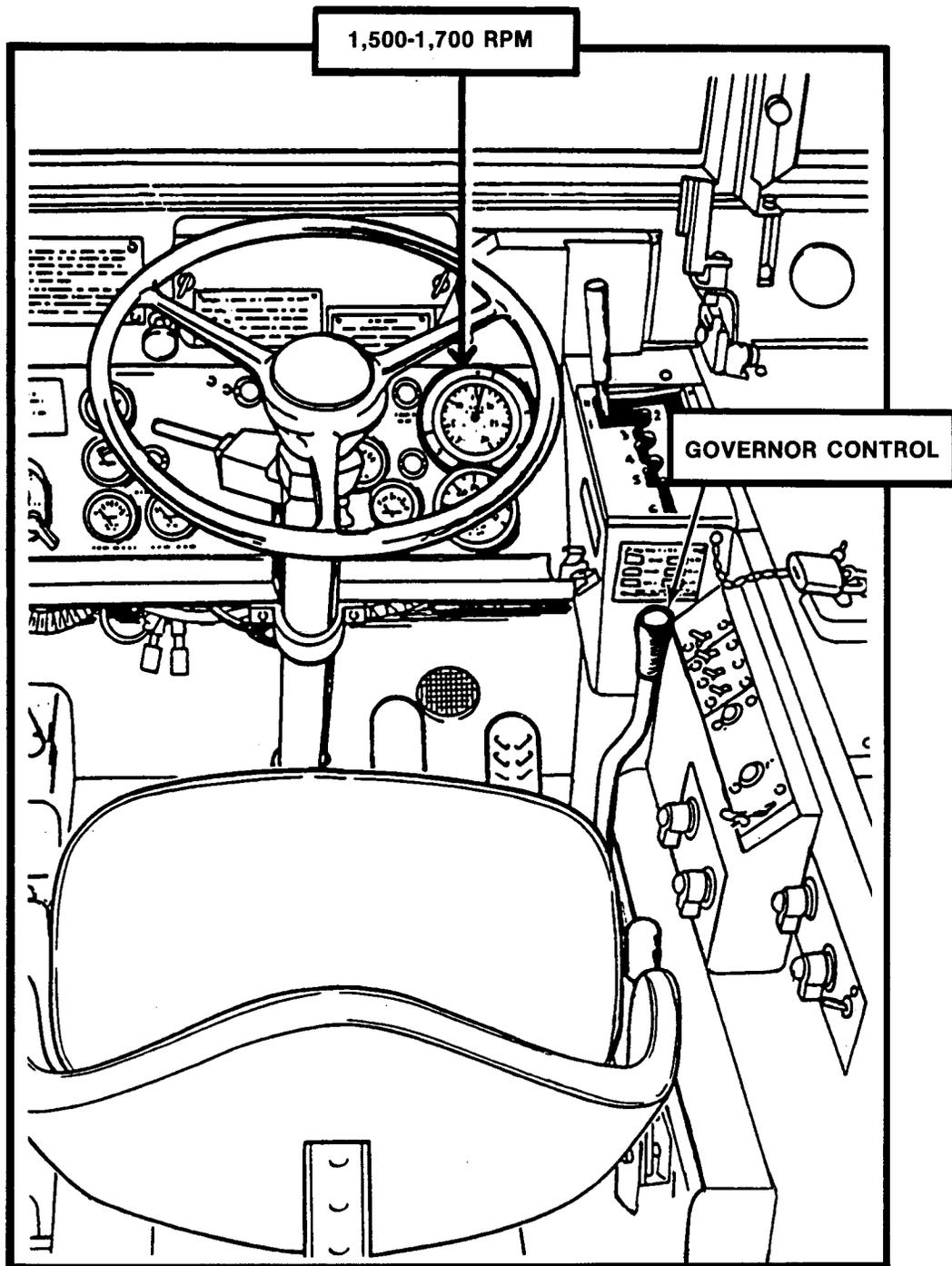
Next, remove the load binder from the crane hook at the rear of the vehicle.



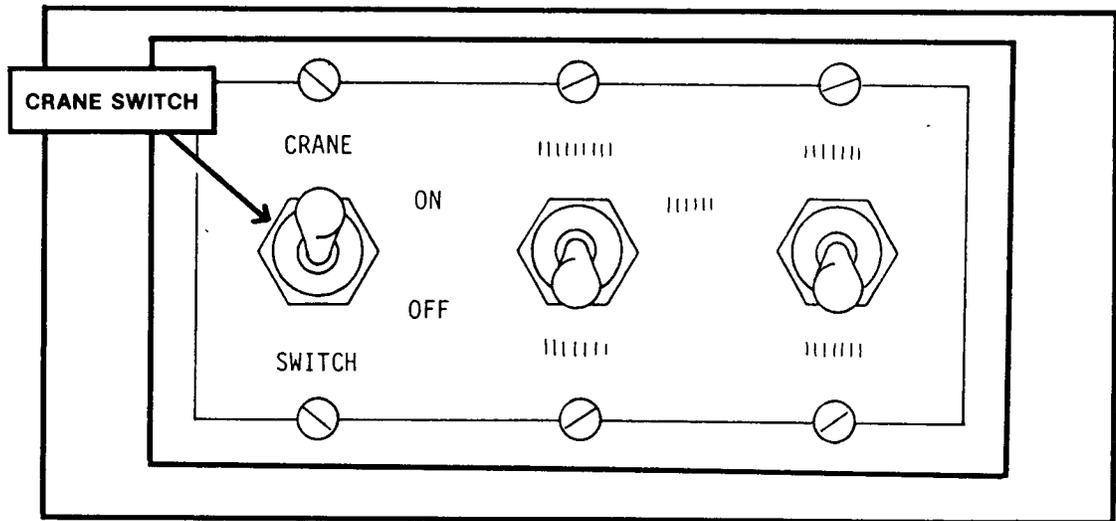
Release the boom locking blocks on the boom support.



Once you've removed the load binder and released the boom lock blocks, start the engine. Set the engine rpm between 1,500 and 1,700 using the governor control.

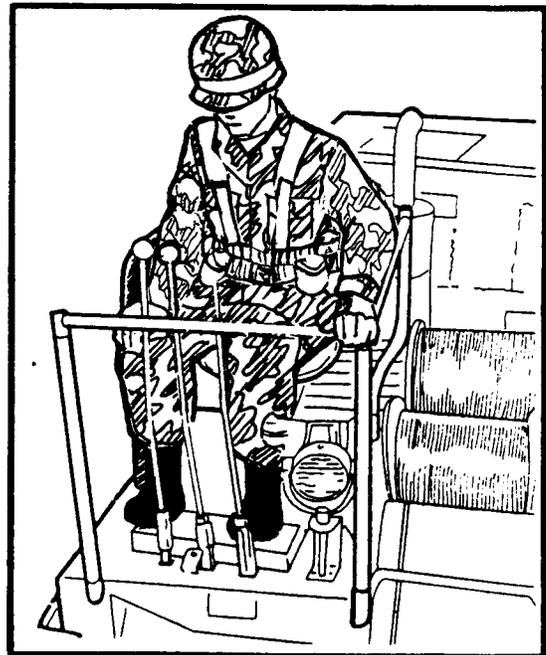


With the engine adjusted to the correct rpm of between 1,500 and 1,700, place the crane switch, located on the dash panel, in the ON position.



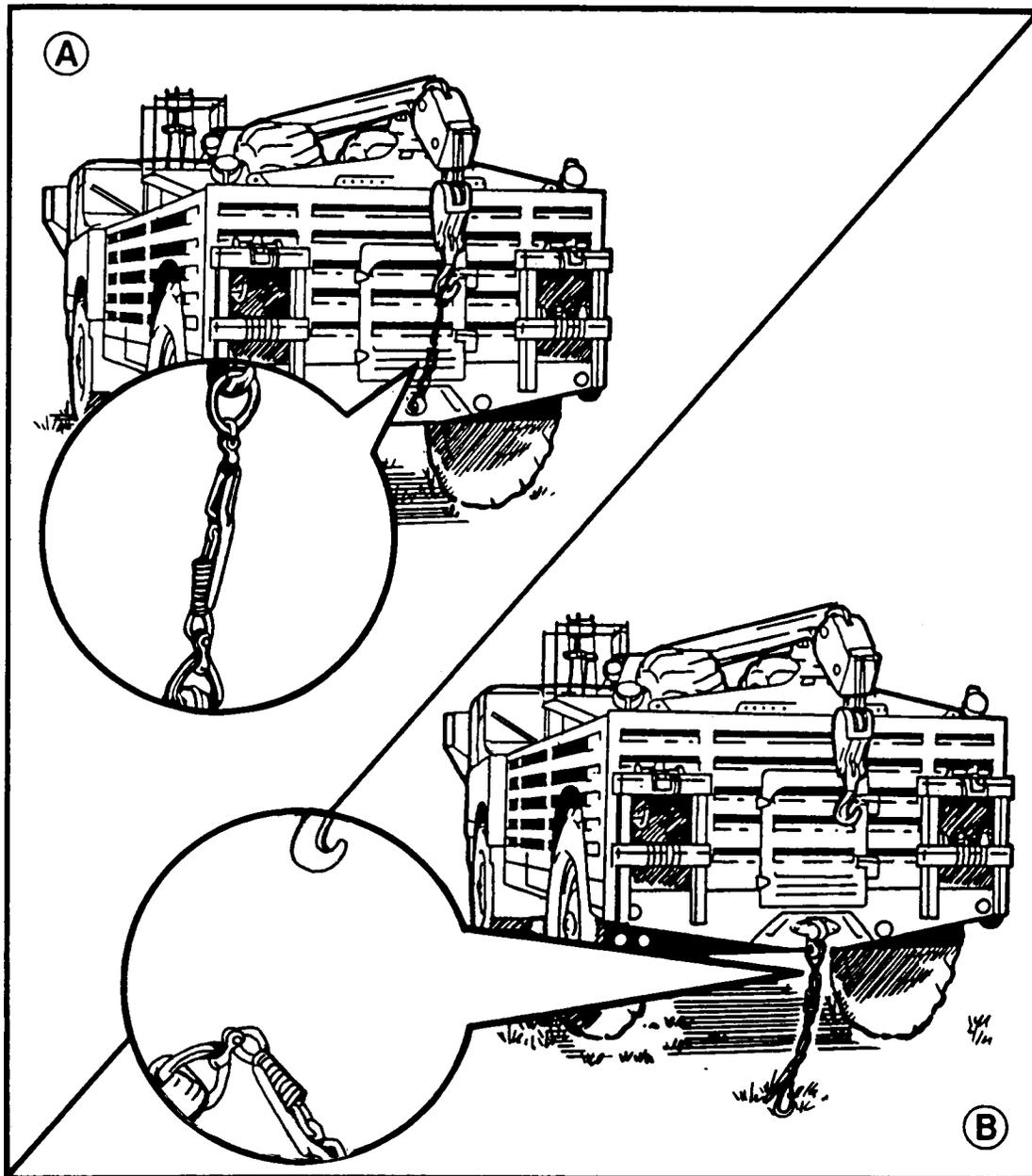
If the crane operator's seat is not already installed, install it now.

Move to the crane operator's seat.

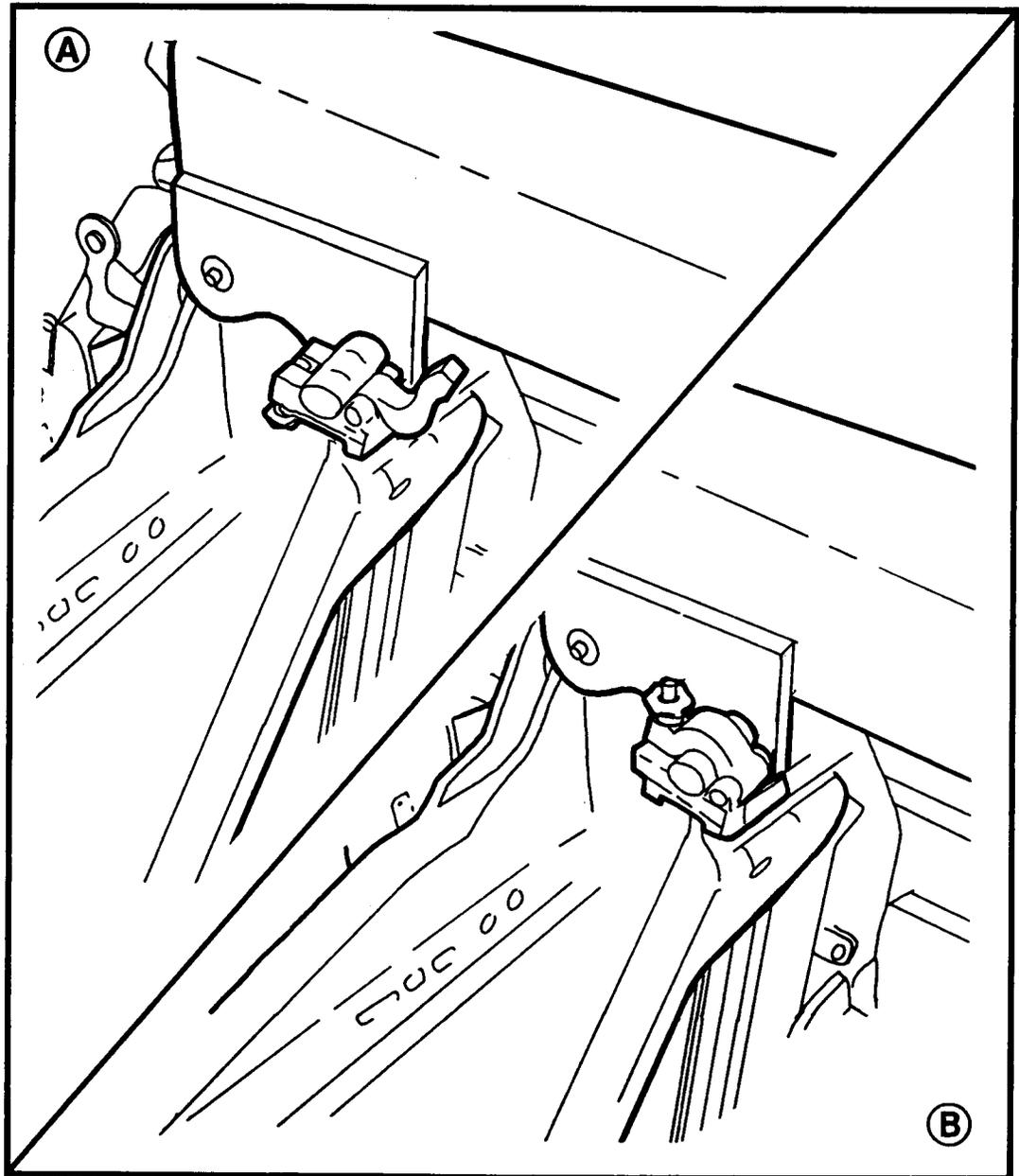


STOP! TAKE THIS PRACTICE EXERCISE

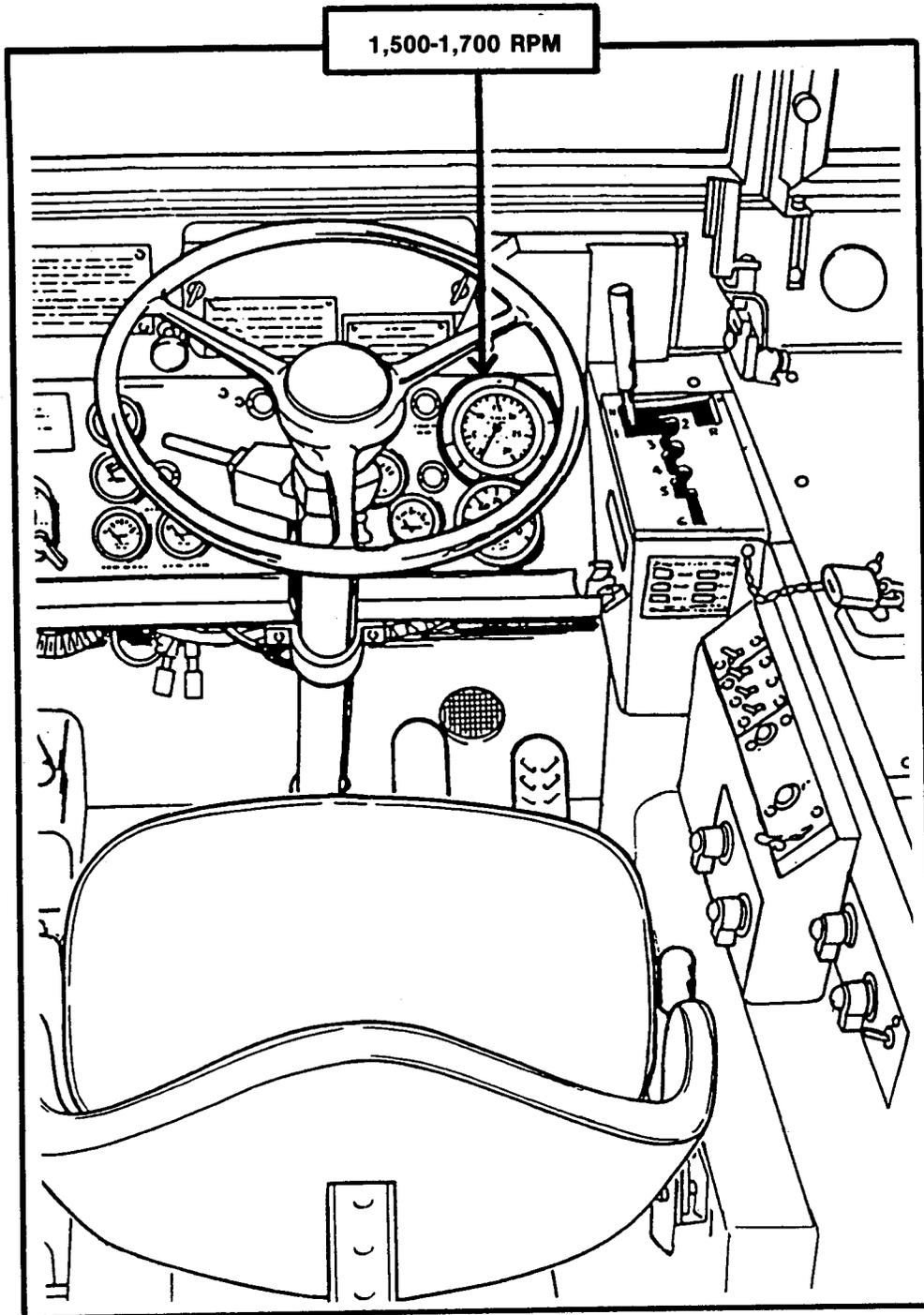
1. Which of these illustrations shows the crane hook in the correct position to begin lift-swing procedures?



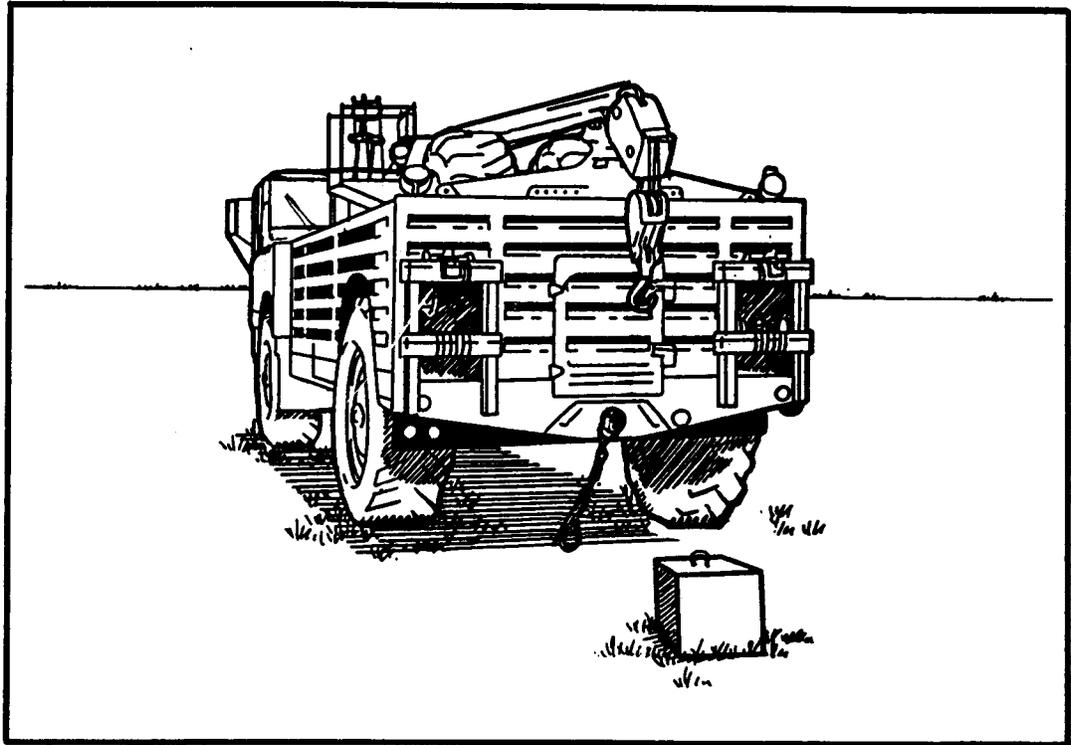
2. In which position should the boom locking blocks be placed when preparing to lift-swing a load?



3. When rpm reaches the correct setting of between 1,500 and 1,700, what should you do?



4. Before proceeding with the procedures, the operator must move to a certain position. What is that position?



Now, check your answers with those at the right.

If any of your answers were incorrect, study this part of the lesson again. If all of your answers were correct, continue with the lesson.

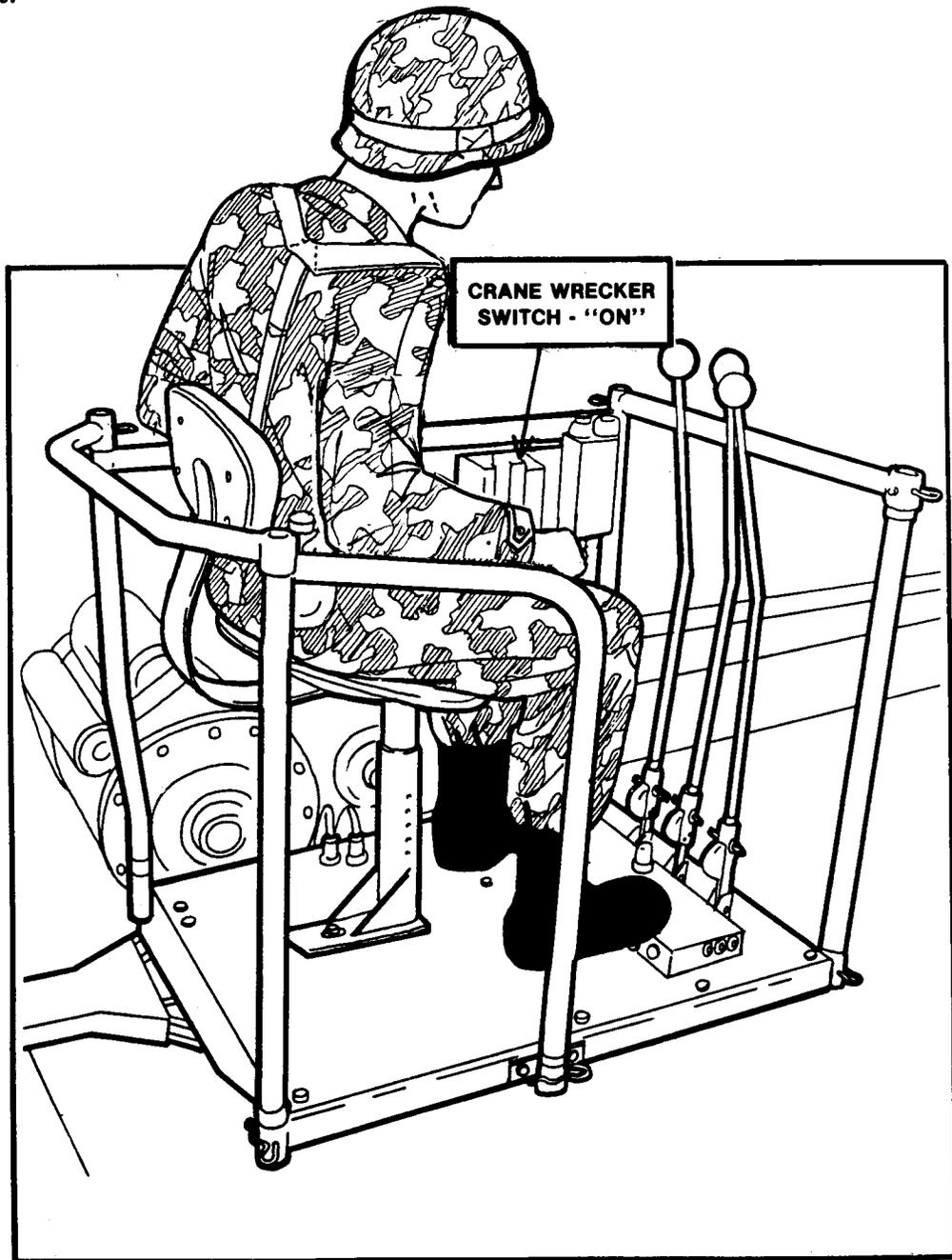
**ANSWERS TO PRACTICE
EXERCISE**

1. B
2. A
3. turn crane switch (dash panel) "ON"
4. crane operator's seat

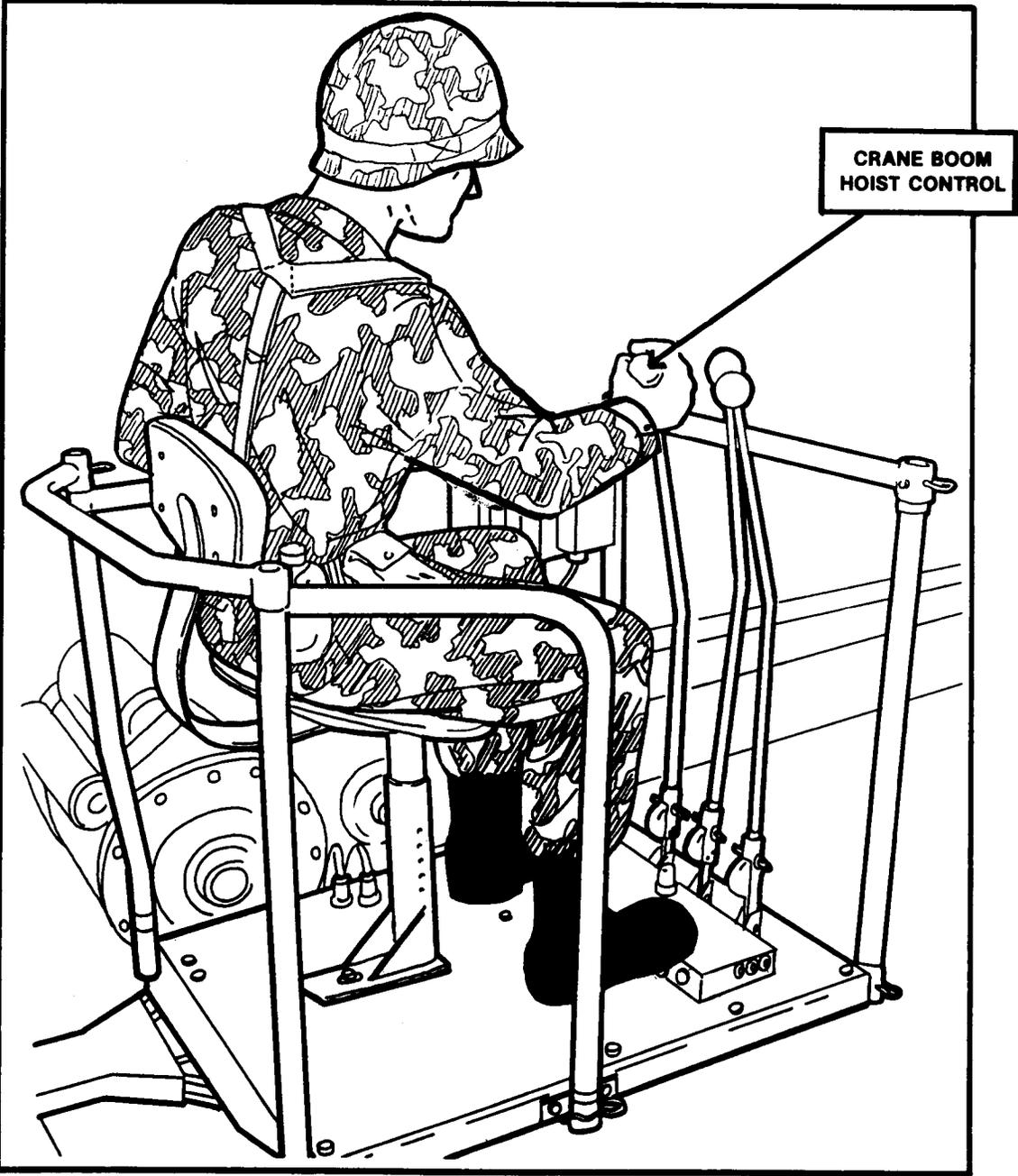
Okay, now place the crane wrecker switch, located left of the crank operator's seat, in the **ON** position.

CAUTION:

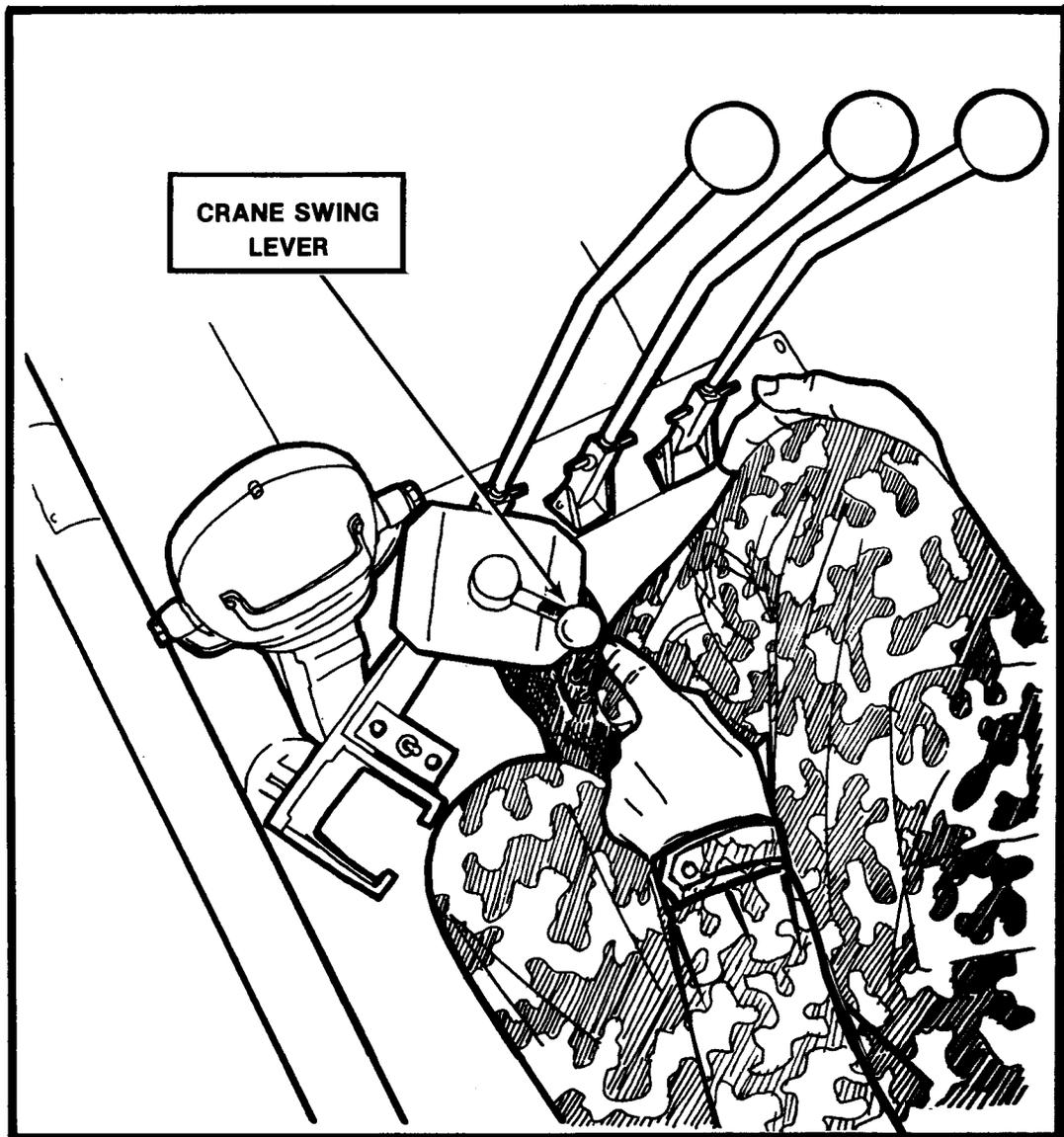
Do not turn the crane wrecker switch **ON** unless the operator is at the operator's seat.



If the crane is not in the desired position, raise the boom by pulling back on the boom hoist control.



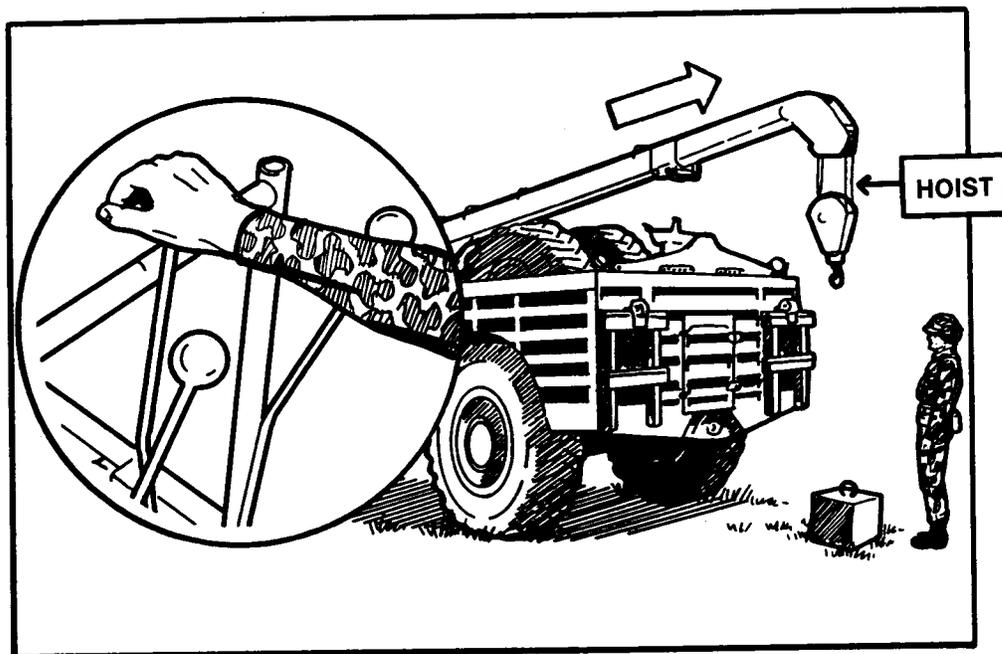
Then, if necessary, rotate the crane to the desired position by rotating the crane swing lever.



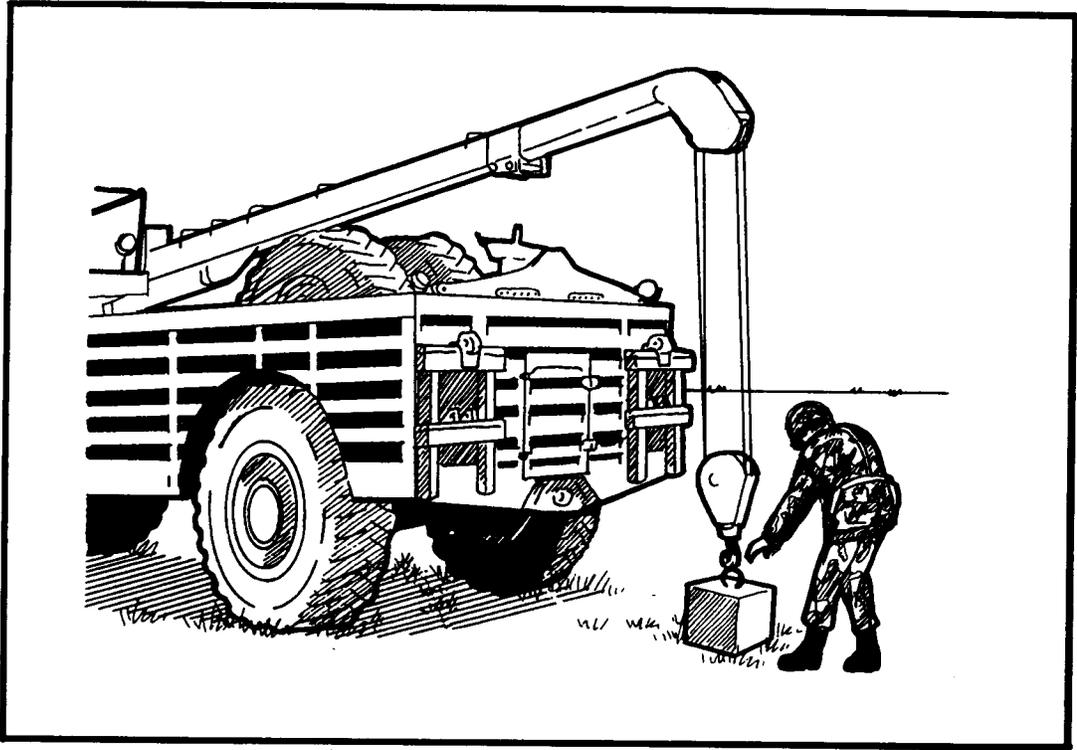
Once you have the crane in the desired position, extend the boom over the load by pushing the boom telescope lever forward.

CAUTION :

When extending the boom, lower the hoist at the same time to prevent the snatch block from hitting the boom. Also, if the boom is resting on the boom support, don't telescope the boom more than three feet.

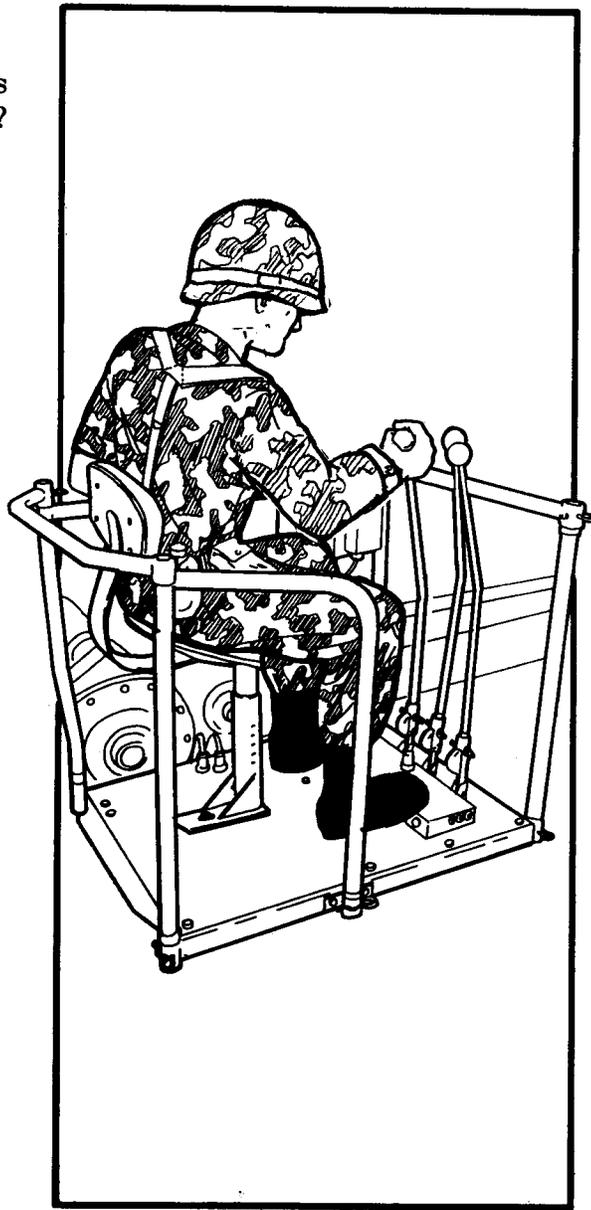


Now, fully lower the crane hook down to the load to be lifted by pushing the crane hoist lever forward.



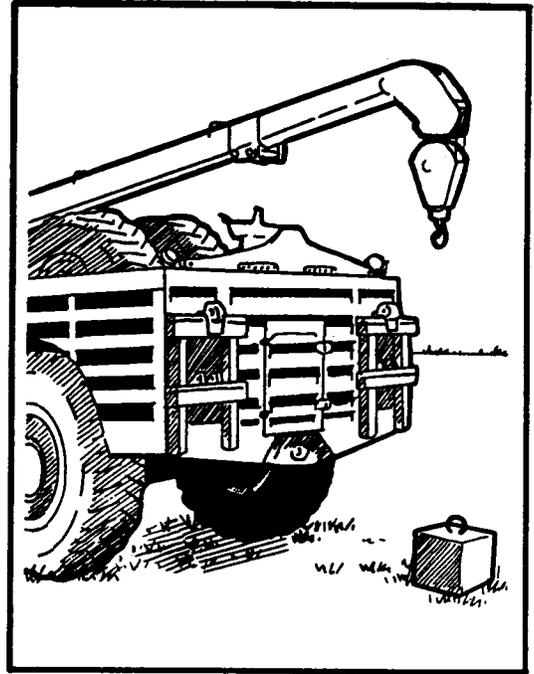
Stop. Take practice exercise.

1. Once you're in the crane operator's seat, what's the first thing you do?

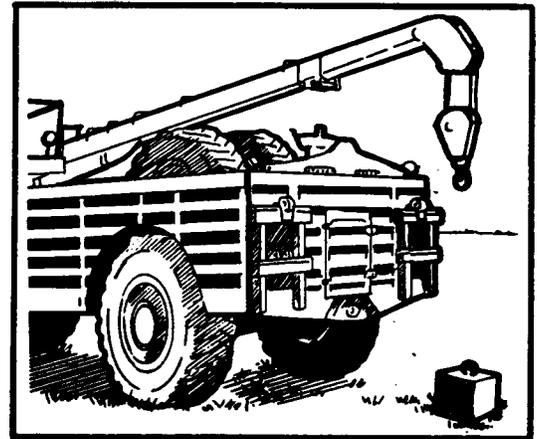


2. If the crane is not correctly positioned over the load, what should you do?

3. This soldier is extending the boom. What's wrong with the position of the snatch block?



4. The crane hook is in the desired position and the boom extended. What is the next step?



Now, check your answers with those at the right.

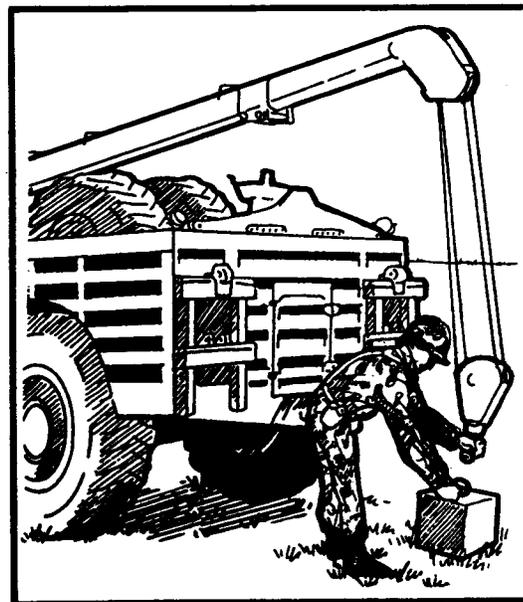
If any of your answers were incorrect, study this part of the lesson again. If all of your answers were correct, continue with the lesson.

ANSWERS TO PRACTICE EXERCISE

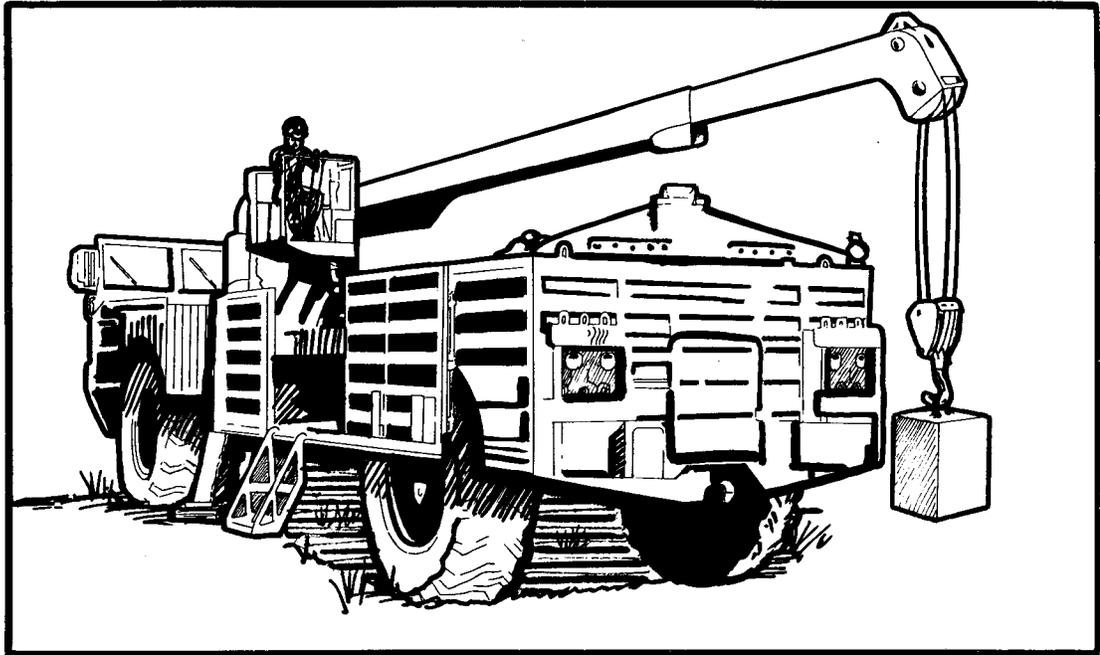
1. turn crane wrecker switch "on"
2. rotate the crane using the crane swing control lever
3. he did not lower the hoist at the same time he extended the boom
4. lower crane hook to the load to be lifted

Okay, let's go on and look at the steps needed to complete the procedure of lifting and swinging a load.

Signal the ground guide to attach the hook to the load.



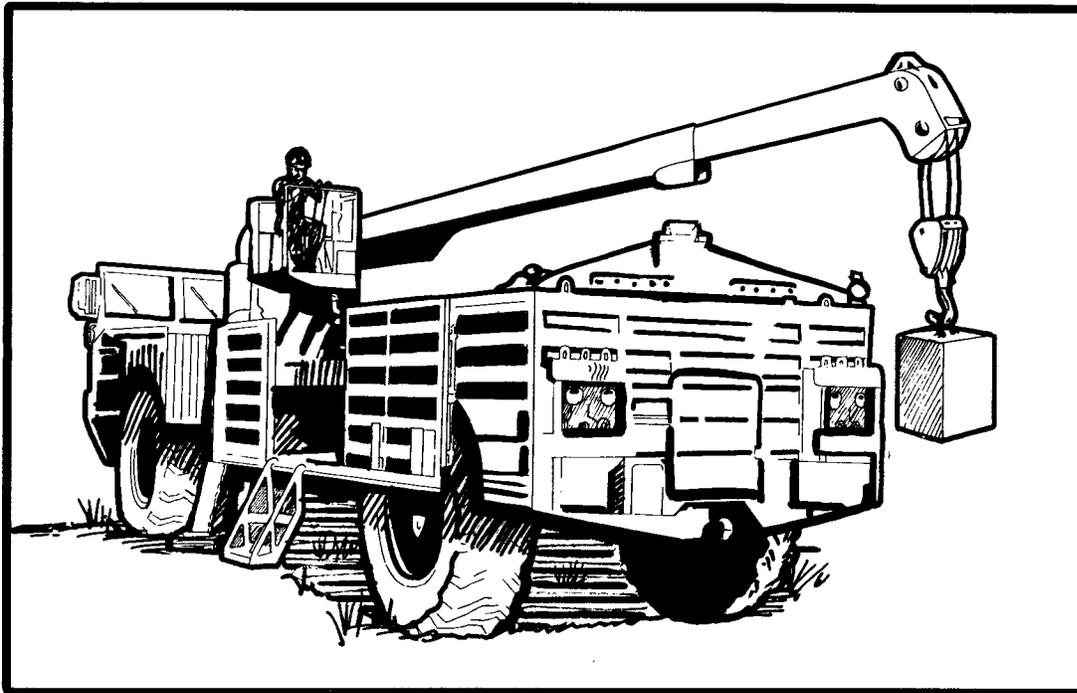
Once the hook is attached to the load, you raise the boom by pulling the boom hoist control lever back.



Then raise the crane by pulling the crane hoist lever back until the load clears the side of the wrecker.

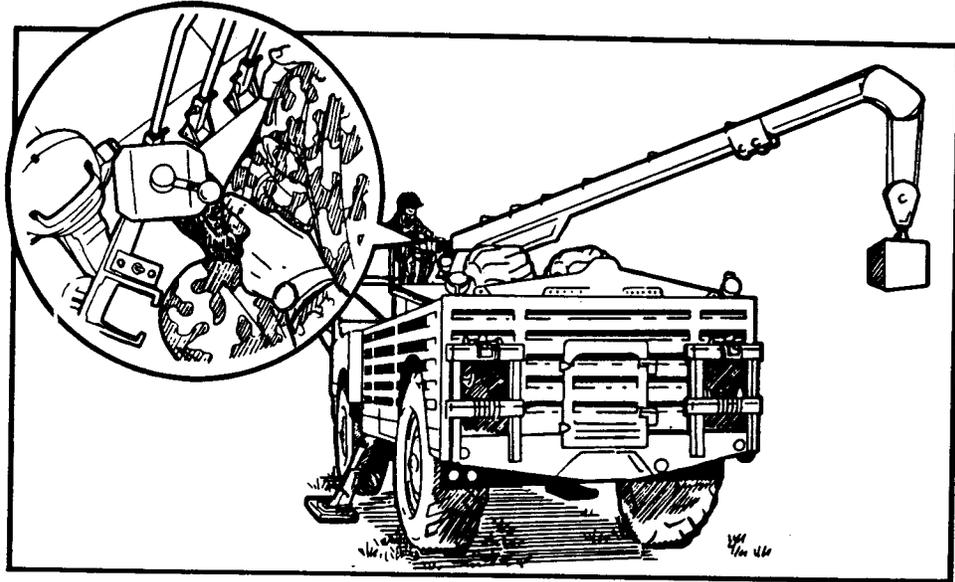
CAUTION:

Do not raise the crane hook as far as it will go. If the snatch block hits the boom, it will cause damage.

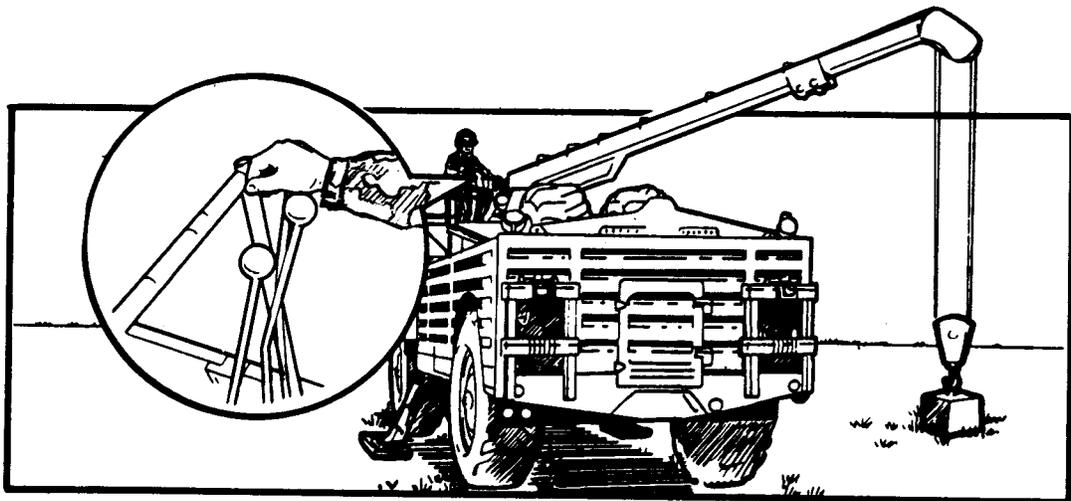


Swing the crane, using the crane swing control lever, until the load is over the area on which it will be placed.

Lower the load by pushing forward on the crane hoist lever.

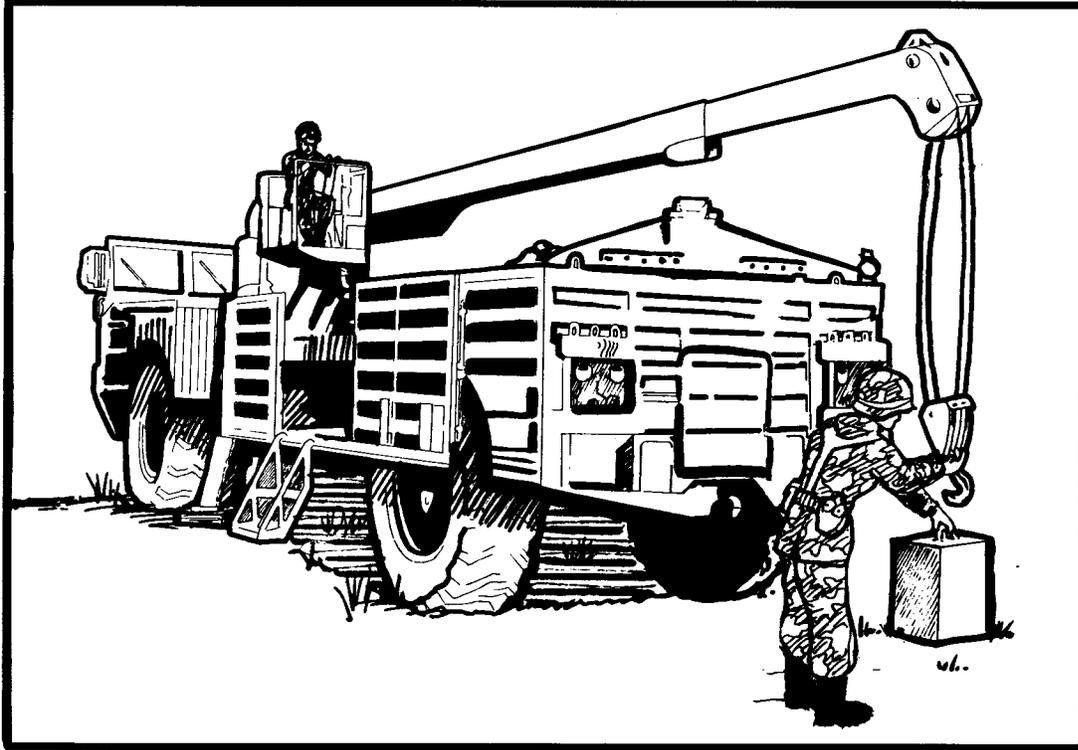


Lower the load by pushing forward on the crane hoist lever.

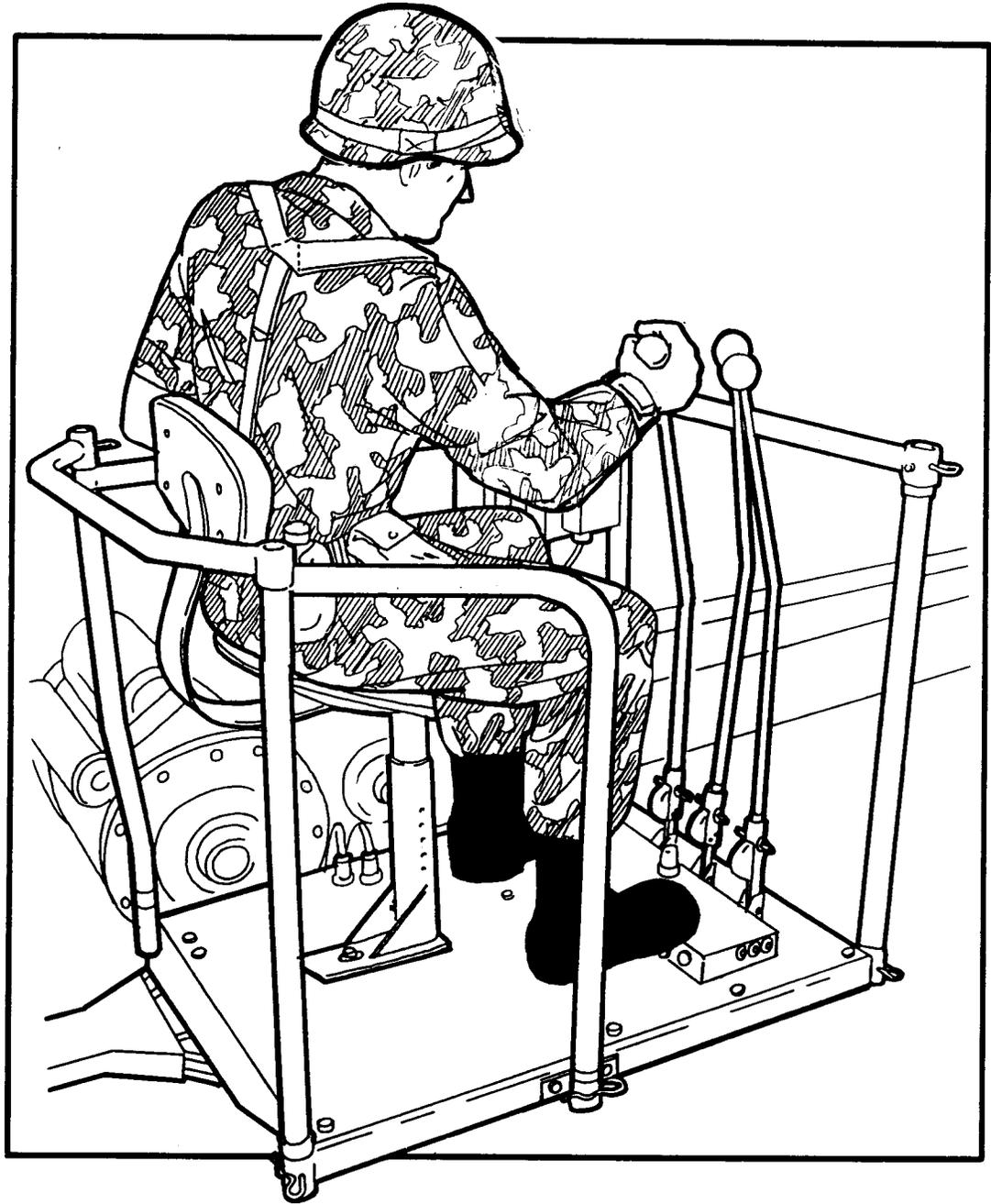


Stop. Take practice exercise.

1. After the hook is attached to the load, what should you do?



2. What lever do you use to swing the load?
3. How do you lower the load?



Now, check your answers with those at the right.

If any of your answers were incorrect, study this part of the lesson again. If all of your answers were correct, continue with the lesson.

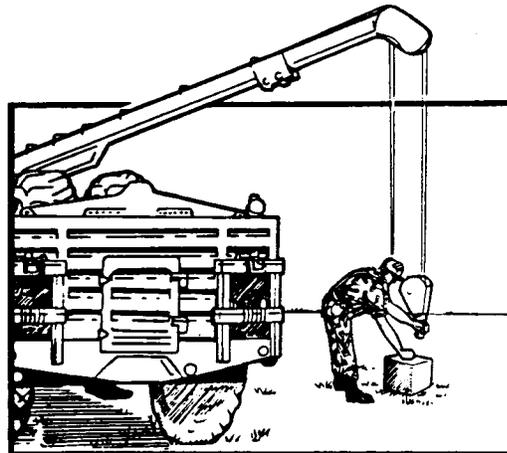
ANSWERS TO PRACTICE EXERCISE

1. raise the boom
2. crane swing control lever
3. push crane hoist lever forward

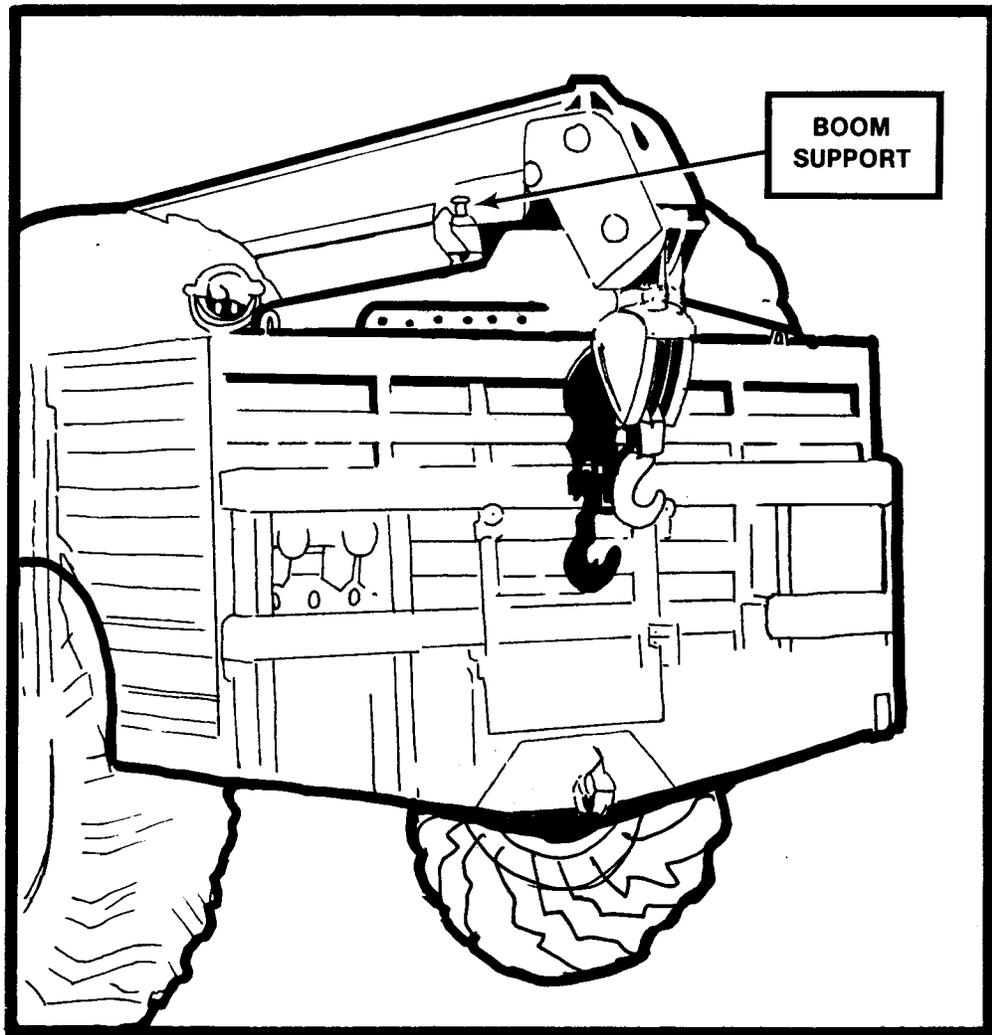
Let's move on and look at the procedures you need to know to shutdown the wrecker after you lift and swing the load.

First, remove the crane hook from the load.

Then raise the crank hook and retract the boom.

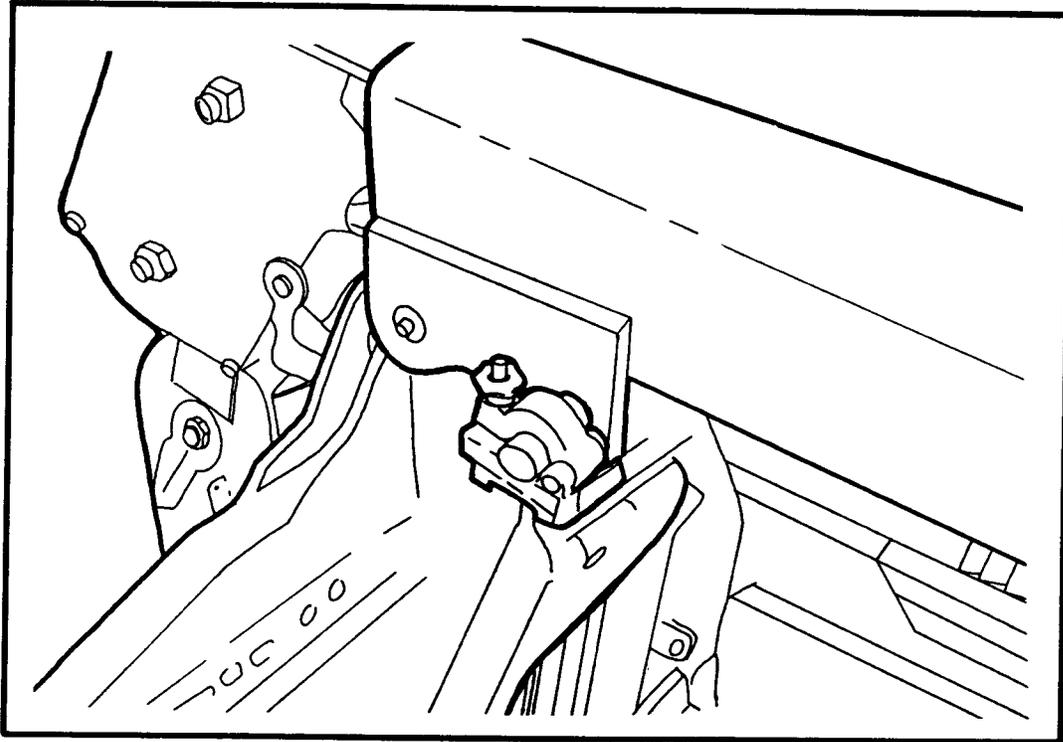


Next, position the boom on the boom support.

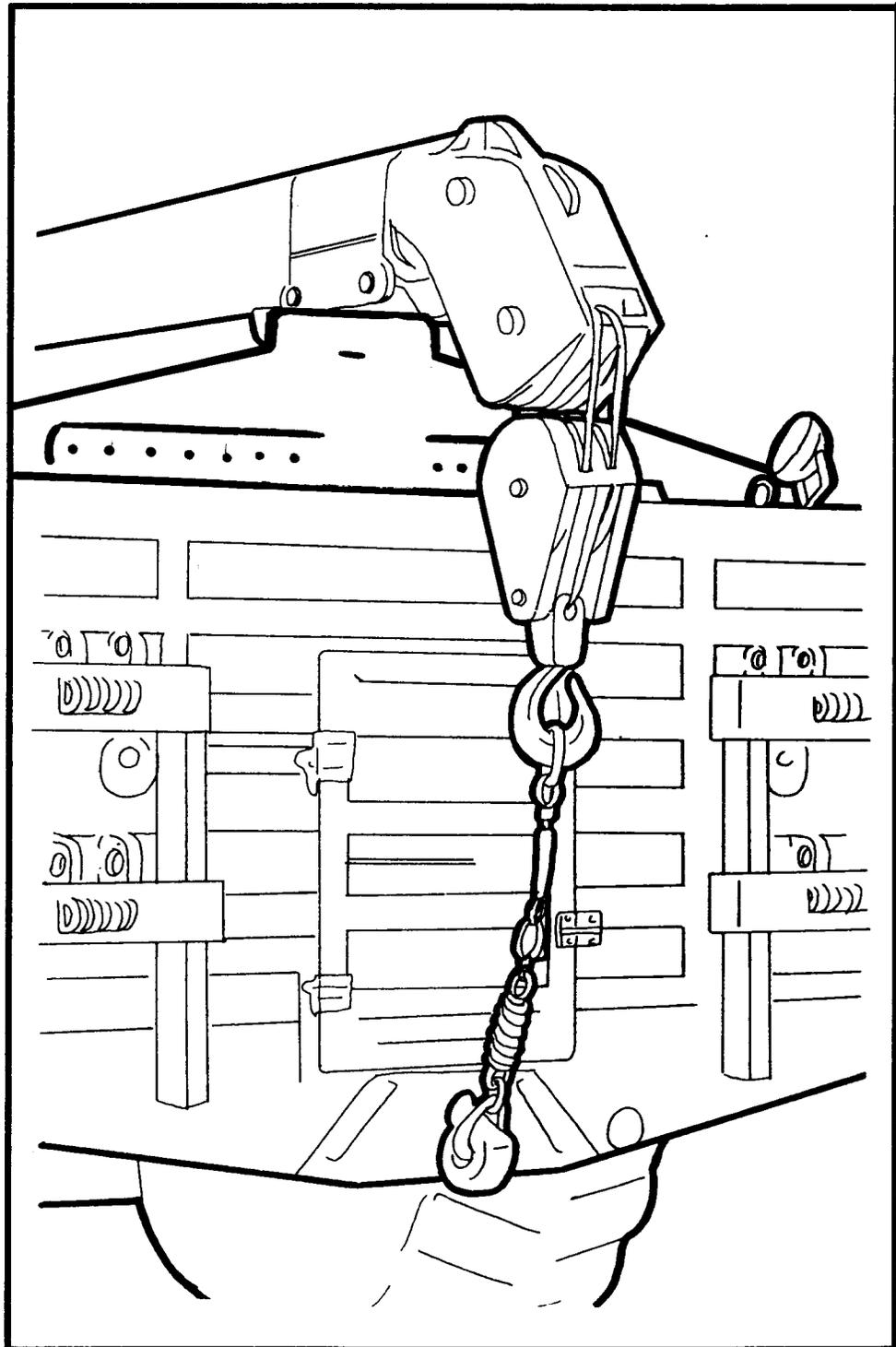


Turn the crane wrecker switch **OFF**.

Secure the boom locking blocks.

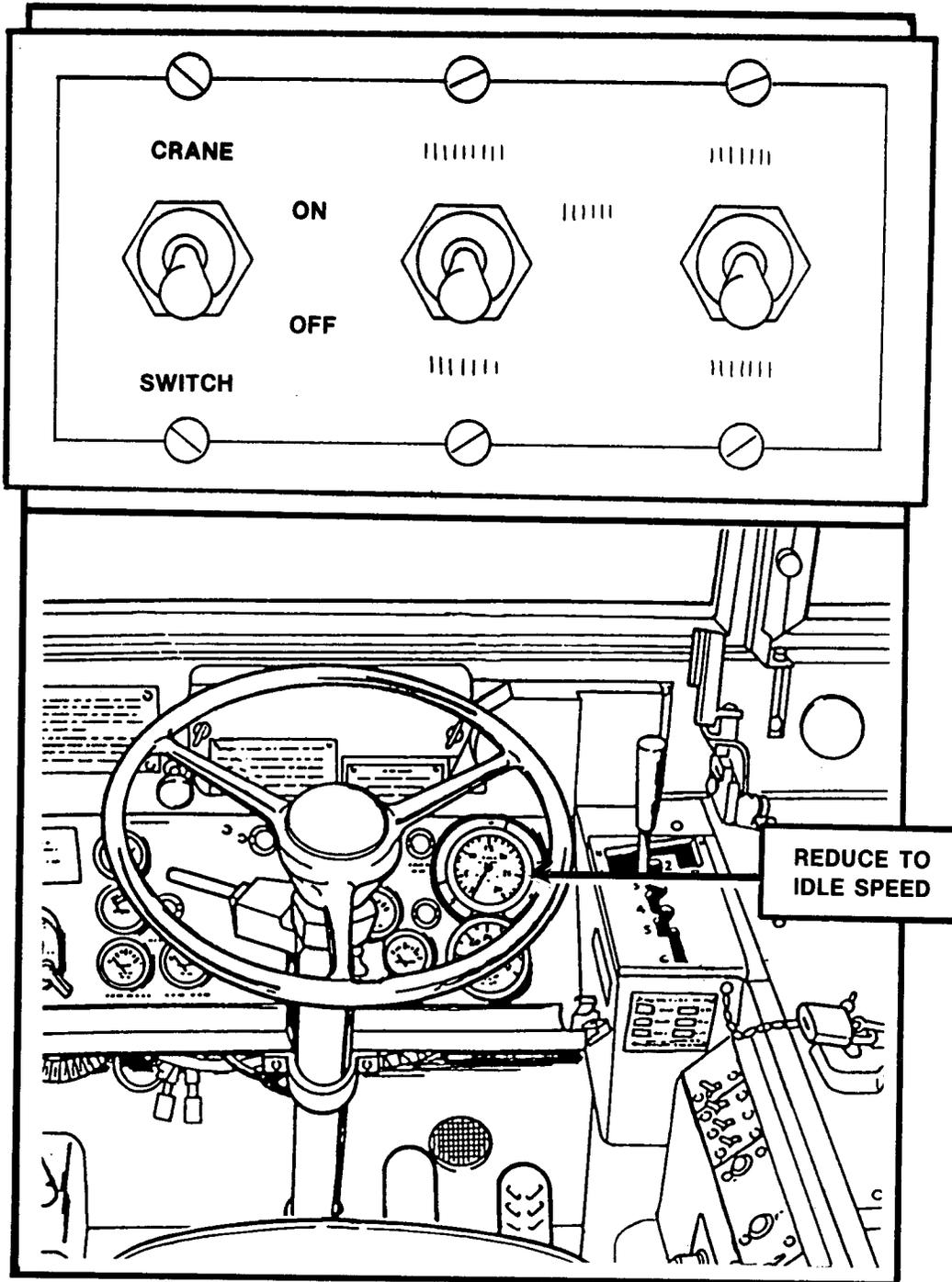


Then secure the load binder to the crane hook.

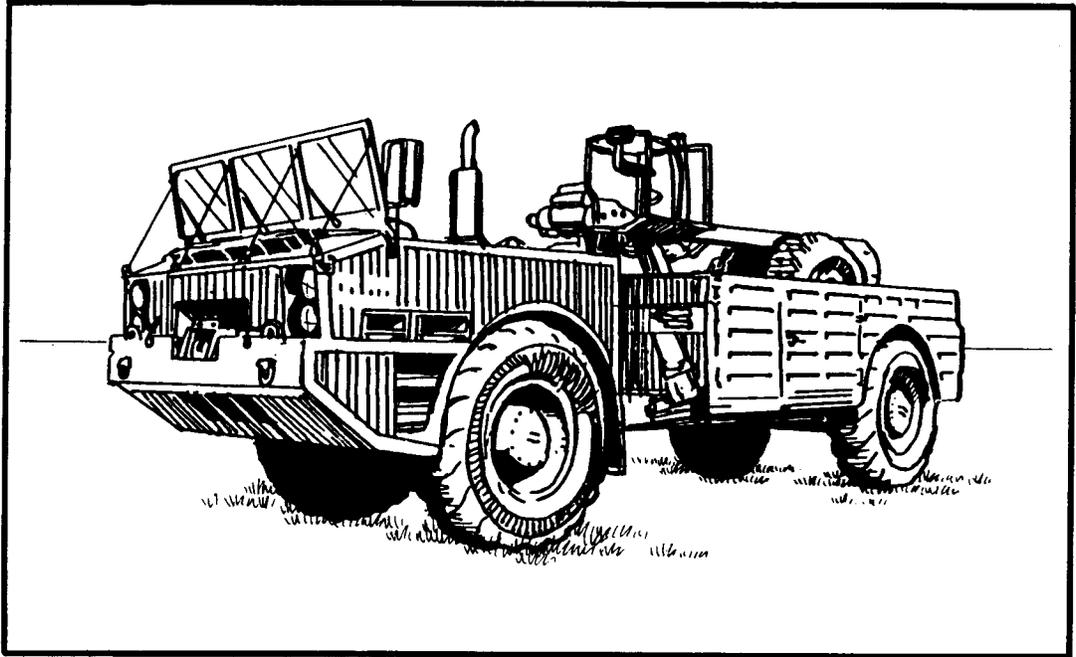


Then turn the crane switch on the dash panel **OFF** and reduce the engine speed to idle.

Now, turn **OFF** the engine.



Raise and secure the outriggers and stow the BII.



That completes TEC Lesson 499-091-1915A, Lift/Swing a Load with a 10-ton Wrecker. If you have any questions on the procedures covered in this lesson, take time to go back over and review the procedures.



**I'm Ready
For My Posttest!**

If you think you can lift/swing a load on your own, notify your supervisor that you're ready to take the posttest.



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