

Title of Training	Combination Backhoe/Loader Safety Training	
Equipment Info.	Make/Type/Size/Model	
Material Needed	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

### Backhoe

## Backhoe/Loader/ Operator Safety Training



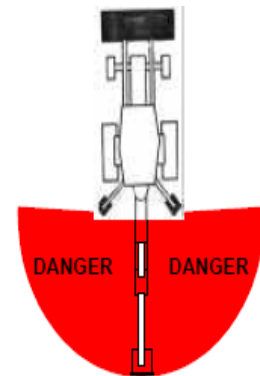
Backhoe loaders have a very unique appearance -- they have components sticking out every which way. It's obvious what a [dump truck](#) does just by looking at it; but what are the different appendages of a backhoe used for?

A backhoe loader is an interesting invention because it is actually three pieces of [construction](#) equipment combined into one unit. A backhoe loader is:

- A **tractor**
- A **loader**
- A **backhoe**

### 1. GENERAL:

- It is impossible to compile a list of safety precautions that will cover all situations that may be encountered. Precautions must be followed as a part of your daily routine. Safety is your primary responsibility, since any piece of equipment is only as safe as the person at the controls.
- In addition to excavation and trenching operations, backhoes and loaders are used to load and unload dirt and material, such as pipe, lumber etc. Each of these different operations may bring personnel into close proximity with moving equipment and dangerous pinch point situations. Equipment operators must be aware of all personnel assigned to the work area, as well as any personnel that may be enter the work area. Spotters are to assist the operator in identifying these personnel.
- Excavation procedures require the assistance of a designated spotter to assist the operator in watching for unidentified utility lines and assist the operator in moving and setting up the backhoe/loader. These utility lines may be underground or overhead. Spotters must be aware of “line of fire” angle should an underground loaded pipeline be punctured. Spotters must not be in the excavation while the operator is digging. Spotters should remain on the “bank” well out of the swing path of the equipment. From this position, the spotter can watch as the bucket is moved through the path of travel and watch for any indication of utility lines or underground structures.
- Anytime a backhoe/loader is used to handle material suspended from a chain or sling; crane safety precautions must be used. The lift is broken down into two areas of responsibility. The spotter/rigger is responsible for the lift until the load leaves the ground and then the equipment operator “owns the load”.



Trainee Name (print)		Signature of Trainee	
Instructor Name		Date of Training	
Scan To:	Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD		
Revision # 002-15	Page 1 of 7		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

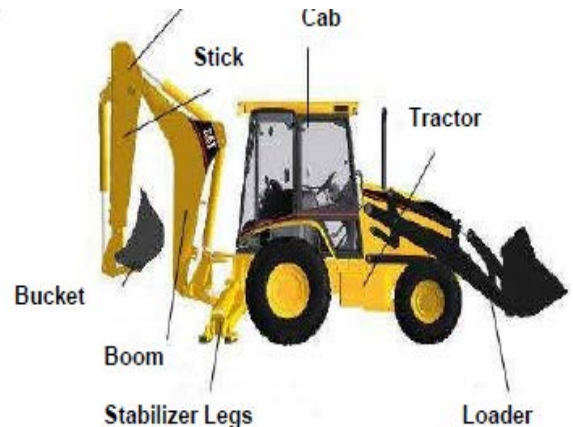
The operator shall not move the equipment boom until the spotter/rigger has established eye contact with the operator and has given the operator correct hand signals to indicate that the load is ready to be lifted. Tag lines shall be used on all suspended loads to control the load and to place the spotter/rigger away from the fall path of the load. Barricades or guards must be placed to prevent personnel from being crushed by the superstructure of the equipment. This hazard is more prevalent with loader type excavation equipment. Spotters are to guard against unauthorized personnel from entering the swing radius of both the boom and counter weight of excavation equipment.

## 2. SAFE CONDUCT OF OPERATORS:

- The operator shall not engage in any practice, which will divert his/her, attention while operating any piece of equipment.
- When mentally or physically unfit, an operator shall not operate any piece of equipment.
- The operator shall respond to signals from an appointed signal person. The operator shall not move the load until signaled to do so by the designated person. If a signal person is not required, the operator is responsible for the safe operation of the equipment. The operator shall respond, at once, to a signal to stop regardless of who gives the signal.
- Each operator is responsible for those operations under his/her direct control. Whenever there is any doubt as to safety, the operator shall consult with a supervisor before continuing the operation.
- Before starting the equipment, a pre-start inspection must be conducted. This inspection must be documented. The following items must be inspected to determine safe operating condition.
  - Tires
  - Engine fluid levels
  - Hydraulic fluid levels
  - Safety information signs
  - Fire extinguisher
  - Condition of cab glass (if applicable)

2.1. After the equipment is started, the following items must be inspected.

- Operation of brakes
- Steering mechanism
- Horn
- Back up alarm
- Operating controls
- Hydraulic hoses (under operating conditions)



<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 2 of 7</b>		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

- Lights

2.2. Before leaving the equipment unattended, the operator shall:

- Land all attachments and loads.
- Set all brakes and other locking devices.
- Place controls in the neutral or off position.
- Stop the engine.

2.3. Any defects that may create an equipment system failure must be corrected prior to placing equipment in service.

- A “Do No Operate” tag must be placed in clear view on the main cab access door, Ignition key slot, or steering wheel or operation controls anytime service work can be performed.

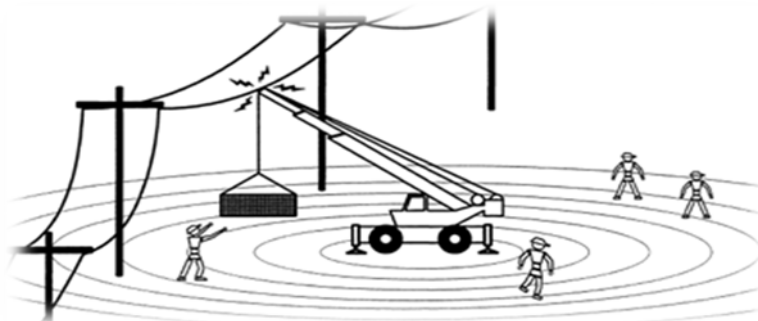
2.4. All manufactures recommendations and safety devices must be used while servicing or repairing equipment.



2.5. Seatbelts will be used except when digging in an area that is known to contain loaded lines.

2.6. Equipment must not be operated inside of the electrical MSAD (minimum safe approach distance). This distance is as follows:

<b>Voltage (kV)</b>	<b><i>Minimum Clearance</i></b>
<= 50 kV	10 ft.
> 50 kV	10 ft. + 4 inches per kV over 50 kV



<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 3 of 7</b>		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

## Brieser's Written & Performance Test for Backhoe/Loader Operators'

Employee: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ am pm.

True or False (Must get a minimum of 12 questions correct)

- 1. Spotters are required to assist operators in recognizing hazards.
- 2. Operators must be aware of the swing path of the machine and must not swing loads over any personnel in the area.
- 3. When a backhoe/loader/loader is used for material handling the operator must respond to the hand signals of the Spotter and stop at once, regardless of who gives the signal.
- 4. The operator is not responsible for keeping personnel from entering the area around the boom of the backhoe/loader.
- 5. As long as you are on level ground you can just turn the engine off and set the brakes without worry.
- 6. The backhoe/loader shall only be operated from the operator's seat, which must be locked in the appropriate position.
- 7. The Operator can use the backhoe/loader/loader transport personnel.
- 8. The safe operating distance from energized power lines is the same regardless of the voltage in the power line.
- 9. A "Do Not Operate" tag must be attached to the backhoe/loader anytime service work is performed.
- 10. Loaders are equipped with a safety lock on the lift ram of the bucket. Anytime the bucket is raised for working on the engine this safety lock must be used.
- 11. When traveling on an incline with a loaded bucket the load should always be pointed uphill.
- 12. All equipment is required to have at least a 5 lbs dry chemical Fire Extinguisher mounted on the equipment at an accessible location.
- 13. Getting the job done quickly is the top priority for an operator and they should operate at the fastest speed possible.
- 14. The operating area of equipment should be kept free of debris, trash and tools.
- 15. If a good walk through inspection was performed yesterday only a quick check is required today.

<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 4 of 7</b>		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

### **Backhoe/Loader/ Safety Training Written Test Key**

True or False (Must get a minimum of 12 questions correct)

- 1. Spotters are required to assist operators in recognizing hazards.
- 2. Operators must be aware of the swing path of the machine and must not swing loads over any personnel in the area.
- 3. When a backhoe/loader is used for material handling the operator must respond to the hand signals of the Spotter and stop at once, regardless of who gives the signal.
- 4. The operator is not responsible for keeping personnel from entering the area around the boom of the backhoe/loader.
- 5. As long as you are on level ground you can just turn the engine off and set the brakes without worry.
- 6. The backhoe/loader shall only be operated from the operator's seat, which must be locked in the appropriate position.
- 7. The Operator can use the backhoe/loader transport personnel.
- 8. The safe operating distance from energized power lines is the same regardless of the voltage in the power line.
- 9. A "Do Not Operate" tag must be attached to the backhoe/loader/loader anytime service work is performed.
- 10. Loaders are equipped with a safety lock on the lift ram of the bucket. Anytime the bucket is raised for working on the engine this safety lock must be used.
- 11. When traveling on an incline with a loaded bucket the load should always be pointed uphill.
- 12. All equipment is required to have at least a 5 lbs dry chemical Fire Extinguisher mounted on the equipment at an accessible location.
- 13. Getting the job done quickly is the top priority for an operator and they should operate at the fastest speed possible.
- 14. The operating area of equipment should be kept free of debris, trash and tools.
- 15. If a good walk through inspection was performed yesterday only a quick check is required today.

<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 5 of 7</b>		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

## Operator Hands On-Backhoe/Loader Checklist

1.  Completed training and written testing.
2.  Operator possesses physical & mental capabilities
3.  Knowledge and understanding of specific equipment
4.  Perform and document Daily Inspection on Daily Inspection Report.
5.  Knowledge of the equipment capabilities and capacities
6.  Ability to recognize mechanical discrepancies and problems of the equipment
7.  Knowledge of Brieser's Safe Operating Practices and Procedures.
8.  Seat belt used
9.  Shows familiarity with the equipment controls and refueling procedures.
10.  Gave proper signals and or communication when turning.
11.  Slowed down at intersections.
12.  Sounded horn at intersections.
13.  Obeyed signs.
14.  Kept a clear view of direction of travel.
15.  Turned corners correctly — was aware of rear end swing.
16.  Yielded to pedestrians and or fellow workers.
17.  Drove under control and within proper traffic lanes.
18.  Knowledge and understanding of "One Call" procedures
19.  Knowledge of excavation regulations
20.  Knowledge of soil classification, benching, sloping and shoring of trenches
21.  Travels with bucket positioned low as to not obstruct operators vision
22.  Maintains "Three Point Contact" when mounting or dismounting equipment
23.  Lowers bucket to ground when not in use
24.  Places shift controls in park and engage parking brake before existing equipment
25.  Does not actuate controls from other than operator's seat
26.  Does not allow workers to be under loads or within swing areas
27.  Travels on job-site at an acceptable speed
28.  Alert to workers in equipment operation area
29.  Aware of overhead obstacles such as, power lines, trees or buildings...Et
30.  Utilize spotters when excavating
31.  Utilize stabilizers as required
32.  Travel with "loaded" bucket uphill
33.  Travel with "empty" bucket downhill
34.  Knowledge of loading, unloading and transporting equipment

Pass                       Fail                      Evaluator \_\_\_\_\_

Employee Name: \_\_\_\_\_ Date: \_\_\_\_\_

Additional remarks / Limitations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 6 of 7</b>		

<b>Title of Training</b>	<b>Combination Backhoe/Loader Safety Training</b>	
<b>Equipment Info.</b>	<b>Make/Type/Size/Model</b>	
<b>Material Needed</b>	Operators Manual Pylons/Orange Cones/Used Tires to Outline Hands On Obstacle Course	See Operators Written Test on Page 4 with Hands On Requirements On Page 6 in this safety training.

<b>EMPLOYEE NAME (Print or Type)</b>	<b>EMPLOYEE SIGNATURE</b>	<b>TRADE</b>	<b>JOB TITLE</b>
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			

<b>Trainee Name (print)</b>		<b>Signature of Trainee</b>	
<b>Instructor Name</b>		<b>Date of Training</b>	
<b>Scan To:</b>	<b>Safety/Training/Equipment/Backhoe-Loader Training/YYY-MM-DD</b>		
<b>Revision # 002-15</b>	<b>Page 7 of 7</b>		