

PowerPoint Slides

EXCAVATOR SAFETY TRAINING

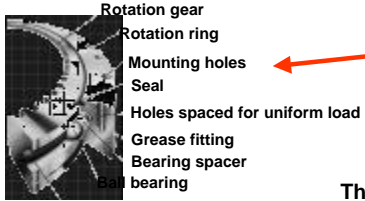


SAMPLE

INSPECTION CHECKLIST

| INSPECTION AREA | INSPECTION RESULTS | | | Comments |
|-------------------------------|--------------------|--------|-----|----------|
| | Sat. | Unsat. | N/A | |
| Carrier & Car Body | | | | |
| Rotation system | | | | |
| Tracks | | | | |
| Rollers | | | | |
| Frame, welds, bolts | | | | |
| Drive system | | | | |
| Upper Structure | | | | |
| Radiator fluid | | | | |
| Engine oil | | | | |
| Belt tensions | | | | |
| Batteries | | | | |
| Hydraulic fluid | | | | |
| Hydra. pumps & hoses | | | | |
| Engine exhaust syst. | | | | |
| Cab | | | | |
| Seat belt | | | | |
| Gauges | | | | |
| Controls & Labels | | | | |
| Fire extinguisher | | | | |
| Glass | | | | |
| Warning Alarms | | | | |
| Lights | | | | |
| Swing Brakes | | | | |
| Electrical System | | | | |
| Safety Equipment | | | | |
| Operator's Manual | | | | |
| Boom & Stick | | | | |
| Hydraulic cylinders | | | | |
| Hydraulic hoses | | | | |
| Hinge pins & bushings | | | | |
| Deformations, Cracks | | | | |
| Bucket | | | | |
| Teeth | | | | |
| Welds & bolts | | | | |
| Pins & bushings | | | | |

CAR BODY FRAME AND BEARING



Bearing raceway

Rotation Bearing



The Car Body consist of the frame and rotation bearing.



Inspect the car body components for cracks and bearing wear.



SAMPLE

RACK SYSTEM



Drive Sprocket

Inspect the sprocket for worn or cracked teeth. Check drive for leaks and damage.



Front Idlers

Inspect the front idlers for wear and damage.

UPPER STRUCTURE



Check for proper hydraulic fluid level. Refer to the operator's manual for the correct position of the boom, stick & bucket for the measurement.

Inspect all lights to ensure proper working order.

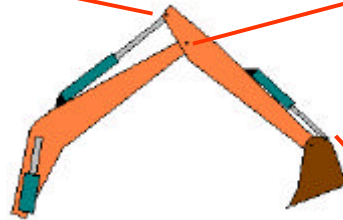


Check the hydraulic system, pumps, hoses, lines and cylinders, for leaks.



SAMPLE

BOOM AND STICK



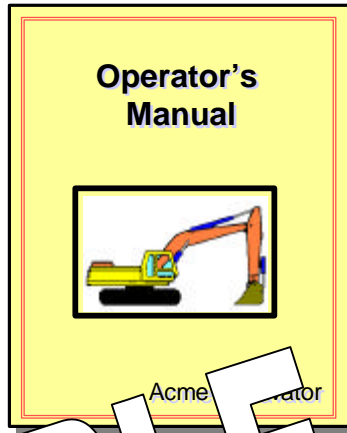
Inspect the boom and the stick for dents and cracked welds. All hinge pins need to be greased regularly and checked for excessive wear.



OPERATOR'S MANUAL

The operator's manual is to be on the machine.

The operator is to have read and understood the manual.



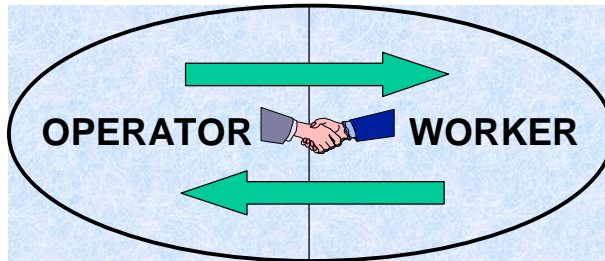
CLIMBING ON AND OFF THE MACHINE



When climbing on and off the machine, the operator should always face the machine. Use the the three point contact method when climbing: Two hands and a foot or two feet and a hand.



JOB SITE SAFETY

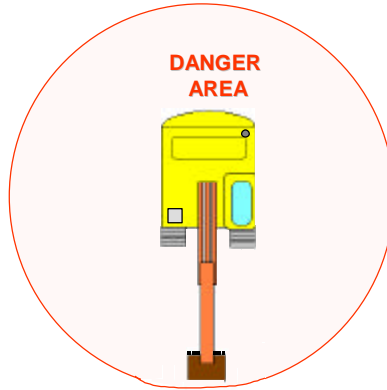


EVERYONE IS RESPONSIBLE FOR
THEIR SELF AND THE OTHER PERSON

SAMPLE
FOR SAFE OPERATION

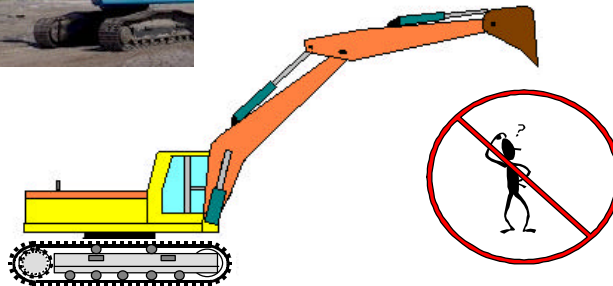
- ✍ **Never Take Anything For Granted**
- ✍ **Face the Machine When Climbing on and off**
- ✍ **Keep The Machine Clean**
- ✍ **Clean Mud And Grease From Shoes**
- ✍ **Avoid Loose Clothing And Jewelry**
- ✍ **Wear Protective Equipment**
- ✍ **Never Operate Machine Without Protective Guards**
- ✍ **Always Check Height, Width, and Weight Restrictions**
- ✍ **Keep all Safety Devices in Place and Working**
- ✍ **Plan Ahead**
- ✍ **Learn Beforehand About the Work Area**

DANGER AREA



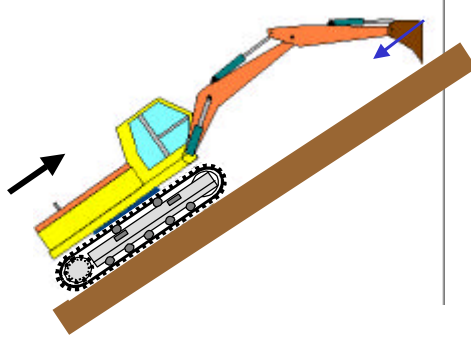
SAMPLE

ALWAYS WORK FACING THE MACHINE



Never assume the operator can always see you.

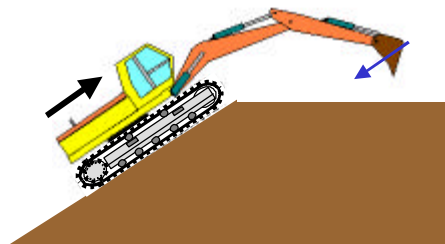
MOVING UP A SLOPE



- If the slope is too steep and the material is loose, the rear of the machine may settle allowing the excavator to roll over backwards.
- Keeping the boom and stick extended will help distribute the load on the tracks more evenly which improves traction.
- If the excavator is unable to continue to climb, set the teeth of the bucket into the slope and pull the machine up with the stick.

SAMPLE

MOVING UP A SLOPE



- When the excavator comes close to the top of the slope, reach out with the stick and boom and sink the teeth into the ground beyond the crest of the slope.
- Continue to pull the machine up until it wants to tip forward. Lower the front of the machine with the boom and continue to tack from the slope.

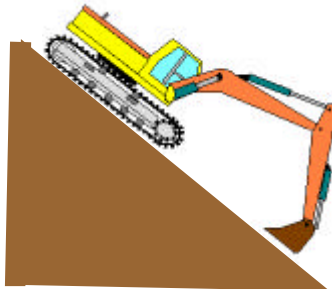
MOVING DOWN A SLOPE



- When the center of the excavator is at the crest of the slope, raise the boom slightly to see if the machine will tilt forward. If not, slowly track forward and try again.

SAMPLE

MOVING DOWN A SLOPE



- Raise the bucket off the surface of the slope and see if the tracks will hold the machine on the slope.
- If the tracks will hold the machine, continue tracking down the slope with the bucket slightly off of the ground.

HAND SIGNALS



**CLOSE
BUCKET**



**OPEN
BUCKET**



**RAISE
BUCKET**



**LOWER
BUCKET**

SAMPLE

HAND SIGNALS



**MOVE
AWAY
FROM
ME**



**MOVE
TOWARD
ME**



**DOG
EVERYTHING
(HOLD)**



**STOP
ENGINE**

EXCAVATING

Before starting to excavate, assess the situation:



- What will be the maximum depth of the excavation?
- Where will the spoil be placed?
- How will the excavation be backfilled and with what material?
- Assess soil condition and its ability to support the excavator?



SAMPLE

EXCAVATING

Call Before You Dig!



Before starting an excavation of any type, it is important to determine if there are any underground utilities in the area.

Most areas have a One-Call number which will contact local utilities companies of your location. Representatives from these companies will come to your work site and mark the location of these utilities.

Contact one of your local utility companies or search the Internet for the 1-800 number.

TRENCHING



Trenching is one of the common uses of the excavator. Before starting the trenching, evaluate the job site for hazards, type of soil, access to the site and where the spoil will be placed.



SAMPLE

GENERAL TRENCH PRECAUTIONS



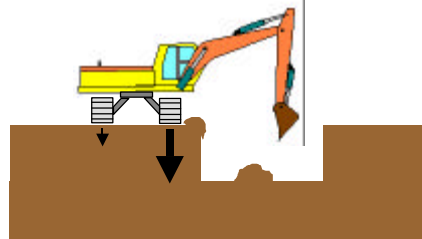
Workers are not to be in a trench while it is being excavated.

Based on soil type, shoring normally is required before a worker enters the excavation.

TRENCHING

Cleaning Out Cave-ins

With the tracks parallel to the edge of the trench the machine can be repositioned quickly but the load on the trench edge is significant. This could result in further cave-ins and the excavator sliding into the trench. This approach should only be used if the soil is stable enough to support the concentrated weight.



SAMPLE

CRADDLING A TRENCH

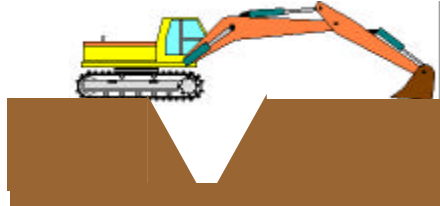
Vertical Walls



Raise the front of the machine so the front of the tracks are off the ground and begin to track forward. At the same time, raise the boom slowly and pull the stick to maintain the slight up angle of the tracks.

STRADDLING A TRENCH

Sloping Walls

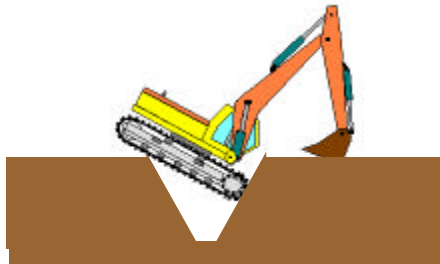


If it becomes necessary to straddle a sloping wall trench to reset the grade due to cave-ins or other problems, bring the excavator up to the edge of the trench with the tracks perpendicular to the edge. Extend the boom and stick beyond the edge of the other side and place the bucket on the ground. Watch the earth movement under the front of the trench when extending. Elevate the front of the tracks with the boom and begin to track forward, keep the machine level the same with the boom and stick.

SAMPLE

STRADDLING A TRENCH

Sloping Walls



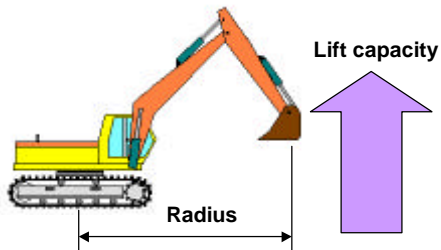
To remove the excavator from the trench, track the excavator in reverse and allow the front to dip down into the trench. This will help keep the rear tracks from digging into the wall. Track in reverse and use the stick to push the excavator backwards.

LIFTING WITH THE EXCAVATOR

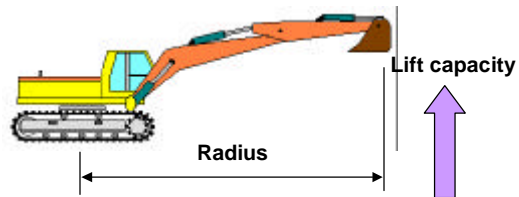


SAMPLE

LIFTING WITH THE EXCAVATOR



When the 'radius' of the load increases, the lifting capacity of the excavator decreases.



LIFTING WITH THE EXCAVATOR

ATTACHING THE LOAD

Most excavators have lifting eyes mounted to the end of the stick and on the back of the bucket.



Attach the load to the lifting eyes with a load rated shackle.



SAMPLE

LIFTING WITH THE EXCAVATOR



Special lifting attachments need to be load rated and the weight of the attachment needs to be included in the total weight that the excavator will be lifting.