🙌 外国人労働者に対する安全衛生教育教材作成事業(建設業)

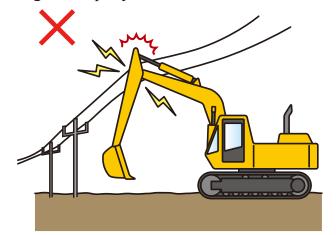
"Tunnel propulsion and Construction Machinery and Earthwork"

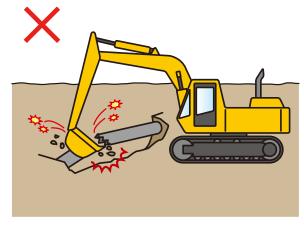
The important points for Safety and health

# Precautions for operation of a vehicle-type construction machine

# (1) Checking of the site before starting the work

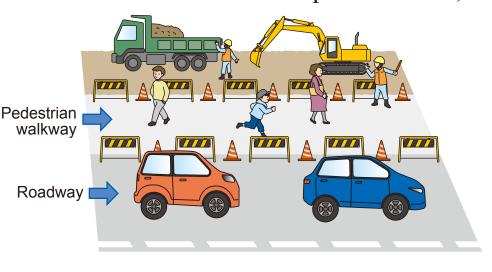
- 1. When it is necessary to work near electric wires, take measures for the electric wire protecting and arrange a watchman before the work. Slowly expose the tube with a machine according to a guide's signal.
- \* When working in a city area where water pipes, gas pipes, etc. are buried, the location of the pipes are dug by a human inspection in the presence of a site supervisor, a water company, and a gas company.





2. In the case of work on the side of a road or at a private house, a

traffic director is assigned to ensure the safety of third parties such as passers-by, and the work place is clearly indicated with color cones, etc.

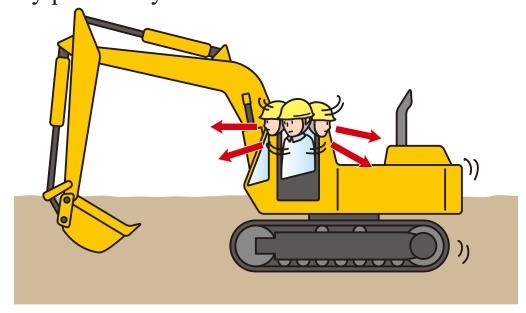


# (2) Work safety (Part 1)

1. Use handrails and steps with both hands and feet to get on and off a machine such as three points are supported certainly. Even if safety is confirmed in surroundings, you may not jump on or off the machine.



2. While a machine is in operation, do not concentrate too much on only the operation instructed, but also pay attention to those such as the state of the machine, who are working in proximity and third party passers-by.



# (3) Work safety (Part 2)

3. During the work, do not place people other than the driver's seat on a machine.



4. Do not drive violently, such as sudden start or braking.

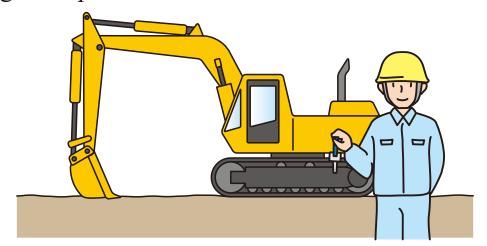


#### (4) Measures after the work

1. After that, the machine is cleaned, refueled, and parked at a designated place.



2. After the work is completed, park the machine in a designated place, lower the work equipment to the ground, and then stop the engine. When the engine is stopped, all operation levers should be "neutral" and locked. After unplugging the machine, store it in a designated place.

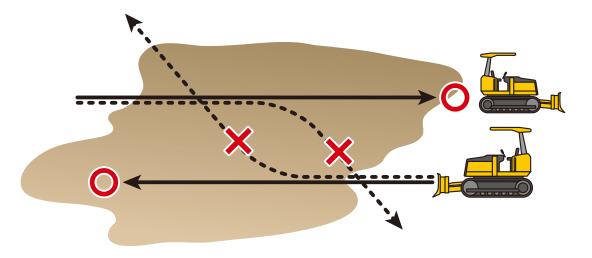


# (5) Operation suitable for site conditions

1. When working in a places where there is a risk of falling, such as a shoulder or a top of the slope, do not get too close to the shoulder, and work carefully under instructions by a guide or a watcher.

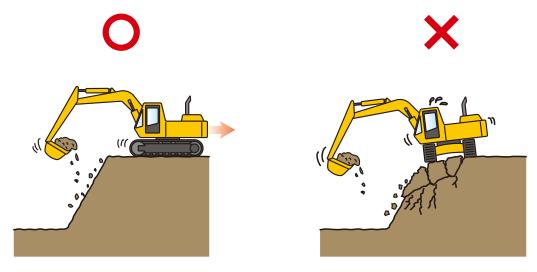


2. In the soft ground, do not use control levers too much (do not turn). Also, use a swamp bulldozer and avoid running in the same place as possible.

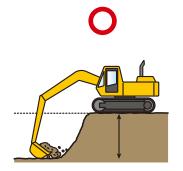


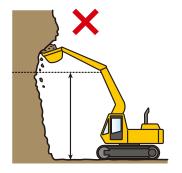
### (6) Safety in excavating works

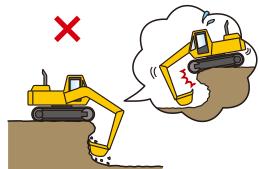
1. When excavating, the road shoulder may collapse depending on the soil, therefore, the crawler travel direction should be perpendicular to the excavation surface line, and sideways excavation (shown in the right figure) is dangerous in terms of emergency evacuation.



2. Check the soil, etc., then, excavate within enough allowance in height and depth, not dig too much such as an undermining. (see figures below)





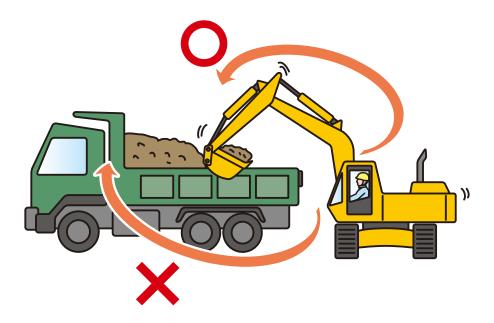


## (7) Safety in loading works

1. When loading the excavated soil and sand on a dump truck, an excavator can be loaded efficiently by installing it at the height of a cargo bed of the dump truck (2m to 2.5m).

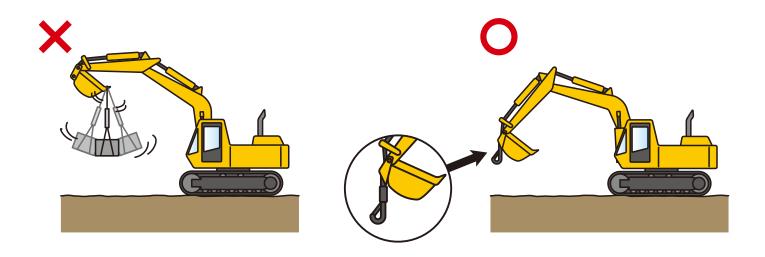


2. When loading on a dump truck, the arm must turn from the backside of the driver's cabin, not above the driver's cabin.



# (8) Hydraulic excavators with a crane function

1. Do not hang the load by attaching a wire to the bucket tooth of a hydraulic excavator. When working with a hydraulic excavator, only the machine with a crane function can be used.



2. Do not drive piles with a backhoe bucket.

