

# Hydraulic Breaker



- TNB-08M TNB-6M TNB-190LU
- TNB-11M TNB-6E TNB-230LU2
- TNB-2M TNB-7J TNB-310LU1
- TNB-3MB TNB-100 TNB-400LU
- TNB-4M TNB-141LU
- TNB-5M TNB-151LU1

# MANUAL

## INSTRUCTION MANUAL

### WARNING

Unsafe use of this machine may cause serious injury or death. Operators and maintenance personnel must read this manual before operating or maintaining this machine. This manual should be kept near the machine for reference and periodically reviewed by all personnel who will come into contact with it.

TOKU PNEUMATIC CO.,LTD.

No. 11

### FOREWORD

Thank you very much for your purchasing of a Toku hydraulic breaker, This instruction manual is a guidebook to the TOKU Hydraulic Breaker as well as helps deepen your understanding of Toku hyd. breaker better for those who own a TNB breaker. Before operating the Breaker, operators and maintenance personnel should read this manual carefully making sure that they understand the contents. Keep this manual handy and ensure all personnel read it periodically.

The TOKU Hydraulic Breaker is fitted to a hydraulic excavator as an attachment and this manual is considered to be used together with an excavator manual. Therefore this must be kept together with your hydraulic excavator manual.

### WARNING

Improper operation can be hazardous and could result in serious injury or death. Operators and maintenance personnel should read this manual carefully before operating or maintaining this machine and always keep it near the machine. All involved persons should read it periodically.

- Do not operate the product unless you understand and comply with the contents of the instruction manual.
- Operators and maintenance personnel should read this manual periodically and always keep it handy.
- If this manual is lost or becomes damaged, ask for a manual at TOKU Pneumatic Co., Ltd or a Toku distributor nearby by ordering.
- If you transfer the breaker to another source, make sure that you give this manual to the new owners.
- When you rent this breaker, make sure that this manual must be handed over to an user.

### INTRODUCTION

#### 0-1. SAFETY INFORMATION

We use our safety messages and levels in following way in order for you to understand the manual and the safety levels better.

- ▲ DANGER:** If not avoided, result in death or serious
- ▲ WARNING:** This word is used on safety messages and safety labels where there is a potentially dangerous situation which could result in serious injury or death if the hazard is not avoided. These safety messages or labels usually describe precautions that must be taken to avoid the hazard. Failure to avoid this hazard may also result in serious damage
- ▲ CAUTION:** This word is used on safety messages and safety labels for hazards, which could result in minor or moderate injury if the hazard is not avoid. This word might also be word for hazards where the only
- ★ NOTICE** This word is used for precautions that must be taken to actions, which could shorten the life of the machine

TOKU cannot predict every circumstance that might involve a potential hazard in operation and maintenance. Therefore the safety message in this manual and on the machine may not include all possible safety precautions.

#### 0-2. APPLYING WORKS

### WARNING

Never use TNB breakers other than applying works

Mainly apply TNB breakers for following works.

- Demolition of Concrete and secondary breaking.
- Demolition of Asphalt and secondary breaking.
- Demolition of Rock.
- Quarry applications.
- Road Construction.
- Please consult us in case of tunnel work, under water works, works in extreme heat, cold or dusty environment or any other " special application.

#### 0-3. OPERATION AND QUALIFICATIONS

Operators must be trained before operating TOKU BREAKER and must obey all rules at the worksite and local regulations, which affect the operator and equipment.

●SAFETY

1-1. GENERAL PRECAUTIONS FOR SAFETY

**WARNING**

When operating the hydraulic breaker, read the instruction manual for the hydraulic excavator and obey the safety requirements.



**WARNING -SAFETY RULES AT THE WORK SITE-**

- Only trained and authorized personnel can operate and maintain the machine.
- Follow all safety rules, precautions and instructions when using the breaker.
- Follow the rules for group work when more than 2 people are working together.

**WARNING -CLOTHING AND PERSONAL PROTECTION ITEMS-**

It is essential to wear a hard hat, protective goggles, safety boots, a mask and

Especially when operating a mini-excavator where a cabin is not installed on the machine.

**WARNING -PROTECTION AGAINST FALLING OR FLYING OBJECTS-**

- When operating a hydraulic breaker, install a front guard on the windscreen. Also place a laminate coating sheet over the windscreen.
- For work in mines, tunnel or other places where there is a danger of falling rocks, fit a FOPS (falling object protective structure). Also place a laminate coating sheet over the windscreen.
- When operating a breaker, make sure that you close the front window.
- During operation, make sure all personnel are out of range of materials, which may fly up.

**WARNING DON'T DISASSEMBLE**

The hydraulic breaker contains a high volume of pressurized nitrogen gas. It can therefore be dangerous if the breaker is not dismantled correctly. As a result, if the breaker needs service, please contact TOKU or an authorized distributor/service depot.

**WARNING UNAUTHORIZED MODIFICATION**

- Non-approved modifications can cause injury and damage.
- Consult your TOKU dealer for advice before making any modifications. TOKU will not accept responsibility for any injury or damage caused by any unauthorized modifications.

1-2. SAFETY OPERATION

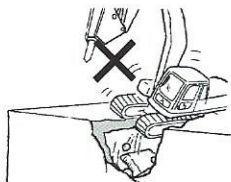
**WARNING Checking work site**

When working on embankments or near excavated ditches, there is a hazard that the weight and vibration of the machine will cause the soil to collapse. Before starting operations, take steps to ensure that the ground is safe and to prevent the machine from rolling over falling.



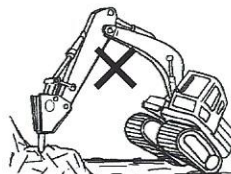
**WARNING Safety secure at work site**

When working on the structure, it may happen collapse or floor. Check the strength of floor before operation. Reinforce the floor if it's necessary.



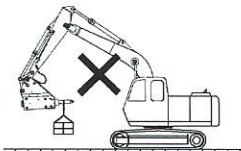
**WARNING**

Do not raise up too high. It may cause damage of excavator or falling accident when excavator becomes unbalance after breaking an object.



**WARNING**

Do not lift materials with the breaker. This may cause damage to the breaker and breaker bracket and is a dangerous maneuver.



**WARNING -IF ABNORMALITIES ARE FOUND-**

If you find any abnormality in the machine during operation or maintenance (noise, vibration, smell, incorrect gauges, smoke, oil leakage, etc.) or any abnormal display on the warning devices or monitor, report to the person in charge and have the necessary action taken. Do not operate the machine until the abnormality has been corrected.

**WARNING -DISTANCE TO HIGH VOLTAGE CABLES-**

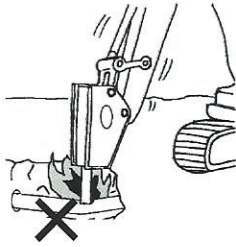
Do not travel or operate the machine near electric cables. There is a hazard of electric shock, which may cause serious injury or property damage. On jobsites where the machine may get close to electric cables, always do as follows. Before starting work near electric cables, inform the local power company of the work to be performed, and ask them to take the necessary action. Even going close to high-voltage cables can cause electric shock, which may cause serious burns or even death.

Always maintain a safe distance (see the table on the right) between the machine and the electric cable. Check with the local power company about safe operating procedure before starting operations. To prepare for any possible emergencies, wear rubber shoes and gloves. Lay a rubber sheet on top of the seat, and be careful not to touch the chassis with any exposed part of your body. Use a signalman to give warning if the machine approaches too close to the electric cables. When carrying out operations near high voltage cables, don't let anyone near the machine. If the machine should come too close or touch the electric cable, to prevent electric shock, the operator should not leave the operator's compartment until it has been confirmed that the electricity has been shut off. Also, don't let anyone near the machine.

Voltage of cables	Safety distance
0 - 60,000V	more than 3m
66,000V	more than 4m
154,000V	more than 5m
500,000V	more than 11m

**⚠ WARNING -SAFETY AT JOBSITE-**  
 Before starting operations, thoroughly check the area for any unusual conditions that could be dangerous.

- When carrying out operations near combustible materials such as thatched roofs, dry leaves or dry grass, there is a hazard of fire, so be careful when operating.
- Check the terrain and condition of the ground at the worksite, and determine the safest method of operation. Do not operate where there is hazard of landslides or falling rocks.



**⚠ WARNING -NOISE-**  
 When carrying out maintenance of the breaker and you are exposed to noise for long periods of time, wear ear covers or ear plugs while working.  
 If the noise from the machine is too loud, it may cause temporary or permanent hearing problems.

**⚠ WARNING**  
 Do not use any other gas except nitrogen gas.  
 If other gases are used, it may explode and is dangerous.

**⚠ WARNING**  
 When filling nitrogen gas, the chisel may suddenly come out. Therefore, keep away from the chisel when refilling with nitrogen gas.

**⚠ WARNING**  
 Various parts will be very hot after operation of the engine. Do not change the filter element immediately. Change the element after the hydraulic oil and various parts have cooled off.

**⚠ WARNING**  
 Various parts will be very hot after operation of the engine. Do not change the operation oil immediately. Change the operation after the hydraulic oil and various parts have cooled off.

**⚠ WARNING High temperature oil**  
 Do not remove the hydraulic hose immediately after stopping the hydraulic breaker. The oil reaches a very high temperature during operation and may possibly cause burns. Remove hose only when the temperature has dropped. When you leave an abnormal on the hydraulic breaker, it may cause serious injury. Repair immediately when an abnormal is found.

**⚠ WARNING Using suitable tools**  
 It is very dangerous to use worn and broken tools and to misuse tools. Use the proper tools for maintenance.

**⚠ WARNING Position of the hydraulic breaker**  
 Place the hydraulic breaker in a stable and flat place so as to prevent from ever turning

**⚠ WARNING**  
 When hammering the pin, always wear protective goggles, hard hat, gloves, mask and safety boots due to the possibility that metal chips will fly off and may enter your eye causing serious injury.

**⚠ WARNING**  
 Do not touch the chisel right after operating the hydraulic breaker.  
 The chisel becomes very hot during operation and you may get burnt.

**⚠ WARNING**  
 When aligning the pin, do not put your finger or hand into the pin hole. The arm or hydraulic breaker can move and this may lead to losing your finger or hand.