



## Hydraulic Breakers / Hammers / Post Drivers

### Overview

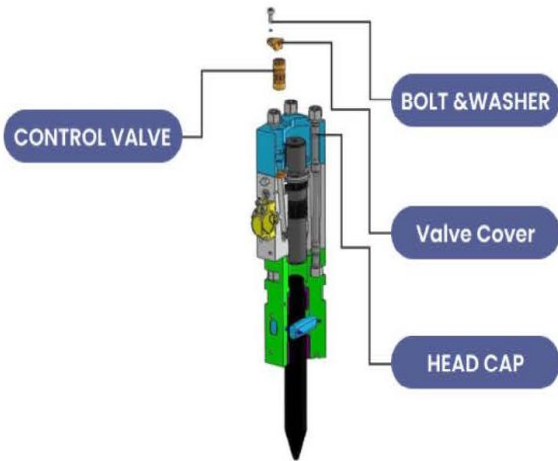
1. UtiliTough hydraulic breakers are a hydraulically operated nitrogen assisted style breaker designed for demolition, rock removal, asphalt cutting, post driving and compaction
2. Internal control valve shortens the oil circuit and runs 10% - 15% cooler hydraulic temperatures on host machines
3. BPM adjuster allows you to work quicker with softer material and achieve maximum impact power on harder surfaces
4. Enclosed housing keeps debris out and also acts as a silence kit to keep the decibel level lower (suitable for local and government bids)
5. Anti-blank firing system applied for longer component life (eliminates dry firing which causes damage to major components)
6. Cushion damper (upper and lower) box style design helps lesson the vibration to the host machine extending life of the host machine
7. Heavier thickness through bolt design helps with breaker durability

### Sales

1. Always size breaker to host machine based on GPM and machine weight
2. Pumps are not adjustable on skid steer machines; they will relieve at factory setting and GPM is variable depending on throttle position
3. Specifications of machines are generally set at 75% of maximum output from manufacturer, very important when quoting breaker size
4. As a general rule match 75% of breaker capability to 75% of manufacturer specification
5. 90-degree angle while in use is very important to keep piston and tool alignment at all times, breaking at angles can cause piston and tool damage
6. No more than 2-minute intervals during breaking cycles, more than 2-minute intervals causes excessive heat build-up and control valve failure
7. Down pressure must be applied at all times, the full weight of the machine on the breaker is optimal
8. Enclosed housing (silence kit) reduces noise and makes it legal in cities with laws on decibel levels or noise ordinances
9. Grease every 2 hrs. (chisel paste only, we recommend 216 SynForce by Schaeffer's, it is a purpose- built grease for hydraulic hammers. In addition to the normal additives for grease it also has copper and graphite, both solid friction modifiers that provide friction protection that prevents the internal components from welding together at temperature extremes above 350 degrees) or every time you get off or out of the machine; excessive is better; it also keeps heat down and keeps the lower seals from getting brittle and failing

# UTILITOUGH

## Hydraulic Breaker



### The Control Valve is in the Head Cap

#### ✓ Easy Replacement

•The UtiliTough breaker can be serviced on site

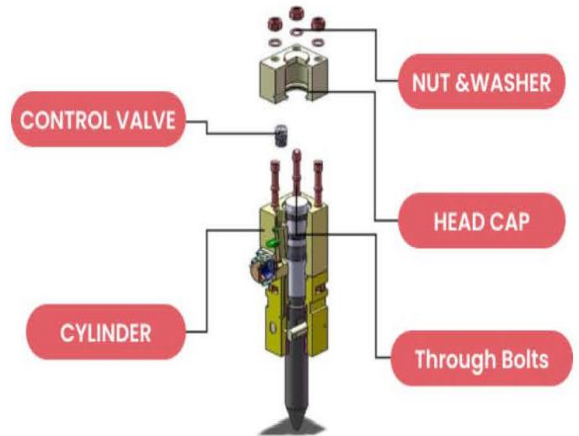
#### ✓ Oil free

•Because full disassembly is not required, the machines oil doesn't decrease

#### ✓ Longer life

•Since the through bolts are not disassembled, the loosening by vibration is less when operating

## Majority Other Brands Hydraulic Breaker

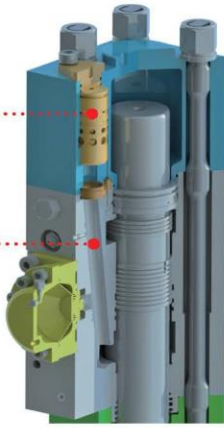


### The Control Valve is in the Cylinder

## UtiliTough Breaker Internal Valve

Can be replaced on job site

Simple & wide circuit



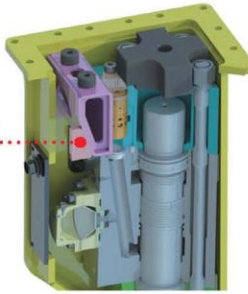
## UtiliTough Breakers Edge Over the Competition

### ○ Power Cell - Internal Valve System

- The valve is integrated into breaker head cap
  - Increases efficiency by 5~10% than external valve system
    - more efficient and economic use of breaker power
  - Lower oil temperature that prevents damage to the seals
    - lower maintenance costs
- Simple and wide hydraulic oil path; fewer parts and components in the breaker
    - lower repair & maintenance costs
  - The valve can be replaced on site without oil loss
    - to change the control valve, all the parts do NOT require disassembly, resulting in longer life of parts

## Bracket

UtiliTough breaker power cell with a tapered type stop damper



### ○ Power Cell - Holding System

- UtiliTough breakers have a patented power cell holder with a tapered type stop damper
  - Strength
    - with no holding bolt easy to assemble & disassemble
    - lower repair & maintenance costs
    - lower cost of production
- less service time
  - shorter production period
  - no noise when operating
  - stable operation

## UtiliTough Breaker Side Gas Charging Port

Side gas charging port; no cover to be removed or loosening of bolts



## UtiliTough Breaker Grease Charging Port

Grease charging point with ease and convenience; charging point is separated from back head gas charging point



✓ UtiliTough breaker has accumulator applied to models UT650 and above.

An accumulator is a pressure vessel that performs many tasks in a hydraulic system. It is used to maintain pressure, store and recapture energy, reduce pressure peaks, power chassis suspensions, and dampen shock, vibration and pulsations.

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## Hydraulic Breakers / Hammers (cont'd)

### Troubleshooting

1. How is the breaker is running? (no startup, runs a little and stops, leaking, no power, runs fast or sluggish)
2. Was host machine was warmed up to operating temperature before operation?
3. Is proper down pressure is being applied?
4. For excavator models: Was flow meter used to set breaker up properly? If so, what are the settings? If computer setting used for hammer mode, what are the settings from factory?
5. No start-up: Check Nitrogen levels in breaker
  - a. Too much Nitrogen will not allow start-up
  - b. Also, possible seized control valve
  - c. Depending on summer or winter nitrogen levels change so keep in mind the time of year
6. Runs a little and stops: Nitrogen level too high or lack of hydraulic flow  
(Lack of hydraulic flow causes control valve to starve and it will seize)
7. Leaking: Always check hoses first
  - a. If leaking from the bottom generally a lower seal  
( If unit is laid horizontal directly after use lower seal could stick to hot piston)
  - b. If leaking from top, most likely O-ring or neoprene (white) bushing located between top head and cylinder
8. No power: Usually lack of nitrogen
9. Fast or sluggish: Usually nitrogen charge issues
  - a. If nitrogen cannot be kept in top head check charge valve first
  - b. If charge valve is good then its either an O-ring in top head or gas seal between top head and cylinder
  - c. If gas is present in hydraulic oil the gas seal in the top of cylinder is definitely damaged
  - d. Check BPM adjuster as well if hammer will not start or runs too fast and is weak
10. Hose vibration: Check nitrogen level in accumulator
  - a. If tool will not move into starting location once pressure is applied the air plug assembly is clogged in front head



## Hydraulic Breakers / Hammers (cont'd)

### Storage

#### Short Term Storage

- Lay the breaker on wooden blocks. Remove the pins to disconnect the breaker from the boom.
- Remove the tool and ensure the retaining pins, bushings and piston bottom are well greased.
- Reinstall the tool.
- Cover with a tarp.

#### Long-Term Storage - Preferred Method

- Remove the tool. Liberally grease inside the front head, piston bottom, and retaining pins.
- Release the cushion chamber gas pressure.
- Push the piston up inside the breaker.
- Reinstall the tool.
- Cover with a tarp.

#### Long-Term Storage - Alternate Method

- Store breaker upright in a safety stand.
- DO NOT release the cushion chamber gas pressure.
- Allow the breaker weight to push the tool up into the breaker.