



SWI/001

KESCRG SAFE WORKING INSTRUCTIONS

FOR

BRICKSAW



1. Revision Table

Revision	Date	Comments
1	01/03/2012	First Issue

2. Objectives

2.1. The objective of this safe working instruction is to enable KESCRG members and others working on canal restoration projects to work safely.

2.2. This document will form part of a suite of documents for safe site working; and will be used for instruction and reference purposes.

2.3. This safe working instruction (SWI) refers to the operation and maintenance of the Stihl Bricksaw. Occasionally it may be necessary to hire in a bricksaw, which will be broadly similar in operation.

2.4. As with any hired equipment, **read the instructions before use, not after it's broken!**

3. Introduction

3.1. Bricksaws have been used in construction projects for many years and take a lot of the hard work out of this activity. This SWI covers the basic principles/procedures for operating this type of equipment; there are some variants which cannot be covered in a brief document. Always familiarise yourself with the exact piece of equipment you are going to use and identify the key components. Most importantly know how to stop it in an emergency, before starting work.

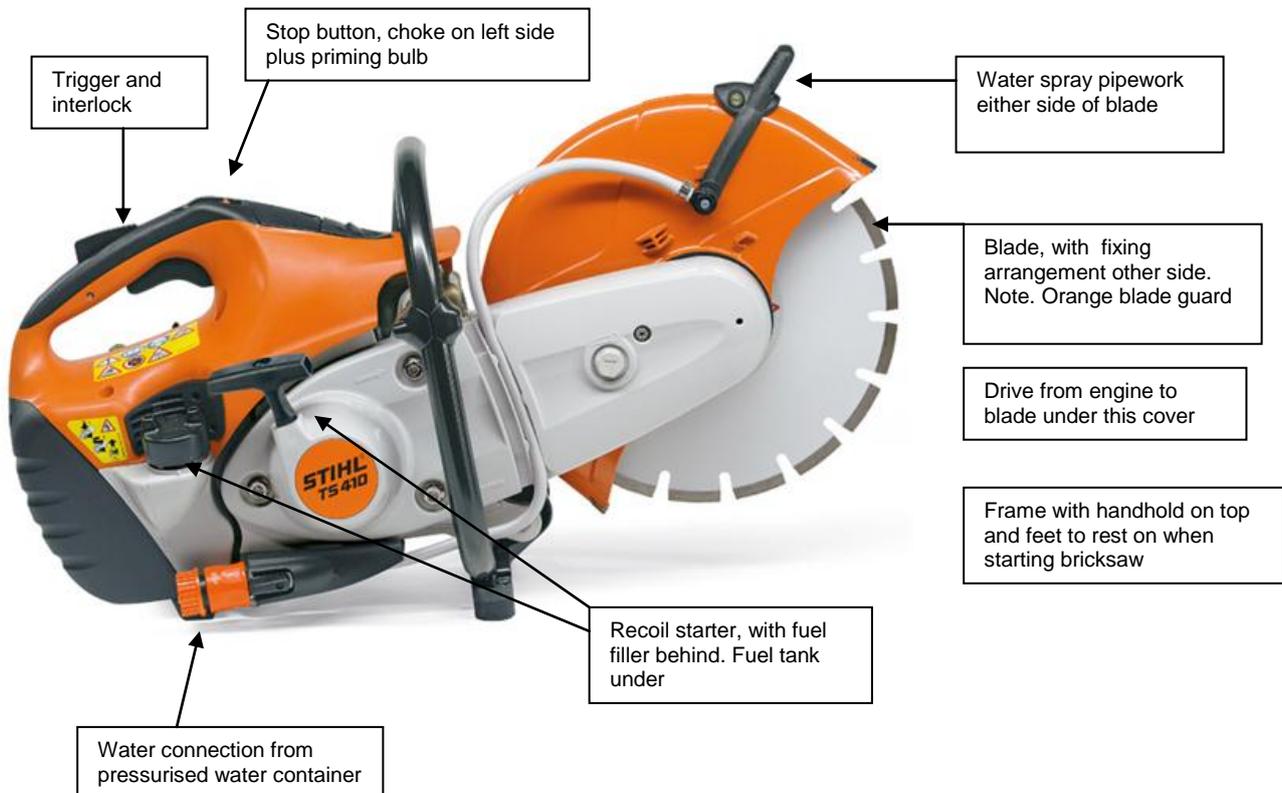
3.2. Bricksaws consist of:

- An engine (made by Stihl) as the prime mover, with choke and stop button
- A trigger grip, which incorporates the throttle and throttle trigger interlock (deadman's device)
- Exhaust which gets **hot**
- Recoil starting cord
- A circular saw blade which is belt driven by the engine, driven by a centrifugal clutch. Blade is normally removed for storage.
- A fuel tank and fuel tap, plus fuel pipework to carburettor with a priming bulb
- A frame over the engine with acts as a handle
- Connections for a pressurised water container (made by Stihl) to spray water onto the blade
- Stihl spanner for fitting blade and making adjustments.

Note. As with most Stihl engines, a petrol/oil mix is used. If the Stihl fuel can is used then it is a push fit onto the fuel filler and shuts off the can when removed. Do not use "old" petrol/oil mix and always shake the can to ensure full mixing.

General view of bricksaws

This shows typical bricksaw, complete with frame, blade, engine, water connection and spray arrangement, recoil starter and throttle/trigger interlock



This photo shows a Stihl Bricksaw, others are similar.

4. Health and Safety and Working Environment

4.1. Hazards from bricksaw

- Danger from sharp blade, which rotates very quickly. Always keep body including feet behind cutting edge. It will cut fingers or toes off easily.
- Dust and debris from material being cut. Make sure water spray is working, work away from other people/work site. Operator **must** use a dust mask when cutting.
- Bricksaws are noisy, dependant on type, so position away from work area to dissipate noise. Operator **must** wear ear protection when using the machine.
- Pollution and dermatitis from petrol and Stihl lube oil. Use sealed containers and a funnel or the specific Stihl fuel filler can with spout. Use gloves when filling.
- Exhaust is **HOT**, so avoid trips or slips onto bricksaw. Do not fill with fuel or lube when hot, allow cooling down first. **Fuel + hot part = BOOM!**
- Cutting disc gets hot in use. Allow to cool down before touching.
- Cut-off debris can catch on disc and be flung off. Work away from others and wear long trousers. If possible use jig or clamp to support workpiece, will reduce likelihood of debris catching.

4.2. COSHH (Control of Substances Hazardous to Health)

- Noise can harm health. Bricksaws are noisy, site them away from the work area and use ear defenders.
- Petrol and lube oil are irritants and flammable.
- Bricksaw fumes can kill! Site bricksaw in open air, not in confined space such as a lock chamber, unless it's a quick job and chamber is well ventilated.
- The dust generated is harmful. Always use the water spray and wear a mask.

4.3. Manual Handling and siting the Bricksaw and Fuel

- The bricksaw is not heavy (less than 10kg), but exerts a lot of force when it cuts, be ready for the kick.
- Position fuel in a safe place away from the bricksaw (and away from sparks or hot work area).
- As stated above, position bricksaw away from work area to minimise noise and dust.

4.4. PPE. The following Personal Protective Equipment (PPE) is **mandatory**:

- Dust mask
- Goggles or similar eye protection
- Gloves.
- "Overall" type long trousers.
- Ear Protection (ear muffs or ear plugs for short term use)
- Normal Site PPE, Safety Boots, fastened High-Viz Jacket, Safety Helmet

Notes

Helmets incorporating ear defenders and visor are acceptable.

Bricksaws are powerful and potentially dangerous. Do not use unless you have been trained; do not allow anyone else to use without checking with the site leader. .

5. Pre-start checks and maintenance

5.1. Carrying out pre-start checks will save damage to the bricksaw and will save time. If it's a hire bricksaw....**Read the Instructions first, not after it's broken!**

5.2. Bricksaws will vary in detail but the following is generally applicable:

- Fill up with fuel before you start, keep **correct** fuel in a suitable container, preferably a Stihl fuel can. Fuel is petrol/oil mix. Stop the bricksaw and let it cool to fill up, and use a funnel to avoid spillage. **Fuel + hot machine = BOOM!**
- Ensure spillages are dealt with immediately to avoid pollution/fire hazards.
- Check the fuel is a petrol/oil mix. Failure to do so could cause the engine to seize
- The blade needs to be fitted before use, see below. Before fitting, check the blade to ensure it is not cracked or damaged. It should "ring" when tapped. If in doubt, contact the site leader. .
- Make sure you know how to **stop** the bricksaw **before you start it!** Obvious really.
- If the bricksaw contains fuel of uncertain age then dispose of it and fill with fresh fuel.
- Note that the fuel filler clip will only go flush if the filler cap has been fitted correctly.



5.3. Fitting the disc

- There should be a disc in the bricksaw kit, together with a Stihl spanner and a tommy bar. Make sure the disc suits the material being cut.
- With the machine on the ground; on the left hand side, undo the setscrew and washers, place the disc correct way round on the hub spigot. If it does not seat then check for dirt or debris.
- Place the washers and the set screw and then tighten the setscrew using the Stihl spanner. The leverage of the spanner should tighten the setscrew enough.
- Fit tommy bar through the hole in the blade guard, rotate the blade until it engages with the tommy bar and then nip up the setscrew with the Stihl spanner.

6. Starting the bricksaw

6.1 Bricksaws need the carburettor set to start. This is by pressing the trigger and the trigger and the interlock and releasing. This opens the throttle enough to start.

6.2. Turn fuel on, prime carburettor with priming bulb if needed.

6.3. If engine is cold, operate the choke.

6.4. With machine on the ground, smartly pull the recoil cord. The engine should start. If it does not start after 4 pulls then take off the choke and continue.

6.5. Once started press throttle and release, machine will now tick-over.

6.6. Squeezing the interlock and throttle together will increase the engine revs, the centrifugal clutch will engage and the blade will spin.

6.7. The stop button is next to the trigger grip. Ensure that it stops the machine. If it doesn't, operate the choke to stop then check the operation of the stop rod. It works by shorting out the spark plug, so there may be trapped dirt preventing correct operation.

7. Using the bricksaw.

7.1. Ensure that the area is clear to trip hazards.

7.2. Check all PPE is in place.

7.3. Mark out workpiece (if not already done).

7.4. Connect the water supply.

7.5. Switch on the water by pressurising the water container and opening the tap on the bricksaw. Ensure water spray works.

7.6. Cut gently along the marked line to make a guide slot.

7.7 Then cut deeper, ensuring that blade does not snag.

7.8. Switch off when not in use to avoid wasting fuel.

When using the bricksaw be aware that there will be a noticeable kick (torque reaction) when cutting

Cut only in straight lines to avoid jamming the blade.

8. Cleaning after use

8.1. The bricksaw will need examination at the end of each working day, so allow enough time for this. Stop the bricksaw and allow to cool.

8.2. Check for oil or fuel leaks and any other defects and report them. You do not need to be a mechanic to spot the obvious.

8.3. Report any defects to the site leader.

8.4. If the machine has been used a lot then it will be necessary to clean the engine induction filter to enable the engine to work at the correct fuel/air mix.

8.5. Use the Stihl spanner to remove the filter which is shown below:





Stihl filter shown exploded

- 8.5. Clean each of the component parts by tapping gently on a hard surface and then cleaning with a soft brush.
- 8.6. Avoid dust getting into the machine inlet, also gently brush dust from the machine.
- 8.7. Refit in reverse order, do not over-tighten.