

OPERATOR'S MANUAL



®

**Hydraulic Breakers
Models FB-16
FB-20
FB-25
European Versions
Operator's Manual**

FAIRPORT

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1. INTRODUCTION

This manual provides information on the safe operation, servicing and repair of the following models of Fairport hand held hydraulic breakers:

FB16/20 with standard handle
FB20/20 with standard handle
FB25/20 with standard handle
FB16V/20 with Vibrotec handle
FB20V/20 with Vibrotec handle
FB25V/20 with Vibrotec handle.

The first number denotes the approximate weight of the breaker in kilograms and the second number denotes the required oil flow in litres per minute. The letter 'V' denotes breakers fitted with Vibrotec handles. These handles have added vibration damping.

The manual also provides hints for operators, but is not intended as a training manual. All operators and operators employers should ensure that users are adequately trained in the use of this equipment. It can be lethal if used incorrectly.

A more comprehensive manual for workshop use is available from Fairport Construction Equipment Ltd

2. TECHNICAL DATA

All the breakers need to be operated from a hydraulic power pack giving a flow of 20 litres per minute and capable of operating at 138 bar. This complies with the EHTMA 'C' category. They may be used from any power pack displaying the green EHTMA triangle surrounding a green letter 'C'.

	FB16/20 FB16V/20	FB20/20 FB20V/20	FB25/20 FB25V/20
Weight, kg:	16	20	25
Sound power, dB(A):	107	107	109
Tool shank size,			
hex. x length, mm	25 x 108	25 x 108	32 x 160
Inches	1 x 4 ¼	1 x 4 ¼	1 ¼ x 6 ¼

2.1 RECOMMENDED HYDRAULIC OILS

A wide range of compatible hydraulic oils is available. Ensure the product purchased is of good quality from a reliable source. Products from dubious sources must be avoided as they could adversely affect the reliability and operating efficiency of the hydraulic power pack and tool. The grade of hydraulic oil used will depend on ambient temperature as follows:

Below 0°C use a grade ISO 22 hydraulic oil.

Between 0°C and 30°C use a grade ISO 32 hydraulic oil.

Above 30°C use a grade ISO 46 hydraulic oil.

2.2 OIL SUPPLY FILTRATION

All power packs used to power Fairport breakers must have oil filtered to 10 microns or better

3 SAFETY PICTOGRAMS USED ON THIS EQUIPMENT



Wear ear protection



Wear eye protection



Wear safety boots



Wear gloves



Read the manual before using or repairing this equipment

4. SAFETY

Ensure that you have been adequately trained in the use of this type of equipment. This equipment can be lethal if used incorrectly.

Wear a hard hat, eye protection, ear protection, gloves and safety footwear. The wearing of gloves is particularly important in cold weather. Some materials when being broken produce a lot of fine dust, under these conditions wear a facemask. Other people working nearby may need to wear the same safety equipment.

Understand and obey the safety labels and instructions attached to the equipment.

Keep other people and animals clear of the operating area.

Do not attempt to operate defective equipment. Check that hoses and fittings are in good condition.

Ensure maintenance procedures are carried out as specified.

Do not attempt to operate this equipment on a greater hydraulic flow than that specified.

Before using the equipment check for underground cables. Note: the breaker is not electrically insulated.

Be aware of the dangers of collapse when working close to banks and in trenches.

Never allow the point of a steel to rest against or be facing the direction of any part of the body.

Fine jets of hydraulic oil can penetrate the skin. Check for leaks by holding a piece of cardboard near to the suspect area. If hydraulic oil does penetrate the skin or is ingested seek medical help immediately.

Never attempt to dismantle the pressure accumulator.

Always isolate hydraulic supply before making a disconnection or connection.

Do not attempt to modify the equipment in any way. This could result in a dangerous product and will invalidate the warranty.

Always comply with local and site safety regulations.

When fitting and removing steels ensure the control valve at the hydraulic supply is in the 'OFF' position. If no control valve is fitted the engine must be stopped.

Never operate the breaker unless the steel is in contact with the workpiece.

Do not use steels that are worn at their shank. Blunted steels should be sharpened before use.

Never operate this equipment whilst under the influence of drugs, alcohol or medication, or when tired or fatigued.

Keep the breaker handles dry, clean and free of oil and grease.

Ensure that the hoses will not create a tripping hazard.

In freezing conditions store breakers and tools in a warm building. Breakages can occur due to materials becoming brittle in sub-zero temperatures.

If using in a potentially explosive or flammable atmosphere a spark resistant steel should be fitted.

This equipment must be used only for the purpose for which it was designed. Use outside these design limits must first be agreed in writing with the manufacturer.

5. OPERATION

Fitting and Changing Steel

Isolate breaker from power pack.

Lay the breaker on its side

Swing the latch down to release the steel.

Remove the steel and insert the required steel.

In the case of steels with an edge (e.g. chisels and asphalt cutters etc) ensure they are inserted in the correct orientation.

Swing the latch fully upwards.

If fitting a tamping foot this may be done with the tamping foot resting vertically on the ground. Hold the breaker upright, push the latch down, lift breaker and place over tamping foot, return latch to lock position.

Removing a tamping foot may be carried out in the opposite sequence to the above.

Switch on or reconnect supply.

Connecting to and Disconnecting from Hydraulic Supply

Check that the hydraulic supply matches the requirements of the breaker.

Check that the flow and return hoses are connected to the correct ports. Arrows adjacent to each port in the breaker head indicate flow directions. Should these be unclear, the top port is return flow and the lower port is supply flow. Flow is always out of male couplings and into female couplings.

Make sure the couplings are clean. Connect male to female. They are of the quick release type. Ensure they are locked correctly.

Before disconnecting always first isolate the hydraulic supply (see hydraulic power pack operating manual). To disconnect, pull back on the knurled rings of the coupling. Some couplings require the knurled ring to be rotated to the unlocked position before they can be pulled back to release.

Fit rubber dust caps over the couplings to keep them clean.

Using the Breaker

Before using the breaker read the section entitled SAFETY. It should also be noted that these working methods are a guide only and are no substitute for correct training.

This breaker is designed for breaking stone, concrete, tarmac and similar materials, for cutting into softer materials such as asphalt, clay and frozen ground and for compaction. In all cases the correct tool steel must be used. The breaker must not be used for anything else.

Start the power pack according to appropriate instructions.

Position the steel at 90° to the surface to be broken.

Adopt a stable stance, legs slightly apart and feet clear of the steel with the body upright. Do not overreach.

To commence breaking, depress the operating trigger and at the same time press down on the breaker with sufficient force to prevent it from bouncing. If the trigger is only partly depressed the breaker will give a lighter blow which is ideal for 'marking out' for the initial penetration of very hard surfaces

Do not continue on one place for longer than about 15 seconds. If the material has not broken move to another but adjacent position.

When breaking concrete or hard or frozen ground never lever the material whilst continuing to operate the breaker.

Release the trigger as soon as the material has broken.

Turn off the oil supply and stop the engine if the breaker is not being used for any length of time.

Do not attempt to disconnect hoses unless the oil supply has been turned off.

When laying the breaker down ensure that the trigger is not accidentally depressed.

Do not stand the breaker upside down unless the hydraulic oil supply has been isolated.

Do not operate the breaker unless the breaker and steel are pressed against the surface to be broken.

After prolonged usage vibration from breakers may cause your fingers to tingle. Wear gloves to keep the hands warm. Ensure your body is warm. Shorten the period of operation. Massage and exercise the fingers during breaks. Consume hot drinks if the weather is cold. Avoid or cut down on smoking. If symptoms persist seek medical advice.

If a tool has jammed in the work piece do not try to lever it free. Pull the breaker upwards whilst continuing to depress the trigger. If this does not work remove the breaker from the steel, insert another steel and break around the jammed steel to free it.

For use under water first consult the manufacturer or their agent.

6. FAULT DIAGNOSIS

Before assuming that there is a fault in the breaker always check more basic and obvious causes of it failing to operate:

Are the hoses coupled correctly?

Is the flow turned on at the supply source?

Are there any blockages in hoses and couplings?

Is there anything preventing the operating trigger from being fully depressed?

Is the supply source delivering full flow and pressure (see hydraulic power pack operating manual)?

Many of the checking and corrective actions listed below will require reference to the workshop manual.

- **BREAKER DOES NOT STRIKE**

Possible jammed piston or sticking oscillator spool

With tool inserted, push hard down on breaker and press trigger. This might free the piston or free a sticking oscillator spool.

Incorrectly operating trigger or starter spool

Check that the trigger can be fully depressed or that it has not been distorted so that it is unable to fully depress the starter spool.

Starter spool fixing pin(s) broken allowing thrust rod to move through starter spool.

Dismantle and check.

Faulty poppet valve

Remove and check.

If symptoms can not be cured the breaker will require stripping and repairing.

- **BREAKER STRIKES WEAKER THAN NORMAL**

Incorrect flow and/or pressure available from power pack

Check power pack – see power pack manual.

Possible loss of gas in accumulator.

Check accumulator.

Excessive wear and/or damage to moving parts. Partial seizure of moving parts due to ingress of dirt.

Breaker will require stripping and repairing.

- **BREAKER STRIKES SLOWLY, QUICKLY, OR IRREGULARLY**

Possible faulty poppet valve

Remove and check

Incorrect oil flow.

Check hydraulic power pack.

Worn or damaged 'O' rings on oscillator housing.

Dismantle and replace.

Trigger is not fully depressing starter spool.

Check trigger for distortion.

On standard handle machines check for a build up of debris around base of thrust cap.

Contamination in oscillator spool.

Dismantle and check.

7 SERVICING AND MAINTENANCE

Routine Servicing

The breaker is self-lubricating and requires no routine servicing other than daily cleaning and checks for oil leaks.

Daily clean the handles and ensure they are free of grease and oil.

Routine checks should also be made to ensure the tool latch is not worn and engages fully to hold the tool steel in place.

Hydraulic Pipes and Hoses

When removing and replacing rigid pipes and flexible hoses the following points should be observed:

- Use adjustable or open-ended spanners on end connections and fittings. Do not use pipe wrenches as these damage fittings and protective plating.
- Ensure the particular connection and its surrounding area is clean.

8. WARRANTY CONDITIONS AND CLAIMS PROCEDURE

All products supplied by Fairport Construction Equipment Ltd (hereafter referred to as FCE) are warranted to be free of defects due to faulty materials or workmanship for a period of 12 months from the date of original despatch from FCE or as specified below:

Hydraulic hoses and hydraulic couplings – 3 months.

Hydraulic accumulators – 6 months.

Flexible drives – 6 months.

All spare parts used in repairs carried out by FCE or an authorised dealer or repairer – 3 months.

If the goods have been purchased through a stockist the above warranty periods also apply from receipt of the goods by the user of the equipment up to a total of a further 6 months from date of despatch from FCE whichever is earlier.

Filter elements, gauges and oils are specifically excluded from this warranty.

FCE shall at their option repair or replace during normal working hours goods accepted as faulty free of charge to the user.

For proprietary items such as engines, the original manufacturer's warranty and conditions shall apply.

CONDITIONS

The goods shall be returned at the purchaser's expense to FCE or to a destination FCE may reasonably direct. Carriage costs will be refunded if warranty is accepted.

Warranty claims will not be considered where there is evidence that failure has been caused by carelessness, improper use, negligence, inadequate servicing, incorrect engine speeds, fair wear and tear or non-compliance with instructions issued by the manufacturer.

To the extent permitted by law, the liability of FCE under this section is confined only to providing a remedy for defective goods and does not extend to any consequential loss, loss of profit, injury or damage suffered.

Warranty will not be accepted on dismantled goods unless dismantling was carried out with the written permission of FCE.

No claim shall be considered if other than genuine parts supplied by FCE have been used.

Products are only covered by this warranty in the country to where they were supplied by FCE.

Warranty on products applies only to the original user of the equipment.

This warranty shall not apply if the serial number or other identifying numbers or marks applied by FCE have been removed, defaced or are otherwise illegible.

CLAIMS PROCEDURE

Check that the goods are still under warranty before returning them to FCE (see above for warranty periods).

Return the goods to FCE with an order number for the work to proceed. If warranty is accepted no charge will be made. If warranty is not accepted a quotation will be given for the repair and the conditions under the section headed REPAIRS AND ESTIMATES will apply.

In the customer's interest, goods must be accompanied by documentation detailing the nature of the fault or its symptoms. Phrases such as 'Faulty' are unacceptable and will result in delays and possible charges to defray costs incurred in identifying the fault.

In the case of hydraulic breakers and power packs, both the breaker and the pack should be returned

9. REPAIRS AND ESTIMATES

When returning a machine, or an assembly for repair, always include an Advice Note quoting model and serial number of the machine.

An official order must also be forwarded to FCE giving detailed instructions. No repair work can be carried out unless covered by an official order.

An estimate will be submitted before proceeding with any repair. To partly cover the cost in dismantling, cleaning and inspection, a small charge will be made, this however will be waived upon receipt of your official instructions to proceed with the repair.

In the event of the estimate not being accepted, a further charge will be made to defray the rebuilding of the machine.

Estimates must be treated as approximate only as it may be found necessary to use additional parts on further examination.