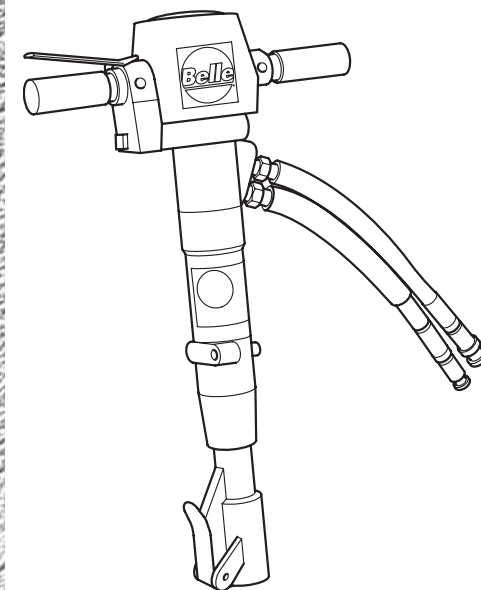




HYDRAULIC BREAKERS

GB OPERATORS MANUAL



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This manual has been written to help you operate and service the Hydraulic Breaker safely. This manual is intended for dealers and operators of the Hydraulic Breaker.

Foreword

The '**Machine Description**' section helps you to familiarise yourself with the machine's layout and controls.

The '**General Safety**' and '**Health and Safety**' sections explain how to use the machine to ensure your safety and the safety of the general public.

The '**Trouble Shooting**' guide helps you if you have a problem with your machine.

The '**Service & Maintenance**' section is to help you with the general maintenance and servicing of your machine.

The '**Warranty**' Section details the nature of the warranty cover and the claims procedure.

The '**Declaration of Conformity**' section shows the standards that the machine has been built to.

Directives with regard to the notations.

Text in this manual to which special attention must be paid are shown in the following way:



CAUTION

The product can be at risk. The machine or yourself can be damaged or injured if procedures are not carried out in the correct way.



WARNING

The life of the operator can be at risk.



Before you operate or carry out any maintenance on this machine **YOU MUST READ** and **STUDY** this manual.

KNOW how to safely use the unit's controls and what you must do for safe maintenance.

(NB Be sure that you know how to switch the machine off before you switch on, in case you get into difficulty.)

ALWAYS wear or use the proper safety items required for your personal protection.

If you have **ANY QUESTIONS** about the safe use or maintenance of this unit, **ASK YOUR SUPERVISOR OR CONTACT:**

BELLE GROUP (UK): +44 (0) 1298 84606

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Belle Group reserves the right to change machine specification without prior notice or obligation.



Technical Data

Model	20-12	20-18	20-21 U/D	20-23
Type	Pick	Breaker	Breaker	Breaker
Hydraulic Flowrate (Ltrs/Min)	20	20	20	20
Working Pressure (Bar)	120	120	120	120
Max Pressure (Bar)	140	140	140	140
Max. Return Line Pressure (Bar)	10	10	10	10
Hydraulic Connections	3/8" / 1/2"	3/8" / 1/2"	3/8" / 1/2"	3/8" / 1/2"
Flat faced, quick release, Non-drip couplings				
Hydraulic Oil Type				
- Below 30°	ISO VG T32			
-Above 30°	ISO VG T46			
Weight (Kg)	12	18	21	23
Steel Size (mm)	22 x 83	25 x 108	25 x 108	32 x 160
Blow Frequency (Blows/Min)	2000	1500	1500	1560
Blow Energy (Joules/Blow)	55	65	45.5	90
Noise Level (dB(A))	108	108	108	109
Vibration Level (m/sec2)	30.5	14.97	4.32	13.27
Accumulator Gas Pressure (Bar)	40	40	-	10

Model	20-25	20-26 U/D	30-25
Type	Breaker	Breaker	Breaker
Hydraulic Flowrate (Ltrs/Min)	20	20	30
Working Pressure (Bar)	120	120	120
Max Pressure (Bar)	140	140	140
Max. Return Line Pressure (Bar)	10	10	10
Hydraulic Connections	3/8" / 1/2"	3/8" / 1/2"	3/8" / 1/2"
Flat faced, quick release, Non-drip couplings			
Hydraulic Oil Type			
- Below 30°	ISO VG T32		
-Above 30°	ISO VG T46		
Weight (Kg)	25	26	25
Steel Size (mm)	32 x 160	32 x 160	32 x 160
Blow Frequency (Blows/Min)	1450	1560	1450
Blow Energy (Joules/Blow)	95	63	95
Noise Level (dB(A))	109	110	109
Vibration Level (m/sec2)	14	5.38	14
Accumulator Gas Pressure (Bar)	45	-	45

EC DECLARATION OF CONFORMITY / DECLARATION CE DE CONFORMITE / DECLARACION DE CONFORMIDAD CE / DECLARAÇÃO CE DE CONFORMIDADE / EG-VERKLARING VAN OVEREENSTEMMING



We, **Belle Group Sheen UK, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB**, hereby certify that, if the product described within this certificate is bought from an authorised Belle Group dealer within the EEC, it conforms to the following EEC directives: 98/37/EC (This directive is a consolidation of the original machinery directive 89/392/EEC), Electromagnetic Compatibility Directive 89/336/EEC (as amended by 92/31/EEC & 93/68/EEC). The low voltage directive 73/23/EEC, EN 292, Safety of machinery and associated harmonised standards, where applicable. Noise emissions conform to directive 2000/14/EC Annex VI, the notified body being AV Technology Limited, AVTECH house, Birkhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, GB.



Nous soussignés, **Belle Group Sheen UK, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB**, certifions que si le produit décrit dans ce certificat est acheté chez un distributeur autorisé Belle Group au sein de la CEE, il est conforme aux normes CEE, à savoir: 98/37/CE (Ces directives sont une consolidation de la directive d'origine 89/392/CEE), Norme compatible pour l'électromagnétisme 89/336/CEE (modifié par 92/31/CEE & 93/68/CEE), Caractéristiques basse tension 73/23/CEE, EN 292, Caractéristiques de sécurité des machines et des critères associés et configurés, si applicable. Niveau sonore conforme à la norme 2000/14/CE Annexe VI, l'état avisé étant AV Technology Limited, AVTECH house, Birkhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, GB.



La Sociedad Belle Group Sheen UK, Sheen, Nr. Buxton, Derbyshire, SK 17 0EU, GB, por el presente documento certifica que si el producto descrito en este certificado es comprado a un distribuidor autorizado de Belle Group en la CEE, este es conforme a las siguientes directivas: 98/37/CE de la CEE (Esta directiva consolida la directiva inicial sobre maquinaria 89/392/CEE), Directiva 89/336 CEE sobre Compatibilidad Electromagnética (según enmiendas 92/31/CEE y 93/68/CEE), Directiva sobre Bajo Voltaje 73/23/CEE, EN 292 de Seguridad de Maquinaria y Niveles armonizados estándares asociados donde sean aplicables. Emisiones Acústicas conformes a la Directiva 2000/14/EC Apéndice VI, siendo notificado el organismo AV Technology Limited, AVTECH House, Birkhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, GB.



O signatário, **Belle Group Sheen UK, Sheen, Nr. Buxton, Derbyshire, SK 17 0EU, GB**, pelo presente, declara que se o produto descrito neste certificado foi adquirido a um distribuidor autorizado do Belle Group em qualquer país da UE, este em conformidade com o estabelecido nas seguintes diretivas comunitárias: 98/37/EC (esta directiva é uma consolidação da directiva de maquinaria original 89/392/EEC), Directiva de Compatibilidade Electromagnética 89/336/EEC (conforme corrigido pelas 92/31/EEC & 93/68/EEC), A directiva de baixa voltagem 73/23/EEC, EN 292 Segurança da maquinaria e as normas harmonizadas aíns se aplicáveis. As emissões acústicas estão em conformidade com a directiva 2000/14/EC Anexo VI, sendo o organismo notificador a AV Technology Limited, AVTECH house, Birkhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, GB.



Ondergetekende, **Belle Group Sheen UK, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB** verklaaren hierbij dat als het product zoals beschreven in dit certificaat is gekocht van een erkende Belle Group dealer binnen de EEG, het voldoet aan de volgende EEG richtlijnen: 98/37/EEG (Deze richtlijn is een opvolger van de oorspronkelijke Machine-richtlijn 89/392/EEG), Electromagnetische Compatibiliteitsrichtlijn 89/336/EEG (geamendeerd door 92/31/EEG & 93/68/EEG), De Laagspannings Richtlijn 73/23/EEG, EN 292 Veiligheid van Machines en hieraan gekoppelde geharmoniseerde Standarden, waar deze van toepassing is. Geluidsemissies volgens richtlijn 2000/14/EC Bijlage VI. Het contactorgaan is AV Technology Limited, AVTECH house, Birkhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, GB.

PRODUCT TYPE TYPE DE PRODUIT TIPO DE PRODUCTO TIPO DE PRODUCTO PRODUCTTYPE

MODEL MODELE MODELO MODELO MODEL

SERIAL No. N° DE SERIE N° DE SERIE NO. DE SÉRIE SERIENUMMER

DATE OF MANUFACTURE DATE DE FABRICATION FECHA DE FABRICACIÓN DATA DE FABRIC. FABRICAGEDATUM

SOUND POWER LEVEL NIVEAU DE NIVEL DE NIVEL DE GEMETEN
 MEASURED (GUARANTEED) PUISSANCE SONORE POTENCIA ACUSTICA GELUIDSTERKTE/NIVEAU
 MESUREE (GARANTIE) MESUREE (GARANTIE) MEDIDO (GARANTIZADO) MEDIDO (GARANTIZADO) (GEGARANDDEERD)

Signed by:
 Signature: Ray Neilson
 Medido por:
 Assinado por:
 Getekend door:

Managing Director - On behalf of BELLE GROUP (SHEEN) UK.
 Le Directeur Général - Pour le compte de la SOCIÉTÉ BELLE GROUP (SHEEN) UK.
 Director Gerente - En nombre de BELLE GROUP (SHEEN) UK.
 Director-Geral - Em nome de BELLE GROUP (SHEEN) UK.
 Algemeen Directeur - Namens BELLE GROUP (SHEEN) UK.



852/10004/2



Warranty

Your new Belle Group Hydraulic Breaker is warranted to the original purchaser for a period of one-year (12 months) from the original date of purchase.

The Belle Group warranty is against defects in design, materials and workmanship.

The following are not covered under the Belle Group warranty:

1. Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow assembly, operation or user maintenance instructions.
2. Alterations, additions or repairs carried out by persons other than Belle Group or their recognised agents.
3. Transportation or shipment costs to and from Belle Group or their recognised agents, for repair or assessment against a warranty claim, on any machine.
4. Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.

The following components are not covered by warranty.

- Engine air filter
- Engine spark plug

Belle Group and/or their recognised agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the machine for any purpose.

Warranty Claims

All warranty claims should firstly be directed to Belle Group, either by telephone, by Fax, by Email, or in writing.

For warranty claims:

UK: Belle Group Warranty Department,
Unit 5, Bode Business Park,
Ball Haye Green, Leek,
Staffordshire,
ST13 6BW
England.

Tel : +44 (0)1538 380000, Fax : +44 (0)1538 380038
Email : warranty@belle-group.co.uk

Technical Data



Model	20-21X	20-25X
Type	Breaker	Breaker
Hydraulic Flowrate (Ltrs/Min)	20	20
Working Pressure (Bar)	120	120
Max Pressure (Bar)	140	140
Max. Return Line Pressure (Bar)	10	10
Hydraulic Connections	3/8" / 1/2"	3/8" / 1/2"
	Flat faced, quick release, Non-drip couplings	
Hydraulic Oil Type		
- Below 30°	ISO VG T32	
- Above 30°	ISO VG T46	
Weight (Kg)	21	25
Steel Size (mm)	25 X 108	32 x 160
Blow Frequency (Blows/Min)	1500	1560
Blow Energy (Joules/Blow)	45.5	63
Noise Level (dB(A))	110	110
Vibration Level (m/sec ²)	4.32	5.38
Accumulator Gas Pressure (Bar)	-	-



Applications

2012-12Kg Pick

The Belle 2012 Pick is recommended for use with the following Belle hydraulic Power Packs:- a) CUB/20-90 Cub Power Pack b) MIDI/20-140 Midi Power Pack

The 2012 Pick can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressure of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group, or your local Agent for advice.

2018 PAN - 18Kg Breaker

The Belle 2018 Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) CUB/20-90 Cub Power Pack b) MIDI/20-140 Midi Power Pack.

The 2018 PAN Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressures of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group. or your local Agent for advice.

2021 U/D -21Kg Breaker

The Belle 2021 U/D Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) CUB/20-90 Power Pack b) MIDI/20-140 Power Pack

The 2021 U/D Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressure of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group, or your local Agent for advice.

2023 PAN - 23Kg Breaker

The Belle 2023 Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) MIDI/20-140. Midi Power Pack b) MAJOR/20-140X. Major Power Pack.

c) TWIN/20/20-140 Major Twin Power Pack.

The 2023 PAN Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressures of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group or your local Agent for advice.

2025 PAN - 25Kg Breaker

The Belle 2025 Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) MIDI/20-140. Midi Power Pack b) MAJOR/20-140X. Power Pack. c) TWIN/20/20-140 Major Twin Power Pack.

The 2025 PAN Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressures of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group. or your local Agent for advice.

Trouble Shooting Guide



Problem	Cause	Remedy
Breaker does not strike.	Jammed piston or slide valve.	Press the trigger and push the breaker hard against the material – may loosen the piston or unjam the valve. Otherwise strip and examine the parts for seizure/wear and replace as necessary.
	Insufficient flow and pressure from pressure gauge	Place flow meter and power source. into the pressure line to the breaker and check flow and pressure is correct. If flow and pressure is correct strip and examine for wear/damage and replace as necessary.
Breaker strikes weaker than normal	Loss of Nitrogen charge in accumulator.	Check and repair accumulator and recharge.
	Excess wear on moving parts. (particularly on the switching valve).	Check parts for wear and damage. Check seals for leaks. Replace as necessary.
Breaker strikes irregularly.	Excess wear on moving parts.	Check parts for wear and damage. Check seals and gaskets for damage. Replace as necessary.
Breaker strikes slower than normal.	Insufficient flow and pressure from the power source.	Place flow meter and pressure gauge into the pressure line to the breaker and check the flow and pressure.
	Excess wear on moving parts.	Check for wear or damage, and replace as necessary.



2021 U/D & 2026 UD and 2021X & 2025X Breakers Only

ITEM	ATTENTION hrs	10 hrs	100 hrs	300
Vibration damped head section.	Check condition of bearings by pushing on only one handle. If head locks up replace bearings and bushes.		✓	
	Replace bearings, bushes, buffers & springs			✓
	Check return of trigger lock is immediate if not replace spring.		✓	
	Replace trigger return spring and trigger lock return spring and bearing washer.			✓
M12 head bolts = 70N/m or 52 lbf.ft Loctite and accelerator must be used on these bolts.				



2026 U/D -26Kg Breaker

The Belle 2026 U/D Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) *MIDI/20-140 Midi Power Pack*. b) *MAJOR/20-140X Power Pack*
c) *MULTI/20/10-140 Power Pack* d) *TWIN 20/20-140 Power Pack*

The 2026 U/D Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressures of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group. or your local Agent for advice.

3025 PAN - 25Kg Breaker

The Belle 3025 Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) *MAJOR/30-140. Major Power Pack (30 l/min)*.

The 3025 PAN Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'D' label (Brown Triangle), however the operator should be aware the tools require an operating pressure of 120 Bar. If in doubt regarding the correct and safe connection of a tool please consult Belle Group. or your local Agent for advice.

2021X -21Kg Breaker

The Belle 2021X Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) *CUB/20-90 Power Pack* b) *MIDI/20-140 Power Pack*

The 2021X Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressure of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group, or your local Agent for advice.

2025X -25Kg Breaker

The Belle 2025X Breaker is recommended for use with the following Belle hydraulic Power Packs:- a) *MIDI/20-140 Midi Power Pack*. b) *MAJOR/20-140X Power Pack*
c) *MULTI/20/10-140 Power Pack* d) *TWIN 20/20-140 Power Pack*

The 2025X Breaker can safely be connected to any Power Unit which carries the EHTMA Category 'C' label (Green Triangle), however the operator should be aware the tools require an operating pressures of 120 Bar and will perform at a lower efficiency when connected to the Cub Power Unit. If in doubt regarding the correct and safe connection of a tool please consult Belle Group. or your local Agent for advice.

The following precautions should be taken before operating Belle Hydraulic Power Units and Road Breaking Tools.

- a) Read this Operators Guide and the operating handbook for the tool to be connected and run. Observe the manufacturers recommendations.
- b) Never operate the power units and tools without the correct Personal Protection Equipment. Belle recommend the use of protective goggles and/or face shield, ear defenders, protective footwear, gloves, and hand hat.
- c) Ensure that the 'STEEL' is securely locked into the breaker.
- d) Only operate the Power unit in a well Ventilated area ensuring adequate flow of air for the cooling fan and the removal of the exhaust gases.
- e) Ensure that a safe operating work position (Workstation) is selected. Belle recommend that tools are operated at the extremity of the transmission hoses connecting the tool to the power unit.
- f) Ensure that the hydraulic tool is compatible with the hydraulic power supply to be used. It is DANGEROUS to use a hydraulic tool with an incompatible flow rate and pressure.

NOTE:- Hydraulic power units and tools supplied by EHTMA member companies carry range identification labels and it is essential to check that the tools and power unit have the same identification label.

- g) Check the power unit, hoses and tools frequently for damage and/or leaks.
- h) Do not adjust the power pack settings, ie:- the engine speed/flow rate, Relief Valve pressure setting etc. Operating with flows and pressures outside the specifications can be dangerous.
- j) Use only Belle replacement parts. It can Prove dangerous to fit obscure parts.

ITEM	ATTENTION	10 hrs	100 hrs	300 hrs
Complete Unit	Keep all areas Clean and free from dust etc.	✓		
	Check security of all fasteners.		✓	
	Examine for leaks or damage.		✓	
	Check seals and moving parts.			✓
	Inspection and recharge accumulator.			✓
	Function and performing checks.			✓
	Replace worn seals and gaskets.			✓
	Replacement or retightening to correct torque for all fastenings.		✓	
Transmission Hoses	Check for the correct positioning of the protective sleeves.		✓	
	Examine for leaks and damage.		✓	
	Examine Couplings for leaks and damage.	✓		
Nose Section.	Check latch pins for wear, replace if worn.		✓	
	Clean nose end regularly to ensure that the latch closes correctly and that the hexagon guide in the nose is not clogged with debris.			✓
	Check nose bolts for tightness to correct torque setting.If required re-loctite and re-torque to:-			
	2018PAN 18kg breaker 55 N/m or 41 lbf.ft 2021 U/D 21kg breaker 55 N/m or 41 lbf.ft 2023PAN 23kg breaker 70 N/m or 52 lbf.ft 2025PAN 25kg breaker 77 N/m or 57 lbf.ft 2026 U/D 26kg breaker 70 N/m or 52 lbf.ft 3025PAN 25kg breaker 77 N/m or 57 lbf.ft 2021X 21kg breaker 55 N/m or 41 lbf.ft 2025X 25kg breaker 70 N/m or 52 lbf.ft	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓		
Complete Unit	All bolts must be tightened to correct torque settings and re-loctited unless otherwise stated:- M3 bolts = 1.7 N/m or 1.3 lbf.ft M5 bolts = 7.6 N/m or 5.6 lbf.ft M6 bolts = 12.8 N/m or 9.4 lbf.ft M8 bolts = 35 N/m or 28 lbf.ft M10 bolts = 55 N/m or 41 lbf.ft M12 bolts = 77 N/m or 57 lbf.ft			✓ ✓ ✓ ✓ ✓ ✓

Note: Remember to allow 24hrs after applying Loctite to bolts before using beaker. If breaker can not be left for 24hrs before using, an accelerator/cleaner must be used with the Loctite following the manufacturers directions for use.

EUROPEAN HYDRAULIC TOOL MANUFACTURERS ASSOCIATION CODE OF PRACTICE – HYDRAULIC BREAKERS

Before Starting. Refer to manufacturer's operating instructions.

Compatibility. Hydraulic tools are designed to operate at a specific Flow and Pressure. Equipment produced by EHTMA members carries a triangular colour coded range identification label. Check that both the tool and power unit have the same identification label before operation. It is imperative that power systems and tools having different colour codings are not interconnected as this practice is both inefficient and dangerous.

For reference the EHTMA colour code is as follows:-

Classification.	Colour code.	Flow l/min	Max pressure Bar.
A Yellow	5.5 – 6.5	180	
B	Blue	13.5 – 16.5	172
C	Green	18.0 – 22.0	138
D	Brown	27.0 – 33.0	138
E	Red	36.0 – 44.0	138
F	Black	45.0 – 55.0	138
G	Orange	54.0 – 66.0	138
Z	Grey	9.0 – 11.0	180

If in doubt consult the equipment manufacturer.

Characteristics. Operators not familiar with the use of hydraulic tools should note the following points:-

- 1) Hydraulic breakers are usually more powerful than the equivalent weight pneumatic tools.
- 2) The body of the hydraulic breaker and the supply hoses will become quite warm during normal operation.
- 3) As the breaker has no exhaust it is generally much quieter in operation. This should not be taken as a lack of power.

Safety Points.

- 1) Always wear safety footwear when operating breaking equipment.
- 2) Eye protection is strongly recommended, particularly on hard surfaces.
- 3) Ensure that the 'steel' is securely locked into the breaker.
- 4) Check hoses for deep cuts or exposed braiding; replace any damaged hose.

Steel Selection It is essential that the correct type and size of steel is chosen if optimum performance is to be achieved, with particular reference being made to the shank length and across flat dimensions.

Recommendations as follows:-

Material.	Recommended Steel
Concrete.	Pointed or narrow bladed chisels.
Tarmac.	Sharp edged wide bladed tools with straight cutting edges.
Asphalt.	Sharp edged tools with thin section and curved cutting edges.
General Trenchwork.	Spades and Digger steels.

ALWAYS USE SHARP STEELS - Blunt steels increase vibration and reduce efficiency.

This code of practice applies to hydraulic power systems generally. Please ensure that you have read and understood the manufacturers instructions before operating.

Vibration

Some vibration from the machines operation is transmitted through the handle to the operator's hands. The Belle Group Hydraulic Breaker range has been specifically designed to reduce hand/arm vibration levels. Refer to specifications & technical data for vibration levels and usage times (recommended maximum daily exposure time). DO NOT exceed the maximum usage times.

PPE (Personal Protective Equipment)

Personal injury or property damage may be caused by knocks, crushing, slipping, tripping, falling, or by flying chips due mainly to the improper or careless handling of the machine, or working in a confined area.

Suitable PPE must be worn when using this equipment i.e. Safety Goggles, Gloves, Ear Defenders, Dust Mask and Steel Toe capped footwear.

Wear clothing suitable for the work you are doing. Tie back long hair and remove any jewellery which may catch in the equipment's moving parts.

Dust

Using the Hydraulic Breaker can produce dust, which may be hazardous to your health. Always wear a mask that is suited to the type of dust being produced..

Pre-Start Checks

- 1) Ensure that the transmission hoses are positioned to avoid damage by vehicles etc., and that they will not be under strain when the accessory tool is in use.



CAUTION

ENSURE THAT ALL HOSE COUPLINGS ARE THOROUGHLY CLEANED BEFORE CONNECTING. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE SEALS.

- 2) Check that connection has been made to a suitable Power Unit delivering 201/min EHTMA Category 'C' and 140 Bar Max. Pressure. It is DANGEROUS to use the hydraulic breaker with an incompatible flow rate and pressure.
- 3) Make sure that the unit will not start when the hydraulic power is applied by checking that the trigger is free and not stuck in the down position.
- 4) Ensure that the 'Steel' is securely locked in the breaker and the latch is properly closed.

NOTE:- HYDRAULIC POWER UNITS AND TOOLS SUPPLIED BY EHTMA MEMBER COMPANIES CARRY RANGE IDENTIFICATION LABELS AND IT IS ESSENTIAL TO CHECK THAT THE TOOL AND POWER UNIT HAVE THE SAME RANGE LABEL.

STARTING THE BELLE HYDRAULIC POWER SUPPLY.

NOTE:- REFER TO THE ENGINE MANUAL FOR DETAILS. ALWAYS ENSURE THAT THE BYPASS LEVER IS IN THE BYPASS POSITION.

Petrol Engines.

- 1) Open the fuel tap.
- 2) Close the choke on the carburettor.
- 3) Set the engine ignition switch to 'ON'.
- 4) Start the Engine by pulling on the recoil starter rope.
- 5) As the engine warms up, gradually return the choke to 'OPEN'.

NOTE:- MIDI AND MAJOR POWER PACKS ARE FITTED WITH A POWER ON DEMAND DEVICE AND THE ENGINE WILL RUN AT IDLE SPEED UNTIL PRESSURE IS GENERATED IN THE HYDRAULIC SYSTEM.

Diesel Engines.

- 1) Open the fuel tap.
- 2) Set the engine speed control to the 'START' position.
- 3) Set the decompressor lever to the 'START' position.
- 4) Start the engine by pulling the recoil starter rope.

OPERATING CHECKS.

Before commencing operation with the accessory tool, the following checks should be carried out:-

- 1) Bypass lever is in the 'FLOW' position.
- 2) Ensure that there are no hydraulic leaks from hoses or couplings.
- 3) Check that there are no leaks from the breaker particularly between joints, and at the nose end. Depending on the ambient temperature, optimum performance is usually achieved after 5-10 minutes operation, this is the time required for the hydraulic oil to reach its correct operating temperature.

STARTING THE BREAKER, 2012, 2025 and 3025.

- 1) Ensure a comfortable operating position and that the cutting point is resting on the surface to be broken.
- 2) Maintain a positive grip on the breaker handles and press the trigger to start work.
- 3) During breaking it will be necessary to move the cutting point to new positions on the cutting surface, and Belle recommend that the trigger is released during these manoeuvres.

STOPPING THE BREAKER, 2012, 2025 and 3025.

- 1) Release the trigger to stop the breaker, remembering that the hydraulic supply is still connected to the tool, and that the tool will work again when the trigger is pressed.
- 2) Once the work period is complete isolate the breaker by moving the 'BYPASS' lever on the pack to the 'BYPASS' position, and switch off the power pack as detailed in the manufacturers instructions.

STARTING THE BREAKER, 2018, 2021 U/D, 2023, 2026 U/D, 2021X & 2025X

- 1) Ensure a comfortable operating position and that the cutting point is resting on the surface to be broken.
- 2) Maintain a positive grip on the breaker handles and twist the trigger lock cam away from you then press the trigger to start work.
- 3) During breaking it will be necessary to move the cutting point to new positions on the cutting surface, and Belle recommend that the trigger is released during these manoeuvres. To restart twist the trigger lock cam and press the trigger to start work again.

STOPPING THE BREAKER, 2018, 2021 U/D, 2023, 2026 U/D, 2021X & 2025X

- 1) Release the trigger to stop the breaker, remembering that although the hydraulic supply is still connected to the tool, the tool will not work again until the trigger lock cam is twisted and the trigger pressed.
- 2) Once the work period is complete isolate the breaker by moving the 'BYPASS' lever on the pack to the 'BYPASS' position, and switch off the power pack as detailed in the manufacturers instructions.