Hy-Ram Engineering

User Manual, Operating Instructions and Specifications

SOU200

Hydraulic Squeeze Off Unit for PE pipe

Pipe Range: 63 – 200mm

PE PIPE SQUEEZE OFF

• INNOVATION • DESIGN • MANUFACTURE • SUPPLY

INDEX.

Pipe Range: 63-200mm SDR11, 17.6 & 21

Important!

This manual outlines the operation and safety aspects of the Hy-ram 200mm squeeze off tool.

General description.

The Hy-ram SOU200 Squeeze Tool is designed in order that it can be used quickly and easily to stop the water/gas flow in PE pipe. It has an integral hydraulic jack enabling a maximum squeeze off force of 15 tonnes.
The unit is fitted with safety check screws to prevent accidental release and also incorporates a jack spring return mechanism. For safety the hydraulic system has an integral pressure relief valve. 'Pipe stops' are used on the unit for each diameter/SDR combination thus ensuring the pipe is squeezed to it's optimum level and also to prevent over squeezing.

The SOU200 tool has been designed to limit the flow in PE pipe sizes ranging from 63mm to 200mm outside diameter and wall thicknesses ranging from SDR11 to SDR21 (dependant on which model stops have been requested). The Hy-ram 200SOU is designed in accordance with gas industry standards GIS/PL2:2013 PART 7: Squeeze-off tools and equipment.

First use

Before operating the Hy-ram SOU200 squeeze tool for the first time, the hydraulic unit on the tool must have its hydraulic system 'purged' to remove any possible air in the system.

Purging the system

1. **Open the release valve with the jack handle, turning it anti clockwise and then, with the aid of the handle operate the jack several times.**

2. **Close the release valve fully using the jack handle. The tool is now ready for use.**

Before using

It is important to ensure that all component parts are present and in a serviceable condition. In addition, the seven station stop plates should be checked against the pipe details before every squeeze off operation to ensure they are set correct for the pipe size and wall thickness rating (SDR). Wrongly set stops may cause leakage, damage to the pipe or injury.

General safety

This unit is intended for squeezing off PE pipes within the gas and water industries.
It is the responsibility of the operator to ensure that the PE pipe is suitable for squeeze off application. If in doubt contact the PE pipe manufacturer.

Safety instructions

1. **Read ALL instructions and safety information before attempting to use the tool i.e. First Use.**
2. **The Hydraulic Jack is fitted with a safety relief valve to prevent over-loading. This is factory set and MUST NOT be tampered with.**
3. **The unit is heavy – 35Kg care should be taken when in use and lifting must be undertaken by 2 persons.**
4. **To avoid injury during transportation, the bottom beam should be removed or trapped in position by extending the jack.**
5. **Operatives should wear eye protection, gloves, safety headwear and footwear when using this equipment.**
6. **A single squeeze tool cannot be guaranteed to provide 100% closure, where required operators are advised to consider using more than one squeeze tool.**

Operating instructions

1. **Ensure ALL maintenance and service checks have been carried out.**
2. **Ensure that the pipe stops are set for the pipe to be squeezed. The diameter/SDR combination is stamped on the side of the pipe stop and should be able to be read in the 'horizontal' position (i.e. at the bottom).**
3. **Ensure the unit is in the 'open' position and ready to accept the pipe. If not, i.e. the jack piston is in the 'out' position, open the 'Release valve' by using the tip of the jacking handle (turn anti-clockwise).**
4. **Position the unit centrally on the pipe to be squeezed and slide the Bottom Beam into position.**
5. **Ensure the 'Release Valve' is closed by using the tip of the jacking handle and tightening it clockwise.**
6. **Locate the jacking handle into the collar of the pump on the jack and start to pump. Observe the Top Beam begin to squeeze the pipe (making sure the pipe stays centrally on the Top Beam).**
7. **Continue until the Pipe Stops make contact with the Bottom Beam on both sides. The pipe is now squeezed to the optimum level.**
8. **Tighten down the 2 Qty 'Lock- Off' Bars until they make contact with the Top Beam. These are an important safety feature in the event that the Hydraulic Jack fails.**
9. **Squeeze Off operation is now complete.**
10. **To release, undo the 'Lock-Off' Bars and retract them to their 'open' position.**
11. **Release the 'Release valve' using the jack handle and observe the pipe starting to open, the return springs will ensure that the Jack Piston fully retracts.**
12. **The unit can now be taken off the pipe.**
13. **Allow the section of squeezed pipe to reform to its original shape; this may take several hours.**
14. **Check relevant specification with regard to post-squeeze off requirements (i.e. the requirement for the use of re-rounding tools etc…)**


200 SOU Frame
Return Springs
Jack Handle
Lock Off Bars
Safety Screw
Mounting Blocks
Pipe Stops
Hydraulic Jack
Bottom Beam
Release Valve
Jack Pressure Pump

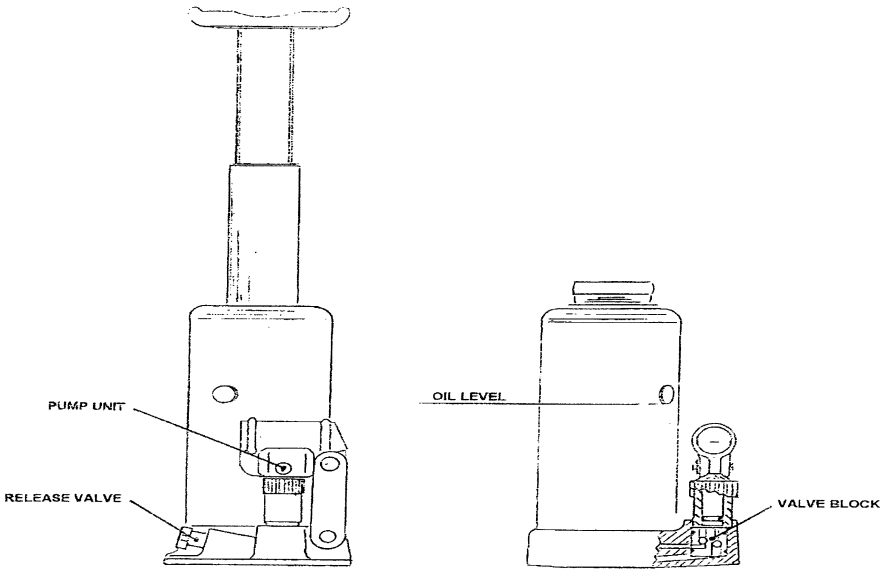
Storage

IMPORTANT...

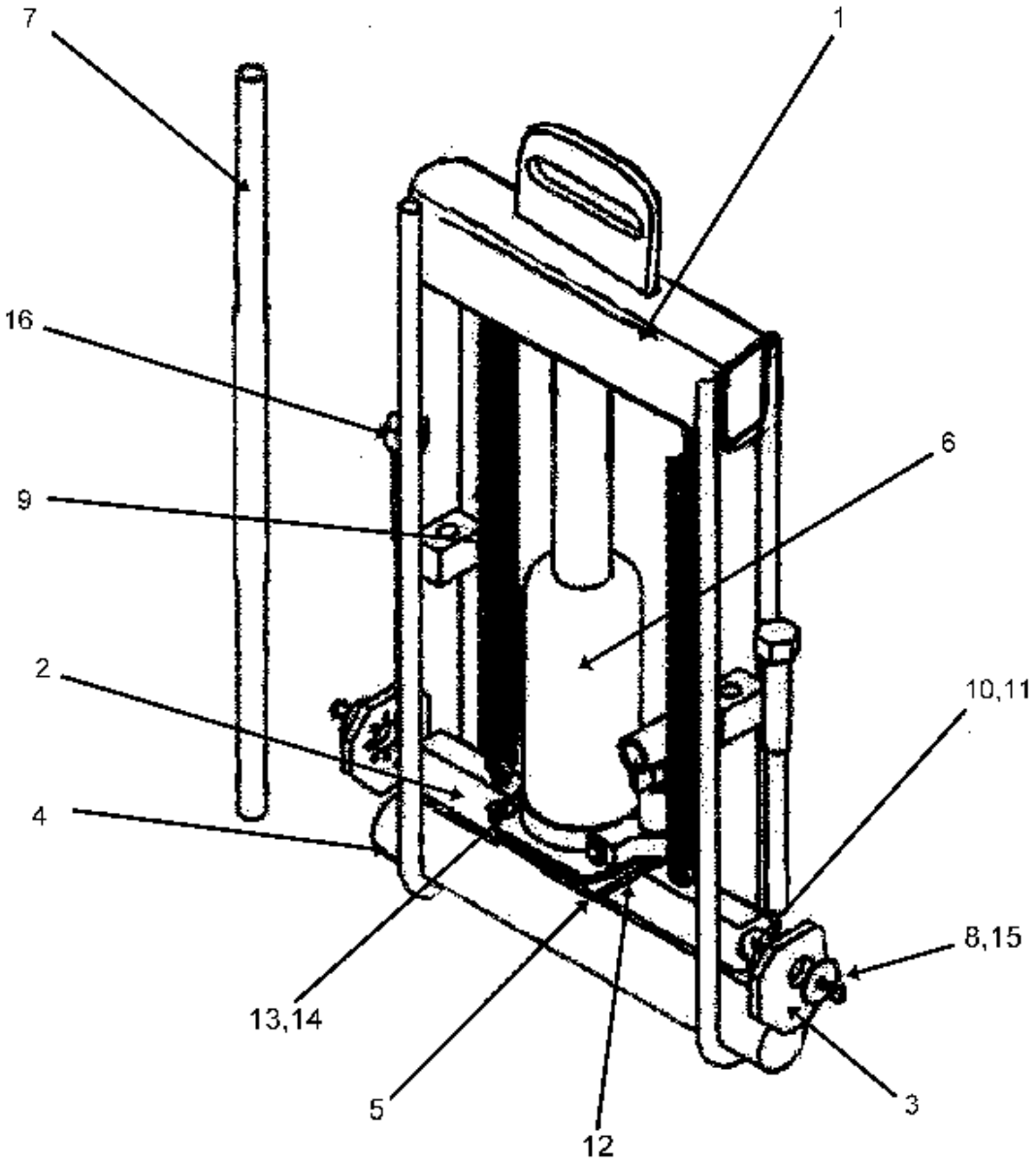
1. **Store the unit in an upright (vertical) position.**
2. **Ensure the Hydraulic Jack is depressurised.**

Maintenance

1. **Always keep the unit clean and free from dirt.**
2. **Check General condition (especially the pipe stops) before each use.**
3. **Periodically check all welds and anchorage points for defects.**
4. **Clean and lubricate screw threads at regular intervals.**
5. **Check oil level with unit in an upright position. Fill through filler hole in side of Jack cylinder. Fill level with filler hole.**



Typical SOU200 Layout

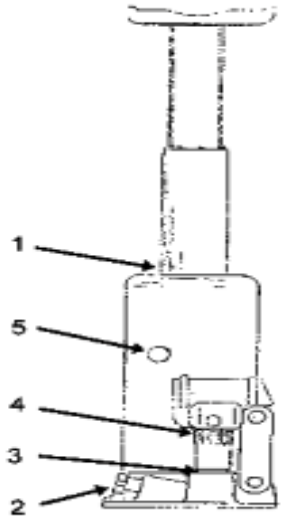


SOU200 SQUEEZE OFF UNIT PARTS LIST

ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION
1	1	E16631	SQUEEZE OFF TOOL LOAD FRAME
2	1	E16634	MIDDLE BEAM
3	2	-----	STOP – AS REQUIRED TO SUIT CUSTOMER
4	1	E16636	BOTTOM BEAM
5	1	E12098	PLATE
6	1	652-000023	BOTTLE JACK 15 TON
7	1	171-000024	JACK HANDLE (TUBULAR HANDLE)
8	2	760-000027	REPAIR WASHER 3/8" ID X 1 1/2"OD ZINC PLATE
9	2	713-100028	TENSION SPRING ZINC PLATE
10	2	713-100009	COMP SPRING S213 ZINC PLATE
11	2	019-000005	1/4" DIA STEEL BALL
12	2	430-085016	M8 X 16MMLG CAPSCREW C/S ZINC PLATE
13	2	430-085025	M8 X 25MM LG CAPSCREW ZINC PLATE
14	2	258-085128	M8 NYLOC NUT
15	2	430-105012	M10 X 12MM LG CAPSCREW ZINC PLATE
16	2	E16637	LOCK OFF SCREW

15 TON JACK SPARES LIST

ITEM NO.	NO. REQ'D	PART NO.	DESCRIPTION
1	1	168-000134	15T JACK SEAL KIT
2	1	168-000135	RELEASE VALVE
3	1	168-000136	CHECK VALVE
4	1	168-000137	PLUNGER SEAL
5	1	656-000003	FILLER BUNG



Specifications

Materials: Mild Steel EN3B (070M20) / EN8 (080M40)

Finish: Zinc Plated (Steel)
Powder Coar Finish Silver (Paint)

Dimensions: L: 85mm W: 400mm H: 800mm

Weight: 37 Kg

Product Code: 089-000522
SOU200

Hydraulic Jack Spec:

Manufacturer: Webber
Type: 15 Ton
Stroke: 200mm
Oil Volume: 440cm³
Oil Type: Hydraulic mineral oil

Stops: As required, to suit customer
Pipe diameter 63mm to 200mm
Wall thickness SDR11 to SDR21

Design Specification:

Hy-ram Engineering Co. Ltd have designed and manufactured this unit to meet the requirements of National Grid Gas Industry Standards GIS/PL2-7:2013 Part 7: Squeeze-off tools and equipment.

Disclaimer

Hy-ram Engineering Co. Ltd has a policy of continuous improvement in product design and quality. Hy-ram Engineering Co. Ltd therefore reserves the right to change the specification of its designs and product models at anytime, with out prior notice.

Warranty Information

1. Extent of Warranty

(a) Subject to clauses 2 and 3, Hy-ram Engineering Co. Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for six months after the date of purchase by the end-user customer, subject to providing proof of purchase.

(b) If Hy-ram Engineering Co. Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty; Hy-ram Engineering Co. Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.

(c) All warranty work will be carried out by Hy-ram Engineering Co. Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from Hy-ram Engineering Co. Ltd.

(d) Customers shall prepay shipping charges for products returned to Hy-ram Engineering Co. Ltd for warranty service, and Hy-ram Engineering Co. Ltd will charge for return of the products back to the customer.

(e) This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.

2. Pre-conditions for Warranty Application.

Hy-ram Engineering Co. Ltd warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:

- **(a) All the instructions contained in the operating manual have been complied with; and**
- **(b) None of the following apply:**
  - **(i) Improper or inadequate maintenance;**
  - **(ii) Physical abuse;**
  - **(iii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice;**
  - **(iv) Operation outside the products specifications;**
  - **(v) Improper site preparation or maintenance:**
  - **(vi) Faulty pipe.**

3. Limitations of Warranty.

- **(a) Hy-ram Engineering Co. Ltd does not warrant the operation of any product to be uninterrupted or error free.**
- **(b) Hy-ram Engineering Co. Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Hy-ram Engineering Co. Ltd specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.**
- **(c) To the extent that this warranty statement is inconsistent with the law of locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.**
- **(d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.**
- **(e) This tool has been designed for the range of pipes available at time of design and development. Hy-ram Engineering Co. Ltd can accept NO liability for the unit's ability or otherwise to work with new or different pipes that subsequently appear in the market place.**

Certificate of calibration.

- **This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Hy-ram Engineering Co. Ltd, Mansfield, Nottinghamshire.**

- **This product has no calibration period however periodic safety inspections should be carried out by the operator if in doubt please contact the manufacturer for further information.**

Decommissioning & Disposal

The instructions below for decommissioning and disposal of the equipment confirm how the equipment is to be taken out of service safely in respect of the Essential Health and Safety Requirements.

1. **When a Hy-ram SOU200 has reached the end of its useful working life and cannot be refurbished it must be disposed of via licensed waste disposal facility. Alternatively, a reverse engineering company can strip the equipment for recycling purposes.**

2. **Waste hydraulic oil must also be disposed of via a licensed waste disposal route.**

3. **Disposal is the responsibility of the customer this can also be done by returning the product to manufacturer.**

EC DECLARATION OF CONFORMITY

We hereby declare that the following machinery complies with the essential health and safety requirements of the Machinery Directive 2006/42/EC enacted in the United Kingdom by The Supply of Machinery (Safety) Regulations 2008.

Machine description: 200mm Squeeze Off Unit

Make: Hy-Ram **Type**: SOU200

Serial number: _____ **Year of construction:** _____

Manufactured by: **Hy-Ram Engineering Co Ltd.**
Pelham Street
Mansfield
Nottinghamshire
NG18 2EY

This machinery has been designed and manufactured in accordance with the following transposed harmonised European standards.

BS EN ISO 12100:2010 Safety of Machinery - General principles for design. Risk assessment and risk reduction.
BS EN ISO 13857:2008 Safety of Machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs.
BS EN 349:1993+A1:2008 Safety of Machinery – Minimum gaps to avoid crushing of parts of the human body.
BS EN ISO 4413:2010 Hydraulic Fluid Power – General rules and safety requirements for systems and their components.
GIS/PL2-7:2013 Part 7: Squeeze-off tools and equipment.

A technical construction file for this machinery is retained at the following address:

Pelham Street
Mansfield
Nottinghamshire
NG18 2EY

Signed: _____

Date: _____

Name: _____

Position: _____

Being the responsible person appointed by the manufacturer, and employed by Hy-Ram Engineering Co Ltd.

Hy-Ram Engineering

For Sales, Hire and Repair support contact our admin team or scan the QR code for further details

www.hyram.com

+44 (0) 1623 422982 enquiries@hyram.com

Head Office
Pelham Street
Mansfield
Notts
NG18 2EY

Mansfield (Hire & Repair)
Unit 5
Abbey Industrial Estate
Hermitage Lane
Mansfield
Notts
NG18 5GH

Bury (Hire & Repair)
Unit 18
Peel Mills Industrial Estate
Bury
Lancashire
BL9 0LU

Enfield (Hire & Repair)
Unit 2
Riverwalk Business Park
Riverwalk Road
Enfield
EN3 7QN