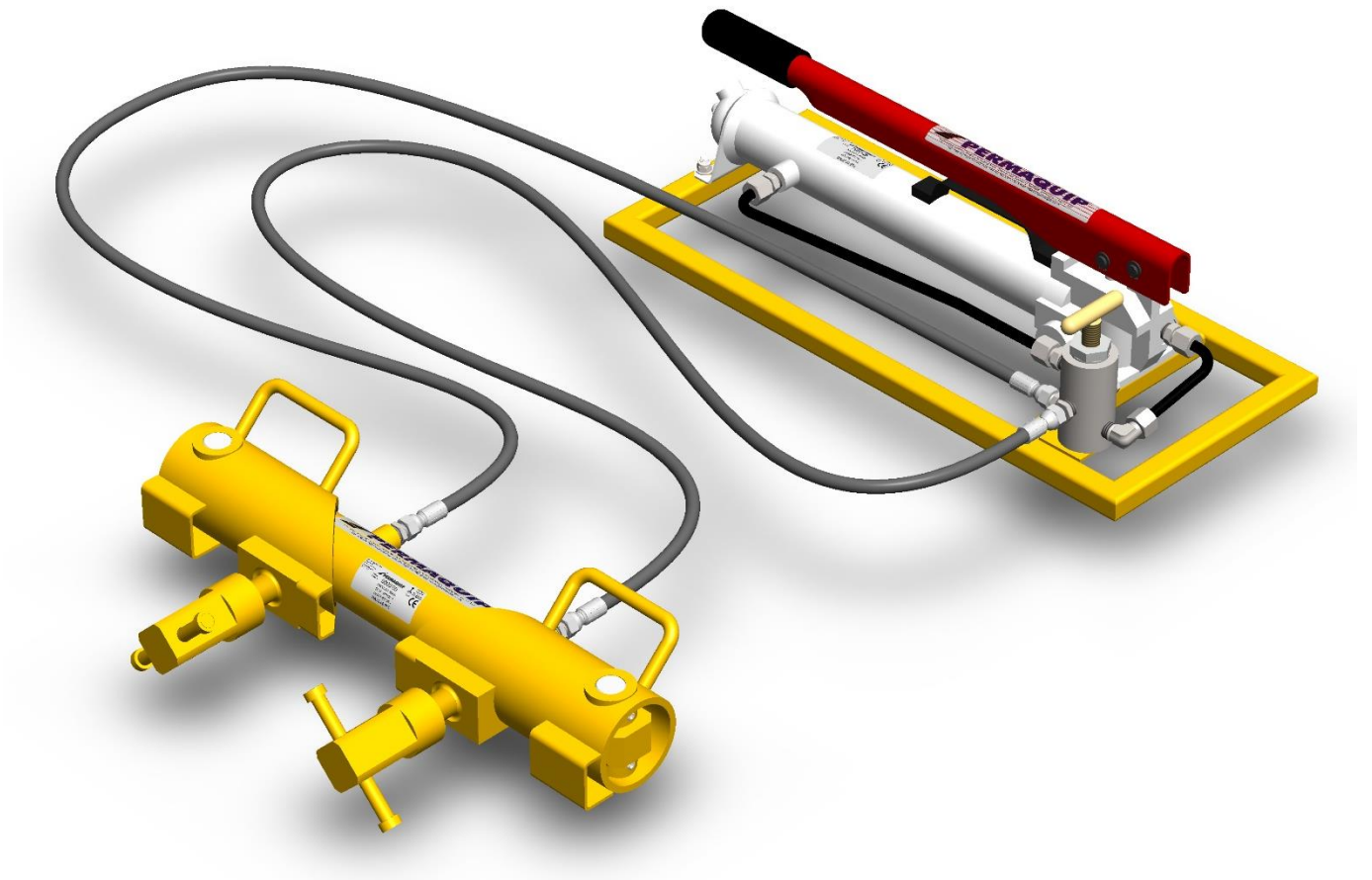


USER GUIDE



RAIL CREEP ADJUSTER

MAN-M-0-102_04



Permaquip Ltd

Old Sleningford Farm,
North Stainley,
Ripon,
North Yorkshire, HG4 3JB

Tel: +44 (0) 1623 513349

E-mail: sales@permaquip.co.uk
www.permaquip.co.uk



MADE IN BRITAIN

CONTENTS

| | |
|---|----|
| 1. Introduction | 4 |
| 2. Issue and revision record | 5 |
| 3. Safe and Correct Use | 6 |
| 4. Technical Specification..... | 7 |
| 4.1 Physical Data..... | 7 |
| 4.2 Oil Specification..... | 7 |
| 4.3 Operating Pressure | 7 |
| 4.4 Operating Performance..... | 7 |
| 4.5 System Schematic..... | 8 |
| 4.6 Product Compliance..... | 8 |
| 5. General Layout | 10 |
| 6. Operating Instructions | 11 |
| 7. Maintenance..... | 13 |
| 7.1 General..... | 13 |
| 7.2 Ram Assembly..... | 13 |
| 8. Test Specification | 15 |
| 9. Ordering | 16 |
| 10. ISO46 Oil Material Safety Data Sheet..... | 18 |



Please note:

Whilst Permaquip Limited has taken every care in preparing this User Guide it is intended as a technical guideline only. Save to the extent that there are statutory rights to the contrary, Permaquip accepts no liability in relation to any use or reliance made of any information in this User Guide.

All information, illustrations and specifications in this User Guide are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Equipment operators and installers shall be responsible for ensuring that a safe working environment and safe systems of work are in place and in certain circumstances advice and permission from the controlling authority must be sought before any operation, installation or surveying work is carried out.

Permaquip™ is a trademark of Permaquip Ltd.
©2006 Permaquip Ltd.

1. INTRODUCTION

The Permaquip™ Rail Creep Adjuster is designed to adjust gaps in jointed track without damaging rail ends. Hydraulically operated, the unit can push or pull lengths of rail, and is obstructionless. This allows trains to pass over the track whilst the Rail Creep Adjuster is in the working position.


Any modifications or enhancements made by the user or third party which have not been approved by Permaquip are not recommended. Any modifications to the equipment will become the responsibility of the user or third party and the warranty with Permaquip will become null and void. Please see Permaquip's T and Cs on our website for further details.

Prior to using the Rail Creep Adjuster, Permaquip advise all operators and personnel to familiarise themselves with the product. If required Permaquip product familiarisation training.

2. ISSUE AND REVISION RECORD

This document will be updated when necessary, by the re-issue of the complete document.

| Issue | Description | Date | Revised Page No. | Revised By. |
|-------|---|------------|------------------|-------------|
| 03 | Manual format updated. | 13/05/2019 | All | M.S. |
| 04 | Formatting and Permaquip branding updated. Test procedure updated inline with Hand Pump test requirements. | 27/09/2021 | All | M.S. |
| - | Permaquip address updated. | 15/03/2022 | All | J.F. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | |
|----------------|----------------------|--|
| Authorised By: | Martin Sheppard BEng |  |
| | Engineering Manager | |

3. SAFE AND CORRECT USE

Please keep this Manual for future reference.

To ensure safe and correct use of the Rail Creep Adjuster the following should be noted:



Wear eye, feet, head and hand protection when using the Rail Creep Adjuster. Additional Personal Protective Equipment (PPE) should be worn according to local regulations and government guidelines.



The Rail Creep Adjuster, or parts of, must be replaced if damage occurs with genuine Permaquip parts. Do not use the Rail Creep Adjuster if any components are damaged.



Store the Rail Creep Adjuster safely and in a secure position to prevent inadvertent damage.



Before using, always undertake a Manual Handling Risk Assessment and follow the assessment guidelines.



Always use the correct, clean oil, as defined in the technical specification. The Rail Creep Adjuster has been filled and tested with clean, new hydraulic oil to this specification. It must be properly maintained and not contain contaminated oil. No liability will be accepted for failure or malfunction of the equipment if this condition is not met.



Keep all components away from extreme temperatures.



Do not use the Rail Creep Adjuster for any other purpose than as described in the introduction.



Do not drag the Rail Creep Adjuster along the ballast. It is designed to be carried by two persons. Use the handles provided.



Do not force the threaded spigots into the rail web holes.



Do not use the Hydraulic Hoses to move the Rail Creep Adjuster. Do not allow the hoses to kink, twist, curl or bend. Do not allow the hoses to come into contact with corrosive substances such as paint, oil, etc. Refer to Permaquip for further advice.



During transit the Rail Creep Adjuster should be secure and kept away from all electrified lines.



Dispose of used oil responsibly and in accordance with local regulations.

4. TECHNICAL SPECIFICATION

4.1 Physical Data

| | Ram and Rail Clamp Assembly | Hand Pump, Frame and Control Valve Assembly | Hydraulic Hoses |
|-----------------------|-----------------------------|---|-----------------|
| Width | 265 mm | 280 mm | - |
| Length | 560 mm (closed) | 675 mm | 2000 mm |
| Height | 170 mm | 180 mm | - |
| Mass | 23 kg | 13 kg | 1 kg |
| Centre of mass | Central | Centrally about the pump lifting handle | Central |

4.2 Oil Specification

The recommended oil is:

- Anti-wear hydraulic oil with an ISO viscosity grade 46.

Ensure that any alternatives used are to the same specification.

The oil capacities are:

- Hand Pump 0.9 litres.
- Ram, Hoses and Control Valve Assembly 0.25 litres.

4.3 Operating Pressure

The maximum operating pressure of the Rail Creep Adjuster is:

- 10,000 psi (68.95 MNm⁻²).

An internal safety valve prevents over-pressure in the system and an internal relief valve prevents pressure loss when under load.

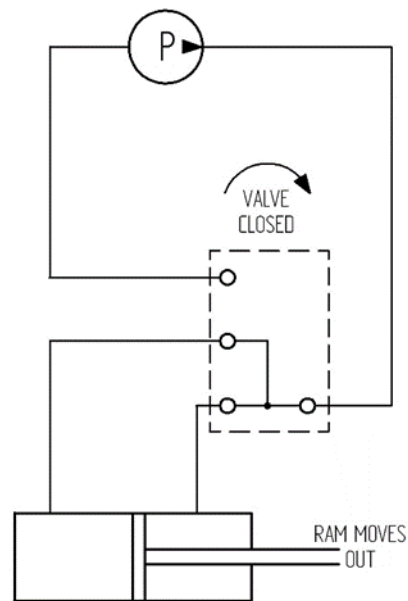
4.4 Operating Performance

The performance limits of the Rail Creep Adjuster are:

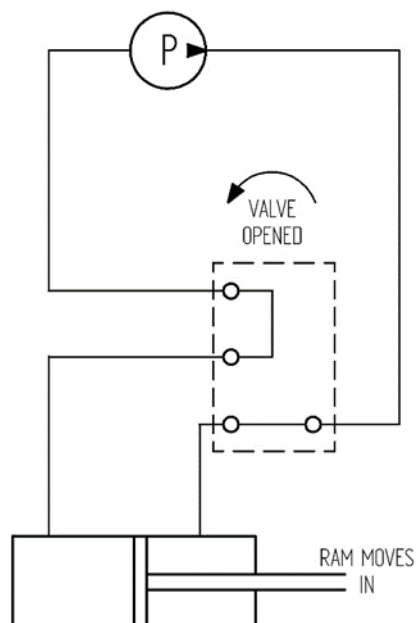
- Maximum operating pushing force 6.76 tonnes (opening joint).
- Maximum operating pulling force 7.04 tonnes (closing joint).
- Maximum ram stroke 6" (152.4mm).

4.5 System Schematic

The Hydraulic Schematic when pushing (opening joint):



The hydraulic schematic when pulling (closing joint):



4.6 Product Compliance

The Rail Creep Adjuster has Network Rail product acceptance. The Rail Creep Adjuster complies with the following:

- Directive 2006/42/EC
Safety of Machinery.
- Directive 93/68/EEC
CE Marking.



EC CERTIFICATE OF CONFORMITY

Certificate number: PMQ 000000

Customer name:

Address:



Customer Order No:

Permaquip Order No:

Description of equipment: Rail Creep Adjuster

Part No: 06153

Machine type: Hydraulic Equipment

Safe Working Load: 10000 PSI

Manufacturing conformity examination: -

Serial numbers:

Date of manufacture:

Pads / cat No: 65/1027

Quantity: 1

Responsible person: M. Sargent - Director - Permaquip Ltd.

Person empowered to sign on behalf of the responsible person:
M. Sheppard BEng - Engineering Manager
M. Ford - Production Manager
P. Harris - Stores Co-ordinator and Inspector

National standards and technical specifications applicable:
UK Railway Standards & Approvals
Machinery Directive 2006/42/EC

Signed by:

Signature:

Date Signed:

**Permaquip Ltd, Brierley Industrial Park, Stanton Hill, Sutton-In-Ashfield,
Nottinghamshire, NG17 3JZ**

Tel: +44 (0)1623 513349 | Fax: +44 (0)1623 517742

Email: sales@permaquip.co.uk | Web: www.permaquip.co.uk

Title: EC Declaration of Conformity Form

Reference:

BMS-21

Version: 2.3

Issue Date:

01/03/2021

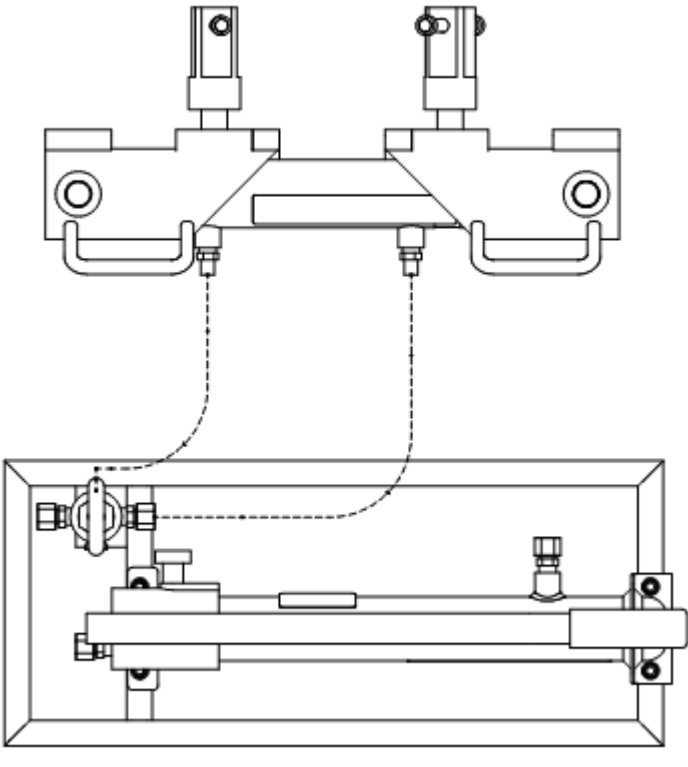
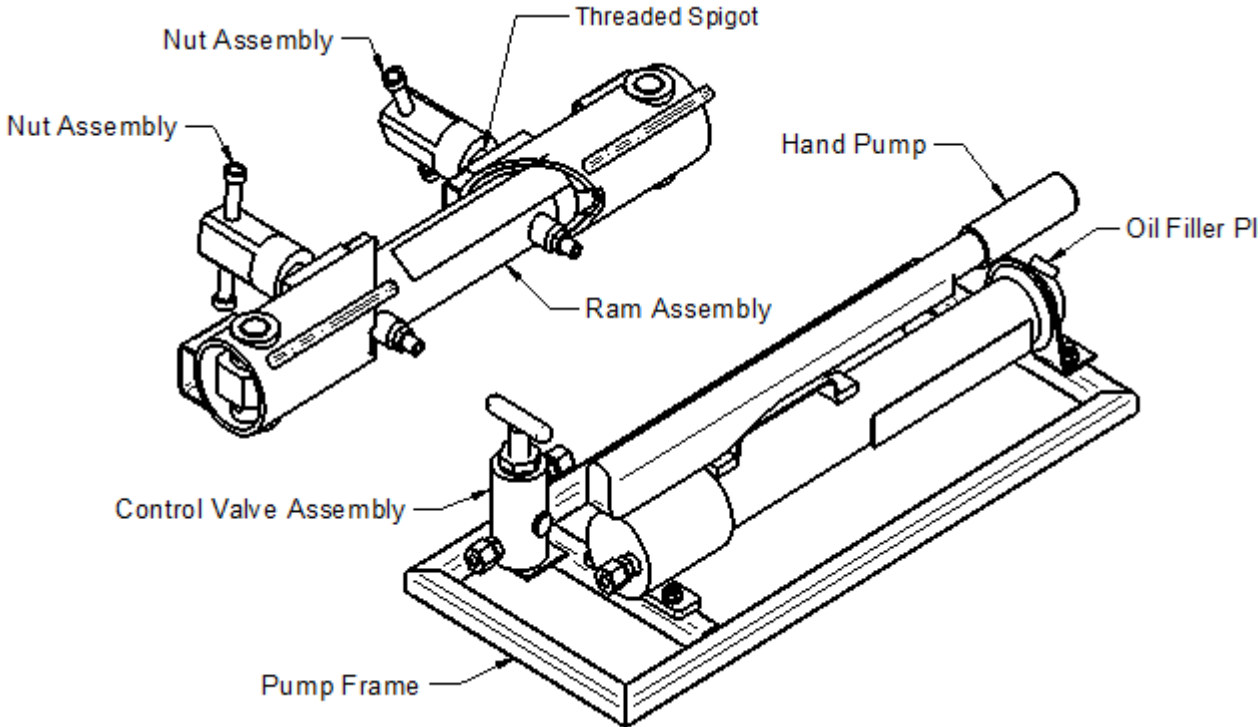
Page 1 of 1

Next Review:

01/03/2024

5. GENERAL LAYOUT

The following layout outlines the main components of the Rail Creep Adjuster (the two hydraulic hoses between the Hand Pump and Ram Assembly have been omitted for clarity).



6. OPERATING INSTRUCTIONS


The following procedure outlines the correct method for operation.



- Should any of the checks fail do not use the equipment.
- All work should only be performed by competent personnel.
- Always follow local regulations.
- Observe Manual Handling Regulations.

All component parts should be checked for wear and damage before use, should any component be considered faulty or suspected faulty this item should NOT BE USED.

1. Extract the rail clips, i.e. Pandrol Clips, from the sleepers located at the joint where the Rail Creep Adjuster is to be used. Use the appropriate tool(s).
2. Remove or loosen the rail clips along the rail lengths which are to be adjusted. Again, use the appropriate tool(s).
3. Remove the fish plates at the rail joint. Use the appropriate fish plate spanners.
4. Remove excessive grease and loose scale on the rail web around the fish plate fastener holes.
5. Remove both Nut Assemblies from each Rail Clamp.
6. Rotate the valve located on the pump side clockwise until it stops.
7. Rotate the Control Valve Assembly handle clockwise until it stops.
8. Operate the pump handle to move the ram apart. Continue until the threaded spigots on the ram assembly align with one hole in each end of the rail web.
9. Mount the Rail Creep Adjuster onto the outside of the rail web, so that the threaded spigots face into the four-foot. This ensures that the Rail Creep Adjuster remains obstruction less.
10. Fit the Nut Assembly onto the spigots and tighten with a fish plate bolt spanner.
11. Gap adjustment can now be made.
 - a. To open the rail end gap, continue operating the hand pump until the desired gap is achieved.
 - b. To close the rail end gap, rotate the Control Valve Assembly handle counter-clockwise until it stops. Then operate the hand pump until the desired gap is achieved.
12. Rotate the valve located on the pump side anti-clockwise until it stops to release any system pressure.
13. Remove the Nut Assemblies using a fish plate bolt spanner.

- 
14. Remove the Rail Creep Adjuster, clean the ram piston and ensure the ram is returned to the closed position after use.

7. MAINTENANCE

It is important that:



All work should only be performed by competent personnel.

Always follow local regulations.

Observe Manual Handling Regulations.

For components that require replacing please refer to the Rail Creep Adjuster Spare Parts List. Please contact Permaquip Ltd for additional copies.

The frequency of the following procedures will depend on usage and should be performed in the sequence shown.

7.1 General

1. Check the Machine Serial Number label and note.
2. Check the Next Service Due label and note.
3. Rotate the valve located on the side of the pump anti-clockwise until it stops to release any system pressure.
4. Visually check that there are no leaks, component damage or distortion.
5. If any leaks or component damage are evident do not continue. The unit will require repair by Permaquip Ltd or another competent personnel.
6. Ensure all fasteners are secure.
7. Visually check all hydraulic hoses and fittings for damage, splits and security.
8. Ensure all labels are secure and can be easily read. Replace as required.

7.2 Ram Assembly

1. Check the threaded spigots are not damaged, and that the Nut Assemblies are freely rotated on and off. Apply grease to the threads.
2. Visually check that there are no leaks, component damage or distortion.
3. If there are no leaks or damage, rotate the valve located on the side of the pump clockwise until it stops.
4. Rotate the Control Valve Assembly handle clockwise until it stops.
5. Operate the pump handle to move the ram apart.

6. Check that the ram has a full stroke according to that defined in the Technical Specification.
7. Clean all component surfaces with a lint free dry cloth.
8. Visually check again that there are no leaks, component damage or distortion.
9. Rotate the valve located on the side of the pump anti-clockwise until it stops to release any system pressure.
10. Check the oil level in the hand pump. This can be seen by removing the filler plug located at the end of the pump body, as shown below. Top up level with the bottom of the threads as appropriate using new clean oil to the correct grade (defined in the Technical Specification). Do not over fill as this will damage the pump.



Ensure that the filler plug seal is not damaged or missing, as this acts as the safety valve to prevent over-pressure in the system. Replace the filler plug.

11. Perform an operating test according to the following Test Specification.

Should further maintenance be required, such as replacing seals, please contact Permaquip Ltd. for further information and support.

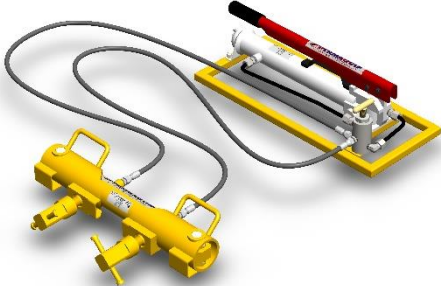
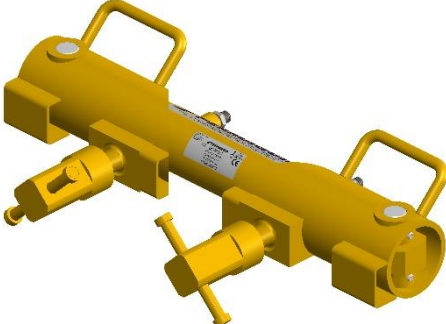


8. TEST SPECIFICATION

The Rail Creep Adjuster should be tested to the following specification after the Maintenance procedures have been completed. Ensure that the oil integrity is not compromised with contaminants.

1. Visually check that there are no leaks, component damage or distortion.
2. Connect the rail clamp assemblies to a suitable fixed structure so that each clamp assembly fixes the ram in the mid position.
3. Connect a calibrated pressure transducer or gauge in line with the pump outlet pressure.
4. Rotate the valve located on the side of the pump clockwise until it stops.
5. Rotate the Control Valve Assembly handle clockwise until it stops.
6. Pressurise the system up to 10,000 PSI. The pressure might drop several times and should be re-pressurised using the hand pump for approximately 1min at which point the pressure will hold.
7. Maintain this load for 1 minute.
8. Check that the pressure does not fall by more than 250 PSI and that there are no leaks, component damage or distortion.
9. Rotate the valve located on the side of the pump anti-clockwise until it stops to release any system pressure.
10. Rotate the valve located on the pump side clockwise until it stops.
11. Rotate the Control Valve Assembly handle anti-clockwise until it stops.
12. Pressurise the system up to 10,000 PSI. The pressure might drop several times and should be re-pressurised using the hand pump for approximately 1min at which point the pressure will hold.
13. Maintain this load for 1 minute.
14. Check that the pressure does not fall by more than 250 PSI and that there are no leaks, component damage or distortion.
15. Rotate the valve located on the side of the pump anti-clockwise until it stops to release any system pressure.
16. Disconnect the pressure gauge or transducer. Check the oil level in the pump, bleed air from the system, refilling as appropriate.

Permaquip Ltd offer a testing and maintenance service – please contact us for further details.

9. ORDERING

| | DESCRIPTION | PADS Cat. No. | PART NO |
|--------------------------------|--|---------------|-----------|
| Rail Creep Adjuster (Complete) |  | 094/00438 | 06153 |
| Ram and Rail Clamp Assembly |  | | 33438 |
| Pump, Frame & Valve Assembly |  | | 33439 |
| Hydraulic Hose (each) |  | | 040160025 |

| | | | |
|--------------------------------|---|--|-----------|
| Hydraulic Oil 46 - 1 Gallon |  | | 041000223 |
|--------------------------------|---|--|-----------|

For spare parts please see the Spare Parts List.
Please contact Permaquip Ltd for further information and support.
Our contact details are shown on the front of this Manual.

In order to avoid delay and to have your orders fulfilled promptly,

Please telephone, e-mail, fax or write giving the following information:

- 1. Company name.**
- 2. Contact details.**
- 3. Invoicing and delivery details.**
- 4. Purchase order number.**
- 5. Method of delivery.**
- 6. Part number, description and quantity for each item.**

10. ISO46 OIL MATERIAL SAFETY DATA SHEET

The following outlines the oil supplied within the Rail Creep Adjuster.

| SAFETY DATA SHEET | | | | |
|--|-------------------|---|-------------------|----------------|
| 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY | | | | |
| NAME OF MANUFACTURER/SUPPLIER: FUCHS LUBRICANTS (UK) PLC | | Sheet 1 of 4 Revision Number 4 Last revision 23 September 2004 Issue date 23/09/2004 | | |
| ADDRESS: New Century Street, Hanley, Stoke-on-Trent ST1 5HU | | | | |
| Business Telephone: 08701 200400 Fax: 01782 202072 | | | | |
| PRODUCT NAME: RENOLIN CL46 | | Product Code: T153 | | |
| APPLICATION: An industrial hydraulic oil. | | | | |
| 2. COMPOSITIONAL INFORMATION: | | | | |
| A blend of highly refined mineral oils with multifunctional additives | | | | |
| Hazardous ingredient | Risk codes | CAS Number | EEC Number | % range |
| Mineral oil | OEL assigned | | | >80% |
| 3. HAZARDS IDENTIFICATION: | | | | |
| The product is not dangerous when handled with care and according to its determined use. Skin irritation is possible, however, due to prolonged direct exposure. | | | | |
| Special hazards of product after use: | | None if used for the intended purpose. | | |



PRODUCT NAME:**RENOLIN CL46**

Sheet 2 of 4

Revision Number

4

Last revision 3 September 2004

Issue date 23/09/2004

4. FIRST AID MEASURES:

Eyes: Wash immediately with copious amounts of water/eyewash, holding the eyelids open. Obtain treatment by a Doctor if symptoms persist.

Skin: Wash skin with soap and water. Wash at intervals dictated by good standards of industrial hygiene

Inhalation: Remove to fresh air. If effects persist, seek treatment by a Doctor.

Ingestion: DO NOT INDUCE VOMITING. Wash mouth out with water. Obtain immediate treatment by a Doctor and provide a copy of this sheet.

Pressure injection: ALWAYS OBTAIN IMMEDIATE MEDICAL ATTENTION EVEN THOUGH THE INJURY MAY APPEAR MINOR.

5. FIRE FIGHTING MEASURES

Flammability: Combustible

Flash point (°C,PMCC): >100

Extinguishing media: Use foam, dry powder, CO2. Never use water .

Products of combustion: Oxides of carbon together with dense smoke

6. ACCIDENTAL RELEASE MEASURES.

Personal precautions: Good standards of industrial hygiene are recommended for use of this product

Environmental precautions: Prevent liquid entering land, sewers, drains or water courses.

Decontamination: Absorb in earth or sand or other suitable material. Transfer to suitable and labelled containers for subsequent disposal.

7. HANDLING AND STORAGE.

Keep containers tightly closed. Store under cover. Compatible with most common metals; may soften certain rubbers - use resistant seals. A bunded area may be required.

Storage temperature: <60 C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION.

| Occupational exposure limits | Substance | LTEL | STEL | Source/other information |
|------------------------------|--------------------|--------------------|---------------------|--------------------------|
| | Mineral oil (mist) | 5mg/m ³ | 10mg/m ³ | EH40(UK) |

Engineering control measures Local exhaust ventilation is recommended when excessive product misting occurs.

Personal protection Select PPE appropriate for the product properties/operations taking place. No eating, drinking or smoking in the work area. Wash before breaks and at end of shift/day. Do not keep contaminated cloths in pockets. Launder coveralls at regular intervals.

PRODUCT NAME:**RENOLIN CL46**

Sheet 3 of 4

Revision Number 4

Last revision September 2004

Issue date 23/09/2004

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|--|------------------------------|--------------|
| Appearance: | Amber fluid | Odour: | Mild mineral |
| Specific gravity @ 15.6°C: | 0.873 | pH: | |
| Vapour pressure (mm Hg)@ 20°C: | | Vapour density (air=1) | |
| Boiling point (°C): | | Pour point/Melting point (°) | -27 |
| Flash point (°C, PMCC): | >100 | Autoignition temperature, ° | >250 |
| Flammability limit in air, % by volume: | LEL: | UEL: | |
| Volatile organic compounds, %: | | | |
| Kinematic viscosity(cSt) @ 40°C: | 46 | | |
| Solubility: | Insoluble in water. Soluble in petroleum solvents. | | |

PLEASE NOTE: THESE PROPERTIES ARE FOR GUIDANCE ONLY. THEY DO NOT CONSTITUTE A SPECIFICATION

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|--|
| Stability: | The product is stable and not subject to polymerisation |
| Conditions to avoid: | Avoid exposure to extreme heat. |
| Materials to avoid: | Incompatible with strong oxidising agents |
| Hazardous decomposition products: | Oxides of carbon and water vapour with unidentified organic compounds. dense, white, irritating smoke. |

11. TOXICOLOGICAL INFORMATION

The following toxicological assessment is based on a knowledge of the toxicity of the product's components

Estimated oral LD50 Rat, >2000mg/Kg.

HEALTH EFFECTS

| | |
|----------------|--|
| On eyes: | May cause temporary irritation and discomfort. |
| On skin: | Generally non-irritant on incidental contact. Excessive or prolonged contact may give rise to slight irritation. |
| By inhalation: | Harmful concentrations of vapour do not normally arise except under high temperature or high atomisation. High concentrations of mist may give rise to respiratory irritation. |
| By ingestion: | Ingestion of large quantities may cause nausea, sickness and diarrhoea. |
| Chronic: | No hazard anticipated |
| Other: | Products which have become contaminated might present more serious health effects. |

12. ECOLOGICAL INFORMATIONBiodegradability: <50% (CEC L-33-T-82) Chemical oxygen demand (mgO₂/l): Not determined

Not readily biodegradable but inherently biodegradable. Leaching and penetration through surface soils is generally regarded as resulting in long term persistence. Fresh or used product may be harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Used, degraded or contaminated product may be classified as special waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international regulations.

PRODUCT NAME**RENOLIN CL46**

Sheet 4 of 4

Revision Number

4

Last revision 3 September 2004

Issue date 23/09/2004

14. TRANSPORT INFORMATION

Classification for transport: Not classified for transport

Shipping name: n.a.

UN number: n.a.

Packing Group: n.a.

UN Class: n.a.

Marine pollutant: No

ADR/RID: n.a.

EmS number:

ICAO/IATA: n.a.

MFAG number:

15. REGULATORY INFORMATION

Hazard label data Not classified as hazardous for supply.

R 5 Phrases None assigned.

None assigned.

EC Directives Framework waste directive, 91/156/EEC Waste oil directive, 87/101/EEC

Statutory information HASWA. Control Of Substances Hazardous to Health Regulations. Chemicals (Hazard Information and Packaging) Regs., as amended (CHIP3). Environmental Protection Act. Waste Management Duty of Care Regs. Special Waste Regs.

European Waste Catalogue No: 13 01 07

16. OTHER INFORMATION

The data and advice given apply when the product is sold for the stated application(s). The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than for the stated application or applications without seeking advice from us.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken.

Approved Codes of Practice**Guidance notes**

Guidance Note EH 40. "Occupational Exposure Limits" Guidance Note EH 58. "The Carcinogenicity of Mineral Oils" IND (G) 165-169: Metalworking fluids. SHW 397 Effects of Mineral Oil on the Skin. MS/B/5 "Skin cancer caused by oil" MS 24: Health surveillance