



Unit 17 Denmore Industrial Estate, Denmore Road, Bridge of Don, Aberdeen AB23 8JW

User Manual
X-Over 9.5" – 4 x 9" - 4
150-2522-HV0



User Manual

X-Over 9.5” – 4 x 9” - 4

150-2522-HV0

Table of Contents

Revision History	ii
Safety.....	iii
1 Introduction.....	1
1.1 General.....	1
1.2 Product Identification	1
2 Technical Specification	2
3 Operation.....	3
3.1 Pre Job	3
3.2 During Job	3
3.3 Post Job.....	3
4 Maintenance	4
4.1 Introduction.....	4
4.2 Schedule.....	4
4.2.1 Pre & Post Job.....	4
4.2.2 Yearly	4
4.2.3 Five Yearly.....	4
4.3 Safety	4
4.4 Tools.....	5
4.5 Redress Procedure.....	5
4.5.1 Dis-Assembly.....	5
4.5.2 Re-Assembly	5
4.6 Maintenance Record Sheet	6
5 Testing.....	7
6 Parts List and Drawings.....	8
7 Spares	9
7.1.1 Individual Items.....	9
Table 1: Technical Data	2
Table 2: Maintenance Record	6
Table 3: Parts List.....	8
Figure 1: X-Over 9.5 – 4 x 9 - 4.....	2
Figure 2: X-Over Assembly	8



User Manual
X-Over 9.5" – 4 x 9" - 4
150-2522-HV0

Revision History

Issue, Release Date	Description
Rev A, 11 Dec 08	Initial Issue



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

Safety

WARNING: Trapped air requires considerable time to compress and when it is compressed is highly dangerous. It has enough stored energy to separate parts with considerable force.

All pressure equipment has a particular pressure rating and care must be taken to ensure that no item is used in a situation that may cause its working pressure to be exceeded.

All personnel involved in pressure testing must be formally trained, competent and utilising the appropriate PPE.

Ensure the identification band/plate is fitted and is displaying the correct information as per the Tag Sheet/Index

This equipment and the equipment it is attached to is heavy never position yourself below a suspended load



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

1 Introduction

1.1 General

The X-Over riser is designed to allow interconnection between equipment with 9½"- 4 Acme connectors to equipment with 9" – 4 Acme connections.

This user manual serves as an introduction to the equipment and contains the relevant specifications, operation, planning and maintenance instructions, parts list and drawings.

1.2 Product Identification

Phuel products are identified by a unique serial number that facilitates full product traceability. Each product is supplied with a documentation pack that contains product certification and material/inspection reports. The serial number is always etched on the surface of the product but can sometimes be difficult to find or read after painting. A customer identification number is also included to allow the customer to track the asset in their system.

A stainless steel band secures the nameplate tag that is stamped with the information shown below. This tag should be located in the first instance to ensure that this manual refers to the correct equipment.

PHUEL OIL TOOLS LTD
DESCRIPTION & SIZE
CUSTOMER ID No
PHUEL ID No 06-XXX-XX
MWP & SERVICE
TEST DATE

2 Technical Specification

Part Number	150-2521-HV0
Connection	9.5 – 4 Acme Pin 9 – 4 Acme Box
Maximum Working Pressure	6,500 Psi
Test Pressure	10,000 Psi
Service	H2S
Weight	226 lbs
Overall Length	20.92"
Make Up Length	17.3"

Table 1: Technical Data

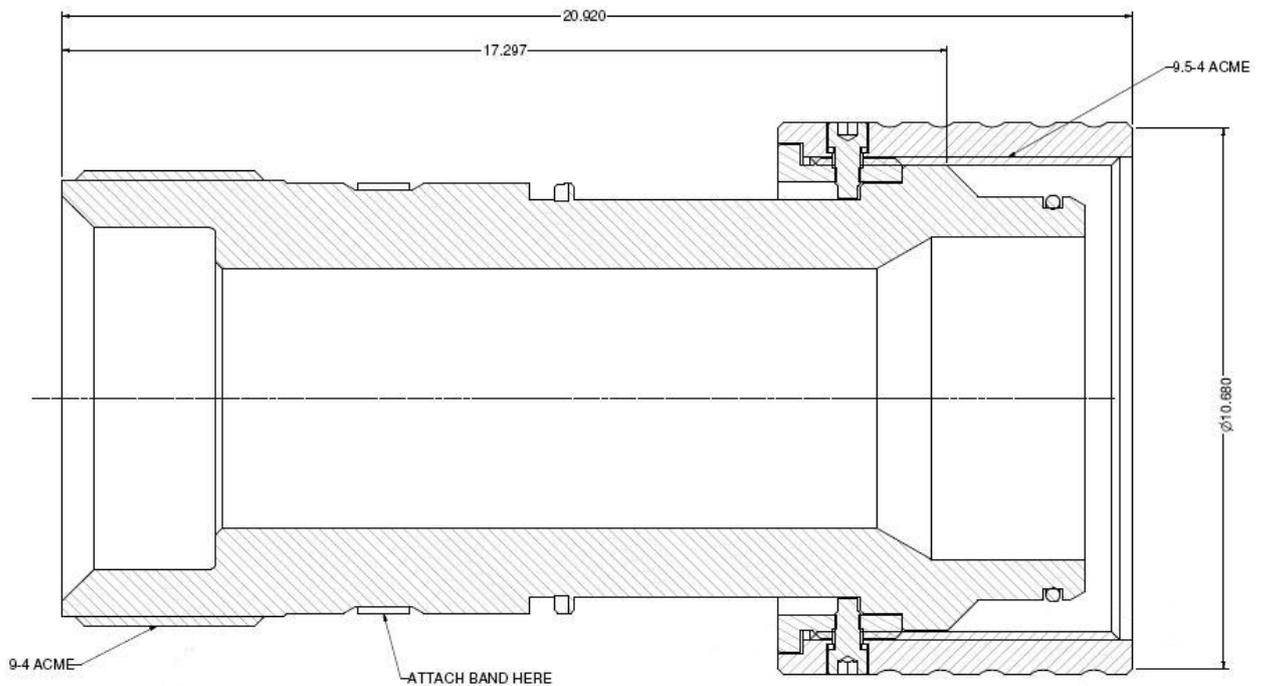


Figure 1: X-Over 9.5 – 4 x 9 - 4



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

3 Operation

All operations to be carried out by suitably qualified and competent personnel

3.1 Pre Job

- Ensure thread protectors are fitted
- Check maintenance record sheet and ensure the equipment has been maintained by competent personnel
- Check all certification is in date
- Confirm information band is fitted and correct
- Ensure equipment is suitable for the maximum working pressures and services involved
- Ensure 'O' ring is seated correctly and there are no signs of damage
- Ensure threads are clean
- Inspect for signs of damage
- Pressure test to 1.2x the maximum well pressure
- Ensure all connections are tight
- Ensure that spare o-rings are available and sent with the equipment.

3.2 During Job

- Avoid excessive movement

3.3 Post Job

- Inspect for signs of damage and report any findings
- Ensure threads are cleaned and the re-greased
- Ensure thread protectors are fitted



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

4 Maintenance

All maintenance to be carried out by suitably qualified and competent personnel

4.1 Introduction

Regular maintenance of the equipment using Phuel redress kits or Phuel approved parts is essential to its continued safe operation. Ensure that the pre and post job operating procedures are followed and that maintenance records are kept.

4.2 Schedule

The maintenance schedule may be governed by international or company standards and the following is considered to be the minimum requirements.

4.2.1 Pre & Post Job

Refer to Section 3.1 and Section 3.3 for details

4.2.2 Yearly

- Disassemble X-Over (see 4.5.1) clean and degrease all components
- Inspect the condition of all sealing surfaces and surface coatings
- Re-coat threads and sealing surfaces if necessary. If in doubt contact Phuel Oil Tools Ltd
- Replace all elastomeric seals with items from redress kit (see spares Section 7)
- Regrease components
- Re-assemble (see 4.5.2)
- Pressure test to maximum working pressure in accordance to testing procedure (see 5)
- Inspect paint work and repair as necessary

4.2.3 Five Yearly

- Yearly Maintenance (plus the following)
- Carry out 100% surface NDE on all surfaces
- Pressure test to test pressure witnessed by certifying authority

4.3 Safety

- Many of the components are heavy and should not be lifted without lifting aids.
- Ensure all pressure testing is carried out in the appropriate testing area by suitably qualified personnel.



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

- Wear appropriate personal protective equipment.
- Do not over exert yourself while using torque wrenches. Use appropriate mechanical advantages when available.
- Ensure that all tools and equipment are in good condition and are suitable for the intended use.
- Clear up any fluid spills immediately to avoid slips.

4.4 Tools

The following tools are required:

- Wire Brush
- 3/8 hex Allen key

4.5 Redress Procedure

4.5.1 Dis-Assembly

- Remove stop pins and washers
- Remove split ring
- Remove collar
- Remove 'O' ring and discard

4.5.2 Re-Assembly

- Fit 'O' ring to test cap
- Fit collar
- Fit split rings and make up until all four holes in the split ring are aligned with the holes in the collar
- Fit stop pins and washers



User Manual
X-Over 9.5" – 4 x 9" - 4
150-2522-HV0

4.6 Maintenance Record Sheet

Date Performed	Type of Maintenance	Performed By	Verified By	Comments

Table 2: Maintenance Record



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

5 Testing

All testing is to be carried out in the designated test area and by suitably qualified and competent personnel.

WARNING: Trapped air requires considerable time to compress and when it is compressed is highly dangerous. It has enough stored energy to separate parts with considerable force.

- Fit appropriate test caps and blanking plugs
- Fill with testing fluid bleeding off any air within the system
- Apply a pressure of 500 psi and ensure pressure holds for a minimum of 10 minutes
- Increase pressure to 6,500 psi (Maximum Working Pressure), allow to stabilise and maintain this pressure until it is evident there are no apparent leaks. (Testing to be carried out to Test pressure when decreed by maintenance schedule)
- Bleed off pressure, drain test fluid and dry
- Remove test caps
- Apply coating of de-watering solution to protect the bore and threads
- Fit thread protectors

On completion of all maintenance ensure the maintenance record sheet (Para 4.6) is completed

6 Parts List and Drawings

Item Number	Part Number	Quantity	Description
1	150-2520-480	1	CROSSOVER 9.5"-4 PIN X 9"-4 BOX
2	117-2381-480	1	SPLIT COLLAR 9 1/2"-4 (SPLIT TYPE)
3	117-2382-480	1	SPLIT RING
4	110-2329-3A4	4	STOP PIN
5	WNL-0580-STL	4	Nord Lock Washer (M12)
6	801-0443-V90	1	O-Ring - B.S Size 443
100	910-2551-N66	1	9-1/2 MALE PROTECTOR
101	910-2156-N66	1	9-4 ACME FEMALE PROTECTOR

Table 3: Parts List

Note: Thread protectors (items 100 and 101) not shown on Assembly Drawing (Figure 2)

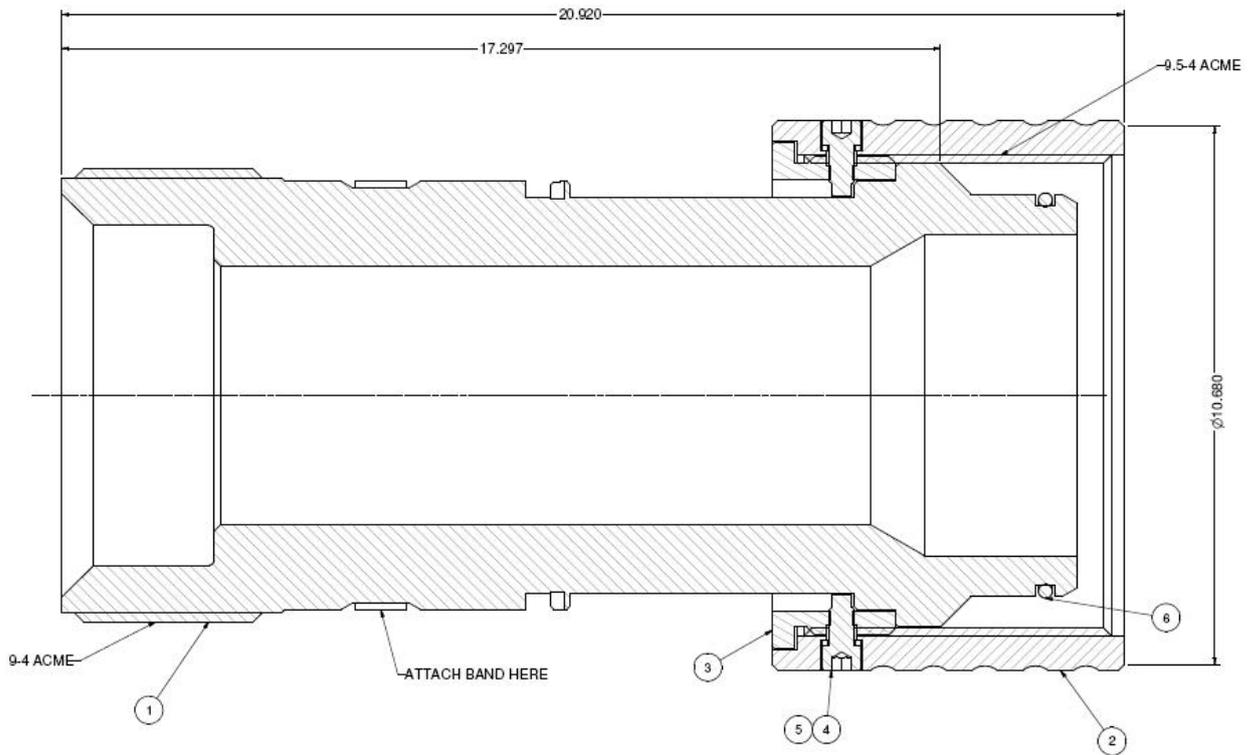


Figure 2: X-Over Assembly



User Manual

X-Over 9.5" – 4 x 9" - 4

150-2522-HV0

7 Spares

Use only spares supplied or approved by Phuel Oil Tools Ltd.

It is recommended that sufficient quantities of the following spares be maintained to ensure that the equipment is always available when required.

Elastomeric spares are supplied in Viton material as standard. Many other materials are available please specify when ordering.

Part No	Qty	Description	Comments
801-0443-V90	1	O-Ring - B.S Size 443	

7.1.1 Individual Items

Individual items may be ordered as required using the part number specified

Note: O-Rings conform to industry standards and may be substituted with those from other suppliers -- **at the sole risk of the user**