



a division of GLBH Group Manufacturing Ltd.

Operating Manual

FSPT20 Friction Shoe Press

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Important Safety Information

To ensure the safe use of this equipment it is the responsibility of the owner and operator that any individual operating this equipment or working in the vicinity of this equipment is deemed to be competent, defined by the region's Safety Codes and Regulations, an example is as follows:

Competent: in relation to a person, means adequately qualified, suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision.

In order for the equipment to perform as designed and safely, proper maintenance must be performed periodically.

Improper operation, maintenance, lubrication and repair of this equipment may result in serious injury or death.

Hydra Tech tools are specially designed pieces of equipment and as such should NOT be modified in any way.

Hydra-Tech International is not capable of foreseeing every possible circumstance that may involve a potential hazard. As such, the warnings within this document and labeled on the equipment are not all-inclusive. It is the owner and operator's responsibility to first ensure that any use of this equipment not specifically recommended by Hydra-Tech International, be it operation, maintenance, lubrication or repairs, be deemed safe for the equipment operator, all persons present, and prevent damages to the equipment.

Information, images, and specifications contained within this document are based on information available at the time it was written or last revised. The contents of this document may change over time and the latest version of this document should be obtained by the owner and/or operator prior to use of the equipment.

For further information or suggestions regarding the safe operation, maintenance and repair of the FSP20T Friction Shoe Press please contact Hydra-Tech International using the following contact information:

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Calgary, Alberta, Canada T2C 4L7
Telephone (403) – 720 – 7740
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Safety is everybody's business!

- Wear proper personal protective equipment when operating hydraulic equipment.
- When the pump is running, oil is under high pressure.
- Do not use gasoline powered pumps in an explosive atmosphere.
- Operate and refuel in a well ventilated area only.
- Avoid inhaling exhaust gasses.
- Always check fluid levels prior to use.
- Always check pump for damage prior to use.
- Never attempt to connect / disconnect hoses while pump is running.

FSP20T – Friction Shoe Press

The FSP20T Friction Shoe Press is designed as a precise, flexible, and manoeuvrable tool to aid in the safe removal and installation of both friction shoes simultaneously.



Maintenance

1. Before use, the ram should be fully extended and checked for damage / wear. Inspect for damage such as cracks, oil leaks, or damaged couplers.
2. Visually inspect the load saddles, guide rods, and frame for any damage, missing, or loose parts.
3. Apply grease to the load saddle if sliding appears rough or periodically as needed.
4. Any hydraulic hoses being used with the FSP20T should be inspected for leaks and flaws prior to use of the product.



Do not use a damaged unit!

Operation

The following procedure can be used when the bolster is removed from the truck. A visual inspection of the tool should be completed before each use checking for any damaged, loose or missing components.



Caution: There is a large amount of stored energy in a compressed friction shoe, and it is possible to eject forcefully from the pocket. There is potential for serious injury and equipment damage if the tool is used carelessly.

Friction Shoe Removal:

1. Position the friction shoe press onto the bolster / pinned friction shoe assembly. Ensure the press saddles are centered on the friction shoes. Also check that the wear pad will contact flatly on the bolster casting with no protrusions such as spring seat lugs.
2. Connect the hydraulic pump to the friction shoe press. Be sure both the male and female quick couplers are clean.
3. Start the pump to extend the saddles sufficiently for the wear pad to contact the bottom of the bolster. Check that the wear pad is contacting the bolster correctly – see point No. 1. The tool may hunt to find center until the wear pad contacts the bottom of the bolster. It is recommended to lightly hold one of the lifting handles to stabilize the tool until it is centered.
4. Press against the friction shoe casting enough to overcome the spring pre-load and free the retaining pins. The shoes can be compressed too far disallowing removal of the pins.
5. Remove the retaining pins.
6. SLOWLY release the hydraulic pressure, allowing the friction shoes to release from the pocket. Watch the shoes as they are releasing, confirming they are not jamming in the pocket and are following the press saddle. If a shoe does become stuck, stop the movement immediately and re-compress the shoes into the pocket and re-try the shoe removal.
7. If a shoe becomes jammed and will not remove with a second try, release the saddle enough to allow about 1/16" clearance between the saddle and the friction shoe. Try striking the sides of the friction shoe with a hammer to jar it loose. If this does not work use a pry bar or some other device that allows the operator to be well back from the work piece, work the friction shoe loose from the pocket.
8. Check to be sure the friction shoe springs are FULLY RELEASED and remove the friction shoe press from the bolster.



Caution: Never put fingers or extremities within the reaction frame of the tool. Stay well back from the tool while operating. Never remove the press from the bolster if the springs loading the friction shoe are not completely released or if the retaining pins are not fully installed.



Caution: There is a large amount of stored energy in a compressed friction shoe, and it is possible to eject forcefully from the pocket. There is potential for serious injury and equipment damage if the tool is used carelessly.

Friction Shoe Installation:

1. Place loading springs and friction shoe casting in position in the ride control bolster.
2. Position the friction shoe press onto the friction shoe castings. Ensure the press saddles are centered on the friction shoes. Also check that the wear pad will contact flatly on the bolster casting with no protrusions such as spring seat lugs.
3. Connect the hydraulic pump to the friction shoe press. Be sure both the male and female quick couplers are clean.
4. Start the pump to extend the saddles just far enough for the wear pad to contact the bottom of the bolster. Check the wear pad is contacting the bolster correctly - see point No. 2
5. Press against the friction shoe castings to compress the springs far enough to insert the retaining pins. Lubrication of the shoes will ease installation into the bolster. This will be especially useful with synthetic shoes.
6. Install the retaining pins.
7. **SLOWLY** release the hydraulic pressure to confirm the retaining pins are holding the friction shoes in position.



Caution: Never put fingers or extremities within the reaction frame of the tool. Stay well back from the tool while operating. Never remove the press from the bolster if the springs loading the friction shoe are not completely released or if the retaining pins are not fully installed.

Service Centres

Please contact Hydra-Tech International for current information on the closest service center to you. Contact information for Hydra-Tech International follows:

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STANDARD WARRANTY

1. **WARRANTY POLICY.** Subject to those terms and conditions contained herein, Seller warrants that all Seller products conform in all material respects to the description identified in the quotation, proposal or offer made by Seller to Buyer for the sale of its products (collectively, "**Quotation**") and will be free from defects in material and workmanship for two (2) years from the date of shipment to Buyer (except for spare parts which Seller warrants for one (1) year from the date of shipment to Buyer). Products manufactured by manufacturers other than Seller and/or its affiliates ("**Other Manufacturer's Products**") supplied by Seller to Buyer are not warranted by Seller. Other Manufacturer's Products may be warranted separately by their respective manufacturers and Seller shall, to the extent possible, assign to Buyer whatever rights Seller may obtain under any such warranties.

THE FOREGOING REPRESENTS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY SELLER TO BUYER AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW (INCLUDING BY STATUTE) OR OTHERWISE, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

2. **WARRANTY REMEDIES.** Buyer's sole and exclusive remedy for Seller's breach of the foregoing warranties during the warranty period shall be, at Seller's sole discretion, the repair and/or replacement of any defective products (or component parts thereof) pursuant to the terms of and conditioned upon Buyer's compliance with the procedure identified in Section 5 hereof.
3. **LIMITATION OF DAMAGES. SELLER SHALL HAVE NO LIABILITY TO BUYER OR ANY END USER OF PRODUCTS OR SERVICES WITH RESPECT TO THE SALE OF PRODUCTS OR PROVISION OF SERVICES UNDER THE QUOTATION FOR LOST PROFITS OR FOR SPECIAL, CONSEQUENTIAL, EXEMPLARY, OR INCIDENTAL DAMAGES OF ANY KIND WHETHER ARISING IN CONTRACT, TORT, PRODUCT LIABILITY, STRICT LIABILITY OR OTHERWISE, EVEN IF SELLER WAS ADVISED OF THE POSSIBILITY OF SUCH LOST PROFITS OR DAMAGES. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY DAMAGES WHATSOEVER IN EXCESS OF THE TOTAL PRICE PAID BY BUYER FOR PRODUCTS AND/OR SERVICES REFERENCED IN THE QUOTATION.**
4. **INAPPLICABILITY OF, AND VOIDING OF THE WARRANTY.** This Standard Warranty does not cover defects in Seller products which are not defects in material and workmanship and may be attributed to other causes including but not limited to failure to operate and/or maintain Seller products in accordance with the applicable Seller installation and/or operator's manuals, owner's manuals, maintenance manuals, manufacturer's recommendations, and any other manuals, guidelines or recommendations of Seller concerning the maintenance and operation of Seller products that may be communicated to Buyer from time to time, side-pulling of load, shock loading, excessive jogging, eccentric loading, overloading, accidental occurrence, improper repair, improper handling or storage of products, chemical exposure and/or abnormal operating conditions not identified to and expressly and specifically accepted by Seller in writing prior to Seller's issuance of a Quotation, or any other cause that in Seller's sole discretion is not attributable to defects in material and workmanship. Failure of products to meet published performance specifications due to abnormal operating conditions beyond Seller's knowledge or control shall not be considered defects in either workmanship and/or material.

Modification of Seller products and/or incorporation of Other Manufacturer's Products into Seller products by individuals and/or organizations other than Seller shall void this Standard Warranty.

Buyer's failure to pay in full when due for the products and services provided for in a Quotation shall void this Standard Warranty.

5. **WARRANTY PROCEDURE.** To obtain warranty remedies pursuant to this Standard Warranty, Buyer must strictly adhere to the following procedure. Buyer's failure to comply with the terms of this procedure shall void this Standard Warranty.

- (a) Buyer shall, within seventy-two (72) hours of any claimed non-conformance or defect in Seller products, notify Seller's Warranty Administrator in writing of the alleged non-conformance or defect.
- (b) Seller shall, within a reasonable time, advise Buyer of its intention to initially accept or deny the warranty claim pursuant to the terms of this Standard Warranty. If Seller elects to initially accept the warranty claim, it shall advise Buyer of its intention to replace, repair, or otherwise further inspect the allegedly nonconforming or defective products (or component parts thereof) ("**Initial Acceptance**").
 - (i) **Replacement of allegedly nonconforming or defective products.** Should Seller provide Initial Acceptance of Buyer's warranty claim and elect to replace the allegedly nonconforming or defective products (or component parts thereof), or should Seller elect to provide Initial Acceptance of Buyer's warranty claim through notification to Buyer that Seller elects to inspect the allegedly nonconforming or defective products (or component parts thereof) and then subsequently elect to replace the allegedly nonconforming or defective products (or component parts thereof), Seller shall within a reasonable time, ship new, comparable, replacement products to Buyer F.C.A. Seller's plant, warehouse or dock, as defined by Incoterms 2010, via the lowest cost method available.
 - (ii) **Repair of allegedly nonconforming or defective products.** Should Seller provide Initial Acceptance of Buyer's warranty claim and elect to repair and/or permit the repair of the allegedly nonconforming or defective products (or component parts thereof) by approved third parties, or should Seller elect to provide Initial Acceptance of Buyer's warranty claim through notification to Buyer that Seller elects to inspect the allegedly nonconforming or defective products (or component parts thereof) and then subsequently elects to repair the allegedly nonconforming or defective products, Seller shall, unless otherwise agreed in writing by the Warranty Administrator, pay only those direct labor costs incurred to effectuate the repair and the cost of Seller replacement products consumed during said repair provided that the costs for all products and/or services are approved in advance in writing by Seller's Warranty Administrator.
 - (iii) **Inspection of allegedly nonconforming or defective products.** Should Seller provide Initial Acceptance of Buyer's warranty claim through notification to Buyer that Seller elects to inspect the allegedly nonconforming or defective products (or component parts thereof) and then subsequently determine that the alleged nonconformity or defect is not covered under this Standard Warranty, Seller shall bill Buyer, and Buyer shall pay Seller any and all costs associated

- (iv) with the performance of inspection of allegedly nonconforming or defective products.

WAIVER. BUYER HEREBY WAIVES ANY CLAIM THAT THE EXCLUSIONS OR LIMITATIONS IDENTIFIED HEREIN DEPRIVE IT OF AN ADEQUATE REMEDY. BUYER SHALL BE ENTITLED TO NO OTHER REMEDY OTHER THAN THOSE IDENTIFIED IN SECTION 2 HEREOF WITH RESPECT TO THE PROVISION OF PRODUCTS AND/OR SERVICES BY SELLER REGARDLESS OF THE FORM OF CLAIM OR CAUSE OF ACTION, WHETHER BASED IN CONTRACT, TORT INCLUDING NEGLIGENCE, STRICT LIABILITY OR OTHERWISE.