



a division of GLBH Group Manufacturing Ltd.

Operating Manual

DSJ40T-P

Double Stack Jack

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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. Specific maintenance procedures are discussed in detail on page 4.

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

The DSJ40T-P is a specially designed piece 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 DSJ40T-P please contact Hydra-Tech International using the following contact information:

6060 – 86th Avenue SE
Calgary, Alberta, Canada T2C 4L7
Telephone (403) – 720 – 7740
Fax (403) – 720 – 7758
Website: <http://www.hydra-tech.net/contactus.html>

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.
- Never attempt to connect / disconnect hoses while pump is running.

Overview

The DSJ40T-P is used to lift rail cars that require servicing. It consists of a hydraulic pump, and a gas engine. The DSJ40T-P is operated using a control console or a pendant control. The pendant control is preferred, as it enables you a better view of the work taking place.

Specifications

| | | | | |
|---|---|-------------|------------|-----------------------------|
| DSJ40T-P Engine | Honda 10.2 hp GXV-390 (see included Honda Owner's Manual) | | | |
| Operating Pressure PSI (kPa) | 4,000 (27,579) | | | |
| Sound level dBA | 93 | | | |
| Dimensions inches (cm) | Width | Length | Height | Lift Beam |
| | 38.5 (97.79) | 220 (558.8) | 58(147.32) | 120 x 14 (304.8 x 35.56) |
| Maximum Lift inches (cm) | 30 (76.2) | | | |
| Lifting Capacity ton (lbs) | 40 (80,000) | | | |
| Unit Weight, including fluids lbs (kg) | 6,000 (2,721.54) | | | |

Refer to the Honda manual for the recommended grades of oil and fuel for the engine.

Refer to the Maintenance section of this manual, on page 4, for recommended fluids for the DSJ40T-P.

Operating the DSJ40T-P

The general, overall operation is to start the DSJ40T-P, lower the Mast Tilt to the horizontal position, and insert the DSJ40T-P beneath the load to lift.

Next, raise the Mast Tilt to the vertical position, and then lift the load.

When the load is lifted, shutdown the DSJ40T-P and service the load.

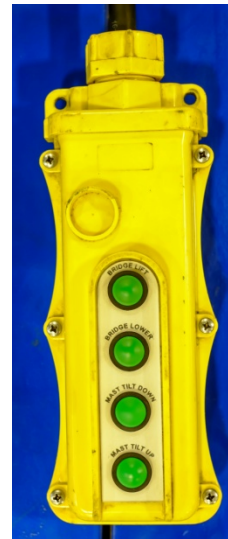
When servicing is complete, start the DSJ40T-P and lower the Lifting Bridge to the ground. Next, lower the Mast Tilt to the horizontal position and remove the DSJ40T-P from beneath the load.

 Before operating the DSJ40T-P, complete the Daily Maintenance Checklist, on page 4

Control and Status Interfaces



Main Control Panel



Control Pendant



Tachometer / Hour Meter

Maintenance

We recommend you change the hydraulic oil and fluids every 400 hours or one calendar year (whichever occurs first), and the engine oil and filter every 100 hours or six calendar months (whichever occurs first).



Please dispose of used fluids in a manner that is compatible with the environment and local government regulations. We recommend the used fluids be placed in a sealed container and disposed of at the local recycling facility.

The following are acceptable lubricants: HVI 36 Boss Lubricants, AW-46 Power Team, EXXON Unis Extra, and Texaco Rando HDAZ.

Alternate fluids with the following characteristics may be used:
Pour point -45°F, viscosity 150 SUS @ 100°F, viscosity 45 SUS @ 210°F, viscosity index 150, and anti-corrosion, anti-foam, anti-oxidant, anti-rust, anti-wear and demulsifier additives.

Daily Maintenance Checklist

Visually inspect for the following:

- Bent or damaged components including the control pendant and cable
- Damaged hoses or fittings, hydraulic leaks, etc.
- Fuel levels in hydraulic oil reservoir, engine oil, engine fuel
- Overall unit condition
- Lubrication including Safety Dogs and mast tilt pins (these should be greased at least monthly)

Moving the DSJ40T-P to a Load

Before operating the DSJ40T-P, use a forklift to position it close to the load to lift.

1. Check the DSJ40T-P for damage. For details on maintenance procedures and proper visual inspection, see “Daily Maintenance Checklist” on page 4.



Do not use a damaged unit!

2. Check fluids and top up as required. For details o proper fluid types and levels, see “Maintenance” on page 4.

* Ensure the load to lift is located on railway tracks that are on a level surface made of gravel, concrete, or metal.

3. With the Mast Tilt in the vertical position, move the DSJ40T-P near the rail car using a forklift. Fork inlets are located on the control panel end of the DSJ40T-P. For details, see the “Tilt Gate Assembly” on page 19.



The Mast Tilt must be in the vertical position when moving the DSJ40T-P, except when it is being inserted below the load to be lifted!

Starting and then Inserting the DSJ40T-P Beneath a Load

Start the DSJ40T-P and then insert it beneath the load to be lifted.

1. Press the fuel switch, located on the left-hand side of the motor when facing the motor, to the **On** position.
2. Ensure the stop button on the main control panel is in the raised position so that the DSJ40T-P can be started. Note whether **Local** or **Pendant** is selected, as this dictates which device you use to operate the DSJ40T-P.
3. Move the throttle control to run. Choke may be required if the engine is cold.
4. Press **Start** for two seconds, until the engine starts. The engine can also be started with the recoil starter cord.



If the motor fails to start, and the Stop button is in the upright position on the main control panel, see first “Troubleshooting” on page 7 of this manual, and then the “Taking Care of Unexpected Problems” section of the Honda Owner’s Manual.

5. Once active, press the **Mast Tilt Lower** button to lower the Mast Tilt to the horizontal position, and then using the forklift, insert the DSJ40T-P beneath the load to be lifted.
6. With the DSJ40T-P positioned squarely beneath the load (there are two white lines painted perpendicular to the length of the DSJ40T-P that should align with the railway track beneath the DSJ40T-P for proper positioning), using the control pendant, press **Mast Tilt Up** to raise the Mast Tilt to the vertical position.

Lifting a Load

Lift the load, while monitoring the Safety Dog inlets from the outside of the Mast Assembly.



Ensure all persons are adequately clear of the load in motion!

1. Using the control pendant, press **Bridge Lift** to raise the Lifting Bridge and ultimately lifts the load to the desired height.



Never leave the DSJ40T-P unattended while it is lifting or lowering.

As the load is elevated, the Slide Assembly ratchets into the inner housing of the Mast Assembly. Sighting through the bore holes from the outside face of the Mast Assembly, a white painted circle appears in the Mast Assembly bore holes when the Safety Dogs are engaged with the Mast Assembly. At one of the numerous points where the Safety Dogs are engaged, is an appropriate height at which to stop the Lifting Bridge. For details, see “Tilt Gate Assembly” on page 19 and “Slide Assembly” on page 20.

2. When the appropriate height is reached and the Safety Dogs of the Inner Slide Assembly are engaged with the Mast Assembly, release the **Bridge Lift** button on the control pendant.
3. Before servicing the load, turn off the DSJ40T-P by doing the following:
 - Press the **Stop** button on the main control panel.
 - Place the throttle control in the **Idle** position.
 - Turn off the fuel valve on the engine.



Never position yourself under a suspended load!

Lowering a Load

When lowering a load, the DSJ40T-P first rises to disengage the Safety Dogs in the Slide Assembly from the Mast Assembly, and then lowers until the Lifting Bridge comes to rest at ground zero.

1. See steps 1-4 of the “Starting and then Inserting the DSJ40T-P Beneath a Load” procedure to start the DSJ40T-P.
2. Using the control pendant, press the **Bridge Lower** button.



Do not be alarmed that the DSJ40T-P lifts instead of lowers when you push Bridge Lower on the control pendant. This is required to disengage the Safety Dogs.

3. When the Lifting Bridge lowers to ground zero, press the **Mast Tilt Down** button to lower the Mast Tilt to the horizontal position. The Mast Tilt will not lower is the Lifting Bridge is not completely lowered.
4. Using a forklift, insert the forks into the inlets on the control panel end of the DSJ40T-P and remove the DSJ40T-P from beneath the load.
5. Once clear of the load, using the control pendant, press **Mast Tilt Up** to raise the Mast Tilt to the vertical position, and then using the forklift, transport the DSJ40T-P to the desired location.

Troubleshooting

| Problem | Cause | Solution |
|---|--|--|
| Pulsating Action | Low oil in reservoir | Bring oil to proper level |
| | Air in system | Cycle oil through system |
| Lifting Bridge does not move, retract, or operate | Mast Tilt not in full vertical position | Adjust Mast Tilt |
| | Pendant is not connected properly or damaged | Use main control panel or replace pendant |
| | Main control panel remote switch not in correct position | Change position of remote switch |
| | Control panel error | Check fuses |
| Motor does not start | Stop button on main control panel depressed | Disengage stop button |
| | No fuel or low fuel | Top-up fuel |
| | Battery power too low | Charge or replace battery |
| | None of the above | See the "Taking Care of Unexpected Problems" section of the Honda Owner's Manual |
| Noisy pump | Air in the system | Cycle oil through the system |
| | Worn pump | Have pump serviced |
| Fittings leak | Worn or damaged fittings | Have fittings serviced by a qualified technician |
| Pump delivers oil too slowly | Oil dirty | Clean screen and replace oil |
| | Restriction in line | Isolate and replace defective unit |
| | Pump worn | Have pump serviced |
| | Quick coupler faulty | Replace coupler |

Service Centres

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

6060 – 86th Avenue SE, Calgary, Alberta, Canada T2C 4L7
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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.