



# **Dutchman**

## **I N D U S T R I E S**

UNITED STATES PATENT 5,459,952

DIVISION OF  
**Dutchmaster Nurseries Ltd.**

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# Manual Hydraulic Spade Troubleshooting

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Manufactured and Sold by  
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## **TROUBLESHOOTING FOR MANUAL HYDRAULIC SPADE**

If your tree spade has lost one or more of its functions, it may be due to a variety of reasons that can be isolated by reviewing the following trouble shooting tips.

### **1. Valve leaks hydraulic fluid.**

- This would likely indicate that the fittings connected to the hoses are not tight or the O-rings on the valve have worn out.
- Tighten all fittings to the hoses and check the O-rings for wear and possible replacement.

### **2. Hydraulic System sluggish or weak.**

- This could be attributed to improper or dirty hydraulic oil, a worn loader pump, or the relief valve on the tree spade has become stuck.
- Check the loader pump for wear and/or dirty hydraulic oil. **If the hydraulic oil has become dirty, it is recommended that it be drained and re-filled.**
- Using a "Pressure Gauge", attach it to the ends of the hoses that tie into the tree spade cylinders. Activate the functions and be sure that the pressure gauge reads from 2200 to 2500psi.

### **3. Hydraulic System Inoperative.**

- This would likely indicate that the oil from the loader is feeding into the tree spade backwards, or there is insufficient hydraulic oil in the reservoir.
- Check your hydraulic fluid levels in the loader and add if needed.
- Disconnect the hydraulic hoses that couple to the loader and reverse the connection.

**\*The loader pump will labour if the oil is fed in backwards.**

### **4. One or more of the functions are operating backwards.**

- Loosen the 1" nut and valve adaptors on the end of the cables where they connect to the valve. Rotate the adapting collar clockwise to tighten the cable tension or counterclockwise to loosen the cable tension.
- Reattach valve adaptors and 1" nut to a snug fit. Test and re-adjust if needed.

**If the above tips do not help the problem it is recommended that you call for technical support from the manufacturer.**

# Dutchman Industries Inc.

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Dutchman Industries Inc., herein referred to as DMI, warrants each new industrial product of its own manufacture to be free from defects in material and workmanship, under normal use and service for one(1) full year after delivery to the owner.

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This Warranty shall not apply to any part or product which shall have been installed or operated in a manner not recommended by DMI, nor to any part or product that has been neglected, or used in any way which, in the Manufacturers opinion, adversely affects its performance; not negligence of proper maintenance or other negligence, fire or other accident; not with respect to wear items included but not limited to items such as tree spade blades and wear strips; nor if the unit has been altered or repaired or repaired outside of a DMI authorized dealership in a manner of which, in the sole judgment of DMI affects its performance, stability or reliability. Equipment and accessories not of our manufacture are warranted only to the extent of the original Manufacturers Warranty and subject to their allowance to us, if found defective by them.

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