



**WOLVERINE "EXTREME"
DITCHER
SERVICE AND MAINTENANCE MANUAL**

**DYNAMIC DITCHERS INC.
WOLVERINE EXTREME DITCHER**

WARRANTY POLICY

This product is warranted to be free of defects in materials and workmanship under normal use and service, for a period of one year from the date of purchase, when operated and maintained in accordance with the operating and maintenance manual instructions supplied with this unit. This warranty does not cover misuse or negligence.

Under no circumstances will Dynamic Ditchers Inc. be liable for any consequential damage or expense of any kind, including loss of profits. Dynamic Ditchers Inc. under no circumstances is liable for tractor damage of any kind. Dynamic Ditchers Inc. is not liable for the maintenance of the product.

The warranty is extended only to the original purchaser. Warranty is void if repairs are attempted by anyone other than an authorized dealer.

If a difficulty develops with the product, you should contact your nearest dealer. Only these locations are authorized to make repairs to the product or affect the replacement of defective parts, which will be done at no charge within a reasonable time after the receipt of the product. Damage in transit is not covered by warranty.

This machine is subject to design changes and Dynamic Ditchers Inc. shall not be required to retro-fit or exchange items on previously sold units except at its own option.

This warranty shall expire one (1) year after the date of delivery of the new machinery.

WARRANTY VOID IF NOT REGISTERED

TABLE OF CONTENTS

| SECTION | DESCRIPTION | PAGE |
|---------|--|------|
| 1 | Introduction | 1 |
| 2 | Safety | 2 |
| 2.1 | General Safety | 3 |
| 2.2 | Safety Training | 4 |
| 2.3 | Assembly Safety | 4 |
| 2.4 | Maintenance Safety | 5 |
| 2.5 | Lock-Out Safety | 5 |
| 2.6 | Storage Safety | 5 |
| 3 | Service and Maintenance | 7 |
| 3.1 | Tools | 7 |
| 4 | PTO Driveline Intermediate Shafts | 9 |
| 5 | PTO Driveline Assemblies | 19 |
| 6 | Gearbox Installation | 29 |
| 7 | Kicker Shaft Installation | 65 |
| 8 | Chain Drive Assembly | 77 |
| 9 | Reverser Installation | 105 |
| 10 | Fan Installation | 113 |
| 11 | Gate Liner Installation | 129 |
| 12 | Gate Installation | 131 |
| 13 | Hood Installation | 137 |
| 14 | Hydraulic System | 141 |
| 15 | Chutes and Liners | 179 |
| 16 | Fan Paddle Install | 191 |
| 17 | Troubleshooting | 195 |
| 18 | Specifications | 197 |
| 18.1 | Mechanical | 197 |
| 18.2 | Hydraulic Fitting Torque | 197 |
| 18.3 | Bolt Torque | 198 |
| 19 | Parts | 199 |
| 20 | Index | 205 |

1.0 INTRODUCTION

Congratulations on your choice of an Dynamic Ditchers Wolverine Extreme Ditcher to compliment your farming operation. This equipment has been designed and manufactured to meet the needs of a discerning buyer for the efficient moving of dirt and forming drainage ditches or terraces.

Safe, efficient and trouble free operation of your Dynamic Ditchers Wolverine Extreme Ditcher requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



This manual covers the Dynamic Ditchers Wolverine Extreme Ditcher. Use the Table of Contents or Index as a guide to locate required information.

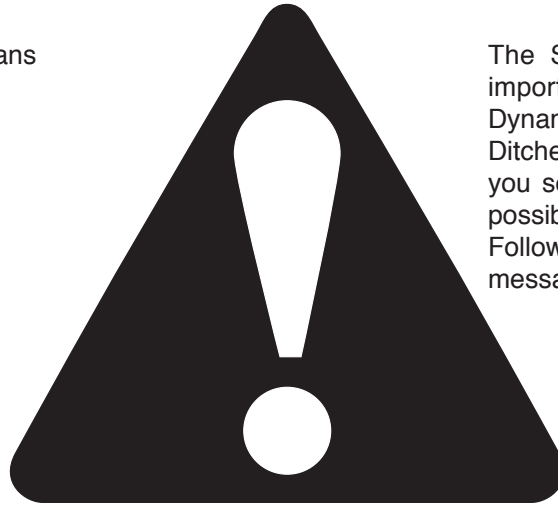
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Dynamic Ditchers distributor or Dealer if you need assistance, information or additional copies of the manuals.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are as seen from the tractor driver's seat and facing in the direction of travel.

2.0 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Dynamic Ditchers Wolverine Extreme Ditcher and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Dynamic Ditchers Inc., P.O. Box 299, Dugald, Manitoba, Canada R0E 0K0, Phone: 204-853-2075, Fax: 204-853-2076.

SAFETY

YOU are responsible for the SAFE operation and maintenance of your ditcher. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the ditcher be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the ditcher.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Ditcher owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unplugging the ditcher.



2. Have a first-aid kit available for use should the need arise and know how to use it.



3. Have a fire extinguisher available for use should the need arise and know how to use it.



4. Do not allow riders.

5. Wear appropriate protective gear. This list includes but is not limited to:



- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Hearing protection
- Respirator or filter mask

6. Install and secure all guards before starting.

7. Wear suitable ear protection for prolonged exposure to excessive noise.



8. Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Clear the area of people, especially small children, before starting the unit.
10. Review safety related items annually with all personnel who will operating or maintaining the ditcher.

2.2 SAFETY TRAINING

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.



4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your power unit, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to operating:**

- a. **Reads and understands the operator's manuals.**
- b. **Is instructed in safe and proper use.**

5. Know your controls and how to stop power unit engine and machine quickly in an emergency. Read this manual and the one provided with your power unit.
6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.

2.3 ASSEMBLY SAFETY

1. Read and understand the Assembly Manual and all safety signs before starting.
2. Follow good safety practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.



3. Use properly sized tools, stands, jacks and hoists at all times.
4. Use two men to handle heavy and/or bulky components.
5. Position in a large open area to allow access from all sides during assembly.
6. Keep the assembly area neat and clean to prevent slipping or tripping.
7. Place safety stands under the machine or components before going underneath the component for assembly.
8. Stay away from overhead obstructions when lifting the machine during assembly. Contact with obstructions can damage components or cause them to fail.
9. Tighten all fasteners to their specified torque before using the machine.

2.4 MAINTENANCE SAFETY

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. **Turn machine OFF, shut down and lock out power supply, disconnect PTO shaft and wait for all moving parts to stop before assembling, servicing, adjusting, maintaining or repairing.**
5. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy or leather gloves when handling sharp components.
7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
9. Periodically tighten all bolts, nuts and screws and check that all electrical connections are properly secured to ensure unit is in a safe condition.
10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.



2.5 LOCK OUT SAFETY

1. Establish a formal Lock-Out Tag-Out program for your operation.
2. Train all operators and service personnel before allowing them to work around the Ditcher.
3. Provide tags on the machine and a sign-up sheet to record tag-out details.

2.6 STORAGE SAFETY

1. If required, make sure the unit is solidly blocked up.
2. Make certain all mechanical locks are safely and positively engaged before storing.
3. Store away from areas of human activity.
4. Do not allow children to play on or around the stored machine.

3.0 SERVICE & MAINTENANCE

After operating in the field for a period of time, parts will wear or fail and need replacing. This manual will take the service person step-by-step through the maintenance process. Each assembly will be treated as a separate section to assist in organizing the work.

3.1 TOOLS

A variety of tools are required or recommended when performing maintenance work. Gather the required tools and have them available prior to starting the work. Tool requirements include but are not limited to:

- Two ratchets 3/8" drive
 - Shallow socket 3/8" drive set
 - Deep socket 3/8" drive set
 - Extension bar 3/8" drive
- One ratchet 1/2" drive
 - Shallow socket 1/2" drive: 9/16, 5/8, 11/16, 3/4 and 15/16"
 - One 3" and one 6" Extension bar 1/2" drive
 - Braker bar 1/2" drive +/- 16"
- SAE wrench: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16 and 1 1/8"
- SAE Ratchet: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16 and 1 1/8"
- Adjustable wrench: one 6" and one +/- 12"
- Allen keys: 1/16 to 3/8"
- Multi-driver
- Flathead screwdriver
- 24" Flex Magnet pick up tool
- 10" bent nose plier with wide cutter
- 7" cutting plier
- 32 oz ball pean hammer
- Impact wrenches heavy duty 1/2" and 3/4" drive
- Two (2) 10" aligning punch 1/4" diameter
- One 6" centering punch
- One 6" cold chisel
- One 500 watts light with a 100' extension wire
- Grease gun
- Torque wrench - 500 ft-lbs
- Overhead crane
- One good quality marker
- Level

20.0 INDEX

| C | PAGE | K | PAGE |
|------------------------------|-------------|---|-------------|
| Chain Drive Assembly | 77 | Kicker Shaft Installation | 65 |
| Chutes and Liners | 179 | | |
| | | P | |
| | | Parts | 199 |
| F | | PTO Driveline Assemblies | 19 |
| Fan Installation | 113 | PTO Driveline Intermediate Shafts | 9 |
| Fan Paddle Install..... | 191 | | |
| | | R | |
| G | | Reverser Installation..... | 105 |
| Gate Installation..... | 131 | | |
| Gate Liner Installation..... | 129 | S | |
| Gearbox Installation..... | 29 | Safety | 2 |
| | | General Safety | 3 |
| H | | Safety Training | 4 |
| Hood Installation..... | 137 | Assembly Safety | 4 |
| Hydraulic System..... | 141 | Maintenance Safety | 5 |
| | | Lock-Out Safety | 5 |
| | | Storage Safety | 5 |
| I | | Service and Maintenance..... | 7 |
| Introduction..... | 1 | Tools..... | 7 |
| | | Specifications | 197 |
| | | Bolt Torque | 198 |
| | | Hydraulic Fitting Torque | 197 |
| | | Mechanical | 197 |
| | | T | |
| | | Trouble Shooting | 195 |

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