



DIAMOND IMPLEMENTS



D18 TWIN VERTICAL MIXER



OPERATOR'S MANUAL

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INTRODUCTION

Dear Customer,

Congratulations on the purchase of your new Vertical Mixer from Diamond Implements. With proper operation and preventative maintenance it will last for years.

In order to attain maximum use of the machine and to save valuable time and unnecessary expense, please maintain the machine according to the manufacturer's instructions.

In order to avoid unnecessary problems the operator must familiarise himself with the features of the machine. Please read the instructions manual before operating the machine.

Long lifespan, high performance, reliability and low cost are derived from skilled operation and maintenance.

Date: ____ / ____ / ____

Model: _____

Serial Number: _____

Chassis Number: _____

Limited Warranty Statement

- DIAMOND IMPLEMENTS warrants to the original purchaser all products manufactured by it to be free from defects in material and workmanship under normal use and service.
- DIAMOND IMPLEMENTS's obligation under this warranty is limited to repairing or replacing, as the company may elect, free of charge in the company's judgment, to be defective in materials or workmanship within 12 MONTHS after delivery to the original purchaser.
- This warranty shall in no way make DIAMOND IMPLEMENTS liable to anyone for personal injuries or damages, loss of time, or expense of any kind either direct or indirect resulting from part failure or defect.
- No distributor, dealer, agent, or DIAMOND IMPLEMENTS employee (other than the Director in writing) is authorized to extend any other or further express or implied warranty or incur any additional obligation on DIAMOND IMPLEMENTS's behalf in connection with the sale of this product.

Customer Responsibility

Maintenance - It is the customer's responsibility to maintain their equipment in accordance with the instructions provided in the Operator's Manual.

- DIAMOND IMPLEMENTS recommends that you keep records and receipts; you may be asked to prove that maintenance instructions have been followed.

Operation – It is the customer's responsibility to operate the equipment only for the purpose for which it was designed and in accordance with all safety and operational recommendations contained in the Operators Manual. If a defect in materials or workmanship occurs, it is the customer's responsibility to cease operating the equipment until repairs are made.

Damage, which occurs from continued operation, may not be covered by this warranty.

What this Warranty Covers

This warranty covers failures caused by defects in materials or workmanship only.

This Warranty does not cover failures caused by:

- ◆ Improper operation
- ◆ Unauthorized modifications
- ◆ Use of Non DIAMOND IMPLEMENTS parts
- ◆ Usage contrary to the intended purpose of the product
- ◆ Natural calamities
- ◆ Unauthorized repairs
- ◆ Neglected maintenance

This Warranty does not cover replacement of Wear or Maintenance Items (unless defective) including, but not limited to.

- ◆ Lubricants
- ◆ Hydraulic Motor
- ◆ Hoses
- ◆ Tires
- ◆ Augers
- ◆ PTO
- ◆ Bearings
- ◆ Blades
- ◆ Slats
- ◆ Chains
- ◆ Idlers

This Warranty does not cover:

Pickup and delivery of the equipment
Service Calls or Travel Time to and from sites
Rental of replacement equipment during repair period
Products that have been declared a total loss and subsequently salvaged
Overtime labour charges

Right to Make Changes

DIAMOND IMPLEMENTS reserves the right to make any changes to any DIAMOND IMPLEMENTS product at any time without incurring any obligation with respect to any product previously ordered or sold.

Parts Warranty

DIAMOND IMPLEMENTS warranties on replacement parts against defects in materials or workmanship for a period of 90 days. Remedy for defective replacement parts for units that are beyond the original product warranty, will be limited to replacement of the failed part. Failures that are due to damage, improper installation, lack of maintenance or improper operation will not be covered.

SCALE WARRANTY

The supplier guarantees, for 12 months from the delivery date, the good quality of the materials used, the excellent construction and the steady functioning of the instrument that has been manufactured and that bears the trademark or the production serial number. During the guarantee period the supplier undertakes to repair or replace, free supplier's head office, faulty parts due to poor materials or faulty construction, provided that such parts are delivered free port supplier's head office.

Shortcomings and defects due to the incorrect use of instruments, inadequate maintenance, changes carried out without the supplier's approval and normal wear are not included in this guarantee.

Liability and compensations by the supplier due to direct or indirect damages to persons, objects or production, even as a consequence of faulty functioning of the supplied instruments or of material or construction defects, are not included in this guarantee.

SCALE INSTRUCTIONS

Each Scale is pre-programmed in our factory. We have a Scale Technician in office, should you experience any technical errors with your scale.

For normal operating instructions, please refer to your Scale Operator's Manual provided.

SAFETY FIRST

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

SAFETY INSTRUCTIONS

- KEEP HANDS AND FEET AWAY FROM MOVING PARTS.
- DO NOT CLIMB ON TO THE MACHINE WHILE IT IS IN OPERATION.
- DO NOT MANOEUVRE THE MACHINE QUICKLY.
- SWITCH OFF THE ENGINE, DISCONNECT THE P.T.O AND REMOVE THE KEYS BEFORE ANY SERVICING.
- REPLACE ALL SHIELDS BEFORE RE-OPERATING THE MACHINE.
- DO NOT LET ANY PERSON ON THE MACHINE WHILE TRAVELING OR OPERATING.
- DO NOT CARRY OUT ANY SERVICING OR ADJUSTMENTS WHILE THE MACHINE IS IN OPERATION.
- THE P.T.O MUST NOT BE OPERATED ABOVE 550rpm.
- DO NOT EXCEED THE SPEED LIMIT OVER 25 KM/H.

SAFETY DECALS AND WARNINGS

SAFETY DECAL CARE

- Keep safety decals and signs clean and legible at all times.
- Replace safety decals and signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.



OPERATE MIXER SAFELY

- Rotating parts can entangle or strike people, resulting in personal injury or death.
- Never enter a mixer while in operation.
- Operate the mixer from the operator's tractor seat only.
- Do not exceed load capacity of the mixer. (See loading instructions).
- Reduce speed when turning or traveling on rough terrain.
- Keep transmissions in gear when traveling downhill.



STAY CLEAR OF ROTATING DRIVELINES

- Entanglement in rotating driveline can cause serious injury or death.
- Keep driveline shields in place at all times. Make sure rotating shields turn freely.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.



AVOID HIGH-PRESSURE FLUIDS

- Escaping fluid under pressure can penetrate the skin causing serious injury or death.
- Avoid this hazard, relieve pressure before disconnecting hydraulic or other lines.
- Tighten all connections before applying pressure.
- Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.
- If an accident occurs, see a doctor immediately.

GENERAL OPERATION



BEFORE OPERATION:


- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Keep wheel lug nuts or bolts tightened.
- Assure that tires are inflated evenly and to pressure stated on tire sidewall.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs.
- Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the mixer.




DURING OPERATION:

- **NO PASSENGERS ALLOWED** - Do not carry passengers anywhere on, or in equipment, except as required for operation.
- Be extra careful when working on inclines.
- Manoeuvre the vehicle at safe speeds.
- Keep all bystanders, pets and livestock clear of the work area.
- Operate the towing vehicle from the tractor operator's seat only.
- Do not clean, lubricate or adjust your mixer while it is moving.
- Never leave running mixer unattended.
- Reduce speed prior to turns to avoid the risk of overturning.

LOADING INSTRUCTIONS

 Do not overload the mixer. Mixer capacity is determined by weight not volume. An overloaded mixer will not mix correctly, and will pull harder, which could damage your Planetary Drive.

 Remove all twine, wire and/or wrapping and load bale in mixer.

 **Maximum load for the DIAMOND 18 TWIN is 8,500kg.**

- Load the roughage first with machine running: **TRACTOR RUNNING AT 540 RPM PTO SPEED**. Use a slower auger speed if you are using very tender, very fine stemmed hay or Lucerne that breaks apart very easily. Slower speeds allow for maximum cutting and mixing.
- Add balance of grain and/or commodities, keeping more fragile ingredients toward the end of the loading sequence as possible.
- Load silage, green chop and/or other high moisture products.
- Load molasses, animal fat, and/or other liquid supplements last.
- Allow mixer 8 to 10 minutes to complete mixing after last ingredient is added. (NOTE: this time will vary, and could be longer under certain conditions.)

OFFLOADING INSTRUCTIONS.



- Check the tension of the conveyor chain before offloading the mix.
- Always run the Conveyor Chain before opening the Discharge Door.
- Offload only when the Discharge Elevator is down.
- Retract the Discharge Elevator when traveling between offload points to prevent damage at gates or other obstacles.

MAINTENANCE



ALWAYS DISCONNECT OR DISENGAGE PTO AND REMOVE KEYS FROM TRACTOR BEFORE CLEANING, ADJUSTING, LUBRICATING OR SERVICING THIS MACHINE.



Performing Maintenance

- Good maintenance is your responsibility. Poor maintenance will lead to machine failure and damage to important components.

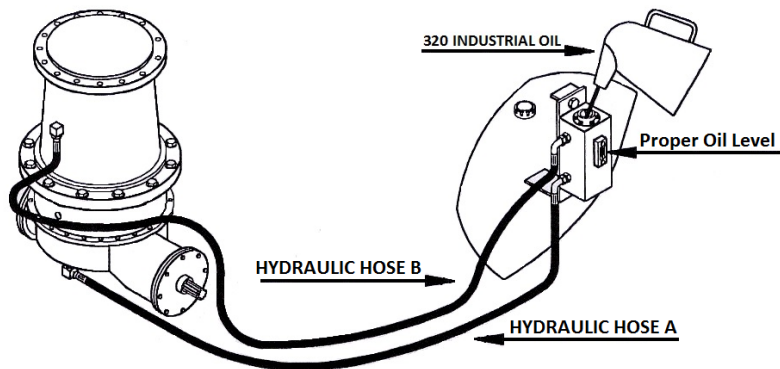
- Before working on the mixer, stop the vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and remove the ignition keys.

- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.

- Recommended Oil for Planetary Drive to be used **FLEXI GEAR 320 Industrial Oil** or **SHELL OMALA 320**

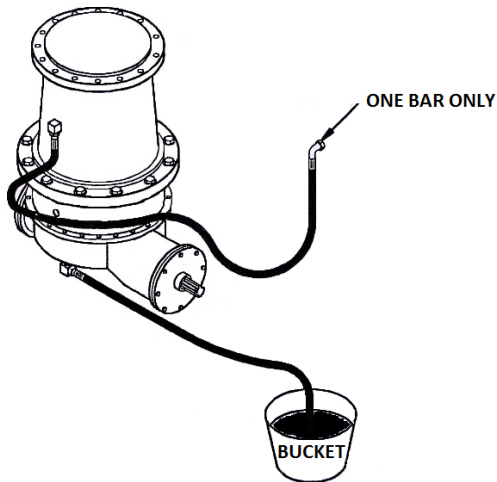
<u>WEEKLY</u>	<u>MONTHLY</u>
1. Grease the PTO.	1. Check chain tension.
2. Oil Level	2. Check wheel nuts
3. Lubricate all the bearings.	3. Auger - Bolts tension.
4. Look for Oil Leaks	4. Gearbox - Bolts Tension.
5. Check Tire Pressure.	5. Swop large blades if worn.
6. Check weight cell bolts.	6. Rotate Ninja blades if worn.

PLANETARY DRIVE OIL REPLACEMENT



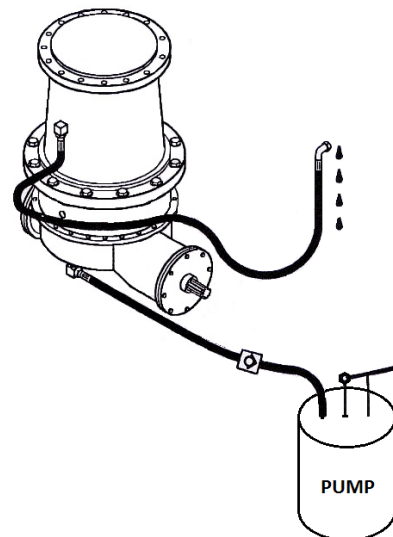
STEP 1

- Open Hydraulic Hose A and put it in a bucket.
- Then open Hydraulic Hose B. It is possible to increase the flow by adding air pressure to hose B with max pressure of 1 BAR (Higher pressure will cause damage.)



STEP 2

- After all the oil has drained, connect Hydraulic Hose A to the manual pump and fill the gear until the oil comes out of Hydraulic Hose B.
- Connect the hoses to the tank and fill the tank to the bottom of the window.



SPECIFICATIONS & DIMENSIONS

MODEL:	DIAMOND 18	
Standard Features:	Twin Auger/ 21 rpm @ 540 rpm tractor PTO Speed without 2 speed gearbox	
	Twin Auger/ 31 rpm @ 540 rpm tractor PTO Speed with 2 speed gearbox	
	Heavy Duty 3 Sun Planetary Drive (25,89:1)	2
	3CR12 Stainless Steel Inner Liners	
	304 Stainless Steel rod 12mm welded on edge of augers	
	Simple Scale	1
	Load Cells	4
	PTO Drive shaft, A8	1
	Anti-Overflow ring	1
	Wheels/Tyres; 385/65 R22.5	2
	Axle; 100 x 100, 6 Stud	1
Optional Extras:	Without Scale	
	Smart Scale / Dinamica	
	Polycon Display	
	75Kw Variable Speed Drive (VSD) Starter	
	75Kw electric 4 pole/ inline reduction pulley drive	
	Power pack/ Conveyor & Door (60L with 4Kw Motor)	
	Conveyor Length 5M (Hydraulic or Electric)	
	Conveyor Length 8M (Hydraulic or Electric)	
	Magnet Flat Type	
	Two Speed Gearbox	
Specifications:	Cubic meter	18m3
	Mixing Capacity (Dependant on the density of the ration)	
	- Feedlot	8000kg
	- High Roughage	6000kg
	Mixing Capacity in Concentrates	8000kg
	Suitable to feed Cattle up to:	8,000 – 12,000
	Tractor Size with Hydraulics in Kw:	90kW
Dimensions:	Width (mm) Elevator Folded	2,950
	Total Height ground to top (mm)	2,650
	Length (mm)	6,200
	Nett Weight (kg)	6,500
	Gross weight (kg)	14,500
Material:	Side wall thickness (1.6mm Stainless Steel)	7.6mm
	Floor thickness	20mm
	Flight thickness (Bottom)	16mm
	Flight thickness (Top)	12mm
Blades/ Auger	Flat Blades per Auger	9
	Round Serrated Ninja Blades per Auger	10
	Bottom Flight Width (mm)	940