

Serial # GG10-AUG10-276-0314 and Higher
2014 to 2024

ROTO GRIND

OPERATOR and PARTS MANUAL GRAIN GRINDER MODEL GG 10



BURROWS ENTERPRISES LLC
2024 East 8th Street
Greeley, Colorado 80631
970-353-3769 * Fax 970-353-0839
www.rotogrind.com

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LIMITED WARRANTY

The Burrows Enterprises LLC warrants products sold by it to be free from defects in material and workmanship for a period of one (1) year for agricultural applications and for a period of ninety (90) days for industrial applications after the date of delivery to the purchaser subject to the following conditions:

1. Burrows Enterprises LLC obligation and liability under this warranty is to repair or replace at the company's option, any parts which upon manufacture were defective in material or workmanship.
2. All parts and repairs under this warranty shall be supplied at an authorized Burrows Enterprises LLC dealer or at the factory at the option of Burrows Enterprises Incorporated.
3. Burrows Enterprises LLC warranty does not extend to the parts and elements not manufactured by Burrows Enterprises LLC and which carry the warranty of the other manufacturer.
4. Transportation or shipping to an authorized dealer for necessary repairs is at the expense of the purchaser.
5. Burrows Enterprises LLC makes no other warranty express or implied and makes no warranty of merchantability or fitness for any particular purpose beyond that expressly stated in this warranty. Burrows Enterprises LLC liability is limited to the terms set forth in this warranty and does not include any liability for direct, indirect, incidental or consequential damages or expense of delay and the company's liability is limited to repair or replacement of defective parts as set forth herein in the warranty.
6. Any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, substitution or not approved by Burrows Enterprises LLC, or any alteration or repair by other than an authorized Burrows Enterprises LLC dealer, which affects the product materially and adversely, shall void this warranty.
7. No dealer, employee, or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Burrows Enterprises LLC at its home office.
8. Some states do not allow limitations on how long an implied warranty lasts or exclusions of or limitations on relief such as incidental or consequential damages so the above limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state to state.

INFORMATION FOR ORDERING PARTS

OWNERS NAME: _____

ADDRESS: _____

DEALERS NAME: _____

ADDRESS: _____

SERIAL NUMBER: _____

(FOR LOCATION SEE PAGE 6)

DATE PURCHASED: _____

Burrows Enterprises LLC reserves the right to make changes or add improvements to its products at any time without incurring any obligation to make such changes to products manufactured previously. Burrows Enterprises LLC, or its dealers, accepts no responsibility for variations, which may be evident in the actual specifications of its products and the statements and descriptions contained in this publication.

TO THE OWNER

This Burrows Unit is the finest equipment made and the purpose of this manual is to assist you in realizing the benefits you anticipated when you purchased this unit. Many people have contributed to the production of this product. They all have an interest in its successful performance and we are providing this manual to give you the benefit of the experience we have gained thorough the years of building and testing this equipment. The way you operate and care you give this unit will have much to do with the successful performance of this unit. This operator's manual has been carefully prepared and illustrated to make it as easy as possible for you in the operation of your unit. It will pay you to read the entire manual carefully and familiarize yourself with all operations "**before operating**" the unit. For further information call or write:

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970-353-3769 * Fax 970-353-0839
www.rotogrind.com

SPECIAL PRECAUTIONS

1. Do not climb on, or stand on the unit when it is in operation. All moving parts are guarded for your protection but foreign objects such as rocks and steel can be ejected from the machine.
2. Leave all shields and guards in place while the machine is in operation. They are for your protection and removal of them will hinder the safe operation of the machine. Warranty is void if the machine is operated with any of the shields removed.
3. The **Roto Grind** is designed to run at 1000 revolutions per minute with a tractor power take off or an approved electric motor. Do not, under any circumstances; turn the mill at over 1200 revolutions per minute or serious damage could result to the machine. Do not operate at 540 revolutions per minute unless application is approved in writing from a Burrows Ent. Inc. officer. Failure to operate at designated speeds will void warranty.
4. Do not attempt to grind foreign materials such as rocks, brick, dirt, sand, any type of metal pieces or products, wood products over 3" in diameter, glass, or ceramics. These products will cause excessive wear on all parts and damage the machine and void warranty.
5. The hydraulic components on the Roto Grind machines are limited to a maximum pressure not to exceed 1800 P.S.I. Be sure to check and adjust your tractor to these limits before operation. Failure to do so may void owners warranty applications.

WORK SAFELY – FOLLOW THESE RULES



This safety alert symbol identifies important safety messages in this manual. It means -ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! When you see this symbol, be alert to the possibility of personal injury and read the message that follows

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT.

- Review this entire manual.
- Do not wear loose-fitting clothing, which may catch in moving parts.
- Use extreme care when making adjustments. Shut off machine before making adjustments. Shut off power unit (tractor or electric service) and put key in your pocket.
- After servicing or adjusting be sure all tools, parts, and equipment are removed from the machine.
- Keep all safety shields in place.
- Make sure that there is no one near the machine before operating.
- Be sure that the correct power take-off parts are used and that, they are properly secured.
- Be sure the tractor power take-off is disengaged before starting the tractor engine.
- Review all safety decals.
- Securely block unit before working on it.
- When working with flammable materials, be sure you do not smoke.

DURING OPERATION:

- No one other than the operator should ride on the tractor.
- Do not attempt to remove any obstructions while operating the machine. First shut off tractor and put key in your pocket.
- Always disengage the P.T.O., before transporting. Do not open any covers and expose the rotor or belts while they are moving.
- Shut off tractor engine or power unit and be sure to wait until all moving parts have come to a complete stop before adjusting, cleaning, or lubricating.

- Keep hand, feet, clothing and object away from moving parts.
- Use extreme care when transporting over uneven or rough terrain.
- Keep all shields in place and in good condition.
- Keep children away from machine in operation.
- Have your fire extinguisher checked at regular intervals and place it in a position on the unit where it is readily accessible without reaching over or around moving parts.
- Crop materials often have an extremely high rate of flammability, which increases the possibility of fires. A decrease in the risk can be attained by, stopping the machine, shutting the tractor off, and removing the key from the ignition and placing it in your pocket. Then proceed to remove accumulations of material from the tractor, and the machine. Now check for any parts that may be overheating.

ON-HIGHWAY OPERATION - TRANSPORTING:

- Check clearance carefully before towing the machine over bridges and into buildings.
- Always place the machine in the transport position.
- For daytime and nighttime, accessory lights and devices should be used for adequate warning to operators of other vehicles.
- Comply with your state and local laws governing highway safety, and with regulation when moving machinery on a highway.
- Drive at a reasonable speed to maintain complete control of the machine at all times.
- When transporting on the highway, always use a safety chain between the towing vehicle and the machine.

SAFETY SIGNS

Located at strategic points on this machine are safety signs. These signs warn you of potential dangers if the warnings on the decals are not followed.



Roto Grind Part # 224-15



#3 – WARNING NOT A STEP
Part # 224-114



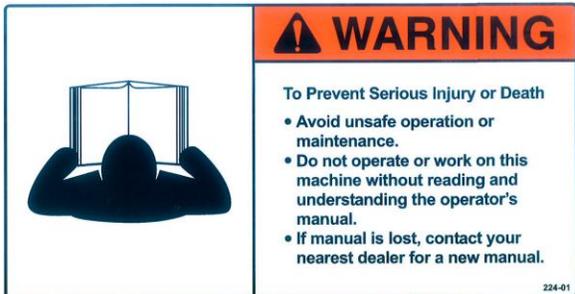
4 – CAUTION – 1200RPM
Part # 224-113



5 – CAUTION
KEEP SHIELDS IN PLACE
Part # 224-07



6 – WARNING
THROWN OBJECT HAZARD
Part#224-03



7 – WARNING – AVOID UNSAFE
OPERATION OR MAINTENANCE
Part # 224-01



8 – WARNING
HIGH PRESSURE FLUID HAZARD
Part # 224-02



14 – CAUTION – HYDRAULIC PRESSURE
SHOULD NOT EXCEED 1800 P.S.I.
Part # 224-17

GENERAL OPERATION

IMPORTANT: BEFORE USING, WITH PTO DISENGAGED AND TRACTOR ENGINE OR POWER SOURCE STOPPED (KEY IN POCKET), INSPECT THE MACHINE AND REMOVE ANY FOREIGN OBJECTS, WHICH MAY HAVE FALLEN INTO THE MACHINE DURING TRANSIT.

CAUTION: NEVER PUT YOUR HANDS INSIDE OF THE MACHINE DURING OPERATION, OR PERFORM ANY KIND OF AN ADJUSTMENT, LUBRICATION, OR REPAIR TO THE MACHINE WITHOUT SHUTTING OFF THE TRACTOR IGNITION OR POWER SOURCE AND PLACING KEY IN YOUR POCKET. KEEP CHILDREN AWAY FROM MACHINE WHILE IN OPERATION.

DO NOT MOVE THE MACHINE WHILE THE PTO IS IN MOTION. SHORT TURNS WHILE THE ROTOR IS TURNING MAY DAMAGE THE PTO

When corresponding with the company, distributor, or dealer regarding this machine, please specify both the model number and the serial number.

1. **SHEAR PLATES:** These parts, in the mill housing assembly, control the fineness of grind of the material. They are individually adjustable and for a very fine grind it is recommended that all of the shear plates be positioned as close to the end of the hammers as possible. When coarser grinds are required, move shear plates out starting with the top and progressing down until desired consistency is established.
EXAMPLE: Top plate all the way out, the next plate one quarter of the way in, the next one half way in, the fourth one down from the top three quarter of the way in, and the bottom one all the way in. Stair stepping the shear plates will allow the unit to pull easier with less shock loads.
2. **DISCHARGE SPOUT:** The discharge spout can be mounted to direct ground material to the side of the machine. The standard spout will allow you to build a pile about 10' high. There are optional 2' spout extensions available and a maximum of two can be added to the standard spout. Longer spout usage requires fairly dry material or plugging may occur.
3. **DISCHARGE CONTROL:** (Standard on all GG models) allows you to control the amount of air coming out of the spout.
4. **POWER TAKE OFF:** Materials can fall and pack into the machine while transporting. To prevent this from "locking" the rotor you must roll the mill backwards before you connect the machine to the tractor. Then after the machine has been properly connected to the tractor, set the tractor at low RPM and slowly engage the PTO clutch. If the mill is still "locked", disengage the PTO, shut off tractor, remove key and place in your pocket or in absence of key (older model tractors), and disconnect the PTO shaft from the tractor. Now clean out the mill. In circumstances where the mill has been filled with product before the mill was up to speed it will be necessary to remove the replaceable bottom section in order to drain the unground material that is plugging the rotor and hammer mill, when all material has been removed and the rotor turns freely in the mill housing then replace the bottom section.

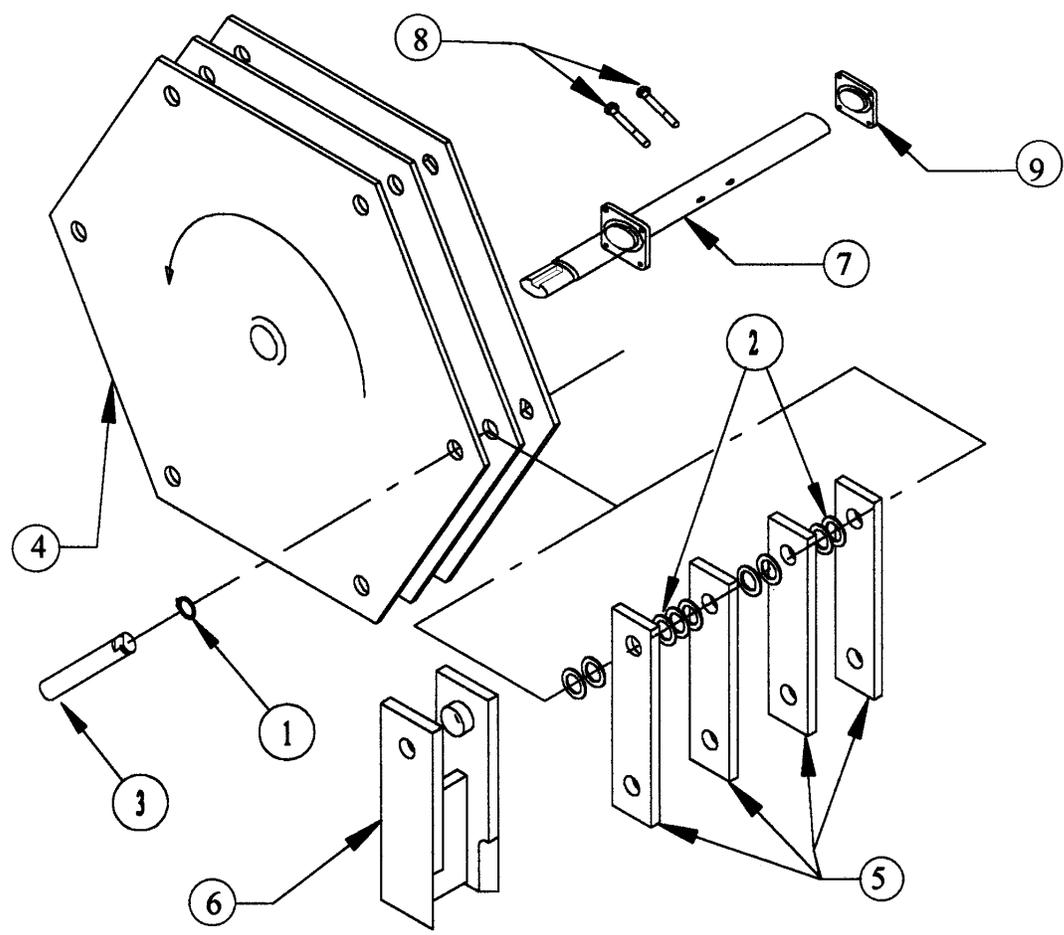
After you have finished grinding and want to shut the machine down, stop the hydraulic flow to the auger, then reduce the tractor RPM slowly to an idle and wait for the mill to slow down before disengaging the PTO. Some tractors have a brake on the PTO when disengaged and if disengaged at a high RPM the weight of the rotor may damage the PTO in your tractor.

6. **DRAWBAR** Set your draw bar to the correct operating length of 16” from the end of the PTO shaft on your tractor to the center of the hole in your draw bar. Make sure that the square shaft is at least 8” into the square tube while in operation. If you are not engaged at least 8”, you can cause damage to the PTO, and void the warranty.
7. **HYDRAULIC FLOW CONTROL:** A hydraulic motor controls the auger. To start this unit, first allow the rotor in the mill to reach operating speed, and then adjust the hydraulic flow divider until the desired flow of material is reached. **NOTE: You must have the rotor running at operating speed before the auger is engaged, or material will fill the mill housing.**
8. **WATER VALVE:** This valve connects with your water source and is used to aid in the reduction of dust when grinding. It also adds moisture to the product. **NOTE: Do not add water to the grinder until you have reached operating speed and are putting product through the machine or it could cause material to buildup in the discharge, and possibly plug the machine.**

MAINTENANCE

CAUTION: Never put your hands inside of the machine during operation, or perform any kind of adjustment, lubrication, or repair to the machine without shutting off the tractor ignition and placing the key in your pocket. Keep children away from machine when in operation.

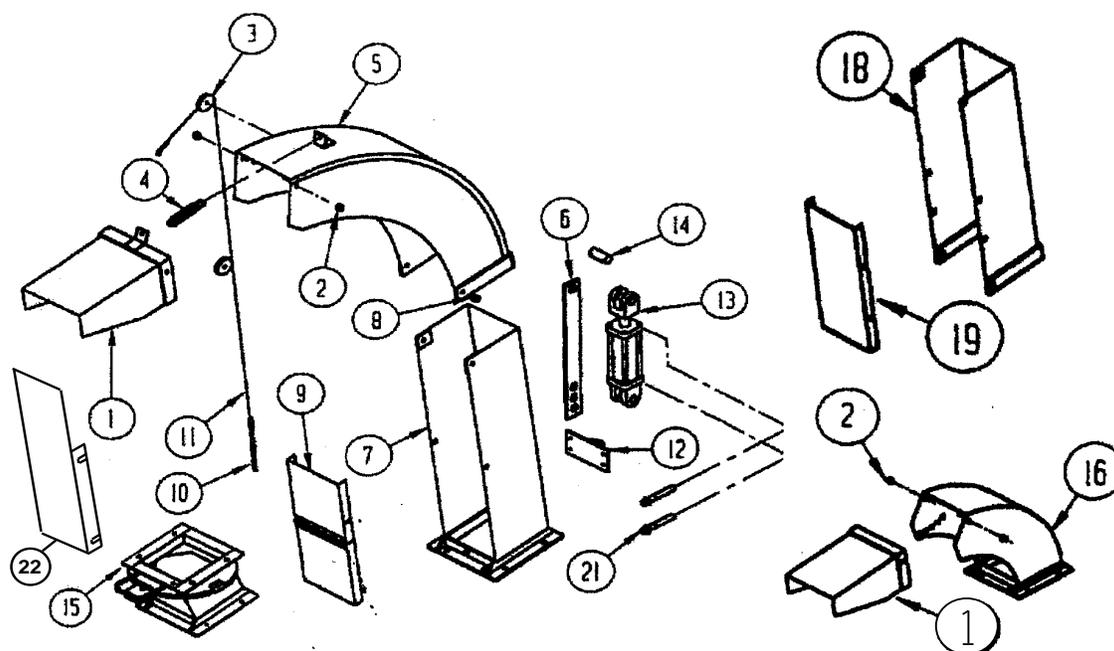
1. **LUBRICATION:** The main bearings on the driveline, auger and the PTO should be greased every eight to ten hours of operation. Be careful not to over grease as this pushes out the seals and allows dirt and foreign material to enter the bearing, shortening the bearing life. **NOTE.** Check the bearings on the driveline every time the unit is greased. If one of these bearings goes out and the machine is operated, serious damage to the machine could result.
2. **HAMMER REPLACEMENT:** The hammer pins have a flat side on one end to fit a “D” hole in the mill rotor. When turning the hammers, remove the snap ring and drive the pin back out of the mill rotor through the holes provided in the mill housing. When turning the hammers replace all spacers as they were previously installed, then replace the snap ring making sure it is seated in the groove in the pin.
3. **SHEARBOLT:** If for any reason the mill rotor needs to be removed, it is attached to the driveline by a shear bolt. (1-5/8” or 2-1/2” depending on the model of the unit) Remove the shear bolt and apply rust remover / penetrating oil to the drive shaft and the rotor hub. Loosen the lock collar on the back bearing and unbolt the front bearing. Lock the drive line with the PTO, apply forward pressure on the driveline and turn the mill rotor on the shaft. It is a slip fit and should come off without too much difficulty.



MODEL GG 10
ROTOR ASSEMBLY

<u>KEY</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1	642-055	Snap Ring for Hammer pin
2	724-214	Thick Hammer Spacer (10 gauge)
	126-058	Thin Hammer Spacer (14 gauge)
3	580-05	Hammer Pin
4	656-01	Rotor Weldment
5	328-001	Standard Hammer (Case Hardened – Grain Machine)
6 Optional	328-009	Alfalfa Hammer (Not recommended for grain grinders)
7	682-08	Drive Shaft (GG 10)
8	672-345	1/2" Shear Bolt
9	072-445	2" Flange Bearing
10	552-023	1/2" Lock Nut for shear bolt

THERE ARE A TOTAL OF 8-(328-001) HAMMERS PER PIN
48 HAMMERS TOTAL



MODEL GG 10 SPOUT PARTS & ASSEMBLIES

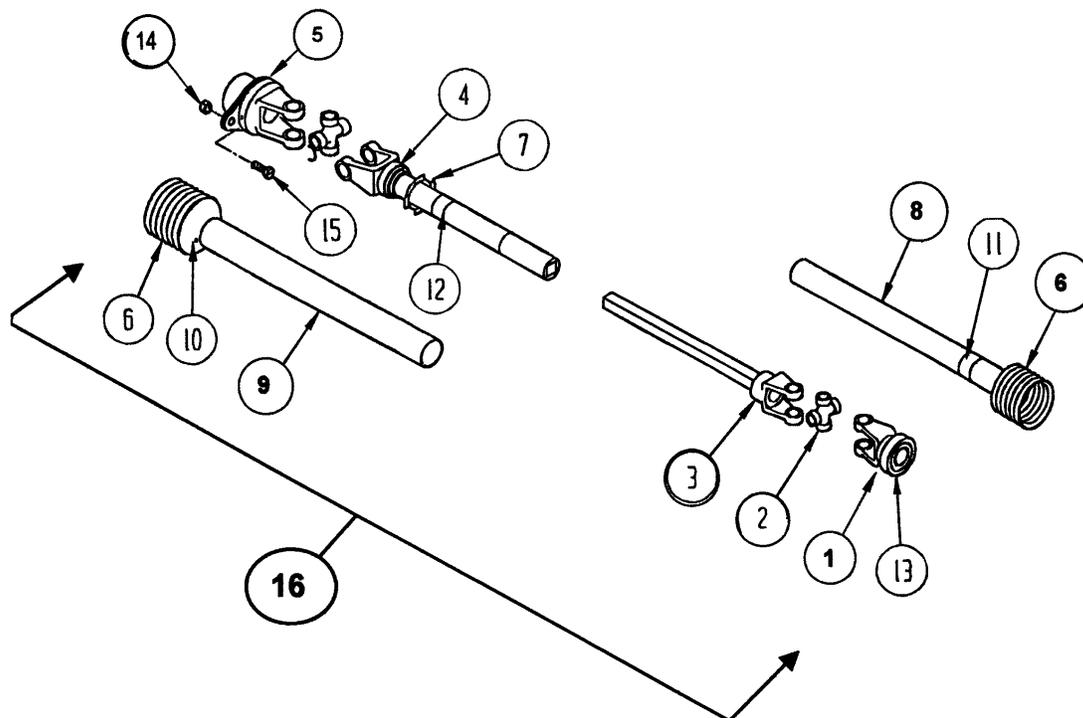
KEY	PART #	DESCRIPTION
1	348-17	Deflector Hood (Flipper)
2	126-121	Pivot Bushing
3	706-01	Pulley
4	738-01	Return Spring
5	348-18	Upper Curved Section
6	036-04	Cylinder Spacer Strap
7	734-20	Lower Spout Weldment (7"x 10")
7 Optional	734-30	Lower Spout Weldment (10"x 10")
8	126-121	Pivot Bushing
9	210-05	Spout Chute Cover Weldment
10	136-01	1/4"x 12" Adjusting Chain
11	103-01	1/8"x 60" Adjustment Cable
12	222-03	Cylinder Ear
13 Optional	222-02	Hydraulic Cylinder (2"x 4")
14	580-01	Cylinder Strap Pin
15 Optional	734-100	1090 Spout Swivel
16 Optional	734-16	Short Discharge Spout
18 Optional	257-03	2 Foot Spout Extension Assembly (7"x 10")
18 Optional	257-04	2 Foot Spout Extension Assembly (10"x 10")
19 Optional	212-081	2 Foot Spout Extension Cover Shield
20 Optional	130-02	1/8"x 24" Cable Extension
21 Optional	356-080	1/4"x 16' Hydraulic Hose
22 Optional	210-07	Extra Spout Shield (above std shield)

NOTE: The spout swivel is NOT recommended. If a spout swivel is used the spout size changes from a 7"x 10" to a 10"x 10" and different spout parts are needed.

PTO DRIVE LINE ASSEMBLY

SHEAR BOLT YOKE (September 1997 & newer)

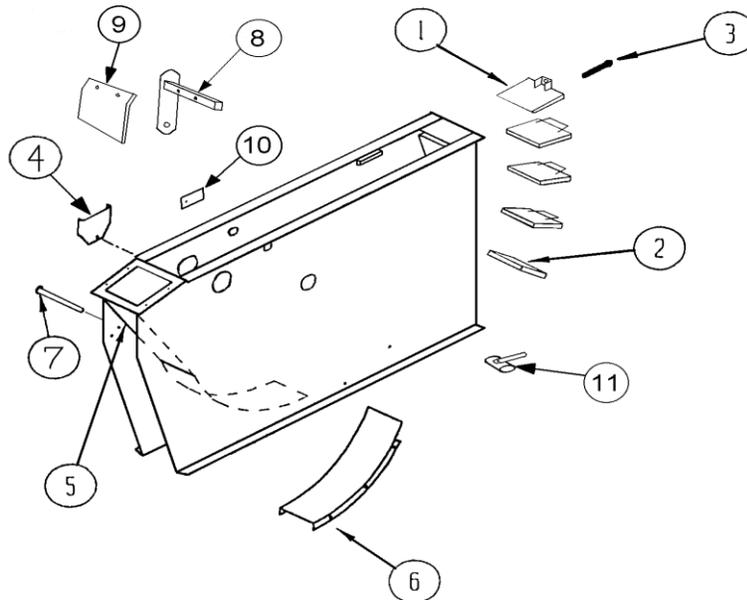
Walterscheid brand from S.N. # 1400097 & higher



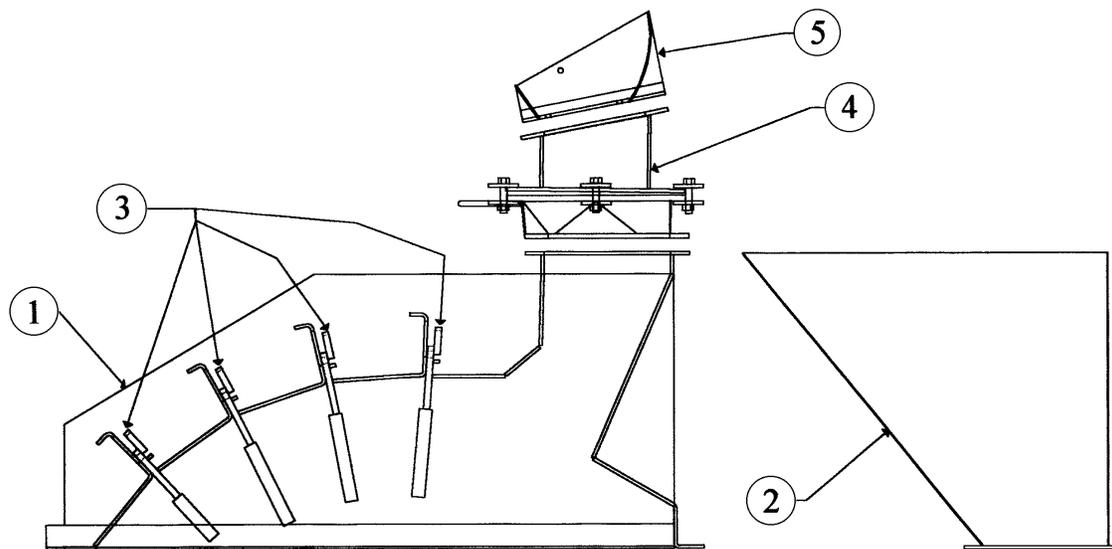
PTO PARTS BREAKDOWN

KEY	PART #	DESCRIPTION
1	362430	Tractor Slide Yoke, (1-3/8" – 21 splined)
	362428	Tractor Slide Yoke, (1-3/8" – 6 splined)
	362434	Tractor Slide Yoke, (1-3/4" – 20 splined)
2	312209	Cross Bearing Repair Kit
3	391294	Yoke & Bar Weldment, Inboard
4	391295	Yoke & Sleeve Weldment, Outboard
5	391809	Shear Bolt Clutch
6	365387	7 Rib Cone Shield
7	87276	SC25/I Bearing Ring
8	391434	Outer Tube Shield
9	391433	Inner Tube Shield
10	365305	Lock Screw
11	383333	Outer Shield Decal
12	383334	Inner Shield Decal
13	364915	Slide Collar Repair Kit
14	10490	Shear Bolt Lock Nut (M12)
15	20466	Shear Bolt (M12 x 60 – 8.8)
16	391296	Complete W2500 Series PTO (1-3/8" – 21)
17	396953	Complete Implement Half (1-15/16 shear yoke)
18	391292	Complete Tractor Half (1-3/8" – 21spline yoke)
	395730 Optional	Complete Tractor Half (1-3/4" 20 spline over size yoke)
	396199 Optional	2600 series Complete PTO (1-3/4" 20 spline over size yoke)

GG 10 MILL HOUSING PARTS

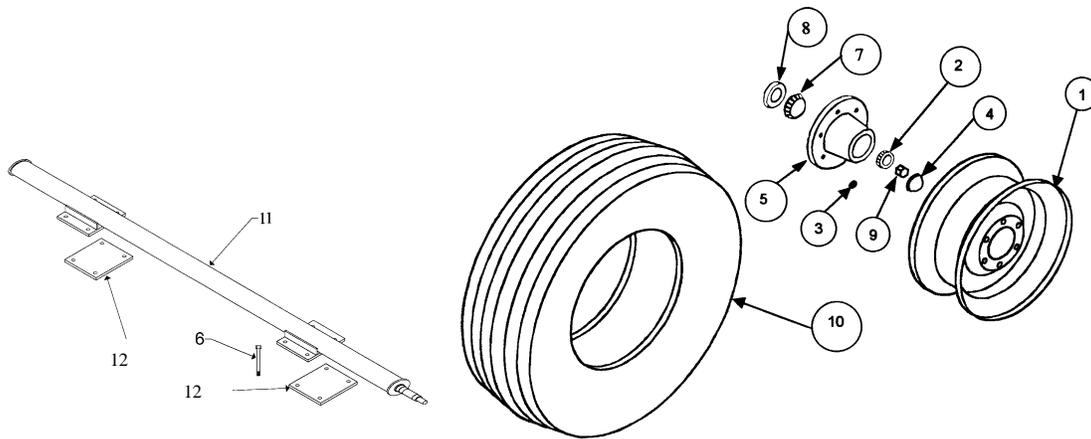


KEY	PART#	DESCRIPTION
1	590-05	Main Shear Plate (with acme bolts)
2	590-07	Standard Shear Plate
3	096-121	Acme Bolt for Main Shear Plate
4	223-004	Air Damper Door
5	234-05	Discharge Door Weldment
6	234-06	Replaceable Bottom Section
6 Optional	234-06-SP	Replaceable Bottom Section (with extra shear plates)
7	580-06	Lower Door Pin
8	036-214	Adjustable Air Control Arm
9	234-009	Air Control Plate
10	402-018	Hammer Pin Door
11 Optional	826-047	Water Valve Kit



MODEL GG 10 GRAINHOOD PARTS LIST

KEY	PART #	DESCRIPTION
1	348-20	GG 10 Grain Hood Weldment
2 Optional	348-14	Hopper for Grain Hood (29"x 32")
3	590-07	Shear Plate
4	734-100	Auger Swivel
5	402-110	Auger Mount
6	402-115	Sheyenne 10"x12' Auger
7	902-22005	Sheyenne auger hopper



MODEL GG 7 & GG 10 **AXLE & HUB ASSEMBLY**

KEY	PART #	DESCRIPTION
1	640-02	Wheel Rim (15"x 6")
1 Optional	640-03	Wheel Rim (15" x 8")
2	072-322	Outer Wheel Bearing
3	552-06	Lug Nut
4	146-026	Dust Cap
5	280-551	Hub Assembly (with races)
6	672-347	Bolt (1/2" x 4-1/2" grade 5)
7	072-05	Inner Wheel Bearing
8	674-01	Dust Seal
9	552-030	Castle Nut (7/8" x 14NFT)
10	800-020	Tire (235/75R15 Radial)
10 Optional	800-021	Tire (265/75R15 Radial)
11	046-050	Adjustable Axle Weldment
12	046-055	Axle Clamp Pad

DELIVERY SERVICE FOR ROTO GRIND

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery

Delivered to: _____
Address: _____
City _____ Ph# _____
State _____ Zip _____

Dealer _____
Ph# _____ City _____
State _____ Zip _____
Serial # _____
Model # _____

I have thoroughly instructed the buyer on the above-described equipment, which review the Operator's Manual Content, Equipment Care, Adjustments, and safe operation. The Warranty policy provisions were also explained and reviewed.

DEALERS SIGNATURE _____

Above equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustment, safe operation and applicable warranty policy.

DATE _____ OWNERS SIGNATURE _____

DEALER COPY

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MANUFACTURER COPY

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Address _____
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State _____ Zip _____

Dealer _____
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State _____ Zip _____
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Model # _____

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DATE _____ OWNERS SIGNATURE _____

CUSTOMER COPY