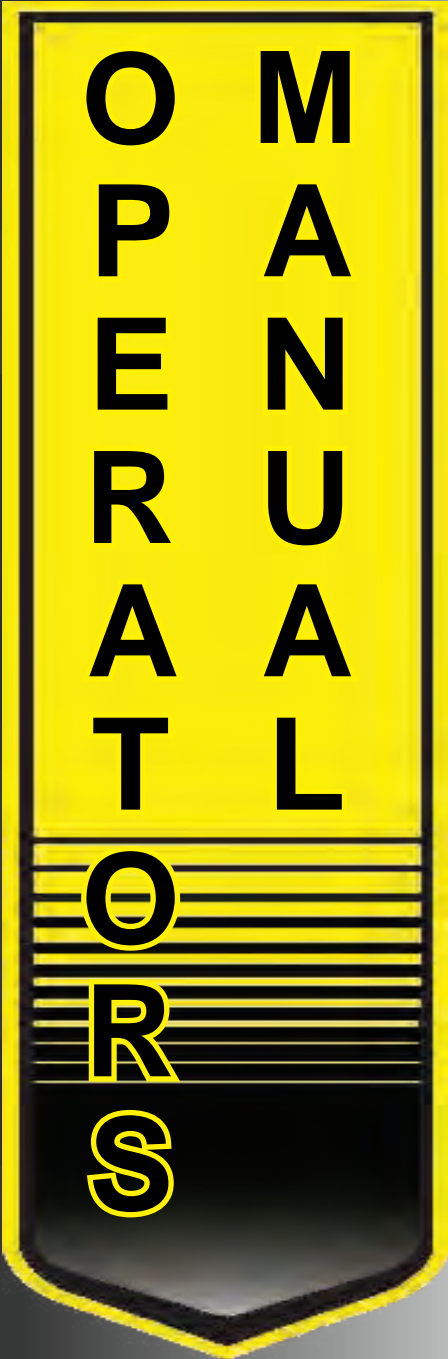




7117 ROLLER MIXER



WARNING

READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS EQUIPMENT. UNSAFE OPERATION OR MAINTENANCE OF THIS EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

Serial #121RM71001

Part # 94782

Rev. #00

HSMFG0623

STRONG HERITAGE - STRONG PEOPLE - STRONGER FUTURE

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H&S WARRANTY

H&S Manufacturing Co., Inc. ("H&S") warrants this product to be free from defect in material and workmanship. Except as noted below, this warranty term is twelve (12) months on parts and labor, and twenty-four (24) months on parts only from the date of delivery of the product to the original purchaser by an authorized H&S dealer. Under this warranty, H&S will repair or replace, at its option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. In no case will the covered repair cost of a part or parts exceed the replacement cost of that part. In no case, unless pre-authorized by H&S, will a component be replaced versus repaired unless the cost of labor and parts exceeds 75% of the cost of a new component. Warranty repairs must be performed by H&S or a dealer authorized by H&S to sell and/or service the product involved, and will use only new or remanufactured parts or components furnished by H&S. Any warranty repairs needing to be performed by a third party must be pre-authorized by H&S. Standard freight costs will be covered by H&S for any part used to make a warrantable repair, any form of express freight will not be covered unless pre-authorized by H&S. This warranty includes approved parts and labor to repair the product but does not include, and the purchaser is responsible for, any service call and/or transportation of the product to and from the dealer's place of business, for any costs related to travel, for any premium charged for overtime labor requested by the purchaser, and for any service work not directly related to any defect covered under this warranty. This warranty includes only those components of the product manufactured by H&S. Warranty for any component not manufactured by H&S including, but not limited to, engines, batteries, tires, rims, hydraulic motors, pumps, etc. are covered by the warranty, if any, provided separately by their respective manufacturers. H&S reserves the right to request the return of any failed component.

This warranty in all its parts is extended solely to the original purchaser of the product, is terminated upon any subsequent transfer or sale from or by the original purchaser, and extends no third party benefits or rights whatsoever.

The warranty term for any product used in any for hire, rental fleet or rental application, is limited to six (6) months from the date of delivery of the product to the original purchaser by an authorized H&S dealer.

This warranty does not include: (1) Any product that has been altered or modified in ways not approved by H&S; (2) Depreciation or damage caused by normal wear, use for which the product was not designed, misuse, improper or insufficient maintenance, improper operation, accident or failure to follow the product Operator's Manual recommendations and product decal recommendations; (3) Normal maintenance parts and service; (4) Repairs made with parts other than those available from H&S or performed by anyone other than H&S or a dealer authorized by H&S to sell and/or service the product involved.

To secure warranty service the purchaser must report the product defect to a dealer authorized by H&S to sell and/or service the product involved within the applicable warranty term together with evidence of the warranty start date and make the product available to that dealer within a reasonable period of time.

For these warranty terms to be in effect the selling authorized H&S dealer and/or the customer must submit the warranty registration to H&S.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. H&S and the companies affiliated with it make no warranties, representations, or promises, express or implied, as to the performance or freedom from defect of its products other than those set forth above and NO IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. IN NO EVENT WILL THE DEALER, H&S OR ANY COMPANY AFFILIATED WITH H&S BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. The ONLY REMEDY the purchaser has in connection with the breach of performance of any warranty on H&S products are those set forth above.

The selling dealer has no authority to make any representation or promise on behalf of H&S, or to modify the terms or limitations of this warranty in any way. (12-21-22)

MANUFACTURER'S STATEMENT

Your New H&S Product has been manufactured of the finest quality materials and components. The performance you get from your machine is largely dependent upon how well you read and understand this manual and apply this knowledge. There is a right and a wrong way to do everything. Please do not assume that you know how to operate and maintain your Machine before reading this manual carefully. Keep this manual available for ready reference.

H&S 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 previously manufactured. Specifications, statements and descriptions of Products contained in this publication are subject to change without prior notification.

WARRANTY REGISTRATION

- ❖ Date of Purchase: _____
- ❖ Purchaser Name: _____
- ❖ Street Address: _____
- ❖ City: _____
- ❖ State: _____ Zip: _____
- ❖ Phone Number: _____
- ❖ E-mail Address: _____
- ❖ Product: _____
- ❖ Model Number: _____
- ❖ Serial Number: _____
- ❖ You have received the Operators Manual for this product. Yes _____ No _____
- ❖ Interested in receiving the H&S Newsletter? Yes _____ No _____

- ❖ Dealer Name: _____
- ❖ Street Address: _____
- ❖ City: _____
- ❖ State: _____ Zip: _____
- ❖ Signature: _____
- ❖ *All fields must be filled out to insure prompt notification of product and/or warranty updates.*

Please mail the completed WARRANTY REGISTRATION FORM to:
H&S Manufacturing Co., Inc.
2608 S. Hume Ave.
Marshfield, WI 54449

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DEALER PRE-DELIVERY CHECKLIST

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

After the Roller Mixer has been completely set up, check to be certain it is in correct operating order before delivering to the customer. The following is a list of points to inspect. Check off each item as you have made the proper adjustments and found the item operating satisfactorily.

- Roller Mixer was not damaged in shipment. Check for dents and loose or missing parts. Report damage immediately to H&S Manufacturing Co., Inc.
- All bolts and fasteners are tight.
- Mixer has been correctly assembled according to instructions in this manual. Wheels are properly mounted and wheel nuts are torqued to specs.
- Check all bearing locking collars to ensure they are tight on the shafts and in good condition.
- Check that all set screws on the bearing collars are tight.
- Check that all bearing mounting hardware is secure.
- All grease fittings have been lubricated. The transmission and cyclonic reservoir are filled to proper levels. See Lubrication Chapter of this manual for details.
- No visible leaks on the hydraulic pump, motors, hoses and fittings.
- Guards and shields are secure.
- Tires are inflated to 80 PSI (563 kpa).
- Belts are properly adjusted.
- Discharge auger door operates smoothly.
- Decals are in place and legible.
- Lights and wiring functioning properly if applicable.

INTAKE AUGER (If applicable)

- Guards, shields, and attaching hardware are in place and properly secured.
- Intake Auger supporting mechanisms function correctly.
- Safety locking clip is in place & locked.
- Hydraulic motor and speed control levers operate properly during operation.
- Decals are in place and legible.

Connect the Mixer onto a proper horsepower 540 RPM or 1000 RPM (if applicable) tractor and attach the PTO. Connect the scale and lights if applicable. Run the Mixer and make sure all components operate properly.

- PTO guard turns freely.
- Hydraulic system does not leak under pressure.
- Electronic Scale (if provided) operates properly.
- Implement and all components are functioning properly.

Model Number _____ Serial Number _____

Dealer's Name _____

Inspection Date _____

Signature of Pre-Delivery Inspector _____

(Remove Dealer File Copy At Perforation)

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DEALER DELIVERY CHECKLIST

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

This checklist that follows is an important reminder of valuable information that should be passed on to the customer at the time this is delivered.

Check off each item as you explain it to the customer.

This delivery checklist, when properly filled out and signed, assures the customer that the Pre-delivery service was satisfactorily performed.

- Explain to the customer that the pre-delivery inspection was made.
- Explain to the customer all the safety precautions they must take when operating this unit.
- Explain to customer that regular lubrication is required for proper operation and long life of machine.
- Show customer the lubrication section of Owner's Manual.
- Give the customer Owner's Manual and make sure they read and understand all operating and service instructions.
- Have the customer sign a completed "Warranty Registration" and mail it.

Date Delivered _____

Dealer's Name _____

By _____

Signature of Original Buyer _____

(Remove Dealer File Copy At Perforation)

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SAFETY INFORMATION



**BE
ALERT!**

**YOUR SAFETY
IS INVOLVED.**

THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER YOUR PERSONAL SAFETY IS INVOLVED. TAKE TIME TO BE CAREFUL. REMEMBER: THE CAREFUL OPERATOR IS THE BEST OPERATOR. MOST ACCIDENTS ARE CAUSED BY HUMAN ERROR. CERTAIN PRECAUTIONS MUST BE OBSERVED TO PREVENT THE POSSIBILITY OF INJURY OR DAMAGE.

H&S MANUFACTURING CO., INC.

SAFETY INFORMATION

Keep signs in good condition. Immediately replace any missing or damaged signs.

RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



UNDERSTAND SIGNAL WORDS

A signal word - DANGER, WARNING, or CAUTION - is used with the safety alert symbol. DANGER identifies the most serious hazards.

Safety signs with signal word DANGER or WARNING are typically near specific hazards.

General precautions are listed on CAUTION safety signs.



WARNING



CAUTION



FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual, and all safety signs on your machine. Follow all recommended precautions and safe operating procedures.

OBSERVE MAXIMUM TRANSPORT SPEED

The maximum transport speed for this implement is 32 km/h (20 mph).

Some tractors are capable of operating at speeds that exceed the maximum transport speed of this implement. Regardless of the maximum speed capability of the tractor being used to tow this implement, do not exceed the implement's maximum transport speed.

Exceeding the implement's maximum transport speed can result in:

- * Loss of control of the tractor/implement combination
- * Reduced or no ability to stop during braking
- * Implement tire failure
- * Damage to the implement structure or its components

Use additional caution and reduce speed when towing under adverse surface conditions, when turning, and when on inclines.

Do not attempt transport if the fully loaded implement weighs more than 1.5 times the weight of the tractor.

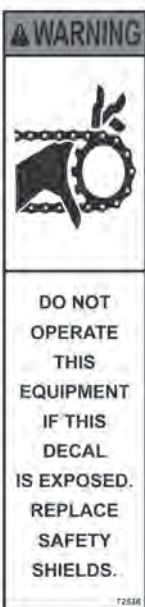


SAFETY INFORMATION


Your Mixer was manufactured with operator safety in mind. Located on the Mixer are various decals to aid in operation, and to warn of danger or caution areas. Pay close attention to all the decals on your Mixer.



**DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF YOUR MIXER IS REPAINTED, REPLACE DECALS.
REMEMBER: DECALS ARE FOR YOUR PROTECTION AND SAFETY.**



SAFETY INFORMATION



⚠ WARNING

**STAY CLEAR
KEEP HANDS OUT
OF SUPPLEMENT
HOPPER**

82907G

⚠ WARNING



CRUSHING HAZARD

TO PREVENT SERIOUS INJURY OR DEATH:

KEEP HANDS AND BODY OUT OF HITCH AREA WHEN ATTACHING TOWING VEHICLE.

KEEP BODY CLEAR OF CRUSH POINT BETWEEN TOWING VEHICLE AND LOAD.

KEEP FEET AND LEGS CLEAR FROM UNDER TONGUE AREA IN CASE OF POSSIBLE JACK FAILURE.

J2602



⚠ WARNING

DO NOT GO NEAR LEAKS

- High pressure oil easily punctures skin causing serious injury, gangrene or death.
- If injured, seek emergency medical help. Immediate surgery is required to remove oil.
- Do not use finger or skin to check for leaks.
- Lower load or relieve hydraulic pressure before loosening fittings.

11599

⚠ WARNING

**DO NOT OPERATE
THIS EQUIPMENT
IF THIS DECAL IS
EXPOSED.
REPLACE SAFETY
SHEILDS.**

32597A



⚠ DANGER

KEEP OUT

DO NOT ENTER TANK.
KEEP COVER CLOSED.

FAILURE TO HEED THIS WARNING MAY RESULT IN PERSONAL INJURY OR DEATH.

82907F

⚠ DANGER



NO STEP-STAY CLEAR

9194A



⚠ WARNING

**STAY CLEAR
OF DISCHARGE
AUGER**

82907A

⚠ WARNING

HELP AVOID INJURY

- READ & UNDERSTAND THE OPERATORS MANUAL PROVIDED WITH THIS MACHINE. IF MISPLACED CALL H & S MANUFACTURING AT 715-387-3414 WITH MODEL AND SERIAL NUMBER.
- UNDERSTAND ALL SAFETY WARNINGS AND FUNCTION OF CONTROLS.
- KEEP SAFETY DEVICES IN PLACE AND WORKING.
- KEEP YOURSELF AND OTHERS WELL CLEAR OF MOVING PARTS.
- DISCONNECT ALL POWER BEFORE SERVICING OR CLEANING THIS MACHINE.
- DO NOT EXCEED 20 MPH

72203A

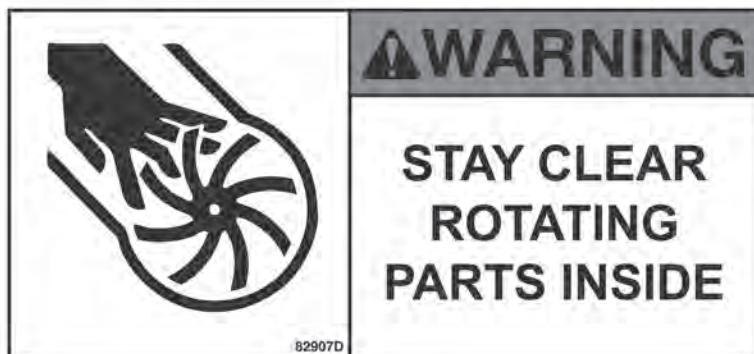
⚠ WARNING



**KEEP CHILDREN AWAY
AT ALL TIMES!**

2495

SAFETY INFORMATION



TRACTOR:

This operator's manual uses the term "Tractor" when identifying the power source.



W A R N I N G

TO PREVENT SERIOUS INJURY OR DEATH

BEFORE YOU ATTEMPT TO OPERATE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT, WHETHER FAMILY MEMBER OR EMPLOYEE, IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

DO NOT ALLOW PERSONNEL OTHER THAN THE QUALIFIED OPERATOR NEAR THE MACHINE.

KNOW HOW TO STOP MACHINE BEFORE STARTING IT.

If the machine becomes clogged or for servicing, Stop the tractor engine, remove ignition key and allow all mechanisms to stop. Before cleaning or working on the machine, detach the PTO shaft, and completely disengage the tractor hydraulics.

DO NOT attempt to perform maintenance or repair with tractor running, PTO, and hydraulic hoses connected to the tractor.

NEVER ALLOW RIDERS IN OR ON THE MACHINE.

DO NOT step up on machine at any time while in operation.

DO NOT allow minors to operate or be near the machine.

STAY CLEAR of discharge auger when in operation.

Keep hands, feet, and clothing away from all moving parts when the Mixer is in operation.

Loose or floppy clothing should not be worn by the operator.

Be sure the machine is clear of people, tools, and other objects before engaging PTO.

Do not step over PTO shaft: Stay clear of PTO at all times.

NEVER start the Mixer until all guards and safety shields are secured in place.

Never operate Mixer with a PTO speed greater than the recommended PTO RPM.

STAY CLEAR of hydraulic lines, they may be under extreme pressure or heat.

NEVER open or plug the water drain holes with the Mixer running.

H&S Mfg. Co. always takes the operator and their safety into consideration and guards exposed moving parts for their protection. However, some areas cannot be guarded or shielded in order to assure proper operation. In addition, the operators manual and decals on the machine itself warn you of further danger and should be read and observed closely.

Study The Above Safety Rules

ATTENTION - BE ALERT - YOUR SAFETY IS INVOLVED

CAP SCREW TORQUE VALUES

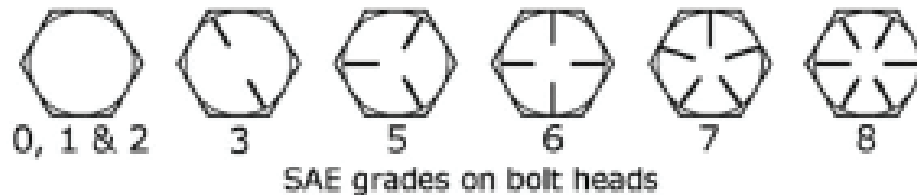
The specifications below are the torque values for fasteners as it adheres to the SAE torque value standards. All fasteners should be torqued to the proper values found in the figures below unless otherwise specified by the engineering drawing.

Lubed torque would be any fastener that has grease, liquid Loctite, oil, etc. on the threads.

Dry torque would be any fastener which has threads that are clean and dry and do not have any liquid Loctite or grease on them.

Hex Head Fasteners

The figure shown below shows how to determine what grade a fastener is.




SUGGESTED ASSEMBLY TORQUE VALUES							WORKING TORQUE			
Diam & Thrds Per Inch	SAE GRADE 2 -8"		SAE GRADE 5		SAE GRADE 8		18-8 SS	316 SS	BRASS	SILICON BRONZE
	Dry FT. LB.	LUB FT. LB.	Dry FT. LB.	LUB FT. LB.	Dry FT.LB.	LUB FT. LB.	IN LBS	IN LBS	IN LBS	IN LBS
1/4-20	5.5	4.2	8	6.3	12	9	75.2	78.8	61.5	68.6
1/4-28	6.3	4.7	10	7.2	14	10	84.0	99.0	77.0	87.0
5/16-18	11	8	17	13	24	18	132	138	107	123
5/16-24	12	9	19	14	27	20	142	147	116	131
3/8-16	20	15	30	23	45	35	236	247	192	219
3/8-24	23	17	35	25	50	35	259	271	212	240
7/16-14	32	24	50	35	70	50	376	383	317	348
7/16-20	38	27	55	40	80	60	400	418	327	371
1/2-13	50	35	75	55	110	80	517	542	422	480
1/2-20	55	40	85	65	120	90	541	565	443	502
9/16-12	70	55	110	80	150	110	682	713	558	632
9/16-18	80	60	120	90	170	130	752	787	615	697
5/8-11	100	75	150	110	210	160	1110	1160	907	1030
5/8-18	110	85	170	130	240	180	1244	1301	1018	1154
3/4-10	175	130	260	200	380	280	1530	1582	1249	1416
3/4-16	200	140	300	220	420	310	1480	1558	1220	1382
7/8-9	170	125	430	320	600	450	2328	2430	1905	2140
7/8-14	180	140	470	350	670	500	2318	2420	1895	2130
1-8	250	190	640	480	910	680	3440	3595	2815	3185
1-14	280	210	720	540	1020	760	3110	3250	2545	2885

HYDRAULIC FITTING TORQUE SPECIFICATIONS

Tapered Pipe Thread Size - Assembly turns from Finger Tight (TFFT) for Tapered Threads		TFFT
BSPT (Uncommon)	NPTF (Common)	
1/8-28	1/8-27	2 - 3
1/4-19	1/4-18	2 - 3
3/8-19	3/8-18	2 - 3
1/2-14	1/2-14	2 - 3
3/4-14	3/4-14	2 - 3
1-11	1-11 1/2	1.5 - 2.5
1 1/4-11	1 1/4-11 1/2	1.5 - 2.5
1 3/4-11	1 3/4-11 1/2	1.5 - 2.5
2-11	2-11 1/2	1.5 - 2.5



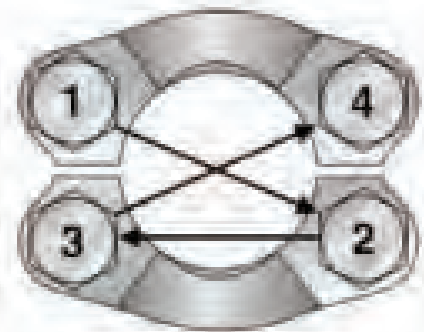
ORB - SAE J1926 Straight Thread Port Assembly Torques													
		Assembly Torque (+10% -0) **If fitting is being torqued into aluminum or brass, subtract 35% from standard torque value**											
		Non-Adjustable				Adjustable				Plugs			
		ORFS		JIC NPT		ORFS		JIC		Hollow Hex		Hex Head	
Dash Size	SAE Size (UN/UNF)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)	Fl. lbs. (in. lbs.)	Into Alum. Or Brass Fl. lbs. (in. lbs.)
2	5/16-24	-	-	(85)	(55)	-	-	(80)	(34)	(30)	(19.5)	(85)	(55)
3	3/8-24	-	-	(155)	(101)	-	-	(100)	(65)	(55)	(30)	(155)	(101)
4	7/16-20	(310)	(201.5)	(200)	(188)	(180)	(117)	(180)	(117)	(120)	(78)	(200)	(188)
5	1/2-20	(360)	(234)	(280)	(182)	(360)	(234)	(260)	(162.5)	(170)	(110.0)	(280)	(182)
6	9/16-18	(420)	(283)	(360)	(227.5)	(420)	(273)	(350)	(227.5)	(410)	(268.5)	(360)	(227.5)
8	5/8-16	60	39	(620)	(403)	60	39	(620)	(217)	60	39	(620)	(403)
10	7/8-14	100	65	85	55	100	65	85	55.25	100	65	85	55
12	1 1/16-12	135	88	135	88	135	88	135	88	135	88	135	88
14	1 3/16-12	175	114	175	114	175	114	175	114	175	114	175	114
16	1 5/16-12	200	130	200	130	200	130	200	130	200	130	200	130
20	1 5/8-12	260	162.5	260	162.5	260	162.5	260	162.5	260	162.5	260	162.5
24	1 7/8-12	305	198	305	198	305	198	305	198	305	198	305	198
32	2 1/4-12	375	244	375	244	375	244	375	244	375	244	375	244

HYDRAULIC FITTING TORQUE SPECIFICATIONS

Code 61 and 62 Flange Recommended Bolt Torques


Steps to Properly Assemble the Flange Port Clamping Bolts:

1. Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks and scratches, or any foreign material.
2. Lubricate the O-ring
3. Position flange and clamp halves
4. Place lock washers on bolts and insert through clamp halves
5. Hand tighten bolts.
6. Torque bolts in diagonal sequence in small increments to the appropriate torque level **refer to the table below.



Flange Bolt Tightening Sequence

Code 61						Code 62					
Dash Size	Flange Size	Inch Bolt (SAE J518)	Torque ft. lbs.	Metric Bolt (ISO 6162)	Torque N-m	Dash Size	Flange Size	Inch Bolt (SAE J518)	Torque ft. lbs.	Metric Bolt (ISO 6162)	Torque N-m
8	1/2	5/16-18	17 ± 2	M8	24	8	1/2	5/16-18	17 ± 2	M8	24
12	3/4	3/8-16	31	M10	50	12	3/4	3/8-16	31	M10	50
16	1	3/8-16	31 ± 4.5	M10	50	16	1	7/16-14	52	M12	92
20	1-1/4	7/16-14	52	M12	92	20	1-1/4	1/2-13	77	M14	130
24	1-1/2	1/2-13	77	M12	92	24	1-1/2	5/8-11	155	M16	210
32	2	1/2-13	77	M12	92	32	2	3/4-10	265	M20	400
40	2-1/2	1/2-13	77	M12	92						
48	3	5/8-11	155	M16	210						
56	3-1/2	5/8-11	155	M16	210						
64	4	5/8-11	155	M16	210						
80	5	5/8-11	155	M16	210						

 37° Flare (JIC) Assembly Torques and FFWR					
SAE Dash Size	Thread Size	Assembly Torque (+10%-0)		Tube Connection FFWR	Swivel Nut or Hose Connection FFWR
		In. lb.	ft. lb.		
-2	5/16-24	35	3	-	-
-3	3/8-24	65	5	-	-
-4	7/16-20	155	13	2 1/2	1
-5	1/2-20	165	14	2	2
-6	9/16-18	265	22	2	1 1/2
-8	1/2-16	505	42	2	1 1/2
-10	7/8-14	720	60	1 1/2	1 1/2
-12	1 1/16-12	1000	84	1 1/2	1 1/4
-14	1 3/16-12	1200	100	1 1/2	1 1/4
-16	1 5/16-12	1415	118	1 1/2	1
-20	1 5/8-12	2015	168	1	1
-24	1 7/8-12	2340	195	1	1
-32	2 1/4-12	3180	265	1	1
-40	3-12	-	-	1	1

SET-UP & ASSEMBLY

WHEELS & TIRES

The Roller Mixer is shipped without the rims and tires installed on the axle hubs. Install the rims and tires, and torque the wheel nuts to 90 ft.-lbs. (124 N-m). Inflate the 12.5L x 15 - 20 ply tires to 80 PSI (563 kpa).

STORAGE

IMPORTANT: NEVER store the Mixer outside as the combination of rolled products will create a paste and potentially plug the Mixer.

TRANSPORTING

TRANSPORT LIGHTING

Highway transport lighting is standard equipment.



REFLECTORS

The Mixer is equipped with red reflector strips that are located on the rear of each fender.



PREPARING FOR OPERATION

TRACTOR CONNECTIONS

PTO

Fasten the Mixer to the tractor drawbar with a hitch pin with safety locking device, and attach the Mixer PTO to the tractor PTO shaft locking it into position.

1. Maintain a straight alignment between the Mixer and the tractor.
2. Maintain a 15-1/2" distance between the lock on the tractor PTO and hole on Mixer hitch for a 540 RPM machine.
3. Maintain a distance of 6"- 12" between the top of the tractor drawbar and the center of the tractor PTO. An 8" distance is standard.



Hydraulics

The Mixer requires a 4 hose hook-up: 2 hoses for the discharge auger lift, and 2 hoses for the discharge auger rotation.

PREPARING MIXER

- Properly lubricate the Mixer, checking the gearbox oil level, and filling if necessary before operating the Mixer.
- The tank lid and the discharge auger door must be closed.
- Start the tractor, engage the PTO at idle speed and increase the RPMs until the Mixer is running at the rated PTO speed. Begin the process.

OPERATION

EMERGENCY SHUTDOWN

In an emergency or in case a foreign object enters the mill, stop mixer operation immediately by disengaging the tractor PTO.

GENERAL INFORMATION

Check entire unit carefully before first operation. Tighten bolts and set screws that might have come loose in shipping. Lubricate as explained in the Lubrication Chapter in this manual.

The Mill is designed to receive dry grain from an auger, process it, and deposit it via the discharge auger. Be familiar with the machine before starting.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, and prudence of personnel involved in the operation, transportation, maintenance and storage of equipment or in the use and maintenance of facilities.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine.

Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and efficiently. By following the operating instructions, in conjunction with a good maintenance program, your Roller Mixer will provide you with many years of trouble-free service.

NOTE: The following procedures must be done before & during operation:

- 1.) *The hopper shut-off is open.*
- 2.) *The tank lid is closed.*
- 3.) *The unloading auger shut-off door is closed.*
- 4.) Operate the mixer on level ground for uniformity of mix.
- 5.) Maintain a straight-line alignment between the tractor and mixer to prolong the life of the drive line components.
- 6.) Maintain the tractor rated PTO speed to obtain the highest efficiency.
- 7.) Add supplements after a small amount of feed has been rolled, then dry granular materials.

NOTE: *Do not roll grains with high moisture content. This may cause plugging. Abnormally damp crops will not feed or mix well.*

When the feed in the top windows begins to drop the 1st time, grinding should be discontinued .

IMPORTANT: *Overfilling the mixing tank will place unnecessary stress on the drive line components. Keep the tank lid closed and latched so that if the tank is accidentally overfilled, the lid can pop open and release the feed inside the tank.*

NOTE: *Optional models of electronic scales are available for accurate weight measurements and rations.*

Allow the mixer to continue running for several minutes to thoroughly mix the rolled feed and supplements.

IMPORTANT: *When transporting a load any distance, the mixer must continue to run to eliminate any settling of feed in the tank that may cause the Mixer to have a hard time restarting. Disengage the tractor PTO before turning corners to prevent damage to the PTO driveline. Re-engage the PTO after turning the corner.*

OPERATION

OPERATING THE ROLLER MIXER

1. Make sure to read and understand all of the safety items in this manual
2. Ensure that the feed gate is closed (Figure 4.6) before starting the Mill. Even a few grains will keep the rolls from turning. Start the rolls turning at minimum RPM and slowly increase the RPM speed to 540.
3. Check the wear plate, roll gap, and feed gate friction nut settings.
4. Open the gate slowly and increase the flow, continuing to check grain quality as you do.

Note: Rolling quality is impacted by three variables: roll speed, spring pressure, and feed rate. If grain quality is good at low feed rates, but decreases quickly as feed rate increases, the spring pressure may be too low. To increase pressure, loosen the jam nuts and turn the spring push bolts (Figure 4.8) inward a 1/2 turn at a time. Keep the pressure even on both bolts (if applicable). In difficult cases, reducing the feed rate is one more way to control feed quality.

5. Always ensure that belt tension is adequate on the cross auger drive. Plugging of the Mill can occur if the belts begin to slip significantly.
6. When finishing the rolling process, always clean the top hopper out completely and close the feed gate. Note that the feed gate stop bolt can be used to set a consistent opening point. This maintains product consistency each time rolling is performed.
7. If not using the Mill for some time, clean the grain out of the gearbox using the rear door access. Best practice is to store the mill under cover.

IMPORTANT: When starting the Roller Mixer, engage the tractor PTO at a slow idle speed. Advance the throttle of the tractor to the rated PTO speed.

BREAK-IN

It is recommended that the Mill be run at moderate to full operational speed and at 1/2 to 2/3 capacity during the first hour of operation. This allows the frictional forces to diminish significantly within the auger tube and allows the flow of grain to approach acceptable levels in the system. Keep this in mind after the Mill has been stored for extended periods of time as well. It is also recommended that the following mechanical items be checked:

After operating for a 1/2 hour:

- Re-torque all fasteners and hardware.
- Lubricate all grease fittings.
- Check the operation of the feed gate. Reset the friction nut as needed.
- Check the roll gap setting. Due to the use of mechanical means to hold the roll in place, "settling" can occur within the system due to spring impact and other factors.
- Check the setting of the gap between the rolls, not only for a change in gap setting, but also for gap consistency from one end of the roll to the other.

NOTE: A half hour of running will take care of any inconsistencies in the roll surface, and allow an accurate setting of the roll gap.

After 5 hours and 10 hours of operation:

- Re-torque all wheel bolts, fasteners and hardware.
- Lubricate all grease fittings — do not over-grease.

CAPACITY

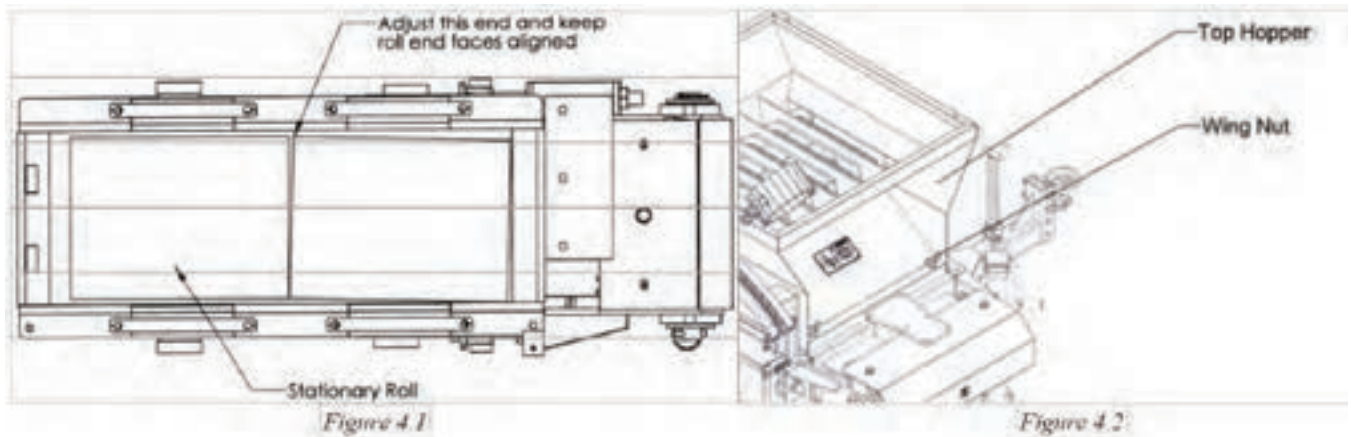
The tank will hold approximately 6000 lbs. of ground feed consisting of average weight corn. More or less weight (per tank) is possible, depending upon whether the material that is being rolled is lighter or heavier than average. Capacity of the mill will vary due to the type of material being ground, the moisture content of the material, and the horsepower of the tractor used to operate the mixer.

The mixer is designated for operation by a 70 to 145 PTO HP (28 to 86 kW) 540 RPM tractor.

OPERATION

SETTING UP THE ROLLER MILL

Loosen the wing nuts holding down the top hopper (Figure 4.2) and tip it over center, rotating on the hinge pin until it hits the stoppers.



If using flat rolls to roll dry grain, set the rolls a very small distance apart. Using a sheet of lined paper or feeler gauge, sweep from end to end as you reduce the gap on each end of the roll using the cam linkage adjustment nut (Figure 4.3). Ensure the positional indicator on the spring cam is in position 1 (Figure 4.3). Turn the adjustment nuts in 1/2 turn segments (less as you near the goal) to adjust the bearing as required. Continue to adjust the roll until some resistance is felt on the paper or feeler gauge.

Turn the roll by hand to confirm that the roll has clearance all the way around. When adjustments are complete, set the jam nuts. Replace the top hopper.

For grooved rolls, the gap may vary based on the required final product. The process is the same but with a thicker piece of paper (or multiple pieces) or a feeler gauge.

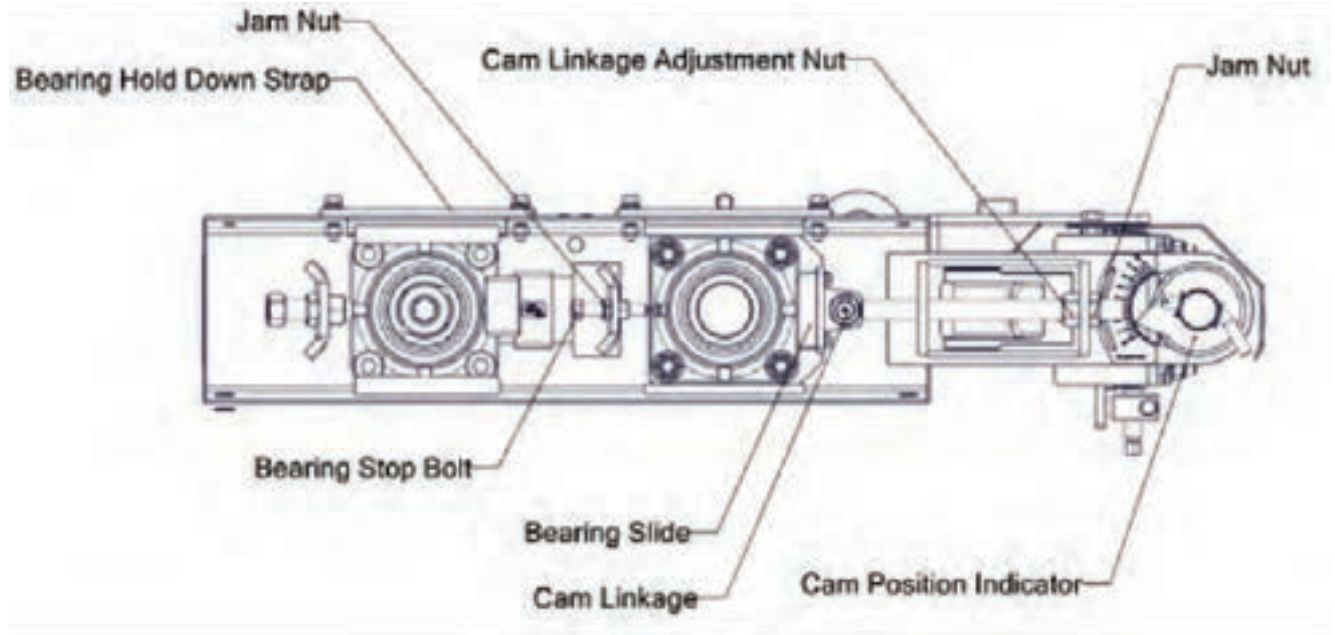


Figure 4.3

OPERATION

ROLL GAP ADJUSTMENT

The cam control (Figure 4.4) serves as a mechanism to make roll gap adjustments accurately and quickly using a 3/4" wrench or socket. The cam positional indicator is set at the factory to the "1" position with 5 thousandths of clearance between the rolls. The adjustment nuts are also set at this position to maintain the minimum clearance required to keep the rolls from touching—see 4.4.1 Roll Setting.

To obtain a setting with greater roll gap, rotate the cam control in a clockwise direction after releasing the brake (Figure 4.4). The brake is released by loosening the brake cross bolt. Rotating the control by more than a half turn at a time is not advised without taking and checking a feed sample. Once the desired setting is obtained, reset the brake to maintain the setting. The cam control may be adjusted while the machine is in operation.

To obtain a setting that delivers a smaller particle size, rotate the cam control in a counter clockwise direction (equates to lower numbers on positional indicator).

To release trapped items, or to unplug the rolls, rotate the cam control so that the positional indicator rotates clockwise and points vertically. Continue turning clockwise until it points horizontally away from the indicated scale (Figure 4.5).

This is the maximum gap attainable to release articles caught above the rolls. Larger particles should be removed from above the rolls with the machine powered down. Return the indicator to the former position to resume grinding.

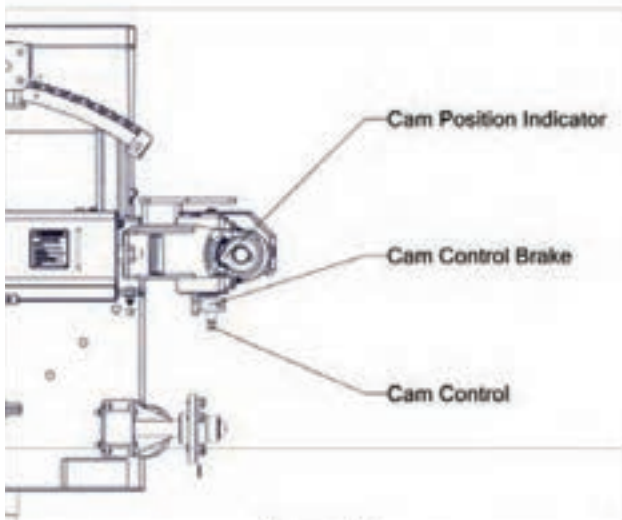


Figure 4.4

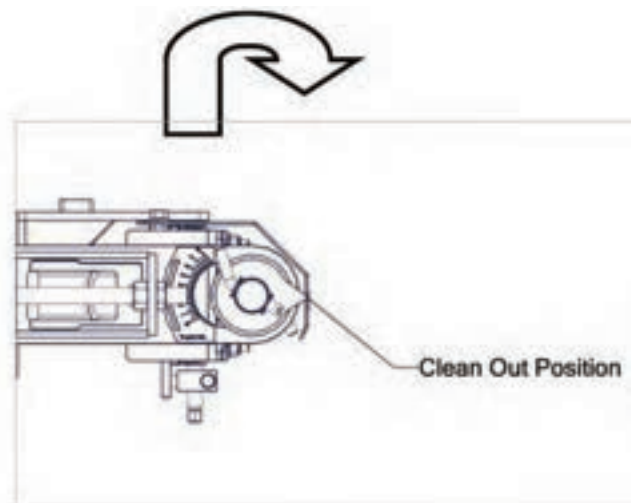


Figure 4.5

OPERATION

FEED GATE CONTROL

Set the friction nut/washer (Figure 4.6) so that it supports the weight of the feed gate and yet allows the gate to be opened and closed by hand. Note that the setting of the feed gate helps to spread the grain evenly across the face of the roll. The feed gate also serves to limit the overall flow of grain through the rolls.

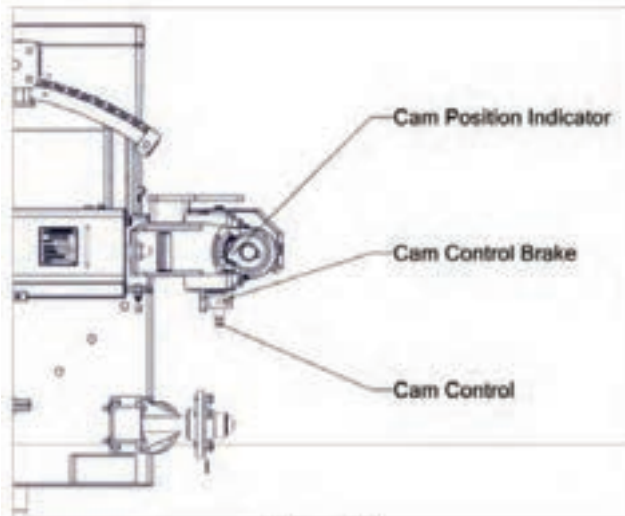


Figure 4.4

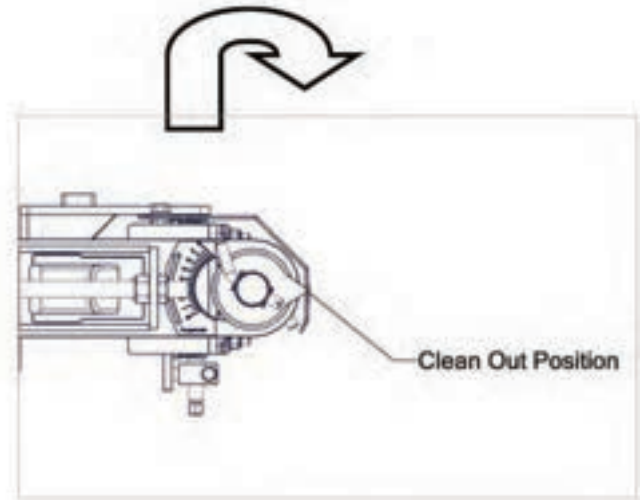


Figure 4.5

SETTING WEAR PLATES

Wear plates (Figure 4.7) are used to keep grain from escaping around the ends of the rolls. The positioning of the wear plates can be seen when the feed gate is fully open. A noise can be heard if the wear plates are contacting the rolls. To remedy this, loosen the jam nut and wear plate adjustment bolt (Figure 4.6) until the noise stops. Alternately, if the gap is excessive, turn the bolt into the plate until the plate touches the roll, then back off until the noise stops. Tighten the jam nuts when the desired setting is obtained. Be sure to maintain the position of 'UHMW V' (Figure 4.7) to cover the chamfer at the ends of the rolls. Replace as necessary.

OPERATION

ROLL DRIVE BELT TENSION

To increase belt tension, loosen the jam nut and turn the tensioning bolt until approximately 15 lbs. of force at the center of the longest belt span causes a 3/8" deflection. Reset the jam nut to lock the adjustment bolt in place. Always leave a minimum of 1/16" of room for take-up in the coils of the spring (Figure 4.9).

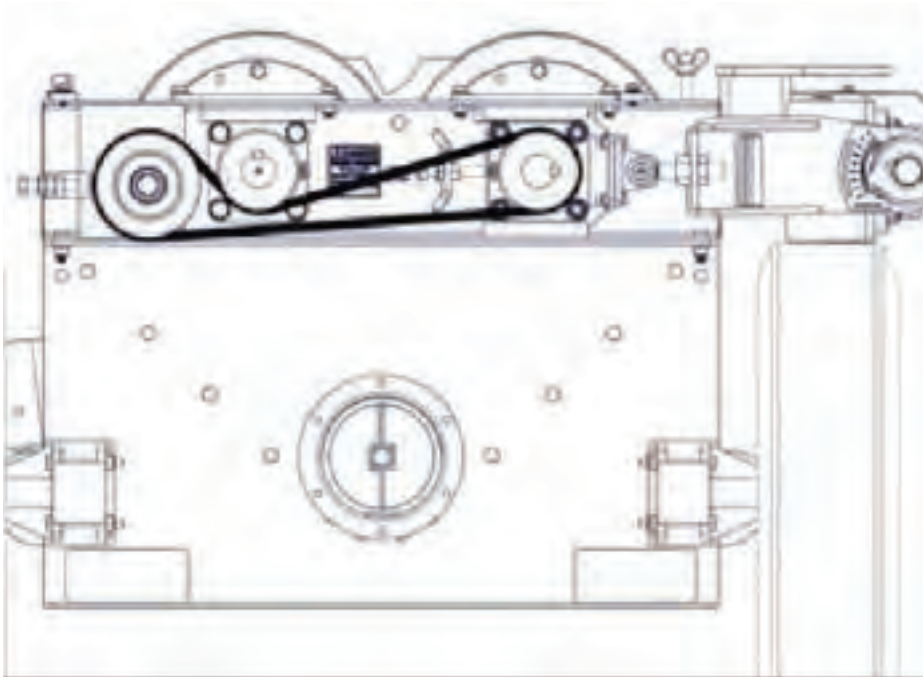


Figure 4.9

GRATE MAGNET

The grate magnet has slits on the edges (Figure 4.11) that can be removed with pliers to expand the top opening. This modification can aid in better material flow when milling wet grain.

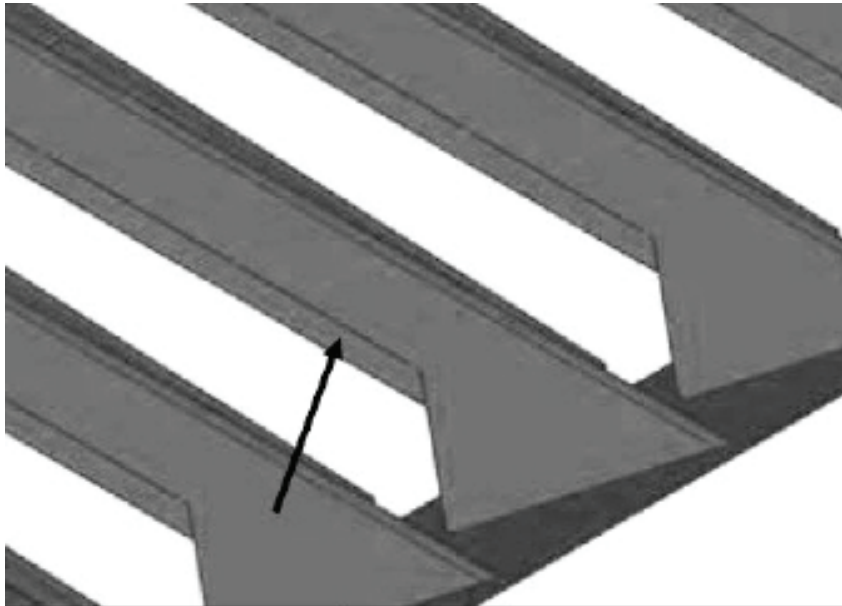


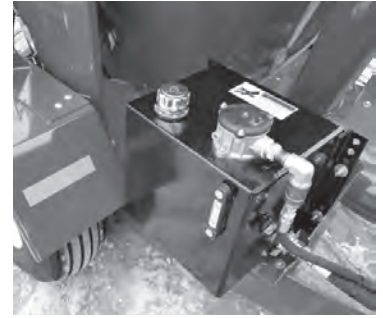
Figure 4.11

OPERATION

SELF-CONTAINED HYDRAULIC SYSTEM

Hydraulic System

The mixer has a self-contained hydraulic system composed of a pump, reservoir w/oil filter, and hydraulic motor operated discharge augers.



***Note:** When operating at cold temperatures, allow the hydraulic oil in the self-contained system to warm up at tractor idle speed with the PTO running prior to grinding.*

Discharge Auger System

Ground feed from the mixing tank is discharged by an auger system consisting of three hydraulically motor-driven augers that are connected in series so that all augers are synchronized as well as started and stopped together. If any motor malfunctions, the movement of material through the augers will stop immediately. The length of the unloading auger is approximately 12 feet without any extensions. By adding a 3' or 6' folding extensions, the length can be increased. A transport cradle is provided for holding the unloading auger in position during transport.

Needle Valves

An adjustable needle valve is provided on each hose of the discharge auger rotation to control the speed of auger swing to provide smooth rotation. Needle valves are located at the rear of the machine by the hydraulic rotation motor. See the Adjustment Chapter of the manual for adjustment details.

OPERATION

Discharge Auger Door & Hydraulic On/Off Valve

An on/off valve with a pressure relief controls the hydraulic motors which operate at a single constant speed determined by the speed of the tractor PTO. A discharge auger shut-off door and flow control valve is provided to regulate the amount of feed passing into the discharge auger. For maximum unload performance, do not run the hydraulic system no more than 2500 psi (see gauge). Running over 2500 psi will result in plugging the discharge auger system.

NOTE: Always activate the hydraulic on/off valve to engage the discharge augers before opening the discharge auger shut-off door. When the mixing tank has been unloaded, close the discharge auger shut-off door then shut-off the hydraulic on/off valve .



SUPPLEMENT HOPPER

Snubbers lock the lid on the Supplement Hopper into the closed position. A bag guard is provided to prevent containers from being accidentally drawn into the transfer auger. A flip-over bag breaker allows easy opening of supplement bags.

NOTE: Liquids, such as molasses, should not be poured into the roller mixer as it will cause build-up within various parts of the mixer.



OPTIONAL REAR SUPPLEMENT HOPPER

A rear Supplement Hopper is available in addition to the standard side Supplement Hopper.



OPERATION

OVERLOAD PROTECTION

Gearbox/Mixing Auger Shear Bolt

The mixer is furnished with a shear bolt protecting the gearbox and mixing auger. When the shear bolt fails, the mixing auger will stop turning. This may be a result of an overfull tank, the lid did not release, an obstruction, or some other issue. Shut down the tractor and mixer, disconnect the PTO, and proceed as follows:

1. Close off the hopper feed gate and clean the material out of the hopper area with a scoop or shop vac.
2. Check for a broken chain, drive sprocket or driven sprocket or for sheared keys which hold the sprockets. Replace any damaged parts.
3. Replace the with the recommended shear bolt.
4. If the items in steps above are not at fault, remove the gearbox drive chain and attempt to rotate the gearbox input shaft. If the input shaft turns freely, internal transmission component failure is probable. Remove the gearbox and take it to your nearest dealer for repair.

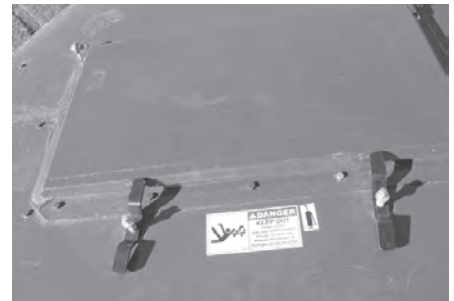
After the cause of the plugging has been corrected, reinstall all components, guards, and shields before resuming operation.

IMPORTANT: Stop mixer operation when the shear bolt fails.

TANK LID

The lid on top of the mixing tank features spring-loaded latches which enables it to be forced open by overflowing material should the tank accidentally become filled beyond capacity. The tank lid will open, allowing the ground feed to spill-out to prevent damage to the mixing auger and drive components.

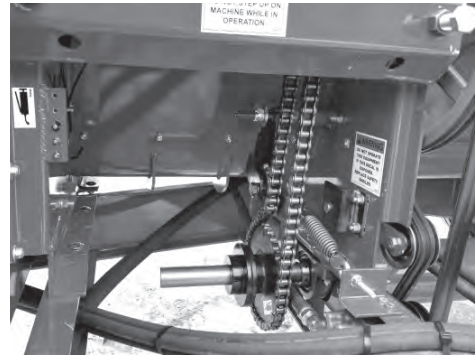
IMPORTANT: Stop mixer operation if the tank lid is forced open. Before restarting to grind or mix, the tank lid must be closed and latches.



ADJUSTMENTS

DRIVE CHAIN

Chain tension is self-adjusted by a spring-loaded idler and requires very little adjustment. There should be approximately a 1/8" gap between the spring coils for proper tension. The chain, sprockets, and spring should all be inspected periodically for signs of wear.



NEEDLE VALVES

An adjustable needle valve is provided on each hose of the discharge auger rotation to control the speed of auger swing to provide smooth rotation. Needle valves are located at the rear of the machine by the hydraulic rotation motor. Unlock the set screw on the valve. Adjust each valve by dialing it left or right to decrease or increase auger rotation speed. After the speed has been set, lock the set screw down.

TANK LID

The tank lid on top of the mixing tank is designed to be self-unlatching in the event that the mixing tank accidentally becomes overfilled. The latching mechanism should be properly adjusted by the latch nut to maintain proper tension on the lid to keep it closed and weather-tight, but still allow it to be forced open from the inside of the tank by overflowing material. If the latch handle can be pulled straight up approximately 1/2" (12 mm), completely compressing the spring, tension is correct.

IMPORTANT: *The latch springs should never be completely compressed when the handle is all the way down or the lid will not open during over filling.*



12' DISCHARGE AUGER

Transport Cradle

The unloading auger must always be moved to and set into the transport cradle before the mixer is transported. If the auger does not set in the cradle, adjust the stop bolt on the vertical rotating auger at the rear of the machine.

3' & 6' Discharge Auger Extensions

The 3' and 6' discharge auger extensions fold back and lock into position with a safety lock pin. If the main pin does not line up with the hole on the bracket of the standard 12' auger, loosen the bolts and adjust the bracket.

SERVICE

HYDRAULIC SYSTEM

Hydraulic Pump Sheave Alignment

The hydraulic pump drive and driven sheaves must be maintained in correct alignment and be tightly secured at all times.

Hydraulic Pump Belt Tension

Overload protection for the hydraulic pump is provided by a self-adjusting spring tightener that requires no adjustment. The idler pulley must be properly positioned to keep the belt aligned with the sheaves.

Hydraulic Reservoir

The oil filter should be replaced once a year or every 75 hours of operation, whichever comes first. The oil should be drained and replaced every two years or every 150 hours of operation, whichever comes first. Keep oil filled to proper level.

GEARBOX/MIXING AUGER SHEAR BOLT

The mixer is furnished with a shear bolt protecting the gearbox and mixing auger. When the shear bolt fails, the mixing auger will stop turning. This may be a result of an overfull tank, the lid did not release, or an obstruction. Shut down the tractor and mixer, disconnect the PTO, and proceed as follows:

1. Close the roller mill inlet.
2. Remove all the material from the hopper.
3. Check for a broken chain, drive sprocket, or driven sprocket or for sheared keys which hold the sprockets. Replace any damaged parts.
3. Replace the with the recommended shear bolt.
4. If the items in steps above are not at fault, remove the transmission drive chain and attempt to rotate the transmission input shaft. If the input shaft turns freely, internal transmission component failure is probable. Remove the transmission and take it to your nearest dealer for repair.

After the cause of the plugging has been corrected, restore all components, guards and shields before resuming operation.

SERVICE

UNLOADING AUGER

If the Unloading Auger System becomes plugged, proceed as follows:

1. Disengage the PTO, shut off tractor, and remove key.
2. Shut the unload auger door and turn off the on/off control valve to the OFF position.
3. Remove the clean-out cover on the vertical unloading auger, and the end cover/bearing on the lower horizontal auger. Remove as much material as possible.
4. Replace the end cover/bearing on the lower horizontal auger and the vertical unloading auger cleanout cover.
5. Hydraulically lower the main discharge auger to the lowest position.
6. Reopen the flow control valve for the lower auger, keeping the discharge auger unloading door closed.
7. Restart the tractor, engage the PTO, and turn on the on/off control valve to clear the remaining material from the discharge augers.
8. Open the discharge auger unloading door making sure that the hydraulic gauge pressure does not exceed 2500 psi.

NOTE: *If the plugging is due to an improperly attached extension, check and correct before attempting to resume unloading.*

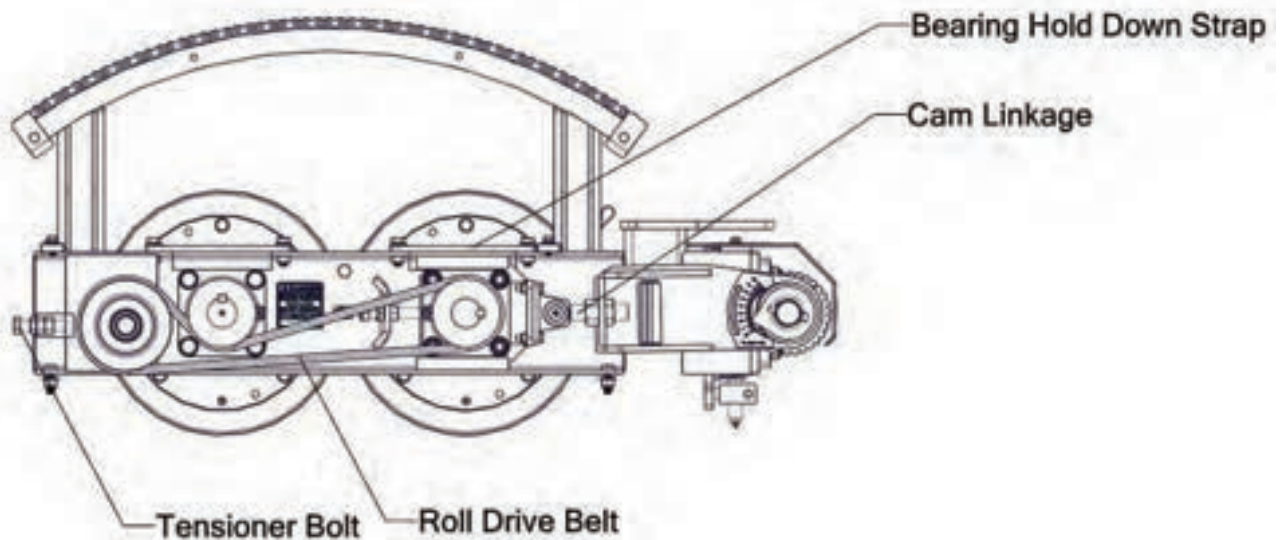
TIRES & WHEELS

Check the tire pressure after every 50 hours of operation. Tires should be inflated to 80 psi (563 kpa). Wheel lugs torque should also be checked after every 50 hours of operation and tightened to 90 ft. lb. (124 nm) torque.

SERVICE

REMOVAL OF ROLLS FOR SERVICING

1. With power disconnected, loosen the jam nuts on each of the spring tension bolts and relieve all pressure from the spring.
2. Relieve the tension on the drive motor belts and remove.
3. Relieve the tension on the cross auger drive belts and remove the belts.
4. Loosen the wing nuts holding the top hopper down and lift the topper up, over center, gently setting it on the rests.
5. Loosen and remove the bearing hold-down straps.
6. Remove the bolts that tie the cam linkage to the bearing.
7. Loosen the brake and turn the cam controller to create space between the bearings and the cam linkage.
8. Remove 1 roll at a time. Note: Rolls are heavy. Take appropriate precautions.



SETTING DRIVE ROLLS AFTER INSTALLATION

- REFER TO SETTING UP THE ROLLER MILL IN THE OPERATIONS CHAPTER.

Checking Roll Gap Before Operation

Prior to start-up, ensure that the roll gap is preset to the desired setting by putting a 1 bushel sample through the rolls at rated speed. This will indicate what the sample will look like during normal operation. Adjust the gap and spring pressure as necessary based on the rolled sample, using the cam system.

OPTIONAL FEATURES & ACCESSORIES

UNLOADING AUGER EXTENSIONS

3' Folding Auger Extension

The 3' folding discharge auger extension kit consists of a 3' length of auger which is attached on a pivoting mounting bracket to the end of the 12' unloading auger, and a Cradle Extension.

NOTE: The 3' folding auger extension must be folded back and locked in position for transport if the tractor cab is an obstruction.



6' Folding Auger Extension

The 6' folding discharge auger extension kit consists of a 6' length of auger which is attached on a pivoting mounting bracket to the end of the 12' unloading auger, and a Cradle Extension.

NOTE: The 6' folding auger extension must be folded back and locked in position for transport if the tractor cab is an obstruction.



ELECTRONIC SCALES & COMPONENTS

Model: Digi-Star EZ 2500

An optional factory installed Digi-Star EZ 2500 scale is available for accurate weight measurement. The 3-point Weighbar System features 3 modes, Net, Tare and Gross.



Model: Digi-Star EZ 3410 w/External Horn

An optional factory installed Digi-Star EZ 3410 scale is available with all the features of the EZ 2500, plus an external horn, and has the capability for entering rations.

NOTE: For operation and troubleshooting refer to the TopCon/Digi-Star user manual

Intake Auger

An optional hydraulic drive Intake Auger attachment conveys material into the mill. The intake auger can be swung in and locked against the mixer tank support brace for transporting, or swung out and at any point. A speed control handle is provided for stopping and starting auger rotation, as well as regulating the feeding rate of material being fed into the mill hopper. Shields and screens are in place for your safety; Do not remove them.

LUBRICATION

GENERAL INFORMATION

IMPORTANT: *The Mixer must be properly lubricated, the gearbox and oil reservoir must be filled to the proper oil levels before it can be operated.*

IMPORTANT: *Catch and dispose of fluid per local waste disposal regulations whenever service is performed on hydraulic components (valves, cylinders, hoses, etc.) or gearbox.*

GEARBOX OIL LEVEL

NOTE: *Check the fluid level in the mixer gearbox periodically by removing the plug located on the transmission. Requirements: 1-1/2 U.S. Pints (0.7 liters) of SAE #140 Gear Lube.*

Check the gearbox occasionally for oil drips and dust accumulation around the seals. Oil drips or dust accumulation indicate that seals are leaking.

Water is present in the oil if the oil is tan in color and foams excessively. Drain and replace the lubricant immediately.

NOTE: *Fill the transmission gearbox to the bottom of the inspection plug hole - Do not overfill!*

OILING

The chains on the Mixer should be lubricated every 15-20 loads using a good grade of lubricant. Spray the entire chain on the center of the rollers.

OIL RESERVOIR

Check the oil reservoir daily. Oil level should be between Max/Min level marks. Fill as needed using Exxon Nuto H46 or Equivalent.

GREASE

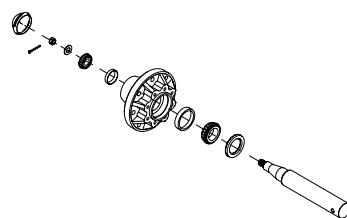
Use an S.A.E. multi-purpose high temperature grease with extreme pressure (EP) performance. An S.A.E. multi-purpose, lithium-base grease is also acceptable.

1. Use only a hand-held grease gun for all greasing.
2. Wipe grease fittings with a clean cloth before greasing to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If a fitting will not take grease, remove and clean thoroughly. Clean the lubricant passageway also. Replace fittings as necessary.

WHEEL BEARING LUBRICATION, CLEAN & REPACK INSTRUCTIONS

Grease wheel bearings as needed through the zerks on each wheel hub depending on amount of travel.

Annually disassemble and clean parts in a solvent. Pack bearings with a high grade grease. Reassemble, and tighten nut until a slight drag is felt when wheel is turned. Back nut off and insert cotter pin into first hole that you see as you back the nut off, bend cotter pin over and reinstall cap.



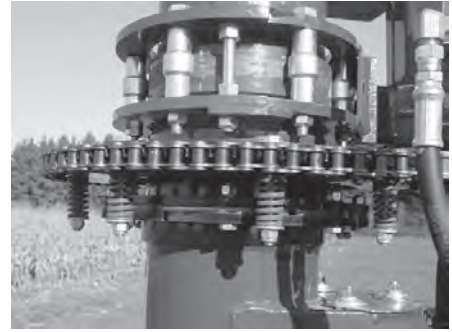
LUBRICATION



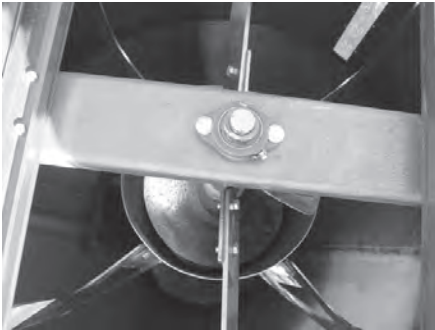
Telescoping PTO Drive (3 zerks)



Transfer Auger & Main Drive Shaft Front Bearings (1 zerk each under shield)



Unloading Auger Pivot Collar (4 zerks - 2 on the top of the collar & 2 on the bottom of the collar)



Top of Mixing Auger (1 zerk - under top of tank cover)



Main Drive Shaft Intermediate Bearing (1 zerk under shield)



Unloading Auger (1 zerk on the top of vertical section auger and 4 zerks on vertical auger pivot.)



#1 Discharge Auger Bearing (1 zerk under shield)



Main Drive Shaft U-Joints (1 zerk on each end under shield)



Unloading Auger- (1 zerk at the end of the auger discharge spout)



Discharge Auger (1 zerk)



Roller Adjustment (1 zerk)



Supplement Hopper Auger Bearing (1 zerk)



#1 Discharge Auger End Bearing (1 zerk)

DECAL LOCATION

Your H&S Mixer was manufactured with operator safety in mind. Located on the Mixer are various decals to aid in operation and to warn of danger or caution areas. Pay close attention to all the decals on your Mixer.

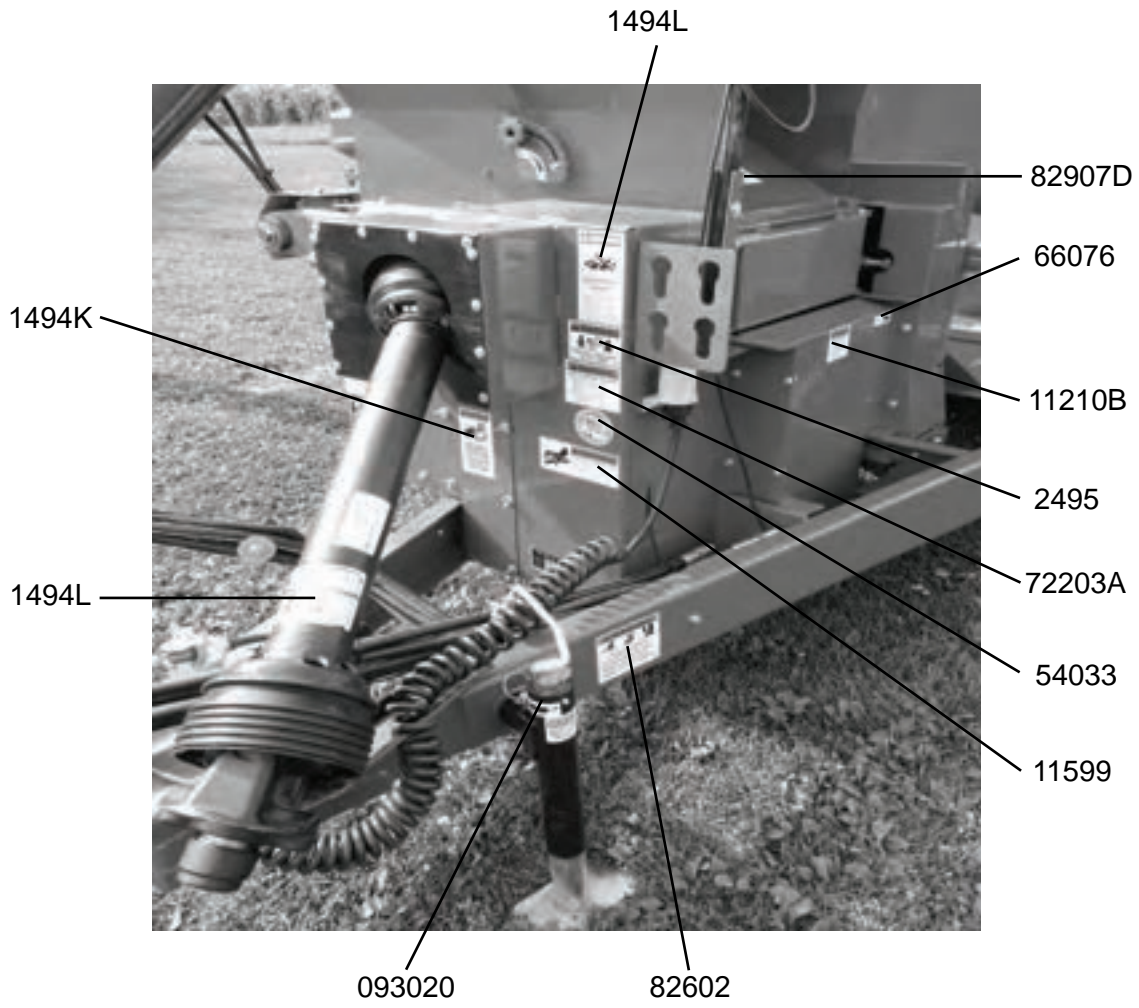


**DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF YOUR ROLLER MIXER IS REPAINTED, REPLACE DECALS.
REMEMBER: DECALS ARE FOR YOUR PROTECTION AND SAFETY.**

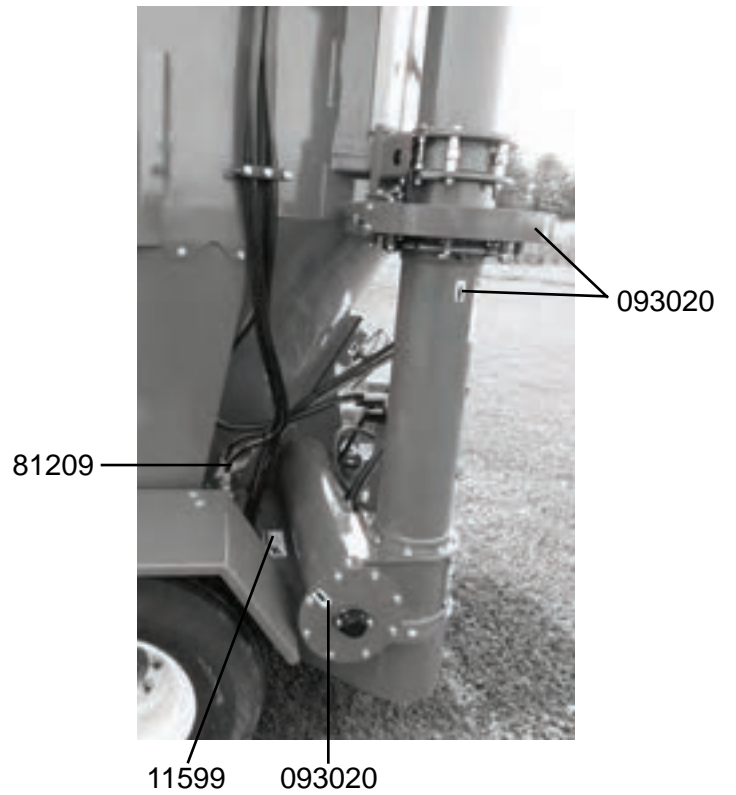
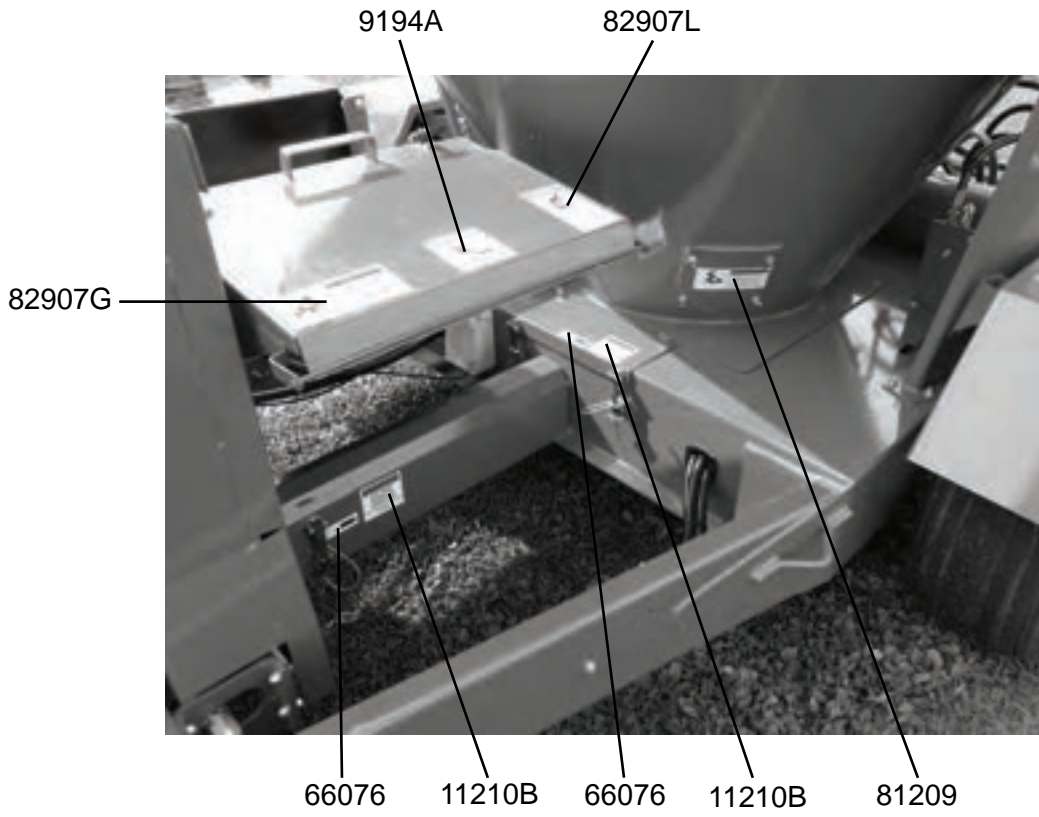
Listed below are the decals on your Mixer. These decals may be ordered individually by part number.

<u>Part #</u>	<u>Qty</u>	<u>Description</u>
311	1	Patent Number
1494J	1	Do not clean or work on this machine without first disengaging power
1494K	1	Do not remove shields - moving parts inside
1494L	2	Rotating driveline
1494P	3	Maintain safe clearance from electrical power lines
2495	1	Keep children away at all times
9194A	5	No step - stay clear
11210B	4	Do not remove shields - rotating parts inside
11599	6	Do not go near leaks
32597A	2	Do not operate this equipment if this decal is exposed.
51010	3	Pinch Point
54033	1	Made in USA 3"
66076	4	Located Behind Shield
72203A	1	Help avoid injury - Read and understand the operators manual
72538	1	Do not operate this equipment if this decal is exposed.
81209	5	Warning - Never Remove Panel with Machine Running
82602	2	Crushing Hazard
82907A	2	Stay clear of discharge auger
82907B	1	Stay clear of auger extension hinge area
82907C	2	Stay clear - Keep hands and feet away from auger at all times
82907D	2	Stay clear - Rotating parts inside
82907F	2	Keep out - Do not enter tank - Keep cover closed
82907G	3	Stay clear - Keep hands out of supplement hopper
82907I	1	Do not step up on machine while in operation
82907L	3	Never allow riders on this machine
83731	2	Roller Mixer Branding Decal
84044	1	FEMA Decal
84045	1	H&S Since 1967
84754	1	7117 Model # Decal
84756	1	Front Branding Decal
093020	16	Grease zerk Decal
093366	1	Keep Operator's Manual Here
DCRED	2	Red Reflector
DCAMB	2	Amber Reflecto

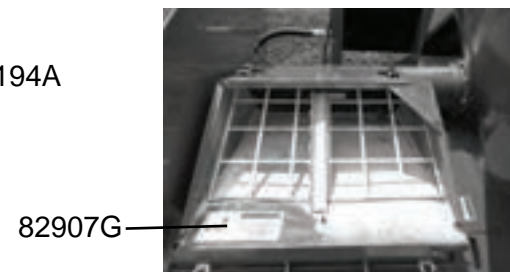
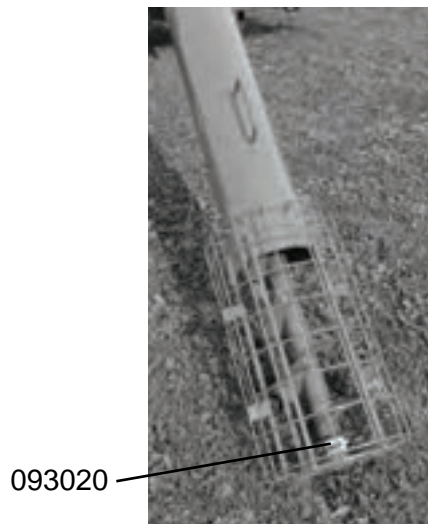
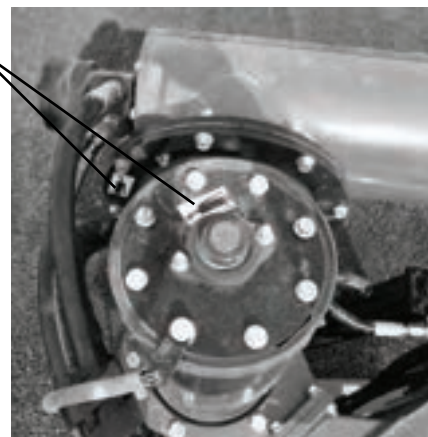
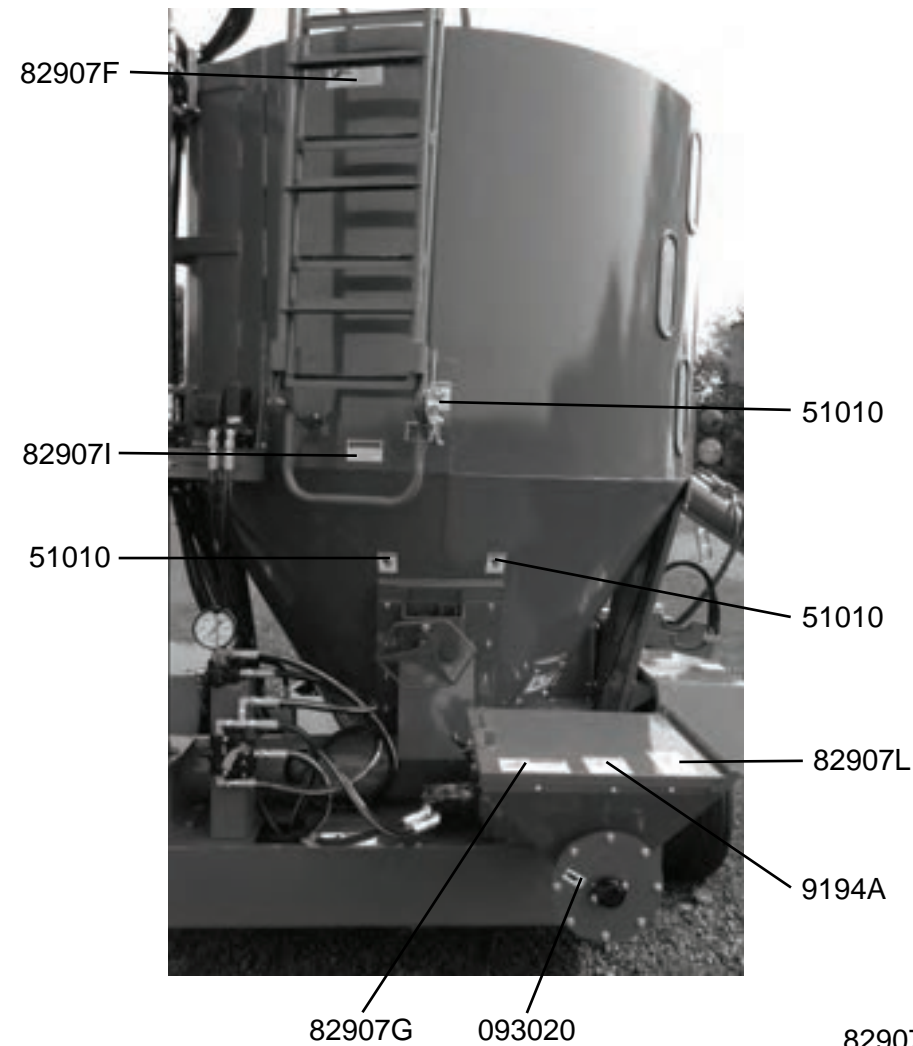
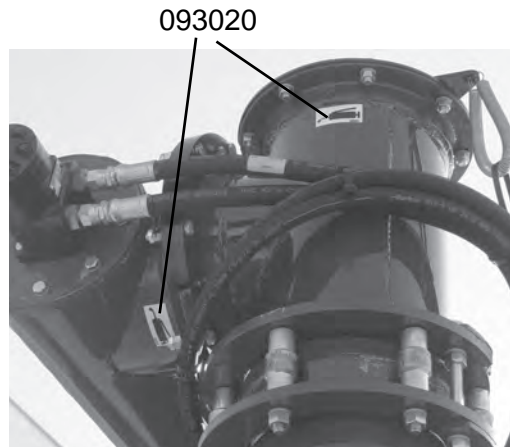
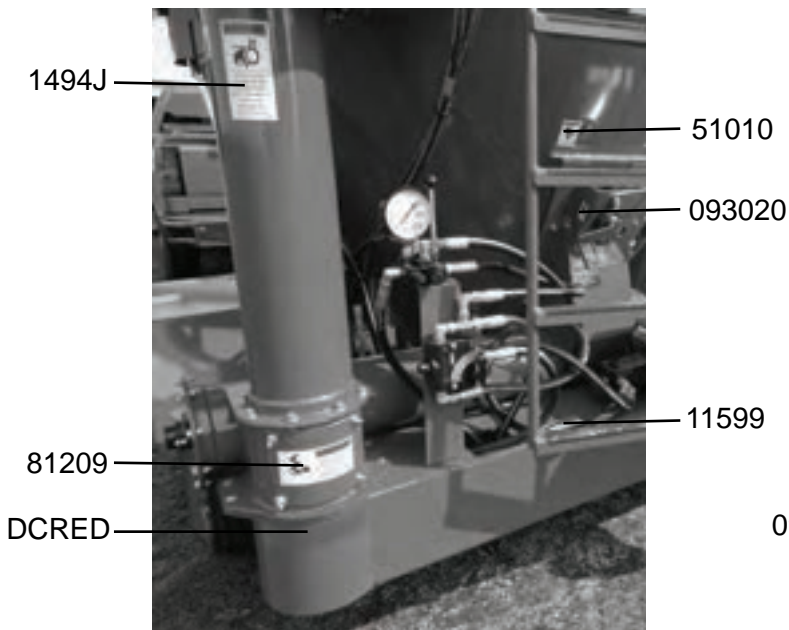
DECAL LOCATION



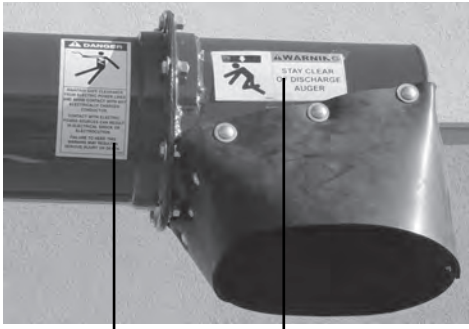
DECAL LOCATION



DECAL LOCATION

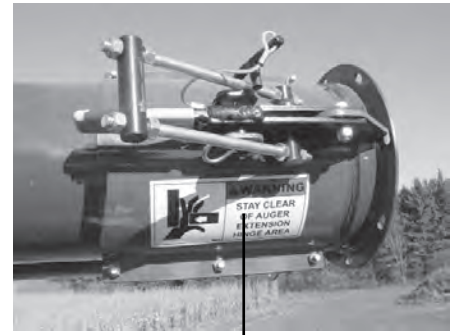


DECAL LOCATION

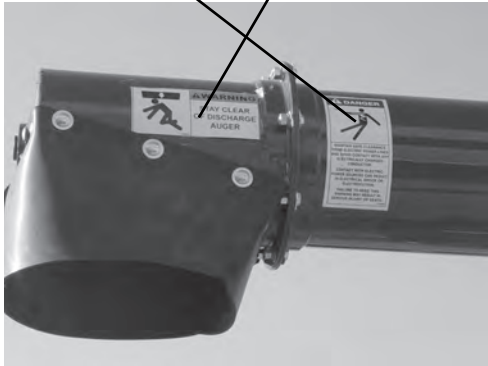


1494P

82907A



82907B



82907F



11599

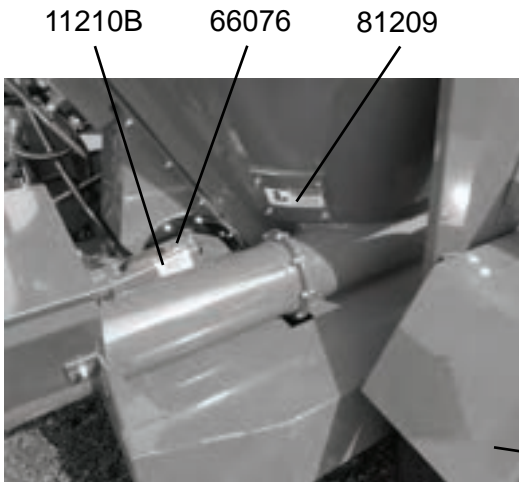
093020

72538



9194A

82907C



11210B

66076

81209

9194A

81209

11599

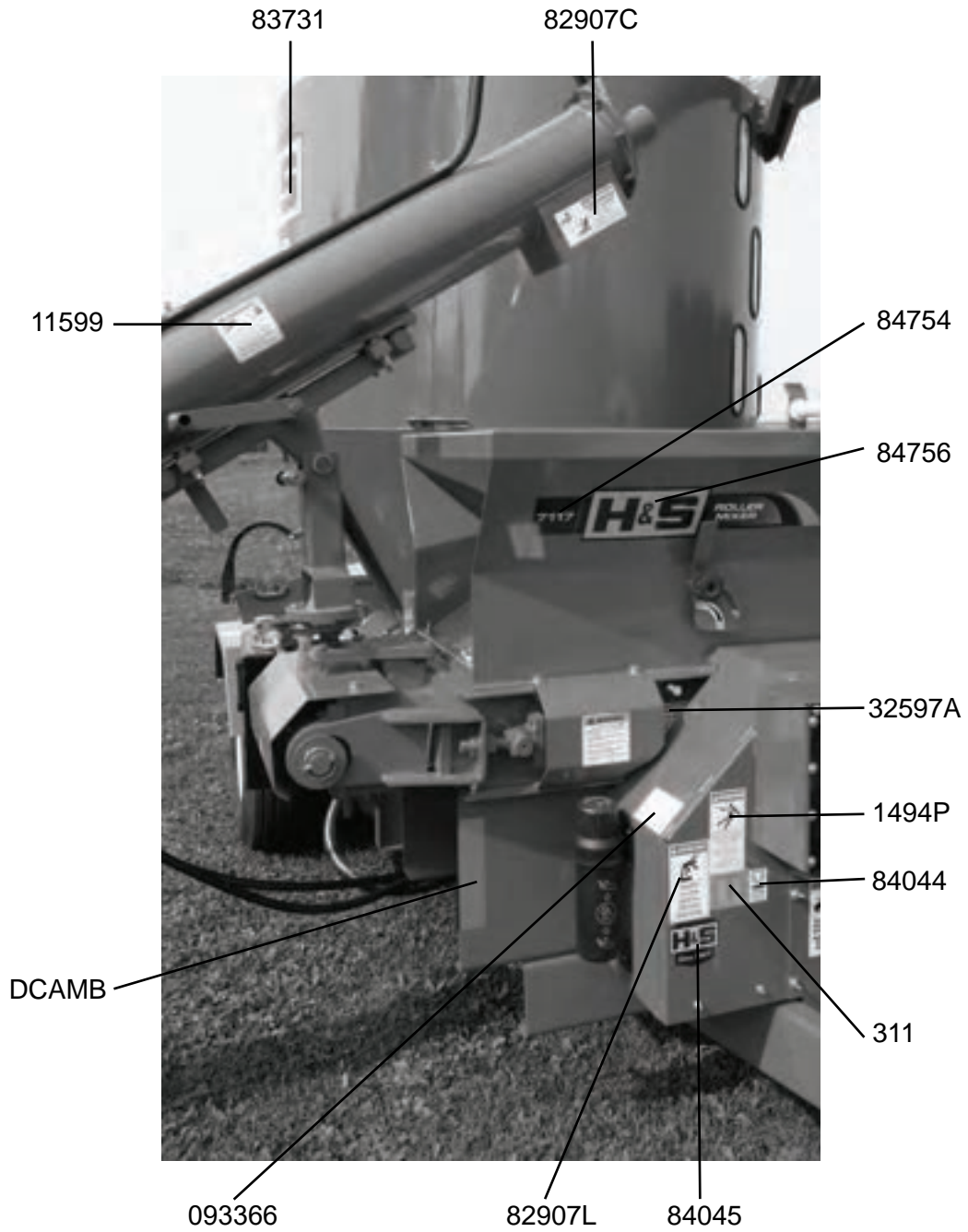
82907D

093020

82602

DCRED

DECAL LOCATION



ROLLER MILL TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Whole grain in sample.	Wear plate not adjusted.	With power disconnected & rolls not rotating, use a 3/4" wrench to loosen the jam nut on the wear plate adjuster. Adjust the wear plates in so that there is minimal clearance between the end of the rolls & the wear plates and tighten the jam nuts. This will prevent any whole grain from passing around the end of the rolls. Maintain position of the poly 'V' section to cover the chamfer at the ends of rolls. Replace as necessary.
Wear plates and poly 'V' adjusted, roll gap at the desired setting, whole grain in sample when gate is opened for increased flow.	Rolls are opening up when negative pressure is applied from grain going between rolls.	Decrease flow of grain by closing the inlet gate or increase the spring pressure by turning the spring adjusting bolts clockwise. NOTE: When increasing spring pressure, add pressure by turning the adjusting bolts in increments of a 1/2 turn inward at a time. i.e. (1) adjust in 1/2 turn increments (2) check sample, if not as desired repeat steps 1 & 2.
Wear plates checked, spring pressure is sufficient, cam positional indicator adjusted to the #1 position or less, gap still too wide for desired rolling.	Roll has worn or is out of adjustment.	See Section 4.4.1 & 4.4.2 for resetting roll gap.

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FEMA
SEAL OF QUALITY



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