

Farm King

OPERATOR AND PARTS MANUAL

Hammermill

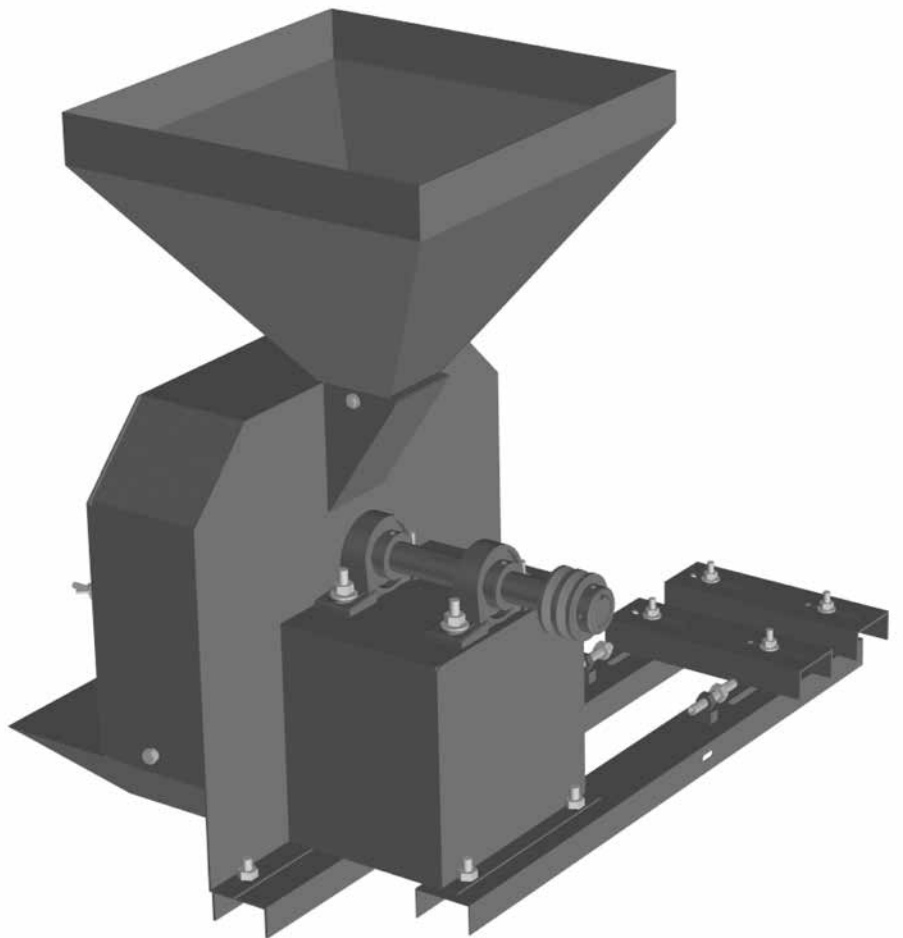


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Manufacturer’s statement: for technical reasons Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on soil fertility, applied agricultural techniques, weather conditions and other factors.

Introduction

Farm King hammermills are designed to maximize the nutritional value of feed. Built with durable, heavy-gauge materials, Farm King hammermills deliver top-quality processed grain with minimum maintenance and low operating costs.

Keep this manual handy for frequent reference. All new operators or owners must review the manual before using the equipment and at least annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.buhlerindustries.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel of the implement.

Safety

Safety Instructions

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

The alert symbol is used throughout this manual. It indicates attention is required and identifies hazards. Follow the recommended precautions.



The safety alert symbol means...

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



CAUTION

The caution symbol indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



WARNING

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

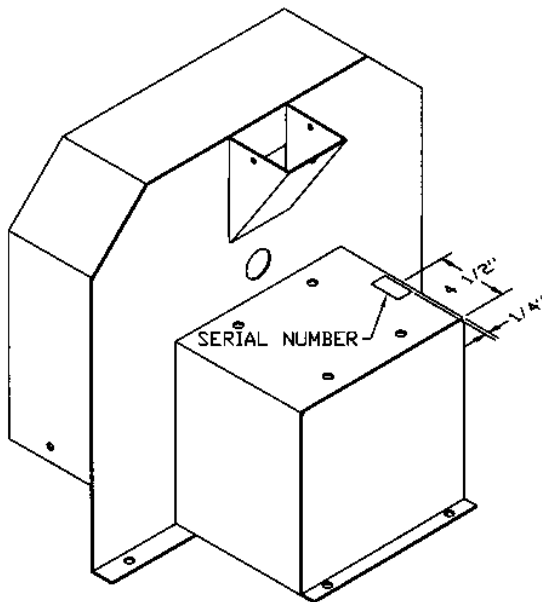


DANGER

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

Assembly Instructions

- Mount the motor on the motor mount and install the belts provided. Belts must be tight.
- Hammermill can be driven in either direction.
- Mount the pulleys and belts before attaching the guard. Slide the guard over the pulleys and belt. The top swivel end of the guard bolts on using one of the pillow bearing bolts as shown on drawing. A 5/16" x 1-1/4" bracket connects the guard to the hole in the side of the motor mount. Be sure the back plate is in place before using the hammermill.
- The screen fits into the ring with the clip (where screen is joined) on top. After the screen is in place, turn screen so it is locked into position and then install the front cover.



HM-02

Operation Instructions

- The Model 60 Hammermill is a six-inch hammermill and is designed to run at the speed of 3600 rpm.
- The power requirement for the mill is either a 3 hp or 5 hp electric motor, 3450 rpm. A 3-1/2" pulley is required for the motor shaft. It is wise to install an ammeter gauge on the motor to prevent overloading the motor. A 12 hp stationary engine can also be used to run the hammermill.

Screens

- Screens are available in the following sizes: 3/32", 1/8", 5/32", 3/16", 1/4", 5/16", 3/8" and 1/2" mesh.
- Use a 3/32" screen when very fine feed is needed as for small pigs. For average feeder pigs, a 1/8" screen can be used. Cattle feed can be hammered with a 1/4" or 5/16" screen. A 1/2" screen is available for coarse grinding.

Maintenance

Maintenance

- The hammers are 4-way reversible and made of high carbon steel to provide longlasting wear.
- When reversing hammers, reverse the complete set or the rotation balance of the cylinder will be affected.

Lubrication

- Providing grease does not escape from bearings, they should be greased every 40 working hours. Only small amounts of grease to be used with each greasing. Over greasing will cause the oil seals to break thus allowing grease to escape and dust to enter. Over greasing will also cause the bearing to heat.



ALERT

Some bearings might be sealed bearings, therefore, no lubrication will be required.

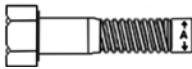



Vibration

- If the hammers are locked with each other they cause vibration. If machine vibrates, check if all hammers are running freely. Broken hammers should always be replaced, as this affects the rotating balance of the cylinder.

Bolt Torque

Checking Bolt Torque

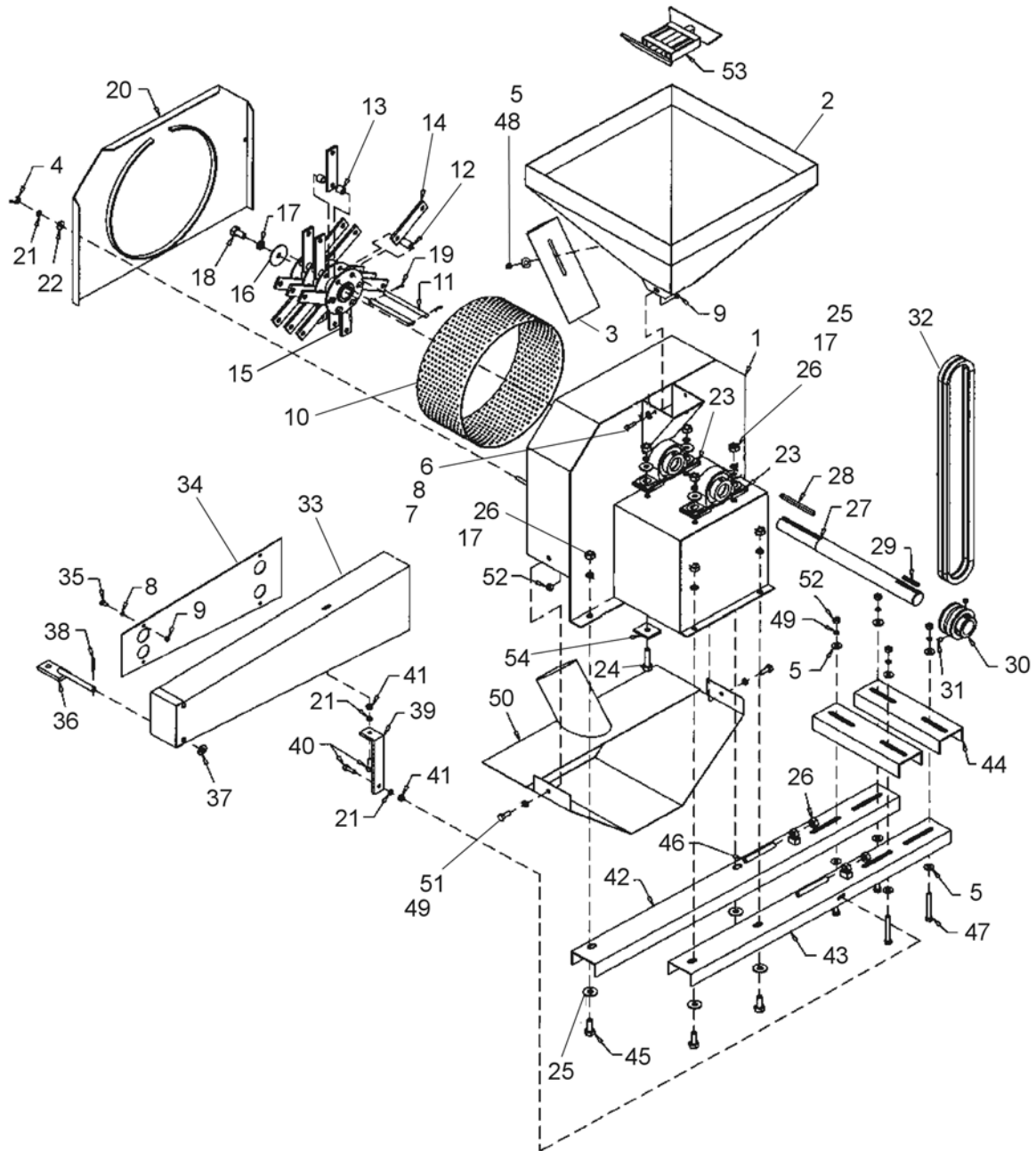
The tables shown below give correct torque values for various bolts and hex bolts. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Bolt Torque*						
						
Bolt Diameter	Grade 2 Bolts		Grade 5 Bolts		Grade 8 Bolts	
(inches)	SAE 2		SAE 5		SAE 8	
"A"	(lb-ft)	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(N.m)
0.25 (1/4)	6	8	9	12	12	17
0.313 (5/16)	10	13	19	25	27	36
0.375 (3/8)	20	27	33	45	45	63
0.438 (7/16)	30	42	53	72	75	100
0.5 (1/2)	45	61	80	110	115	155
0.563 (9/16)	70	95	115	155	165	220
0.625 (5/8)	95	128	160	215	220	305
.75 (3/4)	165	225	290	390	400	540
0.875 (7/8)	170	230	420	570	650	880
1	225	345	630	850	970	1320

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or hex bolts unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

*Torque value for bolts and hex bolts are identified by their head markings.

Hammermill Assembly Drawings



When Ordering Parts

Always give your dealer the Model, Color and Serial Number of your machine to assist him in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

Item	Part Number	Description	Qty.
1	968612	MAIN BODY WELDT HM	1
2	968615	HOPPER WELDT HM	1
3	968614	GRAIN CONTROL HM	1
4	968601	NUT WING 0.313NC GR2 PL	AR
5	84000	WASHER FLAT STD 0.438 HS PL	AR
6	81527	BOLT HEX 0.250NC X 1.00GR5PL	AR
7	81546	WASHER 0.313 FLAT STD HS PL	AR
8	81545	WASHER LOCK 0.250 PL	AR
9	81544	NUT HEX 0.250NC GR2PL	AR
10	F5110	SCREEN 6" X 3/32" #60HM	1
10	F5111	SCREEN 6" X 1/8" #60HM	1
10	F5112	SCREEN 6" X 5/32" #60HM	1
10	F5113	SCREEN 6" X 3/16" #60HM	1
10	F5114	SCREEN 6" X 1/4" #60HM	1
10	F5115	SCREEN 6" X 5/16" #60HM	1
10	F5116	SCREEN 6" X 3/8" #60HM	1
10	F5117	SCREEN 6" X 1/2" #60HM	1
11	968609	HAMMER SHFT HM	6
12	968606	SPACER - LONG (12 USED) HM	12
13	968607	SPACER - SHORT (12 USED) HM	12
14	968626	HAMMER SET (SET OF 18) HM	1
15	968625	ROTOR - C/W HAMMERS HM	1
15	968605	ROTOR - LESS HAMMERS HM	1
16	968604	WASHER 2.266"OD X .5"ID HM	AR
17	81637	WASHER LOCK 0.500 PL	AR
18	81619	BOLT HEX 0.500NC X 1.00GR5PL	AR
19	9812431	COTTER PIN 0.188 X 0.75 BR	AR
20	915493	WELDT-COVER	1
21	81569	WASHER 0.313 LOCK PL	AR
22	81570	WASHER FLAT STD 0.375 HS PL	AR
23	968616	HOUSING W/BRG PILLOW P208-108	2
23	968627	BRG W/COLLAR (AEL208-108)1 1/2	2
24	811791	BOLT HEX 0.500NC X 2.00GR5PL	AR
25	81638	WASHER FLAT STD 0.563 HS PL	AR
26	81636	NUT HEX 0.500NC GR2PL	AR
27	914933	MAIN SHAFT (NOV. 2013 & UP)	1

Item	Part Number	Description	Qty.
27A	968621	MAIN SHFT HM (2003TO OCT. 2013)	1
28	968618	KEY 5/16" X 4 1/2"	1
29	906021	KEY .38"SQ X 2.63" 16"BS MULTI (NOV. 2013 & UP)	1
29A	968811	KEY 1/4" X 2" (2003TO OCT. 2013)	1
30	914934	3 1/4" DOUBLE PULLEY (NOV. 2012 & UP)	1
30A	968620	SHEAVE 3 1/4" DBL 1.5" BORE HM (2003TO OCT. 2013)	1
31	988999	SETSCREW SCKT SER .375NCX0.38BR	2
32	968624	BELT B57 MATCHED PAIR	2
33	968659	GUARD WELD'T #60 HM (6 PULL)"	1
34	968657	GUARD BACK PLATE #60 HM (6PU)"	1
35	81523	BOLT HEX 0.250NC X 0.50GR5 PL	AR
36	968647	GUARD SWIVEL #60 HM	1
37	84048	WASHER FLAT SAE 0.500 BS PL	AR
38	9812433	COTTER PIN 0.188 X 1.50 PL	AR
39	968658	GUARD MTG BRACKET #60 HM(6PU)"	1
40	812026	BOLT HEX 0.313NC X 1.00GR5PL	AR
41	81568	NUT HEX 0.313NC GR2 PL	AR
42	968610	MOTOR MOUNT LONG HM	1
43	968623	MOTOR MOUNT - SHORT HM	1
44	968622	MOTOR MOUNT BRKT HM	2
45	81620	BOLT HEX 0.500NC X 1.25GR5PL	AR
46	9812380	SETSCREW SQHDCUP .500NCX4.00PL	AR
47	81583	BOLT HEX 0.375NC X 3.00GR5PL	AR
48	84217	NUT WING 0.375NC GR2 PL	AR
49	81593	WASHER 0.375 LOCK PL	AR
50	F5120	HOPPER DISCH 60HM	1
51	86170	BOLT HEX 0.375NC X 1.00GR5PL	AR
52	81592	NUT HEX 0.375NC GR2 PL	AR
53	F5121	MAGNET 60HM	1
54	904576	SUP HSG 1.75X2" HM (06&UP)	4

Shipping Kit and Bundle Numbers

The following is a list of Kit Numbers for this product and the Bundle Numbers, Descriptions, and Quantities for each Kit.

Quantity	Bundle Number	Description
1	F5100	Hammermill
1	F5101	Hopper
1	F5103	Belt Guard

Optional Bundle Numbers

The following is a list of options available for the Kits listed above.

Quantity	Bundle Number	Description
1	F5121	Magnet
1	F5120	Discharge Hopper

Farm King Limited Warranty

This document limits your warranty rights.

Base Limited Warranty

Buhler Industries Inc. provides this warranty only to original retail purchasers of its product. Buhler Industries Inc. warrants to such purchasers that all Buhler Industries Inc. manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of 12 months (80 days for commercial applications). This limited warranty applies only to those parts and components manufactured by Buhler Industries Inc. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Buhler Industries Inc. will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Buhler Industries Inc. within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Buhler Industries Inc. reserves the right to either inspect the product at the buyer's location or have it returned to the factory for inspection. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Buhler Industries Inc. will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Buhler Industries Inc. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance. Also: Buckets and Bucket Tines carry no warranty, Bent Spears carry no warranty, Snowblower Fan Shafts carry no warranty, Mower Blades carry no warranty, Portable Auger Parts Have Two (2) Year Warranty, Loader Parts Have Two (2) Year Warranty. The purchaser is solely responsible for determining suitability of goods sold. This warranty is expressly in lieu of all other warranties expressed or implied. Buhler Industries Inc. will in no event be liable for any incidental or consequential damages whatsoever. Nor for any sum in excess of the price received for the goods for which liability is claimed.

Repair Parts Limited Warranty

Buhler Industries Inc. warrants Farm King replacement parts purchased after the expiration of the Buhler Industries Inc. Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Buhler Industries Inc. will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Buhler Industries Inc. within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to Buhler Industries Inc. at the purchaser's expense.

What is Not Covered

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Buhler Industries Inc.; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and or authorized by Buhler Industries Inc.

Authorized Dealer and Labor Costs

Repairs eligible for labor under this limited warranty must be made by Buhler Industries Inc. or an authorized Farm King dealer. Buhler Industries Inc. retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Buhler Industries Inc. determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Buhler Industries Inc. will not approve or pay invoices sent for repairs that Buhler Industries Inc. has not previously approved. Warranty service does not extend the original term of this limited warranty.

Warranty Requirements

To be covered by warranty, each Farm King new product must be registered with Buhler Industries Inc. within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Buhler Industries Inc. will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

Warranty Claims:

Warranty requests must be prepared on Buhler Industries Inc. Warranty Claim Forms with all requested information properly completed. Warranty Claims must be submitted within a thirty (30) day period from date of failure repair.

Warranty Labor:

Any labor subject to warranty must be authorized by Buhler Industries Inc. The labor rate for replacing defective parts, where applicable, will be credited at 100% of the dealer's posted shop rate.

Exclusive Effect of Warranty and Limitation of Liability

TO THE EXTENT PERMITTED BY LAW, BUHLER INDUSTRIES INC. DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, BUHLER INDUSTRIES INC. DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON BUHLER INDUSTRIES INC.'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON PRODUCTS MANUFACTURED BY BUHLER INDUSTRIES INC. ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL BUHLER INDUSTRIES INC. BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT.

(Note that some provinces or states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from province to province or state to state.

Buhler Industries Inc. neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Buhler Industries Inc. to the purchaser, and Buhler Industries Inc. shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Buhler Industries Inc.'s ability to obtain materials or manufacture replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

Government Legislation:

Warranty terms and conditions are subject to provincial or state legislation.

Important Note: This warranty does not apply to rentals.

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