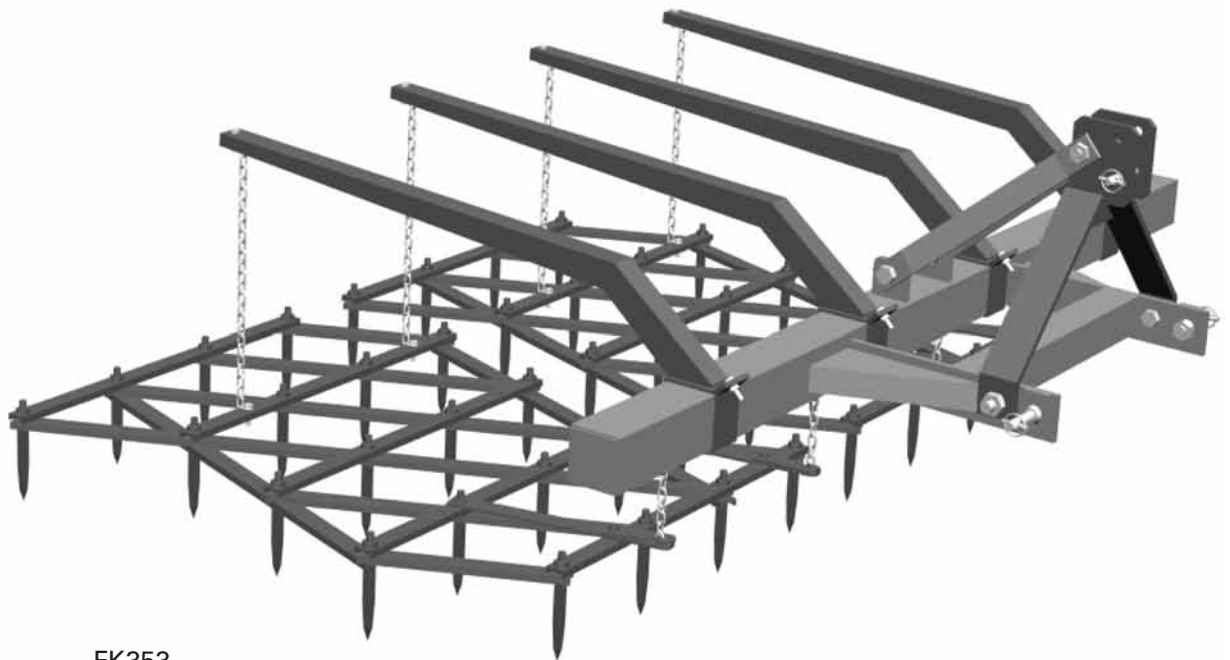


# Farm King

## OPERATOR AND PARTS MANUAL

### Drag Harrow

80" & 100" Model





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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

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The Buhler Farm King Drag Harrow 3-point hitch harrow is ideal for freshening horse paddocks and pastures. It also helps to dry out your yard or driveway when conditions are wet. 80" and 100" bars accept any combination of 40" and 60" harrow sections, giving a maximum ground coverage of 10'. This product is Quick Hitch compatible.

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](http://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

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### 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.

## General Safety Instructions

- Have a first-aid kit available for use and know how to use it.
- Have a fire extinguisher available, stored in a highly visible location, and know how to use it.
- Wear appropriate protective gear. This list may include but is not limited to:
  - hard hat
  - protective shoes with slip resistant soles
  - protective glasses or goggles
  - heavy gloves
  - wet weather gear
  - hearing protection
  - respirator or filter mask
- Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing, or unplugging the equipment.
- Do not attempt any unauthorized modifications to your Farm King product as this could affect function or safety, and could affect the life of the equipment.
- Inspect and clean the working area before operating.
- Keep hands, feet, clothing, and hair away from moving parts.
- Ensure bystanders are clear of the area before operating.

## Start-up Safety

- Do not let inexperienced operators or children run this equipment.
- Operate only with ROPS and seatbelt equipped tractors.

## Operation Safety

- Do not permit riders.
- Do not wear loose fitting clothing during operation.

## Transport Safety

- Review Transport Safety instructions in tractor manual before moving.
- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.

## Service and Maintenance Safety

- Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Support the equipment with blocks or safety stands before working beneath it.
- Follow good shop practices including:
  - keep service area clean and dry
  - be sure electrical outlets and tools are properly grounded
  - use adequate light for the job.
- Use only tools, jacks, and hoists of sufficient capacity for the job.
- Use heavy leather gloves to handle sharp objects.

## Storage Safety

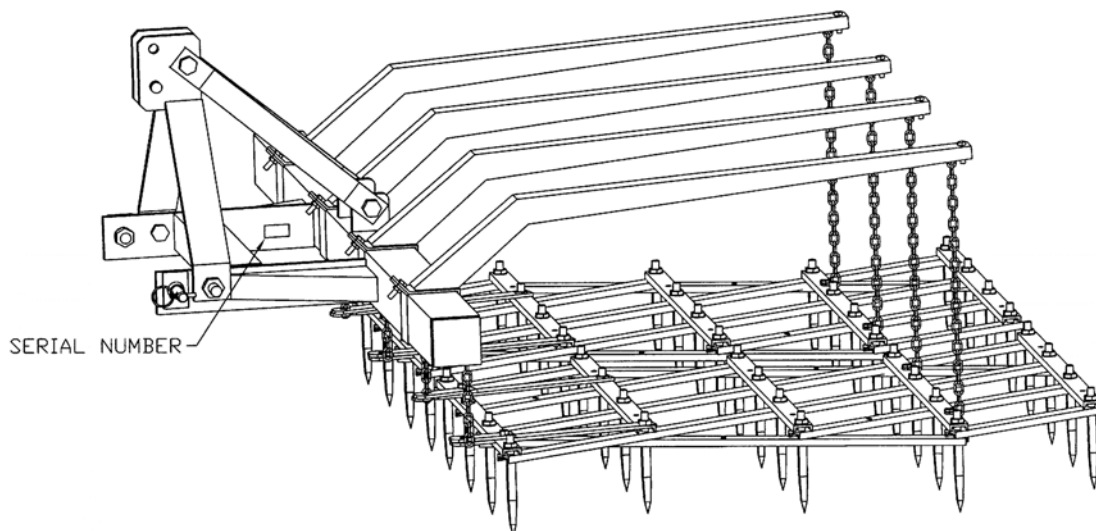
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Support the frame on stands and blocks to provide a secure base.

## Safety Signs

- Keep all safety signs clean and legible and replace any that are damaged or missing.
- When original parts are replaced, any safety signs affixed to those parts should be replaced as well. Replacement safety signs are available from your local dealer.

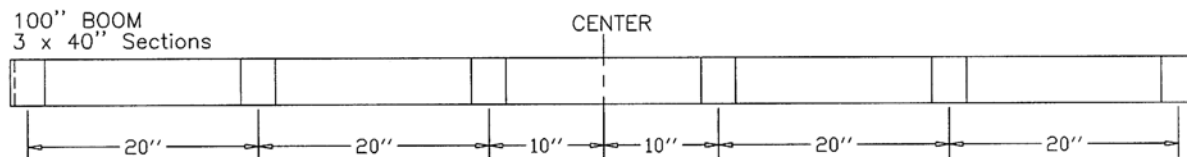
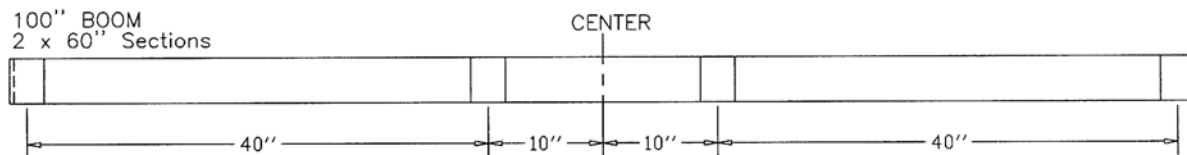
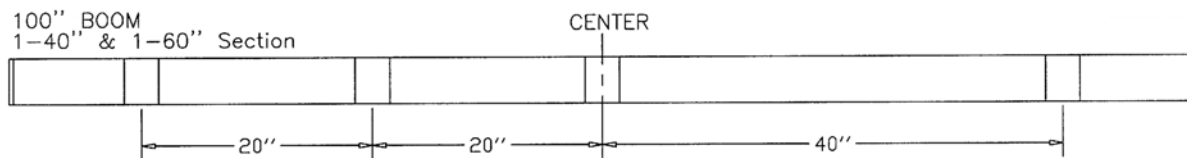
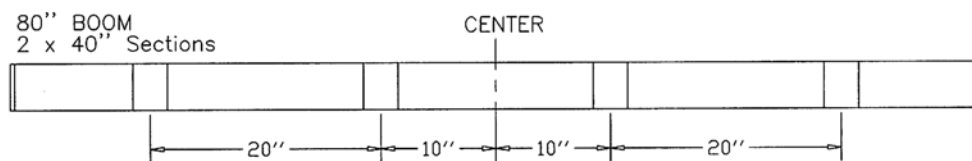
## Installation

- To install safety signs, ensure the installation area is clean and dry. Decide on the exact position before you remove the backing paper. Remove the smallest portion of the split backing paper and align over the specified area. Carefully press in place.
- Slowly peel back the remaining paper and smooth the remaining portion in place. Small air pockets can be pierced with a pin and smoothed out.



## Assembly Instructions

1. Assemble the hitch (#1), boom (#2) and braces (#3) using the hardware supplied.
2. Mount the assembly on the tractor using the three point pins.
3. Space the stakes according to the size of harrow sections used (see drawing on next page). Mount the stakes using stake caps, 1/2" x 1-1/2" hex bolts, 1/2" lock washers and 1/2" hex nuts. Simultaneously fasten the 10-link drag chain between the stake and stake cap using the same bolts. A 7/16" long spacer is fitted in the last link of drag chain. The bolt goes through the spacer and prevents the chain from being clamped tight.



DH-02

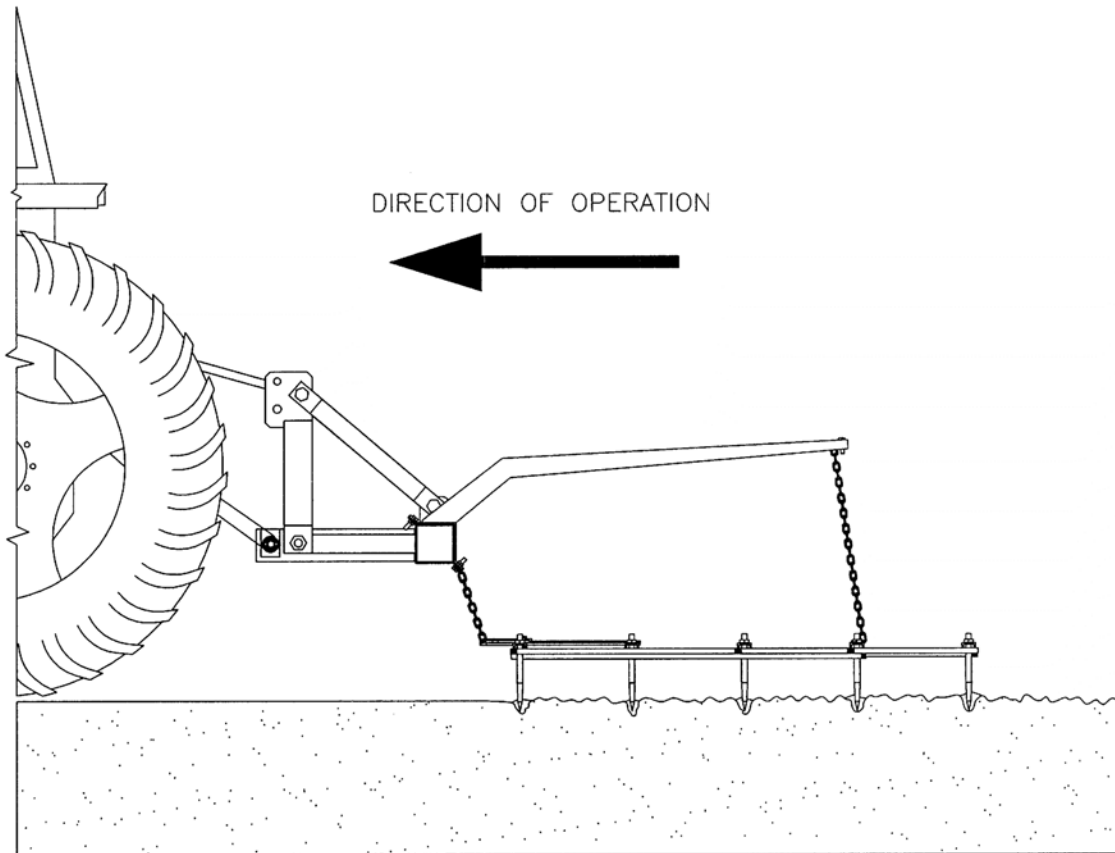
4. Bolt the 1/4" lift chains to the top of the stakes using 3/8" x 1-1/2" hex bolts, flat washer and lock nuts. Use about 21 links on the lift chain to attach the stake to the harrow section.



# Operation Instructions

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## Theory of Operation

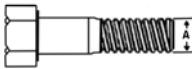





DH-04

## 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.

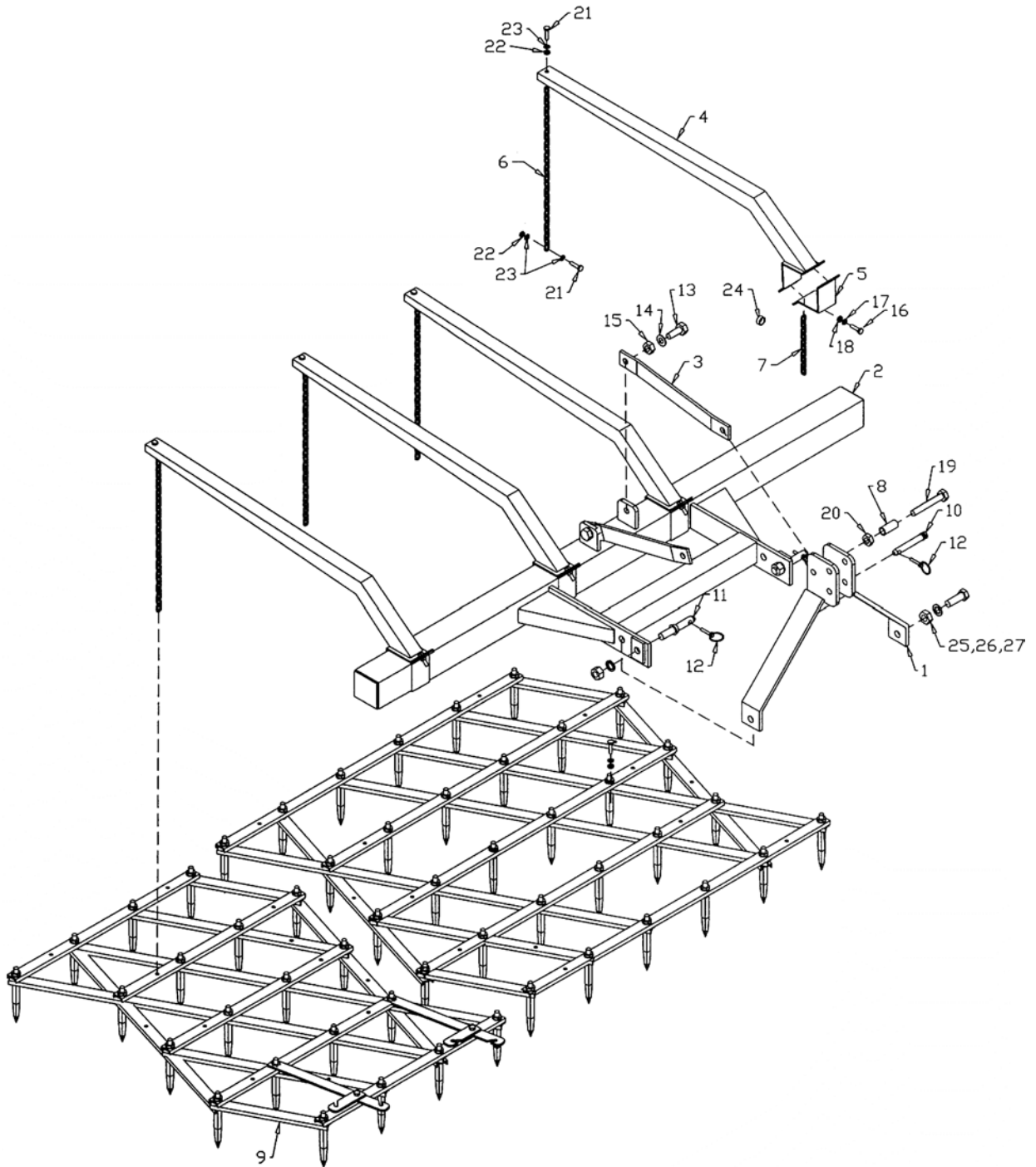
Bolt Torque*						
						
Bolt Diameter	Grade 2 Bolts		Grade 5 Bolts		Grade 8 Bolts	
(inches)	SAE 2		SAE 5		SAE 8	
"A"	(lb-ft)	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(N.m)
0.25 (1/4)	6	8	9	12	12	17
0.313 (5/16)	10	13	19	25	27	36
0.375 (3/8)	20	27	33	45	45	63
0.438 (7/16)	30	42	53	72	75	100
0.5 (1/2)	45	61	80	110	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.



Drag Harrow Assembly Drawing



DH-01

## 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
1	F0351	Hitch Weldment
2	906753	80" Boom Weldment
	906754	100" Boom Weldment
3	906755	Hitch Brace
4	964625	Stake
5	964627	Stake Cap
6	964633	Lift Chain - 28 Links
7	964555	Drag Chain - 10 Links
8	906770	Spacer (1" O.D. x 2-1/4" L)
9	F40P	40" Parallel Harrow
	F60P	60" Parallel Harrow
10	965807	Top Link Pin (Category 1)
11	965809	Lift Arm Pin (Category 1)
12	965911	Linch Pin (7/16")
13	84467	3/4" x 2" Hex Bolt (pl)
14	81701	3/4" Lock Washer (pl)
15	81700	3/4" Hex Nut (pl)
16	84277	1/2" x 1-1/2" Hex Bolt (pl)
17	81637	1/2" Lock Washer (pl)
18	81636	1/2" Hex Nut (pl)
19	811751	3/4" x 5" Hex Bolt (pl)
20	812365	3/4" Lock Nut (pl)
21	811792	3/8" x 1-1/2" Hex Bolt (pl)
22	812363	3/8" Lock Nuts (pl)
23	964001	Flat Washer (1" O.D. x 7/16" I.D., x 10GA) (pl)
24	964741	Chain Spacer (7/16" long) (pl)
25	966527	7/8" x 2-1/2" Hex Bolt (pl)
26	81723	7/8" Lock Washer (pl)
27	81722	7/8" Hex Nut (pl)

## 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
----------	---------------	-------------

Y80DH - 80" Drag Harrow w/ 2 - 40" Parallel Harrows		
1	F2071	Stakes
2	F40P	Parallel Harrow 40"
1	F0351	Hitch
1	F0352	80" Boom
1	F0365	Carton of Parts

Y1002DH - 100" Drag Harrow w/ 1 - 40" and 1 - 60" Parallel Harrow		
1	F2071	Stakes
1	F40P	Parallel Harrow 40"
1	F60P	Parallel Harrow 60"
1	F0351	Hitch
1	F0353	100" Boom
1	F0365	Carton of Parts

Y1003DH - 100" Drag Harrow w/ 3 - 40" Parallel Harrows		
1	F2070	Stakes
3	F40P	Parallel Harrow 40"
1	F0351	Hitch
1	F0353	100" Boom
1	F0366	Carton of Parts

YDH1 - 80" Drag Harrow - Less 2 Harrow Sections		
1	F2071	Stakes
1	F0351	Hitch
1	F0352	80" Boom
1	F0365	Carton of Parts

YDH2 - 100" Drag Harrow - Less 2 Harrow Sections		
1	F2071	Stakes
1	F0351	Hitch
1	F0353	100" Boom
1	F0365	Carton of Parts

Quantity	Bundle Number	Description
YDH3 - 100" Drag Harrow - Less 3 Harrow Sections		
1	F2070	Stakes
1	F0351	Hitch
1	F0353	100" Boom
1	F0366	Carton of Parts

## 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.



[www.farm-king.com](http://www.farm-king.com)

# Farm King

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