
RUNNING GEAR

OPERATOR'S MANUAL

DO NOT OPERATE THIS EQUIPMENT
UNTIL THIS MANUAL
HAS BEEN READ AND UNDERSTOOD.

12.10811 4/05



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GENERAL INFORMATION

The purpose of this manual is to assist the operator in maintaining and operating the Running Gear. Read it carefully; it furnishes information and instructions that will help you achieve years of dependable service.

Each section of this manual is clearly identified and is divided into smaller sections.

All replacement parts should be obtained from, or ordered through your dealer. Give complete information when ordering service parts including the model number and serial number. Record numbers in the space provided as a handy record for quick reference.

Model No. _____ Serial No. _____

The serial number for this unit is located on the Left Rear Bolster diagonal.

Miller-St. Nazianz reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

IDENTIFYING TERMS

"LEFT" and "RIGHT" are determined from a position standing at the rear of the unit looking toward the direction of travel. "FRONT" is the leading end and "REAR" is the trailing end when the tractor is traveling forward.

WARRANTY REGISTRATION

The DELIVERY AND WARRANTY REGISTRATION CARD found in this manual must be completed and signed to validate your warranty protection. You must read and understand the places where you attest to having received instructions as to care, adjustments, safe operation and applicable warranty policy. The terms and conditions of the warranty are specified on the inside back cover of this manual.

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RUNNING GEAR

PRE-DELIVERY CHECK LIST

After the Running Gear has been completely set-up, check to be certain it is in correct running order before delivering it 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. Any adjustment must be made according to specifications defined in this manual.

All grease fittings have been lubricated. See "Lubrication" section in this manual.

All mechanisms are operating trouble free.

All bolts and other fasteners are tight and torqued per torque specifications. Page 6.

DELIVERY CHECK LIST

The following check list is an important reminder of valuable information that **MUST** be passed on to the customer at the time the unit is delivered. Check off each item as you explain it to the customer.

Give the customer his Operator's Manual. Instruct them to be sure to read and completely understand its contents **BEFORE** attempting to operate the unit.

Explain the warranty.

Explain and review with the customer the Safety Precautions section of this manual.

Explain and review with the customer the Operating and Safety Equipment section of this manual.

Explain that regular lubrication and proper adjustments are required for continued proper operation and long life. Review with the customer the Maintenance and Adjustments sections of this manual.

Complete the Delivery Registration Card and have customer sign it and return it to Miller-St. Nazianz, Inc.

I acknowledge that above points were reviewed with me at the time of delivery.

Dealer's
Name

Signature of Pre-Delivery Inspector

Date of Inspection

Model No.

Serial No.

Customer's Signature

Date Delivered

(Customer Copy)

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SAFETY PRECAUTIONS



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. Take time to be careful.

WARNING

Before you attempt to operate this running gear, read and study the following safety 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. The Operator's Manual warns you of dangers and should be read and observed closely.

Good safety practices dictate that you never tow an implement unless the towing vehicle weighs at least one-and-one half (1-1/2) times the weight of the towed implement and its load. For any public highway travel and to be in compliance with this rule, be sure that your tractor or truck is heavy enough to counterbalance the total (loaded) weight of the towed implement(s).

DO NOT travel on public highways unless adequate warning devices are used to alert other drivers.

DO NOT drive too close to ditches or creeks; be sure surrounding ground has adequate strength to support the weight of the loaded running gear.

DO NOT attempt to ride on the pole of the running gear.

DO NOT tow running gear faster than 20 mph.

DO NOT tow running gears in tandem on public roads.

ALWAYS use a safety or locking hitchpin.

ALWAYS keep the towing vehicle in gear when descending steep grades.

ALWAYS travel slowly around curves and along sidehills to prevent tipping.

BE SURE the tires are properly and evenly inflated at all times.

BE SURE the wheel nuts and other fasteners are kept securely tightened at all times.

ALWAYS follow state and local regulations regarding a safety chain and auxiliary lighting when towing farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.

Block the tires, front and back, so that the running gear will not roll when disconnecting from the towing vehicle.

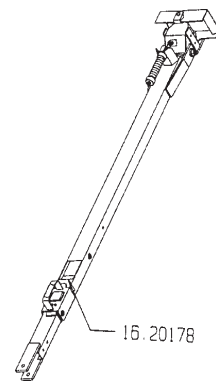
SAFETY PRECAUTIONS



WARNING

To ensure continued safe operation, replace damaged or worn-out parts with genuine Miller service parts, before attempting to operate equipment.

DECAL LOCATION



LUBRICATION

GREASING

It is well to remember that a sufficient amount of oil or grease will prevent excessive part wear and early failure. Grease fittings are provided on the running gear at several important pivot points. Fittings should be lubricated at least four times a year. Use a good grade of lithium base grease. Wipe dirt from the fittings before greasing to prevent any dirt from being forced into the bearings or pivots. Replace any missing fittings. To minimize dirt build-up, avoid excessive greasing.

NOTE: In addition to the fittings, inspect and repack the wheel bearings at least twice a year. See "Wheel Bearings" on next page.

Grease Fitting Locations:

1. Drawbar vertical pivot
2. Front spindle pivot (each side)
3. Ball joints (4 places)
4. Drawbar horizontal pivot
5. Tandem pivot (each side on tandem units)

LUBRICATION (continued)

WHEEL BEARINGS

Type of Grease: Use a good grade of Lithium Base Wheel Bearing Grease.

Carefully raise and support each wheel as repacking is performed.

Remove the hub from the spindle. Inspect the inner and outer cups in the hub. Be sure both cups are seated against the shoulders in the hub.

Pack the cones with grease. A pressure grease packer is recommended. To hand pack cones, force grease under cage between rollers from large end of rollers until grease shows at small end. Fill the hub with grease to I.D. of the cup race, then place the cone into the cup. Make sure the cone is straight!



WARNING: Failure to correctly lubricate bearing and maintain proper lubrication may result in bearing damage which could cause wheel to lock and come off during operation.

Install grease seal. Support the seal so as not to bend the case during installation.

Use grease to lubricate the seal lip.

Place the hub on to the spindle. Rotate the hub while doing this so that the seal lip does not fold under as the lip goes on the seat of the spindle.

Fill hub cavity with grease.

Place the outer cone on the spindle and into the cup.

Assemble the washer and nut onto the spindle and tighten the nut to 15-20 ft/lbs, while rotating the hub. back off the nut until it aligns the next available slot with the cotter pin hole. Install the cotter pin and bend around the nut. There should be between .001" - .005" end play.



WARNING: Failure to back off adjusting nut may cause bearing to run hot and be damaged. Wheel could then lock and come off during operation.







Grease inside of dust cover and install dust cover.

Lower the wheel to the ground and repeat for the other wheels.

TORQUE SPECIFICATIONS

NOTE: Use these torque values when tightening hardware (excluding: Lock-nuts and Self-tapping, Thread Forming and Sheet Metal Screws) unless specified otherwise.

All torque values are in Lb-Ft except those marked with an * which are Lb-In (for metric torque value Nm, multiply Lb-Ft value by 1.355 or Lb-In value by 0.113)

Unified National Thread	Grade 2 		Grade 5 		Grade 8 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18	11	9	17	13	25	18
5/16-24	12		19	14		20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	180	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	200	150	300	220	420	320
7/8-9	170	125	430	320	600	460
7/8-14	180	140	470	360	660	500
1-8	250	190	640	480	900	680
1-14	270	210	710	530	1000	740
Metric Course Thread	Grade 8.8 		Grade 10.9 		Grade 12.9 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

SET-UP & ASSEMBLY



CAUTION

Handle the component assemblies carefully to avoid injury; they are very heavy and awkward.

NOTE: Use a lift truck or overhead hoist to aid in the handling the heavy components. Before proceeding, have the tires mounted on the wheels and know what the required reach and bolster settings should be.



CAUTION

If running gear is ordered without mounted tires, it is recommended that tire mounting only be attempted by a qualified tire manufacturer's installer or properly trained personnel according to the manufacturer's instructions.

REAR AXLE

Couple the rear axle assembly to the reach pole with the (4) 5/8" x 1-1/2" Gr.5 bolts, (8) 5/8 dia. flatwashers, HT and (4) nylon insert lock nuts. Torque to 110 ft. lbs.

FRONT AXLE

Couple the front axle assembly to the reach pole with the (4) 5/8" x 1-1/2" Gr.5 bolts, (8) 5/8 dia. flatwashers, Ht and (4) nylon insert lock nuts. Torque to 110 ft. lbs.

Safely raise and properly support the assembled axles and reach pole and proceed to securely fasten the wheel and tires to the hubs with the (6 or 8) wheel nuts torqued from 90 to 105 ft-lb.

NOTE: Flanged style wheel nuts are ONLY to be used with flat dish style wheels (4.25 x 22.5 Tires).

CAUTION: DO NOT use flanged style wheel nuts with formed dish style wheels.

SET-UP & ASSEMBLY (continued)

POLE

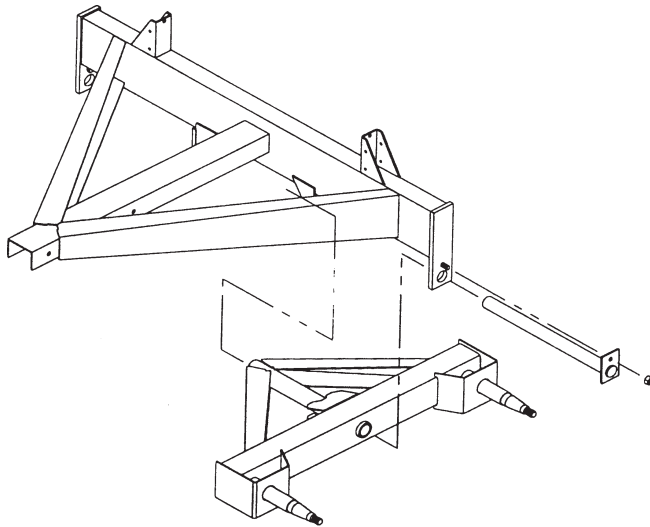
Securely fasten the pole to the pivot assembly on the front axle using the machined bolt and nylon insert locknut.

Fasten the assist spring to the running gear steering box with the included hardware. Adjust spring tension by loosening double nut on spring rod. Then tighten or loosen the two nuts according to whichever adjustment you are seeking and retighten the nuts to each other.

TANDEM

Tandems must be mounted correctly for proper performance. The tandem when mounted will have the leg with the longer distance between the tandem pivot and the spindle towards the front. Set tandems in place and slide the shaft assembly through the pivot holes and the bushings in the tandems. Secure in place with a nylon insert locknut. Grease tandem pivot.

Note: Tandems are the same for the left and right side.



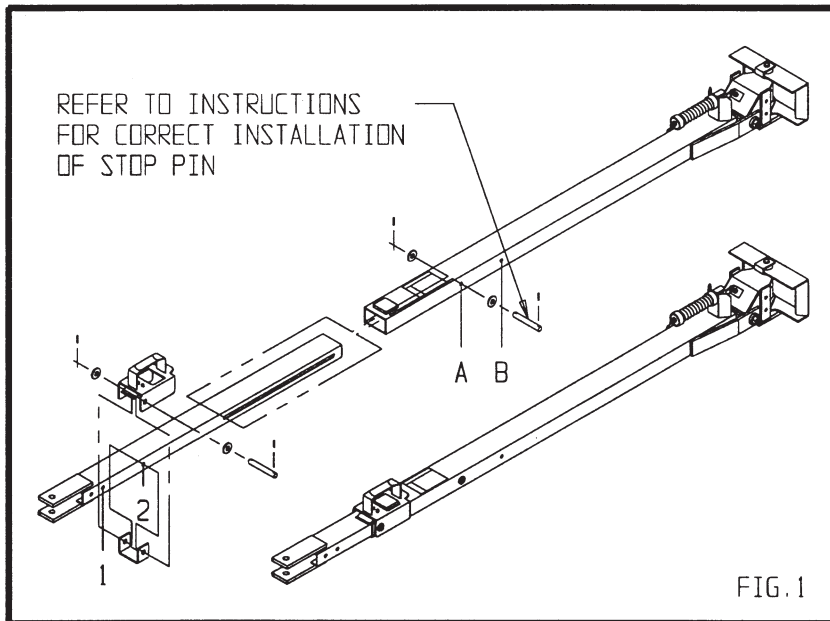
ADJUSTMENTS

POLE LENGTH

The 10 ton through the 14 ton running gears have poles that can be lengthened (Fig. 1).

	Latch Hole Position	Stop Pin Hole Position
Telepole standard length	1	B
Telepole Lengthened	2	A

IMPORTANT: Use only the latch hole location and stop pin hole location combination listed above for the latch to function properly.



To change the length of the pole, remove the latch and hardware from the inner pole extension and relocate per chart. Remove the horizontal stop pin and hardware from the outer pole and relocate according to corresponding latch hole position. Replace the hardware.

ADJUSTMENTS (continued)

POLE

All running gear come with an extendible pole. The pole extends to facilitate hook-ups.

To use the extendible pole, back the towing vehicle near the hitch clevis. Then lift the latch and extend the pole. Securely attach the hitch clevis to the towing vehicle with a locking hitchpin. Slowly back up the towing vehicle to relatch the pole.

ASSIST SPRING

Your running gear comes with an adjustable assist spring. To adjust, loosen the double nut on the spring rod. Then tighten or loosen the two nuts according to whichever adjustment you are seeking and retighten the nuts to each other.

TIRES



WARNING

Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the running gear.

The pressure should be frequently checked and maintained at the appropriate values.

WHEELS



WARNING

Frequently check the wheel nuts to make sure they are securely fastened. Nuts should be torqued from 90 - 105 ft-lb.

ADJUSTMENTS (continued)

WHEEL BEARINGS

Type of Grease: Use a good grade of Lithium Base Wheel Bearing Grease.

Carefully raise and support each wheel as repacking and adjustment is performed.

Remove the hub from the spindle. Inspect the inner and outer cups in the hub. Be sure both cups are seated against the shoulders in the hub.

Pack the cones with grease. A pressure grease packer is recommended. To hand pack cones, force grease under cage between rollers from large end of rollers until grease shows at small end. Fill the hub with grease to I.D. of the cup race, then place the cone into the cup. Make sure the cone is straight!



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Install grease seal. Support the seal so as not to bend the case during installation.

Use grease to lubricate the seal lip.

Place the hub on to the spindle. Rotate the hub while doing this so that the seal lip does not fold under as the lip goes on the seat of the spindle.

Fill hub cavity with grease.

Place the outer cone on the spindle and into the cup.

Assemble the washer and nut onto the spindle and tighten the nut to 15-20 ft/lbs, while rotating the hub. back off the nut until it aligns the next available slot with the cotter pin hole. Install the cotter pin and bend around the nut. There should be between .001" - .005" end play.



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Grease inside of dust cover and install dust cover.

Lower the wheel to the ground and repeat for the other wheels.

ADJUSTMENTS (continued)

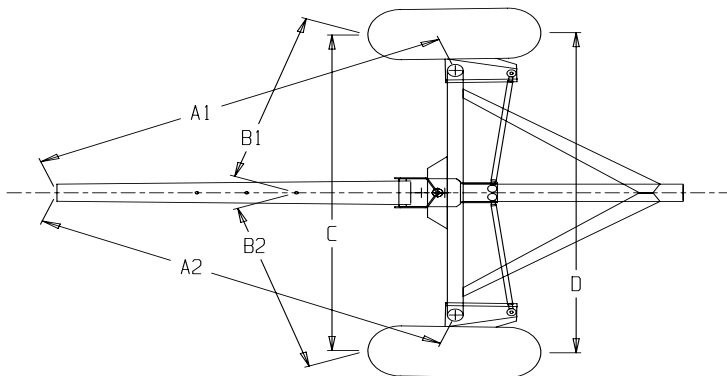
REACH

The running gear reach can be adjusted from 105" to 150". To adjust the reach, remove the (8) 5/8" x 1-1/2" bolts that secure the reach. Then slide the reach in or out to the desired length, and resecure the (8) 5/8" x 1-1/2" bolts. There is an optional 150" to 180" reach available and is standard on the 17 Ton running gear.

TOE-IN

The initial "toe-in" is factory set. However, if excessive wagon sway or tire wear is noted the "toe-in" should be checked and readjusted in the following manner:

1. Check ball joints, if loose retorque to 40 ft. lbs. (min.) for the 10-14 ton running gear & 100 ft. lbs. (min.) for 15-18 ton running gear. Tighten to next slot in nut and replace the cotter pin.
2. Adjust the length A1 to within 1/16" of length A2.
3. Adjust the tie rod length, by loosening the nuts and rotating the tube, to make length B1 equal to length B2.
4. Equally adjust the tie rod length, by rotating the tubes, so that length C is 1/4" to 1/2" shorter than length D.
5. Retighten the nuts on the tie rod tubes.



SPECIFICATIONS

GENERAL TABLE OF SPECIFICATIONS & DIMENSIONS

DESCRIPTION	10T-6	12TT-6	12T-8	14TT-8	15T-8	17T-8	18TT-8
Approx. Height (12.5L tires) bolster to ground	27-1/4"	27-1/4"	27-1/4"	27-1/4"	29-3/16"	37-1/2" (with 425 x 22.5" tires)	29-3/16"
Approx. Height (14L x 16.1 tires) bolster to ground	—	—	28-3/4"	28-3/4"	32"	—	32"
Approx. Height (16.5 x 16.1 tires) bolster to ground	—	—	30"	—	33-1/2"	—	33-1/2"
Spindle Diameter	2"	2"	2-1/4"	2-1/4"	2-3/4"	3"	2-3/4"
Hubs	6 bolt	6 bolt	8 bolt	8 bolt	8 bolt	8 bolt	8 bolt
Tread Width	80"	80"	80"	80"	80"	81"	80"
Tandem	No	Yes	No	Yes	No	No	Yes
Bolster Stake Spacing	42"	42"	42"	42"	42"	42"	42"
Adjustable Extending Hitch Pole	STD	STD	STD	STD	STD	STD	STD
Adjustable Spring Assist for Pole	STD	STD	STD	STD	STD	STD	STD
Wheelbase	96-150"	96-150"	96-150"	96-150"	96-150"	147-177"	96-150"
Approx. Weight (without tires)	840#	1262#	938#	1324#	1230#	1490#	1822#
ASAE Rated Capacity (tons)	10	12	12	14	15	17	18

OPTIONAL FEATURES & ACCESSORIES

SAFETY CHAIN (Part Number 12.00040) Can be obtained from your dealer.

If running gear is going to be transported on a public highway, a safety chain must be obtained and installed. Always follow state and local regulations regarding a safety chain and auxiliary lighting when towing farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.

STEERING STOP KIT

For those 12 Ton 4 Wheel Running Gear applications with 16.5 tires, a steering stop kit should be obtained and installed. The steering stops regulate the clearance between the 16.5 tires and the front bolster assembly.

38" BOLSTER STAKES

For those applications where narrower bolster brackets are required, four brackets that bolt onto the existing bolster bracket with (16) 3/8" x 1" bolts and locknuts are offered.

SURGE BRAKES

For those applications where brakes are needed, surge brakes on 14TT-8, 15T-8, 17T and 18TT-8 are offered.

OPTIONAL FEATURES & ACCESSORIES (continued)

WHEELS & TIRES



WARNING

Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the running gear.



CAUTION

Tire mounting, repair and replacements should only be attempted by a qualified tire manufacturer's representative or by properly trained personnel following the tire manufacturer's instruction. If you do not have such instructions, contact your tire dealer or our Company.



WARNING

Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires. In any event, to avoid possible fatal or serious injury, follow the safety precautions below:

Be sure the rim is free of rust. Lubricate both the tire beads and rim flanges with a soap solution. Do not use oil or grease. Use a clip-on tire chuck with remote hose and gauge that allows you to stand clear of the tire while inflating it.

Never inflate beyond 35 psi to seat the beads. If the beads have not seated by the time the pressure reaches 35 psi, deflate the assembly, reposition the tire on the rim, relubricate both the tire and rim and reinflate it. Inflation pressure beyond 35psi with unseated beads may break the bead or rim with explosive force sufficient to cause fatal or serious injury. After seating the beads, adjust the inflation pressure to the recommended operating pressure listed. Do not weld, braze or otherwise attempt to repair and use a damaged rim.

WARRANTY

Miller-St. Nazianz, Inc. warrants new Running Gear to be free from defects in material and workmanship under recommended use and service, as stated in the Operator's Manual, as follows:

1. **Base Warranty.** Miller will replace, F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, any part of a new Running Gear which is defective in material or workmanship:
 - (a) without charge for either parts or labor during the first year following delivery to the original retail customer; and
 - (b) without charge for parts only (not labor) during the second year following delivery to the original retail customer.

The warranty period for equipment used for commercial, industrial, lease, rental and custom operation or any non-agricultural use is limited to 90 days from date of delivery to the first retail purchaser.

All warranties on the new running gear shall apply only to the original retail purchaser from an authorized dealer.

Repair Parts

Miller warrants that it will replace, F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, without charge, any genuine Miller spare part purchased after the expiration of the new running gear warranty, or to any subsequent owners, that is defective in material or workmanship, within ninety (90) days of the installation date.

Misuse

The provisions of this warranty shall not apply to any running gear which has been subject to misuse, negligence, alteration or accident, or which shall have been repaired with parts other than those obtainable through Miller.

Authorized Dealer

Repairs eligible for labor warranty must be made by Miller or an authorized dealer. The purchaser is responsible for transportation of the equipment to the dealership for warranty service or for any service call expense.

Exclusive Effect of Warranty and Limitation of Liability

The remedies of the customer set forth herein are exclusive. Miller neither assumes nor authorizes any person to assume any other obligation or liability in connection with the sale of covered equipment. Correction of defects and malfunctions in the manner and for the applicable period of time provided above, shall constitute fulfillment of all responsibilities of Miller to the customer and Miller shall not be liable for negligence, under contract, or in any other manner with respect to such equipment. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SUCH AS BUT NOT LIMITED TO, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OF REPLACEMENT EQUIPMENT.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PURPOSE OR OTHER WARRANTIES, EXPRESS OR IMPLIED.

Warranty Requirements

To be covered by warranty, each machine must be properly registered with Miller within 30 days of date of original retail delivery.



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