PRODUCT INFORMATION

Record the model and serial number of your unit here. When calling for warranty, service, or parts, you may be asked to provide this information, in order to ensure fast, accurate service.

MODEL: Rear Swing Flail

SERIAL NUMBER: ________________________________

Any failure to read, understand and follow the instructions found in this operator’s manual could lead to serious injury. Operators who choose to operate this equipment without following instructions, or who choose to operate this equipment in a manner inconsistent with the recommendations set forth in this manual, do so at their own risk and assume the risk of injury. Diamond Mowers will not be liable for an owner or operator’s loss, damage, or injury due to the misuse of the equipment, failure to understand the inherent risks, or inability to properly operate the equipment.

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Provisional Patents: 62/484,363
WELCOME!

Thank you for choosing Diamond Mowers, and welcome to your Rear Swing Flail. Before you begin operating, we encourage you to look through this manual to review the proper maintenance and operating techniques that will keep you, and your equipment, safe — while ensuring you the most productive flail mower in the market.

We have nothing but respect and admiration for you. Our job at Diamond is to provide you with the toughest, most reliable and safest equipment that will allow you to do your job better. That also means being there when you need us.

CONTACT US:

Parts: 888.960.0361 | parts@diamondmowers.com
Warranty / Service: 888.960.0364 | warranty@diamondmowers.com
Main Office: 800.658.5561 | 605.977.3300
Website: www.diamondmowers.com | Email: info@diamondmowers.com

Your time is important to us.
We guarantee that Genuine Diamond Parts will ship within 72-hours of the order being placed or the parts and shipping are free.

Your satisfaction is guaranteed.
If you are not completely satisfied with your new Diamond in the first 30-days, we will buy it back. No questions asked.

Thanks again for choosing Diamond.
If at any time your needs are not being met by our team, please feel free to call me direct.

Tim Kubista
VP Sales & Marketing
651.955.6665
OWNER REGISTRATION

In your welcome packet you should have received a warranty registration form. Complete and return this form to our main office.

If you'd rather complete this info online, go to: http://info.diamondmowers.com/register-my-product

Returning your registration information to Diamond will help us process any warranty claims quickly and efficiently – so you can get back to work, fast.

TRANSFERRED OWNERSHIP

If you have acquired this flail mower from a previous owner, we encourage you to register your equipment online. By registering your Diamond Mowers unit, you’ll stay informed on product advancements, offers and service alerts.

Register by going to: http://info.diamondmowers.com/register-my-product

We honor our equipment’s warranty from the date it was put into service, no matter who’s in charge of running it.

For any questions, contact our Warranty / Service team at: 888.960.0364 or 605.977.3300 warranty@diamondmowers.com
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INTENDED USE
This attachment is designed to be used for mowing and light brush management applications.

This includes:

- Cutting grass.
- Mulching light brush.
- Cutting a maximum of 2” (51mm) material continuously.

This attachment should only be used in an area free of obstructions and bystanders. Any use on non-vegetative material, or in an area that is not clear of persons and property, is strictly prohibited. Any use outside of the aforementioned application is considered contrary to its intended use. Any damage that may occur as a result of misuse will void warranty as stated in Diamond Mowers’ warranty policy.

**NOTICE**
Do not operate this unit without first reading the safety precautions and operating instructions in this manual.
TAKE A LOOK AROUND

Let’s get started by doing a quick walk around of the Rear Swing Flail.

KNIVES
The cutting shaft is equipped with our heavy duty brush and grass blades for a smooth, even cut.

BELT DRIVE
All of our heavy duty flails use a high strength belt with an automatic self-tensioner; no manual adjustment needed.

GEAR BOX
Our Rear Swing Flail comes standard with a heavy duty oil bath gear box for ultimate reliability.

BEARINGS
For ultimate long life and reliability, our flail cutting shafts and ground rollers are equipped with the best bearings in the industry.
TAKE A LOOK AROUND

SWING ARM
Our fully articulating swing arm allows you to mow steep inclines and ditches, as well as other hard-to-reach areas standard side mounted flails cannot go.

SHOCK ABSORBER
The swing arm comes equipped with a shock absorption system that helps prevent damage in the event of a collision.

SWIVEL
Our heavy duty swivel is equipped with greaseless nylatron bearings and bushings, for long life and service.
GETTING STARTED

MACHINE REQUIREMENTS
Diamond’s Rear Swing Flail must be used on a tractor with a minimum weight of 9500lbs (4310kg) (sans weights), equipped with a category II 3-Point hitch, and a 540RPM PTO drive. The tractor must be rated at a minimum of 75hp (56kW).

MOUNTING THE ATTACHMENT
To mount the attachment to the tractor:
• Adjust the draft beam links, (if present) to their “float” position.
  ◦ NOTE: Your draft beam links, (if present) may not look exactly the same as this example.
• Mount the hitch frame, (3) to the tractor’s 3-Point hitch draft beams, (2) and upper link, (4).
• Start the tractor and raise the hitch frame, (3) to the desired work height.
• Adjust the upper link, (4) until the hitch frame, (3) is plumb.
• Raise the jack stands, (5) up against the hitch frame, (3).
  ◦ Whenever disconnecting the hitch frame, (3) from the tractor’s 3-Point hitch, use the support stands, (5) to support the hitch frame, (3) by sliding them to their lowered position.
Adjust your draft beam stabilizers\textsuperscript{(6)} and/or spacers\textsuperscript{(7)} (if present) to minimize any horizontal sway in the tractor’s 3-Point hitch draft beams.

\textbf{NOTE:} Your draft beam stabilizers\textsuperscript{(6)} and/or spacers\textsuperscript{(7)} (if present) may not look exactly the same as this example.

\textbf{CONNECTING THE PTO DRIVE}

- Slide the slip clutch\textsuperscript{(1)} onto the tractor’s PTO splined shaft\textsuperscript{(3)}.
  - Secure it in place with the locking bolt\textsuperscript{(2)} and lock nut thru the groove on the tractor’s PTO splined shaft\textsuperscript{(3)}.
Push in the spring loaded locking pin \(6\) on the PTO drive shaft \(5\) and slide it onto the slip clutch’s splined shaft \(4\).
  - Push until the spring loaded locking pin \(6\) on the PTO drive shaft \(5\) locks into place in the groove on the slip clutch’s splined shaft \(4\).

Push in the spring loaded locking pin \(6\) on the other end of the PTO drive shaft \(5\) and slide it onto the gear box’s splined shaft \(7\).
  - Push until the spring loaded locking pin \(6\) on the PTO drive shaft \(5\) locks into place in the groove on the gear box’s splined shaft \(7\).

Attach the PTO drive shaft safety guard \(8\) to the gear box \(7\).

**WARNING**

Always test a PTO drive shaft connection by giving it a hard tug in an attempt to disengage it. Do not use a PTO drive shaft that fails to stay locked to a splined shaft! Serious damage, injury or death can occur!
Connecting the Hydraulics

- Connect the four hydraulic hoses from the attachment to the tractor’s auxiliary hydraulic remotes.
  - Make sure the connections are done to match the recommended lever control functions as described in the *Operation* section of this manual.
  - Reference the tractor’s operator manual for more information on the tractor’s auxiliary hydraulic remotes.
OPERATING YOUR FLAIL MOWER

Before you operate, note that the primary responsibility for safety on this equipment falls to the operator. Only trained individuals who have read and understood this manual should operate this unit.

If any portion of this manual is not understood, contact Diamond Mowers' Service/Warranty at 888.960.0364 or 605.977.3300.

SAFETY TIPS

Be sure to read all warnings carefully. They are included for your safety, and for the safety of others working with you.

- **NOTICE**
  Indicates a property damage hazard **ONLY**, no **PERSONAL** injury.

- **CAUTION**
  Indicates where **MINOR** injury **COULD** result if instructions are not followed.

- **WARNING**
  Indicates where **SERIOUS** injury or death **COULD** result if instructions are not followed.

- **DANGER**
  Indicates where **SERIOUS** injury or death **WILL** result if instructions are not followed.

- Always wear applicable personal protective equipment (PPE) when operating.

- Block off work area from bystanders, livestock, etc.

- Bystanders must keep a distance of 300ft/100m from the unit when operating.

- Knives are always sharp and can cause injury, even when not in motion.

CONTINUED ON NEXT PAGE
• **DO NOT** use extremities to dislodge debris from the cutting shaft or knives.

• Operate only from the operator’s station.

• Hydraulic fluid is hot and will heat any exposed steel, hoses, motor, or spindle in its proximity.

• Route hoses correctly to ensure a full range in motion.

• Make certain hoses are out of the way of tires, tracks or the ground.

• Be certain the cutting shaft has come to a complete stop before exiting the cab.

---

**STOWED POSITION**

When transporting Diamond’s Flail Mower between operations, make sure to protect it from collisions and accidental damages by placing it in the stowed position.

Failure to place the head in its stowed position could result in structural damage.

---

**DANGER**

Contact with the cutting shaft and knives while in motion will cause serious injury or death. The cutting shaft spins at a very high speed and can take several minutes to stop. Be sure all personnel are clear of the machine before engaging the Flail Mower.

CONTINUED ON NEXT PAGE
GRASS & BRUSH CUT
Use to cut grass or brush.

1. Lower the front of the deck slightly to ensure that there is ample room for exhausted material to be dispersed.
   - If you hear the cutting shaft, or engine slow down, lift up the head and/or slow your ground speed.

2. A second pass may be needed for heavy brush or grass.
   - Complete the initial pass at 12" (305mm) into the material.
   - Complete a second pass at ground level to thoroughly mulch the remaining material.
FINISHED MOW
Use for a finished look.

- Drive straight into the material keeping the deck low and level, with the ground roller resting on the ground.

- Maintain speed of the cutting shaft and ground speed.
TREEx CUT
Use to cut small trees or brush without mulching.

- For small trees, start working at the top and cut the tree in 12” (305mm) increments.

- With the Flail Mower lifted slightly, drive straight into the material.

- Allow enough time for the tree section to fall away while cutting.

- Use a smooth, quick action to cut the material completely.
  - **NOTE:** Never drop the mower straight down on trees. Severe damage will incur. **NO PANCAKING!**
NO PANCAKING

DO NOT pancake.

- This machine is not built to drop on top of material for cutting or mulching. Damage will incur to the cutting shaft and bearings as a result of driving down (pancaking) on top of the material.

**NOTICE**

Dropping the mower straight down (pancaking) on heavy vegetation can cause severe damage to the cutting shaft and bearings.

For more tips, visit us online at www.DiamondMowers.com
MAINTENANCE INTERVALS

Regular maintenance will make certain your unit stays productive and retains a long, operating life. The following chart represents the minimum intervals recommended for inspection and maintenance.

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When replacing parts, use Genuine Diamond Parts. Guaranteed to ship within 72-hours of your order being placed, or the parts and shipping are free.

Call: 888-960-0361 or 605.977.3300 | Email: parts@diamondmowers.com
Order online: www.diamondmowers.com
BELTS AND PULLEYS

Belt Replacement:

- Remove the access cover and top gear box bracket section.
- Push the idler pulley (1) away from the belt (2) with a wrench, pry bar, or similar tool to relieve pressure on the belt.
  - **DO NOT** damage the idler pulley or other components when relieving pressure on the belt.
- Remove the belt from the pulleys.
- Reverse the above instructions to install the new belt (2).
- Replace the access cover.

Pulley Alignment:

- Use a straight edge (5) to confirm the cutting shaft (3) and motor (4) pulleys are in the same plane as the idler pulley (1).
- If pulley misalignment is found, correct as follows:
  - Loosen the bolts (6) holding the tapered collar (7) to the out-of-alignment pulley (8).
  - With a padded mallet, tap the pulley (8) backwards or forwards on its shaft to align it with the idler pulley (1).
  - With the pulley (8) aligned, tighten the bolts (6) holding the tapered collar (7) to the pulley.
  - **NOTE:** This process may be easier without the belt installed.
- Replace the access cover.
BELTS AND PULLEYS

Reversing Cutting Shaft Rotation:

NOTE: “Forward rotation” is defined as blade rotation the same as the tractor tires when driving forward. “Reverse rotation” is the opposite.

- Remove access cover and belt(2) from the pulleys as described on the previous page.
- Remove the idler pulley(1) stop bolt and main center bolt.
- Remount the idler pulley(1) with its stop bolt as illustrated (dashed outline).
  - A second location for the idler position stop bolt will be exposed.
  - Re-attach the main center bolt to lock it into position.
- Replace the belt(2) as illustrated (dashed outline) and access cover.
- Disconnect the PTO drive shaft from the gear box(9).
- Unbolt the top bracket(10) of the gear box from the flail and gear box(9).
- Swap the oil breather and oil drain plug illustrated in the GEAR BOX section of this manual on the gear box(9).
- Remove the input shaft guard(11) and reinstall onto the input shaft on the opposite side of the gear box(9).
- Turn the gear box(9) over 180° and reinstall it along with the top bracket(10).
- Replace any lost oil as described in the GEAR BOX section of this manual.
BELTS AND PULLEYS
Reversing Cutting Shaft Rotation:
• Install the front shield\textsuperscript{[1]} for reverse rotation, or remove it for forward rotation.
• Install the baffle with bolts\textsuperscript{[2]} for forward rotation, or remove it for reverse rotation.
  ○ Reference the parts pages for additional information.

CUTTING SHAFT
• Grease the cutting shaft bearing zerks\textsuperscript{[1]} (1 on each side of the flail) every 10 hours or daily with #2 lithium based grease from a hand grease gun until grease purges from the bearing seals.
• Torque the cutting shaft bearing bolts\textsuperscript{[2]} to 90ft-lbs (122Nm) on each side of the flail every 50 hours or weekly.
  ○ \textbf{NOTE}: The access covers covering the pulleys and belt must be removed to gain access to the cutting shaft bearing bolts located underneath the bottom pulley of the flail.

CONTINUED ON NEXT PAGE
DISCHARGE FLAP

- Inspect each flail head’s rear discharge flap\(^{(1)}\) every 50 hours or weekly:
  - Excessive wear
  - Cuts, gouges, excessive damage.
- Replace as needed.

GEAR BOX

- The oil level should be inspected every 50 hours or weekly:
  - Remove the oil level check plug\(^{(1)}\).
  - Oil should be level with the port.
- The gear box oil should be replaced after the first 50 hours of operation, and then every 500 hours or annually:
  - Remove the oil drain plug\(^{(2)}\).
  - Use an air powered vacuum to suck out the oil.
  - Replace the oil drain plug\(^{(2)}\).
  - Remove the oil fill / breather\(^{(2)}\) and oil level check plug\(^{(1)}\).
  - Fill the gear box with synthetic SAE 75W-90W oil until level with the oil level check port.
  - Replace the oil fill / breather\(^{(2)}\) and oil level check plug\(^{(1)}\).
GROUND ROLLER Bearing Maintenance:

- Each bearing (1) must have the oil and O-ring replaced once annually with 7-8oz of synthetic 75-90W oil and a new O-ring.
- Rest the ground roller (1) on the ground. Block it from moving.
- Unbolt the bearing blocks (3) from each side of the flail and ground roller.
  - **DO NOT** reassemble the bearing block hardware from one side of the flail on the other.
- Lift the flail head for access to the ground roller.
- Remove the cap screws securing the bearings (1) to the ground roller (2) on each side.
- Disassemble each bearing (4) (Reference page 49):
  - Remove the cap screws, 1/8" NPT plug, and end cap.
  - Discard the old O-ring.
- Remove the roll pin and castle nut (4)*
- Pour out the old oil from the insert (4)*
  - Catch and retrieve the thrust washer and taper bearing.
  - Examine the taper bearing its race for damage or wear.
    - No wear; proceed with the following steps.
    - Wear detected; contact **Diamond Mowers** for a rebuild kit with instruction.
- Pour synthetic SAE 75-90W oil (5) into the ground roller insert (4) until it just touches the taper bearing race (6)*

*CONTINUED ON NEXT PAGE
GROUND ROLLER

Bearing Maintenance:

- Place the taper bearing (7) over the ground roller shaft and into the taper bearing race.
- Add more synthetic SAE 75-90W oil (5) until approximately 1/8” (3mm) above the taper bearing.
- Place a thrust washer (8) over the ground roller shaft and on top of the taper bearing race (7).
- Thread the castle nut (9) onto the ground roller shaft until it just contacts the thrust washer (8).
   - Find the roll pin hole; if covered, slightly tighten or loosen the castle nut (whichever exposes the hole first) until the hole is fully exposed.
- Lift the ground roller insert, and pull down on the ground roller shaft to check for end-play (4).
  - No end-play; proceed to the next step.
  - End-play detected; tighten the castle nut (9) to expose the roll pin hole in the next notch on the castle nut (9).
  - Re-check the end-play again and correct as needed.
- Tap the roll pin (10) into the ground roller shaft hole until centered.
- Fill the insert to the brim with synthetic SAE 75-90W oil (5).
  - 7-8oz of oil should have been used at this point.
- Thread a cap screw into EACH of the cap screw hole (11) locations to force out any oil that may be in there.
GROUND ROLLER Bearing Maintenance:

- Clean any oil or debris off the surface of the insert where the end cap will mate.(4).
- Remove the cap screws.
  - **NOTE:** Failure to remove excess oil from the holes may result in a cracked insert when the end cap is secured to the insert.
- Place the end cap upside down on the work surface and clean any oil or debris off of the grooved surface where the insert will mate to (4).
  - Place a dot of RTV silicone sealant(12) on the groove between each hole.
  - Place the O-ring(13) into the groove on the end cap.
- Place the end cap onto the ground insert without dislodging the O-ring from its groove(14).
- Secure the end cap to the insert with the cap screws(14).
  - Tighten the cap screws evenly in a criss-cross pattern.
  - Torque the cap screws to 29ft-lbs (39Nm).
  - Make sure the plug hole is not blocked to allow air to escape.
- Wrap the 1/8” NPT plug(15) with teflon tape and thread it into the plug hole on the end cap.
  - Tighten until snug.
GROUND ROLLER Bearing Maintenance:

- Reassemble the bearings into the ground roller with their cap screws.
  - Torque the hardware to 51ft-lbs (69Nm).
- Lower the flail back onto the ground roller, allowing the bearing shafts to slide back into their slots on the roller brackets.
- Place the bearing blocks onto the ground roller shafts.
  - Align the “flat” of the block opening to the “flat” of the bearing shaft.
- Mount the bearing blocks to the roller brackets of the flail.
  - Use loctite 262 with primer 7649 on the hardware.
  - Torque the hardware to 75ft-lbs (102Nm).
- Secure the ground roller to the bearing blocks with the original hardware from that side of the flail.
  - Bearing block bolt WITH the shoulder using loctite 243 on the belt side of the flail.
  - Bearing block bolt WITHOUT the shoulder, along with a flat washer and lock washer, using loctite 243 on the non-belt side of the flail.
  - Torque each bearing block bolt to 75ft-lbs (102Nm).
GROUND ROLLER

Cutting Height Adjustment:

- Loosen the retaining plates (18) and lock nuts (19) on both sides of the flail.
- Adjust the ground roller brackets (20) up or down by turning the adjustment nuts (21).
- Tighten the lock nuts (18) and retaining plate hardware.
  - Torque the hardware to 75ft-lbs (102Nm).

HITCH FRAME (3-POINT)

- Inspect hitch frame (4) components every 10 hours or daily.
  - 3-Point hitch link pins (1) are in good repair and secure.
  - Support stands (2) are retracted and secured with their lynch pins (3).
    - Support stands (2) are lowered to rest the hitch frame (4) when removing the unit from the tractor.
HYDRAULIC FITTINGS

- Hydraulic hoses and fittings should be inspected every 10 hours or daily.

What to look for:

- Hydraulic fitting clamps, QD connectors, and threaded connections for any hydraulic fluid.
  - If any leaks are observed, stop immediately to prevent damage to your machine.
- Hoses for any abrasions or cuts. Replace damaged or worn hoses.
- Attach hose wrap around critical points where hoses are likely pinched or rubbed.

**CAUTION**

DO NOT check for hydraulic leaks with your hands or any part of your body. Use a heavy piece of paper or cardboard to check areas that are not readily visible. Pressurized hydraulic fluid can penetrate the skin and lead to serious health risks.
KNIVES

- Inspect the flail knives for excessive wear or damage every 10 hours or daily.
  - Replace them as needed.
  - Replace knives in pairs opposite of each other to maintain balance of the cutting shaft.
- Inspect the knife mounting bolts and nylock nuts for damage every 10 hours or daily.
  - Replace damaged components as needed.
  - Tighten nylock nuts snug against the cutting shaft brackets.

  NOTE: Knife bolts and nuts must be reassembled in the same orientation as they came from the factory.

NOTICE

Do not attempt to weld, or otherwise repair a damaged or worn flail knife. Replace knives evenly around the cutting shaft.
PTO SLIP CLUTCH / DRIVE SHAFT

- New slip clutches (1), or any slip clutch (1) not used for 30 days should complete the run-in procedure:
  - Disengage the PTO power and turn off the tractor.
  - Loosen the six nuts (2) (evenly and on opposite sides) until loose, then tighten them one full turn.
  - Start the tractor and engage the PTO power; run for several seconds or until the slip clutch (1) visible smokes, then disengage the PTO power and shut off the tractor.
  - Tighten the six nuts (2) (evenly and on opposite sides) a half turn at a time until the six springs (3) measure 1.1” (26mm) using a vernier scale.
    - NOTE: Measure as accurately as possible - a dimensional difference of 1/64” (0.4mm) can result in a 15% variance in torque. Over tightening can cause the slip clutch (1) to fail and slip.

- When rebuilding slip clutches (1), follow the below listed procedure:
  - Disconnect and remove the PTO drive shaft from the slip clutch (1).
  - Loosen the six nuts (2) (evenly and on opposite sides) until loose. Remove them with the bolts, washers, springs, and pressure plate.
  - Separate the hub, yoke, and friction discs. Discard all old friction discs.
  - Inspect the steel components for wear or warpage and replace as needed.
  - Inspect the bronze bushing for wear or warpage.
    - NOTE: This is not a servicable part - the entire hub must be replaced.
  - Clean rust and debris from the plate surfaces with a wire brush or steel wool.
  - Place one new friction disc on the yoke plate. Assemble the bronze bushing / hub into the yoke plate. Add the other new friction disc.
  - Add the pressure plate, and line up the holes in the yoke to the pressure plate.
    - NOTE: Double check the friction discs are seated correctly.
  - Assemble the bolts, washers, springs, nuts, and optional stops in their original postions.
  - Complete the run-in procedure as described above.
PTO SLIP CLUTCH / DRIVE SHAFT

- Confirm the locking bolt (6) is securing the slip clutch (1) to the tractor’s PTO Drive (7).
- Grease the PTO drive shaft (4) every 50 hours or weekly. Remove the safety guard (5) to access the PTO drive shaft (4).
  - Depress the locking pin (8) and pull the PTO drive shaft (4) off of the slip clutch (1).
  - Depress the locking pin (8) and pull the PTO drive shaft (4) off of the gear box (9).
  - Pull apart the PTO drive shaft (4) and grease all zerks with #2 lithium based grease. Push the PTO drive shaft (4) back together.
  - Depress the locking pin (8) and push the PTO drive shaft (4) back onto the gear box (9) until the locking pin (8) locks.
    - NOTE: Push until the locking pin clicks into place on the groove of the gear box splined shaft.
  - Depress the locking pin (8) and push the PTO drive shaft (4) back onto the slip clutch (1) until the locking pin (8) locks.
    - NOTE: Push until the locking pin clicks into place on the groove of the gear box splined shaft.
SKID SHOES

- Inspect the skid shoes (1) for excessive wear or damage every 50 hours or weekly.
  - Replace as needed.

WARNING

Always test a PTO drive shaft connection by giving it a hard tug in an attempt to disengage it. Do not use a PTO drive shaft that fails to stay locked to a splined shaft! Serious damage, injury or death can occur!
SWINGARM

Greasing:
- Extend out the swing arm to expose the grease zerks. Rest the flail head on the ground to relieve pressure on the swing arm joints before greasing.
  - **NOTE:** It may be necessary to swing / rotate the swing arm to expose all of the grease zerks.
- Grease all of the zerks (1)(2)(3)(4)(5) with #2 lithium based grease every 10 hours or daily until grease appears around the joints.
- Inspect all cylinder anchor hardware for wear or damage and replace as needed.

Breakaway Spring Tension:
- Standard spring (6) tension is set with the springs (6) at 9" (228mm) measured from the center of the outermost coils.
  - Tighten or loosen the tension nuts (7) to achieve the proper spring (6) dimensions.
  - **NOTE:** If more breakaway spring pressure is desired, tighten the tension nuts (7) until the springs (6) measure an additional ¼" (6mm).
  - Test for satisfactory performance. Make additional tension nut (7) adjustments in ¼" (6mm) increments.
SWIVEL

- If “looseness” or “play” is detected in the swivel, replace the nylatron bearings (1) and the internal greaseless bearing (not visible) in the interior of the swivel.
- It is best practice to replace the nylatron bearings (1) and internal greaseless bearing (not visible) at the same time.

**NOTICE**

Failure to inspect and replace hardware at recommended intervals will cause damage to the machine and/or mower.
<table>
<thead>
<tr>
<th>PROBLEMS</th>
<th>POTENTIAL CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive Vibration</td>
<td>Loose hardware</td>
<td>Check and torque all hardware.</td>
</tr>
<tr>
<td></td>
<td>Cutting assembly unbalanced and/or is damaged</td>
<td>Check for damaged knives, cutting shaft, etc. Check for wire &amp; other debris entangled in the cutting assembly.</td>
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<tr>
<td></td>
<td>Loose belt(s)</td>
<td>Belt is stretched or badly worn; replace as needed. Flail mowers are equipped with automatic self-tensioners; call Diamond Mowers for assistance.</td>
</tr>
<tr>
<td></td>
<td>Misaligned pulleys</td>
<td>Correct pulley alignment.</td>
</tr>
<tr>
<td>Mower Will Not Lift</td>
<td>Tractor’s 3-Point hitch</td>
<td>Reference the tractor’s operator manual for more information.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic hoses &amp; fittings are damaged and/or is leaking</td>
<td>Tighten or replace hoses and/or fittings.</td>
</tr>
<tr>
<td></td>
<td>Hydraulic hoses are not attached to the tractor’s auxiliary remotes</td>
<td>Connect the hoses to the tractor’s auxiliary remotes.</td>
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<tr>
<td></td>
<td>Faulty cylinder</td>
<td>Inspect, repair or replace cylinder.</td>
</tr>
<tr>
<td>Motor Runs, but Will Not Cut</td>
<td>Loose belt(s)</td>
<td>Belt is stretched or badly worn; replace as needed. Flail mowers are equipped with automatic self-tensioners; call Diamond Mowers for assistance.</td>
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<tr>
<td></td>
<td>Excessive wear on internal parts</td>
<td>Disassemble and repair motor. Contact Diamond Mowers for a replacement.</td>
</tr>
<tr>
<td></td>
<td>Broken belt</td>
<td>Belt is broken; replace. Flail mowers are equipped with automatic self-tensioners; call Diamond Mowers for assistance.</td>
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<tr>
<td></td>
<td>Misaligned pulleys</td>
<td>Correct pulley alignment.</td>
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## Problems, Potential Cause, Solution

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<tr>
<th>Problems</th>
<th>Potential Cause</th>
<th>Solution</th>
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<tr>
<td>Motor/Cutting Shaft Turns Slowly or Not at All</td>
<td>Loose belt(s)</td>
<td>Belt is stretched or badly worn; replace as needed.</td>
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<td>Correct pulley alignment.</td>
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<td></td>
<td>Excessive wear on gear box</td>
<td>Diassemble and repair gear box. Contact Diamond Mowers for a replacement.</td>
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<tr>
<td>Mower Will Not Start or Run</td>
<td>No PTO power to the Rear Swing Flail attachment</td>
<td>Reference the vehicle’s operator manual for instructions on how to operate the vehicle PTO drive.</td>
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For any questions, contact our Warranty / Service team at 888.960.0364 or 605.977.3300
REAR SWING FLAIL

PARTS BOOK
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**SWING ARM ASSEMBLY - ROTATOR**

45-0312
75"(1905mm) CUTTER ASSEMBLY
25-1599
DECAL IDENTIFICATION
Swing Flail Head

1. SERIAL NUMBER LABEL (not included in kit) - QTY 1
2. PART #15-0001 - Sharp Objects Danger - QTY 1
3. PART #15-0002 - Flying Objects Danger - QTY 1
4. PART #15-0003 - Belt Cover Warning - QTY 1
5. PART #15-0005 - Grease Here - QTY 10
6. PART #15-0054 - Diamond Logo 15" - QTY 1
7. PART #15-0055 - Made In USA - QTY 1
8. PART #15-0058 - Read Manual - QTY 1
9. PART #15-1001 - Ruler - QTY 2
10. PART #15-1003 - Hand Grease Gun Only - QTY 1
11. PART #15-1016 - Warranty - QTY 1
12. PART #15-0067 - Patent Pending - QTY 1
### Drive Assembly 25-1378

#### Swing Flail Head

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![Diagram of Drive Assembly 25-1378](image-url)
DRIVE ASSEMBLY 29-0054
Swing Flail Head

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CYLINDER ASSEMBLY 14-0004
All Flail Assemblies

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Rear Swing Flail Parts Book
**GEAR BOX ASSEMBLY 19-0020**

All Flail Assemblies

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**REF# | PARTS DESCRIPTION | REQ | PART #**
--- | --- | --- | ---
1 | SNAP RING | 1 | 30-1009
2 | WASHER | 8 | 30-1071
3 | HEX NUT | 6 | 30-1128
4 | BALL BEARING | 1 | 30-1173
5 | **LIP SEAL** | 1 | 30-1181
6 | GEAR SET, REAR | 1 | 30-1191
7 | CAPSCREW | 2 | 30-1193
8 | DOWEL PIN, REAR | 4 | 30-1273
9 | **SEAL KIT** | 1 | 30-1399
10 | ***CHANNEL SEAL, REAR | 2 | 30-1430
11 | ***SEAL, BK-UP, REAR | 2 | 30-1541
12 | ***CHANNEL SEAL | 6 | 30-1342
13 | ***SEAL, BK-UP | 6 | 30-1343
14 | ***SEAL, SQ-R, REAR | 2 | 30-1344
15 | ***SEAL, SQ-R | 6 | 30-1345
16 | THRUST PLATE, REAR | 2 | 30-1347

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**REF# | PARTS DESCRIPTION | REQ | PART #**
--- | --- | --- | ---
17 | THRUST PLATE | 6 | 30-1348
18 | NAME PLATE | 1 | 30-1349
19 | DOWEL PIN | 24 | 30-1350
20 | DRIVE SCREW | 2 | 30-1351
21 | STUD, REAR | 2 | 30-1352
22 | STUD | 4 | 30-1353
23 | CONNECTOR SHAFT, REAR | 1 | 30-1354
24 | CONNECTOR SHAFT | 2 | 30-1355
25 | GEAR SHAFT SET | 1 | 30-1356
26 | GEAR SET | 2 | 30-1357
27 | BEARING CARRIER HOUSING | 2 | 30-1358
28 | GEAR HOUSING, REAR | 1 | 30-1359
29 | GEAR HOUSING | 3 | 30-1360
30 | PIE HOUSING | 1 | 30-1361
31 | PIGGYBACK HOUSING | 1 | 30-1362
32 | SEC HOUSING | 1 | 30-1363

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*Complete seal kit can be purchased using item #9.
**Item #5 lip seal (also sold separately) included with complete seal kit.
***Items #10-15 (not sold separately) included with complete seal kit.
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