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ROTARY MOWER 60, FLIP-UP MX460



OP / PARTS MANUAL

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Californie Proposition 65 Avertissement

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

⚠ AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

California Advertencia de la Proposicion 65

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

⚠ ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos químicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

CALIFORNIA

Proposition 65 Warning

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

WASH HANDS AFTER HANDLING.

ROTARY MOWER



IMPORTANT MESSAGE

Thank you for purchasing this Schiller Grounds Care, Inc. product. You have purchased a world class product, one of the best designed and built anywhere.

This product comes with an Owner/Operator's Manual. The useful life and good service you receive from this product depends to a large extent on how well you read and understand this manual. Treat this product properly and adjust it as instructed, and it will give you many years of reliable service.

See a Schiller Grounds Care, Inc. dealer for any service or parts needed. Schiller Grounds Care, Inc. service ensures that you continue to receive the best results possible from Schiller Grounds Care, Inc. products. You can trust Schiller Grounds Care, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

Schiller Grounds Care, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this product only as directed in the manual, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

**Schiller Grounds Care, Inc.
One Bob Cat Lane
Johnson Creek, WI 53038-0469**

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DESCRIPTION

Model MX460 Rotary Mower with Mulching Option

Add the mulching baffle and blades option and this deck becomes a mulching mower. It finely mulches the clippings and recycles them into the turf.

Model MX460 Rotary Mower with Rear Discharge Option

Add the rear discharge baffle and blades option and this deck becomes a rear discharge mower. It distributes the clippings evenly beneath the rear roller for safe turf mowing.

The MX460 deck is easy to attach and detach allowing interchange with the many other front mounted attachments. The built in flexibility of the mower allows it to follow the contour of the terrain with cutting height controlled by the front caster wheels and full width rear roller. The deck can be safely serviced and cleaned while still attached to the tractor. Convenient handles enable the deck to be lifted vertically over 90 degrees so the blades are fully exposed. Exceptional visibility and maneuvering is possible with this front mounted design mower.

SPECIFICATIONS

| | |
|---|---|
| Overall Width: | 60-3/4" |
| Cutting Width: | 60" |
| Cutting Height:..... | 1-1/2" to 4" |
| Mower Drive: | PTO Belt |
| Spindle Drive: | Single "V" Belt |
| Spindles:..... | Tapered roller assemblies |
| Blades with Mulching Option: | 3 Blades 19" offset 3 Blades 20-3/4" |
| Blades with Rear Discharge Option:..... | 3 Blades 20-3/4" |
| Discharge | Mulching, or Rear |
| Wheels..... | 10.25 X 3.25 semi-pneumatic |
| Rear Roller | 5-1/2" dia. full-length |
| Weight with Mulching Option | 450 lbs. |
| Weight with Rear Discharge Option | 430 lbs. |

The Model MX460 mower meets or exceeds the American National Standard for Commercial Turf Care Equipment - Safety Specifications. ANSI B71.4 - 1990

NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Schiller Grounds Care, Inc. strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Schiller Grounds Care, Inc. Engineering Department. Any Schiller Grounds Care, Inc. product that is altered, modified or changed in any manner not specifically authorized after original manufacture—including the addition of “after-market” accessories or component parts not specifically approved by Schiller Grounds Care, Inc.—will result in the Schiller Grounds Care, Inc. Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Schiller Grounds Care, Inc. will be considered the responsibility of the individual(s) or company designing and/or making such changes. Schiller Grounds Care, Inc. will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.



This symbol means:

ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Schiller Grounds Care, Inc. machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage.

Schiller Grounds Care, Inc.

One Bobcat Lane
Johnson Creek, WI 53038 USA
Phone: 920-699-2000
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MODEL NUMBER

SERIAL NUMBER

MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

SERIAL NUMBER: This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

GENERAL SAFETY

1. Read and understand the Owner's Manual before attempting to operate this machine.
2. Operate all controls from the operator's seat, (if so equipped). **NO RIDERS.**
3. Keep all shields in place and safety switches adjusted properly.
4. Do not leave equipment unattended. Park on a level surface, set parking brake, STOP the engine and remove the key.
5. Do not allow minors or the inexperienced to operate this machine.
6. Keep people and pets a safe distance away from machine using power driven attachments. Injury could result from flying debris.

WARNING

7. Do not attempt to work on unit or any attachments with engine running!
8. Wear all the necessary protective clothing and personal safety devices to protect your head, eyes, ears, hands and feet. Operate the machine only in daylight or in good artificial light.

IMPORTANT Safe Operation Practices for Mowers

WARNING

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

I GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
- Be sure the area is clear of other people before mowing. Stop the machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without the discharge chute in place.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys before dismounting.
- Turn off blades when not mowing.
- Stop engine before unclogging discharge chute.
- Mow only in good light, keeping away from holes and hidden hazards.
- Do not operate the machine while under the

influence of alcohol or drugs.

- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Always wear safety goggles or safety glasses with side shields when operating mower.

II SLOPE OPERATION

WARNING

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you feel uneasy on it, do not mow it.

DO:

- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed on slopes.
- Follow the manufacturers recommendations for wheel weights or counterweights to improve stability.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on the slope slow and gradual. Do not make sudden changes in speed or direction.
- Avoid stopping or starting on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.

DO NOT:

- Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- Do not mow drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- Do not mow on wet grass. Reduced traction could cause sliding.
- Do not try to stabilize the machine by putting your foot on the ground.
- Do not use grass catcher on steep slopes.

III CHILDREN



Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful eye of another responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and when backing, look behind and down for small children.
- Never carry children as passengers, even with the blades off. They may suddenly fall off and be seriously injured or interfere with safe machine operation.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

IV SERVICE

- Use extra care in handling gasoline and other fuels. They are flammable and the vapors are explosive.
 - Use only an approved container.
 - Never remove gas cap or add fuel with engine running. Allow engine to cool before refueling.
 - Do not smoke.
 - Never add or drain fuel with machine indoors.
 - Never store the machine or fuel container inside where there is an open flame, such as in a water heater.
- Never run the machine in a closed area.
- Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep machine free of grass, leaves, and other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before re-starting.
- Never make adjustments or repairs with the engine running.
- Discharge chute components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently (if equipped). Adjust and service as required.



Location:

On mower deck, front center.



Location:

On mower deck top shield.



Location:

On mower deck top front center and both sides.

| STEINER BELT CHART | | | | | | | | | | | | |
|--------------------------|--|---------|------------|---------|---------|---------|---|---------|-------------------|--|----------|---------|
| MODEL | 220 | 230 | 230 Diesel | 235 | 410 | 415 | 420 | 430 | 440 | 425 | 525 | UM428 |
| for PTO Belt | 81-A034 W/O EI Clutch 81-B033 W/EI Clutch | 81-B033 | 81-B033 | 4165347 | 81-B039 | 81-B039 | 81-A038 SN: 1001-2999 81-B039 SN:3000-5000 | 81-B039 | 4166636 5LX44 | 81-B042 W/O EI Clutch 81-B040 W/EI Clutch | 81-B042 | 81-B029 |
| V, MD, MX, mowers | 81-A040 | 81-A040 | 81-B041 | 81-B041 | 81-A040 | 81-A040 | 81-A040 | 81-A040 | 81-B041 | 81-B041 | 81-B041 | 81-B040 |
| flower | N/A | N/A | N/A | N/A | N/A | N/A | 81-A040 | 81-A040 | 81-B041 | 81-B041 | 81-B041 | N/A |
| rim Mower | N/A | N/A | N/A | N/A | N/A | N/A | 81-A040 | 81-A040 | N/A | 81-B041 | 81-B041 | N/A |
| Cut Mower & 684 | 81-A042 W/O EI Clutch 81-A040 W/EI Clutch | 81-A040 | 81-B041 | 81-B041 | N/A | N/A | 81-A040 | 81-A040 | 81-B041 | 81-B041 | 81-B041 | 81-B040 |
| owers | 81-A045 W/O EI Clutch 81-A043 W/EI Clutch | 81-A043 | 81-B043 | 81-B043 | N/A | N/A | 81-A043 | 81-A043 | 81-B044 | 81-B044 W/O EI Clutch 81-B042 W/EI Clutch | 81-B043 | 81-B042 |
| r Shredder | N/A | N/A | N/A | N/A | N/A | N/A | 81-B041 | 81-B041 | 81-B041 | 81-B041 | 81-B041 | 81-B040 |
| W Generator | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 | 81-B050 |
| -loader | N/A | N/A | N/A | N/A | N/A | N/A | 81-A026 | 81-A026 | N/A | N/A | N/A | N/A |
| Blower | 81-A042 W/O EI Clutch 81-A043 W/EI Clutch | 81-A040 | 81-B041 | 81-B041 | 81-A040 | 81-A040 | 81-A040 | 81-A040 | 81-B041 | 81-B041 W/O EI Clutch | 81-B041 | 81-B040 |
| Box Rake | 81-A045 W/O EI Clutch 81-A043 W/EI Clutch | 81-A043 | 81-B043 | 81-B043 | N/A | N/A | 81-A043 | | 81-B044 | 81-B044 W/O EI Clutch 81-B042 W/EI Clutch | 81-B043 | 81-B043 |
| small | 81-A042 W/O EI Clutch 81-A040 W/EI Clutch | 81-A040 | 81-B040 | 81-B040 | 81-A040 | 81-A040 | 81-A040 | 81-A040 | 81-B041 | 81-B041 W/O EI Clutch 81-B042 W/EI Clutch | 81-B040 | 81-B040 |
| large | 81-A048 W/O EI Clutch 81-A046 W/EI Clutch | 81-A046 | 81-B046 | 81-B046 | 81-A046 | 81-A046 | 81-A046 | 81-A046 | 81-B045 | 81-B046 | 81-B046 | 81-B044 |
| Sweeper | 81-A055 W/O EI Clutch 81-A053 W/EI Clutch | 81-A053 | 81-B054 | 81-B054 | 81-A053 | 81-A053 | 81-A053 | 81-A053 | 81-B054 | 81-B054 W/O EI Clutch 81-B053 W/EI Clutch | 81-B054 | 81-B053 |
| Snowblower 1-1713 | 81-A053 W/O EI Clutch 81-A051 W/EI Clutch | 81-A051 | 81-B051 | 81-B051 | 81-A051 | 81-A051 | 81-A051 | 81-A051 | 81-B052 | 81-B053 W/O EI Clutch 81-B051 W/EI Clutch | 81-B051 | 81-B051 |
| Snowblower 4-7570665**** | | 4165834 | 4165850 | 4165850 | 4165834 | 4165834 | 4165834 | 105803 | 105803 4165834 | | | |
| Snowblower | | | | | | | | | | | | |
| Snowblower | | | | | | | | | | | | |
| Stump Cutter | N/A | 4165834 | 4165850 | 4165850 | 4165834 | 4165834 | 4165834 | 105803 | 105803 4165834 | 81-B045 W/O EI Clutch 81-B043 W/EI Clutch | 81-B0424 | 81-B042 |
| Trencher | N/A | N/A | N/A | N/A | N/A | N/A | 81-B050 | 81-B050 | 81-B050 | 81-B051 | 81-B051 | 81-B050 |
| iller | 81-A042 W/O EI Clutch 81-A040 W/EI Clutch | 81-A040 | 81-B041 | 81-B041 | 81-A040 | 81-A040 | 81-A040 | 81-A040 | 81-B041 | 81-B041 W/O EI Clutch 81-B040 W/EI Clutch | 81-B041 | 81-B040 |
| Auger | N/A | N/A | N/A | N/A | N/A | N/A | 81-A027 | 81-A027 | N/A | N/A | N/A | N/A |

ASSEMBLY INSTRUCTIONS

- Remove the mower from the shipping crate.
- Remove top shield.
- Install the baffles and blades for mulching deck on Page 28 or rear discharge deck on Page 30.
- Install both left and right hitch arms with bushings as shown in Figure 3 and photo on Page 18. Torque 1/2" attaching bolts to 85 foot pounds.
- **Serial Number(1001 - 2135):** Install the 1/2" locknut, which holds the two hitch arms together. Tighten and back off 1/2" turn. This allows some independent movement of the hitch arms. (See Figure 3).
- **Serial Number (2135 & Up):** Install the 1/2" nut and the 1/2" lockwasher, which holds the two hitch arms together. Torque to 85 ft. pounds.
- Be sure that the mower main drive belt is installed correctly on all pulleys. See belt installation decal inside top shield and instructions on Page 18. Fasten spring to chain and idler slide as shown in Figure 1. Choose chain link which stretches spring approximately one inch. Check bolts which mount spindles to deck. Torque should be 35-40 foot pounds. Check allen set screws on pulleys.
- Reinstall the deck riser and top shield.
- Remove 1/2" locknut on height adjustment lever and position correctly as shown in Photo on Page 16. Replace locknut.
- Remove the drive pulley shield and install the proper drive belt for the power unit. Replace shield. (See drive belt chart on Page 14)
- Attach mower to power unit. See Pages 5-8 for safety instructions, Page 14 for installation instructions and Pages 15-16 for operating instructions.
- Check blade bolts. Torque should be 75-85 foot pounds.

Installation Instructions for: MX460 Mulching Baffle Option (73-71025)

- Remove existing mower blades and 1/4" thick x 3" O.D. washers.
- Remove and discard the two outside rear roller frame supports used for shipping and remove the 3/8 X 3/4 flange bolt located at the front center deck support.
- Install baffle plate underneath deck using 12 - 3/8 X 3/4 flange bolts and nuts packaged with the deck and the 3 bolts removed in above step. Bolts are installed with the nuts on top of the deck.
- Install offset mulching blades, straight mower blades and blade holders as shown in Figure 5, items 4, 6, & 7. The blade holder positions the straight blade at 90 degrees to the offset blade.

NOTE: The center spindle requires a 1/4" thick X 3" O.D. washer used as a spacer above the blades. The three extra 1/4" thick X 3" O.D. washers are not used for this mulching option. Blade bolt torque should be 75-85 foot pounds.

- Check to make sure that there is adequate clearance between the mower blades and the baffles. It may be necessary to use a heavy soft-faced mallet to reform the baffle(s) to provide adequate clearance so that blades do not touch baffles at operating speed.

Leveling mower deck:

- **NOTE:** Units are shipped with the lift links (42-480) installed for the mulching mower which are 6-9/16 long.
- The front to rear leveling adjustment is provided by two slots in the linkage which supports the front of the deck. This allows each side to be adjusted independently. Check the blade level with mower resting on a level floor and the cutting height set at a 2" setting. Measure to the tip of the left blade at the rear, then rotate the blade 180 degrees and measure again to the tip of the blade at the front. The cutting height should be 5/8" to 3/4" higher at the front. This will provide a "double cut" which is essential to this mower design.
- Change adjustment in the left slot as required and measure again until proper setting is reached. Repeat procedure for blade at right side of the deck and adjust right slot.
- See Figure 2 and Figure 5 for parts identification.

Installation Instructions for: MX460 Rear Discharge Option (73-71027)

- Remove existing mower blades and 1/4" thick X 3" O.D. washers.
- Remove and discard the two outside rear roller frame supports used for shipping and remove the 3/8" X 3/4" flange bolt located at the front center deck support.
- Install baffle plate underneath deck using 12-3/8" X 3/4" flange bolts and nuts packaged with the deck and the 3 bolts removed in above step. Bolts are installed with the nuts on top of the deck.
- Install mower blades and 1/4" thick X 3" O.D. washers as shown in Figure 6, items 4 & 5. Blade bolt torque should be 75-85 foot pounds.
- Check to make sure that there is adequate clearance between the mower blades and the baffles. It may be necessary to use a heavy soft-faced mallet to reform the baffle(s) to provide adequate clearance so that blades do not touch baffles at operating speed.

Leveling mower deck

- Remove the shorter front height adjustment links (Figure 2, item 7) and replace with longer links (42-445) which are 7-1/4" long and supplied with the rear discharge baffle kit.
- The front to rear leveling adjustment is provided by two slots in the linkage which supports the front of the deck. This allows each side to be adjusted independently. Check the blade level with mower resting on a level floor and the cutting height set at a 2" setting. Measure to the tip of the left blade at the rear, then rotate the blade 180 degrees and measure again to the tip of the blade at the front. The cutting height should be 0 to 1/8 inch lower at the front. This setting does not allow the blades to "double cut" thus requiring less power.
- Change adjustment in the left slot as required and measure again until proper setting is reached. Repeat procedure for blade at right side of the deck and adjust right slot.
- See Figure 2 and Figure 6 for parts identification.

ATTACHING MOWER TO TRACTOR:

- Operate latch control to open hitch latches.
- Drive tractor into position aligning the quick hitch.
- Be sure both latches engage fully and are placed in the locked position.
- **Stop engine!** Do not attempt to install drive belt with engine running.
- Release power unit double idler assembly to facilitate easy installation of the drive belt.
- Put belt over drive pulleys and engage or adjust idler assembly.
(See Power Unit Operator's Manual for PTO belt tension adjustments.)
- Set mower to desired cutting height.
- Start engine and engage PTO slowly to prevent shock load on mower components.
- Mow with front lift lever in "FLOAT" position only.

| Power unit Model | Drive belt |
|-------------------------|-------------------|
| 220 / 230 230 diesel | 81-A40 81-B041 |
| 410 | 81-A40 |
| 420 / 430 | 81-A40 |
| 425 | 81-B041 |
| 525 | 81-B041 |

REAR WEIGHT REQUIREMENTS

The table of requirements for rear weights is based upon average mowing conditions and operator's weight of 150 lbs. The recommendations may vary with the weight of the operator, other accessories, and the mowing conditions. It is the operator's responsibility to determine the correct amount of weight needed to improve stability. All weights must be removed when the mower is removed. (See Caution in Power Unit Operator's manual.)

| Power unit Model | 60" Deck |
|------------------|-----------|
| 220 / 230 | none |
| 410 | 2 weights |
| 420/430 | 4 weights |
| 425 | 2 weights |
| 525 * | 2 weights |

* If equipped with a CB525 cab, no weights are required.

OPERATING PRECAUTIONS

Observe all Safety Decals.

Keep all Shields in place.



Do not operate mower with other persons in the area. Irregularities in ground surface can permit foreign material to be propelled from beneath deck to cause serious injury or death.

Before leaving tractor, move Forward - Reverse control to neutral position, disengage PTO, set parking brake, lower mower deck and stop engine.

Remove key from ignition if maintenance procedures are to be performed or tractor is to be left unattended.

Specific Operating Instructions for the Mulching Option

1. Regular scheduled mowing is the key to a well groomed turf. It is necessary to mow the turf more often with a mulching mower. Mow the turf before the cut-off portion of the blade of grass exceeds 1-1/2". Mowing tall grasses (over 6") is not recommended, and the mulching action will not perform as expected.
2. To prevent excessive "loading up" above the mulching blades, it is important to mow when the grass is "dry". The mulching action will not perform as well in wet conditions and heavy lush grasses.
3. Vary the travel speed accordingly to match the turf conditions. **Remember: A mulching type mower requires more power than a conventional rotary mower.**

Specific Operating Instructions for the Rear Discharge Option

1. Regular scheduled mowing is the key to a well groomed turf. It is necessary to mow the turf more often with a rear discharge mower than with a side discharge or grass collection mower.
2. To prevent excessive "clumping" of the clippings, it is important to mow when the grass is "dry". The rear discharge will not perform as well in wet conditions or tall heavy grasses (over 6").
3. Vary the travel speed accordingly to match the turf conditions.

GENERAL OPERATING INSTRUCTIONS

1. Mow with front lift lever in "FLOAT" position only.
2. Engage PTO slowly at low engine r.p.m.
3. Mower is designed to operate at full throttle for mowing heavy turf, but 3/4 throttle is adequate for average conditions. Set mower blade speed with throttle and control ground speed with Forward - Reverse control.
4. Use extreme caution when operating on hills. Mow up and down whenever possible.
5. See Page 10 for weight recommendations.

SETTING MOWER CUTTING HEIGHT (SEE PHOTO 1)

- Lift mower deck off the ground and shut off tractor engine.
- Remove clevis pin **A** from height adjustment link **B**.
- Raise or lower deck to desired height.
- Replace clevis pin **A** into height adjustment link **B**.

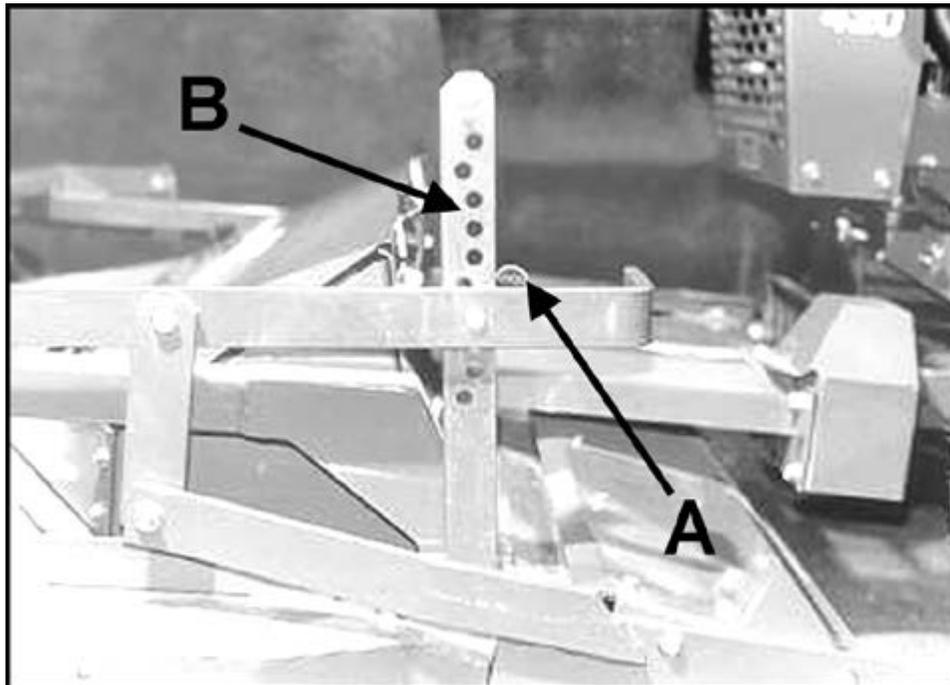


PHOTO 1

MAINTENANCE

Daily maintenance:

Visual inspection for loose parts and accumulation of grass and dirt.
Grease rear roller daily or every 8-10 hours.
Clean accumulation of grass clippings from beneath deck daily for better mowing performance.
Keep blades sharp. Check the tips of the blades for wear.

25 hour maintenance:

In addition to daily maintenance, Grease rear roller and all bearings.
Remove top shield and grease spindles. *Do not overgrease.*

Annual Maintenance:

In addition to daily and 25 hour maintenance, remove the drive belt and check for cracks or wear.
Rotate each spindle to check for roughness which would indicate bearing wear.
Remove and sharpen blades. Clean and wash deck prior to storage. The acid in grass clippings causes premature corrosion and rusting of mower parts.

ADJUSTMENTS

Sharpening Blades

Be careful while sharpening blades that the corners of the blade do not become rounded at the tips. This reduces the blades overlap and will cause skipping. While sharpening, it is essential to ensure the balance of the blades is maintained to prevent vibration. Blade bolt torque should be 75-85 foot pounds. Rotate blades after re-installing to check for bent or bowed blades and blade alignment.

MULCHING DECK ONLY:

The center spindle requires a 1/4" spacer above the center blade on this design mower. Failure to include the spacer will result in uneven mowing.

Blade Alignment

When installing sharpened blades or new blades be sure the mating surfaces are clean and the retaining washer is not bent. Check for bent blades by rotating blades until tips are near each other. (It is easier to do this with main drive belt idler spring unhooked.)

Leveling Mower Deck

The front to rear leveling adjustment is provided by two slots in the linkage which supports the front of the deck. This allows each side to be adjusted independently. Check the blade level with mower resting on a level floor and the cutting height set at a 2" setting. Measure to the tip of the left blade at the rear, then rotate the blade 180 degrees and measure again to the tip of the blade at the front.

MULCHING DECK ONLY:

The cutting height should be 5/8" to 3/4" higher at the front.

REAR DISCHARGE DECK ONLY:

The cutting height should be 0 to 1/8 inch lower at the front.
Change adjustment in the left slot as required and measure again until proper setting is reached.
Repeat procedure for blade at right side of the deck and adjust right slot.

MULCHING DECK ONLY:

With this setting the front of the deck will be higher than the rear, providing a "double cut" which is essential to this mower design.

CHANGING MAIN DRIVE BELT

To Remove Belt:

1. Remove top shield and the bolts which fasten the hitch arms to the deck brackets. No further disassembly is necessary on Serial number 1001 - 2134. After Serial number 2135 remove the six 1/4" X 3/4" bolts from the flip-up braces and remove the pivot stop pin and the idler spring. Remove the braces.
2. With the idler spring released, move the idler toward the drive shaft.
3. Slip belt off the outer spindle pulleys.
4. Slip belt off the front center idler and spindle.
5. Remove belt.

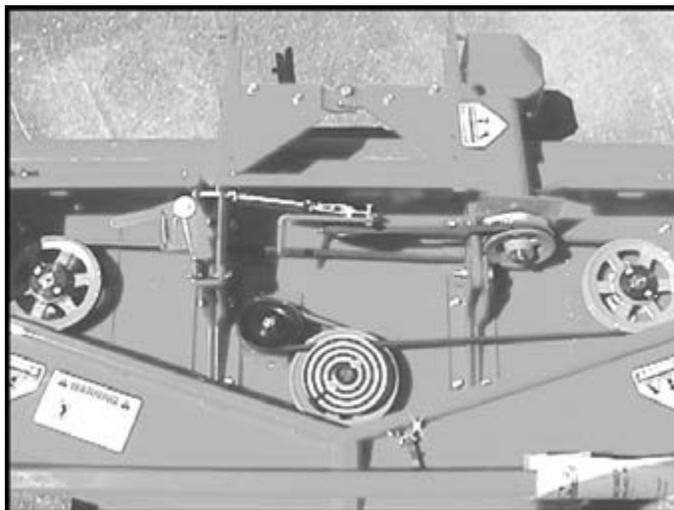


PHOTO 2

To Install Belt:

1. Form loop for drive pulley and idler pulley as shown. (Photo 2)
2. Slip loop over drive pulley on left hitch arm. (Photo 2)
3. Form a loop around the center spindle pulley and fixed idler pulley. (Photo 2)
4. Position belt on the outer spindle pulleys. (Photo 2)
5. (Serial No. 1001 - 2134) Re-install hitch arms and bushings in place.
(After Serial No. 2135) Re-install hitch arms and pivot braces.
Torque 1/2" attaching bolts to 85 foot pounds. (Photo 2)
6. Hook idler spring in place. Choose chain link which stretches spring approximately one inch. Re-install top shield. (Photo 2) For flip-up deck see Instructions on Page 15.

INSTRUCTIONS FOR FLIP-UP DECK

1. Lift deck, set park brake and shut off the tractor engine.
2. Remove the top deck shield and set aside.
3. Standing in front of the deck, pull the handle on the idler arm so the belt becomes loose.
4. Remove the belt from the drive pulley.
5. Remove presto pin from the deck stop pin and slide pin from holes.
6. Grasp handles and lift deck up and back until you hear a click. This indicates the safety latch has engaged.
7. Lower deck until the rear roller touches the ground. This gives the deck stability when working on the deck.
8. Complete your work under the deck.
9. Start tractor and lift deck again. When deck is lifted, shut off the tractor engine.
10. Grasp the handles at the front of the deck. Push deck back slightly and release the safety latch.
11. Pull deck forward and down keeping a firm grip on the handles.
12. Lower deck to the ground.
13. Replace the deck stop pin and presto clip in the hole above the lift arm.
14. Grasp the idler arm handle again and pull to stretch spring. Place belt onto the drive pulley.
15. Make sure belt is around all pulleys and release idler arm.
16. Replace top deck shield and secure with rubber latches.
17. Moving the power unit with the deck in the flipped up position is not recommended. Serious injury and or damage could result.

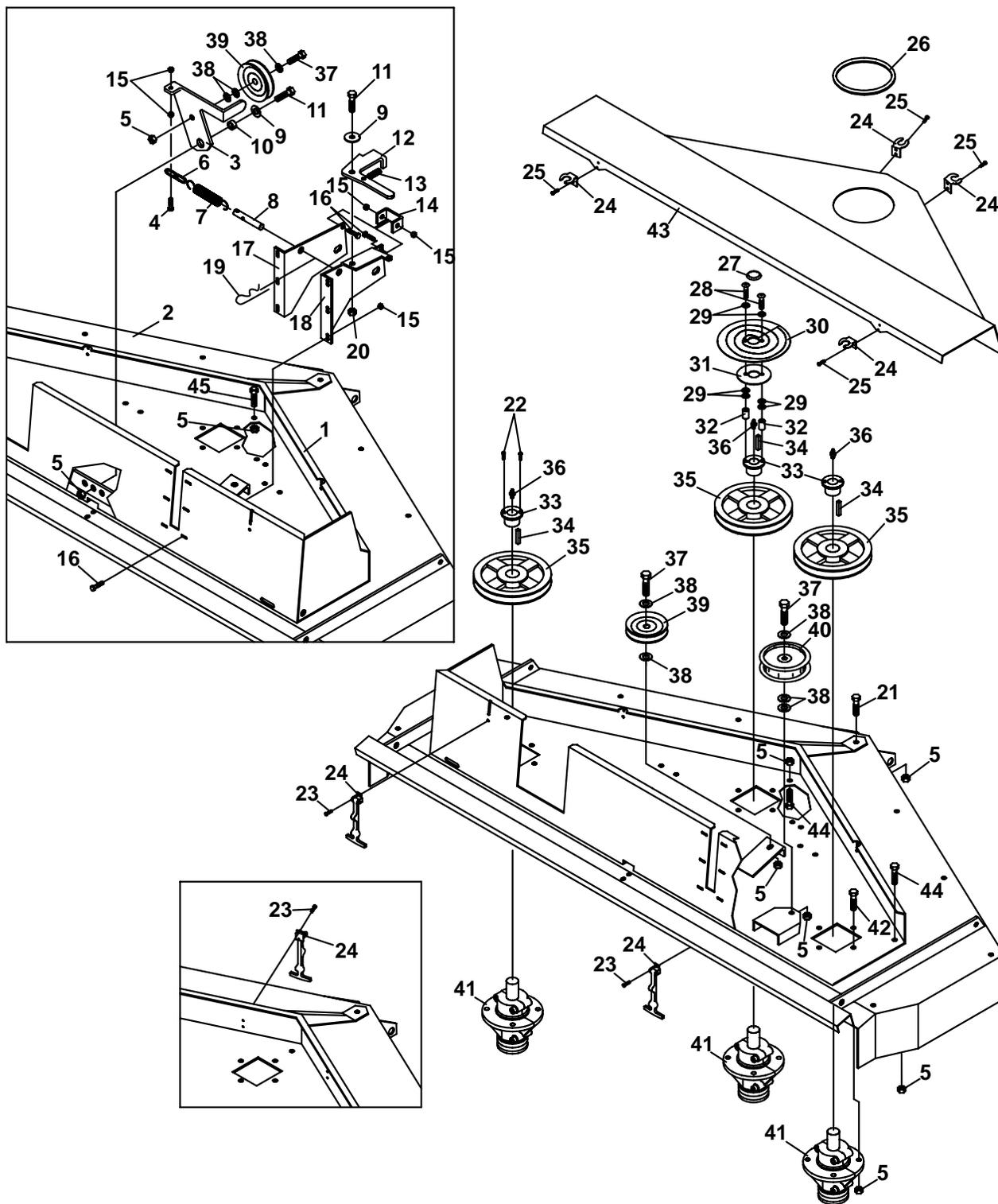


The Mower deck is enclosed on all sides to prevent foreign material from being propelled from beneath deck toward operator or bystanders. Keep all shields in place!

FLIP UP DECK PARTS

ROTARY MOWER

FIGURE 1



ROTARY MOWER

FLIP UP DECK PARTS

FIGURE 1

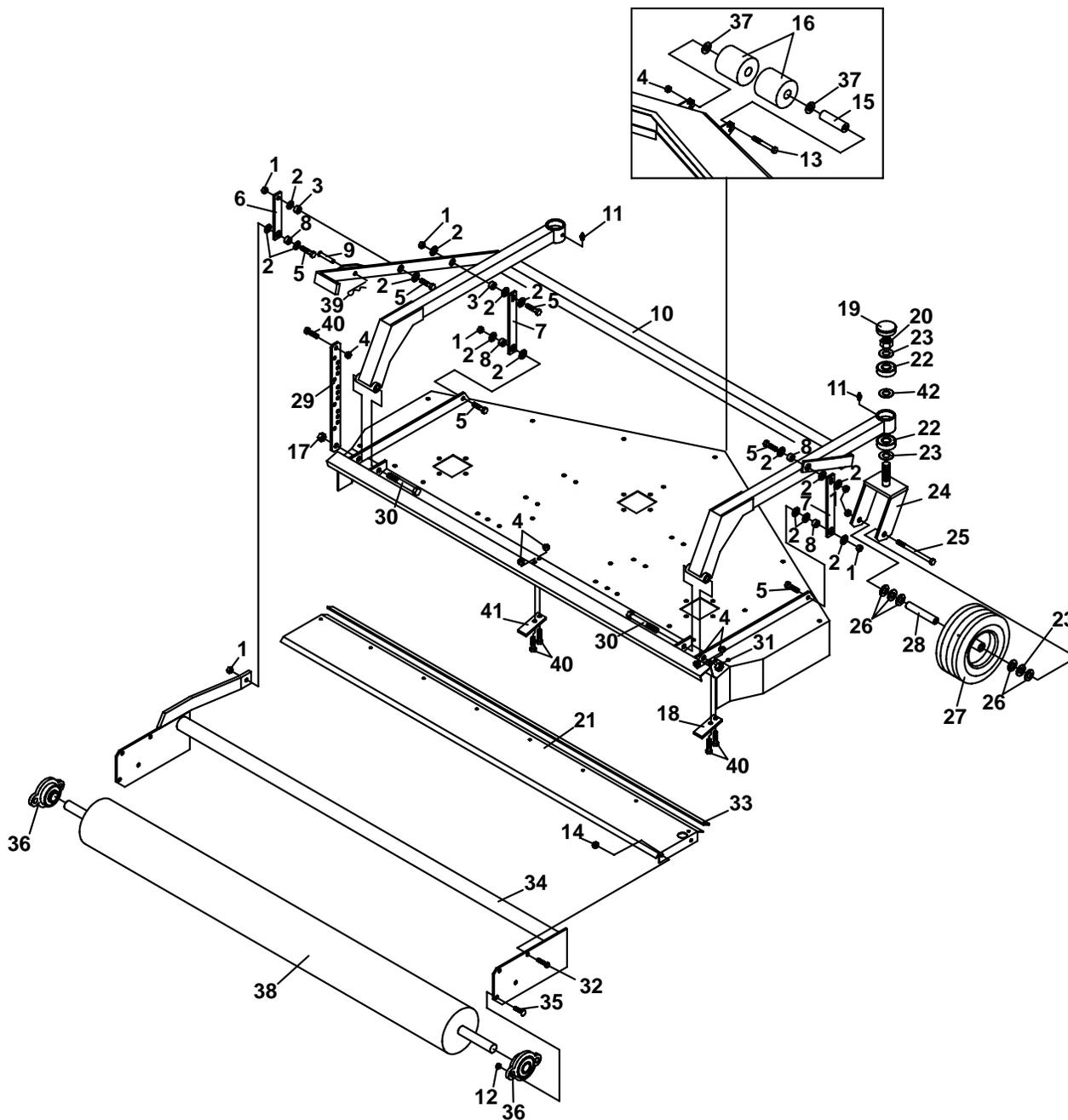
| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|-----------|-------------------------|-----|------|-----------|---------------------------|-----|
| 1 | 4165373 | TOP DECK | 1 | 23 | 04-008 | POP RIVET, 1/8 X 1/8 SS. | 8 |
| * | 00-191 | DECAL-MX460 | 1 | 24 | 47-090 | LATCH | 4 |
| * | 00-093 | DECAL-WARNING | 1 | 25 | 04-007 | POP RIVET, 1/8 X 1/4 SS. | 8 |
| * | 00-140 | DECAL-ANSI | 1 | 26 | 56-059-19 | TRIM-LOC 17" | 1 |
| 2 | 4165374 | MAIN DECK | 1 | 27 | 06-010 | CAP PLUG-1" | 1 |
| * | 00-092 | DECAL-HANDS & FEET | 2 | 28 | 99-K39 | BOLT-1/4 X 1-1/2 BH | 2 |
| 3 | 64-991.7 | ARM, IDLER | 1 | 29 | 64163-03 | WSHR-.256ID X.62OD X 18 | 2 |
| 4 | 64123-80 | BLT-HEX 1/4-20X1-1/4 | 1 | 30 | 00-137 | DECAL, SPIRAL INDICATOR | 1 |
| 5 | 64141-4 | NUT-WLF 3/8-16 | 22 | 31 | 60-568.7 | SUPPORT PLATE | 1 |
| 6 | 64-990 | CHAIN, 4 LINKS | 1 | 32 | 64-688.7 | SPACER | 2 |
| 7 | 41-092 | SPRING | 1 | 33 | 83-H16 | BUSHING-H X 1" SPLIT TYPE | 3 |
| 8 | 64-966 | PIVOT STOP PIN | 1 | 34 | 64164-12 | KEY-1/4X1/4X1 SQ END | 3 |
| 9 | 64-799 | WASHER-13/32IDX1-9/32OD | 2 | 35 | 83-BK65H | PULLEY | 3 |
| 10 | 85-B29 | BUSHING-.406X.740X.258 | 1 | 36 | 85010N | S/B GREASE FITTING | 3 |
| 11 | 64123-50 | BOLT-HEX 3/8-16X1 | 2 | 37 | 64123-70 | BOLT-HEX 3/8-16X1-1/2 | 3 |
| 12 | 64-967.7 | FLIP-UP LATCH | 1 | 38 | 64163-61 | WSHR .81X.406X16GA | 8 |
| 13 | 41-013 | SPRING | 1 | 39 | 83-034 | IDLER PULLEY | 2 |
| 14 | 64-965.7 | FRONT LIFT ARM STOP | 1 | 40 | 83-016 | IDLER PULLEY | 1 |
| 15 | 64141-2 | NUT-WLF 1/4-20 | 10 | 41 | 87-143 | SPINDLE | 3 |
| 16 | 64139-04 | BOLT-WLF 1/4-20X3/4 | 8 | 42 | 64139-18 | BLT-3/8-16X1-1/4 | 12 |
| 17 | 64-968.7 | FLIP-UP DK BRACE, LEFT | 1 | 43 | 4165375 | TOP SHIELD | 1 |
| 18 | 64-969.7 | FLIP-UP DK BRACE, RIGHT | 1 | * | 00-138 | DECAL-ROTATING BLADE | 1 |
| 19 | 64168-4 | COTTER-HAIRPIN | 1 | * | 00-129 | DECAL-BELT INSTALLATION | 1 |
| 20 | 64229-03 | LOCKNUT-NYLON 3/8-16 | 1 | 44 | 64123-15 | BLT-HEX 3/8-16X3/4 | 4 |
| 21 | 64139-21 | BLT-WLF 3/8-16X3/4 | 1 | 45 | 64139-24 | BLT-WLF 3/8-16X1 | 1 |
| 22 | 64123-114 | BLT-HEX 1/4-20X1 | 6 | | | | |

* NOT ILLUSTRATED

FRAME PARTS

ROTARY MOWER

FIGURE 2



ROTARY MOWER

FRAME PARTS

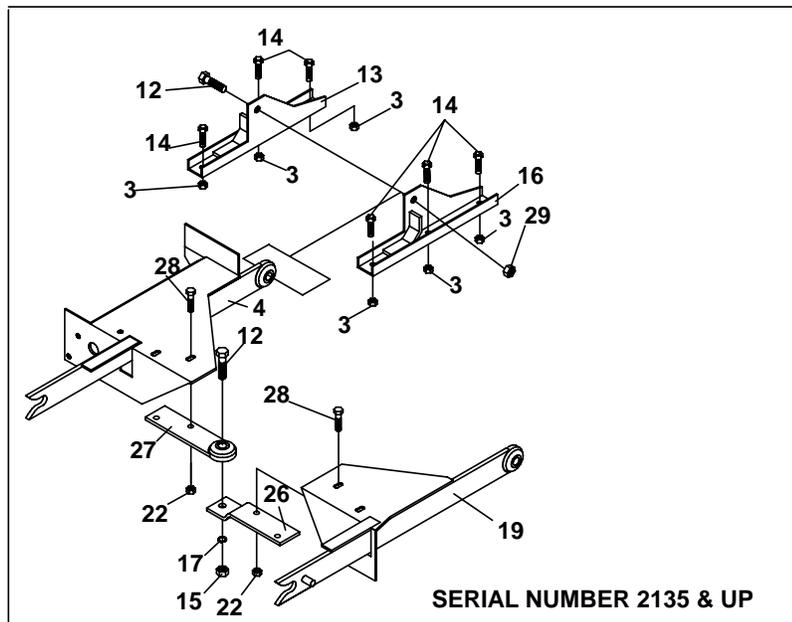
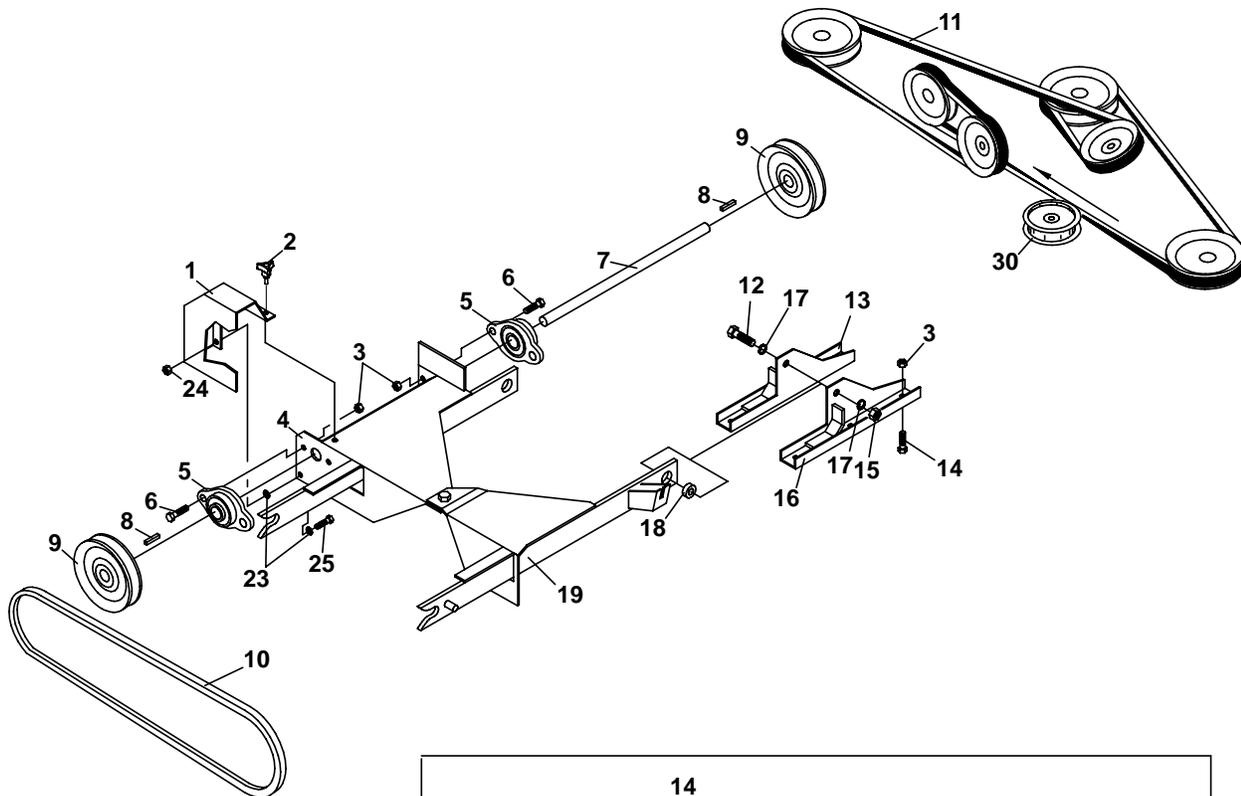
FIGURE 2

| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|-----------------------------------|-----|------|------------|------------------------|-----|
| 1 | 64229-03 | LOCKNUT-3/8-16 | 8 | 28 | 50-062 | TUBE | 2 |
| 2 | 64-799 | WASHER-13/32IDX1-9/32OD | 15 | 29 | 42-479 | STRAP-HEIGHT ADJ | 1 |
| 3 | 64-662 | BUSH - THICK | 2 | 30 | 99-K92 | BOLT, 1/2-13 X 4 | 2 |
| 4 | 64141-4 | NUT-WLF 3/8-16 | 9 | 31 | 64229-05 | LOCKNUT, 1/2-13 NYLON | 1 |
| 5 | 64123-70 | BOLT-HEX 3/8-16X1-1/2 | 6 | 32 | 64139-04 | BOLT-WLF 1/4-20X3/4 | 4 |
| 6 | 42-481.7 | LINK-R HEIGHT ADJ | 1 | 33 | 56-078 | TRIM SEAL 4.75 FT | 1 |
| 7 | 42-480.7 | LINK-FRT HEIGHT ADJ | 2 | 34 | 62-802.7 | FRAME, REAR ROLLER | 1 |
| | | (USED ON MULCHING DECK ONLY) | | 35 | 64018-15 | BLT-CRG 5/16-18X1 | 4 |
| | 42-445.7 | LINK, HEIGHT ADJUST LEFT | 2 | 36 | 55-FB16016 | 2-BOLT FLANGE BEARING | 2 |
| | | (USED ON REAR DISCHARGE DECK) | | 37 | 99-B26 | WASHER, MACH 5/8 ID 14 | 2 |
| 8 | 64-663 | BUSHING | 4 | 38 | 4136118.7 | WLDMT-ROLLER | 1 |
| 9 | 03-0610 | CLEVIS PIN, 3/8 X 1-1/4 ZP | 1 | 39 | 02-PP0318 | PIN, 3/32 x 2.5/16 | 1 |
| 10 | 62-800.7 | FRAME, TUBE MX460 | 1 | 40 | 64139-21 | BLT-WLF 3/8-16X3/4 | 8 |
| 11 | 85010N | S/B GREASE FITTING | 2 | 41 | 64-531.7 | CLAMP, ROLLER FRAME | 1 |
| 12 | 64141-6 | NUT, 5/16-18 | 4 | 42 | 4165469 | SPACER-.76X1.25X.188 | 2 |
| 13 | 90-0656 | BLT-HEX 3/8 X 7 | 1 | | | | |
| 14 | 64141-2 | NUT-1/4-20 | 8 | | | | |
| 15 | 50-103.7 | AXLE-ANTI-SCALP ROLLER | 1 | | | | |
| 16 | 2198153 | ROLLER | 2 | | | | |
| 17 | F5012 | NUT, JAM NYLON INSERT | 1 | | | | |
| 18 | 64-796.7 | SUPPORT | 2 | | | | |
| 19 | 53-060 | DUST CAP | 2 | | | | |
| 20 | 99-AC12NF | NUT, 3/4 NF | 2 | | | | |
| 21 | 4133108.7 | PLATE, ROLLER FRAME | 1 | | | | |
| 22 | 55-Z9504AB | BALL BEARING | 4 | | | | |
| 23 | 64163-06 | WASHER | 6 | | | | |
| 24 | 4132783.7 | CASTER, MOWER | 2 | | | | |
| 25 | 64123-93 | BLT-HEX 3/8-16X5 | 2 | | | | |
| 26 | 64163-16 | WASHER-41/64X1, 3/8X12 | 10 | | | | |
| 27 | 55-G527 | BRG-BALL F/53-104 WHEEL | 2 | | | | |
| | 55-107 | BRG-5/8 ID X 1-3/8 OD | 2 | | | | |
| | 53-186 | WHEEL-10.25 X 3.25 | 2 | | | | |
| | | (SERVICE ITEMS FOR HOOSIER TIRES) | | | | | |
| | 55-112 | BRG-ROLLER 5/8 ID X 1-3/8 | 1 | | | | |
| | 53-187 | RETAINER | 2 | | | | |
| | | (SERVICE ITEMS FOR OTR TIRES) | | | | | |
| | 4169687 | BRG-.625X1.375X2.25 | 1 | | | | |
| | 4169688 | RETAINER | | | | | |

HITCH & DRIVE PARTS

ROTARY MOWER

FIGURE 3



SERIAL NUMBER 2135 & UP

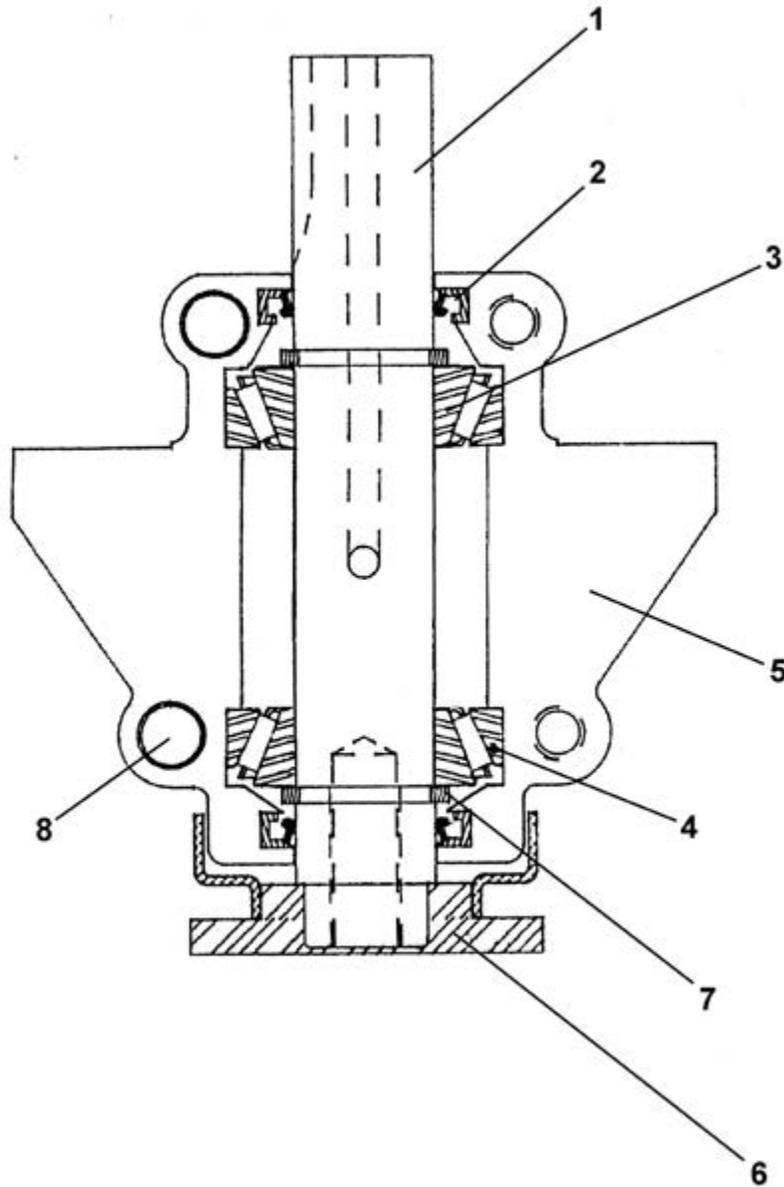
ROTARY MOWER

HITCH & DRIVE PARTS

FIGURE 3

| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|-------------------------|-----|------|----------|-------------|-----|
| 1 | 64-611.7 | SHIELD, DRIVE PULLEY | 1 | | | | |
| 2 | 4170936 | KNOB-3 PRONG 1/4-20 | 1 | | | | |
| 3 | 64141-4 | NUT-WLF 3/8-16 | 16 | | | | |
| 4 | 4170603 | S-WLDMNT,HITCH ARM LH | 1 | | | | |
| | *2000577 | DECAL-ROTATING PARTS | 1 | | | | |
| 5 | 55-FB23012 | BEARING-2 BOLT FLANGE | 2 | | | | |
| 6 | 64139-24 | BLT-WLF 3/8-16 X 1 | 4 | | | | |
| 7 | 80-228 | DRIVE SHAFT | 1 | | | | |
| 8 | 64164-11 | KEY-3/16X3/16X1-1/4 SQ | 2 | | | | |
| 9 | 83-BK5012 | PULLEY | 2 | | | | |
| 10 | | SEE BELT CHART PAGE 10 | | | | | |
| 11 | 81-B158 | BELT-DECK DRIVE | 1 | | | | |
| 12 | 99-K82 | BOLT, FLANGE 1/2-13 X 2 | 3 | | | | |
| 13 | 64-937.7 | ANCHOR-HITCH ARM LFT | 2 | | | | |
| 14 | 64139-21 | BLT-WLF 3/8-16X3/4 | 8 | | | | |
| 15 | 64229-05 | HEX, NUT 1/2-13 | 1 | | | | |
| 16 | 64-936.7 | ANCHOR-HITCH ARM RT | 2 | | | | |
| 17 | 64163-67 | LOCKWSHR-HELICAL 1/2 | 1 | | | | |
| 18 | 64123-125 | BLT-HEX 1/2-13X2-3/4 | 1 | | | | |
| 19 | 4170604.7 | WLDMNT-HITCH ARM,RH | 1 | | | | |
| 20 | 64025-19 | NUT-HEX 1/2-13 | 1 | | | | |
| 21 | 64006-05 | LCKWSHR-HEL 1/2 | 1 | | | | |
| 22 | 64268-05 | NUT-FL NY LOCK 1/2-13 | 4 | | | | |
| 23 | 64163-04 | 25/64X5/8X16GA WASHER | 2 | | | | |
| 24 | 64229-02 | LOCKNUT-NYLON 5/16-18 | 1 | | | | |
| 25 | 64123-54 | BOLT, 5/16-18X3/4 HEX | 1 | | | | |
| 26 | 4170583.7 | LINK-LIFT ARM,RH | 1 | | | | |
| 27 | 4170584.7 | WLDMNT-LINK,LIFT ARM LH | 1 | | | | |
| 28 | 64139-22 | BLT-WLF 1/2-13X1 | 4 | | | | |
| 29 | 64141-13 | NUT WLF 1/2-13 | 2 | | | | |
| 30 | 83-016 | IDLER PULLEY | 1 | | | | |

FIGURE 4



ROTARY MOWER

SPINDLE PARTS

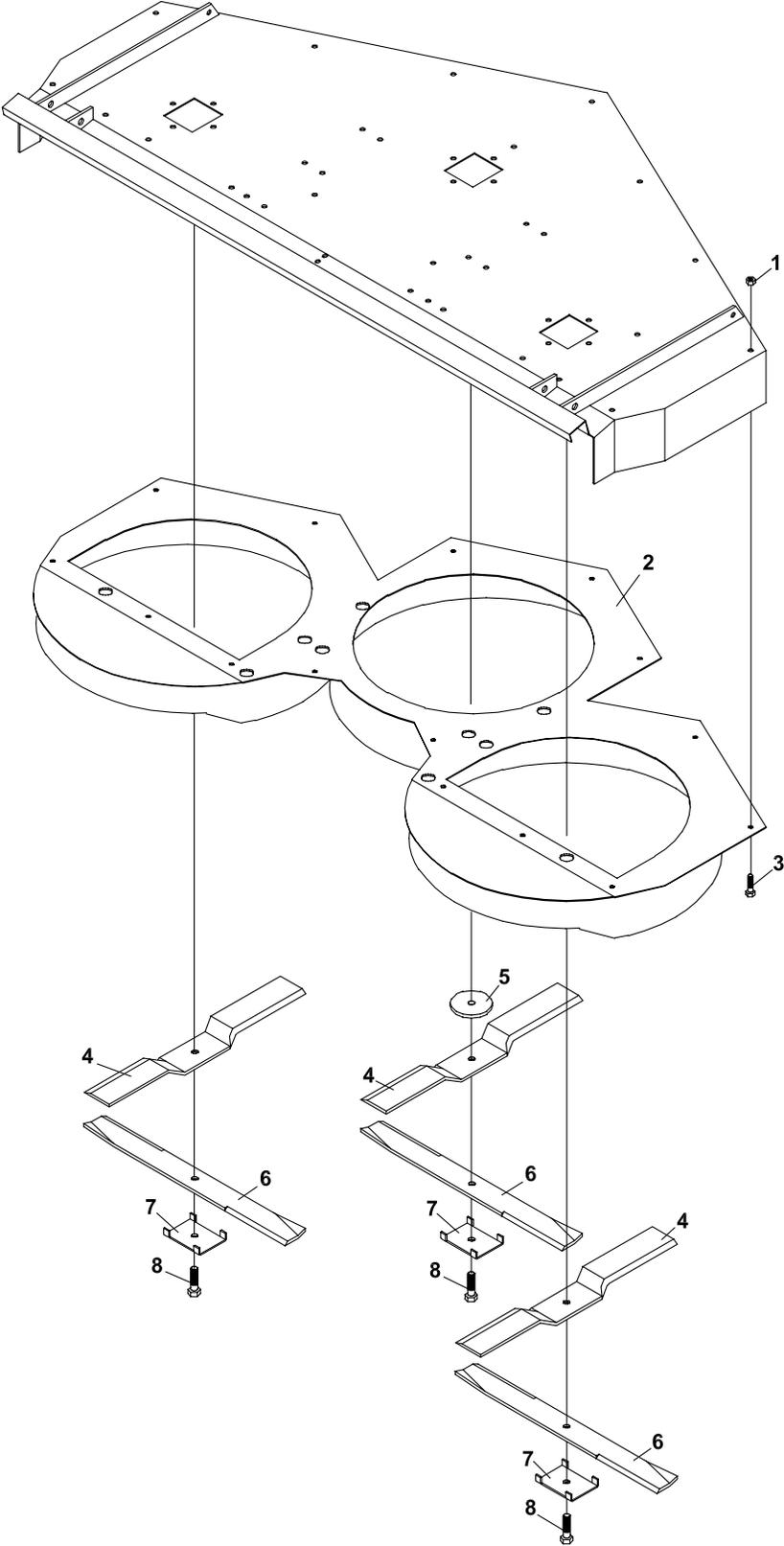
FIGURE 4

| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|--------------|--------------------------|-----|------|----------|-------------|-----|
| 1 | 87-235 | SHAFT-SPINDLE | 1 | | | | |
| 2 | 87-209843 | SEALS | 2 | | | | |
| 3 | 87-244643 | BEARING CONE | 2 | | | | |
| 4 | 87-244610 | BEARING CUP | 2 | | | | |
| 5 | 87-240001-5 | CASTING | 1 | | | | |
| | 87-240001-6 | CASTING | 1 | | | | |
| 6 | 87-240101-01 | BLADE ADAPTER W/CUP | 1 | | | | |
| 7 | 87-203293 | RETAINING RING | 2 | | | | |
| 8 | 87-203815 | BOLT-3/8-16 X 1-1/2 SHCS | 4 | | | | |

MULCHING OPTION

ROTARY
MOWER

FIGURE 5



ROTARY MOWER

MULCHING OPTION

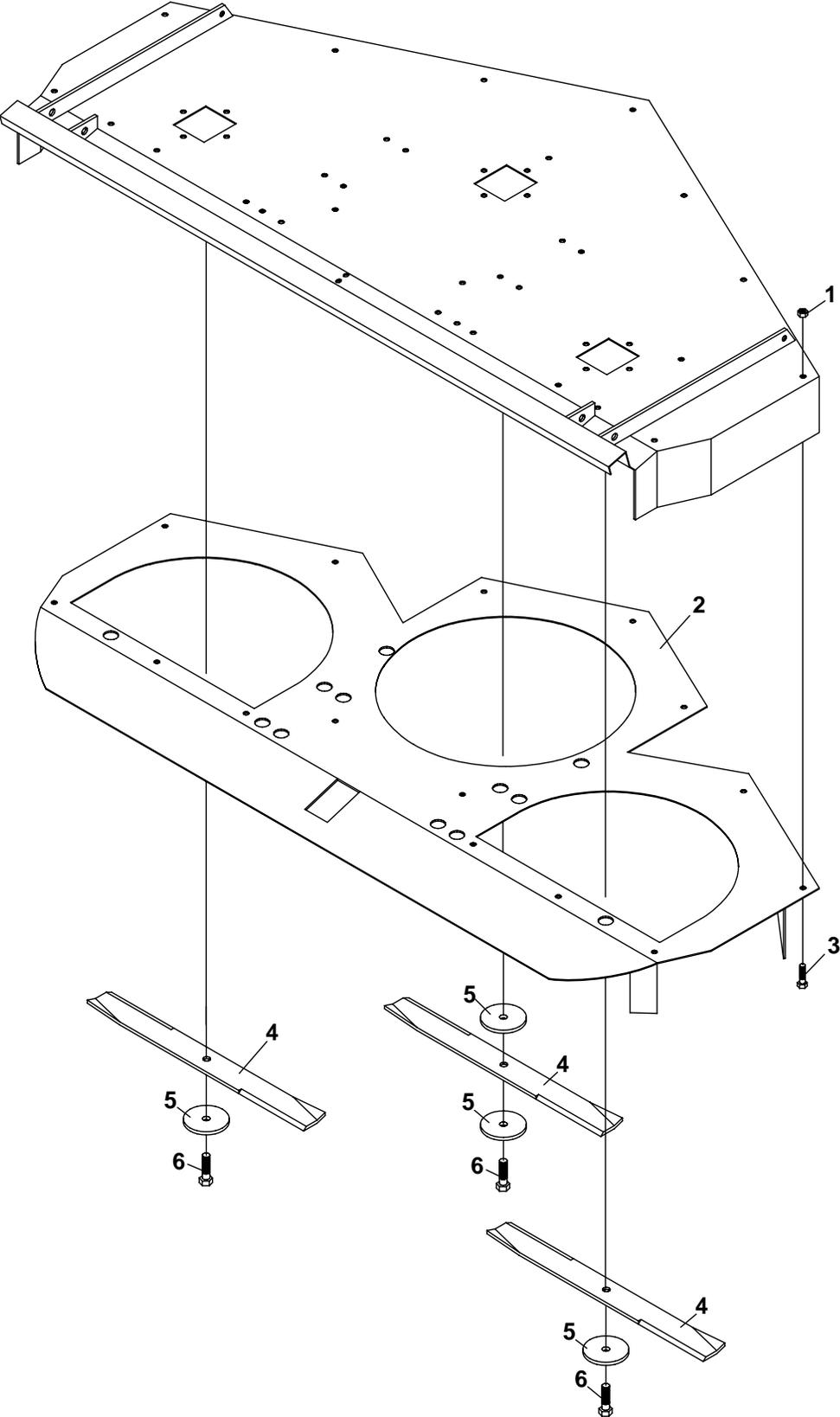
FIGURE 5

| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|------------------------|-----|------|----------|-------------|-----|
| 1 | 64141-4 | NUT-WLF 3/8-16 | 15 | | | | |
| 2 | 62-804 | BAFFLES, MULCHING DECK | 1 | | | | |
| 3 | 64139-21 | BLT-WLF 3/8-16X3/4 | 15 | | | | |
| 4 | 79-074 | BLADE-19" | 3 | | | | |
| 5 | 99-B14 | WASHER, SPECIAL | 1 | | | | |
| 6 | 79-073 | BLADE-20-3/4' | 3 | | | | |
| 7 | 64-785 | GUIDE | 3 | | | | |
| 8 | 64123-05 | BLT-HEX 1/2-20X1-1/2 | 3 | | | | |

REAR DISCHARGE OPTION

ROTARY MOWER

FIGURE 6



ROTARY MOWER

REAR DISCHARGE OPTION

FIGURE 6

| ITEM | PART NO. | DESCRIPTION | QTY | ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|----------------------|-----|------|----------|-------------|-----|
| 1 | 64141-4 | NUT-WLF 3/8-16 | 15 | | | | |
| 2 | 62-799 | BAFFLES-R DISCHARGE | 1 | | | | |
| 3 | 64139-21 | BLT-WLF 3/8-16X3/4 | 15 | | | | |
| 4 | 79-073 | BLADE-20-3/4" | 3 | | | | |
| 5 | 99-B14 | WASHER-SPECIAL | 3 | | | | |
| 6 | 64123-05 | BLT-HEX 1/2-20X1-1/2 | 3 | | | | |

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