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REN-O-THIN HONDA



SCHILLER

GROUNDS
CARE

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.

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 machine comes with a Technical Manual containing safety, operation, parts, maintenance and service information. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand this manual. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Schiller Grounds Care, Inc. product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manual thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

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 machine 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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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 U.S.A
Phone: 920-699-2000
Fax: 920-699-3683

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.

REN-O-THIN

GENERAL NOTE: FRONT, REAR, RIGHT HAND AND LEFT HAND REFERENCES BELOW ARE WITH RESPECT TO AN OPERATOR AT THE CONTROLS.

EQUIPMENT AND PARTS INSPECTION

Remove equipment and parts from the packing box and inspect for possible shipping damage. You should have the following items:

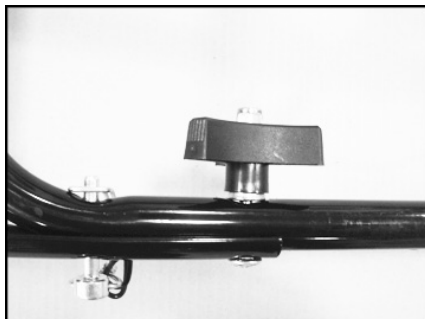
- Upper and lower handle.
- Pre-assembled chassis and engine.
- Loose parts bag.

HANDLE AND CABLE INSTALLATION

1. Assemble the upper and lower handle sections using the hardware provided in the loose parts bag.

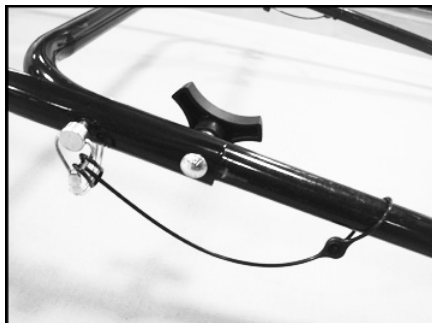
a) Assemble the 1/4-20 X 2-1/2 carriage bolts, the 1/4" washers, and knobs as shown. Tighten the knobs. Turn the 1/4-20 nyloc nuts until flush with the carriage bolt end.

b) Assemble the retainer pins in the upper handle holes. Hook the retainer over the end of the pins.



c) Loop the black plastic lanyard through the retainer, then through itself at the loop end.

d) Then route other end of the lanyard around the handle and the pin end is snapped into the receptacle.



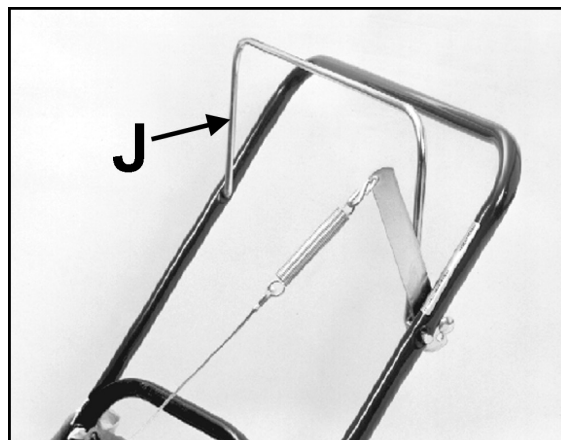
2. Mount the handle to the unit by placing the bottom ends of the handle over the pins at the top edge center of the chassis. Secure the handle with hairpins (from loose parts bag).

NOTE: It is difficult to install the hairpin on the left side. It can be done with a needle nose pliers. Note the direction of the hole in the pin. For ease of installation, the belt cover can be removed to install the pin, then replace the belt cover.

3. Connect one end of the spring (from loose parts bag) to the clutch cable and the other end to the arm of the clutch bail on the handle.

4. Pull the bail **J** back against the handle. The idler pulley should be tight against the reel belts when the bail is against the handle.

5. Release the bail. The idler pulley should move away from the reel belts and allow the belts to slip on the engine pulley when the bail is released.



WHEEL BEARING LUBRICATION

Using a pressurized lubrication gun and a lithium based lubricant, lubricate the wheel bearings. This procedure should be done at the time of setup and also after every 25 hours of service.

NOTE: During setup, each wheel cavity should be filled. The cavity is full when lubricant is seen coming out of bearing.

BLADE HEIGHT ADJUSTMENT

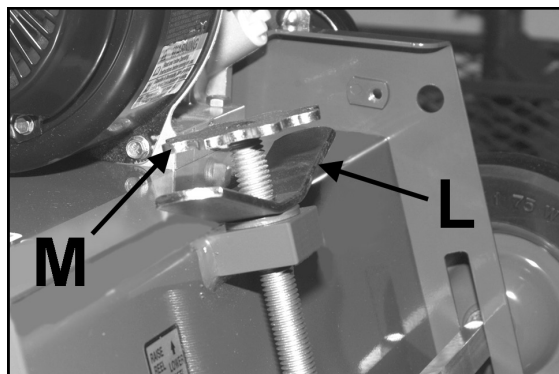
Blade height is adjusted by loosening the locking lever **L** and turning the adjusting knob **M** to raise or lower the front wheels.

After installing any reel, make the first adjustment on a hard level surface.

Adjust the blades to 1/8" (3 mm) above the surface. Test this setting on a small area, then adjust the blades to turf conditions as required. Each number on the adjustment decal represents a change of 1/8" (3mm).

If the desired blade position cannot be obtained by adjusting the front wheels, the rear wheels can be adjusted. Mounting the wheels in the top hole lowers the blades and mounting the wheels in the bottom hole raises the blades.

The front axle may be locked in the down position to prevent the floating action if desired. Install and secure 1/2" screws, washers, lockwashers and nuts in the slots above the axle. This will prevent the axle from moving.



REN-O-THIN

⚠ WARNING

DO NOT operate this equipment until you have thoroughly read and understand the operation section of this manual.

DO NOT operate equipment without all shields in place.

DO NOT make adjustments or perform any maintenance while the engine is running.

NEVER start or run the engine inside where exhaust fumes can collect. Carbon monoxide present in the exhaust is an odorless and deadly gas.

Gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and do not smoke or allow open flames or sparks when refueling. **BE SURE** to install fuel cap after refueling.

DO NOT fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.

When practical, remove gas powered equipment from the truck or trailer and refuel it on the ground. If equipment must be refueled on the truck or trailer, refuel from a portable container rather than a dispenser nozzle.

Keep the dispenser nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock-open device.

Any warning decal that becomes illegible should be replaced immediately.

To prevent injuries from thrown blades, **NEVER** operate the unit with reel blades that are missing, cracked, badly bent or in any type of abnormal condition.

Before operating, check the area and remove any object which may present a safety hazard or damage the equipment.

To prevent injury from rotating blades, **NEVER** place hands or feet beneath the unit.

This unit is not self propelled by a mechanical drive system. However, under some conditions the reel rotation may cause the unit to move under its own power.

Engage the reel **ONLY** when you are in the proper operator's position behind the handle.

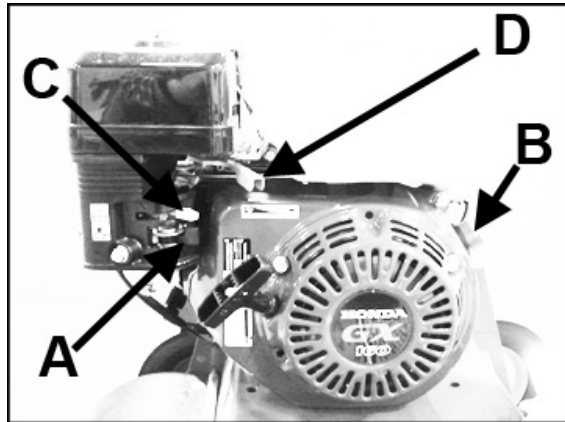
The clutch bail is designed to be held by the operator to keep the reel belt engaged **ONLY** during use. **DO NOT** clamp or fasten the bail to the handle. If the reel is allowed to rotate while the operator is not in the proper operating position, the unit may move on its own. This will create an unsafe situation in which the operator and/or bystanders may be injured.

DAILY PRE-OPERATION CHECK

1. Visually check for loose or damaged parts and fasteners. Repair or replace as needed before unit is placed into operation.
2. Check the reel for bent or broken blades; replace as necessary.
3. Check engine oil level. Add oil if necessary, following the engine manufacturer's recommendations. Refer to engine manual included with literature packet.
4. Fill the fuel tank with the amount and type of fuel recommended by the engine manufacturer.

STARTING THE ENGINE

1. Turn fuel shut-off valve **A** to "ON" position.
2. Rotate stop switch **B** to "ON" position.
3. Move manual choke control lever **C** to "CHOKE" position.
4. Move engine throttle control lever **D** to "FAST" position.
5. Grasp starter grip and pull slowly until resistance is felt, then pull cord rapidly to start engine. Repeat if necessary with choke opened slightly.
6. After engine starts, move choke **C** to "RUN" position.
7. Adjust throttle control **D** on engine as required.



OPERATING TIPS

1. Start the unit in motion **BEFORE** engaging the reel to prevent unnecessary damage to the turf and to avoid bogging down the engine. Disengage the reel before stopping forward motion.
2. Make all passes across the turf at a uniform speed.
3. Disengage the reel at the end of each pass and before slowing or stopping to make a turn. This prevents turf damage while turning the unit.

4. If the engine bogs down while going through a thick patch of turf, push down on the handle just enough to raise the reel and allow the engine to return to normal speed.

NOTE: Never cross hard objects or surfaces (such as sidewalks, driveways, stepping stones, etc.) with the reel engaged. Severe blade damage may occur.

FOLDING HANDLES

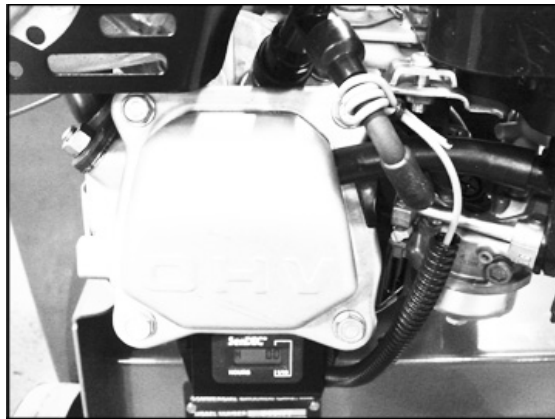
1. Fully loosen both knobs until they contact the keeper nuts.
2. Unhook retainers from retainer pins.
3. While supporting the upper handles with one hand, remove the retainer pins from the handles, letting them hang from the lanyards.

4. Pull the upper handles away from the lower handles and pivot the upper handles both up and forward. Note that the upper handles will rest on the engine. Protect the engine as required so there is no wear from the handles.
5. To return handles to the normal position, repeat the above process in the reverse order and re-assemble all items.

REN-O-THIN

HOUR METER

This machine is equipped with an hour meter. The display reads to tenths of an hour for the amount of time that the engine is running. The wire from the hour meter is wrapped around the spark plug wire four (4) turns and secured with Ty-wraps.



SUGGESTED USES

Flail Blade Reel, Part No. 544440

1/8" (3 mm) flail blades for thatch control and breaking up soil cores after aerating. This reel is **NOT RECOMMENDED** for fine lawns and turf, such as golf course greens.

⚠ WARNING

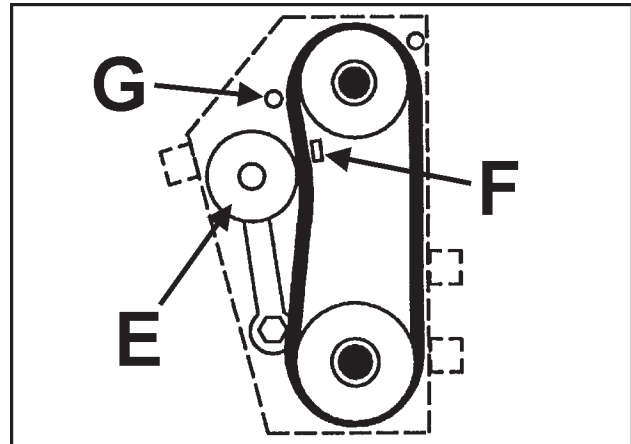
When replacement parts are required, use genuine **Schiller** Grounds Care, Inc. parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or bystanders.

BELT REPLACEMENT

Belt tension is maintained by a spring loaded idler, controlled by the clutch bail. No belt tension adjustment is necessary when proper belts are used.

NOTE: A matched pair of belts must be used for correct operation. If one belt needs to be replaced, you **MUST** replace both belts to assure proper belt tension.

1. Remove the belt guard and old belts from unit.
2. Place the new belts between the idler pulley **E** and the snubber **F** on the idler arm and then over the engine and reel pulleys.
3. Install the belt guards. Make sure the belt stop rod **G** is outside of the belt.



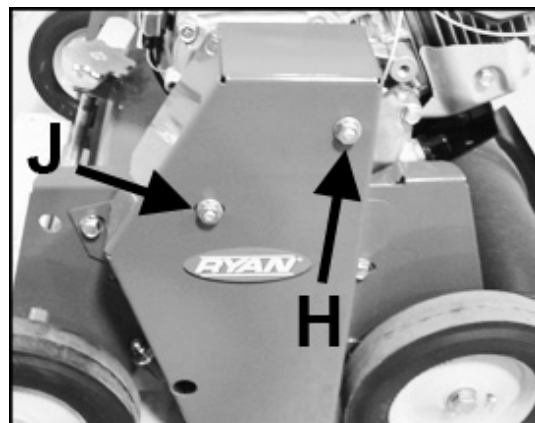
LUBRICATION

The reel and idler pulley bearings are factory sealed and require no lubrication. Wheel bearings have lubrication fittings and require lubrication with a standard lithium based lubricant after every 25 hours of use.

BELT GUARD ROD ADJUSTMENT

There are two belt guard rods mounted in the belt guard. Rod **H** helps to prevent the belts from slipping off the engine pulley. Rod **J** (belt stop rod) acts as a belt brake when the clutch bail is released, ensuring that the reel stops quickly.

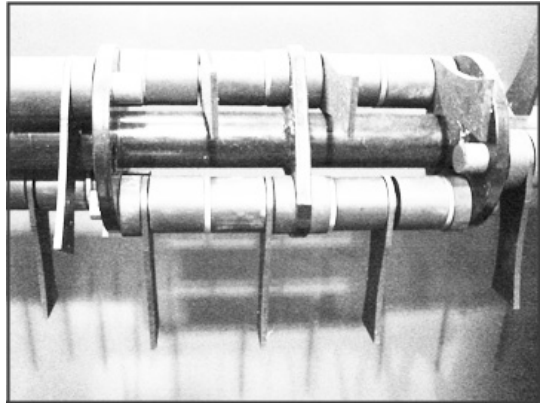
It is important that these two rods are adjusted correctly. If the belt guard is removed for any reason, make sure the two rods are positioned on the outside of the belt as shown above BELT REPLACEMENT SECTION.



BLADE REPLACEMENT**Flail Blade reels**

Work on only one of the six blade shaft assemblies at a time.

1. Remove the cotter pin from one end of one of the blade shafts and pull the shaft out.
2. Replace the blades and other worn parts and re-assemble in the proper order while sliding the shaft back into place. There are three sections. Each of the 3 sections contains two blade shaft assemblies. Note that the blades and washers alternate between the two blade shaft assemblies.
3. Install a new cotter pin to secure the shaft.



⚠ WARNING

After daily usage of unit.

- Before the equipment is put in to storage for any period exceeding 30 days, the following steps should be taken.**

3. While the engine is still warm, drain the crankcase oil and replace with the proper weight oil corresponding to the season the equipment will next be used.
4. Remove the spark plug and squirt a small amount of engine oil into the cylinder. Slowly pull the starter a few times to distribute oil in the cylinder and reinstall the spark plug.
5. Check the reel for damaged blades and replace as needed.
6. Lubricate the wheel bearings with a standard lithium based lubricant.

To put the equipment into service after an extended period of storage:

1. Check for loose parts and tighten if necessary.
2. Check for damaged blades and replace as necessary.
3. Fill the fuel tank and then check the engine oil level.
4. Start the engine and check for fuel leaks. Repair any leaks before operating the unit.

Chassis:..... 12 gauge steel, formed and welded
Reduction:..... 1.33:1 (engine to reel)
Wheelbase:.....14 5/8" (371 mm) at level position
Reel Speed:..... 2700 RPM
Cutting Width:..... 18" (457mm)
Cutting Depth:..... 7/8" (22mm)
Blade Adjustment:... 1" (25mm) above ground level
to 7/8" (22mm) below ground level

Weight125 lbs. (56 Kg.)

Engine:

Model..... Model GX160
Type K1QX2
4 cycle 5.5 H.P. Honda
Starter..... Recoil, on/off switch
Governor..... 3600 RPM. no load

PARTS SECTION

REN-O-THIN

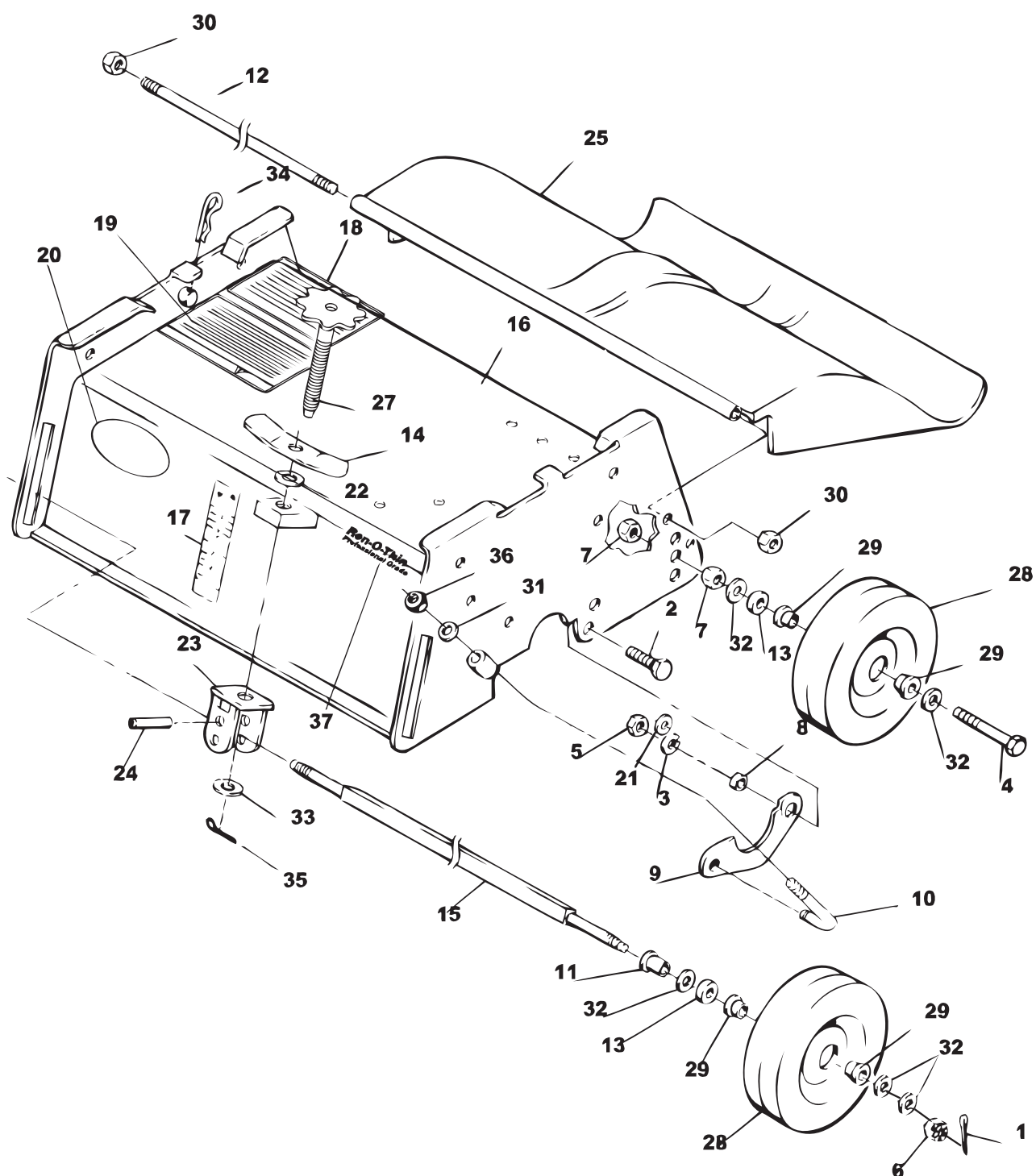
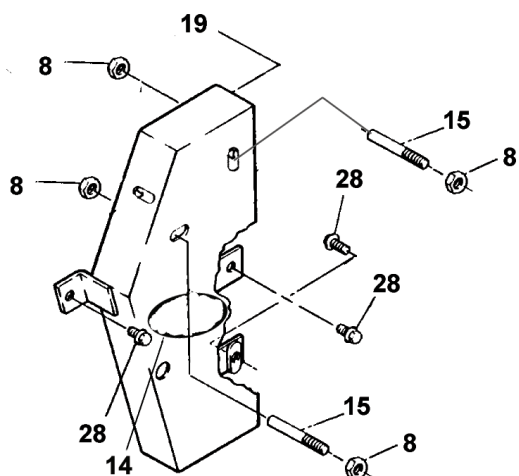
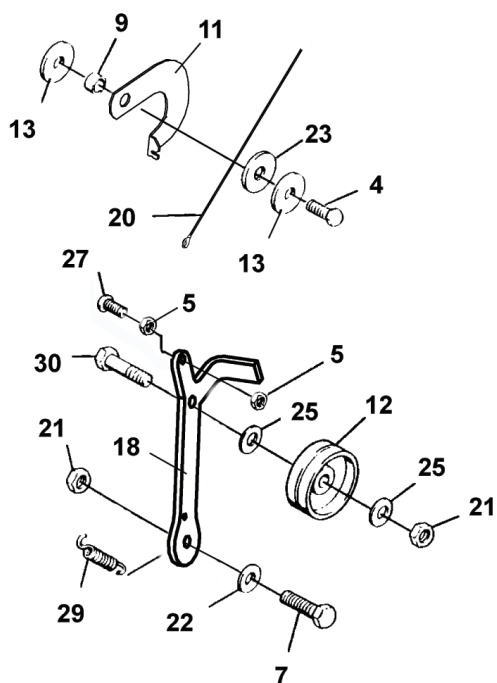
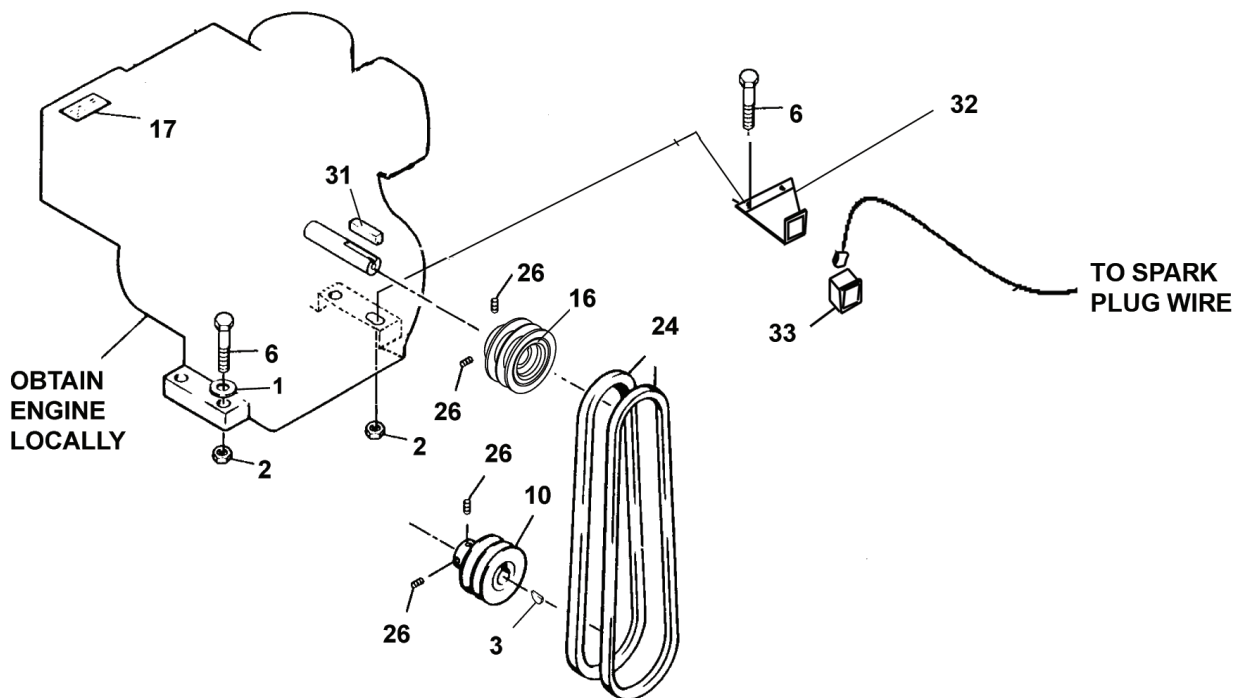


FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64140-1	COTTER PIN, 1/8X1	2				
2	64123-107	BLT-HEX 5/16-18X7/8	2				
3	64006-02	LCKWSHER-HELICAL 5/16	2				
4	64123-31	BOLT-1/2-13X3 HEX	2				
5	64025-02	NUT-HEX 5/16-18	2				
6	64025-30	NUT-HEX 1/2-20 SLOT	2				
7	64025-19	NUT-1/2-13 HEX	4				
8	517226	BRG,SLV .33 .50 .20 IRON	2				
9	4131941.7	CLAMP, REEL	2				
10	4130674	CLAMP, ROD LOWER	2				
11	520875	BUSHING,FLANGED	2				
12	520877	ROD,HINGE (PLATED)	1				
13	522256	WASHER,FELT	4				
14	522375	LEVER,LOCKING (PLATING)	1				
15	522385	AXLE PLATING	1				
16	2702114	CHASSIS AY - SERVICE (INCLUDES ITEMS 17-20)	1				
17	520913	DECAL,INSTRUCTION	1				
18	522390	DECAL,OPERATING INST	1				
19	522394	DECAL,WARNING-OPER	1				
20	4161123	LABEL-RYAN, LARGE	1				
21	64163-55	WASHER .328X.75X14 GA	2				
22	64163-73	WSHR-.625IDX1.12DX.062	2				
23	545859	PIVOT AY (PLATED) (INCLUDES ITEM 24)	1				
24	316947	PIN,SPIROL.312 1.250PS	2				
25	545861	SHIELD AY,TRAILING (INCLUDES ITEM 26)	1				
26*	64215-13	RIVET, POP IFI#66 LG HD	5				
27	540273	SCREW AY,ADJUSTING	1				
28	4124193	WHEEL, 8X2.5 .75BRG SP (INCLUDES ITEM 29)	4				
29	520983	BALL BEARING	8				
30	64229-02	LOCK NUT-NYLON 5/16-18	2				
31	64163-31	WASHER, 25/64X1X12	2				
32	64163-67	WASHER-.516X1X12GA	10				
33	64163-61	WSHR .81X.406X16GA	1				
34	64168-7	COTTER-HAIRPIN .091X1.88	2				
35	64140-3	COTTER PIN-3/32X3/4	1				
36	64236-03	NUT,3/8-24 FLEXLOCK	2				
37	4124338	LABEL-FRONT, REN-O-THIN	1				

*NOT ILLUSTRATED

FIGURE 2



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64163-55	WASHER .328X.75X14GA	2				
2	64268-02	NUT-FL NYLON LCK 5/16-18	4				
3	64164-19	KEY WOODRUFF.19X.75 #9	1				
4	64123-271	BOLT, HEX5/16-24 X 1	1				
5	64025-01	NUT-1/4-20 HEX	2				
6	64123-69	BOLT-5/16-18X1-1/2 HEX	4				
7	64123-16	BLT-HEX 3/8-16X1-1/4	1				
8	64141-6	NUT, 5/16-18	4				
9	517226	BRG,SLV .33 .50 .20	1				
10	517139	PULLEY	1				
11	4133104.7	ARM,DEFLECTOR	1				
12	520870	PULLEY,2.75 DIA	1				
13	64163-29	WASHER	2				
14	4161125	LABEL-OVAL RYAN, SMALL	1				
15	520902	ROD,STUD THREADED	2				
16	524779	PULLEY, 3 IN DIA	1				
17	521813	DECAL, WARNING SOUND	1				
18	4133065.7	ARM AY,IDLER	1				
19	4164163	S-GUARD AY, BELT DRIVE	1				
	(INCLUDES 8 &15)						
20	4136053	CABLE AY	1				
21	64151-2	NUT,3/8-16 HX EDGELCK	2				
22	64163-31	WASHER, 25/64X1X12	1				
23	64163-19	WSHR-33/64X1-1/4X12GA	1				
24	524801	BELT,V-2 MATCHED 30 3/8	1				
25	64163-61	WSHR .81X.406X16GA	2				
26	64044-18	SCREW-SET 5/16-18 x 5/16	4				
27	64123-07	BOLT-1/4-20X1-1/2 HEX	1				
28	64139-13	BLT-WLF 5/16-18X1/2	3				
29	548995	SPRING,EXTENSION	1				
30	64123-87	BOLT-HEX 3/8-16X1-3/4	1				
31	64164-39	KEY-3/16 SQX1-3/4	1				
32	4169544.7	PLATE-MOUNTING ENGINE	1				
33	C100443	METER-HOUR	1				

FIGURE 3

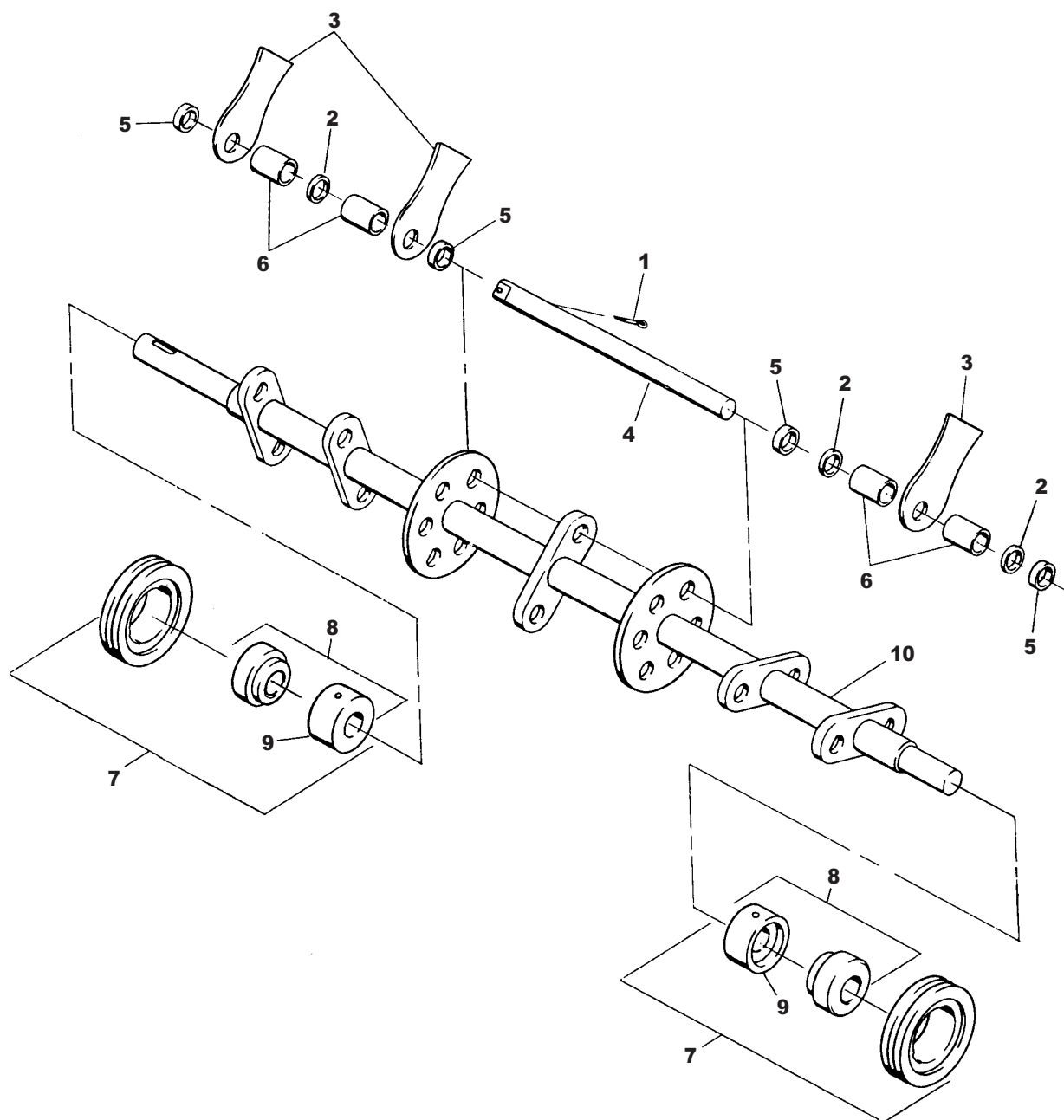
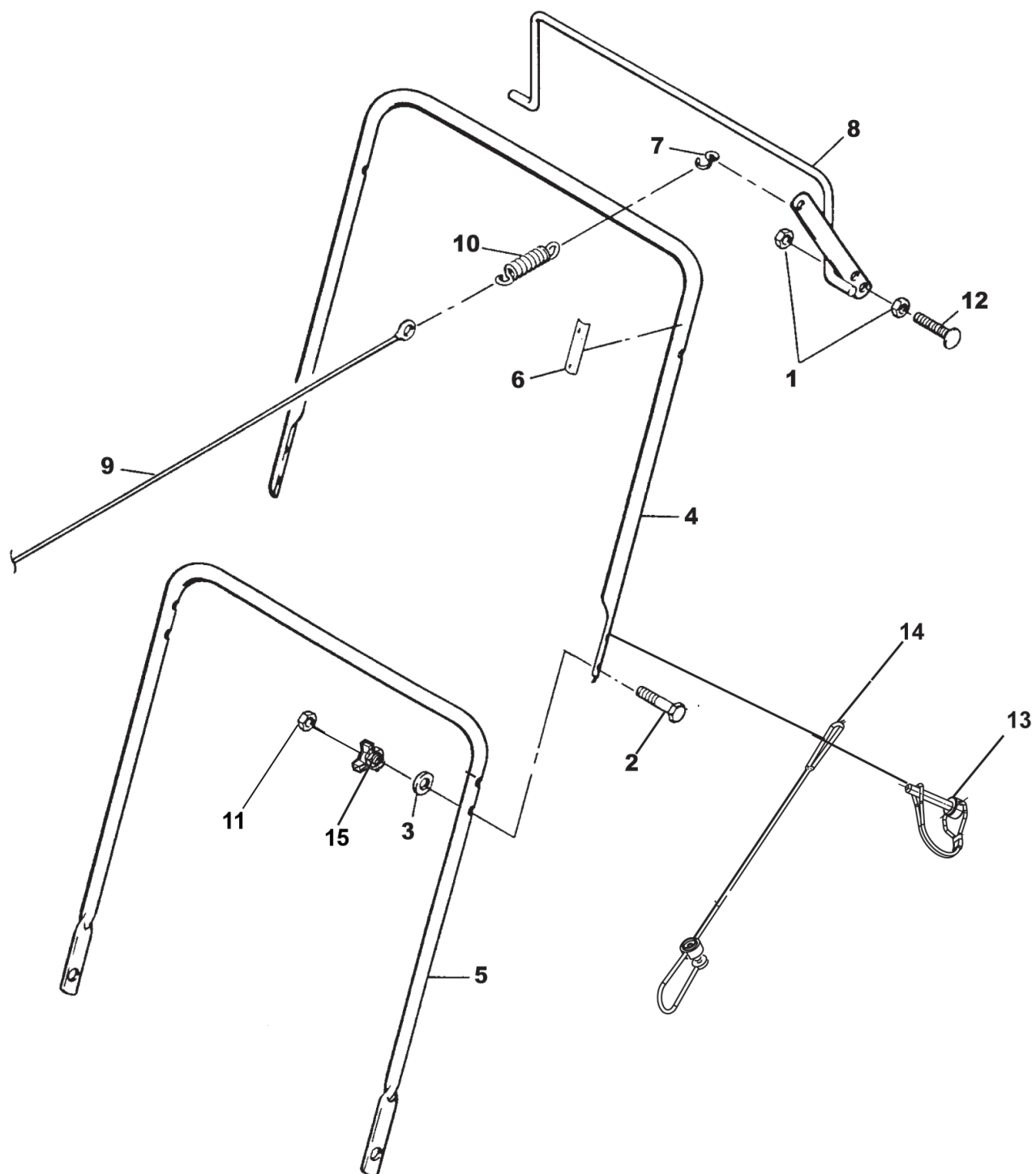


FIGURE 3

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	306956	COTTER PIN	6				
2	64163-67	WASHER-.516X1X12GA	18				
3	516897	BLADE,FLAIL	18				
4	517155	SHAFT	6				
5	517162	SPACER, .328 (8mm)	24				
6	517163	SPACER, .891 (23mm)	24				
7	545640	PILLOW BLOCK AY	2				
	(INCLUDES ITEMS 8 & 9)						
8	548101	BEARING	2				
9	521857	COLLAR,BRG LOCKING	2				
10	546377.7	SHAFT	1				
11*	544440A	REEL AY, FLAIL	1				
	(INCLUDES ITEMS 1-10)						

* NOT ILLUSTRATED

FIGURE 4



REN-O-THIN

HANDLE

FIGURE 4

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64025-02	NUT-HEX 5/16-18	2				
2	64018-32	BOLT, CRG 1/4-20X2	2				
3	64163-86	WSHR-.256IDX.62ODX18GA	2				
4	4163430.7	HANDLEBAR, UPPER	1				
5	520869.7	HANDLEBAR, LOWER	1				
6	520912	DECAL, REEL CONTROL	1				
7	521744	RELEASE 'S' HOOK	1				
8	547441	BAIL CONTROL AY	1				
9	4136053	CABLE AY	1				
10	2702144	SPRING,EXTENSION.63 4.3	1				
11	64229-01	LOCKNUT, HEX NYLON	2				
12	64018-34	BLT-CAR 5/16-18X1-1/2	1				
13	4163436	RETAINER	2				
14	4163435	LANYARD, NYLON	2				
15	4166195	KNOB-1/4-FEMALE	2				

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