



CR POWER RAKE Owner's Manual

OPERATION

STARTING ENGINE

See engine manufacturer's instructions for type and amount of oil and gasoline used. Engine must be level when checking and filling oil and gasoline.

FUEL VALVE: Move fuel valve to "ON" position (when provided on engine).

STOP SWITCH: Located on the engine. "slow/stop" position.

CHOKE: Operated with choke lever on side of engine.

THROTTLE: Controlled by throttle lever on the motor.

If your unit fails to start, check the troubleshooting section on page 9 and also see the engine manual.

SLICING OPERATION


NOTE: NEVER PARK THIS UNIT ON A SLOPE OF ANY KIND. Always keep the reel in the up position when parking the unit.


BLADE POSITION & DEPTH CONTROL LEVER: The blades can be raised or lowered into the ground by height adjustment lever on the engine base. The resulting blade depth can be adjusted higher or lower. (See Fig. 1 & 2)


ADJUSTING BLADE DEPTH: The depth of the blades can be raised or lowered by rotating the knob on the top of the adjustment lever. The blades are lowered by rotating the knob counter-clockwise, and raised by rotating the knob clockwise. The relative depth of the blades can be gauged by using the depth scale located on the right front corner of the engine base. (See Fig. 3)

FOLDING HANDLE: This unit is equipped with a folding upper handle for easier storage and transportation. The handle can be folded by sliding the handle lock loops up (item 28). This releases the upper handle, allowing it to be folded over the unit.

HANDLING & TRANSPORTING: This unit requires two people to lift it. With the handle in the folded position, lift holding the lower handle and belt/shaft guard one on each side of the machine. Secure the machine in place during transport.

 Never lift the machine while the engine is running.

STORAGE:  Never store engine indoors or in enclosed poorly ventilated areas with fuel in tank, where fuel fumes may reach an open flame, spark or pilot light, as on a furnace, water heater, clothes dryer or other gas appliance. If engine is to be unused for 30 days or more, prepare as follows:

 Remove all gasoline from carburetor and fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine. Drain fuel outdoors, into an approved container, away from open flame. Be sure engine is cool. Do not smoke. Run engine until fuel tank is empty and engine runs out of gasoline.

RAKING OPERATION

SET DEPTH: With engine off, set the raking depth so that the blades just touch on a flat surface (i.e. driveway, or sidewalk).

ENGAGE BLADES: Pull back on the bail on the operators handle. **NOTE:** When engaging the blades in heavy load conditions, i.e. heavy thatch or very uneven turf, push down on the operators handle lifting the front wheels slightly. Engage the blades. Slowly lower the unit into the turf.

RAKE: Rake a small test area and examine the results. Thatch should be removed and deposited on top of the healthy grass. If excessive damage occurs to healthy grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). **NOTE:** If a large drop in engine RPM occurs, or the unit pulls you forward and bounces during operation, the blade depth is set too low.

REMOVE THATCH: After raking, a layer of thatch will be deposited over the top of the lawn. This thatch must be removed prior to any fertilizing, seeding, or watering of the lawn. We suggest the use of a lawn vacuum or wheeled blower for collection and removal of the thatch.

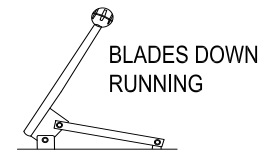
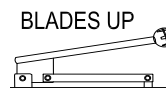


Fig. 1

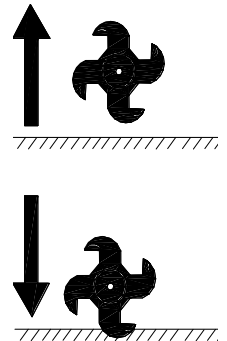


Fig. 2

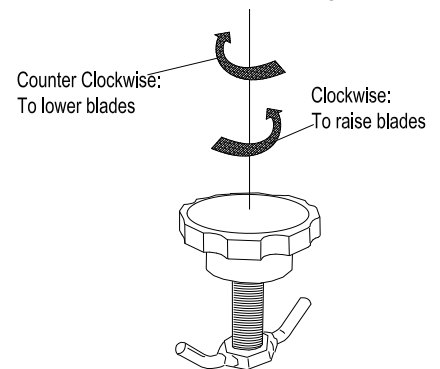


Fig. 3



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VERTI-CUTTING OPERATION

SET DEPTH: With engine off, set the raking depth so that the blades just touch on a flat surface (i.e. driveway, or sidewalk).

ENGAGE BLADES: Pull back on the bail on the operator's handle. *NOTE:* When engaging the blades in heavy load conditions (i.e. heavy thatch, or very uneven turf), push down on the operator's handle lifting the front wheels slightly. Engage the blades. Slowly lower the unit into the turf.

SLICE: Verti-cut a small test area and examine the results. Some thatch and cut stems should be removed and deposited on top of the healthy grass. Grass runners should be cut and ready for removal. If excessive damage occurs to healthy grass, adjust the blade depth to decrease damage. Continue raking the yard, working in one direction (i.e. north-south, or east-west). *NOTE:* If a large drop in engine RPM occurs, or the unit pulls you forward and bounces during operation, the blade depth is set too low.

REMOVE THATCH/STEMS: After verti-cutting, a layer of thatch and cut stems will be deposited over the top of the lawn. We suggest the use of a lawn vacuum or wheeled blower for collection and removal of the thatch/stems.

*****TIPS*****

MOW

Mow the lawn to its normal cut height.

DRY

Be sure grass is dry. Wet conditions can cause increased damage to healthy grass.

INSPECT

Check the lawn before beginning work. Remove all rocks, wire, string, or other objects that can present a hazard during work prior to starting.

IDENTIFY

Mark all fixed objects to be avoided during work, such as sprinkler heads, water valves, buried cables, or clothes line anchors, etc.

THATCH

Thatch is a dense layer of dead grass, clippings, and roots that builds up over time at the base of the lawn preventing air, water, and fertilizer from reaching the soil. This can cause shallow root development and make a lawn more susceptible to drought and disease. Thatch also provides an ideal environment for insects to hide and multiply. Periodic removal of thatch will keep your lawn in good health.

HEAVY THATCH

Lawns with an excessive amount of thatch will require multiple treatments for effective removal. Trying to remove excessive thatch (greater than 3/4"[19 mm] deep) in one treatment will damage or destroy the living part of the lawn. It is best to remove heavy thatch in seasonal treatments (i.e. spring, and fall).

CHECK

Before beginning, it is best to evaluate the condition of the lawn by cutting one or more core samples from the area to be treated. A core can be cut using a piece of pvc, or metal pipe. Hammer the pipe into the ground, remove it, push the core out of the pipe and inspect it to determine the depth of thatch in your yard.

SLOPES

Rake slopes across not up and down the slope. This is much easier and safer for the operator and is better for the lawn. Raking across will help to reduce runoff during watering and allow the sloped ground to hold more seed, fertilizer, and water. The units maximum operating slope is 35% or 19°.

DEPTH

The wide range of depth adjustment on your unit is provided to allow for blade wear. Setting the reel deeper will not produce better, or quicker results. The flail reel is intended to be set so it just touches the surface on flat ground. The slicing reel should be set even with the ground for verti-slicing work, and set to a maximum 1/2" depth for overseeding jobs. Setting the reel deeper than this will only result in premature wear on the unit (i.e. failed belt). If you desire to work the ground deeper than the above guidelines allow, it should be done gradually in multiple passes.



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MAINTENANCE

PERIODIC MAINTENANCE

NOTE: Items in () can be referenced in the Parts Illustration and Parts List on pages 10-11.

Periodic maintenance should be performed at the following intervals:

| Maintenance Operation | Every Use (daily) | Every 25 Hours |
|--|-------------------|----------------|
| Inspect for loose, worn or damaged parts | | ● |
| Check engine oil | ● | |
| Inspect belt | | ● |
| Engine (See Engine Manual) | | |
| Grease reel bearings | | ● |
| Inspect and clean engine air filter | ● | |
| Oil height adjustment linkage | | ● |

FLAIL BLADE WEAR

1. Wait for engine to cool and disconnect spark plug.
2. Close fuel valve on engine. (Honda only)
3. Lean unit back onto lower handles and secure in place.
4. Inspect blades for wear, and immediately replace any bent, or cracked blades. Measure the overall length of the blade. (See Fig. 4)
5. If blades measure less than 3.0"(76 mm) in overall length, they must be replaced. *NOTE:* We recommend replacing all the flails at once.

SLICING BLADE WEAR

1. Wait for engine to cool and disconnect spark plug.
2. Close fuel valve on engine. (Honda only)
3. Lean unit back onto lower handles and secure in place.
4. Inspect blades for wear, and immediately replace any bent or cracked blades. Measure the overall length of the blade from the center of the attachment bolts to the tip of the worn blade.
5. If blades measure less than 3.0"(76 mm) they must be replaced. *NOTE:* We recommend replacing all the blades at once.

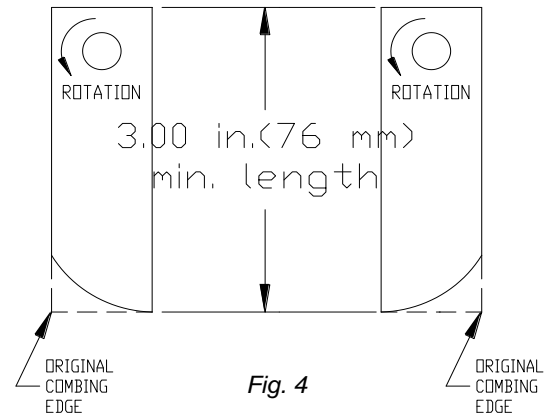


Fig. 4

ROTATING FLAIL REEL END TO END

To maximize flail blade life and performance, the reel can be rotated end to end periodically to provide a fresh lead cutting edge. Takes approx. 20 min. and requires two 1/2" socket wrenches with extension bar.

1. Wait for engine to cool and disconnect spark plug.
2. Close fuel valve on engine.
3. Lean unit back onto lower handles and secure in place.
4. Remove six screws (item 65) holding the belt and shaft guards (item 21 & 22) in place. It is necessary to lower the height adjust lever to reach the locknuts on the guards. Remove the guards.
5. Remove the drive belt (item 9) by "walking" it out of the groove on the reel pulley (item 2).
6. Remove the four lock nuts (item 47) and washers (item 35) holding the bearings (item 23) to the frame of the unit.
7. The reel (item 6) is now free from the machine. Slide the reel down and out of the machine.
8. Remove the capscrew (item 58), lock washer (item 57), reel pulley (item 2), key (item 75), and reel spacer (item 10) from the end of the reel.
9. Rotate the reel end to end, and re-install these items on the opposite end of the reel.
10. Re-install the reel in reverse order of removal. Re-install the guards in reverse order of removal.



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DRIVE BELT REPLACEMENT

NOTE: Takes approx. 10 min. and requires 3/8" socket wrench with extension.

1. Wait for engine to cool and disconnect spark plug.
2. Remove six self-tapping screws (item 65) holding the belt guard (item 21 & 22) in place. Remove the guard.
3. Remove the belt (item 9) by rotating the reel pulley (item 2) and walking it out of the groove. Discard old belt
4. Install new belt using same procedure to walk the belt into the groove.
5. With new belt installed, pull bail rod back to engaged position and measure extension of idler spring. Spring should stretch 1" to 1.25" (25-32 mm) with bail engaged. Adjust clutch cable as necessary to achieve this extension.
6. Re-install the belt guard.

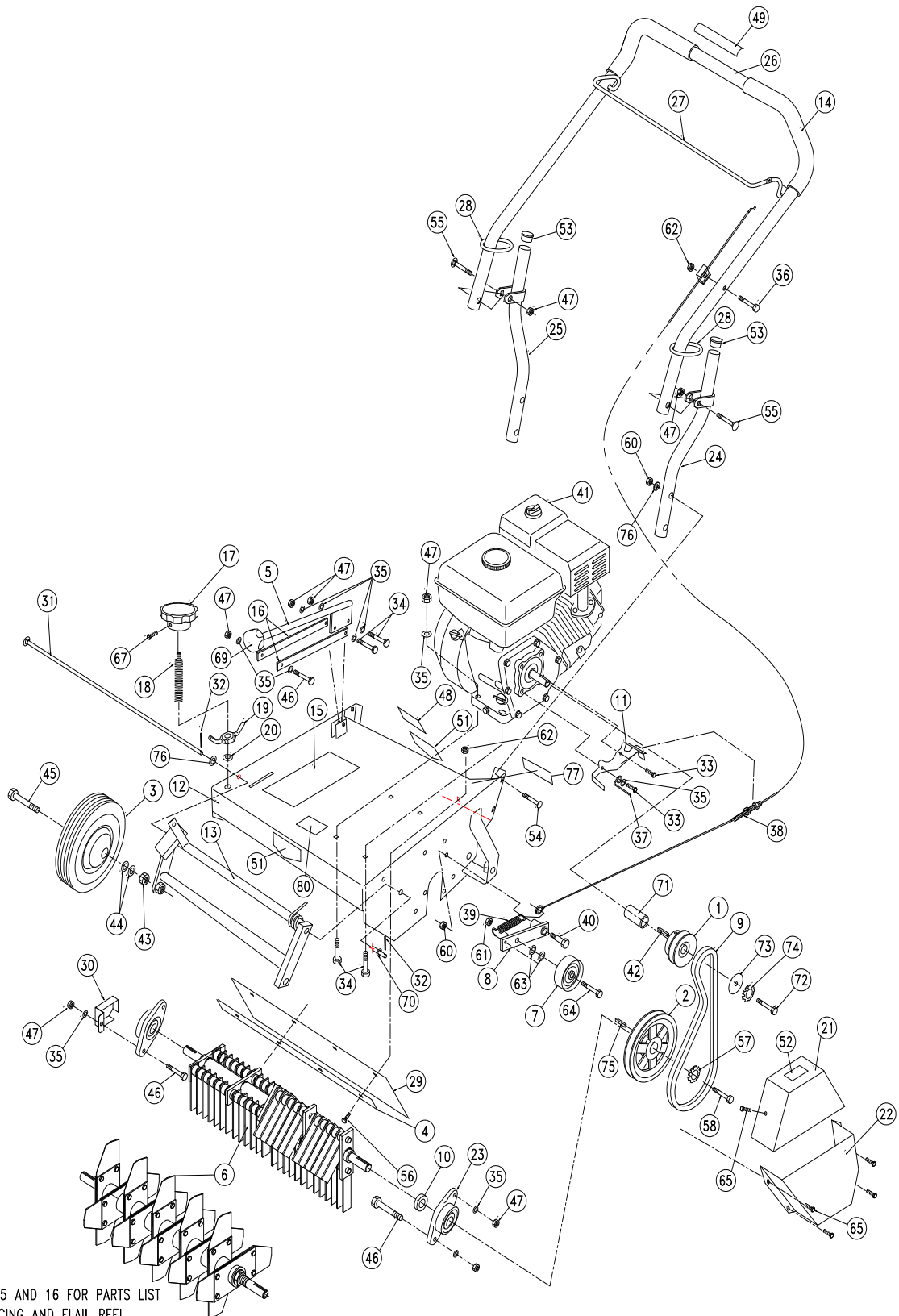
TROUBLESHOOTING

| Problem | Possible Cause | Solution |
|--------------------------------------|---|---|
| Abnormal vibration | Damaged or missing blades. Loose handle bolts. Loose engine bolts. | Stop work immediately. Replace any damaged or missing blades. Tighten all loose nuts and bolts. |
| Engine stalls or labors when raking | Blades set too deep into ground. | Raise blades so that they just touch the ground on a level surface. |
| Engine will not start | Throttle in off position. Out of gasoline or bad, old gasoline. Spark plug wire disconnected. Gas valve off. Dirty air cleaner. | Check choke position. Check gasoline. Connect spark plug wire. Turn on gas valve. Clean or replace air cleaner. Contact a qualified service person. |
| Engine is locked, will not pull over | Debris locked against reel, or drive pulleys. Engine problem. | Pull spark plug wire and remove debris. Contact an engine servicing dealer for engine problems. |



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CR PARTS DRAWING



SEE PAGE 15 AND 16 FOR PARTS LIST
FOR SLICING AND FLAIL REEL



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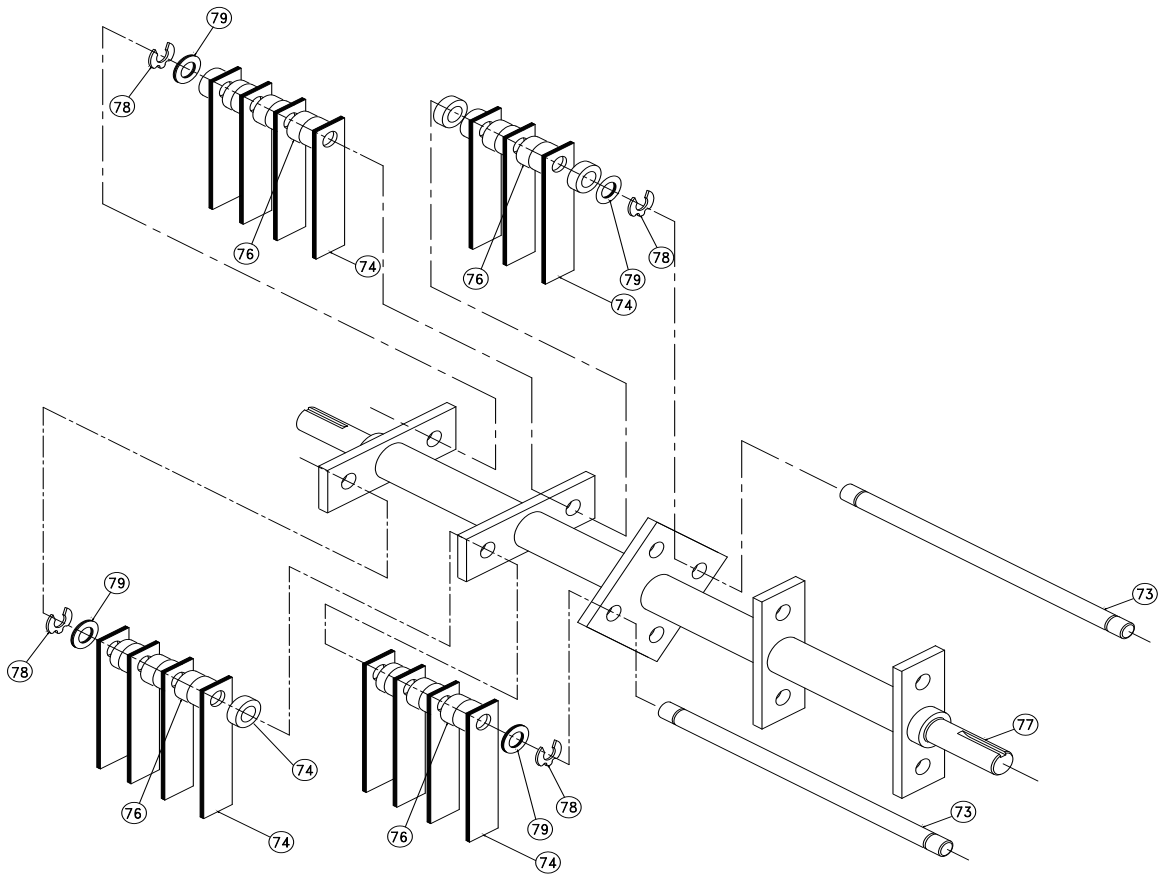
CR PARTS LIST

| item no. | PARTS LIST | CR550HC Part No. | QTY | CR550HCEU Part No. | QTY | CR550H Part No. | QTY |
|----------|---|------------------|-----|--------------------|-----|-----------------|-----|
| 1 | Pulley 3.0" O.D. | 350101 | 1 | 350101 | 1 | 350101 | 1 |
| 2 | Pulley 5.5" O.D. X ¾" | 350206 | 1 | 350206 | 1 | 350206 | 1 |
| 3 | Wheel 8" Semi-Pneu White | 350236 | 4 | 350236 | 4 | 350236 | 4 |
| 4 | Bar Strap | 350211 | 1 | 350211 | 1 | 350211 | 1 |
| 5 | Rod Height Wa | 350220 | 1 | 350220 | 1 | 350220 | 1 |
| 6 | Reel Flail Assy (see page 10 & 11 for parts list and detailed dwg.) | 350241-S | 1 | 350241-S | 1 | 350241 | 1 |
| 7 | Pulley Idler 2.75" | 350114 | 1 | 350114 | 1 | 350114 | 1 |
| 8 | Arm Idler WA | 350115 | 1 | 350115 | 1 | 350115 | 1 |
| 9 | Belt 5L X 34" | 350207 | 1 | 350207 | 1 | 350207 | 1 |
| 10 | Spacer Reel Pulley | 350118 | 1 | 350118 | 1 | 350118 | 1 |
| 11 | Bracket Belt Finger | 350208 | 1 | 350208 | 1 | 350208 | 1 |
| 12 | Chassis WA W/ Label | 350235 | 1 | 350235 | 1 | 350235 | 1 |
| 13 | Frame Front WA | 350213 | 1 | 350213 | 1 | 350213 | 1 |
| 14 | GRIP 1" x 13" | 400570 | 2 | 400570 | 2 | 400570 | 2 |
| 15 | Label Instr. Hgt. Adj. | 350224 | 1 | 350224 | 1 | 350224 | 1 |
| 16 | Link Height Bar | 350223 | 2 | 350223 | 2 | 350223 | 2 |
| 17 | Knob Height Adj. | 850154 | 1 | 850154 | 1 | 850154 | 1 |
| 18 | STUD ¾"-10 X 5 1/2" PLTD | 810538 | 1 | 810538 | 1 | 810538 | 1 |
| 19 | LOCKNUT ASSY | 800227 | 1 | 800227 | 1 | 800227 | 1 |
| 20 | WASHER ¾" NYLON | 800109 | 1 | 800109 | 1 | 800109 | 1 |
| 21 | Guard Belt Top Wa | 350248 | 1 | 350248 | 1 | 350248 | 1 |
| 22 | Guard Belt Bottom Wa | 350249 | 1 | 350249 | 1 | 350249 | 1 |
| 23 | Bearing ¾" Cast Flange | 350209 | 2 | 350209 | 2 | 350209 | 2 |
| 24 | Handle Lower LH WA | 350134 | 1 | 350134 | 1 | 350134 | 1 |
| 25 | Handle Lower RH WA | 350135 | 1 | 350135 | 1 | 350135 | 1 |
| 26 | Handle Upper PR500 | 350136 | 1 | 350136 | 1 | 350136 | 1 |
| 27 | Bail Clutch WA | 350137 | 1 | 350137 | 1 | 350137 | 1 |
| 28 | Loop Folding Handle | 350138 | 2 | 350138 | 2 | 350138 | 2 |
| 29 | Deflector Rubber | 350210 | 1 | 350210 | 1 | 350210 | 1 |
| 30 | Guard Shaft CR | 350250 | 1 | 350250 | 1 | 350250 | 1 |
| 31 | PIN LIFT FRONT 3/8" X 21 3/16" Long | 350212 | 1 | 350212 | 1 | 350212 | 1 |
| 32 | PIN COTTER 1/8" X 1" Z/P | 900471 | 1 | 900471 | 1 | 900471 | 1 |
| 33 | SCREWCAP 5/16-24x3/4" GR5 | 8042026 | 2 | 8042026 | 2 | 8042026 | 2 |
| 34 | SCREWCAP 5/16 - 18 x 1 1/2 | 8041030 | 6 | 8041030 | 6 | 8041030 | 6 |
| 35 | WASHER 1/4" FLAT Z/P | 8171002 | 13 | 8171002 | 13 | 8171002 | 13 |
| 36 | SCREWCAP 1/4"-20X1.5" | 8041008 | 1 | 8041008 | 1 | 8041008 | 1 |
| 37 | BELT FINGER WIRE | 350301 | 1 | 350301 | 1 | 350301 | 1 |
| 38 | Cable Clutch Reel PR500 | 350181 | 1 | 350181 | 1 | 350181 | 1 |
| 39 | Spring Extension | 350300 | 1 | 350300 | 1 | 350300 | 1 |
| 40 | Bolt Shoulder 1/2" X 1" | 500114 | 1 | 500114 | 1 | 500114 | 1 |
| 41 | ENGINE HONDA 5.0 HP (CR550HC) | 430272 | 1 | - | - | - | - |
| | ENGINE HONDA 5.5 HP (CR550H) | - | - | - | - | 600115 | 1 |
| | ENGINE HONDA 5HP (CR550HCEU) | - | - | 350426EU | 1 | - | - |
| 42 | KEY 3/16" X 1" | 9201078 | 1 | 9201078 | 1 | 9201078 | 1 |
| 43 | NUT 1/2 - 13 JAM | 8162005 | 4 | 8162005 | 4 | 8162005 | 4 |
| 44 | WASHER 1/2 SAE | 8172011 | 8 | 8172011 | 8 | 8172011 | 8 |
| 45 | SCREWCAP 1/2-13 x 3" Z/P | 8041102 | 4 | 8041102 | 4 | 8041102 | 4 |
| 46 | SCREWCAP 5/16"-18X1 1/4" HCS ZP | 8041029 | 5 | 8041029 | 5 | 8041029 | 5 |
| 47 | NUT LOCK 5/16-18 | 8160002 | 13 | 8160002 | 13 | 8160002 | 13 |
| 48 | LABEL DANGER THROWN OBJECT | 810736 | 1 | 810736 | 1 | 810736 | 1 |
| 49 | LABEL CLUTCH VQ | 830503 | 1 | 830503 | 1 | 830503 | 1 |
| 51 | LABEL WARNING | 400424 | 2 | 400424 | 2 | 400424 | 2 |
| 52 | LABEL DANGER GUARD | 900327 | 1 | 900327 | 1 | 900327 | 1 |
| 53 | PLUG CAP 1" RD | 890132 | 2 | 890132 | 2 | 890132 | 2 |
| 54 | BOLT CARRAIGE 3/8-16 x 1 3/4 | 8024061 | 4 | 8024061 | 4 | 8024061 | 4 |
| 55 | BOLT CARRAIGE 5/16-18 x 1 3/4 | 8024043 | 2 | 8024043 | 2 | 8024043 | 2 |
| 56 | SCREWCAP 1/4-20x1" | 8041006 | 4 | 8041006 | 4 | 8041006 | 4 |
| 57 | LOCK WASHER TWISTED TOOTH | 400502 | 1 | 400502 | 1 | 430502 | 2 |
| 58 | SCREWCAP 3/8-16x1" REEL ASSEMBLY | 8041050 | 1 | 8041050 | 1 | 8041050 | 1 |
| 60 | NUT LOCK 3/8-16 | 8160003 | 5 | 8160003 | 5 | 8160003 | 5 |
| 61 | NUT LOCK 3/8-16 THIN | 8161042 | 1 | 8161042 | 1 | 8161042 | 1 |
| 62 | NUT LOCK 1/4-20 | 8160001 | 5 | 8160001 | 5 | 8160001 | 5 |
| 63 | WASHER 5/16 FLAT CUT | 8171003 | 2 | 8171003 | 2 | 8171003 | 2 |
| 64 | SCREWCAP 3/8-16x1.5" | 8041052 | 1 | 8041052 | 1 | 8041052 | 1 |
| 65 | SCREWCAP SHEET METAL DRILL POINT 1/4X3/4 | 430208 | 6 | 430208 | 6 | 430208 | 6 |
| 67 | SCREW MACH. #10-24X2" | 8059143 | 1 | 8059143 | 1 | 8059143 | 1 |
| 69 | Knob Height Adj. | 430128 | 1 | 430128 | 1 | 430128 | 1 |
| 70 | WASHER 5/16 SAE | 8172009 | 1 | 8172009 | 1 | 8172009 | 1 |
| 71 | SPACER CRANK CR HONDA | 350338 | 1 | 350338 | 1 | 350338 | 1 |
| 72 | SCREWCAP 5/16-24 x 1 1/4" GR. 8 | 400389 | 1 | 400389 | 1 | 400389 | 1 |
| 74 | WASHER TWISTED TOOTH | 400389 | 1 | 400389 | 1 | 400389 | 1 |
| 75 | KEY 3/16" X 5/8" | 9201072 | 1 | 9201072 | 1 | 9201072 | 1 |
| 76 | 3/8 FLAT CUT WASHER | 8171004 | 5 | 8171004 | 5 | 8171004 | 5 |
| 77 | LABEL SPARK ARRESTOR | 100256 | 1 | 100256 | 1 | 100252 | 1 |



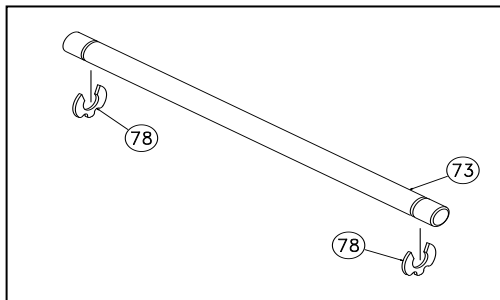
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FLAIL REEL ASSY 350241-S



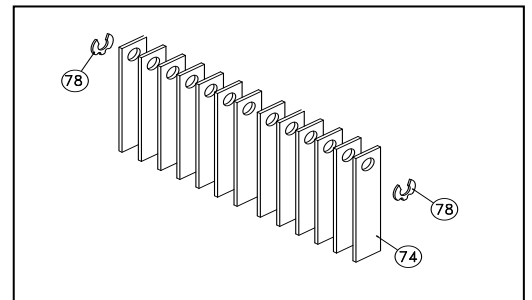
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|----------|---------------------------|----------|-----|
| 73 | SHAFT FLAIL BLADE | 350141 | 4 |
| 74 | BLADE FLAIL | 350205 | 30 |
| 76 | SPACER BUMPER 5/8" x 1/2" | 350144 | 54 |
| 77 | SHAFT WA FLAIL REEL | 350145 | 1 |
| 78 | CLIP LOCK 1/2" | 350146 | 8 |
| 79 | WASHER 1/2 SAE | 8172011 | 8 |

FLAIL SHAFT KIT 350185



| item no. | PARTS LIST | Part No. | QTY |
|----------|-------------------|----------|-----|
| 73 | SHAFT FLAIL BLADE | 350141 | 4 |
| 78 | CLIP LOCK 1/2" | 350146 | 8 |

FLAIL BLADE KIT 350251-S

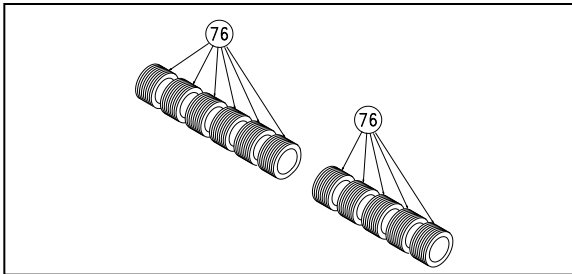


| item no. | PARTS LIST | Part No. | QTY |
|----------|----------------|----------|-----|
| 74 | BLADE FLAIL | 350205 | 30 |
| 78 | CLIP LOCK 1/2" | 350146 | 8 |



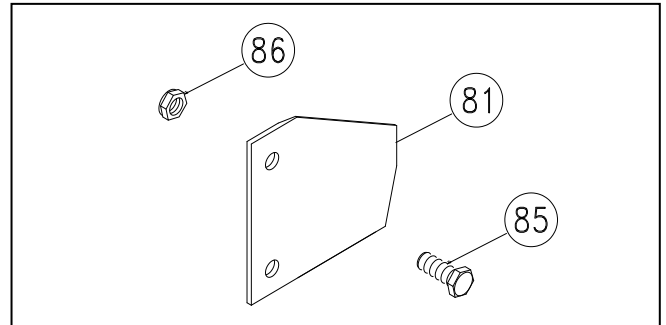
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SPACER BUMPER KIT 350258



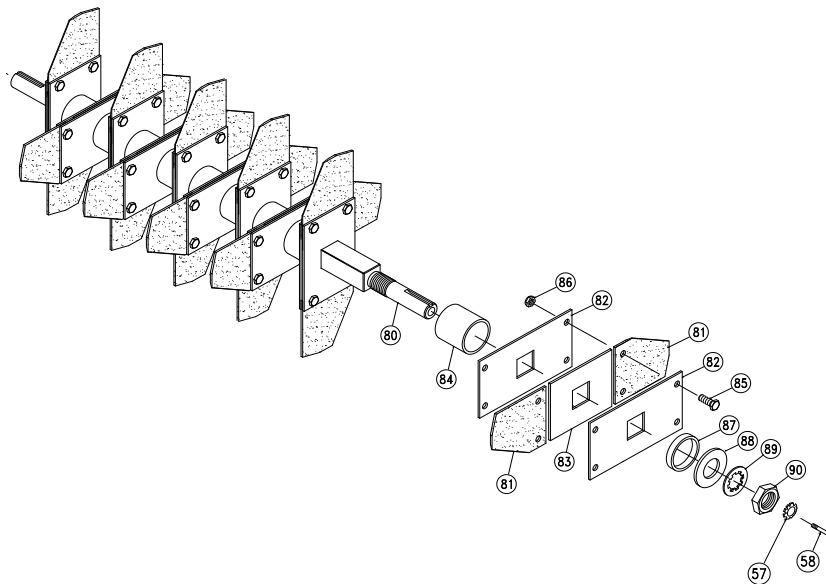
| item no. | PARTS LIST | Part No. | QTY |
|----------|---------------------------|----------|-----|
| 76 | SPACER BUMPER 5/8" x 1/2" | 350144 | 54 |

SLICING BLADE KIT 350187



| item no. | PARTS LIST | PR500 Part No. | QTY |
|----------|------------------------------|----------------|-----|
| 81 | BLADE SLICING REEL | 350147 | 20 |
| 85 | SCREWCAP 1/4-20 X 3/4 HCS ZP | 8041004 | 40 |
| 86 | NUT LOCK 1/4-20 | 8142004 | 40 |

SLICING REEL ASSY 350252



| item no. | PARTS LIST | PR500 Part No. | QTY |
|----------|--|----------------|-----|
| 57 | WSHR-STL, BLV, .386" X 1.063" X .082" MZ | 8181012 | 1 |
| 58 | SCREWCAP 3/8"-16 X 1" HCS ZP | 8041050 | 1 |
| 80 | SHAFT SLICING WA | 350142 | 1 |
| 81 | BLADE SLICING REEL | 350147 | 20 |
| 82 | PLATE BLADE MTG. | 350253 | 20 |
| 83 | SPACER BLADE MTG. | 350254 | 10 |
| 84 | SPACER, REEL PM | 350443 | 9 |
| 85 | SCREWCAP 1/4-20 X 3/4 HCS ZP | 8041004 | 40 |
| 86 | NUT LOCK 1/4-20 | 8142004 | 40 |
| 87 | SPACER, HARDENED REEL OS900SP | 351297 | 1 |
| 88 | WASHER 0.937 x 1.750 x 0.119 | 350153 | 1 |
| 89 | WASHER LOCK 7/8 INT. TOOTH | 350154 | 1 |
| 90 | NUT JAM 7/8-14 | 350155 | 1 |