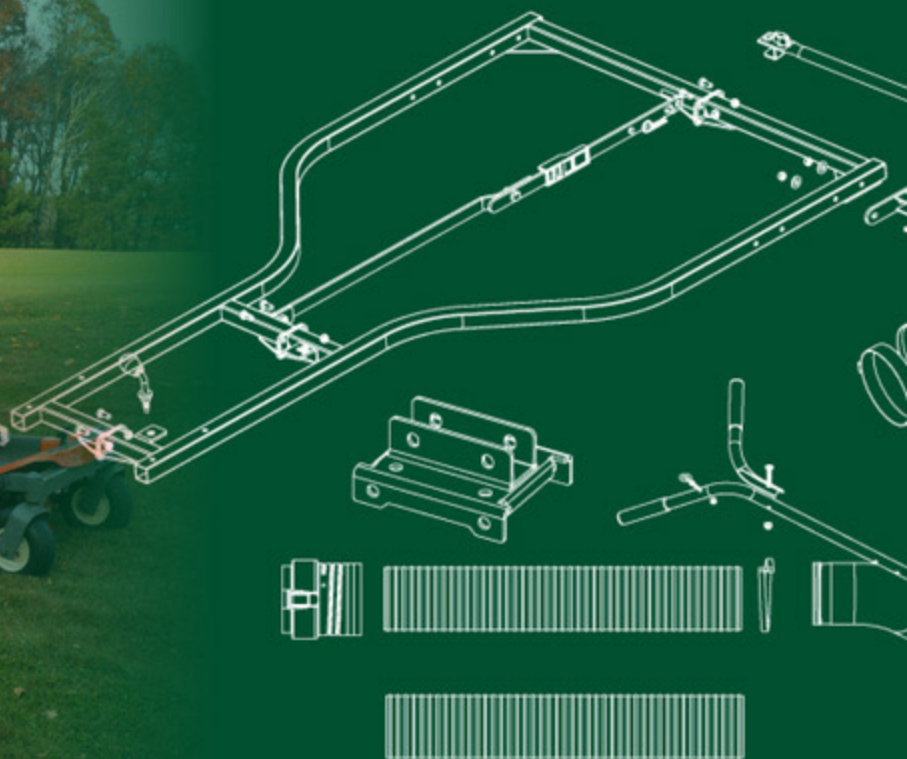




**Cyclone
Rake®**

OWNER'S MANUAL

ASSEMBLY & PARTS



SAFETY

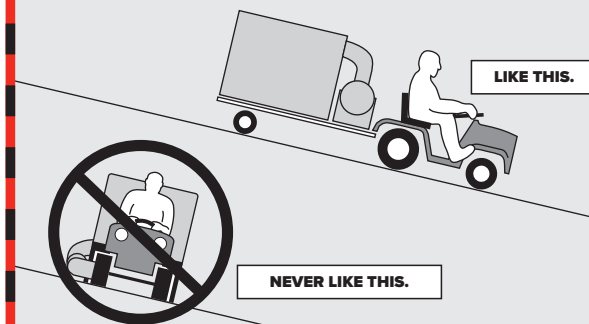
THE CYCLONE RAKE® IS A POWERFUL MACHINE.
DO NOT attempt to operate until you have read and completely understand this safety section.

IMPORTANT

- **THE CYCLONE RAKE ENGINE IS NOT SHIPPED WITH OIL.** Please read all instructions and fill the engine with oil before starting.
- **NEVER START THE ENGINE UNLESS IT IS BOLTED FIRMLY TO THE CHASSIS AND THE CHASSIS IS ATTACHED TO THE RIDING MOWER OR TRACTOR.**
The wheels on the engine unit are for ease of storage **ONLY**. They will **NOT SUPPORT THE ENGINE** while running and you risk a serious overturning or a roll-away accident.
- **DO NOT USE THE ENGINE UNIT AS A STAND-ALONE VACUUM. IT MUST ALWAYS BE BOLTED TO THE CHASSIS BEFORE OPERATING.** You risk serious injury from a roll-away accident.
- **DO NOT MAKE DESIGN MODIFICATIONS TO THIS EQUIPMENT** or any of its accessories or upgrades. You could risk serious personal injury or damage to the equipment.
- **NEVER CHANGE HOSES UNLESS THE ENGINE IS STOPPED.** You can be seriously injured by rotating machinery, high vacuum forces or flying debris.
- **NEVER OPERATE UNLESS ALL HOSES AND AIR FLOW CONNECTIONS ARE FIRMLY LATCHED IN PLACE.**
- **NEVER CLEAR JAMS UNLESS BOTH THE CYCLONE RAKE AND MOWER ENGINES ARE STOPPED.**
- **ALWAYS WEAR EYE PROTECTION** when you operate the Cyclone Rake.
- **NEVER STAND OR WORK DIRECTLY BEHIND THE CYCLONE RAKE WHEN THE ENGINE IS RUNNING.**
High velocity air and debris venting through the top screen can cause serious injury.
- **NEVER DUMP THE COLLECTOR** unless the engine is stopped. Flying debris can cause serious injury.
- **NEVER OPEN THE COLLECTOR BAG WHEN THE ENGINE IS RUNNING, EVEN TO CHECK CONTENTS.** You risk serious injury. **ALWAYS STOP** the engine first.
- **ALWAYS KEEP THE ENGINE/BLOWER UNIT FREE FROM ALL ORGANIC MATERIAL BUILD UP.** Clean this area after every use.
- **DO NOT ALLOW CHILDREN TO OPERATE THIS EQUIPMENT.**
- **KEEP CHILDREN AND PETS AWAY.** They can be seriously injured by this machinery.
- **LOOK CAREFULLY BEFORE BACKING UP.** You cannot see directly behind when backing up. You could injure children, pets or property.
- **ORGANIC LAWN DEBRIS ONLY! DO NOT ATTEMPT TO VACUUM METAL, GLASS, TRASH, STONES, SAND, CARPENTRY CUTTINGS OR ANYTHING ELSE EXCEPT NATURAL LAWN DEBRIS.** You risk damage to the Cyclone Rake and serious personal injury.
- **STOP THE ENGINE AND REMOVE THE SPARK PLUG WIRE** before performing any service or adjustment functions.
- **DO NOT CHANGE ENGINE OR GOVERNOR SETTINGS.** They are there for your safety.
- **CHECK ALL BOLTS AND FITTINGS FOR TIGHTNESS** at frequent intervals. If you sense any abnormal vibration, **IMMEDIATELY STOP** the equipment and check thoroughly.
- **USE ONLY THE NYLON LOCK NUTS AND FASTENERS** supplied with the Cyclone Rake for product assembly. **DO NOT REPLACE EXCEPT WITH IDENTICAL PARTS.**
- **DO NOT FILL FUEL TANK INDOORS. DO NOT SMOKE WHILE FUELING. WIPE UP ANY FUEL SPILLS IMMEDIATELY.**

DO NOT DRIVE SIDEWAYS ON HILLS OR SLOPES. DRIVE IN AN UPHILL OR DOWNHILL DIRECTION ONLY. FOLLOW THE WARNINGS IN YOUR MOWER'S MANUAL.

Driving sideways can create a serious overturning accident.



CHAPTER 1**INTRODUCTION & UNPACKING**

Congratulations on your purchase of the Cyclone Rake!

You'll find it's one of the most useful and convenient outdoor products on the market. If you use and care for it properly, it will provide you with years and years of service.

CONTENTS OF THIS MANUAL

This manual covers the assembly, operation and maintenance of your Cyclone Rake. ***If you purchased additional accessories, each accessory comes packed with its own clearly illustrated instruction sheet.***

EASY TO ACCESS ASSEMBLY VIDEOS

To make assembly easier, we recommend checking out our videos before you begin the process

<https://www.cyclonerake.com/cr-assembly-videos/>

USING A QR CODE

Whenever you see a QR code like this one, just scan them with your mobile phone or tablet, and immediately watch a video related to that section of your owner's manual. These codes and the videos they take you to will demonstrate some of the key maintenance and operating features of your new Cyclone Rake. Download a QR code reader from the Apple App store, Google play, or scan them with your phone camera to open a web link. Try them out! We think you'll find them helpful, and we're confident they'll make your ownership experience more enjoyable.

**GETTING STARTED**

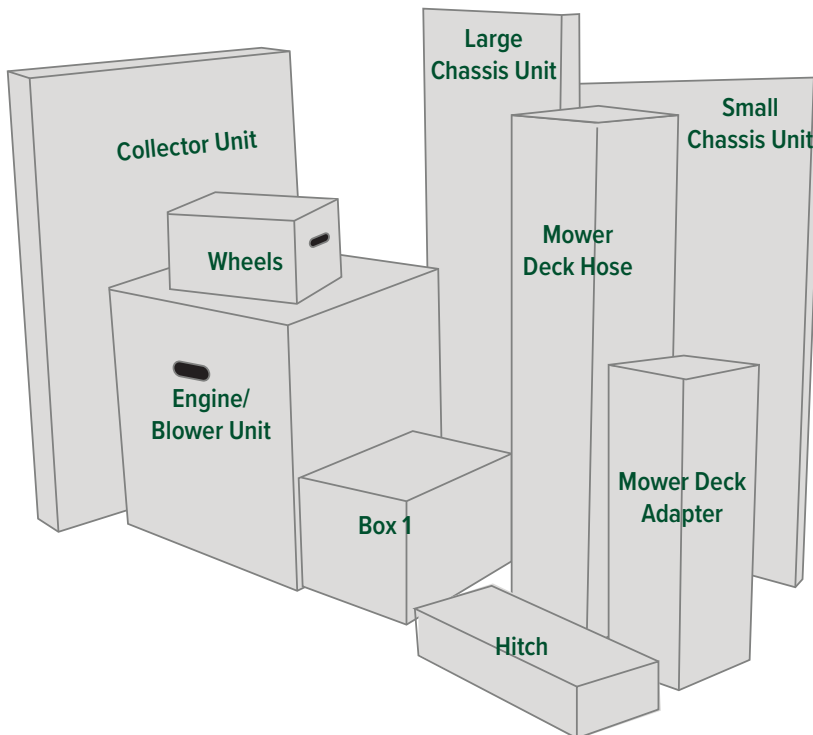
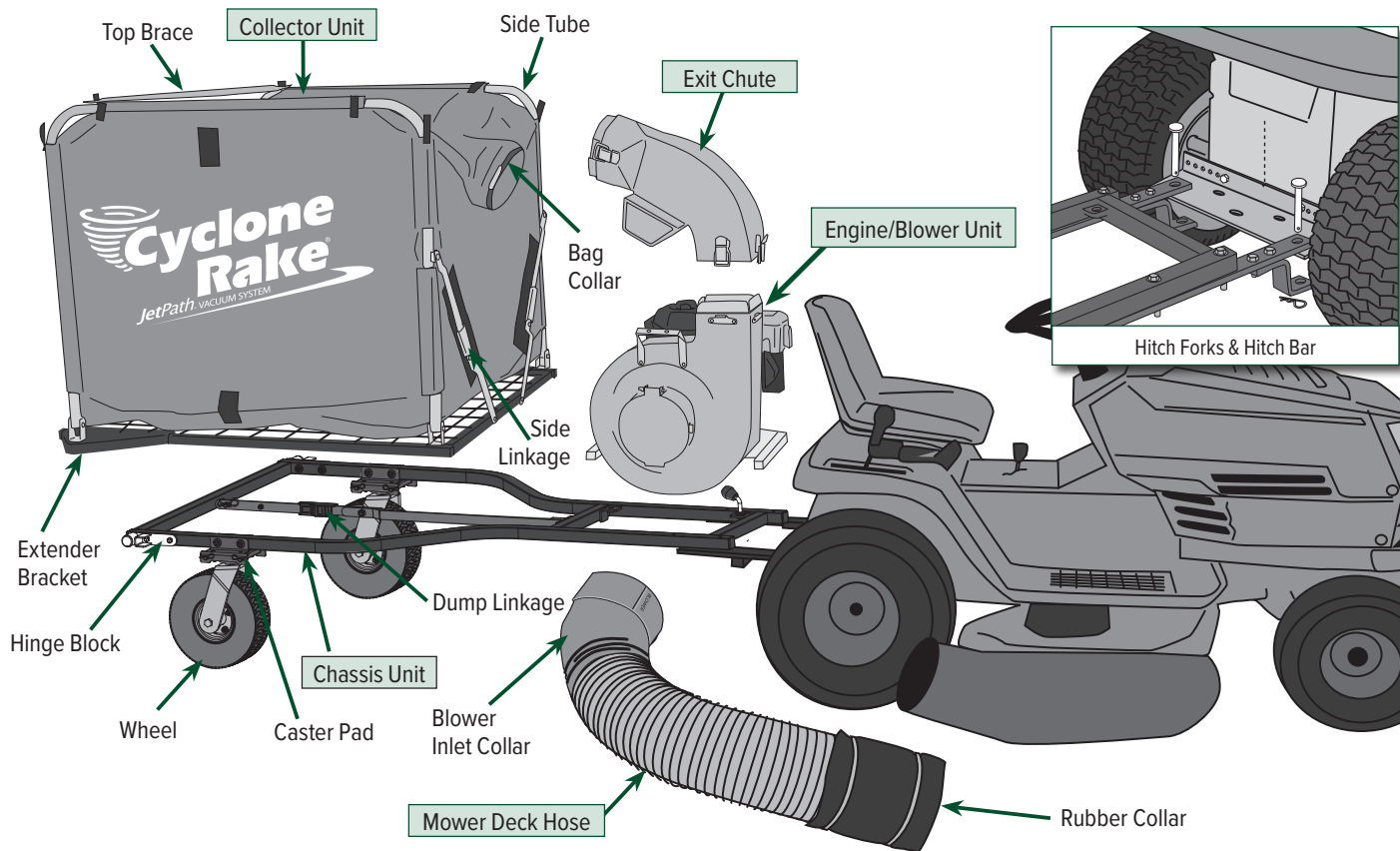
Your basic Cyclone Rake is shipped in seven or eight boxes. If you have other boxes, these hold the accessories you ordered.

To get started, first identify your seven boxes, which have these box names:

- **Box 1 (You found this one already!) Owner's Manual, Hitch Forks, Exit Chute, Blower Inlet Collar and Rubber Collar (if you did not order a Mower Deck Adapter).**
- **Mower Deck Hose**
- **Mower Deck Adapter (if you ordered one will also include your Standard Hitch)**
- **Engine/Blower Unit**
- **Chassis Unit**
- **Collector Unit**
- **Standard Hitch (If you did not order a Mower Deck Adapter) or Special Hitch (If you ordered one)**
- **Wheels (If you ordered the Dual-PRO Super Wheels, they will be delivered in two boxes)**

Depending on the Cyclone Rake model and accessories you purchased, your order may also include additional boxes. Each box is clearly labeled.

THE CYCLONE RAKE® MAIN COMPONENTS



HELP! WHAT'S IN ALL THOSE BOXES?

You might find quite a few boxes in your shipment, depending on what you ordered. However, they are all clearly marked with the Box Name.



Box Name & Contents

TOOLS NEEDED

Most of the tools you will need to assemble and service your Cyclone Rake can be found at any hardware store if you don't already have them.

- 1/4" Drill bit
- 5/16" Drill bit
- 3/8" Drill bit
- Center punch
- Two 1/2" Box wrenches or sockets
- Two 9/16" Box wrenches or sockets
- 7/16" Wrench
- Marker pen
- Flat blade screwdriver
- 5/16" Nut driver or socket
- 7/16" Socket
- 3/8" Socket

Depending on what model of mower you own, you might also need the following additional items:

- Hammer
- Tape measure
- Electric drill
- Utility knife
- Cutting pliers

INSTALLATION NOTE:

If you need these extra items, it will be clear from the instructions in this manual.

OK, LET'S GET STARTED!

USING YOUR NEW CYCLONE RAKE VIDEOS

Once your new Cyclone Rake is completely assembled, it's time to start using it! The QR codes below link you to videos showing some helpful tips and tricks, and best practices when using your Cyclone Rake.

If you don't happen to have a smart phone, don't worry about it. Simply type the link below into any web browser to watch these videos on Owning a Cyclone Rake.

<https://www.cyclonerake.com/video-landing-page>



Towing Your
Cyclone Rake.



Unloading Your
Cyclone Rake Collector.



Folding Up Your
Collector for Storage



The Importance of
Using Fuel Stabilizer.



Using and Maintaining
Your Power Vacuum
Pickup or Estate Vacuum.

As always, if you run into any questions during the assembly process or when you're using your Cyclone Rake, don't hesitate to reach out to us. We're just a phone call, chat message, or email away, and are always more than happy to speak with you. Thanks again for choosing the Cyclone Rake.

Happy Raking!

Matthew Coz
CEO

CHAPTER 2

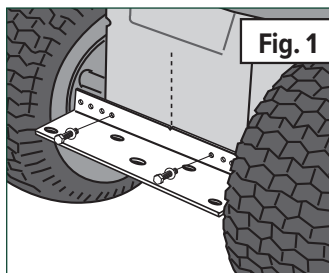
INSTALLING THE HITCH BAR

The Cyclone Rake never jackknives when you back up. To accomplish this, it uses a 2-pin hitch bar. The first step is to attach this hitch bar to your mower.

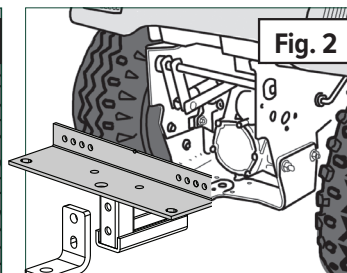
WHICH MOWER TYPE DO YOU HAVE?

Standard Hitch Mowers: The rear of most mowers look like Figure 1 below. On these mowers, there's a vertical or sloping metal plate between the rear wheels, where you mount the Cyclone Rake hitch bar. If your mower looks like this, move on to the **Standard Hitch Bar Installation**.

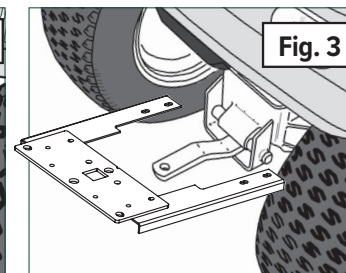
Special Hitch Mowers: Some mowers do not have a flat metal plate between the rear wheels. Some may look like **Fig. 2, 3 or 4**. If your mower is like one of these, or another configuration follow the Special Hitch Instructions provided with your special hitch bar.



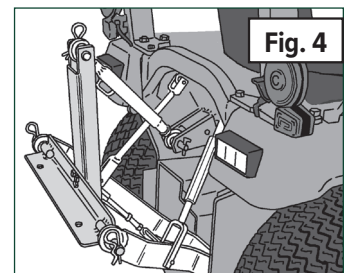
Standard hitch mowers have a flat metal plate between the rear wheels. The hitch bar bolts directly to the plate.



Special Hitch mowers like this have a horizontal plate between the rear wheels.



Special Hitch mowers like this use a hitch tang.



3-point hitch mowers use a hitch with three connection points.



INSTALLING THE STANDARD HITCH BAR

The Standard Hitch Bar is bolted horizontally to the rear of your mower as illustrated in **Fig. 1**. The Cyclone Rake uses two hitch pins which drop into holes in the ends of the hitch bar. Once installed, the hitch bar can be left on year-round. The Cyclone Rake Standard Hitch Bar is available in 90°, 80°, 70° and 55° angles to accommodate multiple mower types. The installation procedure is the same for all of these hitch bar angles.

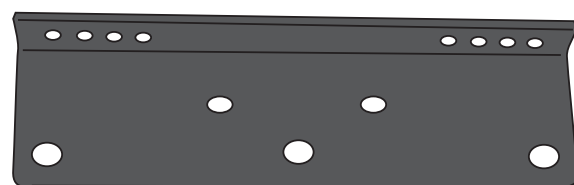
WHERE TO FIND THE PARTS:

Find the box labeled **Hitch Bar**. The hitch bar is inside, along with the bolts and hardware you'll need to mount it.

TOOLS YOU'LL NEED:

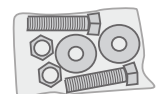
- Tape measure
- Marker pen
- Center punch
- Hammer
- Electric drill • 1/4" Drill bit • 3/8" Drill bit
- (2) 9/16" Box wrenches or sockets

1. Place the mower on a flat, level surface, such as a concrete floor or driveway.
2. The hitch bar should be installed horizontally, centered between your mower wheels. The ideal height of the hitch bar is about 12 inches from the ground.



Hitch Bar

Hitch Bar hardware



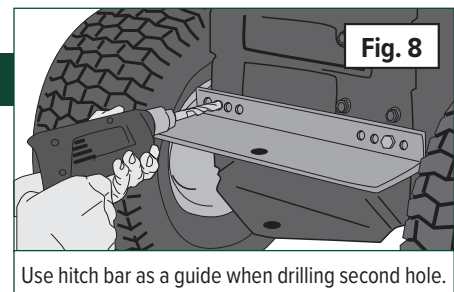
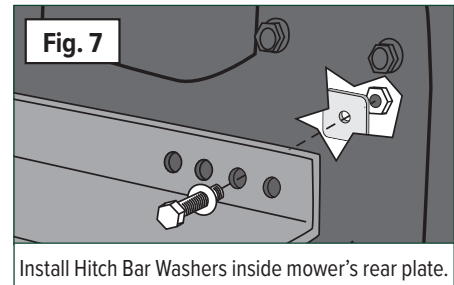
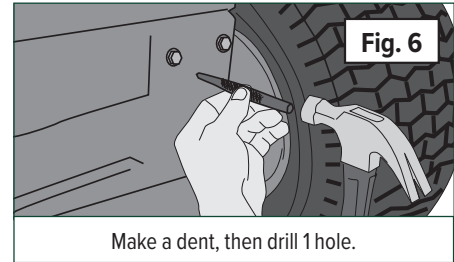
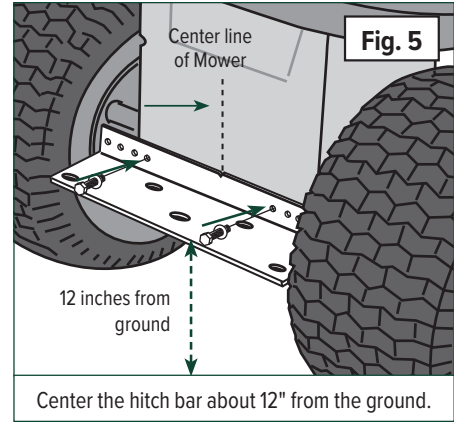
Hitch Bar washers



INSTALLATION NOTE:

The hitch bar can be installed anywhere from 10 to 14 inches from the ground and either as shown or flipped upside down if you need to clear any other hardware or mower attachments.

3. **(Fig. 5)** Locate and mark the center between your mower's rear wheels using a measuring tape. Draw a vertical line at the center using a marker pen.
4. The hitch bar has a "V" notch at the center as a guide for aligning it with the center line that you marked. Place the lower lip of the hitch bar approximately 12 inches from the ground and prepare to mark the position of the hitch bar on the mower.
5. Choose a pair of bolt holes that are about one inch from the edge of the mower's rear plate. You want the holes as wide as possible, but still have enough room for bolts and the hitch bar washers on the inside. Check behind the rear plate to be sure there are no obstacles. Mark the hole locations with the marker pen.
6. **Before drilling, check behind the mower plate one more time to be sure there are no obstacles.** If there are, choose a slightly different height for the hitch bar, or a different pair of holes that can be used without interference.
7. **(Fig. 6)** Drill one hole first. Use the center punch and hammer to make a sharp dent at the location of the first hole. This keeps the drill from "walking". Drill through first with the 1/4" drill bit. Then follow with the 3/8" drill bit. Use firm pressure and low speed. A little oil on the drill bit also helps.
8. **(Fig. 7)** Using two 9/16" wrenches, install one 3/8" bolt with the 3/8" washer, from the front through the hitch bar and rear plate. Then fasten with the hitch bar washer and nylon lock nut behind the rear plate. Tighten moderately. If there are protrusions or obstacles on your mower's rear plate, you can space the hitch bar out with a few washers.
9. **(Fig. 8)** With the first bolt installed, hold the hitch bar level and drill the second hole by placing the 3/8" drill bit directly through the hitch bar while drilling. Using the hitch bar as a guide will ensure both holes are lined up correctly.
10. Secure with the second 3/8" bolt, washer, hitch bar washer and nylon lock nut. Tighten both bolts firmly.



SPECIAL HITCH INSTALLATIONS

Cyclone Rake Special Hitches are designed to accommodate a wide variety of mower hitch requirements. Each special hitch will include all the parts you'll need plus detailed installation instructions.

WHERE TO FIND THE PARTS:

Look for the box labeled either **Special Hitch** or **3-Point Hitch**. To install your special hitch follow the instructions packed with your hitch, then return to this manual to complete your Cyclone Rake assembly.

*After installing your hitch, go to
Chapter 3: Assembling The Chassis Unit & Wheels.*

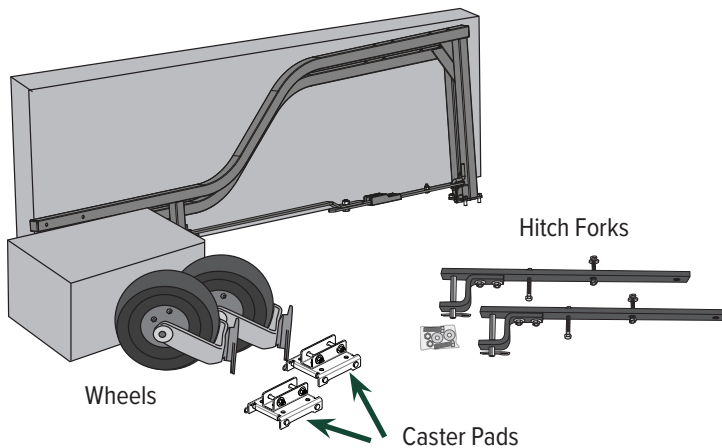
CHAPTER 3

ASSEMBLING THE CHASSIS UNIT & WHEELS

The Cyclone Rake Chassis comes in two sizes, small for the Classic and Commander models and large for the Commercial PRO, XL & Z-10 Models. Each is packaged differently. The Small Chassis will be delivered flat. The Large Chassis will be delivered folded and will require a few more steps to assemble. However, once assembled, the rest of the installation is the same. We will start with the Large Chassis (Commercial PRO, XL or Z-10). If you have the Small Chassis (Classic or Commander), please move on to page 2.



ASSEMBLING THE LARGE FOLDED CHASSIS (COMMERCIAL PRO, XL OR Z-10)



WHERE TO FIND THE PARTS:

Open the boxes labeled **Chassis Unit** and **Wheels**. You will also need the Hitch Forks, which are packed in **Box 1**, inside the carton labeled **Hitch Forks**. **All other parts will be attached to the included skin-board.**

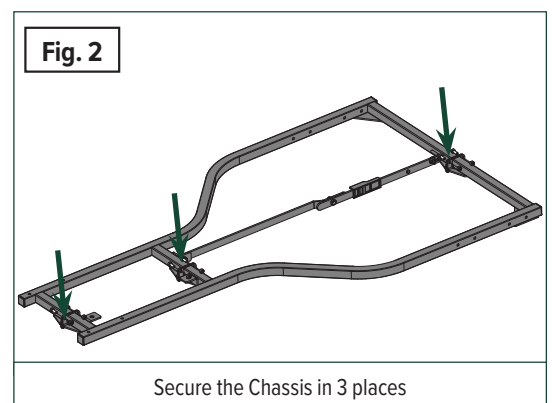
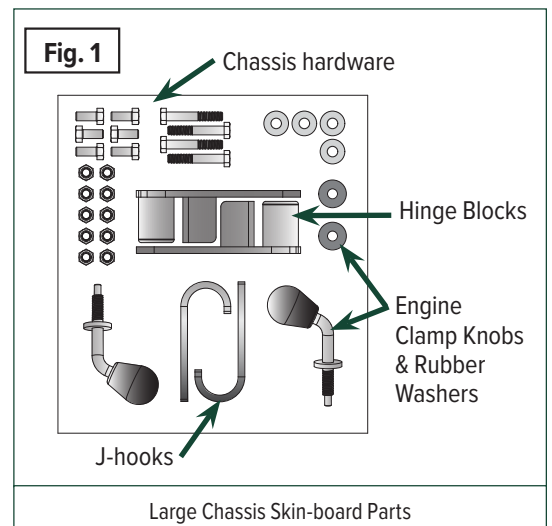
TOOLS YOU'LL NEED:

- (2) 1/2" Box wrenches or sockets

1. Lay the Chassis flat and unfold it with the "Top Side" label facing up.
2. **(Fig. 1)** Remove the six, 5/16-18 x 0.75 bolts and six of the nylon lock nuts from the hardware skin board.
3. **(Fig. 2)** Use the 1/2" wrench and secure the 2 sides of the unfolded Chassis with the 6 bolts and lock nuts in the 3 places shown.
4. Remove the Hinge Blocks from the Skin board and then move on to page 2 to **Installing the Hinge Blocks**.

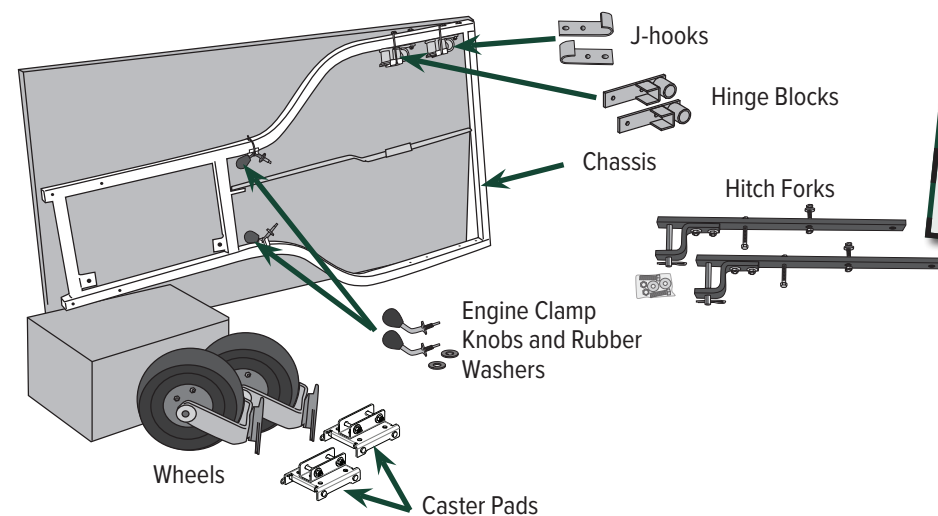
INSTALLATION NOTE:

Save the J-hooks for the Collector Unit assembly and the Engine Clamp Knobs and Rubber Washers for installing the Engine/Blower Unit.



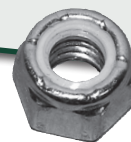
ASSEMBLING THE SMALL CHASSIS

(CLASSIC OR COMMANDER)



SAFETY NOTE:

Single cylinder engines always create high vibration. For safety, the Cyclone Rake® makes extensive use of “shake-proof” nylon lock nuts. Always use them where indicated. Do not substitute ordinary nuts. If you lose any, you can buy them at any hardware store.



WHERE TO FIND THE PARTS:

Open the boxes labeled **Chassis Unit** and **Wheels**. You will also need the Hitch Forks, which are packed in **Box 1**, inside the carton labeled **Hitch Forks**.

1. Lay the Chassis flat with the “**Top Side**” label facing up. Remove the Hinge Blocks, J-Hooks, two Engine Clamp Knobs and Rubber Washers that are attached to the Chassis.

INSTALLATION NOTE:

Save the J-hooks for the Collector Unit assembly and the Engine Clamp Knobs and Rubber Washers for installing the Engine/Blower Unit.



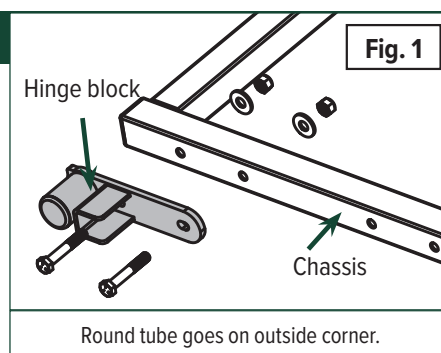
INSTALLING THE HINGE BLOCKS

(BOTH SIZES)

TOOLS YOU'LL NEED:

- (2) 1/2" Box wrenches or sockets

1. (**Fig.1**) To attach each hinge block, position the round tube on the outside corner of the wide end of the chassis. Using two 1/2" box wrenches or sockets, attach each hinge block with the two 5/16 x 2" bolts, washers and nylon lock nuts provided. Tighten the bolts snugly, but don't crush the tubing.





INSTALLING THE CASTER PADS & WHEELS

(BOTH SIZES)

WHERE TO FIND THE PARTS:

The caster pads and hardware are shipped in the *Wheel Box(es)*.

TOOLS YOU'LL NEED:

- (2) 1/2" Box wrenches or sockets
- (2) 9/16" Box wrenches or sockets

INSTALLATION NOTE:

Dual-PRO Super Wheels™ and caster pads are installed the same way.

INSTALLING THE CASTER PADS

1. **(Fig. 2)** Attach the caster pads to the chassis using the two 5/16 x 2-1/4" caster pad bolts, washers and nylon lock nuts. Tighten the bolts firmly with the 1/2" wrenches or sockets.

INSTALLING THE WHEELS (2 WAYS)

QUICK RELEASE INSTALLATION

If you are planning on removing your wheels when storing your Cyclone Rake.

1. Lean the Chassis against the wall. (It's easier)
2. **(Fig. 3)** Install one 3/8-16 x 5" hex head bolt through the top hole of the caster pad. Fasten with a 3/8-16 nylon lock nut using the 9/16 wrenches or sockets.
3. **(Fig. 4)** Slip the wheel under the bolt.
4. Then install the Quick-Release Clevis Pin into lower hole. Secure it with the Bow tie Pin **on the inside of the Chassis** as shown in Fig 3.
5. Repeat on the other side.

PERMANENT INSTALLATION

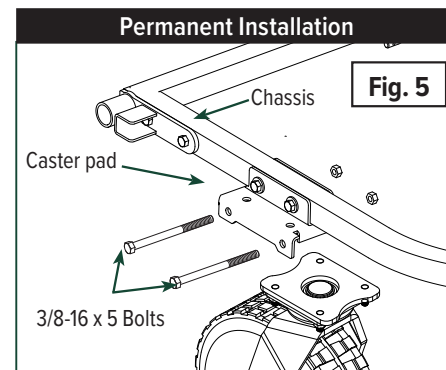
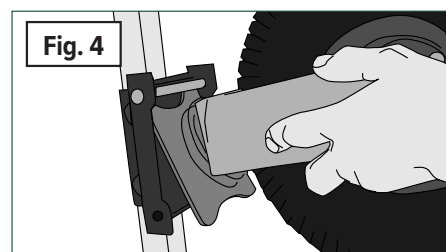
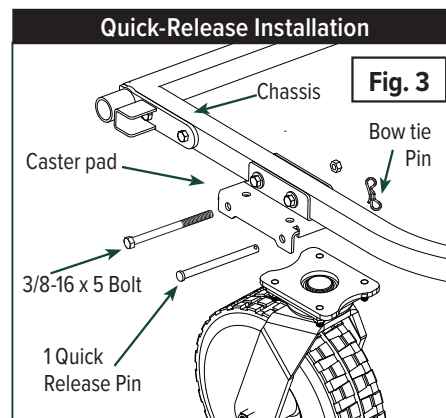
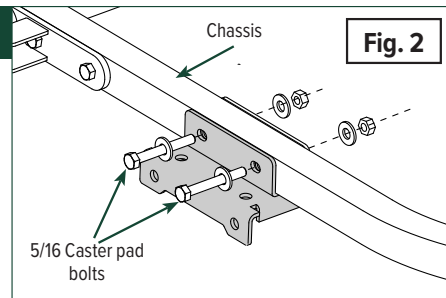
If you are planning to keep your wheels attached at all times

1. Lean the Chassis against the wall. (It's easier)
2. **(Fig. 5)** Install one 3/8-16 x 5" hex head bolt through the top hole of the caster pad. Fasten with a 3/8-16 nylon lock nut using the 9/16 wrenches or sockets.
3. **(Fig. 4)** Slip the wheel under the bolt.
4. Then install the second 3/8-16 x 5" hex head bolt into the lower hole and secure with a 3/8-16 nylon lock nut.
5. Repeat on the other side.

RECOMMENDED TIRE INFLATION:

Single Wheel tires: 25 psi

Dual-PRO Super Wheel tires: 15 psi



ACCESSORY INSTALLATION NOTE:

If you purchased the 3rd Wheel™ Jack Stand, attach it now.
Follow the instructions inside its box.



INSTALLING THE HITCH FORKS

(BOTH SIZES)

WHERE TO FIND THE PARTS:

The Hitch Forks, are packed in **Box 1**, inside the carton labeled **Hitch Forks**.

TOOLS YOU'LL NEED:

- (2) 1/2" Box wrenches or sockets

INSTALLATION NOTE:

Before attaching the Hitch Forks, be sure the engine tabs(A) are facing up and they are flush with the top of the chassis frame as shown.

5. **(Fig. 6)** Attach the two Hitch Forks to the front (the narrow end) of the chassis as shown. **Place each hitch fork under the chassis** and secure using two 2" bolts, washers and lock nuts provided.

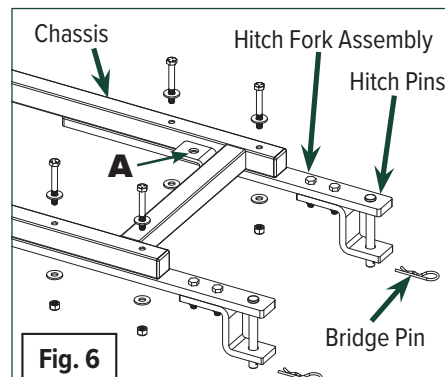
XL & Z-10 INSTALLATION NOTE:

(Fig. 6a) Install the Hitch Forks as shown if you are assembling the Cyclone Rake XL or Z-10, and **DO NOT** have the following special hitches: 3-point, 208-001, 208-004.

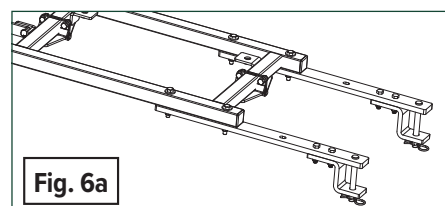
6. **(Fig. 7)** Hitch the chassis to the mower by aligning the holes in the Hitch Forks with the holes in the hitch bar. Then, drop the two 4" hitch pins in place. Put the bridge pins through the bottom holes in the hitch pins to secure them.

HANDY TIP

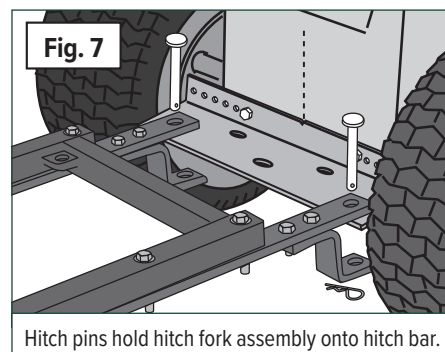
Applying a small amount of grease to the hitch pins will make your Cyclone Rake steer better and help the hitch components resist wear.



Classic, Commander & Commercial PRO: Bolt hitch fork assembly to the narrow end of chassis.



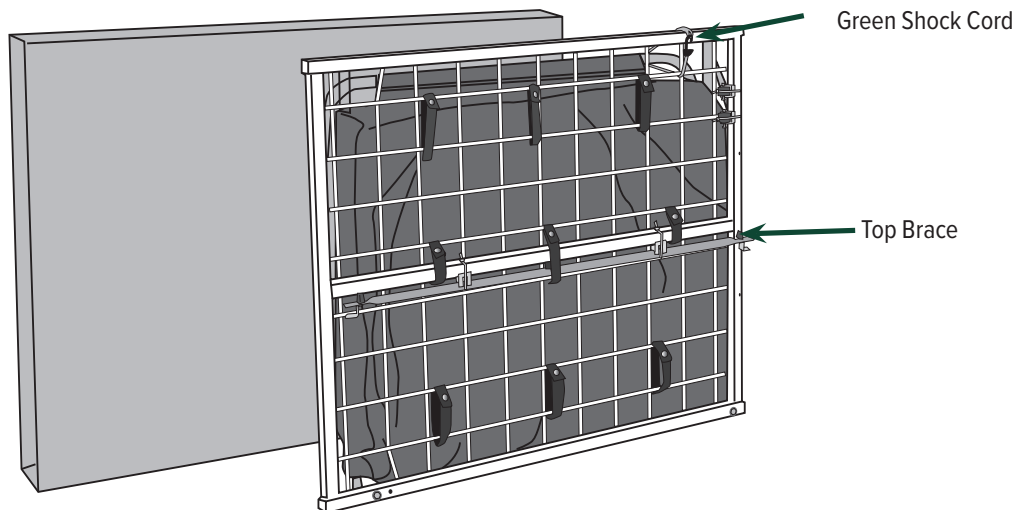
XL & Z-10: See Installation Note



CHAPTER 4

ASSEMBLING & INSTALLING THE COLLECTOR UNIT

Open the box labeled **Collector Unit**. When you open this box, be extra careful when using a knife or sharp tool, it could accidentally cut the Collector Bag. You will also need the two J-hooks that were attached to the **Chassis Unit** for this part of the assembly.



INSTALLATION NOTE:

There are two important items attached to the collector frame. These are the top brace and the green shock cord. Remove the top brace. Then, remove the green shock cord that holds the bag to the frame.



INSTALLING EXTENDER BRACKETS & J-HOOKS

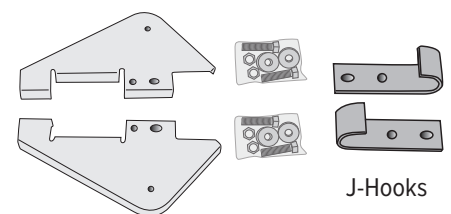
(COMMANDER, COMMERCIAL PRO, XL & Z-10)

WHERE TO FIND THE PARTS:

For customers with the Commander, Commercial PRO, XL or Z-10 models, the Extender Bracket Kit will be in a **thin box** packed **inside the Collector box**.

CLASSIC INSTALLATION NOTE:

If you purchased the Cyclone Rake Classic, you will NOT have an Extender Bracket Kit. Skip to Installing The J-hooks on the next page.

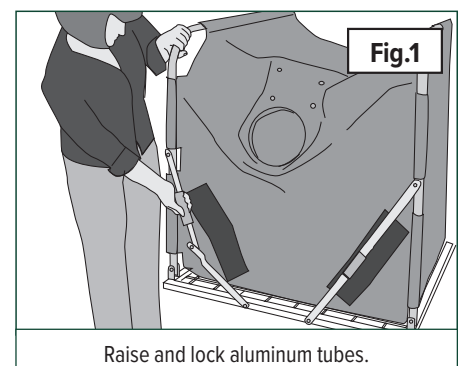


TOOLS YOU'LL NEED:

- (2) 1/2" Box wrenches or sockets

The extender brackets come as a left and right pair. You can attach either one first. To install the second bracket, repeat steps 2 through 5.

1. **(Fig. 1)** At the **FRONT** of the collector frame, raise the aluminum side tubes and lock them in place by moving the slider brackets down into the locked position. Do this on both sides of the collector bag.

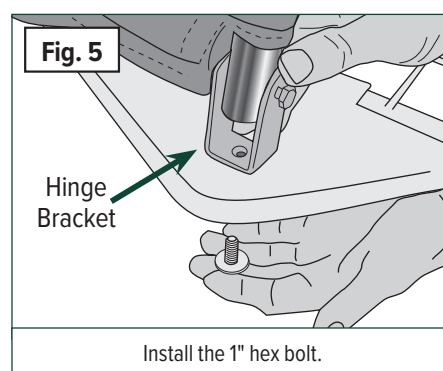
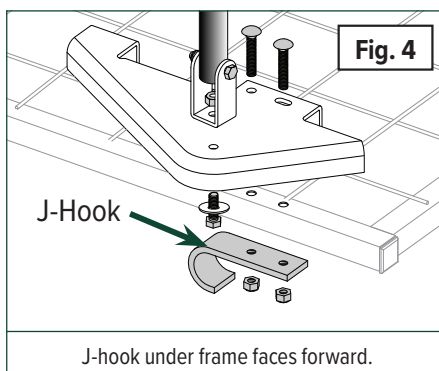
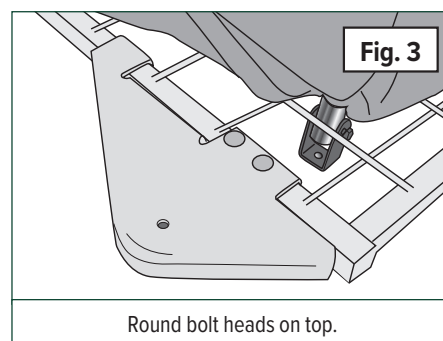
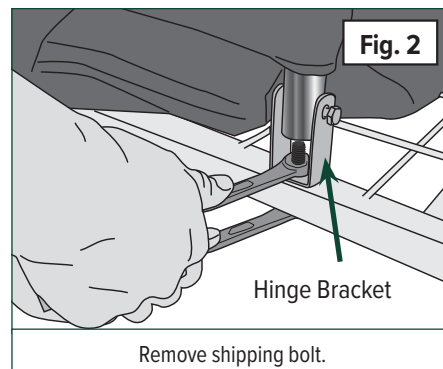


2. **(Fig. 2)** At the **REAR** of the collector frame (*the end opposite the slider brackets*), locate the hinge bracket. Using the two 1/2" box wrenches, remove and discard the temporary shipping bolt and nut.
3. **(Fig. 3)** Place the extender bracket over the collector frame. Install the two 5/16" x 1.75" carriage bolts down through the bracket and chassis **with the round heads on top**.
4. **(Fig. 4)** Place a J-hook under the collector frame with the curved end facing forward, pointing toward the slider bracket end of the frame. Fasten the carriage bolts with two nylon lock nuts. **Tighten the nuts firmly.**

HINT: Place a finger on the round heads of the carriage bolts to prevent them from turning while you tighten the nuts.

5. **(Fig. 5)** Move the hinge bracket over the outer hole in the extender bracket. Bolt the hinge bracket in place using the 5/16 x 1" hex bolt, washer and nylon lock nut provided. Install the bolt up from the bottom.

Go to next page: Folding Up the Collector.



INSTALLING THE J-HOOKS

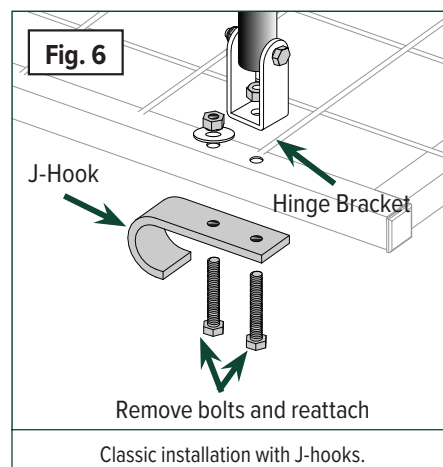
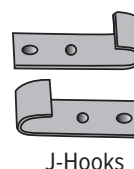
(CLASSIC)

The Cyclone Rake Classic does not use extender brackets. To assemble the Classic Collector, connect the J-hooks directly to the collector frame.

TOOLS YOU'LL NEED:

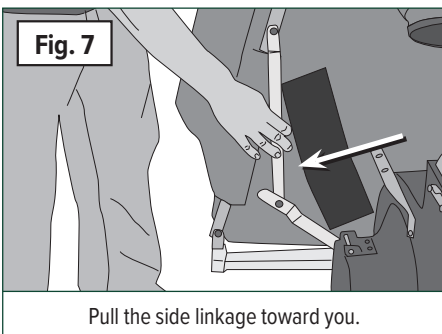
- (2) 1/2" Box wrenches or sockets

1. **(Fig. 1)** At the **FRONT** of the collector frame, raise the aluminum side tubes and lock them in place by moving the slider brackets down into the locked position. Do this on both sides of the collector bag.
2. **(Fig. 6)** Starting on one side, at the **REAR** of the collector frame (*the end opposite the slider brackets*), use a 1/2" box wrench to remove the bolt attaching the hinge bracket and the bolt that is already attached to the chassis.
3. **(Fig. 6)** Place a J-hook under the collector frame with the curved end facing forward, pointing toward the slider bracket end of the frame. Then, reinstall both bolts through the J-hook and collector frame using the box wrenches.
4. Install the second J-hook, repeat steps 2 through 3.

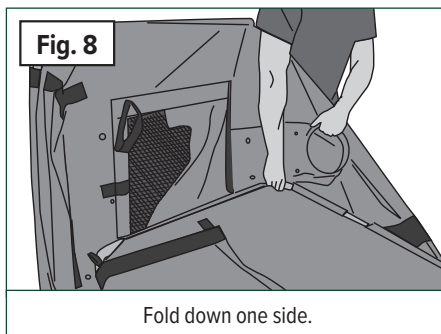




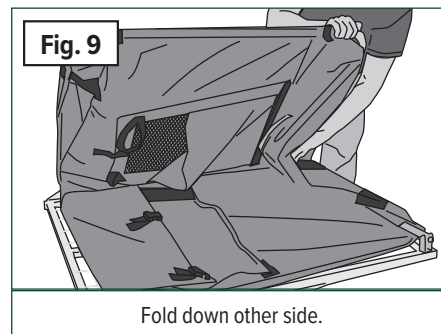
FOLDING UP THE COLLECTOR BAG



Pull the side linkage toward you.



Fold down one side.



Fold down other side.

1. **(Fig. 7)** Starting on either side, release only one side linkage. ***Pull the link elbow toward you***, so it points to the outside of the frame.
2. **(Fig. 8)** Pull the bag collar out of the way and push the aluminum side tube all the way down. Push on both ends of the side tube until the first side lies completely flat on the frame.
3. **(Fig. 9)** Release the other side linkage, ***pulling the elbow toward the outside of the frame***. Fold the side tube all the way down. As you reach the bottom, adjust the bag collar so it lies flat as you push the side of the collector down.
4. Secure the collector with the green shock cord.

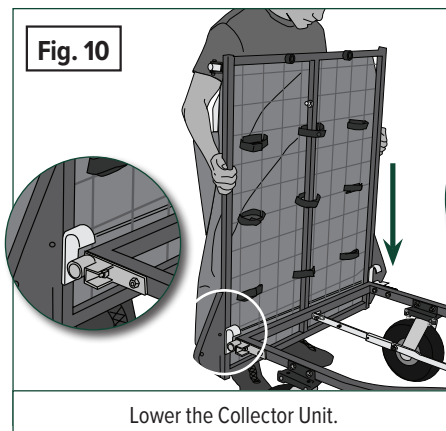
4



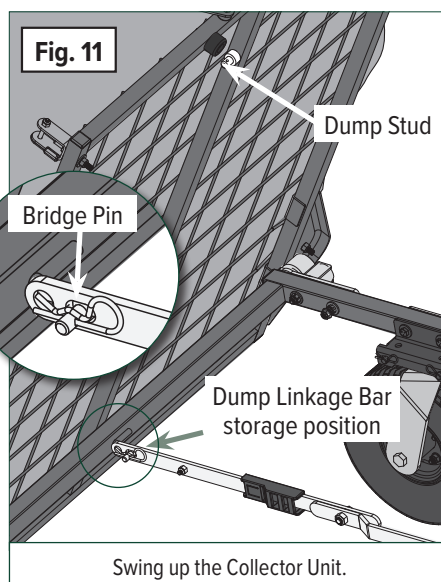
INSTALLING THE COLLECTOR UNIT

The **Collector Unit** is engineered to be easily installed and removed from the chassis without any tools.

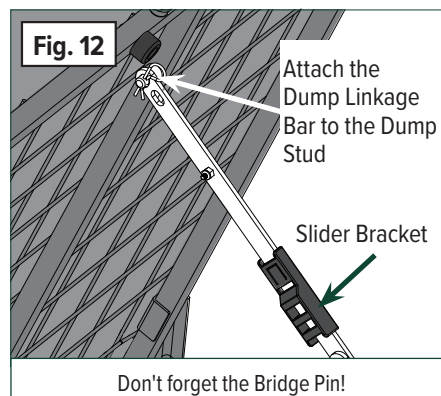
1. **(Fig. 10)** Lift and hold it vertically so that the J-hooks are at the bottom. Lower the J-hooks onto the round tubes of the hinge blocks at the back of the chassis.
2. **(Fig. 11)** With the Collector Unit in the upright position, locate the dump linkage bar on the chassis. The dump linkage bar comes attached to the chassis and is secured with a bridge pin. It lies this way when you store the Cyclone Rake with the collector removed. Remove the bridge pin to release the dump linkage bar.
3. **(Fig. 12)** Attach the dump linkage bar onto the large dump stud on the underside of the collector frame. Push the bridge pin through the hole in the dump stud to secure the dump linkage bar.
4. Fasten any loose Velcro® straps that secure the collector to the collector frame.
5. To lower the Collector Unit onto the chassis, move the slider bracket up to release the lock. As you lower the collector, the linkage bar will fold neatly underneath.



Lower the Collector Unit.



Swing up the Collector Unit.



Don't forget the Bridge Pin!

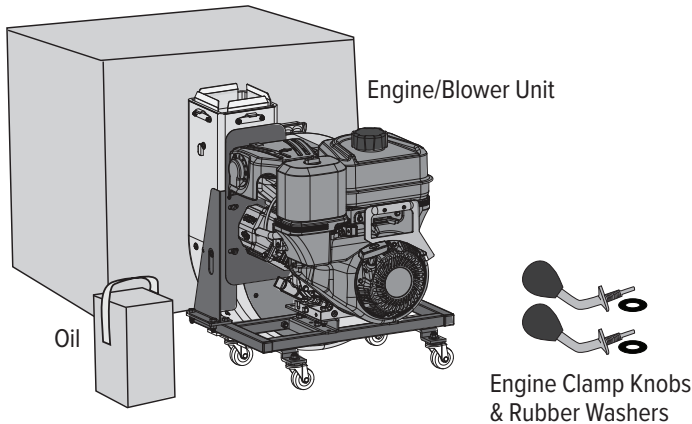
3

CHAPTER 5

INSTALLING THE PULL-START ENGINE



The **Pull-Start Engine/Blower Unit** is on its own chassis with wheels. It's located in the box labeled **Blower Unit**.



CAUTION!

The Engine/Blower Unit is heavy. You may need assistance removing it from the box and lining it up on the chassis.

5

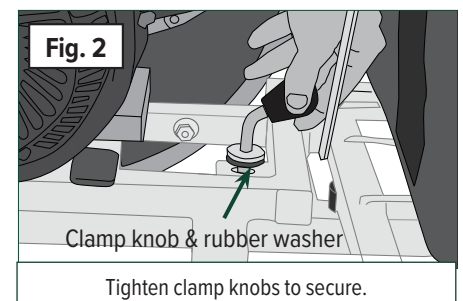
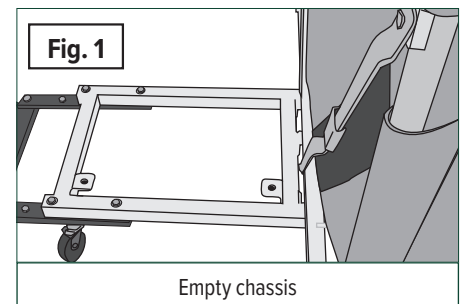
PARTS YOU'LL NEED:

- Engine Blower Unit
- Engine Clamp Knobs and Rubber Washers
- Engine Oil

INSTALLATION NOTE:

Locate the two engine clamp knobs and rubber washers you removed from beneath the chassis.

1. **(Fig. 1)** Remove the Engine/Blower Unit using the handles on each side and position it on the Chassis in front of the Collector. The blower inlet should face the same direction as your mower's discharge chute.
2. **(Fig. 2)** Line up the mounting brackets on the front and rear of the Engine/Blower Unit over the threaded holes in the chassis. Install one rubber washer on each clamp knob then securely clamp the engine to the chassis by screwing the engine clamp knobs through the holes.



WARNING!

Do not start the engine now! The engine contains NO Oil or Gasoline and you have not completed the assembly of your Cyclone Rake.

FILLING THE PULL-START ENGINES WITH OIL

OIL CAPACITY:

- XR950-PRO: 18-20 oz. • 6.5HP Vanguard Cyclonic: 18-20 oz.
- 8HP Vanguard: 26-28 oz. • 10HP Vanguard: 26-28 oz.

NOTE: The oil refill amounts are slightly lower than total oil capacity due to residual oil left in the engine during the testing process.



XR950-PRO AND 8 HP & 10 HP VANGUARD ENGINES

IMPORTANT:

Do not use the dipstick on the butterfly plug to measure when filling the engine oil. It is hard to read when the oil is new, and you might over or under fill, resulting in engine damage. Instead, use this simple procedure:

1. **(Fig. 3)** There are two YELLOW plastic “butterfly” plugs at the base of the engine. Remove one of the plugs and place a rag under the opening to catch any spilled oil.
2. **(Fig. 4)** Using a small funnel, slowly pour oil into the opening **until the oil reaches the bottom edge of the butterfly hole.** (See chart above for recommended oils.)
3. Replace the butterfly plug and **tighten firmly by hand.** Do not use a wrench or pliers as you might break the plug. Wipe up any spilled oil.



6.5 HP VANGUARD CYCLONIC ENGINE

IMPORTANT:

Do not use the large dipstick (Fig. 5) or the large yellow plastic “butterfly” cap (Fig. 6) to measure when filling the engine oil. It is hard to read when the oil is new, and you might over or under fill, resulting in engine damage. Instead, use this simple procedure.

1. **(Fig. 3)** There are two YELLOW plastic “butterfly” plugs at the base of the engine. Remove one of the plugs and place a rag under the opening to catch any spilled oil.
2. **(Fig. 4)** Using a small funnel, slowly pour oil into the opening **until the oil reaches the bottom edge of the butterfly hole.** (See chart above for recommended oils.)
3. Replace the butterfly plug and **tighten firmly by hand.** Do not use a wrench or pliers as you might break the plug. Wipe up any spilled oil.

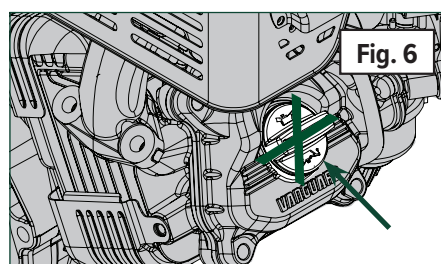
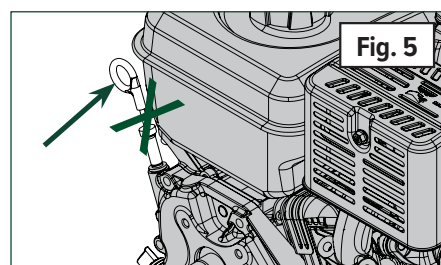
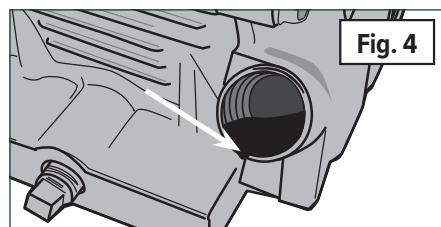
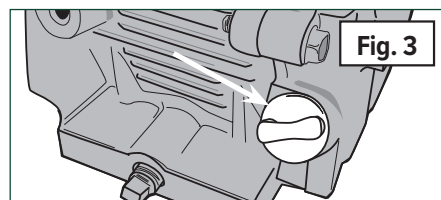
All pull-start engine owners please proceed to Chapter 7: Installing The Mower Deck Hose to complete your Cyclone Rake installation.

Recommended Oil Chart

The oil should be marked A.P.I. service “SF,” “SG,” “SH,” “SJ” or higher.

Air Temperature	Type of Oil
Above 32° F	SAE 30 or SAE 10W30 oil
Below 32° F	SAE 5W30 oil

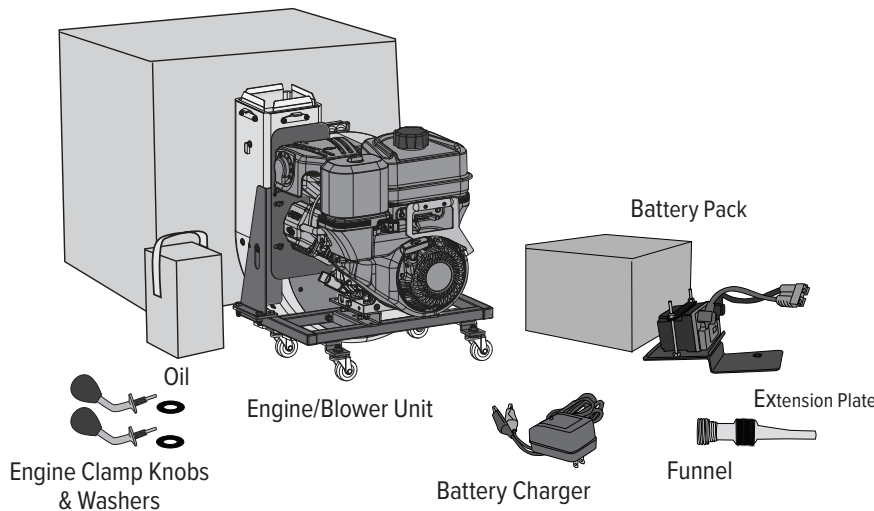
If synthetic oil is preferred 5W-30 is good in all temps.
SAE 10W40 is specifically not recommended.



CHAPTER 6

ASSEMBLING & INSTALLING THE ELECTRIC START ENGINE

The **8 HP & 10 HP Electric Start Engine/Blower Unit** is on its own chassis with wheels. It's located in the box labeled **Engine/Blower Unit**. The battery for the electric start engine will be in its own box labeled **Battery Pack**.



CAUTION!
The Engine/Blower Unit is heavy. You may need assistance removing it from the box and lining it up on the chassis.

PARTS YOU'LL NEED:

- Engine Blower Unit
- Engine Clamp Knobs and Rubber Washers
- Engine Oil
- Funnel
- Battery Pack



FILLING THE ELECTRIC START ENGINE WITH OIL

OIL CAPACITY:

- 8HP Vanguard: 26-28 ounces
- 10HP Vanguard: 26-28 ounces

IMPORTANT:

Do not use the dipstick on the butterfly plug to measure when filling the engine oil. It is hard to read when the oil is new, and you might over or under fill, resulting in engine damage. Instead, use this simple procedure.

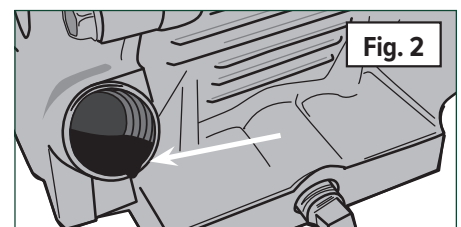
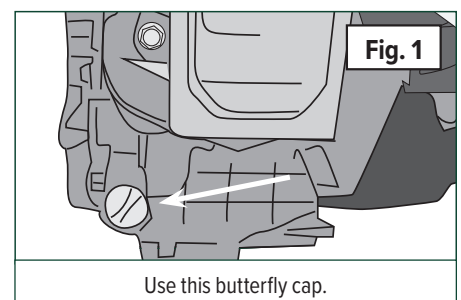
1. Remove the Engine/Blower Unit from the box using the handles on each side.
2. **(Fig. 1)** Locate the YELLOW plastic "butterfly" plug at the base of the engine, **under the exhaust deflector**.
3. Remove the YELLOW butterfly plug and place a rag under the opening to catch any spilled oil.
4. **(Fig. 2)** Using the small flexible funnel packed inside the Battery Pack box, slowly pour oil into the opening **until the oil reaches the bottom edge of the butterfly hole**. (See chart above for recommended oils.)
5. Replace the butterfly plug and **tighten firmly by hand**. Do not use a wrench or pliers as you might break the plug. Wipe up any spilled oil.

Recommended Oil Chart

The oil should be marked A.P.I. service "SF," "SG," "SH," "SJ" or higher.

Air Temperature	Type of Oil
Above 32° F	SAE 30 or SAE 10W30 oil
Below 32° F	SAE 5W30 oil

If synthetic oil is preferred 5W-30 is good in all temps.
SAE 10W40 is specifically not recommended.





INSTALLING THE ELECTRIC START ENGINE

1. **(Fig. 3)** Lift the Engine/Blower Unit using the handles on each side and position it on the chassis in front of the collector. The blower inlet faces the same direction as your mower's discharge.
2. **(Fig. 4)** Line up the mounting brackets on the front and rear of the Engine/Blower Unit over the threaded holes in the chassis.

INSTALLATION NOTE:

Install **ONLY** the **REAR** engine clamp knob with one rubber washer.

INSTALLING THE BATTERY PACK

1. **(Fig. 5)** Install the battery pack by **placing it on to the engine frame making sure the holes in the battery plate line up with the holes in the engine frame** as shown.
2. **(Fig. 6)** Install the FRONT engine clamp knob and rubber washer then tighten.
3. **(Fig. 7)** Plug the battery harness connector into the engine harness connector.

NOTE: For instructions on how to recharge the battery please go to **Chapter 10: Maintenance**.

WARNING!

Do not start the engine now! The engine contains no gasoline and you have not completed the assembly of your Cyclone Rake.

WARNING:

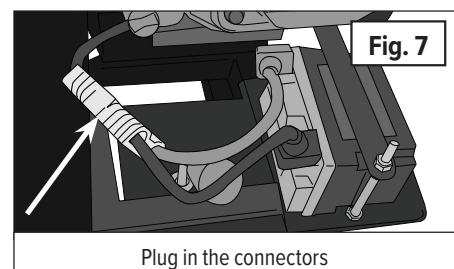
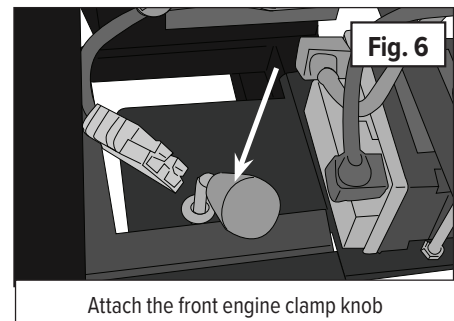
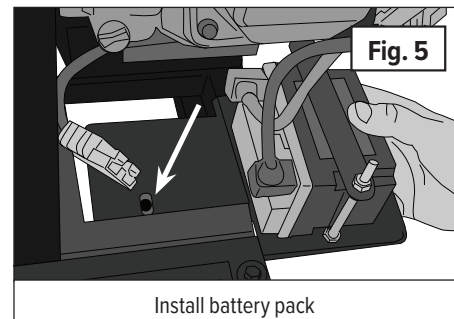
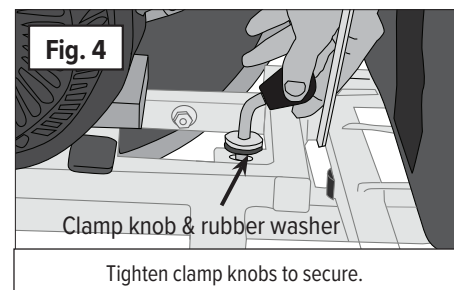
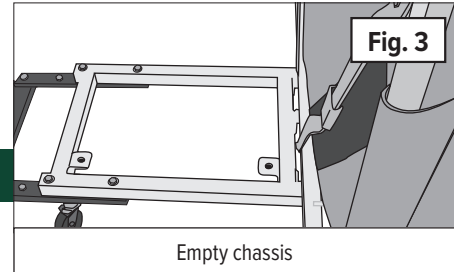
When disconnecting the battery, grasp both halves of the grey connector and pull it apart. Do not pull by the wires or only one side of the connector.

It may be difficult to disconnect, but this type of connector is required for carrying high current with no risk of shaking loose in operation.

Fortunately you should only have to do this once a season.

CAUTION!

The Engine/Blower Unit is heavy. You may need assistance removing it from the box and lining it up on the chassis.



CHAPTER 7

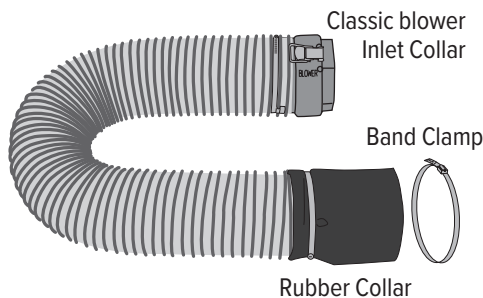
ASSEMBLING & INSTALLING THE MOWER DECK HOSE

IMPORTANT:

If you purchased a Mower Deck Adapter (MDA), your mower deck hose will not have the rubber collar shown below. Please refer to the separate instruction sheet packaged with your MDA for installation instructions.

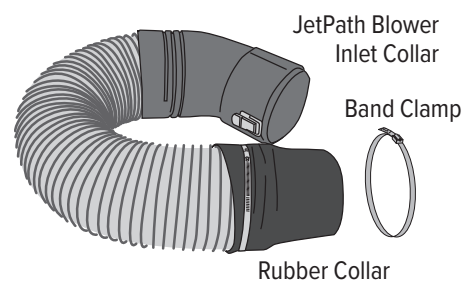
DECK HOSE FOR THE CLASSIC

7" DIAMETER DECK HOSE



DECK HOSE FOR JETPATH MODELS

8" & 10" DIAMETER DECK HOSE



7



INSTALLATION WITH THE RUBBER COLLAR

WHERE TO FIND THE PARTS:

The **mower deck hose** is in its own box marked, **Hose**. The **rubber collar** will be in a box marked, **rubber collar** and the **blower inlet collar** will be packed in **Box 1**.

TOOLS YOU'LL NEED:

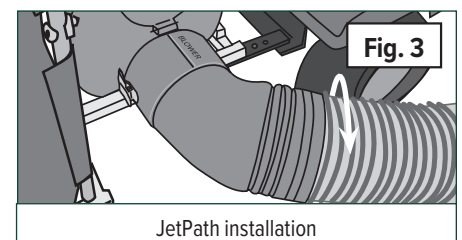
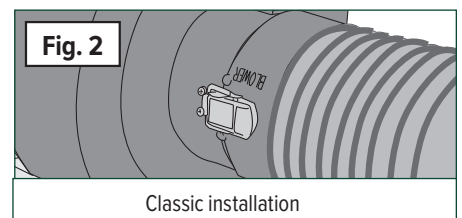
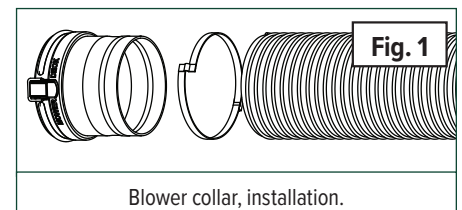
- 5/16" Nut driver or socket
- Utility knife (if you need to shorten the hose)
- Cutting pliers (if you need to shorten the hose)

FOR THE 7-INCH CLASSIC VACUUM SYSTEM

1. **(Fig. 1)** Install the inlet collar marked "**BLOWER**" by inserting it into one end of the mower deck hose and secure with the bridge-type band clamp provided.
2. **(Fig. 2)** Connect the collar to the blower intake opening and secure it with the latches.

FOR THE 8 & 10-INCH JETPATH® VACUUM SYSTEMS

1. **(Fig. 3)** Connect the curved plastic elbow marked "**BLOWER**" onto the blower intake opening and secure it with the two latches.
2. Install the deck hose by inserting it into the collar and twisting it in a **counterclockwise** direction until it stops.



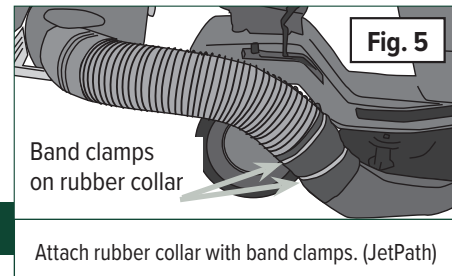
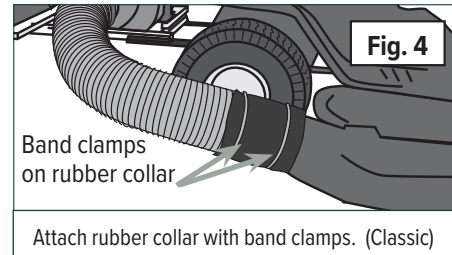
CONNECTING THE RUBBER COLLAR

- Secure the rubber collar to the other end of the mower deck hose using one of the band clamps provided.
- (**Fig. 4 & 5**) First, loosely slip the other band clamp onto the grass catcher boot. Then slip the rubber collar with the deck hose over the grass catcher boot on your mower deck. Pull the band clamp over the rubber collar and tighten to secure.

INSTALLATION NOTE:

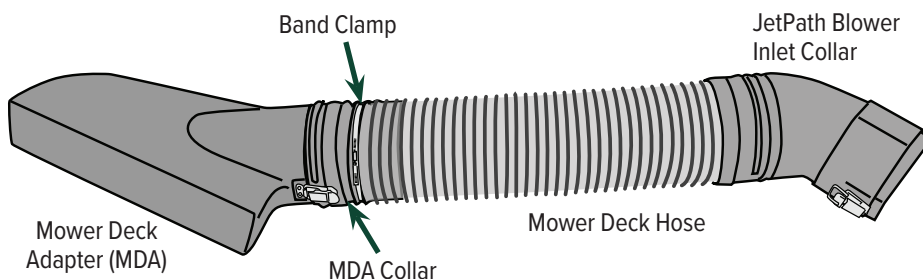
Depending on your mower, it may slip right over, or you may need to stretch it to fit.

Continue to CHECK THE HOSE LENGTH section on the next page.



INSTALLATION WITH THE MOWER DECK ADAPTER

If you purchased the Cyclone Rake® **Mower Deck Adapter (MDA)**, it will be packed in the box labeled **Mower Deck Adapter**. Inside you will find the MDA, the MDA Collar and a band clamp. The **mower deck hose** is in its own box marked, **Hose** and the **blower inlet collar** is packed in **Box 1**.



INSTALLATION NOTE:

Follow the MDA installation instructions included with your Mower Deck Adapter, then return to this manual.



INSTALLING THE MDA COLLAR

TOOLS YOU'LL NEED:

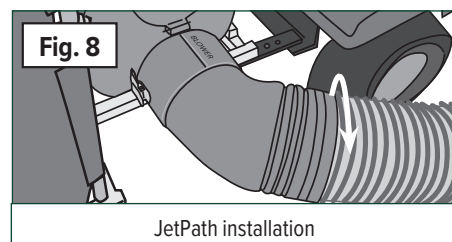
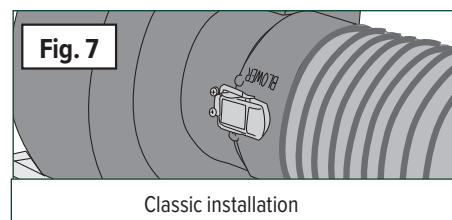
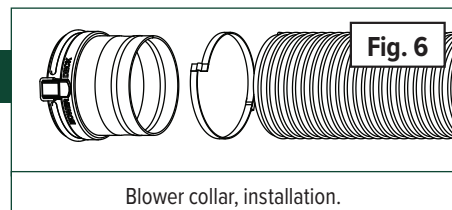
- 5/16" Nut driver or socket
- Utility knife (if you need to shorten the hose)
- Cutting pliers (if you need to shorten the hose)

FOR THE 7-INCH CLASSIC VACUUM SYSTEM

- (**Fig. 6**) Install the inlet collar marked "**BLOWER**" by inserting it into one end of the mower deck hose and secure with the bridge-type band clamp provided.
- (**Fig. 7**) Connect the collar to the blower intake opening and secure it with the two latches.

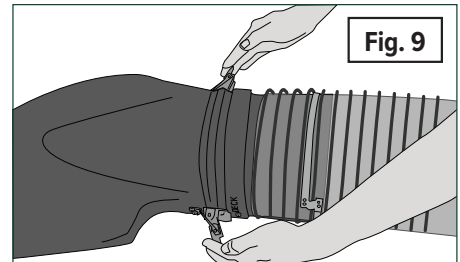
FOR THE 8- & 10-INCH JETPATH® VACUUM SYSTEMS

- (**Fig. 8**) Connect the curved plastic elbow marked "**BLOWER**" onto the blower intake opening and secure it with the two latches.
- Install the deck hose by inserting it into the collar and twisting it in a **counterclockwise** direction until it stops.



CONNECTING THE MDA COLLAR

1. Insert the MDA collar, marked **"MOWER DECK"** into the other end of the mower deck hose and secure using the bridge-type band clamp provided.
2. Install your Mower Deck Adapter (MDA) on to your mower deck (if it's not already attached).
3. **(Fig. 9)** Connect the MDA collar to the MDA and secure with the latches.



Latch on the MDA collar marked "Mower Deck" to the MDA.

CHECK THE HOSE LENGTH

(FOR ALL DECK CONNECTIONS)

(Fig. 10) For some mowers, the deck hose included may be too long. If the mower deck hose is drooping or not completely off the ground, follow the instructions below to shorten the hose so it fits correctly as shown. This is essential for optimal clog resistance.



SHORTENING THE MOWER DECK HOSE

(IF NEEDED)

TOOLS YOU'LL NEED:

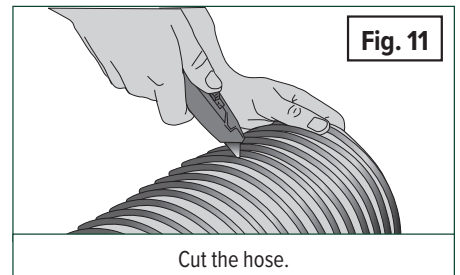
- Utility knife
- Cutting pliers

CAUTION:

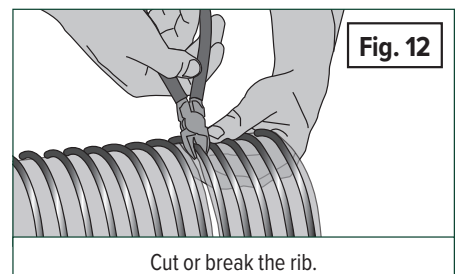
Cut off only a few inches at a time, so you don't shorten the hose too much.

1. **(Fig. 11)** Puncture through the hose web with a utility knife. Roll the hose on the ground while slitting the web until you meet your cut on the other side.
2. **(Fig. 12)** Nick the reinforcing rib between the two ends of the cut using your knife or cutting pliers. Twist the rib and break it off.

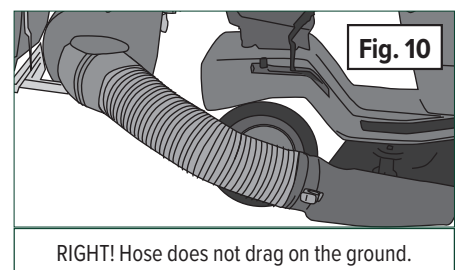
CONGRATULATIONS!
YOU'VE FINISHED ASSEMBLING YOUR CYCLONE RAKE!



Cut the hose.



Cut or break the rib.



RIGHT! Hose does not drag on the ground.

CHAPTER 8

USING THE COLLECTOR BAG

This section shows how to set up the Collector Bag, dump your debris, and fold the Collector Bag up again.



SETTING UP THE COLLECTOR

INSTALLATION NOTE:

Find the Top Brace that you removed from the bottom of the Collector Frame.

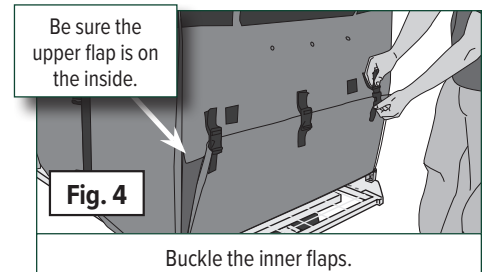
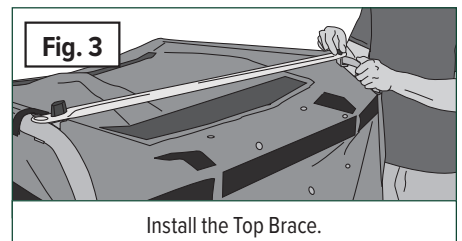
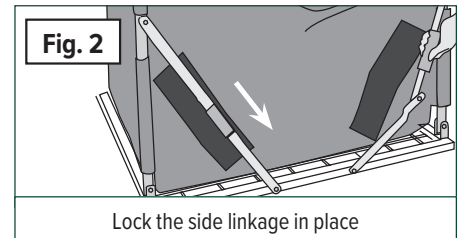
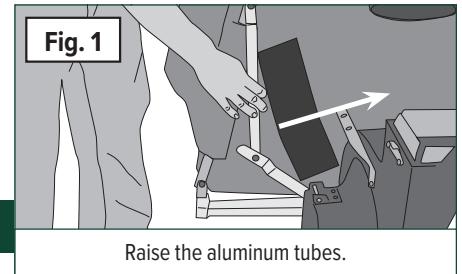
1. **(Fig. 1)** Remove the green shock cord. Raise one of the aluminum side tubes by lifting the side tube and **pushing inward** on the side linkage.
2. **(Fig. 2)** Lock it in the upright position by **moving the slider bracket down** into the locked position.
3. Repeat on the other side of the collector.
4. **(Fig. 3)** **Install the Top Brace at the rear of the Collector Bag.** Position it over the two rear holes in the top of the side tubes.
5. **(Fig. 3)** Secure the Top Brace using the two attached knobs and clamp brackets.

INSTALLATION NOTE:

There is only one Top Brace. The second set of holes in the front is for the Roof Rack Carrier.[™]

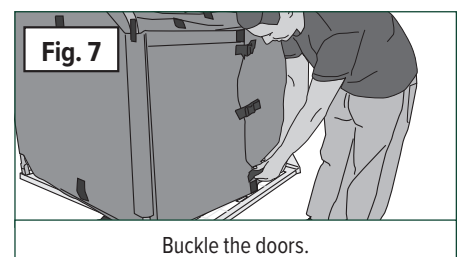
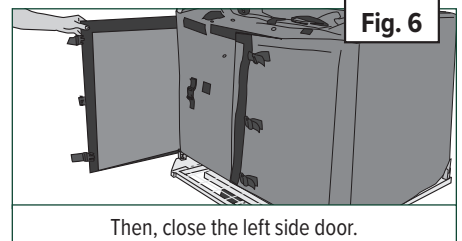
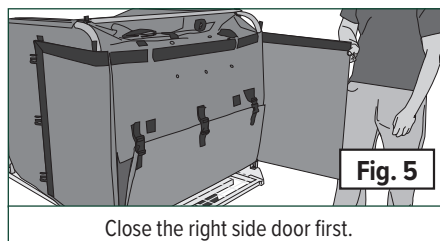
ACCESSORY NOTE:

If you purchased the Cyclone Rake Roof Rack Carrier, attach it now. The rear strut will replace the top brace and you will use the holes in the front to secure the front strut of the Roof Rack Carrier.



CLOSING THE COLLECTOR

1. **(Fig. 4)** Lift the collector's lower flap and secure the inner flaps with the buckles.
2. **(Fig. 5)** Secure the collector's outer panels. **First, pull the right door** off its Velcro[®] attachment and swing it across the rear. Press the Velcro on the door onto the Velcro strip across the top of the collector.
3. **(Fig. 6)** Next, close the left door and press the Velcro on the door onto the Velcro strip across the top of the collector and edge of the right door. Be sure the Velcro strips line up evenly.
4. **(Fig. 7)** Clip the three outer buckles closed to secure the panels.



INSTALLING THE EXIT CHUTE

WHERE TO FIND THE PARTS:

The exit chute is packed in **Box 1**.

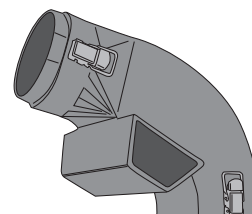
1. **(Fig. 8)** Connect the bottom of the exit chute onto the top of the Engine/Blower Unit. Be sure all three latches are secured.

INSTALLATION NOTE:

There are only three latches on the exit chute and four strikes on the Blower Unit. The fourth strike is used for the Power Unloader accessory.

2. **(Fig. 9)** Connect the collector bag collar onto the top of the exit chute using the two quick-connect latches.

Now you are almost ready to clean up your yard! But WAIT!
Before you go out and give the Cyclone Rake a test drive,
learn how to EMPTY THE COLLECTOR BAG,
FOLD IT UP FOR STORAGE and HOW TO OPERATE YOUR ENGINE.



Exit Chute

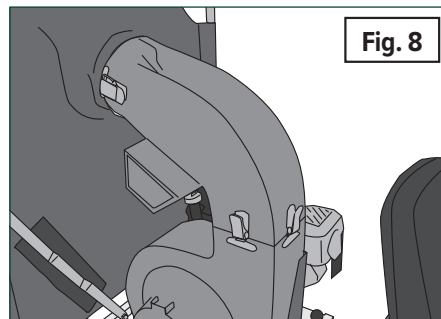


Fig. 8

Connect the exit chute onto the Engine/Blower Unit.

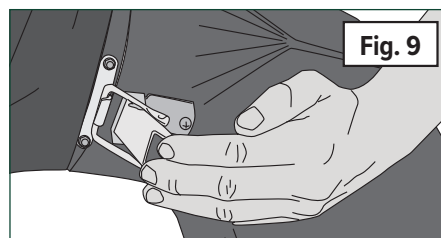


Fig. 9

Connect the bag collar onto the exit chute.

EMPTYING THE COLLECTOR BAG

1. **(Fig. 10)** Open the three outer buckles on the rear doors. Pin the two doors back onto the Velcro® on the sides of the collector bag.
2. **(Fig. 11)** Open the inner buckles and pin the upper flap onto the Velcro strips at the top of the bag.
3. **Disconnect the bag collar from the Exit Chute!**
4. **(Fig. 12)** Raise the collector bag by lifting the front corner of the collector frame (A) and **lock the dump linkage in the up position.**

NOTE: Do not lift the Collector Unit using the side tubes.

5. Give the sides of the bag a little shake with your hands to loosen the contents. Then drive forward to empty the collector.

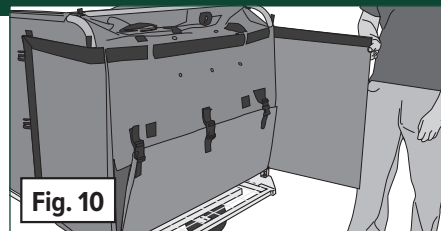


Fig. 10

Pin doors to the Velcro on the side of the bag

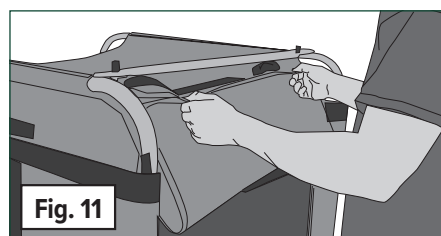


Fig. 11

Pin the upper flap.

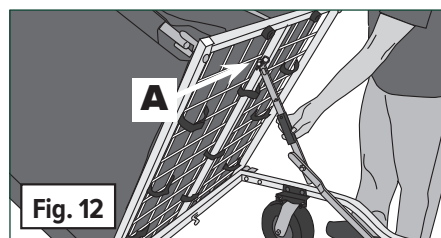


Fig. 12

Raise the Collector and lock the dump linkage.

UNLOADING TIP

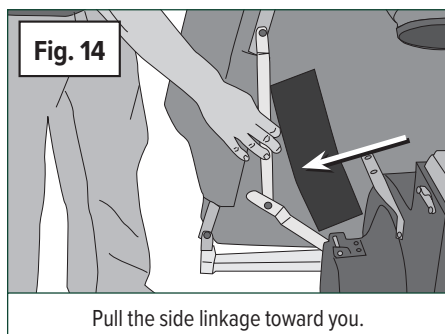
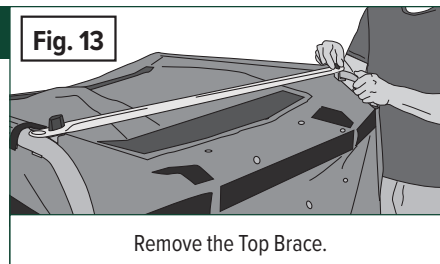
Debris can become tightly packed inside the collector unit because of the weight and the jostling caused by driving on rough ground.

- When you lift the collector unit to dump, give it a few shakes before driving forward. Another way is to give the sides of the bag a few pushes inward with your hands after you raise the collector into the dump position. This will help the debris to tumble out.
- Try not to overfill the collector bag. After some practice, you will become familiar with using the Cyclone Rake and how much you can pick up.

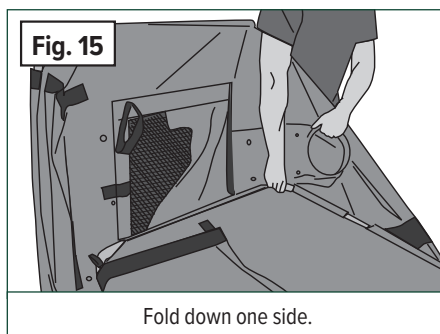


FOLDING THE COLLECTOR BAG FOR STORAGE

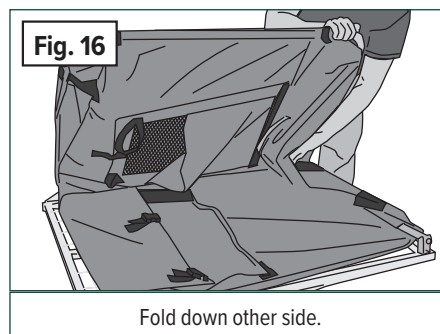
1. Open the rear collector doors. Pin the two outer doors to the sides and fold the upper flap on top and secure with the Velcro strips.
2. **(Fig. 13)** Remove the Top Brace and place inside the Collector Bag and lift the lower flap into the inside of the bag, over the top brace.



3. **(Fig. 14)** Starting on either side, release only one side linkage. ***Pull the link elbow toward you,*** so it points to the outside of the frame.



4. **(Fig. 15)** ***Pull the bag collar out of the way and push the aluminum side tube all the way down.*** Push on both ends of the side tube until the first side lies completely flat on the frame.



5. **(Fig. 16)** Release the other side linkage, ***pulling the elbow toward the outside of the frame.*** Fold the side tube down. As you reach the bottom, ***adjust the bag collar so it lies flat*** as you push the side of the collector down.
6. Secure the collector with the green shock cord.

CHAPTER 9

OPERATING YOUR ENGINE

This section shows you the basics for starting and stopping your Briggs & Stratton Engine

IMPORTANT:

- *Be sure the engine has sufficient oil before starting.*
- *Be sure the fuel tank has only clean, fresh, unleaded regular gasoline.*
- *Be sure the gas cap is firmly secured to prevent spillage.*
- *We highly recommend adding fuel stabilizer to every tank of gas.*
- *Make sure to wipe up any gasoline spills before starting.*



OPERATING THE B&S XR950-PRO ENGINE

IMPORTANT: Always add fuel stabilizer per Briggs & Stratton's instructions. This is available at any hardware store or in our Engine Maintenance Kit. See the Warranty And Maintenance section for further details or refer to your Briggs & Stratton® Operating and Maintenance Manual.

STARTING XR950-PRO ENGINE

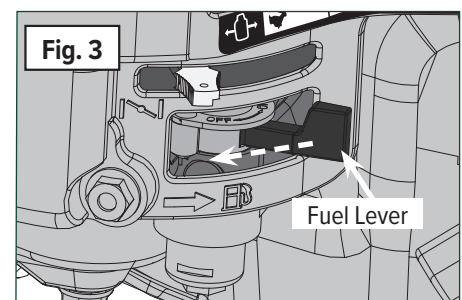
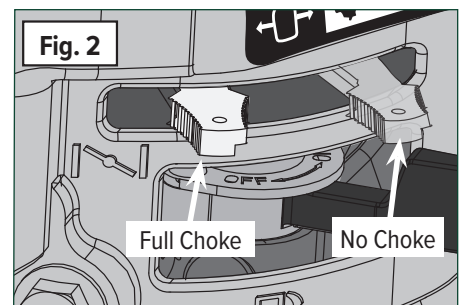
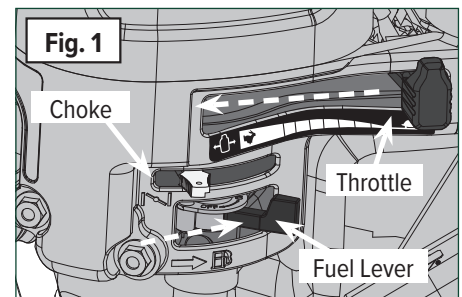
1. **(Fig. 1)** Push the black fuel lever on the front of the engine to the **"ON"** position.
2. **(Fig. 1)** Slide the throttle control lever **all the way to the left (rabbit)** for full throttle.
3. **(Fig. 2)** Move the **gray choke lever to the left, or full choke** position. Grasp the starter cord and pull slowly until you feel resistance. **Then pull rapidly.**
4. As the engine warms up, **move the choke lever right to the no choke** position.
5. The engine should always run at full throttle during use.

NOTE: When restarting a warm engine, use of the choke may not be necessary.

STOPPING THE XR950-PRO ENGINE

1. **(Fig. 3)** First, **move the throttle lever right to the slow position (turtle)** for 15-30 seconds to idle down the engine.
2. Then continue to **move the throttle lever all the way to the right ("Stop" position).**
3. After the engine stops, **move the fuel lever left to the closed position.**

For more information on your engine, refer to the Briggs & Stratton Engine Operating and Maintenance Instructions provided with your Cyclone Rake.





OPERATING THE B&S 6.5HP VANGUARD CYCLONIC ENGINE

IMPORTANT: Always add fuel stabilizer per Briggs & Stratton's instructions. This is available at any hardware store or in our Engine Maintenance Kit. See the Warranty And Maintenance section for further details or refer to your Briggs & Stratton® Operating and Maintenance Manual.

STARTING 6.5HP CYCLONIC ENGINE

1. (Fig. 1) Slide the dark gray **Throttle Control Lever** all the way to the left (*rabbit*) for full throttle.
2. (Fig. 2) Move the light gray **Choke Control Lever** to the left, or full choke position. Grasp the starter cord and pull slowly until you feel resistance. **Then pull rapidly.**
3. (Fig. 2) As the engine warms up, move the choke lever right to the **no choke** position.
4. The engine should always run at full throttle during use.

NOTE: When restarting a warm engine, use of the choke may not be necessary.

STOPPING THE 6.5HP CYCLONIC ENGINE

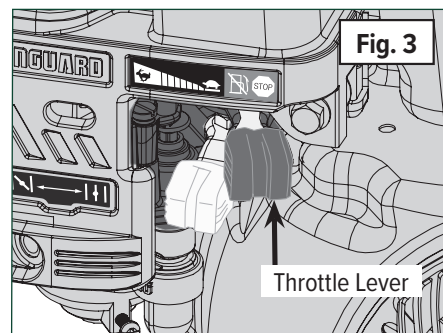
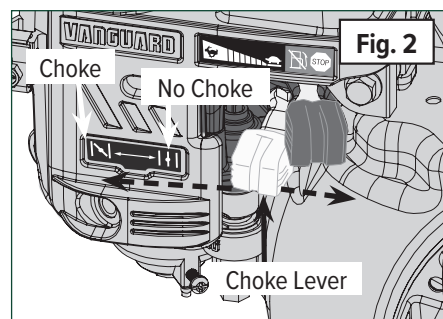
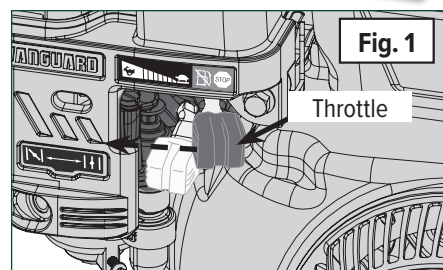
1. (Fig. 3) Move the **Throttle Control Lever** right to the OFF/STOP position as shown.

NOTE: DO NOT choke the carburetor to stop the engine.

For more information on your engine, refer to the Briggs & Stratton Engine Operating and Maintenance Instructions provided with your Cyclone Rake.

WARNING!

Never start engine until the Cyclone Rake is completely assembled, the engine unit is firmly bolted to the chassis, the chassis is attached to your mower and all hoses and couplings are in place.



OPERATING THE B&S 8HP & 10HP VANGUARD ENGINES

IMPORTANT: Always add fuel stabilizer per Briggs & Stratton's instructions. This is available at any hardware store or in our Engine Maintenance Kit. See the Warranty And Maintenance section for further details or refer to your Briggs & Stratton® Operating and Maintenance Manual.



STARTING THE PULL-START ENGINE

1. **(Fig. 1)** Push the red fuel lever on the front of the engine to the right. The **"ON"** position.
2. **(Fig. 1)** Slide the throttle control lever **all the way to the right (rabbit)** for full throttle.
3. **(Fig. 2)** Move the gray choke lever to the **left, or full choke position**. Grasp the starter cord and pull slowly until you feel resistance. Then **pull rapidly**.
4. As the engine warms up, **move the choke lever right to the no choke position**.
5. The engine should always run at full throttle during use.

NOTE: When restarting a warm engine, use of the choke may not be necessary.

STOPPING THE PULL-START ENGINE

1. **(Fig. 3)** To stop the engine, idle down your engine using the throttle lever (**Fig. 1**) for 15-30 seconds before moving the red fuel shut-off lever to the **"OFF"** position.



STARTING THE ELECTRIC START ENGINE

1. **(Fig. 1)** Push the red fuel lever on the front of the engine to the right to the **"ON"** position.
2. **(Fig. 1)** Slide the throttle control lever **all the way to the right (rabbit)** for full throttle.
3. **(Fig. 2)** Move the gray choke lever to the **left, or full choke position**. Turn the key.
4. As the engine warms up, move the choke lever right to the **no choke position**.
5. The engine should always run at full throttle during use.

NOTE: When restarting a warm engine, use of the choke may not be necessary.

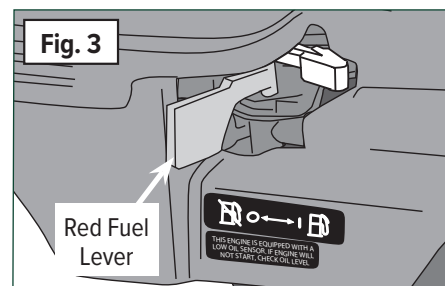
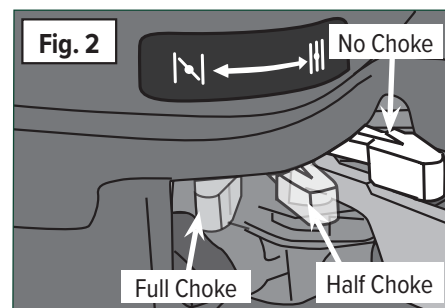
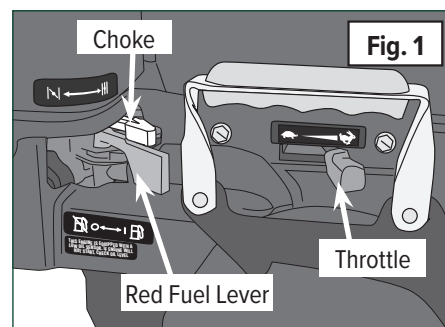
STOPPING THE ELECTRIC START ENGINE

1. **(Fig. 3)** To stop the engine, **idle down your engine using the throttle lever (Fig. 1) for 15-30 seconds before moving the red fuel lever** to the **"OFF"** position.
2. Then remove the key.

For more information on your engine, refer to the Briggs & Stratton Engine Operating and Maintenance Instructions provided with your Cyclone Rake.

WARNING!

Never start engine until the Cyclone Rake is completely assembled, the engine unit is firmly bolted to the chassis, the chassis is attached to your mower and all hoses and couplings are in place.



CHAPTER 10

MAINTENANCE

PROTECT YOUR INVESTMENT— PLEASE READ CAREFULLY

Your Cyclone Rake is fully warrantied against defects in materials and workmanship for a period of three years on our Premium Models (XL & Z-10) and two years for our Performance Edition Models (Classic, Commander and Commercial PRO) from date of delivery for home use and one year for commercial use. It's very similar to a new car warranty. If we did anything wrong in building your Cyclone Rake, we will fix it. The owner is responsible for routine maintenance including oil changes, air filters and spark plugs.

NOTE: Our Engine Maintenance Kit includes everything you need: air filter, oil, spark plug, spark plug wrench, fuel stabilizer, funnel, and shop towel. Order on-line or by phone.

WHAT'S NOT COVERED

Just like your new car warranty, you are **not covered for collision damage, accidents, abuse, improper storage or failure to perform basic maintenance**, like changing the engine oil, spark plug and air filter. Good news: There should be no need for out-of-warranty service if you follow these simple guidelines.

ENGINE MAINTENANCE

Your engine is the most costly component of your Cyclone Rake. To maintain your warranty and to ensure long life, you must do five things:

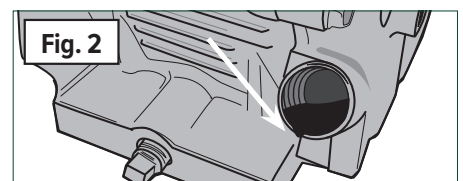
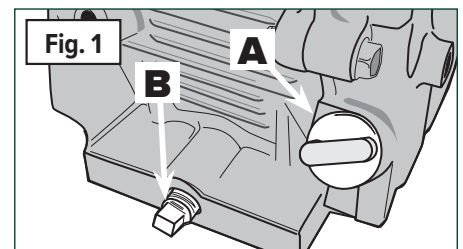
- **Change the engine oil after the first 5 hours of operation.**
- **Change the engine oil every 20 operating hours.**
- **Always add fuel stabilizer per Briggs & Stratton's instructions.**
- **Change or clean the air filter at least annually, and never run the engine without the air filter.**
- **Change the spark plug annually.**



CHANGING THE ENGINE OIL:

XR950-PRO, 8HP & 10HP VANGUARD ENGINES

1. **(Fig. 1A)** There are two **YELLOW** plastic "butterfly" plugs at the base of the. Remove either one.
2. **(Fig. 1B)** Place a shallow pan under the engine and remove the metal drain plug. Drain until oil flow stops.
3. Replace drain plug and **tighten firmly**.
4. Place a rag under the butterfly cap opening
5. **(Fig. 2)** Using a small funnel, slowly pour oil into the opening **until the oil reaches the bottom edge of the butterfly hole**.
6. Replace the butterfly plug and **tighten firmly by hand**. Wipe up any spilled oil.
7. Oil capacity is approximately **18-20 ounces for the XR950-PRO**, and **26-28 ounces for the 8 HP or 10 HP engine**.





6.5HP VANGUARD CYCLONIC ENGINE

1. With engine off, disconnect the spark plug wire and keep it away from the spark plug.
2. **(Fig. 1)** Locate the **YELLOW dipstick** on the side of the engine.
Remove it and wipe with a clean cloth.
3. **(Fig. 2)** There are two drain plugs on either side of the engine's base. Remove either one.
4. Place a shallow pan under the engine and remove the drain plug. Drain until oil flow stops.
5. After the oil has drained, install and tighten the oil drain plug and wipe up any spilled oil.

NOTE: Before you begin adding new oil:

- Make sure the engine is level. • Clean the oil fill area of any debris.

IMPORTANT:

Do not use the large dipstick (Fig. 5) or the large yellow plastic "butterfly" cap (Fig. 6) to measure when filling the engine oil. It is hard to read when the oil is new, and you might over or under fill, resulting in engine damage. Instead, use this simple procedure:

6. **(Fig. 3)** There are two YELLOW plastic "butterfly" plugs at the base of the engine. Remove one of the plugs and place a rag under the opening to catch any spilled oil.
7. **(Fig. 4)** Using a small funnel, slowly pour oil into the opening **until the oil reaches the bottom edge of the butterfly hole**. (See chart below for recommended oils.)
8. Replace the butterfly plug and **tighten firmly by hand**. Do not use a wrench or pliers as you might break the plug. Wipe up any spilled oil.

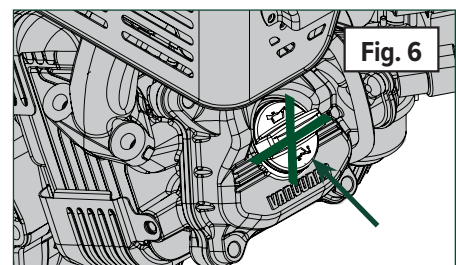
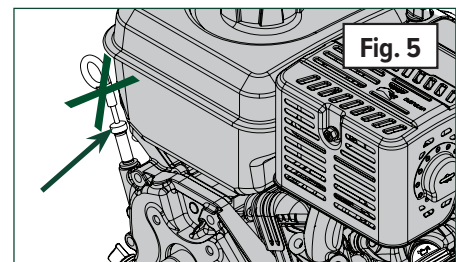
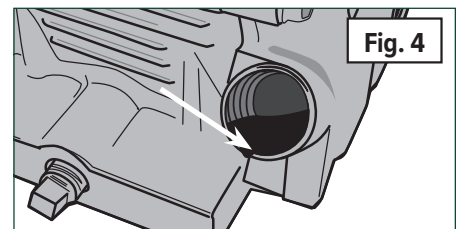
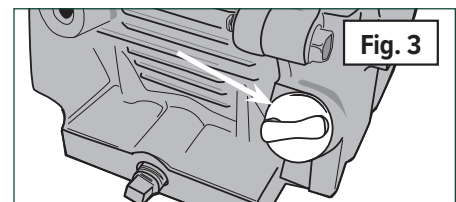
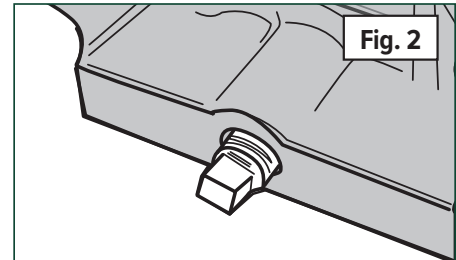
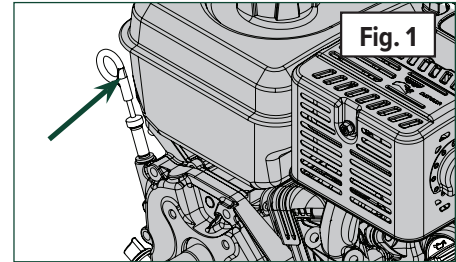
NOTE: Oil capacity is approximately 18-20 ounces for the 6.5 HP Vanguard Cyclonic engine.

Recommended Oil Chart

The oil should be marked A.P.I. service "SF," "SG," "SH," "SJ" or higher.

Air Temperature	Type of Oil
Above 32° F	SAE 30 or SAE 10W30 oil
Below 32° F	SAE 5W30 oil

If synthetic oil is preferred 5W-30 is good in all temps.
SAE 10W40 is specifically not recommended.



CHANGING THE AIR FILTER

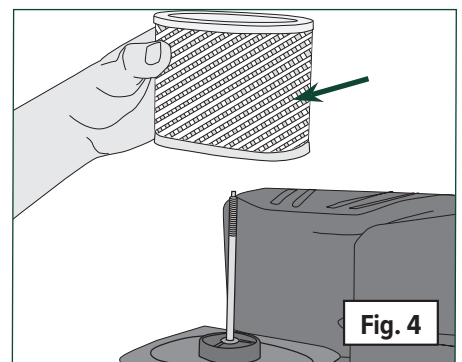
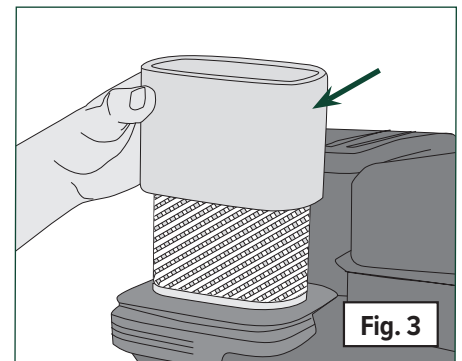
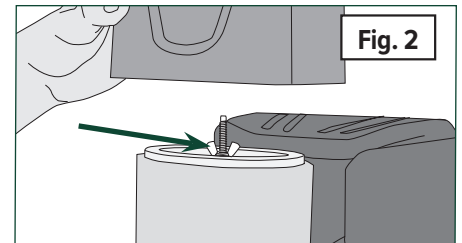
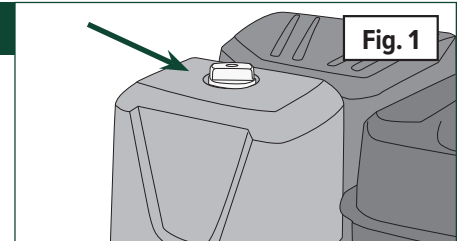
Like oil changes, we recommend an air filter inspection every 20 hours of operation. Regular inspection and replacement will ensure full engine power and prolong engine life.

NOTE: NEVER run your engine without an air filter. This will void your warranty!



XR950-PRO AND 8HP & 10HP VANGUARD ENGINES

1. **(Fig. 1)** Unscrew the knob at the top of the air filter housing.
2. **(Fig. 2)** Lift the housing to expose the air filter.
3. **(Fig. 2)** Remove the wing nut that secures the filter to the housing.
4. **(Fig. 3)** Remove the foam pre-filter.
5. **(Fig. 4)** Remove the filter. Loosen the debris by gently tapping the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
6. Wash the pre-filter in liquid detergent and water. Squeeze dry in a clean cloth. Allow it to air dry thoroughly. **Do not oil the pre-filter.**
7. Place the dry pre-filter over the air filter, place them onto the threaded rod and secure with the wing nut.
8. Replace the filter housing and secure with the plastic knob.



6.5HP VANGUARD CYCLONIC ENGINES

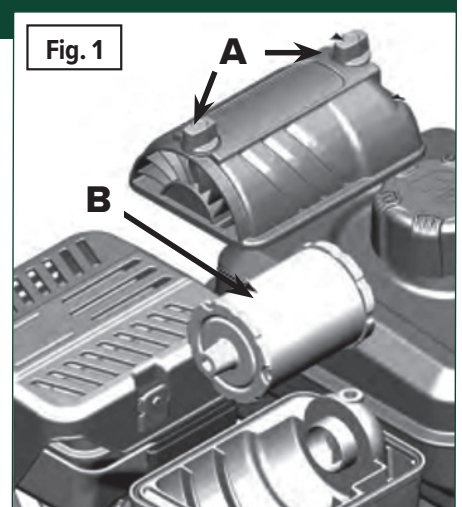
1. **(Fig. 1A)** Unscrew the two knobs at the top of the air filter housing.
2. **(Fig. 1B)** Lift the housing to expose the air filter.
3. Remove the old filter.
4. To loosen debris by gently tapping the filter on a hard surface. If the filter is excessively dirty, replace with a new filter.
5. Install the air filter.
6. Replace the filter housing and tightly secure both knobs.



REPLACING THE SPARK PLUG

(ALL ENGINES)

We recommend replacement once a year. Replace with **Bosch FR8DCX** spark plug or equivalent. The spark plug gap should be 0.030.



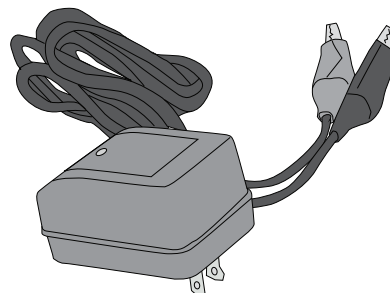


CHARGING THE ELECTRIC START BATTERY

When you are not using the Cyclone Rake for extended periods (say a month or more), it is very important to connect the battery charger. Failure to do so may result in a dead and unchargeable battery.

IMPORTANT:

*Use only the battery charger supplied with the unit.
It is microprocessor controlled to maintain the battery
without overcharging.*



WHERE TO FIND THE PARTS:

If you purchased the **Briggs & Stratton® Vanguard™ Electric Start Engine**, the **Battery Charger** will be packed in the Battery Pack Box.

USING THE BATTERY CHARGER

1. Carefully unplug the gray cable connector from the battery harness. It may be easier to remove the battery pack from the Cyclone Rake but it is not necessary.

NOTE: DO NOT PULL ON THE BATTERY CABLES!

Separate the cables while holding the connectors.



2. Slide the rubber covers off the battery terminals and connect the alligator clips to the terminals (RED to RED and BLACK to BLACK). It isn't necessary to unscrew the battery cable leads.
3. Plug the charger into a wall socket. The LED light will be **RED** indicating charging. When the battery is about 95% charged the LED light will turn **GREEN**.

IMPORTANT:

At this point the battery may be used, however an additional three hours may be required to reach 100% charge.

The charger should be left on if you are not planning to use it right away.

The charger can be left on in "float" mode indefinitely to maintain the charge.

GENERAL MAINTENANCE

CHECK WEAR STRIPS IN THE COLLECTOR BAG

Your Cyclone Rake collector bag has two replaceable vinyl wear strips. One wear strip is positioned inside the bag collar (**Fig. 1**). The second is located at the rear of the collector, behind the top screen (**Fig. 2**). Inspect them each time you set up your machine for use. Replace them if they are worn through or show signs of heavy abrasion. They mount easily with metal snaps.

CHECK BOLTS & FITTINGS

The Cyclone Rake is subject to strong vibrations during operation. Take a few seconds each time you set up to check that all bolts and fittings are tight. If anything has loosened, tighten it. If you sense unusual vibration when operating, immediately stop both engines and check things out. This is particularly important the first few times you use your Cyclone Rake.

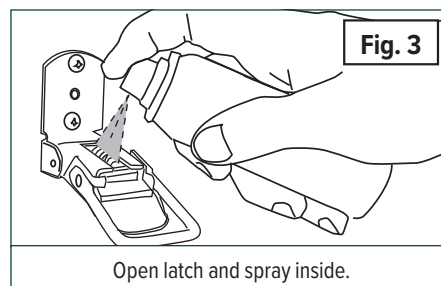
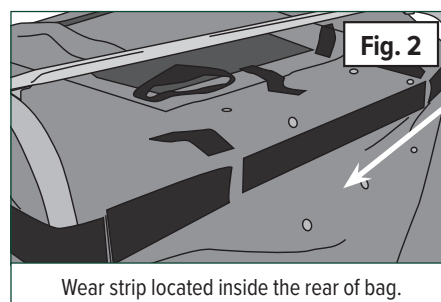
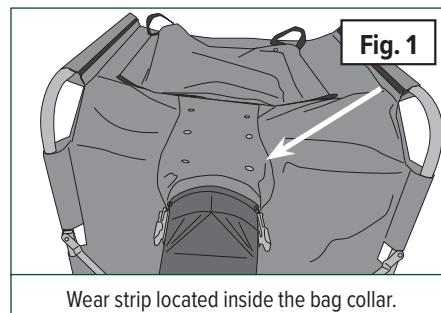
MAINTAINING THE LATCHES

(**Fig. 3**) We recommend lubricating all your Cyclone Rake latches with WD-40 every six months.

NOTE: One quick spray is sufficient. Do not over lubricate.

CLEANING THE TOP SCREEN

The top screen on the collector bag should be kept clear for proper venting. Brush it occasionally with a stiff bristle brush. A long handle nylon brush is the best tool. It's a good idea to brush the underside of the screen as well.



STORING YOUR CYCLONE RAKE

NOTE: We recommend adding fuel stabilizer, per manufacturers instructions, to your storage container each time you refill at the gas station.

SHORT TERM STORAGE

Do not store the Cyclone Rake outdoors for extended periods. House it, like any good equipment, in a dry sheltered place. If possible, find a heated, indoor spot.

LONG TERM STORAGE

Fuel can become stale when stored over 30 days. Stale fuel causes acid and gum deposits in the fuel system or essential carburetor parts. To keep fuel fresh, **always add fuel stabilizer per Briggs & Stratton's instructions. This is available at any hardware store or in our Engine Maintenance Kit.** There is no need to drain gasoline from the engine if a fuel stabilizer is added. Run the engine for two minutes to circulate the stabilizer throughout the fuel system before storage. If gasoline in the engine has not been treated with stabilizer, it must be drained into an approved container. Run the engine until it stops from lack of fuel.

See your Briggs & Stratton® Operating and Maintenance Manual for further details.

CHAPTER 11

OPERATING TIPS & TROUBLESHOOTING GUIDE

OPERATING THE CYCLONE RAKE

EYE PROTECTION

Always wear eye protection, as with any power tool. That's why we've included safety goggles with your Cyclone Rake.

OPERATING NOISE

With two engines running, there's no way to avoid noise.

Whenever you operate loud machinery, you should always wear hearing protection. That's why we've included a pair of disposable ear plugs in your owner's kit. You can get replacements inexpensively at most hardware stores. Or use power equipment "ear muffs" found at any good hardware store or home center.

PRACTICE DRIVING FIRST

The most frequent cause of Cyclone Rake repairs is collision with stationary objects like tree branches, outdoor furniture, stone walls, fences, buildings, etc. Practice driving in an open area before you charge into the woods. Remember, your mower is approximately 6 feet **longer** than you are used to. Also, practice backing up and turning. When your mower turns **right**, your Cyclone Rake will swing to the **left**. After a little practice it's easy.

DRIVE SLOW UNTIL YOU KNOW

Lots of nasty surprises can hide under heavy leaf cover or in fields of tall grass. Things like large rocks, fallen branches, holes, or even low-cut tree stumps can be impossible to see. The power and capacity of your Cyclone Rake will encourage you to "tame the wilderness." Be cautious until you're sure what's on the ground. The best way is to walk an unknown area first, wearing heavy work boots. Remove harmful objects, or stake off dangerous areas before using your Cyclone Rake.

ENGAGE THE MOWER BLADES

When using the Cyclone Rake attached to the mower deck, the mower blades must be engaged. However, your mower blades should not be engaged when using the Power Vacuum Pickup, Estate Vacuum or Power Unloader.

SET MOWER BLADES HIGH AT FIRST

When clearing heavy debris like deep leaf drifts or overgrown grass, set your mower blades to their highest setting first. Then, go over the area again at a lower blade setting. Every mower behaves differently. You will quickly learn what works best for your machine and property.

USE HIGH LIFT MOWER BLADES

Mowers are sometimes equipped with "mulching blades", which are designed to direct material downward, rather than lift it. If so, switch to either standard or high-lift blades, which are available for nearly any mower.

HEAVY, WET OR MATTED LEAF COVER

If leaves have become heavy, wet and matted (for example, uncleared debris from a previous season) then do the job in two steps. Go over the top layer at a low blade setting. Then give the remaining leaves a day or two to dry out. A second pass should get them all.

UNLOADING TIP

Debris can become tightly packed inside the collector unit because of the weight and the jostling caused by driving on rough ground.

- When you lift the collector unit to dump, give it a few shakes before driving forward. Another way is to give the sides of the bag a few pushes inward with your hands after you raise the collector into the dump position. This will help the debris to tumble out.
- Try not to overfill the collector bag. After some practice, you will become familiar with using the Cyclone Rake and how much you can pick up.

PROTECTING HOSES

Don't drag your Power Vacuum Pickup™, Estate Vacuum™ or Power Unloader™ hoses over curbs, stone walls or piles of cut branches. They're tough, but they do puncture on sharp objects. Sad to say, replacements are expensive. If you need to carry your hoses a long way, we recommend our Roof Rack Carrier™ accessory. It's inexpensive and designed for the job.

POWER VACUUM PICKUP™ TIPS

The Power Vacuum Pickup is a great tool and will lift just about anything it touches. DO NOT use it on dangerous stuff like rocks, glass, trash, metal scraps, etc. Watch out for hidden rocks, glass, metal, etc. **Remove them before you vacuum.** Never vacuum up anything except organic lawn debris.

POWER UNLOADER™ TIPS

Here's another great tool. But, it can be dangerous. Don't stand anywhere near the hose exit when using it. Always wear your goggles, and warn the kids away. They may be fascinated, but don't let them near it.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Correction
Where do I put the Top Brace? There are two sets of holes in the side tubes.	The holes in the front end of the side tubes are for our Roof Rack Carrier accessory.	Place your Top Brace in the rear set of holes at the back of the Collector bag.
The tabs on my engine chassis do not line up with the tabs on the main Chassis.	Main chassis was assembled upside down.	The chassis must be re-assembled. When the Hitch Forks are attached properly underneath the chassis, the tabs should be flush with the top of the Chassis frame and on the "drivers side" (See Chapter 3)
One Engine Clamp Knob threads into the Chassis tab, but the other one does not.	The Hitch Forks are not assembled correctly.	Re-attach the Hitch Forks under the front of the Chassis. (See Chapter 3)
The Pull-Start Engine will not start.	<ol style="list-style-type: none"> 1. Fuel tank empty, or stale fuel. 2. Spark plug wire is disconnected. 3. Faulty spark plug. 4. Fuel shut-off lever not in the correct position. 5. Throttle control lever not in the correct position. 	<ol style="list-style-type: none"> 1. Gas should be fresh, clean gas. If the gas is old change it. If you keep gas longer than 30 days, always add an ethanol specific fuel stabilizer per Briggs & Stratton's instructions. 2. Connect the wire to the spark plug. 3. Clean, adjust the gap or replace the spark plug. 4. Place the fuel shut-off lever to the "ON" position. 5. Slide the throttle control all the way to the right (rabbit).
The Electric Start Engine will not start. After checking the Pull-Start corrections above, proceed to the following items.	<ol style="list-style-type: none"> 1. Battery is not charged. 2. Wiring harnesses are not secured. 3. Key start wires not secure. 4. Wires connected to the battery may be reversed. 	<ol style="list-style-type: none"> 1. Connect the alligator clips to the battery and plug the charger to a wall socket. 2. Plug the battery harness connector into the engine harness connector. 3. Be sure all wires are properly connected to the back of the key switch. 4. Be sure the red wire is connected to the (+) battery terminal and the black is going to the (-) battery terminal.
The engine is smoking.	<ol style="list-style-type: none"> 1. Oil level incorrect. 2. Incorrect type of oil. 3. Air filter is dirty. 4. Operating on a steep incline. 	<ol style="list-style-type: none"> 1. Check the oil level and adjust accordingly. (See Briggs & Stratton owner's manual). 2. Check that you are using the proper oil. 3. Clean or replace the air filter. 4. Travel up and down slopes, avoid going across slopes. Avoid towing on slopes more than 15 degrees.
The recoil will not pull or is difficult to pull.	<ol style="list-style-type: none"> 1. Blower housing is clogged with debris. 2. Oil level is low. 3. The recoil is tangled up on itself. 4. There is debris in the recoil. 	<ol style="list-style-type: none"> 1. Make sure the engine has had time to cool. Remove the spark plug wire. Disconnect any hoses attached to the blower housing, remove the Exit Chute and check for any debris inside the blower housing. Remove any debris, re-attach items and try re-starting the engine. 2. Check the engine oil level, the engine may be seized. Fill with oil if necessary. (See Briggs & Stratton owner's manual.) 3. Disconnect the spark plug wire, reach into the blower housing. Slowly turn the impeller by hand counter-clockwise, at the same time pull the starter cord. The rope should pull out. Reconnect the spark plug and try re-starting the engine. 4. Locate and remove the 4 bolts that secure the recoil housing to the engine. Remove housing check for debris and clean if necessary. Re-install the housing and try re-starting the engine.

Problem	Possible Cause	Correction
The engine is not running smoothly.	<ol style="list-style-type: none"> 1. Choke is in the incorrect position. 2. Air filter is dirty. 3. Spark plug is faulty. 4. Gas is old. 5. Oil is not at the proper level or is dirty. 6. The exhaust from the mower is overheating the engine. 	<ol style="list-style-type: none"> 1. Once the engine has started the gray choke lever should be all the way to the left or full choke position. 2. Clean or replace the air filter. 3. Clean, adjust gap or replace the spark plug. 4. Gas should be fresh and clean. If the gas is old change it. If you keep gas longer than 30 days, always add an ethanol specific fuel stabilizer per Briggs & Stratton's instructions. 5. Check the oil level and adjust accordingly. (See Briggs & Stratton owner's manual.) If dirty, change the oil per the instructions in the owner's manual. 6. In some cases the exhaust from your mower can be blowing directly onto the engine of the Cyclone Rake. You will need to divert the exhaust on your mower.
Debris is left under the mower deck.	<ol style="list-style-type: none"> 1. Mower blades are not engaged and at the proper height. 2. The Cyclone Rake Engine is not on full throttle. 3. Driving too fast. 4. Using mulching blades on the mower deck. 5. System is clogged. 	<ol style="list-style-type: none"> 1. Be sure that the mower deck is engaged and you have the mower deck set at the correct mowing height depending on the amount of debris that you are collecting. 2. Slide the throttle control all the way to the right (rabbit). 3. Use a slower gear/speed on your mower for best results. 4. If you are using mulching blades on your mower deck, we recommend that you switch to standard or high lift blades. 5. Check for clogs along the length of the vacuum system – all the way from the mower deck to the neck of the collector bag.
Why is my deck hose too short?	Maybe using the wrong holes when installing the Hitch forks.	<p>The Hitch Forks supplied with your Cyclone Rake can be installed in two configurations, long or short (See Chapter 3).</p> <p>Use the correct holes to install the hitch forks in the SHORT configuration if you have a Classic, Commander, or Commercial PRO Cyclone Rake, OR have an XL or Z-10 with one of these special hitches: 3-point hitch, 208-001, 208-004.</p> <p>If you have an XL or Z-10 Cyclone Rake and do NOT have a listed special hitch, use the correct holes to install the hitch forks in the LONG configuration. Using the wrong holes for your application may make your deck hose too short to reach from the mower deck to the blower unit.</p>
The blower housing seems to vibrate a lot. (This typically only happens on older Cyclone Rakes that have seen a great deal of use, but it is serious and needs immediate attention.)	<ol style="list-style-type: none"> 1. Impeller bolt loose 2. Impeller blade is damaged. 3. Impeller has separated from the hub. 	<ol style="list-style-type: none"> 1. Disconnect the spark plug wire, look inside the blower housing and confirm that the impeller bolt is firmly in place. 2. Disconnect the spark plug wire, look inside the blower housing. Inspect each blade of the impeller and make sure one or more of the blades are not damaged. If so, please call us and get a replacement. 3. Disconnect the spark plug wire, look inside the blower housing. The center of the impeller should be very concentric. Everything should look like a bulls eye. The edge of the impeller, the washers and the bolt itself. If not please call us and get a replacement.
The collector bag will not fold down.	<ol style="list-style-type: none"> 1. The side link assembly is pointing in wrong direction. 2. The back of the collector is closed. 3. The Bag collar is not in the correct position. 	<ol style="list-style-type: none"> 1. When you lift the slide covering the joint of the side link assembly at the front of the Collector Bag the joint must bend to the outside of the Collector bag. (See Chapter 8) 2. Be sure the back of the bag is open as if you were going to empty debris before attempting to fold the bag. 3. As you fold down the second side make sure you flip the bag collar flat as you lower the side.

Problem	Possible Cause	Correction
There is no, or very little suction when using the extension hoses.	<ol style="list-style-type: none"> 1. Cyclone Rake Engine not running on full throttle. 2. System is clogged. 3. Too many twist and turns in the hose 	<ol style="list-style-type: none"> 1. Slide the throttle control all the way to the right (rabbit). 2. Check for clogs along the length of the vacuum system — all the way from the inside the vacuum wand to the neck of the collector bag. 3. Keep the hose as straight as possible when vacuuming.
The Power Lift Unloader is not working.	<ol style="list-style-type: none"> 1. Battery is not charged. 2. The switch on the handle does not “click.” 3. The light on the charger turns right to green when plugged into the wall. 4. The light on the charger goes from red to green but lifter still not working. 5. There are no lights on the charger block. 	<ol style="list-style-type: none"> 1. Plug in the charger and leave it for a few hours or overnight. 2. When you depress the switch to go up the button should spring back and it should make a clicking noise. If the switch seems loose (like a see saw) call us for a replacement. 3. When the charger is plugged into the control panel and then the plug into the wall the lights on the plug block should start on red even if only for a short time, then it will turn to green. If the light on the charger block goes straight to green, the battery is over discharged and needs to be replaced. 4. If the light goes from red to green and the switch is operating properly, there is either a bad connection with the wiring or the actuator needs to be replaced. Double check the wiring according to their instructions. If the wiring looks like it is all in the right place and in good condition, replace the actuator. 5. If there are no lights on the plug block once it is plugged into the wall, replacing the charger will be required.
My wheels shimmy.	<ol style="list-style-type: none"> 1. Incorrect tire pressure. 2. Driving too fast. 3. Driving on hard surface. 	<ol style="list-style-type: none"> 1. The recommended pressure is 25 psi for single wheels and 15 psi for dual wheels. Disregard the sidewall psi recommendation. 2. Use a lower gear/speed on your mower for best results. 3. Avoid driving on hard surfaces at a high rate of speed for prolonged periods of time.



MANUFACTURER'S WARRANTY

CYCLONE RAKE CLASSIC, COMMANDER, COMMERCIAL PRO - RESIDENTIAL USE

- Your new Cyclone Rake with the Briggs & Stratton® XR950-PRO engine is covered under a bumper-to-bumper warranty for two years from the date of delivery for residential use. This covers you against any defects in materials and workmanship.
- If you purchased your new Cyclone Rake with the Briggs & Stratton® 6.5HP Vanguard™ Cyclonic engine, It's covered under a bumper-to-bumper warranty for three years from the date of delivery for residential use. This covers you against any defects in materials and workmanship.

Both the two and three year engine warranties are covered by Briggs & Stratton® directly. You are responsible for routine maintenance including (but not limited to) oil changes, air filters, and spark plugs. ***Collision damage and normal wear/age damage are not covered under the warranty.***

CYCLONE RAKE CLASSIC, COMMANDER, COMMERCIAL PRO - COMMERCIAL USE

Your new Commercial use Cyclone Rake with the Briggs & Stratton® XR950-PRO engine or the 6.5HP Vanguard™ Cyclonic engine is covered under a bumper-to-bumper warranty for six months from the date of delivery. This covers you against defects in materials and workmanship. The engine warranty is covered by Briggs & Stratton® directly. You are responsible for routine maintenance including oil changes, air filters, and spark plugs. ***Collision damage, and normal wear/age damage is not covered under the warranty.***

CYCLONE RAKE XL & Z-10 - RESIDENTIAL USE

Your new Cyclone Rake with the Briggs & Stratton® 8HP or 10HP Vanguard™ engine is covered under a bumper-to-bumper warranty for three years from the day of delivery for residential use. This covers you against any defects in materials and workmanship. The engine warranty is covered by Briggs & Stratton® directly. You are responsible for routine maintenance including (but not limited to) oil changes, air filters, and spark plugs. ***Collision damage and normal wear/age damage are not covered under the warranty.***

CYCLONE RAKE XL & Z-10 - COMMERCIAL USE

Your new commercial use Cyclone Rake with the Briggs & Stratton® 8HP or 10HP Vanguard™ engine is covered under a bumper-to-bumper warranty for six months from the day of delivery. This covers you against any defects in materials and workmanship. The engine warranty is covered by Briggs & Stratton® directly. You are responsible for routine maintenance including (but not limited to) oil changes, air filters, and spark plugs. ***Collision damage and normal wear/age damage are not covered under the warranty.***

WOODLAND POWER PRODUCTS, INC.

KEEP THIS WARRANTY FOR YOUR RECORDS

REGARDING YOUR BRIGGS & STRATTON® ENGINE

Please refer to the separate Engine Operating & Maintenance Instructions included with your Cyclone Rake for detailed instructions on engine care and maintenance. Just like your new car, your engine warranty will be made void if you fail to maintain it. There are two things you must be sure to do: (1) Change the engine oil regularly. We recommend changing the oil after the first five hours of operation. Then, every 20 hours. (2) Never operate the engine without the air filter. Dust and grit can destroy it. Air filters should be changed at least once a year; more often if operating in very dusty environments or in commercial service. We also recommend ***always adding fuel stabilizer to your gasoline*** and replacing the spark plug once a year for peak engine performance. Be sure to use an exact replacement plug, as described in your Owner's Manual.

REPLACEMENT PARTS

We maintain a complete parts inventory and as well as manufacturer's approved engine maintenance kits available on-line at CycloneRake.com/store/owners-marketplace/parts/ or through our technical sales team.

If you have any questions regarding your Cyclone Rake, please contact us toll-free at 888-531-7253, or visit CycloneRake.com.

Your Cyclone Rake Model: _____ Date Delivered: _____

ASSEMBLING YOUR CYCLONE RAKE VIDEOS

We want to make assembling and using the Cyclone Rake as easy as possible. For that reason, you will find QR codes below and throughout your manual that you can access with your smart phone to watch videos that will help walk you through the assembly process.

Again, if you don't happen to have a smart phone, don't worry about it! All our assembly videos are also in one easy spot on our website. Simply type the link below into any web browser to watch all our assembly videos.

WWW.CYCLONERAKE.COM/CR-ASSEMBLY-VIDEOS



Installing the
Standard Hitch Bar



Assembling the
Folded Chassis



Installing Hinge Blocks



Installing Caster Pads
& Wheels



Installing Hitch Forks



Installing Extender
Brackets & J-Hooks



Classic: Installing
J-Hooks



Folding Up the Collector



Installing the Collector
onto the Chassis



Installing the
Pull-Start Engine



Filling the XR950-PRO,
8HP & 10HP Pull-Start
Engines with Oil



Filling the 6.5HP
Vanguard Cyclonic
Engine with Oil



Filling the Electric Start
Engine with Oil



Installing the Electric
Start Engine



Installing the Deck Hose
with the Rubber Collar



Installing the Deck Hose
with the MDA Collar



Checking the Length of
the Deck Hose



Using the Collector:
Set up and Unloading



Folding the Collector
for Storage



Starting & Stopping the
XR950-PRO Engine



Starting & Stopping
the 6.5HP Vanguard
Cyclonic Engine



Starting & Stopping
the 8HP & 10HP
Pull-Start Engines



Starting & Stopping the
8HP & 10HP Electric
Start Engine



Changing the Engine Oil
on the XR950-PRO and
8HP & 10HP Engines



Changing the Oil
on the 6.5HP Vanguard
Cyclonic Engine



Changing the Air Filter
on the XR950-PRO, 8 HP
& 10 HP Engines



Replacing the
Spark plug



Charging the
Electric Start Battery

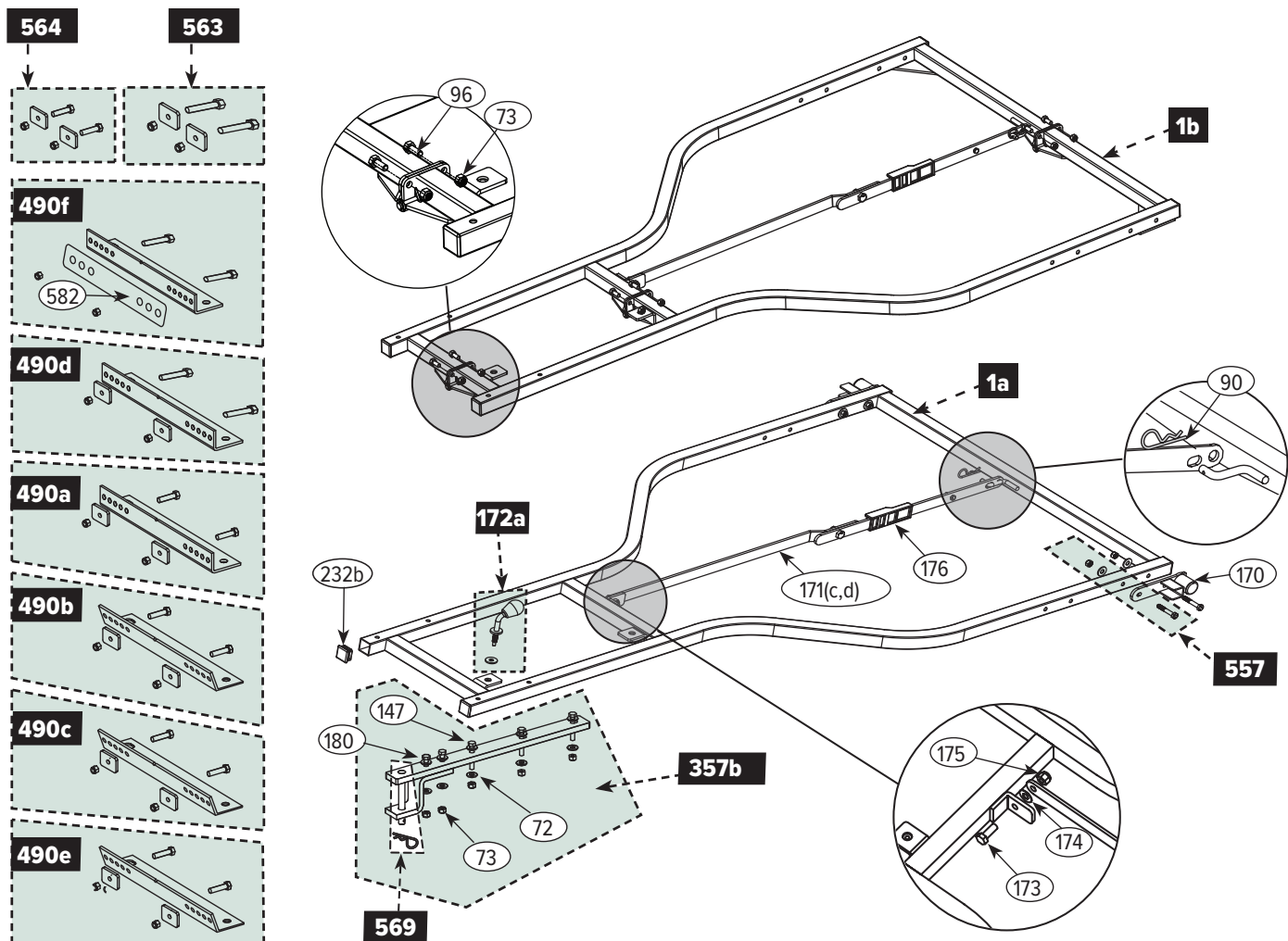


PARTS LIST

- **CLASSIC**
- **COMMANDER**
- **COMMERCIAL PRO**
- **XL**
- **Z-10**

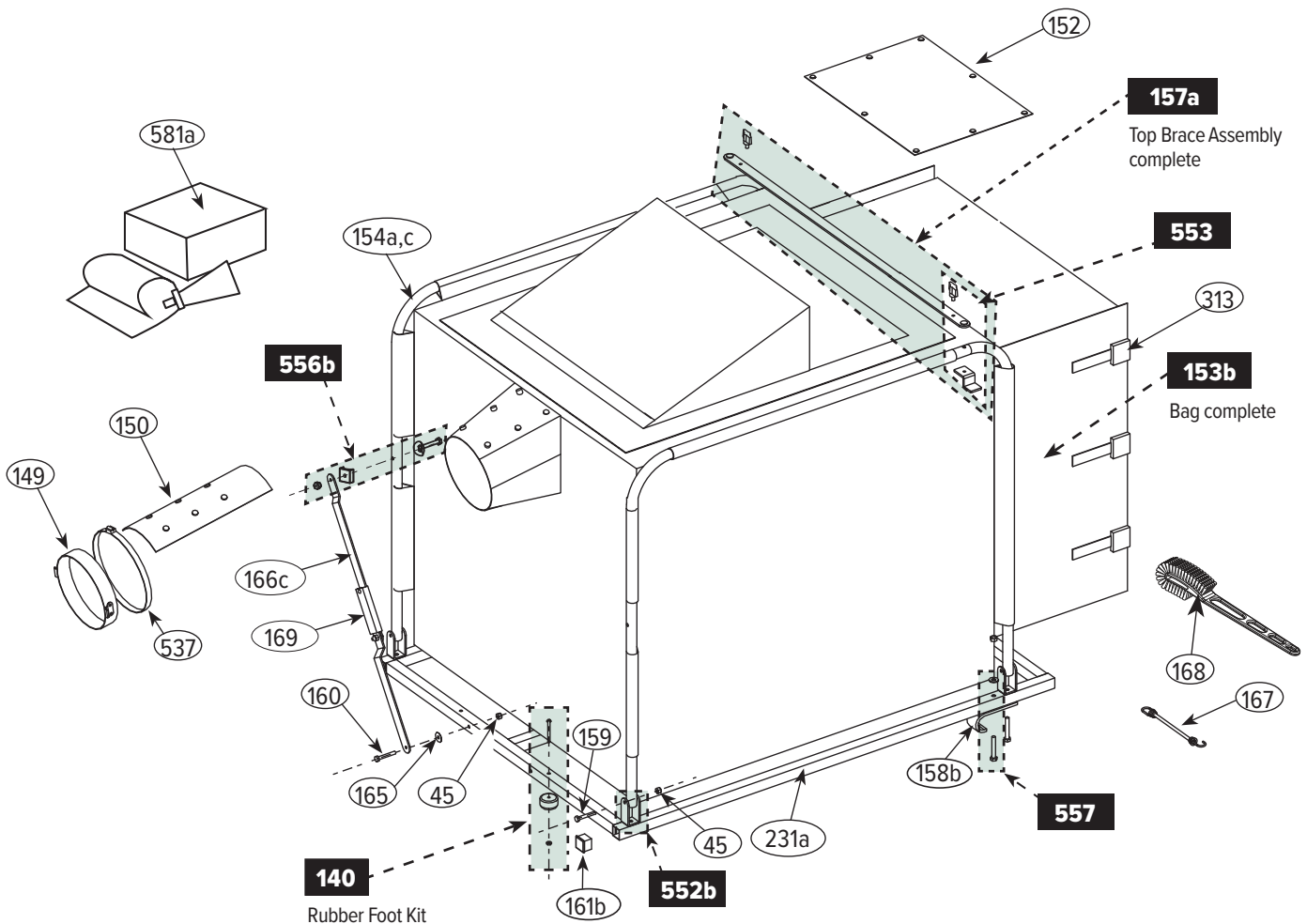
CHASSIS UNIT - ALL CYCLONE RAKES

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
1a.....	Chassis Unit, complete as boxed - Classic & Commander.....	01-01-600	176.....	Slider bracket for dump link	01-01-1856
1b.....	Chassis Unit, (folded) complete as boxed - Commercial PRO, XL & Z-10.....	02-04-700	180.....	5/16-18 x 1.5" Bolt	01-01-482
72.....	5/16" Washer.....	01-01-152	232b.....	1.25" Cap plug - black	09-01-056
73.....	5/16-18 Nylon lock nut.....	01-01-151	357b.....	Extended Hitch leaves- (set of 2).....	01-04-154
90.....	Bridge pin, large (0.118 dia. x 2.4" long).....	01-01-203	490a.....	90° Hitch bar w/hardware	208-090A
96.....	5/16-18 x .75" bolt.....	01-01-201	490b.....	70° Hitch bar w/hardware	208-070A
147.....	5/16-18 x 2.5" bolt.....	01-01-165	490c.....	55° Hitch bar w/hardware.....	208-055A
170.....	Hinge block.....	01-02-014	490d.....	90° Hitch bar w/long bolts.....	208-090XA
171c.....	Dump link assembly, w/slider bracket - Classic & Commander - black.....	01-02-584	490e.....	80° Hitch bar w/hardware	208-080A
171d.....	Dump link assembly, w/slider bracket - Commercial PRO, XL & Z-10 - black.....	02-02-584	490f.....	90° Hitch bar w/reinforced plate	208-090ZA
172a.....	Engine clamp handle w/rubber washers (set of 2)	01-02-681	557.....	5/16-18 x 2" Bolt, nut & washer	01-02-124
173.....	M10 x 25 mm Bolt, for dump linkage.....	01-01-802	563.....	Standard Hitch Bar hardware w/standard bolts (set of 2)	01-02-1434
174.....	3/8" I.D. x 1" O.D. Nylon washer	01-01-196	564.....	Standard Hitch Bar hardware w/long bolts (set of 2).....	01-02-683
175.....	M10 Nylon lock nut.....	01-01-803	569.....	1/2" x 4.5" Hitch pin & 2-1/2" Bridge pin (set of 2).....	01-02-127
			582.....	Reinforcing Plate	01-01-1899



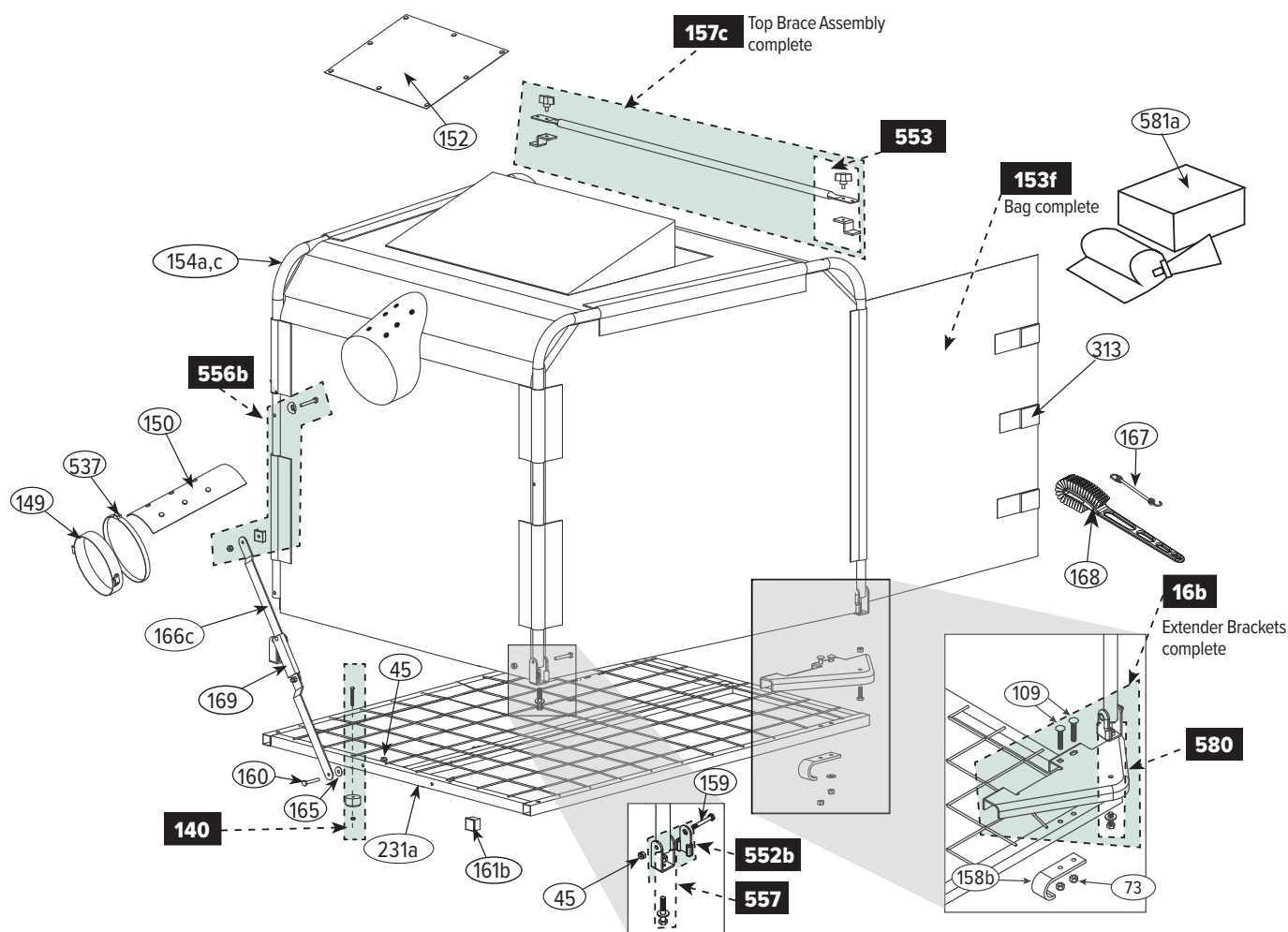
COLLECTOR UNIT - CLASSIC

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
2a	Collector Unit, complete as boxed - Classic	01-01-601	169	Slider bracket for side link - black	01-01-1855
45	1/4-20 Nylon lock nut	01-01-157	231a	Collector frame complete as boxed - Classic	03-04-001
140	Rubber foot kit w/hardware (set of 2)	01-02-070	313	Buckle set, male & female	01-02-472
149	Metal bag collar assembly, w/strikes	01-02-250	537	Band clamp, for bag collar	01-01-1148
150	Vinyl neck insert, for collector bag	02-01-305	552b	Hinge bracket & guard - black	01-02-679
152	Rear vinyl insert, for collector bag	01-01-568	553	Top brace bracket & Clamp knob (set of 2)	01-02-120
153b	Collector Bag complete- Classic	01-03-308	556b	Side tube spacers w/nut & bolt - black	01-02-680
154a	1 Three-Piece Side tube as boxed - Classic	01-03-2195	557	5/16-18 x 2" bolt, nut & washer	01-02-124
154c	2 Three-Piece Side tubes as boxed - Classic	01-03-2196	581a	Collector Bag repair kit - green	01-04-152
157a	Top brace assembly complete as boxed - Classic	01-03-360			
158b	J-hook	01-01-025			
159	1/4-20 x 1.75 Special bolt w/short thread	01-01-598			
160	1/4-20 x 1.75 hex bolt	01-01-159			
161b	1" Cap plug - black	09-01-055			
165	1/4" I.D. x 1" O.D. Nylon washer	01-01-158			
166c	Side link assembly w/slider bracket - Classic - black	01-02-585			
167	1/4" x 12" Short bungee, for collector frame	01-01-242			
168	Top screen brush	01-01-500			



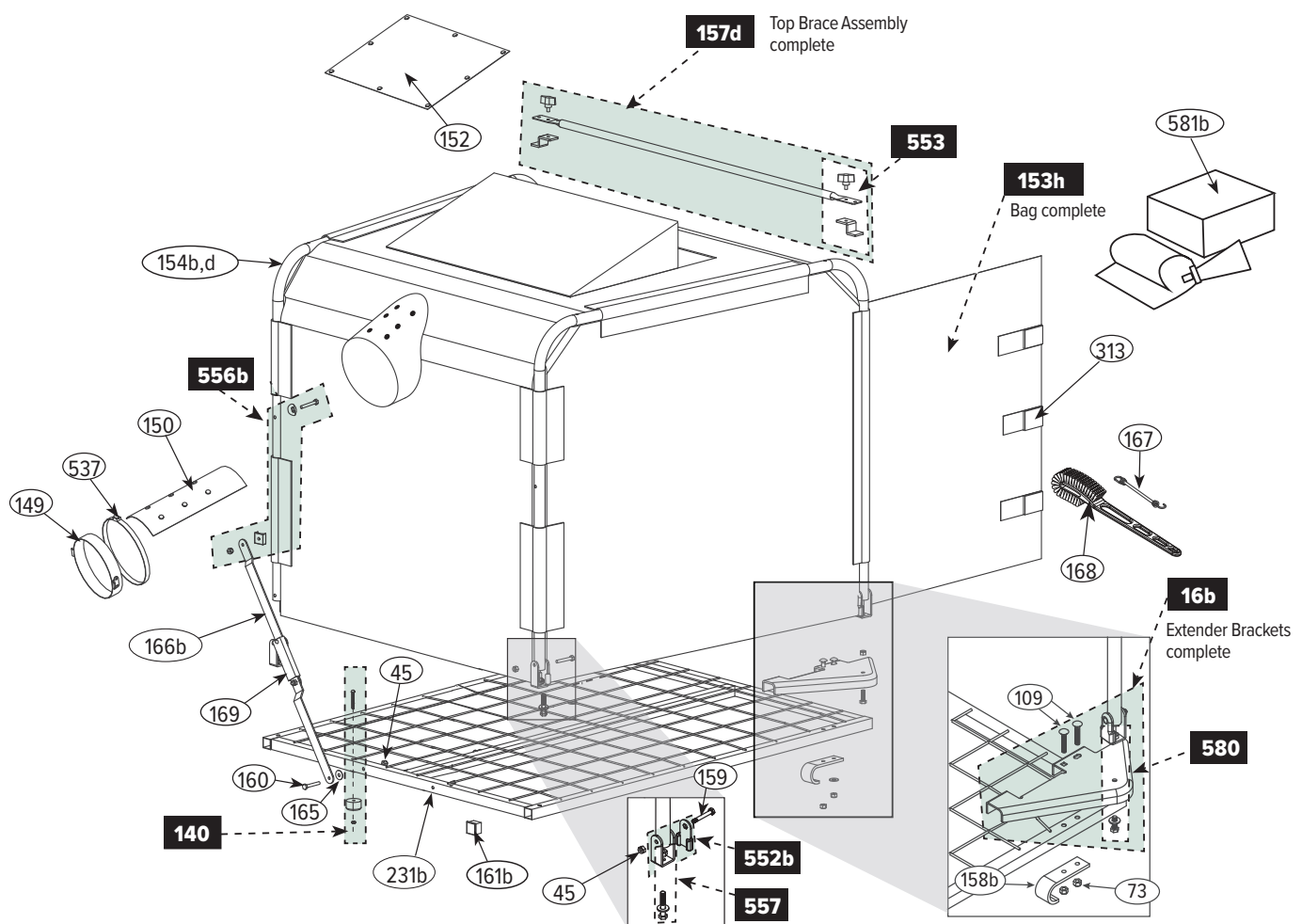
COLLECTOR UNIT - COMMANDER

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
2c.....	Collector Unit, complete as boxed - Commander	03-01-601	165.....	1/4" I.D. x 1" O.D. Nylon washer	01-01-158
16b.....	Extender bracket, complete pair as boxed - black	05-03-040	166c.....	Side link assembly w/slider bracket - Commander - black.....	01-02-585
45.....	1/4"-20 Nylon lock nut.....	01-01-157	167.....	1/4" x 12" Short bungee, for collector frame.....	01-01-242
73.....	5/16-18 Nylon lock nut.....	01-01-151	168.....	Top screen brush.....	01-01-500
109.....	5/16-18 x 1.75" Carriage bolt.....	01-01-1034	169.....	Slider bracket for side link - black.....	01-01-1855
140.....	Rubber foot kit w/hardware (set of 2).....	01-02-070	231a.....	Collector frame complete as boxed - Commander	03-04-001
149.....	Metal bag collar assembly, w/strikes.....	01-02-250	313.....	Buckle set, male & female	01-02-472
150.....	Vinyl neck insert, for collector bag	02-01-305	537.....	Band clamp, for bag collar.....	01-01-1148
152.....	Rear vinyl insert, for collector bag	01-01-568	552b.....	Hinge bracket & guard - black.....	01-02-679
153f.....	Collector Bag complete - Commander.....	03-03-308	553.....	Top brace bracket & Clamp knob (set of 2)	01-02-120
154a.....	1 Three-Piece Side tube as boxed - Cmmander.....	01-03-2195	556b.....	Side tube spacers w/nut & bolt - black	01-02-680
154c.....	2 Three-Piece Side tube as boxed - Commander.....	01-03-2196	557.....	5/16-18 x 2" Bolt, nut & washer	01-02-124
157c.....	Top brace assembly complete as boxed - Commander	01-03-039	580.....	5/16-18 x 1" Bolt, nut & washer	01-02-157
158b.....	J-hook	01-01-025	581a.....	Collector Bag Repair Kit - green.....	01-04-152
159.....	1/4-20 x 1.75 Special bolt w/short thread.....	01-01-598			
160.....	1/4-20 x 1.75 hex bolt.....	01-01-159			
161b.....	1" Cap plug - black.....	09-01-055			



COLLECTOR UNIT - COMMERCIAL PRO, XL & Z-10

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
2d	Collector Unit, complete as boxed - Commercial PRO, XL & Z-10	05-01-601	160	1/4-20 x 1.75 hex bolt	01-01-159
16b	Extender bracket, complete pair as boxed - black	05-03-040	161b	1" Cap plug - black	09-01-055
73	5/16-18 Nylon lock nut	01-01-151	165	1/4" I.D. x 1" O.D. Nylon washer	01-01-158
45	1/4-20 Nylon lock nut	01-01-157	166d	Side link assembly w/slider bracket - Commercial PRO, XL & Z-10 - black	02-02-585
109	5/16-18 x 1.75" Carriage bolt	01-01-1034	167	1/4" x 12" Short bungee, for collector frame	01-01-242
140	Rubber foot kit w/hardware (set of 2)	01-02-070	168	Top screen brush	01-01-500
149	Metal bag collar assembly, w/strikes	01-02-250	169	Slider bracket for side link - black	01-01-1855
150	Vinyl neck insert, for collector bag	02-01-305	231c	Collector frame complete as boxed - black - Commercial PRO, XL & Z-10	05-04-001
152	Rear vinyl insert, for collector bag	01-01-568	313	Buckle set, male & female	01-02-472
153h	Collector Bag complete- Commercial PRO, XL & Z-10	05-03-308	537	Band clamp, for bag collar	01-01-1148
154b	1 Side tube as boxed - Commercial PRO, XL, & Z-10 (3 pc)	02-03-2195	552b	Hinge bracket & guard - black	01-02-679
154d	2 Side tube as boxed - Commercial PRO, XL, & Z-10 (6 pc)	02-03-2196	553	Top brace bracket & Clamp knob (set of 2)	01-02-120
157d	Top brace assembly complete as boxed - Commercial PRO, XL & Z-10	02-03-004	556b	Side tube spacers w/nut & bolt - black	01-02-680
158	J-hook	01-01-025	557	5/16-18 x 2" Bolt, nut & washer	01-02-124
159	1/4-20 x 1.75 Special bolt w/short thread	01-01-598	580	5/16-18 x 1" Bolt, nut & washer	01-02-157
			581b	Collector Bag Repair Kit - black	01-04-153



CYCLONE RAKE SINGLE WHEELS

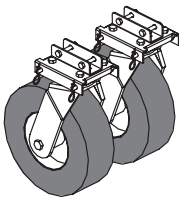
Ref. #	Part Name	Part #
6	Single wheels w/caster pads (set of 2)	01-04-031
72	5/16" Washer	01-01-152
73	5/16-18 Nylon lock nut	01-01-151
185	10mm x 120mm Clevis pin, Single wheel for caster pad,	01-01-244
187	Single wheel fork complete w/axle tube & caster pad	01-01-429
192	Single wheel complete, w/caster pad	01-02-409
195	Caster pad, complete w/hardware	01-03-065
196	1/2-13 Nylon lock nut (axle nut)	01-01-823
201	Set of 4 bow tie cotter pins	01-02-2198
202	Hardware for Caster Pad (2 Bow Tie pins, 2 Clevis pins)	01-03-2198
197	1/2-13 x 5.5" Hex bolt (axle bolt)	01-01-822
221	Single tire & hub assembly	01-01-826
240	Valve stem cap	01-01-597
451	Inner tube (includes valve stem & cap)	01-01-399
456	Axle tube	01-01-881
519	5/16-18 x 2.25" Bolt	01-01-1310

CYCLONE RAKE DUAL-PRO WHEELS

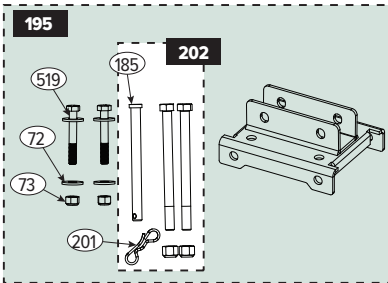
Ref. #	Part Name	Part #
72	5/16" Washer	01-01-152
73	5/16-18 Nylon lock nut	01-01-151
185	10mm x 120mm Clevis pin, Dual-PRO wheel for caster pad,	01-01-244
189	Dual wheel fork complete w/axle tube & caster pad	01-04-428
193	Dual wheel complete, w/caster pad	01-04-070
195	Caster pad, complete w/hardware	01-03-065
198	5/8-11 Nylon lock nut, Dual-PRO wheel (axle nut)	01-01-824
199	5/8-11 x 10 Bolt, Dual-PRO wheel (axle bolt)	01-01-825
201	Set of 4 bow tie cotter pins	01-02-2198
202	Hardware for Caster Pad (2 Bow Tie pins, 2 Clevis pins)	01-03-2198
217	Dual-PRO Super Wheels w/caster pads (set of 2)	01-04-050
221	Single tire & hub assembly	01-01-826
223	Axle tube, Dual-PRO wheel	01-01-828
240	Valve stem cap	01-01-597
451	Inner tube (includes valve stem & cap)	01-01-399
510	Dual wheel connector	01-02-477
519	5/16-18 x 2.25" Bolt	01-01-1310

6 Single Wheels, as boxed,
set of 2 w/caster pads.

Recommended:
25 PSI per tire

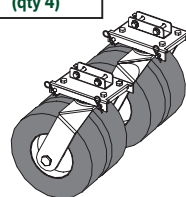


192 Single Wheel Assembly Complete with caster pad

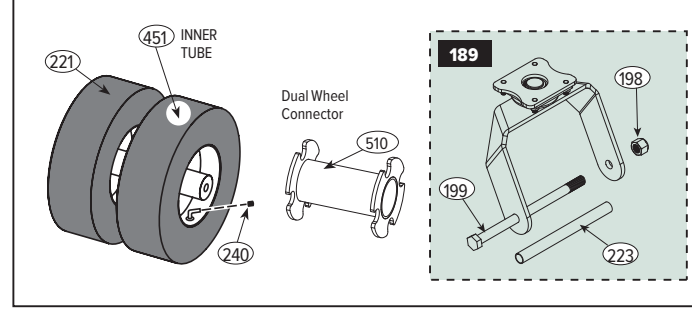
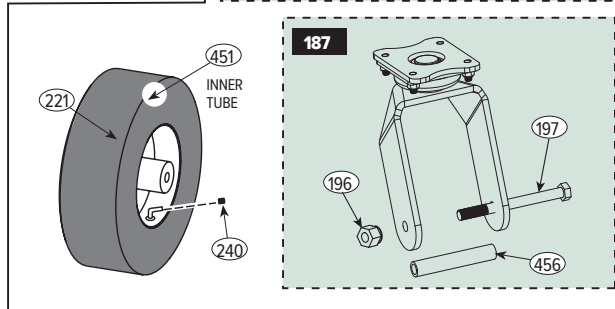
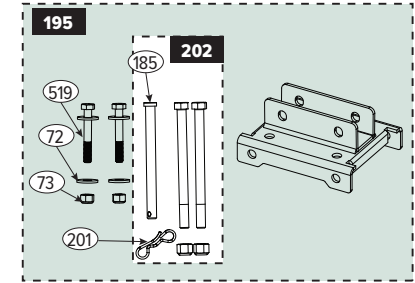


217 Dual-PRO Super Wheels,
as boxed set of 2 w/caster pads.

Recommended:
15 PSI per tire
(qty 4)

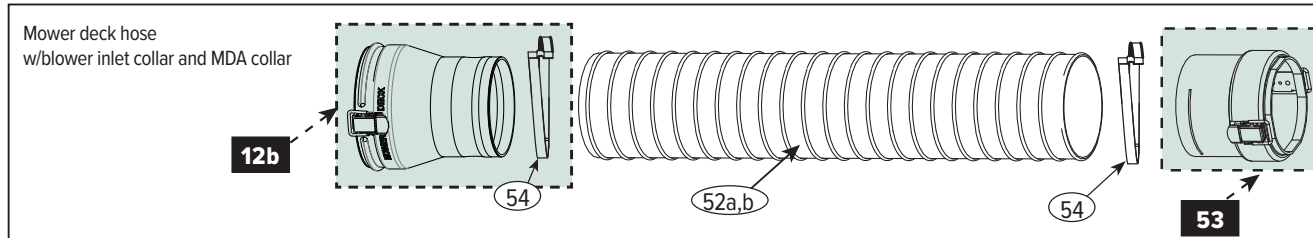
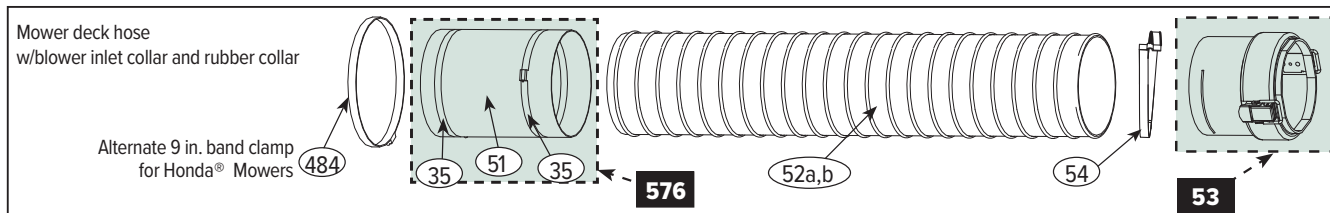
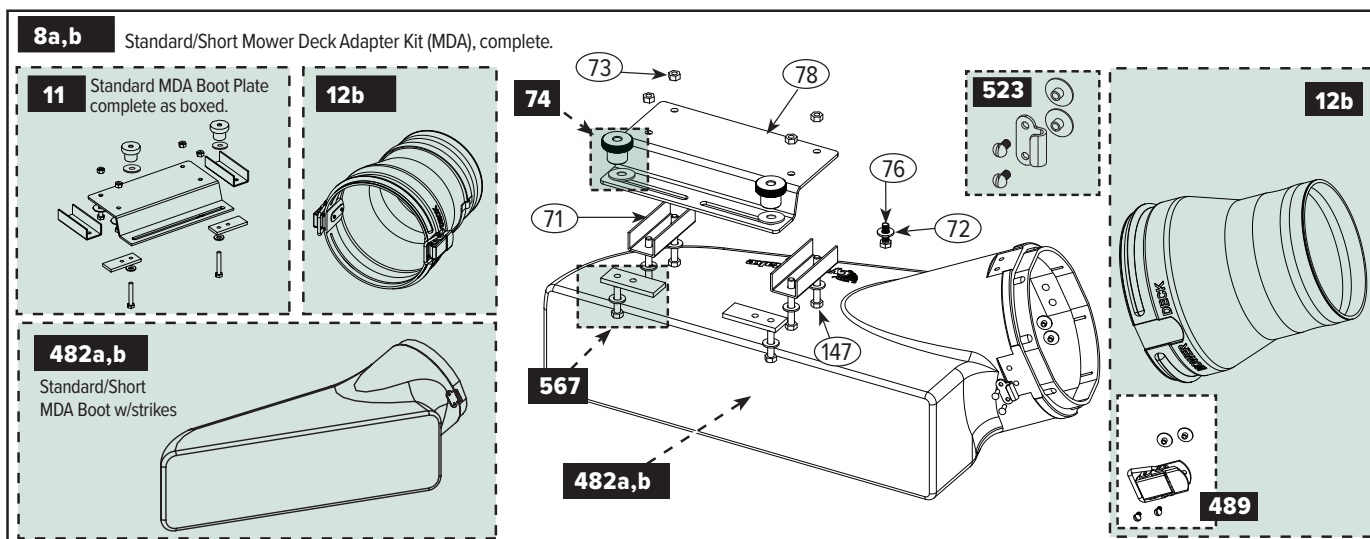


193 Dual-PRO Wheel Assembly with caster pad



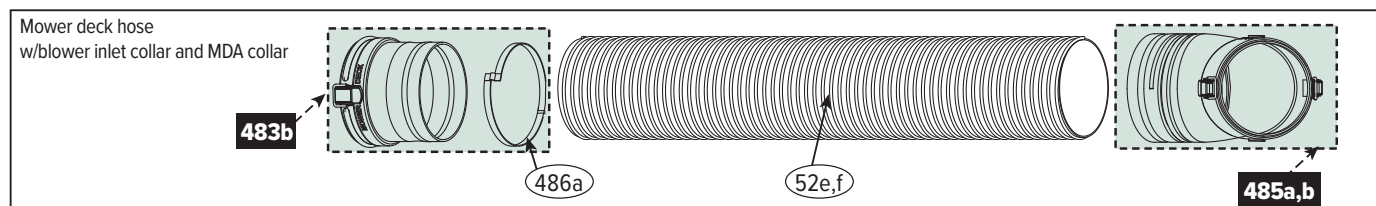
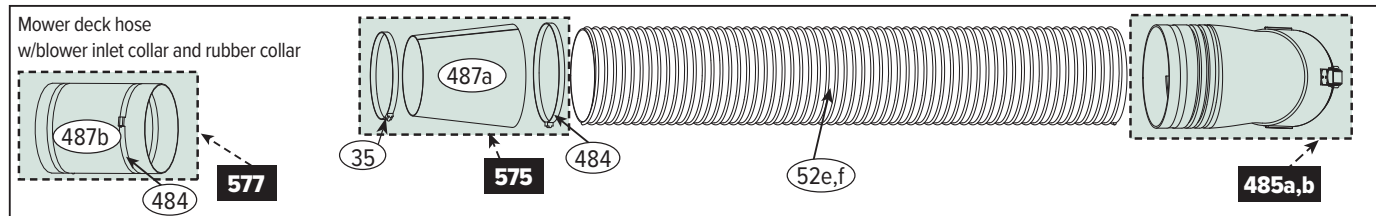
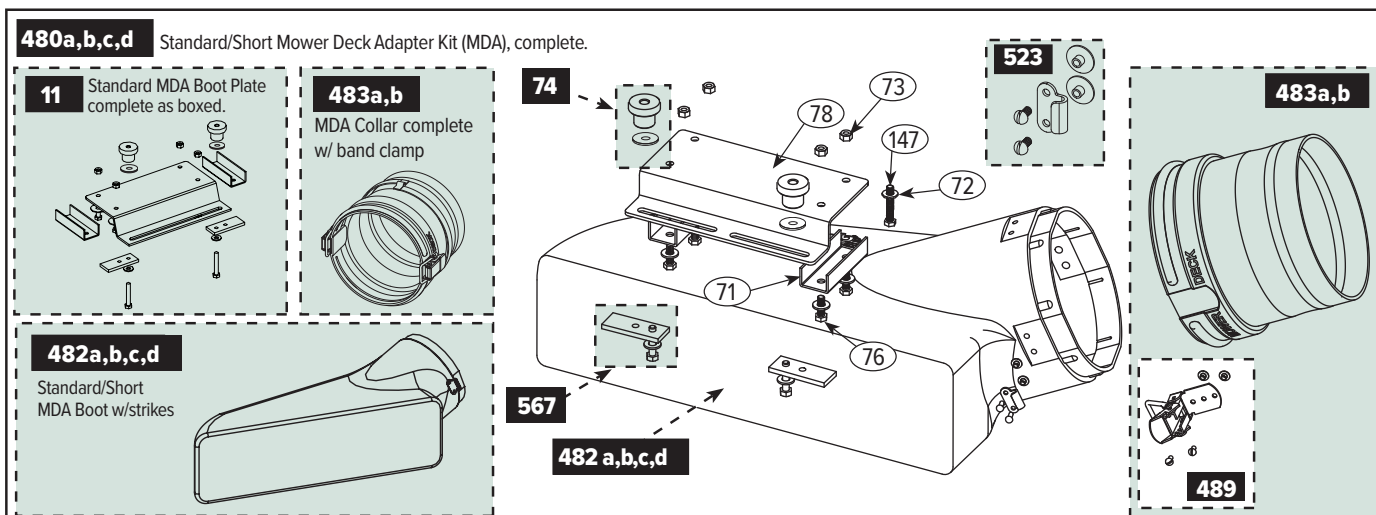
MOWER DECK ADAPTER (MDA) & DECK HOSE - CLASSIC

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
8a	Standard MDA Kit, complete w/7" x 8" collar	206	78	Standard MDA boot plate	01-01-069
8b	Short MDA Kit, complete w/7" x 8" collar	206G	147	5/16-18 x 2.5" Hex bolt	01-01-165
11	Standard MDA boot plate complete as boxed	01-04-020	484	9" Band clamp, flat type	01-01-1152
12b	7" x 8" MDA collar complete w/band clamp	01-02-486	482a	Standard MDA boot w/strikes (uncut)	01-02-143
35	7" Band clamp, flat type	01-01-227	482b	Short MDA boot w/strikes (uncut)	01-02-145
51	Rubber collar for 7" dia. deck hose	01-01-243	489	Latch w/hardware & T-nuts (set of 2)	01-03-045
52a	Hose by the foot - PVC (green) 7" dia - available in 5, 7, 10, 12 & 25 ft	RPVC-07-LL	523	Standard strike w/hardware (set of 4)	01-02-564
52b	Hose by the foot - Urethane (yellow) 7" dia - available in 5, 7, 10, 12 & 25 ft	RPUR-07-LL	567	MDA Support block w/bolt & washer (set of 2)	01-02-125
53	7" x 7" Blower inlet collar, complete w/latches	01-01-713	576	7" x 7" Straight rubber collar kit	01-02-011
54	7" Band clamp, bridge type	01-02-023			
71	Boot plate spacer	01-01-495			
72	5/16" Washer	01-01-152			
73	5/16-18 Nylon lock nut	01-01-151			
74	Clamp knob w/rubber washers, for boot plate (set of 2)	01-02-291			
76	5/16-18 x 1" Bolt	01-01-171			



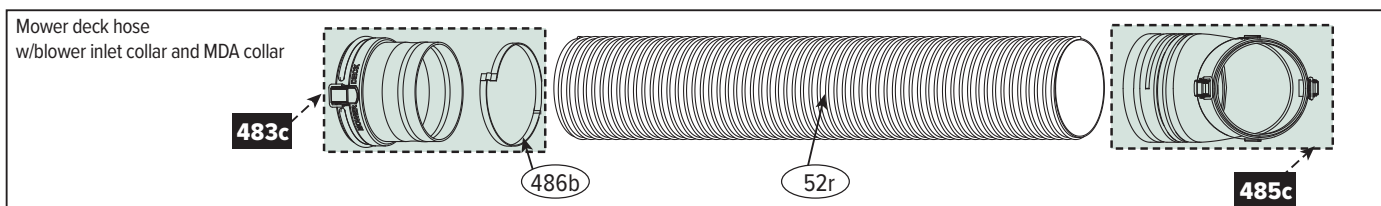
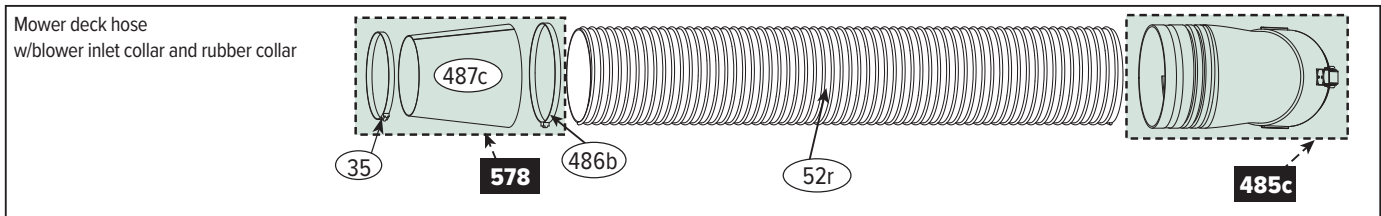
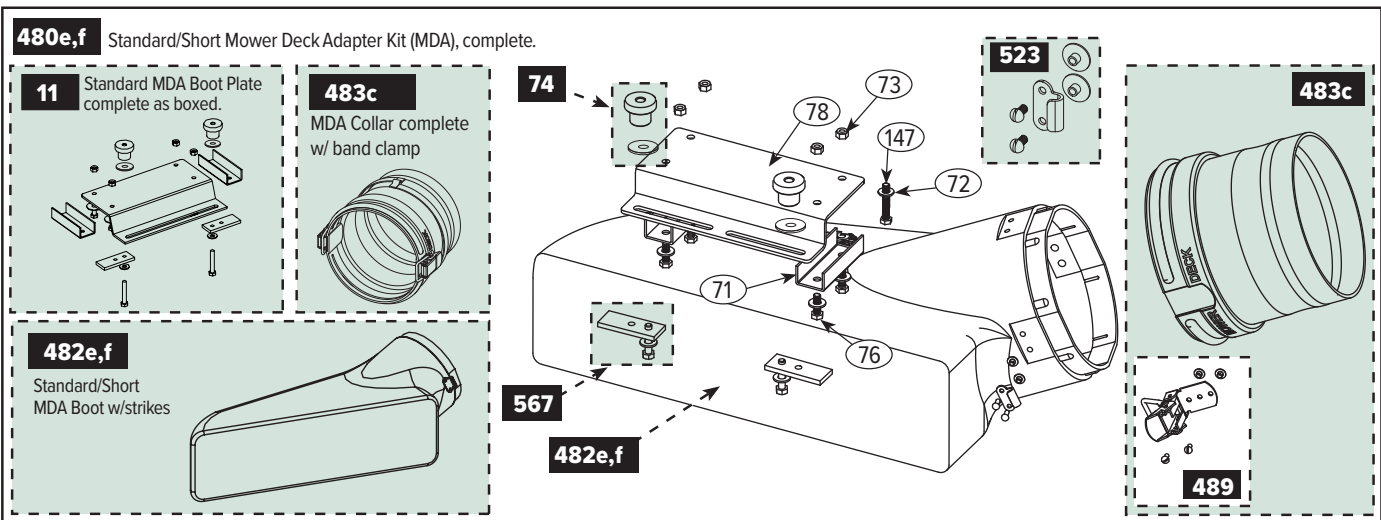
MDA & DECK HOSE - COMMANDER & COMMERCIAL PRO & XL

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
11.....	Standard MDA boot plate complete as boxed.....	01-04-020	482a....	Standard MDA boot w/strikes (uncut)	
35.....	7" Band clamp, flat type.....	01-01-227	- Commander & Commercial PRO.....	01-02-143	
52e.....	Hose by the foot - PVC (green) 8" dia		482b....	Short MDA boot w/strikes (uncut)	
- available in 4, 5, 6, 8, 10, 12 & 25 ft.....	RPVC-08-LL		- Commander & Commercial PRO.....	01-02-145	
52f.....	Hose by the foot - Urethane (yellow) 8" dia		482c....	Standard MDA boot w/strikes (uncut) - XL.....	05-02-143
- available in 4, 5, 6, 8, 10, 12 & 25 ft.....	RPUR-08-LL		482d....	Short MDA boot w/strikes (uncut) - XL.....	05-02-145
71.....	Boot plate spacer.....	01-01-495	483a....	8" MDA collar complete w/ band clamp.....	01-02-080
72.....	5/16" Washer.....	01-01-152	483b....	8" MDA collar complete w/ band clamp - XL.....	05-02-080
73.....	5/16-18 Nylon lock nut.....	01-01-151	484.....	9" Band clamp, flat type.....	01-01-1152
74.....	Clamp knob w/rubber washers, for boot plate		485a....	8" x 8" Blower inlet collar, complete w/latches, 8" dia.	
(set of 2).....	01-02-291		- Commander & Commercial PRO.....	01-02-059	
76.....	5/16-18 x 1" Bolt.....	01-01-171	485b....	8" x 8" Blower inlet collar, complete w/latches, 8" dia.	
78.....	Standard MDA boot plate.....	01-01-069	- XL.....	05-02-059	
147.....	5/16-18 x 2.5" Hex bolt.....	01-01-165	486a....	8" Band clamp, bridge type.....	01-01-1154
480a....	Standard MDA Kit, complete		487a....	Tapered rubber collar for deck hose.....	01-01-1151
- Commander & Commercial PRO.....	230		487b....	8" x 8" rubber collar for deck hose.....	01-01-1705
480b....	Standard MDA Kit, complete - XL.....	240	489.....	Latch w/hardware (set of 2).....	01-03-045
480c....	Short MDA Kit, complete		523.....	Standard strike w/hardware (set of 4).....	01-02-564
- Commander & Commercial PRO.....	230G		567.....	MDA Support Block w/bolt & washer (set of 2).....	01-02-125
480d....	Short MDA Kit, complete - XL.....	240G	575.....	7" x 8" Tapered rubber collar kit.....	01-02-012
			577.....	8" x 8" Straight rubber collar kit.....	01-02-013



MDA & DECK HOSE - CYCLONE RAKE Z-10

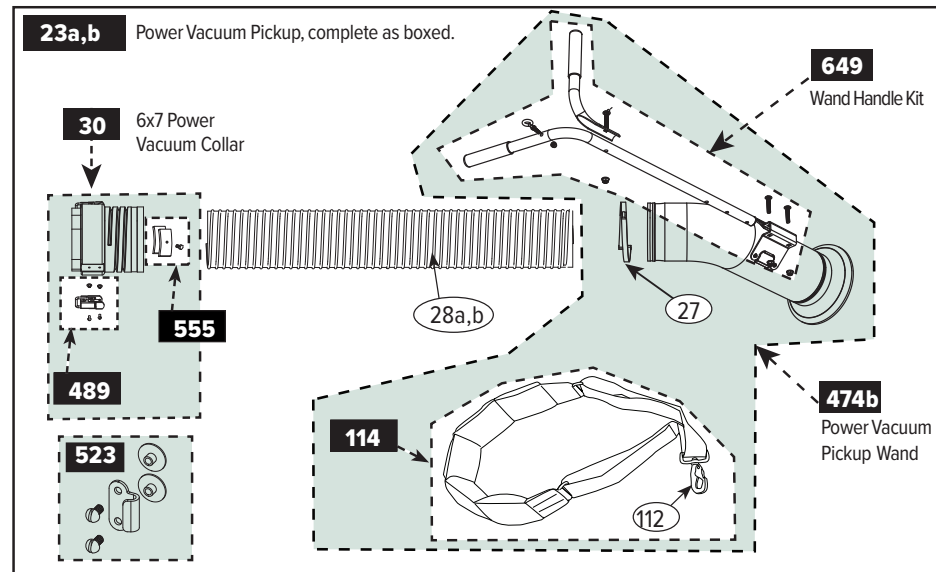
Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
11.....	Standard MDA boot plate complete as boxed.....	01-04-020	486b.....	10" Band clamp, bridge type.....	01-01-1716
35.....	7" Band clamp, flat type.....	01-01-277	487c.....	Tapered rubber collar for deck hose - Z-10.....	01-01-1738
52r.....	Hose by the foot - Urethane (yellow) 10"dia - available in 3.5, 4, 5, 6, 8, 10ft.....	RPUR-10-LL	489.....	Latch w/hardware (set of 2).....	01-03-045
55.....	Rubber washer.....	01-01-1990	523.....	Standard strike w/hardware (set of 4).....	01-02-564
71.....	Boot plate spacer.....	01-01-495	567.....	MDA Support Block w/bolt & washer (set of 2).....	01-02-125
72.....	5/16" Washer.....	01-01-152	578.....	10" x 7" Tapered rubber collar kit.....	01-02-015
73.....	5/16-18 Nylon lock nut.....	01-01-151			
74.....	Clamp knob w/rubber washers, for boot plate (set of 2).....	01-02-291			
76.....	5/16-18 x 1" Bolt.....	01-01-171			
78.....	Standard MDA boot plate.....	01-01-069			
147.....	5/16-18 x 2.5" Hex bolt.....	01-01-165			
480e.....	Standard MDA Kit, complete, 10" - Z-10.....	260			
480f.....	Short MDA Kit, complete, 10" - Z-10.....	260G			
482e.....	Standard MDA boot w/strikes (uncut), 10" - Z-10.....	06-02-143			
482f.....	Short MDA boot w/strikes (uncut), 10" - Z-10.....	06-02-145			
483c.....	MDA collar w/ Band Clamp - Z-10.....	06-02-080			
485c.....	10" x 10" Blower inlet collar, complete w/latches - Z-10.....	06-02-059			



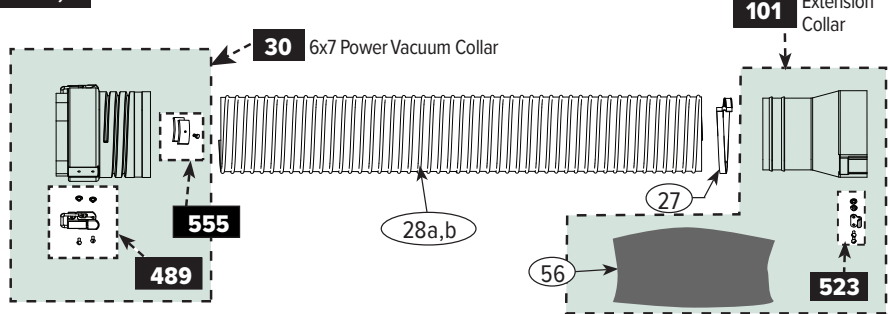
ACCESSORIES - CLASSIC

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
23a.....	Power Vacuum Pickup, complete as boxed			- Urethane (yellow), 6" dia.	01-02-465
	- PVC (green)	201	112	Spring clip	01-01-1109
23b.....	Power Vacuum Pickup, complete as boxed		114	Strap w/ spring clip	01-04-055
	- Urethane (yellow)	214	474b	Wand, complete w/handles & shoulder strap	01-04-2120
27	6" Band clamp, bridge type	01-02-024	477a	Power Unloader, complete as boxed - PVC (green)	226
28a	15 ft. - PVC (green), 6" dia	RPVC-06-15	477b	Power Unloader, complete as boxed - Urethane (yellow)	215
28b	15 ft. - Urethane (yellow), 6" dia	RPUR-06-15	478a	Power Unloader chute, complete w/latches	01-02-078
30	6" x 7" Power Vacuum collar, complete w/latches	01-01-721	489	Latch w/hardware (set of 2)	01-03-045
36a	15 ft. - PVC (green), 7" dia	RPVC-07-15	523	Standard strike w/hardware (set of 4)	01-02-564
36b	15 ft. - Urethane (yellow), 7" dia.	RPUR-07-15	555	Inner & outer hose clamp w/screw	01-02-122
54	7" Band clamp, bridge type	01-02-023	649	Wand Handle Replacement Kit	01-03-2124
56	Estate Vacuum Sleeve	01-01-2190			
100a	Estate Vacuum, complete as boxed - PVC (green)	210			
100b	Estate Vacuum, complete as boxed - Urethane (yellow)	219			
101	Extension collar, complete w/strikes	01-02-047			
110a	15 ft. Estate Vacuum extension hose complete as boxed				
	- PVC (green), 6" dia.	01-02-464			
110b	15 ft. Estate Vacuum extension hose complete as boxed				

100a,b Estate Vacuum, complete as boxed.

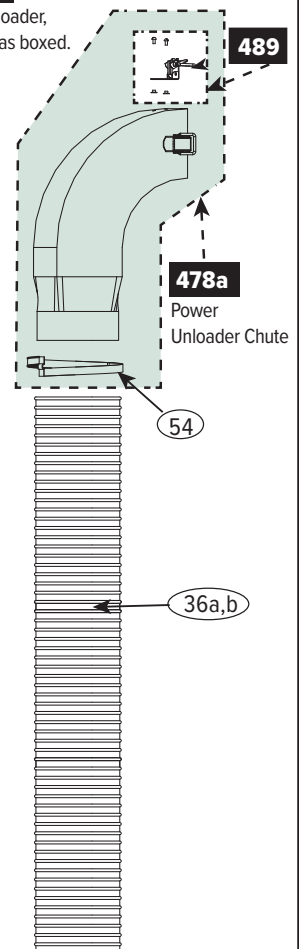


110a,b Estate Vacuum Extension Hose, complete as boxed.



477a,b

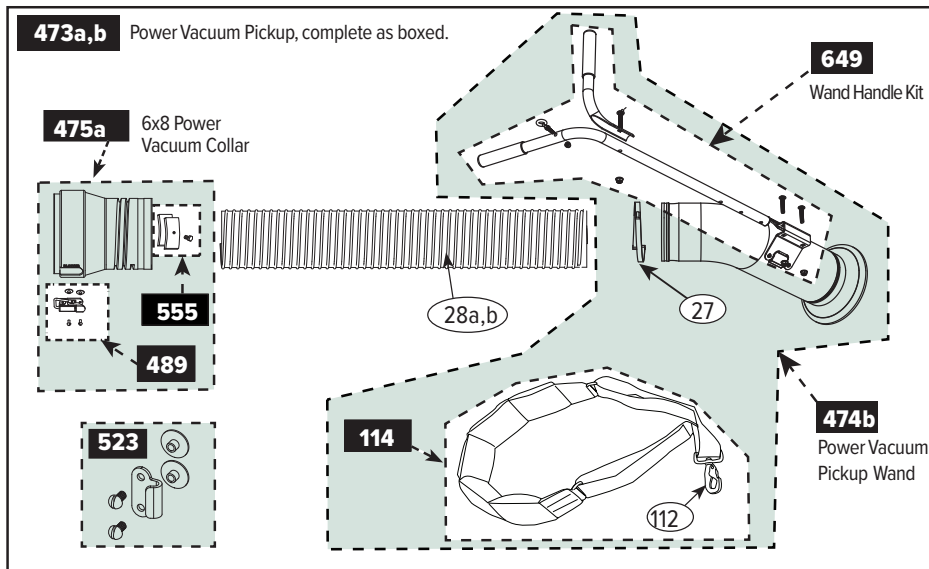
Power Unloader,
complete as boxed.



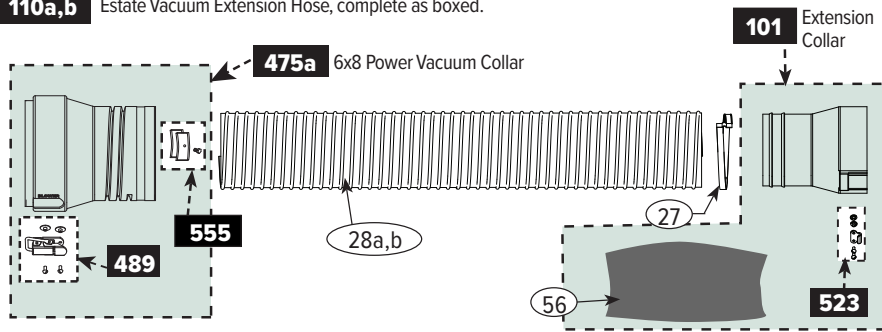
ACCESSORIES - COMMANDER & COMMERCIAL PRO & XL

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
27	6" Band clamp, bridge type	01-02-024	477b	Power Unloader, complete as boxed - Urethane (yellow) - Commander & Commercial PRO	215
28a	15 ft. - PVC (green), 6" dia	RPVC-06-15	477c	Power Unloader, complete as boxed - PVC (green) - XL	236
28b	15 ft. - Urethane (yellow), 6" dia	RPUR-06-15	477d	Power Unloader, complete as boxed - Urethane (yellow) - XL	237
36a	15 ft. - PVC (green), 7" dia	RPVC-07-15	478a	Power Unloader chute, complete w/latches - Commander & Commercial PRO	01-02-078
36b	15 ft. - Urethane (yellow), 7" dia	RPUR-07-15	478b	Power Unloader chute, complete w/latches - XL	05-02-078
54	7" Band clamp, bridge type	01-02-023	479a	15 ft. Estate Vacuum extension hose complete as boxed - PVC (green), 6" dia	01-02-294
56	Estate Vacuum Sleeve	01-01-2190	479b	15 ft. Estate Vacuum extension hose complete as boxed - Urethane (yellow), 6" dia	01-02-296
112	Spring clip	01-01-1109	489	Latch w/hardware (set of 2)	01-03-045
114	Strap w/ spring clip	01-04-055	523	Standard strike w/hardware (set of 4)	01-02-564
472a	Estate Vacuum, complete as boxed - PVC (green)	227	555	Inner & outer hose clamp w/screw	01-02-122
472b	Estate Vacuum, complete as boxed - Urethane (yellow)	232	649	Wand Handle Replacement Kit	01-03-2124
473a	Power Vacuum Pickup, complete as boxed - PVC (green)	225			
473b	Power Vacuum Pickup, complete as boxed - Urethane (yellow)	229			
474b	Wand, complete w/handles & shoulder strap	01-04-2120			
475a	6" x 8" Power Vacuum collar, complete w/latches	01-02-137			
476	Extension collar, complete w/strikes	01-02-295			
477a	Power Unloader, complete as boxed - PVC (green)- Commander & Commercial PRO	226			

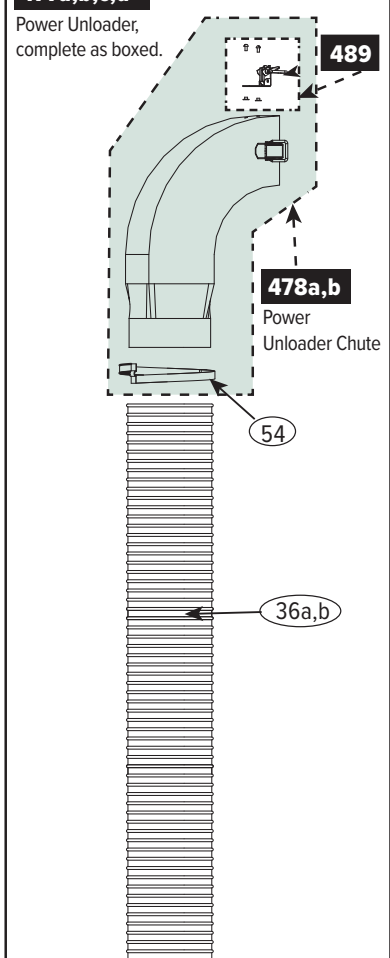
472a,b Estate Vacuum, complete as boxed.



110a,b Estate Vacuum Extension Hose, complete as boxed.



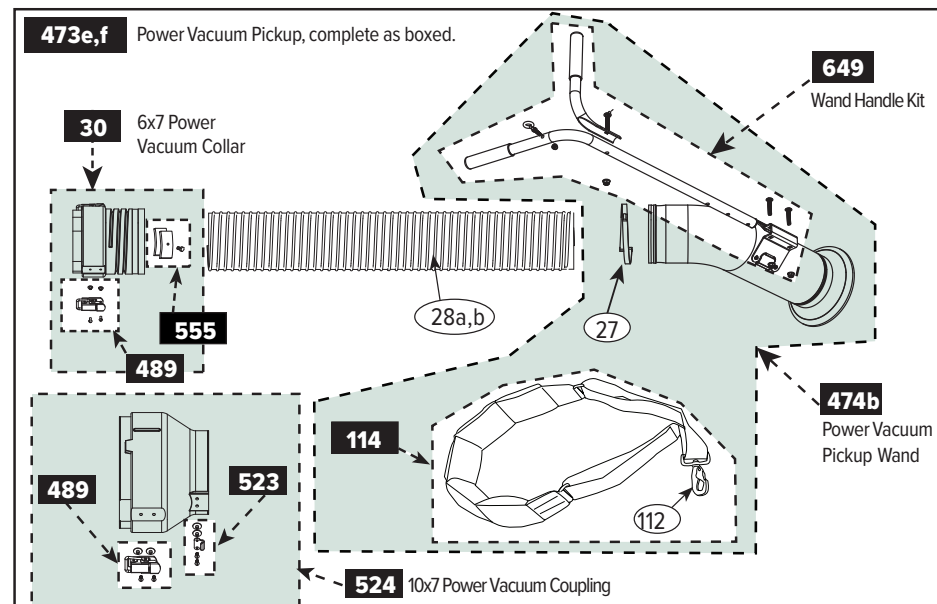
477a,b,c,d Power Unloader, complete as boxed.



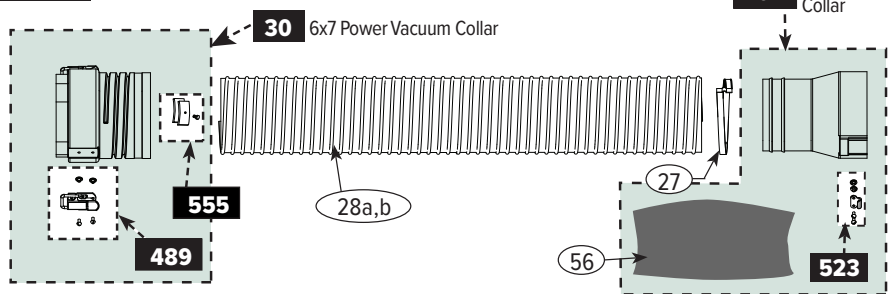
ACCESSORIES - CYCLONE RAKE Z-10

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
27	6" Band clamp, bridge type	01-02-024	473f	Power Vacuum Pickup, complete as boxed - Urethane (yellow)	255
28a	15 ft. - PVC (green), 6" dia	RPVC-06-15	474b	Wand, complete w/handles & shoulder strap	01-04-2120
28b	15 ft. - Urethane (yellow), 6" dia	RPUR-06-15	477c	Power Unloader, complete as boxed - PVC (green)	236
30	6" x 7" Power Vacuum collar, complete w/latches	01-01-721	477d	Power Unloader, complete as boxed - Urethane (yellow)	237
36a	15 ft. - PVC (green), 7" dia	RPVC-07-15	478b	Power Unloader chute, complete w/latches	05-02-078
36b	15 ft. - Urethane (yellow), 7" dia	RPUR-07-15	489	Latch w/hardware (set of 2)	01-03-045
54	7" Band clamp, bridge type	01-02-023	523	Standard strike w/hardware (set of 4)	01-02-564
56	Estate Vacuum Sleeve	01-01-2190	524	10" x 7" Power Vacuum coupling, complete w/latches - Z-10	06-02-003
101	Extension collar, complete w/strikes	01-02-047	555	Inner & outer hose clamp w/screw	01-02-122
110a	15 ft. Estate Vacuum extension hose complete as boxed - PVC (green), 6" dia	01-02-464	649	Wand Handle Replacement Kit	01-03-2124
110b	15 ft. Estate Vacuum extension hose complete as boxed - Urethane (yellow), 6" dia	01-02-465			
112	Spring clip	01-01-1109			
114	Strap w/ spring clip	01-04-055			
472e	Estate Vacuum, complete as boxed - PVC (green)	254			
472f	Estate Vacuum, complete as boxed - Urethane (yellow)	256			
473e	Power Vacuum Pickup, complete as boxed - PVC (green)	253			

472e,f Estate Vacuum, complete as boxed.

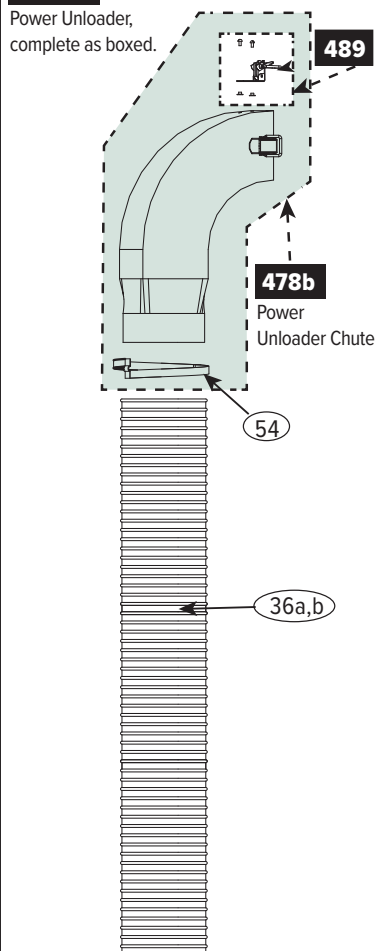


110a,b Estate Vacuum Extension Hose, complete as boxed.



477c,d

Power Unloader,
complete as boxed.

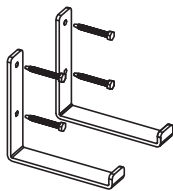


ACCESSORIES - ALL CYCLONE RAKE MODELS

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
38	Wall Mount Kit, complete as boxed	205	90	Bridge pin, large (0.118 dia. x 2.4")	01-01-203
41a	Roof Rack Carrier, complete as boxed - Classic	204	91	5 mm Hex wrench, for Jack Stand	01-01-556
41c	Roof Rack Carrier, complete as boxed - Commander	220	92	M10 Lock nut, for Jack Stand	01-01-546
41d	Roof Rack Carrier, complete as boxed		93	M10 x 16 mm Set screw, for Jack Stand	01-01-545
	- Commercial PRO, XL & Z-10	221	94	Tab bracket, for Jack Stand	01-02-029
45	1/4-20 Nylon lock nut	01-01-157	554	Clamp bracket & knob for Roof Rack Carrier	01-02-121
46	1/4-20 x 1/2" Truss head screw	01-01-310	557	5/16-18 x 2" Bolt, nut & washer	01-02-124
47	5/16" x 30" Bungee cord for Roof Rack Carrier	01-01-396	558	Hose hanger bracket assembly for Roof Rack Carrier	01-02-160
80	3rd Wheel Jack Stand, complete as boxed	218	564	Engine Maintenance Kit	
81b	5" Caster wheel, for Jack Stand w/wrench	01-01-1718		- 8 HP & 10 HP B&S Vanguard engines	231
82	Caster wrench, for Jack Stand 5" wheel	01-01-2077	656	Engine Maintenance Kit - B&S XR950-PRO engines	213XR
83	Jack assembly, for Jack Stand	01-02-036	657	Engine Maintenance Kit	
84	Jack handle, for Jack Stand	01-01-554		- B&S 6.5 HP Vanguard Cyclonic engine	213VG
85	5/16-18 x 3.75" Bolt	01-01-2125			
87	Mount tube, for Jack Stand	01-02-028			
89	Clevis pin & ring, for Jack Stand	01-02-032			

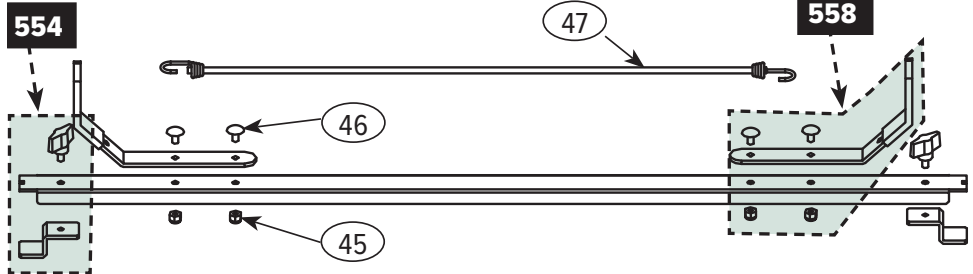
38

Wall Mount Kit, complete as boxed.



41a,c,d

Roof Rack Carrier, complete as boxed.



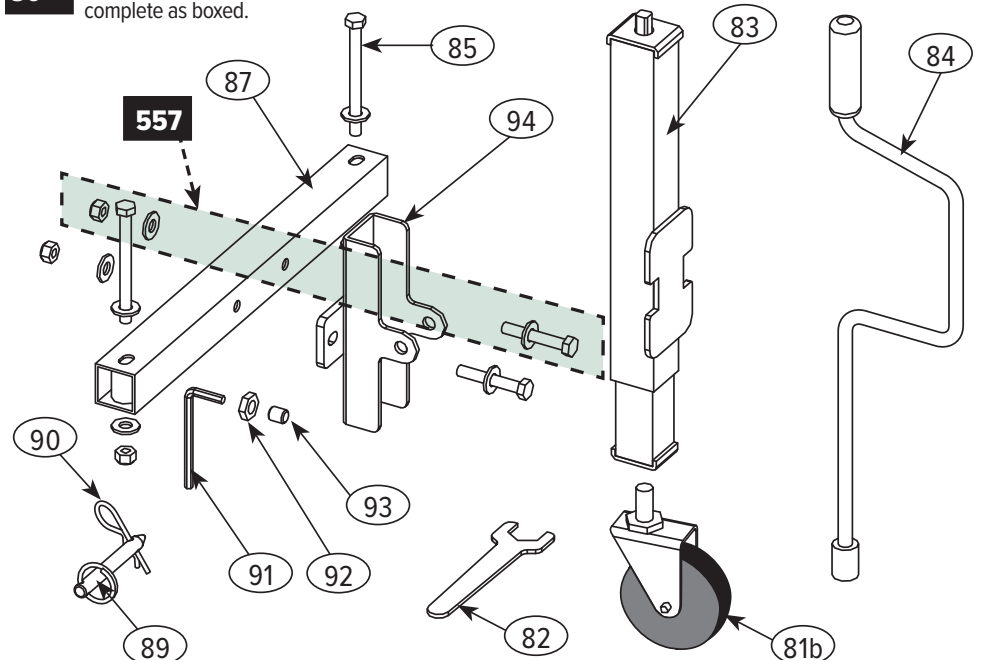
564, 656, 657

Engine Maintenance Kit, complete as boxed.



80

3rd Wheel Jack Stand, complete as boxed.



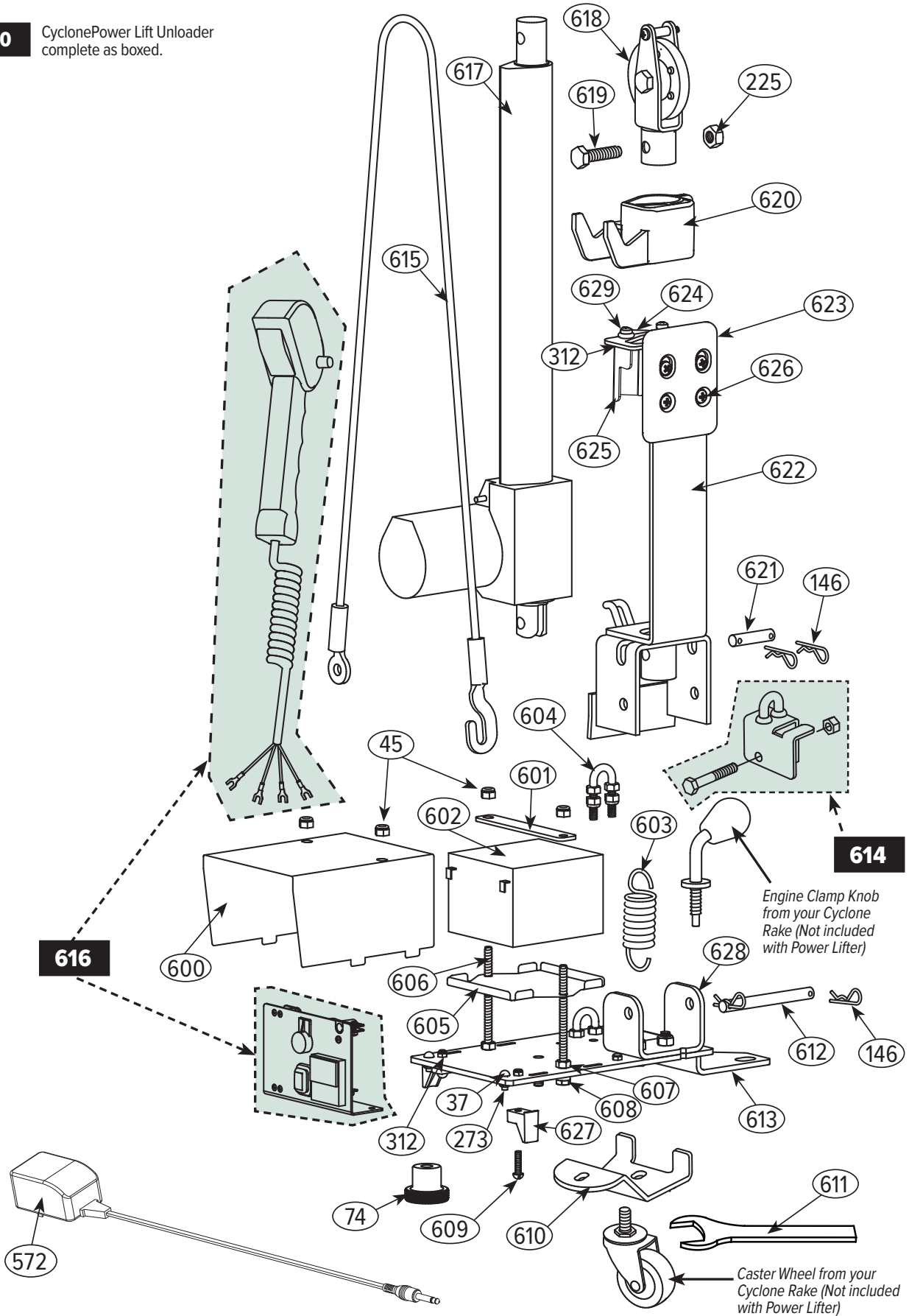
ACCESSORIES - POWER-LIFT UNLOADER

Ref. #	Part Name	Part #
37	10-24 x 1/2" Screw.....	01-01-173
45	1/4-20 Nylon lock nut.....	01-01-157
74.....	Clamp knob	01-01-291
146.....	Bridge pin, 42 mm	01-01-473
225.....	3/8" Nylon lock nut	01-01-240
273	10-24 Low profile nylon lock nut.....	01-01-199
312.....	M5 Nylon lock nut, 0.8 mm pitch.....	01-01-1122
520.....	Cyclone Power Lift Unloader, complete as boxed	244
572	Charger - Power-Lift	01-01-1504
600	Battery cover - Power-Lift	01-01-1538
601	Battery strap - Power-Lift.....	01-01-1552
602.....	Battery - Power Lifter.....	01-01-1539
603.....	Return spring - Power-Lift	01-01-1545
604.....	U-bolt w/nuts.....	01-02-554
605.....	Battery tray - Power-Lift	01-01-1537
606.....	1/4-20 x 4" Full thread bolt, grade 5.....	01-01-1536
607	1/4-20 Hex nut	01-01-1551
608.....	Spacer, battery bolt	01-01-1632
609.....	M5 x 20 mm Screw	01-01-1489
610	Caster bracket - Power-Lift	01-01-1540
611	Caster wrench - Power-Lift	01-01-1996
612.....	Pivot shaft - Power-Lift	01-01-1535
613.....	Base plate w/stud - Power-Lift.....	01-02-536
614.....	Collector bracket - Power-Lift.....	01-03-404
615.....	Lifter cable assembly - Power-Lift.....	01-02-543
616.....	Control panel assembly & Hand control - Power-Lift.....	01-03-540
617	Linear actuator - Power-Lift	01-01-1612
618.....	Pulley assembly complete - Power-Lift.....	01-03-395
619.....	3/8-16 x 1.75" Full thread bolt, grade 5	01-01-1668
620.....	Hand control holder - Power-Lift	01-02-555
621.....	Holding pin - Power-Lift.....	01-01-1592
622.....	Actuator pivot assembly - Power-Lift	01-02-542
623.....	Wear plate - Power-Liftr	01-01-1627
624.....	Actuator brace - Power-Lift.....	01-01-1622
625.....	Lifter cable guide - Power-Lift.....	01-01-2167
626.....	M6 x 16 mm Pan head screw, 1.0 mm pitch.....	01-01-1642
627.....	Base plate foot - Power-Lift.....	01-01-1548
628.....	Pivot bracket - Power-Lift.....	01-01-1510
629.....	M5 x 16 mm Screw, 0.8 mm pitch.....	01-01-1641
645.....	Spare parts kit - Power-Lift (not shown).....	01-02-557

ACCESSORIES - POWER-LIFT UNLOADER

520

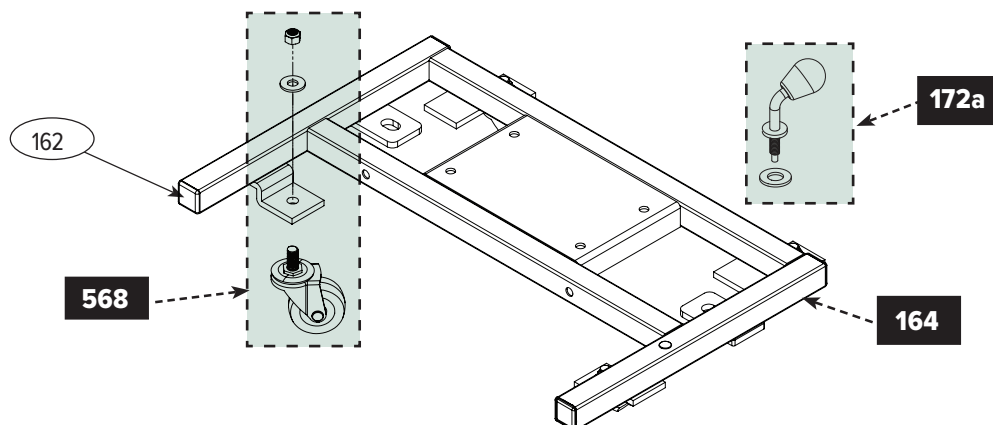
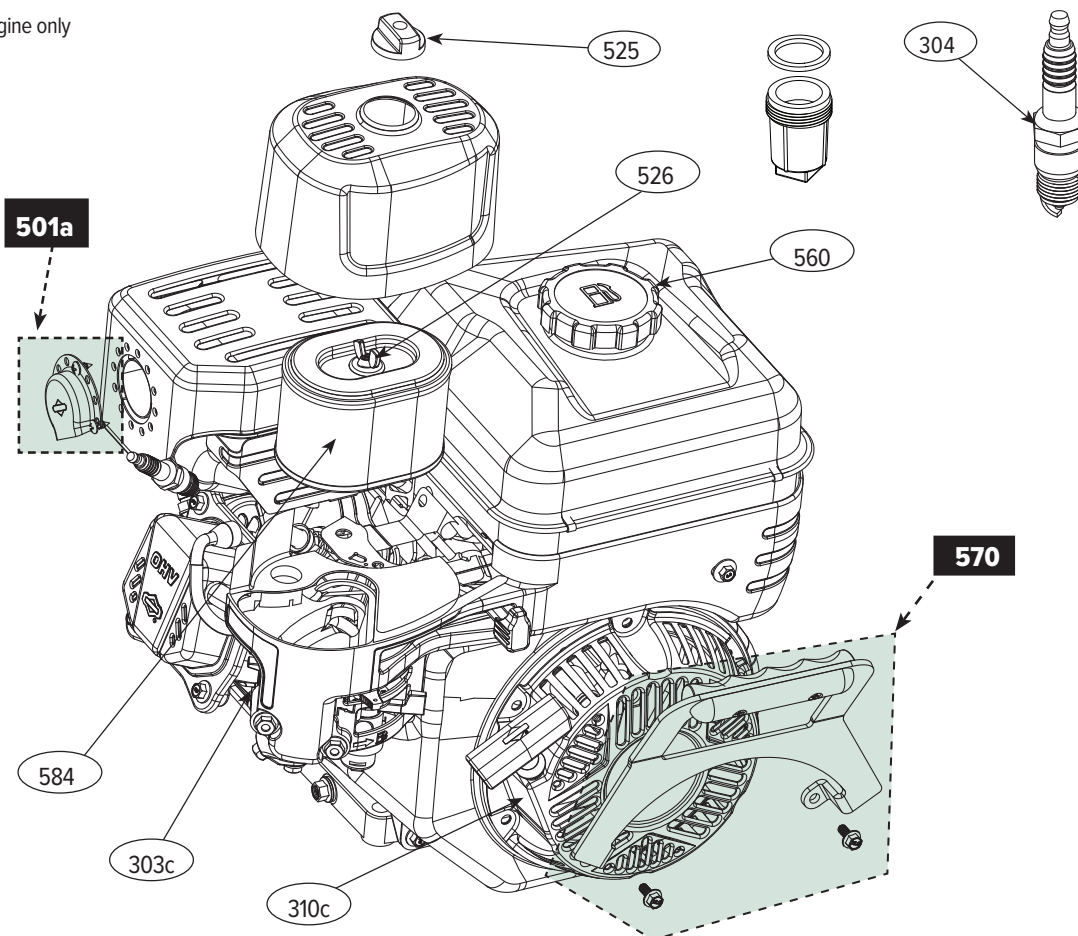
CyclonePower Lift Unloader
complete as boxed.



ENGINE - B&S XR950-PRO

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
162.....	1" Cap plug - black (set of 4)	09-02-055	525.....	Air filter cover knob - plastic	01-01-1744
164.....	Engine frame w/cap plugs	05-02-003	526.....	Wing nut - air filter	01-01-1745
172a.....	Engine clamp handle w/rubber washers (set of 2)	01-02-681	560.....	Carbon canister gas cap	01-01-782
302t.....	Engine - B&S - XR950-PRO	04-02-302	568.....	Caster wheel w/nut & washer for engine frame (set of 4).....	01-02-126
303c.....	Butterfly dipstick - XR950-PRO & Cyclonic engine	01-01-2151	570.....	Engine handle w/hardware, B&S XR950-PRO.....	01-03-2109
304.....	Spark plug, Bosch FR8DCX or equiv.....	01-01-758	584.....	Air & foam filters, B&S XR950-PRO.....	01-01-2116
310c.....	Recoil starter, B&S XR950-PRO	01-01-2113			
501a.....	Exhaust deflector w/hardware.....	01-01-1331			

302t XR950-PRO Engine only

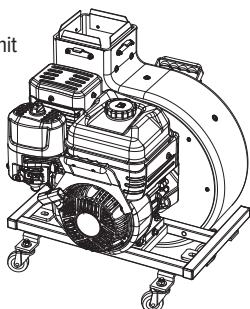


BLOWER UNIT - B&S XR950-PRO

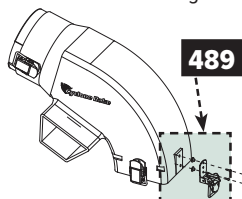
Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
3d	Exit chute, w/latches - Commercial PRO	02-02-077	444	7" Blower housing replacement kit - blue liner (no impeller) - Classic	01-03-1066
3f	Exit chute, w/latches - Classic & Commander	01-02-077	446	8" Blower housing replacement kit - blue liner (no impeller)- Commander & Commercial PRO	01-03-1069
4a	7" Blower Unit - XR950-PRO engine, 4-blade impeller & std liner - Classic	01-04-200	447	7" Blower Unit replacement kit, - std liner & 4-blade impeller - Classic	01-04-1036
4c	8" Blower Unit - XR950-PRO engine, 4-blade impeller & std liner - Commander	01-04-510	448	7" Blower Unit replacement kit, - blue liner & 4-blade impeller - Classic	01-04-1066
4d	8" Blower Unit - XR950-PRO engine, 5-blade orange impeller & std liner - Commercial PRO	02-04-400	449	8" Blower Unit replacement kit, - std liner & 4-blade impeller - Commander	01-04-1039
4e	7" Blower Unit - XR950-PRO engine, 4-blade impeller & blue liner - Classic	01-04-250	450	8" Blower Unit replacement kit, - blue liner & 4-blade impeller - Commander	01-04-1069
4g	8" Blower Unit - XR950-PRO engine, 4-blade impeller & blue liner - Commander	01-04-560	452	8" Blower Unit replacement kit, - blue liner & 5-blade impeller - Commercial PRO	01-04-1070
4h	8" Blower Unit - XR950-PRO engine, 5-blade orange impeller & blue liner - Commercial PRO	02-04-450	453	8" Blower Unit replacement kit, - std liner & 5-blade impeller - Commercial PRO	01-04-1040
269	10-24 x 1/2" Truss head screw	01-01-563	454	Yellow 4-blade impeller replacement kit for Commander w/XR950-PRO engine	02-03-018
276	Safety cover hinge bracket w/t-nut & screw	01-02-261	455	Orange 5-blade impeller replacement kit for Commercial PRO w/XR950-PRO engine	02-03-021
278a	7" Safety cover w/bolt & nut - Classic	01-02-260	489	Latch w/hardware (set of 2)	01-03-045
278b	8" Safety cover w/bolt & nut - Commander & Commercial PRO	01-02-1160	523	Standard strike, w/hardware (set of 4)	01-02-564
289	Blower liner nut (special part - 8 req'd)	01-01-145	571	Exit plate w/studs, wide strike & nuts	01-02-128
298	Blower front handle w/hardware	01-03-1866			
443	7" Blower housing replacement kit - std liner (no impeller) - Classic	01-03-1036			
445	8" Blower housing replacement kit - std liner (no impeller) - Commander & Commercial PRO	01-03-1039			

4 a,c,d,e,g,h

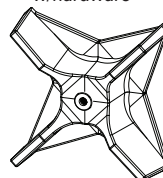
B&S XR950-PRO Engine/Blower Unit with impeller



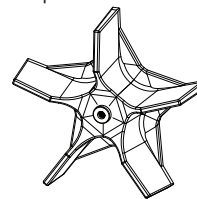
3d, f Exit Chute, w/latches - geen



454 4-Blade Yellow Impeller Replacement kit w/hardware

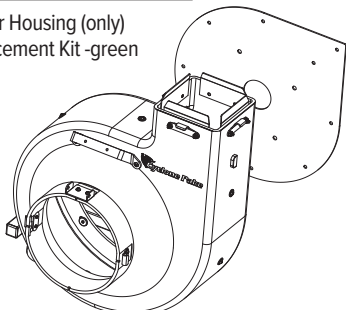


455 5-Blade Orange Impeller Replacement Kit w/hardware



443, 444, 445, 446

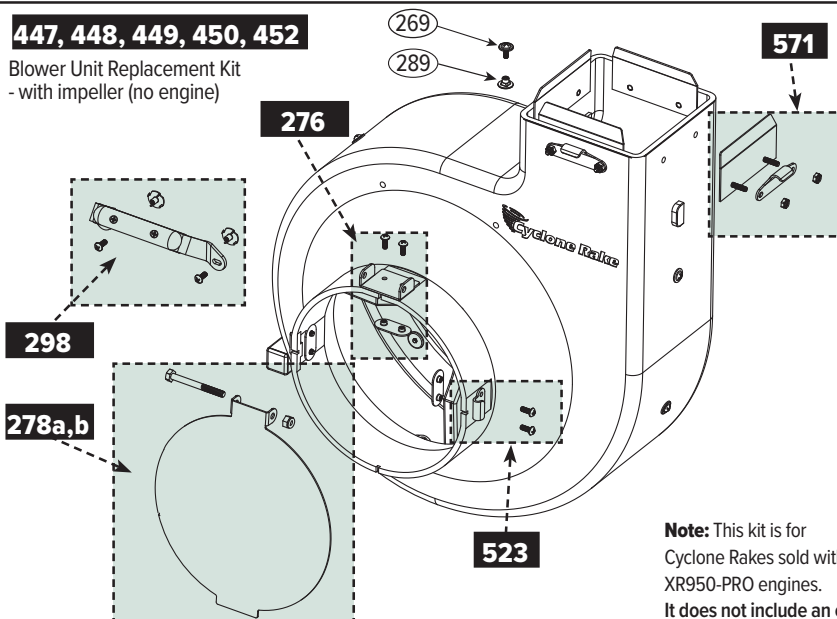
Blower Housing (only) Replacement Kit -green



Note: This kit is for Cyclone Rakes sold with XR950-PRO engines. It does not include an impeller or engine.

447, 448, 449, 450, 452

Blower Unit Replacement Kit - with impeller (no engine)

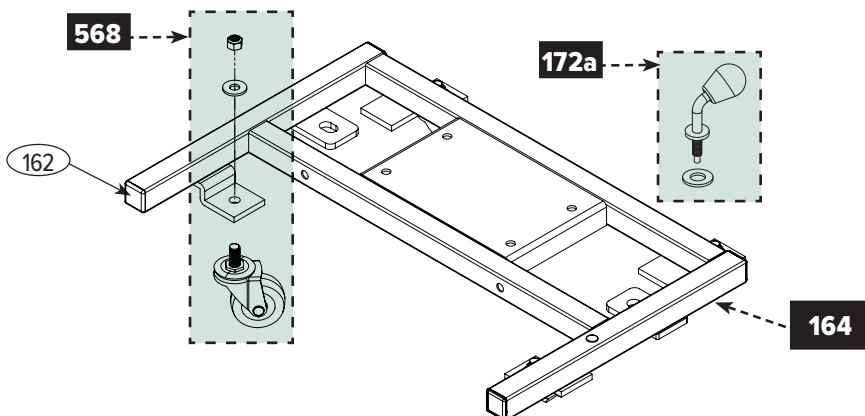
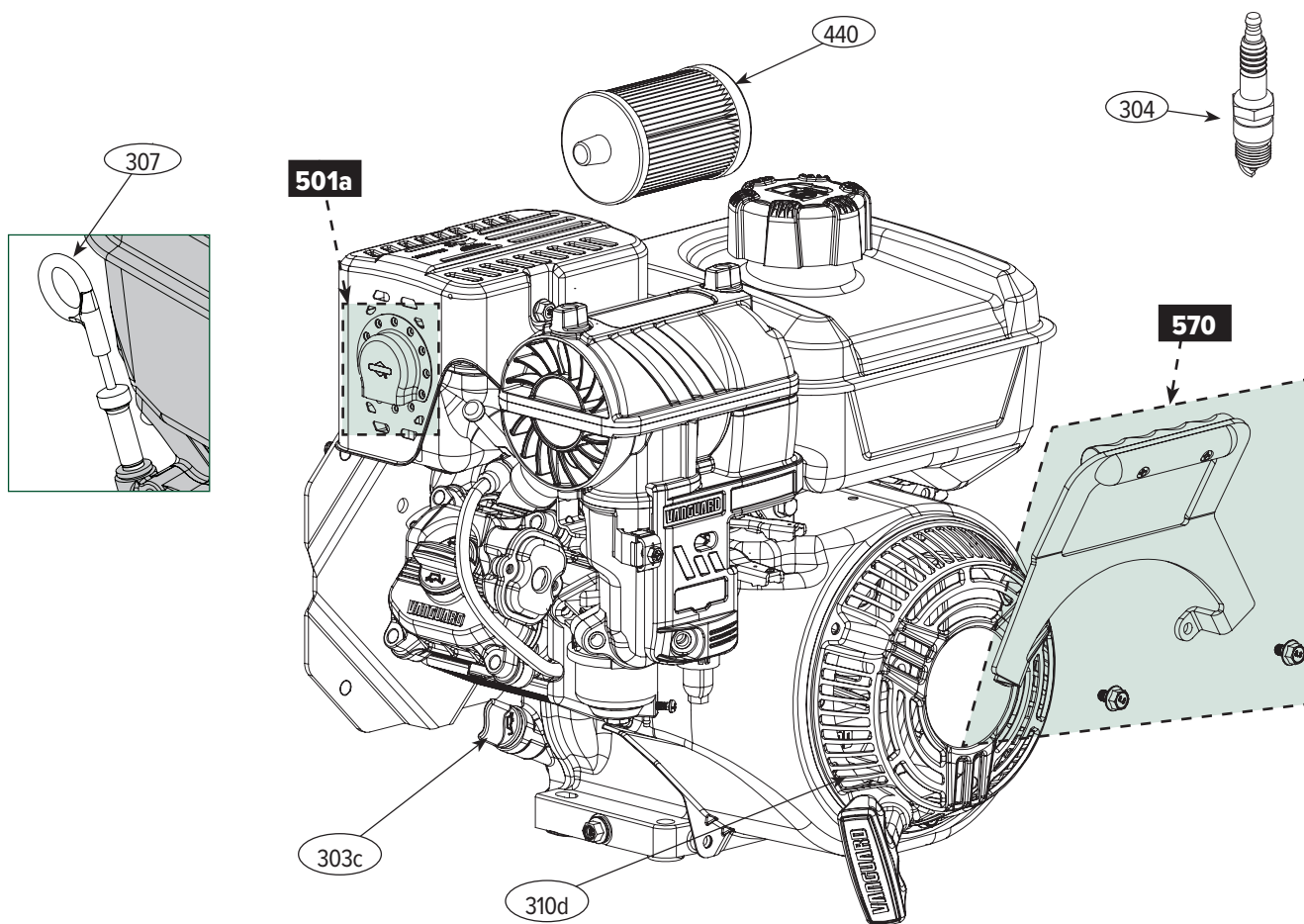


Note: This kit is for Cyclone Rakes sold with XR950-PRO engines. It does not include an engine.

ENGINE - B&S 6.5 HP VANGUARD CYCLONIC

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
162.....	1" Cap plug - black (set of 4)	09-02-055	310d	Recoil starter, - B&S 6.5HP Cyclonic	01-01-2153
164.....	Engine frame w/cap plugs	05-02-003	440.....	Air filter, B&S 6.5HP Cyclonic	01-01-2116
172a.....	Engine clamp handle w/rubber washers (set of 2)	01-02-681	441.....	Exhaust deflector, B&S 6.5HP Cyclonic	01-01-2114
302s.....	Engine - B&S 6.5HP Vanguard Cyclonic	01-04-307	501a	Exhaust deflector w/hardware	01-01-1331
303c.....	Butterfly dipstick - XR950-PRO & Cyclonic engines.....	01-01-2151	568.....	Caster wheel w/nut & washer for engine frame (set of 4).....	01-02-126
304.....	Spark plug, Bosch FR8DCX or equiv.....	01-01-758	570.....	Engine handle, B&S XR950-PRO	01-03-2109
307.....	Long dipstick - B&S 6.5HP Cyclonic	01-01-2150			

302s 6.5 HP Vanguard Cyclonic Engine Only

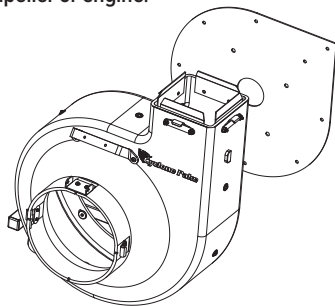


BLOWER UNIT - B&S 6.5 HP VANGUARD CYCLONIC

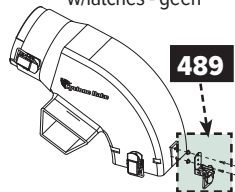
Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
3d.....	Exit chute, complete w/latches - Commercial PRO.....	02-02-077	446.....	8" Blower housing replacement kit - blue liner (no impeller) - Commander & Commercial PRO.....	01-03-1069
3f.....	Exit chute, complete w/latches - Commander	01-02-077	449.....	8" Blower Unit replacement kit - std liner & 4-blade impeller - Commander	01-04-1039
4u.....	8" Blower Unit - 6.5 HP Cyclonic Engine, std liner & 4-blade impeller - Commander	01-04-610	450.....	8" Blower Unit replacement kit - blue liner & 4-blade impeller - Commander.....	01-04-1069
4v.....	8" Blower Unit - 6.5 HP Cyclonic Engine, blue liner & 4-blade impeller - Commander	01-04-660	452.....	8" Blower Unit replacement kit - blue liner & 5-blade impeller - Commercial PRO	01-04-1070
4w.....	8" Blower Unit - 6.5 HP Cyclonic Engine, std liner & orange 5-blade impeller - Commercial PRO.....	02-04-610	453.....	8" Blower Unit replacement kit - std liner & 5-blade impeller - Commercial PRO	01-04-1040
4x.....	8" Blower Unit - 6.5 HP Cyclonic Engine, blue liner & orange 5-blade impeller - Commercial PRO.....	02-04-660	454.....	Yellow 4-blade impeller replacement kit for Commander w/ 6.5hp cyclonic engine.....	02-03-018
269.....	10-24 x 1/2" Truss head screw	01-01-563	455.....	Orange 5-blade impeller replacement kit for Commercial PRO w/6.5hp cyclonic engine	02-03-021
276.....	Safety cover hinge bracket w/t-nut & screw	01-02-261	489.....	Latch w/hardware (set of 2)	01-03-045
278b.....	8" Safety cover w/bolt & nut - Commander & Commercial PRO.....	01-02-1160	523.....	Standard strike, w/hardware (set of 4).....	01-02-564
289.....	Blower liner nut (special part - 8 req'd).....	01-01-145	531.....	Collar shoe for latch	01-01-1276
298.....	Blower front handle w/hardware	01-03-1866	571.....	Exit plate w/studs, wide strike & nuts	01-02-128
445.....	8" Blower housing replacement kit - std liner (no impeller) - Commander & Commercial PRO.....	01-03-1039			

445, 446 Blower Housing (only) Replacement Kit -green

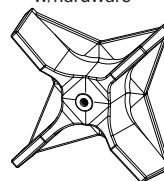
Note: This kit is for Cyclone Rakes sold with 6.5 HP Vanguard Cyclonic engines. It does not include an impeller or engine.



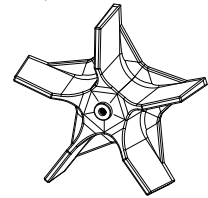
3d, f Exit Chute, complete w/latches - geen



454 4-Blade Yellow Impeller Replacement kit w/hardware

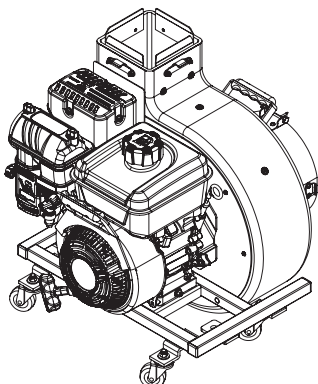


455 5-Blade Orange Impeller Replacement Kit w/hardware



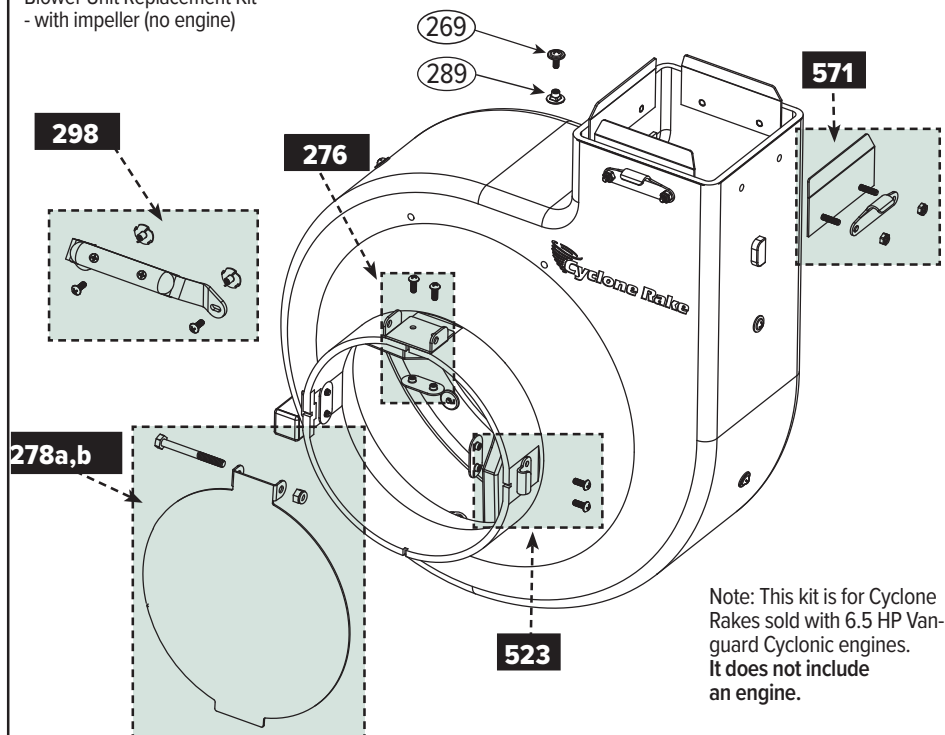
4u, v, w, x

B&S 6.5 HP Cyclonic Engine/
Blower Unit with impeller



449, 450, 452, 453

Blower Unit Replacement Kit
- with impeller (no engine)

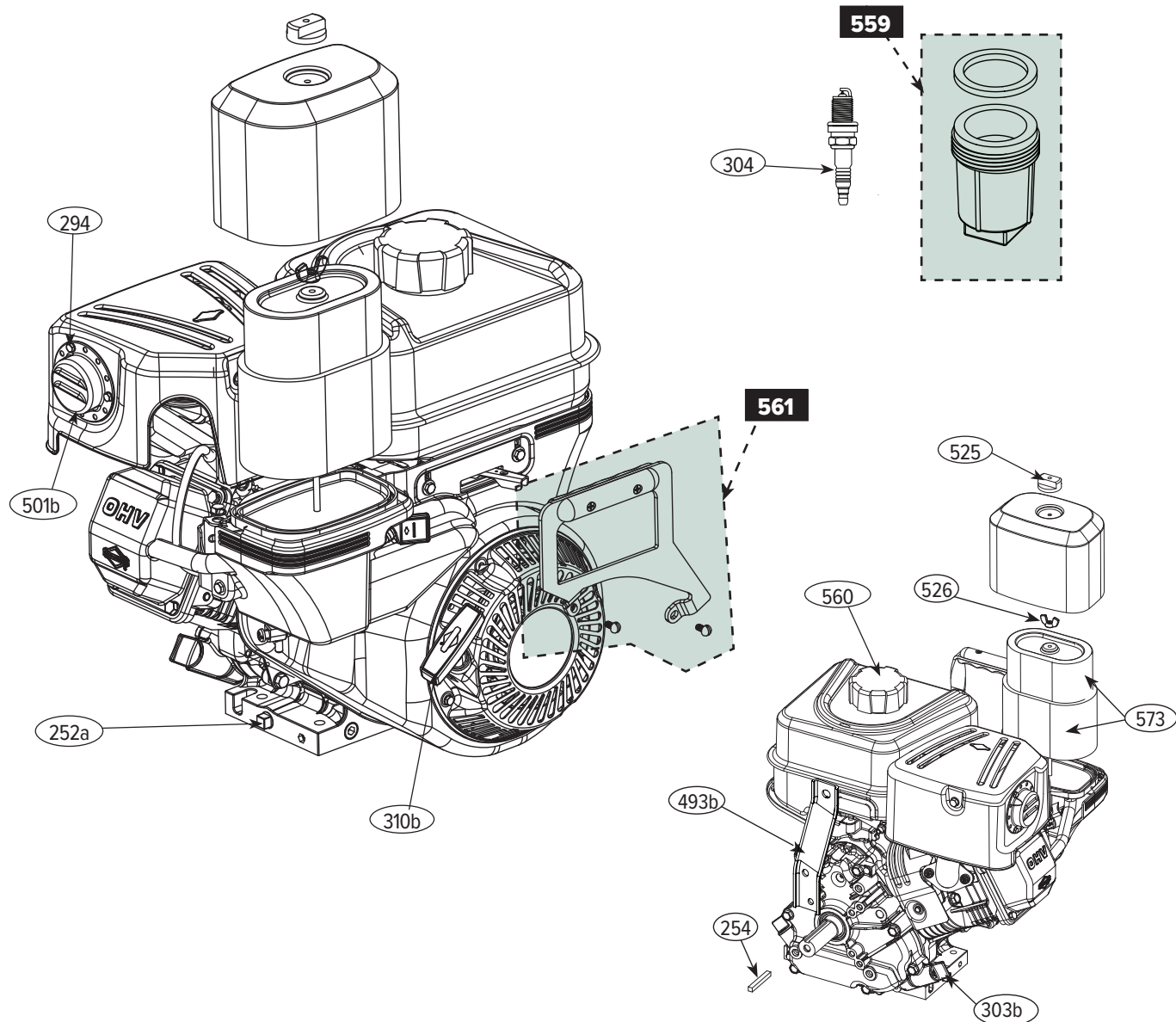


Note: This kit is for Cyclone Rakes sold with 6.5 HP Vanguard Cyclonic engines. It does not include an engine.

ENGINE - B&S 8 HP & 10 HP - PULL-START

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
252a.....	Oil drain plug.....	01-01-812	493b.....	Briggs front bracket 8 HP & 10 HP	06-01-014
254.....	Shaft key.....	01-01-301	501b.....	Exhaust deflector	
294.....	8-3/8" Sheet metal screw	01-01-298		- Briggs & Stratton Vanguard 8HP & 10HP	05-01-1331
302h.....	10 HP Briggs & Stratton Vanguard		525.....	Air filter cover knob - plastic.....	01-01-1744
	- Z-10 (engine only)	06-02-301	526.....	Wing nut - air filter	01-01-1745
302i.....	8 HP Briggs & Stratton Vanguard -		559.....	Fuel bowl & gasket - aluminum	01-02-609
	XL (engine only).....	05-02-302	560.....	Carbon canister gas cap	01-01-782
303b.....	Oil fill butterfly plug.....	01-01-1356	561.....	Engine handle	
304.....	Spark plug, Bosch FR8DCX or equiv.....	01-01-758		- Briggs & Stratton Vanguard - 8HP & 10HP	06-02-017
310b.....	Recoil starter, Briggs & Stratton Vanguard.....	01-01-1353	573.....	Air & foam filters	
311b.....	Engine handle bolt, Briggs & Stratton Vanguard	01-01-1800		- Briggs & Stratton Vanguard - 8 HP & 10 HP	01-01-1908

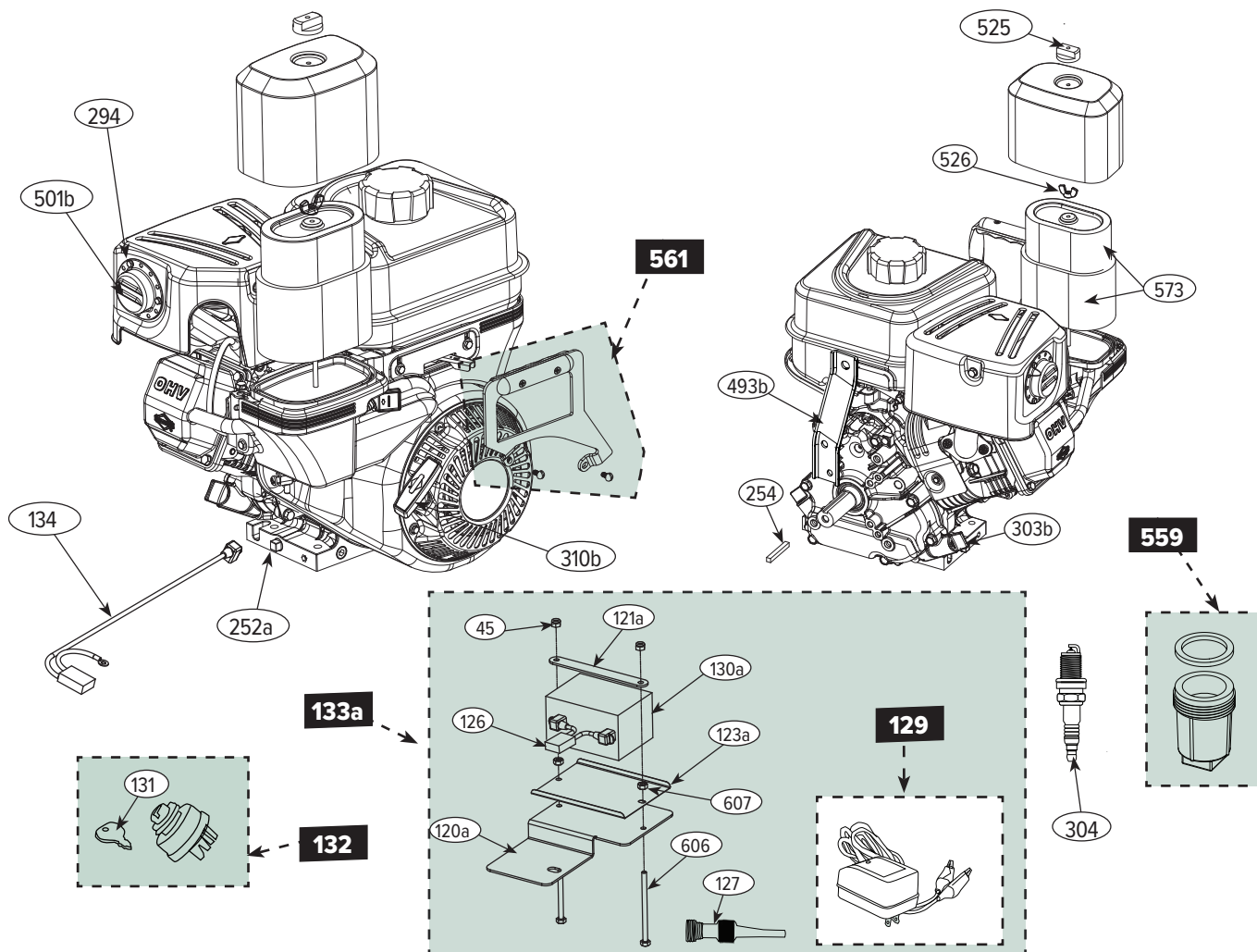
302h,i 8HP & 10HP B&S Vanguard Pull Start Engine Only



ENGINE - B&S 8 HP & 10 HP - ELECTRIC START

Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
45	.....1/4-20 Nylon lock nut.....	01-01-157	303b	.....Oil fill butterfly plug.....	01-01-1356
120a	.....Battery platform	05-01-2226	304	.....Spark plug, Bosch FR8DCX or equiv.....	01-01-758
121a	.....Battery hold down.....	05-01-2231	310b	.....Recoil starter, Briggs & Stratton Vanguard.....	01-01-1353
123a	.....Battery tray	05-01-2232	311b	.....Engine handle bolt, Briggs & Stratton Vanguard.....	01-01-1800
126	.....Battery harness	01-01-1942	493b	.....Briggs Front Bracket 8 HP & 10 HP	06-01-014
127	.....Funnel.....	01-01-1905	501b	.....Exhaust deflector	
129	.....Charger 800ma	01-01-1954		- Briggs & Stratton Vanguard 8HP & 10HP.....	05-01-1331
130a	.....Battery- Lithium Ion.....	05-01-2225	525	.....Air filter cover knob - plastic.....	01-01-1744
131	.....Key - Electric Start	01-01-1978	526	.....Wing nut - air filter	01-01-1745
132	.....Switch & Key Assembly - Electric Start	01-02-1978	559	.....Fuel bowl & gasket - aluminum	01-02-609
133a	.....Battery Pack complete - Electric Start.....	05-03-1200	560	.....Carbon canister gas cap	01-01-782
134	.....Engine harness	01-01-1941	561	.....Engine handle	
252a	.....Oil drain plug.....	01-01-812		- Briggs & Stratton Vanguard - 8HP & 10HP	06-02-017
254	.....Shaft key.....	01-01-301	573	.....Air & foam filters	
294	.....8-3/8" Sheet metal screw	01-01-298		- Briggs & Stratton Vanguard - 8 HP & 10 HP.....	01-01-1908
302m	.....8 HP Briggs & Stratton Vanguard w/electric start		606	.....1/4-20 x 4" Hex bolt	01-01-1536
	- XL (engine only).....	05-02-302E	607	.....1/4-20 Hex nut.....	01-01-1551
302n	.....10 HP Briggs & Stratton Vanguard w/electric start				
	- Z-10 (engine only)	06-02-301E			

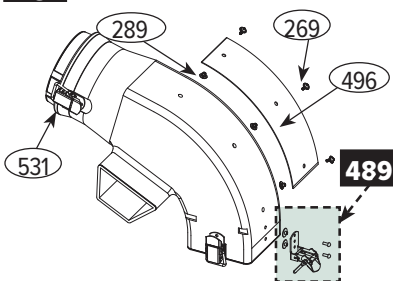
302m,n 8HP & 10HP B&S Vanguard Electric Start Engine Only



BLOWER UNIT - BRIGGS & STRATTON 8 HP & 10 HP ENGINES

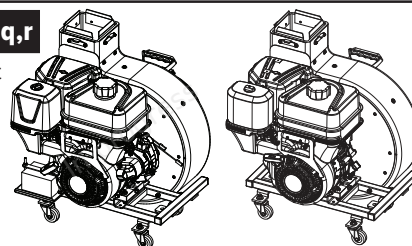
Ref. #	Part Name	Part #	Ref. #	Part Name	Part #
3g	Exit chute, complete w/latches - XL & Z-10	05-02-077	102	10" Blower housing replacement kit - blue liner & frame (no impeller) - Z-10	06-03-1068
4i	8" Blower Unit - 8HP pull-start engine, std liner - XL	05-04-500	162	1" Cap plug - black (set of 4)	09-02-055
4j	10" Blower Unit - 10HP pull start engine, std liner - Z10	06-04-500	172a	Engine clamp handle w/rubber washers (set of 2)	01-02-681
4k	8" Blower Unit - 8HP pull-start engine, blue liner - XL	05-04-550	269	10-24 x 1/2" Truss head screw	01-01-563
4m	10" Blower Unit - 10HP pull start engine, blue liner - Z-10	06-04-550	276	Safety cover hinge bracket w/t-nut & screw	01-02-261
4n	8" Blower Unit - 8HP electric start engine, std liner - XL	05-04-500E	278c	8" Safety cover, yellow w/bolt & nut - XL	05-02-1160
4p	10" Blower Unit - 10HP electric start engine, std liner - Z-10	06-04-500E	278d	10" Safety cover, yellow w/bolt & nut - Z-10	06-02-009
4q	8" Blower Unit - 8HP electric start engine, blue liner - XL	05-04-550E	289	Blower liner nut (special part - 8 req'd)	01-01-145
4r	10" Blower Unit - 10HP electric start engine, blue liner - Z10	06-04-550E	298	Blower front handle w/hardware	01-03-1866
22	Green 5-blade impeller replacement kit w/hardware - XL & Z-10	02-03-023	289	Blower liner nut (special part - 8 req'd)	01-01-145
88	8" Blower housing replacement kit - std liner & frame (no impeller) - XL	05-03-1038	489	Latch w/hardware (set of 2)	01-03-045
97	8" Blower housing replacement kit - blue liner & frame (no impeller) - XL	05-03-1068	496	Exit chute liner	05-01-005
98	10" Blower housing replacement kit -std liner & frame (no impeller) - Z-10	06-03-1038	523	Standard strike, w/hardware (set of 4)	01-02-564
			531	Collar shoe for latch	01-01-1276
			547	8" Blower Unit replacement kit - std liner & impeller- XL	05-04-038
			548	8" Blower Unit replacement kit - blue liner & impeller - XL	05-04-068
			549	10" Blower Unit replacement kit - std liner & impeller - Z-10	06-04-038
			550	10" Blower Unit replacement kit - blue liner & impeller - Z-10	06-04-068
			568	Caster wheel w/nut & washer for engine frame	01-02-126
			571	Exit plate w/studs, wide strike & nuts	01-02-128

3g Exit Chute, complete w/latches - yellow

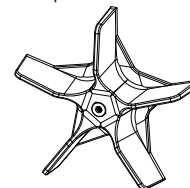


4 i,j,k,m,n,p,q,r

Engine/Blower Unit with impeller

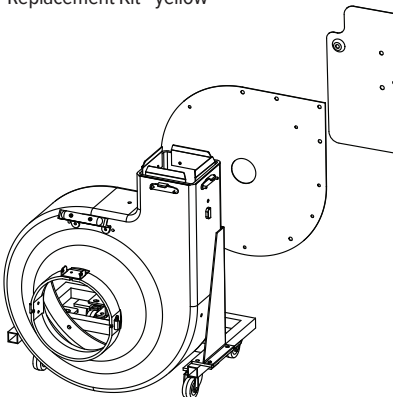


22 5-Blade Green Impeller replacement kit w/hardware



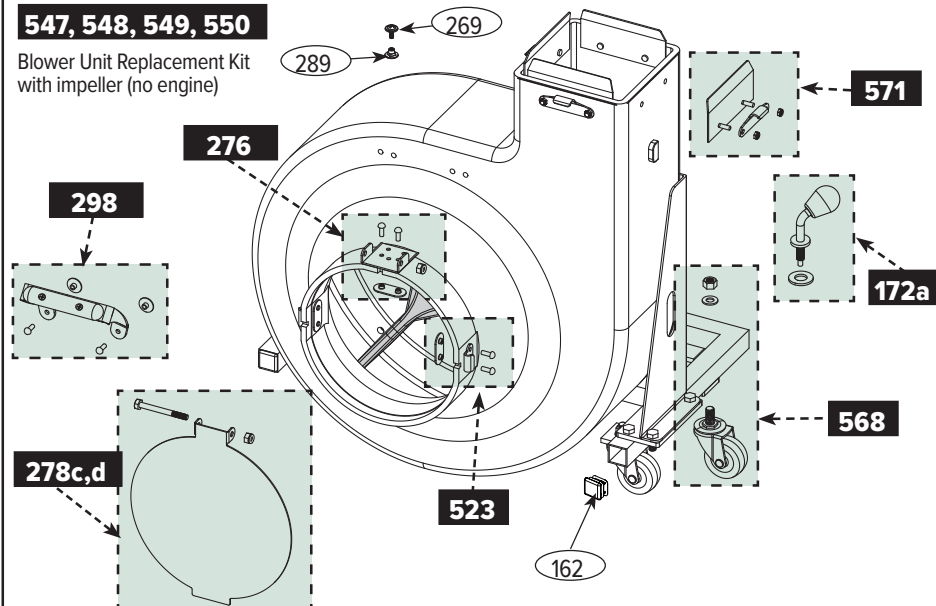
88, 97, 98, 102

Blower Housing (no impeller) Replacement Kit - yellow



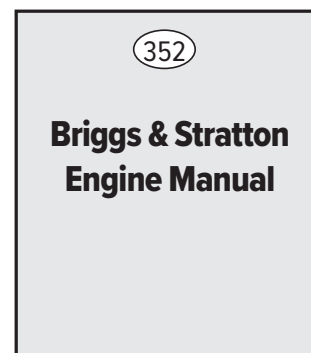
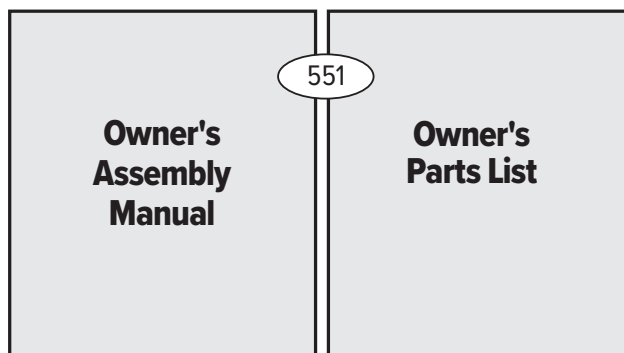
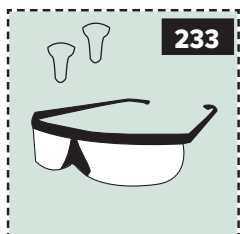
547, 548, 549, 550

Blower Unit Replacement Kit with impeller (no engine)



OWNER'S KIT - ALL CYCLONE RAKE MODELS

Ref. #	Part Name	Part #
233.....	Safety glasses & ear plug set.....	01-04-013
352.....	Briggs & Stratton Operating & Maintenance Instructions	01-06-021
551.....	Owner's Assembly Manual & Parts List	01-06-283



NOTES

