LITTLE WONDER® Shredding

TruckLoader

MODELS: **8160-00-01**
16HP Briggs & Stratton
8180-00-01
18HP Briggs & Stratton

OPERATOR / PARTS MANUAL

MAN 4165641
Rev. B
Original Language Instructions

SCHILLER GROUNDS CARE

CALIFORNIA

Proposition 65 Warning

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

⚠ WARNING

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

CALIFORNIA

Proposition 65 Warning

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

IMPORTANT MESSAGE

On behalf of everyone at Little Wonder, we would like to thank you for your purchase of a Little Wonder Petrol (Gasoline) Powered Shredding Truckloader. This professional truckloader was designed to the highest standards to ensure you many hours of uninterrupted service.

This manual provides the information necessary for safe and efficient operation and service. For your safety, it is critically important that you read and understand this entire manual before operating your shredding truckloader.

LITTLE WONDER
SCHILLER GROUNDS CARE, INC.
1028 STREET ROAD, P.O. BOX 38
SOUTHAMPTON, PA 18966

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NOTICE !!!

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

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

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

Schiller Grounds Care, Inc.

One Bobcat Lane
Johnson Creek, WI 53038 U.S.A
Phone: 920-699-2000
Fax: 920-699-3683

MODEL NUMBER

SERIAL NUMBER

This symbol means:
ATTENTION!
BECOME ALERT!

Your safety and the safety of others is involved.

Signal word definitions:

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

⚠DANGER

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

⚠WARNING

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

⚠CAUTION

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

CAUTION

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

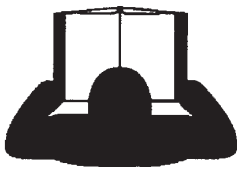
MODEL NUMBER: This number appears on sales literature, technical manuals and price lists.

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

PREPARING FOR SAFE OPERATION

Operator preparation and training

Read the Operation & Safety Manual



– If an operator or mechanic cannot read the language of this manual, it is the owner's responsibility to explain this material to them. If any portion of this material is unclear, contact your factory representative for clarification.

– Become familiar with the safe operation of the equipment, operator controls and safety signs. Be prepared to stop the engine quickly in an emergency. Do not operate or allow another person to operate this machine if there are any questions about safety.

– All operators and mechanics should be trained. The owner is responsible for training the users.

– Wear appropriate clothing, including gloves. Wear substantial skid resistant footwear. Do not operate barefoot or wearing open sandals. Long hair, loose clothing or jewelry may get tangled in moving parts.

– Wear hearing protection.

– Wear safety glasses.

– Wear a dust mask to avoid breathing dust.

– Never allow underage children, unskilled or improperly trained people to operate this equipment. Local regulations can restrict the age of the operator.

– Keep warning labels and this operator's manual legible and intact. Replacement labels and manuals are available from the factory.

– Do not operate machine while under the influence of drugs or alcohol.

– The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

SITE PREPARATION AND CIRCUMSTANCES

– Evaluate the terrain to determine how to safely perform the job. Only use accessories and attachments approved by the manufacturer.

– Be sure the area is clear of pets and people, especially young children. Never assume they will remain where you last saw them. Stop the machine if any enter the area.

MACHINE PREPARATION

– Do not tamper with or defeat safety devices. Keep guards, shields and interlock safety devices in place and in proper working condition. They are for your protection.

– Keep all fasteners such as nuts, bolts and pins well secured.

– Verify that machine and attachments, if any, are in good operating condition.

– Do not start engine until ready to load debris.

STARTING

– Start according to instructions in this manual or on the machine.

– When starting the engine, make sure hands and feet are clear of the impeller.

– Do not change engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.

INTERRUPTING OPERATION

- Before leaving the operator's position:
  - Shut off the engine.
- Stop the engine and disconnect the spark plug wire(s):
  - before clearing blockages;
  - before checking, cleaning or working on the machine;
  - after striking a foreign object. Inspect the machine for damage and make repairs before restarting;
  - if the machine begins to vibrate abnormally: shut off machine immediately. Inspect and make repairs as needed before restarting;
  - except for repairs or adjustments as specifically noted, such as for carburetor adjustment, where the engine must be running. Keep hands and feet clear of moving parts in these circumstances.
- Allow the fan to come to a complete stop when stopping operation to clear blockages, unclog, inspect the machine, do maintenance or repair.
- Reduce the throttle setting during engine shut-down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of operation.

MAINTENANCE SAFETY

In general

- Maintain machine according to manufacturer's schedule and instructions for maximum safety and best results.
- Park supporting vehicle on level ground.
- Never allow untrained personnel to service machine.
- Adjust or repair only after the engine has been stopped and the fan has stopped moving.
- Replace parts if worn, damaged or faulty. For best results, always replace with parts recommended by the manufacturer.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support, e.g. jack stands for lifted machine or parts if working beneath.
- Do not put hands or feet near or under rotating parts.
- Clean up spilled oil or fuel thoroughly.
- Replace faulty mufflers.
- To reduce fire hazards, keep the engine, muffler, and fuel storage area free of grass, leaves, debris buildup or grease.

MAINTENANCE AND ADJUSTMENTS

- Disconnect spark plug wire(s) before doing any maintenance.
- Particular care must be taken when adjusting the carburetor while the engine is running. Keep hands and feet clear. Shut off blades.
- When working underneath lifted parts or machines, make sure adequate support is provided.
- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Guards should only be removed by a qualified technician for maintenance or service.
- Replace worn or damaged parts for safety.
- Use only replacement parts supplied by original manufacturer.

Fans

Do not straighten or weld fans. Replace damaged or failed fans.

Fuel

⚠ WARNING

- Petrol (gasoline) and diesel fuels are flammable; petrol (gasoline) vapors are explosive. Use extra care when handling.
- Store only in containers specifically designed for fuel.
- When refueling or checking fuel level:
  - Stop the engine and allow to cool;
  - Do not smoke;
  - Refuel outdoors only;
  - Use a funnel;
  - Do not overfill;
- If fuel is spilled, do not attempt to start the engine until the spill is cleaned up and vapors have cleared.

Sparks from static electricity can start fires or cause explosions. Flowing fuel can generate static electricity. To prevent static electricity sparks:

- Keep containers electrically grounded. Do not fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.
- When practical, remove petrol (gasoline) powered equipment from the truck or trailer and refuel it on the ground. If equipment must be refueled on the truck or trailer, refuel from a portable container rather than a dispenser nozzle.
- Keep the dispenser nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock-open device.
- Replace caps on fuel cans and tanks securely.
- If fuel is spilled on clothing change it immediately.

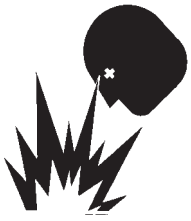
STORAGE SAFETY

In general

- Stop the engine and allow to cool before storing.
- Drain the fuel tank outdoors only.
- Store fuel in an approved container in a cool, dry place.
- Keep the machine and fuel containers in a locked storage place to prevent tampering and to keep children from playing with them.
- Do not store the machine or fuel container near heating appliances with an open flame, such as a water heater, or and appliance with a pilot light.
- Keep gasoline storage area free of grass, leaves, and excessive grease to reduce fire hazard.
- Clean grass and debris from cutting units, drives, mufflers, and engine to help prevent fires.

BATTERY

⚠ WARNING



Battery acid is caustic and fumes are explosive and can cause serious injury or death.

To reduce the risk of personal injury when working near a battery:

– When working with battery acid, use protective equipment such as, but not limited to, goggles, face shield, rubber gloves and apron.

– Avoid leaning over a battery.

– Do not expose a battery to open flames or sparks.

– Be sure batteries with filler caps are properly filled with fluid.

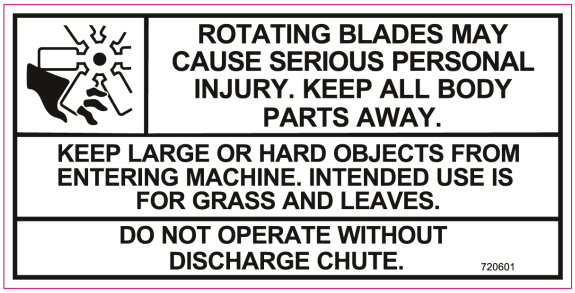
– Do not allow battery acid to contact eyes or skin. Flush any contacted area with water immediately and get medical help.

– Charge batteries in an open, well ventilated area, away from sparks and flames. Unplug charger before connecting or disconnecting from battery

JUMP STARTING

1. Be sure the jumper cables are in good condition. Turn off the ignition and all electrical accessories on both machines.
2. Position the machine with a good (charged) battery next to but not touching the machine with the dead battery so jumper cables will reach.
3. When making cable connections:
   - make sure the clamps do not touch anywhere except to intended metal parts,
   - Never connect a positive ("+" or red) terminal to a negative ("–" or black) terminal.
   - Make sure the cables won't get caught in any parts after the engines are started.
4. Connect one end of the first jumper cable to the **positive** terminal on one battery. Connect the other end to the **positive** terminal on the other battery.
5. Connect one end of the other cable to the **negative** terminal of the machine with a good (charged) battery. Make the final connection on the engine of the machine to be started, away from the battery.
6. Start the vehicle with the good battery, then the machine with the discharged battery.
7. Remove the cables in the exact reverse order of installation. When removing each clamp, take care it does not touch any other metal parts while the other end remains attached.

CAUTION: HOT SURFACE
P/N 720600



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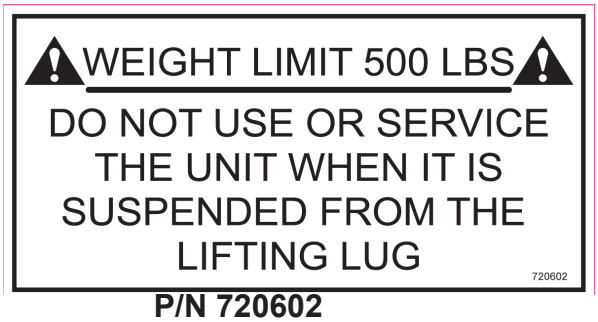

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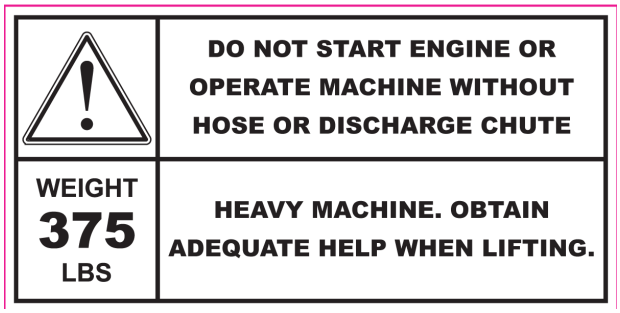
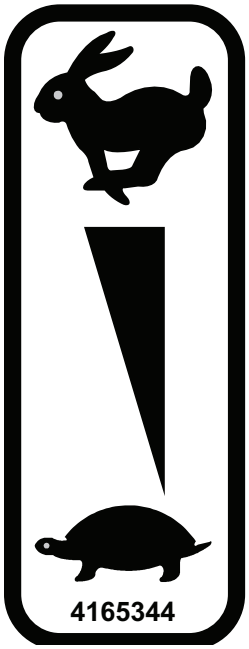
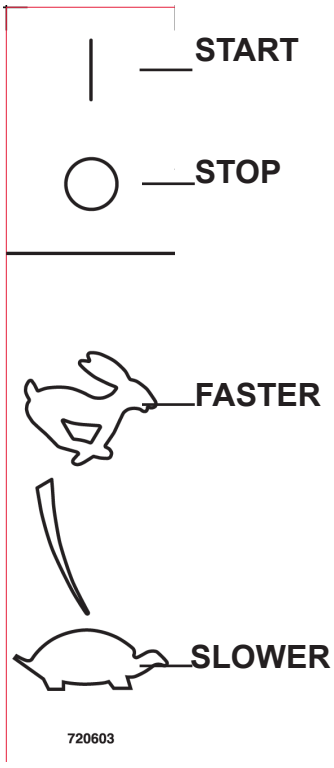


P/N 720605

18HP THROTTLE LABEL



16HP THROTTLE LABEL



P/N 720603

CAUTION: THROWN OBJECTS
KEEP BYSTANDERS AWAY

P/N 720609

Rotating Fan:
CUT / AMPUTATION HAZARD
-Keep hands and and other body parts out of blower housing.

Thrown Object Hazard:
-Keep bystanders away.
-Direct discharge into a suitable receptacle.

Before Servicing:
-Stop engine.
-Remove key (if applicable).
-Remove spark plug wire(s).

Wear Personal Protective Equipment to protect your eyes and hearing.

Wear Respiratory Equipment to protect yourself from breathing dust.

-Read, understand and obey Operator Manual.

-Pay particular attention to safety sections.

-Store in a safe place.

P/N 600602

DEBRIS RECEPTACLE

The Shredding Truckloader is intended to be used in conjunction with a truck or trailer mounted debris receptacle to load landscape debris for removal from a work site to storage, dump or processing site. These receptacles or debris bodies or boxes are provided by the user and are the responsibility of the user. Following are some considerations to keep in mind when designing / building, or buying a debris receptacle on a vehicle.

1. It must be road worthy.

2. It must be constructed sturdily enough to contain the high velocity and force of entering debris to prevent injury to bystanders and damage to property.

3. Sufficient screen area must be provided to allow the air produced by the truckloader to escape while containing the lighter debris. A bigger screen area reduces the speed of the air through the screen and helps reduce the amount of debris that will be held to the screen. The screen area should be in the last area to be fill so it stays clean. If the air cannot escape, the truckloader will not be able to generate a vacuum to pick up debris.

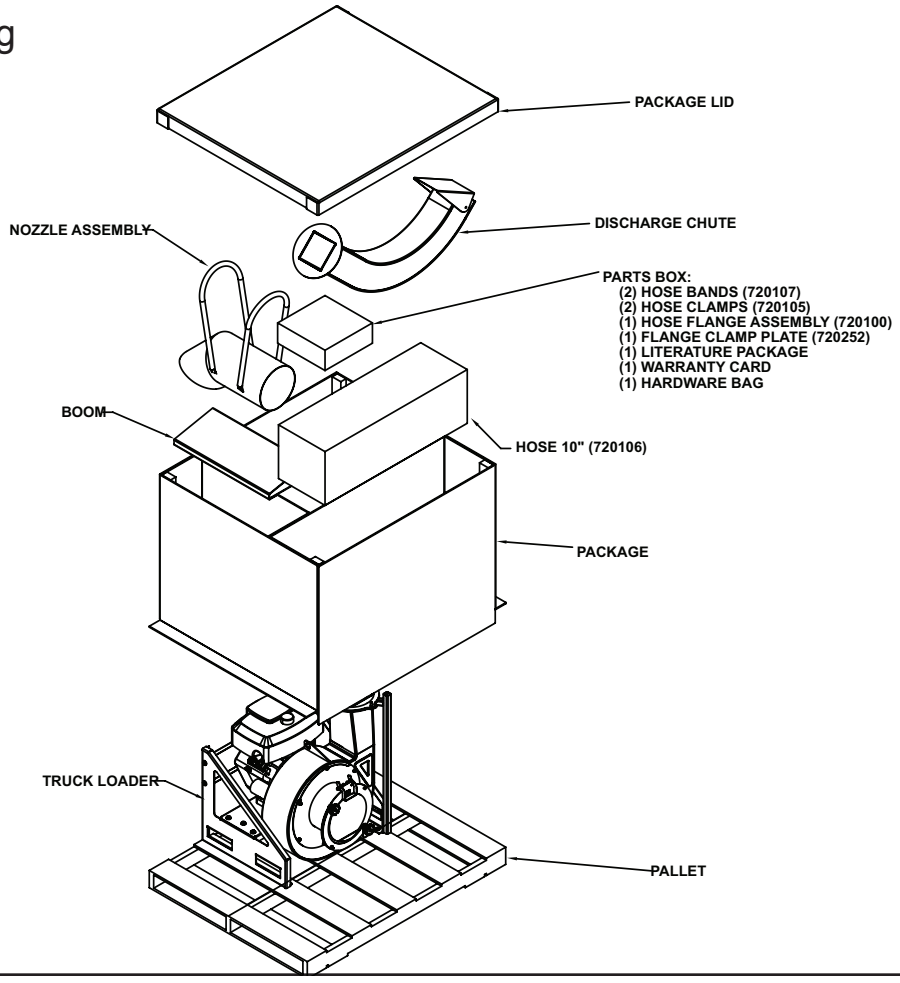
4. It should prevent the debris from blowing out during transport to an unloading site.

5. Provision must be made for unloading.

ASSEMBLY AND SET-UP

1. Remove unit from crate.

Packaging



LITTLE WONDER TRUCKLOADER

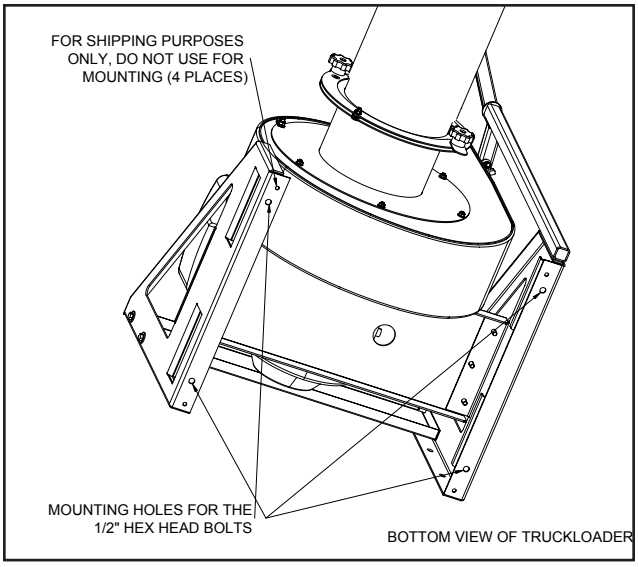
UNIT MOUNTING

Most Truckloader installations are customized and somewhat unique. It is the responsibility of the installer to ensure the installation is sufficient to carry the truckloader or truckloader mounting kit.

The Little Wonder Shredding Truckloader may be mounted in three different ways. Skid mount, Swing Away or Stake Body Swing Away. Skid mounting is covered below. For other mounting methods see kit instructions.

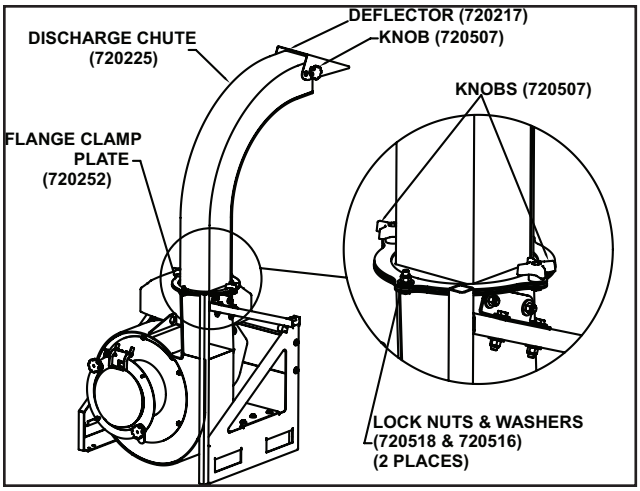
1. Secure the Truckloader frame to an appropriate mounting surface with (4) 1/2" bolts and (4) 1/2" nuts. Do not use the 4 smaller holes for mounting. They are for shipping purposes only.

2. The unit may be lifted by using the lifting slots cut in the frame, or the lift lug at the top of the blower housing. The lift lug has a maximum capacity of 225KG (500 lbs).



INSTALL DISCHARGE CHUTE TO POWER UNIT

1. Slide the flange clamp plate (720252) over the discharge chute deflector down to the flange.
2. Lift the discharge chute with the flange clamp ring and place on top of the transition tube flange as shown.
3. Align the holes of the flange clamp ring with the transition tube studs and secure with (2) 3/8-16 nylon lock nuts and (2) knobs. Back off the nuts just enough that the chute can be rotated. Rotate the chute to the desired direction. Use the knobs to lock the chute in place.
4. Position deflector to desired direction. Tighten knobs to lock chute in place.



HOSE ASSEMBLY-Figure 1

1. Remove hose from the box.
2. With the assistance of a second person, hold the hose at both ends, and stretch as far as possible. This will maximize the hose length and open the internal diameter.
3. Insert the hose flange assembly into one of the open ends as shown. Secure hose to the hose flange assembly with hose clamp.
4. Insert the intake nozzle into the end of the hose opposite the hose flange as shown. Secure hose to the intake nozzle with the hose clamp. See parts list for part numbers.

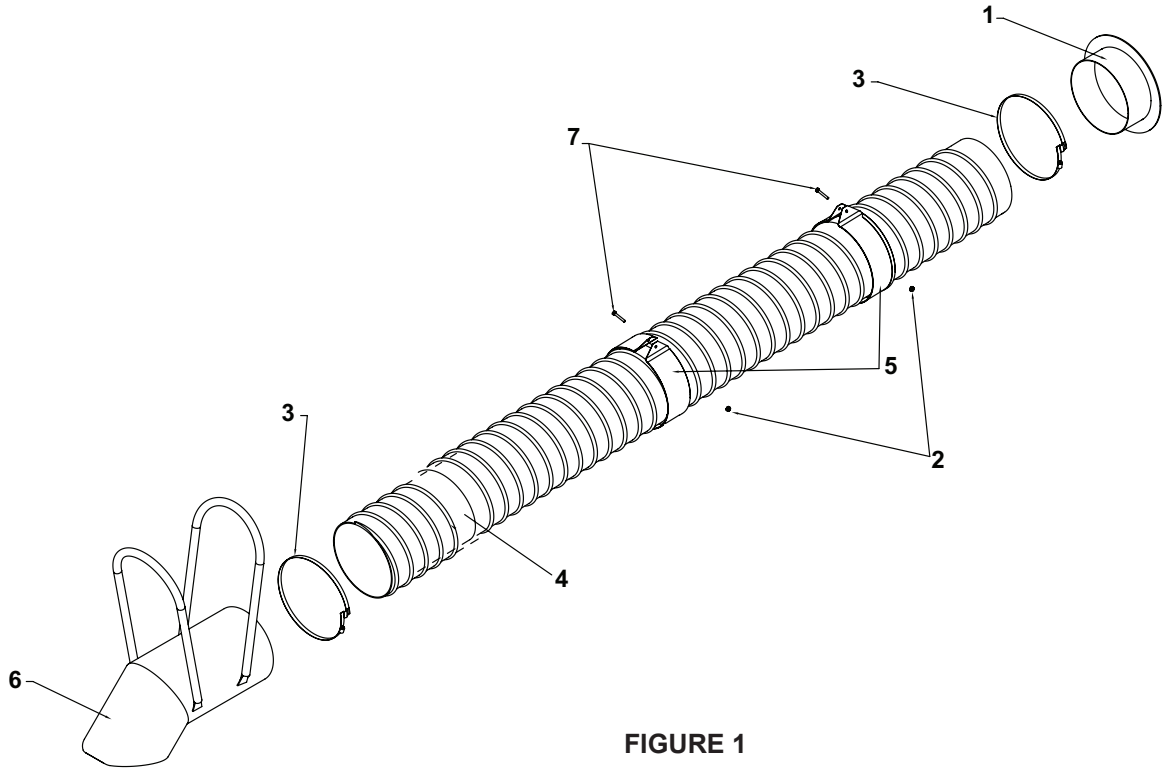


FIGURE 1

ITEM	PART NO.	DESCRIPTION	QTY
1	720100	HOSE FLANGE ASSY	1
2	114C	NUT LOCK 5/16-18 NYLON INSERT	2
3	720105	CLAMP FOR HOSE	2
4	720120	HOSE 10” DIA X 10.0 FT	1
5	720107	HOSE BAND	2
6	720108	INTAKE NOZZLE ASSY	1
7	942	BOLT 5/16-18 X 1-3/4” LG. GRADE 5	2

BOOM AND HOSE ASSEMBLY

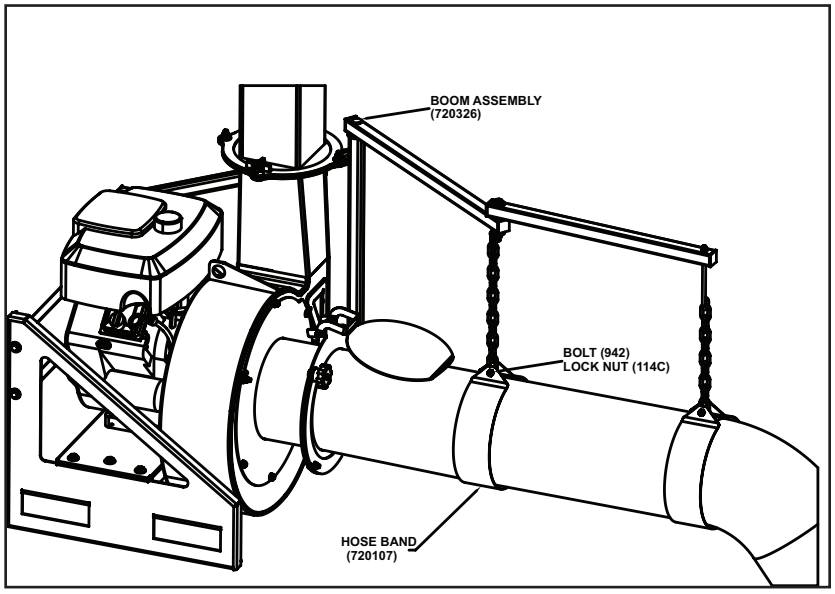
1. Insert the shaft of the Boom Arm Assembly into the Frame Support Tube.
2. Loosen the knob and rotate the Flapper Retainer to allow the Inlet Flapper to be lifted upward.
3. Hold the Inlet Flapper up, then install the Hose Assembly by inserting the flange of the Hose Flange Assembly into the space (gap) between the face of the Inlet Assembly Flange and the back face Flange Retainer Plate as shown. The pin located in the upper right corner of the Inlet Assembly Flange prevents the Hose Flange Assembly from sliding out.
4. Orient the Intake Nozzle to your preferred position and lock it in place by tightening the two knobs attached to the Flange Retainer Plate and Flapper Retainer. Tightening the knobs, will push the flange of the Hose Flange Assembly against the flange of the Inlet Assembly and activate the Safety Switch Plate. THIS MUST BE DONE TO OPERATE THIS UNIT.
5. Install the hose bands over the hose, one under each Boom Arm chain. Attach each band to its chain with a 5/16-18 x 1-3/4 bolt and nylon locknut. Tighten the nut to the end of the threads.
6. For transport remove the boom/hose assembly complete. Rotate the flapper retainer to lock the flapper door closed. Tighten the knob to secure the flapper retainer in place.

ADD OIL TO THE ENGINE.

Fill the crankcase with the proper oil to the full mark on the dipstick. See the engine manual fir oil specifications.

FILL THE FUEL TANK

Fill the fuel tank with unleaded regular grade petrol (gasoline). Do not overfill.



SWITCH (A) (16HP MODEL)

Move to the "OFF" position to stop the engine. Move to the "ON" position before starting the engine.

THROTTLE (B)

Controls engine speed and the amount of air being blown.

CHOKE (C)

Move to the "CHOKE" position to apply the choke. Move to the "RUN" position to remove the choke.

FUEL SHUT OFF (D)

Move to the "OFF" position to shut off the fuel whenever transporting the machine by trailer or truck during storage. Move to the "ON" position before starting the engine.

RECOIL STARTER (E)

Pull to turn engine for starting.

KEY SWITCH (F) (18HP MODEL)

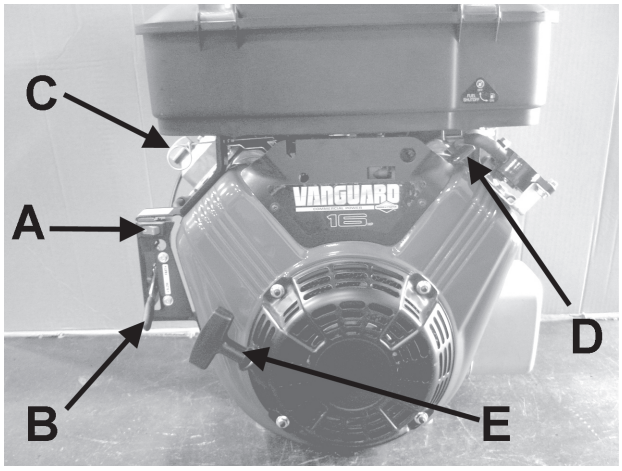
Turn clockwise to "START" position to start engine. Release key to turn to "RUN" position. Turn counter-clockwise to "STOP" the engine.

BOOM ASSEMBLY

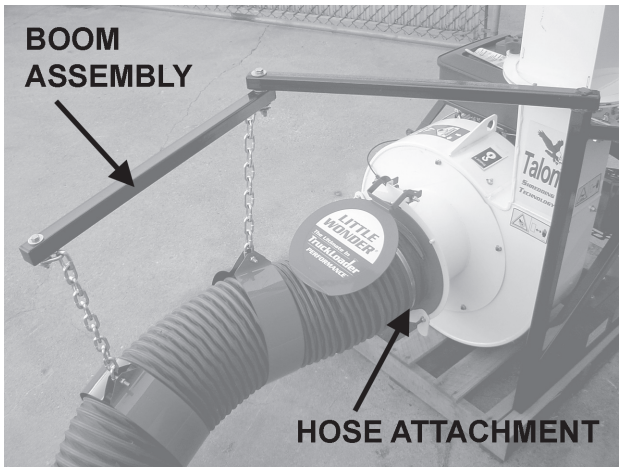
The hose boom assembly supports the hose while allowing it to move horizontally.

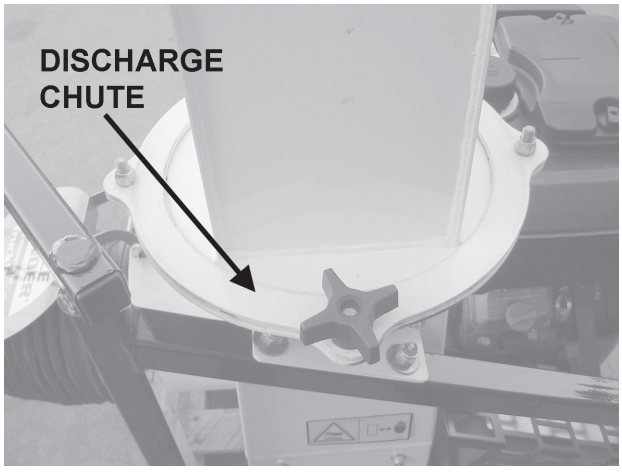
DISCHARGE CHUTE

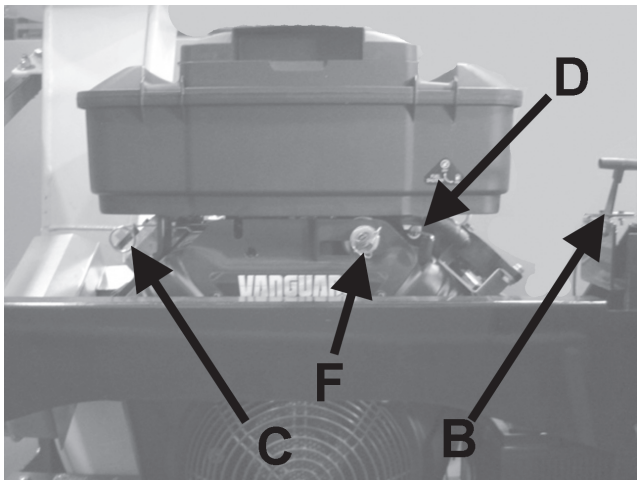
The discharge chute can be turned to point in the desired direction. to turn the chute, loosen the knobs and turn the chute to the desired direction. Tighten the knobs to secure.



RECOIL START







ELECTRIC START

LITTLE WONDER TRUCKLOADER

INTENDED USE

This unit is intended for vacuuming leaves, clippings and other similar sized organic material from the ground into a truck or trailer. Large sized or long stringy material will tend to clog.

Vacuuming sand, rocks, and hard litter will shorten the life of this machine and may damage the machine or parts of it.

PRE-OPERATION CHECK LIST
(OPERATOR'S RESPONSIBILITY)

- Review and follow all safety rules and safety decal instructions.
- Check that all safety decals are installed and in good condition. Replace if damaged.
- Check to make sure all shields and guards are properly installed and in good condition.
- Make sure the discharge chute and hose are installed.
- Check the hose, discharge chute, liners, and housing for wear. Do not operate if these parts are worn through. Replace or repair before operating.
- Check that all hardware is properly installed and secured.
- Check to be sure engine is free of dirt and debris. Pay particular attention to the cooling fins, governor parts and muffler. Clean air intake screen. Check air cleaner; service if necessary.
- Clean area around the oil fill dipstick. Remove dipstick and check to be sure oil is in operating range (between marks on dipstick). Add oil if necessary but **Do Not Overfill.** See engine manual for oil specifications. Install dipstick assembly firmly until cap bottoms out on tube. Dipstick assembly must always be secured into fill tube when engine is running.
- Inspect material to be vacuumed and remove stones, branches or other hard objects that might damage the machine or cause it to clog.
- Perform a functional check of the safety interlock system each time you operate the unit.

OPERATOR PRESENCE INTERLOCK SYSTEM

The suction hose must be in place or the flapper door closed to start the engine and keep it running.

Gasoline is extremely flammable and highly explosive under certain conditions. BE SURE to install fuel cap after refueling.

Fill fuel tank with good quality, clean, unleaded regular gasoline to the level recommended by the engine manufacturer.

TO CHECK OR ADD FUEL:

- Use a funnel to avoid spilling.
- Do it outdoors.
- Do not smoke.
- Stop the engine; allow to cool.
- Do not overfill.
- Clean up spilled fuel.

BEFORE STARTING THE ENGINE

1. Be familiar with the controls, how each functions, and what each operates.

2.. Check engine oil level. Add oil if necessary, following the engine manufacturer's recommendations. Refer to engine manual included with literature packet.

STARTING THE ENGINE

1. Move the throttle to the half open position.
2. Move the choke to the ON position for cold starts. For warm starts attempt to start without the choke first to avoid flooding. If the engine does not start then use the choke.
3. ELECTRIC START: Turn the key switch clockwise to the start position.
   When the engine starts, release the key and gradually back off the choke until the engine runs with no choke.
4. RECOIL START: Move the switch tot he "ON" position. Pull the recoil handle until resistance is felt. Then pull firmly to turn the engine. Release the recoil handle to allow the recoil to return to the original position. When the engine starts, gradually back off the choke until the engine runs with no choke.

OPERATING

To vacuum debris, run the engine at maximum rpm. Hold the nozzle handle and move the intake nozzle in sweeping motions over the debris. Another method is to lay the nozzle on the ground and rake debris into the nozzle opening.

Move the nozzle to the debris, but do not block air flow into the nozzle. The air flow carries the debris.

Tip: Hose life may be increased by periodically loosening the hose clamps and rotating the hose so wear is more evenly distributed.

EXCESSIVE VIBRATION

Shut off the engine immediately if abnormal/excessive vibration occurs. Remove spark plug wire. Find the cause of vibration and repair it. Some possible causes for excessive vibration are:

- Damaged impeller or talon ring.
- Loose impeller bolt
- Loose impeller key
- Lodged objects

STOPPING THE ENGINE

When operation is complete or the unit needs to be checked or a clog needs to be cleared:

1. Move the throttle to SLOW.
2. Turn the key switch to the OFF position.

CLOGS

To prevent clogs, do not overfeed, especially with heavy wet material.

Pay attention to how full the debris receptacle is. Overfilled debris receptacles cause material to back up and get tightly packed in the discharge cute.

Clogged Hose

Often a clogged hose can be cleared by stretching the hose out straight with the engine running. If the hose does not clear, see Removing Clogs below.

Removing Clogs

⚠ WARNING

Before removing the hose or attempting to clear a clog manually:

- Stop the engine. Turn the key switch to the OFF position.
- Wait for the fan to come to a complete stop.
- Disconnect the spark plug wire so fan movement cannot accidentally start the engine.
- Wear gloves. There may be sharp materials in the clog.

Remove the hose from the blower inlet. If the hose is clogged manually clear it. If the blower is clogged it may be possible to remove the material through the inlet opening. If not, remove the nuts holding the inlet assembly to the housing and remove the inlet assembly to gain access. If the chute is clogged, it may be necessary to remove the chute for access to the clogged area.

TRANSPORT

1. Shut off the engine by turning the key switch to the "OFF" position.

2. Wait for the fan to stop.

3. Remove the hose assembly from the inlet flange assembly.

4. Close the flapper and flip the flapper retainer to secure the flapper. Lock the retainer in place by tightening the knob.

5. Remove the discharge chute from the truckloadier housing.
6. Secure the removed parts in the transport vehicle.

7. Before moving a trailer mounted truckloader, be sure everything is properly secured for road travel, the trailer is properly connected physically and electrically to tow vehicle, and the safety chains are properly attached.

DAILY MAINTENANCE

- Check operation of hose interlock switch.
  1. Start engine with hose properly installed.
  2. Loosen the knobs, start to remove it.
  3. The engine should stop running.
  4. Reinstall hose and tighten knobs.
     If the switch does not stop the engine, repair before attempting to use the machine.

- Inspect the hose, chute, chute liner, and blower housing liner for wear. Replace worn parts or have them repaired.

- Tighten any loose fasteners.

CLEANING

Keep the area around the muffler and engine recoil cover /cooling air intake free of debris accumulation to prevent fires and keep the engine from overheating. These areas need to be monitored throughout the work day and may need to be cleaned several times daily depending on circumstances.

ENGINE OIL

- Check the oil level daily.
- Change after the first day of operation and then according to the engine manual.
- See the engine manual for oil specifications and checking procedure.

ENGINE AIR CLEANER

- Check and clean according to the engine manuals.
- Little Wonder recommends daily inspection and cleaning due to the extreme environment of debris handling.

REMOVING AND REPLACING THE FAN AND TALON RING

1. Disconnect spark plug wires from spark plugs.
2. Disconnect safety switch from engine.
3. Remove hose flange assembly.
4. Remove front plate assembly.
5. Remove bolt securing fan and talon ring to engine crankshaft.
6. Remove talon ring.
7. Align notch in the front plate of the housing and fan blades. (Figure 1)
8. Install a 3/4-16X5 long grade 5 (0r better) bolt in the 3/4-16 nut welded to the fan hub and jack or push the fan off the engine (Little Wonder P/N 910515 os recommended.
9. Replace the damaged or worn fan with a new one. If during fan removal the key was removed from the keyway, reinstall it by applying a few drops of Loc-tite 380 instant adhesive (Black Max P/N 38050) on the key and load the key in the keyway shaft. (Cure time is approx. 1 minute.)
10. Rotate the drive shaft with installed key be pulling the starter rope until the key is aligned with one of the notches. Then align fan keyway with the drive shaft and install the fan.
11. Align talon ring with the fan holes and install talon ring. (Figure 2)
12. Apply a few drops of Loc-tite 242 on a 7/16-20X2 1/4" Grade 8 bolt.
13. Reinstall inlet and hose flange assemblies.
14. Reconnect safety switch and spark plug wires.

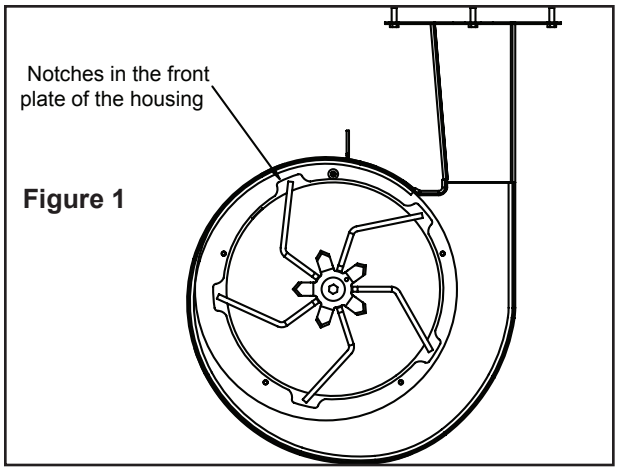


Figure 1

LINER REPLACEMENT AND EXCHANGE

1. Complete steps 1-7 of Removing and Replacing Fan and Talon Ring.
2. Inspect fan and talon ring. Replace if damaged or excessively worn.
3. Remove bolts attaching existing liner to the housing, and remove worn parts.
4. Put new parts in housing and position in place.
5. Align holes of the liner and housing, starting from the holes closest to the liner's seam.
6. Attach both pieces of the liner to the housing (one hole at a time) with 12 bolts, washers and nuts (6 per liner half). Insert bolt from the inside of the liner with washers and nuts on the outside of the housing.
7. Complete steps 8-13 of removing and replacing Fan and Talon Ring.

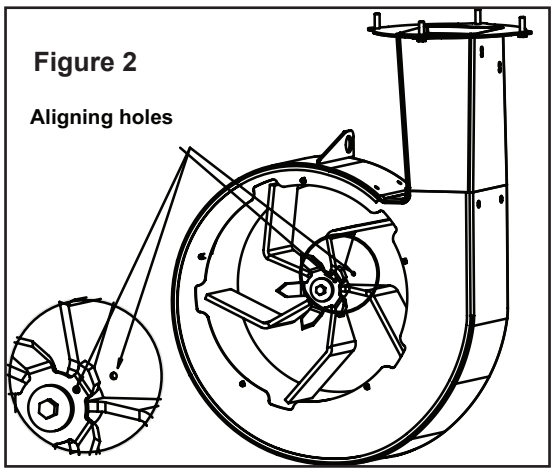


Figure 2

Aligning holes

STORAGE

To prevent possible explosion or ignition of vaporized fuel, do not store equipment with fuel in tank or carburetor in an enclosure or enclosed area with an open flame (for example, a furnace or water heater pilot light.)

Before the equipment is put into storage for any period exceeding 30 days, the following steps should be completed.

1. Drain all fuel from the fuel tank and the fuel lines.
2. Start the engine and run until all the fuel is used from the carburetor float bowl and the engine stops.
3. While the engine is still warm, drain the crankcase oil and replace with the proper weight oil corresponding to the season the equipment will be used next.
4. Remove the spark plug and squirt a small amount of engine oil into the cylinder. Slowly pull the starter a few times to distribute oil in the cylinder and reinstall the spark plug.

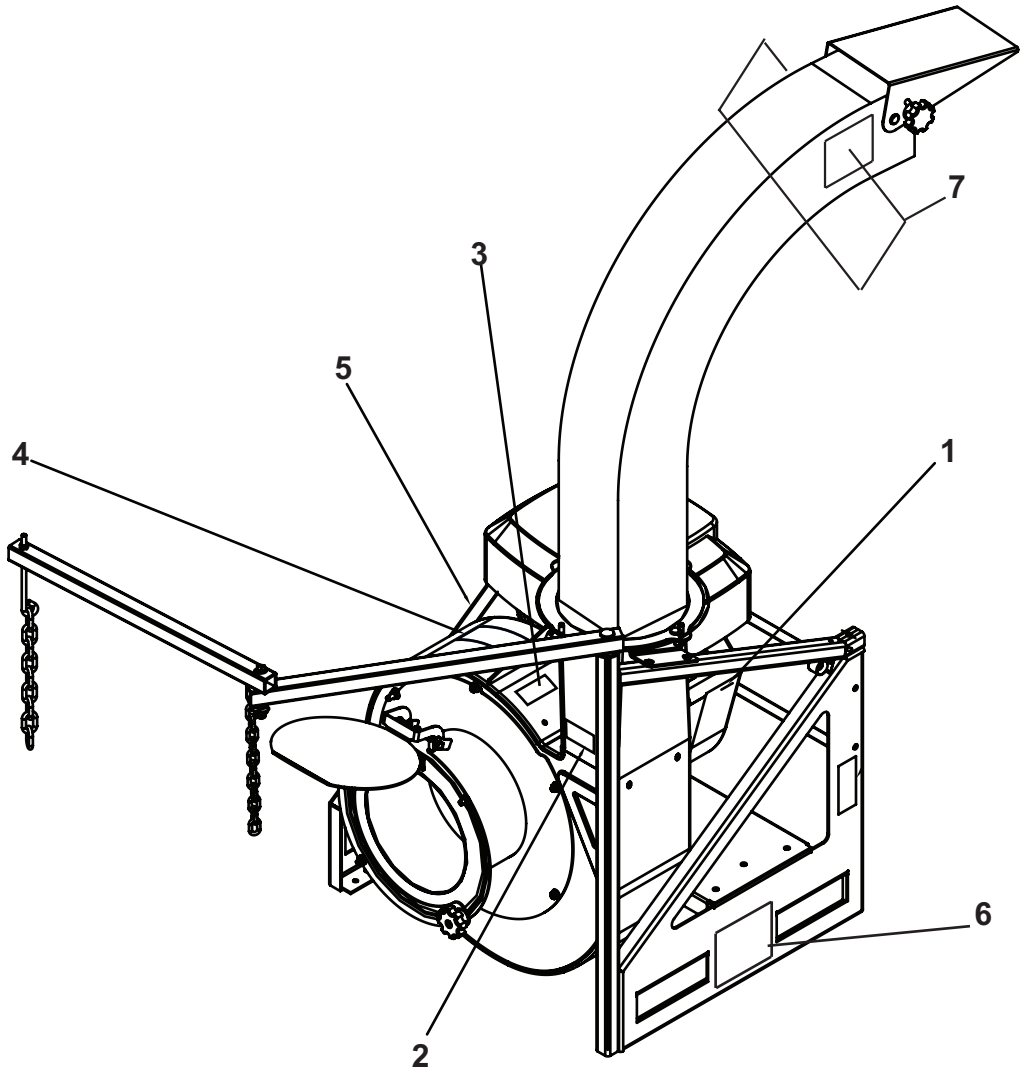
Store the unit out of sunlight to prolong hose life.

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

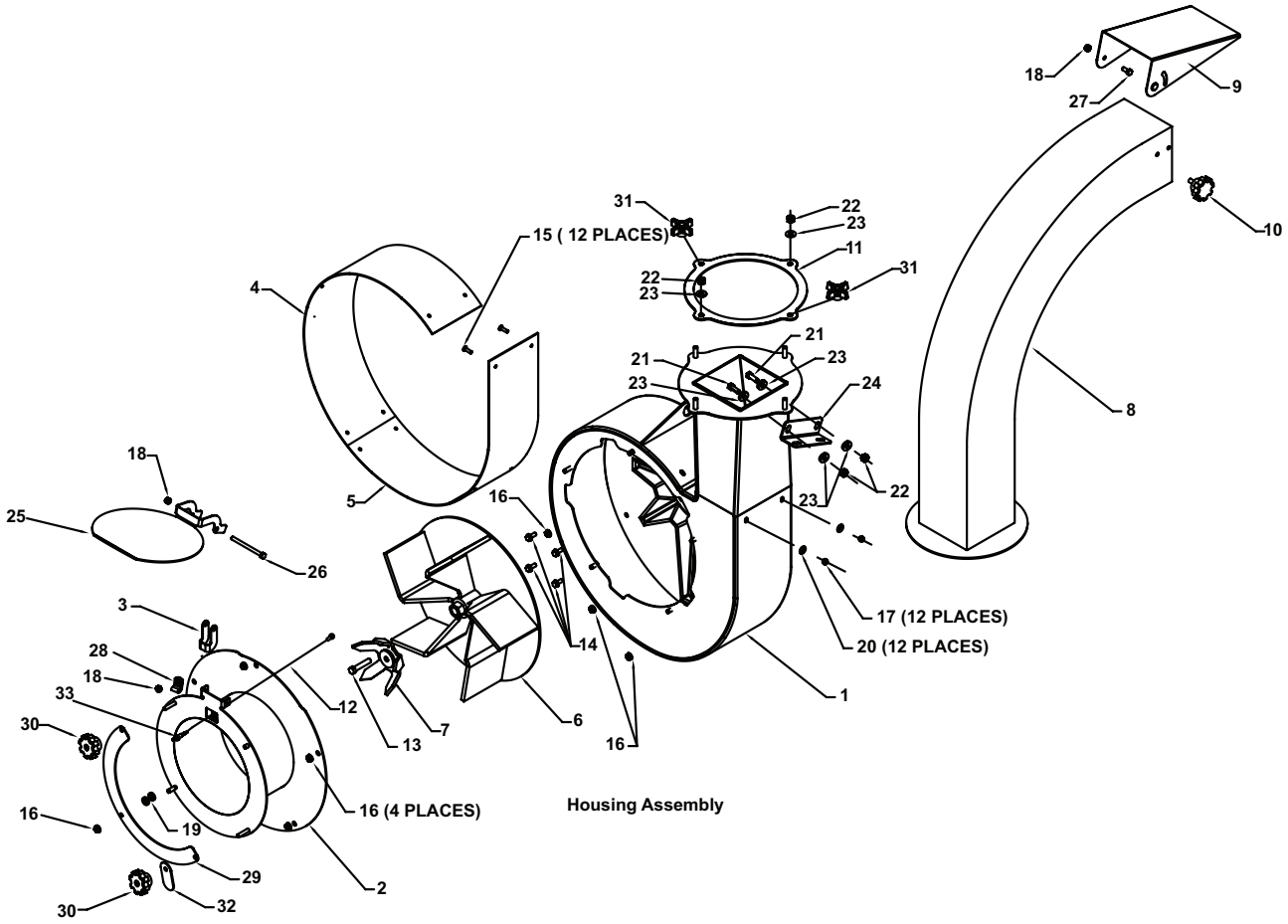
1. Check for loose parts and tighten if necessary.
2. Fill the fuel tank and then check the engine oil level. Top off if necessary. See engine manual for details.
3. Start the engine and check for fuel leaks. Repair any leaks before operating the unit.

Location	Bolt/ Nut Size	Part No.	Item # (Exploded View)	Min torque Ft-Lbs (in-lbs)	Max torque Ft-Lbs (in-lbs)
Housing to engine face	5/16 - 24 x 3/4 flange head,gr. 5	910503	18	22 (264)	28 (336)
Housing to engine mounting plate	5/16 - 18 flange nut	114-B	21	16 (192)	22 (276)
Engine to engine mounting plate	5/16 - 18 x 1 -3/4 gr.5	942 / 114C	55 / 21	19 (228)	25 (300)
Fan to crankshaft	7/16 - 20 x 2 - 1/4 flange head gr. 8	720502	17	61	81
Front plate assembly to housing	5/16 - 18 flange nut	114-B	21	16 (192)	22 (276)
Flange retainer plate to front plate assembly	5/16 - 18 nylon insert	114C	23	19 (228)	25 (300)
Liner to housing	1/4 - 28 x 3/4 screw	310501 / 310502	20 / 22	9 (108)	11 (132)
Support angle to housing	3/8 - 16 Hex Head nut	8-57 / 720518	56 / 57	16 (192)	22 (276)
Support angle to support tube assembly	3/8 - 16 x 2 -1/4 Hex Head Bolt	720505 / 720518	27 / 57	29 (348)	31 (372)
Frame: right and left side assemblies to engine mounting plate and rear panel assembly	3/8 - 16 x 1 bolt, gr. 5	8-57 / 720518	56 / 57	29 (348)	31 (372)
Guide starter rope to support tube assembly	1/4 - 20 x 2 -1/4 bolt	600545 / 310502	54 / 22	7 (84)	9 (108)

PARTS SECTION



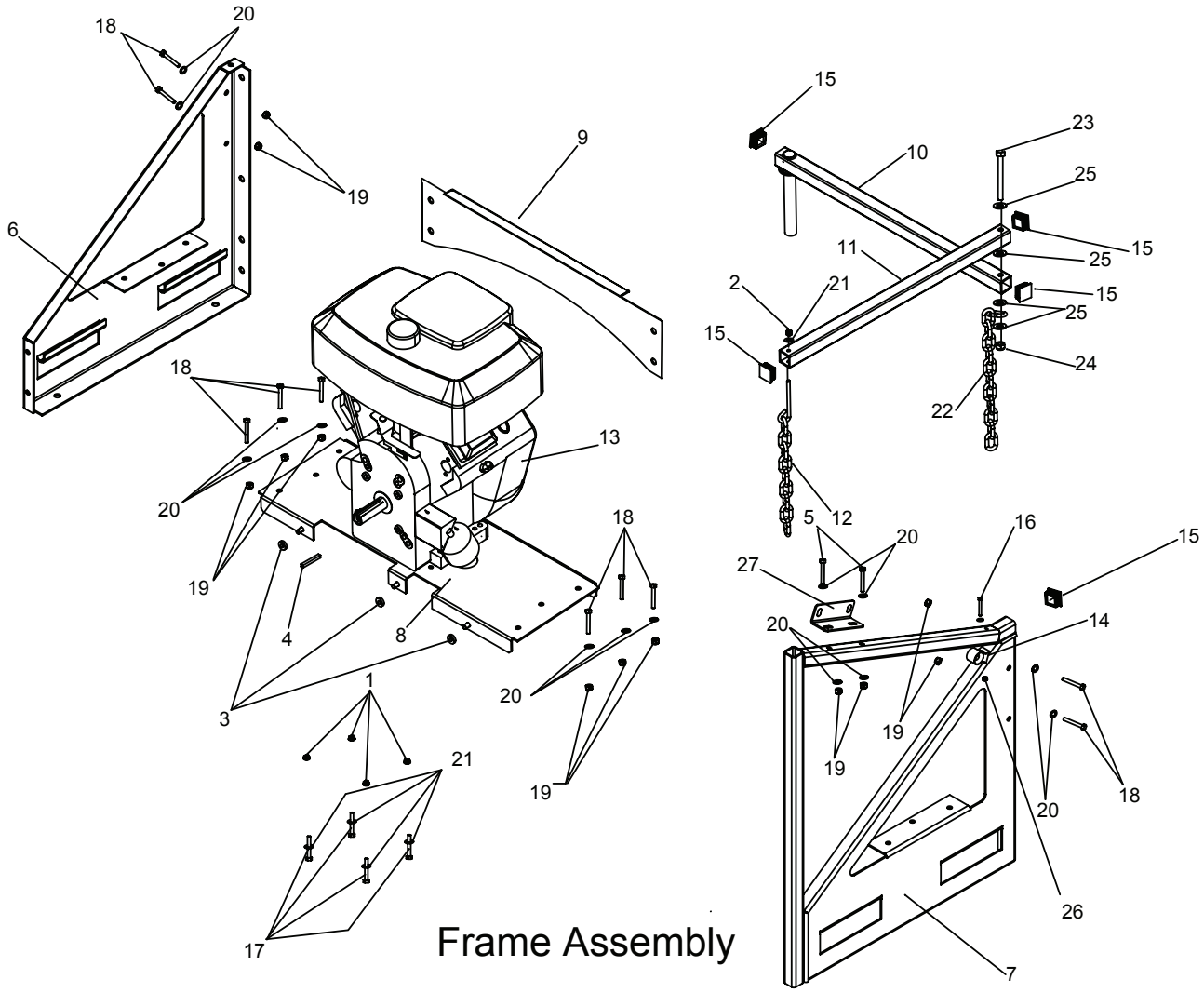
ITEM	PART NO.	DESCRIPTION	QTY
1	720603	LABEL-THROTTLE	1
	(USED ON 16HP MODEL ONLY)		
	4165344	LABEL-THROTTLE	
	(USED ON 18HP MODEL ONLY)		
2	720601	LABEL-SEVERED FINGERS	1
3	720602	LABEL-LIFT HOOK	1
4	600602	LABEL-LW HOUSING WARNING	1
5	720600	LABEL-HOT SURFACE	1
6	720605	LABEL-TRK LDR SPEED/WEIGHT	1
7	720609	LABEL-THROWN OBJECTS	2



Housing Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	720200	HOUSING ASSY 16HP	1
2	720210	FRONT PLATE ASSY	1
3	720214	SWITCH PLATE	1
4	720215	HOUSING LINER LEFT HALF	1
5	720216	HOUSING LINER RIGHT HALF	1
6	720220	FAN ASSY 16HP - BALANCED	1
7	720255	TALON RING	1
8	720225	DISCHARGE CHUTE ASSEMBLY	1
9	720217	DEFLECTOR ASSY	1
10	910131	KNOB-MALE THREAD, 5/16-18, RED	1
11	720252	FLANGE CLAMP PLATE	1
12	720232	WIRE ASSEMBLY	1
13	720502	BOLT 7/16-20 X 2-1/4"HEX HEAD GRD 8	1
14	910503	BOLT 5/16-24 X 3/4" FLNG GRD. 5	4
15	310501	SCREW 1/4/28 X 3/4" FL SCKET S.S.	12
16	114B	NUT SERRATED FLANGE LOCK 5/16-18	13
17	310502	NUT NYLOCK 1/4-28	12

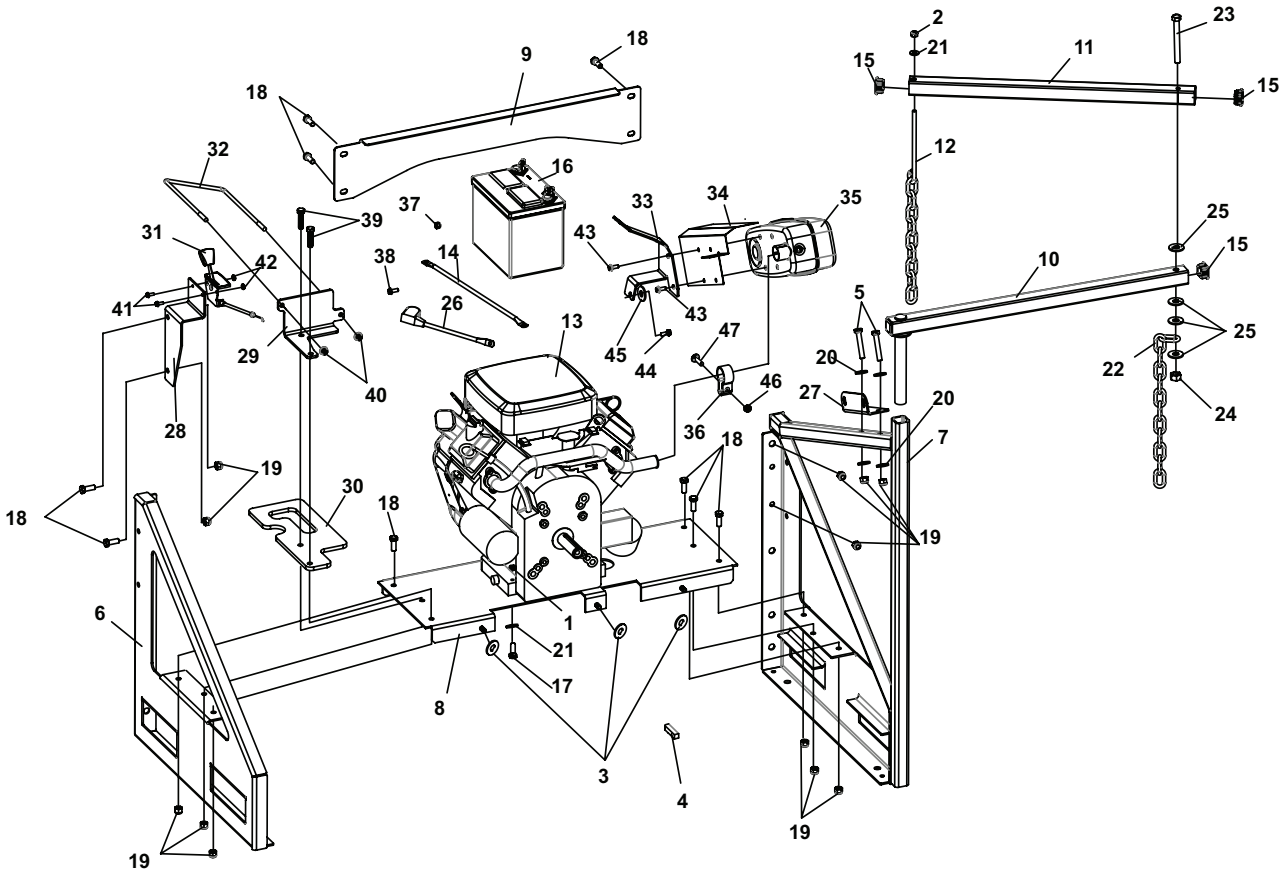
ITEM	PART NO.	DESCRIPTION	QTY
18	114C	NUT LOCK 5/16-18 NYLON INSERT	6
19	720509	WASHER 5/16, 1/8" THICK	5
20	720510	WASHER-FLAT 1/4	12
21	8-57	BOLT 3/8-16 X 1" LG. GRADE 5	12
22	720518	NUTLOCK 3/8-16 NYLON INSERT	18
23	720516	WASHER 3/8 USS FLAT	28
24	720244	SUPPORT ANGLE	1
25	720246	FLAPPER	1
26	720517	BOLT HEX 5/16-18 X 4" LG. GRADE 5	1
27	129C	BOLT HEX 5/16-18 X 3/4" LG. GRADE 5	1
28	48228A	CLIP-WIRE HARNESS	1
29	720250	FLANGE RETAINER PLATE	1
30	154	KNOB-FEMALE THREAD, 5/16-18,R RED	2
31	720507	KNOB-FEMALE THREAD, 3/8-16, BLACK	2
32	720257	FLAPPER RETAINER	1
33	64255-01	INSERT RIVNUT 5/16-18	1



Frame Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1	114B	NUT SERRATED FLANGE LOCK 5/16-18	4
2	114C	NUT LOCK 5/16-18 NYLON INSERT	1
3	720509	WASHER 5/16, 1/8" THICK	3
4	720532	KEY 1/4" X 1/4" X 2" LG.	1
5	720505	BOLT 3/8-16 X 2-1/4" LG. GRADE 5	2
6	720300	FRAME RIGHT SIDE ASSEMBLY	1
7	720305	FRAME LEFT SIDE ASSEMBLY	1
8	720308	ENGINE MOUNTING PLATE ASSY	1
9	4165238	FRAME REAR PANEL ASSY	1
10	720326	BOOM ASSY	1
11	720314	TUBE SQUARE BOOM	1
12	720322	CHAIN LOOP ASSY (3/8-16 THREAD)	1
13	720900	ENGINE 16HP	1
14	720325	GUIDE STARTER ROPE - B&S 396526	1

ITEM	PART NO.	DESCRIPTION	QTY
15	720289	END PLUG 1-1/4" X 1-1/4" X1/8" SQ TUBE	5
16	600545	BOLT 1/4-20 X 2-1/2" LG. GRADE 5	1
17	942	BOLT 5/16-18 X 1-3/4" LG. GRADE 5	4
18	8-57	BOLT 3/8-16 X 1" LG. GRADE 5	10
19	720518	NUT-LCK 3/8-16 NYLON INSERT	12
20	720516	WASHER 3/8 USS FLAT	14
21	720511	FLAT WASHER 5/16 USS	5
22	720533	CHAIN BOOM	1
23	720534	BOLT HEX 7/16-14 X 4" LG. GRADE 5	1
24	720535	NUT NYLOCK 7/16-14 ZINC	1
25	720536	WASHER 7/16 USS FLAT	4
26	64229-01	NUT-1/4-20	1
27	720244	BRKT-SUPPORT	1



ITEM	PART NO.	DESCRIPTION	QTY
1	114B	NUT-SERRATED FLANGE LOCK 5/16-18	4
2	114C	NUT-LOCK 5/16-18 NYLON INSERT	1
3	720509	WASHER-5/16, 1/8" THICK	3
4	720532	KEY-1/4" X 1/4" X 2" LG.	1
5	720505	BOLT-3/8-16 X 2-1/4" LG. GRADE 5	2
6	720300	FRAME-RIGHT SIDE ASSEMBLY	1
7	720305	FRAME-LEFT SIDE ASSEMBLY	1
8	720308	ENGINE-MOUNTING PLATE ASSY	1
9	4165238	FRAME-REAR PANEL ASSY	1
10	720326	BOOM ASSY	1
11	720314	TUBE SQUARE BOOM	1
12	720322	CHAIN LOOP ASSY (3/8-16 THREAD)	1
13	720905	ENGINE-18HP B&S	1
14	108061-01	CABLE-BLACK BATTERY	1
15	720289	END PLUG 1-1/4" X 1-1/4" X1/8" SQ TUBE	5
16	108055	BATTERY-U1 250 CCA	1
17	942	BOLT-5/16-18 X 1-3/4" LG. GRADE 5	4
18	8-57	BOLT-3/8-16 X 1" LG. GRADE 5	10
19	720518	NUT-LOCK 3/8-16 NYLON INSERT	14
20	720516	WASHER-3/8 USS FLAT	4
21	720511	WASHER-FLAT 5/16 USS	5
22	720533	CHAIN-BOOM	1
23	720534	BOLT-HEX 7/16-14 X 4" LG. GRADE 5	1
24	720535	NUT-NYLOCK 7/16-14 ZINC	1
25	720536	WASHER-7/16 USS FLAT	4

ITEM	PART NO.	DESCRIPTION	QTY
26	272222-04	CABLE-RED BATTERY	1
27	720245	ANGLE-SUPPORT	1
28	4165304	BRKT-THROTTLE MOUNT	1
29	4165239	BRKT-BATTERY	1
30	4165240	PLATE-BATTERY SUPPORT	1
31	4165332	CABLE-THROTTLE	1
32	4163276	STRAP-BATTERY	1
33	4165241	BRKT-MUFFLER 18HP	1
34	4165301	SHEILD-MUFFLER	1
35	108264	MUFFLER-B&S 794178	1
36	35014N	CLAMP-MUFFLER	1
37	64025-01	NUT-HEX 1/4-20	2
38	641213-89	BLT-HEX 1/4-20X3/4	2
39	64123-70	BLT-HEX 3/8-16X1-1/2	2
40	64268-02	NUT-FL NYLON LOCK 5/16-18	2
41	64152-46	SCREW-SLT HH 10-24X 1/2	2
42	64025-15	NUT-HEX #10-24 KEPS	2
43	64152-27	SCREW-SP 1/4-20X5/8	4
44	64205-021	BLT-METRIC M6-1X16	1
45	64163-55	WSHR-.531X2X.125	1
46	64025-02	NUT-HEX 5/16-18	1
47	64018-14	BLT-CRG 5/16-18X1-1/4	1