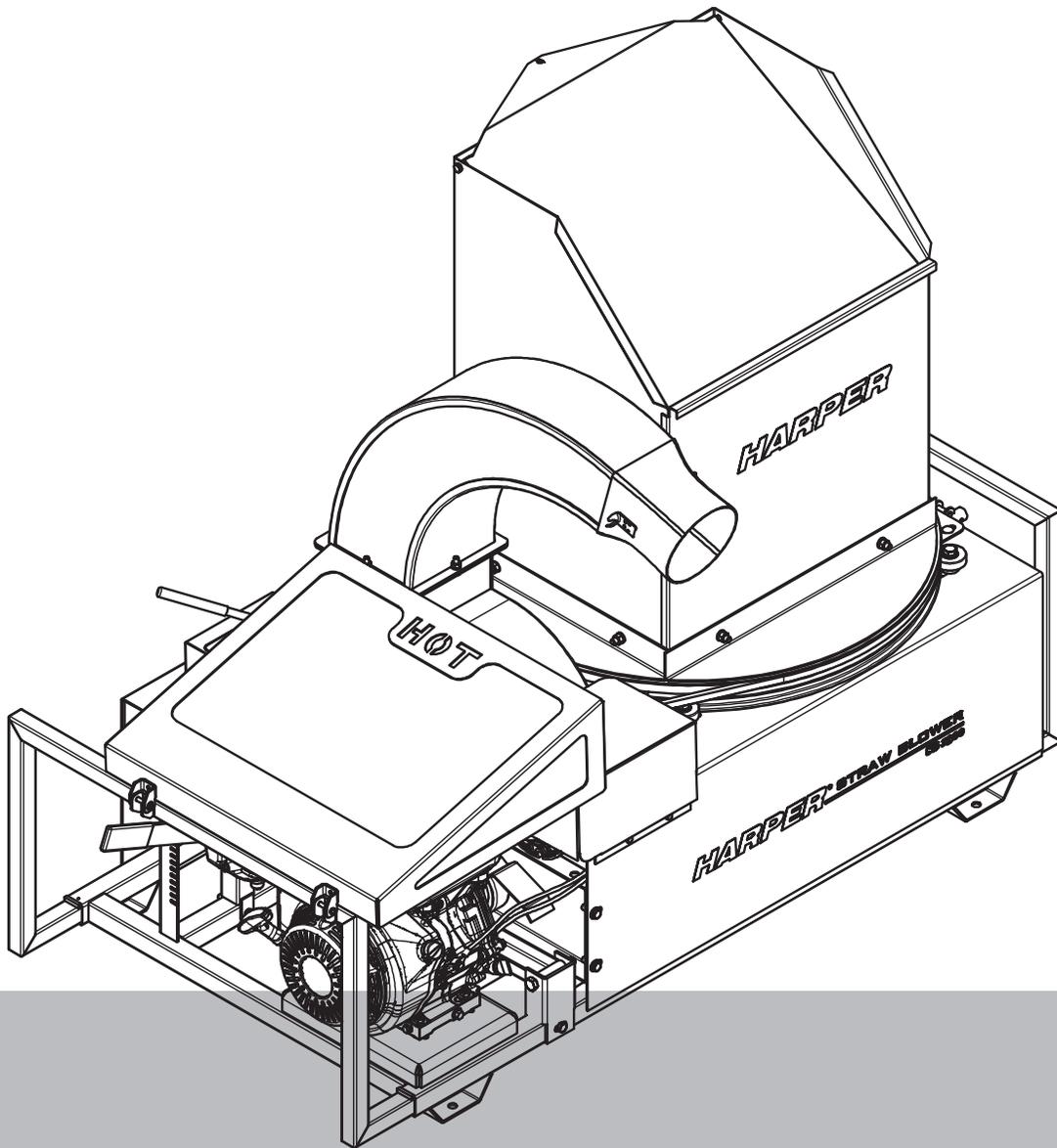


Straw Blower 1300



OPERATOR'S MANUAL

Thank you for purchasing a Harper Straw Blower.

As with all Harper products, the Straw Blower has been developed through tough design and testing procedures to produce a top quality machine. This manual gives assembly, operating, and service information for the models 1300. Please read and understand all instructional material included with the Straw Blower or its components before assembling and operating the equipment.

A Straw Blower can present hazards to an operator who follows unsafe procedures in either the operation or maintenance of the unit. Therefore, **SAFETY WARNINGS** are presented at certain locations in the text.

THIS SYMBOL:



MEANING: Failure to understand and obey this warning may result in injury to you or others. Whenever this symbol is used, please pay very close attention to the information presented, and make sure you fully understand. If you do not, contact your dealer or Harper Industries, Inc. for clarification.



ALL SHIELDS AND GUARDS MUST BE IN PLACE FOR PROPER AND SAFE OPERATION OF THIS EQUIPMENT. WHERE THEY ARE SHOWN REMOVED IN THIS MANUAL, IT IS FOR PURPOSES OF ILLUSTRATION AND INSTRUCTION ONLY. DO NOT OPERATE THIS EQUIPMENT UNLESS ALL SHIELDS AND GUARDS ARE IN PLACE.

Harper Industries, Inc. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

Not to be sold in California

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The Harper name is a registered trademark of Harper Industries, Inc. All other brand and product names are trademarks or registered trademarks of their respective companies.

LIMITED WARRANTY

Harper Industries, Inc. (HII) warrants to each purchaser of a new Harper Straw Blower from an authorized dealer or representative, that such equipment is free of manufacturer's defects in workmanship and materials which appear while in normal service for a period of ONE YEAR commencing with delivery to the original user.

The obligation of HII under this warranty is expressly limited, at our option, to replacement or repair at a service facility designated by Harper Industries or at the manufacturing plant in Harper, KS. A part will be replaced after inspection discloses it to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance, or by performing functions without genuine Harper Straw Blower accessories) while in the possession of the consumer.

Warranty is limited to parts, labor and ground freight delivery of replacement parts. HII shall not be liable for the consequential damages of any kind, including but not limited to consequential labor costs or transportation charges in connection with replacement or repair of defective parts.

This warranty does not apply to parts subjected to misuse, abuse, alteration, improper or inadequate maintenance, or normal wear (including belts, sickles, and battery).

Engines are not covered under this warranty. Refer to manufacturer's warranty for specific warranty information. Harper Industries, its agents or representatives, make or imply no other warranties.

Harper Industries makes no warranty with respect to trade accessories. They are subject to the warranties of their respective manufacturers.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. HII makes no other express warranty, nor is anyone authorized to make any on behalf of HII.

For further information please contact your nearest Harper Straw Blower dealer.

Evaporative Emissions Control System Warranty

YOUR WARRANTY RIGHTS AND OBLIGATIONS

Your evaporative emission control system may include parts such as: carburetors, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps, connectors, and other associated components.

MANUFACTURER'S WARRANTY COVERAGE:

This evaporative emission control system is warranted for two years. If any evaporative emission-related part on your equipment is defective, the part will be repaired or replaced by Harper Industries.

OWNER'S WARRANTY RESPONSIBILITIES:

1. As the Straw Blower owner, you are responsible for performance of the required maintenance listed in your owner's manual. Harper Industries recommends that you retain all receipts covering maintenance on your Straw Blower, but Harper Industries cannot deny warranty coverage solely for the lack of receipts.
2. As the Straw Blower owner, you should be aware that Harper Industries may deny you warranty coverage if your Straw Blower or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.
3. You are responsible for presenting your Straw Blower to a Harper Industries dealer as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact your authorized Harper Straw Blower dealer or Harper Industries at (620) 896-7381.

RECORDS

Date of Purchase _____ / _____ / _____

Serial Number Machine _____

Dealer's Name _____

Serial Number Engine _____

Dealer's Phone _____

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Specifications

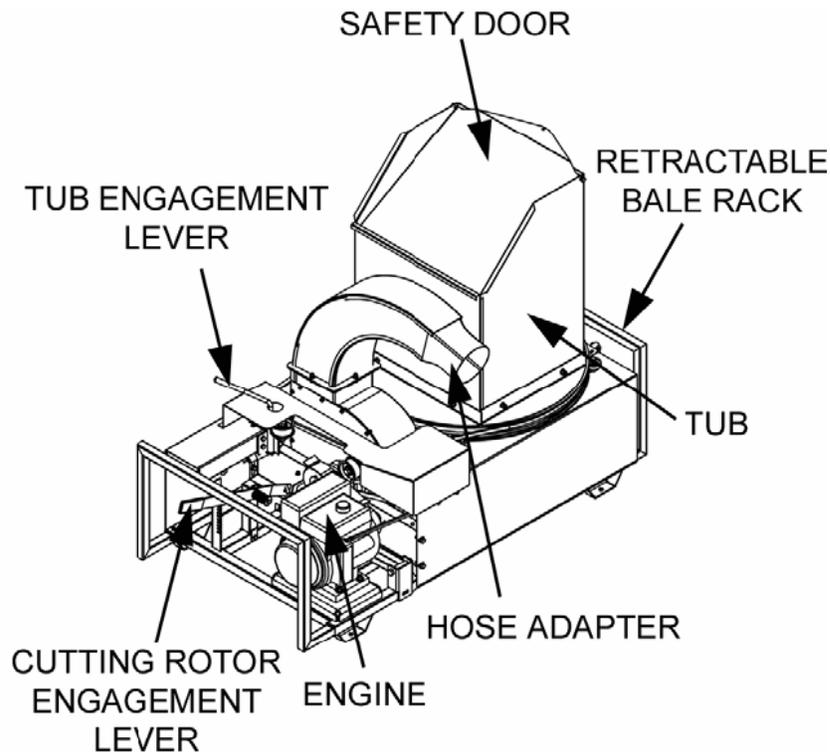
| | |
|--------------------------|---|
| Engine | 4-cycle Honda |
| Horsepower Rating | 13 hp |
| Dimensions | Width - 31" Height - 51" Length - 55" |
| Weight | 490 lbs (shipping weight 565 lbs) |
| Cutting Device | 4 blade impeller - 16.5" diameter |
| Knives | 32 |
| Discharge | 6" x 30' Super-flex hose or directional spout |

Harper Industries, Inc. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

The Harper Straw Blower chops and applies straw for erosion control, bedding and mulching. The depth of the cut is easily adjustable while in operation to handle a variety of materials* and conditions. The standard 30' hose provides even layering and pinpoint placement. The hose is pliable down to 20° F. Temperatures below 20° may cause polyurethane to crack when stretched. A 360° directional spout is available for broadcast operations.

***NOTE:** Do not shred cardboard with a Harper Straw Blower. The density of cardboard will cause damage to the cutting knives and the rotor.

Control Identification



Tub – the tub secures the bale as it rotates and gravity pulls the bale down into the cutting knives.

Tub Engagement Lever – engages the rotation of the tub.

Engine – powers the Straw Blower.

Safety Door – the door on the tub is spring loaded to prevent objects from falling into the cutting knives, and debris from flying out of hopper when no bale is present.

Hose Adapter (option) – feeds the straw into the Super-flex hose. The direction spout may also be mounted in the same location.

Cutting Knife Engagement Lever – engages the cutting knives and controls belt tension.

Retractable Bale Rack – pulls out to hold an extra bale.

Safety Guidelines

- Use genuine factory parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or others.
- If hardware is not secure, or if some of the hardware is over-tightened, equipment failure may result, posing possible safety hazards.
- To prevent possible eye injury, always wear SAFETY GLASSES while operating equipment.
- Replace locknuts and locking screws if you can tighten them without feeling considerable resistance for several turns before they are completely tight. Replace them with factory authorized parts or their equivalent.

Gasoline



SAFETY WARNING!

Gasoline is extremely flammable and can be highly explosive.

- Always use an approved container for gasoline.
- Do not allow open flames or sparks while performing maintenance or refueling.
- Never remove the fuel tank cap or add gasoline when the engine is running or while it is hot.
- Never fill the fuel tank indoors (fumes can collect).
- Wipe up spilled gasoline immediately and completely.
- Do not store gasoline in a room with an appliance that has a pilot light to where electrical appliances or switches may cause sparks.
- Always store gasoline outside, in a safety can (a can which has a flame

arrestor and pressure relief valve in pour spout).

- Gasoline fumes are heavy and will sink to the lowest point, collecting and becoming more and more hazardous. 1 part gasoline in 20 parts air will explode easily and violently.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- Be certain to provide adequate ventilation if an engine must be run indoors - exhaust fumes are dangerous.

Guards & Shields

- Keep all safety devices in place.
- Replace all worn, damaged, unusable, missing or lost safety shields and guards before operating the equipment.
- Keep the equipment in good operating condition.

Safety Decals

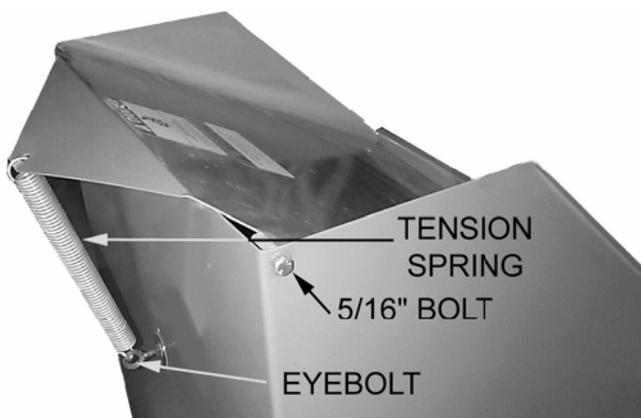
- If safety related or instructional decals become illegible or are removed, replace them immediately. New decals may be obtained from your local Harper Dealer.
- If you replace parts that have such decals attached to them, make sure the decals are replaced with current versions, and are on the replacement parts before the machine is operated again.

Assembly

TUB COVER SAFETY SHIELD

Using the Hardware supplied:

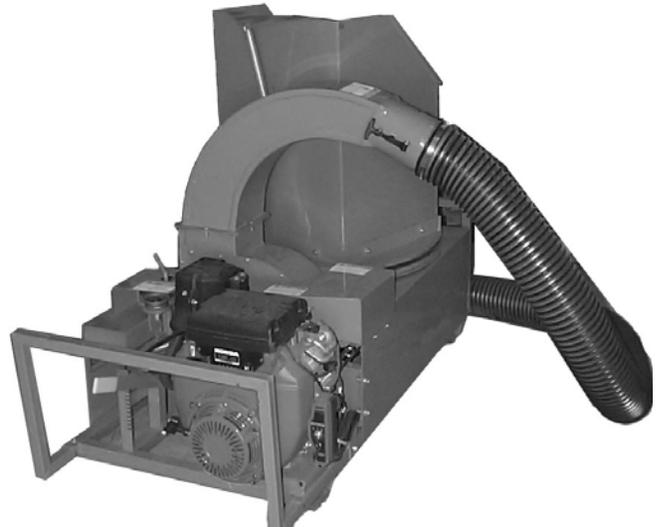
1. Install the eyebolt through the top hole in the rear tub wall with a flat washer, lock washer and nut on each side of the wall.
2. Mount the tub to the tub base with the truss-head bolts, lock washers and nuts provided. Put the bolt heads inside the tub to provide a smooth inside surface.
3. Insert a 5/16" nut just past the first thread of each bolt. Put the front lip of the safety shield (lid) down inside the tub and screw one bolt into each coupler on the lid. Center the shield in the opening, and then lock it into position by tightening the 5/16" nuts against the edges of the shield.
4. Connect the tensioning spring from the eyebolt to the hole in the rear of the safety shield.



SUPER-FLEX HOSE INSTALLATION

Using the hardware supplied:

1. Mount the hose adapter to the Straw Blower.



2. Attach the hose to the hose adapter with a 6" hose clamp, and secure the hose handle to the other end of the hose with two 6" hose clamps.

DIRECTIONAL SPOUT INSTALLATION

Using the hardware supplied:

1. Follow the instructions given in the Parts Section of this manual for the Directional Spout Assembly.
2. Mount the directional spout to the Straw Blower in the same location as the hose adapter.

FUEL TANK

! SAFETY WARNING! !
Gasoline is extremely flammable and can be highly explosive.

Operation



SAFETY WARNING!

- **Wear approved eye and ear protection while operating the machine.**
- **Keep all guards in place during operation. Never operate machine with the tub removed.**
- **Before operating the machine, check to ensure that all the belt guides and snubbers are in place, to prevent belts from slipping off the pulleys and systems from being accidentally engaged.**
- **Check the bale tub for children, pets and foreign objects before operating.**
- **Never push material onto the cutters with your hands or feet.**
- **Periodically clean chopped material away from engines to lessen the possibility of fire.**
- **Always keep the fire extinguisher near the Straw Blower during operation.**

To begin operation:

1. Make sure tub and cutting rotor are NOT engaged.
2. Fill fuel tank with gas.
3. Make sure the vent on the fuel tank is open at least a quarter turn. (If it is closed the engine will vapor lock and will not run). 1300 model has no manual vent.
4. Start the engine. Refer to engine manual for more information.
5. Engage the cutting rotor by pushing the rotor engagement lever down.
6. Place a bale into the tub.
7. Engage the tub rotation by moving the tub engagement lever towards the engine.
8. Add another bale when there is about 1/3 bale left in the tub.

To stop operation:

1. Stop the tub rotation.
2. Disengage the rotor mechanism.

Adjustments

BELT TENSION

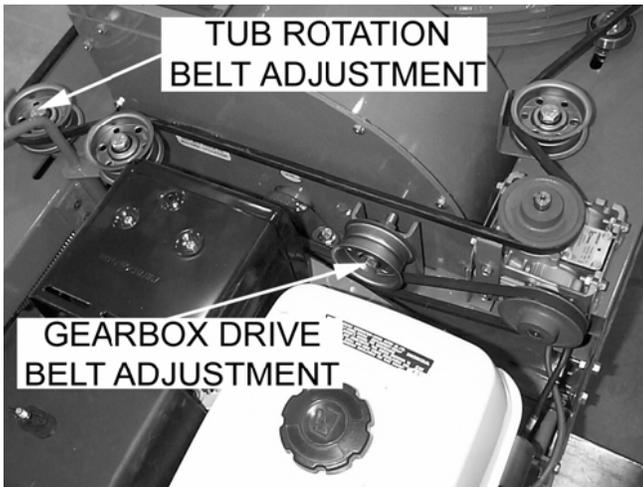
NOTE: Use only industrial V-belts. Do not use automotive belts.

NOTE: Use a straightedge to check alignment across the faces of pulleys after adjusting belt tension, to ensure that the belts will run true.

IMPORTANT: Do not over tighten belts. Excessive tension can cause premature bearing, gearbox and clutch failure.

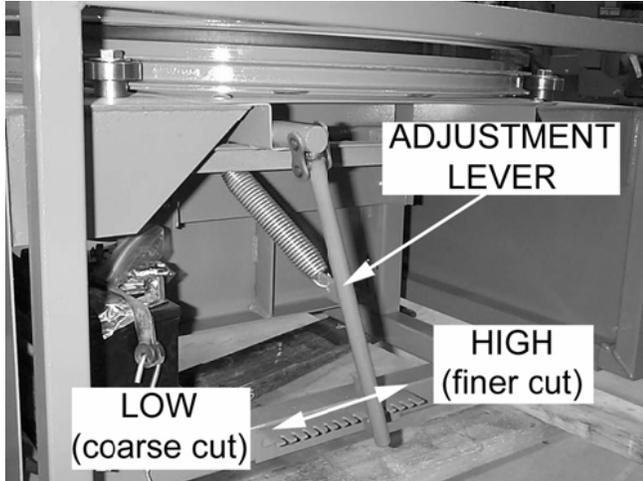
Engine Powered Models

- The tub rotation belt and the gearbox drive belt can both be adjusted by moving their respective idler pulleys in the slotted holes.



CUTTING DEPTH

- The cutting depth is adjusted by moving a lever and putting it into the slot that gives the desired cutting depth. The adjustment is located at the rear of the machine.



KNIFE REPLACEMENT



SAFETY WARNING!



- **Wear protective gloves whenever handling blades or working near them.**
- **Knives and their retaining hardware rotate at high speeds. It is essential that they be mounted securely to prevent accidents.**

NOTE: If the serrations are worn down but the tip of the knife is still intact, the knife may be turned around and remounted.

To maintain balance:

- Mount replacement knives only in the

places from which the worn knives were removed.

- Mount additional knives only as opposing pairs on each plate, and in the patterns shown below.
- Do not remove nuts and bolts installed as weights, unless mounting knives in those holes.

NOTE: Mount the knives with bevel facing impeller and alternate between the front and back side of the plate.



IMPELLER

To replace knives:

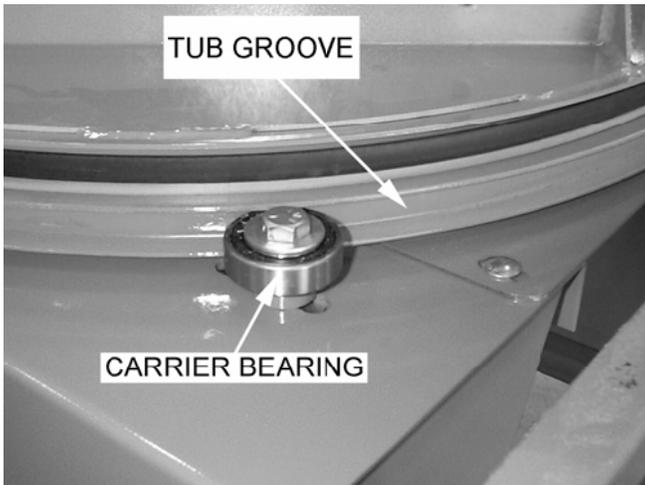
1. Remove the belt from around the tub.
2. Loosen the bolts mounting the rear tub carrier bearings.
3. Slide the loosened bearings toward the rear and remove the tub from the Straw Blower.
4. Unbolt and remove the grate guide.
5. With the grate adjustment lever, rotate the grate upwards and clear of the knives.
6. Remove and replace the knives as necessary, using only Grade 5, 1/4"-20 x 1/2" bolts and lock nuts, treated with Loctite® (or equivalent). Tighten lock nuts to 18 in. lbs.
7. Return the grate to its original position.
8. Reinstall the tub.

Service & Maintenance

BREAK-IN SERVICE

After the first 10-15 bales:

1. Check belts, tighten if necessary.
2. Tighten setscrews on bearings.
3. Check the tub carrier bearings and make necessary adjustments.



- The carrier bearing should run in the tub bearing groove. This keeps the tub spinning even.

BEARINGS

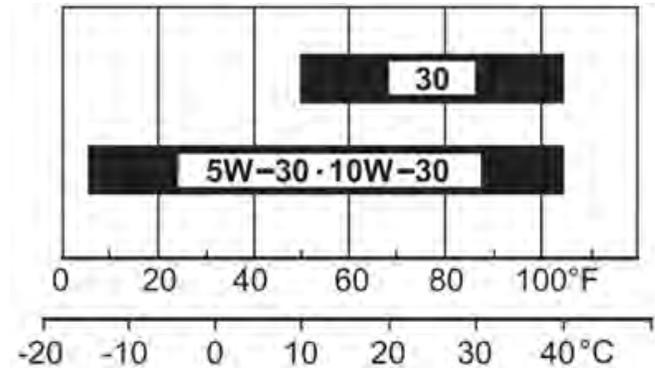
- The bearings are sealed and require no lubrication.

GEARBOX

- No maintenance is required for the gearbox on the engine powered models unless the unit leaks.
- The gearbox uses 2.71 oz of Mobil SHC 634 worm gear lubricant or equivalent.

ENGINE

- Follow the manufacturer's maintenance recommendations located in the engine manual.



AMBIENT TEMPERATURE

- The engine is filled with SAE 10W-30 from the factory, 1.1 L (1.2 US qt) capacity. Change engine oil after the first 20 hours and every 100 hours after.
- Contact a certified Honda repair center whenever warranty repair work is needed on the Straw Blower engine.

More Information

Your Harper dealer is the best source of up-to-date information concerning Harper products.

Additional information is also available from the Harper Industries Service Department at 800-835-1042.

Troubleshooting

ENGINE

| Problem: | What to Check: |
|-----------------------------------|---|
| Engine shuts off during operation | <ul style="list-style-type: none"> • Engine may be low on fuel • Engine may be low on oil (The Honda engine is equipped with an “Oil Alert” automatic shut off) • Air breather may be clogged or closed. |

BELTS

| Problem: | What to Check: |
|--|---|
| Belts slip | <ul style="list-style-type: none"> • Tension Adjustment • Load may be excessive • Knives may be too dull • Grate setting may be too low (cutting too deeply) • Foreign material may be lodged in the chopper (on knives or blower paddles) • Bearings may have seized |
| Belts wear rapidly, jump, catch or twist | <ul style="list-style-type: none"> • Pulleys may not be properly aligned. Check with a straightedge across the faces of pulleys. |

CUTTING AND DISCHARGE

| Problem: | What to Check: |
|-------------------|--|
| Hose plugs | <ul style="list-style-type: none"> • Material being chopped may have too much moisture in it. • RPM may not be high enough. (540 RPM max is recommended for PTO model. Adjust throttle to increase RPM to required levels. DO NOT adjust engine governor on engine models. • Foreign material may be lodged in the hose • Grate setting may be set too low |
| Slow cutting time | <ul style="list-style-type: none"> • Grate setting may be too high • Material being cut may be too wet • Knives may be too dull • RPM may be too low |

GEARBOX

| Problem: | What to Check: |
|---------------------------------|--|
| Oil leaks | <ul style="list-style-type: none"> • Housing bolts may be loose • Oil seals may need replaced |
| Gearbox overheats | <ul style="list-style-type: none"> • Oil level may be too low • Dirt or grease may have accumulated around the gearbox |
| Gearbox vibrates, is very noisy | <ul style="list-style-type: none"> • Oil level may be too low • Components may be worn or damaged • Load may be excessive |

Standard Torque Chart



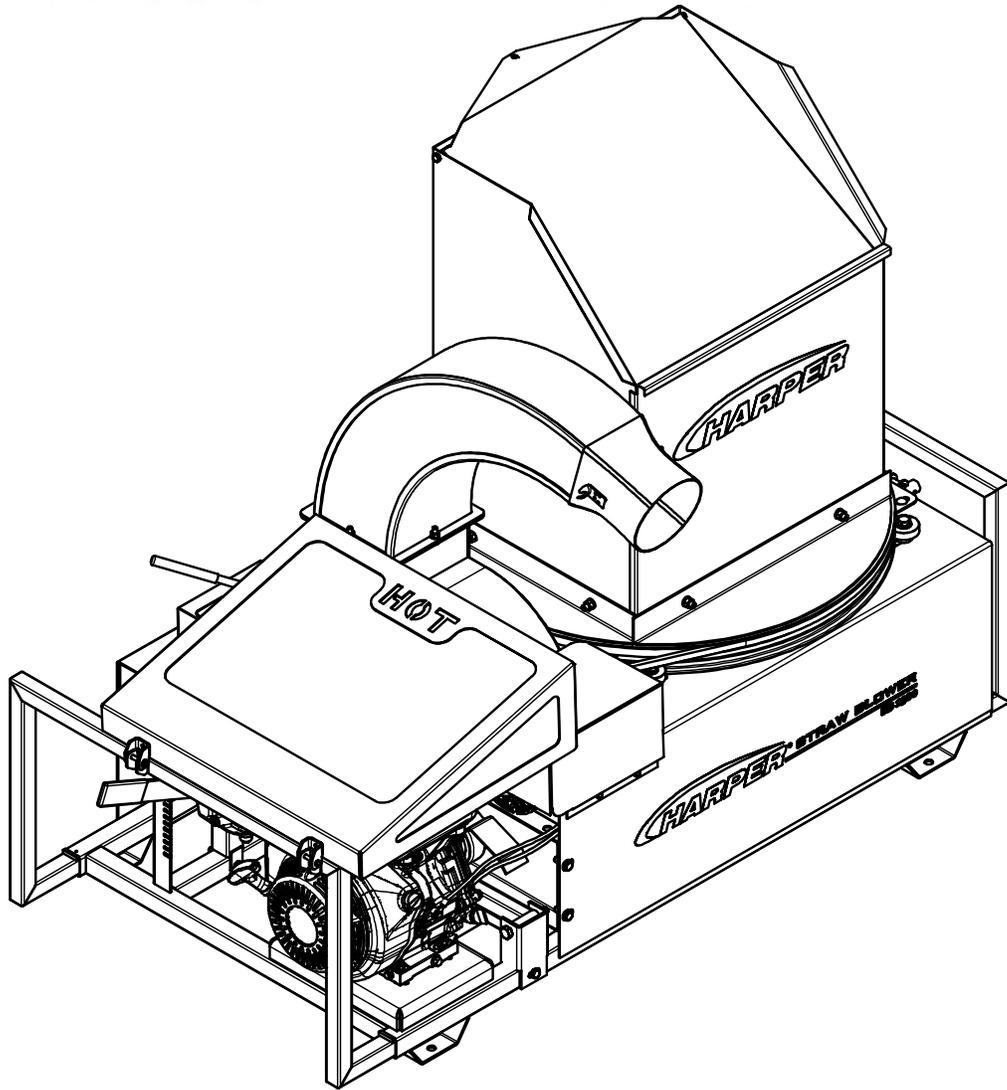
SAFETY WARNING!



Refer to the Standard Torque Chart whenever bolts, nuts or screws are tightened.

| Size | In-Lbs | Ft-Lbs | N-m |
|-----------|---------|---------|---------|
| No. 10-24 | 25-35 | 5-7 | 2.8-4.0 |
| 1/4 in. | 60-80 | 18-20 | 7-9 |
| 5/16 in. | 120-140 | 28-30 | 14-16 |
| 3/8 in. | 340-360 | 64-74 | 24-27 |
| 1/2 in. | | 126-150 | 90-100 |

Note: When tightening two or more fasteners on the same part, DO NOT tighten the fasteners completely one at a time. To avoid distortion, first tighten all fasteners in sequence to one-third of torque value, then tighten to two-thirds of torque value, then tighten to full value.



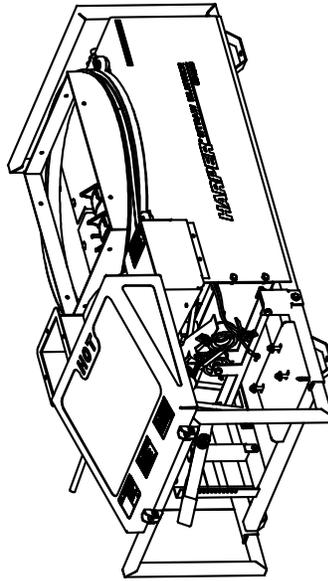
PARTS

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Parts

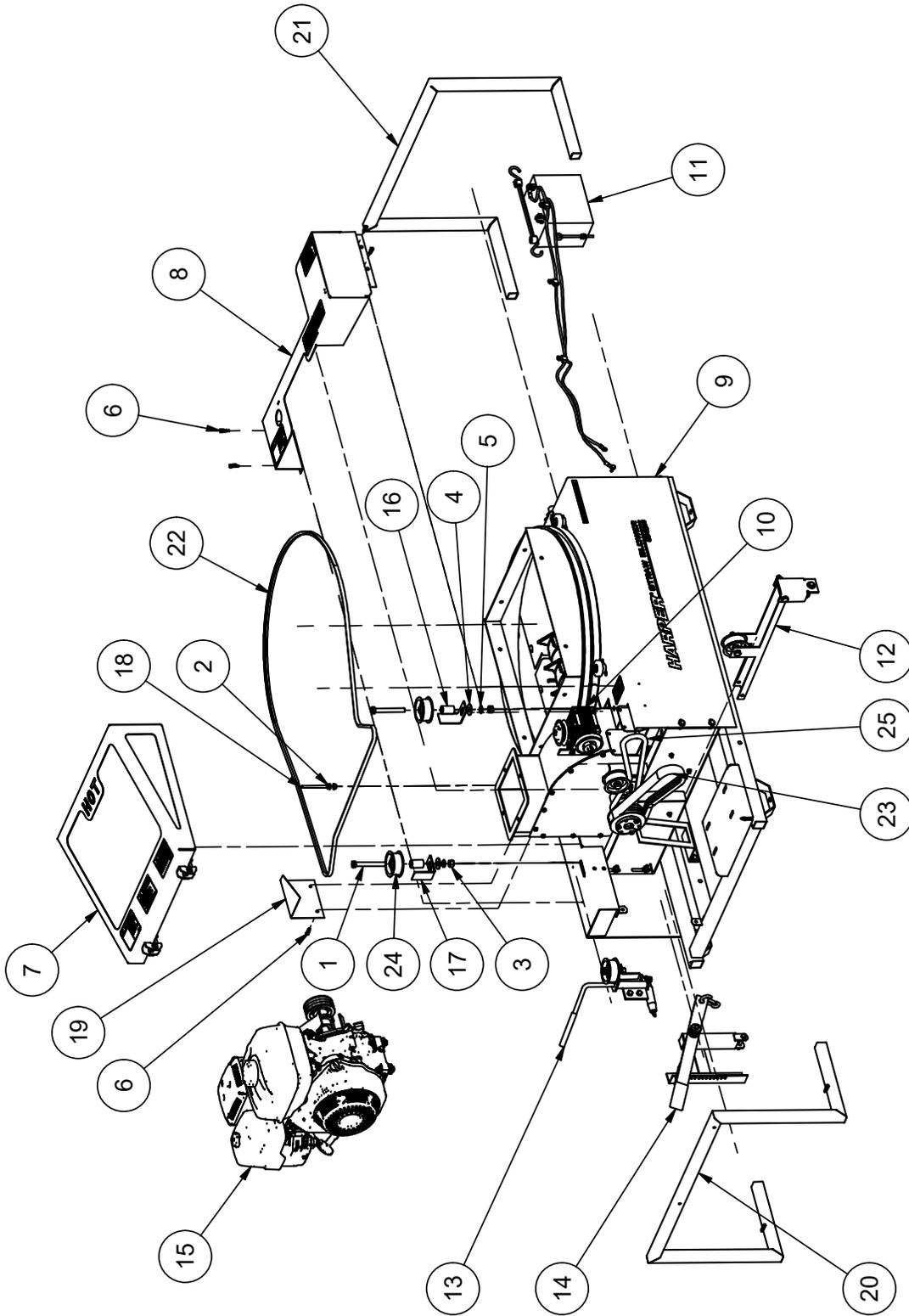
| | |
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| Engaging Handle Arm Assembly..... | 1.8 |
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MAIN FRAME ASSEMBLY



| Parts List | | | |
|------------|-----|--------|-----------------------------------|
| ITEM | QTY | PART # | DESCRIPTION |
| 1 | 2 | 110003 | BOLT, 1/2-13 X 4.0 |
| 2 | 2 | 110606 | NUT, 5/16-18 WIZ FLANGE |
| 3 | 2 | 110610 | NUT, 1/2-13 |
| 4 | 2 | 110658 | WASHER, 1/2" FLAT STANDARD |
| 5 | 2 | 110666 | WASHER, 1/2" LOCK |
| 6 | 6 | 710586 | SCREW, 1/4 X 1 TEK SELF-TAP |
| 7 | 1 | 905089 | ENGINE SCREEN ASSY, STRAW BLOWER |
| 8 | 1 | 905117 | SHIELD ASSY FRONT BELT |
| 9 | 1 | 905163 | ASSEMBLY, BASE ASSY W/DECAL |
| 10 | 1 | 905165 | ASSEMBLY, GEAR BOX |
| 11 | 1 | 905166 | ASSEMBLY, ELECTRICAL |
| 12 | 1 | 905167 | ASSEMBLY, ENGAGING HANDLE ARM |
| 13 | 1 | 905168 | ASSEMBLY, TUB SHIFT |
| 14 | 1 | 905169 | ASSEMBLY, ENGAGING HANDLE |
| 15 | 1 | 905171 | ASSEMBLY, ENGINE |
| 16 | 2 | 910005 | IDLER PULLEY SPACER |
| 17 | 2 | 910006 | BELT GUIDE |
| 18 | 1 | 910027 | GUIDE, BELT |
| 19 | 1 | 910056 | SHIELD, TUB BELT |
| 20 | 1 | 915013 | HANDLE, FRONT LIFT |
| 21 | 1 | 915020 | HANDLE, REAR LIFT |
| 22 | 1 | 940002 | DRIVE BELT, BLOWER TUB (A128) |
| 23 | 1 | 940020 | BANDED DRIVE BELT (3/8V X 315) |
| 24 | 2 | 940027 | IDLER ASSY, 2.75 FLAT X 1.125 WLD |
| 25 | 1 | 942291 | Belt, Gear Box, A36 |

MAIN FRAME ASSEMBLY

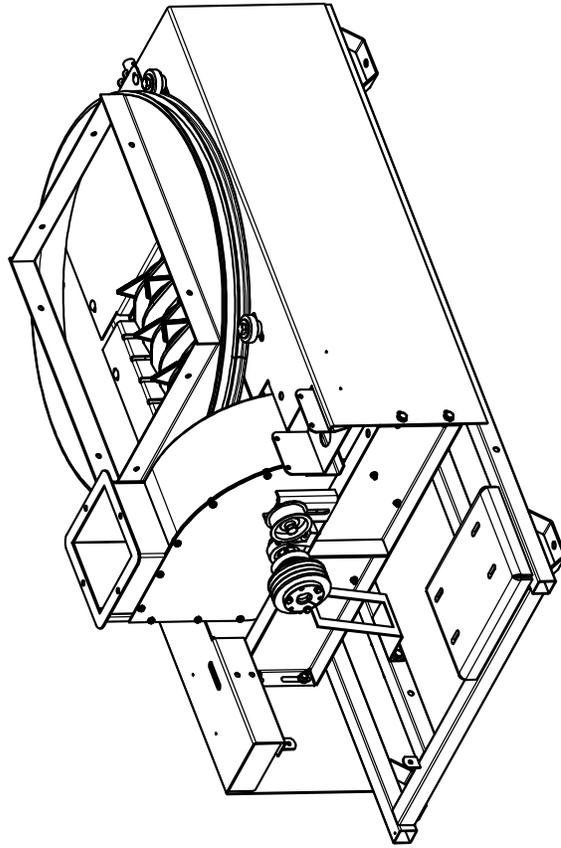


GEARBOX: Belt (25) should deflect .20" at midpoint when 5 lb is applied.

Verify alignment at final assembly:

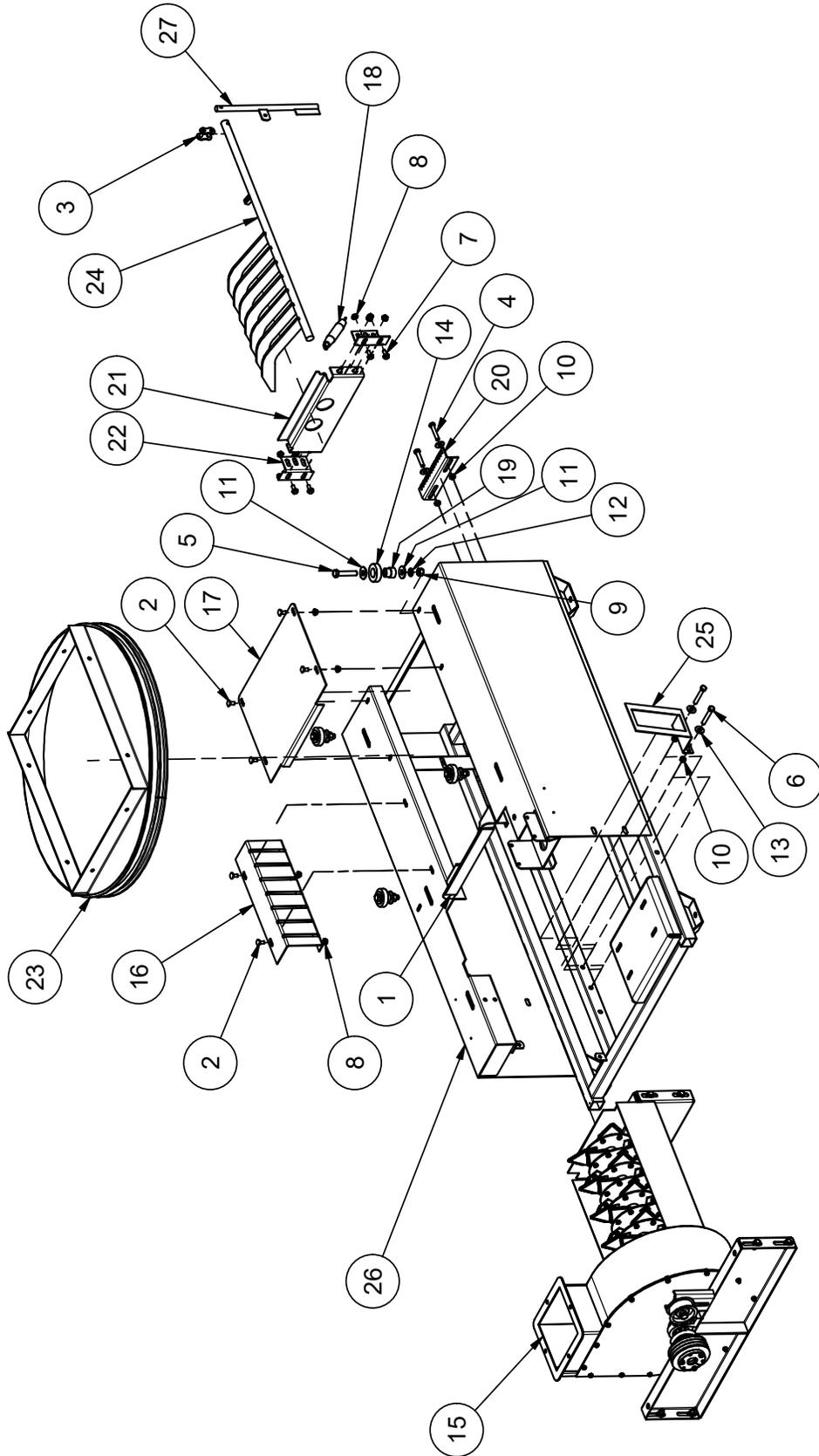
- 1. Sheaves between engine and cutter shaft.
- 2. Sheaves between cutter shaft and gearbox
- 3. Tub drive sheaves

BASE ASSEMBLY

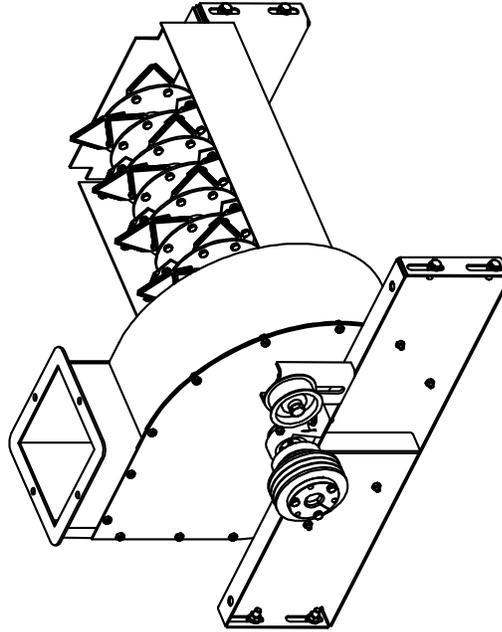


| Parts List | | | DESCRIPTION |
|------------|-----|--------|----------------------------------|
| ITEM | QTY | PART # | |
| 1 | 1 | 100442 | SEAL |
| 2 | 6 | 110020 | Bolt, 5/16-18 X 0.75 in Carriage |
| 3 | 1 | 110287 | CONNECTING LINK, #80 |
| 4 | 2 | 110400 | BOLT, 3/8-16 X 2.0 |
| 5 | 4 | 110403 | BOLT, 1/2-13 X 2.5 |
| 6 | 2 | 110436 | BOLT, 3/8-16 X 2.5 |
| 7 | 8 | 110444 | BOLT, 5/16-18 X 0.75, WIZ FLANGE |
| 8 | 14 | 110606 | NUT, 5/16-18 WIZ FLANGE |
| 9 | 4 | 110610 | NUT, 1/2-13 |
| 10 | 4 | 110621 | NUT, 3/8-16, UNITORQUE LOCK |
| 11 | 8 | 110658 | WASHER, 1/2" FLAT STANDARD |
| 12 | 4 | 110666 | WASHER, 1/2" LOCK |
| 13 | 4 | 110676 | WASHER, 3/8" FLAT STANDARD |
| 14 | 4 | 742054 | BEARING, 52M OD X 25M ID 6205 |
| 15 | 1 | 905160 | ASSEMBLY, BLOWER TROUGH |
| 16 | 1 | 910014 | GUIDE, 7 FINGER GRATE |
| 17 | 1 | 910016 | COVER, REAR ROTOR |
| 18 | 1 | 910018 | SPRING, FINGER ADJUSTER |
| 19 | 4 | 910019 | TUB BASE SPACER |
| 20 | 1 | 910021 | BRACKET, GRATE ADJUSTMENT |
| 21 | 1 | 910068 | PLATE, REAR FRAME |
| 22 | 2 | 910069 | BRACKET, REAR FRAME PLATE |
| 23 | 1 | 915002 | TUB BASE ASSY |
| 24 | 1 | 915003 | ADJUSTABLE GRATE, 7-FINGER |
| 25 | 1 | 915015 | GUIDE, ENGAGING CHANNEL |
| 26 | 1 | 915017 | FRAME, MAIN |
| 27 | 1 | 915019 | ASSY, GRATE LEVER |

BASE ASSEMBLY



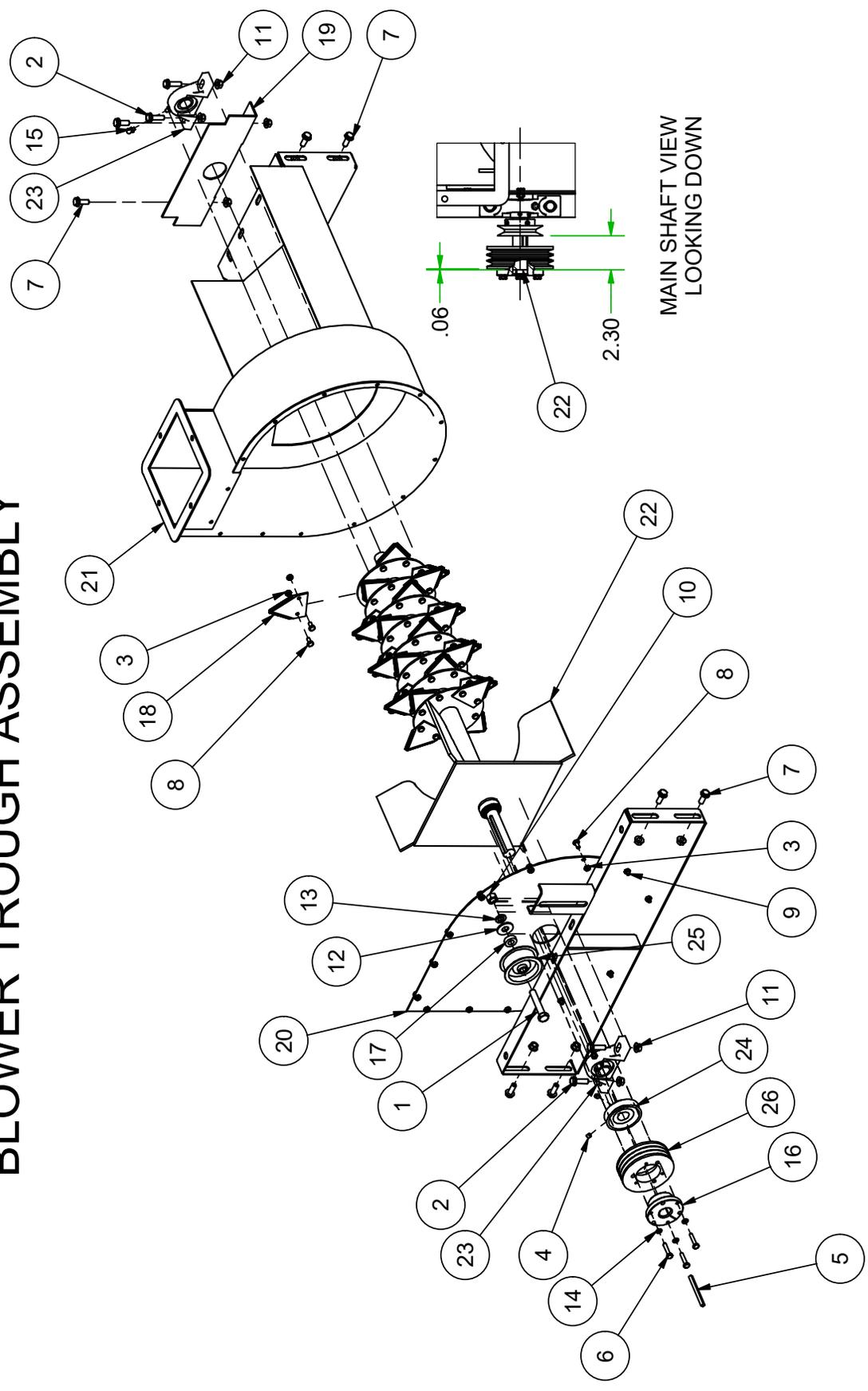
BLOWER TROUGH ASSEMBLY



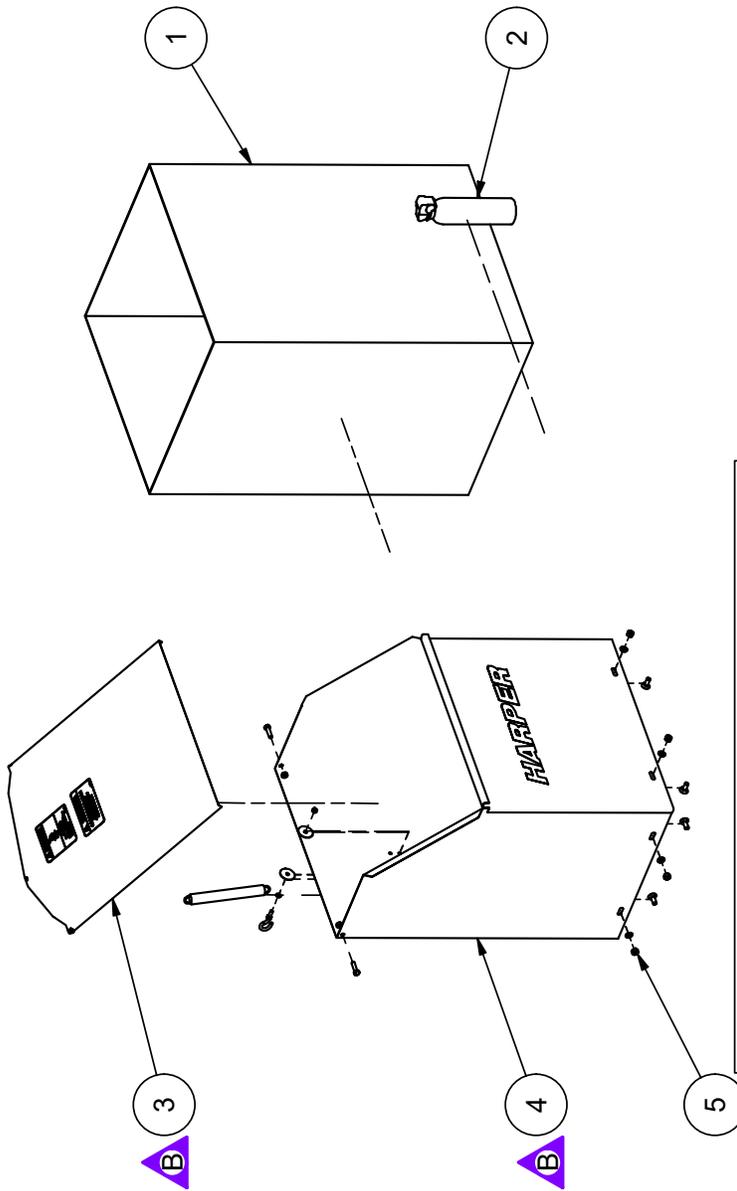
| Parts List | | |
|------------|-----|-----------------------------------|
| ITEM | QTY | DESCRIPTION |
| 1 | 1 | BOLT, 1/2-13 X 2.75 HEX |
| 2 | 4 | BOLT, 3/8-16 X 1.25, WIZ FLANGE |
| 3 | 78 | NUT, 1/4-20, UNITORQUE LOCK |
| 4 | 2 | SetScrew, 5/16-18 X 0.3125 |
| 5 | 1 | KEY, 1/4 X 1/4 X 3.25 |
| 6 | 3 | BOLT, 1/4-20 X 1-1/4 |
| 7 | 10 | BOLT, 3/8-16 X 1, WIZ FLANGE |
| 8 | 74 | BOLT, 1/4-20 X .50 |
| 9 | 4 | BOLT, 1/4-20 X .75 |
| 10 | 1 | NUT, 1/2-13 |
| 11 | 14 | NUT, 3/8-16 WIZ FLANGE |
| 12 | 1 | WASHER, 1/2" FLAT STANDARD |
| 13 | 1 | WASHER, 1/2" LOCK |
| 14 | 3 | WASHER, 1/4" LOCK |
| 15 | 1 | GREASE ZERK, 1/4-28 90deg |
| 16 | 1 | BUSHING, QD 1" SDS |
| 17 | 1 | SPACER, .320 |
| 18 | 32 | STRAW BLOWER KNIFE |
| 19 | 1 | ASSY, REAR BEARING GUARD |
| 20 | 1 | BLOWER TROUGH FRONT |
| 21 | 1 | BLOWER TROUGH ASSY |
| 22 | 1 | ROTOR AND FAN ASSY |
| 23 | 2 | BEARING, PB SD 1 |
| 24 | 1 | SHEAVE, 1A3.05 X 1.0 KSS |
| 25 | 1 | IDLER ASSY, 2.75 FLAT X 1.125 WLD |
| 26 | 1 | SHEAVE, 3/3V4.50 SDS QD |

905160 REV: A

BLOWER TROUGH ASSEMBLY



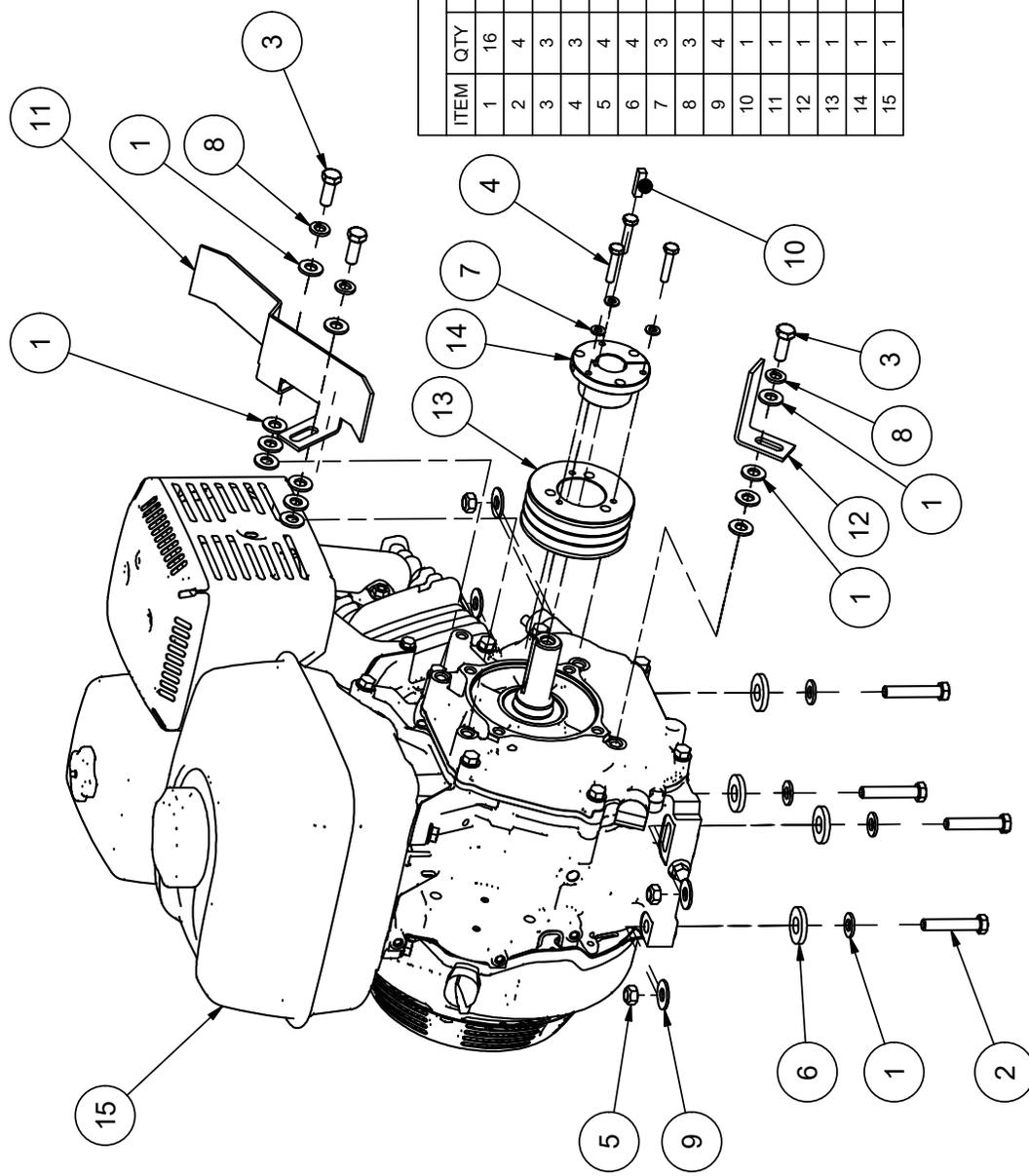
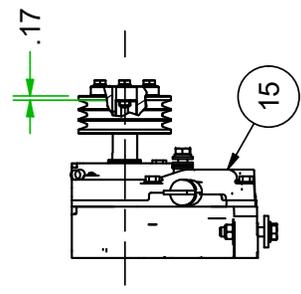
BALE TUB ASSEMBLY



| 910163 BOLT KIT BOM | | DESCRIPTION |
|---------------------|--------|--------------------------------|
| 2 | 110049 | WASHER, 5/16 X 1.50 FENDER |
| 1 | 110174 | NUT, 1/4-20, UNITORQUE LOCK |
| 2 | 110421 | BOLT, 5/16-18 X 1-1/4 |
| 8 | 110556 | Bolt, 3/8-16 X 1 in Carriage |
| 2 | 110608 | NUT, 5/16-18 |
| 1 | 110667 | WASHER, 1/4" LOCK |
| 8 | 110672 | WASHER, 3/8" LOCK |
| 8 | 110826 | NUT, 3/8-16 GR 5 |
| 1 | 910032 | LID EYEBOLT |
| 1 | 910033 | SPRING, 1.0 OD X 8.75 L X .120 |

| Parts List | | |
|------------|-----|----------------------------------|
| ITEM | QTY | PART # DESCRIPTION |
| 1 | 1 | 100575 BOX |
| 2 | 1 | 900023 FIRE EXTINGUISHER |
| 3 | 1 | 905161 ASSEMBLY, TUB LID W/DECAL |
| 4 | 1 | 905162 ASSEMBLY, TUB W/DECAL |
| 5 | 1 | 910163 BOLT KIT |

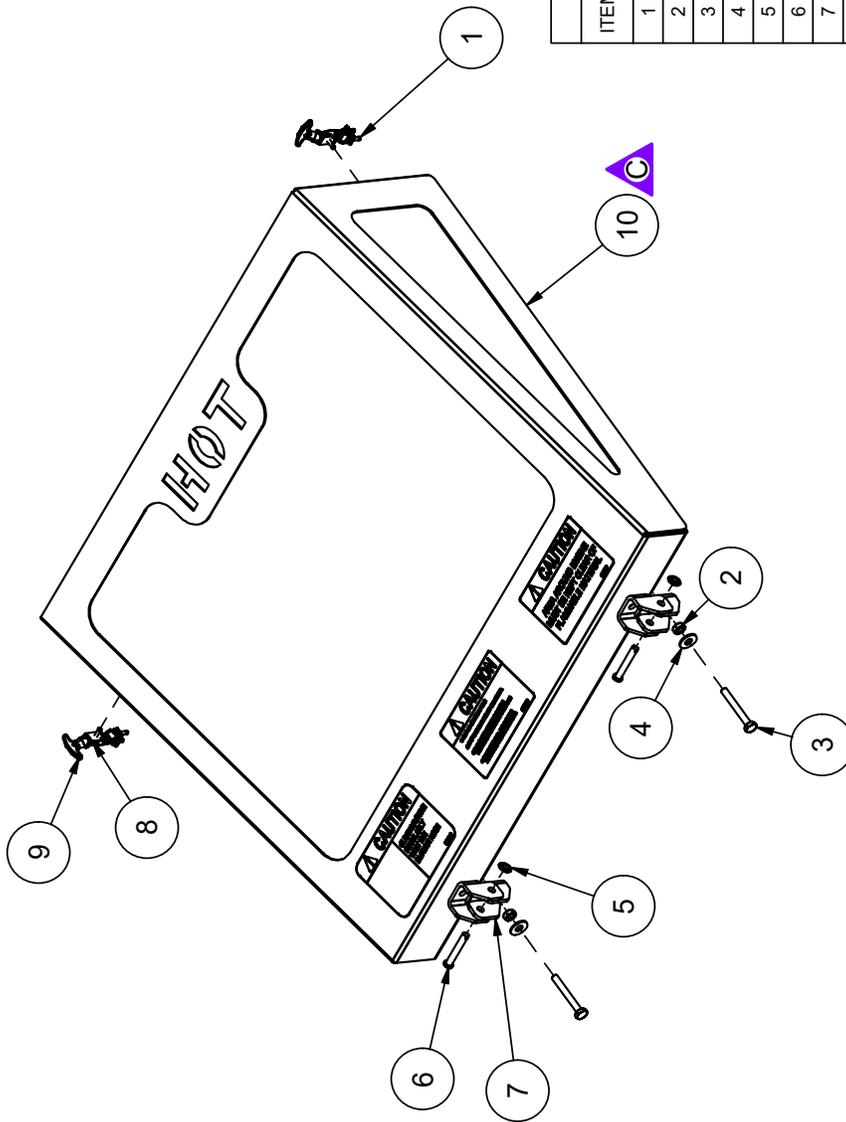
ENGINE ASSEMBLY



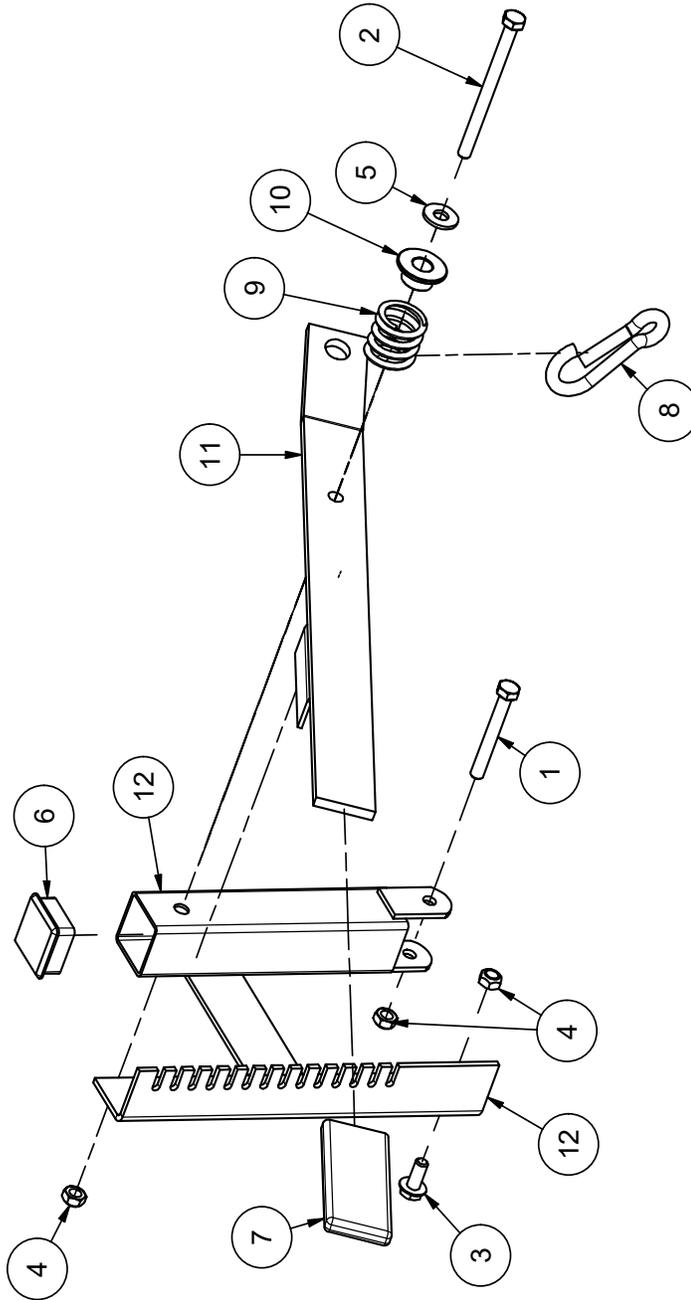
Parts List

| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|----------------------------------|
| 1 | 16 | 110155 | WASHER, 3/8" FLAT SAE |
| 2 | 4 | 110400 | BOLT, 3/8-16 X 2.0 |
| 3 | 3 | 110420 | BOLT, 3/8-16 X 1.0 |
| 4 | 3 | 110430 | BOLT, 1/4-20 X 1-1/4 |
| 5 | 4 | 110621 | NUT, 3/8-16, UNITORQUE LOCK |
| 6 | 4 | 110662 | WASHER, 1/2" FLAT SPECIAL 1.250d |
| 7 | 3 | 110667 | WASHER, 1/4" LOCK |
| 8 | 3 | 110672 | WASHER, 3/8" LOCK |
| 9 | 4 | 110676 | WASHER, 3/8" FLAT STANDARD |
| 10 | 1 | 510228 | KEY, 1/4 X 1/4 X 1.0 UNDER |
| 11 | 1 | 910064 | GUIDE, UPPER DRIVE BELT |
| 12 | 1 | 910065 | GUIDE, LOWER DRIVE BELT |
| 13 | 1 | 942172 | SHEAVE, 3/3v3.65 SH QD |
| 14 | 1 | 942179 | BUSHING, QD 1" SH |
| 15 | 1 | 943044 | ENGINE, 13HP HONDA, TIER 3 |

ENGINE SCREEN ASSEMBLY



| Parts List | | | |
|------------|-----|-------------|---------------------------------|
| ITEM | QTY | PART NUMBER | DESCRIPTION |
| 1 | 8 | 110063 | POP RIVET, 1/8 |
| 2 | 2 | 110174 | NUT, 1/4-20, UNITORQUE LOCK |
| 3 | 2 | 110354 | BOLT, 1/4-20 X 2.0 HEX HEAD |
| 4 | 2 | 110673 | WASHER, 1/4" FLAT STANDARD |
| 5 | 2 | 112011 | PUSH NUT, WASHER CAP STYLE |
| 6 | 2 | 112095 | CLEVIS PIN, STD ZP 1/4 X 1 5/8 |
| 7 | 2 | 211660 | TOOL BOX DOOR HINGE, INNER HALF |
| 8 | 2 | 810126 | LATCH, FEMALE |
| 9 | 2 | 810127 | LATCH, MALE |
| 10 | 1 | 905164 | ASSEMBLY, SCREEN W/DECAL |

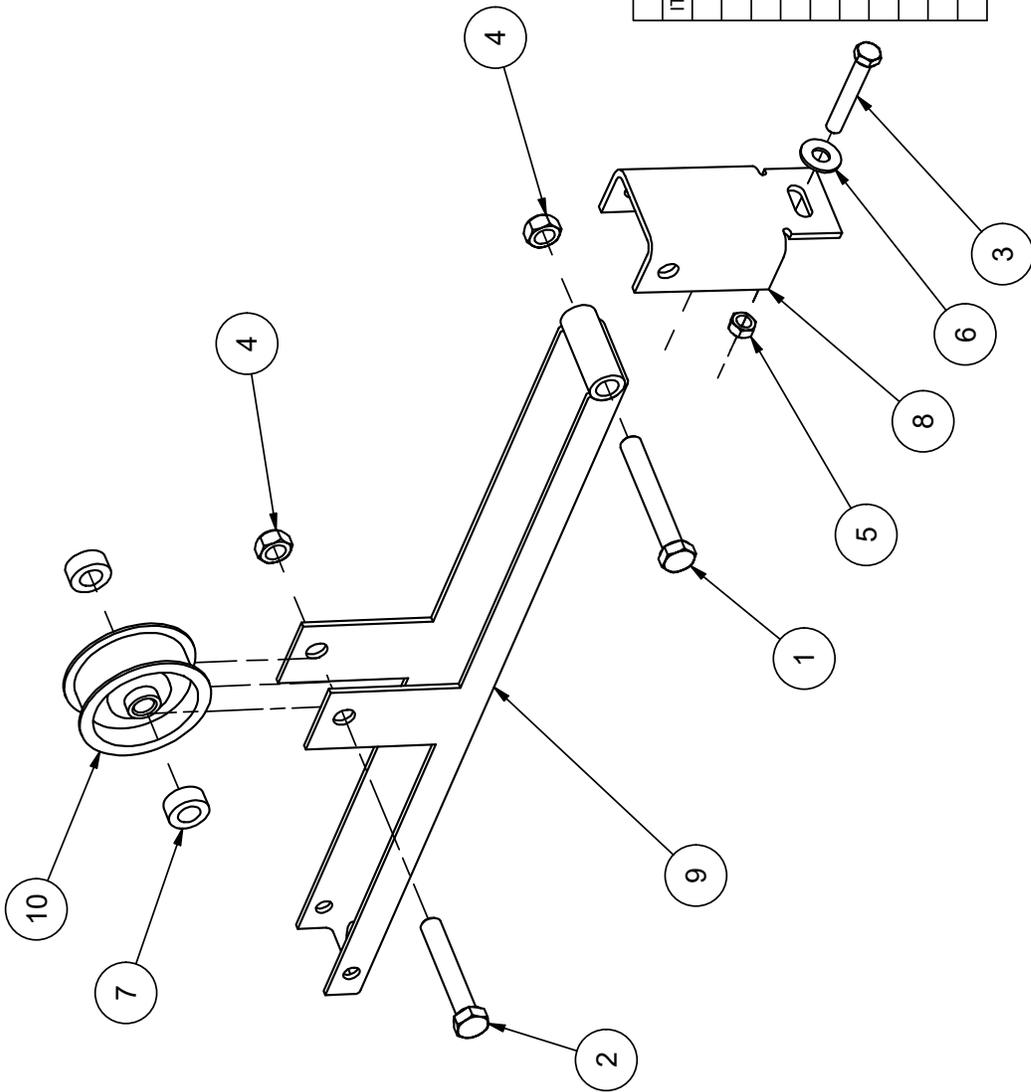


Parts List

| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|---|
| 1 | 1 | 110396 | BOLT, 5/16-18 X 2.5 |
| 2 | 1 | 110441 | BOLT, 5/16-18 X 4.0 |
| 3 | 1 | 110444 | BOLT, 5/16-18 X 0.75, WIZ FLANGE |
| 4 | 3 | 110600 | NUT, 5/16-18, UNITORQUE LOCK |
| 5 | 1 | 110665 | WASHER, 5/16" FLAT STANDARD |
| 6 | 1 | 910003 | PLUG, CAP 1-1/2" X 1-1/2" |
| 7 | 1 | 910044 | COVER, VINYL .25 X 1.5 X 4 GRIP |
| 8 | 1 | 910046 | ENGAGING CHANNEL CLIP |
| 9 | 1 | 910047 | SPRING, 1.25 X .91 X 2.28; .17 DIA |
| 10 | 1 | 910048 | Bushing, .78 X .5 X .1 Fng, Zinc Plated |
| 11 | 1 | 915014 | ENGAGING HANDLE ASSY |
| 12 | 1 | 915016 | ENGAGING HANDLE STOP ASSY |

ENGAGING HANDLE ASSEMBLY

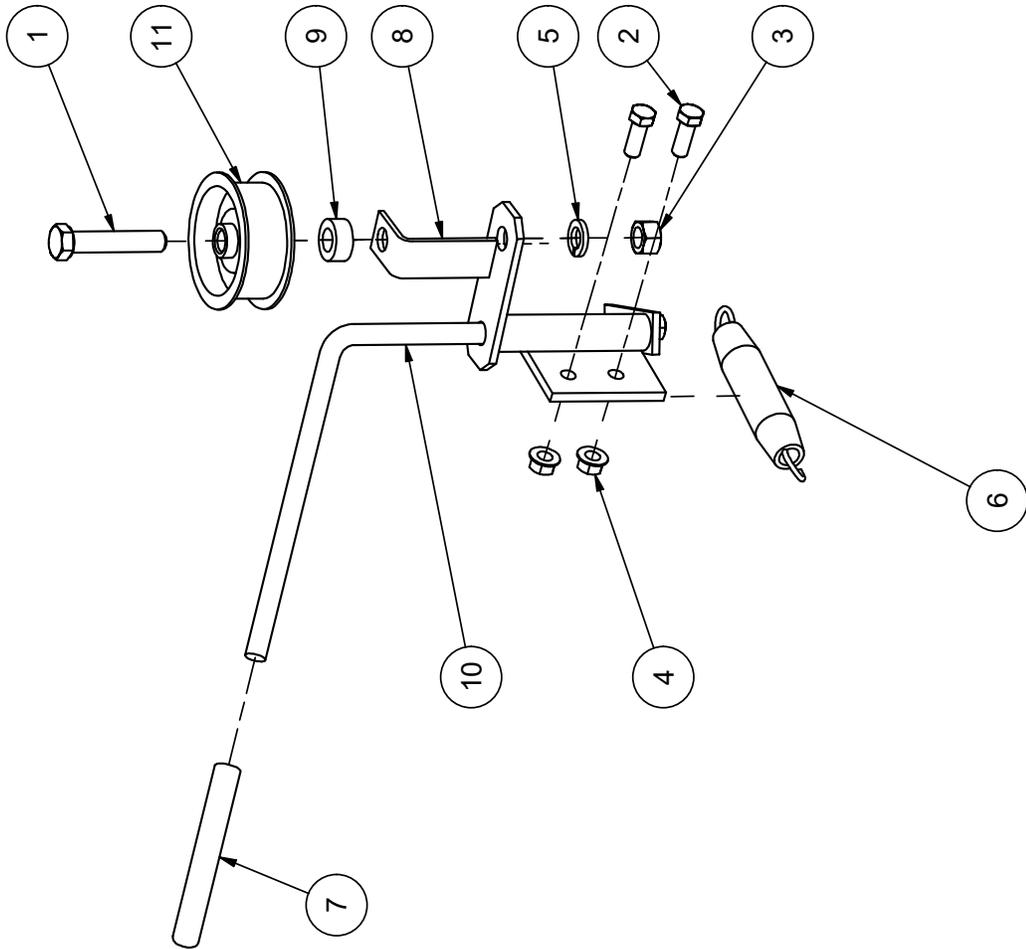
ENGAGING HANDLE ARM ASSEMBLY



Parts List

| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|-----------------------------------|
| 1 | 1 | 110002 | BOLT, 1/2-13 X 3.5 |
| 2 | 1 | 110428 | BOLT, 1/2-13 X 3.0 |
| 3 | 1 | 110436 | BOLT, 3/8-16 X 2.5 |
| 4 | 2 | 110615 | NUT, 1/2-13, UNITORQUE LOCK |
| 5 | 1 | 110621 | NUT, 3/8-16, UNITORQUE LOCK |
| 6 | 1 | 110676 | WASHER, 3/8" FLAT STANDARD |
| 7 | 2 | 910050 | ENGAGING CHANNEL SPACER |
| 8 | 1 | 910063 | ENGAGING CHANNEL SWIVEL |
| 9 | 1 | 915024 | WELDMENT, ENGAGING CHANNEL |
| 10 | 1 | 940027 | IDLER ASSY. 2.75 FLAT X 1.125 WLD |

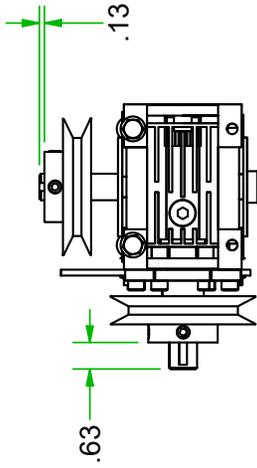
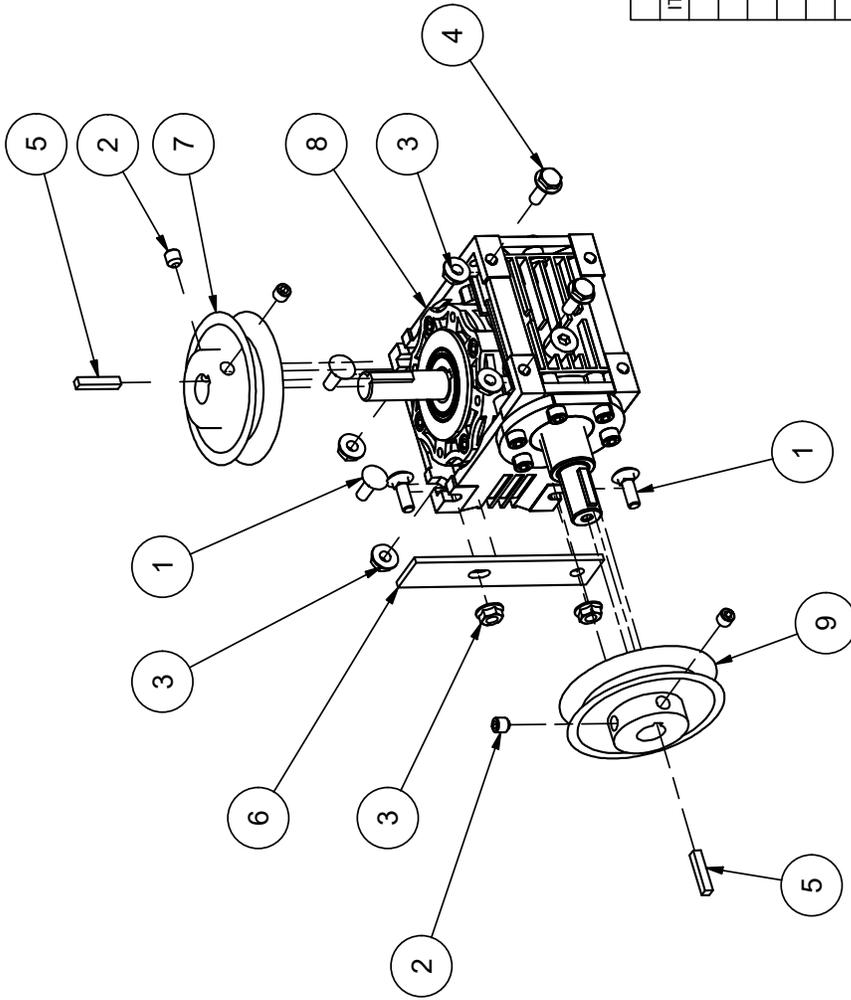
TUB SHIFT ASSEMBLY



Parts List

| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|-----------------------------------|
| 1 | 1 | 110403 | BOLT, 1/2-13 X 2.5 |
| 2 | 2 | 110420 | BOLT, 3/8-16 X 1.0 |
| 3 | 1 | 110610 | NUT, 1/2-13 |
| 4 | 2 | 110645 | NUT, 3/8-16 W/IZ FLANGE |
| 5 | 1 | 110666 | WASHER, 1/2" LOCK |
| 6 | 1 | 910018 | SPRING, FINGER ADJUSTER |
| 7 | 1 | 910024 | COVER, VINYL, 1/2 RND X 4.0 GRIP |
| 8 | 1 | 910026 | SHIFT ASSY STOP |
| 9 | 1 | 910050 | ENGAGING CHANNEL SPACER |
| 10 | 1 | 915018 | SHIFT ASSY |
| 11 | 1 | 940027 | IDLER ASSY, 2.75 FLAT X 1.125 WLD |

GEAR BOX ASSEMBLY

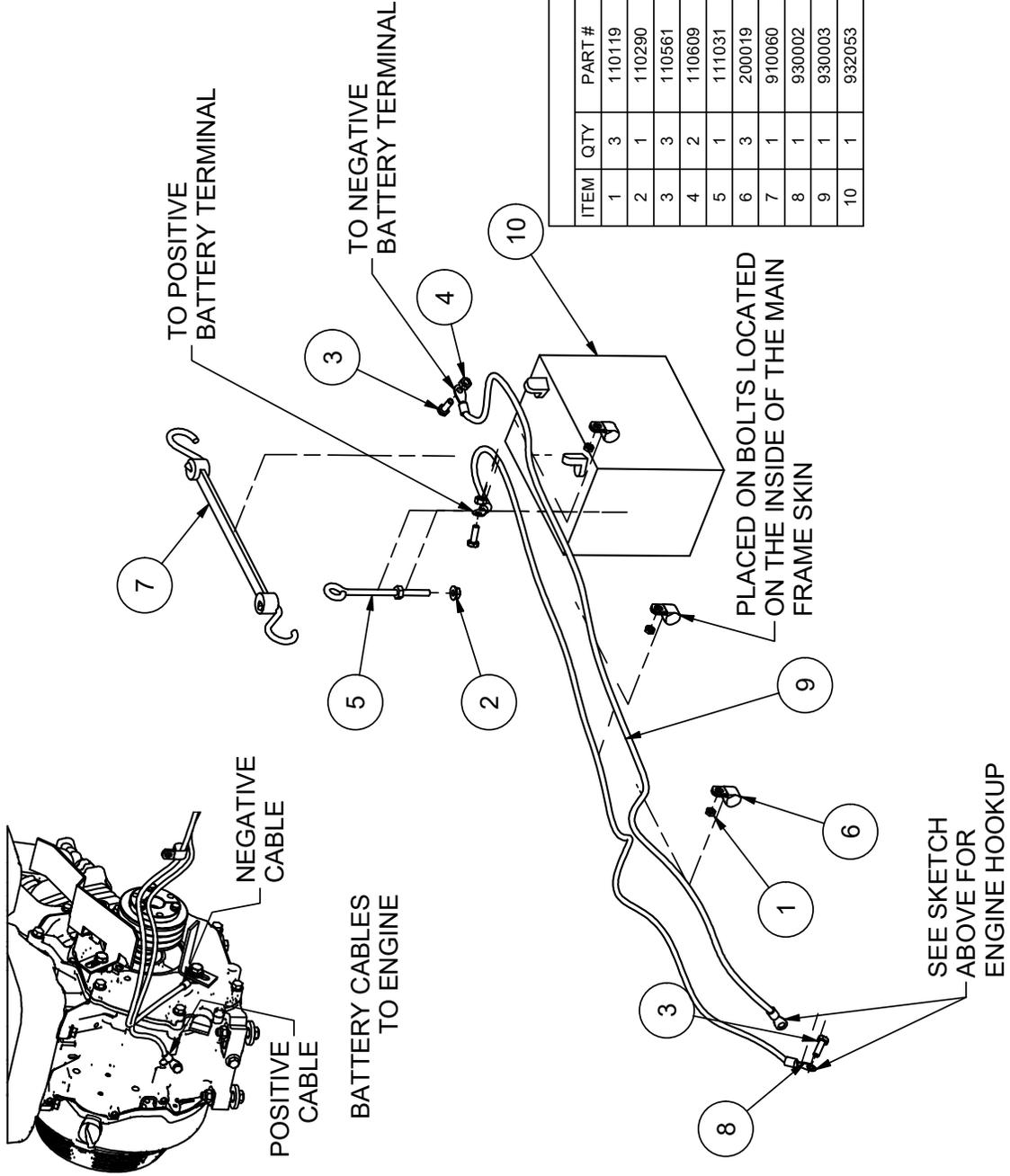


END VIEW
SHOWING PULLEY POSITIONING

Parts List

| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|---------------------------------|
| 1 | 4 | 110154 | Bolt, 1/4-20 X 0.75 in Carriage |
| 2 | 4 | 110239 | SetScrew, 5/16-18 X 0.3125 |
| 3 | 6 | 110290 | NUT, 1/4-20 WIZ FLANGE |
| 4 | 2 | 110468 | BOLT, 1/4-20 X 0.75, WIZ FLANGE |
| 5 | 2 | 510282 | KEY, 3/16 X 3/16 X 1.0 UNDER |
| 6 | 1 | 910062 | GUIDE, BELT |
| 7 | 1 | 940004 | SHEAVE, 1A 3.25 X 5/8 KSS |
| 8 | 1 | 940016 | GEARBOX, 15:1 |
| 9 | 1 | 940017 | SHEAVE, 1A 3.45 X 5/8 KSS |

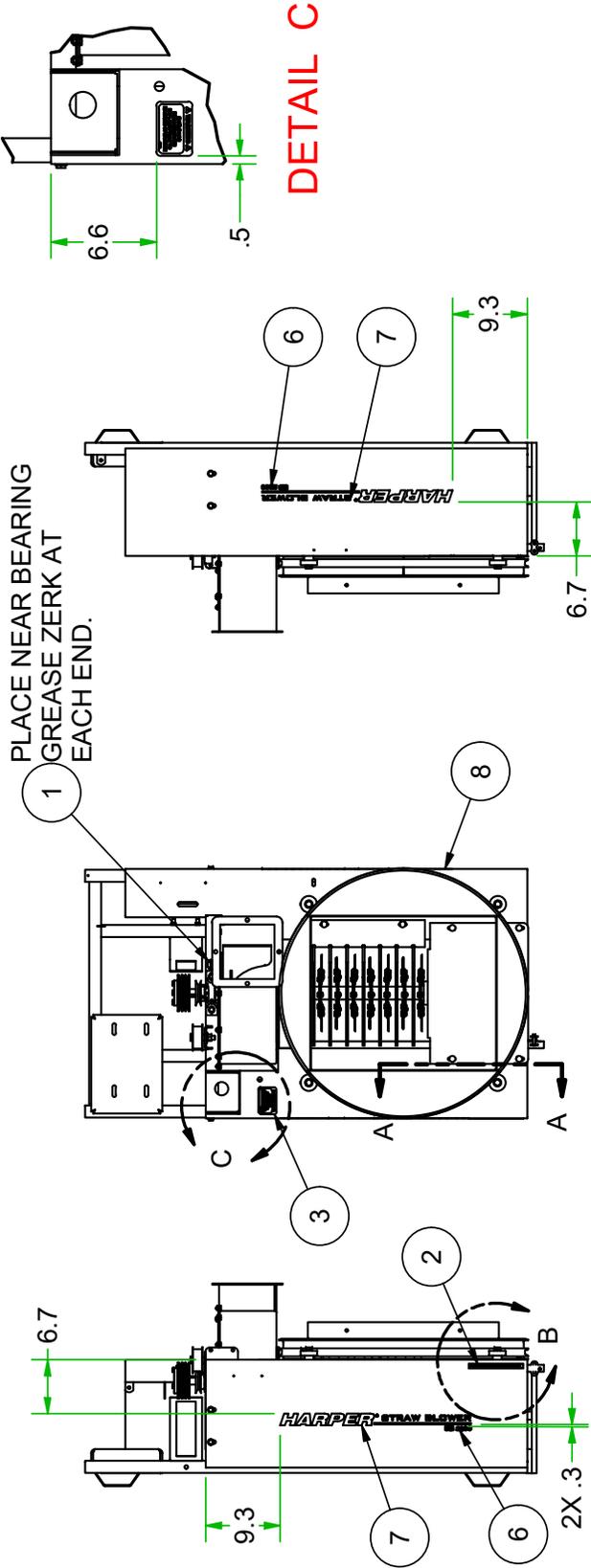
ELECTRICAL ASSEMBLY



Parts List

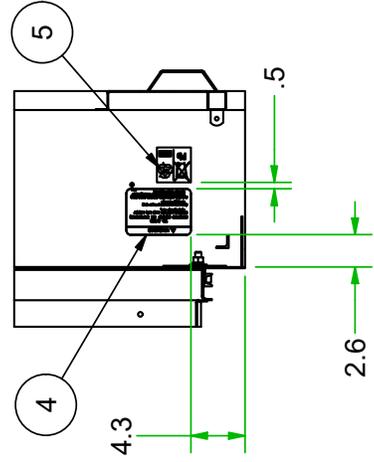
| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|-----------------------------|
| 1 | 3 | 110119 | NUT, 10-24 LOCK |
| 2 | 1 | 110290 | NUT, 1/4-20 WIZ FLANGE |
| 3 | 3 | 110561 | BOLT, 1/4-20 X .75 |
| 4 | 2 | 110609 | NUT, 1/4-20 |
| 5 | 1 | 111031 | Bolt, 1/4-20 X 4, Eye, Zinc |
| 6 | 3 | 200019 | CLAMP, ADEL AC10 .265 HOLE |
| 7 | 1 | 910060 | BATTERY STRAP |
| 8 | 1 | 930002 | BATTERY CABLE, POSITIVE |
| 9 | 1 | 930003 | BATTERY CABLE, NEGATIVE |
| 10 | 1 | 932053 | BATTERY, 12V GEL |

DECAL INSTALLATION

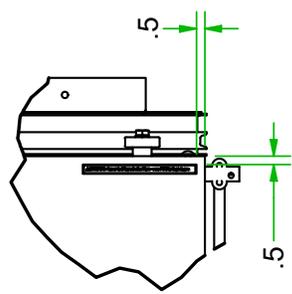


Parts List

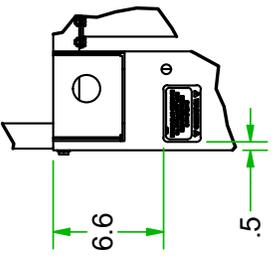
| ITEM | QTY | PART # | DESCRIPTION |
|------|-----|--------|--|
| 1 | 2 | 160008 | DECAL GREASE EVERY 40 HRS |
| 2 | 1 | 202134 | Decal, Prop 65, Short Form |
| 3 | 1 | 400014 | DECAL, SHIELD REMOVED |
| 4 | 1 | 500255 | DECAL, BATTERY |
| 5 | 1 | 800195 | DECAL, RECYCLE BATTERY |
| 6 | 2 | 900016 | DECAL, SB 1300, BLACK |
| 7 | 2 | 902201 | DECAL, HARPER STRAW BLOWER. 26", BLACK |
| 8 | 1 | 905159 | ASSEMBLY, BASE |



SECTION A-A



DETAIL B



DETAIL C

NOTES

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HARPER
TURF EQUIPMENT

Straw Blower