



BILLY GOAT SOD CUTTER
Owner's Manual
SC180H



ABOUT THIS MANUAL

THANK YOU for purchasing a BILLY GOAT® *Sod Cutter*. Your new machine has been carefully designed and manufactured to provide years of reliable and productive service. This manual provides complete operating and maintenance instructions that will help to maintain your machine in top running order. Read this manual carefully before assembling, operating, or servicing your equipment.

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Go to <http://www.billygoat.com> for French-Canadian translations of the product manuals.

Visitez <http://www.billygoat.com> pour la version canadienne-française des manuels de produits

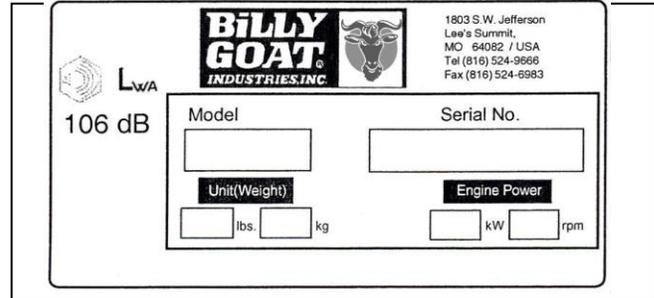


SERIAL PLATE DATA

Record the model number, serial number, date of purchase, and where purchased.

Purchase Date: _____

Purchased From: _____



Specifications

SC180H

| | |
|--------------------------------|------------------------------|
| Engine: HP | 5.5 HP (4.1 kw) |
| Engine: Model | GXV160UH2N1AH |
| Engine: Type | Honda |
| Engine: Fuel Capacity | 1.6 qt. (1.5 L) |
| Engine: Oil Capacity | 0.69 qt. (0.65 L) |
| Total Unit Weight: | 348# (158 Kg) |
| Max. operating slope | 20° |
| Overall length | 54" (1371mm) |
| Overall width | 26.5" (660mm) |
| Overall height | 36.5" (927mm) |
| In accordance with 2000/14/EEC | 104dBa |
| Sound at operators position | 84dBa |
| Vibration at operator position | 2.5g (24.8m/s ²) |

GENERAL SAFETY INSTRUCTIONS and SYMBOLS

The safety symbols shown below are used throughout this manual. You should become familiar with them before assembling, operating, or servicing this equipment.



WARNING: This symbol indicates important information that will prevent injury to yourself or others.



This symbol indicates ear protection is recommended when operating this equipment.



This symbol indicates eye protection is recommended when operating this equipment.



This symbol indicates gloves should be worn when servicing this equipment.



This symbol indicates that this manual and the engine manufacturer's manual should be read carefully before assembling, operation, or servicing this equipment.



CAUTION: This symbol indicates important information that will prevent damage to your BILLY GOAT[®] Sod Cutter.



This symbol indicates the engine oil level should be checked before operating this equipment.

Read and make sure you thoroughly understand the following safety precautions before assembling, operating or servicing this equipment:



READ this manual and the engine manufacturer's manual carefully before assembling, operating, or servicing this equipment.



EAR PROTECTION is recommended when operating this equipment.



EYE PROTECTION is recommended when operating this equipment.



BREATHING PROTECTION is recommended when operating this equipment.



WARNING: **EXHAUST** from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

DO NOT operate this equipment on any unimproved forested, brushy, or grass covered land unless a spark arrester is installed on the muffler as required by Section 4442 of the California Public Resources Code. The arrester must be maintained in good working order. Other states may have similar laws. Federal laws apply on federal lands.

DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and possibly fatal poison.



SC180H Owner's Manual

 **WARNING: IMPORTANT! This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.**

-  **WARNING:**
- ❗ **DO NOT** run this equipment indoors or in any poorly ventilated area. Refueling outdoors is recommended.
 - ❗ **DO NOT** refuel this equipment while the engine is running. Allow engine to cool for at least two minutes before refueling.
 - ❗ **DO NOT** store gasoline near an open flame.
 - ❗ **DO NOT** remove gas cap while engine is running.
 - ❗ **DO NOT** start or operate engine if strong odor of gasoline is present.
 - ❗ **DO NOT** start or operate engine if gasoline is spilled. Move equipment away from spill until gasoline has completely evaporated.
 - ❗ **DO NOT** smoke while filling the fuel tank.
 - ❗ **DO NOT** check for spark with spark plug or spark plug wire removed. Use an approved spark tester.
 - ❗ **DO NOT** operate engine without a muffler. Inspect muffler periodically and replace if necessary. If equipped with muffler deflector, inspect deflector periodically and replace if necessary.
 - ❗ **DO NOT** operate engine with grass, leaves or other combustible material near the muffler.
 - ❗ **DO NOT** touch muffler, cylinder, or cooling fins when hot. Contact with hot surfaces may cause severe burns.
 - ❗ **DO NOT** leave equipment unattended while in operation.
 - ❗ **DO NOT** park equipment on a steep grade or slope.
 - ❗ **DO NOT** operate equipment with bystanders in or near the work area.
 - ❗ **DO NOT** allow children to operate this equipment.
 - ❗ **DO NOT** operate equipment with guards removed.
 - ❗ **DO NOT** operate equipment near hot or burning debris or any toxic or explosive materials.
 - ❗ **DO NOT** operate equipment on slopes greater than specified in Specifications section of this manual.
 - ❗ **DO NOT** operate barefoot or wearing open sandals. Always wear substantial footwear
 - ❗ **DO NOT** place hands or feet underneath unit, or near any moving parts.
 - ❗ **DO NOT** pull backwards unless absolutely necessary
 - ❗ **DO NOT** operate the Sod Cutter while under the influence of alcohol or drugs.
 - ❗ **DO NOT** use near drop-offs, ditches, or embankments. The operator could lose footing or balance
 - ❗ **DO NOT** use on excessively steep slopes.
 - ❗ **DO NOT** ride or climb on the machine while in operation.
 - ❗ **DO NOT** change the engine governor setting or overspeed the engine.
- ALWAYS** be sure of your footing; keep a firm hold on the handle and walk; never run.
ALWAYS Stop the blade(s) when crossing gravel drives, walks, or roads.
ALWAYS Shut the engine (motor) off and wait until the blade comes before servicing.
ALWAYS use only in daylight or good artificial light.
ALWAYS Disengage the drive lever and blade lever before starting the engine.
ALWAYS wear safety goggles or safety glasses with side shields
ALWAYS remove spark plug wire when servicing equipment to prevent accidental starting.
ALWAYS check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
ALWAYS store fuel in approved safety containers.
ALWAYS wear proper foot apparel when sod cutting.

 **WARNING: Important**

Remove all rocks, wire, string, etc. that can present a hazard during work prior to starting.

 **DO** identify and mark all fixed objects to be avoided during work such as sprinkler heads, water valves, limbs, or clothes line anchors, etc.



SOUND



L_{WA}

SOUND LEVEL 84 dB(a) at Operator Position

104 dB(a)

Sound tests were conducted in accordance with 2000/14/EEC, and were performed on 7-11-13 under the conditions listed below.

⚠ Sound power level listed is the highest value for any model covered in this manual. Please refer to serial plate on the unit for the sound power level for your model.

General Conditions:
Temperature:
Wind Speed:
Wind Direction:
Humidity:
Barometric Pressure:

Sunny
84°F (28.9°C)
10 mph (16.1 kmh)
East Southeast
37%
30.04 Hg (101.7 kpa)

VIBRATION DATA

VIBRATION LEVEL 2.5 g (24.8 m/s²)

Vibration levels at the operator's handles were measured in the vertical, lateral and longitudinal directions using calibrated vibration test equipment. Tests were performed on 7-11-13 under the conditions listed below.

General Conditions:
Temperature:
Wind Speed:
Wind Direction:
Humidity:
Barometric Pressure:

Sunny
84°F (28.9°C)
10 mph (16.1 kmh)
East Southeast
37%
30.04 Hg (101.7 kpa)

INTENDED USE

INTENDED USE: This machine may only be utilized for the purpose for which it was designed, i.e. to cut 18in (45.7 cm) wide strips of turf. Make sure that all operators of this equipment are trained in general machine use and safety.

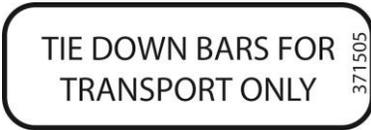
WARNING: During operation the lawn and turf are cut into strips. Should the cutter's wheels skid during use it is advisable to adjust the cutting depth. If this operation does not prevent this occurrence check the state of the terrain. If it is too dry it should be wetted so that the blade encounters a slight resistance, thus making cutting operations easier.

INSTRUCTION LABELS

The labels shown below were installed on your BILLY GOAT® Sod Cutter. If any labels are damaged or missing, replace them before operating this equipment. Item numbers from the Illustrated Parts List and part numbers are provided for convenience in ordering replacement labels. The correct position for each label may be determined by referring to the Figure and Item numbers shown.



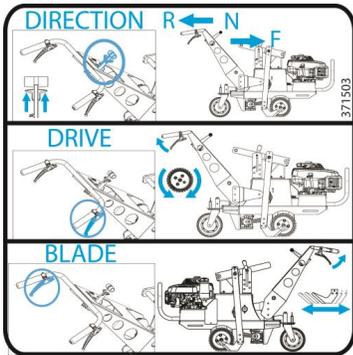
LABEL DANGER KEEP HANDS AND FEET AWAY
P/N 400424



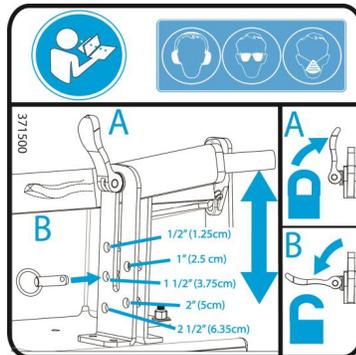
LABEL TIE DOWN
P/N 371505



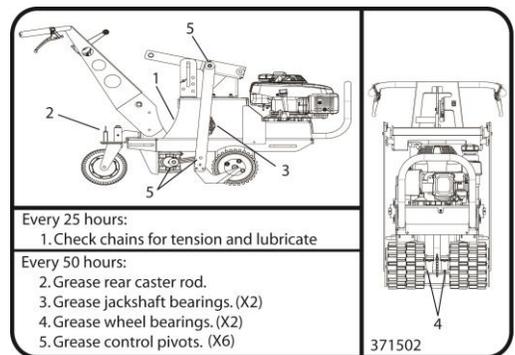
LABEL WARNING GUARDS
P/N 900327



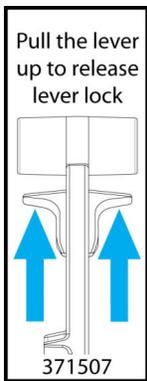
LABEL INSTRUCTION DRIVE
P/N 371503



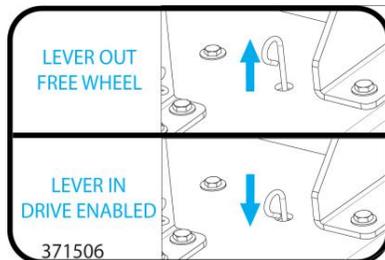
LABEL INSTRUCTION DEPTH
P/N 371500



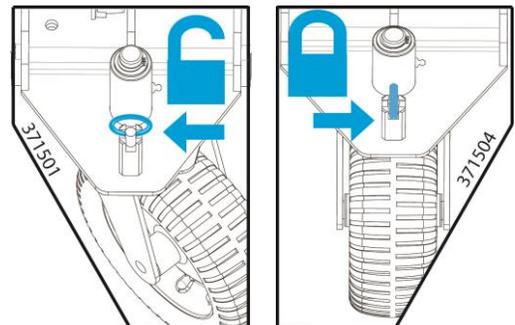
LABEL GREASE POINTS
P/N 371502



LABEL SHIFTER CONTROL
P/N 371507



LABEL DRIVE RELEASE
P/N 371506



LABELS CASTER LOCK
P/N 371501 & 371504

PACKING CHECKLIST

Your Billy Goat Sod Cutter is shipped from the factory in one crate, completely assembled.



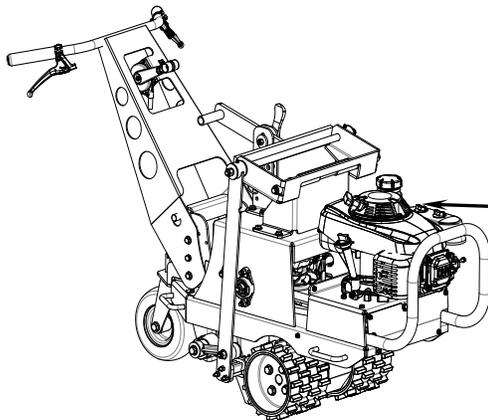
READ all safety instructions before assembling unit.
TAKE CAUTION when removing the unit from the box.



PUT OIL IN ENGINE BEFORE STARTING

PARTS BAG & LITERATURE ASSY

Warranty card P/N- 400972, Owner's Manual P/N-371500, Declaration of conformity P/N- 371509



Boxing Parts Checklist

Honda 5.5 HP engine

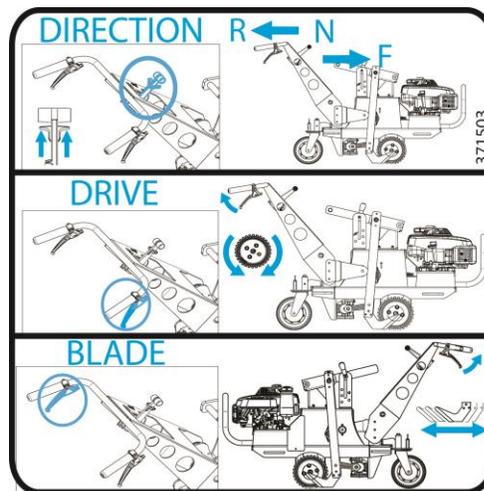
OPERATOR CONTROLS

DRIVE CONTROL- Located on the right hand side of the handle bars. When engaging the drive lever, pull it till it comes into contact with the handle bar. Do not halfway engage the drive as this will cause premature failure of the transmission.

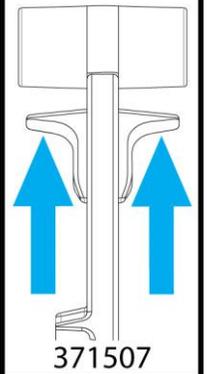
BLADE ENGAGE LEVER- Located on the left hand side of the handle bar. As with the drive lever, it must be fully engaged when in use.

SPEED AND DIRECTON SHIFTER- Lift the levers located on either side of the shifter control then move the shifter control forward or backward to select the desired direction and speed then release the levers. **DO NOT** push the shifter control without releasing the levers as this will cause damage to the shifter control.

FREE WHEEL LEVER- Located on top of machine next to the height adjust. Pull the lever out to free wheel and push it in to allow the drive to be engaged.



Pull the lever up to release lever lock





OPERATION

 Like all mechanical tools, reasonable care must be used when operating machine. **Inspect machine work area and machine before operating. Make sure that all operators of this equipment are trained in general machine use and safety.**

 **PUT OIL IN ENGINE BEFORE STARTING**

STARTING

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

ENGINE SPEED: Engine speed is fixed.

FUEL VALVE: Move fuel valve to "ON" position.

CHOKE: Found on engine above fuel on switch.

PULL starting rope to start engine.

FORWARD CONTROL AND BLADE MOVEMENT LEVERS

See page 8 Operator's Controls.

Do not operate if excessive vibration occurs. If excessive vibration occurs, shut engine off immediately and check for damaged or worn blade, loose blade bolts, loose engine or lodged foreign objects.

HANDLING & TRANSPORTING:

 Use loading ramps to move unit into truck or trailer for transport.  **DO NOT** operate the blade when loading.

  Never load this machine by hand.

STORAGE

 Never store engine indoors or in enclosed poorly ventilated areas with fuel in tank, where fuel fumes may reach an open flame, spark or pilot light, such as a furnace, water heater, clothes dryer or other gas appliance.

If engine is to be unused for 30 days or more, prepare as follows:

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

NOTE: Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow mix ratio found on stabilizer container. Run engine at least 10 min. after adding stabilizer to allow it to reach the carburetor.

CAUTION: Wheels must be chocked or blocked when unit is parked on a slope.

CUTTING OPERATION

- ⚠ The unit performs best when the ground is wet. If possible sprinkle the work area several hours before starting.
- ⚠ **CAUTION:** Shut off the blades when crossing gravel drives, walks or roads and under all conditions where thrown objects might be a hazard.
- ⚠ **CLEARING DEBRIS FROM UNDERSIDE OF MACHINE:** Turn engine off and wait for blade to stop completely. Disconnect spark plug wire and place the unit in gear to prevent the unit from rolling.

 Wearing durable gloves, remove debris. **Danger**, the debris may contain sharp materials. Reconnect spark plug wire.

⚠ **CAUTION:** Use extreme care when operating the blade. Inspect the work area for foreign objects that could cause damage to the unit or injure the operator if struck by the blade. Never operate the blade with bystanders in the work area.

GENERAL OPERATION:

Position the turf cutter outdoors on sufficiently firm, flat soil. Read the instructions provided by the engine manufacturer in the relative manual and follow them carefully to prevent situations arising which may endanger either persons or the machine.

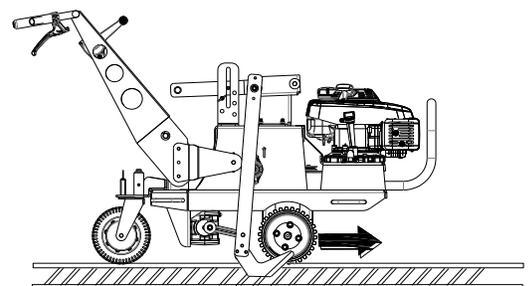
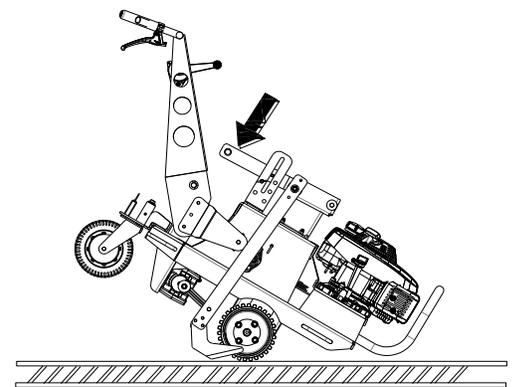
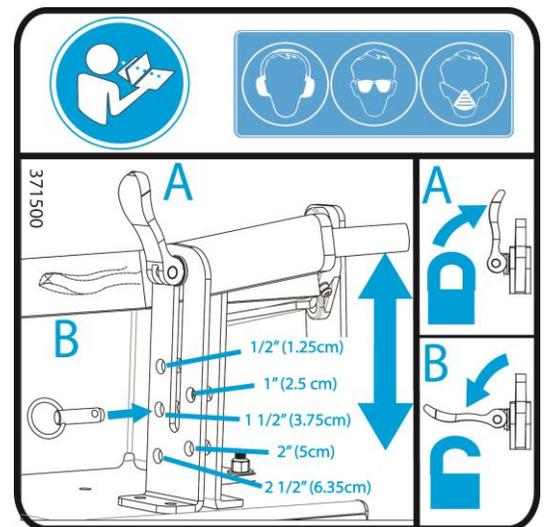
WARNING: When using the machine for the first time it is advisable to get the feel of it by executing maneuvers on flat ground free of foreign objects.
After switching on the engine following the instructions given in the previous paragraph:

WARNING: DO NOT adjust cutting depth while machine is in motion. Choose a cutting depth suitable for the type of terrain the machine is to be used on. Cutting height is set using the removable pin and placing it into the desired slot for depth. Then loosening the locking lever to allow the arm to be raised or lowered. The arm should be resting against the pin for the desired cutting height. Make sure to engage the locking lever before blade operation.

1. Tilt the machine forward and select the proper cutting depth, make sure to lock the blade height in place before cutting.
2. Engage the blade and engage the drive. This should pull the blade into the ground.
3. To remove the blade from the ground make sure the machine and blade are not in motion, then tilt forward and raise the height arm. Then, engage the drive and blade again, this will allow the blade to cut out of the sod.

CUTTING TIPS

- 1) Before commencing cutting operations, read the safety instructions given in the previous sections.
- 2) At first the setting of a relatively shallow cutting depth is recommended and then lowering it gradually according to working conditions.
- 3) Engage the blade clutch only after having carried out the machine switch on and gear engagement operations.



MAINTENANCE

PERIODIC MAINTENANCE

Periodic maintenance should be performed at the following intervals (disconnect spark plug during maintenance):.

| Maintenance Operation | Every Use (daily) | Every 5 hrs or (daily) | Every 25 Hrs | Every 50 Hrs (Yearly) | Every 150 Hrs |
|---|-------------------|------------------------|--------------|-----------------------|---------------|
| Inspect for loose, worn or damaged parts. | • | | | | |
| Check for excessive vibration | | • | | | |
| Inspect belt for wear | | | | • | |
| Engine (See Engine Manual) | | | | • | |
| Grease pivot points | | | | • | |
| Sharpen Blade | | | • | | |
| Replace blade and traction belts | | | | | • |

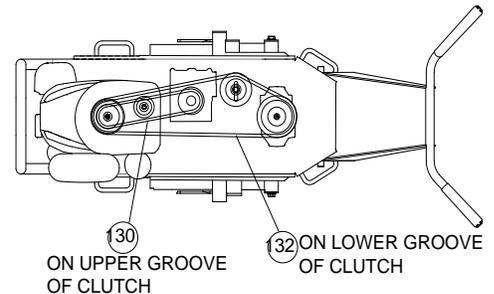
Note: Blade, and drive belts and chains are normal wear items. These should be inspected on a regular basis and replaced if worn. Also see your Billy Goat Dealer for servicing your machine.

BELT REPLACEMENT

Switch off the engine and disconnect the spark plug wire before carrying out any maintenance or repair work on the machine.

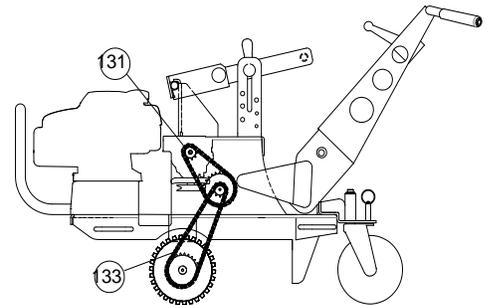
If a belt is worn or breaks it should be replaced as follows:
 -remove the all of the metal guards (items 15, 16, 21 and 17) to allow easier access to the pulleys and belts.

Note: see pages 14, 16 and 18 for part illustrations



BLADE BELT

1. Disconnect the spark plug, and then remove the guards.
2. Remove the master link on the drive chain (Item 133) to allow the belt (item 132) to be slipped past.
3. Loosen the tension on the pulley (item 35) by loosening the nut and bolt holding it to the base. Do not completely remove the nut and bolt, as loosening it will allow the pulley to shift.
4. Walk the old belt off of the clutch (item 18) if necessary.
5. Replace with the new belt and reapply tension to it on the pulley loosened in step 3 then tighten it. Do not put too much tension on the belt as this will lead to premature wear.
6. Reinstall the chain onto the wheel drive by reinserting the master link.
6. Reinstall the guards.
7. Check for proper operation.



See page 22 for parts illustration

DRIVE BELT

1. Follow steps 1-4 in the blade belt removal section. The blade belt will need to be removed in order to remove the drive belt.
2. Loosen the belt finger (119) on the idler arm (20) and remove the belt from the idler arm by lifting it over the idler pulley (39) and arm.
3. The belt will be loose enough now to walk it off of the transmission pulley (32). Remove the belt from the transmission pulley.
4. Disconnect the clutch cable (110) and then remove the bolt (114) holding the clutch (18) to the engine shaft.
5. Lower the clutch (18) enough and slide the belt off of the clutch groove and replace the old worn belt with a new one. Make sure it is sitting in the groove that the old one was removed from.
6. Reconnect the clutch back to the engine shaft. Make sure the anti-rotation bolt is in the small tube before reattaching. See page 15 for proper torque for the clutch bolt.
7. Reinstall all removed parts in the reverse order that they were removed.
8. Check for proper operation.



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CHECKING AND REPLACING THE BLADE

Always check the state of the blade (item 44) before commencing work. Do not forget to switch the engine off!

- Remove the sparkplug wire.
- During work operations if the blade strikes stones or stumps stop straightaway and make sure that it has not become bent or broken. A damaged blade must be replaced.
- If the blade is very worn, cracked or bent, it may snap and project objects outwards, risking serious accident.
- Use heavy-duty work gloves to check or replace the blade to avoid risk of injury to hands.
- The blade fixing screws (item 81) and relative nuts (item 75) are also subject to wear. Always replace them at the same time as the blade, using bolts and screws of the same strength and type.
- The blade wears more quickly on dry, sandy ground. In these conditions it should be replaced more frequently.

To remove the blade, proceed as follows:

1. Switch off the engine and disconnect the spark plug wire
 2. Adjust the cutting height to maximum
 3. Check the state of the blade.
- Check that the blade is not cracked, bent, excessively worn or broken
4. When repair or check of blade is completed reattach spark plug

CHECKS

- Adjust the belt and cable control tension after the first few working hours to compensate initial loosening.
- Briefly operate all the machine's components to detect any abnormal noises or overheating.
- During the initial running in period avoid heavy-duty usage to encourage proper settling of the mechanical parts.
- Never neglect maintenance operations after work and carry out all pre-scribed checks regularly.

A) CABLE CONTROL ADJUSTMENT

To adjust the cables place the machine on flat ground, switch off the engine and disconnect the wire from the spark plug.

B1) BLADE AND DRIVE CONTROL CABLES

Adjustments to the tension on the cables are made by adjusting the barrel length located on the handle. By extending the barrel more tension will be put on the cable. Make sure that you do not apply too much tension as this will cause premature failure or cause the lever to engage when it is not wanted. Note: Apply lithium grease to the slots on the drive levers where the cable sits to help extend cable life.

B2) SHIFTER CONTROL CABLE

Tension on the Shifter control cable (item 22) can be made by removing the rear cover and adjusting the barrel in or out depending on the desired tension





Troubleshooting

| Problem | Possible Cause | Solution |
|--|---|--|
| Engine will not start. | Choke not on. Out of gasoline, bad or old gas. Spark plug wire disconnected. Dirty air cleaner. Blade clutch is engaged | Check Gasoline. Check for spark with an approved tester. Clean or replace air cleaner. Disengage the Blade clutch lever. |
| Engine runs poorly | Spark plug wire loose. Carburetor out of adjustment. Water or dirt in fuel system. Spark plug fouled, faulty or wrong gap | Sharpen or replace blade. Adjust carburetor (refer to engine manual). Reset gap or replace spark plug (refer to engine manual). |
| Belt slips | Belt tension inadequate. Too deep of a working depth. Belt worn. | Replace belt. Replace blade |
| Abnormal vibration. | Loose or out of balance blade. Bent blade. Loose engine bolts | Stop work immediately. Check blade mount and balance. Replace damaged or bent blade if required. Check engine mount. |
| Will not cut or has poor cutting performance | Dull or bent Blade. Debris locked against blade. Engine running at too low RPM. Sod is too dry. | Sharpen or replace blade. Remove debris. Check engine RPM (refer to engine manual). Apply more water to cutting area to loosen sod |
| Drive will not engage | Shifter in neutral. Out of adjustment drive cable. Broken drive cable. Worn or broken belt. | Shift lever to desired direction and speed. Adjust drive cable. Replace with new cable. Replace belt. |
| Drive will not release. | Drive cable out of adjustment. Damaged drive lever. | Adjust drive cable. Replace drive cable. |
| Engine is locked, will not pull over. | Debris locked against blade. Damaged engine. | Remove debris. Refer to engine owner's manual. Replace control cable. |

When servicing engine refer to specific manufacturer's engine owner's manual. All engine warranty is covered by the specific engine manufacturer. If your engine requires warranty or other repair work contact your local servicing engine dealer. When contacting a dealer for service it is a good idea to have your engine model number available for reference (See table page 15). If you cannot locate a servicing dealer in your area you can contact the manufacturer's national service organization.

To reach: **American Honda:** 800-426-7701

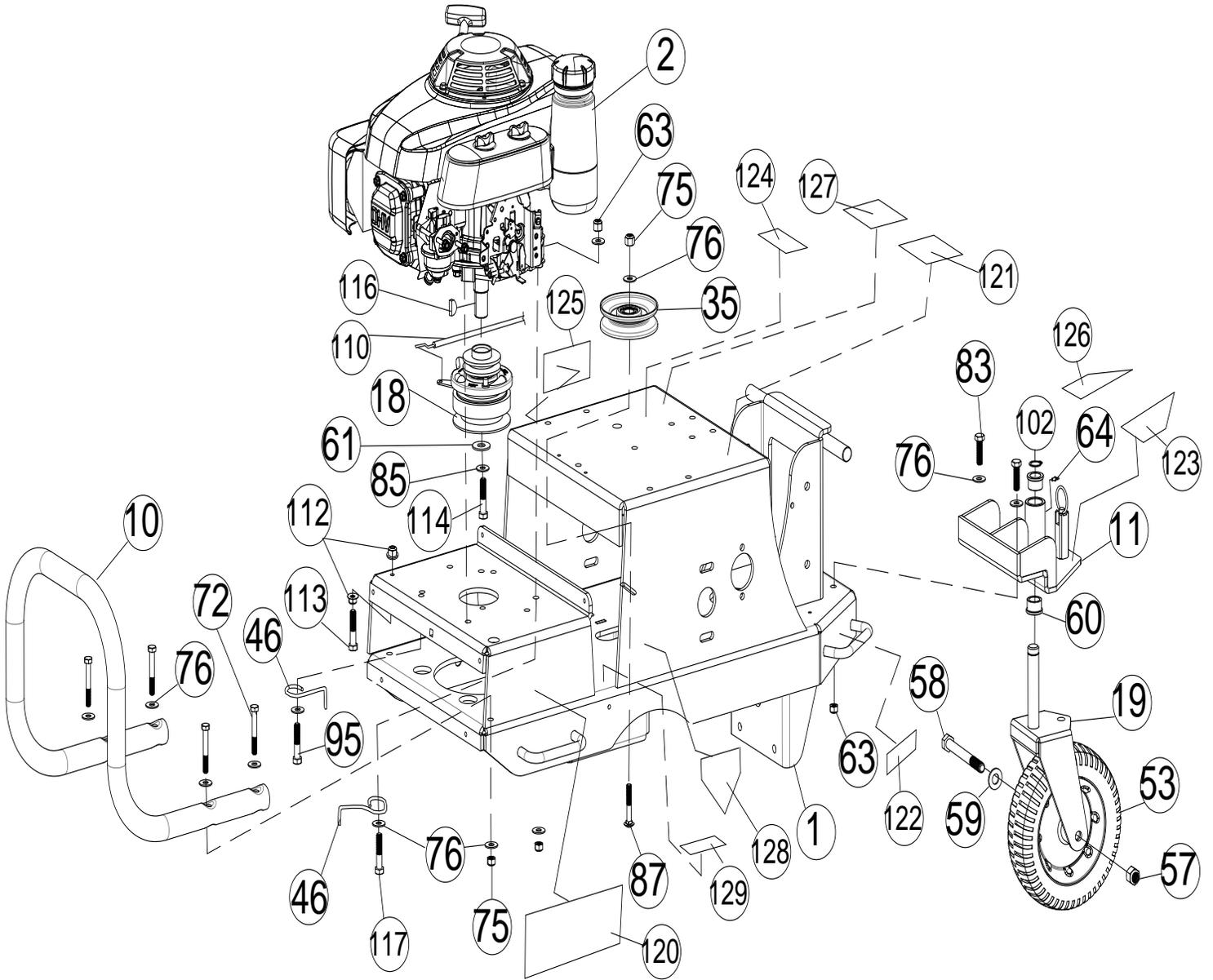
WARRANTY CLAIM PROCEDURE

Should a BILLY GOAT[®] machine fail due to a defect in material and/or workmanship, the owner should make a warranty claim as follows:

- The machine must be taken to the dealer from whom it was purchased or to an authorized Servicing BILLY GOAT Dealer.
- The owner must present the remaining half of the Warranty Registration Card, or, if this is not available, the invoice or receipt.
- The Warranty Claim will be completed by the authorized BILLY GOAT Dealer and submitted to their respective BILLY GOAT Distributor for their territory Attention: Service Manager. Any parts replaced under warranty must be tagged and retained for 90 days. The model number and serial number of the unit must be stated in the Warranty Claim.
- The distributor service manager will sign off on the claim and submit it to BILLY GOAT for consideration.
- The Technical Service Department at BILLY GOAT will study the claim and may request parts to be returned for examination. BILLY GOAT will notify their conclusions to the distributor service manager from whom the claim was received.
- The decision by the Technical Service Department at BILLY GOAT to approve or reject a Warranty Claim is final and binding.

Make sure that the product is registered with Billy Goat. For online product registration go to www.billygoat.com

PARTS DRAWING ENGINE ASSEMBLY

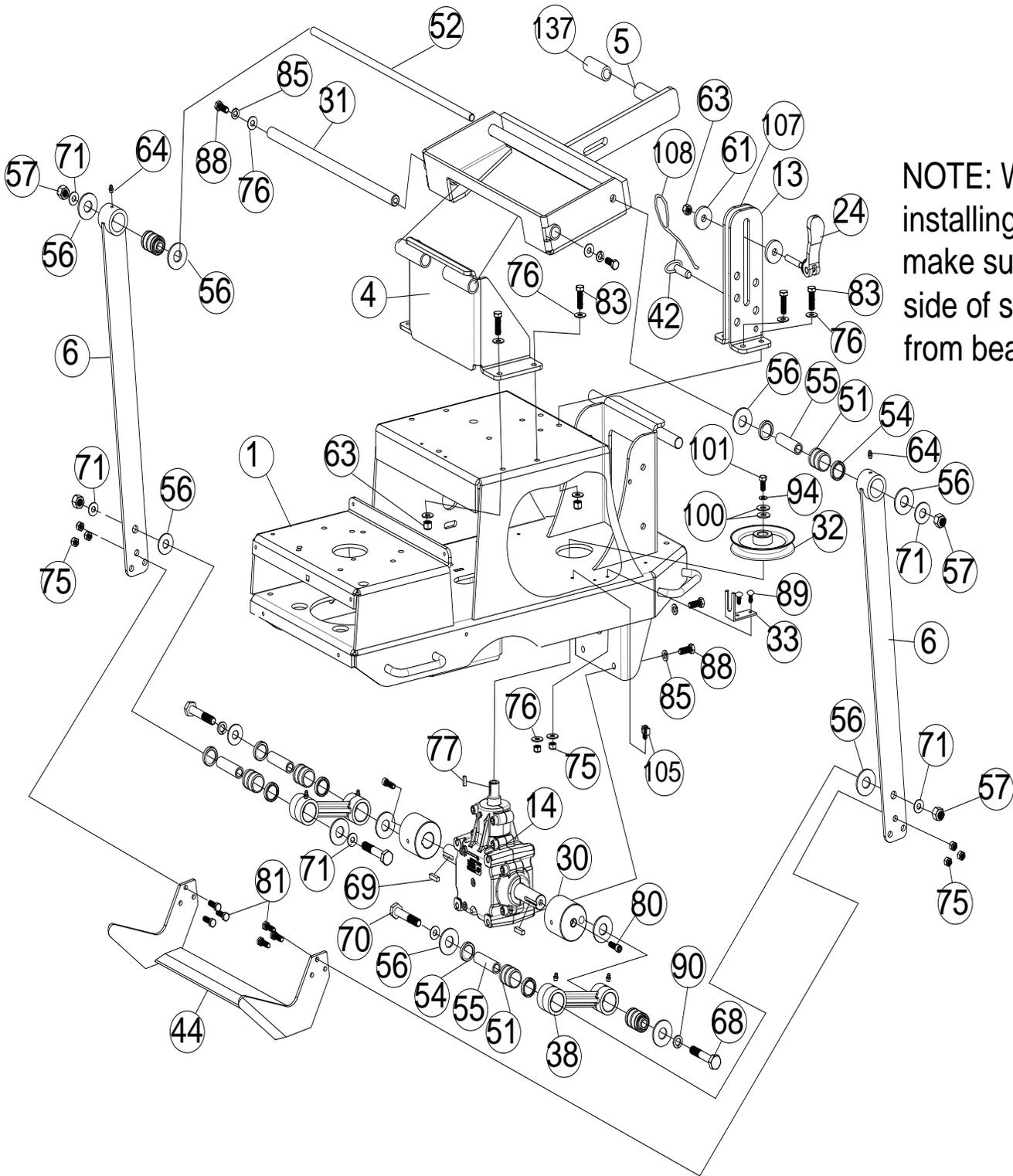




PARTS LIST ENGINE ASSEMBLY

| Item no. | Part no. | Description | Qty |
|----------|----------|--|-----|
| 1 | 371100 | FRAME WA SC | 1 |
| 2 | 900615 | ENGINE GXV 160 | 1 |
| 10 | 371400 | TUBE BUMPER SC | 1 |
| 11 | 371101 | CASTER MOUNT WA | 1 |
| 18 | 371264 | CLUTCH SC | 1 |
| 19 | 371102 | CASTER RIG WA | 1 |
| 35 | 520061 | PULLEY IDLER 5L INSIDE 4" | 1 |
| 46 | 371267 | BELT FINGER | 2 |
| 53 | 371206 | WHEEL 8" X 3" HEAVY DUTY | 1 |
| 57 | 8160005 | NUT LOCK 1/2"-13 HEX | 1 |
| 58 | 8041108 | SCREWCAP 1/2"-13 X 4 3/4" HCS ZP | 1 |
| 59 | 8172011 | WASHER 1/2" SAE | 1 |
| 60 | 520184 | BUSHING FLANGE 1" OD X 3/4" ID | 2 |
| 61 | 440153 | WASHER 1.5" OD X .453 ID X .25 THK | 1 |
| 63 | 8160003 | NUT LOCK 3/8"-16 | 6 |
| 64 | 610363 | GREASE ZERK | 1 |
| 72 | 8041033 | SCREWCAP 5/16"-18 X 2 1/4 GR 5 HCS ZP | 4 |
| 75 | 8160002 | NUT LOCK 5/16"-18 | 5 |
| 76 | 8171003 | WASHER 5/16" FLAT | 22 |
| 83 | 8041051 | SCREWCAP 3/8"-16 X 1 1/4" HC ZP | 2 |
| 85 | 8177012 | LOCK WASHER 3/8" S/T MED | 1 |
| 87 | 8024062 | CARRIAGE BOLT 3/8"-16 X 2" ZP | 1 |
| 95 | 8041031 | SCREWCAP 5/16"-18 X 1 3/4" GR. 5 HCS ZP | 1 |
| 102 | 520176 | SNAP RING | 1 |
| 110 | 371232 | CABLE CLUTCH BLADE | 1 |
| 112 | 900455 | NUT WHIZ 1/4-20 WASH FACE | 2 |
| 113 | 8041008 | SCREWCAP 1/4"-20 X 1 1/2" HCS ZP | 1 |
| 114 | 900344 | SCREWCAP 3/8"-24 X 1 1/2" GR. 8 40-45 FT-LBS (54-61 N.m) | 1 |
| 116 | 900162 | KEY HI PRO 5/32 X 5/8" | 1 |
| 117 | 400164 | SCREWCAP 5/16"-24 X 1" GR. 8 ZP W/PATCH | 3 |
| 120 | 371510 | LABEL BADGING SC | 2 |
| 121 | 371503 | LABEL INSTRUCTION DRIVE | 1 |
| 122 | 371505 | LABEL TIE DOWN | 4 |
| 123 | 371501 | LABEL CASTER LOCK LEFT | 1 |
| 124 | 371506 | LABEL DRIVE RELEASE SC | 1 |
| 125 | 371502 | LABEL GREASE POINTS SC | 1 |
| 126 | 371504 | LABEL CASTER LOCK RIGHT | 1 |
| 127 | 371500 | LABEL INSTRUCTION DEPTH | 1 |
| 128 | 400424 | LABEL DANGER | 2 |
| 129 | 900327 | LABEL WARNING GUARDS | 4 |

PARTS DRAWING BLADE ASSEMBLY



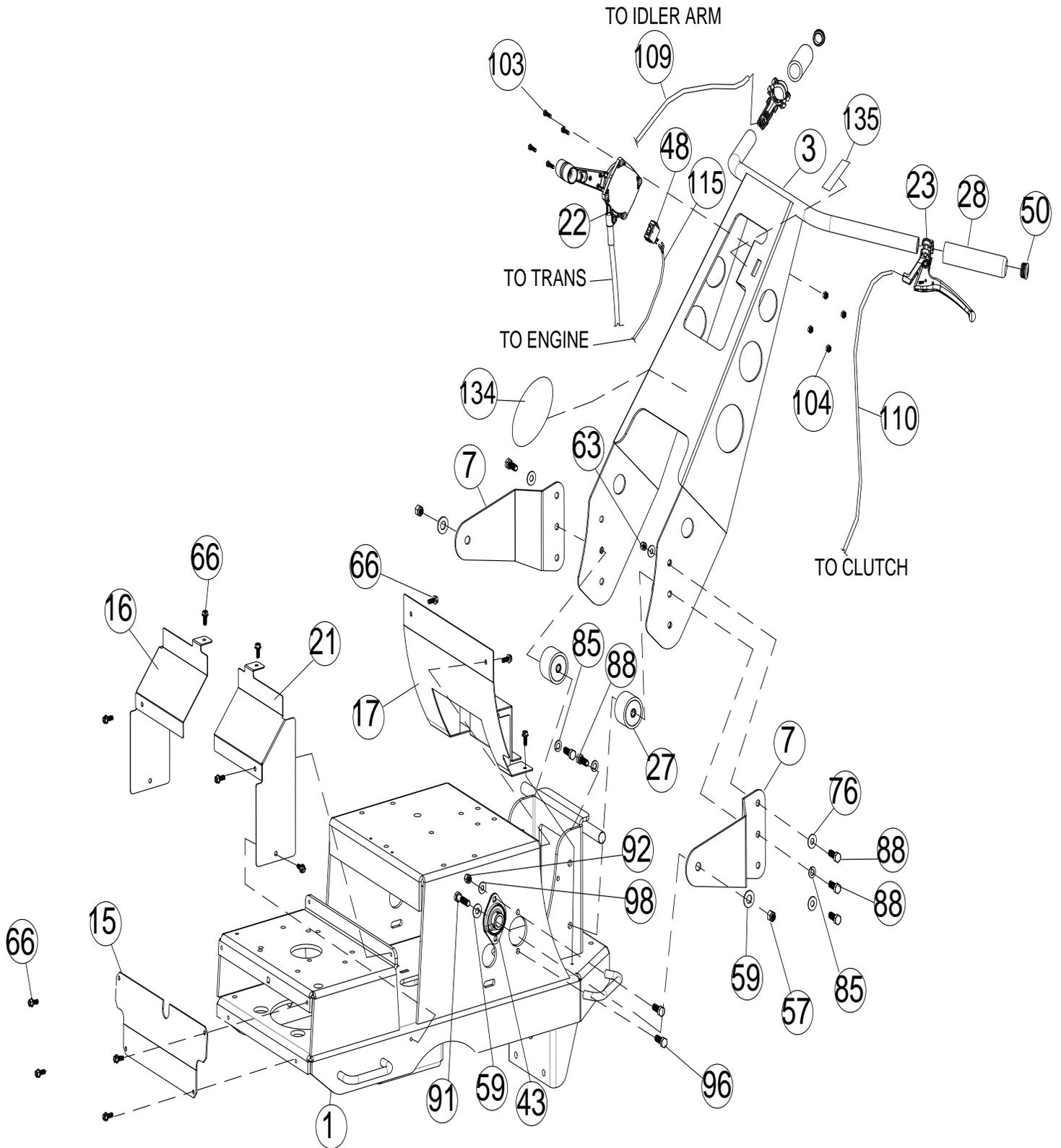
NOTE: When installing seals, make sure spring side of seal is away from bearing



PARTS LIST BLADE ASSEMBLY

| Item no. | Part no. | Description | Qty |
|----------|----------|--|-----|
| 1 | 371100 | FRAME WA | 1 |
| 4 | 371107 | PIVOT DEPTH WA | 1 |
| 5 | 371106 | BLADE DEPTH WA | 1 |
| 6 | 371108 | BLADE ARM | 2 |
| 13 | 371221 | HEIGHT DEPTH BRACKET LH | 1 |
| 14 | 371205 | GEAR BOX "T" 2:1 REDUCTION | 1 |
| 24 | 371219 | LEVER CAM LOCK | 1 |
| 30 | 371202 | ECCENTRIC BLADE DRIVE | 2 |
| 31 | 371259 | SHAFT PIVOT DEPTH | 1 |
| 32 | 371215 | PULLEY 5" X 3/4" BORE | 1 |
| 33 | 371208 | TAB MOUNT SHIFT CABLE | 1 |
| 38 | 371216 | ARM BLADE DRIVE | 2 |
| 42 | 371261 | DETENT 1/2" DIA X 1" LG | 1 |
| 44 | 371203 | BLADE 18" WA | 1 |
| 51 | 371247 | BEARING SC | 6 |
| 52 | 371260 | ROD BEARING | 1 |
| 54 | 371252 | SEAL GREASE | 12 |
| 55 | 371257 | BUSHING BEARING SC | 6 |
| 56 | 371237 | WASHER PLASTIC | 14 |
| 57 | 8160005 | NUT LOCK 1/2"-13 HEX | 4 |
| 61 | 440153 | WASHER 1.5 OD X .453 ID X .25 | 2 |
| 63 | 8160003 | NUT LOCK 3/8"-16 | 9 |
| 64 | 610363 | GREASE ZERK | 8 |
| 68 | 8041110 | SCREWCAP 1/2"-13 X 2 3/4" GR 8 ZP | 2 |
| 69 | 9201113 | KEY 1/4" SQ X 1" | 2 |
| 70 | 8041111 | SCREWCAP 1/2"-13 X 3" GR 8 ZP | 2 |
| 71 | 8171006 | WASHER 1/2" USS | 8 |
| 75 | 8160002 | NUT LOCK 5/16"-18 | 8 |
| 76 | 8171003 | WASHER 5/16" FLAT | 32 |
| 77 | 9201072 | KEY 3/16" SQ X 5/8" | 1 |
| 80 | 371263 | SHCS 5/16"-18 X 1" BLK OX | 2 |
| 81 | 8041043 | SCREWCAP 5/16"-18 X 1" GR 8 ZP | 6 |
| 83 | 8041051 | SCREWCAP 3/8"-16 X 1 1/4" HC ZP | 8 |
| 85 | 8177012 | LOCK WASHER 3/8" S/T MED | 6 |
| 88 | 8041050 | SCREWCAP 3/8"-16 X 1" HCS ZP | 6 |
| 89 | 8024040 | CARRIAGE BOLT 5/16"-18 X 1" GR. 5 HCS ZP | 2 |
| 94 | 8177011 | LOCK WASHER 5/16" S/T MED | 1 |
| 100 | 8171004 | WASHER 3/8" FC | 2 |
| 101 | 8041026 | SCREWCAP 5/16"-18 X 3/4" GR 5 HCS ZP | 1 |
| 105 | 371222 | CABLE CLAMP | 4 |
| 107 | 371218 | HEIGHT DEPTH BRACKET RH | 1 |
| 108 | 360243 | LANYARD PLASTIC 10" | 1 |
| 137 | 790179 | GRIP 1" X 4" | 1 |

PARTS DRAWING HANDLE ASSEMBLY

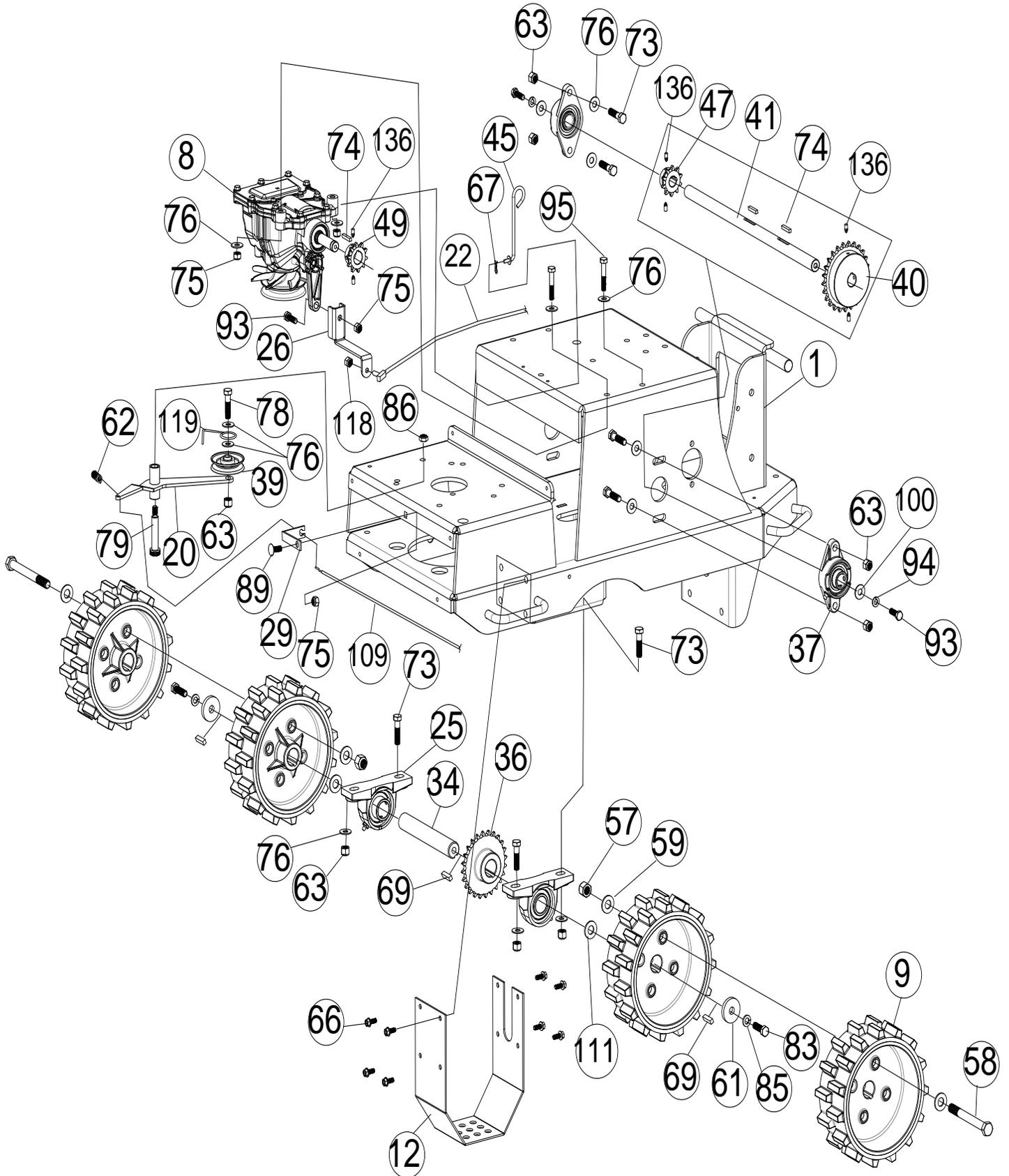




PARTS LIST HANDLE ASSEMBLY

| Item no. | Part no. | Description | Qty |
|----------|----------|--|-----|
| 1 | 371100 | FRAME WA | 1 |
| 3 | 371104 | HANDLE SC WA | 1 |
| 7 | 371209 | HANDLE BRACKET MOUNT | 2 |
| 15 | 371207 | GUARD FRONT | 1 |
| 16 | 371242 | GUARD MID RIGHT | 1 |
| 17 | 371103 | GUARD REAR WA | 1 |
| 21 | 371233 | GUARD MID LEFT | 1 |
| 22 | 371204 | SPEED CONTROL SC | 1 |
| 23 | 351209 | CONTROL LEVER DRIVE | 2 |
| 27 | 371210 | RUBBER HANDLE MOUNT | 2 |
| 28 | 500267 | GRIP 1" X 5.5" | 2 |
| 43 | 891025 | 1/2" PRESSED STEEL HOUSING | 2 |
| 48 | 500281 | SWITCH TOGGLE | 1 |
| 50 | 890132 | PLUG TUBE 1" | 2 |
| 57 | 8160005 | NUT LOCK 1/2"-13 HEX | 2 |
| 59 | 8172011 | WASHER 1/2" SAE | 2 |
| 63 | 8160003 | NUT LOCK 3/8"-16 | 4 |
| 66 | 890359 | SCREW SELF TAP 1/4"-20 X 5/8" HWH TYPE F | 14 |
| 76 | 8171003 | WASHER 5/16" FLAT | 8 |
| 85 | 8177012 | LOCK WASHER 3/8" S/T MED | 4 |
| 88 | 8041050 | SCREWCAP 3/8"-16 X 1" HCS ZP | 8 |
| 91 | 8041097 | SCREWCAP 1/2"-13 X 1 3/4 HCS ZP | 2 |
| 92 | 8160001 | NUT LOCK 1/4"-20 | 4 |
| 96 | 8041006 | SCREWCAP 1/4"-20 X 1" HCS ZP | 4 |
| 98 | 8171002 | WASHER 1/4" FLAT | 4 |
| 103 | 8059136 | SCREW MACH #10-24 X 3/4 WF ZP | 4 |
| 104 | 8155007 | NUT LOCK #10-24 HEX | 4 |
| 109 | 371220 | CABLE CLUTCH WHEEL SC | 1 |
| 110 | 371232 | CABLE CLUTCH BLADE | 1 |
| 115 | 360316 | WIRE HARNESS | 1 |
| 134 | 430303 | LABEL PRODUCT LOGO CIRCLE LG | 1 |
| 135 | 371507 | LABEL SHIFTER CONTROL | 1 |

PARTS DRAWING TRANSMISSION ASSEMBLY

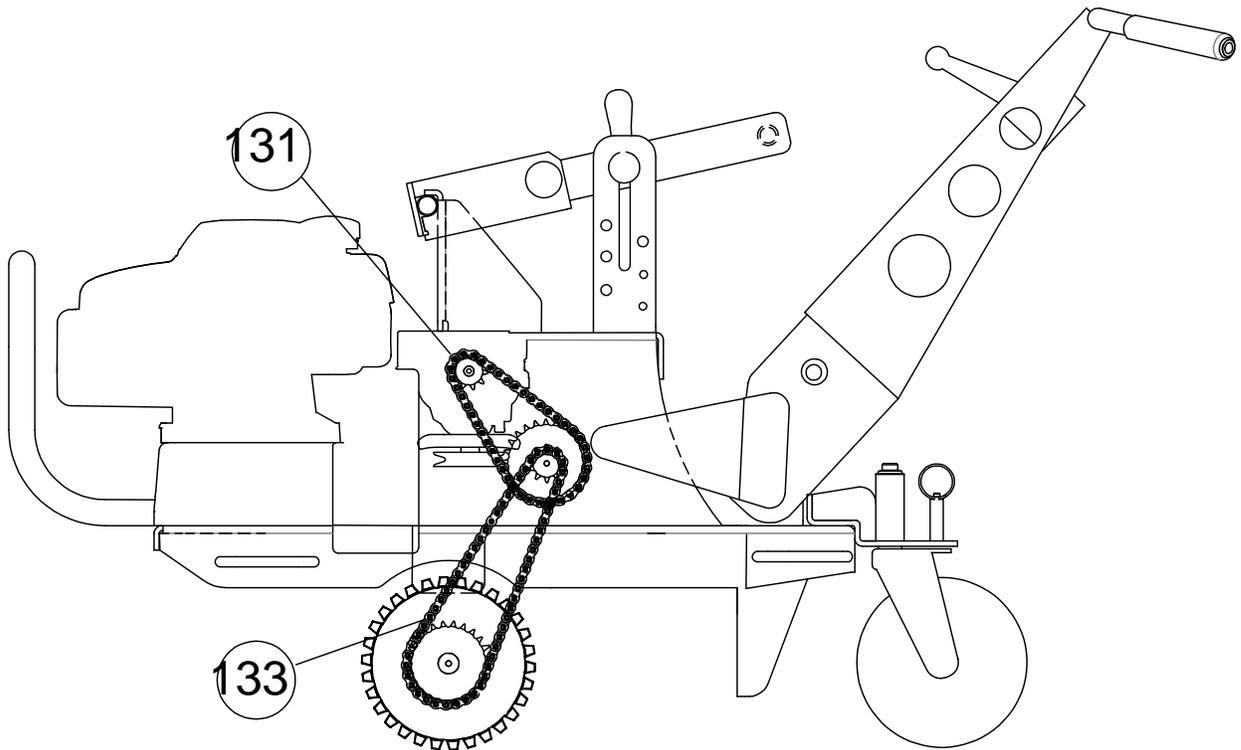
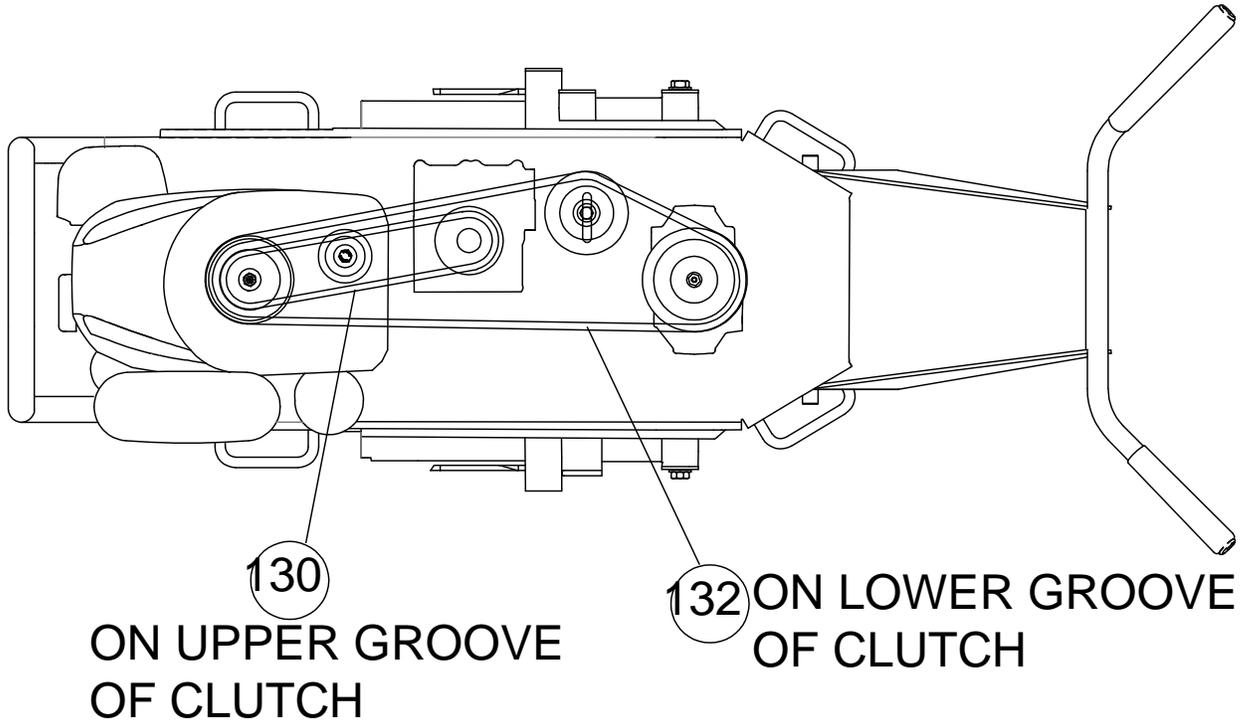




PARTS LIST TRANSMISSION ASSEMBLY

| Item no. | Part no. | Description | Qty |
|----------|----------|--|-----|
| 1 | 371100 | FRAME WA SC | 1 |
| 8 | 371201 | TRANSMISSION RT310 | 1 |
| 9 | 371200 | WHEEL DRIVE SOD CUTTER | 4 |
| 12 | 371211 | GUARD AXLE | 1 |
| 20 | 371105 | IDLER ARM WA | 1 |
| 22 | 371204 | SPEED CONTROL SC | 1 |
| 25 | 810700 | PILLOW BLOCK 1" | 2 |
| 26 | 371213 | SHIFT ARM EXTENSION | 1 |
| 29 | 371234 | TAB MOUNT WHEEL CLUTCH CABLE | 1 |
| 34 | 371243 | AXLE FRONT | 1 |
| 36 | 371223 | SPROCKET 40C25 1" BORE | 1 |
| 37 | 350209 | BEARING 3/4" CAST FLANGE W/ZERK | 2 |
| 39 | 510137 | IDLER PULLEY | 1 |
| 40 | 371235 | SPROCKET 40B25 3/4" | 1 |
| 41 | 371251 | JACKSHAFT & WHEEL DRIVE | 1 |
| 45 | 371245 | ROD TRANSMISSION BYPASS | 1 |
| 47 | 371244 | SPROCKET 40B10 3/4" BORE | 1 |
| 49 | 371212 | SPROCKET 40B10 5/8" BORE | 1 |
| 57 | 8160005 | NUT LOCK 1/2"-13 HEX | 8 |
| 58 | 8041108 | SCREWCAP 1/2"-13 X 4 3/4" HCS ZP | 8 |
| 59 | 8172011 | WASHER 1/2" SAE | 16 |
| 61 | 440153 | WASHER 1.5 OD X .453 ID X .25 | 2 |
| 62 | 800242 | SPRING EXTENSION | 1 |
| 63 | 8160003 | NUT LOCK 3/8"-16 | 9 |
| 66 | 890359 | SCREW SELF TAP 1/4"-20 X 5/8" HWH TYPE F | 8 |
| 67 | 440193 | PIN CLIP HITCH 0.051 X 3/4" | 1 |
| 69 | 9201113 | KEY 1/4" SQ X 1" | 3 |
| 73 | 8041052 | SCREWCAP 3/8"-16 X 1 1/2" HC ZP | 4 |
| 74 | 9201078 | KEY 3/16" SQ X 1" | 3 |
| 75 | 8160002 | NUT LOCK 5/16"-18 | 4 |
| 76 | 8171003 | WASHER 5/16" FLAT | 14 |
| 78 | 8041054 | SCREWCAP 3/8"-16 X 2" HCS ZP | 1 |
| 79 | 520031 | SHOULDER BOLT 1/2" X 2" | 1 |
| 83 | 8041051 | SCREWCAP 3/8"-16 X 1 1/4" HC ZP | 2 |
| 84 | 850233 | SNAP RING TRUARC 5/8" | 1 |
| 85 | 8177012 | LOCK WASHER 3/8" S/T MED | 2 |
| 86 | 8161042 | NUT LOCK 3/8"-16 LT WT TH ZP | 1 |
| 89 | 8024040 | CARRIAGE BOLT 5/16"-18 X 3/4" ZP | 1 |
| 93 | 8041028 | SCREWCAP 5/16"-18 X 1" GR 5 HCS ZP | 3 |
| 94 | 8177011 | LOCK WASHER 5/16" S/T MED | 2 |
| 95 | 8041032 | SCREWCAP 5/16"-18 X 2" GR 5 HCS ZP | 2 |
| 98 | 8171002 | WASHER 1/4" FLAT | 4 |
| 100 | 8171004 | WASHER 3/8"FC | 2 |
| 109 | 371220 | CABLE CLUTCH WHEEL SC | 1 |
| 111 | 8172017 | WASHER 1" SAE | 2 |
| 118 | 8149001 | NUT 1/4" - 28 HEX ZP | 1 |
| 119 | 371269 | BELT FINGER DRIVE IDLER PULLEY | 1 |
| 136 | 8083122 | SCREWSET 1/4"-20 X .375 CUP PT W/NYLOK | 6 |

PARTS DRAWING BELT AND CHAIN ASSEMBLY





PARTS LIST BELT AND CHAIN ASSEMBLY

| Item no. | Part no. | Description | Qty |
|----------|----------|-----------------|-----|
| 130 | 371270 | BELT GATES 6732 | 1 |
| 131 | 371214 | CHAIN #40 X 41P | 1 |
| 132 | 371246 | BELT GATES 6958 | 1 |
| 133 | 371236 | CHAIN #40 X 60P | 1 |