





# **SOD CUTTER Owner's Manual**

**SC180H** 

Beginning Serial #: 102215001

**Original Instructions** 

IMPORTANT- READ CAREFULLY BEFORE USE AND KEEP FOR FUTURE REFERENCE

Part No 371508 1 Form No F102215A



## **ABOUT THIS MANUAL**

**THANK YOU** for purchasing a BILLY GOAT<sup>®</sup> 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 <a href="http://www.billygoat.com">http://www.billygoat.com</a> for French-Canadian translations of the product manuals.

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



## **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 <sup>2</sup> ) |

### SOUND



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/s<sup>2</sup>)

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<sup>®</sup> 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.



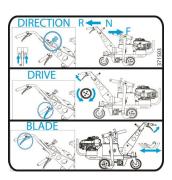
LABEL DANGER KEEP HANDS AND FEET AWAY P/N 400424



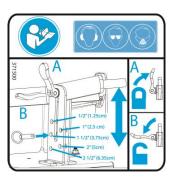
LABEL TIE DOWN P/N 371505



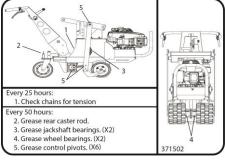
LABEL WARNING GUARDS P/N 900327



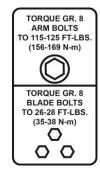
LABEL INSTRUCTION DRIVE P/N 371503



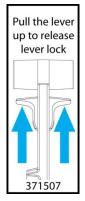
LABEL INSTRUCTION DEPTH P/N 371500



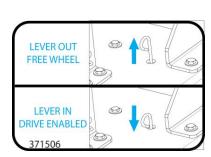
LABEL GREASE POINT P/N 371502



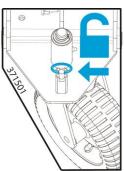
LABEL TORQUE P/N 371524



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.



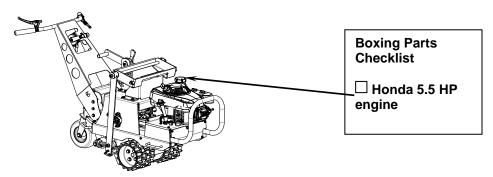
**READ** all safety instructions before assembling unit.

**TAKE CAUTION** when removing the unit from the box.

PUT OIL IN ENGINE BEFORE STARTING
CHECK GREASE IN BEARING PER SERVICE LABEL ON UNIT. ADD GREASE AS REQUIRED. USE NLGI GRADE 2
MULTIPURPOSE LITHIUM BASE GREASE

#### **PARTS BAG & LITERATURE ASSY**

Warranty card P/N- 400972, Owner's Manual P/N-371500, Declaration of conformity P/N- 371509, General Safety and Warranty manual P/N- 100295



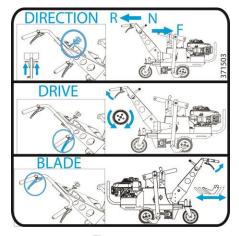
## **OPERATOR CONTROLS**

<u>DRIVE CONTROL</u>: 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. (See *Fig.* 1)

<u>BLADE ENGAGE LEVER</u>: 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. (See Fig. 2)

<u>FREE WHEEL LEVER</u>: 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. (See *Fig. 3*)



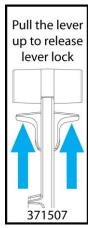


Fig. 1

Fig. 2



Fig. 3



### **OPERATION**

Note: Item numbers in () will be referenced in the Parts Illustration and Parts List on pages 11-20

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 ENGINES

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: Pull the 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.  $\triangle$  DO NOT operate the blade when loading. Never load this machine by hand.

#### **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.

Operation continued next page.



- 1. Choose a depth of cut. See instruction label on the unit (see *fig 4*). *Note*: Sod should be cut leaving a minimum amount of dirt (1/4"-3/8") attached to the roots. This minimizes its weight for removal and encourages faster growth when reused.
- 2. Holding both handles, fully engage the blade clutch lever on the operator's left hand side. Rocking back on the handles, allow the blade to cut into the sod to your chosen depth. Keep the blade clutch lever fully engaged at all times when cutting (see *fig 5*).
- 3. Using the ground speed and direction adjustment lever in the middle of the handle, set forward ground speed to a slow forward speed to begin.
- 4. Fully engage the ground drive clutch lever on the operator's right hand side. The unit will begin to move forward and cut a strip of sod.
- 5. As ground conditions allow, increase the ground speed using the speed control lever, in small increments until you attain the maximum speed of cut for your application. If the engine RPM drops significantly lower the forward speed until the engine comes back up to speed.
- 6. When you reach the end of the strip you are cutting, release both clutch levers and the unit will come to a stop. Using the blade depth adjustment handle raise the blade to the maximum height possible and lock it in place.
- 7. Fully engage both blade drive and ground drive clutch levers and the unit will drive forward and complete the cut of the strip.
- 8. Release the blade clutch lever and continue to drive the unit forward into position for the next cut, repeat the process above as required.

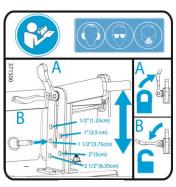
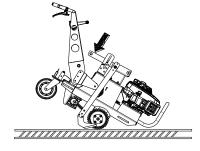


Fig. 4



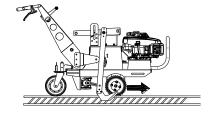


Fig. 5

## \*\*\*\*\*TIPS\*\*\*\*

Before commencing cutting operations, read the safety instructions given in the previous sections.

At first the setting of a relatively shallow cutting depth is recommended and then lowering it gradually according to working conditions.

Engage the blade clutch only after having carried out the machine switch on and gear engagement operations.



### **MAINTENANCE**

Note: Item numbers in ( ) will be referenced in the Parts Illustration and Parts List on pages 11-20.

#### PERIODIC MAINTENANCE

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

| Maintenance Operation  | Every Use (daily) | Every 5 hrs<br>or (daily) | Every 25 Hrs | Every 50 Hrs<br>(Yearly) | Every 150<br>Hrs |
|--|-------------------|---------------------------|--------------|--------------------------|------------------|
| Inspect for loose, worn or damaged parts                                 | •                 |                           |              |                          |                  |
| Check for excessive vibration  |                   | •                         |              |                          |                  |
| Inspect belt for wear  |                   |                           |              | •                        |                  |
| Engine (See Engine Manual)   |                   |                           |              |                          |                  |
| Grease pivot points  *Use NLGI grade 2 multipurpose lithium based grease |                   |                           |              | •                        |                  |
| Sharpen Blade  |                   |                           | •            |                          |                  |
| Replace blade and traction belts   |                   |                           |              |                          | •                |

Note: Blade, and drive belts and chains are normal wear items. See Fig. 4 for Chain configuration. These should be inspected on a regular basis and replaced if worn. Also see your Billy Goat Dealer for servicing your machine.

#### **BELT REPLACEMENT**

Note: See Fig. 3 for belt configuration

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

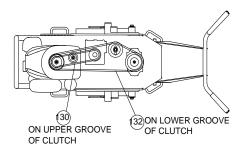
If a belt is worn or breaks it should be replaced as follows:

Remove all of the metal guards (items 15, 16, 21 and 17) to allow easier access to the pulleys and belts.

Note: see pages 11, 13, 15, 17 and 19 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.
- 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.
- 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.
- 7. Reinstall the guards.
- 8. Check for proper operation.



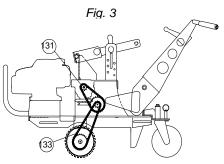


Fig. 4

See page 19 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.

#### 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. Torque the bolts to 30 ft. lbs. (40.6 N.m)
- 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 account for initial break-in.
- 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.

#### **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.

#### **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.

#### SHIFTER CONTROL CABLE

Position 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 Position.







#### **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).    |
| Beltslips                                    | 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:

American Honda- 800-426-7701

#### **WARRANTY CLAIM PROCEDURE**

Should a BILLY GOAT<sup>®</sup> 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.

For online product registration go to www.billygoat.com

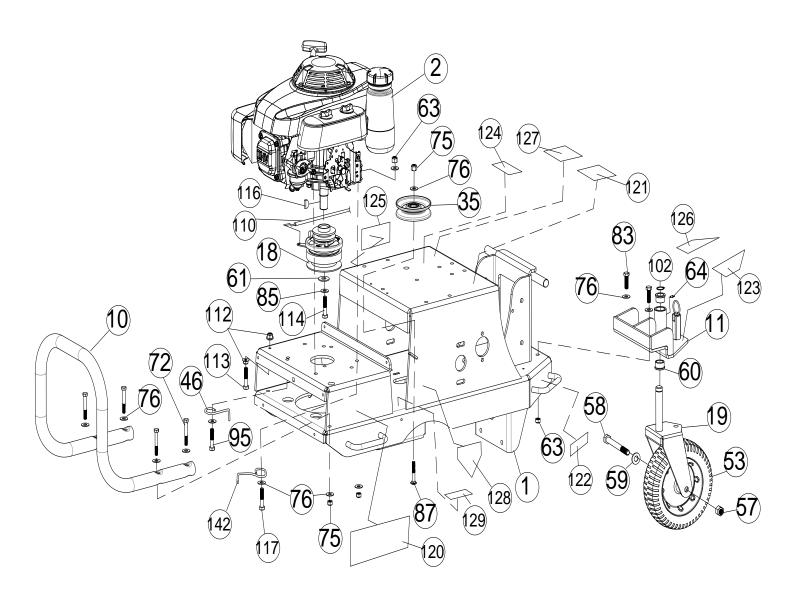


# **MAINTENANCE RECORD**

| Date | Service Performed |
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## **SC18 ENGINE ASSEMBLY PARTS DRAWING**



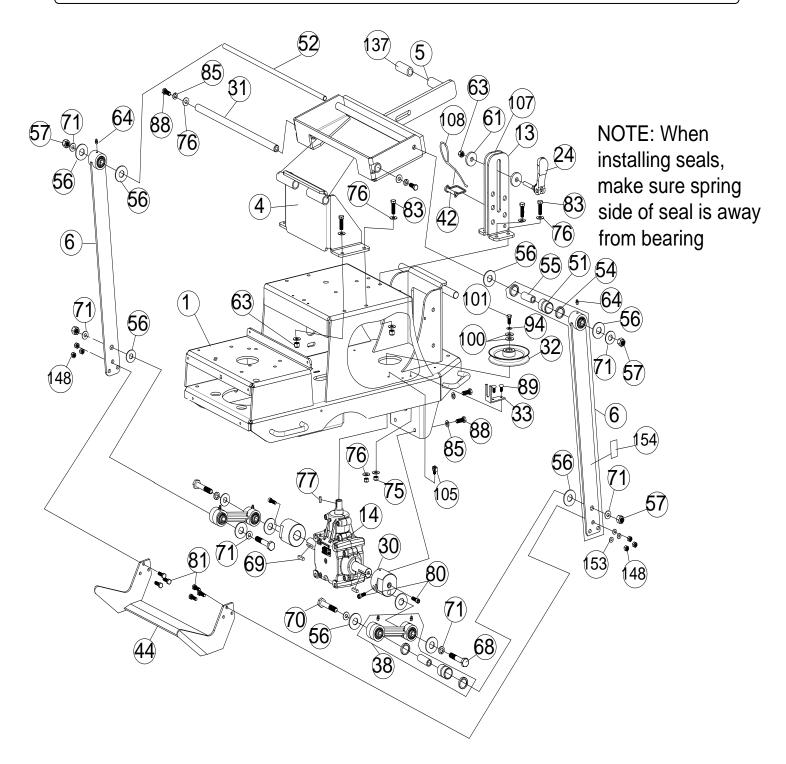


## **SC18 ENGINE ASSEMBLY PARTS LIST**

| 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 CLUTCH SC                                      | 1   |
| 19       | 371102   | CASTER RIG WA  | 1   |
| 35       | 520061   | PULLEY IDLER 5L INSIDE 4"                                | 1   |
| 46       | 371267   | BELT FINGER  | 1   |
| 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-S | CABLE SPEED CONTROL LEFT SERVICE                         | 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   |
| 142      | 371281   | BELT FINGER TIGHT SIDE                                   | 1   |



## **SC18 BLADE ASSEMBLY PARTS DRAWING**



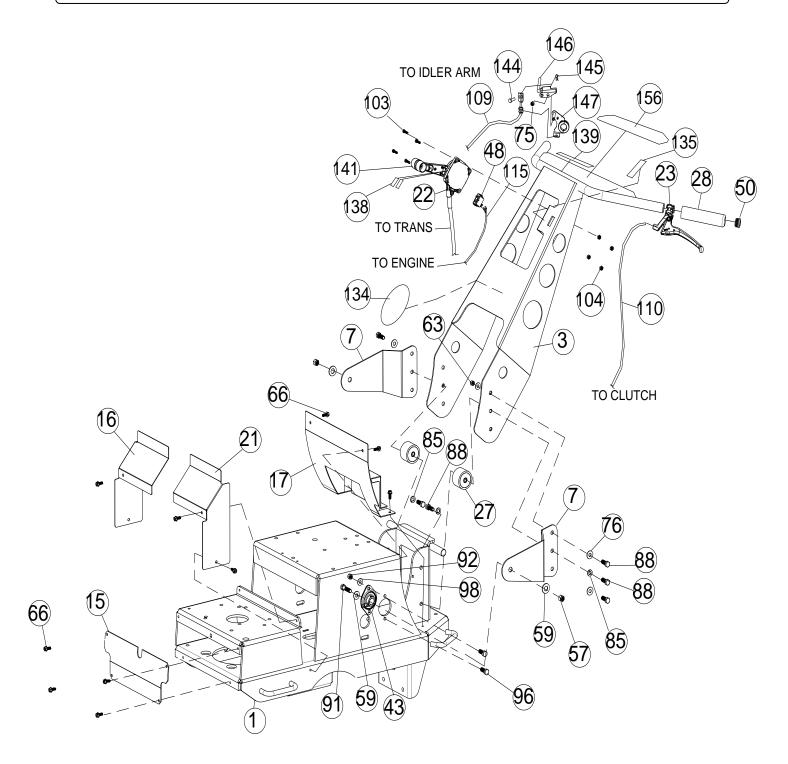


## **SC18 BLADE ASSEMBLY PARTS LIST**

| 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-S | BLADE ARM   | 2   |
| 13       | 371289   | HEIGHT DEPTH BRACKET LH                               | 1   |
| 14       | 371205   | GEAR BOX "T" 2:1 REDUCTION                            | 1   |
| 24       | 371219   | LEVER CAM LOCK  | 1   |
| 30       | 371202-S | ECCENTRIC BLADE DRIVE SERVICE W/ITEM 80               | 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-S | ARM BLADE DRIVE SERVICE                               | 2   |
| 42       | 371284   | PIN WIRE LOCK DIA. 1/2" X 3" LG ZP                    | 1   |
| 44       | 371203-S | KIT SC REPLACEMENT BLADE                              | 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 W/RED PATCH         | 2   |
|          |          | (TORQUE TO 115 FT. LBS.)                              |     |
| 69       | 9201113  | KEY 1/4" SQ X 1"                                      | 2   |
| 70       | 8041111  | SCREWCAP 1/2"-13 X 3" GR 8 ZP (TORQUE TO 115 FT. LBS) | 2   |
| 71       | 8171006  | WASHER 1/2" USS                                       | 8   |
| 75       | 8160002  | NUT LOCK 5/16"-18                                     | 2   |
| 76       | 8171003  | WASHER 5/16" FLAT                                     | 32  |
| 77       | 9201072  | KEY 3/16" SQ X 5/8"                                   | 1   |
| 80       | 362289   | SHCS 5/16"-18 X 1.25 BLK OX W/RED PATCH               | 4   |
| 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 W/PATCH                  | 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      | 371288   | HEIGHT DEPTH BRACKET RH                               | 1   |
| 108      | 371283   | LANYARD 12" COATED STEEL                              | 1   |
| 137      | 790179   | GRIP 1" X 4"  | 1   |
| 148      | 371286   | NUT LOCK 5/16"-18 HEX GR 8 (TORQUE 28 FT. LBS.)       | 6   |
| 153      | 8172008  | WASHER 5/16" SAE                                      | 6   |
| 154      | 371524   | LABEL TORQUE SC                                       | 2   |



## **SC18 HANDLE ASSEMBLY PARTS DRAWING**



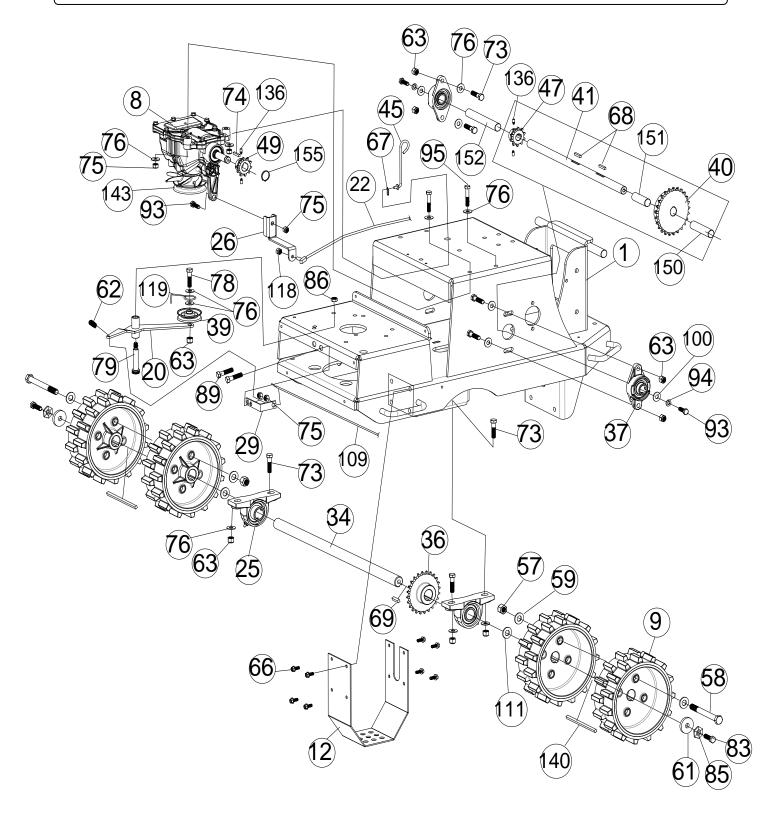


# **SC18 HANDLE ASSEMBLY PARTS LIST**

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|-------------|----------------|---------------------------------------|-----|
| Item no.    | Part no.       | Description                           | Qty |
| 1           | 371100         | FRAME WA                              | 1   |
| 3           | 371613         | HANDLE SC WA W/LABELS                 | 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          | 371276         | SCREW SELF TAP 1/4"-20 X 3/4" TYPE 23 | 12  |
| 75          | 8160002        | NUT LOCK 5/16"-18 X 1 3/4" HCS ZP     | 1   |
| 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         | 831227         | CABLE CONTROL DRIVE QV                | 1   |
| 110         | 371232-S       | CABLE SPEED CONTROL LEFT SERVICE      | 1   |
| 115         | 360316         | WIRE HARNESS                          | 1   |
| 134         | 430303         | LABEL PRODUCT LOGO CIRCLE LG          | 1   |
| 135         | 371507         | LABEL SHIFTER CONTROL                 | 1   |
| 138         | 371513         | LABEL NEUTRAL SC18                    | 2   |
| 139         | 371514         | LABEL HANDLE DRIVE SC18               | 1   |
| 141         | 371279         | HANDLE SPEED CONTROL SC18             | 1   |
| 144         | 440124         | PIN CLEVIS 0.25 X 0.50                | 1   |
| 145         | 440193         | PIN CLIP HITCH 0.51 X 3/4"            | 1   |
| 146         | 440277         | ARM CONTROL WA                        | 1   |
| 147         | 831115         | CONTROL MOUNT HANDLE WA               | 1   |
| 156         | 371282         | LABEL CONSOLE SC                      | 1   |
|             |                | •                                     | ļ.  |



## **SC18 TRANSMISSION ASSEMBLY PARTS DRAWING**



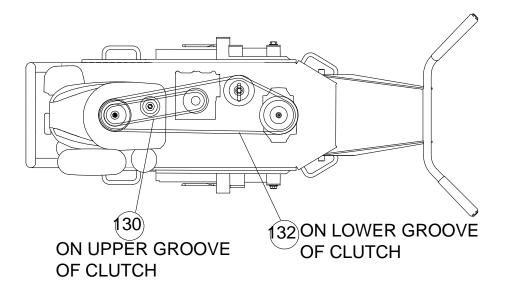


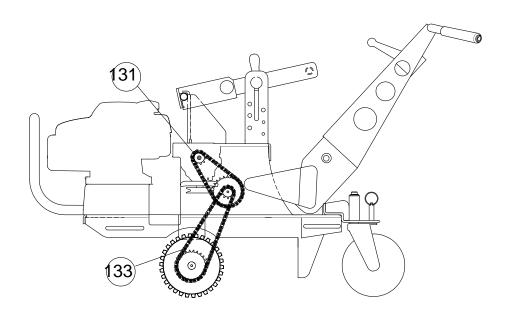
## **SC18 TRANSMISSION ASSEMBLY PARTS LIST**

| 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       | 371277   | AXLE LONG SC   | 1   |
| 36       | 371223   | SPROCKET 40C25 1" BORE   | 1   |
| 37       | 350209   | BEARING 3/4" CAST FLANGE W/ZERK  | 2   |
| 39       | 510137   | IDLER PULLEY   | 1   |
| 40       | 371292   | SPROCKET 40B25 1" BORE   | 1   |
| 41       | 371290   | JACKSHAFT 1.00 X 17.06 LG 4140HT PLATED                                | 1   |
| 45       | 371245   | ROD TRANSMISSION BYPASS  | 1   |
| 47       | 371291   | SPROCKET 40B10 1" 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       | 371276   | SCREW SELF TAP 1/4"-20 X 3/4" TYPE 23                                  | 8   |
| 67       | 371275   | PIN 1/4" RUE RING  | 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"  | 1   |
| 75       | 8160002  | NUT LOCK 5/16"-18  | 5   |
| 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       | 371278   | SCREWCAP 3/8" - 16 X 1 1/4" GR 5 ZP W/RED PATCH                        | 2   |
| 84       | 850233   | SNAP RING TRUARC 5/8"  | 1   |
| 85       | 400502   | WASHER LOCK 3/8" TWISTED TOOTH   | 2   |
| 86       | 8161042  | NUT LOCK 3/8"-16 LT WT TH ZP   | 1   |
| 89       | 8041004  | SCREWCAP 1/4"-20 X 3/4" HCS ZP   | 2   |
| 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      | 831227   | CABLE CONTROL DRIVE QV   | 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                                 | 4   |
| 140      | 9201131  | KEY 1/4" X 4.00"   | 2   |
| 143      | 371602   | PULLEY AND FAN KIT RT310   | 1   |
| 150      | 371002   | SPACER 1.25 X .109 WALL 3.35 LG  | 1   |
| 151      | 371293   | SPACER 1.25 X .109 WALL X 2.787 LG                                     | 1   |
| 151      | 371294   | SPACER 1.25 X .109 WALL X 2.787 LG  SPACER 1.25 X .109 WALL X 6.578 LG | 1   |
| 132      | 3/1233   | 21 VOFU 1'52 V '102 MATE V 0'2\0 FQ                                    |     |



## **SC18 BELT AND CHAIN ASSEMBLY PARTS DRAWING**





# **SC18 BELT AND CHAIN ASSEMBLY PARTS LIST**

| Item no. | Part no. | Description            | Qty |
|----------|----------|------------------------|-----|
| 130      | 371270   | BELT GATES 6732        | 1   |
| 131      | 371296   | CHAIN #40 X 44 PITCHES | 1   |
| 132      | 371246   | BELT GATES 6958        | 1   |
| 133      | 371297   | CHAIN #40 X 61 PITCHES | 1   |