



Service Manual



**31AS2B5 Snow Thrower
IMAGE SHOWS YARD-MAN UNIT**



MTD Products LLC - Product Training and Education Department

FORM NUMBER 769-01416

9/2004

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31AS2B5-711 Snow Thrower

31AS2B5-711

Yard-Man Version



Snow Thrower Model Number #31AS2B5- 711 Serial Number 1E074B20005

NOTE: The equipment that was used to write this section was a prototype and was without labels. There may be subtle differences between prototypes and production equipment but the disassembly procedures performed will remain the same.

GENERAL INFORMATION

Tecumseh Engine HSSK 50 designated as a (C) engine with 125 hours life expectancy. Oil recommendation is 5W30 - Sump capacity is 21 ounces

This is a four-cycle, horizontal crankshaft, air-cooled engine equipped with a 120 V A.C. operated electric starter.

NOTE: Refer to the engine manual for start and stop and maintenance procedures.

1. CONTROLS

The auger control bail and the pull start handle are mounted on the main handle for easy accessibility. The pull rope and mitten-grip handle is secured to the right handle with a bracket to keep the cord away from other items and allow for direct and easy in line pull. See Figure 1.

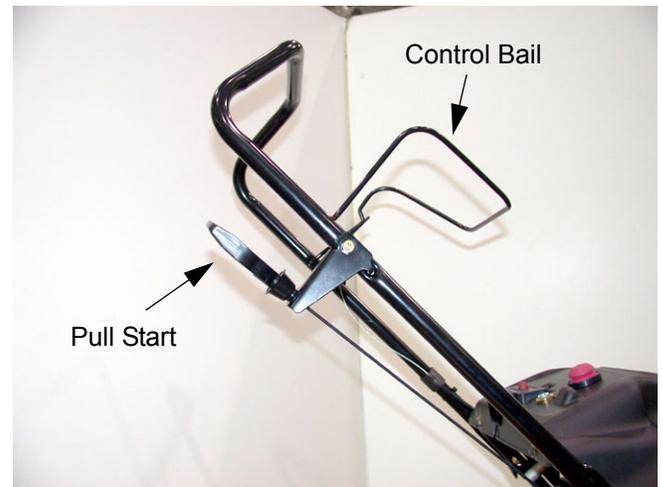


Figure 1

2. AUGER

The auger assembly is also easily accessible for maintenance and periodical replacement of the rubber flails on the auger assemblies. See Figure 2.

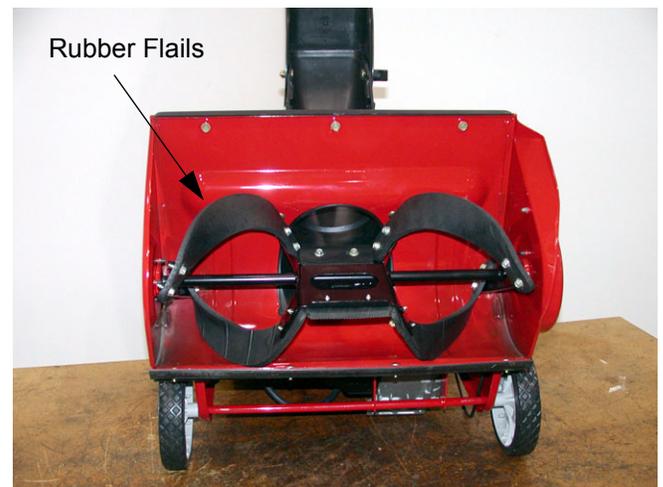


Figure 2

3. A/C STARTER

From the rear there is easy access to the start/stop

switch and the A.C. plug connector with starter button that is used for the electric start. See Figure 3.

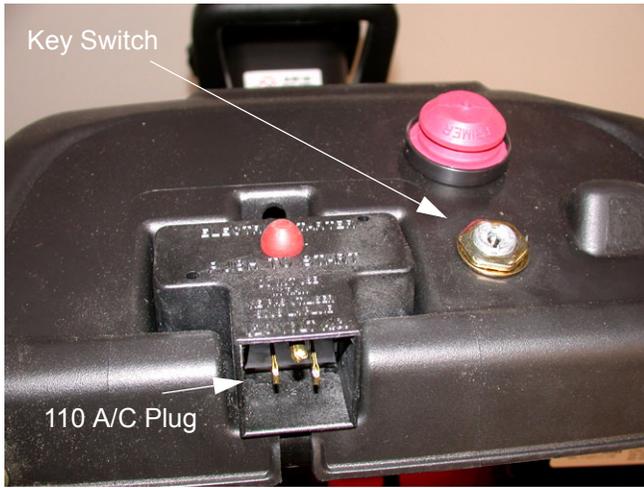


Figure 3

4. BACK OF UNIT

The Model tag is located on the back of the unit and includes phone numbers for customer assistance: Troy-Bilt 330-558-5520 or 1-800-520-5520. The choke control is shown on the right side of the carburetor cover. To the right shows the gas tank location. See Figure 4.

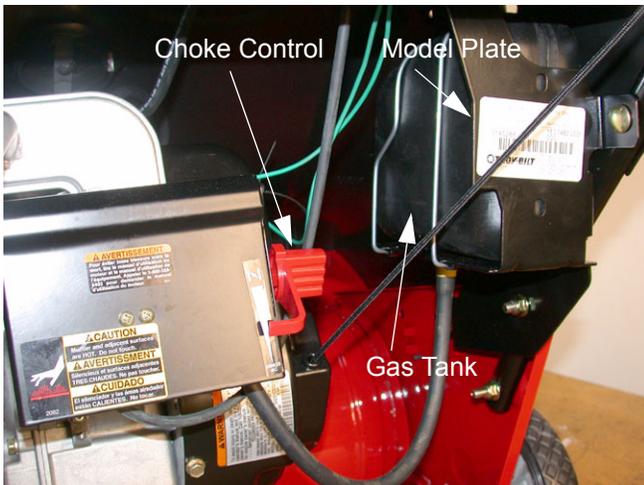


Figure 4

5. MUFFLER

View showing the muffler and pipe at top left. See Figure 5.

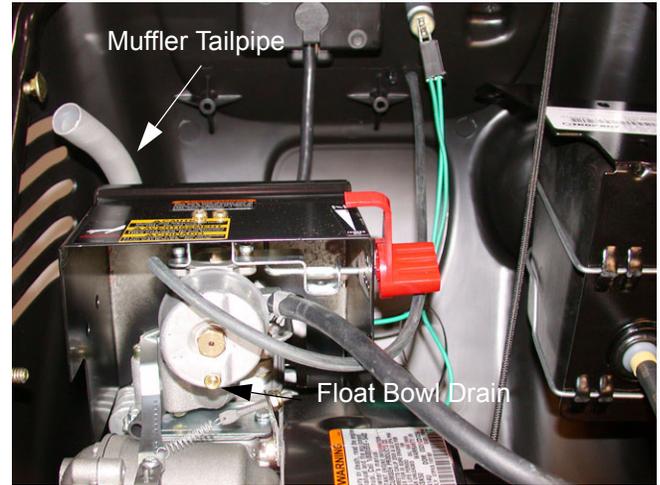


Figure 5

NOTE: Unit is tipped up on the auger housing to view carburetor and the carburetor bowl drain for removal of bad gas or water from the bowl/float area.

6. SHAVE PLATE

The adjustable shave plate can be turned around when worn on one side. See Figure 6.



Figure 6

7. DISCHARGE CHUTE

The mitten grip handle on the snow chute allows easy adjustment side to side. See Figure 7.



Figure 7

8. AUGER DRIVE BELT REPLACEMENT

8.1. Remove the five (5) screws on the perimeter of the belt cover using a 3/8" socket with short extension and ratchet. See Figure 8.

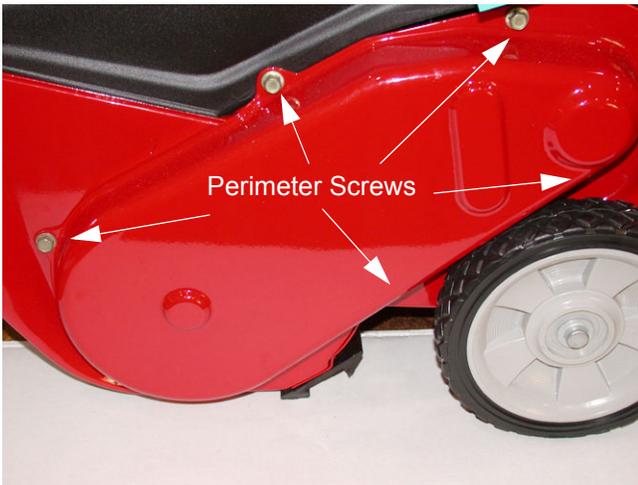


Figure 8

8.2. With the cover removed inspect for wear on the belt and movement of the idler bracket. See Figure 8.

8.3. Inspect the idler bracket tension and return springs and note location of connections. See Figure 9.



Figure 9

8.4. Using a 7/16" socket and a 7/16" box wrench, remove the bolt securing the idler to the idler arm. Inspect the idler bearing for freedom of movement. Upon replacement note the position of the larger retaining washer that has the top position cut flat to clear the belt cover. See Figure 10.



Figure 10

8.5. Push down on the idler bracket to lift the belt brake shoe away from the belt. The belt can then be lifted out of the auger pulley and off the

engine pulley. Replace by using the same procedure. See Figure 11.

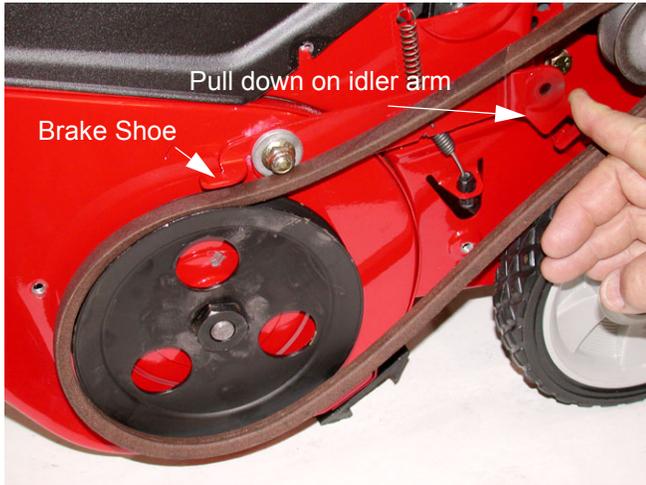


Figure 11

9. AUGER REMOVAL

- 9.1. Place a two by four wedge in the housing to hold the auger from turning. Using 1" socket, remove the auger pulley nut. The shaft is reverse threaded and the nut is removed by turning it clockwise. See Figure 12.

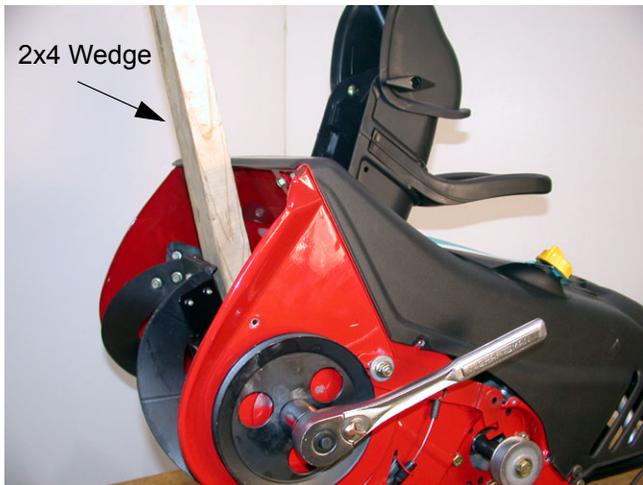


Figure 12

NOTE: During reassembly place the 2X4 at the base of the housing center and tighten in the opposite direction.

- 9.2. Remove the pulley. See Figure 13.



Figure 13

- 9.3. Using a 3/8" socket, remove the three retaining screws securing the bearing retainer housing to the auger housing. See Figure 14.



Figure 14

- 9.4. Remove and inspect the bearing and heavy washer for wear or damage. See Figure 15.

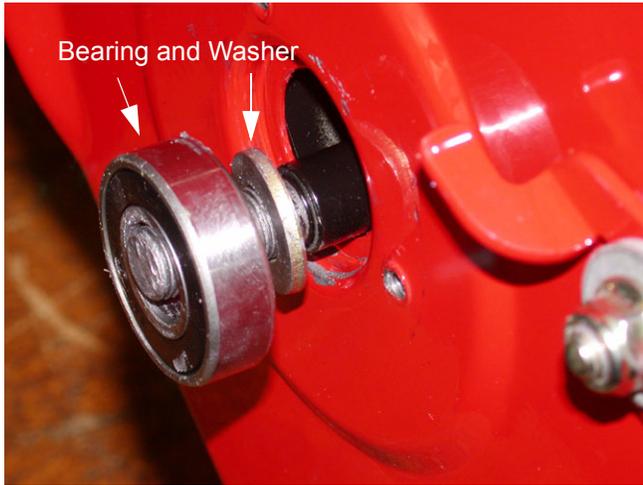


Figure 15

- 9.5. Facing the housing, slide the auger assembly to the right, and then remove the auger and shaft assembly from the housing. See Figure 16.



Figure 16

- 9.6. Inspect the auger assembly for wear on the rubber flails. Check the shaft for straightness. Check the welds for cracks or breaks. See Figure 17.



Figure 17

10. SPARK PLUG ACCESS

Access to the spark-plug is through an access hole on top of the main housing next to the oil fill tube. See Figure 18.



Figure 18

11. FRONT SHROUD COVER REMOVAL

- 11.1. Remove the three screws from the inside top of the auger housing using a 3/8" socket and ratchet. See Figure 19.



Figure 19

- 11.2. Remove the remaining five (5) perimeter screws and two (2) screws holding the starter plug assembly using a 5/16" socket. The shroud is slotted to allow the removal from around the starter cord. See Figure 20.



Figure 20

- 11.3. Remove the handle from the directional chute by releasing the front tabs on the handle assembly from the front opening of the chute and slide the

handle out of the chute assembly. See Figure 21.

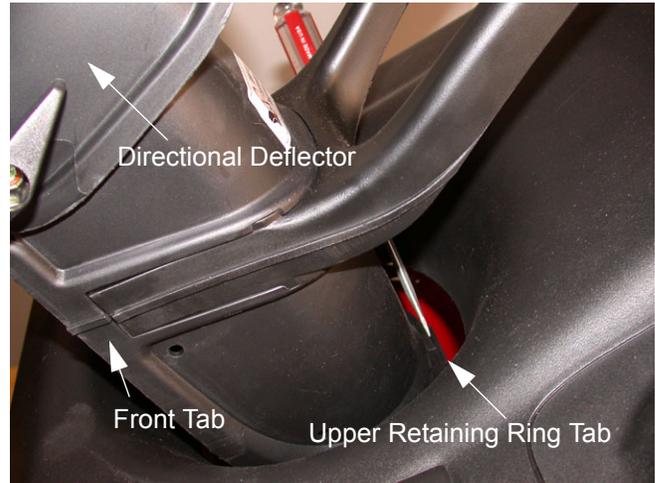


Figure 21

- 11.4. Remove the directional deflector from the chute assembly and you will be able to lift the shroud over the lower chute. See Figure 21.

NOTE: This picture also shows releasing the tab on the chute-retaining ring using a long blade screwdriver. This would be necessary to remove the chute retaining ring.

- 11.5. Removing the chute-retaining ring requires releasing a lower tab from under the housing. See Figure 22.

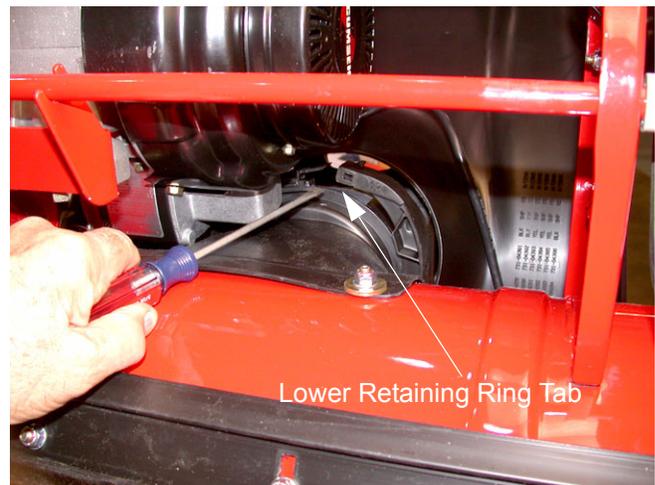


Figure 22

NOTE: This is somewhat difficult. If the lower chute is not being replaced, it makes reassem-

bling easier to leave the lower chute attached and remove the deflector. See Figure 23.



Figure 23

11.6. Remove the gas cap and the oil dipstick and then lift off the shroud.

With the Shroud removed you now have complete access to the engine, starter, fuel tank and all related items for servicing or replacement. See Figure 24.

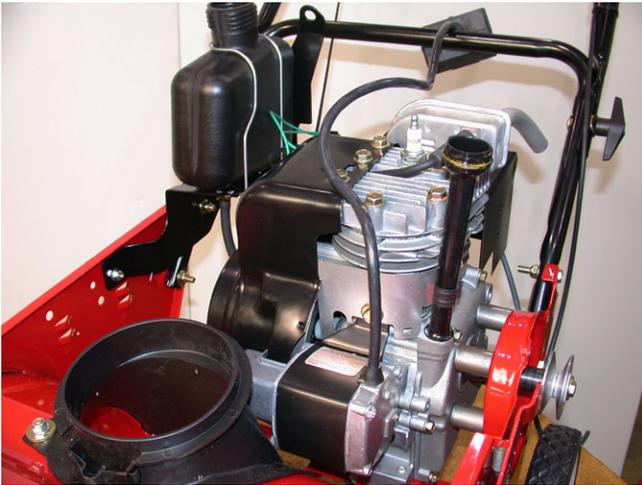


Figure 24

The lock ring can now be inspected. Become familiar with how it latches and holds the chute assembly securely to the main housing. You must properly fit the spring detent that holds the chute in a position. See Figure 25.



Figure 25

Chute components. See Figure 26.



Figure 26

NOTE: During reassembly, align the chute assembly by facing it towards the plastic retaining ring. Be sure the chute is positioned all the way to the right or left upon re-assembly. See Figure 27.

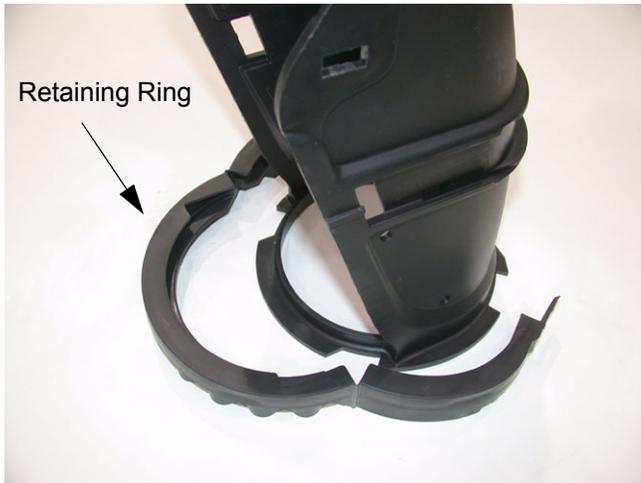


Figure 27

Check that the upper and lower flanges lock into the retaining ring and that the latch closes and locks properly. See Figure 28.



Figure 28

12. ENGINE REMOVAL

12.1. Remove the discharge chute and engine cowl-
ing.

12.2. Using a 1/2" socket, remove the four bolts and spacers attaching the engine to the left side of frame. See Figure 29.

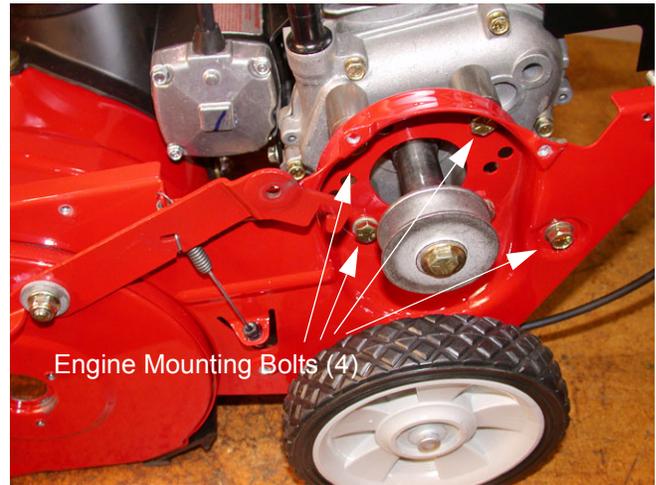
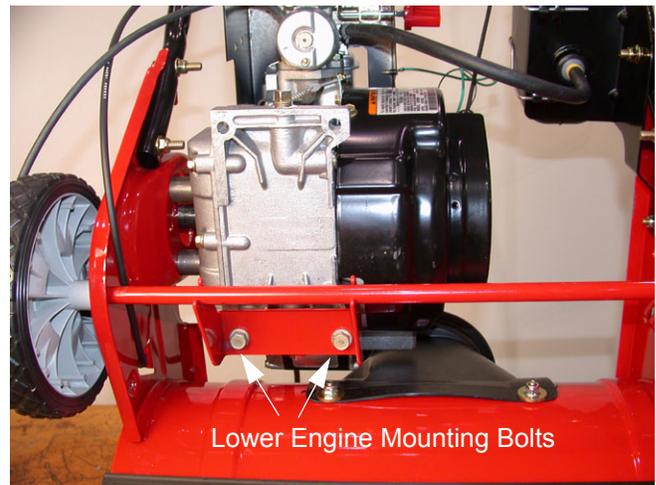


Figure 29

12.3. Using a 1/2" socket, Remove the two bolts securing the lower base of the engine to the support bracket welded to the wheel axle.



13. GAS TANK

- 13.1. A wire retainer holds the gas tank. The tank can easily be replaced by pushing the wire out of the lower support plate at the bend on the side of the tank. See Figure 30.



Figure 30

NOTE: The gas line clamp is accessible below the mounting bracket.

