



## Kawasaki BBC Engine Conversion Kit

For use with the Toro Walk Power Lawn Mowers

Model 100-2873

Installation  
Instructions


### Loose Parts

**Note:** Use the following chart to identify the parts you will use to install the kit.

DESCRIPTION	QTY.	USE
Discharge Tunnel	1	Installing the new discharge tunnel and the door assembly
Latch Plate	1	
Discharge Door Assembly	1	
Door Retainer	1	
Self-tapping Screw – 1/4-10 x .60	2	
Screw – 3/8-16 x 1.5	3	Replacing the engine
Engine Decal	1	
Clamp	1	Filling the hole left from removing the fuel tank bracket
Bolt	1	
Throttle Control	1	Replacing the throttle cable
Throttle Cable	1	
Retainer	1	
Engine Guard	1	Installing the engine guard on the lawn mower housing
Screw – 1/4-20 x 1.0	4	
Cable Tie	3	Installing the cables to the lower handle (1) Securing the clutch and the throttle cables to the lawn mower deck (1) Tying the throttle, traction, and clutch cables together (1)
Control Panel Decal	1	Replacing the decal
Cable Clamp	1	Securing the clutch cable to the housing
Hex Head Screw – 5/16 16 x 1.0	1	
Hex Locknut – 5/16 16	1	

DESCRIPTION	QTY.	USE
Oil Drain Tube	1	Draining the oil
Screw– 5/16 18 x 0.75	1	Securing the blade brake clutch (BBC) cover to the lawn mower housing
Washer– 5/16	1	

## Before Installing


**WARNING**

**POTENTIAL HAZARD**

- If you leave the wire on the spark plug, someone could accidentally start the engine.


**WHAT CAN HAPPEN**

- Someone accidentally starting the engine can seriously injure you or other bystanders.

**HOW TO AVOID THE HAZARD**

- Disconnect the wire from the spark plug before you install the kit. Set the wire aside so that it does not accidentally contact the spark plug.

1. Disconnect the wire from the spark plug.


**WARNING**

**POTENTIAL HAZARD**

- If gasoline is spilled on a hot engine, it could ignite.

**WHAT CAN HAPPEN**

- Contact with burning gasoline could cause serious personal injury.

**HOW TO AVOID THE HAZARD**

- Drain the gasoline from a cold engine only.

2. Make sure that the engine is cool. Remove the cap from the fuel tank and use a pump-type syphon to drain the fuel into a clean, approved gasoline container.

**Note:** This is the only procedure that Toro recommends for draining the fuel.

3. Connect the wire to the spark plug.
4. Start the engine and let it run until it runs out of fuel.

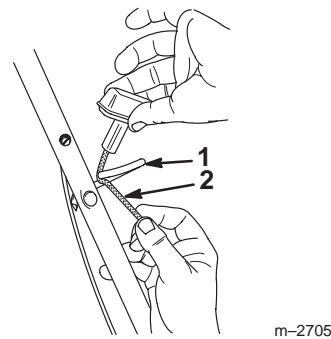
5. Disconnect the wire from the spark plug.
6. Drain the engine oil (Refer to your operator’s manual for the procedure).

## Disassembly

### Removing the Starter Rope

**Note:** This procedure is necessary only for models that have a rope guide.

1. Remove the starter rope from the rope guide (Fig. 1).



**Figure 1**

1. Rope guide
2. Starter rope

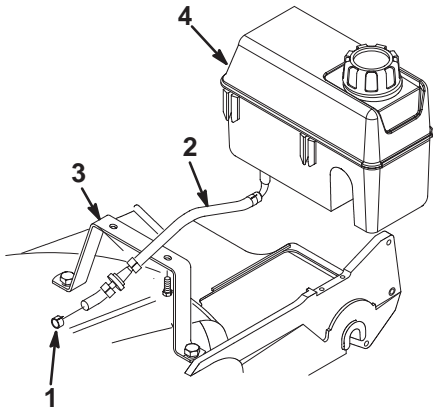
2. Remove and discard the rope guide, the screw, and the locknut.

### Removing the Cable Ties

Cut the cable ties that hold the cables to the lower handle.

### Removing the Fuel Tank

1. Disconnect the fuel line from the engine (Fig. 2).



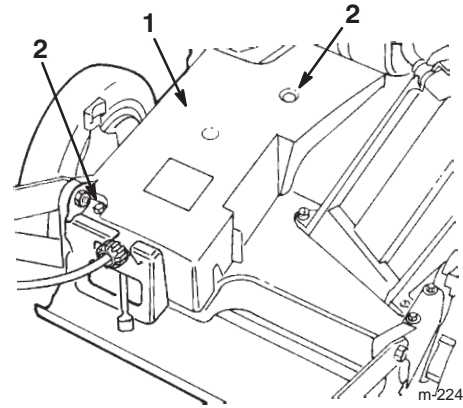
**Figure 2**

- |                    |                 |
|--------------------|-----------------|
| 1. Fuel line clamp | 3. Tank bracket |
| 2. Fuel line       | 4. Fuel tank    |

2. Remove the fuel tank from the tank bracket (Fig. 2).
3. Remove the tank bracket.
4. Install a screw and a locknut to fill the hole left from removing the right side of the tank bracket.

### Disconnecting the Throttle Cable

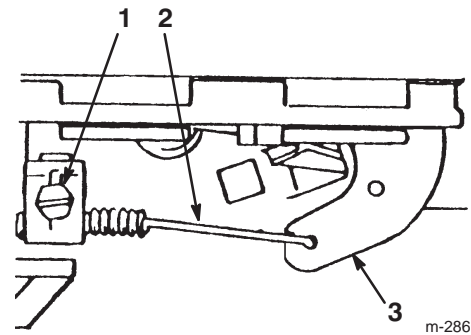
1. Remove two self-tapping screws that secure the belt cover to the lawn mower deck (Fig. 3). Set the cover and the fasteners aside for the installation.



**Figure 3**

- |               |                           |
|---------------|---------------------------|
| 1. Belt cover | 2. Self-tapping screw (2) |
|---------------|---------------------------|

2. Loosen the cable clamp screw and disconnect the throttle cable from the throttle lever as shown in Figure 4.



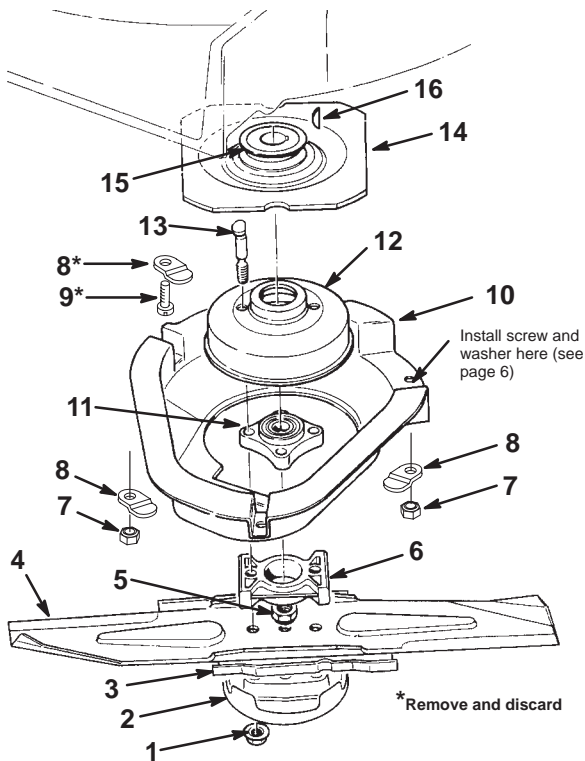
**Figure 4**

- |                      |                   |
|----------------------|-------------------|
| 1. Cable clamp screw | 3. Throttle lever |
| 2. Throttle cable    |                   |

**Note:** Figure 4 shows the GTS 150 engine only.

## Removing the Blade Assembly

1. Remove two blade nuts, the anti-scalp cup, the blade stiffener/accelerator, the blade, the locknut, and the blade spacer (Fig. 5).



**Figure 5**

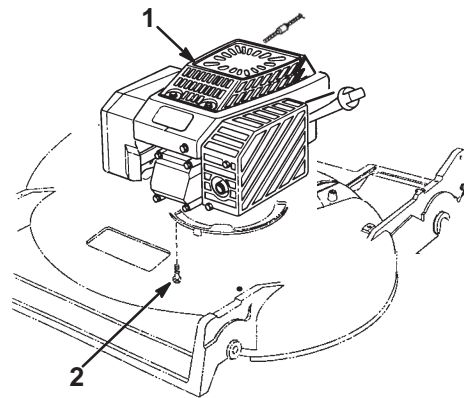
- |                                |                               |
|--------------------------------|-------------------------------|
| 1. Blade nut (2)               | 9. Screw                      |
| 2. Anti-scalp cup              | 10. Blade brake clutch shield |
| 3. Blade stiffener/accelerator | 11. Hub assembly              |
| 4. Blade                       | 12. Brake drum                |
| 5. Locknut                     | 13. Blade bolt (2)            |
| 6. Blade spacer                | 14. Flywheel                  |
| 7. Locknut (2)                 | 15. Pulley driver             |
| 8. Tab (3)                     | 16. Woodruff key              |

2. Loosen the tabs that secure the blade brake clutch shield to the lawn mower housing by loosening the nuts or bolts on the tabs (Fig. 5).
3. Rotate the tabs 180° out of the way.
4. Remove the blade brake clutch shield, the hub assembly, the brake drum, two blade bolts, the flywheel, the pulley driver, and the woodruff key (Fig. 5).

**Note:** Keep all these items for the installation.

## Removing the Old Engine

Remove the three engine screws and carefully lift the engine off the housing (Fig. 6). Discard the screws and the engine.



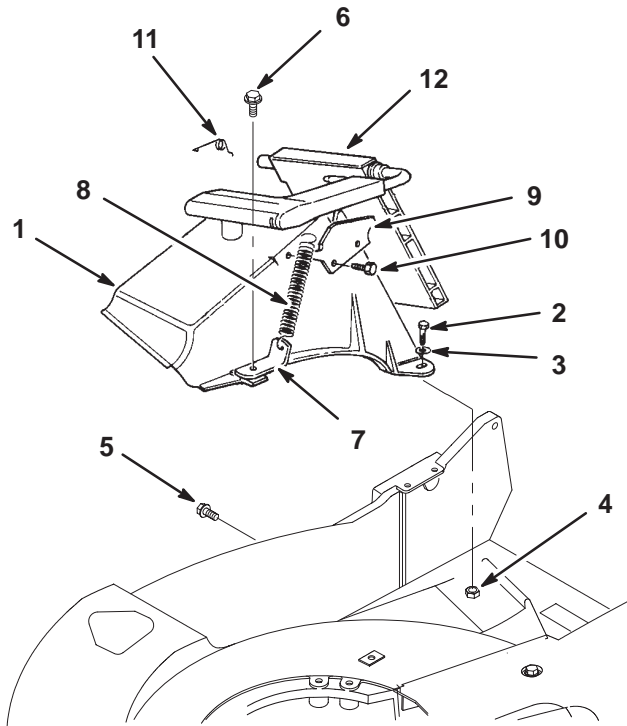
**Figure 6**

- |           |                     |
|-----------|---------------------|
| 1. Engine | 2. Engine screw (3) |
|-----------|---------------------|

**Note:** Figure 6 shows the GTS 150 engine. The GTS 200 engine is not shown.

## Removing the Discharge Tunnel Assembly

1. Remove two capscrews, two flat washers, two locknuts, a 1/2 in. hex head washer screw, and a 3/4 in. hex head washer screw that secure the discharge tunnel assembly to the lawn mower housing (Fig. 7).



**Figure 7**

- |                                      |                             |
|--------------------------------------|-----------------------------|
| 1. Discharge tunnel                  | 7. Spring bracket           |
| 2. Capscrew (2)                      | 8. Spring extension         |
| 3. Flat washer (2)                   | 9. Latch plate              |
| 4. Locknut (2)                       | 10. Self-tapping screw (2)  |
| 5. Hex head washer screw (1/2" long) | 11. Door retainer           |
| 6. Hex head washer screw (3/4" long) | 12. Discharge door assembly |

**Note:** Keep all these items for the installation.

2. Lift off the discharge tunnel assembly (Fig. 7).

3. Remove the spring bracket and the spring extension (Fig. 7).

**Note:** Keep these items for the installation.

4. Discard the discharge tunnel assembly (Fig. 7).

## Conversion Kit Installation

### Installing the New Discharge Tunnel

1. Position the new discharge tunnel on the lawn mower deck. Align the holes in the discharge tunnel with the holes in the lawn mower deck.
2. Fasten the rear-left and the rear-right corners of the discharge tunnel to the lawn mower deck using two capscrews, two flat washers, and two locknuts previously removed.
3. Fasten the front-right side of the discharge tunnel to the lawn mower deck using the 1/2 in. hex head washer screw previously removed.
4. Fasten the front-left corner of the discharge tunnel and the spring bracket to the lawn mower deck using the 3/4 in. hex head washer screw previously removed.
5. Install the new discharge door assembly and secure it with the new door retainer.
6. Install the new latch plate to the discharge tunnel using two new self-tapping screws.
7. Hook one end of the spring extension through the hole on the spring bracket and the other end onto the discharge door handle.
8. Open and close the discharge door to ensure that the discharge tunnel door closes when you release the handle.

### Installing the New Engine

1. Carefully set the new engine onto the lawn mower housing.

2. Install and tighten the three new engine screws (Fig. 8). Torque the engine screws to 250 to 400 in-lb (28 to 45 N•m).

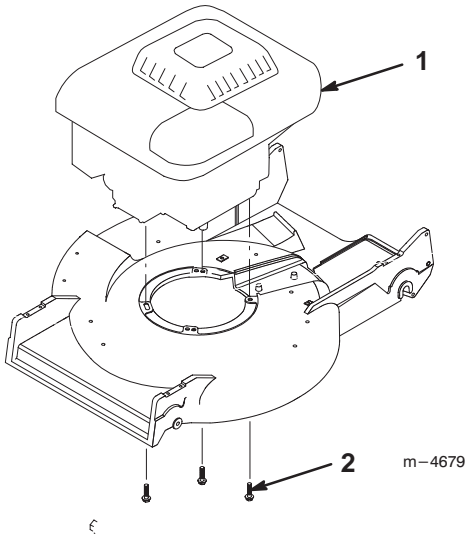


Figure 8

1. Engine
2. Engine screw (3)

### Installing the Blade Assembly

1. Install the blade assembly in the reverse order of disassembly. Refer to *Removing the Blade Assembly* on page 4.
2. Torque the blade nuts to 15 to 27 ft-lb (20-37 N•m).
3. Install a 5/16—0.75 screw and 5/16-in. washer in place of the discarded screw and tab (see “Install screw and washer here” in Figure 5).

### Installing the Engine Guard

1. Remove the four hex head screws from the front quadrants (Fig. 9). Leave the quadrants in place.
2. Install the new engine guard on the front of the lawn mower deck with two hex head screws as shown in Figure 9.

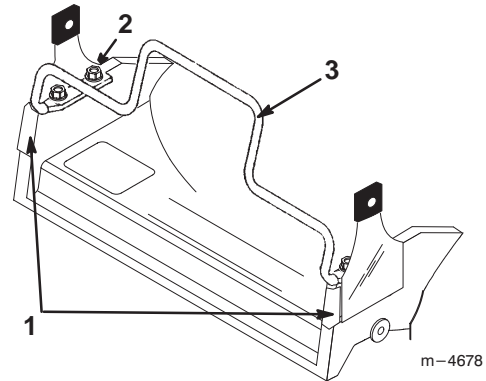


Figure 9

1. Front quadrants
2. Hex head screw (4)
3. Engine guard

### Installing the New Throttle Control

1. Remove four Phillips head screws and four locknuts that secure the throttle control to the control panel (Fig. 10).

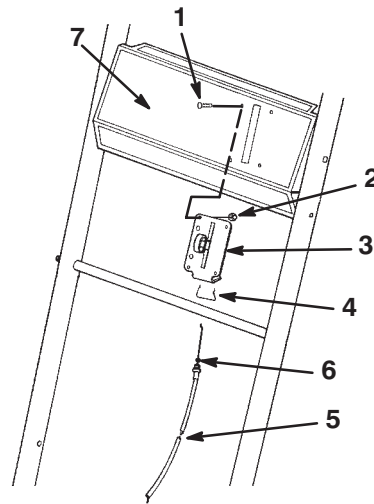


Figure 10

1. Phillips head screw (4)
2. Locknut (4)
3. Throttle control
4. Throttle control retainer
5. Throttle cable
6. Seal
7. Decal

**Note:** Keep the screws and locknuts. Discard the throttle control, the throttle control retainer, and the throttle cable.

2. Replace the old control panel decal with the new decal (Fig. 10).

3. Install the new throttle control using four Phillips head screws and four locknuts previously removed.
4. Install the new throttle control retainer.

**Note:** Make sure that the seal on the throttle cable is pushed down tight.

5. Connect the throttle cable to the speed control lever on the engine (Fig. 11).

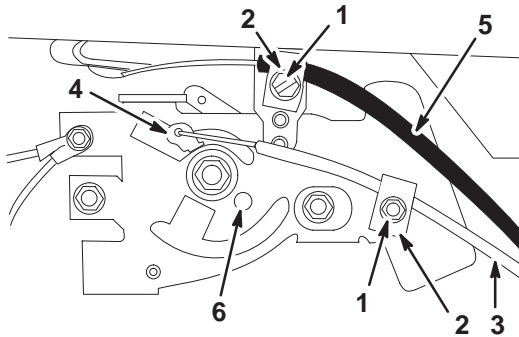



Figure 11

- |                      |                        |
|----------------------|------------------------|
| 1. Cable clamp screw | 4. Speed control lever |
| 2. Cable clamp       | 5. Blade brake cable   |
| 3. Throttle cable    | 6. Base plate hole     |

6. Move the throttle to the  (FAST) position.
7. Align the hole of the speed control lever with the hole in the base plate by inserting a 7/32-in.-diameter pin through both holes (Fig. 11).
8. Pull the throttle cable to remove the slack.
9. Tighten the cable clamp screw (Fig. 11).
10. Fasten the throttle cable and the blade brake clutch cable together to the lawn mower housing with a cable tie to prevent them from contacting the gear box belt guide (Fig. 12). **Do not secure the cables tight against the lawn mower housing.**

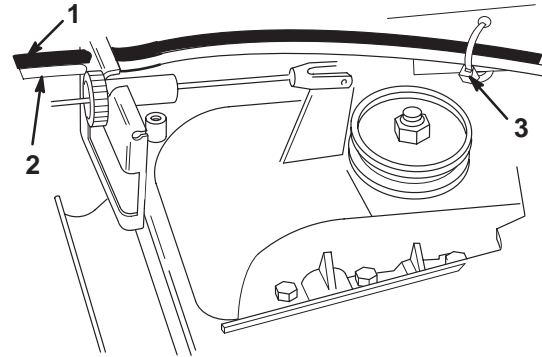


Figure 12

- |                             |              |
|-----------------------------|--------------|
| 1. Throttle cable           | 3. Cable tie |
| 2. Blade brake clutch cable |              |

11. Install the belt cover using the fasteners previously removed (Fig. 3).

## Adjusting the Blade Brake Cable

### WARNING

#### POTENTIAL HAZARD

- **Do not overtighten the blade brake cable. Overtightening can cause the blade brake to come off the brake drum. If the blade brake does not contact the drum, the blade will not stop rotating when you release the control bar.**

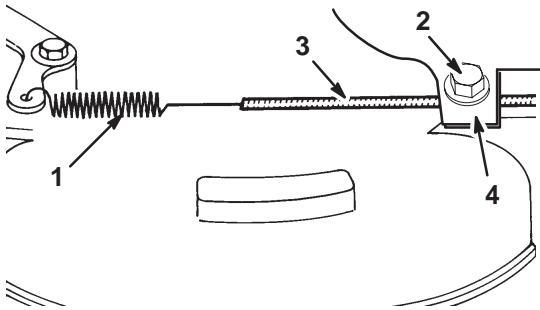
#### WHAT CAN HAPPEN

- **A rotating blade can cause serious personal injury.**

#### HOW TO AVOID THE HAZARD

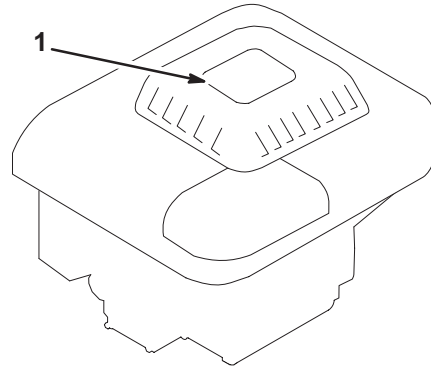
- **Check the blade brake mechanism each time you adjust the brake cable to ensure that the brake stops the blade in three seconds or less.**
- **If blade does not stop rotating in three seconds or less, bring the lawn mower to an Authorized Service Dealer for inspection and repair.**

1. Assemble the clutch cable, cable clamp, cable clamp screw, and the locknut to the lawn mower housing (Fig. 13).



**Figure 13**

- |                      |   |
|----------------------|---|
| 1. Spring            | 4. Cable clamp                            |
| 2. Cable clamp screw | 5. Locknut (on the underside of the deck) |
| 3. Cable conduit     |   |



**Figure 14**

1. Decal location

---

**Note:** Tighten the cable clamp screw only enough to allow the clutch cable to slide (Fig. 13).

2. Pull the cable to remove the slack, but do not put tension on the spring (Fig. 13).
3. Tighten the screw and the locknut to lock the adjustment in place.

### Installing the New Cable Ties

1. Attach the cables to the lower left side of the handle using the new cable ties.
2. Tie the throttle cable, the traction cable, and the clutch cable together at a point above the bag support rod.
3. Ensure that all cables are to the rear of the bag support rod.

### Installing the New Engine Decal

Install the new decal on the engine as illustrated in Fig. 14.

---

## Before Starting the Engine

**For information on how to fill the crankcase with oil, fill the fuel tank with gasoline, and operate the engine, refer to your *Kawasaki Engine Owner's Manual*.**