



**Exhaust Kit**  
**100 Series Z Master**  
Part No. 105-9361

Form No. 3327-770

**Installation Instructions**

**Loose Parts**

**Note:** Use the chart below to identify parts for assembly.

DESCRIPTION	QTY.	USE
Loom clip	1	Routing the engine cables for Kohler® engines
Heat shield	1	Installing the fuel pump heat shield and vent tube for Kawasaki® engines
Vent tube	1	
Bracket	1	
Screw	1	
Left-hand guard strap	1	Installing the left-hand guard strap
Air deflector shield	1	Installing the air deflector shield
Bolt, 5/16 x 3/4 in.	4	
Nut, 5/16 in.	4	
Clamp, 1-1/4 in.	1	Installing the tailpipe extension
Clamp, 1-1/8 in.	1	
Tailpipe	1	
Exhaust guard—left hand	1	Installing the left hand exhaust guard
Bolt, 5/16 x 3/4 in.	3	
Nut, 5/16 in.	3	
Exhaust guard—right hand	1	Installing the right hand exhaust guard
Bolt, 5/16 x 3/4 in.	4	
Nut, 5/16 in.	4	
Decal	1	Installing the decal



103-2644

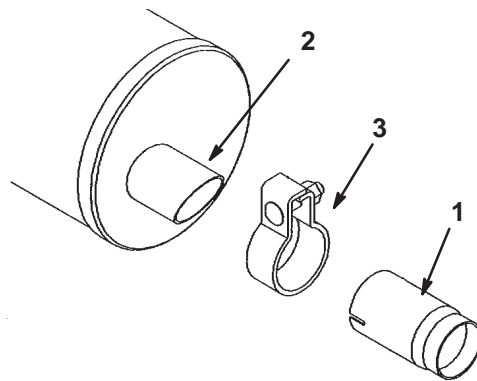
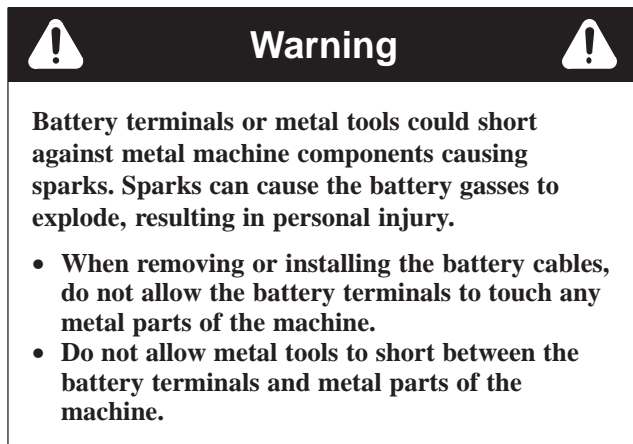


Figure 1

- |                           |          |
|---------------------------|----------|
| 1. Spark arrester         | 3. Clamp |
| 2. Muffler exhaust outlet |          |

## Before Installation

1. Stop the PTO, set the parking brake, stop the engine, and remove the ignition key.
2. Allow the traction unit and muffler to cool completely.
3. Raise the seat and disconnect the negative battery cable.



## Removing the Spark Arrester

1. Allow the muffler to cool completely.
2. Loosen the clamp (Fig. 1).
3. Remove the spark arrester off the exhaust outlet (Fig. 1).

## Checking the Upper Heat Shield

1. Locate the upper heat shield below the exhaust manifold (Fig. 2).
2. Check to make sure the shield is adjusted as far back as possible (Fig. 2).
3. If there is a large gap, loosen the shield fasteners (Fig. 2).
4. Slide the upper shield back as far as possible (Fig. 2).
5. Tighten the shield fasteners (Fig. 2).

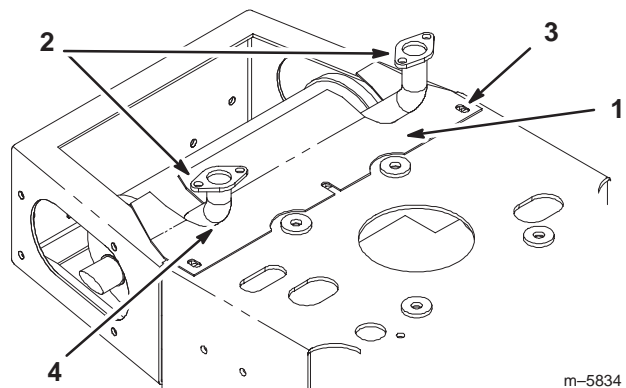
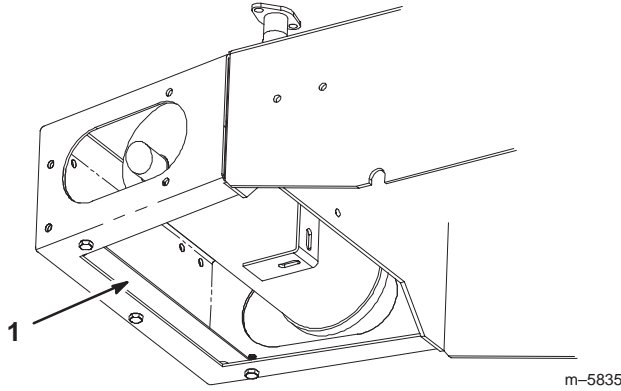


Figure 2

- |                      |              |
|----------------------|--------------|
| 1. Upper heat shield | 3. Fasteners |
| 2. Header tubes      | 4. No gaps   |

# Removing the Lower Air Deflector and Heat Shield Bolts

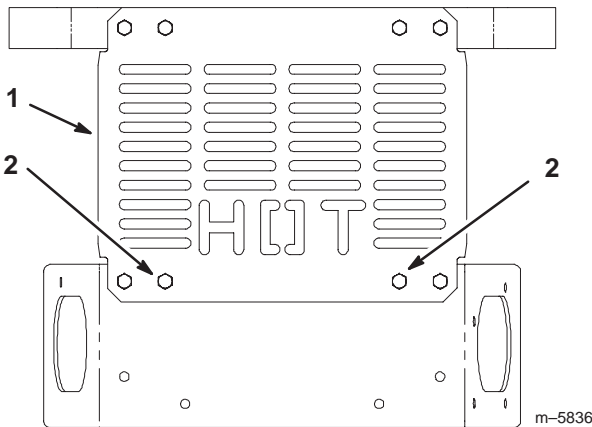
1. If present remove and discard the lower air deflector (Fig. 3). The lower air deflector is located under the rear bumper.



**Figure 3**

1. Lower air deflector

2. Remove the inner two bolts on the bottom of the rear heat shield (Fig. 4).



**Figure 4**

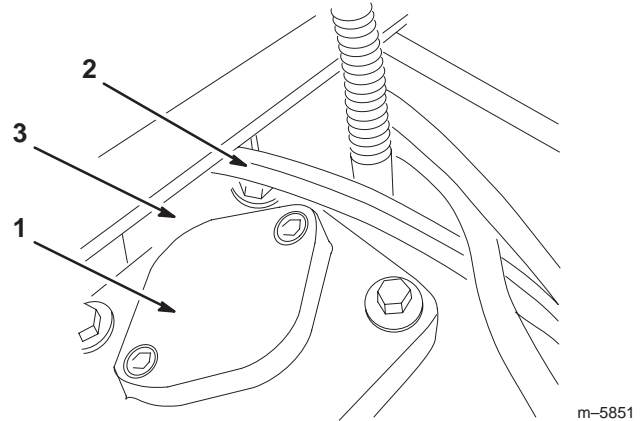
1. Rear heat shield
2. Bolt—remove

# Routing the Engine Cables for Kohler Engines

**Note:** The following instructions are for Kohler® Engines only. This must be done to prevent damage to cable from heat associated with the tailpipe extension.

**Note:** Determine the left and right sides of the machine from the normal operating position.

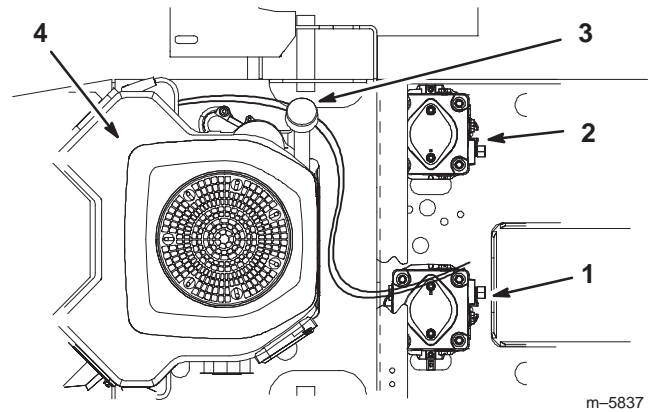
1. Disconnect throttle and choke cables from the engine control panel (back of engine) and pull the cables to the front of the unit (Fig. 8).
2. Route both cables over the top of the right-hand hydraulic pump and through the large opening behind the right-hand pump (Fig. 5).



**Figure 5**

1. Right-hand hydraulic pump
2. Cables
3. Large opening behind pump

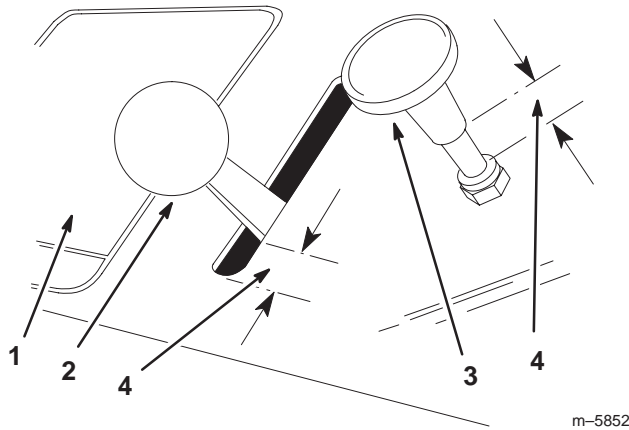
3. From the right-hand hydraulic pump, route both cables down to the engine mounting deck and around the left side of the engine (Fig. 6).



**Figure 6**

1. Right-hand hydraulic pump
2. Left-hand hydraulic pump
3. Oil dipstick
4. Left side of engine

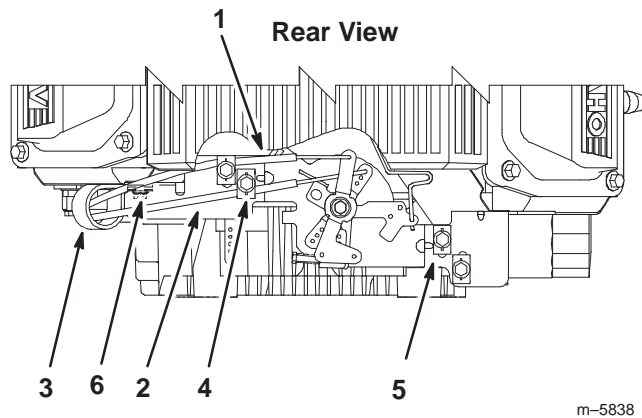
- On the control console, position the throttle control  $\frac{3}{8}$  in. from full-throttle and extend the choke control  $\frac{3}{8}$  in. from the fully depressed or off position (Fig. 7).



**Figure 7**

- |                     |                      |
|---------------------|----------------------|
| 1. Control Console  | 3. Choke control     |
| 2. Throttle control | 4. $\frac{3}{8}$ in. |

- Install the loom clip on the left-hand engine control panel bolt as shown in figure 8. Rotate loom clip back against control panel and tighten bolt (Fig. 8).
- Route throttle and choke cables (now on left-hand side of the engine) through the loom clip and connect to the engine controls as shown in figure 8.
- Move cable clamps from the original locations on the engine control panel and loosely attach in the new locations shown in figure 8.



**Figure 8**

- |                              |                              |
|------------------------------|------------------------------|
| 1. Choke cable               | 5. Cable clamps—old location |
| 2. Throttle cable            | 6. Control panel bolt        |
| 3. Loom clip                 |                              |
| 4. Cable clamps—new location |                              |

- Adjust the throttle setting by pulling the throttle cable until the throttle control plate rotates against the stop on the engine control panel and tighten the throttle cable clamp (Fig. 8).

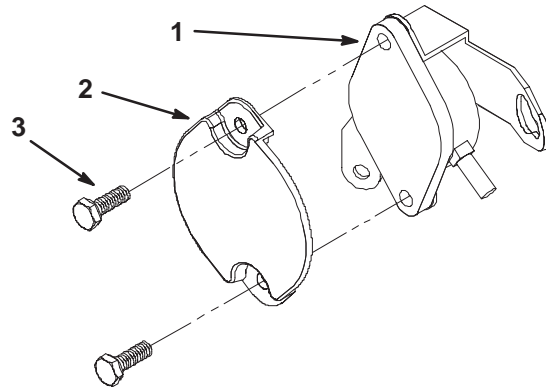
- Gently push the choke cable until the choke is fully closed and tighten the choke cable clamp (Fig. 8). Check to be sure the operator controls on the console have not moved from the original settings in step 4.

## Installing the Fuel Pump Heat Shield and Vent Tube for Kawasaki Engines

**Note:** The following instructions are for Kawasaki® Engines only.

### Installing the Fuel Pump Heat Shield

- Remove the 2 bolts that attach fuel pump to bracket (Fig. 9).
- Install heat shield over the fuel pump. Install bolts and torque to 51.6 in.-lb. (0.6 kg-m) (Fig. 9).



**Figure 9**

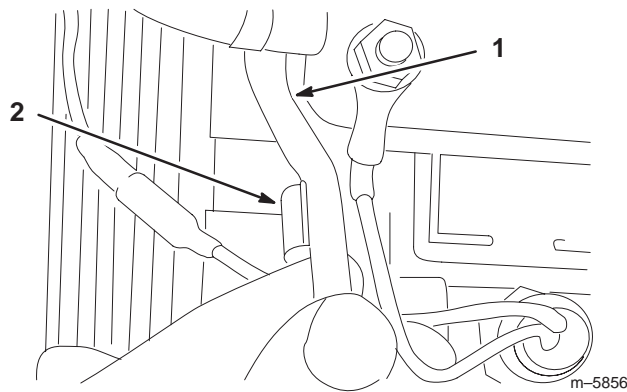
- |                          |          |
|--------------------------|----------|
| 1. Fuel pump             | 3. Bolts |
| 2. Fuel pump heat shield |          |

### Installing the Vent Tube

**Important** Inspect 17hp Kawasaki® engines for this style of vent tube. If there is a different type of vent tube; refer to the Service Bulletin for Zero Radius Tractors #LCE 38, September 20, 1999.

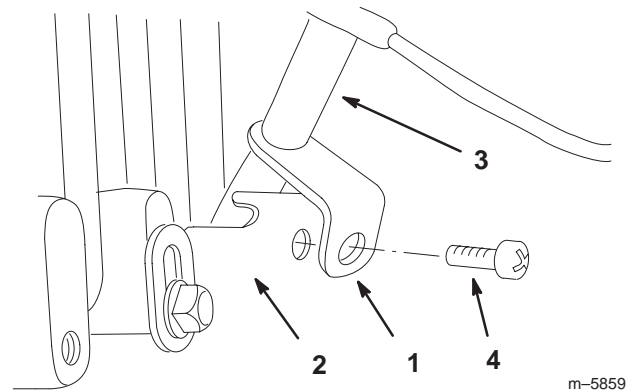
**Note:** The following instructions are for 19hp and 23hp Kawasaki® engines.

- Remove vent tube from clamp (Fig. 10).



**Figure 10**

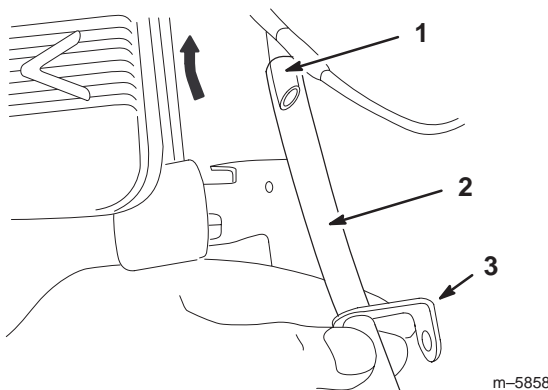
1. Vent tube                      2. Clamp



**Figure 12**

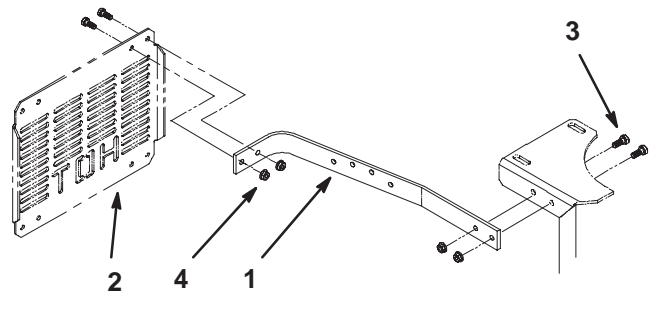
1. Bracket                              3. New vent tube  
2. Control panel                      4. Screw

2. Cutting at an angle, cut a 1/2 in. (13 mm) off the end of existing vent tube (Fig. 11).
3. Apply small amount of oil to the end of the existing vent tube (Fig. 11).
4. Insert the small diameter end of the new vent tube into the bracket (Fig. 11).
5. Slide the new vent tube onto the existing vent tube, until the bracket hole is aligned with the hole in control panel (Fig. 11).



**Figure 11**

1. Existing vent tube                      3. Bracket  
2. New vent tube



**Figure 13**

1. Left-hand strap                      3. Bolts  
2. Heat shield                              4. Nuts

6. Fasten bracket to the control panel with screw (Fig. 12).

**Important** Check to be sure vent tube is not restricted or pinched.

## Installing the Left-hand Guard Strap

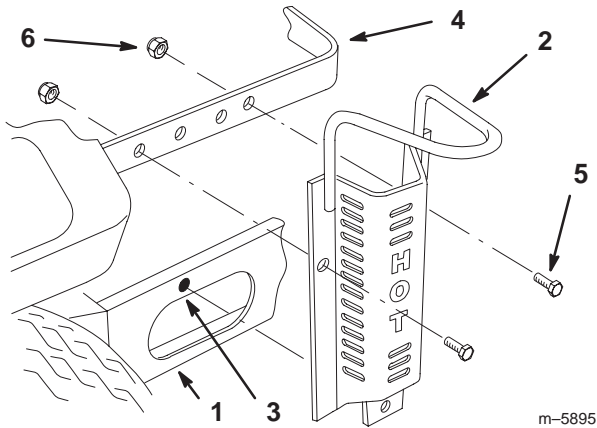
1. Remove the existing left-hand guard strap. Save hardware to install new strap
2. Install new guard strap to heat shield and frame (Fig. 13). Use hardware removed in step one to install new guard strap.

## Drilling Holes for Guards

### Drilling Hole for the Left Guard

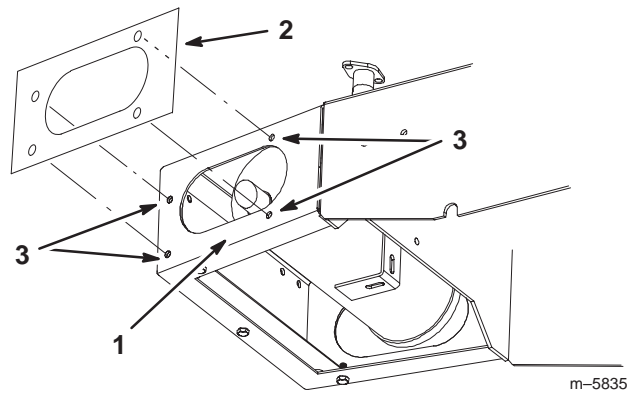
1. With the left guard strap in place, install the left guard to the left guard strap. Use 2 bolts (5/16 x 3/4 in.) and 2 nuts (5/16 in.) (Fig. 14).

- Using the guard as a template, mark the bottom hole location in the guard (Fig. 14).
- Remove the guard and drill a, 11/32 in. diameter, hole into the left side of the rear bumper (Fig. 14).



**Figure 14**

- |                                 |                         |
|---------------------------------|-------------------------|
| 1. Left side of the rear bumper | 4. Left guard strap     |
| 2. Left guard                   | 5. Bolt, 5/16 x 3/4 in. |
| 3. 11/32 in. hole to drill      | 6. Nut, 5/16            |



**Figure 15**

- |                                  |                             |
|----------------------------------|-----------------------------|
| 1. Right side of the rear bumper | 2. Template                 |
|                                  | 3. 11/32 in. holes to drill |

## Drilling Holes for the Right Guard

**Note:** There is a right-hand template, for locating holes to drill, in the back of this installation instruction.

- Locate and cut out template number 1 (right-hand) as indicated on the template. Cut out the large slot in the template.

**Note:** Make sure the large slot is cut out on template.

- Position template number 1 (right-hand) onto the right side of rear bumper and align the with large slot. (Fig. 15).
- Tape the template in this position (Fig. 15).
- Center punch the 4 holes that are to be drilled and remove the template (Fig. 15).
- Drill 11/32 in. holes at the marked locations.

## Drilling Holes for the Air Deflector Shield

**Note:** If holes exist from the lower air deflector, previously installed, make sure they are in the correct location according to template number 2. If they are not correct, drill new holes.

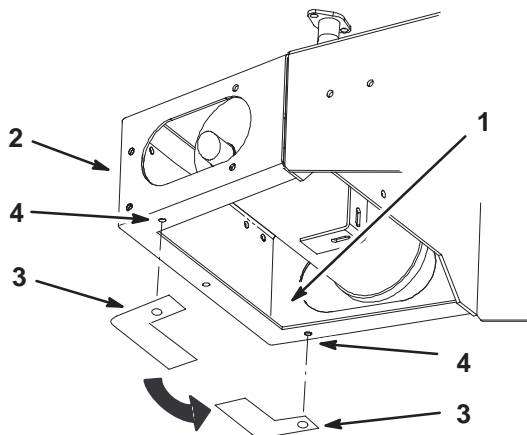
⚠
Danger
⚠

**Mechanical or hydraulic jacks may fail to support machine and cause a serious injury.**

- Use jack stand when supporting machine.
- Do not use hydraulic jacks.

- Raise the rear of the machine and support with jack stands.
- Locate and cut out template number 2 as indicated on the template.
- Slide template number 2 onto the bottom of the right side of the bumper. Make sure it lines up with the rear bumper. Tape the template in this position (Fig. 16).
- Center punch the hole that is needed to be drilled and remove the template (Fig. 16).
- Flip the template over.
- Slide template onto the bottom of the left side of the bumper. Make sure it lines up with the rear bumper. Tape the template in this position (Fig. 16).

7. Center punch the hole that is to be drilled and remove the template (Fig. 16).
8. Drill 11/32 in. holes at both marked locations.
9. Lower the machine onto the drive wheels.



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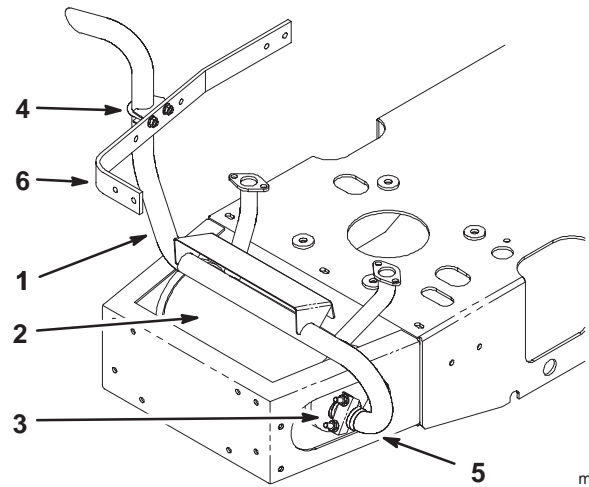
**Figure 16**

- |                                  |                            |
|----------------------------------|----------------------------|
| 1. Left side of the rear bumper  | 3. Template                |
| 2. Right side of the rear bumper | 4. 11/32 in. hole to drill |

## Installing the Tailpipe Extension

1. Install the 1-1/4 in. clamp loosely on the flared end of tailpipe extension and install tailpipe extension as shown (Fig. 17). Do not tighten clamp.
2. Align tailpipe extension with left-hand engine guard strap, and assemble 1-1/8 in. clamp around tailpipe extension and through strap (Fig. 17). Do not tighten clamp.
3. Position tailpipe extension to provide plenty of overlap on the muffler outlet for clamping (extension will be installed most of the way over the muffler outlet).
4. Hold the tailpipe extension in position and tighten the clamp at muffler outlet and then tighten the clamp on the engine guard strap (Fig. 17).

**Important** Do not overtighten clamps, as this will cause excessive deformation in tailpipe extension.



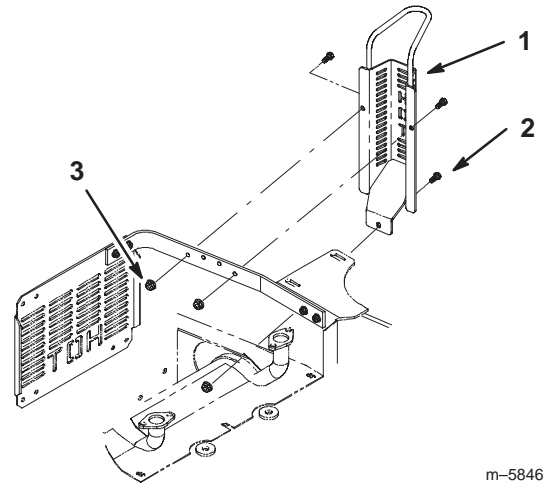
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**Figure 17**

- |                       |                          |
|-----------------------|--------------------------|
| 1. Tailpipe extension | 4. Clamp, 1-1/8 in.      |
| 2. Muffler            | 5. Flared end            |
| 3. Clamp, 1-1/4 in.   | 6. Left-hand guard strap |

## Installing the Left-hand Guard

1. Install the left-hand guard using 3 bolts (5/16 x 3/4 in.) and 3 flange nuts (5/16 in.) (Fig. 18).



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**Figure 18**

- |                         |                  |
|-------------------------|------------------|
| 1. Left-hand guard      | 3. Nut, 5/16 in. |
| 2. Bolt, 5/16 x 3/4 in. |                  |

## Installing the Right-hand Guard

1. Install the right-hand guard using 4 bolts (5/16 x 3/4 in.) and 4 flange nuts (5/16 in.) (Fig. 19).

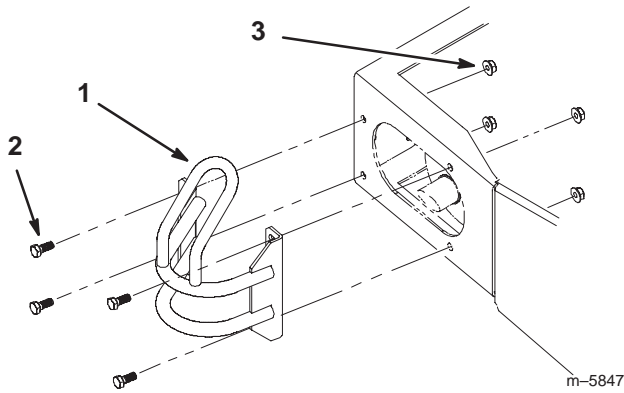


Figure 19

- |                         |                  |
|-------------------------|------------------|
| 1. Right-hand guard     | 3. Nut, 5/16 in. |
| 2. Bolt, 5/16 x 3/4 in. |                  |

## Installing the Air Deflector Shield

Install lower air deflector shield from below the rear bumper.

**Note:** When positioned properly, the deflector will slip into position without prying, modification, or removal of the muffler. The frame is wider at the muffler than at the bumper.

1. Stand the air deflector shield on end, below and between the frame rails, and just behind the muffler.
2. Rotate the shield 90 degrees while installing the shield between the frame rails.
3. At this point, one of the tabs will be above the left or right frame rail and the opposite side will be below.
4. Slide the shield forward tight against the muffler and to the side, with the tab that is above the frame rail (Fig. 20).
5. Position the shield as it will be when bolted in position (Fig. 20). This makes use of the frame being wider near the muffler.
6. Raise the deflector so that the tab, that is below the frame rail, now rests inside the frame (Fig. 20).
7. Slide the shield rearward inside the frame (Fig. 20).

8. Install the air deflector shield to rear bumper and heat shield (inner holes) with 4 bolts (5/16 x 3/4 in.) and 4 locknuts (5/16 in.). Make sure the bolts are installed as shown in figure 20.

**Important** Install bolts as shown in figure 20.

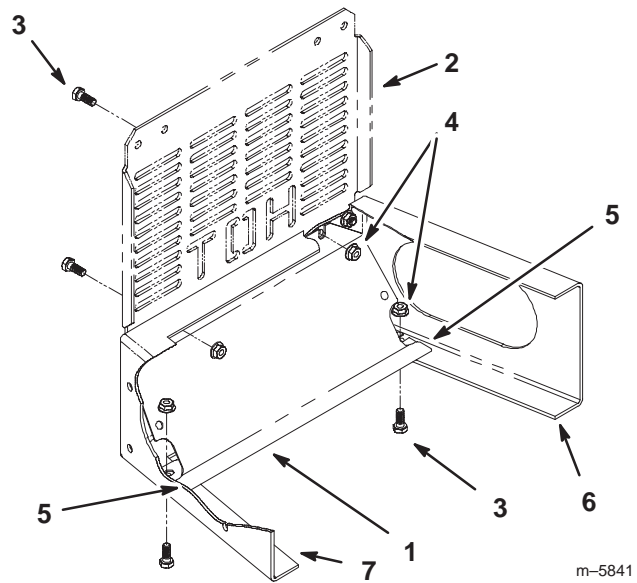


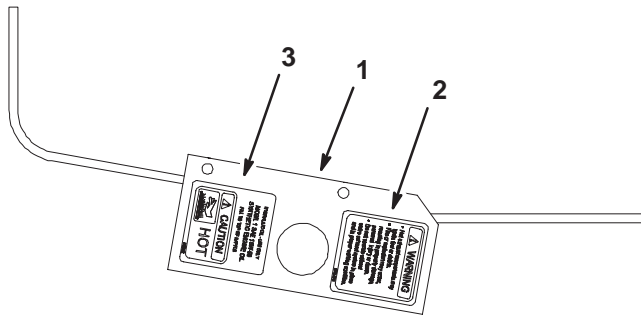
Figure 20

- |                         |                     |
|-------------------------|---------------------|
| 1. Air deflector shield | 5. Tab              |
| 2. Heat shield          | 6. Left frame rail  |
| 3. Bolt, 5/16 x 3/4 in. | 7. Right frame rail |
| 4. Nut, 5/16 in.        |                     |

## Installing the Decal

1. Clean the top of the hydraulic reservoir. Use isopropyl alcohol or grease remover to remove oil residue and allow to dry (Fig. 21).
2. Install the exhaust system decal positioned as shown in figure 21.

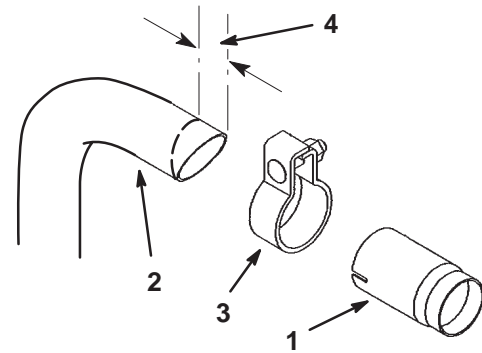




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**Figure 21**

- |                        |                   |
|------------------------|-------------------|
| 1. Hydraulic reservoir | 3. Existing decal |
| 2. Decal               |                   |



m-5853

**Figure 22**

- |                        |            |
|------------------------|------------|
| 1. Spark arrester      | 3. Clamp   |
| 2. Tail pipe extension | 4. 1/2 in. |

## Installing the Spark Arrester

The spark arrester is only needed where regulations require it.

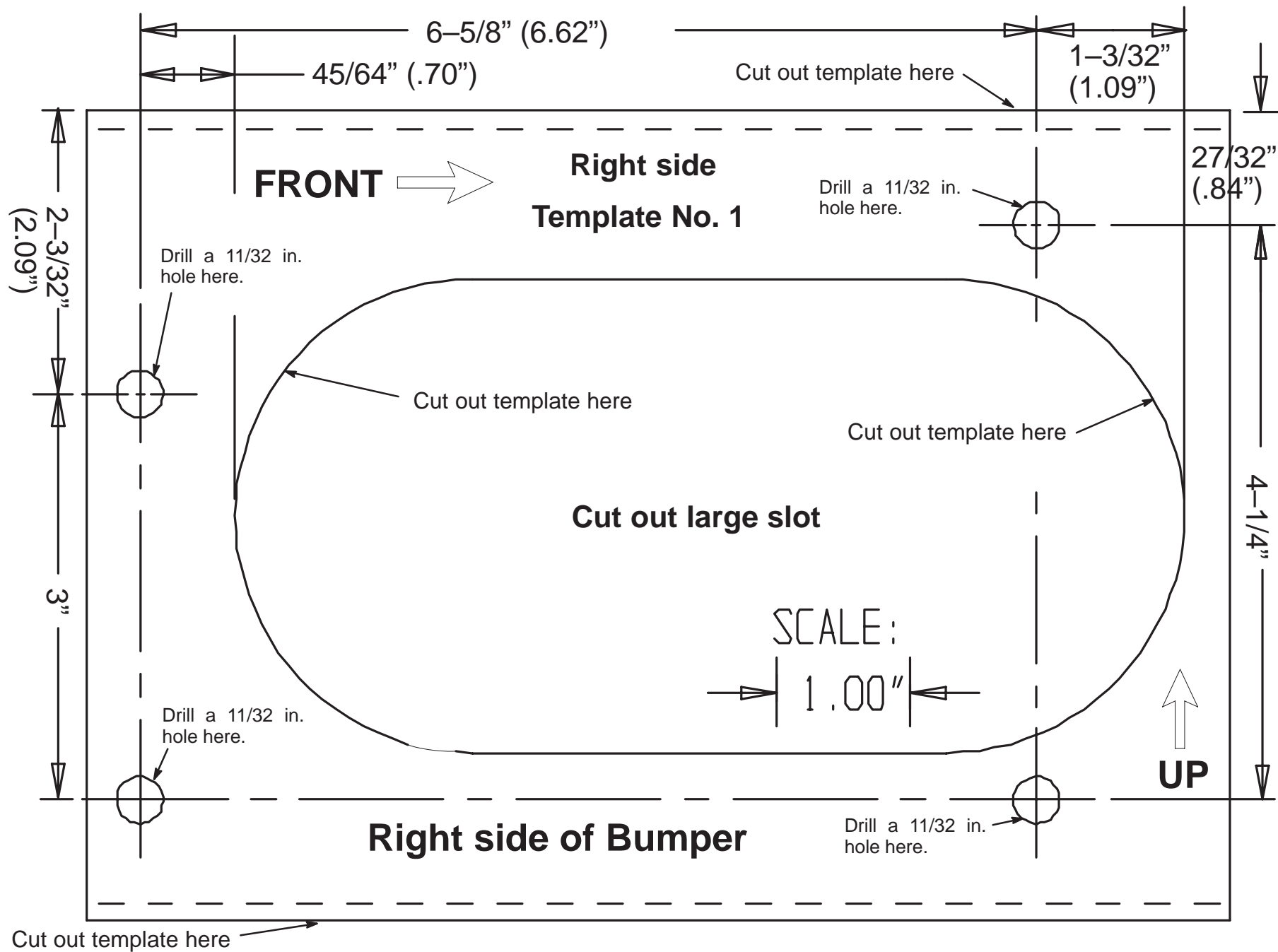
**Note:** Ensure the spark arrester is installed where local, state, or federal regulations require that a spark arrester be used on the engine of this mower.

1. Cut off a 1/2 in. of the end of the tail pipe extension (Fig. 22).
2. Slide the slotted end of the spark arrester over the exhaust outlet on the muffler as far as possible by hand (Fig. 22).
3. Slide the clamp over the arrester until it is flush with the slotted end of the arrester so that the clamp covers the slots in the arrester (Fig. 22).
4. Tighten the clamp.

**Important** Do not use a hammer or other instrument to pound the arrester onto the exhaust outlet. Pounding on the arrester will damage it.









# Template No. 2

