



Exhaust Kit

RT1200 Traction Unit

Model No. 131-2814

Form No. 3395-583 Rev A

Installation Instructions

⚠ WARNING

CALIFORNIA Proposition 65 Warning

This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.

Installation

1

Preparing to Install the Exhaust Kit

No Parts Required

Procedure

1. Park the machine on a level surface.
2. Lower all attachments, stop the engine, and remove the key from the KEY SWITCH.
3. Remove the right-side panel; refer to *Operator's Manual* for the machine.
4. Allow the exhaust system to cool completely.

2

Removing the Right-Cowl Panel

No Parts Required

Disconnecting the Battery

1. Rotate the BATTERY-DISCONNECT switch to the Off position; refer to *Operator's Manual* for the machine.
2. Remove the 2 finger-pull covers from the holes in the battery cover ([Figure 1](#)).

Note: The battery cover is located between the operator seat and the rear ROPS bulkhead.

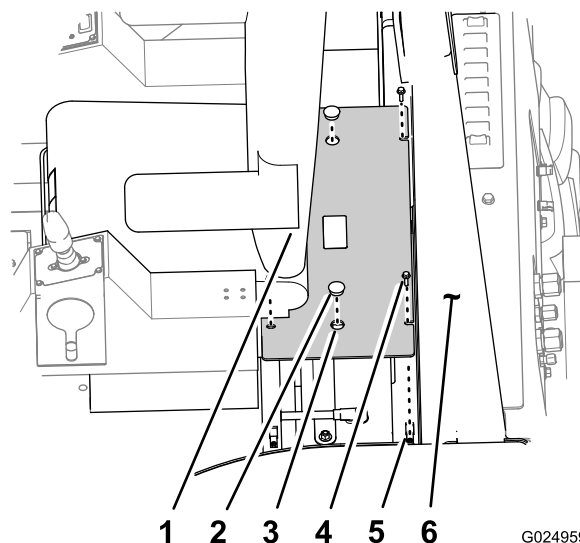


Figure 1

G024959

- | | |
|-------------------------|--------------------------------------|
| 1. Operator seat | 4. Flange-head bolts (5/16 x 1 inch) |
| 2. Finger-pull cover | 5. Nut clip |
| 3. Hole (battery cover) | 6. ROPS bulkhead |

3. Remove the 4 flange-head bolts (5/16 x 1 inch) that secure the battery cover to the ROPS platform ([Figure 1](#)).
4. Using the finger pulls, lift the battery cover up to remove it from the ROPS platform ([Figure 1](#)).
5. Remove the lock-washer nut (3/8 inch) securing the negative-battery cable and ring terminal to the negative stud of the battery and remove the cables from the battery ([Figure 2](#)).



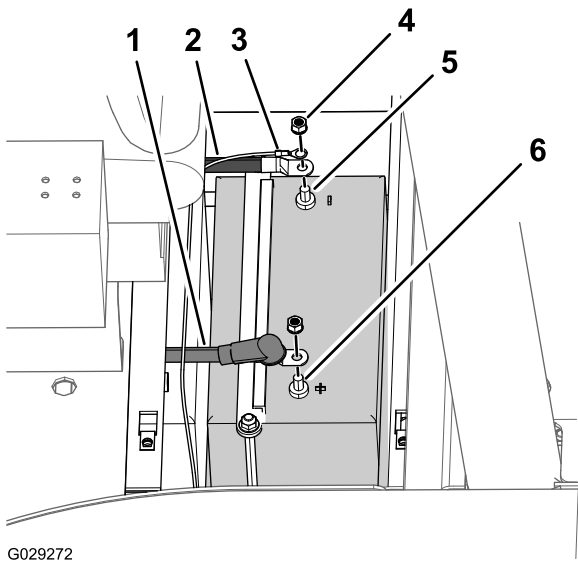


Figure 2

- | | |
|---------------------------|-------------------------------|
| 1. Positive-battery cable | 4. Lock-washer nut (3/8 inch) |
| 2. Negative-battery cable | 5. Negative stud (battery) |
| 3. Ring terminal | 6. Positive stud (battery) |

- Move back the insulator boot and remove the lock-washer nut (3/8 inch) securing the positive-battery cable to the positive stud of the battery and remove the cable from the battery (Figure 2).

Disconnecting the Battery-Disconnect Switch

- At the inboard side of the jump post, move back the insulator boot, remove the nut, and remove the cable from the threaded stud (Figure 3).

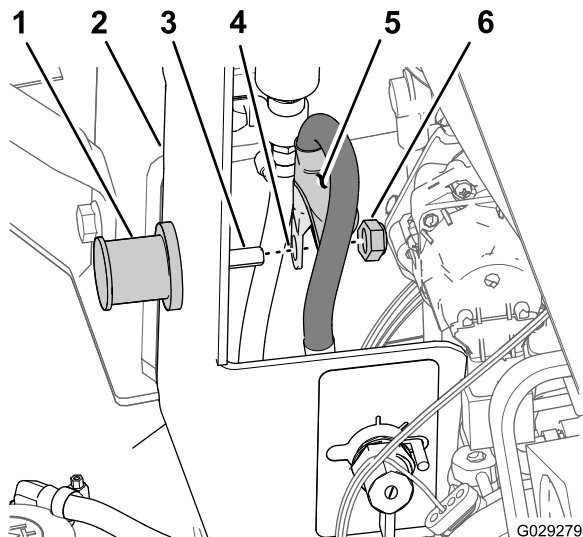


Figure 3

- | | |
|---------------------|-------------------|
| 1. Jump post | 4. Cable terminal |
| 2. Right-cowl panel | 5. Insulator boot |
| 3. Threaded stud | 6. Locknut |

- At the battery-disconnect switch, remove the screw that secures the knob to the shaft of the switch (Figure 4).

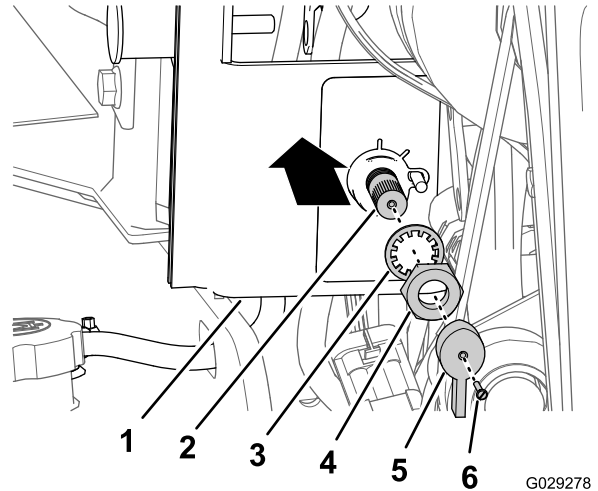


Figure 4

- | | |
|--------------------------------------|------------|
| 1. Right-cowl panel | 4. Jam nut |
| 2. Shaft (battery-disconnect switch) | 5. Knob |
| 3. Lock washer | 6. Screw |

- Remove the jam nut and lock washer that secure the disconnect switch to the right-cowl panel (Figure 4).
- Push the shaft of the battery-disconnect switch rearward to separate the switch from the cowl panel (Figure 4).

Removing the Side-Cowl Panel

1. Remove the flange-head bolt (12 x 40 mm) that secures the right-cowl panel to the ROPS-mounting plate (Figure 5).

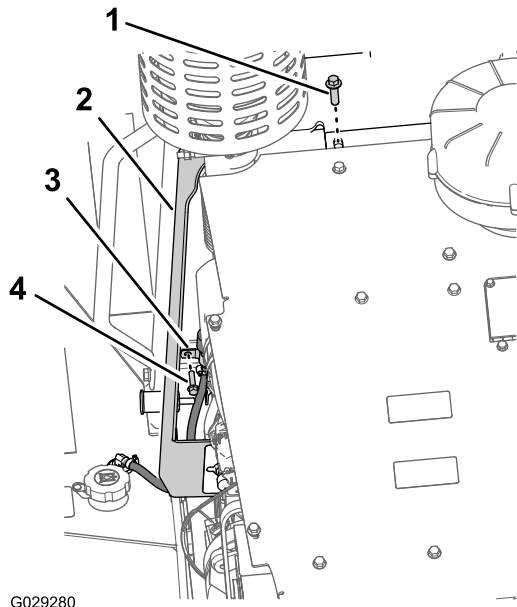


Figure 5

- | | |
|--|--|
| 1. Flange-head bolt (12 x 40 mm)—upper ROPS-mounting plate | 3. Clamp (hydraulic-tank breather) |
| 2. Right-cowl panel | 4. Flange-head bolt (8 x 35 mm)—firewall |

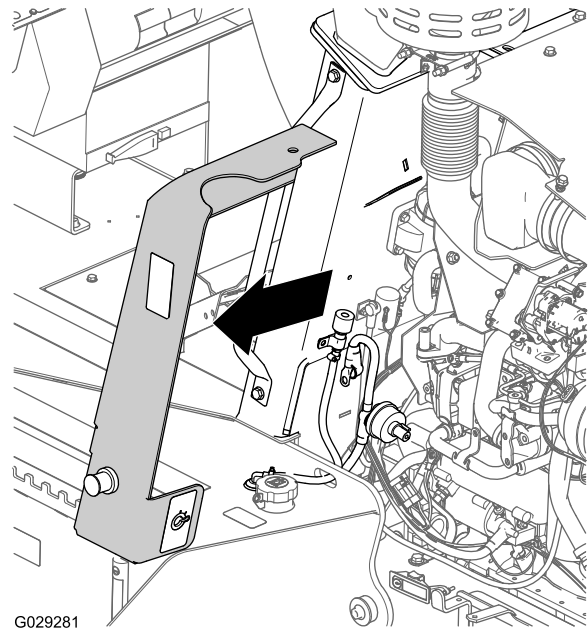


Figure 6

2. Remove the flange-head bolt (8 x 35 mm) that secures the clamp for the hydraulic-tank breather and the right-cowl panel to the firewall (Figure 5)
3. Remove the right-cowl panel from the machine (Figure 6).

Note: Rotate the panel as needed to clear the exhaust system components.

3

Removing the Exhaust System

No Parts Required

Removing the Muffler and Heat Shield

Note: Exhaust system weight: approximately 39.5 kg (88 lb).

1. Support the exhaust system with lifting equipment (Figure 7).

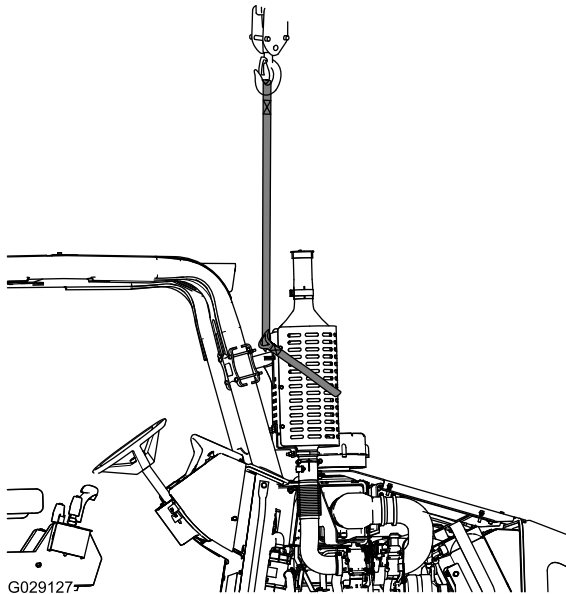


Figure 7

2. Remove the band clamp and the lower guillotine clamp that secures the muffler to the turbocharger-exhaust pipe (Figure 8).

Note: Retain the clamps for installation in [Installing the Bellows-Alignment Jig](#) (page 5) and [Installing the Guillotine Clamp and the Band Clamp](#) (page 8).

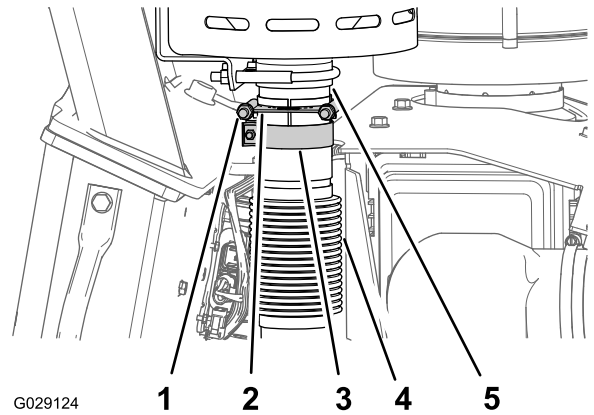


Figure 8

1. Flange nut
2. Guillotine clamp
3. Band clamp
4. Turbocharger-exhaust pipe
5. Muffler inlet pipe

3. Remove the 4 flange locknuts (8 mm), 4 bolts (8 x 120 mm), and rear mounting plate that secure the exhaust-system mount to the front right ROPS tube (Figure 9).

Note: Retain the locknuts, bolts, and mounting plate for installation in [Assembling the Muffler to the Turbocharger Outlet Pipe](#) (page 7).

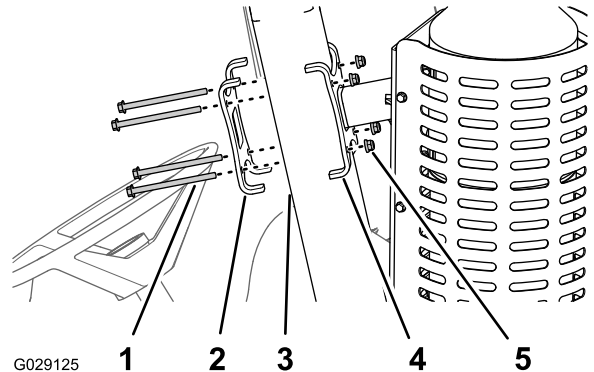


Figure 9

1. Bolts (8 x 120 mm)
2. Rear mounting plate
3. ROPS tube
4. Exhaust-system mount
5. Flange locknuts (8 mm)

4. Separate the muffler from the turbocharger-exhaust pipe and remove the muffler from the machine (Figure 10).

Note: Do not remove the heatshield from the muffler.

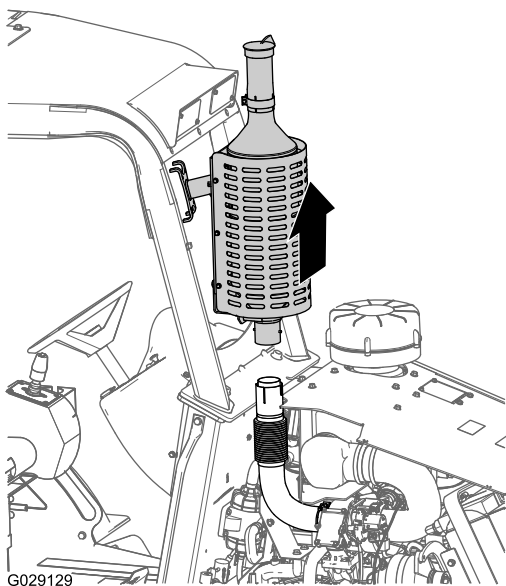


Figure 10

5. Remove the flange clamp that secures the flange of the turbocharger-exhaust pipe to the outlet flange of the turbocharger and remove the exhaust pipe from the machine (Figure 11).

Note: Retain the flange clamp for installation in [Installing the Turbocharger-Exhaust Pipe and Pipe-Alignment Jig](#) (page 6); discard the old turbocharger-exhaust pipe.

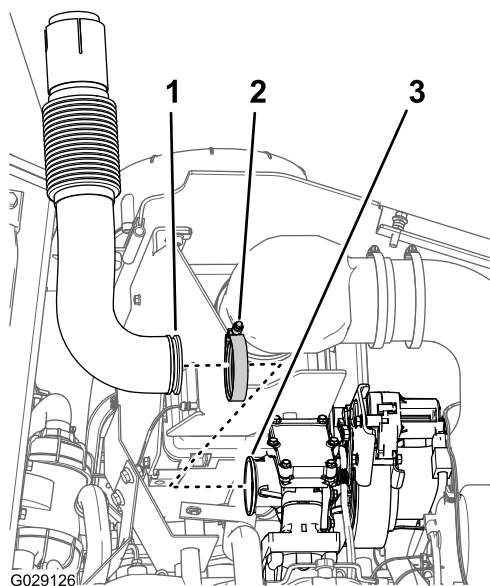


Figure 11

1. Flange (turbocharger-exhaust pipe)
2. Nut (flange clamp)
3. Flange (turbocharger outlet)

4

Preparing the Turbocharger-Exhaust Pipe

No Parts Required

Preparing the Muffler

1. Clean the exterior surface of the inlet pipe for the muffler (Figure 12).

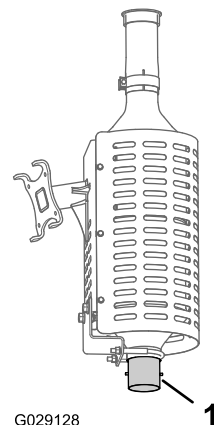


Figure 12

1. Inlet pipe (muffler)

2. Apply a light coat of high-temperature, anti-galling compound to the exterior surface of the muffler-inlet pipe.

5

Installing the Turbocharger-Exhaust Pipe

Parts needed for this procedure:

1	Bellows-alignment jig
1	Turbocharger-exhaust pipe
1	Pipe-alignment jig

Installing the Bellows-Alignment Jig

1. Align the bellows-alignment jig to the new turbocharger-exhaust pipe with the short tab of the jig below the bellows (Figure 13).

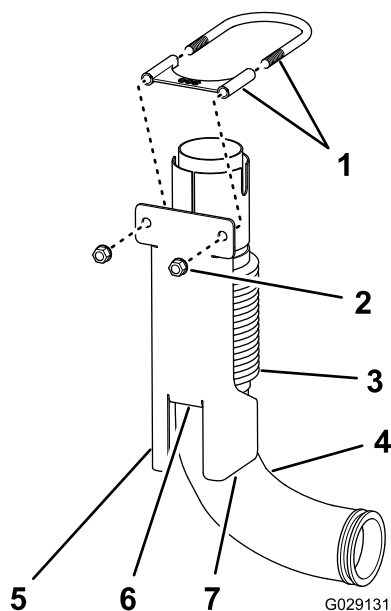


Figure 13

- | | |
|--|--------------------------------------|
| 1. Guillotine clamp | 5. Left leg (bellows-alignment jig) |
| 2. Flange nut | 6. Short tab (bellows-alignment jig) |
| 3. Bellows (turbocharger-exhaust pipe) | 7. Right leg (bellows-alignment jig) |
| 4. Inside radius (turbocharger-exhaust pipe) | |

2. Assemble the guillotine clamp that you removed in step 2 of [Removing the Muffler and Heat Shield \(page 4\)](#) to the bellows-alignment jig ([Figure 13](#)).
3. Align the left leg of the jig to the outside radius of the bend in the pipe and the right leg to the inside radius of the bend as shown in [Figure 13](#).
4. Tighten the flange nuts of the guillotine clamp to 19 to 25 N-m (14 to 18 ft-lb).

Installing the Turbocharger-Exhaust Pipe and Pipe-Alignment Jig

1. Assemble the new turbocharger-exhaust pipe to the outlet flange of the turbocharger with the flange clamp that you removed in step 5 of [Removing the Muffler and Heat Shield \(page 4\)](#) and tighten the flange nut only enough to keep the pipe aligned to the turbocharger ([Figure 14](#)).

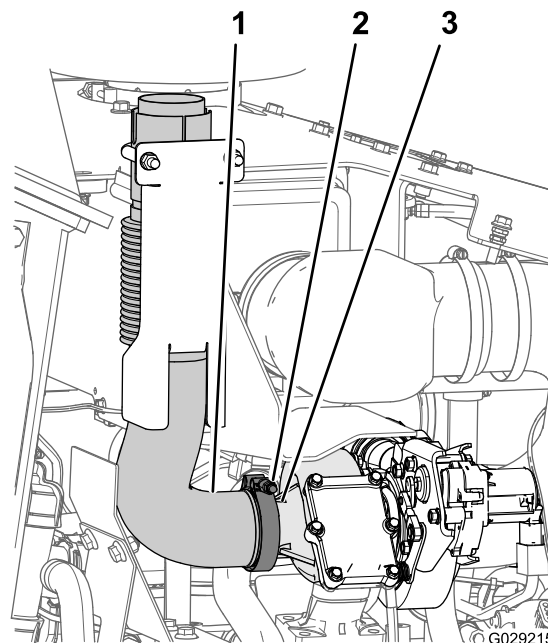


Figure 14

- | | |
|--|-------------------------------|
| 1. Turbocharger-exhaust pipe (with the bellow jig installed) | 3. Turbocharger-outlet flange |
| 2. Flange clamp | |

2. Loosen the 2 flange-head bolts (10 x 20 mm) that secure the upper-rear heatshield to the standoffs of the exhaust manifold (A of [Figure 15](#)).

Note: You will have to loosen the bolts so that you have 5 mm (3/16) or more clearance between the head of the bolt and the heat shield.

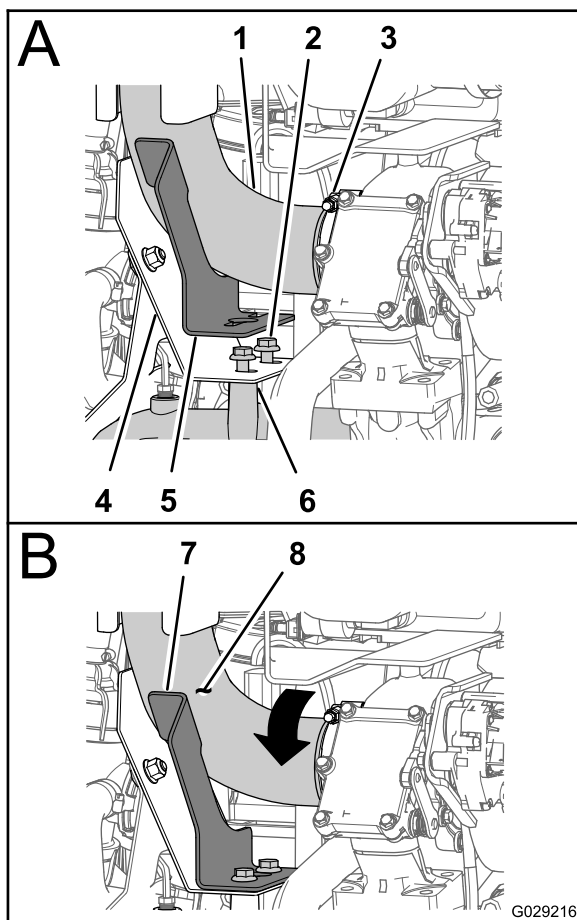


Figure 15

1. Turbocharger-exhaust pipe
2. Flange-head bolts (10 x 20 mm)
3. Flange clamp
4. Upper-rear heatshield
5. Pipe-alignment jig
6. Standoff (exhaust manifold)
7. Small flange (pipe-alignment jig)
8. Pipe surface (turbocharger-exhaust pipe)

3. Assemble the pipe-alignment jig onto the heatshield and under the flange-head bolts (A of Figure 15) and tighten the bolts to 17 to 21 N-m (47 to 57 ft-lb).

Note: Ensure that the alignment jig is pushed inward so that the bolts are fully seated in the slots of the jig.

4. Rotate the exhaust pipe so that the surface of the pipe is flush to the small flange of the pipe-alignment jig (B of Figure 15).

Note: The small flange of the pipe-alignment jig should align between the 2 legs of the bellows-alignment jig. If the brackets are not aligned, loosen the guillotine clamp, position the bellows jig, and tighten the flange nuts of the guillotine clamp to 19 to 25 N-m (14 to 18 ft-lb).

5. Tighten the nut of the flange clamp securely.

6

Installing the Muffler and Heat Shield

Parts needed for this procedure:

3	Shim 1.5 mm (0.06 inch)
1	Shim 0.8 mm (0.03 inch)

Assembling the Muffler to the Turbocharger Outlet Pipe

1. Align the band clamp around the turbocharger-exhaust pipe
2. Align the inlet pipe of the muffler with the turbocharger-exhaust pipe (Figure 16).

Note: Ensure that the alignment pins of the muffler inlet pipe are aligned with the slots in the turbocharger-exhaust pipe flange.

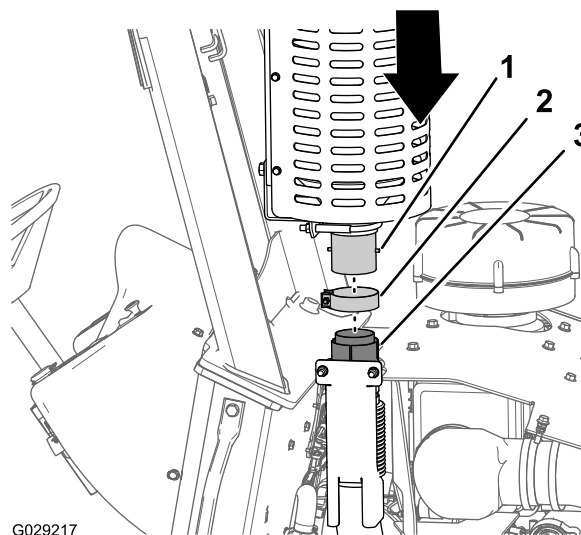


Figure 16

1. Alignment pin (muffler inlet pipe)
2. Band clamp
3. Slot (turbocharger-exhaust pipe flange)

3. Insert the inlet pipe into the exhaust pipe into the inlet pipe is fully seated (Figure 16)

Note: You should align the pin at the muffler inlet pipe near the bottom of the slot in the turbocharger-exhaust pipe.

Note: Do not twist the muffler while assembling it to the turbocharger-exhaust pipe or you may damage the bellows.

- Align the exhaust-system mount to the front, right ROPS tube (Figure 17).

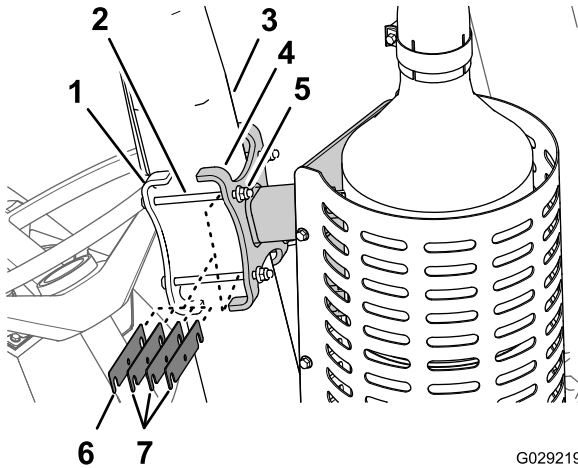


Figure 17

- | | |
|-----------------------------------|----------------------------|
| 1. Rear mounting plate | 5. Flange locknut (8 mm) |
| 2. Flange-head bolts (8 x 120 mm) | 6. Shim 0.8 mm(0.03 inch) |
| 3. ROPS tube | 7. Shim 1.5 mm (0.06 inch) |
| 4. Exhaust-system mount | |

- Loosely assemble the rear mounting plate to the exhaust-system mount (Figure 17) with the 4 flange-head bolts (8 x 120 mm) and 4 flange locknuts (8 mm) that you removed in step 3 of 3 Removing the Exhaust System (page 4).
- Check the gap between the exhaust-system mount and the ROPS tube (Figure 17).

Note: If needed, add shims between the exhaust-system mount and the ROPS tube to maintain the axial alignment between the muffler inlet pipe and the turbocharger-exhaust pipe.

- Torque the flange-head bolts and flange locknuts to 17 to 21 N-m (23 to 29 ft-lb).

Installing the Guillotine Clamp and the Band Clamp

- Remove the 2 flange-head bolts that secure the guillotine clamp, bellows-alignment jig, and turbocharger-exhaust pipe, and remove the jig (Figure 18).

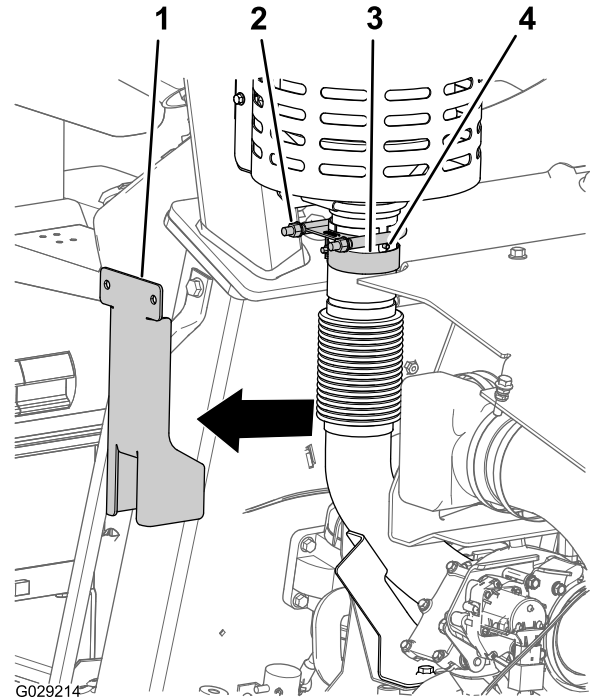


Figure 18

- | | |
|--------------------------|------------------------------|
| 1. Bellows-alignment jig | 3. Band clamp |
| 2. Guillotine clamp | 4. Turbocharger-exhaust pipe |

- Assemble the band clamp just below the alignment pin of the muffler inlet pipe (Figure 16 and Figure 18).
- Assemble the guillotine clamp between the alignment pin and the end of the turbocharger-exhaust pipe (Figure 18).
- Tighten the flange nuts of the guillotine clamp and tighten the bolt and nut of the band clamp.
- Loosen the 2 flange-head bolts securing the pipe-alignment jig to the heatshield and remove the alignment jig (Figure 19).

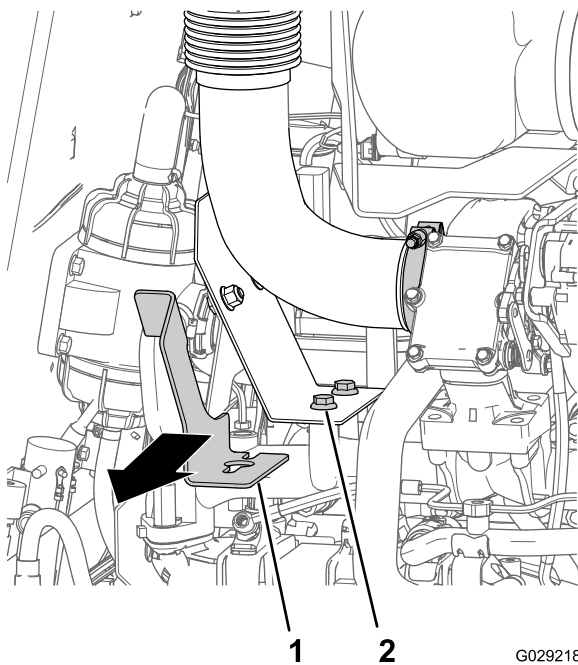


Figure 19

1. Flange-head bolt
2. Pipe-alignment jig

6. Torque the flange-head bolts to 34 to 42 N-m (47 to 57 ft-lb).
7. Look at the turbocharger-exhaust pipe from the side and confirm that the bellows is straight.

Note: If the bellows is not aligned straight, perform the following:

- A. Loosen the flange-head bolts and flange locknuts that secure the exhaust-system mount to the ROPS tube ([Figure 17](#)).
 - B. Add or remove shims to the exhaust-system mount as needed to align the bellows; refer to step 6 in [Assembling the Muffler to the Turbocharger Outlet Pipe](#) (page 7).
 - C. Torque the flange-head bolts and flange locknuts for the exhaust-system mount to 17 to 21 N-m (23 to 29 ft-lb).
8. Look at the turbocharger-exhaust pipe from the front and confirm that the bellows is straight.

Note: If the bellows is not aligned straight, perform the following:

- A. Remove the 6 flange-head bolts (6 x 16 mm) that secure the heatshield to the exhaust-system mount and remove the heatshield ([Figure 20](#)).

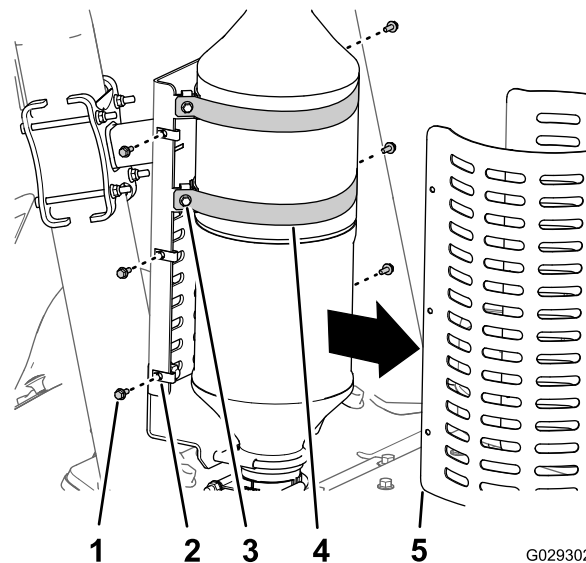


Figure 20

1. Flange-head bolts (6 x 16 mm)
2. Clip nut (6 mm)
3. Flange-head bolts (6 x 30 mm)
4. Muffler strap
5. Heatshield

- B. Loosen the flange-head bolts (6 x 30 mm) that secure the muffler straps to the exhaust-system mount ([Figure 20](#)).
- C. Loosen the 2 flange-head bolts (1/2 x 1 inch) and serrated flange nuts (1/2 inch) that secure the lower-muffler support to the exhaust-system mount ([Figure 21](#)).

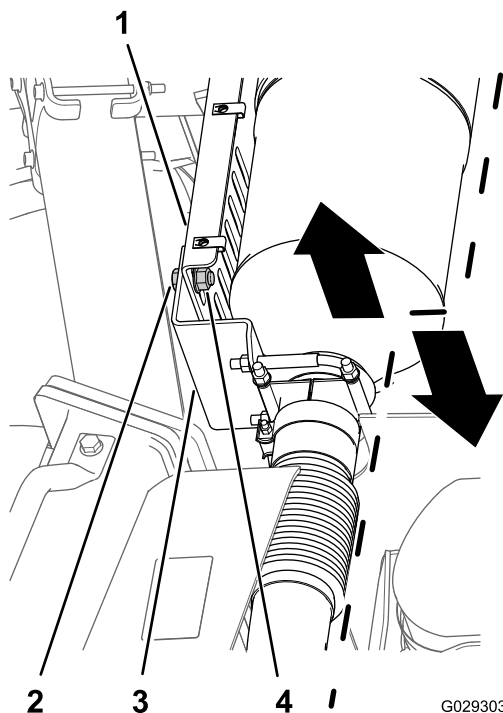


Figure 21

- | | |
|---|------------------------------------|
| 1. Exhaust-system mount | 3. Lower-muffler support |
| 2. Flange-head bolts (1/2 x 1 inch)—lower muffler support | 4. Serrated flange nuts (1/2 inch) |

- D. Move the muffler left or right to align the bellows (Figure 21).
- E. Tighten the 2 flange-head bolts (1/2 x 1 inch) and serrated flange nuts (1/2 inch) that secure the lower-muffler support to the exhaust-system mount to 91 to 113 N-m (67 to 83 ft-lb).
- F. Tighten the flange-head bolts (6 x 30 mm) that secure the muffler straps to 972 to 1198 N-cm (86 to 106 in-lb).
- G. Assemble the heatshield to exhaust-system mount with the 6 flange-head bolts (6 x 16 mm) and torque the bolts to 972 to 1198 N-cm (86 to 106 in-lb).

7

Installing the Right Side Cowl Panel

No Parts Required

Installing the Cowl Panel

1. Align the holes in the right side-cowl panel with the holes in the ROPS plate and the firewall; refer to Figure 5 in [Removing the Side-Cowl Panel \(page 3\)](#).
2. Assemble the cowl panel to the ROPS plate with the flange-head bolt (12 x 40 mm) that you removed in step 1 of [Removing the Side-Cowl Panel \(page 3\)](#).
3. Assemble the clamp for the hydraulic-tank breather and side-cowl panel to the firewall with the flange-head bolt (8 x 35 mm) that you removed in step 2 in [Removing the Side-Cowl Panel \(page 3\)](#).

Note: Ensure that the breather is vertically aligned.

4. Tighten the 12 mm bolt at the ROPS plate to 80 to 100 N-cm (59 to 73 ft-lb) and tighten the 10 mm bolt at the firewall to 44 to 57 N-cm (34 to 42 ft-lb).

Assembling the Battery-Disconnect Switch

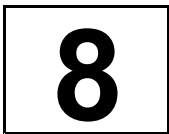
1. Assemble the electrical cable that you removed in step 1 of [Disconnecting the Battery-Disconnect Switch \(page 2\)](#) on to threaded stud of the jump post (Figure 3) with the locknut.
2. Align the electrical cable at the stud of the jump post upward, tighten the locknut, and align the insulator boot over the nut and stud.
3. Assemble the battery-disconnect switch into the opening at the mounting flange of the right side-cowl panel (Figure 4) with the lock washer and jam nut that you removed in step of 3 and tighten the jam nut.

Note: Ensure that the alignment pin of the disconnect switch is aligned with the slot in the mounting flange of the panel and the switch is flush to the flange.

4. Install the knob onto the shaft of the disconnect switch with the screw that you removed in step 2 of [Disconnecting the Battery-Disconnect Switch \(page 2\)](#).

Connecting the Battery

1. Assemble the positive-battery cable into the positive stud of the battery (Figure 2) with the lock-washer nut (3/8 inch) that you removed in step 6 of [Disconnecting the Battery](#) (page 1).
2. Torque the lock-washer nut to (10 to 15 ft-lb) and align the insulator boot over the nut and stud.
3. Assemble the negative-battery cable into the negative stud of the battery (Figure 2) with the lock-washer nut (3/8 inch) that you removed in step 5 of [Disconnecting the Battery](#) (page 1).
4. Align the holes in the battery cover with the clip nuts at the mounting flange for the cover (Figure 1).
5. Secure the battery cover to the machine with the 4 flange-head bolts (5/16 x 1 inch) that you removed in step 3 of [Disconnecting the Battery](#) (page 1).
6. Install the finger-pull cover into the holes in the battery cover.



Completing the Installation of the Kit

No Parts Required

Procedure

1. Rotate the battery-disconnect switch to the On position; refer to *Operator's Manual* for the machine.
2. Start the engine and check for exhaust leaks at the turbocharger-exhaust pipe and the muffler.
Note: Repair all leaks before installing the side panel.
3. Install the right-side panel; refer to *Operator's Manual* for the machine.



Count on it.