



INSTRUCTION SHEET 07304

Part #: 463534
Description: Windstorm Motor Upgrade Kit Install
Date: 6/01/2023

Instructions for Installing the Windstorm Nozzle Motor Upgrade Kit

-NOTE-

Please read through and become familiar with these instructions before beginning to install this kit. Some parts have been removed in the illustrations provided in this instruction sheet for clarity.

DO NOT operate equipment with shields or guards removed.

The following tools are required for installation of the Windstorm Nozzle Motor Upgrade Kit p/n 463534.

- 1 - 8mm socket and driver*
- 1 - 3/8" wrench*
- 1 - 7/16" wrench or socket with driver*
- 1 - #2 phillips screwdriver*
- 1 - 5/16" drill bit and drill (possible)*

1. Prepare the machine so there is easy and safe access to the work area. Stop the engine, remove the ignition key, wait for all moving parts to come to a complete stop and apply the parking brake. Disconnect the battery cables from the battery making sure to remove the negative (black) cable first followed by the positive (red) cable. Maintain all safety related work procedures. Always wear eye and hand protection.
2. Before beginning installation of this kit, note the serial number of the machine being updated. On machines with a serial number of P5999999 and lower, directional control of the nozzle gear drive motor is handled using a series of six electrical relays affixed to a relay mounting bracket mounted under the machine instrument panel.
For units with a serial number of R9600001 and higher, a solid state module is used for directional control of the nozzle gear drive motor. This module can be found under the machine instrument panel.
3. Remove the existing nozzle control wire harness from the machine by following the instructions outlined below.

Disconnect the "Red" lead for the existing nozzle control wire harness from the "A" terminal on the machine key switch. Disconnect the "Black" lead from the machine common "Ground" bolt attached to the base of the engine. Disconnect the wire harness connectors from the "Manual" and the "Auto" nozzle direction switches. Disconnect the wire harness connector from the nozzle gear drive motor. Disconnect the wire harness connectors from the "Left" and "Right" nozzle limit switches.
4. On machines featuring the six electrical relays mounted under the instrument panel, remove the relays and relay mounting bracket. Retain the one (1) 1/4-20 flanged elastic stop nut used to secure the relay mounting bracket to the underside of the instrument panel. This nut will be reused when the module adaptor plate is installed in step number 14. Discard the wire harness with relays and relay mounting bracket.

For machines featuring a solid state module mounted under the instrument panel for directional control of the nozzle, remove and discard two (2) #10-24 x 1/2" carriage bolts and two (2) #10-24 lock nuts used to secure the module to the underside of the instrument panel. Discard the module with wire harness and mounting hardware.

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5. Remove and discard the nozzle gear drive motor and three (3) M5-0.8 x 10 serrated flange cap screws used to secure the motor to the pivot gear top plate. See Figure 1.
6. Remove and discard the two (2) plunger limit switches attached to the pivot gear top plate. See Figure 1.
7. Remove and discard the limit switch stop bracket identified in Figure 1. Be sure to retain two (2) 1/4-20 x 3/4" carriage bolts and two (2) 1/4-20 serrated flange nuts used to secure the stop bracket to the nozzle pivot gear. This hardware will be reused when installing the new limit switch stop bracket included with this kit in step number 12. See Figure 1.

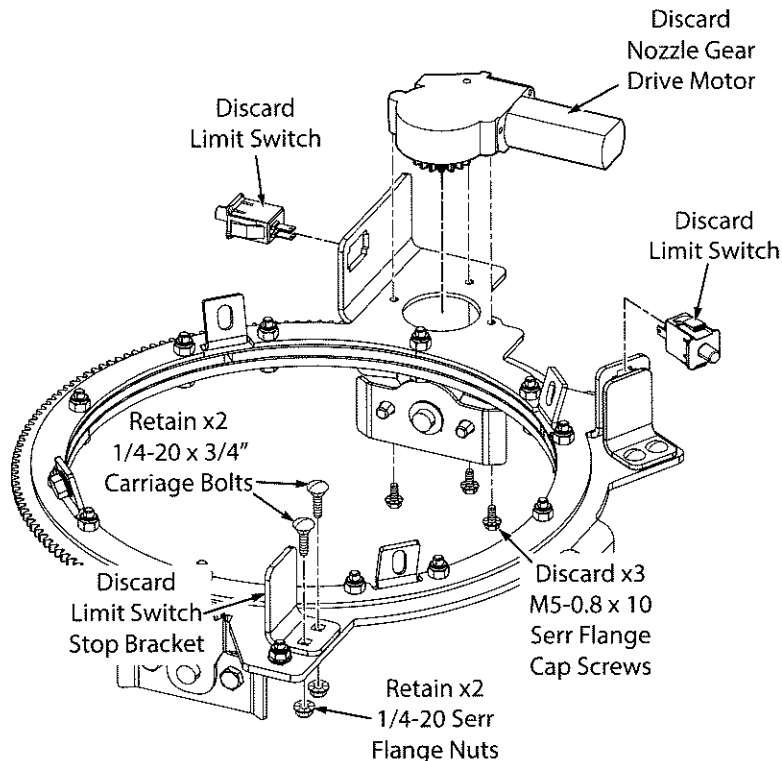


Figure 1. Remove Nozzle Gear Drive Motor & Associated Components

8. After removing the nozzle gear drive motor and associated components, rotate the nozzle gear/pivot assembly to be sure that it moves freely. If any binding is noted, identify the cause and repair before continuing installation of this update kit.
9. A limit switch adaptor plate will be pre-assembled onto the new nozzle gear drive motor supplied with this kit. Remove and retain the adaptor plate and three (3) M5-0.8 x 10 serrated flange cap screws from the motor.

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- Using the three (3) M5-0.8 x 10 serrated flange cap screws removed in the previous step, install the new nozzle gear drive motor and limit switch adaptor plate to the pivot gear top plate. See Figure 2.

Note - Inspect the motor gear and ring gear for full engagement. Adjust the gear on the motor shaft if needed.

- Install one of the plunger limit switches supplied with this kit to the limit switch adaptor plate as shown. Install the remaining plunger limit switch provided to the pivot gear top plate. See Figure 2.
- Using the two (2) 1/4-20 x 3/4" carriage bolts and two (2) 1/4-20 serrated flange nuts removed in step 7, assemble and secure the limit switch stop bracket supplied with this kit to the nozzle pivot gear. See Figure 2.

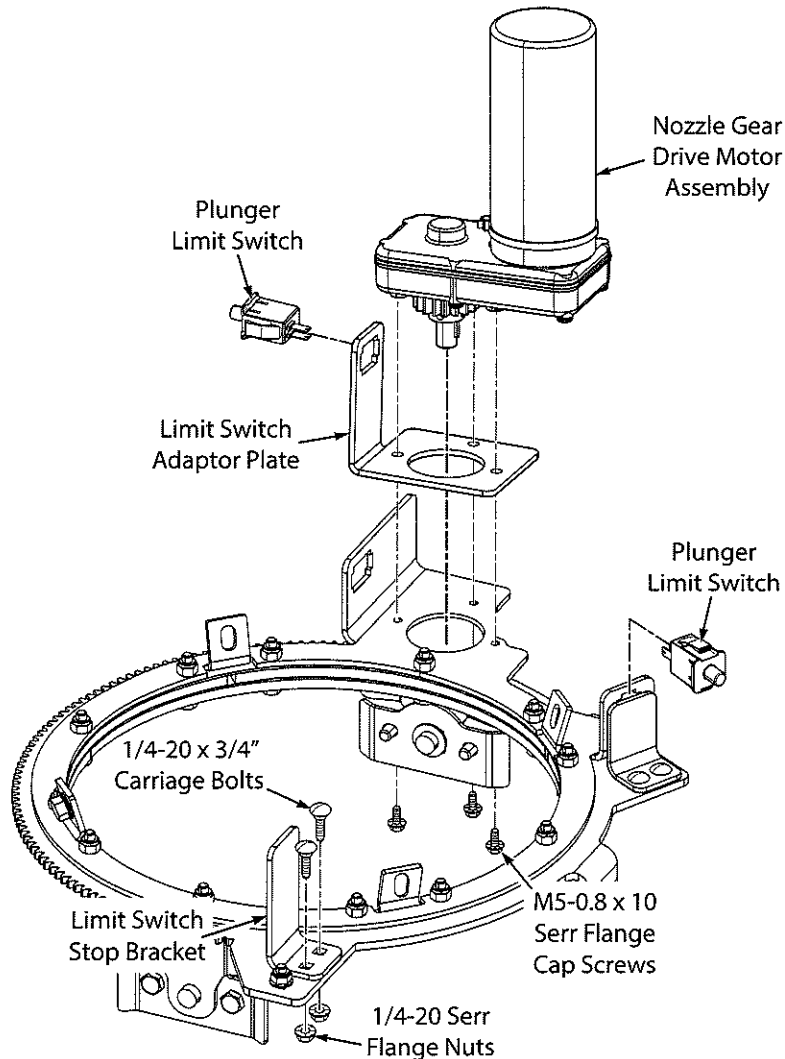


Figure 2. Install Nozzle Gear Drive Motor & Associated Components

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13. Remove the operator cushion from the rear of the handlebar weldment for access to the underside of the instrument panel.

NOTE - For machines originally equipped with the nozzle control relay system, continue to step 14.
For machine equipped with a solid state nozzle control module, proceed to step 15.

14. On machines originally equipped with the nozzle control relays mounted under the instrument panel, install the module adaptor plate provided with this kit in place of the relay mounting bracket removed previously. Secure the module adaptor plate using the one (1) 1/4-20 flanged elastic stop nut removed in step number 4. See Figure 3.

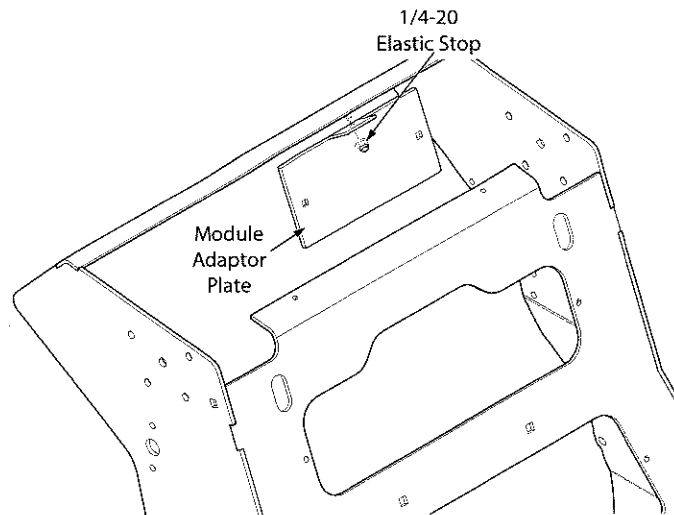


Figure 3. Install Module Adaptor Plate if Needed

15. Install the new nozzle control module supplied with this kit as shown in Figure 4, and secure using two (2) #10-24 x 1/2" carriage bolts and two (2) #10-24 lock nuts supplied with this kit. See Figure 4.

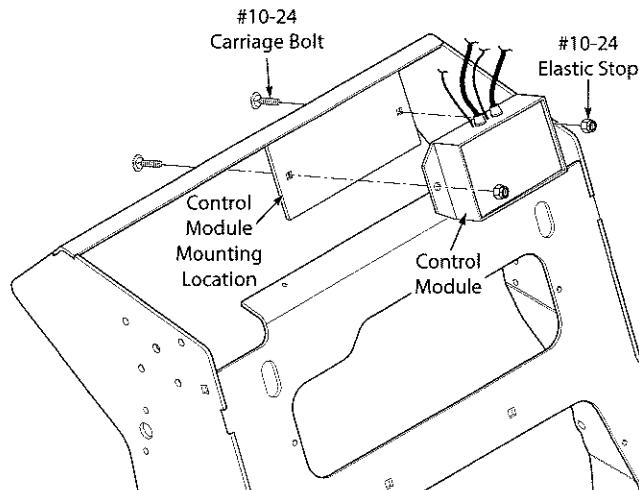


Figure 4. Install Nozzle Control Module

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- Connect the nozzle control wire harness to the associated components by following the instructions outlined below.

Connect the "Red" lead for the nozzle control wire harness to the "A" terminal on the machine key switch. Connect the "Black" lead to the machine common "Ground" bolt attached to the base of the engine. Connect the wire harness connectors to the "Manual" and the "Auto" nozzle direction switches. Connect the wire harness connector to the nozzle gear drive motor. Connect the wire harness connectors to the "Left" and "Right" nozzle limit switches. Note - Reference switches from the operators position. See Figure 5. Using standard cable ties (not supplied with kit), secure the wire harness to the machine making sure to avoid hot or moving components.

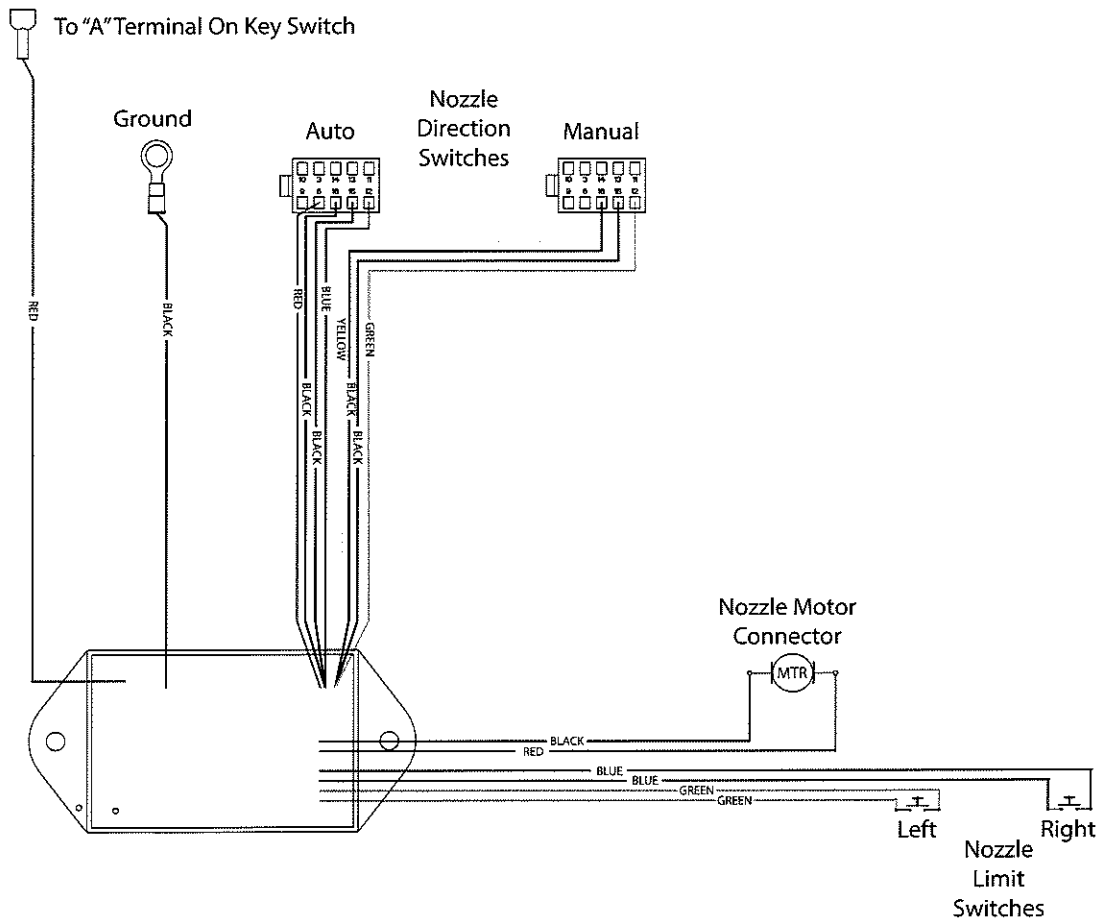


Figure 5. Connect Nozzle Control Harness to Components

- Reinstall the operator cushion to the handlebar weldment.
- Reconnect the battery cables to the battery making sure to attach the positive (red) cable first followed by the negative (black) cable.
- Operate and test machine.

