



Key Start Kit for Workman™ 2100 and 2110 Vehicles Model No. 107-0330

Form No. 3353-425 Rev A

Installation Instructions

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

Note: The installation of this kit requires the use of the service manual, part number 02110SL.

Loose Parts

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

DESCRIPTION	QTY.	USE
Key start module	1	Installing key start module and front key start harness
Bolt, 1/4 x 1-3/8 inch	1	
Flange nut, 1/4 inch	1	
Front key start harness	1	
Extension	1	
Switch	1	Installing the neutral start switch
Plunger seal	1	
Speed nut	1	
Screw	2	
Jumper harness	1	
Rear key start harness	1	Installing the rear key start harness and throttle body adjuster
Screw	1	
Spring	1	
Ring lead	1	
Cam arm	3	Adjusting the clutch
Spring	1	
Installation Instructions	1	Read before installing

Preparing the Unit

Park the unit on a level surface, engage the parking brake, stop the engine, and remove the key.

Note: The installation of this kit does not require the removal of the front hood, but can be made easier if the hood is removed. This set of instructions depict the installation with the front hood removed.

Installing the Key Start Module and Front Key Start Harness

1. Secure the key start module to the pedal assembly frame using a bolt (1/4 x 1-3/8 inch) and flange nut (1/4 inch) as shown in Figure 1.
2. Disconnect the existing wiring harness connector from the pedal switch.

Note: It may be necessary to cut away a heat shrink wrap from the pedal switch to disconnect the harness connector.

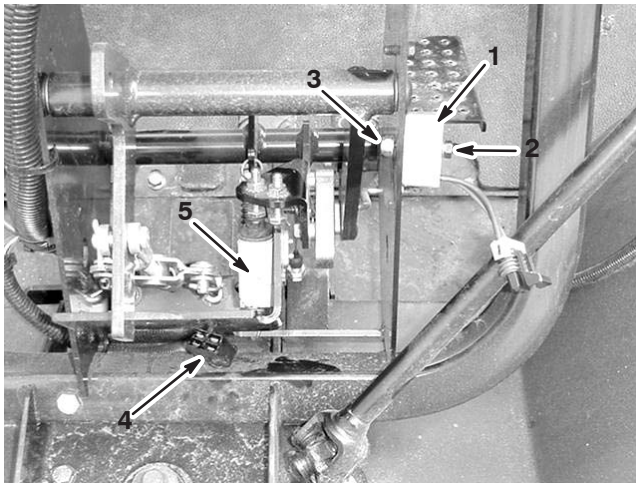


Figure 1

- | | |
|---------------------------|--------------------------------------|
| 1. Key start module | 4. Existing wiring harness connector |
| 2. Bolt, 1/4 x 1-3/8 inch | 5. Pedal switch |
| 3. Flange nut, 1/4 inch | |

3. Locate the front key start harness (Fig. 2) in the loose parts. Vehicles built in the model year 2003, serial number 239999999 or lower will require the ignition switch conversion extension to match with the ignition switch.

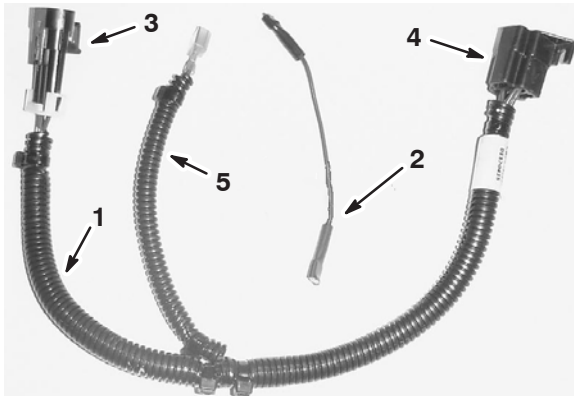


Figure 2

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|---|---|
| 1. Front key start harness | 4. Connector to existing wiring harness |
| 2. Ignition switch lead convertor, Model year 2003 or before only | 5. Key start lead to main harness |
| 3. Connector to key start module | |

4. Connect the front key start harness to the key start module with the matching connector and connect the opposite end to the existing wiring harness connector (Fig. 3).

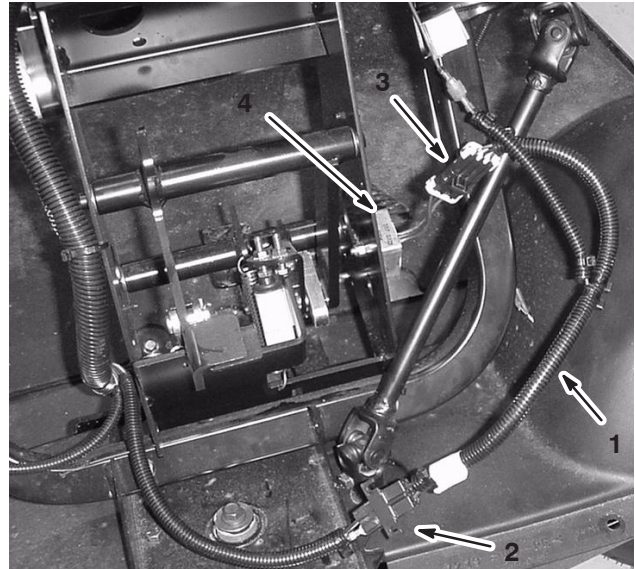


Figure 3

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|------------------------------|-------------------------------|
| 1. Front key start harness | 3. Key start module connected |
| 2. Existing wiring connected | 4. Key start module |

5. Connect the key start lead from the front key start harness to the vehicle (Fig. 2).

Note: The Key Start Kit requires a vehicle with a three position switch. Verify the ignition switch has a momentary "Start" function. If the ignition switch does not have three positions, replace it with part number 104-6929.

- A. For model year 2004 or later, locate the lead from the existing wiring labeled Key Start. Connect the key start lead on the front key start harness to the labeled lead on the vehicle.
- B. If you are installing this kit on a 2003 model year vehicle or older, install the ignition switch lead convertor to the key start lead on the front key start harness. Install the convertor lead to the ignition switch (Fig. 4).

Note: If the barbed terminal has a protective sleeve on it, cut the sleeve off before installation (Fig. 2).

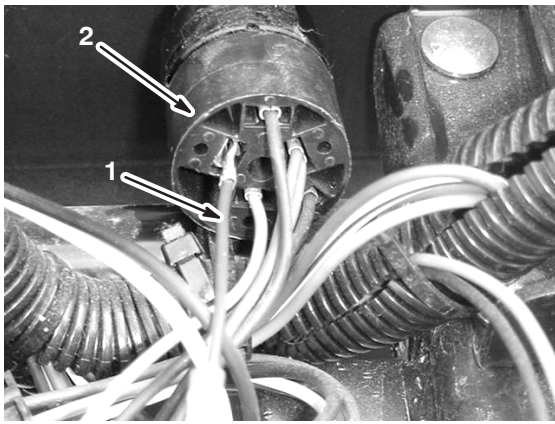


Figure 4

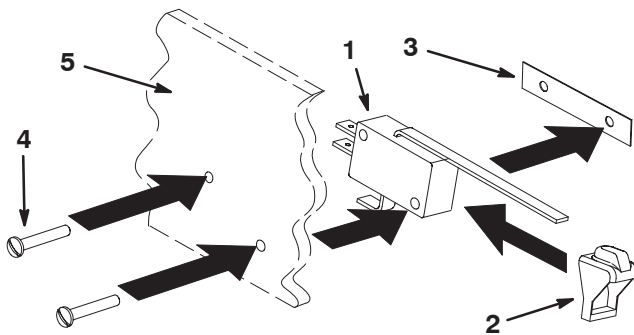
Model year 2003 shown

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|-----------------------------|--------------------|
| 1. Pigtail, ignition switch | 2. Ignition switch |
|-----------------------------|--------------------|

6. Install the front hood using the bolt removed previously.

Installing the Neutral Start Switch

1. Remove the eight bolts and nuts holding the seat base to the frame.
2. Remove the shift knob and the shift plate from the seat base.
3. Remove the seat base.
4. Assemble the plunger seal onto the switch (Fig. 5).



m-8066

Figure 5

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|-----------------|-------------------------|
| 1. Switch | 4. Screw, #4 x 3/4 inch |
| 2. Plunger seal | 5. Shift lever assembly |
| 3. Speed nut | |

5. Assemble the switch to the right side of the shift assembly using 2 screws (#4 x 3.4 inch) and the speed nut (Fig. 5 and 6).

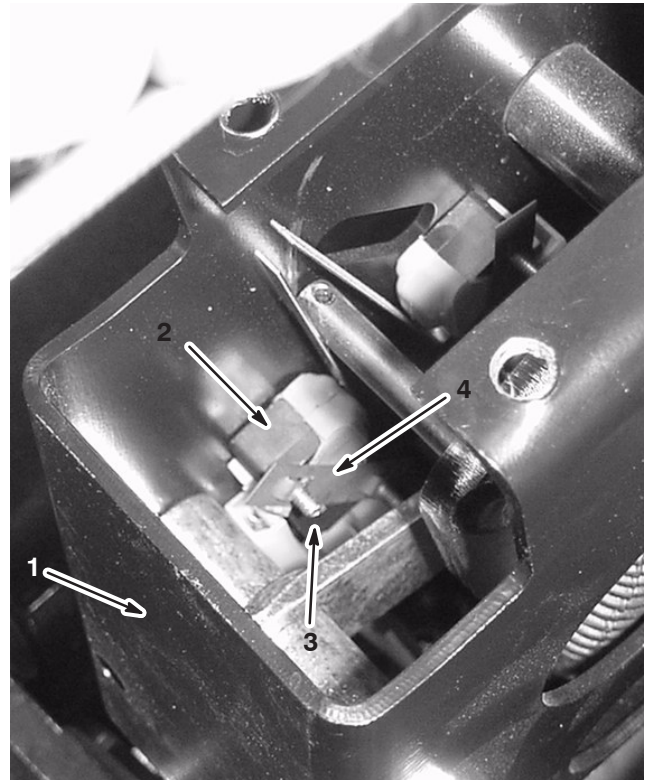


Figure 6

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|-------------------------|--------------|
| 1. Shift lever assembly | 3. Screw |
| 2. Switch | 4. Speed nut |

6. Connect the jumper harness to the switch and to the connector, with the blue and yellow wire, on the vehicle harness near the shift lever (Fig. 5).

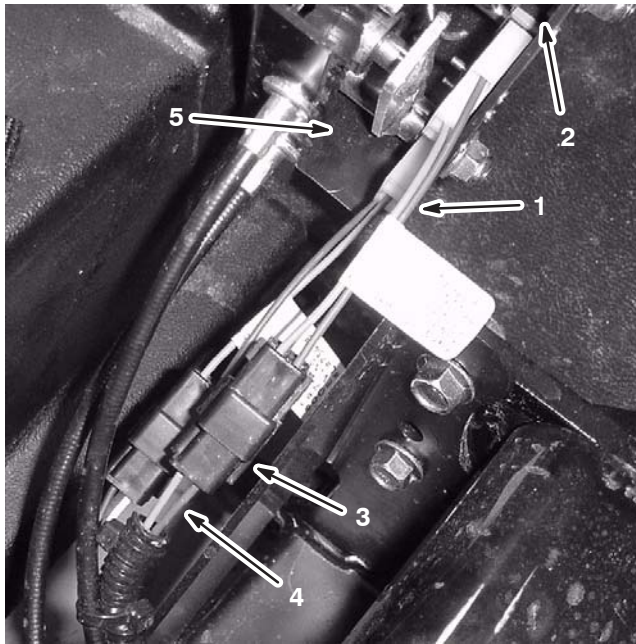


Figure 7

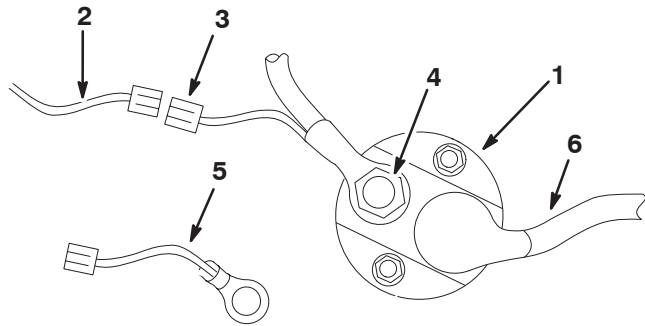
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|---------------------------------|--------------------------|
| 1. Jumper harness | 4. Yellow and blue wires |
| 2. Switch | 5. Shift lever assembly |
| 3. Connector on vehicle harness | |

7. Install the shift lever assembly, shift plate and knob to the seat base.
8. Install the seat base to the frame.

Installing the Rear Key Start Harness and Throttle Body Adjuster

1. Lift the bed assembly to access the engine compartment.
2. Remove the electrical cover located along the right side of the frame to gain access to the power solenoid and wiring.

3. Disconnect the lead that runs from the solenoid to the voltage regulator at the existing connectors (Fig. 8). If connectors do not exist a lead must be added to the solenoid post.



m-7367

Figure 8

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|------------------------------|--------------------------|
| 1. Solenoid | 4. Solenoid post and nut |
| 2. Wire to voltage regulator | 5. Separate lead |
| 3. Connector | 6. Cable to battery |

Note: Units without a connection on that line will require the installation of lead to the solenoid. Locate the separate lead with the ring on one end and the connector on the other (Fig. 8). Install the ring into the solenoid post by removing the nut and placing the ring over the post. Secure it with the nut.

4. Locate the rear key start harness end with the plastic connector and lead.

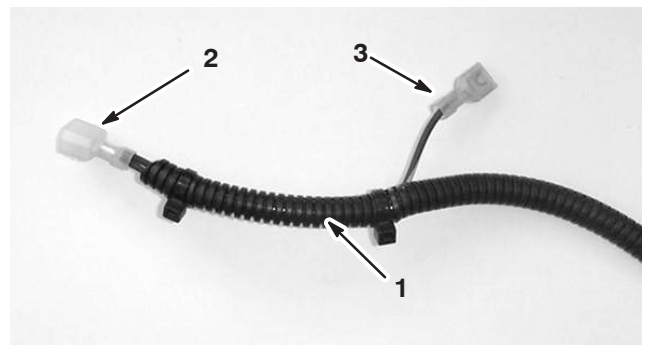


Figure 9

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|--------------------------------------|---|
| 1. Rear key start harness | 3. Connect to lead from voltage regulator |
| 2. Connect to red lead from solenoid | |

5. Connect the plastic connector at the end of the rear key start harness to the red lead running from the solenoid. Connect the voltage regulator lead to the lead running from the rear key start harness.

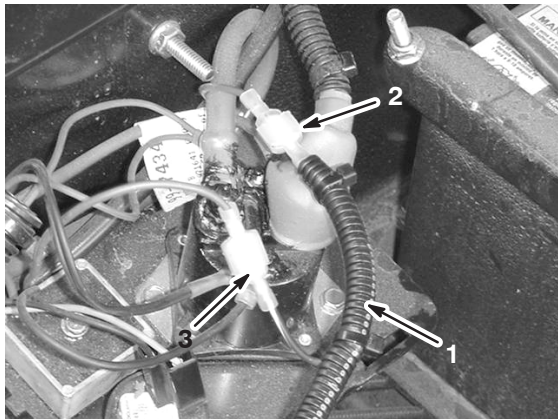


Figure 10

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|--------------------------------------|--------------------------------------|
| 1. Rear key start harness | 3. Voltage regulator lead connection |
| 2. Red lead from solenoid connection | |

6. Route the rear key start harness along the frame with the existing wiring forward to the engine. Make sure the harness travels between the air filter assembly and the right side of the vehicle frame.
7. Locate the engine ignition module on the underside of the engine shroud (Fig. 8). It is on the forward end of the engine assembly directly above the starter assembly.

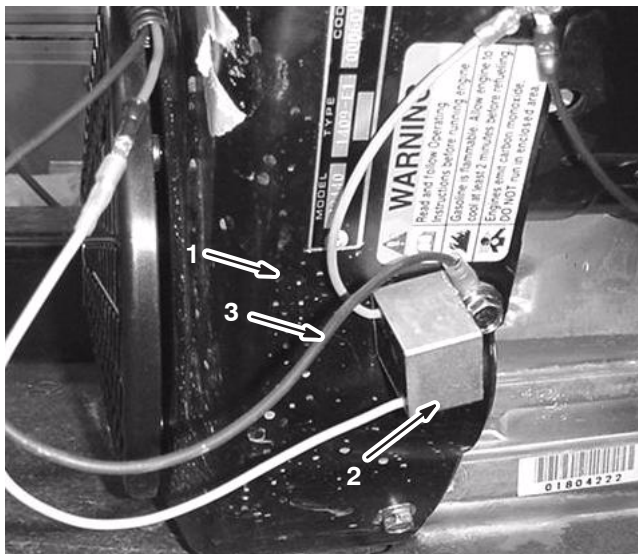


Figure 11

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|---------------------------|---|
| 1. Engine shroud | 3. Black ground wire with ring terminal |
| 2. Engine ignition module | |

8. Remove the bullet style lead from the grey wire coming from the engine ignition module and install the lead to the connector at the end of the rear key start harness that was routed forward.
9. Tape the end of the gray wire. This wire will remain disconnected and the tape will prevent it from grounding.
10. Install the idle screw and spring to the carburetor assembly at the throttle lever as shown in figure 12.

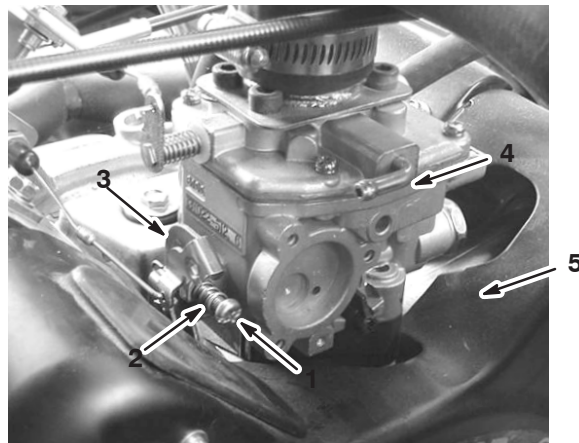


Figure 12

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|-------------------|------------------------|
| 1. Idle screw | 4. Carburetor assembly |
| 2. Spring | 5. Engine shroud |
| 3. Throttle lever | |

11. Thread the screw into the throttle stop until it makes initial contact with the throttle lever. Then turn the screw one revolution.

Adjusting the Primary Clutch Drive

1. Locate the clutch drive below the exhaust system on the driver side of the engine compartment (Fig. 13).

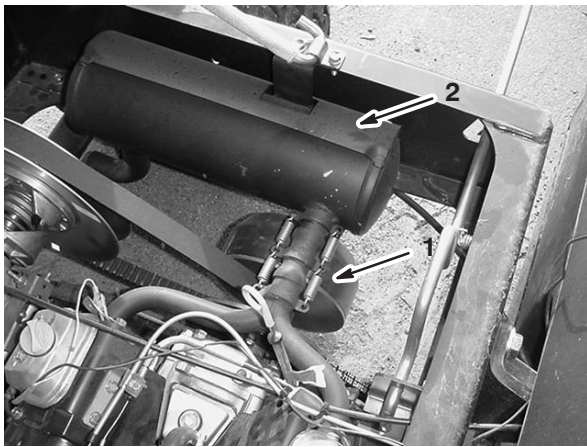


Figure 13

1. Clutch drive 2. Exhaust assembly

2. Following the *Service Manual* instructions, remove the clutch drive.
3. Remove the three fasteners and separate cover from the clutch.
4. Clean the clutch and cover using dry methods such as a brush or cloth. If you are using compressed air, take the necessary precautions to avoid inhaling dust and debris.
5. Remove the existing cam arms and spring in the clutch drive (Fig. 13).

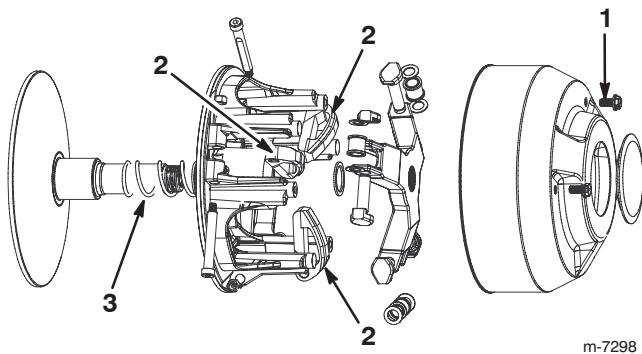


Figure 14

Exploded view of clutch drive

1. Fasteners 3. Spring
2. Cam arm

6. Install the cam arms(3) and spring included in the loose parts of this kit in place of the components removed.
7. Lubricate the cam weights, pivots, and roller pivots using Toro Dry Lubricant spray (104-7011).
8. Install the clutch cover using the three fasteners removed previously. Torque the fasteners to 75-150 in-lbs (8.5-11 N·m).
9. Following *Service Manual* instructions, assemble and install the adjusted clutch drive.

10. Lower the bed.

Adjusting the Low Idle

Adjust the idle of the engine once the kit has been installed to ensure the correct operation of the vehicle with the key start.

1. Start the engine
2. Adjust the idler screw to achieve a low idle of 1100 ± 50 RPM.

