

Vermeer 852 & 1152

Reverse-S™ Installation & Operation Guide



If you have any questions or concerns, *please call 1-800-473-3683*



BEFORE YOU BEGIN

Read these instructions completely and carefully

- **Note to installer** – Be sure to leave these instructions for the consumer's use
- **Note to consumer** – Keep these instructions with your Owner's Manual for future reference
- **Skill level** – Installation of the wheel requires intermediate mechanical skills. Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under any warranty

IMPORTANT - Before you continue, please check the packing list to make sure it matches the contents of the boxes.



Disconnect Power

to machine to prevent any machine components from moving before proceeding. Failure to do so could result in death or serious injury.

FOR YOUR SAFETY read and observe all **CAUTIONS** and **WARNINGS** shown throughout these instructions. While performing the installations that are described in this booklet, gloves & safety glasses or goggles should be worn at all times.

Installation Preparation

TOOLS SUPPLIED:

½" Drive, ½" 6pt Impact Allen Wrench Socket

TOOLS YOU WILL NEED:

15/16" Socket Wrench

½" Drive Torque Wrench

¾" 6 Point ½"drive Socket

TORQUE SETTINGS:

900 Series Nut: 35ft. lbs. (47Nm)

LoPro™ Bolt (lubricated with **Green-Seize™**): 180 ft. lbs. (non-lubricated): 240 ft. lbs.

Wheel Mounting Bolts (non-lubricated) 106ft. lbs.

MANUFACTURER'S PARTS LIST:

<i>Part Number</i>	<i>Description</i>
900LP-A	900 Series LoPro™ Pocket - Angle
900LP-S	900 Series LoPro™ Pocket - Straight
900LP-R	900 Series LoPro™ Pocket - Reverse
900-WS2	900 Series Wearsharp™ 2-Sided Tooth
LP-212	LoPro™ Bolt, 2-1/2"
LP-234	LoPro™ Bolt, 2-3/4"
LP-300	LoPro™ Bolt, 3"

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Disassembly Instructions



Warning: The cutter wheel assembly weighs approximately 170 lbs. Use caution when loosening bolts. Cutter wheel assembly may drop unexpectedly. Floor jack or equivalent lowering device is recommended for easier removal.

1. Remove 8 bolts attaching center cover and wheel to the cutter wheel hub. (Figure 1.1)

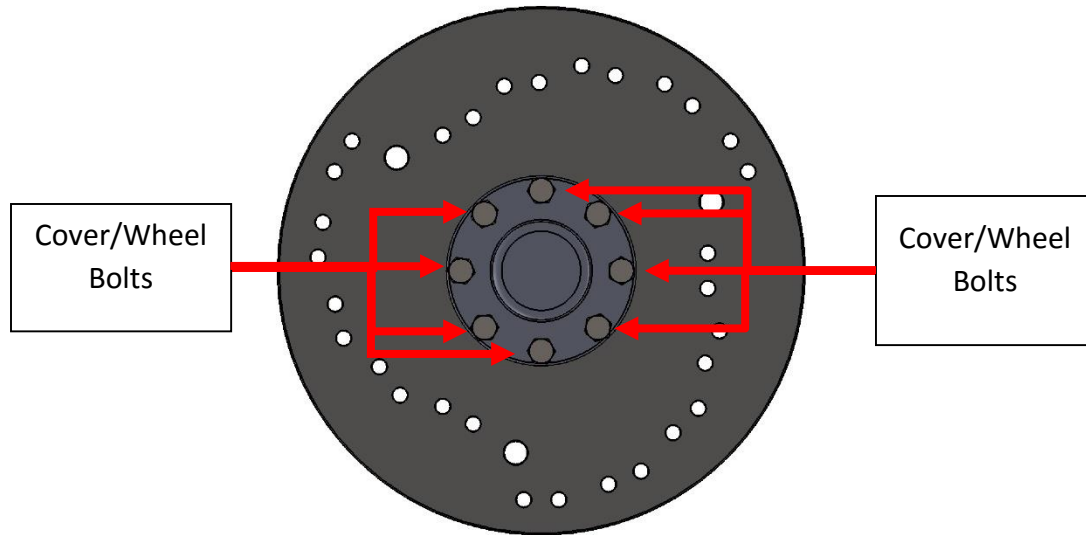


Figure 1.1

2. Remove center cover.
3. Remove cutter wheel.

Assembling the **Reverse-S™** to Machine

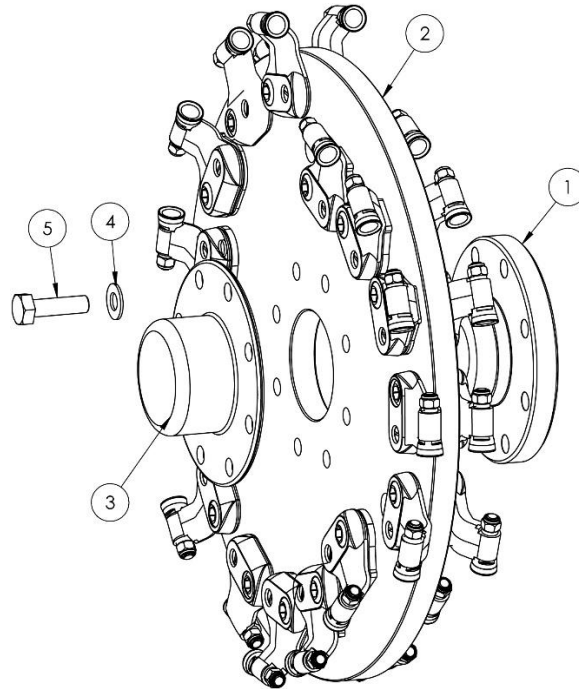


Figure 2.1¹

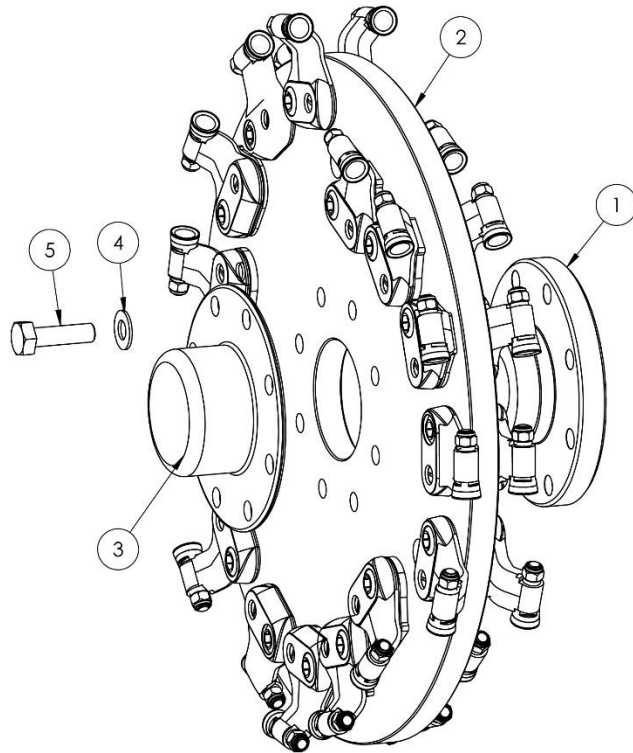
(Use Figure 2.1 for the next 4 steps)

1. Install the **Reverse-S™** (2) to the cutter wheel hub (1).
2. Align bolt holes of cutter wheel hub (1) and the **Reverse-S™** (2).
3. Align center wheel cover (3) bolt holes to the **Reverse-S™** (2).
4. Reinstall 8 cutter wheel bolts (5) and lock washers (4). Torque to 240 ft. lbs.
5. Make sure your **LoPro™** bolts are all torqued to (lubricated) 185 ft. lbs. (244 Nm)²
6. Make sure **Greenteeth®** on all holder positions are torqued to 35 ft. lbs. (47Nm)²
7. Manually rotate the wheel to ensure each tooth position will have suitable clearance inside cutter wheel guard.
8. Reconnect power to machine.
9. Start machine engine and engage the **Reverse-S™**.
10. Ensure that there are no unusual noises emanating from the machine.

¹On some models, the cutter wheel hub (1) is positioned on the other side of the cutter wheel (2).

²After grinding the first stump, check to ensure **LoPro™** bolts & **Greenteeth®** have maintained proper torque.

Reverse-S™ Drive Assembly – Expanded View



Reverse-S™ Drive Assembly			
Item #	Part #	Description	Qty
1		Wheel Hub	1
2		Reverse-S™ Wheel	1
3		Cutter Wheel Hub Cover	1
4		5/8" Flat Washer	8
5		Hex Bolt 5/8 - 18 X 2-1/4	8

REVERSE-S™ GUARANTEE

NEW SETUPS AND FIRST TIME CUSTOMERS:

If you purchase a **Reverse-S™** setup and are not completely satisfied with its performance, please contact Green Manufacturing at 800.473.3683 to request a return authorization within 30 days of purchase date for a product refund or exchange.

PRODUCT QUALITY:

We strive to provide exceptional quality products. Our products undergo a stringent quality control process, however if you feel that there is an issue with the quality of your product, please contact Green Manufacturing at 800.473.3683 immediately. We will accept unused parts for return or exchange for up to 30 days from the date of purchase with proof of purchase included with the return.

The Reverse-S™ is proudly manufactured in the USA.

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MATERIAL SAFETY DATA SHEET

I - PRODUCT IDENTIFICATION

Trade Name: Tungsten Carbide **Chemical Family:** Refractory Metal Alloy

Chemical Formula: WC **CAS#:** 12070-12-1

II - HAZARDOUS INGREDIENTS

Hazardous Components % OSHA/PEL ACGIH/TLV Sec. 302 Sec. 304 Sec. 313

Tungsten Carbide 0-100 N/E N/E No No No

Tungsten compounds 0-100 5 mg/m³ C - 1 0 mg/m³ No No No

HM IS Ratings (0-4): Health: 3 **Flammability:** 0 **Reactivity:** 0

HM IS Protective Equipment: H: glasses, gloves, clothing, combo respirator

III - PHYSICAL DATA

Boiling Point: 6000 oC **Melting Point:** 2820 - 2940 oC

Evaporation Rate: N/A % **Volatiles:** N/A

Solubility in H₂O: Insoluble **Vapor Pressure:** N/A

Vapor Density: N/E **Specific Gravity:** 13.6 gm/cc at 18 oC

Appearance and Odor: Grey to black powder, odorless **Molecular Weight:** 195.86

IV - FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A **Flammability:** Non-Flammable

Explosive Limits: Lower: N/A **Upper:** N/A

Extinguishing Media: Use suitable extinguishing media for surrounding materials and type of fire.

Special Fire Fighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Hazard: Dusts may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion, and strong ignition source. However, this is not expected to be a problem under normal handling conditions.

V - HEALTH HAZARD INFORMATION

Routes of Entry: Inhalation, ingestion, skin or eye contact (for dusts, mists, powder, and fume).

Effects of Overexposure: Industrially tungsten does not constitute an important health hazard. Exposure is related chiefly to the dust arising out of the crushing and milling operations. Chronic inhalation of the dust may cause lung damage in humans. Heavy exposure to the dust or the large amounts of the soluble compounds produces changes in body weight, behavior, blood cells, choline esterase activity and sperm in experimental animals.

Acute Effects:

Inhalation: Toxic by inhalation. May cause irritation to the mucous membranes, coughing, dyspnea, soreness in the chest, weight loss, hemoptysis, bronchitis, asthma, pulmonary fibrosis and radiological changes in the lungs.

Ingestion: May cause irritation to the gastrointestinal tract and diarrhea.

Skin: May cause irritation.

Eye: May cause irritation.

Chronic Effects:

Inhalation: May cause damage to the lungs.

Ingestion: No chronic health effects recorded.

Skin: May cause dermatitis, sensitization and eczema.

Eye: May cause conjunctivitis.

Medical Conditions Generally Aggravated by Exposure: Pre-existing respiratory and skin disorders.

Target Organs: May affect the respiratory system.

Carcinogenicity: NTP: No IARC: No OSHA: No

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove victim to fresh air. Keep warm and quiet, give oxygen if breathing is difficult and seek medical attention.

INGESTION: If conscious, give 1-2 glasses of milk or water and induce vomiting (Never induce vomiting or give anything by mouth to an unconscious person). Seek medical attention.

SKIN: Remove contaminated clothing from affected area, brush material off skin. Wash affected area with mild soap and water. Seek medical attention if symptoms persist.

EYE: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

VI - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Material to Avoid): Chlorine, fluorine, nitrogen dioxide, nitrous oxide, iodine pentafluoride and lead oxide.

Hazardous Decomposition Products: None recorded.

Hazardous Polymerization: Will not occur

VII - SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled: Wear appropriate respiratory and protective equipment specified in Section VIII. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste Disposal Method: Dispose of in accordance with all local, state, and federal regulations.

VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved dust, mist, and vapor cartridge respirator.

Ventilation: Use local exhaust ventilation which is adequate to limit personal exposure to airborne dust levels which do not exceed the appropriate PEL or TLV. If such equipment is not available, use respiratory protection as specified above.

Protective Gloves: Rubber gloves.

Eye Protection: Safety glasses.

Other Protective Clothing or Equipment: Protective gear suitable to prevent contamination.

IX - SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Store in a tightly sealed container in a cool, dry, well-ventilated area. Wash thoroughly after handling.

Other Precautions: Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Green Manufacturing, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.