

Installation Instructions

Introduction

The Ranger Mobile Fiber Dispenser efficiently and easily adds Surface-EXT™ fibers to a micro surfacing or slurry seal process.

The Ranger Mobile Fiber Dispenser must be installed on the micro surfacing or slurry seal truck before use. The enclosed instructions provide good overall guidance on how to install the Ranger dispenser on your truck. Most truck manufacturers can provide more specific instructions or guidelines on how to install the Ranger dispenser on their truck bodies. Contact your truck manufacturer.

These instructions outline the necessary steps to install the Ranger Mobile Fiber Dispenser. If technical assistance is necessary, some assistance is available by telephone consultation with FORTA Corporation Operations Department. For more in-depth assistance, on-site technical services are available through FORTA Corporation at a cost of the technician's travel, lodging, and time on site. Contact FORTA Corporation for details.

The Ranger is available with two different lengths of discharge feed tube: 24 in long tube or 36 in long tube.



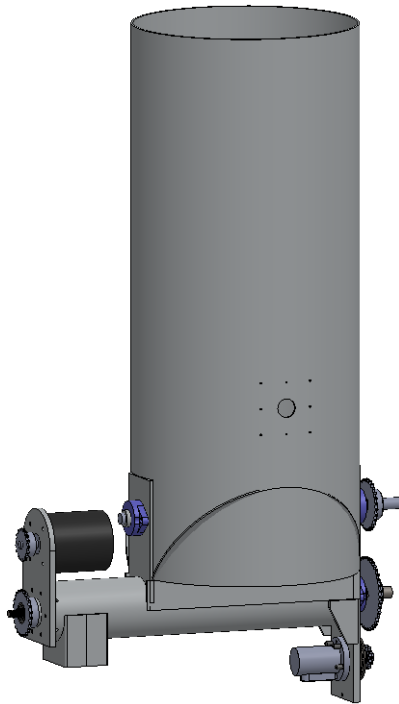
Important

Failure to follow the within instructions, and any other supplied instructions, may void any applicable warranty.

Before you start

1. Items included

The following items are included with the Ranger dispenser; locate and identify them before you start:



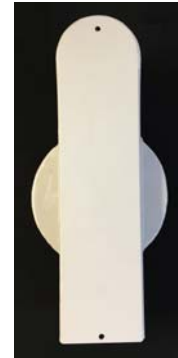
Ranger unit



Mounting brackets, qty 2



All-thread (3/8 in-16), qty 2



Auger drive cover



Declumper drive cover



Control panel



Lid

2. Utilities needed for operation

The following utilities are needed to operate the Ranger:

- A 12 VDC fused power source (2 Amp fuse)
- truck's hydraulic power supply - Ranger requires an approximate oil flow of 1 gal/min


3. Tools and supplies required to install

You will need the following tools and supplies to install the Ranger:

- Drill, and both a 1/4 in and 5/16 in drill bit (for metal)
- Fasteners to install mounting brackets to Ranger (will use the supplied all-thread):
 - Four (4) 3/8 in **stainless steel** flat washers
 - Four (4) 3/8 in-16 **stainless steel** nylon-insert lock nuts

- ❑ Fasteners to install mounting brackets to truck:
 - ❑ Four (4) 3/8 in **stainless steel** fasteners, length sufficient for thickness of mounting surface, plus thickness of Ranger bracket (0.125 in), plus use of a flat washer on both sides, and **full engagement** of the threads of the nylon-insert lock nut
 - ❑ Eight (8) 3/8 in **stainless steel** flat washers
 - ❑ Four (4) 3/8 in **stainless steel** nylon-insert lock nuts
- ❑ Fasteners to install control panel to Ranger:
 - ❑ Three (3) 1/4 in-20 **stainless steel** fasteners, length sufficient for thickness of control panel plus Ranger (0.25 in total), plus use of a flat washer on both sides, and **full engagement** of the threads of the nylon-insert lock nut
 - ❑ Six (6) 1/4 in-20 **stainless steel** flat washers
 - ❑ Three (3) 1/4 in-20 **stainless steel** nylon-insert lock nuts
- ❑ Various wrenches and/or sockets (for the above listed fasteners)
- ❑ Three (3) hydraulic hoses, 3/8 in diameter or larger, #6 fittings, length sufficient to connect components as shown in “[Check operation](#)” on page 8

Mount the Ranger on the truck

 **Note**
Two or more people are needed to perform this part of installation.

1. Locate the preferred mounting area

The Ranger must be mounted so that it is above, and as close as possible to, the pug mill of the truck. Make sure the discharge chute of the Ranger is over the pug mill. See examples at right. Your truck's manufacturer should be able to provide specific guidance on the best placement of the Ranger.




2. Prepare Ranger for mounting

Put mounting brackets on the drum of the Ranger. Position the brackets approximately 1/3 of the way down from the top of the drum and 1/3 of the way up from the bottom of the drum (as seen in pictures of step 1). Make sure that the brackets do not interfere with the window in the drum and that they are in a good position to align with the mounting location on the truck. Secure the brackets to the Ranger with the all-thread and 3/8 in-16 washers and nylon-insert lock nuts.

3. Prepare truck for mounting

Hold the Ranger up to the truck at the desired mounting location and use it as a template to mark the positions of the holes needed to match the mounting brackets. Use the 11/32 in drill bit to drill holes at the marked locations.

 **Note**
In some cases it may be necessary to add additional brackets or spacers to the truck to accommodate mounting the Ranger.

4. Lift and mount the Ranger

While one person lifts the Ranger into place and aligns it with the mounting holes, the other person secures the unit with the 3/8 in fasteners, washers and nylon-insert lock nuts. If it is necessary to rotate the Ranger so that the discharge chute aligns correctly with the pug mill, loosen the nuts of the all-thread just enough to rotate the unit, and then re-tighten the nuts when done. Also, a short piece of static-resistant tubing can be added to the end of the discharge chute if needed.

Install control panel

1. Locate the preferred mounting area

The control panel must be mounted so that an operator can easily see the display and reach the controls. Typically the control panel is mounted to the drum of the Ranger. However, in some cases it may be desirable to mount the control panel to the truck near the truck's controls.



2. Drill mounting holes and mount panel

Hold the control panel in the desired location and use it as a template to mark the positions of the holes needed to match its mounting holes. Use the 1/4 in drill bit to drill holes at the marked locations. Use the 1/4 in-20 stainless steel fasteners to secure the control panel to the drum or truck.



Make connections

1. Make hydraulic connections

Connect hydraulic hoses between the components as shown in the schematic at right (blue lines). The hose between the auger motor and declumper motor should already be connected (red line).

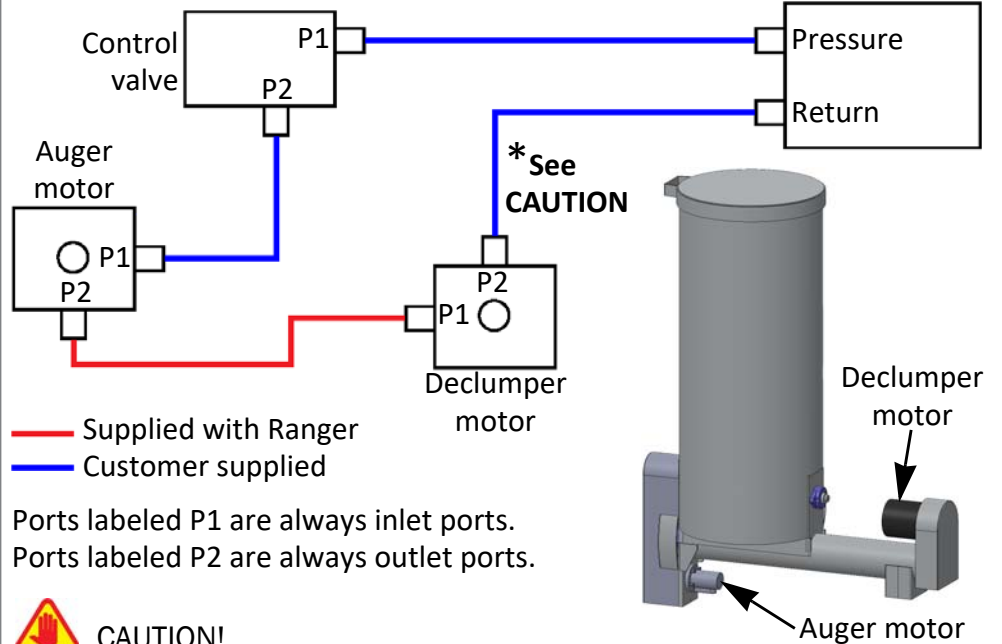


Important

Orientation of individual components may be different than what is shown. Always make sure that hoses are connected to the correct port numbers as stamped on the component. Hoses should always connect port P2 of one component to port P1 of the next component.



Control valve connections on control panel.



Ports labeled P1 are always inlet ports.
Ports labeled P2 are always outlet ports.



CAUTION!

** Back pressure at the outlet port of the declumper motor must be less than 25 psig. Pressures greater than 25 psig will blow out the seals of the motor; this damage is not covered under warranty. The hose used must be 3/8 in or larger, with no kinks, and be connected to no other components that will create back pressure. Blown seals are evident by oil leakage.*

2. Make electrical connections

Connect the ground wire (black) to one of the 3/8 in stainless steel fasteners that secure the Ranger to the truck (see [“Lift and mount the Ranger”](#) on page 5).

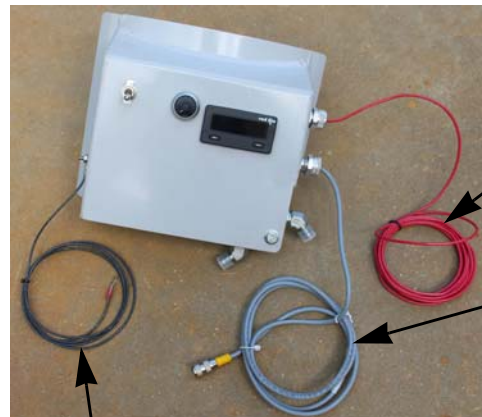
Connect the power wire (red) to the 12 VDC fused power source. If you want to connect the control panel into the truck’s controls, contact FORTA Corporation, see [“Contact FORTA Corporation”](#) on page 9.

Remove the cap from the end of the speed sensor in the auger motor. Connect the sensor cable (gray) from the control panel to the speed sensor. Match the connectors, plug in and then tighten the outer ring of the connector onto the speed sensor to make the connection secure.

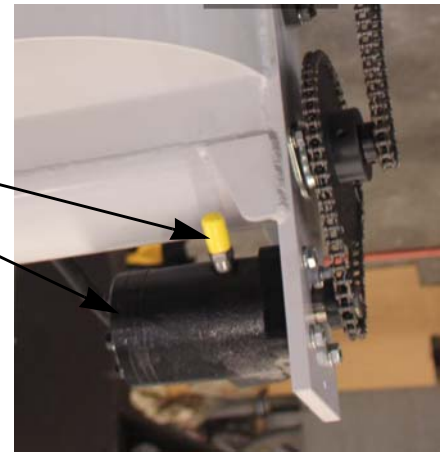


CAUTION!

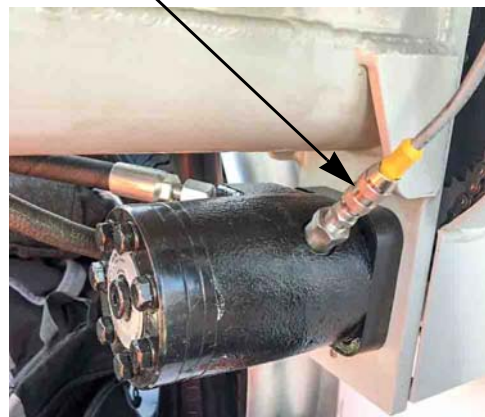
Do NOT loosen or try to adjust the speed sensor; damage can occur. If the sensor has come loose, contact FORTA Corporation, see [“Contact FORTA Corporation”](#) on page 9.



Power wire
Sensor cable
Ground wire



Speed sensor
Auger motor

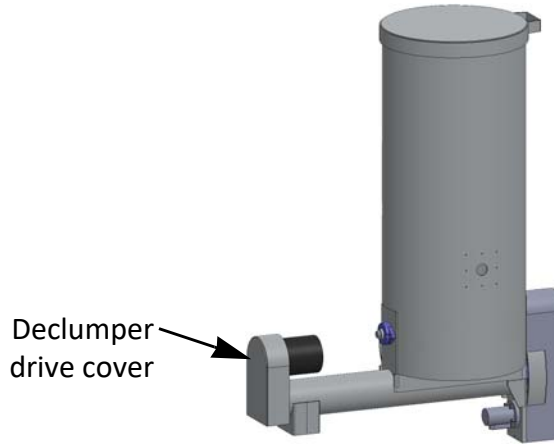


Sensor cable connected

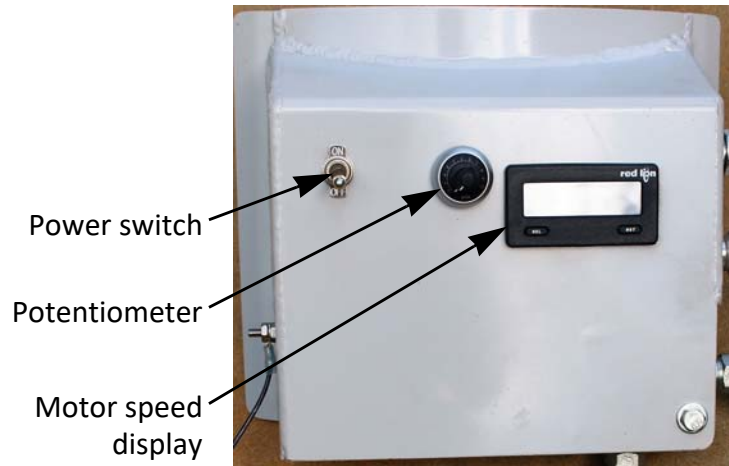
Check operation

1. Check for proper shaft rotation

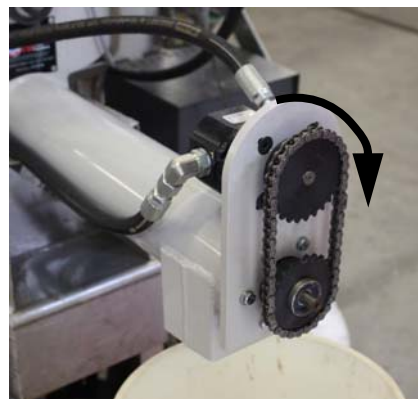
If the declumper drive cover is installed on the Ranger, remove it.



Turn ON the 12 Vdc power supply and the truck's hydraulic power supply. Turn the control panel power switch to ON. The dispenser's auger motor and declumper motor should start and the LED display should illuminate. Make sure that an "R" (for RPM) is displayed on the left side of the display - if not, press the SEL button once. If the LED display shows zero RPM, turn the potentiometer knob to increase the speed of the auger motor.

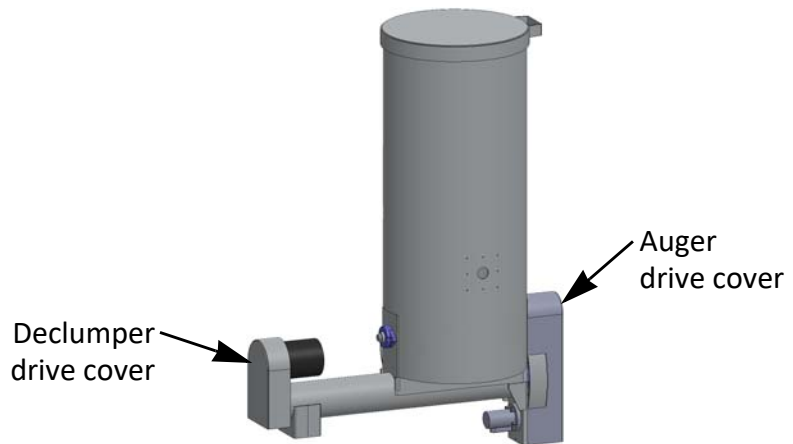


Look at the end of the declumper motor shaft and observe the shaft's direction of rotation. It should rotate clockwise. If rotation is not clockwise, then the hydraulic hoses have been plumbed backwards, and it is probable that the seals of the declumper motor have been blown; see "[Check operation](#)" on page 8.



2. Install covers

Install the declumper drive cover and the auger drive cover.



3. Optional extension sleeve

An optional sleeve can be purchased and installed to extend the height and capacity of the Ranger. Contact FORTA Corporation for more information.



Contact FORTA Corporation

If it is necessary to contact FORTA Corporation, you can do so by the following:

- Mail: FORTA Corporation
100 Forta Drive
Grove City, PA 16127-5221
- Phone: 1-800-245-0306 or 1-724-458-5221
- Fax: 1-724-458-833
- Web: www.fortacorp.com