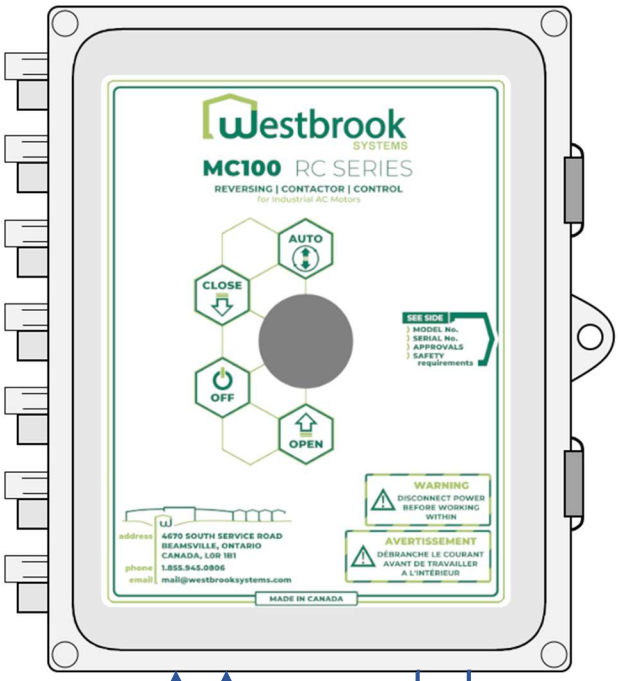
Component Layout



IN

OUT

Power Supply

- 115 VAC
- 1 Phase
- 2 Wires + Ground

Control Input

- 24 VAC
- 3 Wires
- Comes from climate control system or other controller

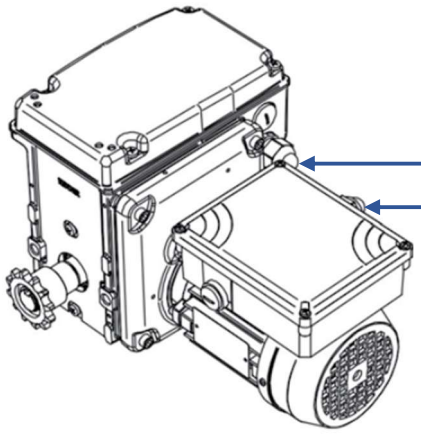
Motor Power

- 115 VAC
- 1 Phase
- 3 Wires + Ground

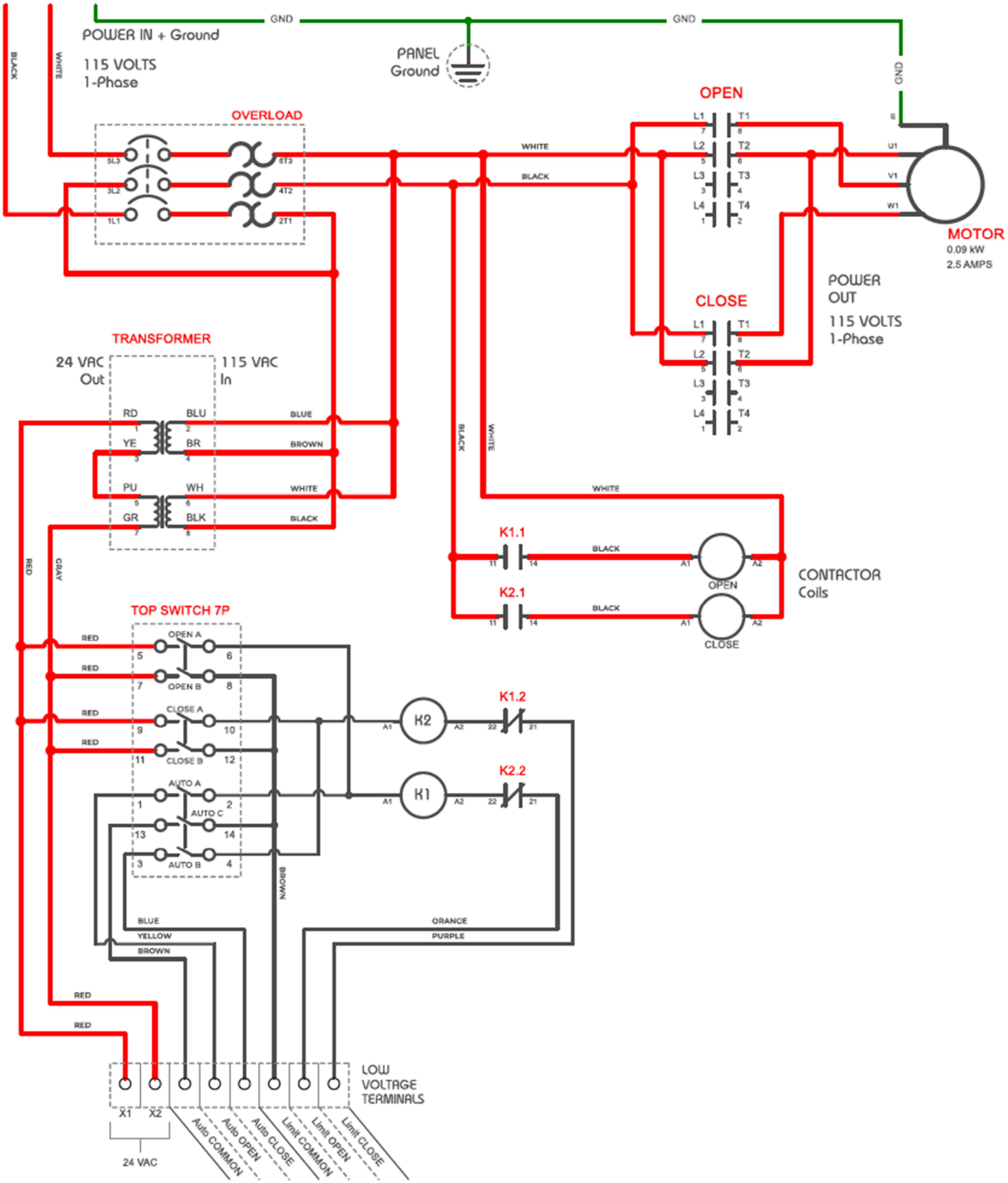
Limit Switches

- 24 VAC
- 3 Wires

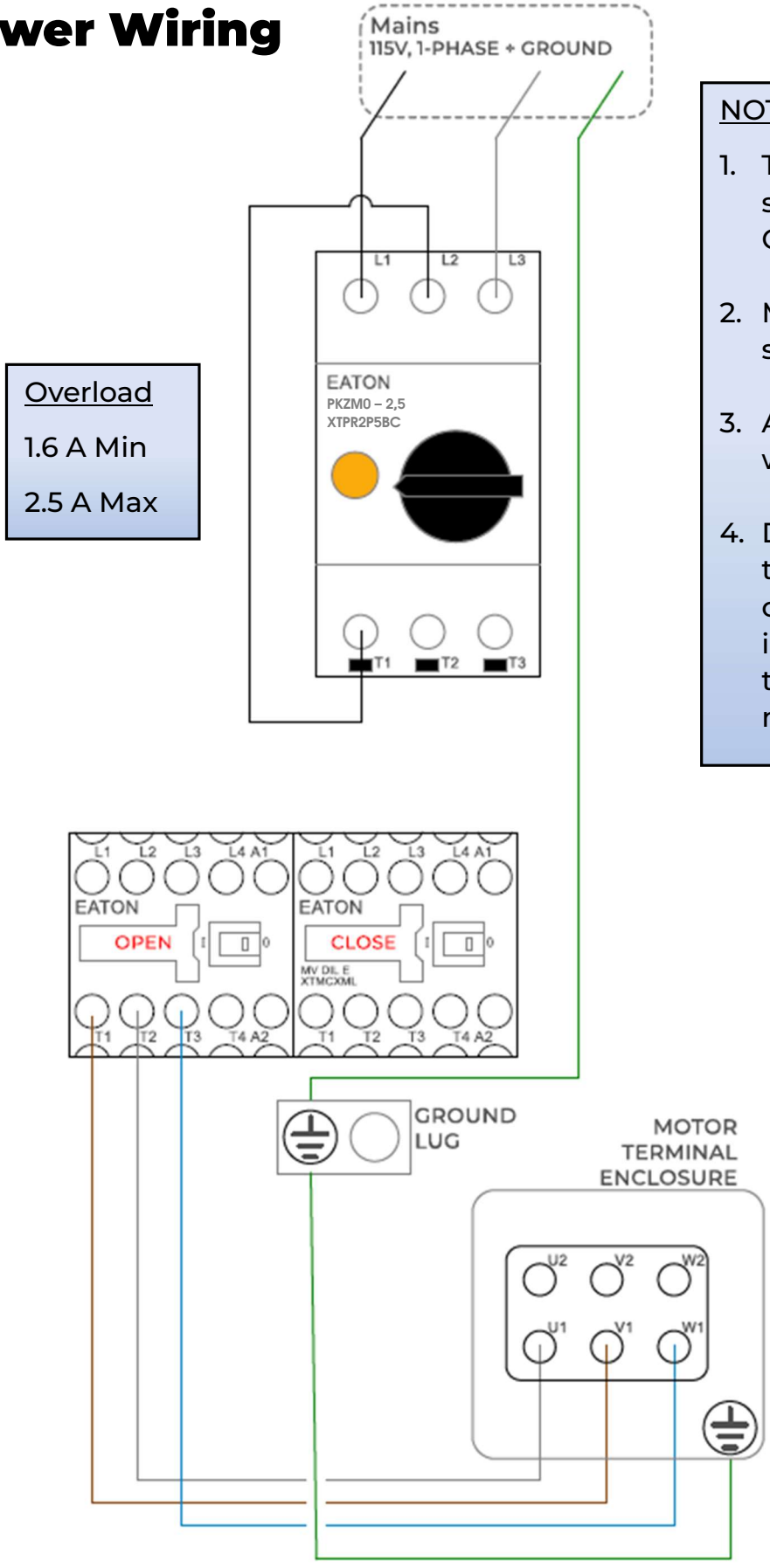
RIDDER
RW45-2



Wiring Schematic



Power Wiring



Overload

1.6 A Min

2.5 A Max

NOTES

1. To reverse motor direction, swap wires T1 and T3 on the OPEN contactor.
2. MC100 internal wiring is not shown in this drawing.
3. All field wiring is to comply with local Electrical Code
4. Do not drill holes in the top of the enclosure. Cable and conduit entries must be made in the bottom only, or through the sides if absolutely necessary.

RIDDER RW45

Motor Specifications

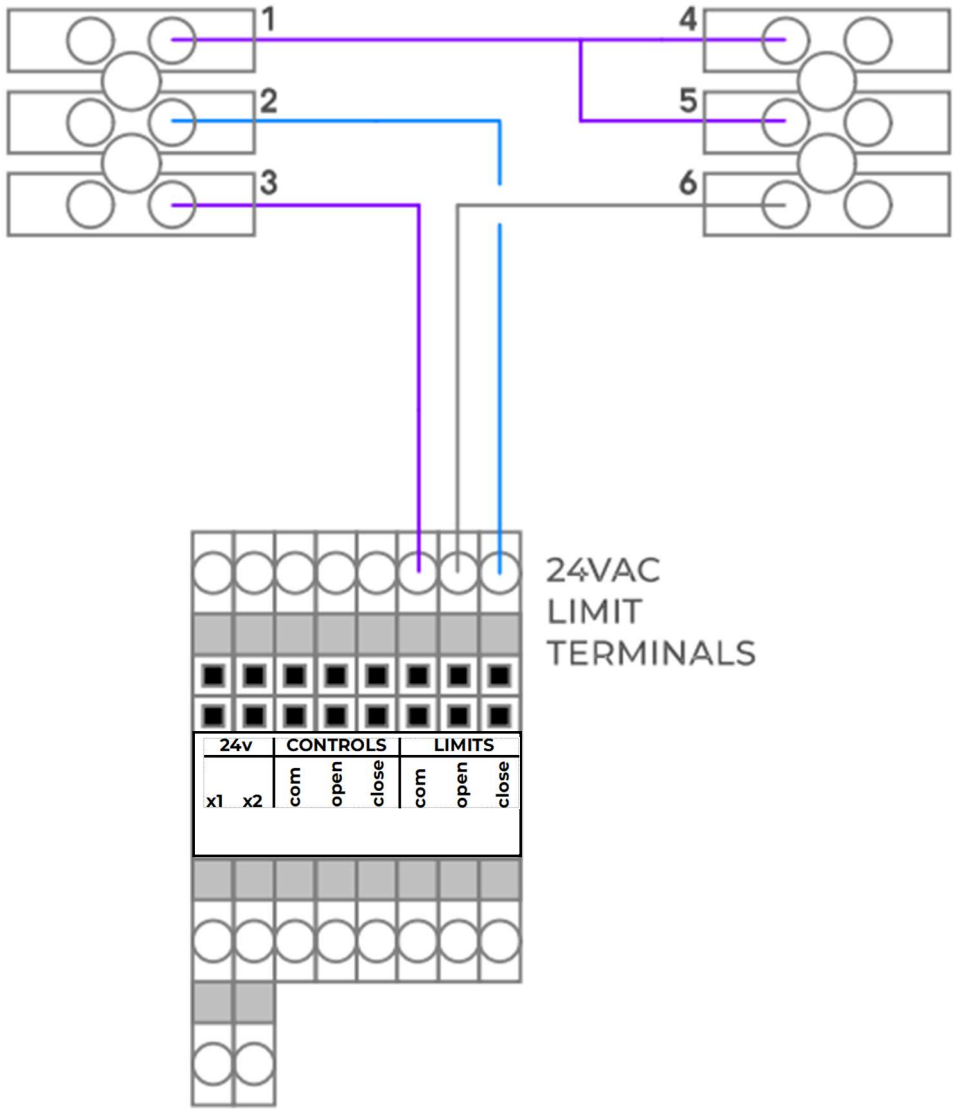
Power	0.12 HP
FLA	2.5 A
Speed	1670 RPM
Frequency	60 Hz
Voltage	110 – 115 VAC

Limit Switch Wiring

NOTES

1. Jumpers on vent motor limit switch block are to be connected by installer: 1 to 4 to 5.

2. If motor stops on the Safety Switch (2nd switch) instead of the Limit Switch (1st switch), then reverse wires on the open and close terminals.



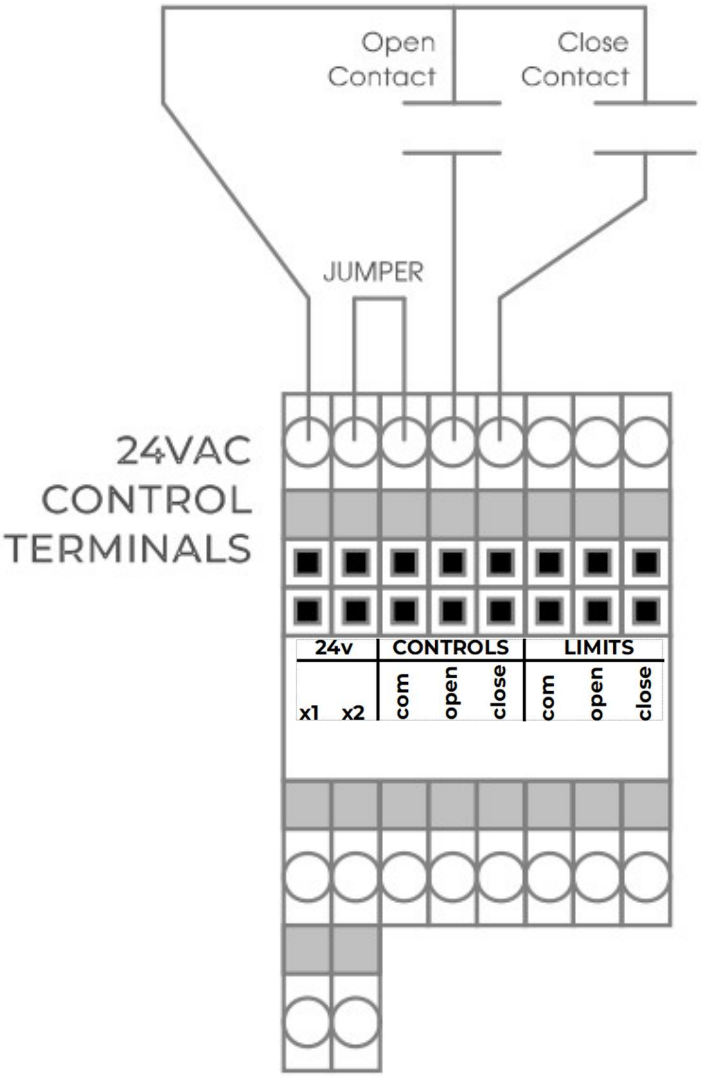
Control Wiring

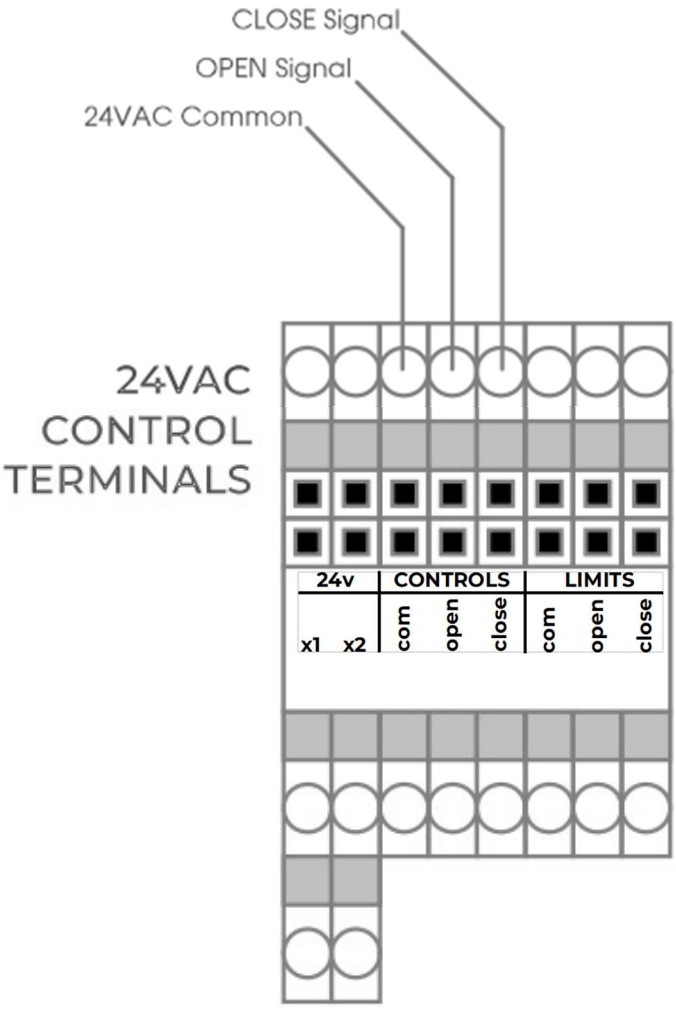
Internal Power

- 24 VAC is supplied by the local transformer
- Connects to dry contacts in an external control system
- One set of contacts is needed for each MC100, due to the limited capacity of the local transformer

External Power

- 24 VAC Open and Close signals are supplied by an external control system (PLC or standalone control)
- Multiple MC100s can be connected in parallel, according to the capacity of the external control circuit





Limit Switch Setup for Ridder Motors

The following does not replace the manufacturer's instructions but is provided for further assistance in setting the limits for motors with a MC100 motor control.

CAUTION:

- **Vent motors can cause substantial damage to a greenhouse structure if the limit switches are not set up properly. Use extreme caution before and during setup.**
- **Vent motors are shipped with the limit switches disengaged. Therefore, if the limit switches are wired, but not set up, damage can result.**

BEFORE TURNING POWER ON:

1. Gearbox vent plug must be installed. This is the orange plastic plug supplied with the gearmotor. Remove the upper (highest, depending on gearbox orientation) metal plug and replace it with the orange breather.
2. Westbrook MC100 motor control must be wired as shown in electrical drawings inside control panel.

SETUP:

1. With the 4-position selector switch on the front of the MC100 set to the OFF position, turn on power. Turn on the overload inside the MC100 by rotating the black switch.

2. Check motor rotation / direction:
Momentarily turn the front switch to the OPEN position. Observe the direction of travel.

CAUTION: If the direction is reversed, and the vent is already closed, damage may occur if the motor is allowed to run too long. Watch closely and turn the switch back to the OFF position as soon as possible.
If the direction is reversed, refer to electrical drawings for details on changing motor direction.

3. Remove the cover on the gearbox limit switch housing to observe the direction of travel. **Refer to manufacturer's limit switch drawing, as copied on page 8.** Adjustment of the limit positions is by means of the long and short Allen screws on collar 3. One collar and knurled wheel is for open, and one is for close. When the Allen screws are loose, the knurled brass wheels are free to turn with the threaded shaft. When the Allen screws are tight, the knurled brass wheels no longer spin with the shaft, but ride up and down along the gear as it turns.

When the collar and wheel ride to the end of the threaded shaft, the long Allen screw will operate the limit switch.

By temporarily tightening just the long Allen screws, and running the motor in either direction, determine which wheel and Allen screw correspond with each direction.

When wired according to the electrical drawings supplied with the MC100 panel, switches ES11 and ES21, as shown in the drawing, are the Close Limits. This means that the wheel (2) and collar (3) assemblies will travel to the right when closing and to the left when opening. If this is not the case, reverse limit switch wiring as described in electrical drawings.

4. With all Allen keys loose, drive the vent to the fully closed position, using the switch on the front of the MC100 control panel.

5. Turn the knurled brass wheel to the end of travel in the closed direction.

6. Insert the Allen key into the long Allen screw. Using the Allen key, rotate the screw against the large spring tab (5) until the first limit switch clicks on.

7. The close limit is now set. Test by driving open a few inches and then closed again, to be sure that it is stopping in the correct position. Adjust, if necessary, then tighten the short Allen screw as well.

8. Drive the vent to the fully open position and follow Steps 5 to 7 to set up the Open Limits.

Ridder Limit Switch Assembly

Figure 1: Ridder Limit Switch Assembly

RLS: RW45\RW241/242

1. THREADED SHAFT
2. KNURLED NUT
3. ADJUSTING RING
4. CONNECTION NUT
5. SWITCHING SPRING
6. STOPPER
7. HEX WRENCH 2 MM

a. ADJUSTING SCREW
LENGTH: **16 MM**
b. ADJUSTING SCREW
LENGTH: **6 MM**

8. SPARE PARTS **a, b**

ES11/ES12
DUTY SWITCH

ES21/ES22
SAFETY SWITCH