

## Instructions – Retrofit Kit

### *For Rewiring Loader Control Panel*

#### **Converting a ‘BL’ Motor powered unit to a ‘6M’ or ‘8M’ Motor**

This instruction bulletin allows for you to easily convert your existing Whisper® Loader™ from a “BL” Brushless-type SwitchedReluctance Motor to a “6M” Brush-type Infinity® Motor-powdered unit. The original function of the Loader (i.e. VP, Powder Proportioning or Standard) remains unchanged.

Brushless-type Motors are no longer available from our OEM, therefore we are providing our customers with a means of converting existing Whisper Loaders to be compatible with our new Long-life *Infinity*® Brush-type Motor, hereafter referred to as ‘6M’ or ‘8M’ version. Units shipped after January 2019 incorporate either the ‘6M’ or ‘8M’ *Infinity*® Motor.

**Do Not** start making changes until these instructions are fully understood. If you are unsure, consult Pneu-Con Customer Support or an experienced electrician.

*Tip: take photographs of the existing Control Panel wiring for reference.*

#### **Before you begin:**

**DANGER!** LOCK OUT AND TAG OUT. Electrical shock hazard – ensure safe practices are observed. This procedure requires that the electrical power source to the Loader’s Control Panel be disconnected & locked-out prior to performing the following steps.

#### **General Notes:**

1. Recommended tools:
  - a. **Relay** RFK – Drill Motor & Ø7/64” Bit, 1/8” & ¼” Flat Blade & #2 Philips screwdrivers, and Multi-purpose Electrician’s Wire Cutter Tool (stripper/cutter/crimper).
  - b. Additional tools **VS** RFK with Variable Speed – .070” Allen wrench, Ø13/32” Bit, 7/16” & ½” deep sockets or box wrenches and needle nose pliers (optional).
2. Typical Retro-fit Kits are shipped with necessary parts to make conversion as easy as possible.
  - a. For basic **BL** to **6M**/or **8M** conversions the existing Sub-Panel is retained. This RFK requires adding a Relay and minor re-wiring as outlined in steps below. On Pneu-Vue™ Control Panels the PLC Module may need to be lifted up & away to access to Sub-Panel. Kit includes Lead Wires, Connectors & Wire Nuts.

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- i. Choose location on Sub-Panel (below Controller) to mount the Relay. Mark mounting-hole locations. Drill  $\varnothing 7/64$ " pilot holes & Tap #6-32 threads, or use Self-tapping Screws provided. Secure Relay.
    - b. The Variable Speed (**VS**) Control kit includes the Speed Control Module (**SCM**) mounted onto an Aluminum SubPanel along with (3) Stand-Off Risers (for relocating the PLC) and Lead Wires, Connectors & Wire Nuts.
      - i. Replace existing Sub-panel with RFK VS version Sub-Panel (fitted with Relay, SCM, Cord(s) & wires). Move the PLC Controller from existing sub-panel onto Stand-Offs on new Sub-panel.
      - ii. Replace existing Potentiometer: Using the Allen wrench, loosen set screw to remove Adjustment Knob from front of Door, set aside for later use. With  $7/16$ " tool remove Potentiometer mounting nut. Next, use  $\varnothing 13/32$ " bit to increase size of mounting hole to accept NEW Potentiometer. Install (75k $\Omega$ ) Potentiometer and check that it is turned to lowest setting – fully counterclockwise – secure in place with mounting nut using  $1/2$ " tool. Reinstall Adjustment Knob (from old unit), positioning Knob with '0' aligned with tick-mark, or vertically, if no mark evident; tighten set screw with Allen wrench.
  3. Exchange the existing **BL** Loader Lid with the RFK **6M**/or **8M** Lid Assembly. The Mini-Change<sup>®</sup> Control Cord (Yellow 7-Conductor) is then connected to the Receptacle on RFK Motor Cover. Then attach the Micro-Change<sup>®</sup> Proximity Cord (Yellow 3-Conductor) to the Dump Valve Proximity Switch. Attach the Vibra-Pulse Cord (Yellow 3-Conductor with DIN Connector) to the Solenoid Body.
    - a. Optional: Attach Exhaust Silencer onto motor's exhaust port. Should your Loader not have one, an Exhaust Silencer Kit (p/n: 103749) may be ordered, separately or, with the RFK.
  4. Check amperage rating of the Control Panel Circuit-Breaker ON/OFF Switch. For **6M** units the existing 15Amp Switch is suitable; On **8M** units either: confirm 17Amp Switch is in place or replace with 17Amp Switch provided in **RFK**.
  5. Make final wire connections, for your specific version, as outlined in the steps below.

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**Basic – Relay added – units**

Relay Step 1: Connect Red wire from Relay [contact 3] to Output Q1-2 [labeled wire #6].

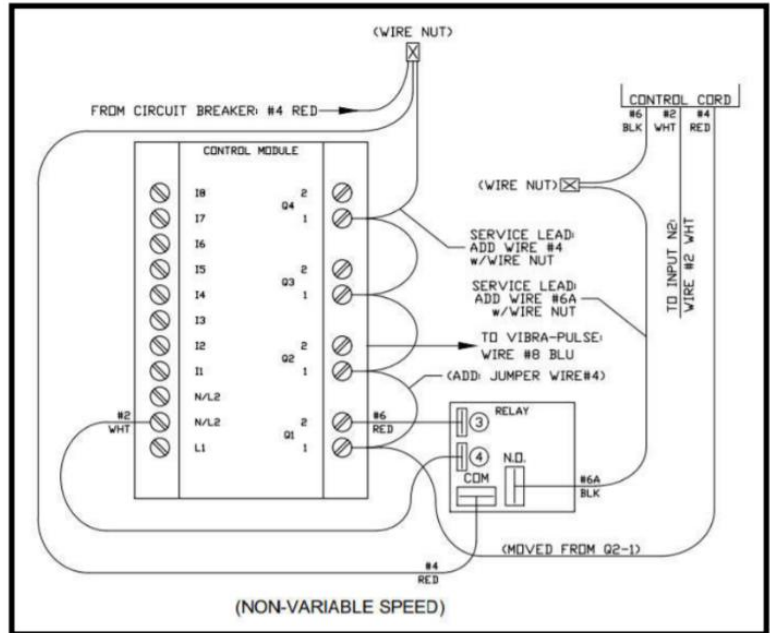
Relay Step 2: Connect 10" long White Lead wire w/Connector from Relay [contact 4] to Common N terminal.

Relay Step 3: Connect wire #4 from Relay **COM** contact to 'LAST USED' Output Q2-1 or Q4-1.

Relay Step 4: Move wire #4 from Q2-1 to Q1-1.

Relay Step 5: Add Jumper [wire labeled #4] from Q1-1 to Q2-1.

Relay Step 6: Connect wire #6A [black wire from Control Cord] to Relay **NO** contact Service Lead [labeled wire #6].



**Variable Speed units with SCM**

VS Step 1: Connect White wire [heavy gage from Control Cord from Motor] to N.

VS Step 2: Using a Wirenut connect Black [heavy gage wire #6A from Control Cord] to Black wire from **Speed Control Module** and Black wire from Potentiometer (Speed Control device on enclosure door) together [all labeled #6A].

VS Step 3: At 'LAST USED' Q2-1 or Q4-1 Output add the Red Service Lead wire [3" length /Wirenut, labeled #4] use provided Wirenut to connect Red wire #4 from Control Cord and Red wire from **SCM** together.

VS Step 4: Connect Orange wire from SCM to Output Q1-1 [labeled #6C].

VS Step 5: Connect Yellow wire from Potentiometer to Output Q1-2 [labeled #6B].

