Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

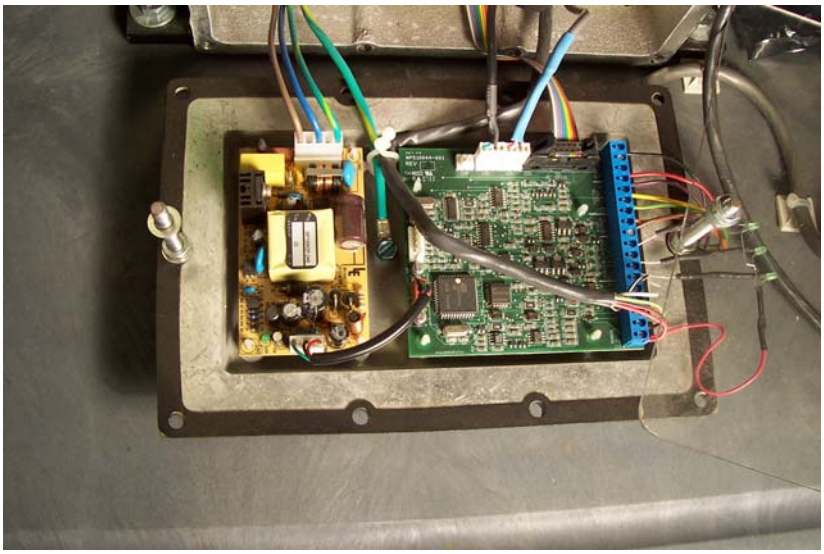
Instructions for upgrading or replacing the local and remote boards in an MPC

Tools Required

Philips screw driver
Flat bladed screw driver (1/8th inch blade).
Side cutter
Wire tie; small; 6 inch

Local Board

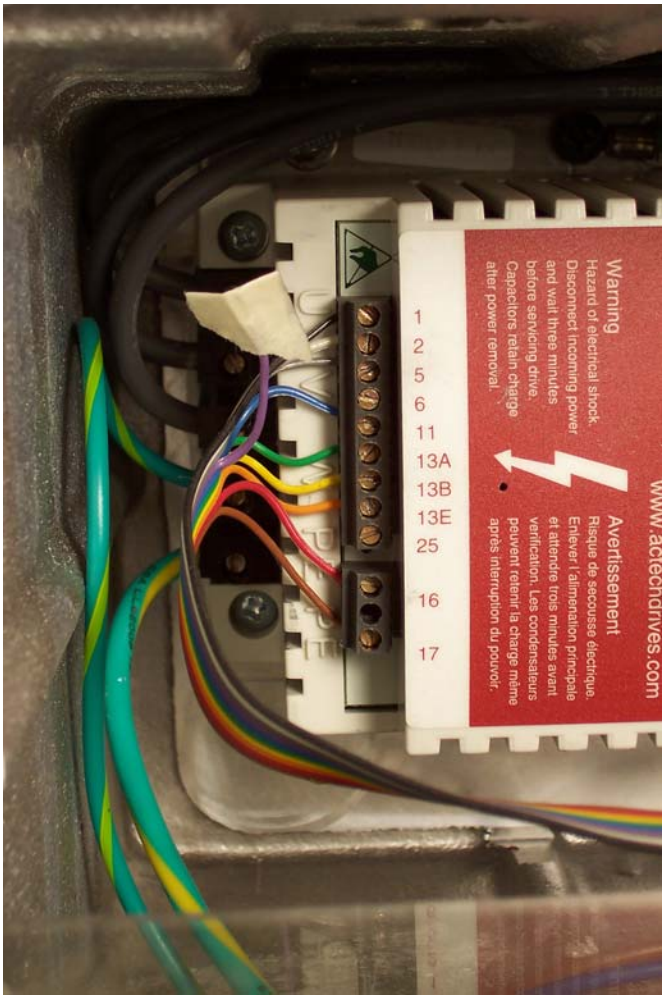
1. Disconnect all power to pump.
2. Remove the front cover of the MPC using a 11mm wrench on 10 bolts.



3. Remove black jumper wire from J17 to power supply by pulling straight up on connector
4. Remove blue wire from connector J24 by pulling straight up on connector
5. Remove black wire from connector J25 by pulling straight up on connector
6. Remove ribbon cable from connector J20 by pushing the standoffs outward, then the cable up.
7. Disconnect the grey hand held cable from the J14 section (remote section) of the large blue connector by loosening the screws on top of the large blue connector.
8. Remove any customer field wires from the J23 section (digital output section) of the large blue connector by loosening the screws on top of the large blue connector.
9. Remove any customer field wires from the J11 section (digital input section) of the large blue connector by loosening the screws on top of the large blue connector.

Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

10. Remove any customer field wires from the analog input and output sections of the large blue connector by loosening the screws on top of the large blue connector.
11. Use a small spade screwdriver to gently press in the tab on the white standoffs while gently pulling the board up. Repeat step for all 4 standoffs. Standoff part number is NP520010-NYL.
12. Install the new board in place by gently pushing onto the 4 white standoffs.
13. Replace the connectors and cables as indicated in the removal instructions.
14. If the existing local board and remote boards are part numbers; NP510030-001 & NP510031-001 (old model) and the replacement boards are part numbers NP510044-001 & NP510045-001 (current version) then the ribbon cable J20 to the AC Tech drive must have the violet wire terminal 6 of the AC Tech drive must be removed.



15. Replace the cover of the MPC using a 11mm wrench on 10 bolts, making all bolts hand tight plus 1/4 turn

Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

Local Board

16. Locate the MPC remote, and remove the four Philips head screws.

Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

17. Unplug the ribbon cable from the remote board and the keyboard.
18. Cut the plastic wire tie holding the grey cable to the remote board.

19. Remove the six wires from the blue terminal block mounted on the remote board.
20. Remove and replace the remote board.
21. Replace the connectors and cables as indicated in the removal instructions.
22. Replace the front cover of the remote using the four Philips head screws.
23. Remove any wire ties holding the grey hand held cable in place inside the MPC box.
24. .Re-connect power to pump.

Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

Recalibration Stroke- Potentiometer

1. Power on the hand held unit
2. Allow the start up procedure to complete.
3. From the HOME screen press the menu key to get into the Calibration screen
4. The display should show: -MENU-
   CALIBRATION
5. Press both the Menu and Enter keys at the same time to get into the Stroke Sensor Calibration screen.
6. The display should show: STROKE SENSOR
   CALIBRATION
7. Press enter. The display will show SET STROKE 0%
   PRESS ENTER
8. Turn the large stroke knob on the pump to the 0% position, then press the Enter key on the keypad.
9. The display will show “calibrating…” for a few seconds
10. The display will then show: SET STROKE 25%
    PRESS ENTER
11. Turn the large stroke knob on the pump to the 25% position, then press the Enter key on the keypad.
12. The display will then show: SET STROKE 75%
    PRESS ENTER
13. Turn the large stroke knob on the pump to the 75% position, then press the Enter key on the keypad.
14. The display will then show: SET STROKE 100%
    PRESS ENTER
15. Turn the large stroke knob on the pump to the 100% position, then press the Enter key on the keypad.
16. The display will then show: SET STROKE
    CALIBRATION
17. Press menu to return to the Calibration screen on the display.

Pulsafeeder, Inc.
2883 Brighton-Henrietta Town Line Road
Rochester, NY 14623
www.pulsa.com

Stroke Potentiometer Calibration

1. From the HOME screen press the menu key to get into the Calibration screen
2. The display should show: -MENU-
   CALIBRATION
3. Press both the Menu and Enter keys at the same time to get into the Stroke Sensor Calibration screen.

4. The display should show: STROKE SENSOR
   CALIBRATION
5. Press the Up or Down key to get into the Stroke Sensor Display Cal screen.
6. The display should show: STROKE SENSOR
   DISPLAY CAL
7. Press the Enter key to display the stroke calibration values.
8. For OMNI Pumps the turns for 0 to 100% the sensor pot receives 5 turns. The following two tables show the possible ranges of values which may show up on the stroke sensor calibration data screen for an OMNI pump.
9. An actual pump will be somewhere between these two ranges

ranges from	0 = 58	25 = 183
	75 = 430	100 = 551
to	0 = 486	25 = 608
	75 = 857	100 = 982

10. Find the difference between the 0% and 100% calibration values.
11. For this example, 551 - 58 = 493
12. The gearing of the stroke sensor assembly lets the pot turn 50% over 100% travel. The maximum count value for the MP A/D converter is 1023, but we only use 987.
13. 493/987 = 0.499 and this is close enough to 0.50 to show that the gears were properly meshed over the full travel of the stroke range and that the operator actually went the full 100% travel during calibration. The sensor pot has a 5% tolerance and is dead on.
14. Take 25% of the difference and add it to the 0% value and you get 58 = (0.25 x 493) = 181 and this is close enough to the 25% measured reading of 183.
15. Do the same for the 75% stroke reading. 58 + (0.75 x 493) = 428 which is close enough to the measured value of 430.
16. If the calculated values are close to the displayed values , then the stroke sensor calibration is OK. If the values are way off, the operator did not calibrate at the proper stops, the stroke pot gears are meshing intermittently, or the pot is bad. A disconnected cable could read at or close to 0 for all stroke calibration readings, usually 4 or 5.
17. If the knob will not travel the full 100%, the stroke sensor assembly needs mechanical adjustment, or the pump stroke adjustment mechanism is jammed.