

# P30 Machine Control Cable Replacement

## Applies to

Products: P30 consoles

Limitations: Only perform this repair on P30 consoles that exhibit the machine control issues described in the Issue/Symptoms section.

## Issue/Symptoms

Multiple occurrences of logged incline or speed related error codes 80 thru 83.

## Resolution

Replace the P30 machine control interface cable with an updated cable that has improved electrical connector pin contacts.

## Tools required

- #2 Phillips Screwdriver
- Dielectric Grease (NAPA Auto Parts 765-1190 or equivalent)

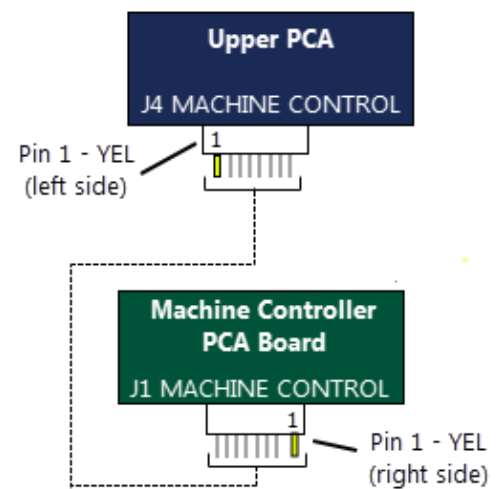
## Parts required

QTY	Part Number	Description
1	PPP00000305859015	P30 Machine Control Cable (8-pin conn)

## Procedure

Review entire procedure before starting.

- 1 Remove the P30 from the machine.
- 2 Remove the P30 back cover. Make sure to disconnect the HR cable connectors.
- 3 Remove the P30 machine control cable.
  - a Before removing the cable note that pin 1 is on opposite sides for the UPCA and Machine Controller connectors. Pin 1 is on the **left** side of the UPCA - J4 connector and on the **right** side of the machine controller PCA board J1 connector. On the original cable, the yellow wire identifies pin 1 (Fig. 1, Fig. 2).
  - b Disconnect the UPCA J4 MACHINE CONTROL connector. Note that the yellow wire (pin 1) is located on the left side of the connector (Fig. 1 & Fig. 2).
  - c Disconnect the Machine Controller J1 MACHINE CONTROL connector. Note that the yellow wire (pin 1) is located on the right side of the connector (Fig. 1 & Fig. 2).
  - d Remove the cable from the machine controller cable clips (Fig.2). Discard the cable.
- 4 Before installing the new cable, apply dielectric grease into each of the eight connector pin sockets for both of the new machine control cable connectors. Clean and wipe any excess grease from the connector housing.



**Fig. 1 Legacy Machine Controller Cable**

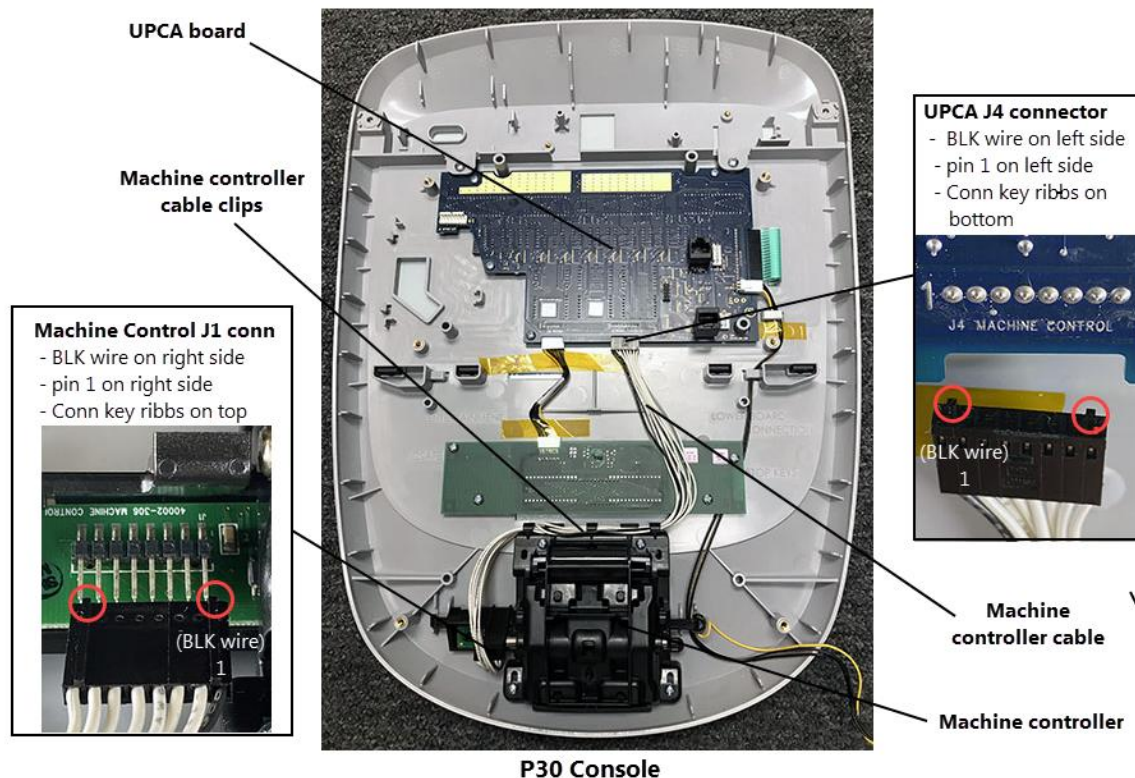


**Note:** Use your fingertip to completely fill each pin socket with grease.



**Video:** [How to apply dielectric grease.](#)

- 5 Connect the new machine controller cable to the UPCA - J4 MACHINE CONTROL connector making sure that the black wire (pin 1) is located on the **left** side of the connector (Fig. 2).
  - a Position the cable connector so that the connector key ribs are on the bottom facing downward away from the UPCA board. Also make sure that the black wire is on the **left** side aligned with pin 1 of the UPCA - J4 MACHINE CONTROL connector.
  - b Align the 8 connector pin sockets and plug in the cable connector (Fig. 2).
- 6 Connect the new machine controller cable to the machine controller PCA board - J1 MACHINE CONTROL connector making sure that the black wire (pin 1) is located on the **right** side of the connector (Fig. 2).
  - a Position the cable ribbon connector so that the connector key ribs are on the top facing upward away from the PCA board. Also make sure that the black wire is on the **right** side aligned with pin 1 of the machine controller - J1 MACHINE CONTROL connector.
  - b Align the 8 connector pin sockets and plug in the cable connector (Fig. 2).



**Fig. 2 Machine Control Cable Installation**

- 7 Reinstall the console back covers. Make sure to reconnect the HR cable connector.
- 8 Reinstall the console onto the base unit.
- 9 Connect power and verify operation of the machine INCLINE and SPEED/RESISTANCE controls.
  - a Go to Diagnostics Hardware Validation mode and select Keyboard Test.
  - b Slowly move the INCLINE control approximately half way until the first INCLINE LED switches OFF, pause, and continue movement to maximum and verify the second LED switches OFF. If the LEDs do not switch OFF there is a problem with the machine control. Perform this test for both raise and lower incline directions.
  - c Repeat the Keyboard Test for the SPEED/RESISTANCE control.
  - d Press and hold the PAUSE key to exit Diagnostic Hardware Validation mode.
  - e Operate the INCLINE control through the entire range from min to max levels.
  - f Operate the SPEED/RESISTANCE control through the entire range from min to max value.
  - g Verify the HR function.
- 10 Verify machine operation (see service manual) and return to service.