TB-44

DC UNIT CIRCUIT BOARD DESCRIPTION AND ADJUSTMENT PROCEDURE
6/07/02

Description of Voltage Selection Jumpers and Terminal Blocks:

J1/J2 Voltage Selection Jumpers (J1 & J2 MUST be set the same!)
Jumpers between 1 & 2 and 3 & 4 = 12 VDC
Jumpers between 2 & 3 and 4 & 5 = 24 VDC

JP1 Power Terminal Block, 6 position
1= Input Power +
2= To Power On/Off Switch
3= To Power On/Off Switch
4= To Indicator Lamp +
5= To Indicator Lamp –
6= Input Power –

JP2 Joystick terminal Block, 8 position
1 & 2 = Down
3 & 4 = Up
5 & 6 = Left
7 & 8 = Right

JP3 Fog/Stream Switch Terminal Block, 6 position
1= To Fog/Stream Switch, Terminal 1 (Side A Center)
2= To Fog/Stream Switch, Terminal 2 (Side A Up)
3= To Fog/Stream Switch, Terminal 3 (Side A Down)
4= To Fog/Stream Switch, Terminal 4 (Side B Center)
5= To Fog/Stream Switch, Terminal 5 (Side B Up)
6= To Fog/Stream Switch, Terminal 6 (Side B Down)

JP4 Output Terminal Block, 8 position
1= To Up/Down Motor +
2= To Up/Down Motor –
3= To Left/Right Motor +
4= To Left/Right Motor –
5= To Fog/Stream +
6= To Fog/Stream –

JP5 Water valve Switch Terminal Block, 2 position
1= To Water valve Switch, Terminal 1 (Center)
2= To Water valve Switch, Terminal 2 (Down)

Circuit Board Installation:

1 Set J1 and J2 Jumpers on the printed circuit board to either 12 VDC or to 24 VDC as required for system being built. Apply a small dab of Silicone RTV to the side of each jumper and the circuit board so that the jumper will not vibrate off in service.
2 Mount the following items to the lid of the Control Enclosure:
Indicator Lamp; Power Switch, with stranded 18 AWG wires attached; if to be equipped, the Fog/Stream Switch and/or the Water Valve Switch, with Stranded 18 AWG wires attached.
3 Wire the switches on the Joystick using stranded 18 AWG wire.
4 Connect the Joystick wires to JP2
5 Mount the Joystick and Circuit Board to the like of the Box with the component side of the Circuit Board facing away from the Joystick.
6 Connect the Power Switch wires to JP1
7 Connect the Indicator Lamp wires to JP1.
8 If equipped, connect the Fog/Stream Switch wires to JP3 and/or the Water Valve Switch wires to JP5.
9 Maintaining access to the component side of the Circuit Board, connect the incoming Power Cable to JP1.
10 Maintaining access to the component side of the Circuit Board, connect the outgoing Monitor Cable(s) to JP4.
11 Wire the other end of the Monitor Cable to J2A and connect to J2B on the Monitor.
12 Initial speed Adjustment – sing an Adjustment Tool, rotate both R17 and R29 clockwise 20 turns and ten counterclockwise 5 turns.
13 Initial torque Adjustment – Using the Adjustment Tool, rotate both R14 and R26 counterclockwise 20 turns.
14 Turn the Power Switch to Off.
15 Connect the Power Cable to the correct voltage (12V or 24V)
16 Turn the Power Switch to On.
17 The Indicator Lamps should light but nothing else should happen.
18 Verify Up/Down Motor direction by moving the Joystick to the Down position. The Monitor should start but may not continue running. If the direction is wrong, reverse the wires for the Up/Down Motor on JP4.
19 Verify Left/Right Motor direction by moving the Joystick to the Left position. The Monitor should start but may not continue running. If the direction is wrong, reverse the wires for the Left/Right Motor on JP4.
20 Up/Down Torque Adjustment:
Operate the Monitor through the entire Up/Down range. If the monitor stops (other than the end stops) part way through a cycle, rotate R14

½ turn clockwise and try another cycle. Repeat above, using ½ turn clockwise steps until the Monitor will go through a complete Up/Down cycle without stopping. Rotate R14 one additional turn clockwise and verify the motor shuts off when the end stops are contacted in both directions.

21 Left/Right Torque Adjustment:
Operate the Monitor through the entire Left/Right range. If the monitor stops (other than the end stops) part way through a cycle, rotate R26 ½ turn clockwise and try another cycle. Repeat above, using ½ turn clockwise steps until the Monitor will go through a complete Left/right cycle without stopping. Rotate R26 one additional turn clockwise and verify the motor shuts off when the end stops are contacted in both directions.

22 Up/Down Speed Adjustment:
Rotate R17 to set desired Motor speed.

23 Left/Right Speed Adjustment:
Rotate R29 to set desired Motor speed.

24 If equipped, verify proper Fog/Stream operation & direction. If the direction is reversed, swap the Fog/Stream wires to JP4.

25 If equipped, verify operation of the Water valve.

26 Turn the Power Switch to Off.

27 Disconnect the Power Cable from the 12V or 24V power source.

28 Complete the assembly of the Control Enclosure.

29 Reconnect the Power Cable to the power source. Turn on the Power Switch and perform a complete Up/Down, Left/Right, Fog/Stream, Water Valve system operational check out.

30 If OK, turn the Power Switch to Off and disconnect the power source.

31 If not OK, turn the Power Switch to Off and disconnect the power source. Perform a visual and VOM resistance inspection to determine cause of the problem(s).