

## Procedure 5.7 - Troubleshooting the Lift System (version 3)

### Lift System Description:

The lift system on these units consists of an AC line voltage driven lift motor (120 Vac), and an internal 1 K $\Omega$  potentiometer for lift position identification. The lift motor contains two motor windings, one to operate the motor in an upward direction and the other to operate the motor in a downward direction. As the lift motor is operated, the motor also rotates the potentiometer via an internal gear system. Therefore, the position of the lift system can be determined by monitoring the value of the internal potentiometer. The lift motor is initially set at a known starting position (calibration, See Procedure 4.1), subsequent motor movement is tracked via the potentiometer resistance reading.

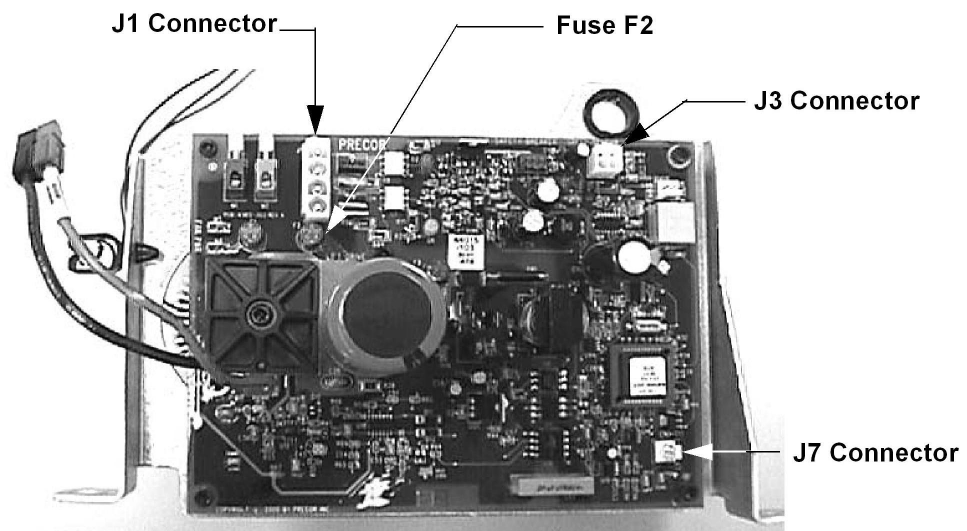
### Note:

All resistance measurements must be performed with power removed from the treadmill. Performing resistance measurements with voltage applied may damage your ohmmeter.

### Procedure

1. If the lift motor operates but creates a lift error (error 40 or 42) go to step 16. If the lift motor will not move continue with step 2.
2. Set the treadmill's circuit breaker in the off position and remove the AC line cord from the AC outlet.
3. Remove the F2 (Lift AC) fuse from the lower PCA. Using an ohmmeter, check the resistance of the F2 fuse. See Diagram 5.2. The fuse should measure approximately 0.1  $\Omega$  or less. If the fuse is open or high resistance, replace the fuse.

### Diagram 5.2 - Lower PCA



4. Insert the treadmill's line in the AC outlet and set the circuit breaker in the **on** position. Set the treadmill in the manual program and press the **LIFT ▲** key. If the lift motor operates normally, test treadmill operation per Section 3. If the lift motor still does not operate, retest the lift fuse per steps 2 & 3. If the fuse is open again, continue with step 13. If the fuse is good continue with step 5.
5. Connect an AC voltmeter between terminals 1 & 4 of the J1 connector. See Diagram 5.2. Set the treadmill in the manual program and press the **LIFT ▲** key. The AC voltmeter should read AC line voltage (120 Vac) and the red **UP** LED should illuminate. Note that the AC line voltage reading will only be present before an error condition is displayed.
6. If the F2 fuse is good and the **UP** LED illuminates and the AC voltmeter does not read the presence of AC line voltage replace the lower PCA per Procedure 6.3.
7. If the **UP** LED does not illuminate and the display indicates that the lift should be moving upward, replace the upper PCA per Procedure 6.8.
8. If the AC voltmeter reads the presence of AC line voltage and an error 40 is displayed, go to step 10.
9. If the AC voltmeter reads the presence of AC line voltage and an error 42 is displayed, continue with step 11.
10. Set the treadmill's circuit breaker in the **off** position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the J1 connector on the lower PCA. Visually inspect the lift motor connector for broken or improperly crimped connections. Using an ohmmeter, read the resistance between terminals 1 & 4 and between terminals 3 & 4. Both readings should be approximately 12  $\Omega$ . If either reading is open or very high resistance, replace the lift motor per Procedure 6.1.
11. Set the treadmill's circuit breaker in the **off** position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the J7 connector on the lower PCA. Visually inspect the lift motor connector for broken or improperly crimped connections. Using an ohmmeter, measure between terminals 1 & 3, 1 & 2 and 2 & 3 of the lift motor connector. Terminals 1 and 3 should read approximately 1 K $\Omega$ . The sum of the two readings between terminals 2 & 3 and 1 & 2 should total approximately 1 K $\Omega$ . If either reading is open or very high resistance, replace the lift motor per Procedure 6.1.
12. If you have performed all of the procedures above and have been unable to correct the problem, call Precor customer service.
13. Set the treadmill's circuit breaker in the **off** position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the J1 connector on the lower PCA. Visually inspect the lift motor connector for broken, frayed or improperly crimped connections. Using an ohmmeter, read the resistance between terminals 1 & 4, 3 & 4 and 1 & 3. The readings should be approximately 12  $\Omega$ , 12  $\Omega$  and 24  $\Omega$ , respectively. If the reading is significantly low, replace the lift motor per Procedure 6.1.

14. If the resistance readings in step 13 are normal, replace the lower PCA per Procedure 6.3.
15. If you have performed all of the procedures above and have been unable to correct the problem, call Precor customer service.
16. Set the treadmill's circuit breaker in the 'off' position and remove the AC line cord from the AC outlet. Remove the lift motor connector from the J7 connector on the lower PCA. Visually inspect the lift motor connector for broken or improperly crimped connections. Using an ohmmeter, measure between terminals 1 & 3, 1 & 2 and 2 & 3 of the lift motor connector. Terminals 1 and 3 should read approximately 1 K $\Omega$ . The sum of the two readings between terminals 2 & 3 and 1 & 2 should total approximately 1 K $\Omega$ . If either reading is open or very high resistance, replace the lift motor per Procedure 6.1.
17. If the resistance measurements in step 16 are normal, the problem may be either the lower PCA or the upper PCA. Replace the lower PCA. If the problem persists, reinstall the original lower PCA and replace the upper PCA.

If you have performed all of the procedures above and have been unable to correct the problem, call Precor customer service.