

## Procedure 6.6 - Troubleshooting the Eddy Current System (electrical)

### Note:

If the control circuit does not see an output from the speed sensor for 6 seconds, it removes power from the eddy current system. Therefore, when it is necessary to check the resistance or take voltage measurements in the eddy current system it will be necessary to slowly turn the flywheels to ensure that the power time out has not occurred.

1. There are three typical symptoms concerning the eddy current system. No resistance (pedaling resistance), no resistance after six seconds and incorrect resistance. If the problem is no resistance, continue with step 2. If the problem is no resistance after six seconds test the speed sensor per Procedure 6.3. If the problem is incorrect resistance skip to step 7.
2. Set the circuit breaker in the *on* position, enter the manual program and set the resistance at level 5. Using a DC voltmeter, check the voltage across one of the magnets. The voltage should measure approximately 24.5 Vdc (approximately 31 Vdc on software versions V2.03 or less). If the voltage is missing or significantly low, skip to step 4. If the voltage is correct, continue with step 3.
3. Set the circuit breaker in the *off* position. Check the magnet wiring per Diagram 5.2. If any of the magnet wiring is reversed or incorrect the resistance will be affected. If you have performed all of the above tests and there is still no resistance, call Precor Technical Support.
4. Using an ohmmeter, measure between the M- and M+ terminals of the lower PCA. The measurement should be approximately 45 $\Omega$ . If the measurement is open ( $\infty$ ), check the connections at both magnets, the filter capacitor, the inductor and the lower PCA.
5. If all of the wiring connections are good and there is still no resistance, there are three parts that could cause the problem. There are not any good tests to check these parts other than substituting a known good part. They are lower PCA, ribbon cable and upper PCA. Replace only one part at a time. If the new part does not correct the problem replace the original part.
6. If you have performed all of the above tests and there is still no resistance, call Precor Technical Support.
7. If the resistance is greater than normal, the cause could be mechanical rather than electrical. Set the circuit breaker in the *off* position. Rotate the flywheels, they should turn freely and easily. If the stairarms are removed from the flywheels and the flywheels are rotated rapidly and then released, the flywheels should continue to spin for several seconds. If the flywheels do not turn freely, continue with Procedure 6.7.
8. If the C544 was manufactured prior to March 20, 1997, a magnet and eddy current disc with an adjustable gap was used. If appropriate, check the magnet gap per Procedure 5.1.

9. Set the circuit breaker in the  $\text{I}^{\text{ON}}$  position, enter the manual program and set the resistance at level 5. Using a DC voltmeter, check the voltage across one of the magnets. The voltage should measure approximately 24.5 Vdc (approximately 31 Vdc on software versions V2.03 or less).
10. If the voltage is significantly high check the 120/240 volt setting in Procedure 3.4. If the 120/240 volt setting is incorrect the voltages measured in step 9 will be incorrect.
11. If the voltage is still significantly high or low, there are three parts that could cause the problem. There are not any good tests to check these parts other than substituting a known good part. They are lower PCA, ribbon cable and upper PCA. Replace only one part at a time. If the new part does not correct the problem replace the original part.
12. If you have performed all of the above tests and the resistances still incorrect, call Precor Technical Support.