

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 45Ω. If the measurement is open (∞), 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 I^{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.

Procedure 6.7 - Troubleshooting the Eddy Current System (mechanical)

Note:

Over a period of time and usage, the lubrication of the main flywheel oilite bushings and the stairarm oilite bushings will lose effectiveness. This will cause the flywheels and/or stairarms to turn harder, thus increasing the force required to operate the unit.

1. Set the circuit breaker in the 'off' position, unplug the line cord from the wall outlet and remove the rear cover.
2. Remove both stairarms per Procedure 7.21, steps 1 to 6. Remove the left hand flywheel per Procedure 7.14 steps 1 to 8. Rotate the right hand flywheel and 'walk' the drive belt off of the pulley. Slide the right hand flywheel and pulley/axle assembly out of the frame as a unit.
3. Using a clean dry cloth, wipe all residue off of the stairarm pins, mounted in the flywheel rim, and the pulley axle. Using a clean dry cloth, wipe the inner surfaces of the oilite bushings in both stairarms and the oilite bushings in the rear frame column. Use a Scotch Brite pad or similar abrasive to lightly buff the inner surface of the stairarm and rear frame column oilite bushings to remove any potential 'glazing'.
4. Coat the inner surface of the stairarm and rear frame column oilite bushings with Anderol 465 synthetic oil. If Anderol 465 is not available, mineral oil may be used. However, longer lasting results will be achieved by using Anderol 465.
5. Replace the flywheels per Procedure 7.14 steps 10 to 15. Replace the stairarms per Procedure 7.21, steps 7 to 13.
6. Replace the rear cover.

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