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**Tilt Mechanism Testing on Office Chair Sample  
Sample ID – Multi-axial, Single Resistance Ergonomic Office Chair  
ANSI/BIFMA X5.1-2017**

A Report to: **CoreChair Inc.**  
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3 Pages, 3 Figures

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## 1.0 INTRODUCTION

At the request of CoreChair Inc., Element performed Tilt Mechanism Testing on Office Chair sample, in accordance with ANSI/BIFMA X5.1-2017, Section 9.

CoreChair Inc. submitted one (1) office chair sample for testing. The as received sample was allocated with Element Sample Number below:

<u>Element Sample #</u>	<u>Sample ID</u>
19-06-C0178-1	Multi-axial, Single Resistance Ergonomic Office Chair

## 2.0 OBJECTIVES

The objective of the proposed test program was to provide information needed to evaluate the mechanical properties of the office chair sample in accordance with ANSI/BIFMA X5.1-2017, Section 9 – Tilt Mechanism.

## 3.0 INSTRUMENTATION

The following instruments were used to conduct the required measurements:

Weight scale	MII # A04941
Measuring tape	MII # B10834
Protractor	MII # B10836

## 4.0 TEST PROCEDURE

The required test was performed in accordance with ANSI/BIFMA X5.1-2017. The details of the test procedure are presented below.

### 4.1 Tilt Mechanism

The test was performed in accordance with Section 9 from ANSI/BIFMA X5.1-2017.

The chair sample was seated on the test platform and restrained from movement at its base. A weight of 240 lbs was secured on the centre of the seat. A programmable robotic arm was used to cycle the tilt mechanism between front and back stops (motion restricted to front-back direction using a set of clevises – chair not stable sideways when the weight is applied). The test was performed up to 300,000 cycles or to failure, whichever occurs first.

The photos of the test set-up are presented in Figures 1 and 2.

## 5.0 RESULTS

The results for the test performed are presented in the Table 1 below.

**Table 1: Test Results**

Test Description	Standard Section	Test Results
Tilt Mechanism	9	The mechanism completed 300,000 cycles of tilt mechanism travel without failure or loss of serviceability and passed the test requirement

The office chair sample passed the test described on Chapter 4 of the present report.

The photo of the tilt mechanism at test completion is presented in Figure 3.

The sample was returned to the customer for further assessment.

The test program was performed at Element Mississauga facility between November 15 and 27, 2019.

Reported by:



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## **FIGURES**

(2 Pages)





Figure 1 : Tilt mechanism test set-up



Figure 2 : Tilt mechanism test set-up



Figure 3 : Tilt mechanism at test completion