

# Torsion Quick Reference Guide

## Pre-Test Instructions

<u>Step</u>	<u>Task</u>	<u>Instruction</u>
1	Click "Enter Student Information" from main menu	→   Enter Information Press tab key to navigate Save your information Click small "x" to exit to menu
2	Click "Options" from main menu	→   Select relevant options Click small "x" to exit to menu
3	Click "Select Test" from main menu	→   Click "Torsion Test"
4	Select test methodology	→   Click "Continuous" or "Step-by-step"
5	Select your material	→   Hover mouse over material Left click to select
6	Select your specimen's diameter	→   Click down arrow in material's box Click 0.25 or 0.50 diameter

## Test Instructions

<u>Step</u>	<u>Current Task</u>	<u>Instruction</u>
1	Obtain specimen for measurement	→   Click on the current material box
2	Select caliper tool	→   Click on the caliper icon in the tool box
3	Position caliper tool	→   Drag caliper tool to end of specimen Click mouse on specimen to attach to caliper tool
4	Measure specimen's right-end gauge length	→   Click and drag the red jaw of caliper to measure gauge length Caliper tool will turn light blue at correct measurement Click specimen's center once caliper changes color
5	Measure specimen's center gauge length	→   Click and drag the red jaw of caliper to measure gauge length Caliper tool will turn light blue at correct measurement Click specimen's center once caliper changes color
6	Measure specimen's left-end gauge length	→   Click and drag the red jaw of caliper to measure gauge length Caliper tool will turn light blue at correct measurement Click specimen's center once caliper changes color
7	Return caliper to tool box	→   Click the caliper icon in the tool box
8	Approach machine with specimen	→   Press A,S,W,D,Q, Z to <navigate> specimen Navigate & <hold> SHIFT to <slow> specimen
9	Position specimen in machine's right socket	→   Press A,S,W,D,Q, Z to <navigate> specimen Navigate & <hold> SHIFT to <slow> specimen
10	Close specimen into machine	→   Press R
11	Select allen wrench tool	→   Click on the allen wrench icon in the tool box
12	Place allen wrench into first socket	→   Click on allen wrench and drag onto first socket on machine
13	Tighten First Socket	→   Click and drag mouse <b>right</b> until sensor turns green
14	Move to socket 2	→   Press 1
15	Tighten second socket	→   Click and drag mouse <b>right</b> until sensor turns green
16	Move to socket 3	→   Press 2
17	Tighten third socket	→   Click and drag mouse <b>right</b> until sensor turns green

Test Instructions Continued On Back

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## Test Instructions Continued From Front

<u>Step</u>	<u>Task</u>	<u>Instruction</u>
18	Move to fourth socket	→   Press 3
19	Tighten fourth socket	→   Click and drag mouse <b>left</b> until sensor turns green
20	Move to fifth socket	→   Press 4
21	Tighten fifth socket	→   Click and drag mouse <b>left</b> until sensor turns green
22	Move to sixth socket	→   Press 5
23	Tighten sixth socket	→   Click and drag mouse <b>left</b> until sensor turns green
24	Orient camera to face machine	→   Press 6
25	Go to the strength gauge machine	→   Click on the strength gauge icon in the tool box
26	Connect strength sensor	→   Press J
27	Zero the machine	→   Press the zero button in the tool box
28	Go to torsion machine	→   Press 7
29	Turn on machine and start test	→   Press the → key

## Post-Test Instructions

<u>Step</u>	<u>Task</u>	<u>Instruction</u>
1	Extract test data to .txt and .xls file	→   Click export in report view
2	Complete data analysis	→   Insert findings in report view

## Keyboard Commands

<u>Key</u>	<u>Use</u>	<u>Mechanics</u>
A	Moves camera view left	→   Camera speed is controlled with SHIFT
S	Moves camera view backwards	→   Camera speed is controlled with SHIFT
D	Moves camera view right	→   Camera speed is controlled with SHIFT
W	Moves camera view forwards	→   Camera speed is controlled with SHIFT
Q	Moves camera view upwards	→   Camera speed is controlled with SHIFT
Z	Moves camera view downwards	→   Camera speed is controlled with SHIFT
SHIFT	Slows down camera speed	→   Press and hold while moving camera view to slow
R	Closes torsion machine on specimen	→   Move left arm of the torsion machine shut
J	Attaches sensor to strength gauge device	→   Allows specimen to be measured
1	Orients camera back to machine front	→   Only used once all six sockets are tight
2	Orients camera to socket 4	→   Must be done in order of instruction
3	Orients camera to socket 5	→   Must be done in order of instruction
4	Orients camera to socket 6	→   Must be done in order of instruction
6	Orients camera to socket 2	→   Must be done in order of instruction
7	Orients camera to socket 3	→   Must be done in order of instruction

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