SureTorque Models ST-120S and ST-S3 Troubleshooting Guide

Manufacturer Name and Address

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Troubleshooting Probable Cause and Corrective Action

This Troubleshooting guide is presented to assist in the recognition of any possible malfunctions, identification of their probable causes, and corrective actions taken in order to solve the problem. Refer to the Machine Tuning Sheet in the product manuals when making any adjustments to the machine. This is a general troubleshooting guide; therefore, some malfunction conditions and/or corrective applications may not apply to your particular model Electric Torque Tester.

WARNING

1. **Only** qualified personnel should troubleshoot this machine
2. ***All*** personnel should stay clear of moving parts
3. ***All*** guards and safety features must be replaced before this machine is returned to service

Failure to comply with these warnings ***may*** cause personal injury!

Mechanical Troubleshooting Guide

Malfunction	Probable Cause
1. Unusually High Torque Reading:	Check clearance between the top, inside surface of the Collet's relief cut counter bore, and the top of the container/closure. Assure that this clearance is from .06" to .012"
2. Unusually Low Torque Reading:	Check the rigidity of the container clamps **Container Must Not Rotate!!**

Electrical Troubleshooting Guide

Malfunction	Probable Cause	Corrective Action
1. SureTorque will not Power-Up:	a. No AC Power to main panel	a. Check Power connections
	b. Main AC fuse missing/blown	b. Replace fuses
	c. Main disconnect not in "on" position	c. Turn disconnect to "on" position
	d. "Power On" switch faulty	d. Replace rocker-switch
2. SureTorque will not Start:	a. No AC Power	a. Check connections and disconnect and reconnect power supply
	b. Control or main fuse missing/blown	b. Replace fuses
	c. Line voltage not within $^{+/-}$ 10%	c. Install isolation X-former

Pneumatic Troubleshooting Guide

Malfunction	Probable Cause	Corrective Action
1. Cannot Get Proper Air Pressure:	a. Air regulator defective	a. Replace air regulator
	b. Air gauge defective	b. Replace air gauge
	c. Leak in air system	c. Locate leak and correct
	d. Insufficient air supply	d. Check for restrictive kinks or leaks in air hoses and connections
2. Discrete Air Components Not Reading/Functioning:	a. Excessive moisture in system	a. Check system filter
	b. Component defective	b. Replace component
	c. Defective rear panel fuse	c. Replace Fuse
	d. Low air pressure	d. Check air supply and insure air pressure at main regulator is 80psi
3. Water in Air Supply:	a. Filter defective	a. Replace filter
	b. Filter Dirty	b. Clean or replace filter
4. Discrete Air Components Malfunctioning:	a. Excessive moisture in system	a. Check filtering system
	b. Air supply dirty	b. Check filtering system
	c. Leak in component or hose connections	c. Locate leak and correct

Specifications

Testing	
Torque Tests	Cap release test, Final application, Fatigue, Tamper evident break
Torque Range	0-88 lbf•in (0-10N•m)
Torque Transducer	Strain gauge
Accuracy	+/- 0.5% for static loads over full scale
Resolution	Min 0.1 lbf•in
Maximum	Overload 150%
Rotation	0-60 RPM, CW and CCW, Infinite
Modes	Position, Speed or Torque control
Torque Units	d•Nm, N•m, kg•cm, kg•m, oz•in, lbf•in
Calibration	Certifiable (NIST)
Standards	Meets or exceeds NIST, ASTM, FDA, GMP
Electrical	
Control	PLC-based system
Analog Signal	16bit/12.5ms conversion
Response Time (avg)	<12.5ms
HMI Display	3.5” 256-Color Touch panel
Communication	RS-232/RS-485 (USB, Ethernet optional)
Real-Time Clock	7-year typical battery backup
Utilities	
Air Source	80-125 PSI, 5 SCFM
Power Source	100-240VAC, ~2.5A, 50-60 Hz

Environment	
Temperature Range	32-122°F (0-50°C)
Relative Humidity	10% to 95% (non-condensing)
Mounting	Flat surface or desktop
Container Sizes	
Height Range	1.0” (with base adapter) to 16.75” : ST-120S
	2.75” (with base adapter) to 13.75” : Model ST-S3
Diameter Range	0.25” to 7.50” (with 10” platform) : ST-120S, 0.25” to 5.00” : Model ST-S3
Dimensions	
Dimensions	31” x 12" x 16” (HxWxD) : ST-120S
	29″ x 12” x 20" (HxWxD) : Model ST-S3
Weight	65-86 lbs
Materials of Construction	
Exterior	Framework Anodized Aluminum and Stainless Steel
Hardware	Stainless Steel
Tooling	Anodized Aluminum, Nickle Plated Steel, Polyurethane, Acrylic, HDPE, UHMW