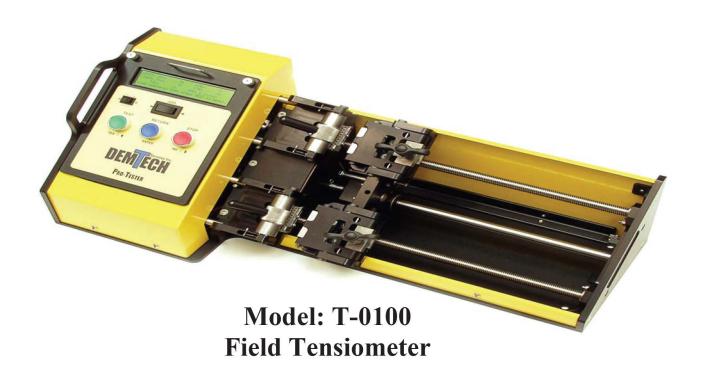


# $\mathbf{Pro-Tester}^{\mathsf{TM}}$

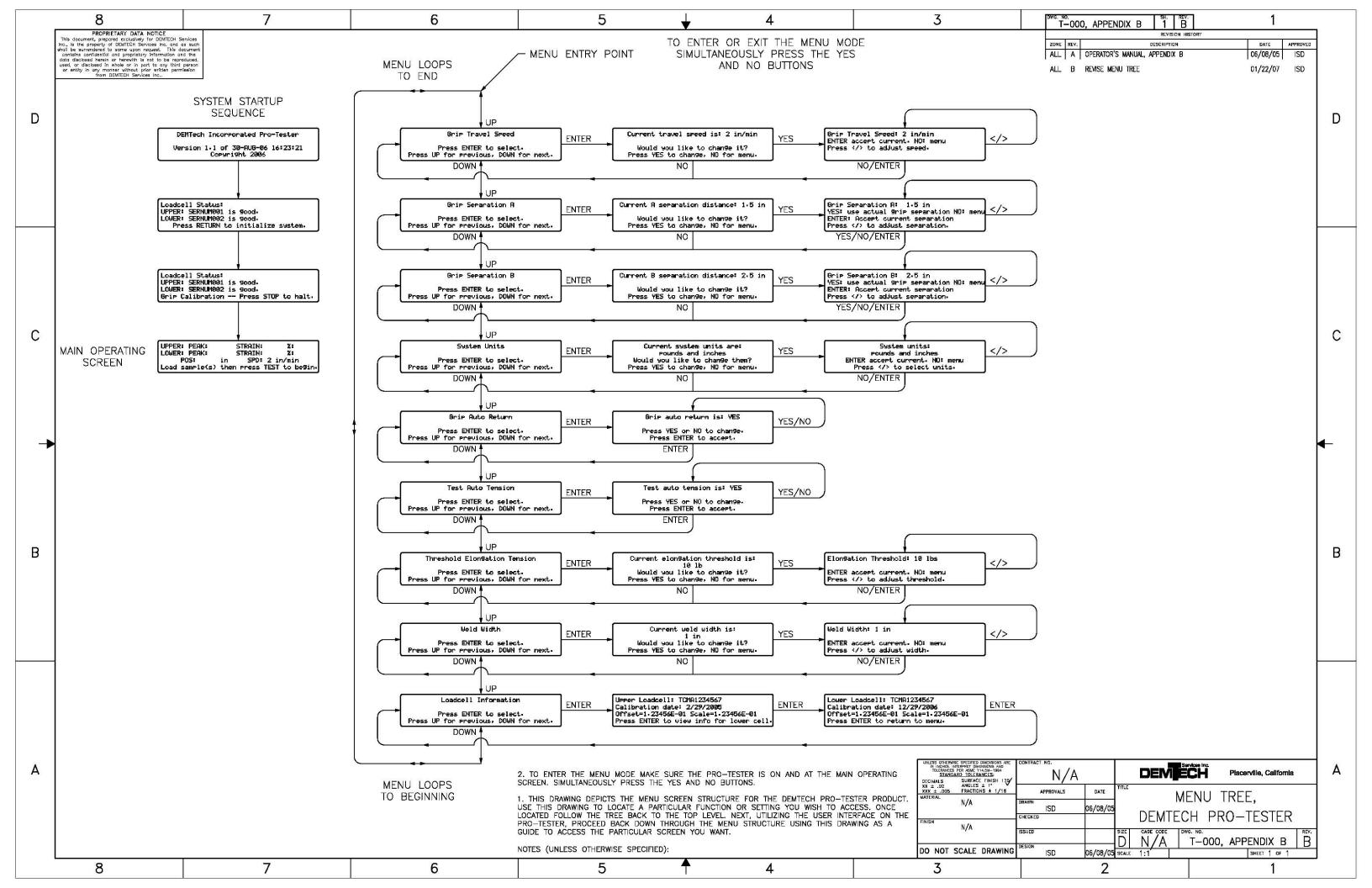


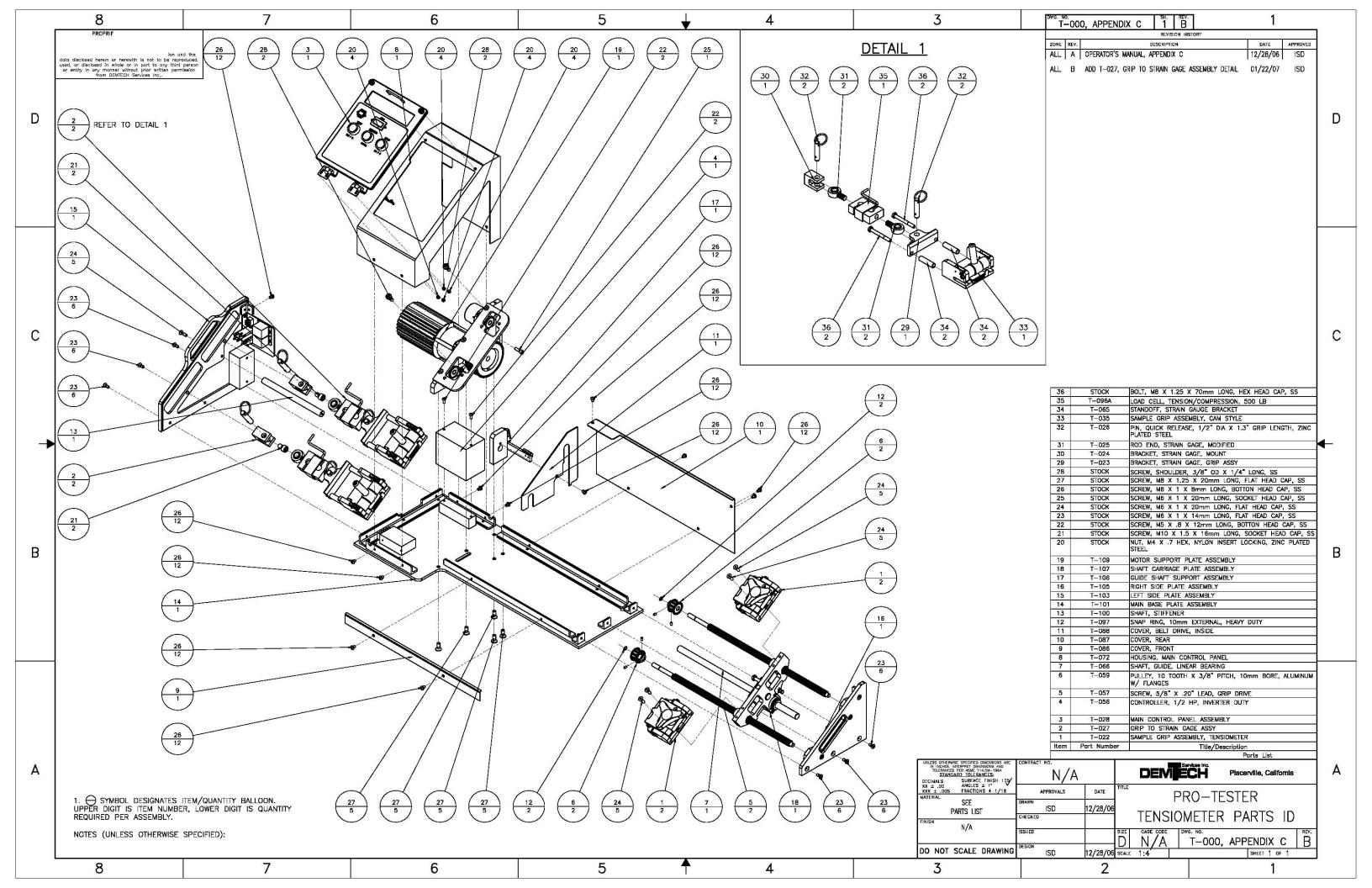
## **Operator's Manual**

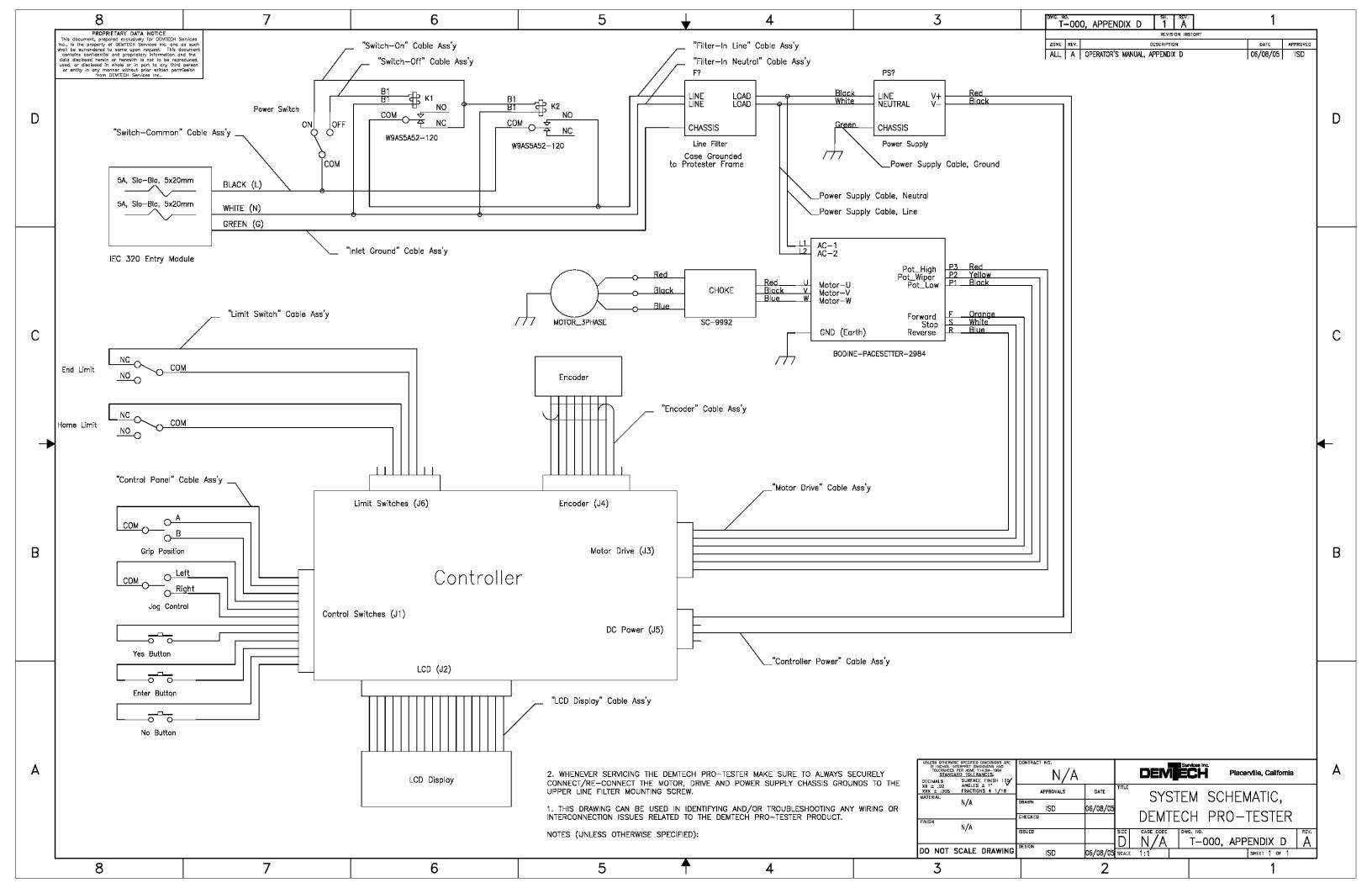
#### **Scope of Manual:**

This manual contains procedures for general unpacking, installation, setup and operation of your DEMTECH Services, Inc. tensiometer.

**Revision: B** 







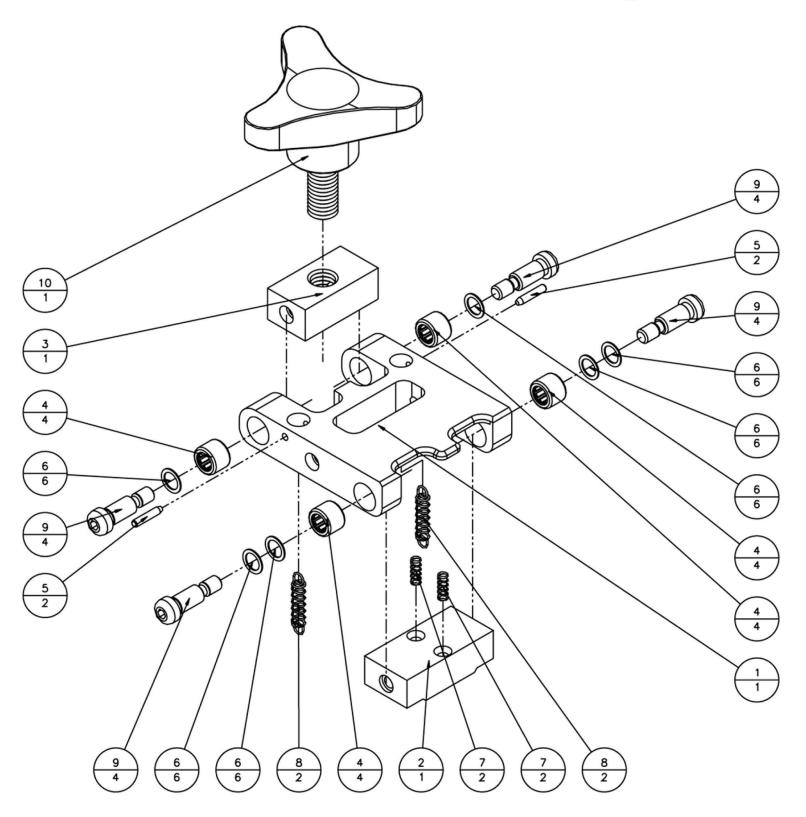


### **Pro-Tester Assemblies:**

**Exploded-View Drawings and Parts Lists** 

#### T-020, Upper Jaw Assembly, Pro-Tester





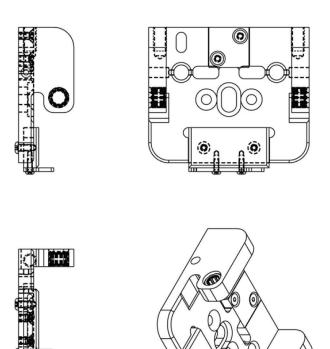


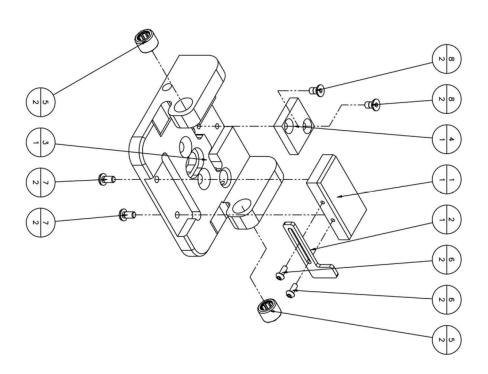
		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-005	JAW, SAMPLE GRIP, UPPER	1
2	T-008B	BLOCK, GRIPPER MOUNT, UPPER	1
3	T-011	NUT, 1/2-13, UPPER JAW, SWIVEL	1
4	T-013	BEARING, GRIP ASSY, 5/16" ID X 1/2" OD X 1/2" LONG	4
5	T-014	PIN, DOWEL 1/8" OD X 5/8" LONG, HARDENED, SS	2
6	T-015	SHIM, .314" ID X .438" OD X .020" THICK, SS	6
		LONG, MUSIC WIRE	
7	T-016	SPRING, COMPRESSION, .025" WIRE DIA X .180" OD X .563"	2
		LONG, MUSIC WIRE	
8	T-017	SPRING, EXTENSION, .029" WIRE DIA X .240" OD X .750"	2
		ALLOY STEEL	
9	T-018	SCREW, SHOULDER, 5/16" OD X 5/8" LONG, HARDENED	4
		STUD	
10	T-019	KNOB, THREE PRONG BLACK PLASTIC, 1/2-13 X 1.18" LONG	1

T-020, Upper Jaw Assembly, Pro-Tester

#### T-021, Lower Jaw Assembly, Pro-Tester



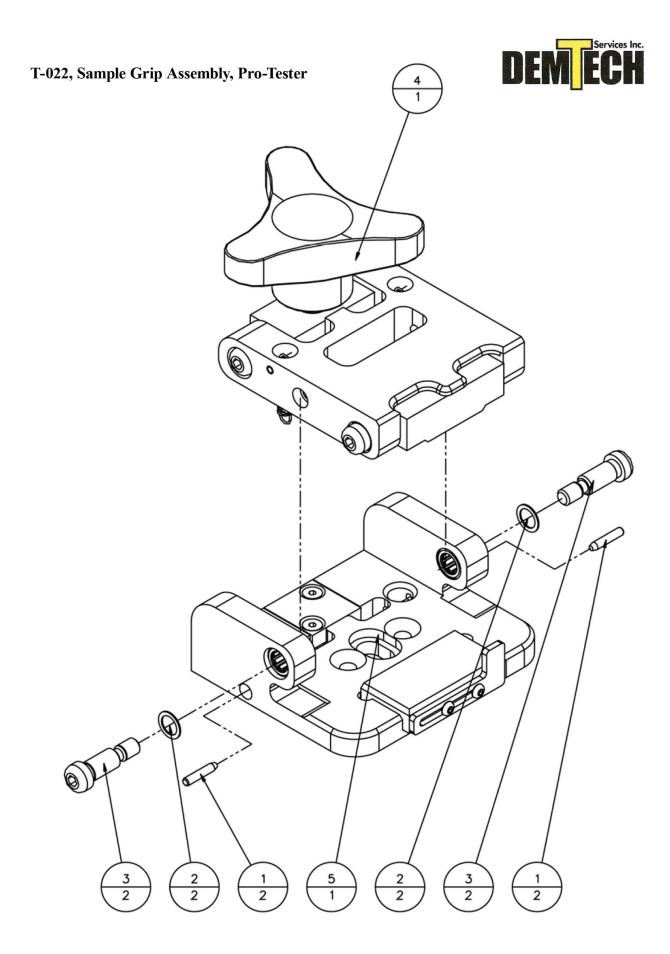






		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-006	GRIP, SAMPLE, LOWER	1
2	T-007	STOP, SAMPLE SIDE, ADJUSTABLE	1
3	T-009	JAW, SAMPLE GRIP, LOWER	1
4	T-010	PAD, CLAMP SCREW, STRIKER	1
5	T-013	BEARING, GRIP ASSY, 5/16" ID X 1/2" OD X 1/2" LONG	2
6	STOCK	SCREW, M3 X .5 X 8mm LONG, BUTTON HEAD SOCKET, SS	2
7	STOCK	SCREW, M4 X .7 X 8mm LONG, BUTTON HEAD SOCKET, SS	2
8	STOCK	SCREW, M4 X .7 X 8mm LONG, FLAT HEAD SOCKET, SS	2

T-021, Lower Jaw Assembly, Pro-Tester

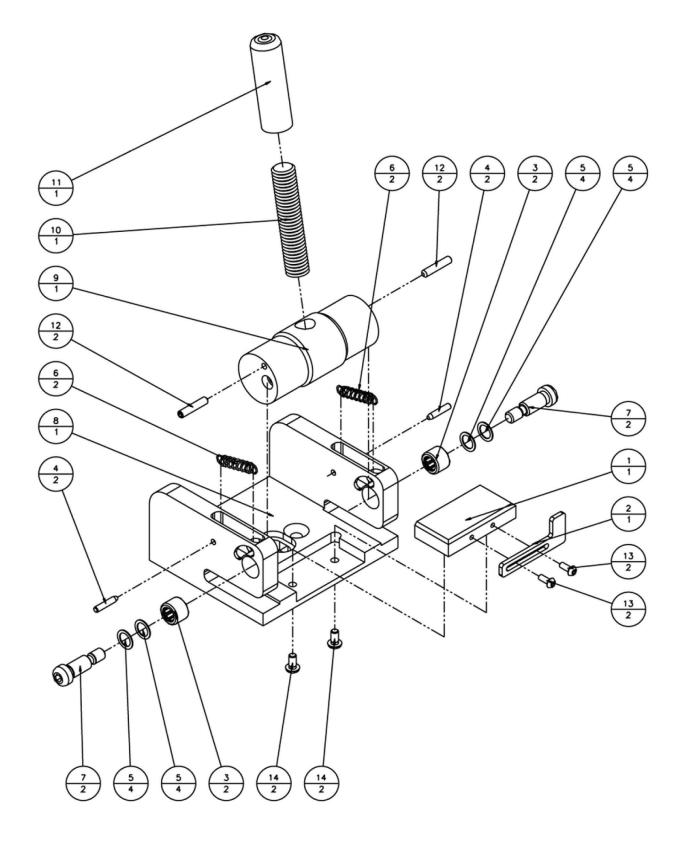




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-014	PIN, DOWEL, 1/8" OD X 5/8" LONG, HARDENED, SS	2
2	T-015	SHIM, .314" ID X .438" OD X .020" THICK, SS	2
		ALLOY STEEL	
3	T-018	SCREW, SHOULDER, 5/16" OD X 5/8" LONG, HARDENED	2
4	T-020	UPPER JAW ASSEMBLY, TENSIOMETER	1
5	T-021	LOWER JAW ASSEMBLY, TENSIOMETER	1

T-022, Sample Grip Assembly, Pro-Tester



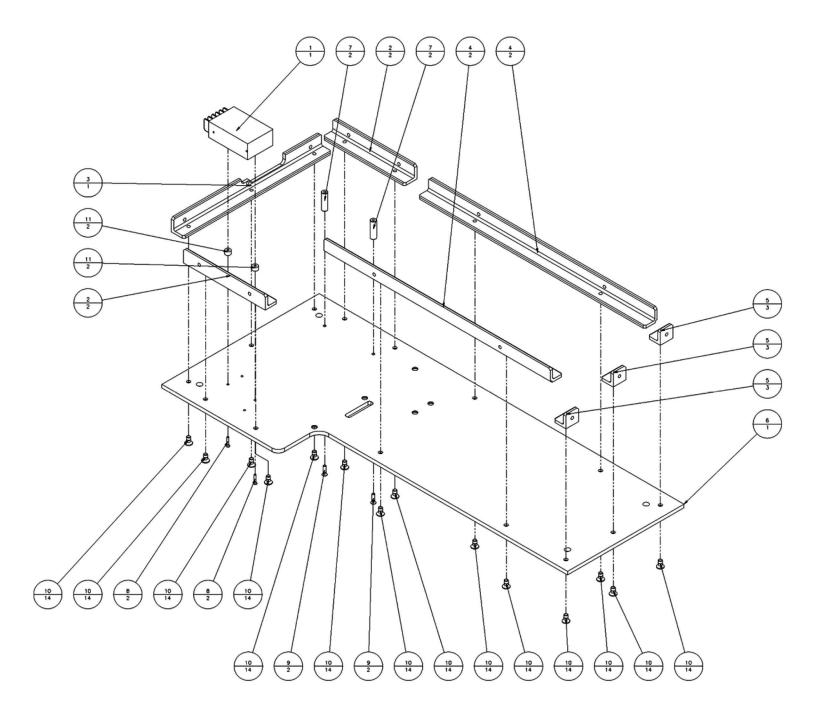




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-006	GRIP, SAMPLE, LOWER	1
2	T-007	STOP, SAMPLE SIDE, ADJUSTABLE	1
3	T-013	BEARING, GRIP ASSY, 5/16" ID X 1/2" OD X 1/2" LONG	2
4	T-014	PIN, DOWEL, 1/8" OD X 5/8" LONG, HARDENED, SS	2
5	T-015	SHIM, .314" ID X .438" OD X .020" THICK, SS	4
		LONG, MUSIC WIRE	
6	T-017	SPRING, EXTENSION, .029" WIRE DIA X .240" OD X .750"	2
		ALLOY STEEL	
7	T-018	SCREW, SHOULDER, 5/16" OD X 5/8" LONG, HARDENED	2
8	T-030	JAW, SAMPLE GRIP, LOWER, CAM	1
9	T-031	CAM, SAMPLE GRIP, PIVOT	1
10	T-032	STUD, 1/2-13 X 2-1/2" LONG, FULLY THREADED, SS	1
11	T-033	CAP, 1/2" ID X 2" LONG, VINYL, BLACK	1
12	T-034	SCREW, SET, M4 X .7 X 20mm LONG, ALLEN CUP POINT, SS	2
13	STOCK	SCREW, M3 X .5 X 8mm LONG, BUTTON HEAD SOCKET, SS	2
14	STOCK	SCREW, M4 X .7 X 8mm LONG, BUTTON HEAD SOCKET, SS	2

T-035, Assembly, Cam Style Assembly, Pro-Tester





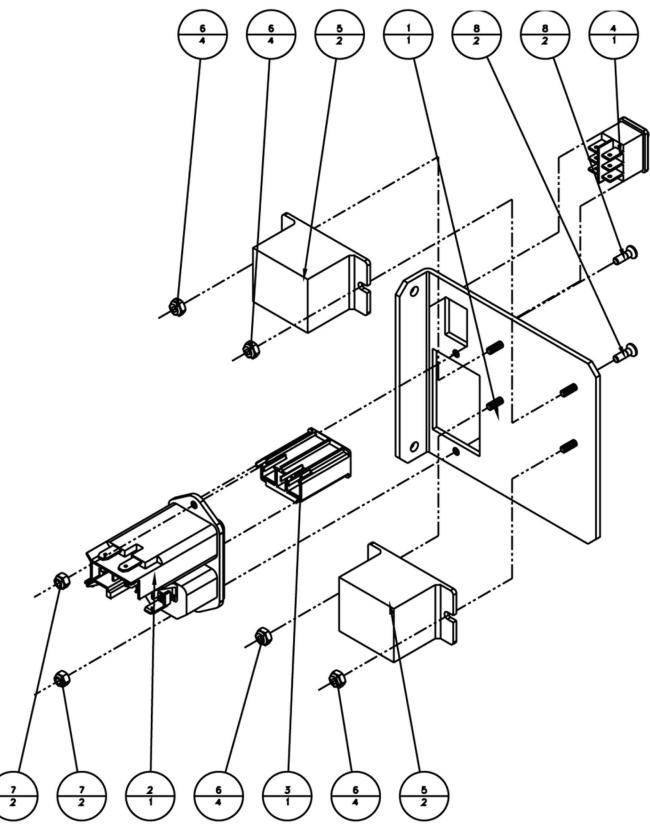


		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-044	POWER SUPPLY, 5VDC @ 5A, SINGLE OUTPUT	1
2	T-068	ANGLE, MOUNTING, 1" X 1" X 6-1/2" LONG	2
3	T-069	ANGLE, MOUNTING, 1" X 1" X 11-3/4" LONG	1
4	T-070	ANGLE, MOUNTING, 1" X 1" X 18" LONG	2
5	T-071	ANGLE, MOUNTING, 1" X 1" X 1" LONG	3
6	T-073	PLATE, MAIN BASE, SUPPORT	1
7	T-110	STANDOFF, MOTOR CONTROLLER	2
8	STOCK	SCREW, M3 X .5 X 16mm LONG, FLAT HEAD CAP, SS	2
9	STOCK	SCREW, M4 X .7 X 16mm LONG, FLAT HEAD CAP, SS	2
10	STOCK	SCREW, M6 X 1 X 12mm LONG, FLAT HEAD CAP, SS	14
		NYLON	
11	STOCK	SPACER, .140" ID X .375" OD X .250" LONG, NATURAL	2

T-101, Main Base Plate Assembly, Pro-Tester

#### T-102, Power Input Bracket Assembly, Pro-Tester



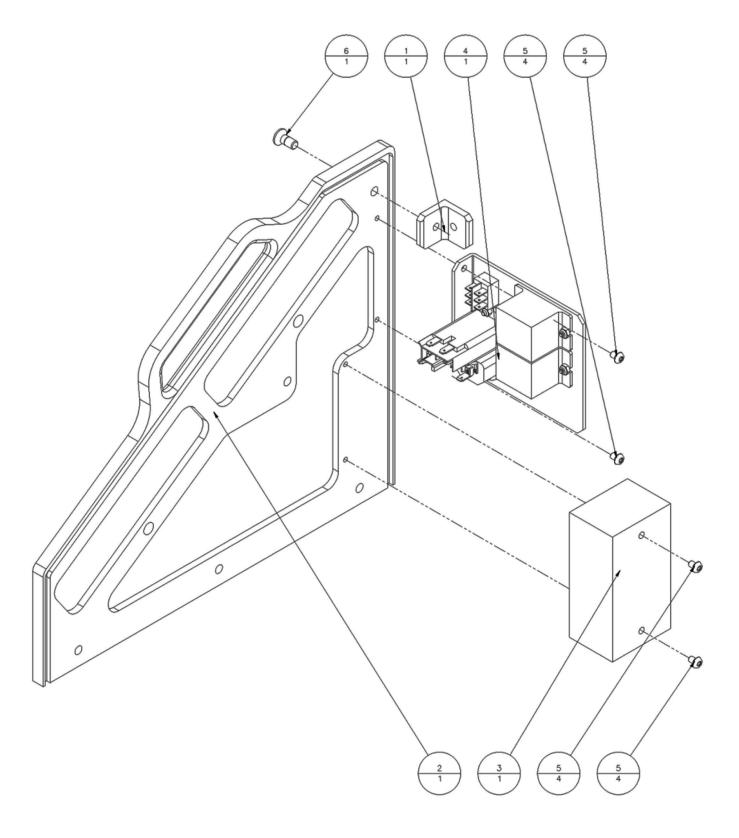




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-089	BRACKET, POWER INPUT MODULE	1
2	T-090	POWER ENTRY MODULE, PANEL MOUNT	1
3	T-091	FUSE DRAWER, POWER ENTRY MODULE	1
		BLACK	
4	T-092	POWER SWITCH, DPDT, 12A, MOM/OFF/MOM, ROCKER,	1
5	T-099	RELAY, MAIN POWER SWITCH, 120VAC	2
		STEEL	
6	STOCK	NUT, 4-40 HEX, NYLON INSERT LOCKING, ZINC PLATED	4
		STEEL	
7	STOCK	NUT, M3 X .5 HEX, NYLON INSERT LOCKING, ZINC PLATED	2
8	STOCK	SCREW, M3 X .5 X 10mm LONG, FLAT HEAD CAP, SS	2

T-102, Power Input Bracket Assembly, Pro-Tester



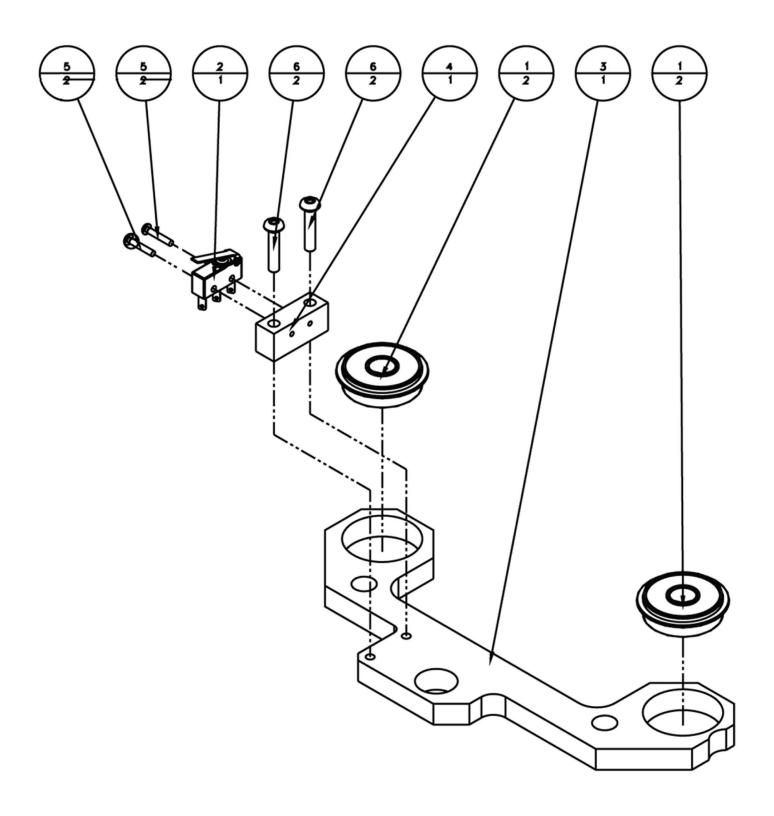




Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-071	ANGLE, MOUNTING, 1" X 1" X 1" LONG	1
2	T-074	PLATE, LEFT SIDE, END	1
3	T-093	FILTER, MAIN AC POWER INPUT	1
4	T-102	POWER INPUT BRACKET ASSEMBLY	1
5	STOCK	SCREW, M4 X .7 X 6mm LONG, BOTTOM HEAD CAP, SS	4
6	STOCK	SCREW, M6 X 1 X 14mm LONG, FLAT HEAD CAP, SS	1

T-103, Left Side Plate Assembly, Pro-Tester



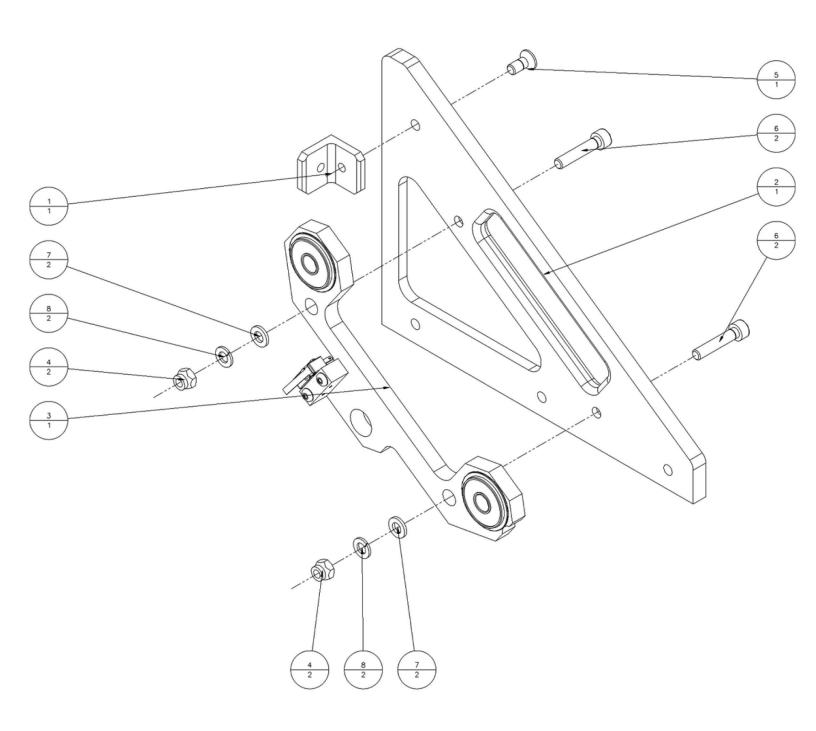




	Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY	
		RING		
1	T-062	BEARING, 10mm ID X 30mm OD X 9mm W, SEALED, W/ SNAP	2	
2	T-063	LIMIT SWITCH, SEALED, SPDT, 5A, .110 QC, LEVER	1	
3	T-080	PLATE, BEARING SUPPORT, END	1	
4	T-083	BRACKET, LIMIT SWITCH, EXTENDED	1	
5	STOCK	SCREW, 2-56 X 1/2" LONG, PHILLIPS PAN HEAD, SS	2	
6	STOCK	SCREW, M4 X .7 X 20mm LONG, BOTTOM HEAD CAP, SS	2	

T-104, Bearing Support Plate Assembly, Pro-Tester



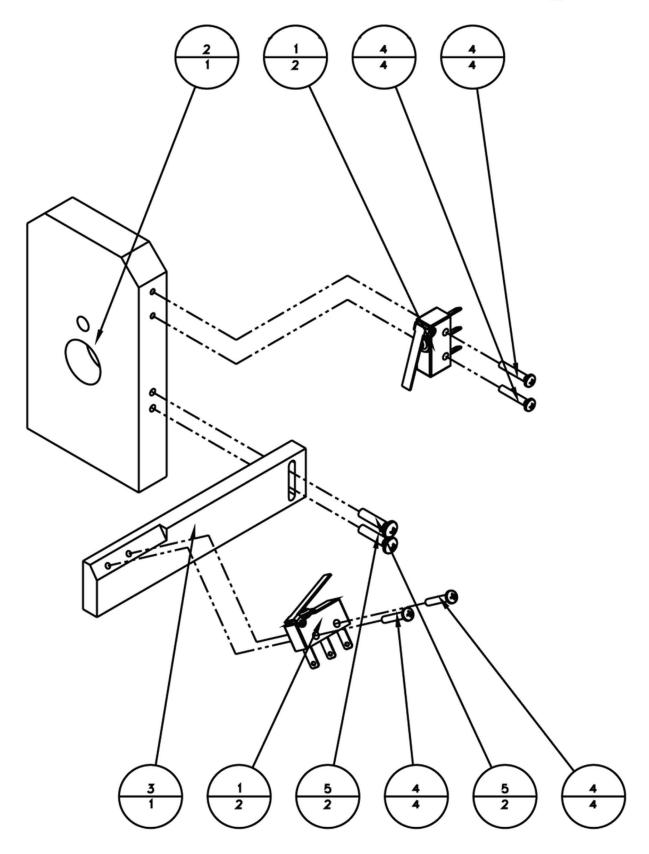




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-071	ANGLE, MOUNTING, 1" X 1" X 1" LONG	1
2	T-075	PLATE, RIGHT SIDE, END	1
3	T-104	BEARING SUPPORT PLATE ASSEMBLY	1
		STEEL	
4	STOCK	NUT, M6 X 1 HEX, NYLON INSERT LOCKING, ZINC PLATED	2
5	STOCK	SCREW, M6 X 1 X 14mm LONG, FLAT HEAD CAP, SS	1
6	STOCK	SCREW, M6 X 1 X 25mm LONG, SOCKET HEAD CAP, SS	2
7	STOCK	WASHER, M6 FLAT, DIN 125, SS	2
8	STOCK	WASHER, M6 SPLIT LOCK, SS	2

T-105, Right Side Plate Assembly, Pro-Tester





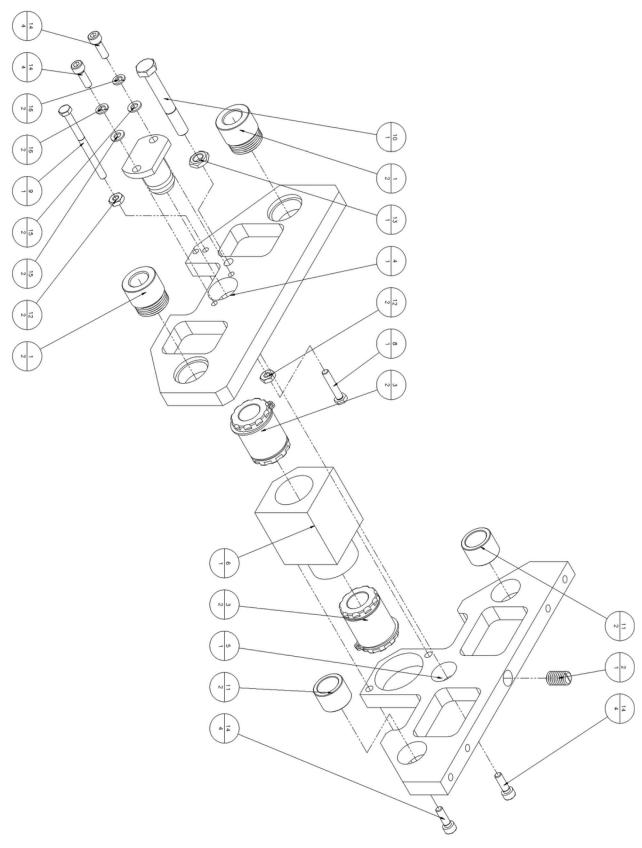


	Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY	
1	T-063	LIMIT SWITCH, SEALED, SPDT, 5A, .110 QC, LEVER	, 2	
2	T-081	SUPPORT, GUIDE SHAFT, END	1	
3	T-082	BRACKET, LIMIT SWITCH, NEAR HOME	1	
4	STOCK	SCREW, 2-56 X 1/2" LONG, PHILLIPS PAN HEAD, SS	4	
5	STOCK	SCREW, 4-40 X 1/2" LONG, PHILLIPS PAN HEAD, SS	2	

T-106, Guide Shaft Support Assembly, Pro-Tester





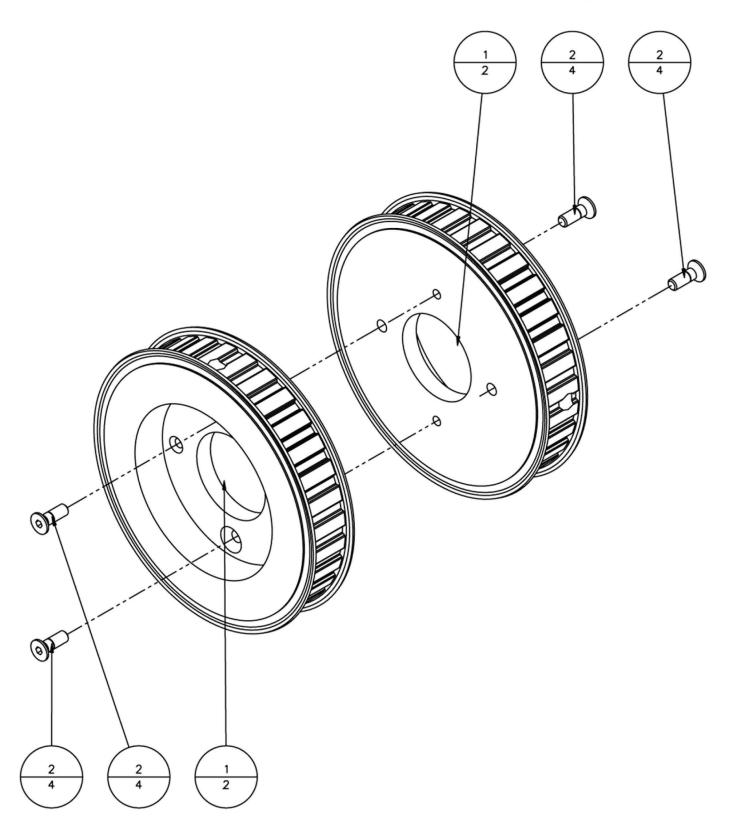




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-058	NUT, 5/8" X .20" LEAD, BRONZE, GRIP DRIVE	2
2	T-064	PLUNGER, BALL, 3/8-16 X .625, SS, W/ LOCK	1
3	T-067	BEARING, 5/8' ID LINEAR BALL, SELF-ALIGNING, CLOSED	2
4	T-077	PLATE, CARRIAGE DRIVE, SCREW	1
5	T-078	PLATE, CARRIAGE SLAVE, SHAFT	1
6	T-079	HOUSING, LINEAR BEARING, MOUNT	1
7	T-084	POST, DRIVE, PLATE, DETENT	1
8	STOCK	BOLT, 10-32 X 1-1/4" LONG, HEX HEAD MACHINE, SS	1
9	STOCK	BOLT, 10-32 X 2-1/2" LONG, HEX HEAD MACHINE, SS	1
10	STOCK	BOLT, M8 X 1.25 X 60mm LONG, HEX HEAD CAP, SS	1
11	STOCK	BUSHING, 5/8" ID X 7/8" OD X 5/8" LONG, SAE 841, BRONZE	2
12	STOCK	NUT, 10-32 HEX, SMALL-PATTERN MACHINE, SS	2
13	STOCK	NUT, M8 X 1.25 HEX, JAM, SS	1
14	STOCK	SCREW, M5 X .8 X 16mm LONG, SOCKET HEAD CAP, SS	4
15	STOCK	WASHER, M5 FLAT, DIN 125, SS	2
16	STOCK	WASHER, M5 SPLIT LOCK, SS	2

T-107, Shaft Carriage Plate Assembly, Pro-Tester



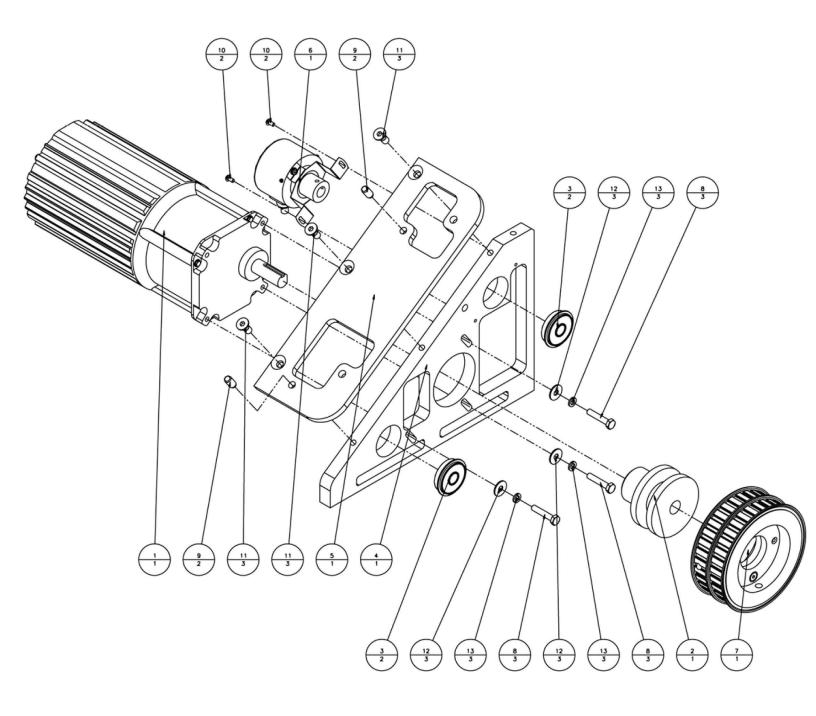




		Parts List	
ITEM	PART NUMBER	DESCRIPTION	QTY
1	T-060	PULLEY, 32 TOOTH X 3/8" PITCH, ALUMINUM W/ FLANGES	2
2	STOCK	SCREW, M4 X .7 X 12mm LONG, FLAT HEAD CAP, SS	4

T-108, Main Drive Pulley Assembly, Pro-Tester







Parts List			
ITEM	PART NUMBER	DESCRIPTION	QTY
		230VAC	
1	T-055	MOTOR, 1/6 HP, VARIABLE SPEED, 60:1 GEAR RATIO,	1
2	T-061	TORQUE LIMITER, 1/2" BORE X 1-1/4" SHEEVE X 1/2" GRIP	1
3	1-002	RING	2
3	T-062	BEARING, 10mm ID X 30mm OD X 9mm W, SEALED, W/ SNAP	2
4	T-076	PLATE, MOTOR SUPPORT, STANDOFF	1
5	T-085	SUPPORT, SAMPLE GRIP ASSY	1
6	T-095	ROTARY ENCODER, 100 PPR, 10mm BORE	1
7	T-108	MAIN DRIVE PULLEY ASSY	1
8	STOCK	BOLT, 10-32 X 1-1/4" LONG, HEX HEAD MACHINE, SS	3
9	STOCK	DOWEL PIN, 1/4" X 1/2" LONG, HARDENED, SS	2
10	STOCK	SCREW, M3 X .5 X 6mm LONG, BOTTOM HEAD CAP, SS	2
11	STOCK	SCREW, M6 X 1 X 14mm LONG, FLAT HEAD CAP, SS	3
12	STOCK	WASHER, /10 TYPE B, REGULAR PATTERN, SS	3
13	STOCK	WASHER, /10 SPLIT-LOCK, SS	3

T-109, Motor Support Plate Assembly, Pro-Tester

### NEW RESERVE RE

# Warranty

DEMTECH Services, Inc. warrants all equipment of its manufacture to be free from defects in materials, workmanship, mechanical parts, and labor for a period of one year from the date of shipment to the original buyer and ninty days for electrical. This warranty excludes normal wear items such as gears, bearings and chains. The liability under this warranty is limited to replacement parts and labor on equipment when the equipment is returned prepaid to the factory or its authorized service center with prior authorization from DEMTECH Services, Inc., and upon examination by DEMTECH Services, Inc., is determined to be defective. At DEMTECH Services, Inc.'s option, a service representative may be dispatched to the equipment location.

As an additional protection, DEMTECH Services, Inc. warrants that for a period of 90 days from the date of shipment to the original buyer, pending prior authorization from DEMTECH Services, Inc., there will be no charge for service related shipping of parts and/or equipment or for authorized travel of a service representative to the equipment location. After 90 days, all costs incurred for shipping the equipment or parts thereof or for travel are the responsibility of the buyer. Our warranty for this equipment is rendered void if the unit has been repaired, taken apart or modified, or attempted to be, unless such actions have been taken in accordance with written instructions received from DEMTECH Services, Inc. The warranty is also void if the equipment has been subjected to abuse, accident or other abnormal conditions.

#### IF ANY FAULT DEVELOPS, THE FOLLOWING STEPS SHOULD BE TAKEN:

- Notify DEMTECH Services, Inc. by calling 1-888-324-9353. Overseas customers should contact the local DEMTECH authorized service center. Please be prepared with the model number, serial number and full details of the difficulty. Upon receipt of this information, service data or shipping instructions will be provided by DEMTECH Services, Inc. Do not return the unit for repair without first contacting the factory or its representative for instructions.
- 2. After the initial 90 day period, on receipt of shipping instructions, forward the equipment prepaid to the factory or its authorized service center as instructed. If requested, an estimate of the charges will be made before work begins, especially with those cases where the DEMTECH Services, Inc. product is not covered by the warranty.
- 3. If the original carton and packing are not available, the product should be packed in a container with a strong exterior and surrounded by a protective layer of shock-absorbing material. DEMTECH Services, Inc. advises returning the equipment at full value to the carrier.

DEMTECH Services, Inc. reserves the right to make changes in design at any time without incurring any obligation to install the same changes on units previously purchased.

This warranty states the essence of the obligations or liabilities on the part of DEMTECH Services, Inc. THE FORMAL, COMPLETE AND EXCLUSIVE STATEMENT OF DEMTECH SERVICES, INC.'S WARRANTY IS CONTAINED IN ITS QUOTATIONS, ACKNOWLEDGEMENTS AND INVOICES. DEMTECH Services, Inc. neither assumes, nor authorizes any person to assume for it, any liability in connection with the sale of its equipment other than those set forth herein.