



# TSI 501-A Electronic Strobe Balancer Instruction Manual

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**AMERMAC<sup>TM</sup>**

## TSI 501-A Electronic Strobe Balancer



### SAFETY INSTRUCTIONS

**Owner's Responsibility** To maintain machine and user safety, the responsibility of the owner is to read and follow these instructions:



MODEL 501-A ELECTRONIC STROBE BALANCER

- Follow all installation instructions.
- Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State and Federal OSHA Regulations and Electrical Codes.
- Carefully check the unit for the correct initial function.
- Read and follow the safety instructions. Keep them readily available for machine operators.
- Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.
- Allow unit operation only with all parts in place and operating safely.
- Carefully inspect the unit on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with authorized or approved replacement parts.

- Keep all instructions permanently with the unit and all decals/labels/notices on the unit clean and visible.
- Do not override safety features.

### **Operator Protective Equipment**

Personal protective equipment helps make tire servicing safer. However, equipment does not take the place of safe operating practices. Always wear durable work clothing during tire service activity. Loose-fitting clothing should be avoided. Tight-fitting leather gloves are recommended to protect the operator's hands when handling worn tires and wheels. Sturdy leather work shoes with steel toes and oil-resistant soles should be used by tire service personnel to help prevent injury in typical shop activities. Eye protection is essential during tire service activity. Safety glasses with side shields, goggles, or face shields are acceptable. Back belts provide support during living activities and are also helpful in providing operator protection. Consideration should also be given to the use of hearing protection if tire service activity is performed in an enclosed area, or if noise levels are high

### **Instruction**

FAILURE TO READ AND FOLLOW ALL WARNINGS AND INSTRUCTIONS IN THIS MANUAL CAN LEAD TO SERIOUS PERSONAL INJURY OR DEATH TO OPERATOR OR BYSTANDER.

THE OWNER IS RESPONSIBLE FOR MAINTAINING THE OPERATION INSTRUCTIONS AND DECALS FOR OPERATOR REFERENCE.  
FOR ADDITIONAL COPIES, CONTACT TSISSG

### **MODEL 501-A ELECTRONIC STROBE BALANCER INSTRUCTIONS**

With the flat side of the pick-up unit toward the wheel and cord toward the center of the vehicle and running out the back of the wheel, adjust down to the first mark on picking up the unit but never down to the second mark. Adjust jack up but never down with pick-up unit underneath the vehicle.

Mark tire anywhere or use valve stem as a reference point. The spin wheel on static switch and notice where the reference point is with worst vibration with spinner away from the wheel, switch to dynamic and notice where the reference point is.

If 1 hour difference between two points all weight inside.

If 2-hour difference most weight inside.

If beyond 2 hours (or no dynamic flash at all) all the weight goes outside the wheel.

You are thru with a dynamic switch from then on. This has told you all weight inside, the most weight inside, or all weight outside. Turn the wheel back to the static reference point and apply weight where the spinner touches the wheel (at 4 o'clock or eight o'clock) depending on which side of the vehicle you are on. (always just below dead center in the direction the wheel is turning) Dead center is nine and three o'clock.

On the next spin you are looking for the location of weight, always shift or add toward the spinner. On the left front, suppose you saw the wheel weight at six o'clock and bad vibration, shift weight toward eight o'clock ( or toward spinner) if you saw weight at eight o'clock and had vibration add weight. If you saw weight at two o'clock you are too heavy, reduce weight. Make the light go out. For the perfectionist, you can rest your hand on the vehicle and make the unit flash whether it wants to or not.

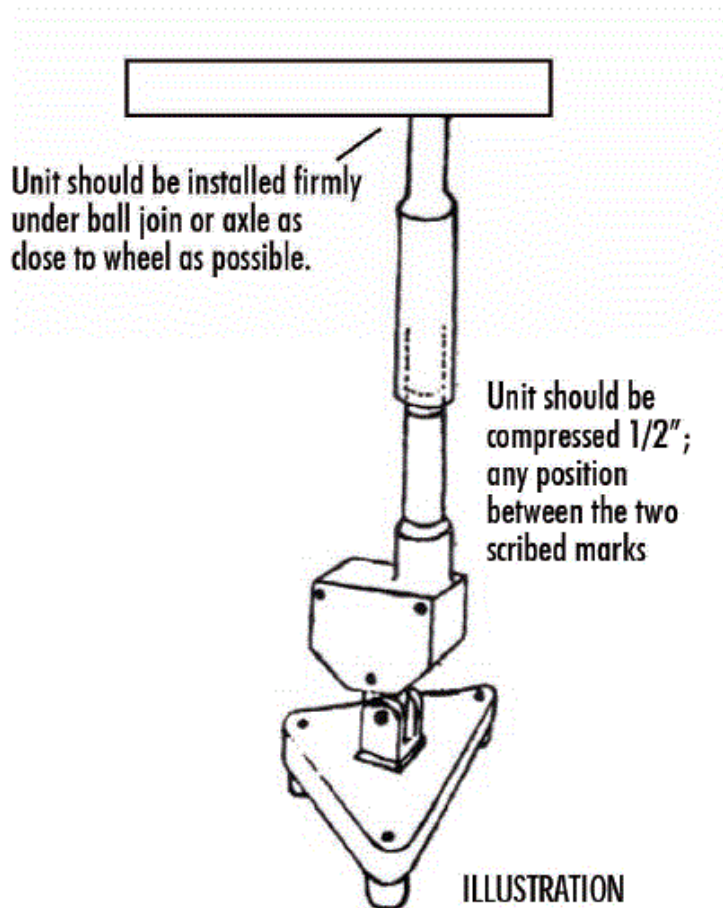
### **FORWARD**

In order to achieve the best possible results while balancing a tire, there are certain inspections that must be performed by the operator. The checks listed below should not be omitted in any circumstance.

1. The vehicle must be lifted correctly. When lifting front straight axles lift only one wheel at a time by the frame or frame pads. When lifting Twin "I" Beams place the jack under the radius arm behind wheel to be balanced, when lifting independent front suspensions, lift from the center of the cross member, with both wheels

- suspended. All wheels to be balanced should be lifted approximately 4 inches above the floor.
2. Check tire tread for extreme wear and remove debris from the tread. Check for recommended air pressure.
  3. Wheel and axle bearings should not be loose. Loose bearings should be adjusted or replaced if necessary.
  4. Check brakes for excessive drag and repair or replace.
  5. Suspension should be checked for loose parts and adjusted if necessary.
  6. Remove all wheel weights on wheel assemblies to be balanced.

#### **WHEEL BALANCING INSTRUCTIONS FOR PASSENGER CAR FRONT WHEELS. Kinetic method**



**STEP 1:** Jack car per instructions to the required height,

**STEP 2:** Install pick-up unit under ball joint or axle as close to the wheel as possible in a vertical position with all three feet solidly on the floor. SEE ILLUSTRATION.

**CAUTION:** Pick-up cord should be in a safe position from under the tire and out of the way of contact with spinning surfaces.

**STEP 3:** The pickup unit should be compressed approximately 1/2" inch (any position between the two scribed marks). SEE ILLUSTRATION.

**STEP 4:** Plug the light cabinet into a 110-volt power supply. Switch to static. (98% of all vibrations can be cured by the following method.) Dynamic selector need not be used unless the problem cannot be cured by the following method. If the problem still persists, refer to dynamic instructions in Section 111.

**STEP 5:** Spin wheel, disengage spinner. Note location of reference mark (valve stem or chalk mark) on the tire. Remember to mark in terms of clock location. Stop wheel, reposition reference mark to the same location as noted while spinning. SEE FIGURE 1.

**STEP 6** Place 1-5 oz. weights (depending upon the severity of vibration) on the inside of the tire at the location of the spinning bell. SEE FIGURE 2

(The spinning bell is a portion of the tire spinner which rotates the tire. )

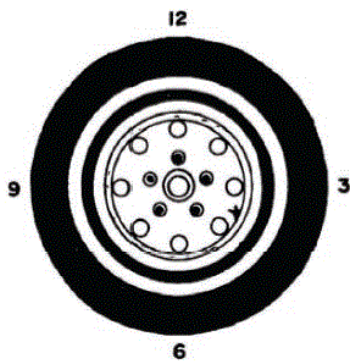
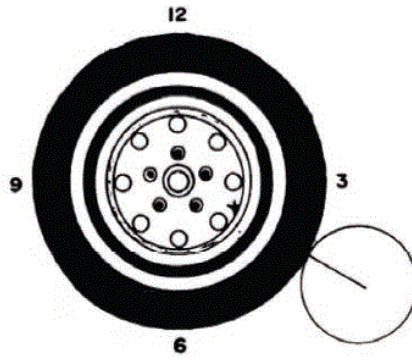
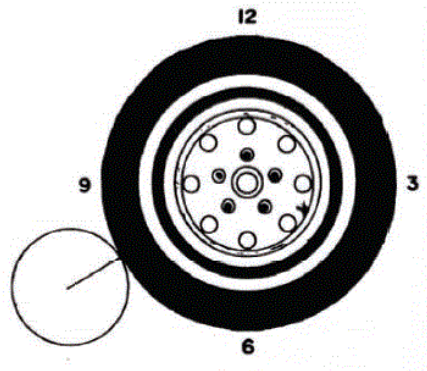


FIGURE 1



RH WHEEL



LH WHEEL

STEP 7: Repeat Step 5. Also, note the location of the inside weight. If the location of the inside weight is more than 3 hours ° (90 degrees) away from the spinning bell, in either direction move the weight half the distance to the

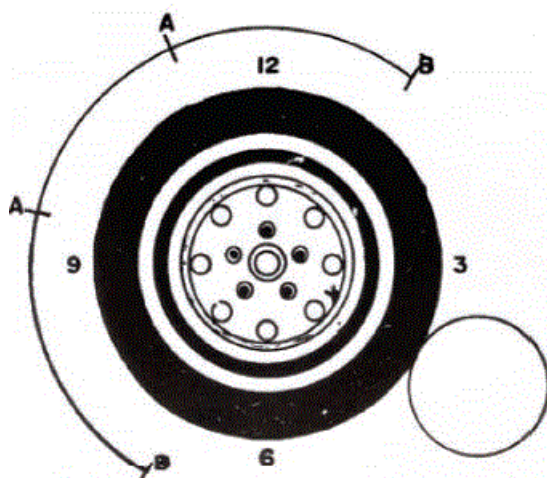


FIGURE 3

If location of inside weight is between A & B move weight half the distance toward spinning bell. If location of inside weight is between A & A decrease amount of weight.

bell and repeat Step 5 SEE FIGURE 3, If not, proceed with Step 8.

**STEP 8:** Attach 1- 3 ozs. of weight on the outside of the tire at the location of the spinning bell. SEE FIGURE 4.

**STEP 9:** Repeat Step 5. If the location of outside weight is above the spinning bell, move downward toward the bell, if the location is below the spinning bell moves upward toward the bell. SEE FIGURE 5.

**STEP 10:** Repeat Step 9 until the desired objective is achieved (little or no vibration).



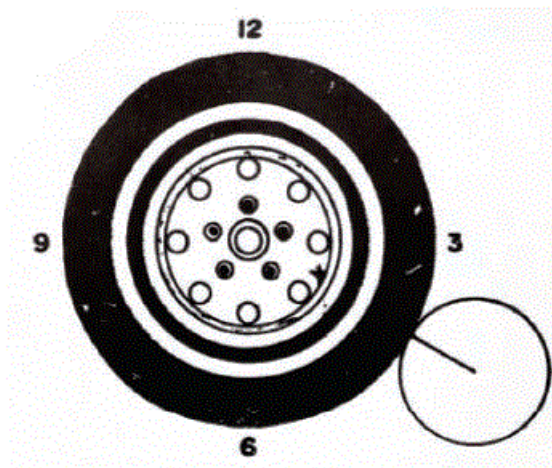


FIGURE 4

#### RIGHT HAND WHEEL

Attach outside weight adjacent to spinning bell

### SECTION 11-WHEEL BALANCE INSTRUCTIONS FOR PASSENGER CAR REAR WHEELS Kinetic Method

**STEP 1:** Block front wheels.

**STEP 2** Raise one wheel approximately 2" off the floor by placing a jack under the frame rail or body pad. Securely block the remaining wheel on the floor. Remove all rear-wheel weights.

**STEP 3** Install pick-up unit under rear suspension as in STEP 2 of front-wheel instructions, compress pickup unit as in STEP 3 of front-wheel instructions.

**STEP 4** Plug the light cabinet into a 110-volt power supply and switch to static.

**STEP 5** Have the driver stall the engine and shift into high gear or drive position and accelerate slowly. DO NOT exceed 35-40 MPH on speedometer reading. Note the location of a reference mark

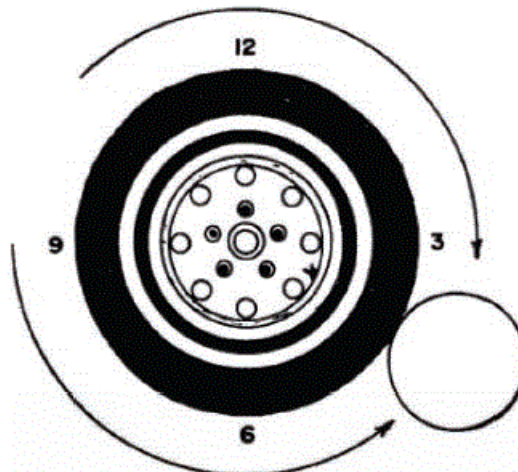
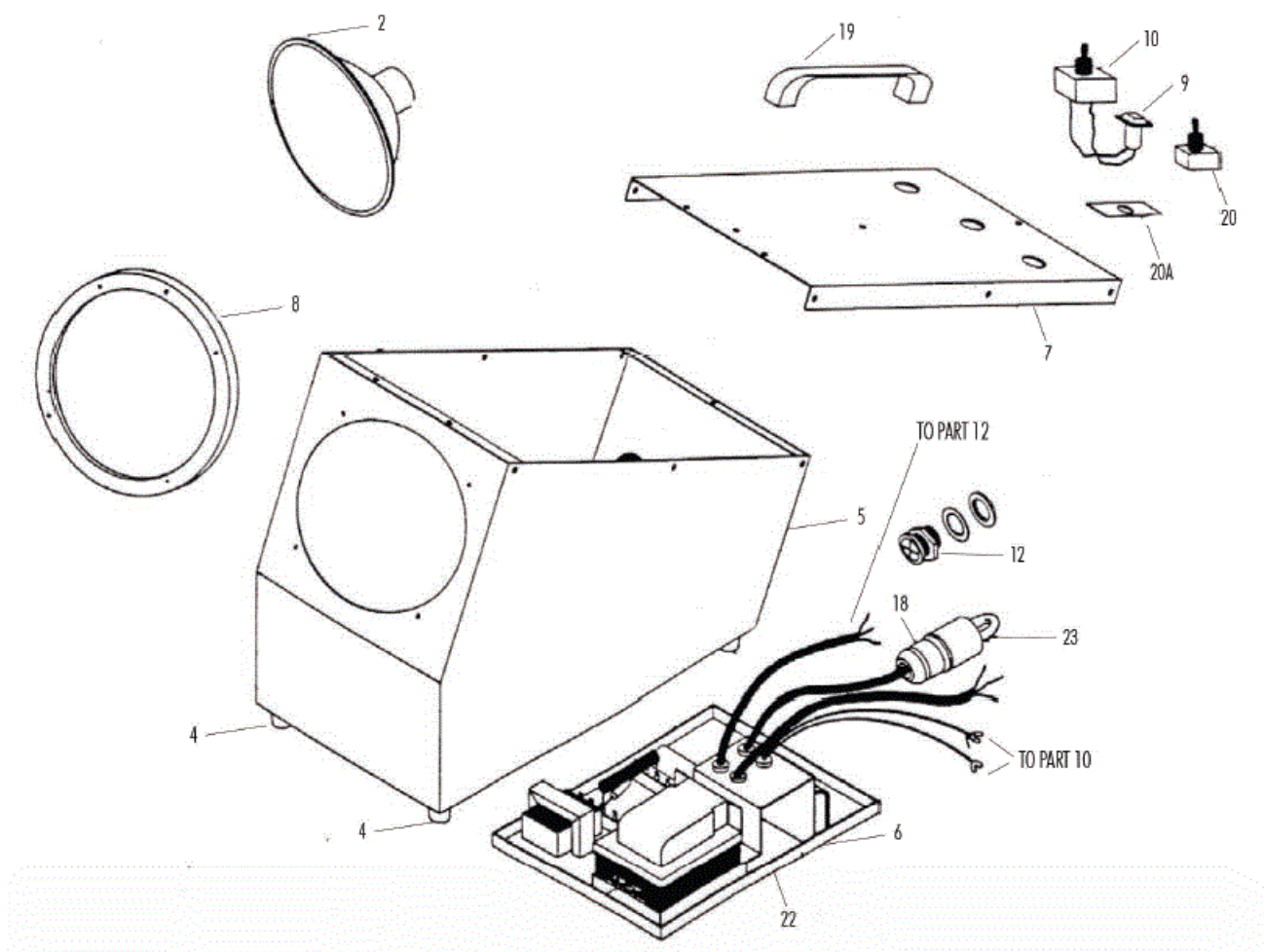


FIGURE 5

Move outside weight down if it appears above spinning bell, or up if below spinning bell.

(valve stem or chalk mark) on tire. Remember to mark in terms of clock rotation. Stop wheel., reposition reference mark to the same location as noted while spinning.

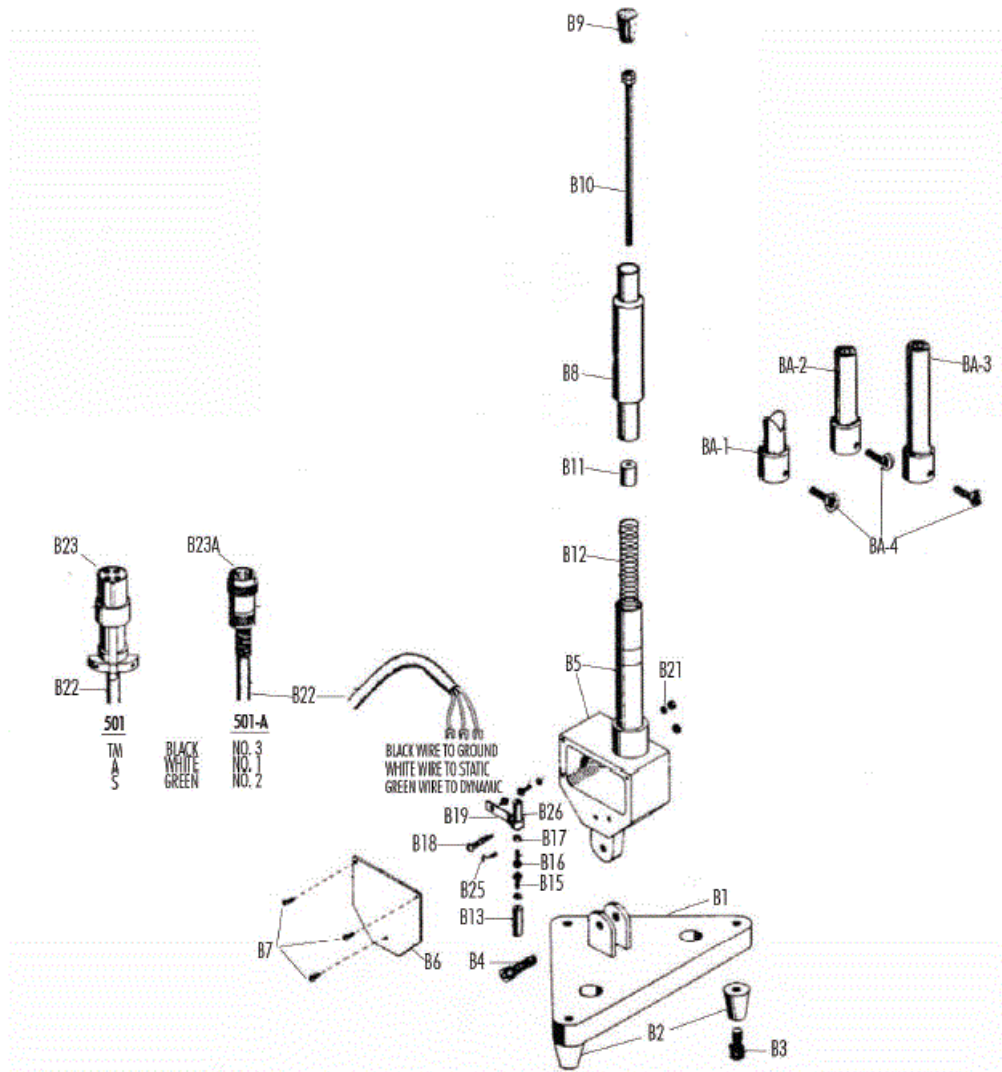
MODEL 501-A STROBE BALANCER



PARTS

2	ACRYLIC LENS ALUMINUM REFLECTOR POWER CORD	7	20 GALLON STAINLESS STEEL TOP ALUMINUM RIM	14	1/4 - 20 x 1/2 SCREWS (4) #7 SHEET METAL SCREWS 10-24 x 3/8" SCREWS	20	STATIC DYNAMIC SWITCH SWITCH PLATE
3	PLASTIC FEET 4	8	INDICATOR LIGHT ON/OFF SWITCH AMPHENOL FEMALE	15	8-32 SELF TAPPING SCREWS (2) THREE-PRONG PLUG	20A	POWERPACK
4	22 GALLON METAL BODY	9	HEYCO CONNECTOR	16		22	FLASH TUBE
5	20 GALLON STEEL SUPPORT/POWERPACK	10		17		23	
6		11		18			
		12		19	HANDLE		

## MODEL 501-A PICK-UP UNIT



### PARTS

No.	Part Name	No.	Part Name	No.	Part Name	No.	Part Name
B1	BASE WITHOUT FEET	B9	DUST STOPPER	B17	ADJUSTING NUT	B24	CABLE SCREW
B2	PLASTIC FEET	B10	PUSH ROD WITH NUTS	B18	DYNAMIC LIMITING SCREW	B25	GROUNDING SCREW
B3	SOCKET SCREW	B11	BRONZE CLUTCH	B19	DYNAMIC ARM	B26	STATIC DYNAMIC BUSHING
B4	PIVOT BOLT	B12	SPRING	B20	DYNAMIC POINT WITH NUT	BA-1	1" DUCKBILL EXTENSION
B5	POINT BOX ASSEMBLY	B13	POINT SUPPORT	B21	FIBER BUSHING	BA-2	2" EXTENSION
B6	COVER	B14	RETAINER BOLT	B22	3-WIRE CABLE (16-3 SJ x 8FT)	BA-3	3" EXTENSION
B7	COVER SCREWS	B15	LOWER STATIC POINT	B23	BERG PLUG FOR 501	BA-4	THUMB SCREW
B8	UPPER SLEEVE ASSEMBLY	B16	UPPER STATIC POINT	B23-A	AMPHENOL PLUG FOR 501-A		

## Warranty Statement & Return Policy

Warranty & Workmanship you can depend on.

TSISSG products are designed and developed by experts in their respective industries. Our passion for designing and testing is second only to our drive for creating industry innovations and real-world solutions that our customers can depend upon. With over 25 years of manufacturing experience, we maintain the ability to provide competitive prices while employing and manufacturing in the USA. We are the manufacturer of the majority of our products so taking pride in workmanship and standing behind each and every product is not just our claim but our uncompromising responsibility.

TSISSG equipment is warranted to be free from defects in materials and workmanship for a period of one year from the date of original purchase to the original owner. Repair labor is warranted for 90 days from the date of original purchase. Bushings, blades, bearings, and normal wear and tear are not covered under warranty. Careless handling, negligence, misuse, abuse, mutilation, improper operation, making unauthorized repairs, additions, and or alterations automatically cancel this warranty and relieve TSISSG of any obligation. Cheetah

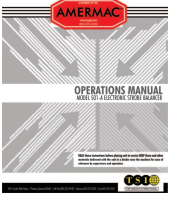


tanks claimed to be defective while under warranty will be evaluated at our manufacturing plant and either repaired if possible or exchanged and returned or credit issued to the customer account at our discretion. Damage resulting from dropping the tanks will not receive warranty consideration. Warranty parts need to be returned prepaid to the plant for credit. Any replacement parts shipped from the plant will be shipped at the customer's expense. Machines requiring warranty work must be brought to the manufacturing plant in Monticello, MN, or to a repair facility authorized by TSISG.

**Return Policy:**

**!!WARNING!!** Goods returned without an RGA will be refused. A Returned Goods Authorization form must be obtained before returning any material or goods. All non-warranty returns will be subject to a 15% restocking fee plus any additional charges for reconditioning/repacking.

**Documents / Resources**

	<p><a href="#">TSI 501-A Electronic Strobe Balancer</a> [pdf] Instruction Manual</p> <p>501-A, Electronic Strobe Balancer, 501-A Electronic Strobe Balancer</p>
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