

# **ULTRA ARC TITAN**

## **HMI 1200 WATT FOLLOWSPOT USER MANUAL**

### **MODELS:**

**LONG THROW – UAT-LT-120**

**SHORT THROW – UAT-ST-120**



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**PHOEBUS MANUFACTURING  
ULTRA ARC TITAN  
USER MANUAL**

**MODELS  
UAT-LT-120 & UAT-ST-120  
UAT-LT-220 & UAT-ST-220**

**January 2000**

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### **LIMITED WARRANTY**

Thank you for purchasing the Phoebus Manufacturing Ultra Arc Titan.

The Phoebus Manufacturing Ultra Arc Titan is warranted against defects in material and workmanship for a period of one year from date of purchase from Phoebus Manufacturing. In case of difficulty, contact Phoebus Manufacturing or your dealer for repair or return instructions. Iris, dowser, and clipper are warranted for six months under normal use.

Lamps are excluded from this warranty. This warranty does not apply to mechanical defects caused by rough handling or to damage caused by improper operation not in accordance with this manual. Cause of defect is in the sole judgment of Phoebus Manufacturing .

This warranty is voidable at Phoebus Manufacturing's option under the following circumstances:

- User makes unauthorized modifications (electrical or mechanical).

- The unit is connected to improper voltage supply.

- Any other condition occurs which causes catastrophic failure or impairs Phoebus Manufacturing's ability to render proper service.

If the unit is modified by the customer without permission, the customer agrees to pay for any time or parts necessary to remove the modifications before repair, if necessary.

Phoebus will not be responsible for consequential damages caused by failure for whatever reason of equipment of its manufacture. Sole liability is for equipment of its manufacture. Sole liability is for repair or replacement (at Phoebus Manufacturing's option) of the defective equipment under the terms described above.

## CONTROL DESCRIPTION

### I. FOLLOWSPOT

1. 3 POSITION POWER SWITCH  
Control power to fans and strike button  
**Down** – Off  
**Middle** – Fans Only  
**Up** – Power to lamp  
5 Amp 3AB  
Ignites lamp  
Records operating time accumulated on lamp. Non-resetable.
2. FUSE
3. STRIKE BUTTON  
Used to focus image. Turn handle clockwise to lock and counter-clockwise to unlock. Slide handle to focus beam.
4. HOUR METER  
Changes image size. Turn handle clockwise to lock and counter-clockwise to unlock. Slide handle forward for smaller image, spot distribution, long throws. Slide back for larger image, flood distribution, or short throws.
5. REAR LENS CONTROL HANDLE  
Mechanical dimmer. Open when lever is moved towards operator.
6. FRONT LENS CONTROL HANDLE  
Masks spot to rectangular strip. Open when lever is moved towards operator.
7. DOWSER  
Controls size of image. Opens widest when lever is moved towards operator.
8. CLIPPER  
**WARNING:** Iris left in closed position with dowser open for extended time may cause damage to iris leaves.
9. IRIS  
Gel is inserted in beam when lever is moved up. Six controls.
10. COLOR CONTROLS  
Friction lock for vertical tilt of unit.
11. TILT LOCK KNOB  
Connect to ballast for power input.
12. MALE TWIST LOCK POWER FEED CABLE  
Gives operator access to lamp adjustment screws.
13. REAR ACCESS DOOR

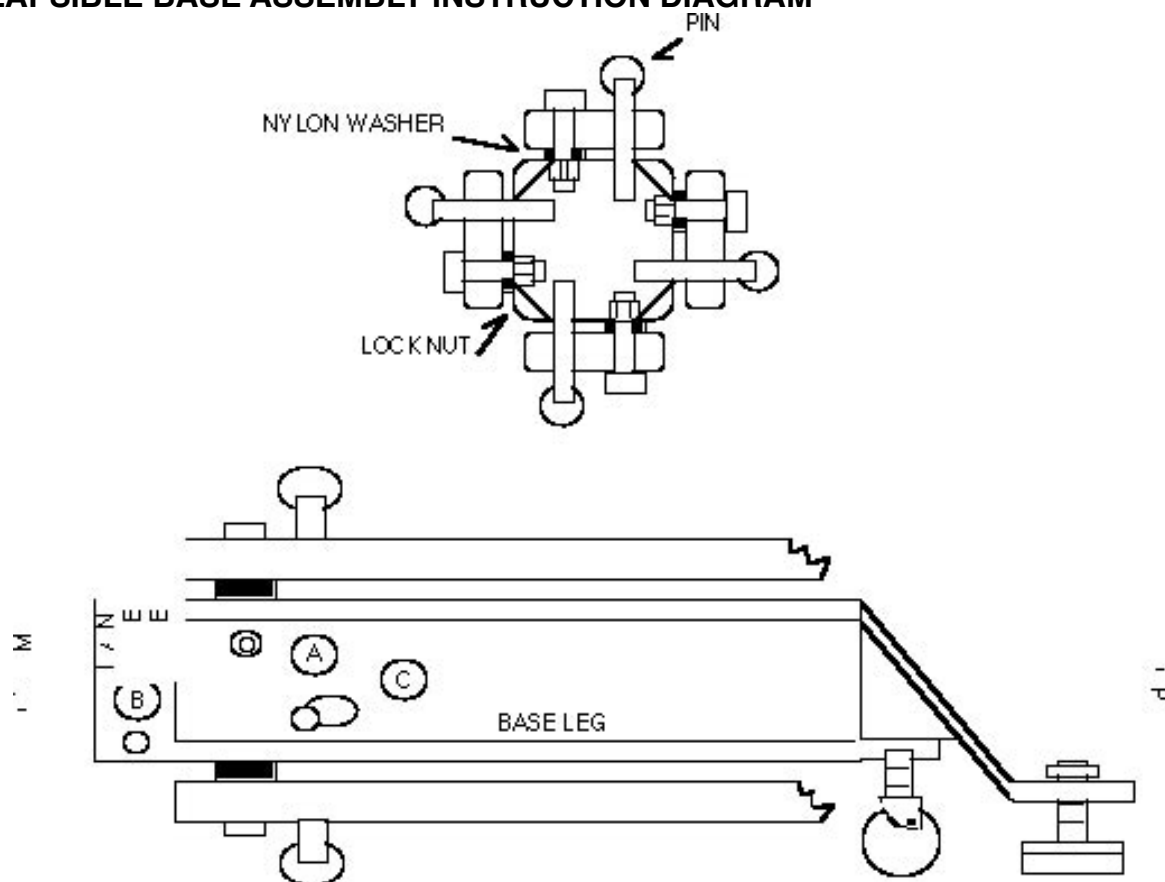
### II. BALLAST

1. ON/OFF SWITCH  
Supplies power to followspot  
Indicates strike ready. Lights when 3 position switch on followspot is in up/strike position.
2. PILOT LIGHT  
Accepts power feed cable from follow-spot  
Plugs into 110/120 volt outlet
3. FEMALE RECEPTACLE
4. LINE CORD

## **INITIAL SET-UP AND OPERATION**

1. Unpack carefully and inspect for shipping damage.
2. Bolt the 4 Base Legs onto the 3 1/2" Square Tubing with the elevator brackets and caster holes facing down. (See Collapsible Base Assembly Instruction Diagram on page 5).
3. Insert casters into legs.
4. Insert levels into elevator brackets located at the end of each leg.
5. Insert height collar washer onto yoke.
6. Insert height collar handle into height collar.
7. Slip height collar & handle onto yoke.
8. Insert yoke into base.
9. Turn tilt lock knobs on either side of the bail so 3/4" of thread is showing. Position fiber washers nearest the bail.
10. Lift the Ultra Arc Titan using the front and rear of the chassis as supports. Position the bail handle shafts in the U-shaped slots at the top of the yoke. Ensure that the washers are positioned properly. Turn the tilt lock knobs to tighten the grip on the yoke.
11. Remove shipping bolts and insert tapered handles into metal & fiber washers and then into front and rear lens holder.
12. Unscrew the four thumbscrews on either side of the color boomerang.
13. Unpack boomerang. Position it upside down, control levers facing you.
14. Raise the left-hand (operator right) gel holder.
15. Insert gel, cover with ring and secure with three clips. Use hammer or pliers to flatten the clips. (This will also keep the gel frames from hooking up on one another during use.)
16. Lower left-hand (operator right) gel holder and raise the next one.
17. Repeat steps #14 through #16. To access the bottom gel clip, raise all the gels to the left or right and lower the one being worked on.
18. As you move toward the right-hand gels (operator left), insert progressively lighter colors. The left hand (operator right) holder should be used for deep blue or purple colors). This will prolong their life.
19. Place the color boomerang on top of the Ultra Arc Titan with the lever handles facing the other operation controls. Secure with four thumbscrew near the bottom of the

### COLLAPSIBLE BASE ASSEMBLY INSTRUCTION DIAGRAM



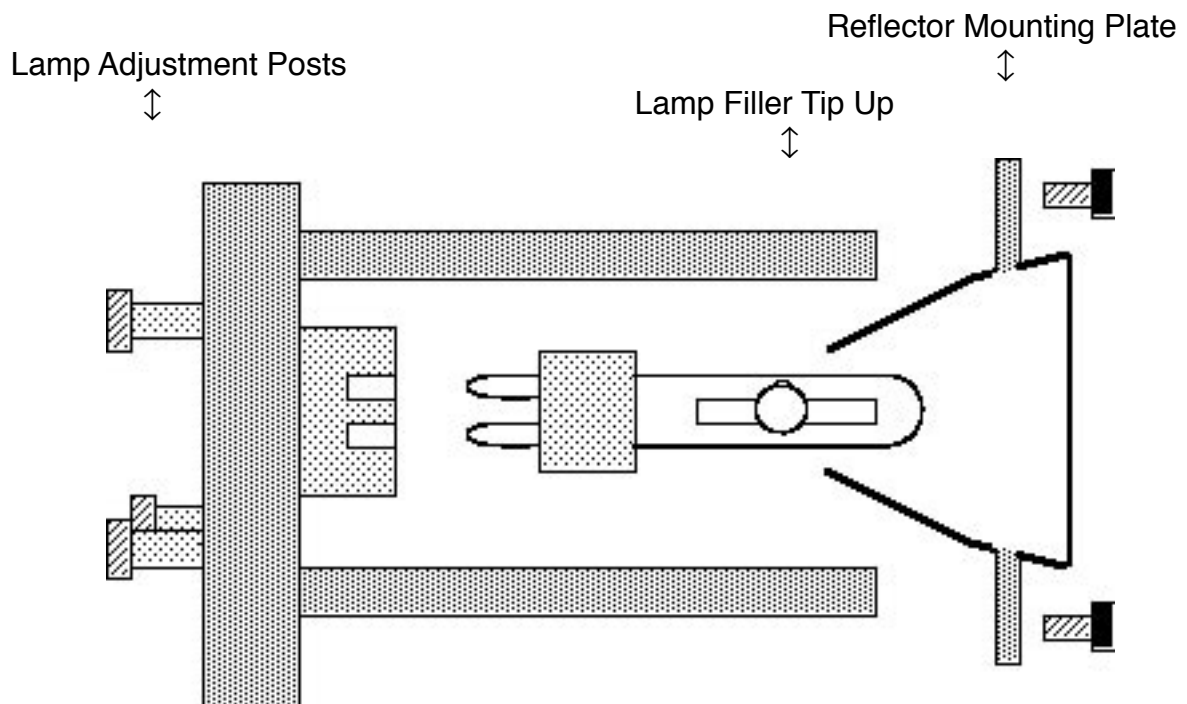
1. Insert casters into base legs.
  2. Insert leveling jacks onto base leg extension feet. Secure with 3/8-16 hex nuts.
  3. Insert bolt through hole "A" on the main base tube. Place nylon washer on the bolt. Position hole "A" on the base leg over the bolt in the main base tube. Slide the base leg over the bolt and secure with nylon nut.
- NOTE:** Nylon washer should be between base leg and main base tube. Nyloc nut should be secured on inside of the base leg. (See diagram above).
4. Insert pin into hole "B".
  5. Repeat steps 3 and 4 for remaining base legs.
  6. For storing or transporting base:
    - a. Remove pin "B".
    - b. Rotate leg around lock nut.
    - c. Align pin hole with hole "C".
    - d. Snap pin into hole "C" securely.

## LAMP INSTALLATION

1. Unplug unit from power source before attempting lamp installation.
2. Remove rear cover. Remove four thumbscrews on rear of cover, lift the rear cover straight up.
3. Unscrew four thumbscrews from reflector plate. Remove HMI 1200 lamp (not supplied with the unit) from packing materials. Do not touch the glass. Follow manufacturer's handling instructions. While holding reflector plate, feed lamp through reflector simultaneously seating lamp into lamp socket with lamp filler tip up. (See diagram below). Replace reflector plate.
4. Replace rear cover and replace thumbscrews.

**WARNING:** The Ultra Arc Titan is equipped with a hood safety switch located inside the unit on rear bulkhead. Do not attempt to strike lamp when cover is removed. Bypassing hood safety switch will subject operator to intense ultra-violet light and may cause severe burns to skin and eyes. We recommend wearing clear or tinted safety goggles when making lamp adjustments. do no look directly at a running lamp.

## LAMP POSITIONING DIAGRAM



## **FOLLOWSPOT OPERATION**

1. Connect followspot power feed cable to ballast receptacle. Plug ballast into 110/120 volt power source. Flip-up ballast switch to on position (Pilot light on ballast will not light at this time). Turn 3 position switch on followspot to middle position (lamp & gel fans only). Be sure all fans are operating properly before flipping switch to up/strike position. Flip switch to up/strike position. At this time pilot light on ballast will light indicating strike ready. Strike lamp for one second only. The lamp should strike and warm up to full output within two minutes. If lamp does not light try striking again. If power is interrupted, lamp will go out. Allow two to three minutes with fan on before re-strike. Use middle (fan only) position to cool lamp before re-strike.
2. To maximize lamp life turn Power switch to fans only (middle position) for at least five minute after each use.
3. Dowser, iris and clipper are controlled by the ball knobs on top.
4. The front lens control handle (on lower side) is set for desired throw by sliding it forward for a narrow beam (long throw) or rearward for a wide beam (short throw). It may be locked in place by turning it clockwise. Do not over tighten!
5. The rear lens control handle (side of unit, near middle is used to obtain the desired focus, soft or hard edge. Slide it forward for wide beam (short throw) or backward for a narrow beam (long throw). It may be locked in position by turning clockwise. Do not over tighten!
6. To obtain desired throw at a given distance, both lenses must be moved. Lens position may be chalk marked on the side of the unit.

## **OPTICAL SYSTEM OPERATION**

### **I. SET UP AND FOCUSING**

1. Move iris, dowser, and clipper controls toward operator to open.
2. Move front lens forward for spot or rearward for flood distribution. Position can be chalk marked on side of chassis near handle set.
3. Move rear lens until edge of pattern is in focus. Position may be adjusted hard or soft edge.
4. Close down the iris by moving its control handle away from the operator.
5. Focus may change slightly with iris closed. Best focus setting is with iris half open.
6. To “zoom” the lenses to a new position, a coordinated motion of both front and rear lenses is used. Note that these lenses move opposite of each other to maintain focus.

### **II. BEAM CONTROL**

1. The dowser is a mechanical dimmer. The rear control handle is moved away to close and toward to open.
2. The clipper shapes the image to a strip or a rectangle of variable height. Move the middle control handle away to close and toward to open the clipper.



3. The iris provides a 6 to 1 change in image diameter. It is controlled by the front handle, away to close and toward to open. The brightest spot is obtained with the iris open and the lenses adjusted for the largest spot desired. Smaller spots are obtained using the iris.

**WARNING:** Iris left in closed position with dowser open for extended time may cause

## **TECHNICAL DATA**

### **I. LAMP**

The Ultra Arc Titan uses a Osram HMI 1200 W/SE lamp or equivalent. The light from an HMI discharge lamp is generated by an arc discharge with special chemical filling materials to achieve a color temperature of 5600 K.

The Osram HMI 1200 W/SE has a rated life of 750 hours. Osram recommends you replace the lamp when operated more than 25% past their published rated service life.

HMI lamps emit ultra-violet radiation. For health reasons, they must always be enclosed when operated. If you are transporting the fixture for long distances, remove the lamp from fixture and send separately in a vibration proof packaging.

The lamps filler tip should always be above the discharge, otherwise there is a risk of a “cold” spot developing inside the discharge chamber where the filler substances may condense and change the photometric properties.

Replacement lamps are available from Osram lamp distributors as well as from Phoebus Manufacturing.

The lamp is cooled by a fan located below the lamp. This fan is essential to lamp operation. Improper cooling will cause decreased life and arc instability or color shift.

### **II. ELECTRICAL**

The Ultra Arc Titan operates on 105 to 125 Volt 60 Hz AC at 15 Amps.

## **MAINTENANCE**

### **I. LENS CLEANING**

1. Disconnect unit from power source before attempting any maintenance.
2. Remove rear housing, unplug white electrical connector attached to front housing. Remove the three control handles and front housing.
3. Clean all lenses using a good quality glass cleaner and a soft, lint-free cloth.
4. Clean reflector if necessary. Blow off dust first. Use denatured alcohol and a lint free cloth for final cleaning. The reflector has been coated with a delicate high reflective coating and will scratch easily if not cleaned properly.
5. Replace front housing. Reconnect white connector. Reconnect the three control handles.
6. Replace rear housing and tighten all thumbscrews.

## **II. HOUSING AND LUBRICATION**

1. Disconnect unit from power source before attempting servicing.
2. Unscrew the three control handles on top of unit and remove.
3. Unscrew the thumbscrews on the front and rear housing.
4. Remove rear housing (see lamp installation on page 6).
5. Unplug white connector to front housing.
6. Tighten vertical tilt lock knobs on either side of yoke (unit will be unbalanced with housing off).
7. Grip housing at front and rear top edges.
8. Lift straight up until front lens is cleared, and remove.
9. Wipe all four bearing shafts with a cloth dampened with light furniture wax (Pledge). Avoid excess wax.
10. Operate front and rear lenses forward and back to distribute wax.

## **III. TROUBLESHOOTING – LAMP AND BALLAST (ELECTRICAL)**

1. If fan fails to run, check power and fuse. Replace fuse with 5 amp 3AB fuse.
2. If fan runs and lamp does not strike.
  - A. Check to ensure that the lamp is firmly seated in its socket and all electrical connections are secure. Make sure that the lamp has not reached the end of its life. If so, replace the lamp.
  - B. If the new lamp does not strike, check line voltages. Lamps may not start with power line below 105 volts.
  - C. If the above measures have not been successful, call your distributor or Phoebus Manufacturing for further assistance.

**Replacement Parts Price List:**  
**UAT-LT-120, UAT-ST-120**  
**UAT-LT-220, UAT-ST-220**

\$50 Minimum.

Prices are subject to change without notice.

LT=Long Throw ST=Short throw

D=Dowser I=Iris C=Clipper

Stock#	Description	Set	List	Stock#	Description	Set	List
External Parts				Internal Parts Cont.			
			\$				\$
5000	LT Chassis	1	385.00	5112	I/C Bracket	1	87.00
5001	ST Chassis	1	308.00	5113	I/C Support Bracket	1	18.00
5002	LT Front Housing	1	336.00	5114	Upper Clipper Jaw	1	34.00
5003	ST Front Housing	1	257.00	5115	Lower Clipper Jaw	1	34.00
5004	Front Bulkhead	1	152.00	5116	Clipper Swivel	1	28.00
5005	Rear Bulkhead	1	183.00	5117	I/C Connecting Rod	2	30.00
5006	LT Middle Bulkhead	1	165.00	5118	I/C Spacer Bar	2	23.00
5007	LT Rear Housing	1	95.00	5119	I/C Slide Retainer	2	23.00
5008	ST Rear Housing	1	82.00	5120	LT Front Lens Holder	1	95.00
5009	Bail	1	75.00	5121	ST Front Lens Holder	1	95.00
5010	Switch Guard	1	18.00	5122	LT Rear Lens Holder	1	45.00
5011	Chassis Guide Handle	2	63.00	5123	St Rear Lens Holder	1	45.00
5012	Heavy duty Base tube	1	135.00	5124	LT FT & Rear Lens clip	6	15.00
5013	Base Leg	4	246.00	5125	ST FT & Rear lens clip	7	17.00
5014	Yoke	1	186.00	5126	Iris Mount Clip	3	13.00
5015	Access Door Hinge	1	7.00	5127	FT Lens Bearing Block	4	45.00
5016	Access Door	1	37.00	5128	LT/ST Front Lens	1	44.00
5017	Chassis carry Handle	2	75.00		Rod Casting		
				5129	LT/ST Middle Lens	1	66.00
					Rod Casting		
				5130	LT Rear Lens Rod Casting	1	44.00
				5131	LT Front Lens Rod	2	50.00
				5132	LT Rear Lens Rod	2	43.00
				5133	ST Front Lens Rod	2	50.00
				5134	St Rear Lens Rod	2	43.00
				5135	LT / ST Rear Lens Block	1	69.00
				5136	Rear Lens Block Bearing	2	8.00
				5137	LT Gel Fan Bracket	1	26.00
				5138	LT/ST Rear Lens Break Arm	1	31.00
				5139	LT/ST FT Lens Brace	1	18.00
				5140	LT/ST Light Shield Spacer	4	13.00
				5141	LT Light Shield	1	25.00
				5142	ST Light Shield	1	20.00
				5143	Lens Brake Collar	1	6.00
				5144	Lens Collar Washer	2	4.00
Internal Parts							
5100	Lamp Bracket	1	91.00				
5101	Lamp Adjustment Plate	1	35.00				
5102	Lamp Adjustment Thumbnut	3	5.00				
5013	Reflector Plate Stand-Off	4	45.00				
5104	Reflector Plate	1	32.00				
5105	Reflector	1	480.00				
5106	LT Gel FanDeflector	2	27.00				
5107	Dowser Bracket	1	50.00				
5108	Lower Dowser Jaw	1	33.00				
5109	Upper Dowser Jaw	1	33.00				
5110	Lower Dower Swivel	1	23.00				
5111	Upper Dower Swivel	1	28.00				

## Replacement Parts Price List: UAT-LT-120, UAT-ST-120 UAT-LT-220, UAT-ST-220

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Stock#	Description	Set	List	Stock#	Description
Set	List				
<b>Internal Parts Continued</b>			<b>\$</b>	<b>Automatic Color Boom</b>	
					<b>\$</b>
5145	Line Cord Connector	1	12.00	5200	Auto Boom Housing
5146	Lamp ADJ. Spring	3	8.00	5201	Color Frame Ring
5147	Rubber Light Baffle	1	17.00	5202	Gel Frame 1
5148	Iris	1	165.00	5203	Gel Frame 2
5149	Lamp ADJ Washer	3	3.00	5204	Gel Frame 3
5150	Knurled Thumbnut	3	3.00	5205	Gel Frame 4
5151	LT Fan Guard	5	25.00	5206	Gel Frame 5
5152	ST Fan Guard	6	30.00	5207	Gel Frame 6
5153	Ballast Case	1	121.00	5208	Boom Striker
5154	Ballast Grille	1	75.00	5209	Boom Release Lever
5155	Ballast Control Panel	1	25.00	5210	Boom Bracket left
5156	Ballast Carry Handle	1	12.00	5211	Boom Bracket Right
				5212	Boom Latch
				5213	Boom Thrust Washer
				5214	Spring Rod Block
				5215	Long Boom Spring
				5216	Short Boom Spring
				5217	Boom Cushion
				5218	Color Brads
				5219	Color Gel
<b>Electrical</b>				<b>Electrical</b>	
5300	HMI Ballast	1	1500.00	5311	60 HZ Hour Meter
5301	HMI 1200 Watt Lamp	1	520.00	5312	Fuse Holder
5302	Gel Fan	1	77.00	5313	Fuse
5303	Cooling Fan	2	95.00	5314	Lamp Socket
5304	Green Indicator Lamp	1	4.00	5315	3-Position Switch
5305	Ballast Veam Connector	1	83.00	5316	Remote/unit Strike Button
5306	Line Cord w/Veam Connector	1	35.00	5317	Terminal Block
				5318	Ignitor
5307	Ballast Fan	1	79.00	5319	Ballast Veam Connector
5308	Ballast Fan Gaurd	1	5.00		
5309	Breaker Switch	1	68.00		

## Replacement Parts Price List:

UAT-LT-120, UAT-ST-120

UAT-LT-220, UAT-ST-220

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D=Dowser I=Iris C=Clipper

Stock#	Description	Set	List	Stock#	Description	Set	List
<b>Optical</b>				<b>Kits</b>			
			\$				\$
5400	LT Front Lens	1	456.00	5600	Standard Base Kit	1	643.00
5401	ST Front Lens	1	189.00	5601	Standard Base HDWE	1	35.00
5402	LT Rear Lens	1	182.00	5602	Portable Base HDWE	1	60.00
5403	ST Rear Lens	1	169.00	5203	Hour Meter Connector kit	1	14.00
5404	Clipper Negative Lens	1	262.00	5204	Label Kit	1	47.00
				5205	Clipper Jaw Kit	1	58.00
				5206	Dowser Jaw Kit	1	58.00
				5607	Height Collar Kit	1	54.00
<b>MISC Parts</b>				<b>Assemblies</b>			
5500	Yoke tilt Handle	2	69.00	5700	Portable Base Assembly	1	774.00
5501	Yoke tilt Handle Knob	4	16.00	5701	Lamp Bracket assembly	1	448.00
5502	D/I/C Control Handle	3	35.00	5702	Dowser Bracket Assembly	1	254.00
5503	Control Handle Knob	3	15.00	5703	I/C Assembly	1	557.00
5504	Lens Handle	2	15.00	5704	I/C Assembly w/Lens	1	775.00
5505	Thumbscrew	14	12.00	5705	D/I C Assembly	1	975.00
5506	Large Brake Washer	2	9.00	5706	Color Boom Assembly	1	573.00
5507	Medium Brake Washer	2	5.00	5707	Complete Ballast Assembly	1	1500.00
5508	Lens Handle Washer	2	4.00				
5509	Height Collar	1	31.00	<b>220/240 Option</b>			
5510	Height Collar Handle	1	18.00	5800	Ballast	1	950.00
5511	Caster W/Brake	4	80.00	5801	Ballast Fan	1	79.00
5512	Leveling Jack	4	34.00	5802	Ignitor	1	738.50
5513	Height Collar Washer	1	12.00	5803	Cooling Fan	2	110.00
5514	Road Case	1	*	5804	Gel Gan	1	55.00
5515	Users Manual	1	N/C	5805	Hour Meter	1	83.00
				5806	Breaker Switch	1	67.83
				5807	Red Indicator	1	4.00

# WARRANTY CARD

Please Print

MODEL NUMBER(S)

SERIAL NUMBER(S)

DATE OF PURCHASE

PLACE OF PURCHASE

(DEALER NAME)

USER'S NAME

COMPANY NAME

STREET ADDRESS

CITY / STATE / ZIP

TELEPHONE

FAX



Please fold along the dotted lines and staple  
with return address on the outside as shown above.  
Thank you!

Place  
Stamp  
Here

PHOEBUS MANUFACTURING  
2800 THIRD STREET  
SAN FRANCISCO, CA 94107

ATTENTION: WARRANTY DEPARTMENT