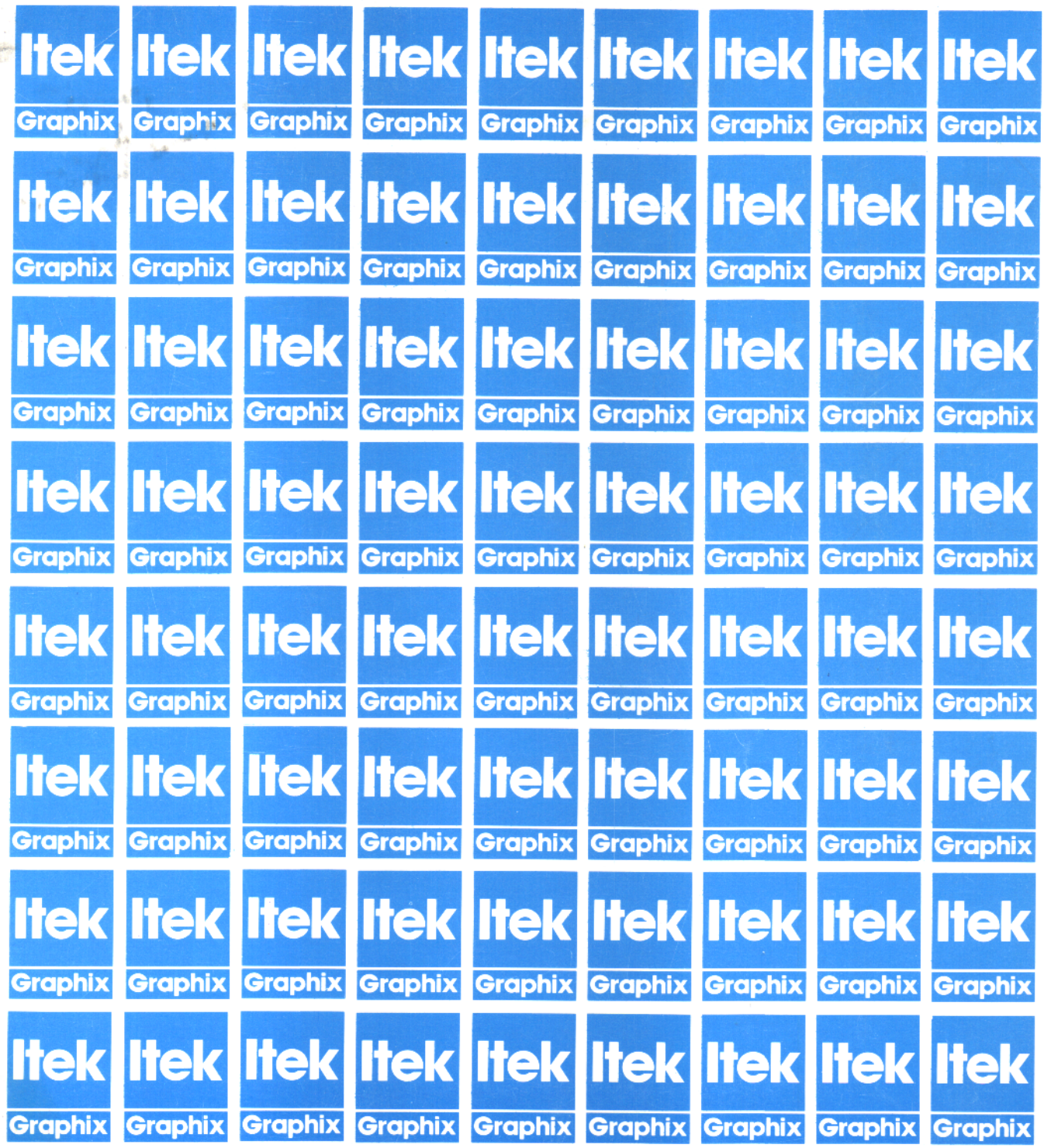
Itek 175 Platemaker

Technical & Parts Manual



175
PLATEMASTER

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THEORY OF OPERATION

The roll of plate material is installed on a spool shaft that is placed between two (2) 'V' bearing guides in a light tight chamber.

The starting end of the supply roll is placed in the nip of the feed rolls where, upon demand, it is fed by an automatic electro-mechanically timed mechanism through an opening for the knife assembly and accurately tracked by a wire guide assembly to the nip of a second set of driven feed rolls that locates the leading edge of the plate sheet square to the path of travel for the vacuum transport table. By an automatic trip device the feed rolls move the plate material through the electrostatic charging unit to the vacuum transport mechanism. During this delivery cycle, the trailing end of the plate material is severed by the automatic knife assembly to produce a pre-selected sheet length. The vacuum transport accurately positions this sheet and holds it in focus at the exposure plane.

The exposed sheet of electrostatically charged plate material is directed to the nip of the feed rolls by a non metallic chute. The feed rolls drive the plate material to two fixed applicators that allow a metered flow of liquid developer to be uniformly discharged under pressure against the top and bottom of the plate material. The plate material, while suspended between the fluid surfaces, passes between the applicators where upon leaving the applicators, the developer drains into a reservoir. A follow up power driven squeegee roller assures removal of the remaining liquid developer and feeds the plate material to a drying unit.

After passing through the Dryer, the plates are stacked in a collection tray, ready to be used on a duplicator or stored for future use.

FUNCTIONAL UNITS

MAGAZINE

The Magazine stores the roll of plate material for as many as 500 letter size plates, holding it ready for exposure. When the exposure button is pressed, the magazine advances the paper to the length selected by the operator, clearly cuts the sheet from the roll and advances it into the exposure area. After exposure is completed, the magazine advances the material into the Processor.

LENS and MIRROR ASSEMBLY

This assembly focuses the light reflected from the original onto the plate material in the Magazine. It also enlarges or reduces the image to the precise percentage of the original that has been selected by the operator. The adjustable lens permits a selection of lens aperture best suited for the reproduction requirements.

QUARTZ IODINE LAMPS

Direct balanced illumination to all sections of the copy board at a uniform intensity. The lamp brackets are adjustable to an inner and outer position, and a upper and lower position. The Inner and Lower position is used for enlargements from 100 to 150%.

For reductions, the lamps are positioned at the Outer and Lower position for reductions from 71 to 100%. They are positioned at the Inner and upper position for reductions from 45 to 70%.

SUBJECT HOLDER

Holds the original flat at the precise plane for optimum results. It provides easy positioning and removal of originals. The holder accomodates originals up to 27 x 40 inches. An electrically operated elevator moves the Subject Holder up or down to meet the enlargement or reduction requirements.

CONTROL CONSOLE

The console combines the controls for the exposure and processing cycle in one panel. The console can be positioned where it will be most convenient to the operator.

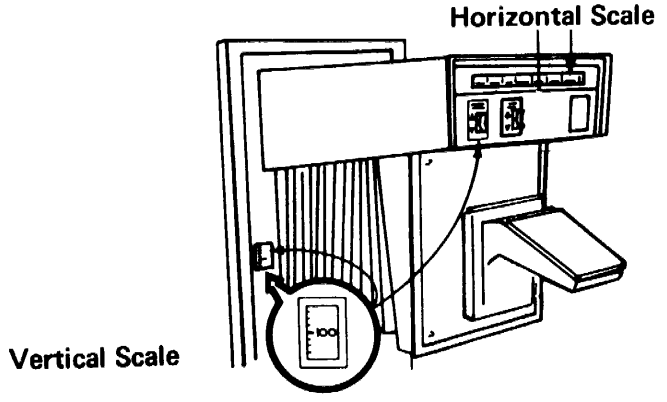
PROCESSOR

The Processor receives the exposed material from the magazine, processes the exposed image, moves the plate through the dryer section and deposits it into a receiving tray at the rear of the machine.

OPERATING CONTROLS

FOCUSING SCALES

The vertical and horizontal adjustments provide for correct relation between the lens Mirror and the subject holder. They should always be adjusted at the same time to the same percentage.



Focusing Scales

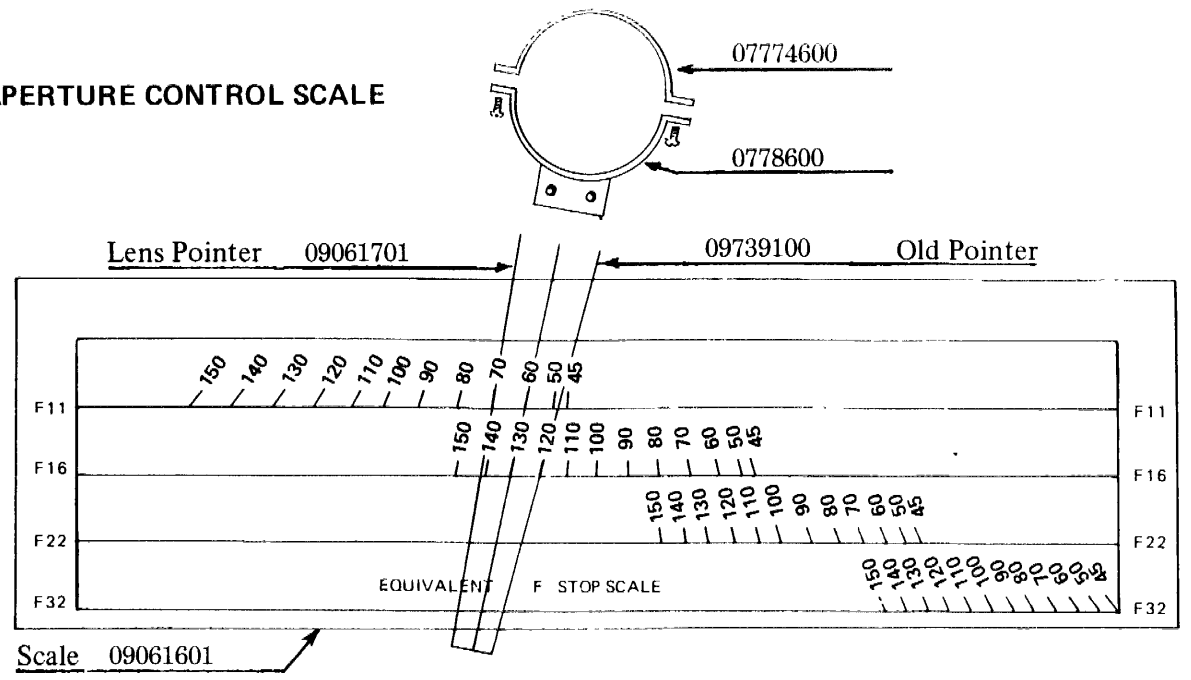
VERTICAL FOCUSING SCALE

The vertical focusing scale is located in the camera stand and is visible through a small view window the left side near the bellows. To change the focal setting of the scale, raise or lower the subject holder with the switch on the overhang front plate.

HORIZONTAL FOCUSING SCALE

The horizontal focusing scale is located on the overhang front plate and is adjustable with a Switch on the overhead front plate to move the front frame in or out. A small pointer indicator moves in relation to the front frame giving the focus setting required.

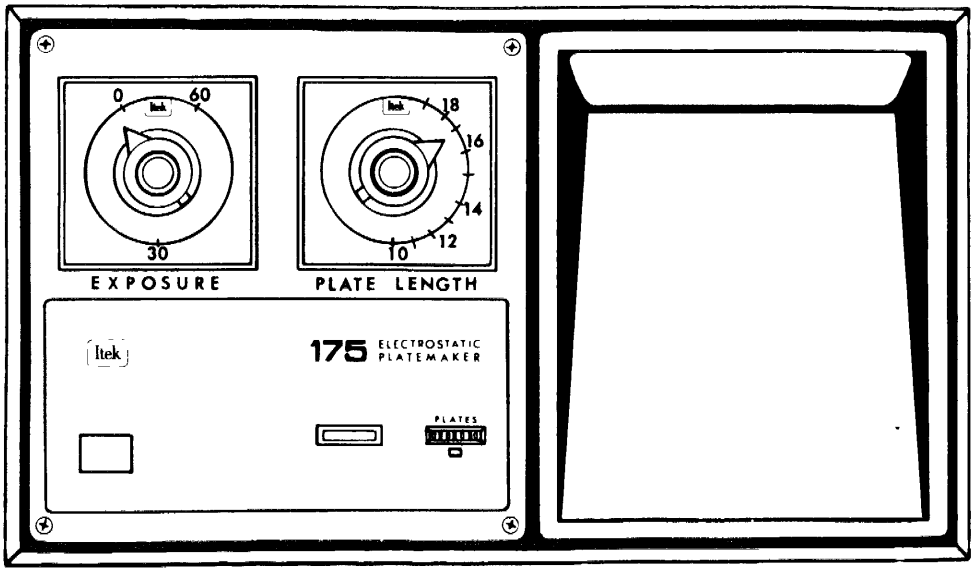
APERTURE CONTROL SCALE



Aperature Control Scale

The aperture control scale is located on the Front Frame under the Lens and Mirror Assembly.

The aperture control scale consists of a scale of equivalent 'f' stops at various reductions and magnifications, and a control arm attached to the lens barrel. This device permits the operator to adjust the lens diaphragm to compensate for changes in scale. Thus, equivalent apertures, admitting proportionate amounts of light, are maintained at all focal settings, when the position of the lights remains unchanged. The same exposure time may therefore be used at different reductions.



Control Console

CONTROL PANEL

All controls discussed under this heading are located on the separate Control Console.

EXPOSURE BUTTON

Pressing this button activates the entire exposure and processing cycle.

EXPOSURE TIMER

The exposure timer at the upper left of the control panel is activated by the exposure push button at the bottom left and is graduated in half-seconds to give accurate exposure control under all copying conditions. A convenient dial knob allows easy exposure time adjustments and is calibrated from 0 to 60 seconds.

Turning the knob sets the number of seconds during which shutter will be open. Timer rotates towards zero during exposure and resets at point of origin after exposure. Original may be changed after timer resets to the pre-set exposure.

CAMERA CYCLE LAMP

This warning light, when illuminated, indicates the unit is in the ready condition and a plate may be made by pressing the button. During exposure and plate advance the light is out - an additional plate may be made as soon as the light comes on.

PLATE LENGTH TIMER:

The plate length timer, located just to the right of the Exposure Timer, is graduated from 10 to 19 inches in half inch increments.

Turning the knob controls the length of the plate cut from the roll, thus minimizing material waste.

END OF ROLL

When the end of the roll of paper has been reached the unit turns off, automatically, and a light lights on the control console

INSTALLATION

UNCRATING

The 175 Platemaker is shipped in one cardboard carton, mounted on a wooden base or skid designed for transport by a fork-lift truck. Move the carton to a location near the selected operating site. If narrow openings or doorways are encounted, it will be necessary to uncrate the Platemaster.

Remove the metal binding strap and open the carton. Remove the outer carton and all other cardboard cartons. The Platemaker is fastened to the skid by steel bars and lag bolts. Unbolt the Platemaker from the skid and remove the hold-down bars and all strapping.

SHIPMENT CHECK

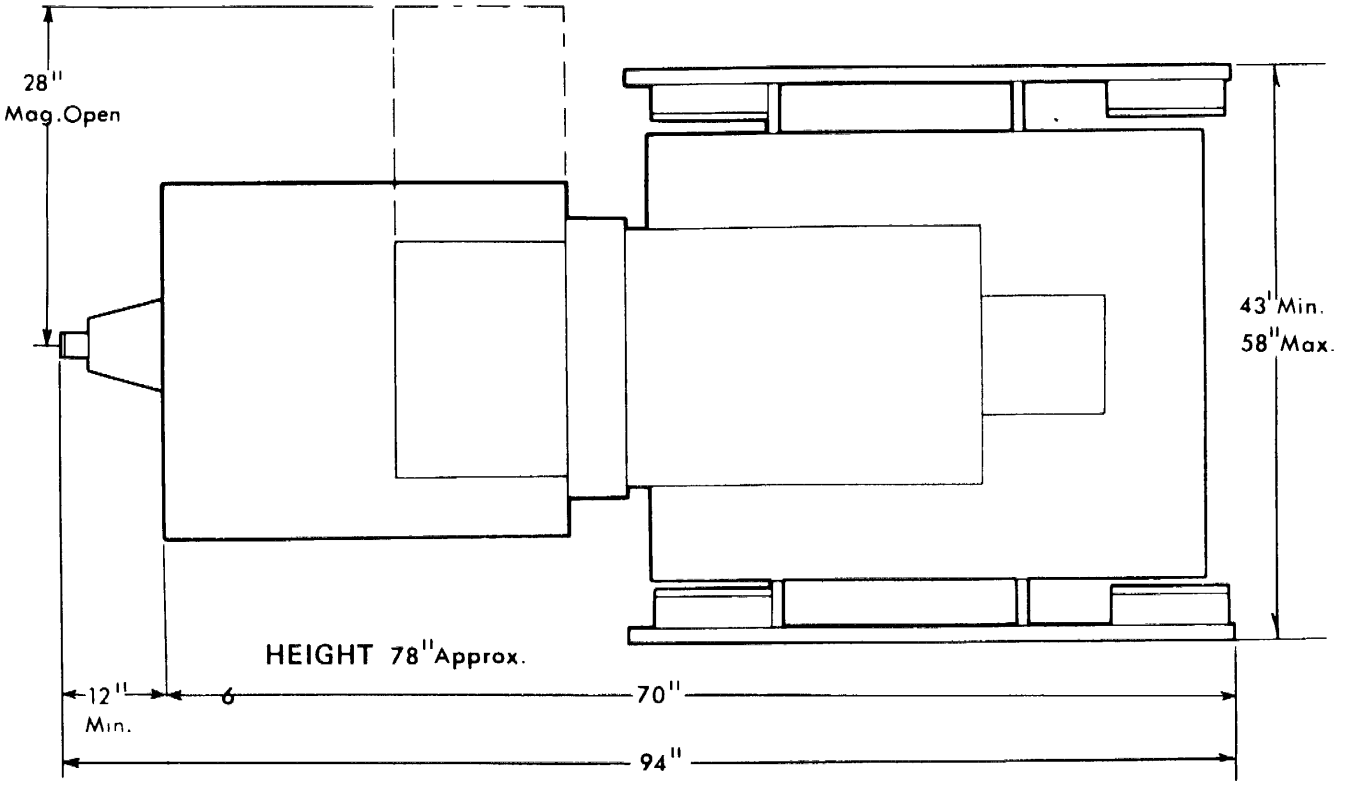
You now have 7 basic sections or assemblies. Check the presence and condition of these units against the following list:

1. Basic Machine Assembly
2. Subject Holder
3. Lamp Holder Assemblies
4. Lens & Mirror Packed With Quartz Iodine Lamps
5. Print Catcher and Paper Spool
6. Control Console
7. Lamp Holder Arms

If there are any units missing or if any units have been damaged in shipment, take the necessary action to receive replacement parts.

PREPARATION for ASSEMBLY

Floor space requirements for the 175 Platemaker are shown below. Power requirements are 120 Volts, 60 Hz., 20 Amp. A three pronged twist lock plus is provided on the power line. A 20 Amp line, free of other electrical equipment is essential.



Floor Space Requirements

CAUTION: When working the Platemaker off the skid, do not grasp it by the Overhang. This may cause alignment problems.

Move the Platemaker by grasping the Processor Compartment at the rear right corner and the top of the Elevating Mechanism bars.

The unit requires no incoming water lines and is operable in any area that has no direct overhead lights. A drain trough is provided to prevent any leaks or spilled liquids from reaching the floor.

LEVELING the MACHINE

After the Platemaker is positioned, it should be correctly leveled by the following procedure.

Using a drift punch or equivalent, raise the center leveling feet off the floor (one each side).

Place a level vertically on the front of the Camera Stand on the operator's side and raise or lower extreme front or rear feet until plumb lengthwise.

Place level vertically on the side of the Camera Stand and raise or lower both front and rear feet on one side until plumb across the machine. Recheck lengthwise.

When plumb in both directions, bring center feet into firm contact with the floor. All feet should be firmly on the floor to prevent vibration.

After the 175 has been positioned and leveled at its operating location, permanent electrical connections may be made.

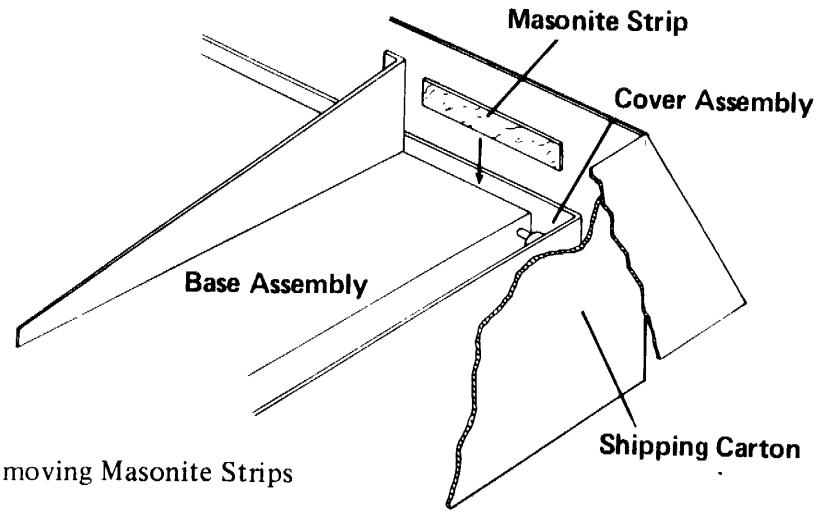
ASSEMBLY of UNIT

With the machine properly leveled and the electrical connections in place, the machine is ready for further assembly.

SUBJECT HOLDER

The Subject Holder is attached to the elevating mechanism brackets at the front of the machine, using the three screws provided for each side. With assistance hook the Subject Holder over the top round head screw on each side to support it while the balance of the hex head screws are installed.

NOTE: Do not attempt to level the Subject Holder, as it is aligned and adjusted to the lens system at the factory!



Removing Masonite Strips

All 175 Platemaker subject holders are shipped with two 2" x 6" pieces of masonite taped in position as shown above. They are located on the underside of the subject holder, placed between the cover assembly and the base assembly, near the cover pivot pins. These pieces of masonite help support the cover assembly during shipment and prevent damage to the pivot pins. Be sure to remove this packing material prior to installation of the subject holder to the Elevator Assembly.

A procedure has been initiated in the equipment final test area whereby a scribe mark will be placed at the outside edge of each jack screw after each Platemaker has been checked out relative to the Subject Holder Assembly center line position. This scribe line will assist the installer in determining if the assembly shifted during shipment due to vibration. It must be remembered that many other components in the optical system effect the Subject Holder center line position and that this scribing procedure is only an attempt to eliminate one variable.

Remove all tape and ties from the machine, and the wooden brace on the magazine.

LAMPS AND LAMPHOLDER ARMS

Remove Stop Screws from Lampholder Arms and place Arms into Subject Holder base assembly. Reinstall Stop Screws. The Stop Screws govern the in-out travel of the Lampholder Arms.

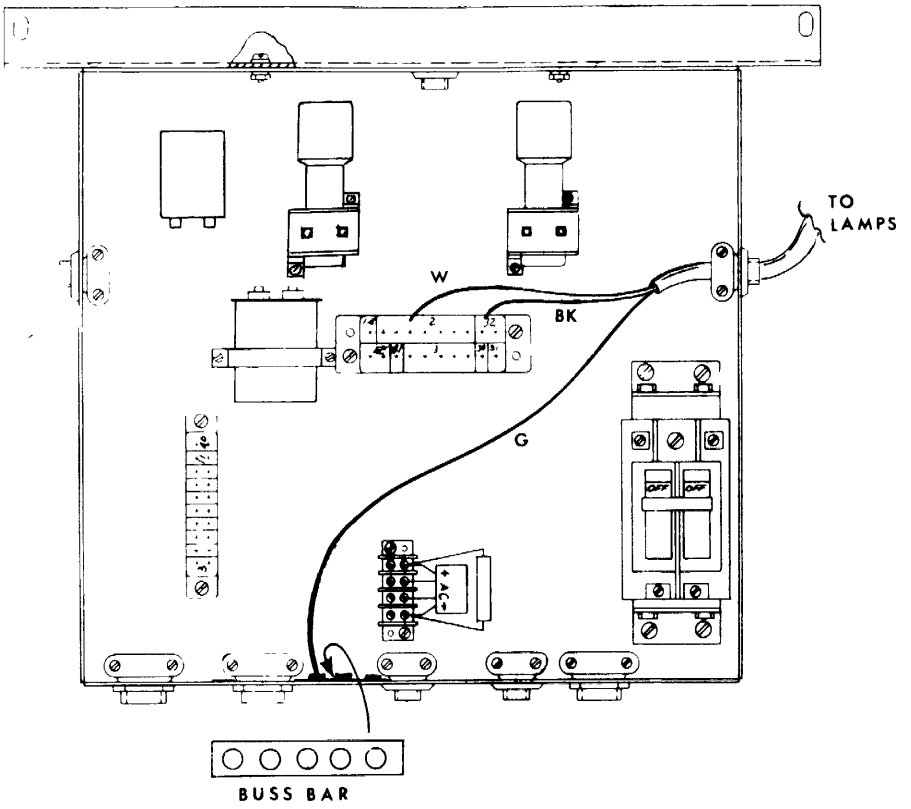
Assemble the Lampholder Assemblies to the Lamp Slide Assemblies and place onto the Lampholder Arms.

Install the Quartz Lamps with the glass projection facing the hole in the Reflector. Use a clean cloth while handling lamps to prevent skin oils from contaminating the lamps.

When the lamp brackets are assembled to the subject holder, feed the lamp cords through the grommeted holes in the front of the camera stand and along the inside of the channel on the side of the processor stand and into the holes in the side of the Panel Box.

Pull the wires through for about 12 inches and tighten the clamps to keep them from pulling out.

Connect the green wire, which is the ground lead, to the Buss bar at the bottom of the box (see picture) connect the Black wire to the upper right section of the terminal board in the center of the panel box, marked No. 32 – and connect the white wire to the top center section of the same terminal board – this section is marked No. 2.



Remove the Control Panel from the left side of the Control Console (4 screws). Bring the end of the power cord from the platemaker, up through the hole in the bottom of the control console and insert the two plugs into the proper receptacles on the bottom of the control panel (items 1 & 2 on page 10-13). Replace the panel on the console and fasten the plate (on the power cord) to the bottom of the console with the two screws provided.

LENS AND MIRROR

Carefully unwrap the Lens and Mirror Assembly and place in position at the opening of the Front Frame. Insert the shutter plug into the receptacle and locate Lens Plate into the guide holes. Tighten thumb screws into place.

Check Lens and Mirror for smudges or spots and clean with soft tissue and spray cleaner if necessary. Do not use an abrasive cleaner, particularly on the mirror, as the front surface is extremely soft and easily scratched.

POWER SUPPLY

The 175 Platemaker operates on a 120V, 20 Amp line and will operate best when using a line free of other electrical equipment. It is extremely important that the wall outlet be wired correctly to match the polarity of the power cord. If not, the main circuit breaker will trip when the unit is turned on.

The power cord is equipped with a three prong twist lock plug. A matching female receptacle for the wall outlet is provided as standard equipment. This receptacle is taped inside the drain trough for shipment.

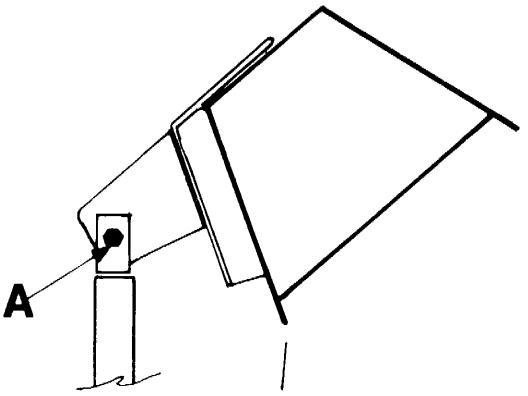
LAMP ADJUSTMENT

To adjust the Lampholder Assembly for correct tilt of the Reflectors, proceed with the following.

If plate material is in the magazine open the back and reaching up into the top of the magazine, slide the plate material back out of the rollers so as not to feed material when the exposure button is pressed.

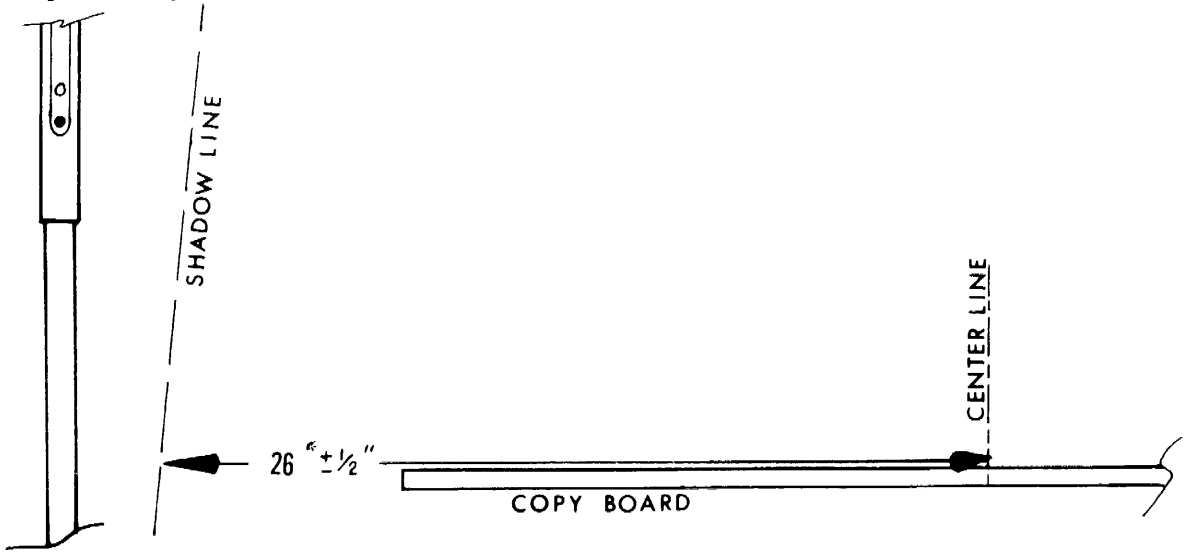
Turn the exposure timer all the way up and press the exposure button. This will start the exposure sequence. When the lamps come on the shadow line may be measured.

The Lamp Slide Assemblies holding the Lampholders and Reflectors are adjustable to an up or down position, and the Lampholder Arms can be moved in or out, all depending on the positions dictated by the reduction or enlargement to be used. Also, the Lampholder and reflector Assemblies are movable backward and forward to cover enlargements above 100%.



SHADOW LINE: **(SET WITH LIGHTS IN THE UP AND OUT POSITION)**

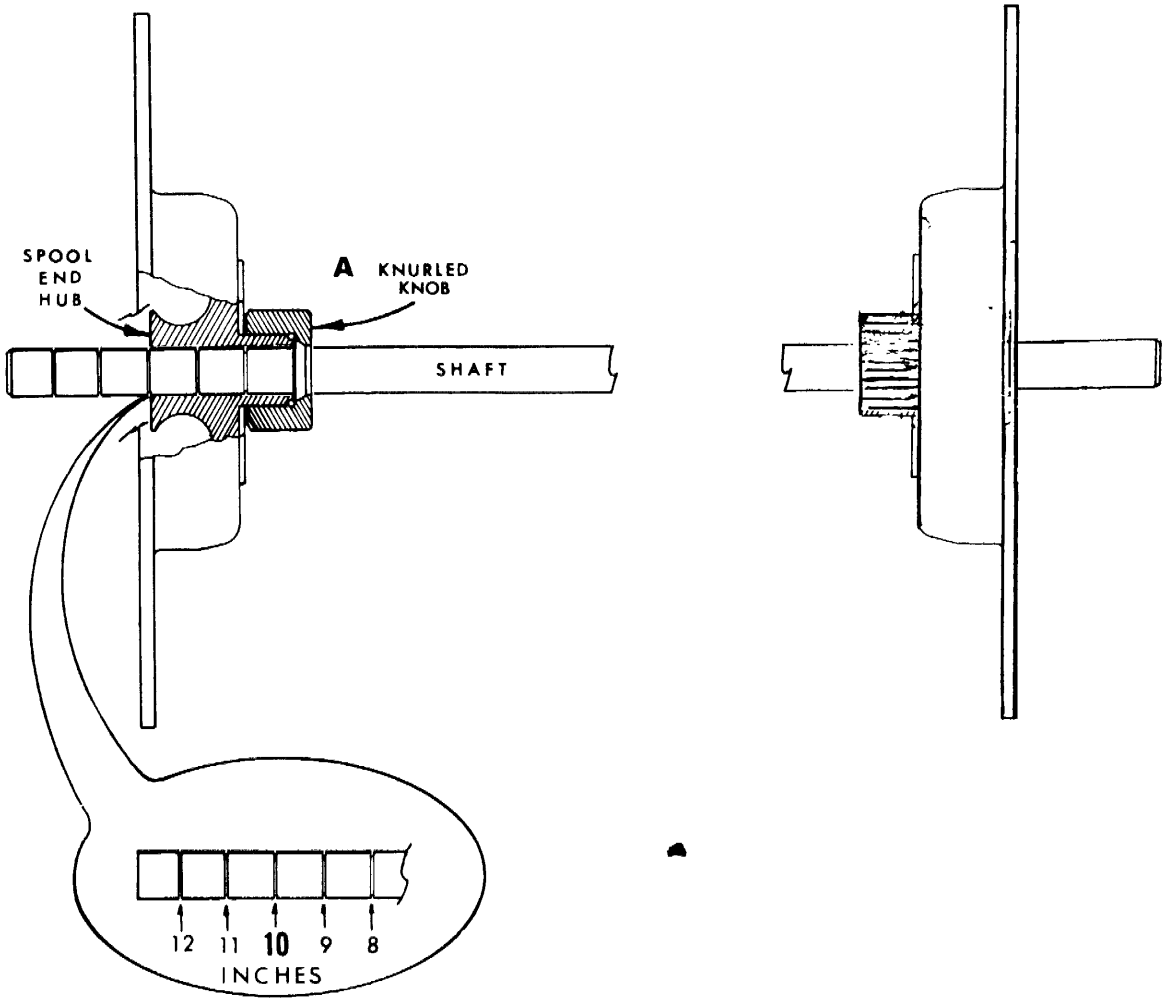
The Shadow line is set at 26 inches from the center line on the subject holder chart. Lay a piece of card stock, or a small piece of board on the subject holder so that it extends over the edge, scribe a line on the card, or board, by measuring 26 inches out from the center of the chart. Now, adjust the lamps by loosening screws marked "A" and pivot the lamp assembly so that the shadow line of the lamp reflector coincides with the scribe mark. Lock the lamps in place. Do this to both sets of lamps making sure that they are in the "up" and "out" position when they are being set.



Repeat steps above with all other lamp reflectors individually to be certain that they are all in proper alignment. After completing these adjustments, check the shadow lines on all lights once more, since adjustment of one light can affect the shadow line position of others on the same lamp assembly.

The above procedure may be followed with the lamps in the **DOWN** and **IN** position with the exception that the shadow line will now fall 17½ inches from the center line of the copyboard.

INSTALLING PAPER ON SPOOL



The paper spool is made in three sections, a shaft and two spool ends. One spool end has a knurled locking knob, the other end is held on the shaft by friction. The shaft has five (5) grooves in one end, ½ inch apart - each groove represents one inch of paper width.

Loosen the knurled knob (A) by turning it counter-clockwise and insert the grooved end of the shaft through the locking knob and the spool end hub until the appropriate groove is just out of the spool hub. (The diagram shows the shaft set for 10 inch wide paper) Turn the locking knob clockwise to lock shaft into spool end.

Slide a roll of paper over the shaft and on to the spool end, now insert the other spool end onto the shaft and slide it down into the roll of paper. Friction washers inside the spool hub will keep it in place, and the paper roll will be centered on the shaft.

Open the rear door of the magazine and insert the paper spool shaft ends in the proper slots, with the paper coming off the spool, emulsion side out.

Feed the paper, by hand, over the end of roll switch and under the slotted bracket arm, - continue feeding paper up into the magazine until the paper is stopped by the rollers and a small loop is formed, still holding the paper, press the Red button once and release it, this will jog the paper into the nip of the rollers where it will be held until after the exposure button is pressed for a plate.

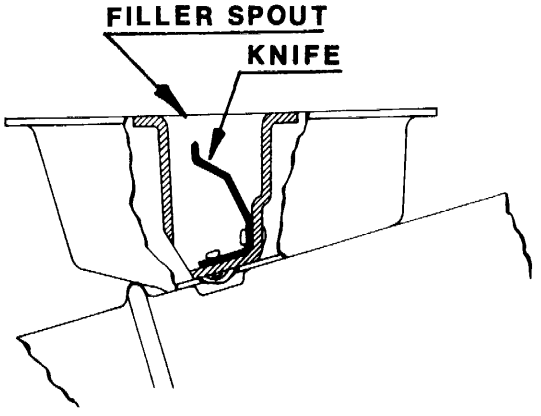
NOTE: The "End of the Roll" of plate material must be removed, manually, from the magazine as the unit shuts off when the End of Roll switch is released.

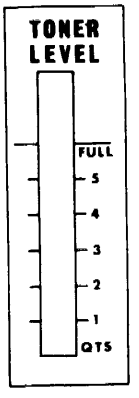
To remove, turn the unit off at the circuit breaker and open the rear door of the magazine, grasp the end of the material and gently pull it back out of the rollers. Turn the unit on and reload a new roll of plate material in the prescribed manner.

FILL WITH CHEMICALS IN THE FOLLOWING MANNER

Lift cover, located on the right side of the top panel, exposing the toner filler spout, this spout has a knife built into the opening. Remove the cap from a quart bottle of toner, insert into filler spout and turn ½ turn, this breaks the seal, but leaves it fastened to the bottle. **DO NOT** turn bottle more than a half turn as this will completely remove the seal which will then go into the processor, possibly causing uneven chemical flow.

Fill the processor to the full mark on the Toner Level Indicator, using six (6) quarts of Itek "Premium Plate Toner".





LEVEL INDICATOR

When filling the processor for the first time, or after removal of the toner level indicator hose, it may be necessary to squeeze the hose several times to remove any air bubbles in order to show the proper level on the indicator. Turning the unit on so that the processor pump operates, will generally remove air from the lines.

SAFETY FIRST

Safety can never be overemphasized. In the performance of your day-to-day duties as a Technical Representative, the potential of serious injury is ever present. To reduce the possibility of accidental injury a few safety procedures must be observed when working on any type of equipment.

1. PREPARE YOURSELF

Personal safety is a correct mental and physical attitude. Think before you act. Tuck in your tie, roll up your shirt sleeves, and remove watches and/or rings.

2. REMOVE POWER

If at all possible, troubleshooting should be accomplished with the machine de-energized. If this is not possible; observations should be made from a distance that insures 100% personal safety. By all means, no adjustments or repairs should be attempted while the machine is running.

3. TAKING ELECTRICAL READINGS

Due to the amount of electrical components in this machine, electrical troubleshooting by means of taking voltage readings may be necessary from time to time. Meter leads should be connected (by means of alligator clips if necessary) after the power plug has been removed from the socket.

4. PROTECT YOUR EYES

The driving of large shear pins can cause flying chips of metal from the hammer or the pin punch. The use of an electric drill can be equally as dangerous. Wear safety glasses while performing tasks of this nature.

5. NEVER PLACE TOOLS OR PARTS IN A MACHINE

If you violate this rule long enough, you can be assured of damaging a customer's machine.

6. REPLACE ALL COVERS ON THE MACHINE

They are provided to protect the operator from injury.

7. PLAY IT SAFE!!!!

— WARNING —

PRIOR TO PERFORMING SERVICE ON THIS UNIT

REMOVE POWER PLUG FROM WALL

CHECKING and ADJUSTING FOCUS

If the image is not sharp when a good clean original is exposed, adjustments to the focus may be required. An out-of-focus condition should not be confused with a "fuzzy" line due to vibration. Vibration can generally be detected by placing your fingers lightly on the mirror cover or the Subject Holder glass. It can be caused by mechanical problems (such as defective Processor motor, improper positioning of the leveling feet on the floor, or the operation of heavy equipment (such as presses) in the area vibrating the floor.)

Assuming that vibration is either not the cause or has been eliminated, the following procedure is recommended for refocusing the unit:

1. Set vertical and horizontal scales at 100%.

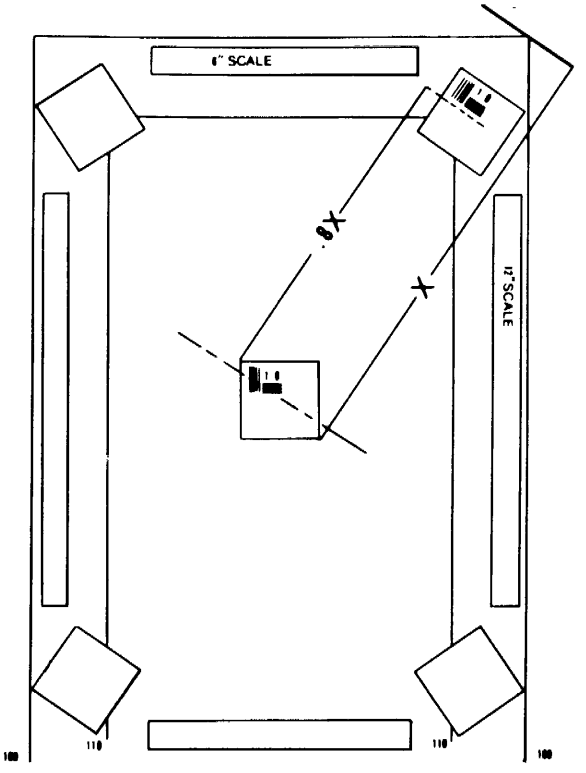


Fig. 7 - 1 - Resolution Charts

2. Place Resolution Charts, 6" and 12" metal scales within the 100% area, as shown, with corner charts placed at 80% of the distance between the center and the corners.

3. If Resolution Charts are not available, use fine line or half-tone copy in same position as charts.

4. Set lens at f-16 and make exposure. Exposure should be slightly higher than normal to keep lines open.

5. Using magnifier, check corners and center for sharpness. If 9.0 to 10.0 are not open in both directions on all five charts, readjustment of front and/or back focus is required.

6. Move horizontal pointer about 1/4% above or below 100% and make an exposure. Check results. Repeat 1/4% movements until all five charts break 9.0 to 10.0.

7. Measure 12" or 6" scales. If too large or too small, but both side and end scales are equal, raise or lower subject holder slightly and move horizontal focus again. Move both scales in the same direction the same amount.

8. If 12" or 6" scales are not equal to each other, one end or one side of the Subject Holder should be raised or lowered by the jack screws supporting the Subject Holder.

9. When correct size and sharpness have been obtained, shift the horizontal and/or vertical adjustments, as follows:

   Horizontal - Use a 7/16" open end wrench, as thin walled as possible. Loosen the Hex-head screw located on the left side of the Front Frame (facing the machine) inside and under the Overhang. Tap the plate under the screw head in the direction necessary to shift the pointer to realign with the 100% scale line.

   Vertical - Use screwdriver to loosen two screws on inside of elevator casting on left of machine as faced. The screws hold a block attached to the scale retainer that fits up into the Camera Stand. Move block up or down until 100% scale mark aligns with the pointer inset into the Camera Stand Window. Retighten screws.

   NOTE: *It may be necessary to remove the Left Hand Lamp Holder Arm to get close enough to adjust this scale.*

If the Subject Holder was lowered onto some object, one side of the Subject Holder may have jumped a tooth or two on the Elevating Mechanism rack. A visual check of the angle of the Subject Holder would indicate this. The low side of the Subject Holder would produce an image on the plate off size and out of focus. Lift up on the Subject Holder and disengage elevator gear from the vertical rack on the elevator bar and reset gear into rack, checking with a level across the Subject Holder. Remove the 1/4-20 Screw that follows the back edge of the elevator bar, if necessary to get clearance to jump the gear teeth.

ADJUSTING ELEVATOR LIMIT SWITCHES

Limit switches are placed at both ends of the travel of the Subject Holder, and can be adjusted to stop the Elevator Motor at 45% and 150%. Both brackets are adjustable for exact positioning.

Lower Subject Holder to 45% and adjust switch arm to contact lower casting. Raise Subject Holder and lower again to check vertical percentage scale. Repeat procedure, if necessary.

Raise Subject Holder to 150% and proceed as above.

REPLACING ELEVATOR MOTOR

Place support (small table, bench, or other suitable brace) under Subject Holder Arms.

Remove stop studs from lamp support arms, and withdraw Lamp and Bracket Assemblies.

Remove four hex head screws mounting Subject Holder to Elevator Assembly, Loosen two round head screws placed above the hex head screws. With assistance, lift the Subject Holder up and over the heads of the round head screws and remove the Subject Holder Assembly.

Remove cover from small terminal box on cross-bar of Elevator Unit. Disconnect wires from terminal strip, noting color-coding and number on terminal strip.

Loosen hex-head mounting bolts on Motor and slip drive chain off sprocket. Firmly grasp Motor Unit and remove bolts.

Place new Motor Unit in position and bolt it loosely. Slip drive chain over sprocket on Motor Unit, align it and tighten bolts.

Connect wires to correct terminal point on terminal strip and replace cover.

Reinstall the Subject Holder Assembly and Lamp Bracket Assemblies as outlined in the Installation Section of this Manual.

LAMP BRACKET ADJUSTMENTS, Standard Subject Holder

If the reflectors on the Lamp Assemblies tilt up or down (as viewed from either side of Subject Holder) the brackets can be brought to a level position.

Beneath the Subject Holder and inside the Subject Holder Arms are adjustable rollers to lift or lower the Lamp Support Arms. Loosen the roller screws on the appropriate roller and raise or lower the rollers until a level condition is attained along the length of the reflector. The position can be determined by placing a level along the reflector. Tighten the screws on the rollers when correct level is attained.

SPECIAL NOTE: This is a factory set adjustment and should not be readjusted except by a factory trained serviceman.

BALANCING QUARTZ-IODINE LIGHTS

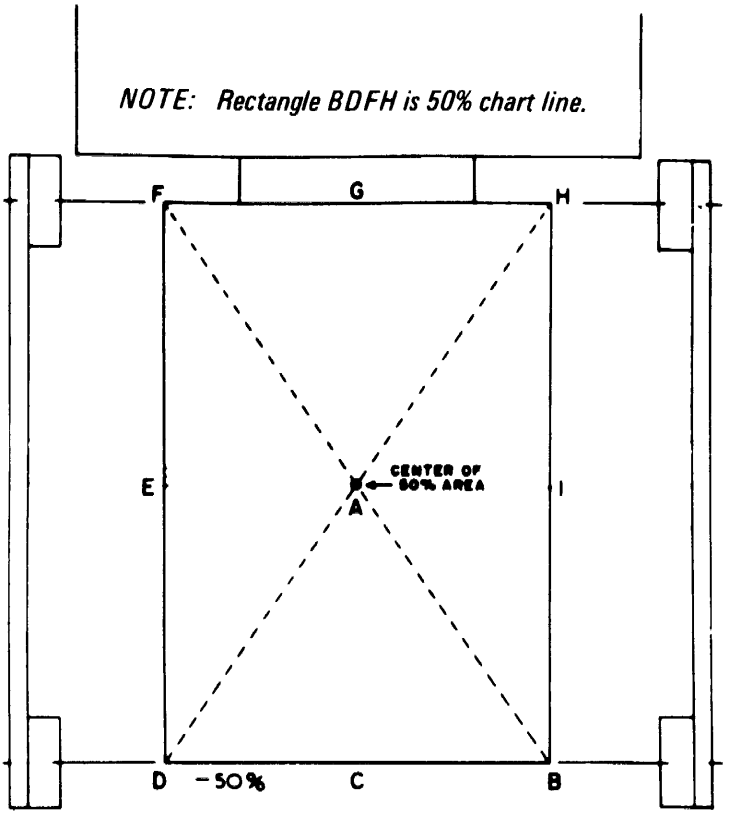
The following procedures must be followed precisely in order to obtain optimum copyboard lighting coverage on the 175 Platemaker. Optimum lighting balance is especially important under the following conditions:

- Top lighting used exclusively; i.e., backlighting either not available or not suitable for the copy involved.
- Reductions required in the 45% to 70% range.
- Marginal copy. Marginal copy may be classified as that which contains faint pencil lines, extremely fine detail, wide variations in copy density, dirty background, or, in the worst cases, a combination of these characteristics. Correct aperture setting, usually f-22, and proper exposure times are also very important for obtaining high quality copies from marginal originals.

While many applications do not require peak performance from the 175 Platemaker, it is important that all units be very carefully checked out and adjusted according to these procedures, in order to assure maximum operating latitude for the operator.

CHECKING ILLUMINATION AT 50%

After setting the shadow lines, a quick check with a light meter should be made to check for possible hot spots.



Using your light meter, you should obtain the following readings.

Sliding your meter from point B to point D, you should start with a high reading at point B, and show a constant decrease to point C, and then the meter should show a constant increase from C to D.

The above procedure should be repeated at the rear of the board and the same results obtained.

The points B, D, F, H should show approximately equal values on the meter.

Moving the meter from point A to either point E or I, the meter should show a very slight rise. Meter reading at E and I should be approximately equal.

Moving the meter from point A to point D, from A to B, from A to F, from A to H, you should have a constant increase in the meter reading. The corners should be about 50% hotter than the center.

Minor variations from optimum light balance should be of no concern. However, if after following all the above procedures, there are significant "hot spots" or "dark areas" which are not related to a particular original, you may be dealing with a defective lamp or reflector. To determine this, proceed with the following.

"Rotate" the quartz-iodine bulbs from one reflector to another. If the "hot spots" or "dark areas" move with the movement of the bulbs, then one or more bulbs are defective. Select new bulbs which yield the proper light balance.

If the pattern of "hot" and "dark" areas remains substantially the same even when bulbs have been rotated, then one or more reflectors are either defective, or have been damaged through improper handling. Refer to the following paragraph, use of Lamp Reflector Gages, for the correct method of adjusting the reflector assemblies. If the reflectors are beyond repair, new ones should be substituted.

CUSTOMER CARE OF LAMPS AND REFLECTORS

Because precise light reflector configuration is an important factor in maintaining proper light balance, customers should be instructed in the following care of equipment.

Never touch the reflector surfaces, especially when moving the light brackets or replacing lamps.

Correction of peculiar lighting requirements for a particular original should be accomplished by flashing, dodging, movement of the adjustable set of lights, or repositioning of the entire light support brackets. Such corrections should never be accomplished by bending the reflectors or readjusting the position of individual reflector assemblies on the light brackets.

USE of LAMP REFLECTOR GAGES

This paragraph covers the proper use of the TK046800 and TK046900 Lamp Reflector Gauges.

IMPORTANT: *Unplug the unit before attempting to make any of the following adjustments.*

NOTE: *The adjustments are obtained more accurately if the complete Lamp Holder Assemblies are removed from the unit and placed on a bench or table.*

Use of the Parabola Gauge TK046900 and Lamp Centering Gauge TK046800.

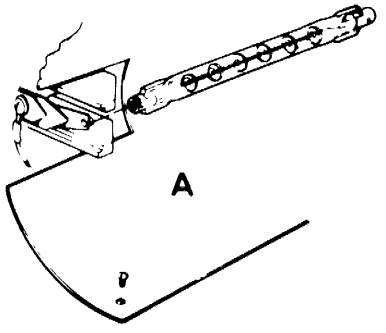


Fig. 7 - 8 - Removing Quartz Lamp

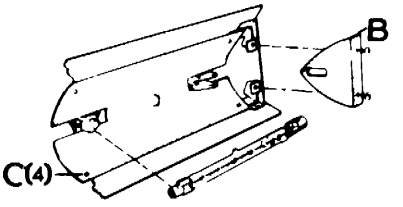


Fig. 7 - 9 - Removing Parabolic Reflector

Remove quartz lamp by springing it toward one end and lifting out. DO NOT touch the lamp with your hands as the oil from your hands will damage the lamp. See Ref. A.

Remove two screws from each of the two end pieces and remove the two end pieces. See Ref. B.

Remove the four screws securing the parabolic reflector, and remove the reflector. See Ref. C.

Form the reflector very carefully until it follows the parabolic curve of the gauge. See Ref. D.

Reinstall the reflector into the lamp housing, being very careful not to change the shape of the reflector. Start the four screws that secure it to the lamp housing.

Insert the lamp centering gauge in the lamp housing in the normal lamp position. See Ref. E.

Adjust the parabolic reflector in or out until a strip of 20 pound bond paper can be passed between the centering gauge and the parabolic reflector. Tighten the screws to secure the reflector. See Ref. E.

Recheck the above adjustment.

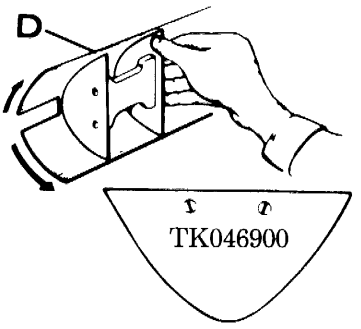


Fig. 7 - 10 Using TK046900 Parabola Gauge

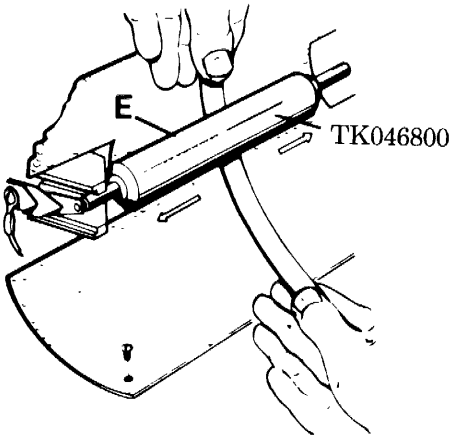


Fig. 7 - 11 Using TK046800 Lamp Centering Gauge

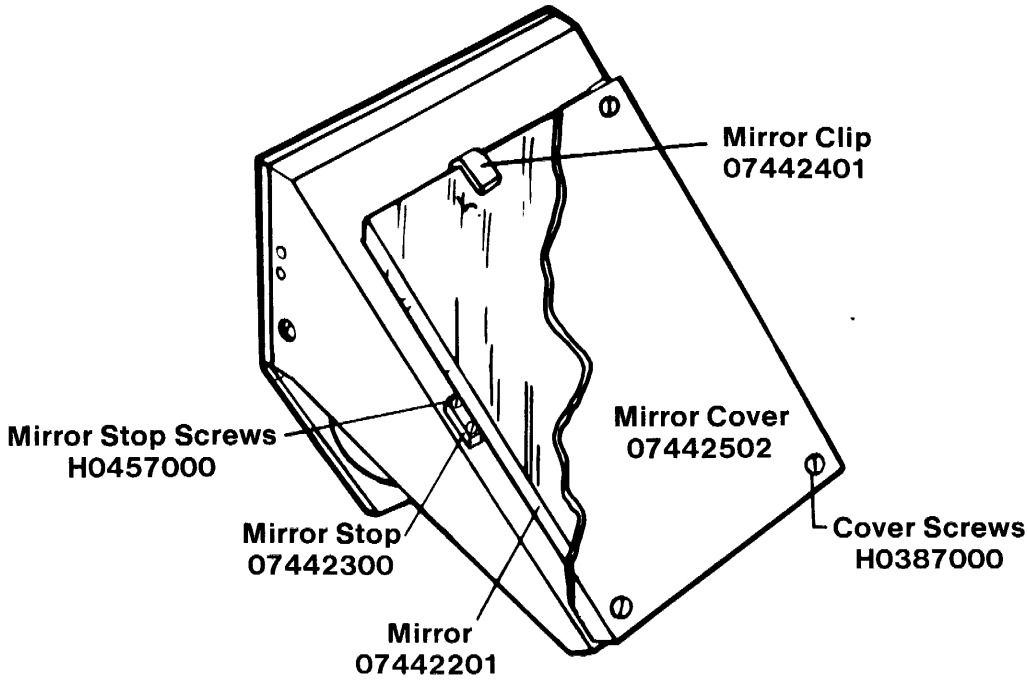
Remove the lamp centering gauge and recheck the parabolic curve of the reflector with the parabolic gauge. Repeat above procedure if necessary.

Reinstall the two end pieces by securing them with the four screws.

Reinstall the lamp.

Reinstall and adjust the Lamp Holder Assemblies as outlined in the Installation Section of this Manual.

REPLACING MIRROR



Replacing Focusing Mirror

When replacing the new mirror, be careful not to touch the front surface with your fingers. This surface is a microscopic coating of aluminum and very sensitive to fingermarks - and very hard to clean.

NOTE: After removing the old mirror, check for any shims that were placed on the mounting pads of the mirror casting surfaces at the factory. They could possibly come off on the mirror. Be certain that any shims are placed back on the mounting pads before installing the new mirror.

After installation, make a print with NBS Resolution Charts to check the resolution. Refine the focus and check the size. Reshift pointers if required.

REMOVING MAGAZINE COVERS

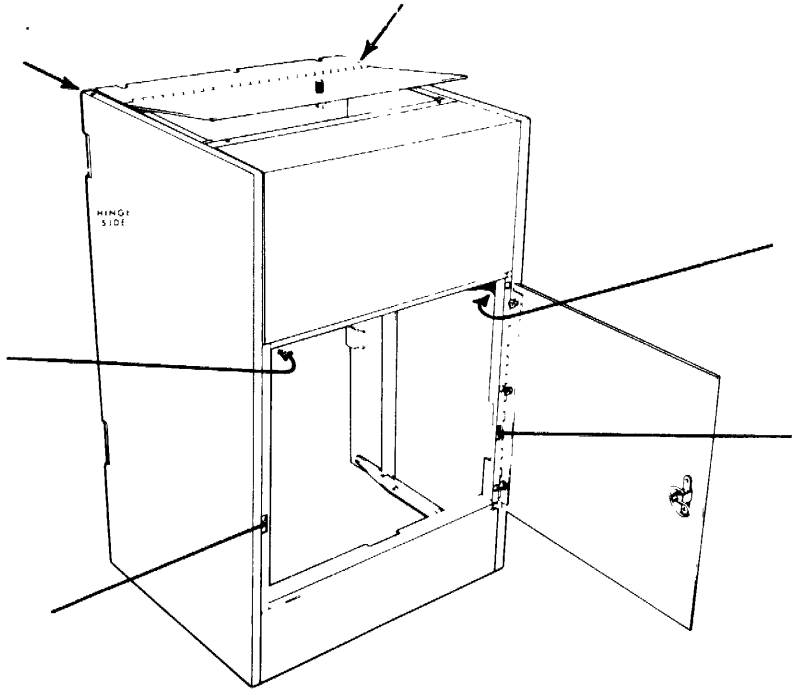
To make all parts of the magazine accessible, the covers may be removed as a unit simply by removing four (4) screws and two (2) nuts.

Remove the bottom plate, open the back door and, looking up into the magazine, loosen one screw on each side of the shelf bracket, slide the shelf back, in the Keyhole slot, and remove. (When replacing this shelf, make sure unit is all the way forward in the slot before tightening screws. Failure to do so may cause erratic action of the end-of-roll switch).

Loosen, or remove, two (2) nuts made accessible when the shelf bracket was removed.

Remove two (2) screws, one on each top front corner and two (2) screws, one from each side, exposed when the rear door is opened.

With a minimum of effort the entire cover assembly may now be removed toward the rear.



VACUUM FAN REPLACEMENT

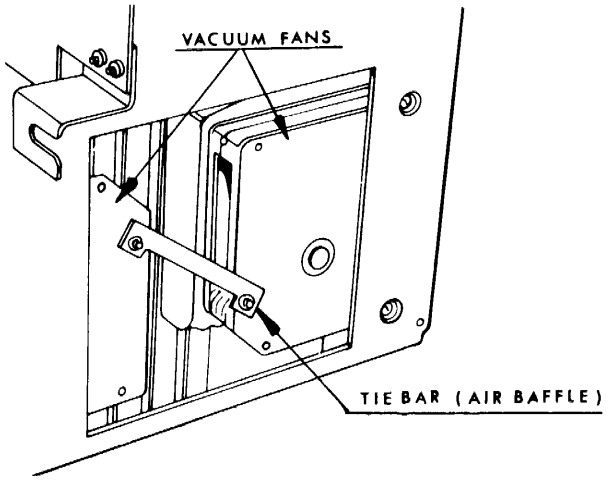
To remove and replace either of the two (2) vacuum fans remove the magazine covers (see "Removing Covers" - this section) and remove the plastic liner.

The plastic liner is held in place by six (6) screws one on either side of the Red jog button, one in each top corner and one on each side half way up. The two (2) cover support brackets one on either side of the paper roll shaft must be removed to allow the liner to slide free of the side plates. Unplug the Molex connector from the microswitch and the liner may be completely removed.

Looking into the back of the Vacuum chamber there are two (2) Vacuum fans, the one on the right hand side may be removed by removing the tie bar between the two (2) units and removing the four (4) mounting screws that hold the fan to the vacuum chamber. The fan may now be removed through the square hole in the panel. Unplug the terminal plug from the fan and replace in the reverse order.

The left hand fan is removed in the same manner, however, the left hand fan cannot be removed without first removing the one on the right.

When replacing the plastic liner leave the six (6) screws loose, move the liner up until it is just clear of the bottom of the Roller and tighten in place.



CAUTION !!!

THIS IS A HIGH VOLTAGE AREA

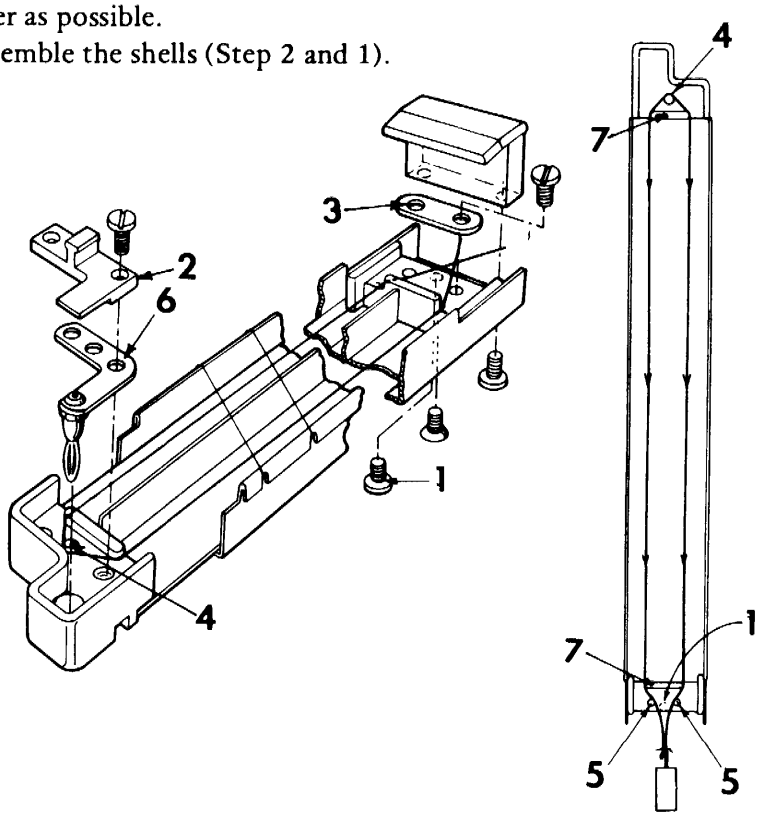
Before removing coronas, make sure that the power cord has been removed from the wall socket.

CORONAS – NEG. & POS.

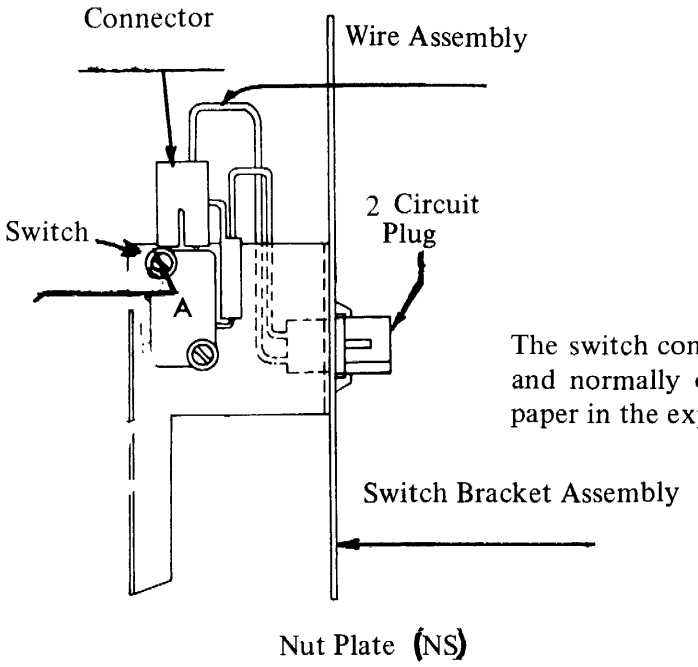
Remove the CORONAS by unhooking the holding clip with the ring in the end, pivot the clip down away from the corona. Grasp the corona at the left and pull foreward, the right end is not fastened. Pull the left end straight out away from the magazine body. Remove the second half of the corona in the same manner, pulling on the left end only, holding back, slightly, on the right end.

To restring the corona may require some practice.

1. Remove plastic bolt No. 1.
2. Slide inner and outer shells apart.
3. Remove insulation block No. 2 and terminal plate No. 6 from upper end and two hole washer No. 3 from lower end.
4. Cut about 36 inches of corona wire and tie the ends together.
5. Hang the loop end over the plastic post No. 4 on the terminal end and allow the wire to pass to the sides of the plastic spacers No. 7.
6. Attach a 3 lb. weight (approximately) to the knotted end of the wire and allow to hang tight.
7. Re-attach the insulation block and terminal plate.
8. Attach the two hole washer. Note the position of the wire in relation to the plastic bolts No. 5.
9. Bend off the excess corona wire outside the two hole washer as close to the washer as possible.
10. Reassemble the shells (Step 2 and 1).



ADJUSTING THE PAPER REGISTRATION SWITCH



The switch contacts used in this application are common "C" and normally open "NO" - the switch is held closed by the paper in the exposure plane.

Since the paper registration switch governs where the plate material stops relative to the optical center, moving the switch up, or down, will change the image location on the plate. Moving the switch up will move the image up, a like amount on the plate.

To adjust the paper registration switch as described above, remove the bottom plate from the magazine and, reaching up behind the switch, locate two small wing screws, loosen the two screws and slide the entire bracket and switch in the desired direction.

The entire switch and bracket may be removed in the following manner.

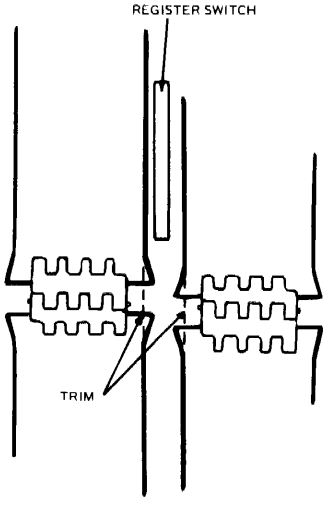
Unplug the Molex plug from the back of the bracket, remove the two small wing screws and, by pressing the actuating arm in from the front of the vacuum plate, the switch and bracket assembly may be slid sideways and completely removed.

The paper registration switch assembly may be repaired by replacing the switch alone.

CHANGING BELTS IN THE MAGAZINE

When it becomes necessary to change or replace one or all of the transport belts in the magazine, it can be done as follows:

1. Turn off the main circuit breaker.
2. Remove the coronas.
3. If the old belt hasn't been previously removed, cut the old belt and tape one end of the new belt to the upper cut end of the old belt, smooth side "in".
4. Pull the new belt up and over the upper rollers and then down the back side of the vaccuum plenum.
5. When the new belt comes out the bottom of the magazine, remove the tape and the old belt.
6. While holding the trailing end of the new belt, pull the other end up, mate the two connectors and slip a pre-cut pin in place.
7. Trim the small bulge next to the connectors of the belts which ride next to the registration switch as illustrated. This small protrusion may prematurely trip the registration switch in which case you may not get a knife cut, or the plate may stop in the corona.

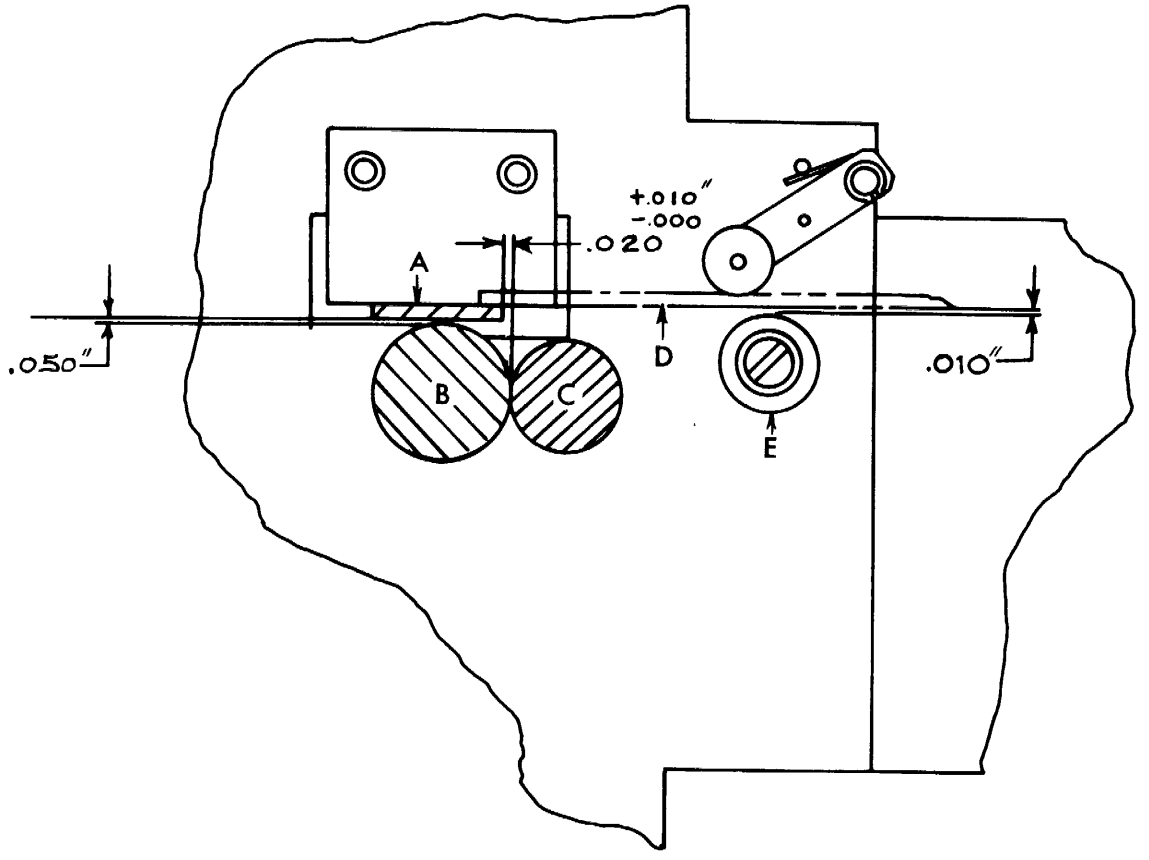


STATIONARY KNIFE

The Stationary knife has four (4) cutting edges and may be inserted with either edge in the operating position. Normally there are no adjustments to be made if the bracket that the knife mounts to has not been moved - in which case the following dimensions should be checked (see picture below).

Adjust the fixed knife (A) so that the cutting edge is .040 inches away from the bite of the Rollers (B and C) and located over Roller "B" align the cutting edge parallel to the bite of the Rollers within .020 inches. Adjust the bottom side of the knife parallel to the crown at Roller "B" within .010 inches and perpendicular to the bite of Rollers "B" and "C".

The knife must be flat within .010 inches and straight along the cutting edge within .010 inches.



SLIDING KNIFE (See pictures below and preceeding page)

The Sliding Knife has two (2) cutting edges and, when necessary, may be reversed to take advantage of the second edge.

To remove the sliding knife, remove the nut and bolt (G), and the small steel bushing, that connect the link arm from the motor to the blade.

Remove the two (2) screws (H) that hold the knife spring to the side frame. The sliding knife assembly may now be removed through the back of the magazine.

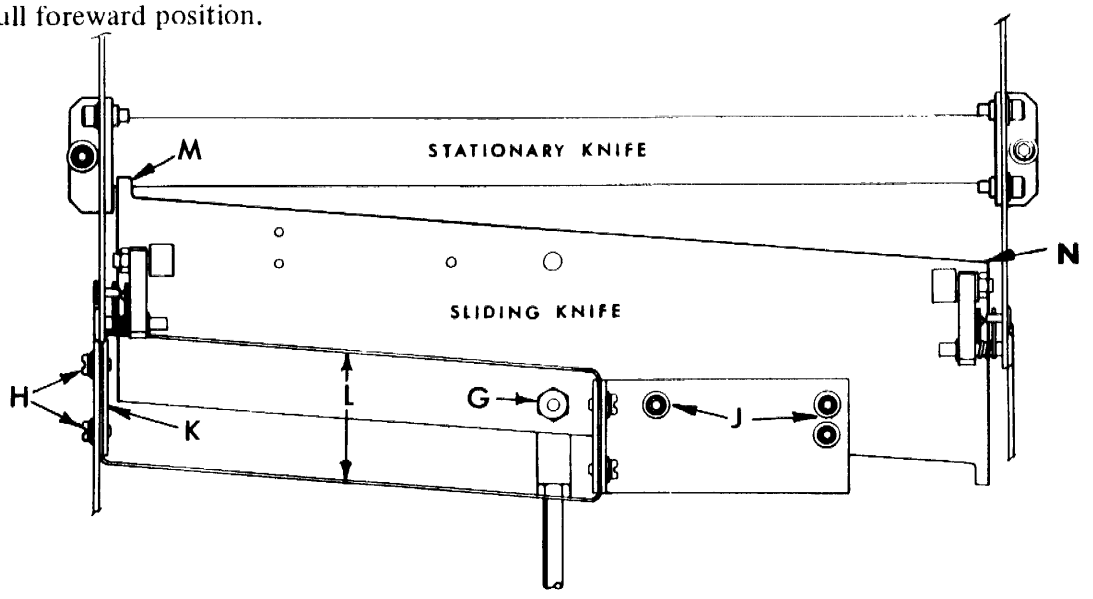
Lay the knife assembly on a work surface and remove three (3) screws (J), turn the knife end for end and replace the screws (J) in the same relative position.

Place the knife assembly back in the magazine, being careful not to strike the cutting edge against anything.

Replace two (2) screws and washers (H) and Bracket (K) keeping the edge of the spring and the top edge of the bracket flush with the top edge of the side plate and the sides of the spring (L) parallel to each other.

Replace the nut, bolt and bearing (G) and tighten.

The tang of the sliding knife (M) must overlap the surface of the stationary knife by 1/16 inch when the sliding knife is in the full rear position and the back edge of the sliding knife should clear the top of Roller "E" (Preceeding Page) when the knife is in the full forward position. In addition the sliding knife should be centered between the two side plates at both the rear and full forward position. Adjust three (3) screws (J) for this positioning.
The opposite end (N) must overlap the stationary knife by 1/16 inch when the sliding knife is in the full foreward position.



PROCESSOR TANK:

To remove the Processor, first remove the two side covers and drain all chemical from the unit.

Open Magazine

Remove the top trim cover by raising and sliding it back, away from the unit.

Loosen the two wing nuts and remove the processor top cover. Loosen the two captive, knurled head screws and lift out the applicators (top and bottom).

Loosen the two 10-32 Hex nuts holding the processor drive chain tension bracket and remove the tension from the chain - allowing it to be removed from the processor drive sprocket.

Disconnect the hoses from the bottom of the processor tank, including the level indicator hose.

Prior to removing any mounting screws from the processor tank, locating lines should be scribed on the top of the processor stand and on the processor mounting brackets to insure that they are replaced in proper alignment with the magazine and dryer rollers.

Locate and remove four (4) screws, one under each corner of the processor tank assembly. The processor tank may now be carefully lifted out of the processor stand.

The processor tank may be removed from the mounting brackets by removing nine (9) screws. Four (4) from the drive motor side and five (5) from the non-drive side. These nine screws are the ones that are recessed in the mounting bracket holes. **DO NOT** remove the hex nuts, three (3) on each side, as these are factory set adjustments and should not be removed.

Replace in reverse order, making sure the two hoses inside the processor tank are connected to the applicator supply brackets and that the marks that were scribed on the frame and mounting bracket are properly aligned.

PROCESSOR DRIVE MOTOR:

To replace the Processor drive motor, open the magazine, remove the Processor top cover by lifting the rear edge and sliding the cover toward the rear of the unit.

Loosen the two 10-32 Hex nuts holding the chain tension bracket to the motor mount bracket and release the chain tension, allowing the drain to be removed from the drive gear.

Disconnect the "three terminal" plug from the motor to the power source, remove the four screws holding the motor to the mounting bracket and the motor may be removed for service.

PROCESSOR FEED AND DELIVERY ROLLERS:

The top feed roller gear may be replaced by removing the top trim cover, the processor top and lifting the roller assembly out of the slots. Use a small drift punch to remove the roll pin holding the gear to the shaft.

The lower feed roller may be removed by using a pair of tru-arc pliers to move the grip ring away from the end of the shaft, slide the shaft into the bearing until the opposite end is free. The entire roller assembly may now be removed and the pin driven out of the gear.

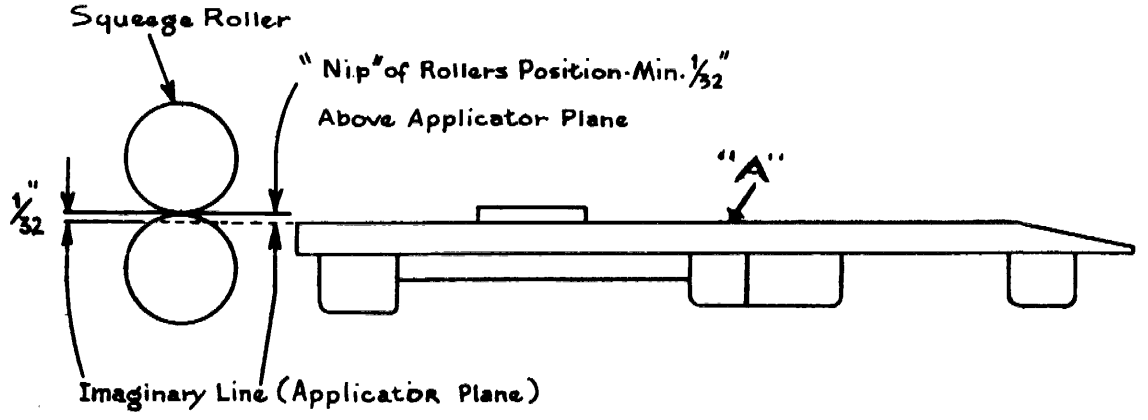
The two delivery (SQUEEGEE) rollers, just ahead of the dryer, may be removed in either of two ways.

The Processor tank may be removed and set on the bench, for ease of disassembly (see section titled "processor tank") or two screws holding each bearing may be removed and the two rollers and bearings taken out as a unit. The latter method is the most difficult, however, either method requires re-alignment of the bearings when being replaced.

SQUEEGEE ROLLER SETTING

To prevent the plate from being pulled across the bottom applicator against its face with resultant scratching, the squeegee rollers should be set as illustrated.

The distance from the feed roller shaft to the flat side of the bearing should be equal on both sides



Procedure:

Remove covers and upper applicator.

Loosen the bearing (p/n 013354-001) holding screws (2) at each end.

Lay a 6 inch straight-edge on the lower applicator surface "A".

Allow the straight-edge to slide down until it touches the squeegee rollers.

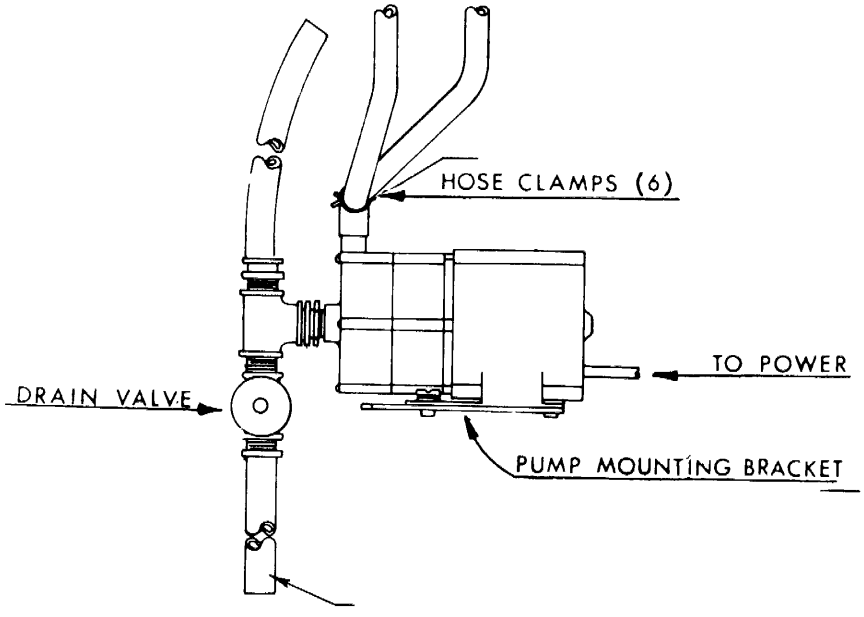
Move the squeegee roller assembly upward until the "nip" (the surface where the two rollers touch) of the rollers is a minimum of 1/32" above the lower side of the straight-edge (applicator plane).

Make sure the rollers are parallel along their length with the rear edge of the applicator, and tighten the bearing holding screws.

CIRCULATING PUMP MOTOR

Prior to removing the circulating pump, drain all chemical from the processor unit.

Remove the left side panel (as seen from the rear of the machine) and unplug the two terminal plugs on the motor power line.



Using Hose Clamp pliers, remove the hose clamps from the three hoses connected to the circulating pump and remove the hoses.

Remove the two screws mounting the pump bracket to the processor frame, and the entire pump and bracket assembly may be removed from the machine.

DRYER HEATING ELEMENTS:

The dryer heater consists of two (2) 1100 Watt Lamps, a muffin fan, one 30 Amp Triac and a Printed Circuit Board. The 2 Lamps run at about 650 Watt each.

To remove the lamps first remove the processor top cover, the upper exit roller assembly and the paper guide.

Allow lamps to cool before attempting to remove, then using a clean cloth, grasp the lamp and slide it toward one end and remove the opposite end from the lamp socket. Caution:!! these lamps are very long and very brittle - be careful, as they will break very easily!!!

REMOVING DRYER UNIT

To remove the entire Dryer Unit loosen the Idler Gear Bracket and remove the drive chain from the drive motor.

Disconnect one molex plug from underneath the Dryer unit, from the drive motor, and disconnect the small plug from the corner of the Dryer fan. Also disconnect the 2 in-line connectors, line No. 2 and line No. 21, which power the Dryer Lamps.

Remove five (5) mounting screws one from each corner of the dryer and one from the bottom of the motor support bracket and the entire Dryer unit may be removed.

Removal of this unit allows access to the two nuts that mount the processor squeegee drip guard.

Adjust the Dryer to the Processor (01326601) by moving the dryer weldment to within .062" of the Processor Tank Flange. Secure and adjust chain idler.

Do not force weldment against Tank Flange or damage will result to wiper assembly.

SWITCH SETTINGS ON THE KNIFE CAM

To properly set the microswitches that control the knife cut and to prevent a succession of cutting cycles, set the microswitches as follows:

Pull the plug from the main power source.

Remove magazine cover as described on page 7-11.

Remove paper compartment upper cover – 01381101.

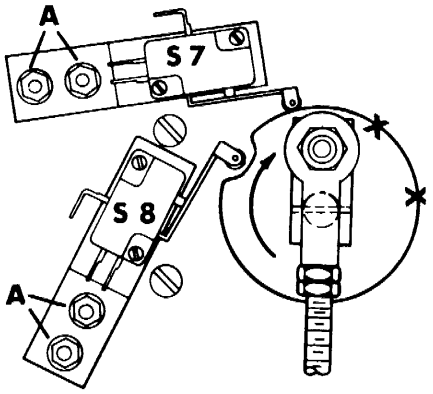
Release the brake on the knife motor and rotate the knife cam until switches S-7 and S-8 are on approximate positions marked X and X on the illustration.

Loosen holding nuts A and move switches away from cam until the cam follower does not touch the cam.

Carefully move S-7 toward cam JUST ENOUGH TO HEAR THE SWITCH CLICK. No more. Tighten the holding nuts.

Repeat step 6 for S-8.

When properly set, neither switch will bottom in the low dwell of the cam.



PREVENTIVE MAINTENANCE

LUBRICATION

The following listings give the area to be lubricated and the type of lubricant.

The Elevator Motor Drive Chain and the Guide Rail should be lubricated with SAE-20 oil or a very light grease. Care should be taken that old oil or grease has not dryed and caked on these parts. If it has, the elevator motor action will be erratic in raising the subject holder.

Use a light grease, very sparingly, on screw in overhang.

Lubricate front frame slide with a light grease.

Clean all oil and etc. (fingerprints) from Coronas using alcohol.

Oil magazine hinges with a small amount of light oil.

The movable lamp arms and lamp slides may be lubricated with parofin to make them slide easier.

Clean the drive chains, in the processor, with dispersant.

CLEANING

The following listings give the area to be cleaned at the cautions to be observed. Always follow the caution notes so that you will not incurr unnecessary damage to these machine parts.

SUBJECT HOLDER

Remove the Subject Holder Chart and wipe off both sides with a clean cloth. Clean both sides of the Subject Holder glass. A glass cleaner may be used in this area only. Be sure that small specs, smudges or adhesives are removed.

CAUTION: *Do not mar or scratch the Subject Holder Glass while cleaning.*

LENS AND MIRROR

Examine lens and mirror for dirt, scum or fingerprints. If required, clean these optical elements.

CAUTION: *DO NOT use window cleaner !*

Neglect of this cleaning will cause uneven exposure of the print. It can also impair quality and necessitate excessive exposure time.

Using a lens cloth or lens tissue gently apply a small amount of lens cleaning solution to the surface of the Mirror Gently remove the solution with a lens cloth or lens tissue.

CAUTION: *DO NOT rub or wipe the surface of the mirror, blot or daub. Extreme care must be taken to avoid scratching the surface.*

Be careful not to disturb the adjustment of the optical elements.

QUARTZ-IODINE LAMPS

The customer should be instructed to keep a reserve supply of four quartz lamps. The lamps will tend to have the same useful life span. Therefore, all four lamps should be replaced at the same time.

Before changing a lamp, allow it to cool, Then grasp it with a clean dry cloth, move it laterally in either direction and withdraw it from its spring-loaded contacts. Still using the cloth, insert new lamp, keeping protrusion in glass toward the reflector.

CAUTION: *Never touch the lamps with your hands. The skin oils form the fingers will cause errosion of the quartz parts.*

CHECKLIST

Camera Section

- ☐ Check level. Relevel if necessary, Installation procedure
- ☐ Check that all leveling feet are firmly on floor.
- ☐ Inspect and clean lens and prism / mirror for scratches, smudges, dust, etc. Clean with soft lens tissue and non-abrasive lens cleaner.
- ☐ Check equivilent f stop scale (if so equipped) to see if scale and pointer agree with actual f stop on lens. Re-adjust pointer if necessary.
- ☐ Focus - Position NBS Resolution Charts in center and at 4 corners of 100% area (relative to width of plate material being used) per instructions.
- ☐ Size - Place two 12" scales vertically and two 6" scales horizontally on the Subject Holder all within the 100% area.
- ☐ Inspect processed plate produced at 100% setting. Resolutions should read a minimum of 8.0 on each NBS chart and size should be ± .01". If necessary, refocus.
- ☐ Lightly grease Focusing Screw in Overhang.
- ☐ Inspect bellows for holes.
- ☐ Check Subject Holder for proper closing of Cover Frame and contact of glass to chart. Re-adjust latch if required.
- ☐ Clean Subject Holder Glass and check for scratches. Recommend replacement if badly scratched.
- ☐ Check and clean Subject Holder Chart. Recommend replacement if badly discolored or stained.
- ☐ Check springs on Subject Holders so equipped. Replace if stretched or weak.
- ☐ Inspect Elevator racks and equalizer gears. Clean and oil lightly.
- ☐ Lubricate Front Frame Slide with light grease.
- ☐ Check limit switches for correct action.
- ☐ Check shadow line Set to recommended specifications :
- ☐ Inspect for free movement of movable reflectors and lamp arms and brackets. Lubricate with paraffin if required.

Magazine Section

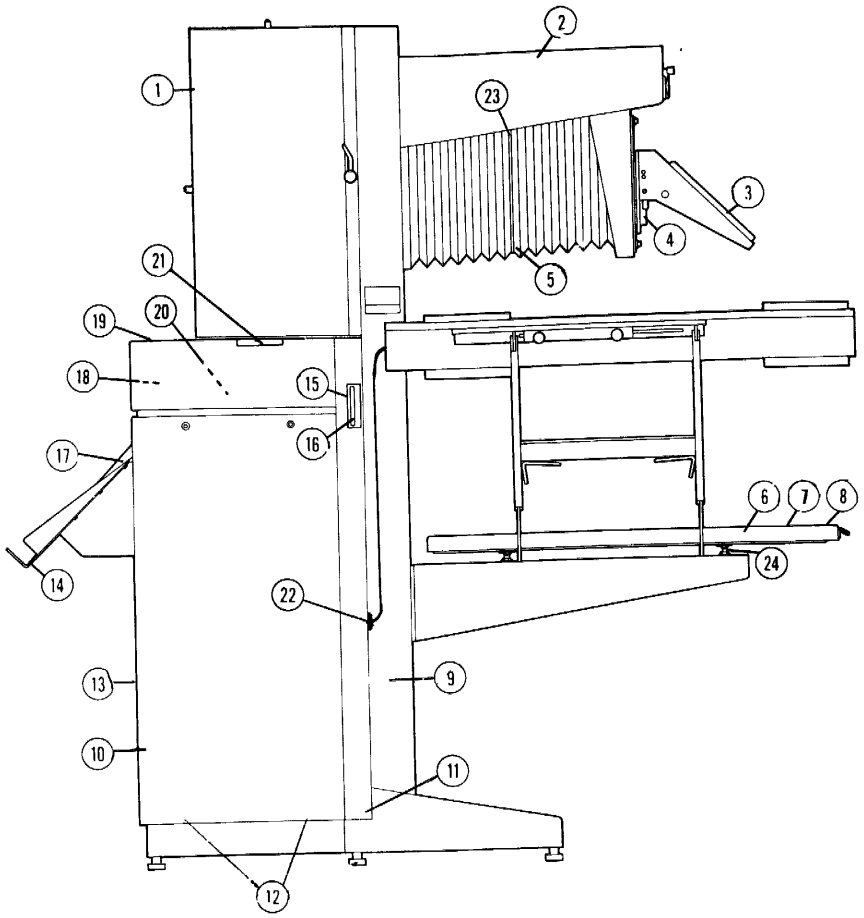
- ☐ Check plate for smooth cut. Turn stationary knife, if required.
- ☐ Check "Transport drive" Switch. ☐ Check "End of Roll" Switch. ☐ Check "Plate Registration" Switch.
- ☐ Clean Coronas (2) with Alcohol.
- ☐ Check all electrical connections in magazine for frayed wires, loose connections, etc. Repair or recommend replacement as required.
- ☐ Lightly oil Magazine Hinges.
- ☐ Check for broken Transport Belts.

Processor Section

- ☐ Inspect all bearings for wear.
- ☐ Clean all Chains with denatured alcohol
- ☐ Check squeegee rollers for wear. Adjust with minimum pressure for proper squeegee action on processed plates.
- ☐ Check Heater fan and reduction motor for vibration. Tighten mounting hardware if required. Check fan for broken blades. Recommend replacement if required. Check oil level in processor reduction unit on those models so equipped.
- ☐ Check tank, hoses, and drain valves for leaks, Clean, Replace parts, if required.
- ☐ Clean Heat Lamps and Reflectors.
- ☐ Check to insure that Heater Elements are working.

Electrical Operation

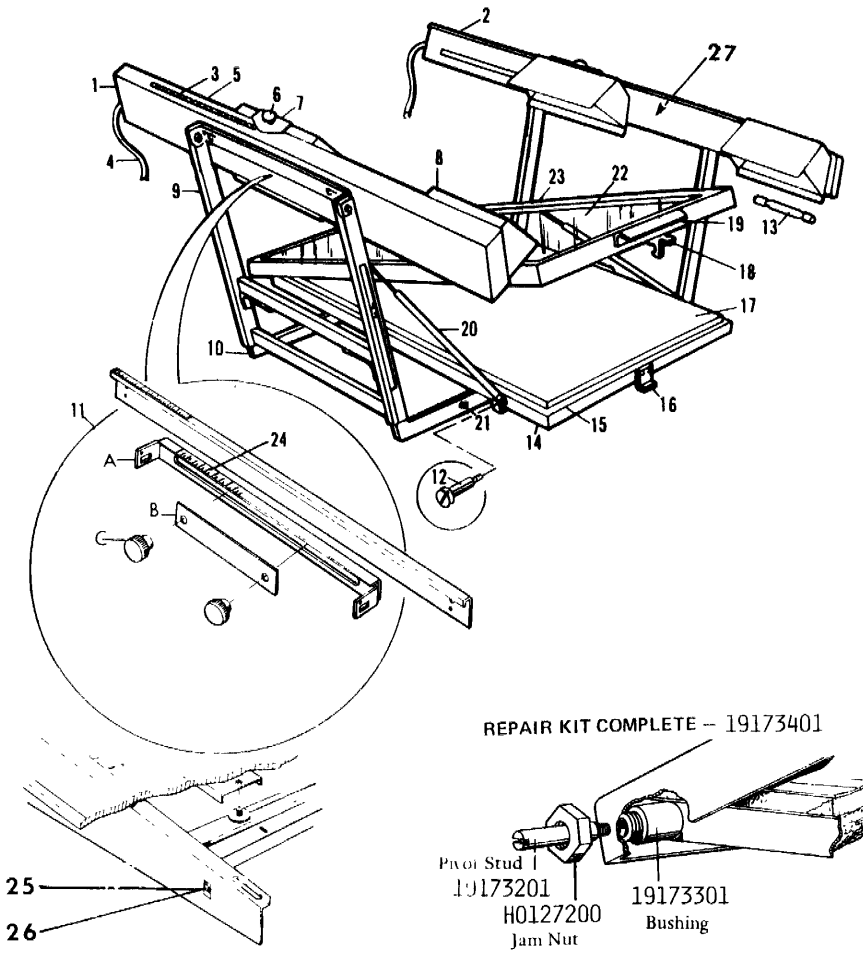
- ☐ Check all plugs, wires, and connections for contact.
- ☐ Check control console cycle lamp for proper operation.



REF.	DESCRIPTION	PART NO.
1	Magazine (60Hz)	01329208
	Magazine (50Hz)	01329209
2	Overhang	09069002
3	Mirror	07442201
4	Lens	09778200
5	Bellows	09704002
6	Subject Holder Assy	01197305
7	Chart Only	01367010
8	Chart (50Hz)	19018010
9	Cam Stand Assembly	01338202
10	Side Cover	01336004
NS	Side Cover	01336005
11	Corner Cover	19276103
NS	Corner Cover	19276003
12	Studs, Rear	09344700
	Studs, Side	19275701
13	Rear Cover	19662401
14	Stacker Assembly (Brown)	19941401
	Stacker Assembly (Blue)	19941402
15	Toner Indicator	01366701

REF.	DESCRIPTION	PART NO.
16	Sight Glass	19276201
NS	Grommet	E0063300
NS	Keeper	H0900400
NS	Hose	19314401
NS	Clamp	40143904
NS	Drip Tray	19115401
17	Stacker Guide	19112601
NS	Shoulder Studs	06771600
NS	Guide	19112201
NS	Wishbone	19112301
NS	Hinge	19112501
18	Dryer	01329001
19	Top Cover	01342003
20	Processor Assembly	01326601
21	Label (Cover)	19060601
NS	Ground Glass Assy	05844900
22	Strain Relief	08740202
23	Wire Support	09744402
	Support Rod	01197403
24	Jack Assy. (Grey)	05849300
	Jack Assy. (Brown)	05849301

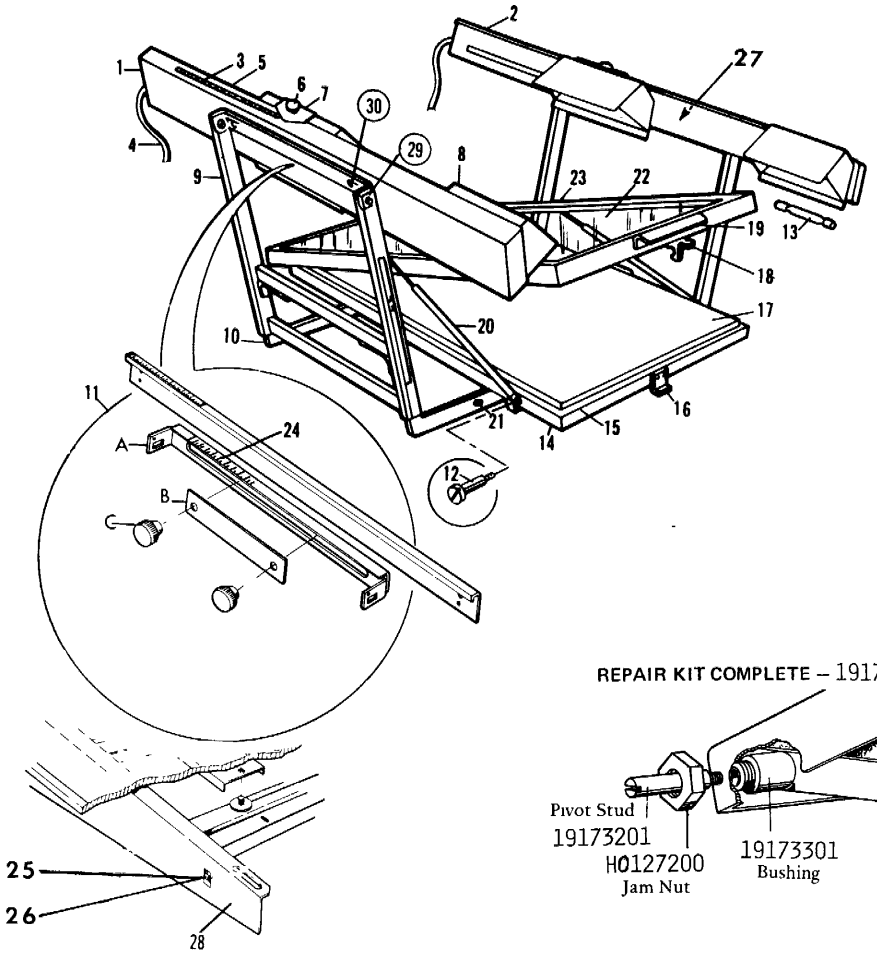
SUBJECT HOLDER & LAMP ASSEMBLY



REPAIR KIT COMPLETE – 19173401

REF.	DESCRIPTION	PART NO.
1	Lampholder Assy L.H.	07713325
2	Lampholder Assy R.H.	07713326
3	Scale R.H. Scale L.H.	09719500 09719501
4	Cable Assembly	01375401
5	Movable Lampholder	07686602
6	Knob	09189200
7	Reflector Bracket	09189501
8	Fixed Lampholder	07711003
9	Slide Frame Assembly	05865101

REF.	DESCRIPTION	PART NO.
10	Lampholder Arm Assy	19642901
11	Lamp Shifter Assy Support Assembly Guide Knob	19642902 09759604 09759501 09189200
12	Arm Mounting Screw	07452500
13	Quartz Lamp (500 W)	19068201
14	Subject Holder Assy	01197305
15	Base Assembly	01197105

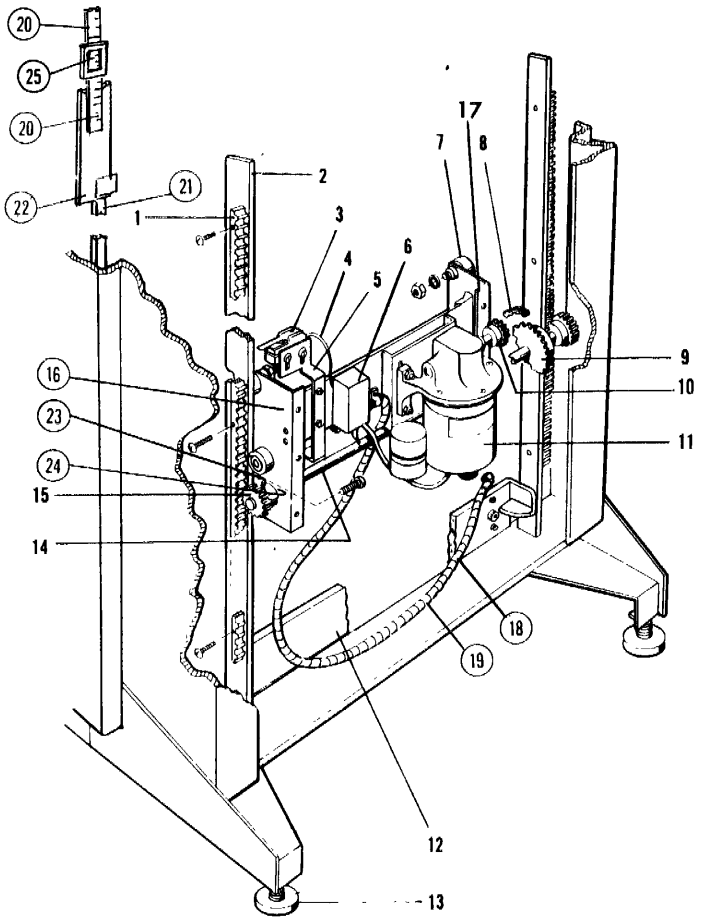


REPAIR KIT COMPLETE – 19173401

REF.	DESCRIPTION	PART NO.
16	Latch Catch	01197002
17	Chart	01367001
18	Latch	01196903
19	Cover Handle	09805100
20	Arm Assembly	05863500
NS	Bushing	19967401
NS	Nut	H0146100
21	Stop Screw	H0048400
22	Glass	07459301
	Glass Retaining Clips	05864100
23	Cover Assembly	01197205
	Pivot Screw	07453300
	Jack Assembly	05849301
	Latch Bracket	07453203

REF.	DESCRIPTION	PART NO.
24	Scale L.H.	09719801
	Scale R.H.	09719800
25	Lamp Leveling Plate	09713202
26	Lamp Leveling Stud	09713101
27	Internal Cable	07707900
28	Support Arms	07765602
29	Lamp Arm Lock Nut Assy	05865001
30	Lamp Scale	19070901

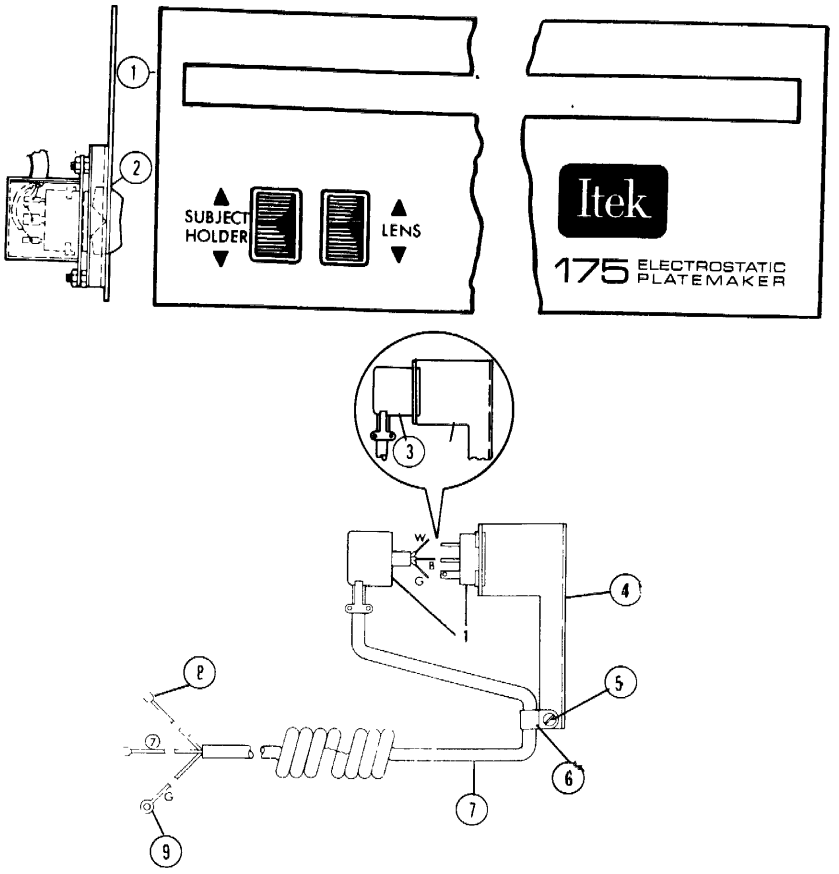
ELEVATOR ASSEMBLY



REF.	DESCRIPTION	PART NO.
1	Elevator Rack	09697000
2	Elevator Bar	09874502
3	Limit Switch	E0105900
4	Cable Assembly	09277001
5	Limit Switch Bracket	09731902
6	Terminal Box Cover	09276802
	Terminal Block Contact	E0187100
	Terminal Block End	E0187000
7	Cam Follower	09814300
8	Chain Assembly	07471400
9	Driven Sprocket	09276600
10	Motor Sprocket	07472205
11	Elevator Motor	19629701
12	Elevator Tie Bar	09468000

REF.	DESCRIPTION	PART NO.
13	Foot	08650000
14	Equalizer Shaft	07471300
15	Equalizer Gear	09814600
16	Elevator Slide R.H.	09813903
17	Elevator Slide L.H.	09814004
	Repair Gear (Brass)	19163501
18	Cable	01380500
19	Spiralband Sleeve	09277900
20	Vertical Scale Top	09774203
	Vertical Scale Bottom	09774204
21	Vertical Scale Support	07881906
22	Scale Mount	09652200
23	Equalizer Bearing	09403000
24	Pin	H0230700
25	Pointer	09822300

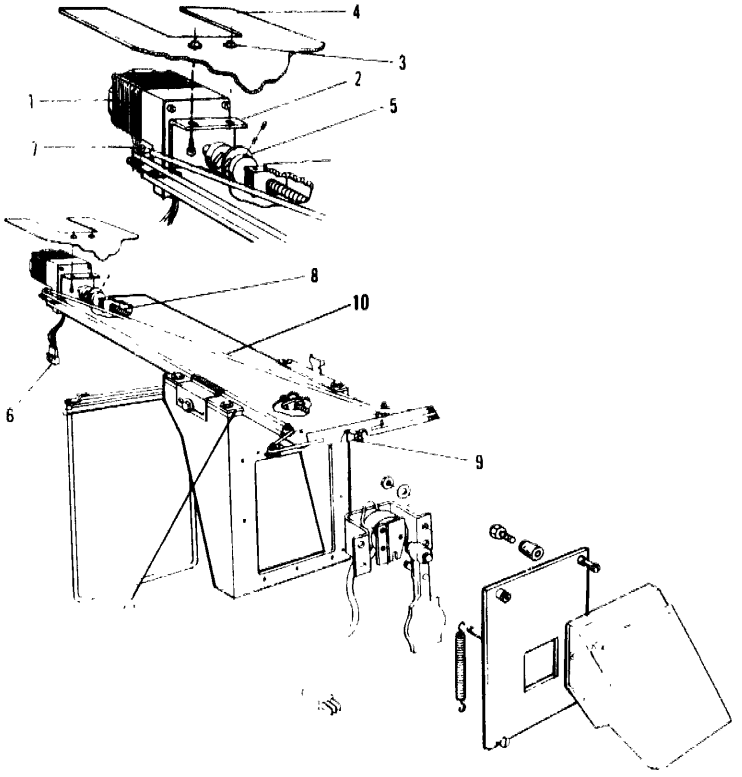
FRONT PLATE & SHUTTER CABLE



REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Front Plate Assembly	09096701	6	Cable Strap	E0155100
2	Elevator Switch	09067801	7	Wire Coil	09745901
3	Socket	08700726	8	Terminal	E0196000
4	Bracket	09223001	9	Terminal	08703907
5	Screw	H0260000		Overhand Motor	09047500

Note: Items 3 thru 9 are the Cable Assembly Part No. 01375901.

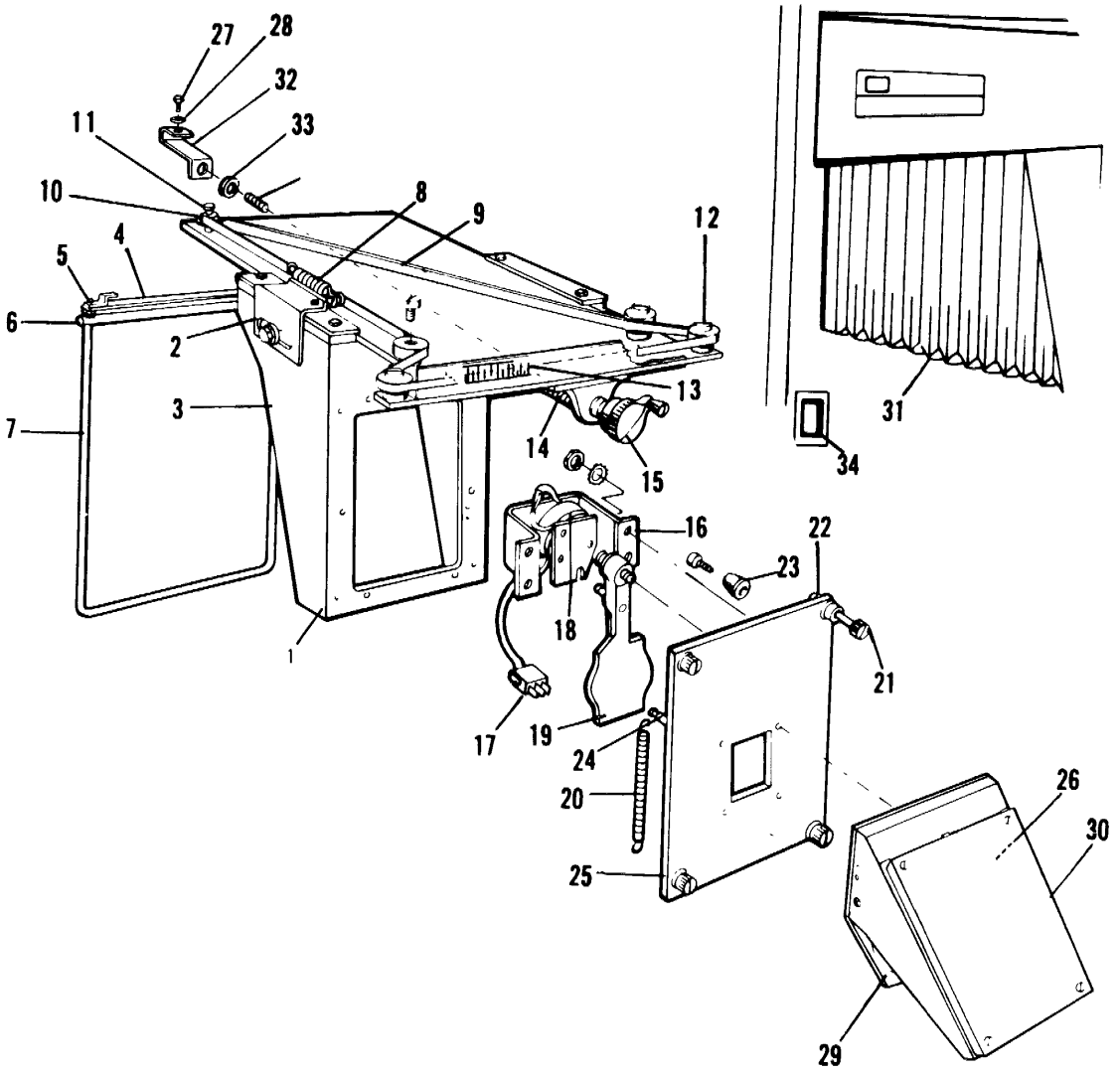
FRONT FRAME & SLIDE ASSEMBLY



REF.	DESCRIPTION	PART NO.
1	Motor Assembly	09047500
2	Motor Bracket	09067701
	Mounting Screws	H0465400
3	Pem Nuts	H0130300
4	Overhang Plate	09069002
5	Coupler	09070901
6	Plug (Only)	09246500
7	Pulley Assembly	07896201

REF.	DESCRIPTION	PART NO.
8	Focusing Screw	09069101
9	Bracket Assembly	09095301
	Bearing	06867100
	Motor Capacitor	08700126
NS	Limit Switch	01035704
NS	Switch Bracket	09067301
10	Pointer Tape Assembly	07883003
11	Teflon Pads	09845500

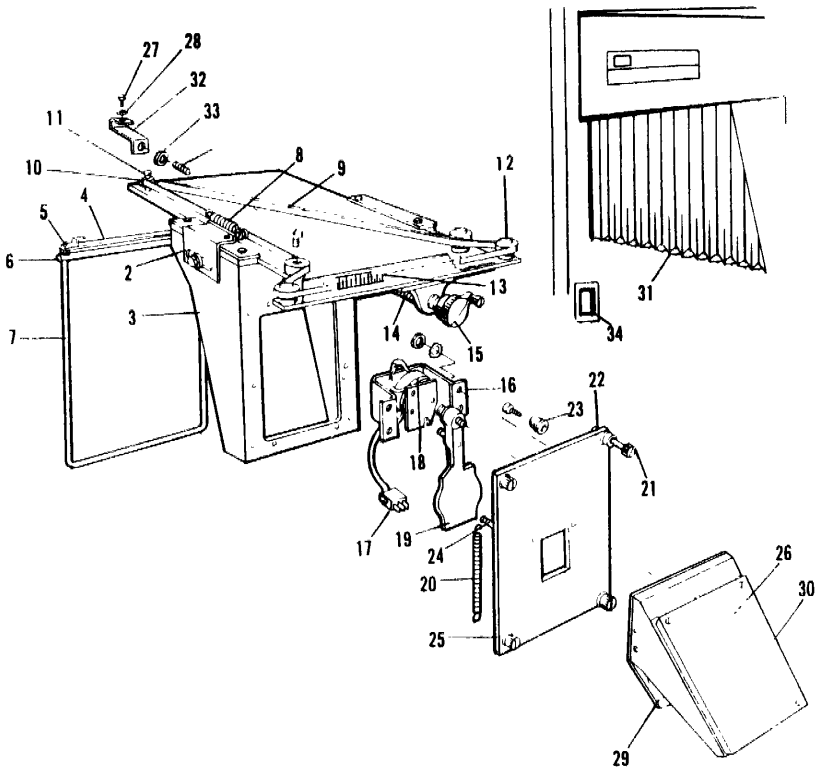
FRONT FRAME & SLIDE ASSEMBLY



REF.	DESCRIPTION	PART NO.
1	Front Frame/Slide Assy	09069205
	* Excl. Lens & Shutter Assy	
2	Adjustable Scale Brkt.	09587400
3	Front Frame Casting	09581500
4	Bellows Support Assy	07773100
5	Push Nut	H0132500
6	Support Rod	09744300
7	Support Wire	09744404
8	Spring	03019500
9	Pointer Tape Assy	07883003
*	Lens and Shutter Assy	
	Blue	07775403
	Grey	07775405

REF.	DESCRIPTION	PART NO.
10	Pulley Assembly Rear	07896100
11	Stud	09586900
	Washer	09597600
12	Pulley Assembly (Front)	07896201
	Stud	H0581400
	Washer	H0156400
13	Focusing Scale L.H.	09774201
	Focusing Scale R.H.	09774202
14	Focusing Screw	09697700
15	Focusing Crank	09819000

FRONT FRAME & SLIDE ASSEMBLY



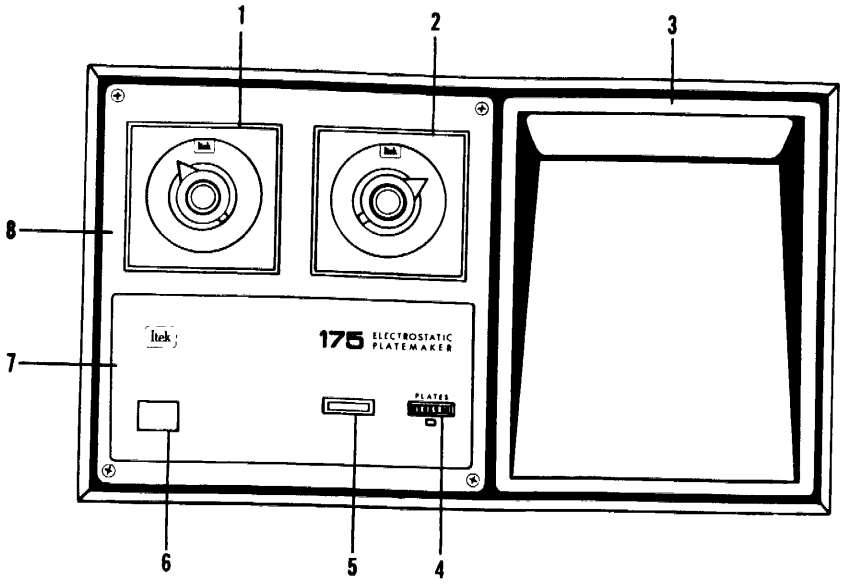
REF.	DESCRIPTION	PART NO.
16	Shutter Solenoid Assy	07884100
17	Plug Only	08700618
18	Solenoid Only	E0152900
19	Shutter Assembly	07896000
20	Shutter Spring Return	09572400
21	Thumb Screw	09830800
22	Retaining Ring	09831000
23	Shutter Bumper	11023000
24	Spring Stud	09595100
25	Shutter Plate Assembly	07767607

REF.	DESCRIPTION	PART NO.
26	1st Surface Mirror	07442201
27	#10 Screw	H0064400
28	# 10 Lockwasher	H0155200
29	Lens 15"	09778200
30	Mirror Cover	07442502
31	Bellows Assembly	09704002
32	Focusing Screw Brkt.	09698401
33	Nylon Bushing	07478800
34	Vertical Scale Top Vertical Scale Bottom	09774203 09774204

*Items 16 thru 28 - Part No. 07775403.

CONTROL CONSOLE

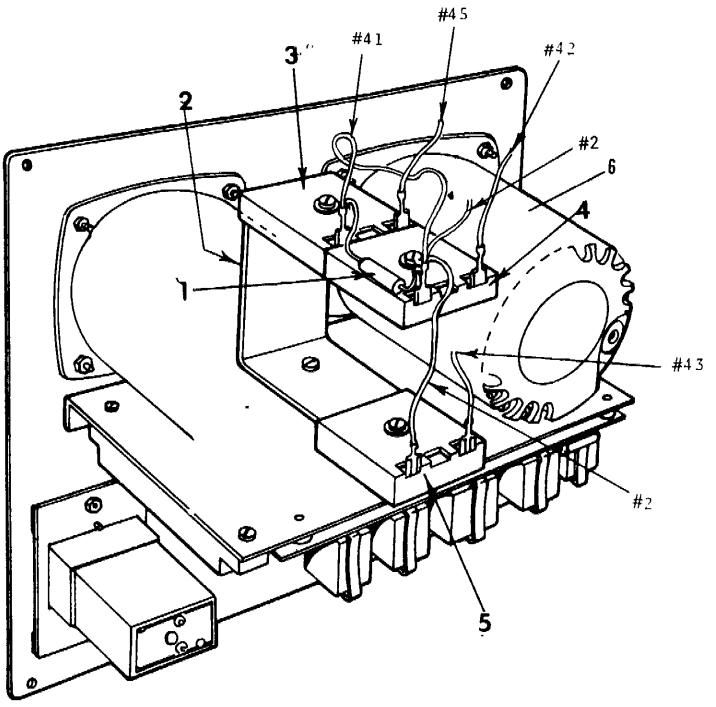
Gray - 07693618 **Brown** - 07693630



REF.	DESCRIPTION	PART NO.
1	Exposure Timer	19635207
2	Plate Length Timer 50 or 60 Hz	19635224
3	Shelf	07848701
4	Counter Assembly	01329701
5	Pilot Light	01369401
6	Switch Assembly	19070201
	Switch	09352400
	Lamp Only	08701313

REF.	DESCRIPTION	PART NO.
NS	Tray Assembly	07786801
NS	Stand Leg	09581801
NS	Cross Bar	09817401
NS	Foot	09817300
7	Overlay	19073102
8	Control Panel Assy	19074303
	Resistor For Lamp	08700032

CONTROL CONSOLE
(REAR)

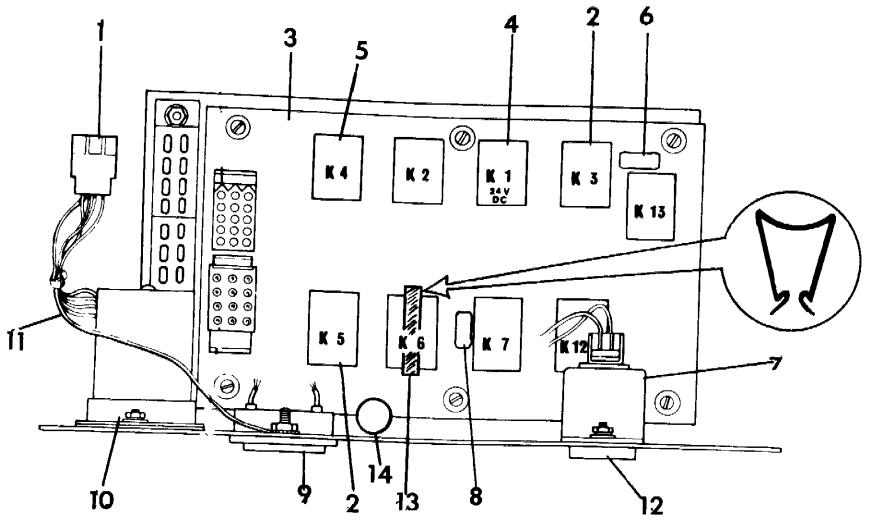


REF.	DESCRIPTION	PART NO.
1	Resistor	90545001
2	Bracket	19171601
3	A-3	19164803
4	A-2	19164801
5	A-1	19164802
6	Timer Shell	07446100

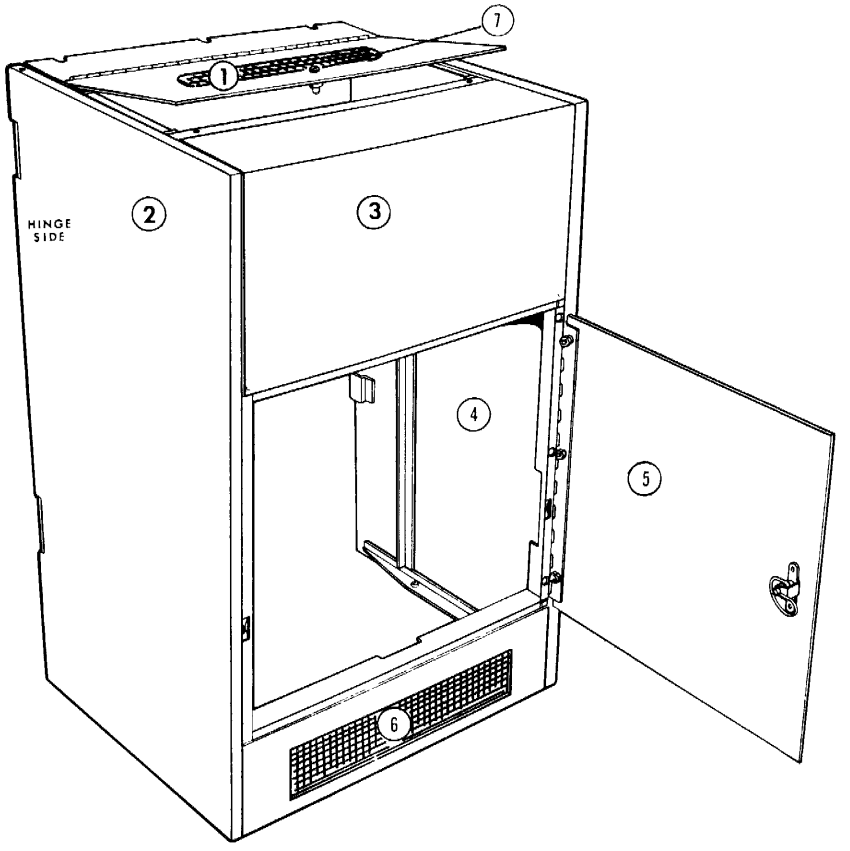
NOTE REGARDING TIME DELAYS:

Timer A-2 provides a 0.1 second delay for the wind motor to stop before the plate is cut.
Timer A-1 gives a 1 second delay before K6 resets. This prevents a false reset when S14 opens intermittently due to plate curl near end of roll.
Timer A-3 allows the processor section to run for six seconds after the ready light goes on. This makes it possible to start a new plate while the previous one is being finished.

CONTROL PANEL

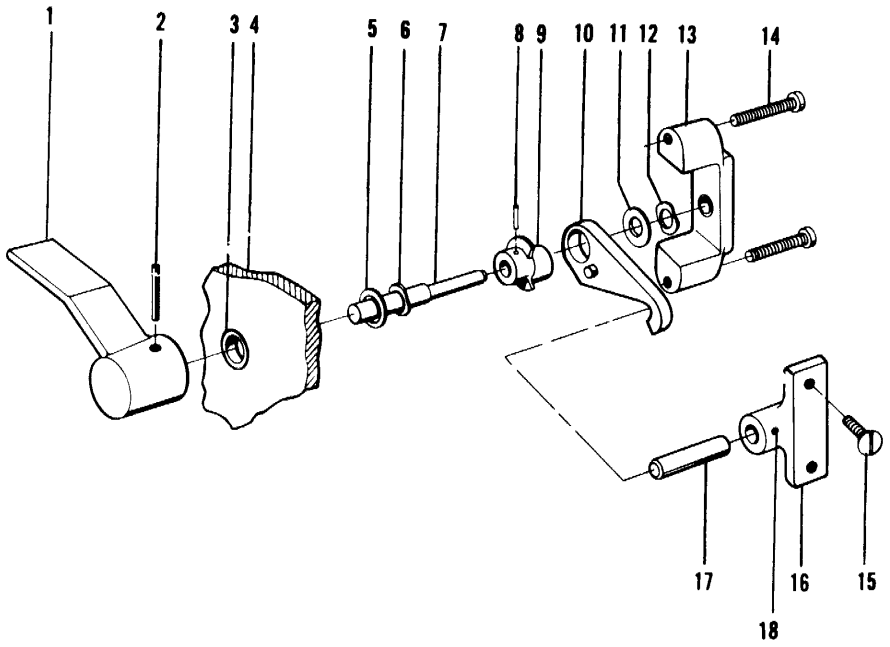


REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Receptacle	09258300	8	Resistor R-2	5K Ohms 5¼ W
2	Relay K-3, 5	08700521	9	No Plate Light Assy	01369401
3	P.C. Board	19074101	10	Counter Assembly	01329701
4	Relay K-1	08700513	11	Harness Assembly	19074401
5	Relay K-2,4,6,7,12,13	08700507	12	Lamp Only	08701313
6	Resistor R-1	3K Ohms 5 ¼ W	13	Relay Clamp	19065701
7	Switch	09352400	14	Resistor	40127848
			NS	Resistor (Start Sw.)	40133478



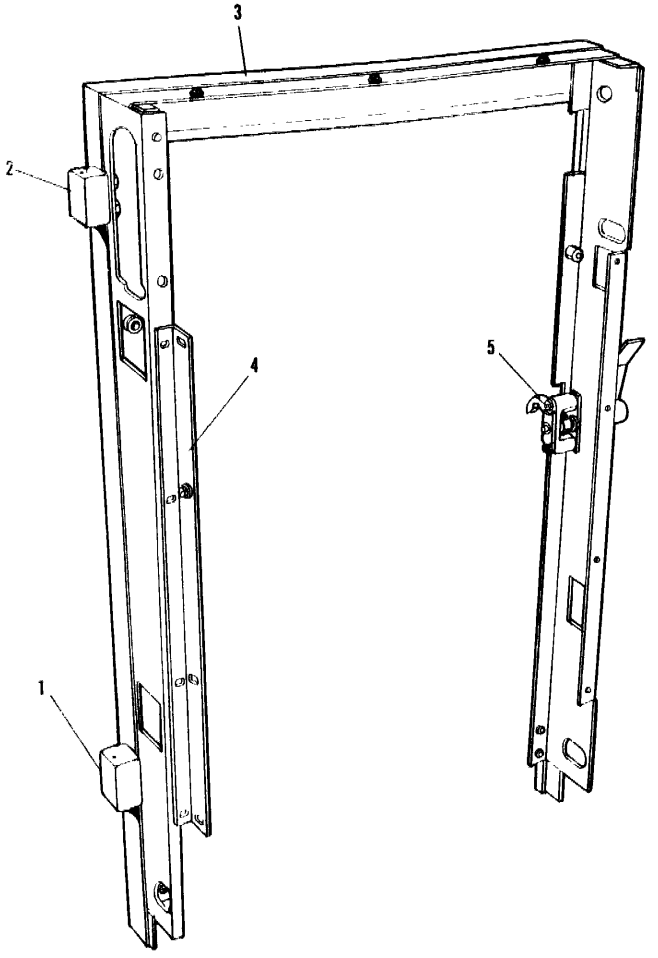
REF.	DESCRIPTION	PART NO.
1	Top Door Assembly	19109203
2	Cover Assy-Hinge Side	01380103
3	Top Cover Assembly	01368603
4	Mag. Cover Latch Side	01379903
5	Magazine Door Assy	01379503
6	Bottom Cover	19109903
	Bot. Light Shield Plate	01369201
7	Latch	09089701

LATCH ASSEMBLY – COMPLETE



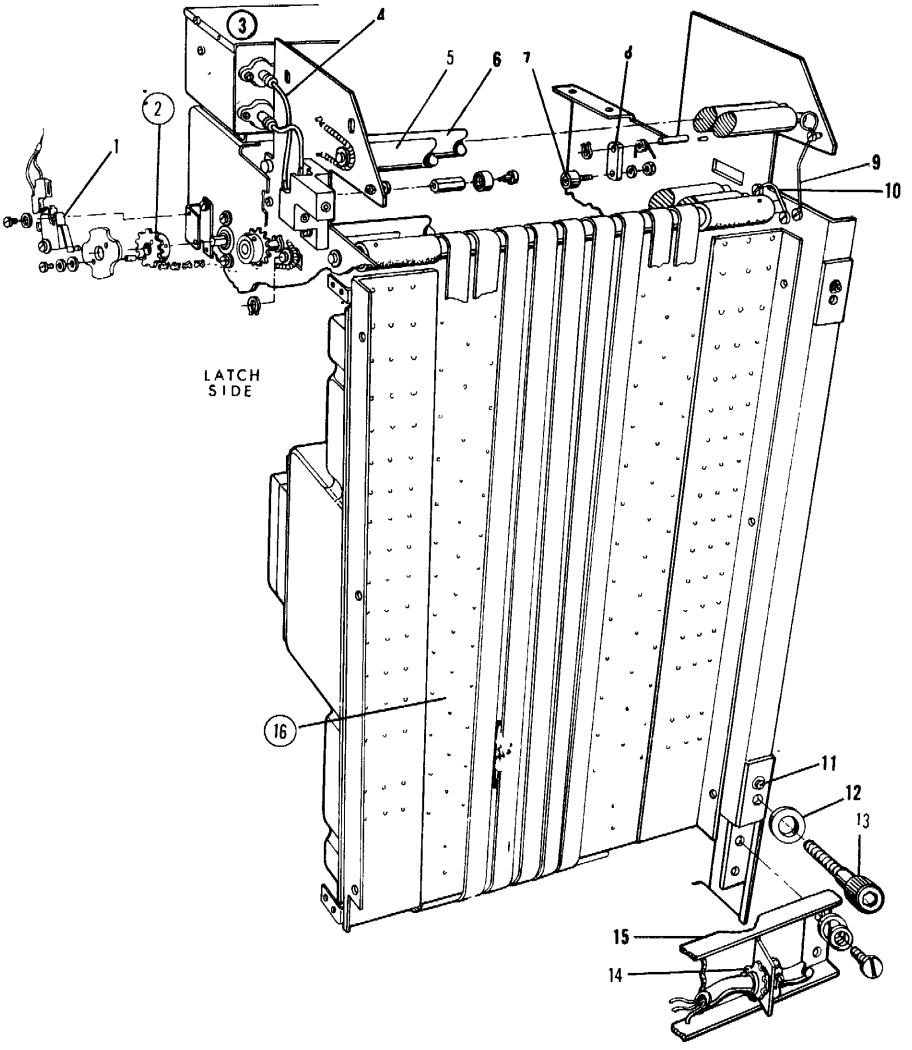
REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Handle	09784400	10	Latch	09783600
2	15/16 x 1/8 Pin	H0513300	11	Washer	09585200
3	Bearing	09242329	12	Washer	09784300
4	Magazine	Ref. Only	13	Support Bar Assembly	07795300
5	Flat Washer	09585200	14	10/32 x ⅛ Screw	H0586900
6	Washer	09784300	15	Screw	H0155200
7	Shaft	09783700	16	Bracket	09593700
8	⅝ x .094 Pin	H0507700	17	Latch Pin	09593800
9	Cam Assembly Cam Only	07795200 09783800	18	Pin	H0508400

MAGAZINE ASSEMBLY



REF.	DESCRIPTION	PART NO.
1	Lower Hinge	09584403
2	Upper Hinge	09833103
3	Frame Assembly	01377203
4	Frame Bracket	01391101
	Lock Washer	H0155200
	Flat Washer	H0156000
	Pan Head Screw	H0465300
5	Latch Assembly See p.13 For Details	

MAGAZINE (FRONT)

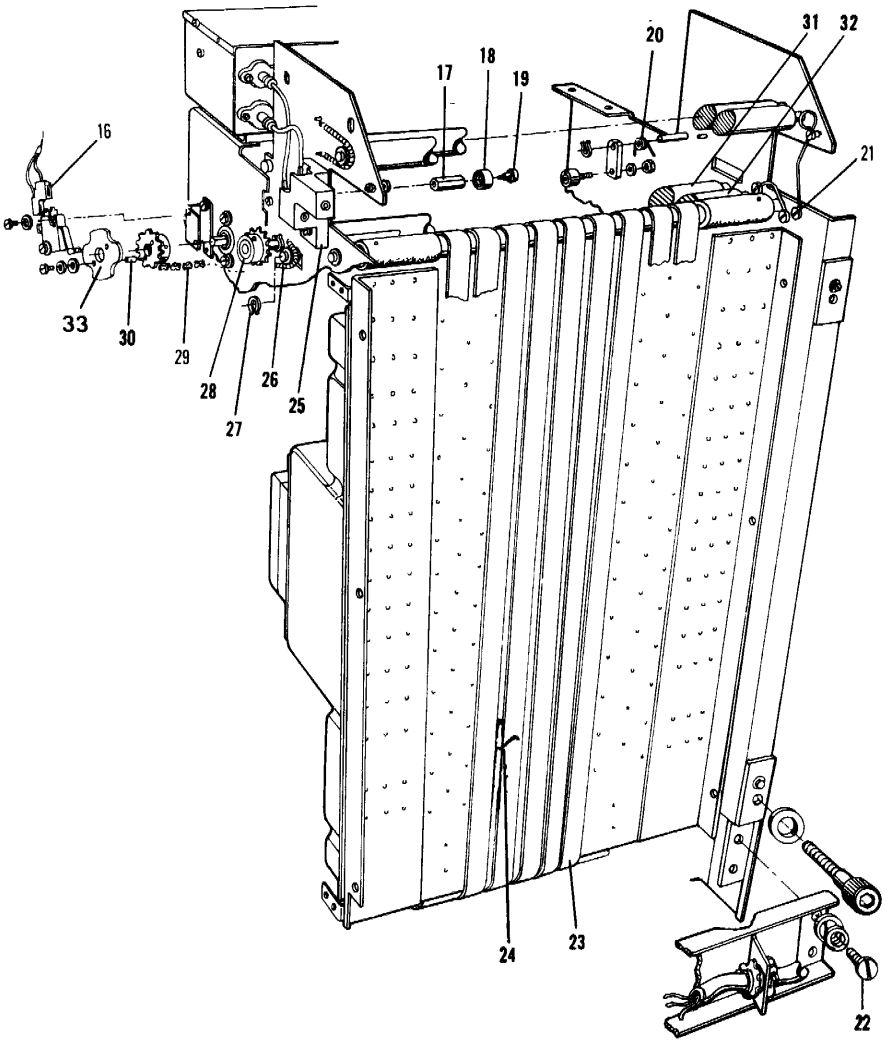


REF.	DESCRIPTION	PART NO.
1	Switch	01035704
2	Sprocket	01374500
	Pin	H0509300
3	Power Supply	01349301
	50 HZ Power Supply	09096301
4	High Voltage Connectors	01358901
5	Shaft - Roller	01370801
	Bearing	01371601
	Retaining Ring	H0928600
6	Roller	01370901
	Sprocket	06752500
	Pin	H0507500
	Bearings	09258021
	Retaining Ring	H0928700
7	Cam Follower	09352900
8	Arm Assembly	01381601

REF.	DESCRIPTION	PART NO.
9	Spring - Hinge Side	19090101
	Spring - Latch Side	01371502
10	Spring	01372201
	Shoulder Screw	01372301
	Flat Washer	H0560000
11	Set Screw	H0119400
12	Flat Washer	H0155600
13	Cap Screw	H0320400
14	Wire Connector	E0016800
15	Lower Brace	01373301
*	High Volt. Suppressor	09073601
16	Dielectric Tape	40151335

*Connect in neg. line per Tech. Bulletin (0E-145).

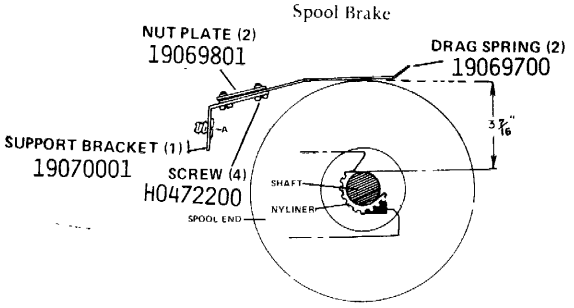
MAGAZINE (FRONT)

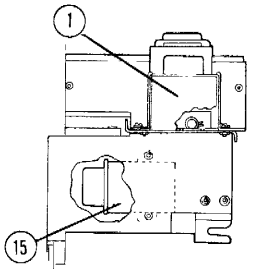


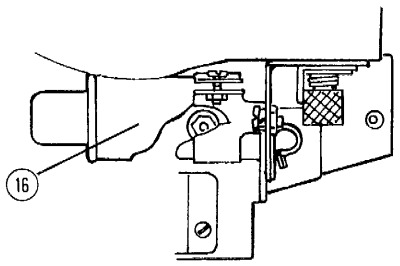
REF.	DESCRIPTION	PART NO.
16	Connector	01072600
17	Stand-Off	01377901
18	Bearing	01095401
19	Shoulder Screw	H0165300
20	Spring	09288000
	Retaining Ring	H0928500
21	Shoulder Screw	01372301
	Spring Washer	H0157800
	Flat Washer	H0156000
22	Pan Head Screw	H0465200
	Flat Washer	H0156000
	Lock Washer	H0155200
23	Belt (Joined)	19438601
	Belt (Endless)	19438701
24	Paper Reg. Switch Assy	19284901

REF.	DESCRIPTION	PART NO.
25	Mounting Block	19089201
	Insert	01365401
	Pan Head Screw	H0468300
	Lock Washer	H0155300
26	Spring	09572400
27	Retaining Ring	H0928700
28	Sprocket	01374101
	Pin	H0507500
29	Chain	09702008
30	Spacer	01371901
	Pan Head Screw	H0585500
	Lock Washer	H0155700
	Flat Washer	H0156500
	Bracket	01372901
31	Drive Roller (Rubber)	01333201
32	Tension Roller (Steel)	19070101
33	Cam	19929501

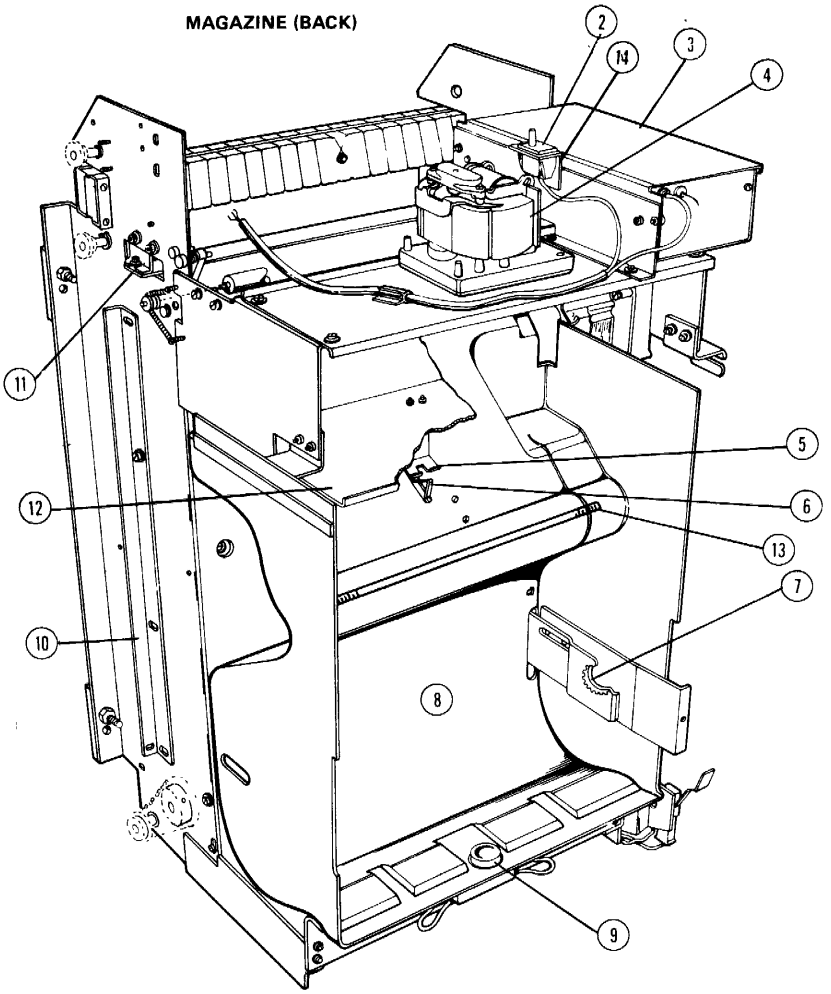
Spool Brake







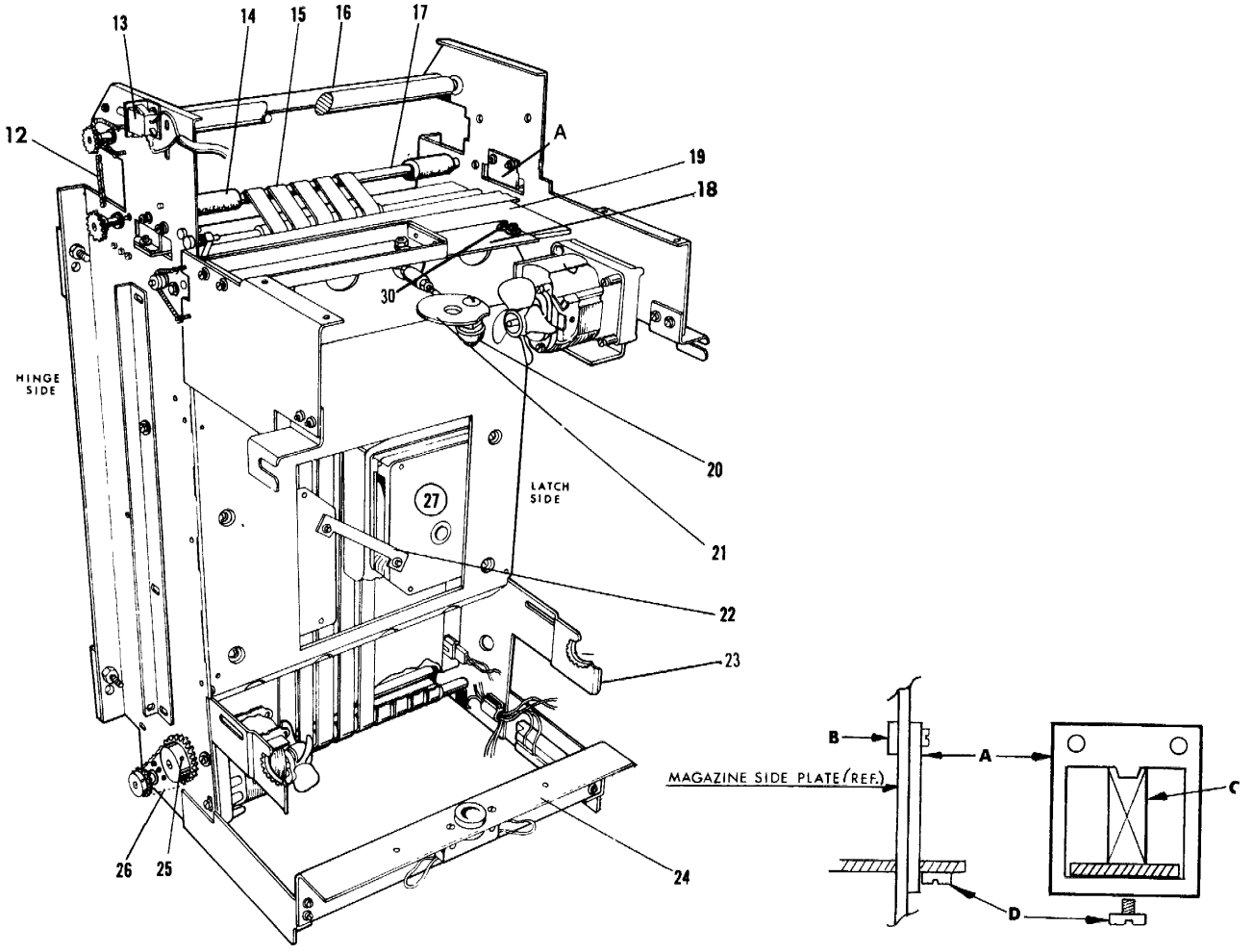
MAGAZINE (BACK)



REF.	DESCRIPTION	PART NO.
1	Capacitor 370 Vac 10 UF	19874701
	Mounting Bracket	19874801
	Screw	H0472200
	Washer	H0155100
	Nut	H0144200
2	Switch	19253001
3	Power Supply	
	Power Supply 50 Hz	
4	Knife Motor	01324301
5	Guide	13807001
6	Switch	01381201
	Bracket Assembly	01381201
	Pan Head Screw	H0585500
	Lock Washer	H0155700
	Hex Nuts	H0144500
	Flat Head M.S.	H0036700
	Flat Washer	H0156500
NS	Suppressor	E0223100
7	Grommet	01371701
8	Paper Roll Liner	01381901

REF.	DESCRIPTION	PART NO.
9	Switch	E023100
10	Frame bracket	01391100
	Pan Head Screw	H0465300
	Flat Washer	H0156000
	Lock Washer	H0155000
11	Stationary Knife	19857601
12	Paper Comp. Cover	01381101
13	Scale	19047401
14	Bracket	19085501
15	Capacitor 370 Vac 6 UF	19874601
	Terminal Cover	07134200
	Mounting Bracket	09684700
	Screw	H0472100
	Washer	H0155100
	Nut	H0144200
16	capacitor 370 Vac 6 UF	19874601
	Mounting Bracket	19883001
	Screw	H0472100
	Washer	H0155100
	Nut	H0144200

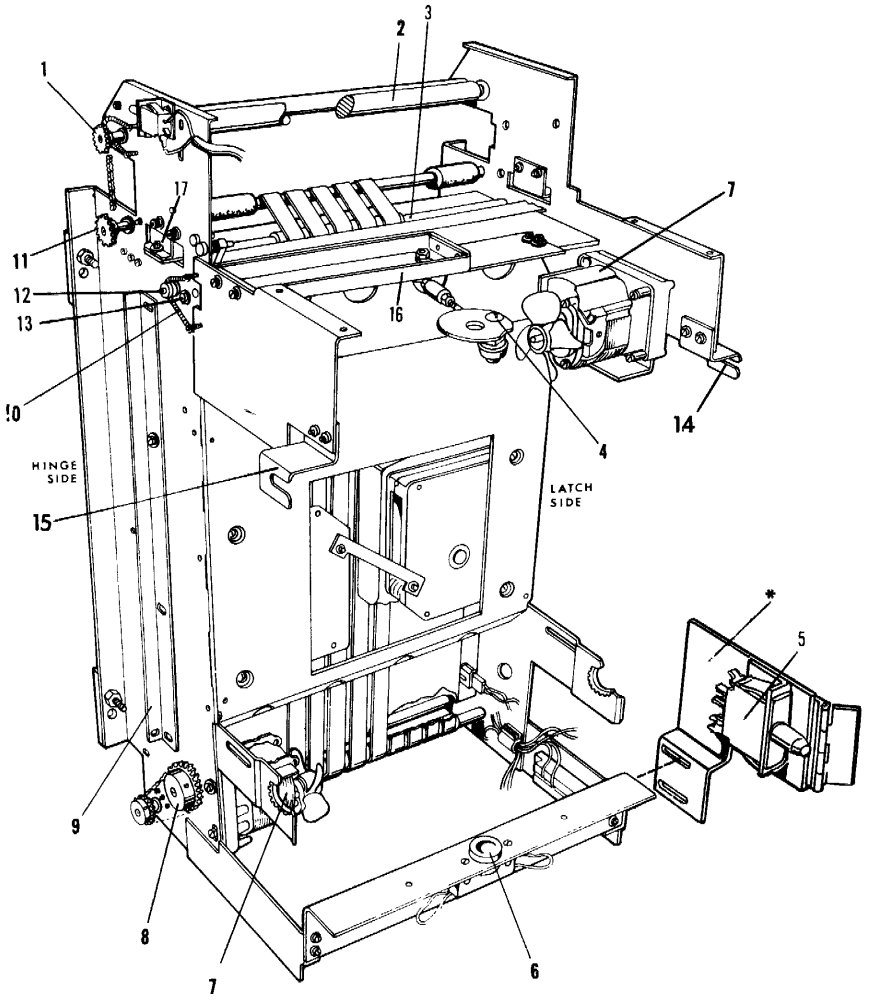
Arc Suppression Kit Part No. 19885701, includes items 1,15 and 16 plus Harness - 19881601, 19881602, 19881603.



REF.	DESCRIPTION	PART NO.
12	Chain	01373801
13	Switch	09348100
14	Roll End	01387001
15	Belt(Joined)	19438601
	Belt (Endless)	19438701
16	Shaft - Roller	01370801
	Bearing	01371601
	Retaining Ring	H0928600
17	Shaft	01373001
18	Bracket Assembly	19086801
A	Knife Mounting Plate	19031701
B	Nut Plate	19031801
C	Spring	08948400
D	Screw	19032401
19	Knife - Sliding	19857501
20	Rod End	09237700
	Connector Rod	09237300
	Nut	H0145000
21	Cam	19929601

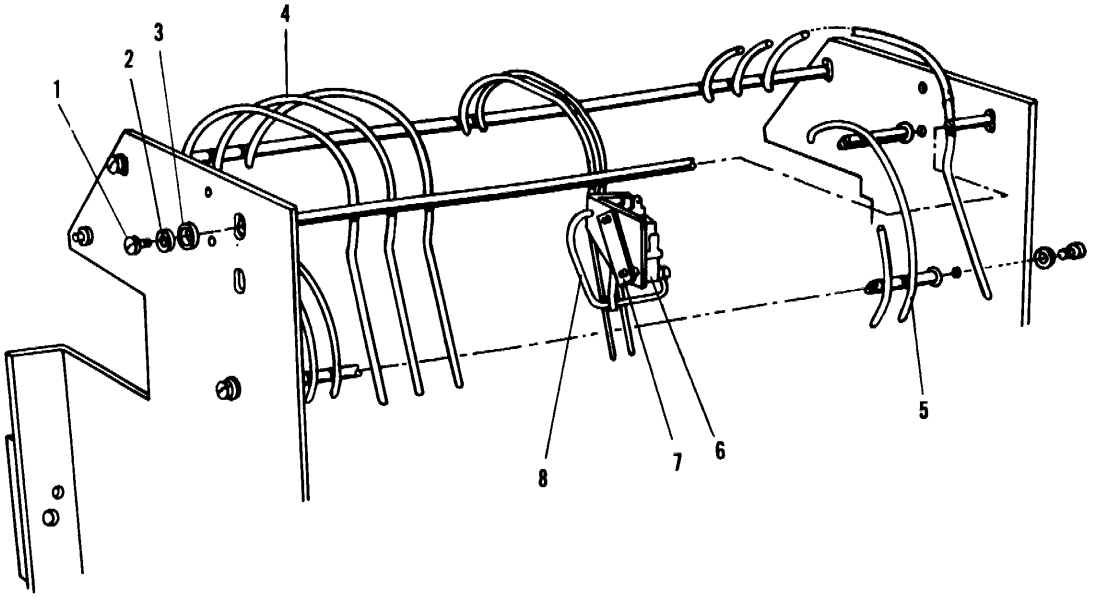
REF.	DESCRIPTION	PART NO.
22	Air Baffle Bracket	01394701
	Pan Head Screw	H0680000
	Lock Washer	H0155000
	Flat Washer	H0156400
23	Support	19070501
	Wedge	19070601
24	Angle Assembly	01373601
25	Pin	H0513700
26	Chain	09702017
27	Fan	01387401
28	Lower Drive Roller	01372801
29	Bearing	01371601
30	Bolt	H0318800
31	Lower Drive Shaft	01372801
32	Bearing	01371601

MAGAZINE ASSEMBLY



REF.	DESCRIPTION	PART NO.
1	Sprocket	06752500
	Pin	H0507500
2	Shaft	01370909
	Bearing	09258021
	Retaining Ring	H0928700
3	Shaft	01371801
	Roller	19058201
	Retaining Ring	H0928800
4	Pan Head Screw	H0009800
	Lock Nut	H0494000
	Spacer	06757700
5	Switch Assembly	09348100
6	Switch	E0231000
7	Paper Drive Motor	09096201
	Screw	H0482500
	Lock Washer	H0155100
	Flat Washer	H0156300

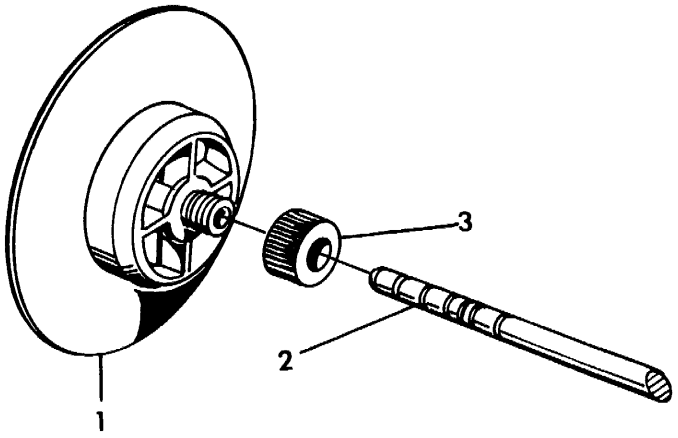
REF.	DESCRIPTION	PART NO.
8	Sprocket	01374401
9	Frame Bracket	01391101
10	Spring	09572400
11	Sprocket	01374100
	Pin	H0507500
	Bearing	09258021
	Retaining Ring	H0928700
12	Paper Tension Roller	19070101
13	Paper Drive Roller	01333201
14	Bracket -RH	01377501
15	Bracket LH	01377502
*	Bracket	19072301
16	Spring	01371201
17	Knife, Fixed	19857601



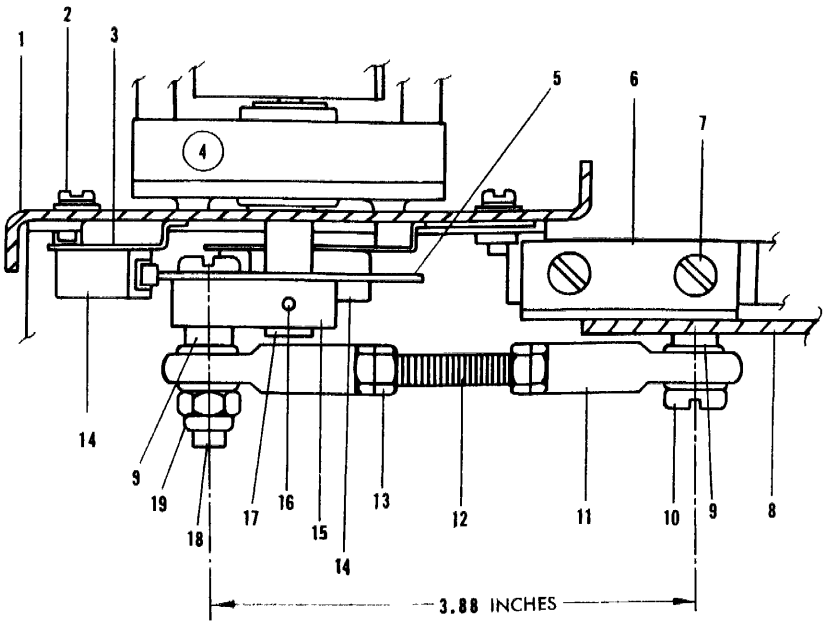
REF.	DESCRIPTION	PART NO.
1	Pan Head Screw	H0584400
2	Lock Washer	H0155000
3	Flat Washer	H0156400
4	Upper Guide Assembly	01332801
5	Lower Guide Assembly	01333001
	Pan Head Screw	H0584400
	Flat Washer	H0156400
	Lock Washer	H0155000

REF.	DESCRIPTION	PART NO.
6	Switch	01386400
7	Nut Plate	08949300
	Pan Head Screw	H0585500
	Flat Washer	H0156500
	Lock Washer	H0155700
8	Switch Activator	01367501
	Retaining Ring	H0930700
NS	Cage Liner	19884201

PAPER SPOOL ASSEMBLY



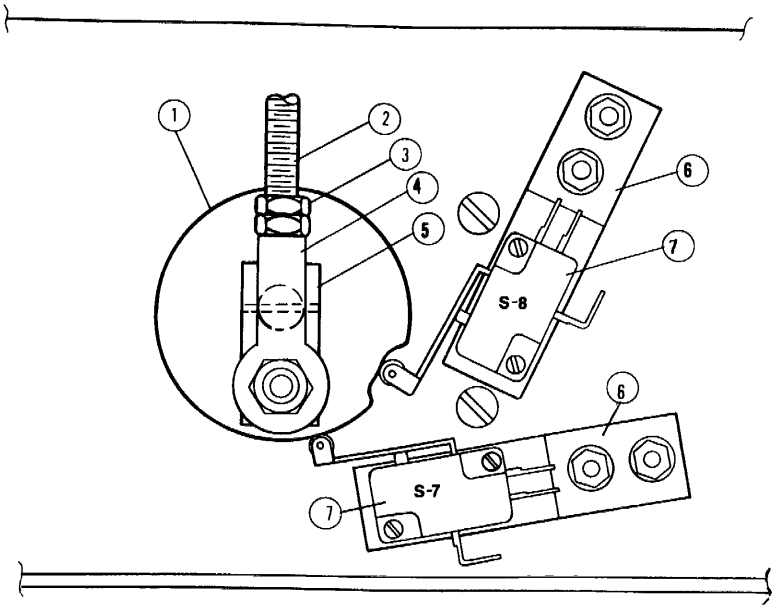
REF.	DESCRIPTION	PART NO.
1	Spool End	19162201
2	Shaft	19163001
3	Nut	19162901



REF.	DESCRIPTION	PART NO.
1	Channel Assembly	01370501
2	Pan Head Screw	H0029600
	Flat Washer	H0156300
	Lock Washer	H0155100
3	Switch Plate	01372001
4	Knife Motor	01324301
	Pan Head Screw	H0586000
	Flat Head Screw	H0307700
	Flat Washer	H0156300
	Lock Washer	H0155100
5	Cam	19929501
6	Support Bracket	01377801
	Support	01371201
7	Pan Head Screw	H0586000
	Flat Washer	H0156300
	Lock Washer	H0155100

REF.	DESCRIPTION	PART NO.
8	Sliding Knife	19857501
9	Spacer	06757700
10	Pan Head Screw	H0009700
11	Rod End	09237700
12	Connector Rod	09237300
13	Hex Nut	H0145000
14	Switch	01035704
15	Crank Body	19758801
16	Pin	H0507500
17	Motor Shaft	Ref Only
18	Pan Head Screw	H0009800
19	Lock Nut	H0494000

KNIFE CAM & MICROSWITCHES

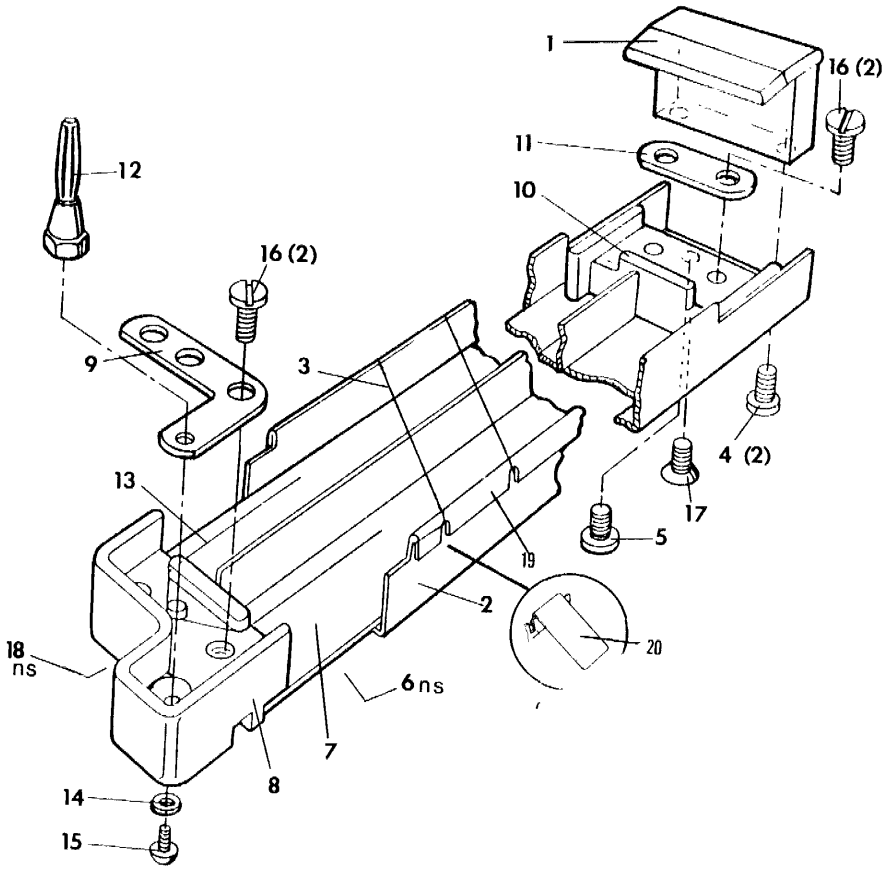


RELATIVE POSITION OF CAM AND CAM SWITCHES
WHEN THE SLIDING KNIFE IS IN THE FULL REAR POSITION.

REF.	DESCRIPTION	PART NO.
1	Cam	19929501
2	Connector Rod	09237300
3	Hex Nut	H0145000
4	Rod End	09237700
5	Crank Body	19758801
6	Switch Plate	19929601
7	Switch	01035704
NS	Nut Plate	08949300
NS	Screw	H0585500

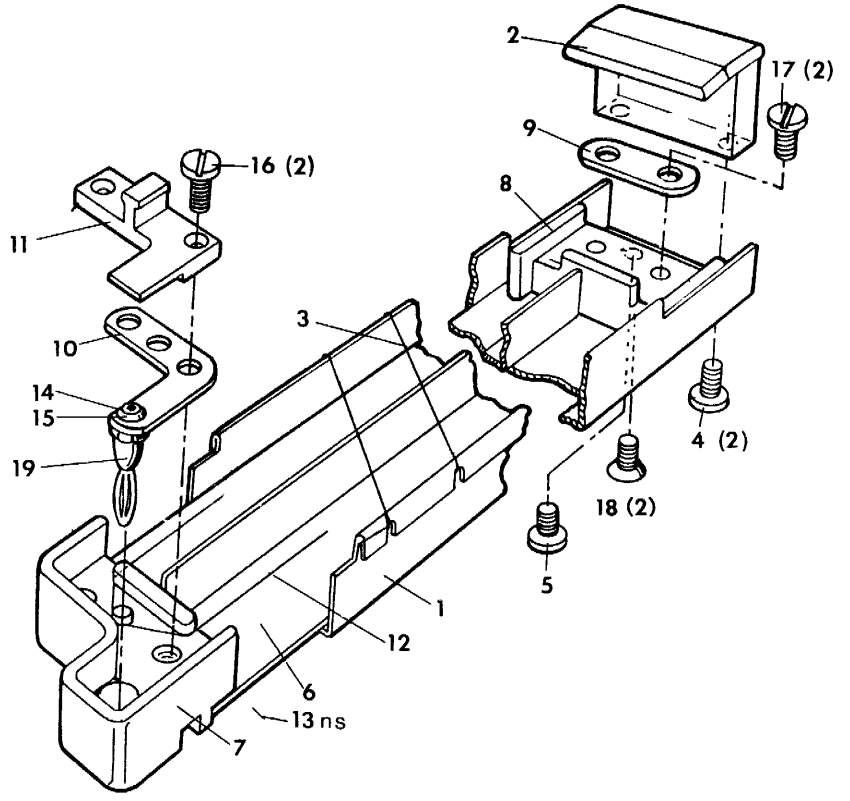
Items 1 and 6 can be ordered by kit #19929801.

NEGATIVE ASSEMBLY COMPLETE 19088301

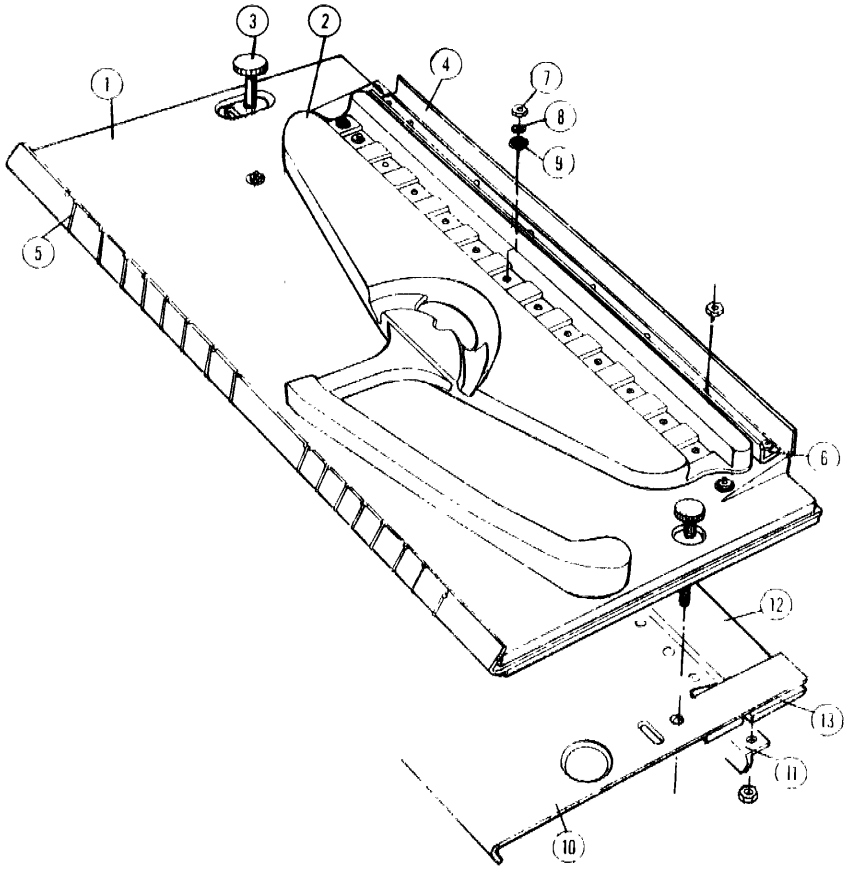


REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Locating Block	19089101	11	Washer	19089001
2	Channel	19089601	12	Plug	01365501
3	Monofilament #4 Test	01384801	13	Corona Wire	19089701
4	Screw	H0682200	14	Washer	H0155000
5	Screw	H0682300	15	Screw	H0319900
6	Label	01387501	16	Screw	H0682300
7	Shield	19088801	17	Screw	H0682400
8	Term Block	19089301	18	Shoulder Screw (NS)	19088701
9	Term Plate	19088901	19	Insulator	06772902
10	Insulation Block	19089401	20	Tab	19304001

POSITIVE ASSEMBLY COMPLETE **19088201**



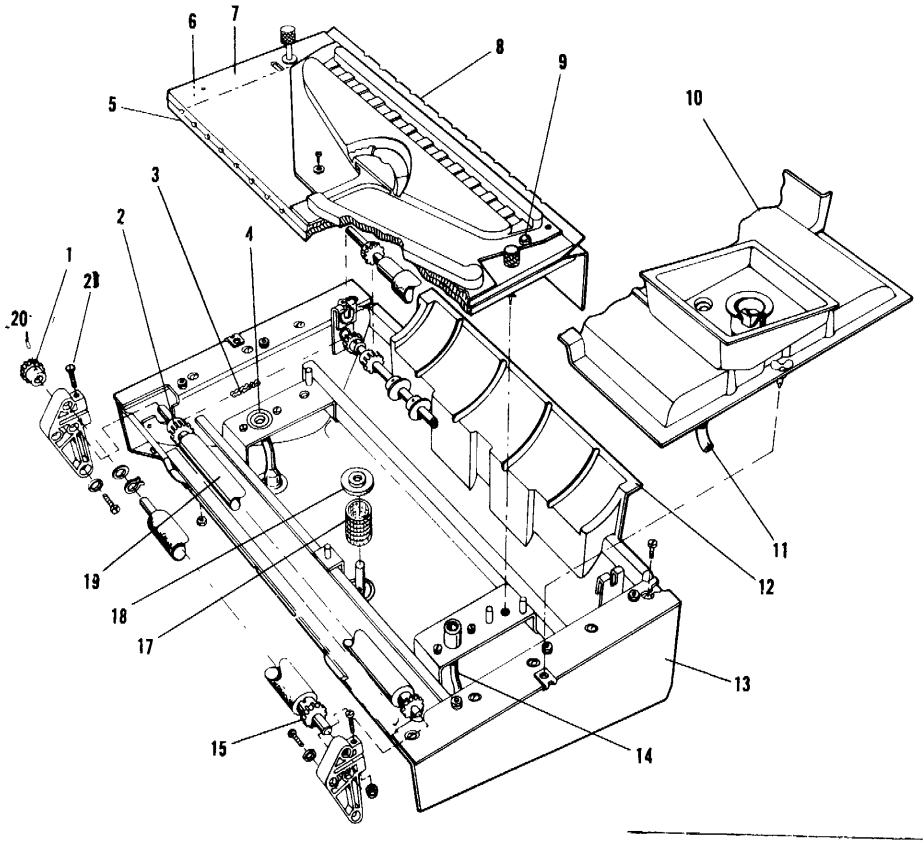
REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Channel	19089501	11	Finger Grip	19088601
2	Locating Block	19089101	12	Corona Wire	19089701
3	Monofilament #4 Test	01384801	13	Shoulder Screw	19088701
4	Screw	H0682200	14	Screw	H0319900
5	Screw	H0682300	15	Washer	H0155000
6	Shield	19088801	16	Screw	H0682100
7	Term Block	19089301	17	Screw	H0682300
8	Insulation Block	19089401	18	Screw	H0682400
9	Washer	19089001	19	Plug	01365501
10	Term Plate	19088901			

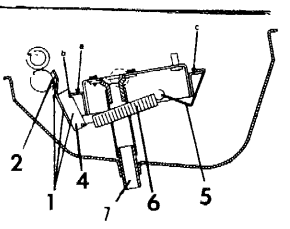


REF.	DESCRIPTION	PART NO.	QTY.	REF.	DESCRIPTION	PART NO.	QTY.
1	Upper Frame Assembly	19305901		8	Washer	H0155700	18
2	Manifold Assembly	19306301		9	Washer	H0156500	18
3	Thumb Screw	19309901	2	10	Lower Applicator Frame	19305401	
4	Toner Deflector	19326701		11	Clamp	19326301	
5	Monofilament	01334601	10 ft.	12	Toner Deflector	19326701	
6	Clamp	19326301		13	Manifold Assembly	19305601	
7	Nut	H0144500	18				

Note: Upper Applicator Complete - 19305301
Lower Applicator Complete - 19305201

PROCESSOR ASSEMBLY - 01326601
(Items 5 - 11 Not Included)



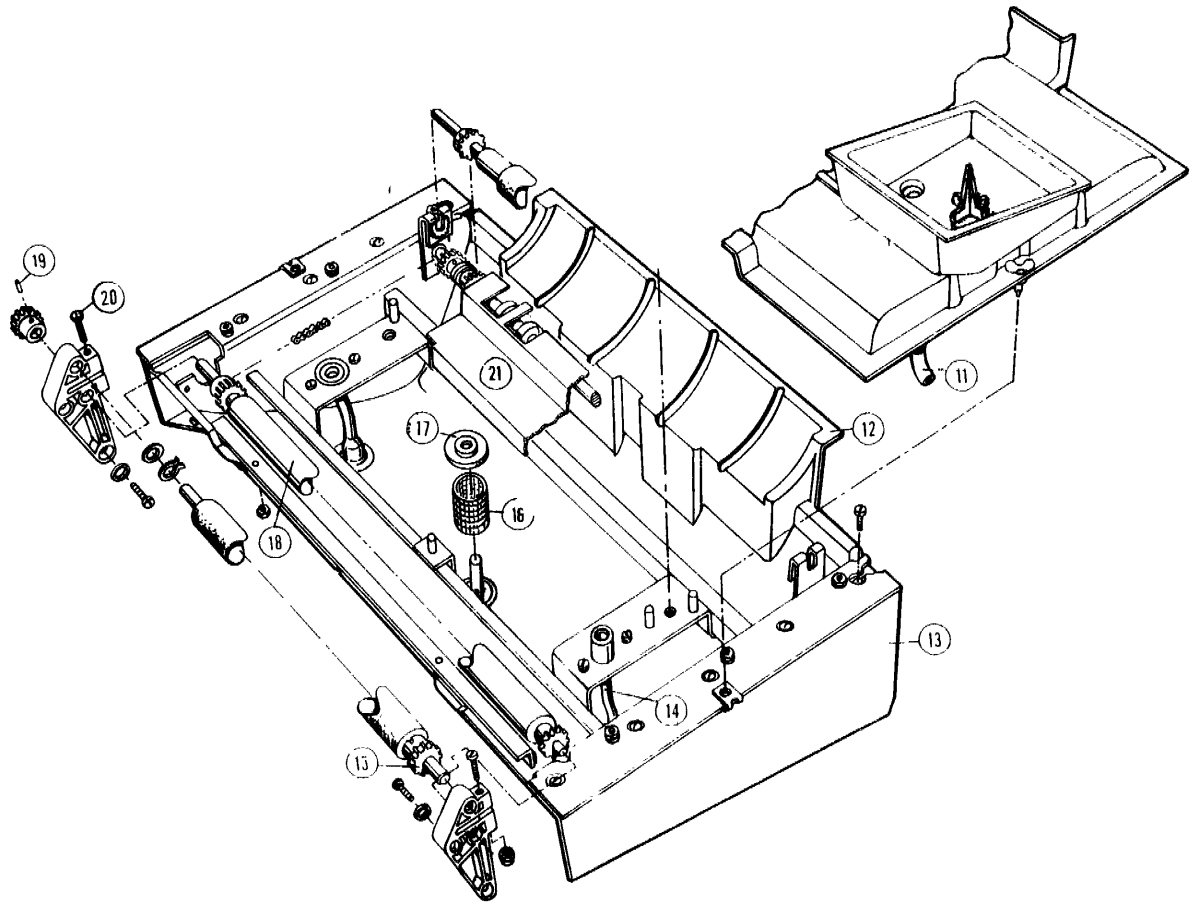


1.	Wiper Assy.	19174001	1
2	Wiper Pad	40151330	1
3	Cement	H0885800	1
4	Lever	19174101	1
5.	Clip	19174301	2
6.	Spring	06763600	2
7.	Clamp	19193103	

REF.	DESCRIPTION	PART NO.
1	Sprocket	01328501
2	Sprocket	01328201
	Pin	H0507700
3	Chain	09702013
	Removable Link	07294000
4	Gasket	19150301
5	Lower Applicator Assy	19305201
6	Applicator Spacer	01334701
	Applicator Spacer (Opposite End)	01334801

REF.	DESCRIPTION	PART NO.
7	Upper Applicator Assy	19305301
8	Applicator Guide	01334901
	Monofilament #25 Test	01334601
9	Nut	H0141800
	Screw	H0037000
	Lock Washer	H0155000
	Washer	H0156400
10	Processor Cover Assy.	20203701
	Funnel	19192101
	Seal Washer	09768300

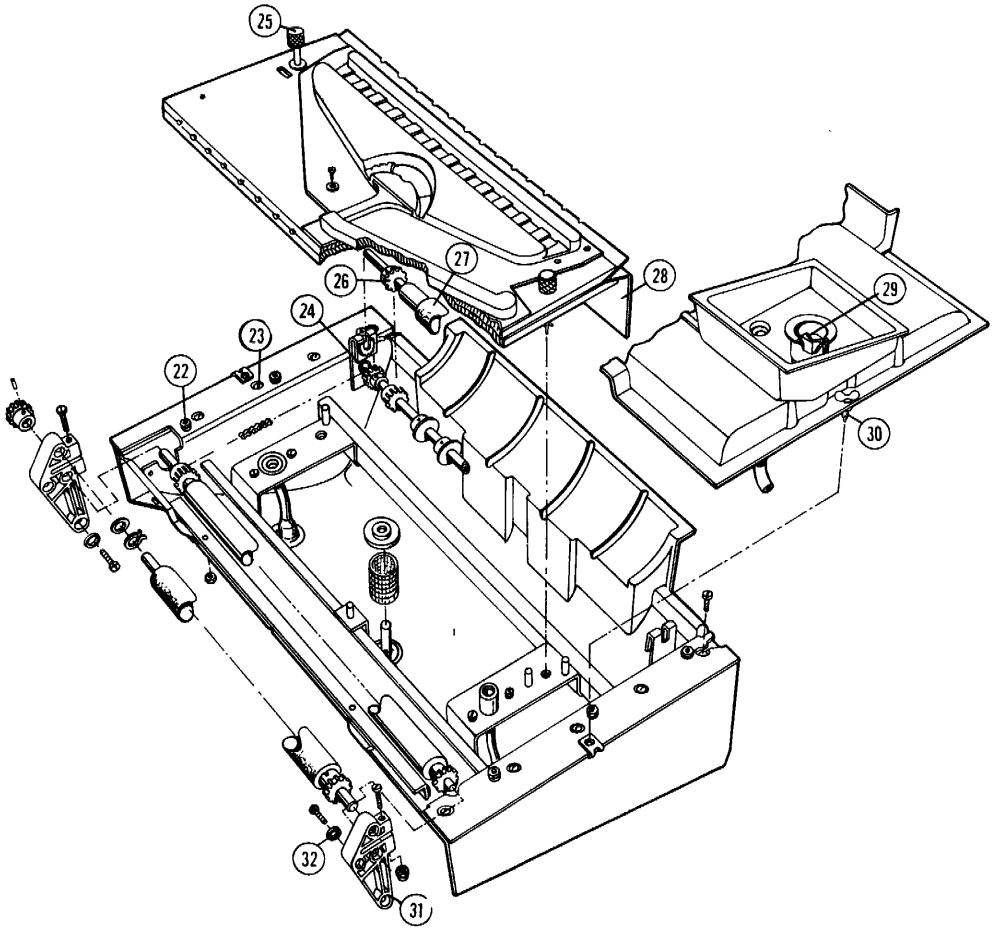
PROCESSOR ASSEMBLY - 01326601
(ITEMS 5 -11 NOT INCLUDED)



REF.	DESCRIPTION	PART NO.
11	Funnel Hose	01322401
12	Processor Tank Assy	01324501
13	Plate Assembly RH Plate Assembly LH	01327401 01333801
14	Tubing	19058302
15	Gear Pin	20359001 H0513400

REF.	DESCRIPTION	PART NO.
16	Tank Drain Screen	19329401
17	Filter Cap	19329501
18	Bottom Roller Plastic Washer	01328901 19176401
19	Pin	H0507700
20	Screw Nut Washer	H0473000 H0492800 H0156000
NS	Manifold Gasket	19166301
21	Splash Guard	19966601

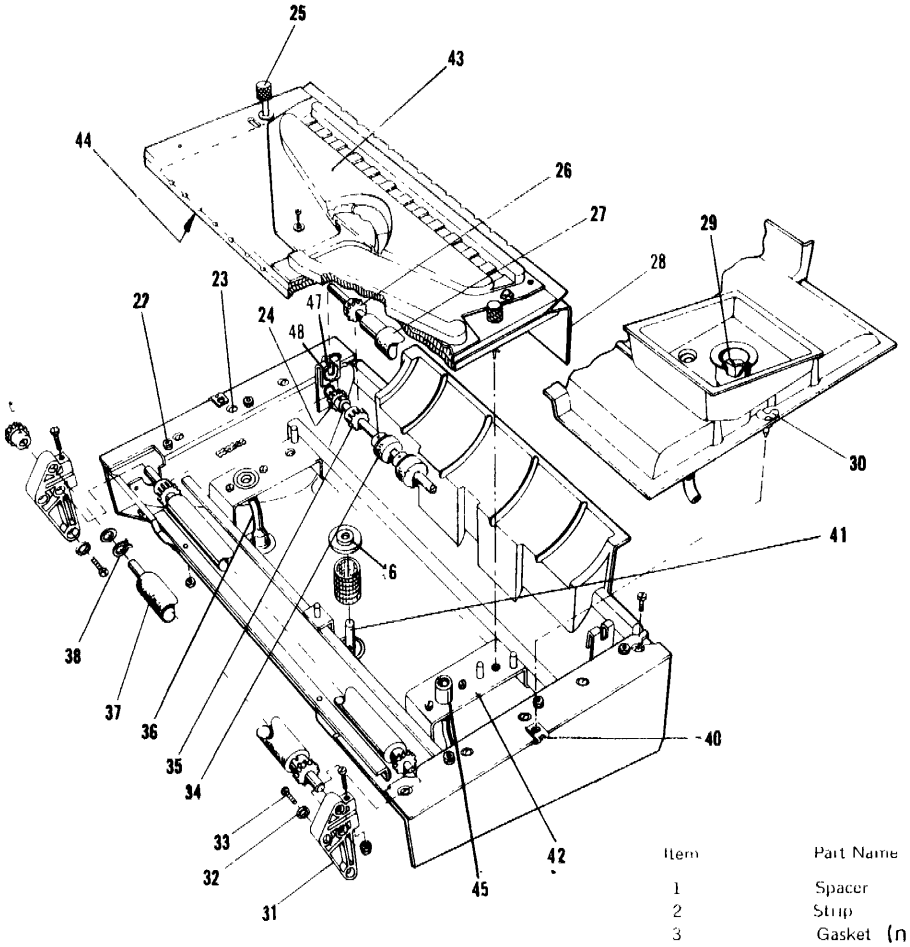
PROCESSOR ASSEMBLY
01326601

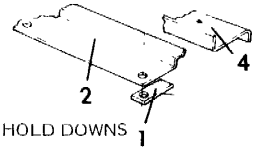


REF.	DESCRIPTION	PART NO.
22	Nut	H0144000
	Washer	H0156000
	Lock Washer	H0155200
23	Screw	H0472100
	Lock Washer	H0155100
NS	Nut Plate	01333601
NS	Nut Plate	01333701
24	Sprocket	01328001
	Pin	H0507700
25	Screw	01326301
	Washer	H0156200
	Pin	H0258300

REF.	DESCRIPTION	PART NO.
26	Gear	08942900
	Pin	H0507700
27	Processor Roller	20122301
28	Lower Guide	19446301
	Screw	H0681400
29	Bottle Seal Punch	01322201
30	Stud	09646406
31	Bearing	09073501
32	Washer	H0156000

PROCESSOR ASSEMBLY
01326601





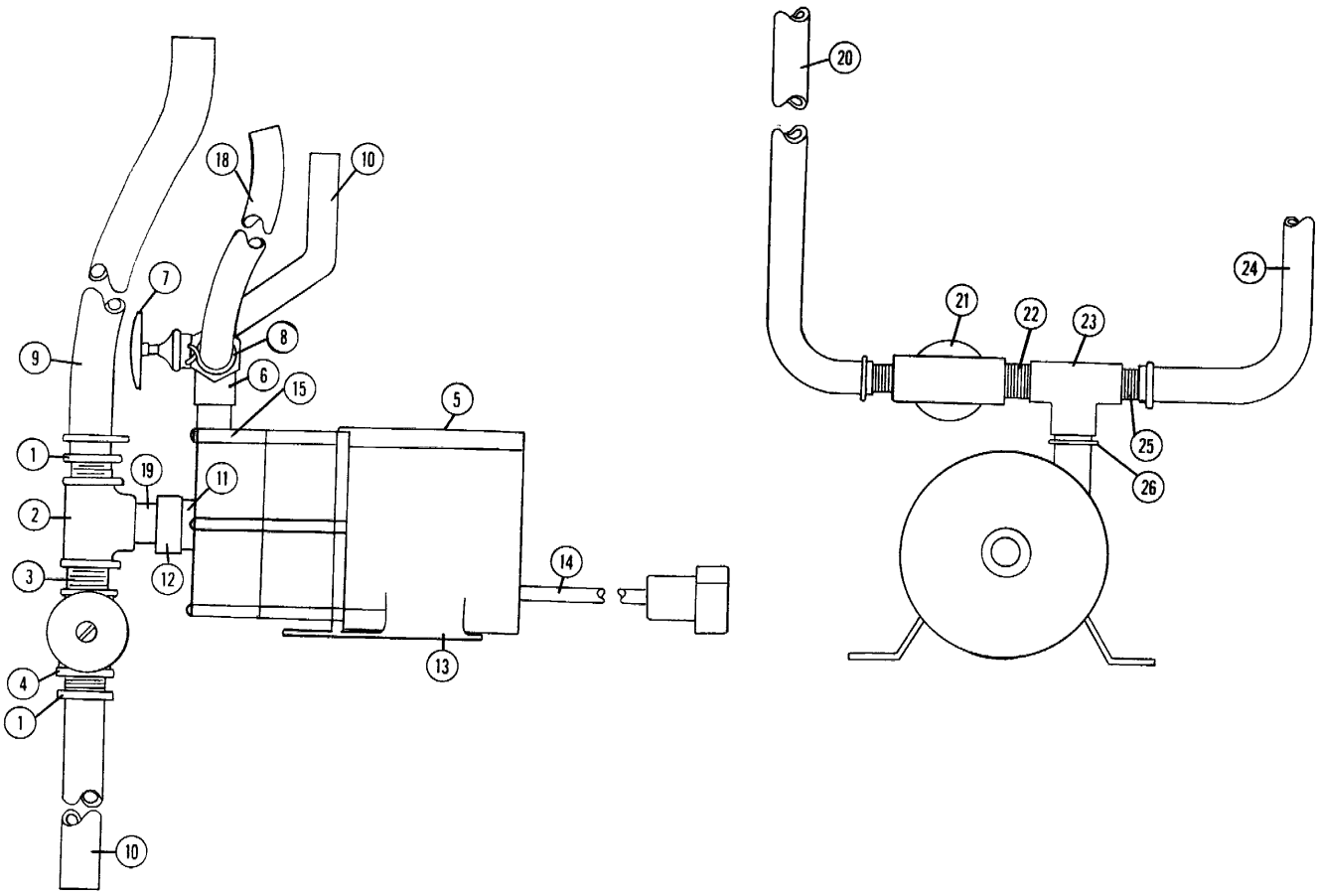
APPLICATOR HOLD DOWNS

Item	Part Name	Part Number	No Req
1	Spacer	191661 01	4
2	Strip	191662 01	1
3	Gasket (ns)	191663 01	1
4	Clamp	191680 01	1

REF.	DESCRIPTION	PART NO.
33	Screw	H0465700
34	Roller Assembly	20119801
	Roller Only	20119701
	Shaft Only	19847701
35	Gear	09238800
36	Tubing	19058302
37	Top Squeegee Roller	20225902
38	Retaining Ring	H0929000
39	Washer	06729900
40	Stud Retainer	09646409
41	Proc. Tank Connector	09050101

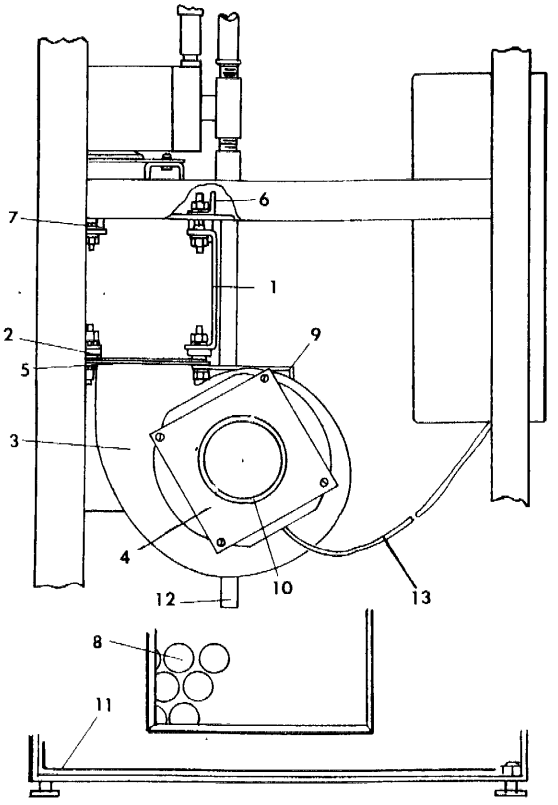
REF.	DESCRIPTION	PART NO.
42	Processor Frame Assy	01327101
	Drain Trough	01353601
43	Upper Manifold	01325101
44	Lower Manifold	01325001
	Replenisher Label	19060601
45	Seal	19150301
46	Plug	09050001
47	Nyliner	06754704
NS	Sight Glass Hose	19314401
48	Alligator Nylon	01335301
NS	Manifold Gasket	19166301

NOTE: Lower Roller for Retrofit on Old Units is Part No. 09085301. Set Screw for Retrofit Roller is Part No. H0115600.



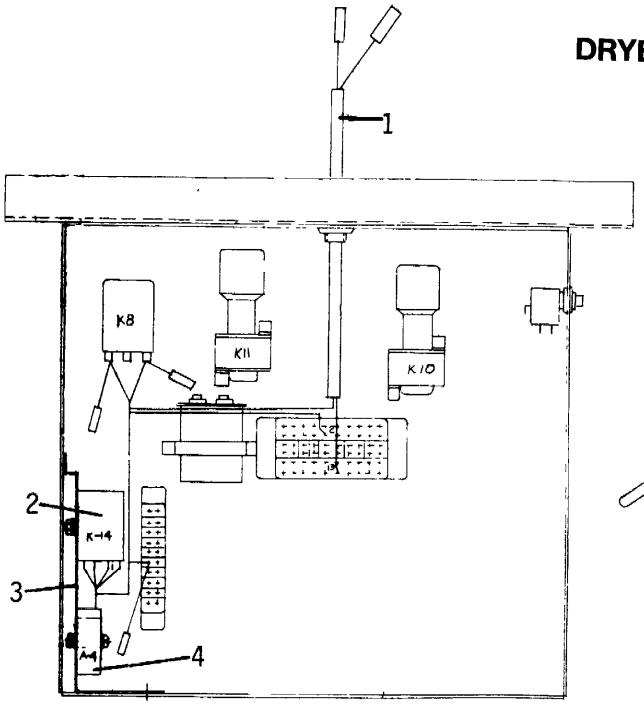
REF.	DESCRIPTION	PART NO.
1	Insert Adaptor	01321701
2	Tee	01321901
3	Nipple	P0019000
4	Valve	19006401
5	Pump Complete	19115801
6	Combination Tee	09096601
7	Valve	19006401
8	Hose Clamp	09193111
9	Tubing	19058301
NS	Nipple	P0019000
10	Tubing	19058304
11	Nipple	19117601
12	Bushing	19117501
13	Bracket	19188602
	Screw	H0465200
	Washer	H0156900

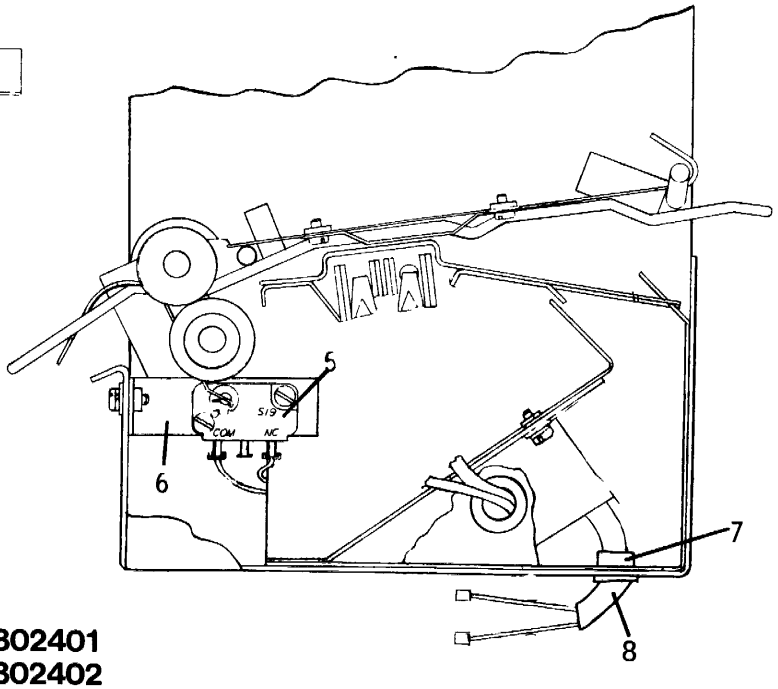
REF.	DESCRIPTION	PART NO.
14	Cable	09234700
15	Pump Housing	19285501
16	Bushing	01389101
17	Sealant (50cc)	40143526
18	"S" Hose	19058300
19	Adaptor New Style	19631400
20	Hose	19809701
21	Valve	08368200
22	Nipple	P0019000
23	Tee Fitting	01321901
24	Hose	19809801
25	Nipple	01321701
26	Coupling	01389101



REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Blower Bracket	19152302	6	Support Angle	19110901
2	Shock Mount	19150901	7	Mounting Bracket	19110801
3	Blower Assembly	19163301	8	Filter	19111001
4	Guard Assembly	19161303	9	Guard	19109502
5	Guard Assembly	19161302	10	Duct Foam	19110401
NS	Air Duct Assembly	19110703	11	Plate	19115302
NS	Mag Bottom Cover Assy	19109901	12	Drain Hose	19058304
NS	Mag Top Door Assembly	19109201	NS	Stacker Guide Assy	19112601
NS	Processor Cover Assy	19110203	13	Cable Assembly	19146301

DRYER JAM KIT



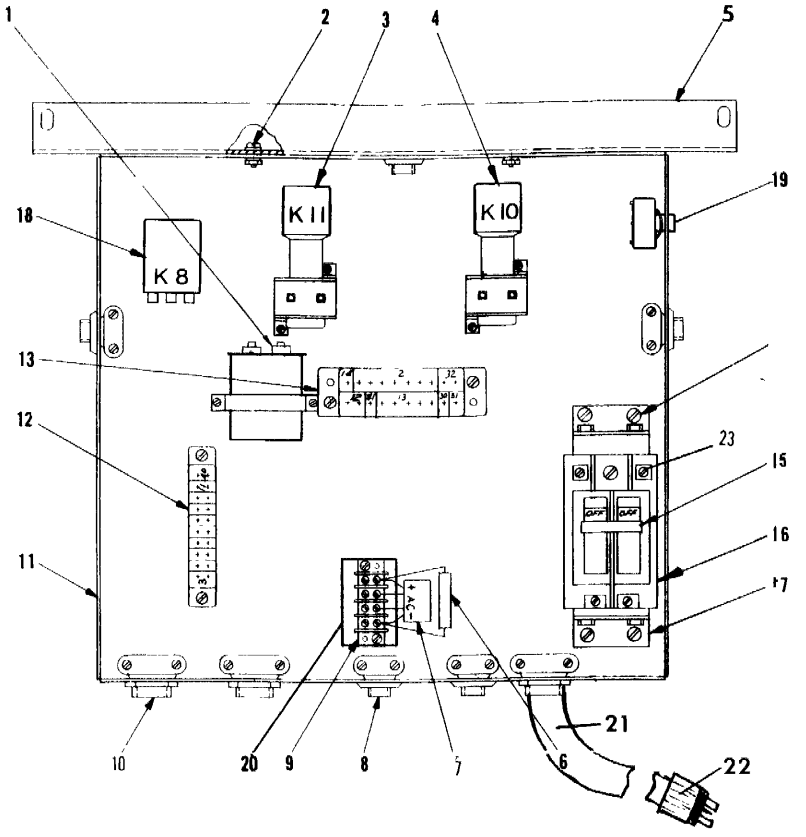


P/N 19302401
P/N 19302402

REF.	DESCRIPTION	PART NO.
1	Harness	19879501
2	Relay	09370001
	Washer	H0156400
	Nut	H0144100
	Washer	H0155000
3	Bracket	19879201
4	Time Delay	19164804
	Washer	H0156400
	Washer	H0155000
	Nut	H0144100
	Screw	H0680700
*5	Switch	19302201
	Nut Plate	19066000 (N.S.)
	Screw	H0584100
	Washer	H0155700
	Washer	H0156500
6	Bracket	19301801
	Screw	H0586000
	Washer	H0156300
	Washer	H0155100
*7	Grommet	09204703
*8	Harness	19879401

* Items **NOT** included in Dryer Jam Kit P/N 19302402

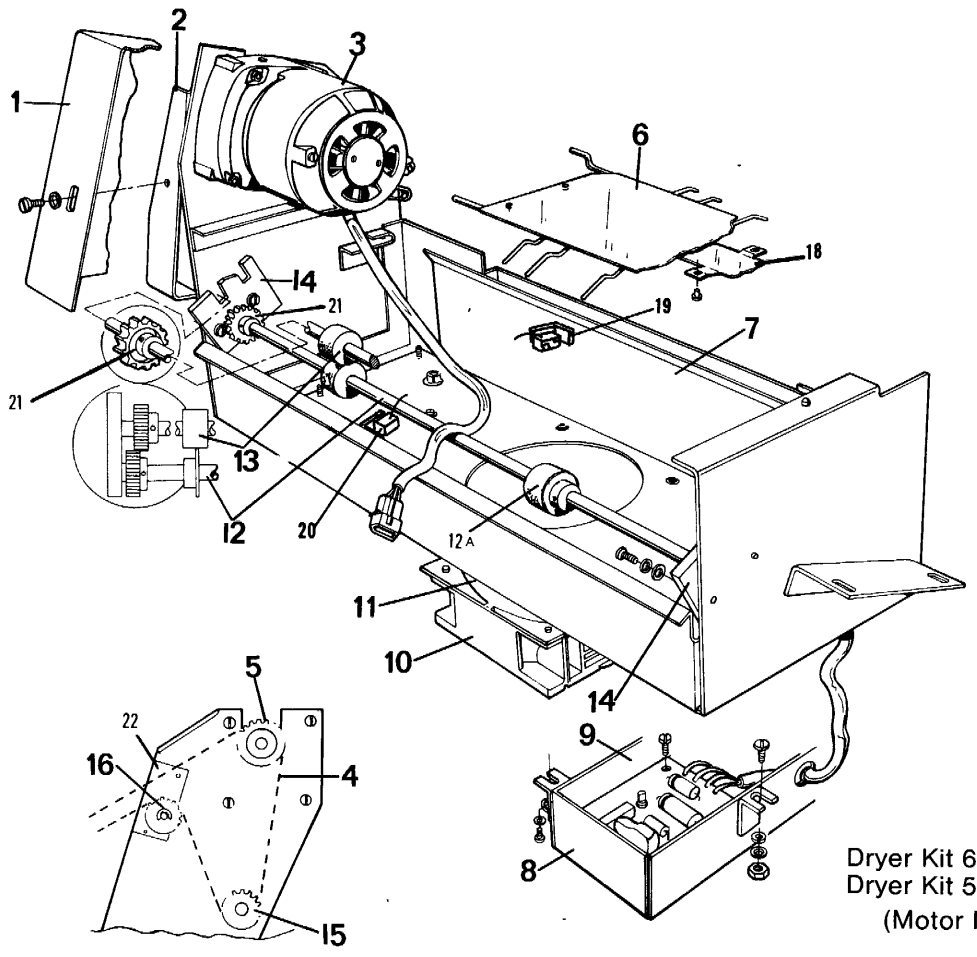
PANEL BOX
01374703



REF.	DESCRIPTION	PART NO.
1	Capacitor	09684600
	Capacitor Bracket	09684700
	Self Tap Pan Hd Screw	H0263300
2	Hex Nut	H0144600
	Pan Head Screw	H0465400
	#10 Lock Washer	H0156500
	#10 Flat Washer	H0190200
3	Relay Assembly	09067201
4	Relay Assembly	01375301
	Relay Only	09204200
	Self Tap Screw (B)	H0266000
5	Bracket	01374802
6	Thyrector Assembly	07792700
7	Rectifier Assembly	07784100
8	Wire Connector	E0016800
9	Terminal Block	08701705
	Self Tap Screw (B)	H0266000
10	Wire Connector	E0098500
11	Panel Box	01375102

REF.	DESCRIPTION	PART NO.
12	Terminal Box	01375001
	Self Tap Screw (B)	H0267500
13	Terminal Block	19013601
	Self Tap Screw	H0267500
14	Self Tap Screw	H0266100
15	Circuit Breaker	E0194800
16	Mounting Bracket	09745101
17	Support Bracket	09745203
18	Latch Relay	09370001
19	Switch	09072601
20	Marker Strip	08704002
21	Power Cord	05852110
22	Connector	09053801
23	Circuit Breaker Receptacle	09746400

DRYER COMPLETE
19107701

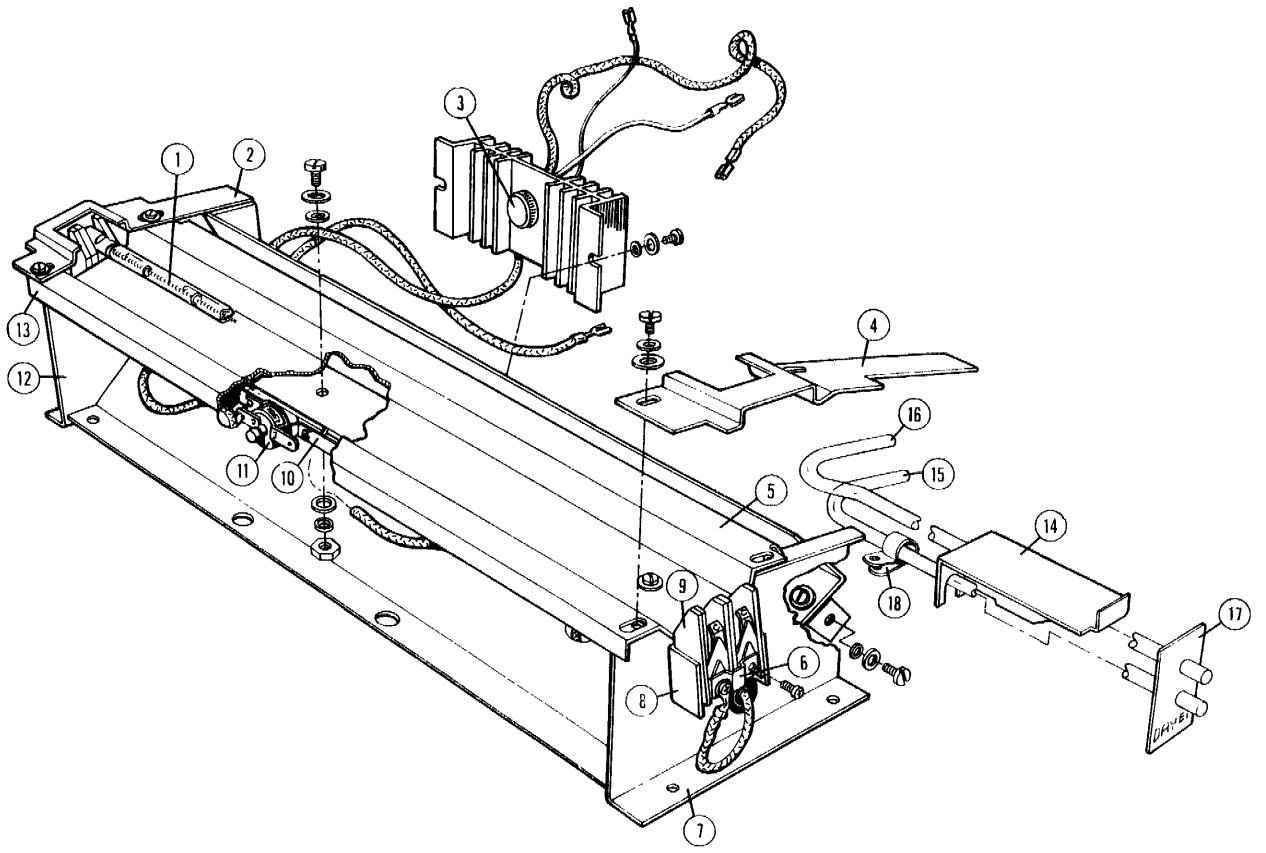


Dryer Kit 60 Hz - 19113501
Dryer Kit 50 Hz - 19113502
(Motor Not Included)

REF.	DESCRIPTION	PART NO.
1	Chain Guard	01357001
2	Bracket Assembly	01331201
	8/32 Pem Nut	H0917400
	10/32 Hex Nut	H0144400
	#10 Lock Washer	H0155200
	#10 Flat Washer	H0156900
3	Motor Assembly	01329101
4	Chain	09702014
5	Sprocket	09744514
	10/32 X ⅜ Set Screw	H0116400
6	Upper Guide Old Style	19111801
	Guide SN 2201 & Up	19303301
7	Air Chamber	19118501
8	PC Board Cover	19114801
9	PC Board 60 Hz	19107601
	PC Board 50 Hz	19107602
10	Fan	E0216500
11	Pipe	19114201

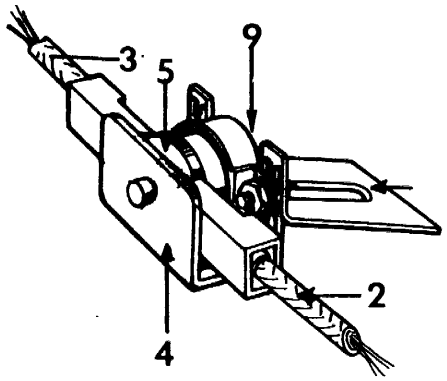
REF.	DESCRIPTION	PART NO.
12	Lower Roller Assembly	19843901
12A	Lower Roller For Retrofit	19840301
13	Upper Roller	19115501
14	Bearing	01330301
	Bearing SN 2202 +	19303801
15	Sprocket	01328601
	Pin	H0509300
16	Sprocket Idler	01331001
	R Ring	H0032800
17	Jam Detector Kit	19302401
18	Deflector Old Style	19112700
19	Switch #1	19302101
20	Switch #2	19302201
	Dryer Kit 60 Hz	19113501
	Dryer Kit 50 Hz	19113502
21	Gear	09238800
22	Bracket	01330901

DRYER HEATER ASSEMBLY



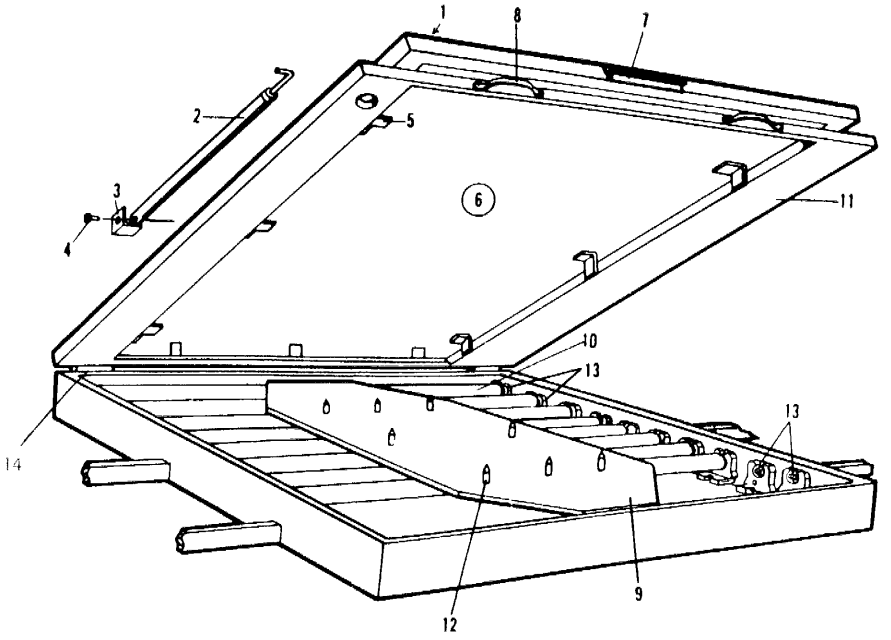
REF.	DESCRIPTION	PART NO.
1	Lamp	19108801
2	Socket Cover LH	20287101
3	Triac	20208101
4	Socket Cover RH	20287201
	Screw	H0470200
	Flat Washer	H0156400
	Lock Washer	H0155100
5	Reflector	20287301
6	Jumper	19114601
7	Side Plate RH	20286501
8	Lamp Support	19113601

REF.	DESCRIPTION	PART NO.
9	Lamp Socket	09188200
10	Thermal Cutoff Bracket	19284501
11	Thermostat	19284601
12	Side Plate LH	20286401
13	Reflector	19114001
14	Baffle	19616001
15	Lower Light Rod	19616701
16	Upper Light Rod	19633701
17	Dryer Label	19649601
18	Cable Strap	E0155100
NS	Screw	H0681600



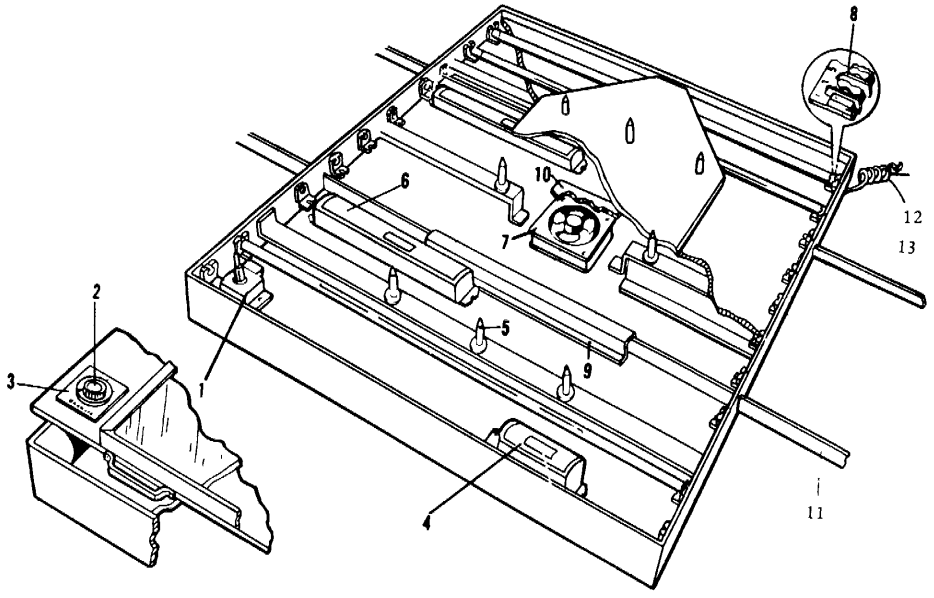
REF.	DESCRIPTION	PART NO.
1	Therm Protection Kit	19285801
2	Cable	19284801
3	Cable	19284701
4	Cover	19285701
5	Thermostat	19284601
	Bracket	19284501
	Lock Washer	H0155000
	Hex Nut	H0144500
9	Heat Sink Compound	H0833700

LIGHT BOX ASSEMBLY
OPTIONAL BACK LIGHTING
19108000



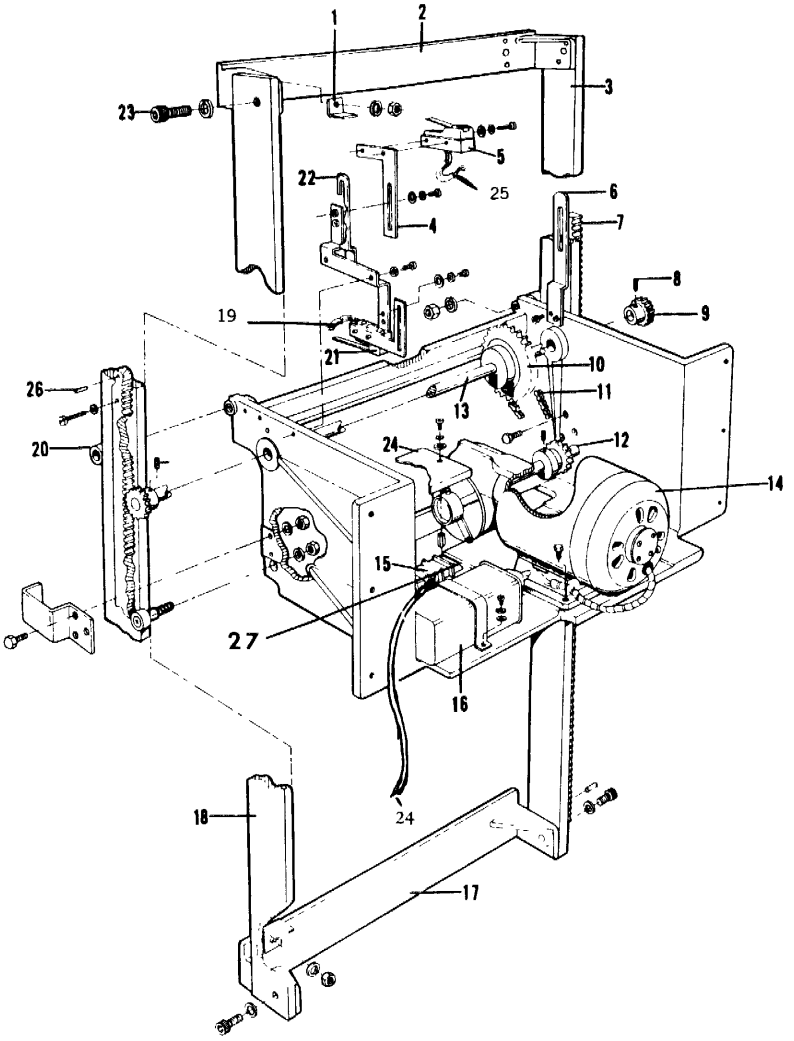
REF.	DESCRIPTION	PART NO.
1	Cover Frame	05867202
2	Cover Support Arm	05863500
3	Support Arm Brkt LH	07712403
	Support Arm Brkt RH	07712404
4	Pivot Screw	07452500
5	Clip	09772600
6	Chart Diffuser	19117401
7	Handle	09805100
8	Handle	09175700
9	Diffuser	09772800
10	Backlight Tubes	07465200
11	Chart Frame	07761900
12	Pin	07462100
13	Lamp Socket	19016201
14	Hinge	07463801

BACKLIGHT SUBJECT HOLDER



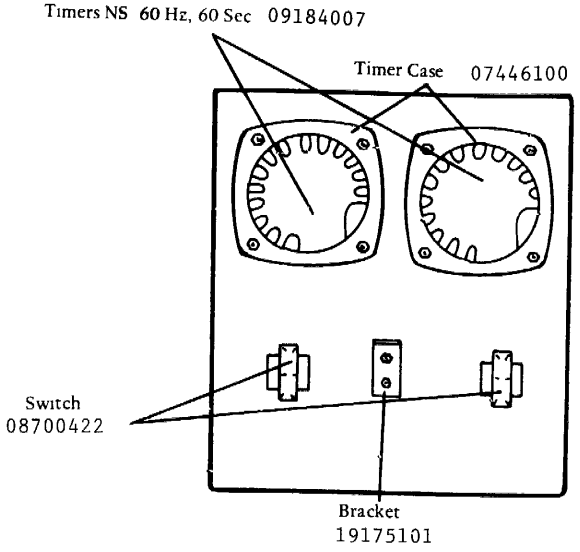
REF.	DESCRIPTION	PART NO.
1	Dimmer Control	19017601
2	Knob	09208700
3	Dial	19017901
4	Ballast (50 Hz) Ballast (60 Hz)	19004301 07464900
5	Pin Support	07462100
6	Ballast	09198700
7	Fan	01367001

REF.	DESCRIPTION	PART NO.
8	Terminal Block	06028100
9	Lamp Arm Guide	05870200
10	Fan Cover	07412600
11	Lamp Holder Arms	19168801
12	Cable	07722200
13	Cable From B1 To Panel Box	07722100

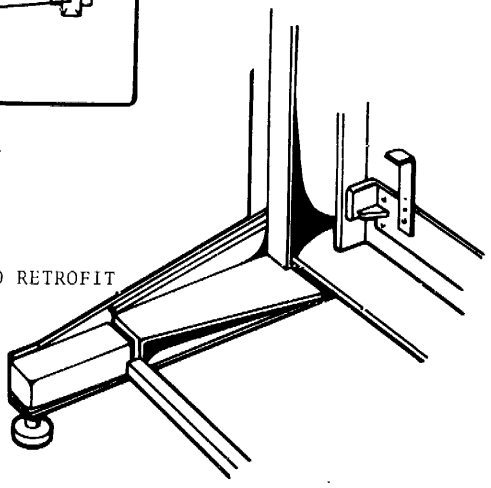


REF.	DESCRIPTION	PART NO.	REF.	DESCRIPTION	PART NO.
1	Switch Actuator	09774800	15	Terminal Block	E0187100
2	Support Bracket	07468001	16	Capacitor	07134100
3	Verticle Support	09874503	17	Support Bracket	07468001
4	Switch Bracket	09775000	18	Vertical Support	09874503
5	Switch	09202100	19	Cable, Lower Switch	07722000
6	Bracket	07474000	20	Roller Bearing	09814300
7	Gear Track	09697000	21	Switch	E0105900
8	Set Screw	H0230700	22	Bracket	07791100
9	Gear	07471100	23	Screw	H0274100
10	Sprocket	07471200	24	Cable	07791701
11	Chain	07471400	25	Cable, Upper Switch	07791600
12	Sprocket	07472200	26	Key	H0242800
13	Shaft	07471300	27	End Terminal Block	E0187000
14	Motor	07721901			

BACKLIGHT CONTROL PANEL 19175501 **(Minus Timers)**

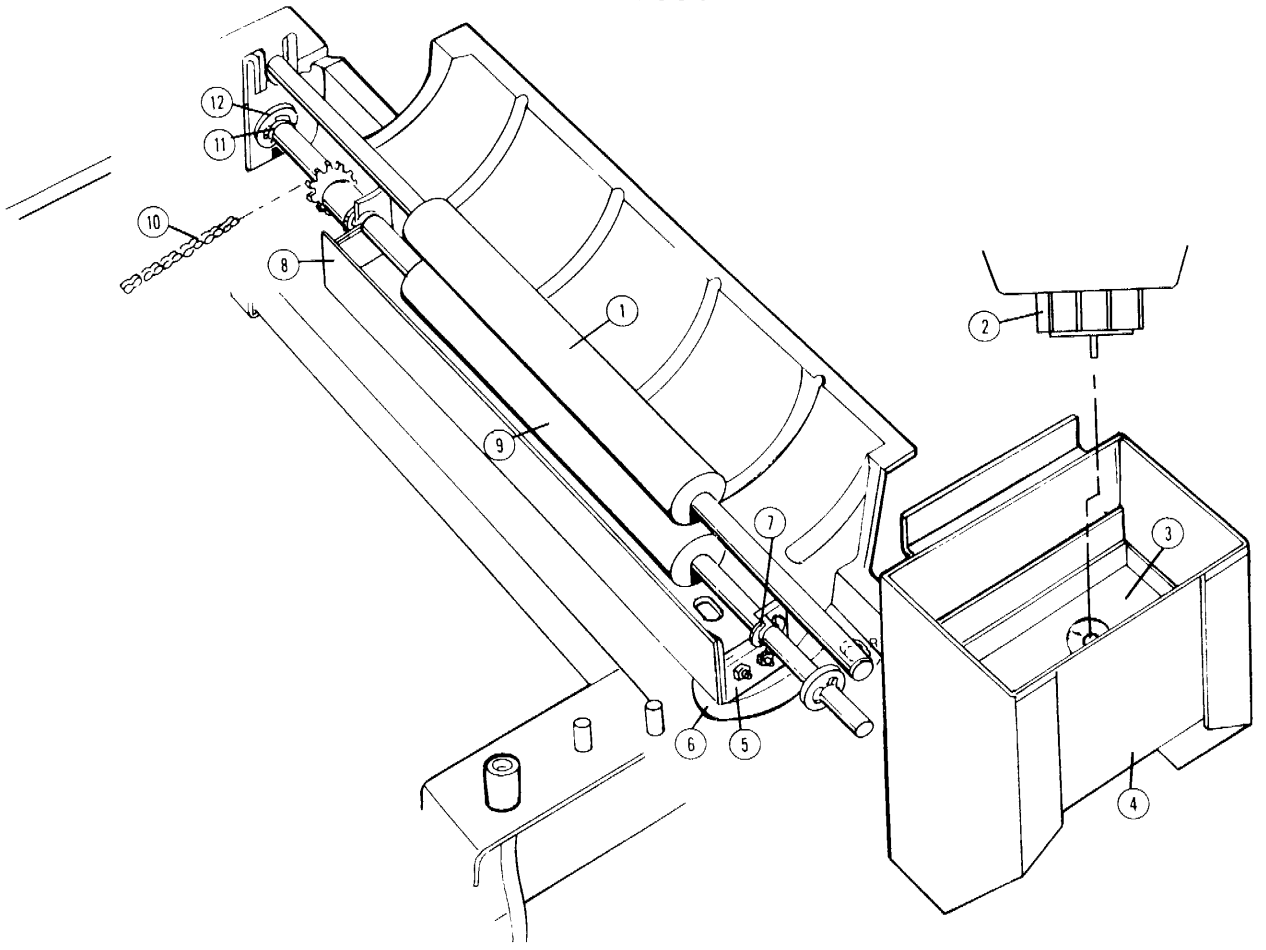


LEG EXTENSION - NECESSARY FOR FIELD RETROFIT



R.H (shown) 19107202
L H (opposite side) 19107201

PRE-WET KIT
20066601



REF.	DESCRIPTION	PART NO.	QTY.
1	Top Entrance Roller	20053701	
2	Valve	20086901	
3	Bottle Support	20054601	
	Screw (6-32)	H0470300	
4	Bottle Holder Weldment	20054101	
5	Tray Hook	20054401	
	Flat Washer	H0156400	
	Lock Washer	H0155000	
	Nut (6-32)	H0144100	
6	Hose	40161468	
	Hose Clamp	09193103	
7	"E" Ring	H0932800	
8	Pre-Wet Tray Weldment	20054501	
9	Lower Roller Assembly	20053601	
10	Chain	40144663	
11	Gripping Ring	H0928700	
12	Washer	H0156600	

REF.	DESCRIPTION	PART NO.	QTY.
NS	Bottle Holder Mounting Hardware		
	Nut (8-32)	H0144200	
	Flat Washer	H0156300	
	Lock Washer	H0155100	
	Screw (8-32)	H0472100	

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175 ELECTROSTATIC PLATEMAKER

Electrical

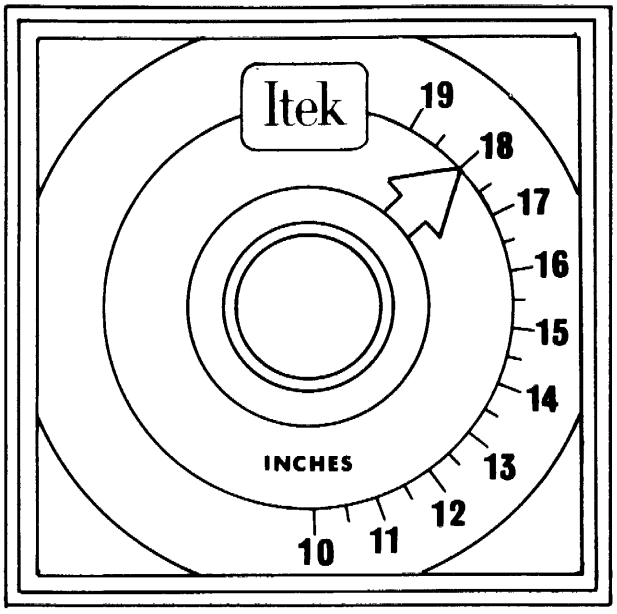
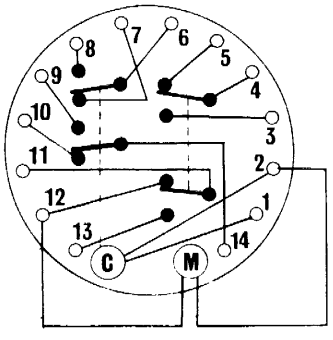


PLATE LENGTH TIMER: 013837-001

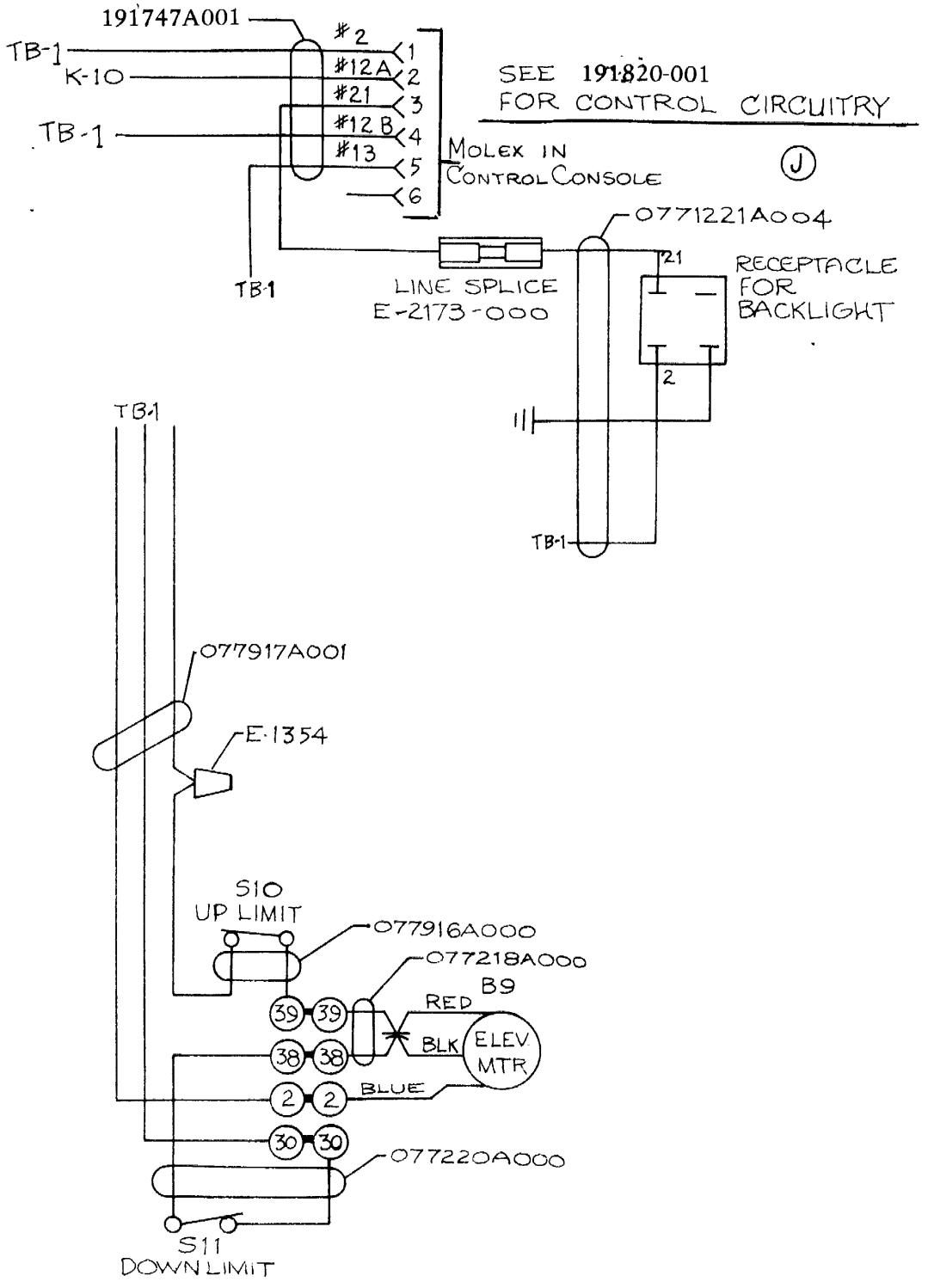
ATC SPECIFICATIONS:
Operating voltage: 120 V AC - 60HZ

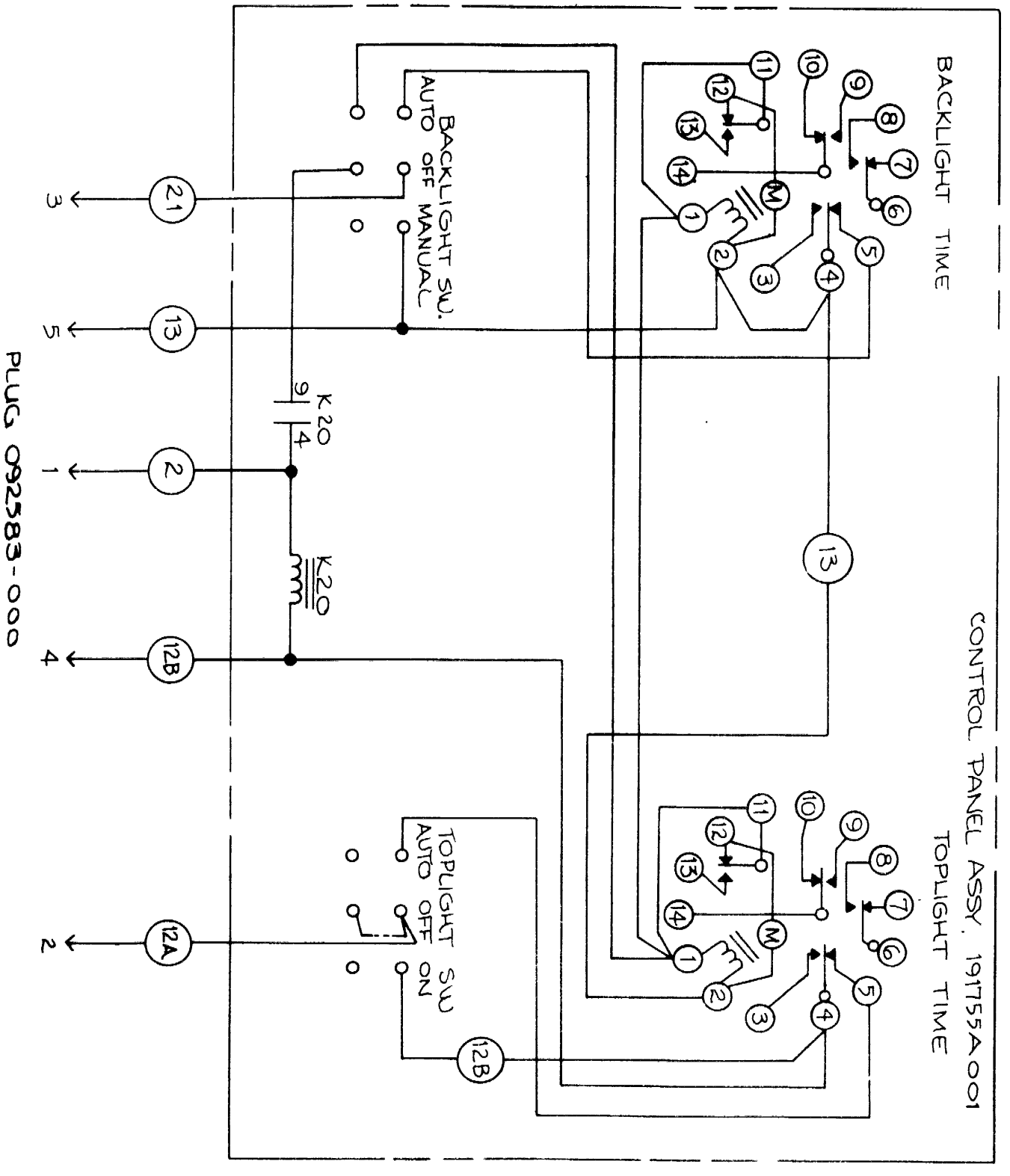
CALIBRATION:
10 - 19 inches in half-inch increments

ELAPSED TIME IN SECONDS	*CALIBRATION IN INCHES*
3.01	*10*
3.31	*11*
3.61	*12*
3.91	*13*
4.21	*14*
4.51	*15*
4.81	*16*
5.11	*17*
5.41	*18*
5.71	*19*



TIMER COMPONENTS			TIMING SEQUENCE*			
Item	Wiring	Operation	Before Start	During Timing	End of Cycle	½% Later
Clutch Solenoid	1 C 2	When energized, engages moving pointer to motor drive, also actuates contacts I_1 & I_2. When deenergized timer resets to *before start* condition	deenergized	energized	energized	energized
Motor (and pilot light)	M	Drives moving pointer toward zero (or end of cycle) position when motor *and* clutch are energized	deenergized **	energized	energized	deenergized (by D_2)
Delayed Contact D_2	11 12 13	Tripped by motor driven pointer approx ½% of range after end of cycle. Resets to position shown when clutch solenoid is deenergized	11 12 13	11 12 13	11 12 13	11 12 13
Delayed Contact D_1	4 5 3	Tripped by motor driven pointer at end of cycle (after dial set time). Resets to position shown when clutch is deenergized	4 5 3	4 5 3	4 5 3	4 5 3
Instantaneous Contact I_1	14 9 10	Transfers when clutch solenoid is energized (timing or end of timing condition)	14 9 10	14 9 10	14 9 10	14 9 10
Instantaneous Contact I_2	6 8 7	Transfers when clutch solenoid is energized (timing or end of timing condition)	6 8 7	6 8 7	6 8 7	6 8 7


191747A001
#2
#12A
#21
#12B
#13
TB-1
K-10
TB-1
1
2
3
4
5
6
MOLEX IN CONTROL CONSOLE
J
SEE 191820-001 FOR CONTROL CIRCUITRY
0771221A004
TB-1
LINE SPLICE E-2173-000
J1
2
RECEPTACLE FOR BACKLIGHT
TB-1
TB-1
077917A001
E-1354
S10 UP LIMIT
077916A000
077218A000
B9
RED
BLK
ELEV MTR
BLUE
39
38
2
30
077220A000
S11 DOWN LIMIT


CONTROL PANEL ASSY. 19175A001
BACKLIGHT TIME
TOPLIGHT TIME
BACKLIGHT SW.
AUTO OFF MANUAL
TOPLIGHT SW
AUTO OFF ON
K20
K20
PLUG 092583-000
21
13
2
12B
12A
12B
3
5
1
4
2

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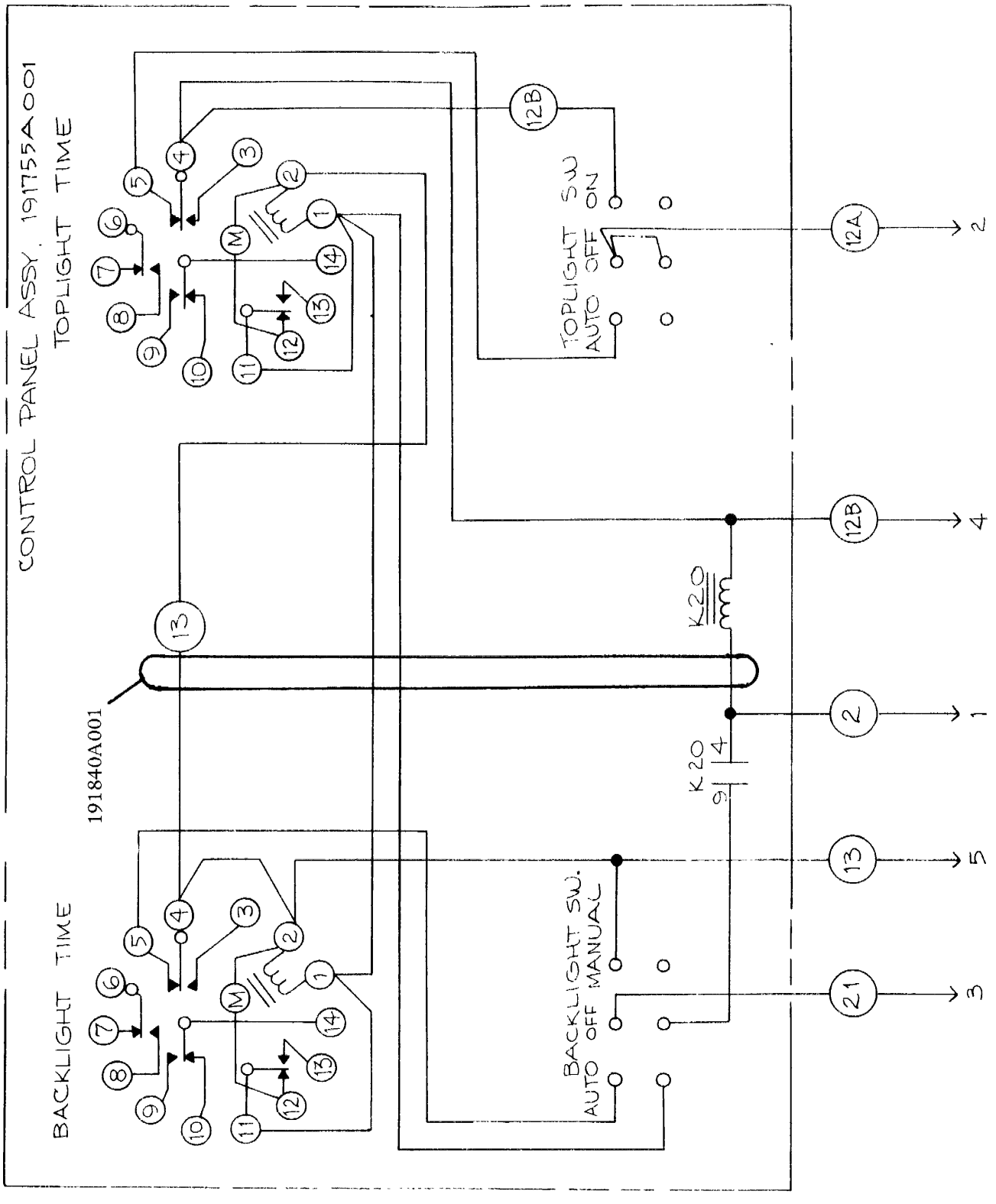


No. 191820-001

K14		Connectors		Terminal	Pin	Wire
Pin	Wire	Junction	Wire	TB-7	2	2
9	41	J16	46	TB-1	13	13
6	7	J17	13	TB-2	7	7
8	45	J18	11			
B	11	J19	41			
A	2	J20	7			

A4	
1	45
2	46
3	2

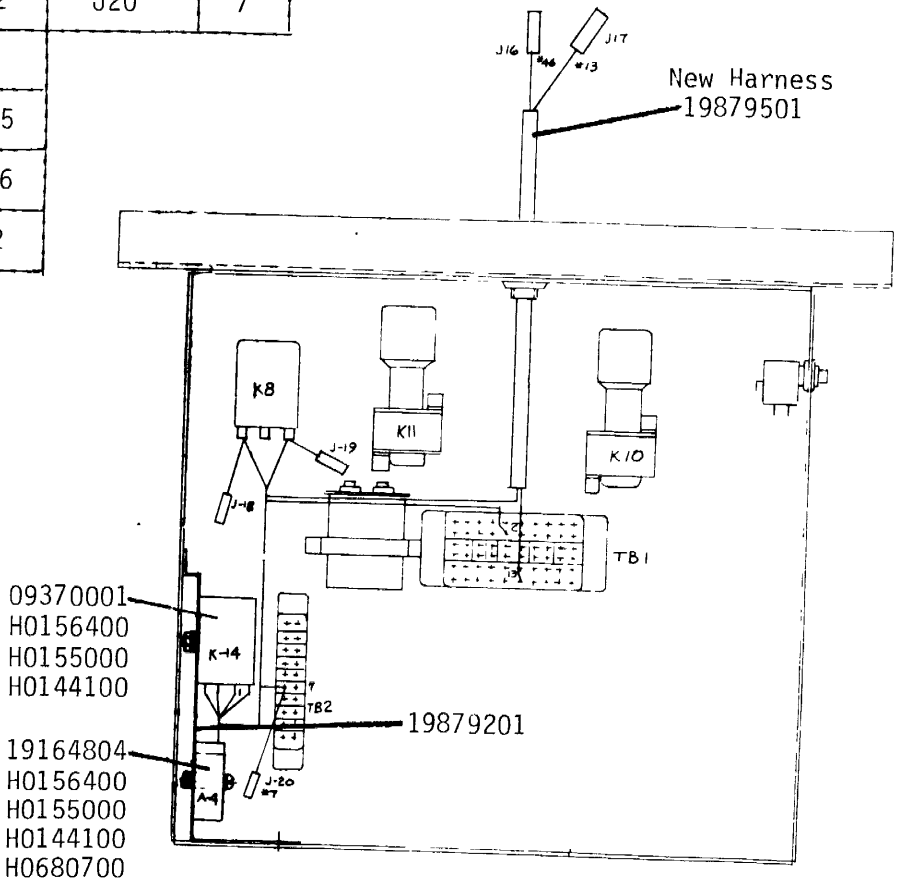
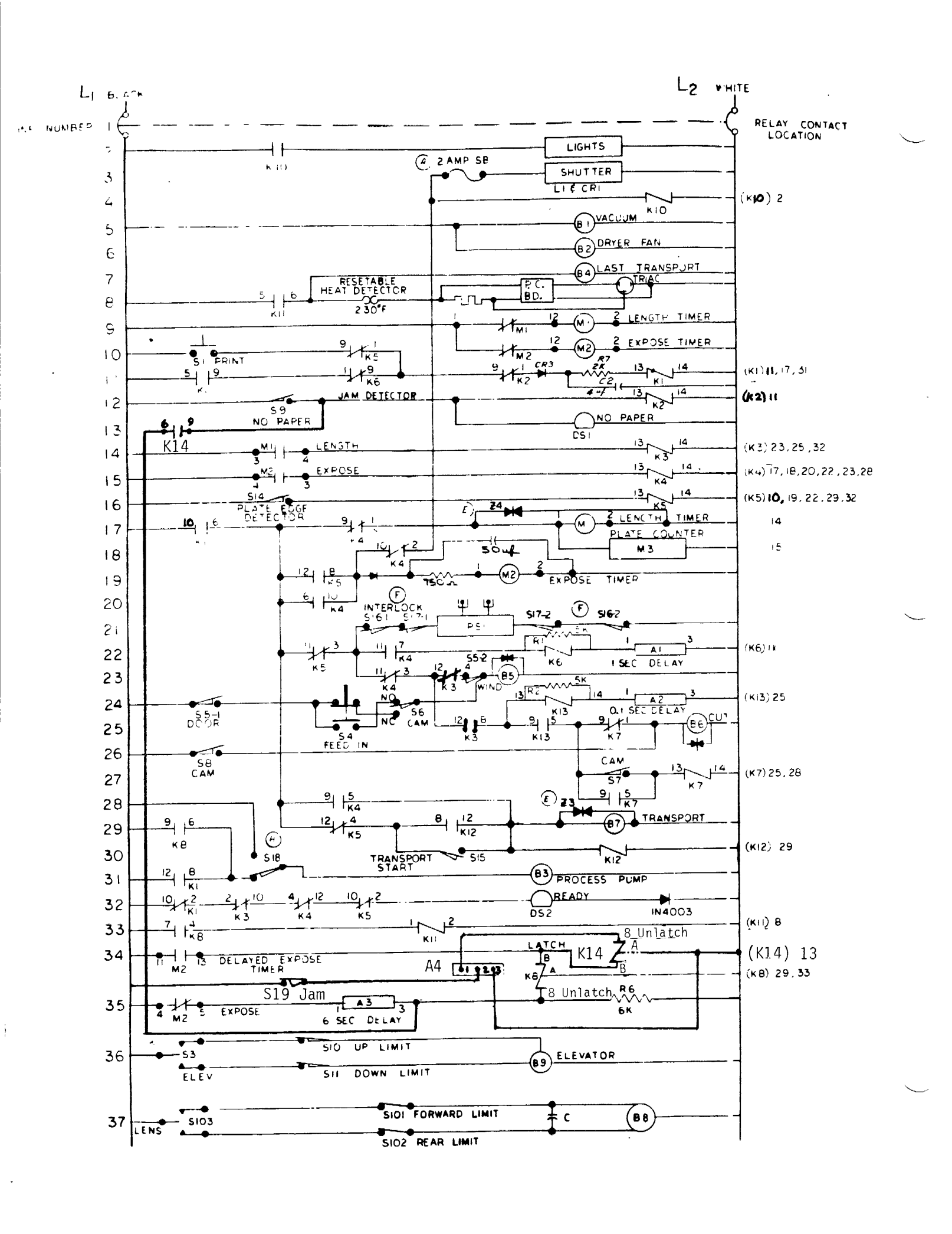


ILLUSTRATION NO. 3


L1 BLACK
L2 WHITE
LINE NUMBER
RELAY CONTACT LOCATION
LIGHTS
2 AMP SB
SHUTTER
LITE CRI
K10
B1 VACUUM
B2 DRYER FAN
B4 LAST TRANSPORT
TRIAC
P.C. BD.
RESETABLE HEAT DETECTOR
230°F
K11
M1 LENGTH TIMER
M2 EXPOSE TIMER
S1 PRINT
K5
K6
CR3
R7 2K
C2 4 uf
K1
K2
JAM DETECTOR
S9 NO PAPER
DS1 NO PAPER
K14
LENGTH
EXPOSE
S14 PLATE EDGE DETECTOR
D4
M LENGTH TIMER
PLATE COUNTER M3
50 uf
750
EXPOSE TIMER
INTERLOCK
S16-1
S17-1
PS1
S17-2
S16-2
R1
K6
A1 1 SEC DELAY
S5-2
B5 WIND
K4
K3
R2 5K
K13
A2 0.1 SEC DELAY
S5-1 DOOR
S6 CAM
NO
NC
S4 FEED IN
B6 CUT
S8 CAM
CAM S7
K7
D3
B7 TRANSPORT
K8
S18
TRANSPORT START
S15
K12
B3 PROCESS PUMP
READY
DS2
IN4003
8 Unlatch
LATCH
A4
DELAYED EXPOSE TIMER
S19 Jam
A3 6 SEC DELAY
R6 6K
S3 ELEV
S10 UP LIMIT
S11 DOWN LIMIT
B9 ELEVATOR
S103 LENS
S101 FORWARD LIMIT
S102 REAR LIMIT
C
B8
(K1) 11, 17, 31
(K2) 11
(K3) 23, 25, 32
(K4) 17, 18, 20, 22, 23, 28
(K5) 10, 19, 22, 29, 32
14
15
(K6) 11
(K13) 25
(K7) 25, 28
(K12) 29
(K11) 8
(K14) 13
(K8) 29, 33