KENSOL 15 & 15T Manual

ATTENTION!
KENSOL PRESS OPERATORS
IMPORTANT SAFETY PRECAUTIONS

The head of your KENSOL PRESS is driven by either a hand lever or an air cylinder. In order to perform a roll leaf stamping operation, high pressure must be applied by the stamping die on the work.

If an article is smaller than the heater head of your press, the operator should ALWAYS use a manual slide table to load and unload the item. A simple plastic safety gate can be installed to prevent the operator from accidentally placing the hand in the stamping area. Since KENSOL STAMPING PRESSES can be used to mark and decorate articles of many sizes, shapes and materials, it is impossible for the manufacturer to provide a universal safety gate. The PURCHASER SHOULD FABRICATE HIS OWN DEVICE. However, we will gladly assist with sketches or quote on a specially built safety gate upon receipt of sample parts.

In order to start a cycle on a KENSOL PRESS, it is necessary for the operator to use BOT HANDS for each operation or cycle - so necessarily neither hand of the operator could at any time come directly beneath the stamping die - ANY OTHER USE OF A KENSOL PRESS whereby a TIE-DOWN ALTERATION is introduced (where the Press is altered so as to require only ONE hand to start a cycle) in order to obtain faster production, is UNAUTHORIZED by the manufacturer and could result in Injury to the operator.

Air-operated slide tables and turntables are available to increase production rates.

IMPORTANT! AT NO TIME SHOULD AN OPERATOR PLACE THE HAND DIRECTLY BENEATH THE STAMPING DIE.

Always bear in mind that you are operating a mechanical device and ANY machine can malfunction for one or several reasons beyond the control of a manufacturer, so if this Press does not appear to function as it normally does - shut it off AT ONCE and call it to the attention of your employer.

When setting up or repairing any KENSOL air-operated machine, the electrical power should be shut-off and the air line completely disconnected.

KENSOL 15 & 15T Manual

INSTALLATION AND OPERATING INSTRUCTIONS FOR,KENSOL 15 & 15T
STAMPING PRESSES
IMPORTANT SAFETY PRECAUTIONS
SEE PRECEDING PAGE

The Kensol Series of one-half ton Stamping Presses are available as the hand-operated 15 or air-operated 15T machines. The hand-operated press can be converted to air at any time in your own shop by purchasing the air parts.

These instructions and the accompanying parts lists cover both the 15 and 15T presses. If your press is the hand machine, skip over sections titled "Air Machine Only". If your press is the 15T, read all instructions carefully.

SETTING UP THE PRESS

1. UNPACK THE PRESS CAREFULLY. Remove all protective grease. Lubricate press, following instructions found under Maintenance Section. Place the press on a sturdy bench high enough so that the operator can see the work being stamped. Comfort, whether sitting or standing, is very important for both good work and high production. Machine should be placed at such a height that the operators' forearms will be parallel to the floor when his hands are placed on the work table (M-7).

2. "Air Machine Only" - THE AIR CONTROLLING UNIT should be mounted on wall or bench close enough to the press so that the operator can get at it easily. Connect air supply from the compressor to the hose connection on the automatic filter. A galvanized pipe should be used for this (1/2"); however, a hose is supplied for a temporary hook up. It is advisable to install an ordinary shut off valve in this line. Connect air controlling unit to hose connection on the machine's cylinder assembly by running red neoprene hose from hose connection found on automatic oiler.

The purpose of the air controlling unit is to regulate the air pressure, filter the air, and drop the oil into the line to lubricate the air mechanism of the press.

Pressure is plainly shown on the gauge. Turning the pressure regulating valve clockwise will raise the pressure; counter-clockwise will drop the pressure. Open the pet-cock on the bottom of the filter occasionally to allow any water or foreign matter coming through the line to drain off. In exceptionally damp weather, this unit will have to be emptied daily.

NOTE: If you notice a great deal of water collecting, your compressor tank should be drained and an after-cooler installed in your main air line.

The screw on the top of the automatic oiler will regulate the amount of oil going into the air line. On examining the oiler closely, you will notice a small brass nozzle inside a glass tube directly under the screw. A drop of oil forms on the end of this nozzle and falls off into the air line at regular intervals. About one drop of oil falling every 20 strokes is an ideal setting.

3. HOOK-UP ELECTRICAL CONNECTIONS. Press has two electrical cords (only one on hand-operated presses). The first goes to the thermostat for heating the head. The second electrical cord goes to the timer box, which controls the operation of other electrical mechanisms. The timer box has an ON-OFF switch and pilot light. The switch should be in the OFF position and the line cord unplugged when the press is not in use or is being set up.

OPERATION OF THE "PRESS

1. THE HANDLE (P-20). The handle is supplied with both hand and air machines. It is inserted and locked into handle shaft (P-8). When operating by hand, the handle should be brought forward and returned with a smooth (rather than jerky) action. Best stamping results will be obtained if the operator maintains a steady rhythm when operating by hand. A fast "kiss" impression will give sharpest results.

1A. "Air Machine Only". The Kensol 15T can be operated by hand only when the air pressure is reduced to zero (reading on gauge 25-156). This is done by turning the valve (25-154). Before inserting handle (P-20) into shaft (P-8), ALWAYS reduce air pressure to zero. NEVER apply air pressure to machine before removing handle. (Handle could damage the operator's hand or arm if left in the machine when operated by air).

2. THE HEATING SYSTEM. The Kensol 15 press is equipped with a cartridge heater (P-19) which heats the stamping head (P-13). The temperature is controlled by a Robertshaw degree calibrated thermostat (P-2). Set plastic knob on thermostat so that it points to the desired setting. (NOTE: Roll leaf is formulated to give best results at a certain temperature. This temperature range will be supplied when ordering roll leaf, if requested).

You will notice that the pilot light on the thermostat glows when the knob is set. This indicates that full current is flowing through the heater. When the light goes out, you know the

stamping head (P-13) is up to temperature. However, this does not necessarily mean that your type or die is up to heat. . Naturally, the head heats up quicker than the chase or pallet holding your type. You should allow a few minutes (after the pilot light goes out) for the chase or pallet to reach head temperature.

As you operate the press, you will notice that the light goes on and off. This is a normal condition, and indicates that the thermostat is doing the job of accurately controlling the heat.

3. "Air Machine Only" - PROPER AIR PRESSURE. The Kensol 15 press will accurately operate at practically any air pressure. However, we recommend that you never set the regulator (25-154) so that the gauge (25-156) reads below 40 pounds or above 100 pounds. You will have to set the pressure for the particular job you intend to run. Larger die areas and hard materials require higher pressure settings than small die areas and soft items. 60 to 80 pounds is a good setting for normal work.

NOTE: Most compressors have an automatic ON-OFF switch. The setting on the regulator should never be higher than the low pressure setting (compressor pressure when the unit automatically goes on), or else you will have fluctuations on the pressure gauge (25-156) and your stamping will not be uniform.

4."Air Machine Only" - HAND SWITCHES (or foot switch). Press is operated by two hand switches (unless furnished with foot switch, or a single hand control). When depressed together, switches complete an electrical circuit causing 4-way valve (25-157) to operate. Valve allows air to go into the top of air cylinder, forcing stamping head down. NOTE: As soon as switches are depressed, the timer starts its cycle.

As soon as the pointer on the timer reaches zero, the timer breaks the electrical circuit, the valve reverses allowing air to go into the bottom of the air cylinder, and the head returns to its up position.

IMPORTANT! REFER TO SAFETY PRECAUTIONS ON PAGE 1 BEFORE PROCEEDING.

5. "Air Machine Only" - THE ELECTRIC DWELL-TIMER. The electric dwell-timer (25-178) has a pointer and an adjusting knob. To change the dwell time, move the knob until pointer is at the desired setting.

6. "Air Machine Only" - DOWN AND UP STROKE SPEED VALVES. The Kensol 15T is equipped with a down and up stroke speed valve (each located on the mufflers [25-175]).

The speed of the stamping head on the down stroke is controlled by the front valve. Turning this valve counter-clockwise, will cause the head to go down more slowly. This adjustment is useful to prevent cracking when stamping brittle materials, to lengthen the life of soft metal type and dies (lead, etc.), to give a squeeze rather than a snappy impression, and other special applications. Although the head comes down more slowly when the valve is turned in, the head pressure still builds up to the pressure setting on the gauge (25-156). If you slow down the speed of the head with this valve, you will have to set for a longer dwell-time to compensate for the slower head action.

The speed of the stamping head on the up stroke is controlled by the back valve. Turning this valve counter-clockwise will cause the head to return to its up position more slowly. The up stroke speed valve merely prevents the head from banging up against the frame. In normal use it should never need adjustment. However, some of the newer lustre leafs, etc. will stamp better if the head is slowed a bit on the up stroke and a slight cooling period is allowed after the hot die leaves the work and before the leaf is stripped away from the piece.

SETTING UP A JOB ON THE PRESS

IMPORTANT! REFER TO SAFETY PRECAUTIONS ON. PAGE I BEFORE PROCEEDING.

1. LOCKING UP TYPE, DIES, SLUGS, CUTS, ETC. There are several different styles of chases, pallets, etc. available with the Kensol 15 press. See sheet #S and sales literature found at the end of these instructions. Practically any metal type or other printing elements can be used in hot leaf stamping (they must be metal because they must conduct heat). In special applications, such as top stamping on plastic, silicone rubber dies can also be used.

It would be helpful to discuss the standard Kensol 15 type and die holders and their uses.

A. The steel hot plate chase (S-1): Used for holding any die or cut, both fiat and type high. Dies can be mounted by using screws or OlsenMark Die Bonding Film.

B. Four walled lock-up chase (S-2): Used for holding any die or cut (both flat and type high), loose type, linotype, or ludlow slugs, and any other printing elements. Flat dies are mounted on the steel block (5-3) that fits into the 4 walled chase and is held in place by screws

B. Four walled lock-up chase (S-2) Continued.

(S-14), Type high dies, slugs, loose type, etc. are locked into the recess of the chase (block is removed). Strips of metal are used between lines of type both to provide the necessary space between the lines and to hold the type firmly. On locking up type, dies, etc. in the recess, unfilled areas must be filled with metal spacing. The complete form is locked firmly in place by tightening screws (S-14).

C. Self-centering pallet. Used for holding loose type, linotype slugs, small type high dies, or other type high printing elements. It is much quicker to lock up loose type and slugs in the pallet because the side walls (jaws 5-22) move in and out equally when the crank (S-24) is placed on the nut (S-23) and turned. It is not necessary to fill out the ends of a line of loose type with spaces.

D. Line chase. Used for holding one or more self-centering pallets (S-4 thru S-7). Very fast system for locking up and centering loose type. Each pallet will lock up (and center) a single line of type. The pallets are held in the line chase by means of screw (S-9).

Slide chase or pallet into slot in head (P-13), from the left (push all the way in to stop). Lock chase or pallet by tightening screw (P-17). Do not force this screw. A slight pressure is all that is necessary.

2. POSITIONING THE WORK ON TABLE (M-7). After the type or dies have been set, locked in the stamping head, and brought up to heat, you are ready to position the work on the table (M-7).

If the Kensol is a 15T air-operated press, set machine for hand operation by reducing air pressure to zero (turn regulator 25-154) and insert handle (P-20) into shaft (P-8).

The Kensol 15 press is equipped with a 10 x 12 inch work table (M-7), an adjustable back guide (M-6), and two side gauges (M-8 and M-11). The purpose of these gauges is to position the work to be stamped under the dies or type and to hold down fixtures that are necessary for supporting hollow items, etc.

Table set up for flat items (paper goods, leather, plastic in sheet forms, etc). When stamping flat articles, it is wise to fasten down (using scotch tape, masking tape, etc.) a thin sheet of cardboard, fibre board, or a few index cards on the work table (M-7). This provides a little give beneath the item being stamped.

NOTE: This makeready material should be changed after every die or type change because it will 4come embossed after running the job.

After fastening down the makeready material, take a piece of leaf and lay it by hand under the die (dull side down). Make an impression on the makeready by pulling handle down (P-20). Do not apply too much pressure, a light impression is all that is necessary. If, on pulling the handle all the way down, you find that the type does not touch the makeready, lower the head assembly by loosening the four lock bolts (N-8) and turning the elevation handle (N-10) until it does. After making this adjustment, tighten the lock bolts (11-8) securely.

Having made an impression on the makeready material, you can now position the item using the back gauge (M-6) and one of the side gauges (M-8 or M-ll). Set these gauges so that when the item is positioned in the gauges, the imprint will be in the proper location on the article. NOTE: Some stampers prefer to glue strips or cardboard on the makeready as gauges rather than using t he guides provided.

Table set up for curved or hollow items (boxes, tool handles, etc.). Curved items require a curved or contoured die, or type locked up in a curved holder. Hollow or non solid items must be supported beneath the stamping area to prevent them from cracking or collapsing. If a supporting fixture is required, it should be mounted on a thin piece of steel about 12 inches long. This fixture can then be clamped on to the table (M-7) using "C" clamps or the guides (M-8 and M-11). The fixture must be positioned under the die by eye. Light impressions can be made on the article and the fixture shifted until the die hits the piece in the proper spot and the curved surfaces match. Remember the head assembly can be raised or lowered by means of the elevating handle or adjustment (N-10). The four lock bolts (N-8) must be loosened and retightened after making this adjustment.

3. MAKING A JOB READY. Place the article in position on the table or fixture, lay a piece of leaf on the impression area and make an impression. If the impression is light in any spot, stick some gummed tape or scotch tape on the bed beneath the weak area. Try another impression, and continue to build up the makeready until the print is uniform depth throughout.

When stamping molded plastic items, it is helpful sometimes to glue a thin sheet of rubber on to the bed or fixture to level the type or die with the plastic being marked.

4. PROPER ROLL LEAF. This is very important. Roll leaf is made in pure and imitation gold, aluminum and all popular colors.

Colors are available which will print with a flat, gloss, or metallic finish. A sizing makes the roll leaf adhere to what¬ever material you are stamping. It is important that the roll leaf supplier knows the material you intend to stamp. We will gladly supply you with the desired color, sizing, and tell you the proper temperature to set your machine at.

5. SET THE ROLL LEAF ON THE SPINDLE (R-34). The roll leaf should be a little wider than the die or type (1/2 inch is recommended). Remove disc, collar, spring assembly (R-38, R-39, R-40) from the spindle (R-34).

Place the proper roll leaf on the spindle so that the dull side will face the work. Replace the collar, spring, disc assembly so that the roll will be held between the two discs (R-37 and R-38).

Center the roll on the spindle so that the leaf will cover the complete die or type lock-up, allowing about 1/4 inch overlap on each side.

Bring tail of leaf under both front and back stripper bars (R-42), and up between knurled steel roller (R-25) and rubber roller (R-23). These rollers are spread by means of cams (R-11).

Check to see that the roll of leaf runs straight through the press from front to back, and that it covers the die completely. After doing this, snap the cams so that the leaf is held between the two rollers.

Adjust the front and rear stripper bars (R-42) by means of the nuts (R-46 and R-48). The bars should be set so that the leaf is kept about 1/2 inch away from the hot die. Make certain that the bars (R-42) are parallel with the work table (M-7). If these bars are not parallel, the leaf will not run through the machine straight.

Adjust the collar, spring, disc assembly so that the spring applies slight tension to the roll. This prevents the leaf from bowing as it passes through the machine.

The length of roll leaf pull is governed by the position of the rack (R-3) on the draw guide (R-5). The rack is attached to the draw guide by means of thumb screw (R-1). Loosening the screw and moving the rack up will lengthen the pull, while moving the rack down on the draw arm will shorten the pull.

On operating the machine, it is important to allow the handle (P-20) to return all the way up to its rest position or the leaf pull will not be uniform. Try a few impressions, examine the used roll leaf and set the leaf pull adjustment screw (R-1) so that approximately 1/8 of an inch space is left between impressions.

If you have a die or type lock up that requires the complete 2 inch leaf pull, and you find that when,you set the attachment for maximum pull you are getting less than 2 inches, you will have to raise the head assembly (by means of the elevation handle N-10) so that you are using the full head stroke of the machine.

You are now ready to run a job using the handle (P-20)

6. "Air Machine Only" - GETTING INTO PRODUCTION USING AIR OPERATION.

IMPORTANT! MAKE CERTAIN THAT YOUR SAFETY GATE IS IN PLACE BEFORE PROCEEDING.

A. Remove handle (P-20) from the machine.

B. Having performed all the above steps (1 thru 5), set regulator (25-154) for 60 pounds, and turn dwell timer ON-OFF switch ON.

C. Set timer pointer to read .1 seconds (not to be confused with 1 full second).

D. Depress the hand switches or foot switch. With such a short setting, the head will most likely not come down far enough to meet the item to be stamped. Gradually increase the dwell-timer setting until the head comes down far enough to meet the piece.

E. After examining the stamp on the piece, you can either increase the dwell time or pressure for more depth, or decrease the dwell time or pressure for less depth.

NOTE: For best results, each impression should have a short linger of the die OP type on the piece. Never attempt to get depth by "burning" the die into the item. Always set for enough pressures and try to use as short of a dwell time as possible.

F. A normal dwell-time setting is about .5 seconds. If you find that the stamping head is coming down so slow that the die or type does not meet the piece at .5 seconds, open the down stroke speed valve so that the head comes down faster. An exception to the .5 average setting is the case when the type is lead or some other soft metal. To get long life out of this type, slow the head down and use a longer dwell-time setting.

NOTE: The dwell-timer not only times the actual linger of the die or type on the piece, but also times the amount of time it takes the head to come from rest position to stamping position.

G. Before proceeding to stamp a production run, set the automatic oiler as explained under SETTING UP THE PRESS section.

MAINTENANCE OF PRESS

Good results cannot be assured unless the press is operated and lubricated properly. The machine should be kept clean; and covered if it is not to be used for a prolonged period of time.

LUBRICATION OF BOTH HAND AND AIR MACHINES.

The only parts requiring lubrication by hand are the bearings in the roll leaf attachment, head ram (P-9) and handle shaft (P-8).

On examining the roll leaf attachment you will notice the oil holes leading to the roller bearings. These points should be lubricated daily, using a few drops of SAE #30 oil. The handle shaft (P-8) extends thru the head casting. The head casting has two oil holes which also should be lubricated daily with SAE #30 oil.

Since the Head Ram (P-9) is warm under operating conditions, it should be lubricated with Olsenmark High Temperature Lubricant which is supplied with the press. When the head is brought down using the operating handle (P-20), the ram will be exposed. Using an artists brush, apply the high temperature lubricant to all four sides of the ram daily.

LUBRICATION OF AIR MACHINE PARTS.

All air components are automatically oiled by the oiler (25-153). Keep this oiler filled with SPECIAL SAE #10 oil and adjust knurled screw on top to give one drop of oil for approximately every 20 strokes of the stamping head.

IMPORTANT! Oil that contains detergent or penetrating additives will attack packing causing the valves to bind, and resulting in erratic time cycles. We can supply you with this oil in gallon quantities in case you cannot purchase it locally.

Piping air to one press (within 30 feet) - use ½ inch metal pipe (not rubber hose).

Piping air to two presses (within 30 feet) - use 3/4 inch pipe.

Piping air to more than two presses (within 30 feet) - use one inch pipe.

If you have any questions or problems in operating the press, do not hesitate to write us.
Send samples of your work, whenever possible.

IMPORTANT! Should you notice that your press is operating abnormally, immediately disconnect air and electrical lines. Have your maintenance department locate the source of trouble by running thru the trouble shooting procedures on the following pages or contact us.

GENERAL TROUBLE-SHOOTING PROCEDURES FOR KENSOL STAMPING EQUIPMENT

Your Kensol Press was carefully manufactured with high quality materials and components. However, over the long life of this equipment something is bound to go out of order. Whether you have a hand-operated or air-operated press, you should find the solution to your trouble somewhere in these instructions.

From our experience we have found that the primary cause of equipment failure is poor maintenance. Equipment should be properly lubricated every day (see Lubrication Instructions in section preceding).

In general, equipment failure can be broken down into two categories:

(1) Mechanical failure in parts of the press other than air and electrical components
(2) Failure of air or electrical components

In order to find which of the two categories are causing the trouble on an air machine, you must disconnect your air line, insert the handle and operate the press manually. Make certain that the press is heated to 3000. If the head moves freely with little effort on the handle, you can assume that there is no bind in the ram, mechanical roll leaf attachment and linkage system (toggle machines only). If you have a mechanical pull leaf feed (rather than air pull), make certain the leaf feed is set for maximum pull. If you feel a bind, the trouble is of a mechanical nature and not with the air components.

LOCATING A MECHANICAL FAILURE

15,15T,17T,26,25T & 26T Presses:

(1) Disconnect mechanical roll leaf feed by moving setting-for leaf pull to the bottom of the slide. If press now operates smoothly by hand, there is a bind in the roll leaf attachment. Remove knob at end of knurled roller and disassemble advance mechanism. Examine for broken parts. The rubber roller should turn freely when the rollers are separated by the cams. If you can not rotate the rubber roller freely the bearings are binding.

(2) If press binds with mechanical roll leaf disconnected, the bind must be in the ram. The jibs should be readjusted to allow a smooth sliding action yet maintaining as little play in the ram as possible.

36,36T,50,60 & 110 Presses:

(1) Run thru step #1 above

(2) If press binds with roll leaf disconnected, the bind could be in the ram, links, pins or main shaft.

LINKS & PINS - The links should move freely on the pins. You can check these by tapping the links or pins from the side with a mallet. The links should shift side to side slightly. If not, you must free up the particular link and pin assembly.

RAM - Having eliminated the links and pins and the roll leaf attachment as a source of trouble, we know that the ram is binding. The fit of the ram is adjusted by loosening the four large bolts found on the ram cap and adjusting the four set screws (found by each bolt) as follows:

Make certain the roll leaf attachment is disengaged. This will give a better opportunity to judge the sliding fit of the ram. This fit should be free, but not sloppy. If sloppy, the head may twist a little and jam up the roll leaf mechanism. The best way to make this adjustment is to work the handle up and down as you tighten and loosen the four bolts. Make sure you loosen only one bolt at a time, and retighten it before going to the next bolt, if you find that it does not lessen the bind. After you find that one particular bolt when loosened frees the ram, you must turn in the corresponding set screw. The bolt can then be tightened. In some cases, it may be necessary to loosen and reset two set screw-bolt combinations. These adjustments are merely a trial and error method. Make sure the head is up to heat and spend some time on this very important adjustment.

LOCATING AN AIR COMPONENT FAILURE

ALL AIR PRESSES:

If you have determined, after converting your press to hand operation, that the air system is at fault, one must localize the trouble to one of these components: Hand (or foot) Switches, Dwell-timer, Air Cylinder, 4-Way Valve, Pilot Valve, or Air-controlling Unit.

Hand (or foot) Switches - Check these by electrically by-passing them as follows. The hand switches, or foot switch, plug into the timer box with a four prong plug. When you pull the plug out, you will notice that two of the prongs are electrically connected to the line cord. Using a jumper (short piece of wire) short out the corresponding two connections in the female receptacle on the timer. KEEP HANDS AWAY FROM UNDER THE HEAD. If the head now comes down, you will know that the switches were faulty.

Dwell-timer - It is very seldom that the dwell-timer will completely fail so that the head will not come down at all. The usual symptom of a faulty timer is an erratic cycle (one impression short, one long, etc.). However, we must mention that there are "normal" inaccuracies in any timer. Slight inaccuracies on a split second

cycle must be expected. Look at the pointer on the timer. As soon as the switches are closed, the pointer starts to move, travels to zero, and snaps back to best position (on solid state timers, the pointer does not move. We have wired in an indicator light for test purposes). If this does not happen, the timer is faulty. If the press completely fails to operate, twist and remove the plug that is connected to a BX on the timer. Using the stripped end of a line cord, apply current (either 110 or 220 V, whatever the press is equipped for) directly to the prongs on this plug (goes from timer to pilot valve). The head should come down. KEEP HANDS AWAY FROM UNDER THE HEAD. If the press does not operate, the timer is not at fault in complete press failure.

Air-cylinder, Pilot Valve, 4-Way Valve - These components are really considered as one complete assembly in trouble-shooting. If the ram action of the press is erratic, and we have eliminated the mechanical sections of the press (and the dwell-timer), as the cause of failure, the air assembly must be faulty. The complete assembly is either returned to us for repair or dis¬assembled and examined for:

(1) Broken electrical connection in pilot valve. (This has been checked previously by applying line voltage across the two prong BX cable plug)
(2) Broken return spring in the four way valve.
(3) Bind of the spindle in the four way valve. This is usually caused by "0" ring expansion due to the use of oil containing additives.
(4) By pass of air around 4-way valve spindle or cylinder cups. Again caused by the use of oil with additives (in automatic oiler).
(5) Corrosion due to excessive water getting into the press.
(6) Scoring of the walls of the cylinder.

Air Controlling Unit - The air controlling unit consists of an air filter, reducer and gauge, and oiler. Any failure of these parts is usually apparent. The air filter is designed to remove water from the air line. If you find that excessive water is building up so that you have to drain this a few times each day, it would be advisable to have an after cooler installed on your compressor. We can supply repair kits for these components if you find that they are not functioning properly.

SYMPTOM	PROBABLE CAUSE
1. Press will not heat up at all, supply	a. Blown fuses in electrical b. Defective heater or heaters c. Loose or broken wire d. Defective thermostat

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SYMPTOM	PROBABLE CAUSE
2.Press will not heat up to operating temperature	a. Detective heater or heaters b. One fuse blown on 220 line
3.Press overheats (light on thermostat stays on)	a. Defective thermostat
4. Head will not come down	a. Linkage frozen (toggle machine only) Ram frozen b. 4-way valve or main cylinder jammed due to lack of lubrication (Air machine only) c. No output from timer d. No air from supply or not enough pressure
5. Head comes down and stays down	a. Broken spring in 4-way valve b. Bind in 4-way valve or main cylinder c. Short in timer
6. Head will not come all the way down	a. Jam in mechanical roll leaf attachment
7. Head slams on up stroke	a. Head check assembly out of adjustment (toggle machine only) b. Badly worn linkage system (toggle machine only) c. Bind in ram or linkage (toggle machine only)
8. Machine sluggish both up and down	a. Speed valves closed too far b. Air line clogged c. Air lines too small d. Too low air pressure
9. Blurry impression - not sharp and clear	a. Head shifting due to too much play in ram b. Die or type holder not locked tightly in head
10. Inconsistent impression some deep, some light	a. Too short of a dwell setting (never go below 0.4 seconds) b. Poor lubrication c. Erratic timer d. Fluctuating air pressure e. Defective packing in 4-way valve or main cylinder

SYMPTOM	PROBABLE CAUSE
11. Erratic leaf pull Mechanically operated roll leaf attachment	a. rubber roller worn b. Knurled roller slipping on its shaft c. Defective clutch (late machines) d. Loose pawls or broken springs on ratchet leaf feeds (older machines) e. Roll leaf tension disc too tight f, Bushings for knurled or rubber roller worn
Air-operated roll leaf attachment	a. Check a,b,c,e, & f above b. Air pull cylinder not returning all the way c. Air pull cylinder moving too fast - adjust speed valves d. Air pull 4-way valve defective Delay valve packings defective
12. Leaf runs off to one side when pulling	a. Stripper bars are not level b. Rollers are badly worn c. One side of steel or rubber roller bearing worn more than other side
13. Air leaking out of top of main cylinder	a. Worn top packing in cylinder b. Retaining nut may be loose (older machines)
14. Air leaking out of check valve (toggle machines only)	a. By pass in cylinder or 4-way valve
15. Oil leaking out of mufflers	a. Incorrect adjustment of automatic lubricator

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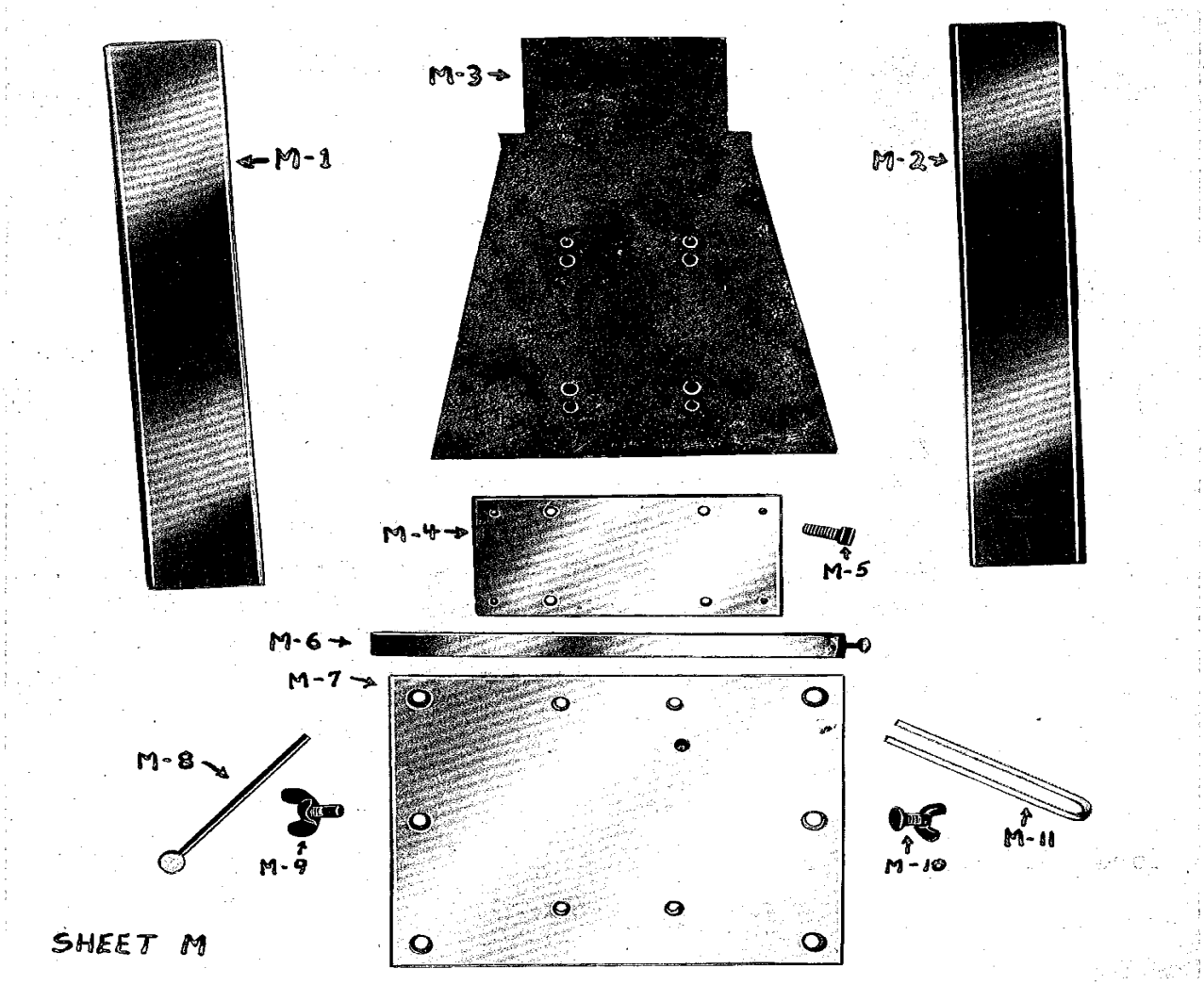

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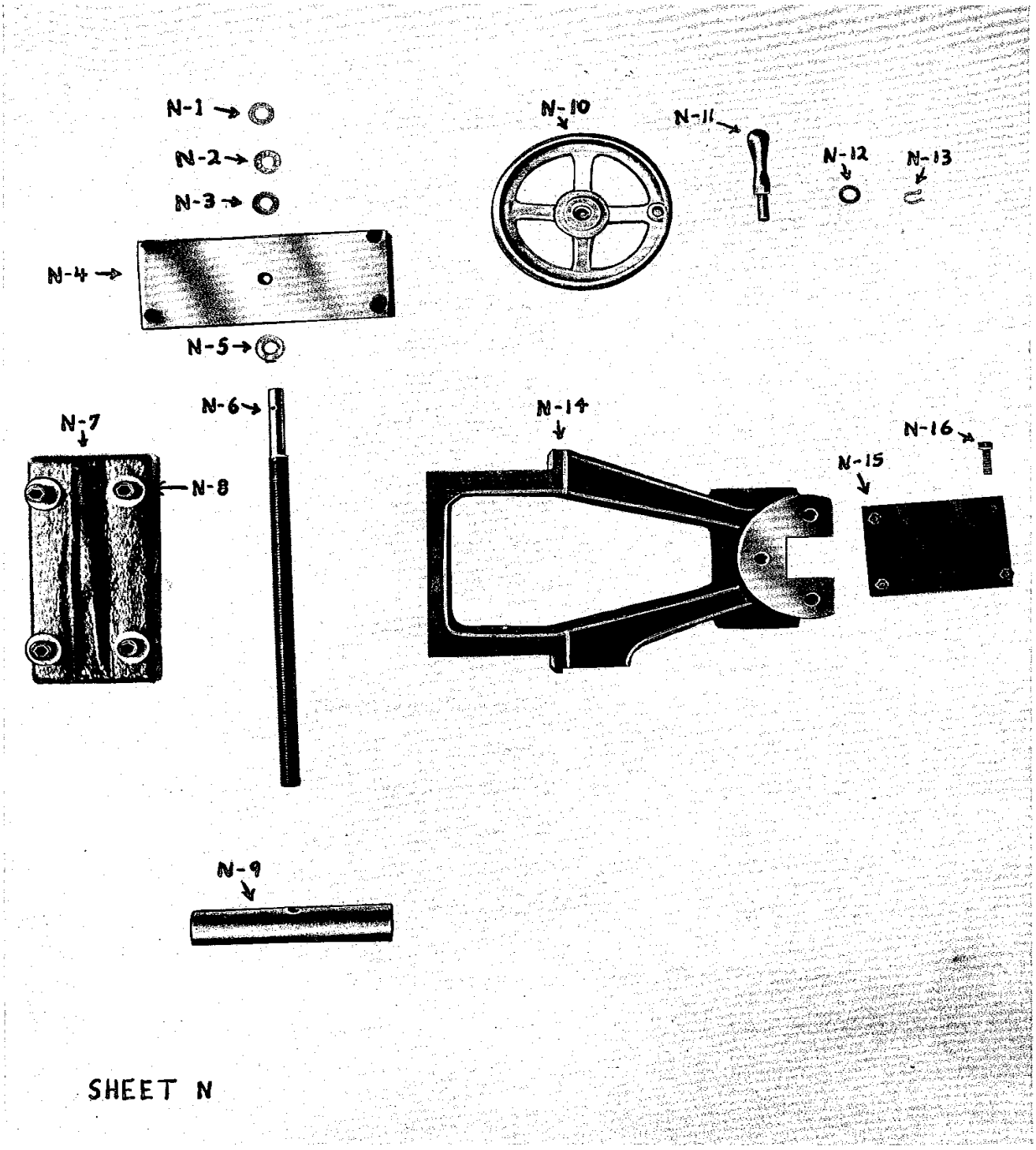
Parts Sheet for Kensol Equipment- #M

When ordering parts, supply serial number (found on tag on front of press) and year purchased, whenever possible. When ordering electrical parts, be sure to supply voltage and current (A.C. or D.C.).

PART NO.	PART NAME
M-1	Left vertical bar
M-2	Right vertical bar
M-3	Base
M-4	Base plate
M-5	Allen screw
M-6	Back guide
M.-7	Work table
M-8	Work guide - knob style
M-9	Guide screw and wing nut (knob type)
M-10	Guide bolt and wing nut CU type)
M-11	Work guide - U style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SHEET N

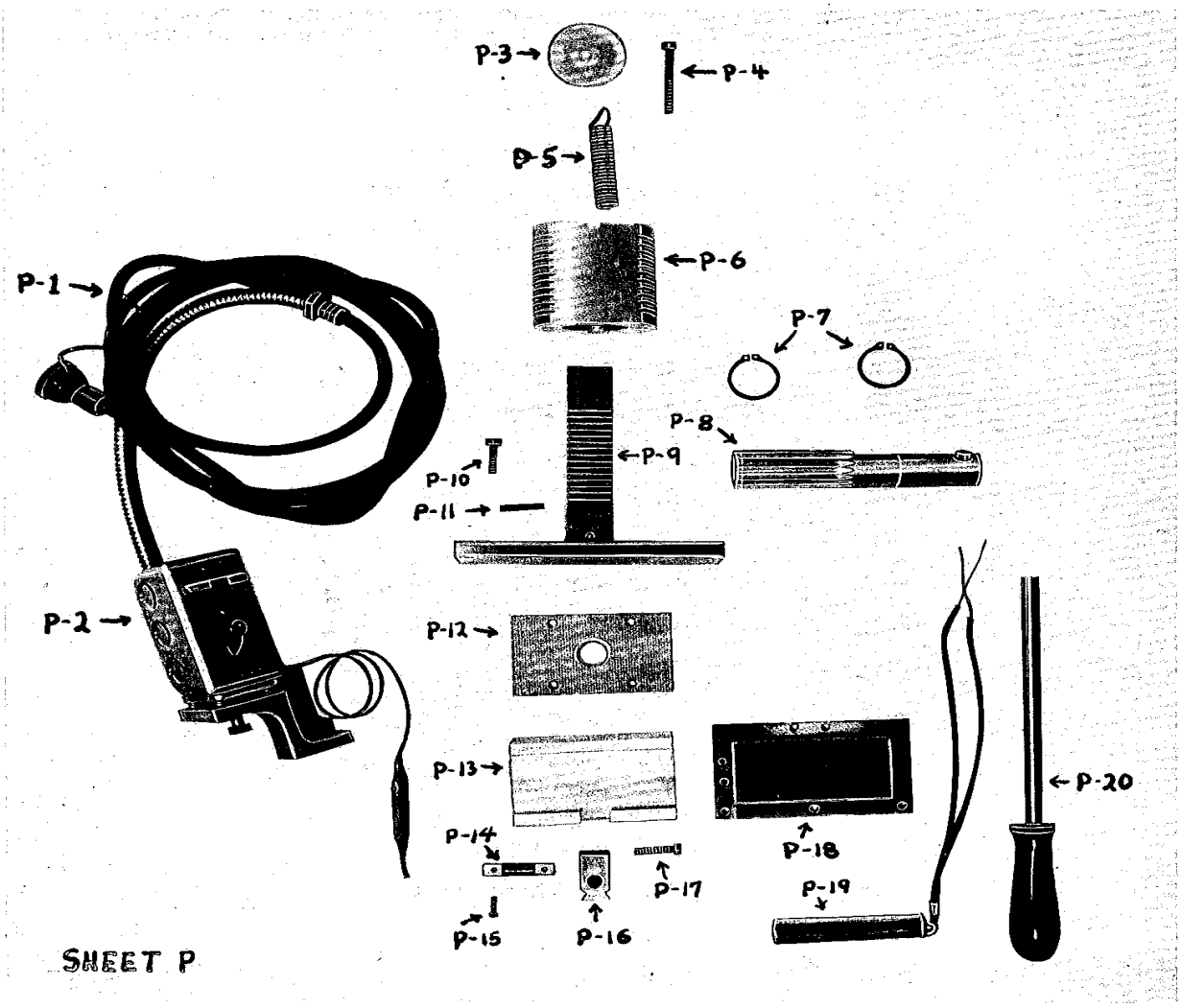
KENSOL 15T

Parts Sheet for Kensol Equipment- #N

When ordering parts, supply serial number (found on tag on front of press) and year purchased, whenever possible. When ordering electrical parts, be sure to supply voltage and current (A.C. or D.C.).

PART NO.	PART NAME
N-1	Thrust washer
N-2	Thrust bearing
N-3	Thrust washer
N-4	Top spaner plate
N-5	Collar
N-6	Elevating screw
N-7	Back claw
N-8	Allen screws
N-9	Elevating trunion
N-10	Elevating wheel
N-11	Elevating wheel handle
N-12	Washer
N-13	Retainer spring
N-14	Ram casting
N-15	Ram cap
N-l6	Allen screw

KENSOL 15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SHEET P

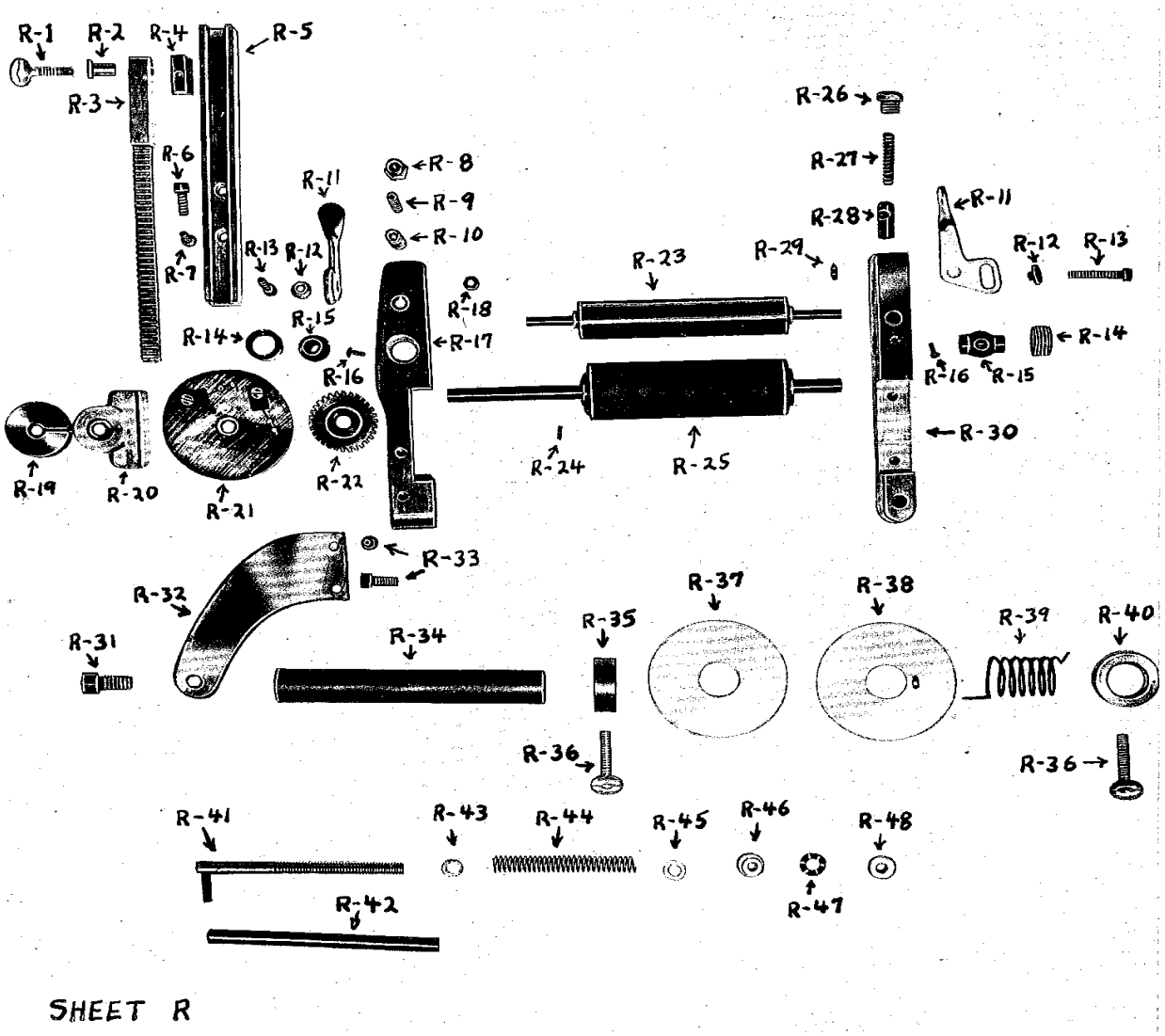
KENSOL 15

Parts Sheet for Kensol Equipment- #P

When ordering parts, supply serial number (found on tag on front of press) and year purchased, whenever possible, When ordering electrical parts, be sure to supply voltage and current (A C. or D.C.).

PART NO.	PART NAME
P-1	Thermostat line cord
P-2	Complete thermostat assembly
P-3	Washer
P-4	Allen screw
P-5	Ram spring
P-6	Cylinder adapter
P-7	Tru Arc rings
P-8	Handle. shaft
P-9 .	Head ram
P-10	Allen screw
P-11	Roll pin
P-12	Insulator
P-13	Heating head
P-14	Locking pin
P-15	Allen screw
P-16	Head lock
P-17	Head lock screw
P-18	Flat hot plate chase
P-19	Heater
P-20	Handle

KENSOL 15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SHEET R

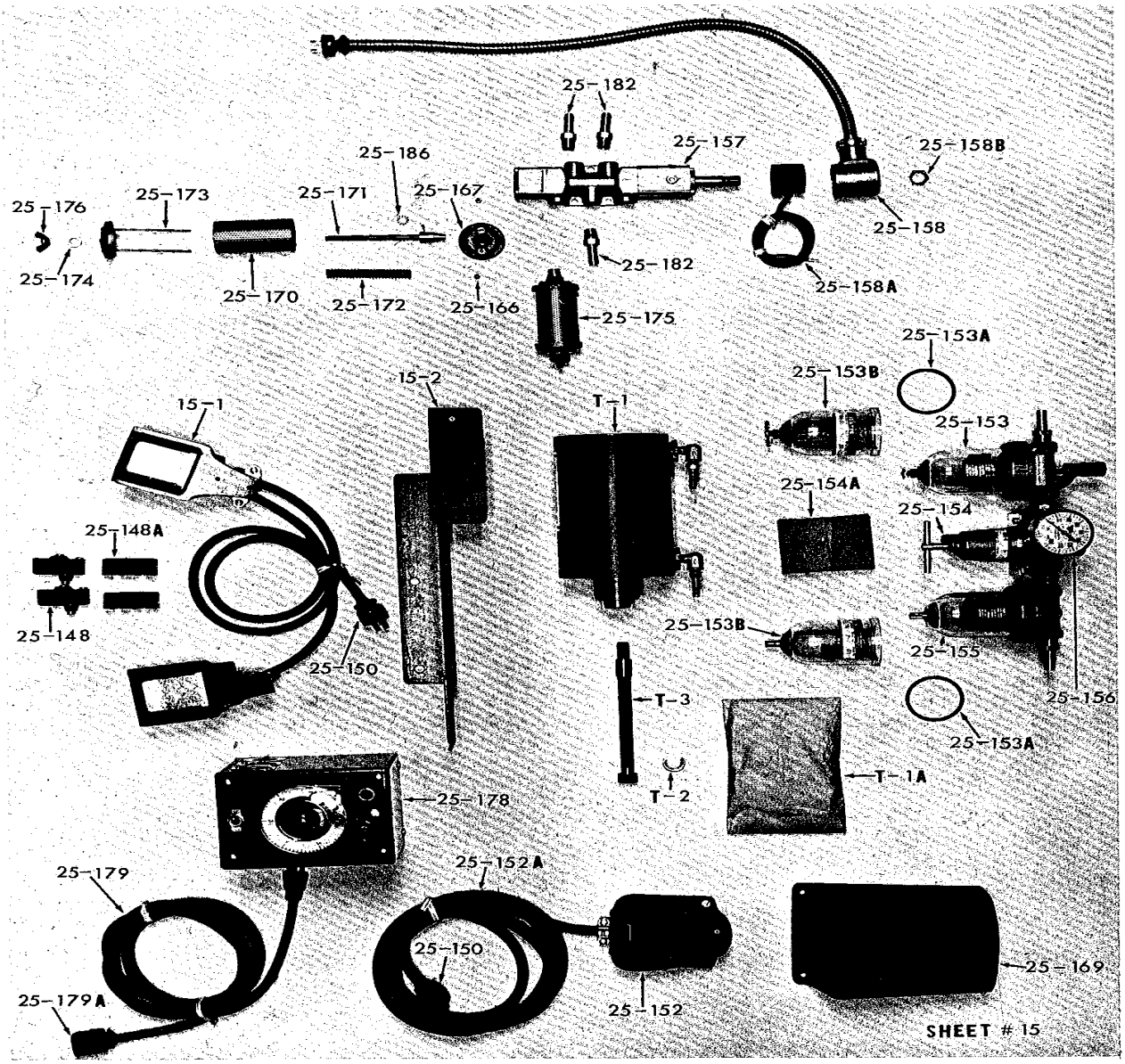
KENSOL 15

Parts Sheet for Kensol Equipment- #R

When ordering parts, supply serial number (found on tag on front of press) and year purchased, whenever possible. When ordering electrical supply voltage and current (A .C. or D.C.)

PART NO.	PART NAME
R-1	Leaf pull adjusting thumb screw
R-2	Flange bushing
R-3	Roll leaf rack
R-4	"T" slide
R-5	Leaf draw guide
R-6	Allen screw
R-7	Allen screw
R-8	Spring plug
R-9	Dabber roller spring
R-10	Rubber roller bearing
R-11	Rubber roller cam
R-12	Cam flange bushing
R-13.	Allen screw
R-14	Bearing retainer
R-15	Knurl roller bearing
R-16	Lock screw
R-17	Draw arm - left
R-18	Nut
R-19	Split knob
R-20	Guide - rack & gear
R-21	Ratchet plate r
R-22	Ratchet gear
R-23	Rubber roller
R-24	Woodruff key
R-25	Knurl roller
R-26	Spring plug
R-27	Rubber roller spring
R-28	Rubber roller bearing
R-29	Nut
R-30	Draw arm - right
R-31	Allen screw
R-32	Roll leaf bracket
R-33	Allen screws
R-34	Roll leaf bracket
R-35	Collar
R-36	Thumb screw
R-37	Disc
R-38	Disc (with hole for tension spring)
R-39	Tension spring
R-40	Collar(with hole for tension spring)
R-41	Adjusting bar-stripper
R-42	Stripper bar
R-43	Washer
R-44	Stripper spring
R-45	Washer
R-46	Adjusting nut
R-47	Lock washer
R-48	Lock nut

KENSOL 15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25-153A
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25-179
25-152A
25-150
25-169
25-179A
25-152
SHEET # 15

KENSOL 15

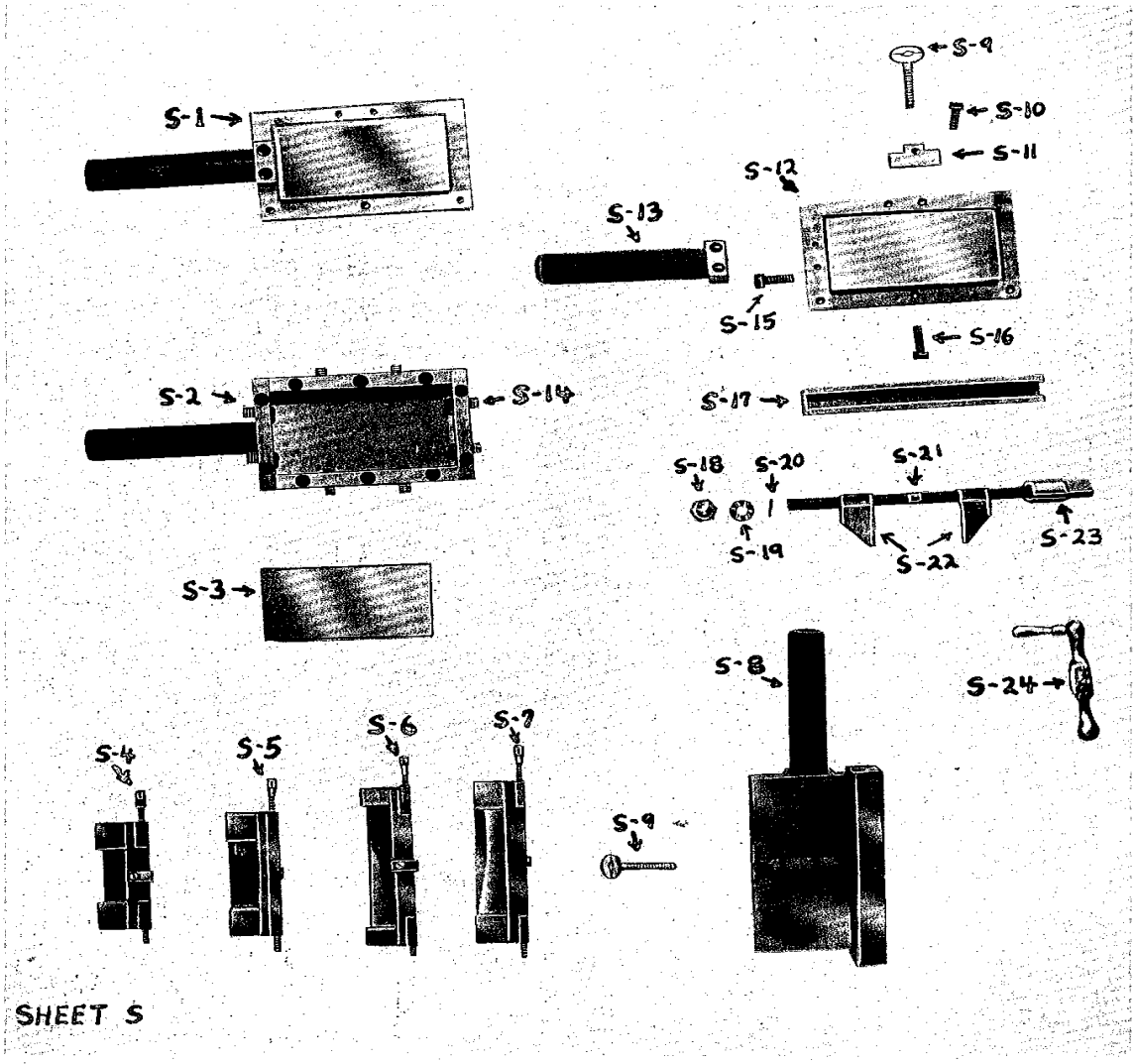
PARTS SHEET FOR KENSOL EQUIPMENT - #15

When ordering parts, supply serial number (fund on tag on side of press) and year purchased whenever possible. When ordering electrical parts, be sure to tell us whether your machine is wired for 115 or 220 volts A.C.

PART NO.	PART NAME	
T-1	Cylinder	(1)
T-1A	Cyl. Rpr. Kit	(1)
T-2	Open Washer	(1)
T-3	Thru Bolt	(1)
15-1	Dual Hand Switch Assy. (comp.)	(1)
15-2	Timer & Valve Mounting Bracket	(1)
25-148	Micro Switch	(2)
25-148A	Micro Switch Coy,	(2)
25-150	Twist Lock Plug	(1)
25-152	Foot Switch Assy,	(1)
25-152A	Foot Sw. Assy. Cable	(1)
25-153	Lubricator	(1)
25-153A	"0" Ring	(2)
25-153B	Bowl	(2)
25-154	Regulator	(1)
25-154A	Regulator Rpr. Kit	(1)
25-155	Filter	(1)
25-156	Air Gauge	(1)
25-157	4-Way Valve	(1)
25-157A	4-Way Valve Rpr. Kit (not shown)	(1)

PART NO.	PART NAME	
25-158	Coil Housing	(1)
25-15BA	Coil	(1)
25-158B	Coil Nut	(1)
25-166	Muffler Nuts	(2)
25-167	Btm. Muffl. Casting	(1)
25-169	Foot Switch Housing	(1)
25-170	Muffler Screen	(1)
25-171	Valve Stem	(1)
25-172	Spring	(1)
25-173	Top Muffler Casting Assy.	(1)
25-174	Washer	(1)
25-175	Speed Control Muffler Assy.	(1)
25-176	Wing Nut	(1)
25-178	Timer Assy. (comp.)	(1)
25-179	Line Cord Assy.(comp.)	(1)
25-179A	Twist Lock Receptacle	(1)
25-182	Hose Fittings	(3)
25-186	Star Washer	(1)

KENSOL 15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SHEET S

KENSOL 15

Parts Sheet for Kensol Equipment - #S

When ordering parts, supply serial number (found on tag on front of press) and year purchased, whenever possible. When ordering electrical parts, be sure to supply voltage and current (A C. or D.C.).

PART NO.	PART NAME.
S-1	Flat steel die chase (2 x 4 inches)
S-2	Four walled lock-up chase (2 x 4 inches, inside dimensions)
S-3	Inside steel block for chase
S-4	Self-centering pallet (3/16 x 2* inches)
S-5	Self-centering pallet (3/8 x 2* inches)
S-6	Self-centering pallet (3/16 x 4 inches)
S-7	Self-centering pallet (3/8 x 4 inches)
S-8	Line chase (1 3/4 x 4 inches)
S-9	Thumb screw
S-10	Allen screw
S-11	Thumb screw mount
S-12	Pallet plate and dove tail
S-13	Handle
S-14	Allen head set screws
S-15	Allen screw
S-16	Allen screw
S-17	Jaw track
S-18	Cap nut
S-19	Washer
S-20	Lock pin
S-21	Pallet screw
S-22	Jaw set
S-23	Crank nut
S-24	Crank

KENSOL 15

KENSOL- OLSENMARK ROLL LEAF STAMPING SUPPLIES including Lubricants for Kensol Equipment

OLSENMARK ROLL LEAF

For all materials, such as plastics, paper, wood, cloth, leather and coated metals. A complete line of roll leaf available: bronze, silver, hi-lustre metalized gold, silver, and metalized colors: pure gold-24 carat; a complete assortment of colored leaf:

1. FLAT **2. ENAMEL** **3. TRANSPARENT**

All the above leaf available for metal die stamping and silicone rubber stamping on the first surface (top) and the second surface or back side. Special Matching colors are available and special application roll leaf, such as heavy coated black and white to cover parts to be metalized or sprayed.

TYPE AND DIES

Brass- Fine quality type in many attractive faces. Recommended for all materials. Send for catalog with prices.

Steel- will stand up in long runs, even on hardest (plastic) materials. Send for catalog with prices.

Servol- Hard, durable, deep mat, composition white metal type. Contains no lead. Made especially for hot stamping. Not recommended for wood or hard plastics. Very economical. Send for catalog with prices.

Dies - Brass and Steel - Flat and contoured. Submit art work of the copy and a few samples of the item. Work will be studied and price submitted.

SILICONE RUBBER DIE STAMPING MATERIAL:

Olsen Mark Silicone Rubber Die Sheets are flat, thin sheets of silicone rubber bonded to aluminum. Various thicknesses of silicone-aluminum combinations are available. Available in 80 durometer and also in 60 durometer.

HOW THE MATERIAL IS USED:

Silicone rubber dies are used in the roll leaf process as a means of depositing roll leaf onto raised areas in molded plastic. A sheet of silicone-aluminum material is cut slightly larger than the raised area you wish to coat with roll leaf. This silicone plate is mounted on a die holder, and is heated in the head of the stamping press. When the die is brought down to meet the raised portions of the item (with the roll leaf mounted between), the roll leaf coating is released onto those raised portions which the die contacts. The rubber "gives" enough to pick up imperfections caused by shrinkage, tool marks, etc.

THICKNESSES AVAILABLE:

1/32” Silicone bonded to 1/8" aluminum backing 1/16” Silicone bonded to 1/16" aluminum backing
1/32” Silicone bonded to 42" aluminum backing 1/16" Silicone bonded to 1/16" aluminum backing
1/8" Silicone bonded to 34" aluminum backing

KENSOL 15

MAKEREADY MATERIALS:
Red Makeready Board- "Hard," board for plastics 12" k 12") .025" thick.
Cardboard- Smooth, firm, thick, ideal for all genera' stamping.
Black Tar Board- Hard, smooth 'A" thick. 12 sheets 10" x 171/2"
Rubber Sheeting- 60 durometer, approximately XS" thick. Vulcanized to a cloth backing.
Black Thin Rubber Makeready- .011 thick
Cork Makeready- 12" x 12"

KENSOL POWER PRESS LUBRICANTS:
High Temperature Grease- for ram and ram pins - over 50% of breakdowns are caused by improper lubrication. Ordinary SAE-30 oil, applied to the ram and ram pin, breaks down when operating at higher stamping temperatures. Especially used on high temperature silicone rubber roll leaf stamping. Good for temperatures up to 600 degrees Fahrenheit. A pound can includes long handled application brush.

Light #10 Oil- for automatic oiler (internal) lubrication of compressed air parts. This oil does not contain detergents or penetrating additives which will attack packings, causing valves to bind and resulting in erratic time cycles.

TOOLING
Jigs and Fixtures. Work will be studied and price submitted.

MISCELLANEOUS:
Die Bonding Film- Die Bonding Film is a quick, strong method of bonding metal dies to flat die chase.

Double Sided Sticky Tape- is a two sided strong adhesive tape which is used for holding fixtures in place on bed of press.

Type Boxes-
Wood- 49 compartments with sliding cover, type cannot fall out of place even if box is turned over.