Models E and F

ELROD

MANUAL OF INSTRUCTIONS WITH PARTS LIST

NUMBER 8 (Revised)

Instructions

for Operating ELROD Strip-Casting Machine, with List of Parts. Models E and F

8th Edition (Revised)

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How to Order Parts

1. Look up part wanted on Plates 1 to 38 in order to obtain part number.

2. Look up part number in numerical index at back of book. This will refer to page number of parts list containing name of part, and code name if ordered by cable or telegraph.

3. Small parts not illustrated are a part of a larger unit which is illustrated. Look up the larger unit per instructions in 1 and 2 above. The small part will be found listed with the larger unit. Plate 35 shows style numbers of bolts, screws, nuts, dowels and washers. This illustration will assist in identifying these small parts.

4. When ordering parts, give part number and name, and serial number of machine.

5. When ordering electrical parts, give the voltage, and state whether the current is alternating or direct. Also give cycles of alternating current.

6. Please specify whether shipments are to be forwarded by first-class mail, air mail, parcel post, express or freight.

Place your machine Serial Number
here, for convenience in ordering parts:

Serial No._____

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Installation of The Elrod

The minimum space requirements for the Elrod are as follows: Total space required, 6 feet by 9 feet. In this space the Elrod should be placed the long way to leave a space of at least 18 inches between the back of the machine and any obstruction, to provide for cleaning and oiling. A space of at least 2 feet should be allowed at the left end in order to provide room for opening the electric panel box. Also allow a space of 1 foot at the right end. The operator works in front of the machine and requires a minimum of 2½ feet of space. If possible, more room in which to work is desirable.

Electrical Connections: For electric heated machines, the power wires are connected to the control panel box located on the left leg of the machine. Use No. 8 gauge wire for 110 volts, and No. 10 gauge wire for 220 volts. For gas heated machines a No. 14 gauge wire is required for the motor.

Gas Connections: A ½ inch pipe is used for the gas heated machines, and this should be connected to a supply line of sufficient capacity to prevent pressure fluctuation, particularly if other machines are connected to the line. The pressure regulator on the Elrod reduces the incoming pressure to a uniform low pressure, but it cannot function if the main line pressure is reduced suddenly below this low pressure.

Water and Drain Connections: Connections for both inlet and outlet are made at the rear of the machine. A shut-off should be provided on the main water supply pipe line. The water supply line should be ½ inch pipe, which is reduced to ⅛ inch at the machine. The drain pipe should be ¾ inch pipe or larger.

The Elrod is shipped assembled, except for the following parts: motor pulley, metal drip cup, mold cover, molds, pressure oiler weight, water drain sight glass and starting strips. Accessories are separate. In the case of some export shipments the motor is separate.

The Elrod should be placed on a sheet metal plate, preferably on an Elrod Base Tray EC1000, Plate 2, which is furnished as an accessory. This base tray has reinforced edges to keep it flat and to hold oil drippings so they do not spread on the floor and create a slipping hazard.

In placing the Elrod in position, take care to see that there is no twist in the frame as it rests on the floor. The right end of the machine should be lifted about ⅛ inch off the floor by means of a jack or a block and wedge placed under the center of the cross member of the right leg. Place a piece of paper under each foot of the right leg and then lower the machine until one of the papers is lightly gripped by one foot. Then place shims of leads or slugs under the opposite foot. Do not force this shimming material in place. Then remove the jack or block and wedge.

Motor: Except in the case of some export shipments, the motor is mounted in place with the motor lead wires connected. The motor pulley should be placed on the motor shaft with the smaller diameter of the pulley toward the motor. The set screw in the pulley should bear against the flat surface of the motor shaft and be firmly tightened.

In those cases where the motor is shipped separately, the motor should be fastened to the Motor Table EC1126C, Plate 8, with the four screws provided, the pulley side of the motor being away from the crucible end of the machine. The screw connections on the lead wires should be taped with rubber and friction tape.

Direction of Rotation: The motor armature must rotate in a clockwise direction, when facing the motor pulley.

Speed: When the belt runs from the small pulley on the motor to the large pulley on the counter shaft, a speed of approximately 56 strokes per minute will be obtained. When the belt runs from the large pulley on the motor to the small pulley on the counter shaft, a speed of approximately 84 strokes per minute will be obtained.

Metal Drip Cup: The metal drip cup should be kept on the top of the main table, under the mold housing, to catch metal drippings.

Mold Cover: The mold cover drops over the outer end of the mold chamber and should always be in place when material is being produced, for protection in the event the strip breaks. This mold cover supports a sliding plate that is held in place by the material as it passes through the machine. When the material breaks inside of the mold, this plate automatically slips down by gravity and prevents the molten metal from splashing out. When the strip of material breaks outside of this cover, no metal will splash out.

Molds: Each mold bears a serial and a style number. The intake end of the mold has a short slot, a round hole, or several holes. The opposite end has a long, beveled slot and this opening corresponds to the shape of the material to be produced.

The intake end of the mold should be inserted in the mold chamber, with the heads of the screws on the side of the mold facing toward the front of the machine. The mold protrudes about ¾ inch when placed in position.

When casting 18 point or smaller on a Model F, the mold should be placed in the Mold Adapter EC1310½B, Plate 13.

The molds should be kept in the Mold Container, AEC1020A, Plate 19, and Elrod mold oil should be poured in until it just covers the mold baskets.

Pressure Oiler Weight: This is placed in position as shown in illustration on Plate 16. The pressure oiler comes filled with oil. See that sufficient Elrod mold oil is in oil cup.

Sight Glass: This is placed in position over the water drain cup as shown in Plate 14.

Starting Strips: Starting strips are furnished with each machine. These strips are not samples, but are required for the starting operations. When the machine is in operation it is impor-

tant to set aside several full length strips for use as starting strips before the machine is shut down.

Testing: After the machine is set up and all electric, gas and water connections are made, remove the Plunger Pin EC1318B, Plate 7. Turn the machine over by hand a few times and if everything seems to be functioning properly, turn on the motor switch and allow the machine to run for a few minutes.

Observe the action of the machine and the function of each part. See that all bearings and moving parts are thoroughly lubricated. For bearing lubrication use a good grade of machine oil. S.A.E. 20 is a good viscosity to use. NEVER USE ELROD MOLD OIL FOR BEARING LUBRICATION.

If the machine operates smoothly and without effort, turn off the motor switch and replace the Plunger Pin.

Heating Crucible: As the machine is shipped, there is sufficient metal in the electric crucible to just cover and protect the crucible heaters. In the gas crucible no type metal is included. Molten type metal should be put in the gas crucible, if possible, before lighting the gas burners.

Before turning on the heat be sure the machine is in the regular idle position, with the plunger at the bottom of its travel, and that the zero mark on the front of the Puller Slide Cam Housing EC1485, Plates 6 or 12, is in alignment with the zero mark on the puller slide immediately above it. This position of the machine will also bring the zero marks on the hand wheel and on the left end of the table in alignment. The Sealing Valve EC1396D, Plate 2, should be in the closed position—which means turning it to the right, or clockwise—in order to prevent the metal flowing out through the mold housing after it becomes molten.

On the electric heated machine turn on the crucible heater by closing the switch on the control panel box located on the left leg.

On the gas heated machine, light the "Crucible Burner."

The metal level in the crucible should be about ¾ of an inch from the top. It takes about 1 hour and 20 minutes to melt a full crucible of type metal on the electric heated machine, and 1 hour and 30 minutes on the gas heated machine.

Fifteen to 20 minutes can be saved in melting out a full crucible of type metal by turning on the "Bottom Throat" and "Side Throat —High" switches on the electric heated machine, or the "Throat Burner" on the gas heated machine, in addition to the crucible heater. After the metal has attained the proper temperature, turn off all heaters except the crucible heater, until ready to begin actual production.

The thermostat on the electric heated machine is adjusted when it leaves the factory and should automatically maintain the temperature of the metal in the crucible between 590° and 600° Fahrenheit when heated and the machine is idle. Use a thermometer to check the operation of the thermostat when machine is installed. If the thermostat is out of adjustment it may be readjusted as explained in the section "Fixed Adjustments of The Elrod."

The Gas Heated Elrod: The gas crucible, which is shown on Plate 3, has a crucible burner, a throat burner and a mold housing

burner. The arrangement of the gas supply and heating system is shown in its entirety on Plate 15. The crucible burner is automatically controlled by a thermostat which maintains the temperature between 585° and 600° Fahrenheit.

The gas thermostat is adjusted at the factory, but may have to be readjusted for local gas conditions by turning the Gas Governor Adjusting Screw EC1816, Plate 3, as desired, using a thermometer to check the thermostat.

The throat burner is used to maintain the temperature of the metal in its passage from the crucible through the throat to the mold. All variation in heat is by manual control of the throat burner.

The mold housing burner is used for sealing and unsealing the mold and should not be used when material is being produced. **To avoid overheating the mold and consequently damaging it, the operator should never leave the machine during the sealing or unsealing operation.**

A pilot light is located within the crucible casing. The crucible burner may be lit by opening its valve and depressing the Pilot Light Valve 397, Plate 3.

The spud in each of the burners calibrates the quantity of gas. Two extra spuds are furnished for each burner, so exact control of gas can be made. The air mixer sleeve on the burners controls the amount of air. The proper mixture of air and gas is one that will burn clean without "popping," and that will direct the hottest portion of the flame to the surface to be heated. A piece of $\frac{1}{16}$ inch iron wire placed in the path of the flame will disclose the hot and dead portions of the gas flame.

Aside from the fact that perhaps a little closer attention must be given to the proper regulation of heating and cooling conditions, which the nature of gas fuel makes necessary, the operation of the gas heated and electric heated machines is very similar, and instructions for the operation of the electric heated machine will apply to the gas heated machine.

How to Start The Elrod

Following are condensed instructions to be used as a guide for sequence of operations. Complete instructions for performing each of these operations are on following pages. These instructions have the same consecutive numbers as below.

1. Prepare mold.
2. Turn on heaters.
3. Check following operating adjustments:
   - (a) Cutter adjustments.
     - 1a. Cutter head guide plate.
     - 2a. Material guide plate.
     - 3a. Material gauge.
     - 4a. Material stacker.
     - 5a. Tension lever.
     - 6a. Material holding catch.
     - 7a. Stationary knife.
   - (b) Material clamp plate.
   - (c) Puller mechanism.
     - 1c. Gauge blocks.
     - 2c. Release plate and puller wedge shim.
     - 3c. "No Pull" adjustment.
     - 4c. Intermittent stroke.
   - (d) Motor pulley.
   - (e) Plunger pressure.
4. Prepare starting strip.
5. Clean mold housing, insert mold.
   - (f) For sizes below 6 point insert puller wedge shim and release plate after mold is inserted.
6. Insert starting strip and put on mold sealing plate.
7. Open sealing valve and seal mold.
8. Pump air from mold chamber.
9. Adjust heaters.
10. Set plunger lever lock for 6 point and larger.
11. Turn on motor.
12. Gradually adjust pull to maximum.
13. Remove plunger lock after running 2 or 3 strips.
14. Adjust pressure oiler.

1—Prepare Mold

The Mold Container AEC1020A, Plate 19, is mounted on the rear of the machine. Elrod Mold Oil AEC1250A is poured in this container until it just covers the Mold Baskets AEC1022 and AEC1023. The molds are placed in these mold baskets when not in use. To prepare a mold for use, remove it from its mold basket and set it upright, small end down on top of the remaining molds. It will be drained and ready for use if this is done as the first operation in starting the Elrod.

Additional information on molds is contained in section on "Maintenance."

2—Turn on Heaters

When the type metal in the crucible is cold, the crucible heater should be turned on 1 hour and 30 minutes before starting the Elrod.

On the electric heated Elrod the switch on the Panel Box A302EC, Plate 2, should be turned on to heat the crucible. On the gas heated Elrod the "Crucible Burner" is turned on.

When the type metal in the crucible is molten, turn on the "Bottom Throat," "Side Throat—High" and "Sealing" switches on the left front of the electric heated Elrod. On the gas heated Elrod light the "Throat Burner" and "Mold Housing Burner."

If the metal is cold and the machine is not set at zero, it would mean that the mold has been carelessly left in when the motor was turned off. In this case turn on the heat in the crucible only, and as soon as the type metal is melted, set the machine to the zero position and see that the sealing valve is closed before turning on any other heaters. If this is not done, the metal will flow out of the crucible.

The metal level in the crucible should be kept to about ¼ of an inch from the top. A metal feeder is desirable in order to maintain proper metal level, even temperature, uniform product and saving of operator's time.

The temperature of metal in the crucible is maintained between 590° and 600° Fahrenheit by the thermostat. Instructions on adjustment of thermostat are in "Fixed Adjustments" section, and on care of thermostat in "Maintenance" section of this book.

3—Check Operating Adjustments

By referring to the following table, select the parts necessary for the material to be produced, if they are not already on the machine.

(a) CUTTER ADJUSTMENTS:

1a. **The Cutter Head Guide Plate** EC1622F, Plate 26, is adjusted to the size of the material to be produced, by raising the Knurled Knob EC1622½B, Plate 26, and turning to size wanted. This is shown on numbered dial just below the knob.

2a. **Material Guide Plate** EC1604B, Plate 25, is located at the rear of the material table, and is adjusted by means of two knurled

MACHINE CHANGES FOR DIFFERENT POINT SIZE MATERIALS

Model E

Material Sizes	Release Plate	Material Clamp Plate	Stationary Knife	Material Holding Catch	Puller Wedge Shim
1-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451½A
1½-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451
1½-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
2-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451½A
2-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
3-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
3-Pt. Twin	EC1497C	AEC1542½C	EC1619½A	EC1625C	AEC1450½A
4-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
6- to 18-Pt.	EC1497C	AEC1542½C	EC1619½A	EC1625C	AEC1450½A

Model F

1-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451½A
1½-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451
1½-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
2-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451½A
2-Pt. Twin	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
3-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
3-Pt. Twin	EC1497C	AEC1542½C	EC1619½A	EC1625C	AEC1450½A
4-Pt.	EC1498C	AEC1542½C	EC1619½A	EC1625C	AEC1451¼
6- to 18-Pt.	EC1497C	AEC1542½C	EC1619½A	EC1625C	AEC1455A
24-Pt.	EC1495C	EC1538	EC1607½A	EC1624C	AEC1455A
30-Pt.	EC1491C	EC1539	EC1616A	EC1624C	AEC1455A
36-Pt.	EC1491C	EC1539	EC1616A	EC1624C	AEC1448C

wheels located at the rear of the guide plate. The material table is marked in point sizes from 2 to 18 point just in front of the guide plate. Adjust each end of the guide plate to the point size material to be run. For sizes larger than 18 point adjust the guide plate as far to the rear as possible. Then as soon as a strip is made, adjust the guide plate to the strip being produced.

3a. **The Material Gauge,** Plate 28, is adjusted to the length of material wanted by pressing on the Plunger EC1664B, and sliding the gauge on the Operating Rod EC1628C to pica length wanted. Points plus or minus are obtained by turning the Knurled Gauge Dial EC1665C. The material gauge is used as shown on Plate 28 for measures over 120 picas. By loosening Knurled Clamp Screw EC1671B, the Gauge Stop AEC1670D can be removed, turned upside down and replaced for lengths below 120 picas. It has been found that the minimum amount of metal is used when strip material is cut in long lengths and sawed to length as required. When running 1-point material, cut a strip of 12 point or larger of the length desired, and place it between stacker and material guide plate to prevent buckling of the thin material.

4a. **The Material Stacker** AEC1743D, Plates 2 and 8, consists of a guide sliding on the material table. It is attached to two chains, which keep the stacker parallel to the outcoming material. A slight tension is exerted upon the stacker, to keep it against the material. This tension is varied by regulating the spring adjustment knob located on Shaft EC1740A, Plate 5, at rear of material table. Very little pressure is required for the thicker sizes, more pressure being used to prevent buckling when cutting off long strips of thin material.

5a. **The Cutter Head Tension Lever** EC1770, Plate 2, is adjusted by means of a handle located under the material table and behind the Brace EC1640B. For small sizes or slow machine speed, very little tension is necessary. For large sizes or high machine speed, increase the tension on the cutter head by pulling the lever to the right. Use only as much tension as is necessary to insure return of the cutter head to the left or starting position, before the next strip moves the cutter head to the right.

6a. **The Material Holding Catch** EC1624C, Plate 26, must be used on the Model F when running 24 or 36 point. This catch is stamped "24 Point" on one edge and "36 Point" on opposite edge, and the proper size must be face up. When running sizes below 24 point, the Material Holding Catch EC1625C must be used. The material holding catch holds the strip that has been cut off out of the way of next strip that is being made.

7a. **The Stationary Knife** must be changed on the Model F machine if sizes 24 point and larger are to be made. For 24 point material use Stationary Knife EC1607½A, and for 30 and 36 point material use Stationary Knife EC1616A, Plate 26. In order to make this change, first disconnect the Movable Knife Spring EC1620F, Plate 26, from the spring stud attached to Movable Knife Operating Lever AEC1613½B, and let the spring hang from the rear spring stud.

Next back off the Stationary Knife Adjusting Screw EC1618½A. Then remove the two screws EC1219 and remove the stationary knife. Then put the stationary knife that is to be used in position and put the EC1219 screws back in position, but do not tighten

them. Next, push the Movable Knife EC1620½, Plate 26, all the way forward. Now bring the stationary knife up against the movable knife, so they barely touch. In this position bring the Stationary Knife Adjusting Screw EC1618½A, Plate 26, to just bear against the angular side of the stationary knife. Then tighten the two Screws EC1219 and work the movable knife back and forth a few times to make sure that it does not strike the stationary knife, yet will just shear a piece of cigarette paper held between the two knives. Readjust as necessary to obtain this smooth action. Then give the two Screws EC1219 another tightening to be sure they will hold. Then reconnect the Movable Knife Spring EC1620F. Caution: See that the cut-off eccentric stud is properly adjusted, per instructions under "Fixed Adjustments."

(b) THE MATERIAL CLAMP PLATE AEC1542½C, Plate 6, is used on Model E and F for sizes up to 18 point. On the Model F, EC1538 is used for 24 point and EC1539 is used for larger sizes. Table on page 7 also shows plates to use.

To change plates, first remove Material Guide Roller Adjusting Screw EC1554A, Plate 6, and swing material guide roller to a vertical position. A spring on the lower end of the adjusting screw is also to be removed.

There are two small screws just below the material guide roller, which hold the material clamp plate. Back these off and remove the plate and put in material clamp plate that is to be used for the size material to be run. Put parts back in reverse order to the way they were taken off.

(c) PULLER MECHANISM:

1c. Gauge Blocks: The puller mechanism, illustrated on Plates 6 and 12, must be set to accommodate the size of material to be produced. This is done by placing the numbered gauge blocks on the front of the puller slide so the number that corresponds to the size of the material to be produced is just at the left of the Puller Wedge Housing Hinge AEC1463A or AEC1463½A. All other blocks are placed to the right of the hinge.

For example, to produce 12 point material, all the blocks up to and including the 12 point block would be placed at the left side of the hinge, and the others at the right side.

The Gauge Block Lock AEC1666½ that covers the gauge blocks serves to hold them securely in place. It is swung out or into locked position by movement of handle, located on left side.

2c. The Release Plate and the Puller Wedge Shim for sizes 6 point and larger are now changed if necessary. Refer to table on page 7 for correct parts to be used for size of material to be produced. The Release Plate, shown as EC1497C and EC1498C on Plate 5, and EC1491C and EC1495C on Plate 11, is easily removed by pushing both ends toward the rear, and is put in place by reversing the operation.

The Puller Wedge Shim, illustrated in position on Plate 7 as AEC1448C, is easily removed from the Puller Wedge AEC1460C by either lifting the puller wedge out and lifting the shim off and exchanging it, or the shim can be pushed off and replaced with the puller wedge in position. The shim cannot be put in backwards.

Release plate and puller wedge shims for sizes below 6 point are inserted after the mold is in position, as the mold cannot be inserted or taken out when these parts are in position.

Caution: When lowering puller wedge on Model F, see that Ratchet Pawl AEC1075, Plate 12, is set in "Off" position.

3c. To adjust for "No Pull," first loosen Lock Screw EC1479A, Plate 12, and turn Knurled Knob AEC1477, Plate 12, until the figure 1 on the Stroke Adjusting Slide EC1475A is a little to the right of the point size being run on the Point Size Index Plate EC1496B, Plate 12.

For example, if 12 point is being run, adjust the figure 1 on the stroke adjusting slide so that it is about ⅛ of an inch to the right of the figure 12 on the index plate.

This setting is for starting only. Later the stroke should be gradually increased to approximately the length of stroke listed in the operating table on page 14. For example, if 12 point is being made, and a 6 pica stroke is wanted, the Knurled Knob AEC1477 is turned until the figure 6 on the stroke adjusting slide is opposite the figure 12 on the index plate.

Note: After adjusting puller mechanism, open the puller wedge housing by releasing the Wedge Lock Knob EC1466, Plate 12, and swing out the gauge blocks to the right of the hinge, and push the housing to the right and swing upward. This must be done before inserting starting strip.

4c. The Intermittent Stroke Mechanism is adjusted to the "On" position on the Model F machine for sizes 24 point and larger. When in the "On" position, the pulling mechanism is idle for two strokes, then pulls one stroke, then idles again, etc. This is necessary to allow the larger sizes of material sufficient time to cool before being pulled from the mold.

In order to set to "On" position, lift the knob on the Ratchet Pawl AEC1075, Plate 12, and push toward the left. To set to "Off" position push toward the right and see that the knob is fully seated.

Caution: The pawl must be in "Off" position when puller wedge is lowered, also when running material below 24 point.

(d) MOTOR PULLEY: Use slow speed for 6 point rule, and 12, 18 and 36 point cored molds, by placing belt over small pulley on the motor, and the large pulley on the counter shaft. All other material is run at high speed, by placing belt over large pulley on the motor, and the small pulley on the counter shaft.

(e) PLUNGER PRESSURE: The distance between the bottom of Plunger Rod Clevis EC1316A, Plate 19, and the top of Plunger Spring EC1323, Plate 19, is 3⅜ inches for all ordinary operations.

The Adjusting Nut EC1113½, Plate 19, which is on top of the plunger spring, is adjusted up or down for the following conditions:

Sometimes conditions are improved on 1 point material and 2 point hairline by increasing the plunger pressure. When this is required, turn adjusting nut down, so there is a clearance of about 3⅜ inches between the bottom of the plunger rod clevis and the top of plunger spring.

When new cored molds are used it is advisable to reduce the

plunger pressure. When this is required, turn adjusting nut up, so there is a clearance of about 2⅜ inches between the bottom of the plunger rod clevis and the top of plunger spring. When cored molds have been in use for some time, use the standard 3⅛ inch adjustment.

4—Prepare Starting Strip

ALL STARTING STRIPS MUST BE SHAVED UNDERSIZE so they will enter the mold easily, thereby avoiding any possibility of damage to the inner surface of the mold.

The strip of material is laid on a flat surface and an Elrod Material Scraper AEC1582, Plate 34, is pulled over the material three or four times, removing a slight amount of material on the two sides, and the top and bottom, for a distance of about 4 inches from the end.

For 18, 24 and 36 point cored molds, proceed as follows: Using the proper reamer, ream the core holes for a distance of at least two inches and scrape off about one-half point of material from each of the four sides of the material for a distance of about four inches from the reamed end.

When properly prepared, the starting strip should slide easily into the mold for about two inches. If it doesn't, the starting strip has been improperly prepared. NEVER FORCE THE STARTING STRIP INTO THE MOLD. Cored molds are particularly easy to damage if force is used.

When Starting Strip Is Not Available: Use two or more smaller size strips that will total the point size of mold. Shave the outsides of the combined strips.

For 12 point hollow slug mold, use a 2 point lead and 6 point slug for the center and a 2 point lead for each side. Scrape the side leads and push them into the mold. Push the two middle strips against end of core. After the mold is heated, keep shoving the two outside strips into the mold as you open the sealing valve, meanwhile be sure the center strips are kept firmly pressed against the core.

5—Clean Mold Housing, Insert Mold

When metal in Cooling Indicator, Plate 1, is molten, clean out the mold housing with the Mold Housing Scraper AEC1715B, Plate 31.

Take the mold which has been draining, wipe off excess oil, and insert in mold housing, with the intake end pushed lightly against the diffusion tube, and the heads of the screws facing toward the front of machine. If it does not slide in freely, use the mold housing scraper again.

On Model F machines, 18 point and smaller molds must be inserted into the Mold Adapter Plate EC1310½B, Plate 13, before inserting the mold into the mold housing. The bottom of the mold should be even with or slightly below the adapter plate.

(f) Puller wedge shims and release plates for sizes below 6 point are made longer than for sizes 6 point and larger. The

mold cannot be inserted when these parts are in place, so these parts have to be inserted after the mold is in place, and they must be taken out before the mold is removed.

6—Insert Starting Strip

Place the prepared starting strip in position by first swinging the Material Holding Catch EC1624C or EC1625C, Plate 26, upward, then press the Handle EC1549A, Plate 12, to the rear, which pulls the Material Clamp Plate (movable) EC1545C with it. When this is done the strip can be pushed through the puller mechanism with the puller wedge housing in the open position as shown in Plate 7.

Then swing the puller wedge housing into position by swinging it toward the back and down, and then push it toward the left while holding the wedge lock, and lock it with the Wedge Lock Knob EC1466. Swing the gauge blocks on the right of the hinge into position, and then push the starting strip **gently** into the mold. NEVER DRIVE THE STARTING STRIP, AS THIS WILL ALWAYS DAMAGE THE MOLD. If starting strip does not go in easily, remove it and scrape it some more.

Lay a 2 point strip on the material table and let the right-hand end of the starting strip rest on it when sealing the mold. This helps to keep the mold parallel during the sealing operation.

If a twin mold is being used, insert the Twin Lead Separator EC1536A, Plate 34, between the strips and then slip it onto the stud protruding toward the rear of Material Clamp Plate AEC1542½C, Plate 6.

Push the material holding catch down into operating position.

Now place the sealing plate over the end of the mold, pressing it against the mold housing. AEC1019, Plate 13, is used for Model E machine, and AEC1069 is used for Model F machine.

7—Open Sealing Valve, Seal Mold

At this point the metal in the Cooling Indicator, Plate 1, should be entirely melted.

Wait until the mold is hot enough so that the starting strip which is held gently against the mold begins to melt. When this point is reached the starting strip will slide in freely.

Then, while pressing the strip slowly and constantly into the mold, open the Sealing Valve EC1396D, Plate 2, by turning it counter-clockwise, one-quarter of a turn.

After a few seconds the molten metal will start to flow around the **top and sides** of the mold and trickle into the Metal Drip Cup AEC1337B. Then slowly turn the Water Valve EC1195, Plate 14, to the "On" position. This will allow a stream of water to flow around the mold chamber and will stop the flow of metal by "freezing" it.

8—Pump Air from Mold Chamber

As soon as the metal is "frozen" around the front end of the mold, close the sealing valve and then pump air from the mold chamber by operating the Plunger Lever Handle EC1315C, Plate 2, up and down once or twice by hand.

If this is not done, with the sealing valve closed, air trapped between the mold and the mold housing may prevent the proper solid sealing-in of the mold which is so important, or trapped air inside the mold may prevent proper joining of the starting strip, which would necessitate starting over again with operation 7.

When the water flows evenly in the Water Drain Sight Glass EC1294, Plate 14, reduce the flow so that the housing will not chill too quickly.

Adjust the water as indicated on chart on page 14. This chart is based on unusually cold water, so it may be necessary to use a slightly larger stream of water. The matter of water regulation is very important, so after experience is gained as to the best regulation under the particular conditions in the plant, a special chart should be made up to fit these conditions. See "Correct Appearance of Strip" on page 15 for information on how to recognize the best operating condition.

Now remove the sealing plate, and put Mold Cover AEC1328C in place. This covers the end of the mold, and has a sliding plate that rests on the strip.

Note—Never leave the machine during sealing operation.

9—Adjust Heaters

Turn off the "Sealing" switch on electric heated machines and shut off "Mold Housing Burner" on gas heated machines.

Adjust "Bottom Throat" and "Side Throat Heaters" on electric heated machines as shown in table on next page.

Adjust "Throat Burner" on gas heated machines approximately the same as indicated for "Side Throat Switch" in table on next page. The exact adjustment is obtained by observation of the cooling mark on the strip of material. See "Correct Appearance of Strip" on page 15.

10—Set Plunger Lever Lock

Setting the lock is done by pressing down on the plunger lever handle with the left hand and turning the Plunger Lever Lock EC1316½, Plate 9, into position with the right hand. This holds the plunger in an inoperative position at the top of its stroke, and metal flows into the mold chamber by gravity through the port hole.

The use of the plunger lever lock is a safety measure on sizes 6 point and larger, because if too large a part of the metal in the indicator is molten, the congealing point of the strip is near the front of the mold, and if the plunger is operating when starting, it is possible that the down stroke of the plunger will push the strip out of the mold.

Do not use the plunger lever lock for sizes smaller than 6 point.

11—Turn on Motor

Before turning on motor, see that instructions in (d), page 10, have been carried out in regard to motor speed.

The time interval between turning on water and turning on

Operating Conditions

Material	Speed	† Stroke in Ems	Bottom Throat Switch	Side Throat Switch	† Diameter of Water Stream	Portion of Indicator Which Is Melted
1 Pt. Lead	High	3	On	High	1/8 inch	1/2 inch
1½ Pt. Lead	High	4	On	High	1/8 inch	1/2 inch
1½ Pt. Lead (Twin)	High	4½	On	High	1/8 inch	1/2 inch
1½ Pt. Rule	High	4	On	High	1/8 inch	1/2 inch
2 Pt. Lead	High	6	On	High	1/8 inch	1/2 inch
2 Pt. Lead (Twin)	High	5	On	High	1/8 inch	5/8 inch
2 Pt. Rule	High	5	On	High	1/8 inch	3/4 inch
3 Pt. Lead	High	7	Off	Low	1/8 inch	1/4 inch
3 Pt. Lead (Twin)	High	6	Off	Medium	1/4 inch	3/8 inch
3 Pt. Rule	High	6	Off	Low	1/8 inch	1/4 inch
4 Pt. Lead	High	5½	On	Low	1/8 inch	3/8 inch
4 Pt. Rule	High	5	On	Low	1/8 inch	3/8 inch
6 Pt. Slug	High	5-6	Off	Medium	1/4-5/16 inch	1/4-3/8 inch
6 Pt. Rule	Low	4-5½	Off	High	1/4 inch	1/2 inch
12 Pt. (Cored)	Low	3½-6	Off	Low	3/16-5/16 inch	3/16-1/4 inch
18 Pt. (Cored)	Low	3-5	Off	Low	1/4-5/16 inch	3/16-1/4 inch
*24 Pt. (Cored)	High	4-6	Off	Low	5/16 inch	3/16-1/4 inch
*30 Pt. (Cored)	Low	4-6	Off	Low	5/16 inch	1/8-3/16 inch
*36 Pt. (Cored)	Low	4-6	Off	Low	5/16 inch	1/8-1/4 inch

*NOTE: The 24, 30 and 36 Point sizes are run with intermittent stroke.

†Due to variations in water temperature, metal and heating conditions, the stroke and water should be adjusted to individual plant conditions so that correct appearance of strip is obtained as explained on Page 15.

motor is critical for each size of material, and operating judgment is required for best results, as temperature of mold housing and temperature and volume of water affect results. Following is a guide for judging proper time to start the motor:

Observe the metal in the cooling indicator. For 1 and 2 point material, the motor should be started as soon as there is any indication of freezing on the right end of the indicator. For 6 point material start motor when indicator is ¼ frozen. For 12 point start motor when indicator is ½ frozen, and for larger sizes start motor when indicator is ¾ frozen.

Correct Appearance of Strip

The best way to judge correct heat is by observing the shape of the cooling mark on the strip of material.

When heat is too low, the cooling mark will be almost straight.

When heat is just right, the cooling mark will be a crescent.

When heat is too high, the cooling mark will be arrow-shaped.

12—Gradually Adjust Pull to Maximum

After several revolutions of the machine, turn Knurled Knob AEC1477, Plate 12, until the figure 1 on the Stroke Adjusting Slide EC1475A is a little to the left of the point size being run, and then gradually increase the pull of the puller wedge to the specified ems indicated on the chart on page 14. The smaller sizes of material can be brought up to the maximum pull faster than is possible with the larger sizes of material.

After the maximum pull has been obtained, tighten the Lock Screw EC1479A, Plate 12.

Sometimes when starting, the first few strokes will carry too much oil. Frequently this causes the puller wedge to slip. If it continues to slip, the puller wedge can be helped along by pressing toward the right on the Wedge Crank AEC1470, Plate 6, at each stroke until the oil disappears from the puller wedge and from the strip of material.

13—Unlock Plunger Lock

After running two or three strips of 6 point or larger material, unlock the Plunger Lever Lock EC1316½, Plate 9, by swinging it out of locked position while the machine is running.

14—Adjust Pressure Oiler

Allow the machine to operate long enough to use up the excess oil in the mold housing, and then turn on the Pressure Oiler Shut-Off Valve EC1259, Plate 17. Then set the Pressure Adjust-

ing Lever EC1277A, Plate 17, so that the proper amount of oil appears on the strip.

Move the pressure adjusting lever to the left (as one faces the front of the machine) to decrease the pressure, and to the right to increase it. Larger materials, with greater shrinkage, require less oil than smaller materials with less shrinkage.

Too little oil or the absence of oil are indicated by the material having an excessively bright, dry appearance, particularly at the top of the sidewalls of the strip. This condition is very injurious to the mold, and the machine must not be operated without oil on the strip.

Excessive oil appears as a heavy, greasy film on the material, and the printing surface will probably have a ragged and irregular edge, or may be marked at intervals with a "break" or "pit" in the face.

The ideally lubricated material shows a uniform gray sheen on the upper part of the sidewalls of the strip, the balance of the strip being smooth and bright, with a smooth, unbroken printing face.

With a little practice the operator will be able to gauge quickly and correctly the proper setting of the oiler to obtain the ideally lubricated material.

As the oil under pressure is consumed, the pressure adjusting lever will be pulled downward by the weight until it reaches the bottom limit of its travel. Just before this takes place, close the shut-off valve, raise the lever to the top of its travel, and again open the shut-off valve. This recharges the oiler for several hours.

Keep the oil reservoir in the outer section of the oiler full. Do this twice a day.

If the level of oil is allowed to fall below the port in the pressure cylinder, air will be drawn into the cylinder when the piston is raised for recharging. An air bubble will interfere with the proper functioning of the oiler.

To remove air from the oiler, close the shut-off valve, put oil in the cup and pump the pressure adjusting lever up and down, and continue putting oil in the cup until it remains full, after pumping. Then loosen the union at the top of the diffusion tube one turn and open the shut-off valve slowly so that the oil and bubbles of air will be forced out of the end of the oil feed line. As soon as the bubbles stop coming out, close the shut-off valve and tighten the union.

Then open the shut-off valve two or three turns so that a very small quantity of oil is forced out of the bottom of the oil diffusion tube. This will be visible in the form of smoke coming out of the mold chamber. Then close the shut-off valve, and the oiler is now ready to operate.

It is exceedingly important that the right kind of oil be used. The use of any other oil than Elrod mold oil will result in poor material, damaged molds and unsatisfactory results. THE NECESSITY OF USING THIS PARTICULAR OIL CANNOT BE STRESSED TOO MUCH. The Ludlow Typograph Company carries a supply for the convenience of its customers, packed in one and five gallon cans.

How to Stop The Elrod

Following are condensed instructions to be used as a guide for the sequence of operations. Complete instructions for performing each of these operations are on following pages. These instructions have the same consecutive numbers as below.

15. Shut off motor after setting aside starting strips.
16. Turn hand wheel to zero position.
17. Open and close sealing valve.
18. Change heaters to maximum heat, and turn on sealing heaters.
19. Shut off water.
20. Shut off oil.
21. Wait for mold seal to melt out.
22. Remove and clean mold and put in oil.
23. Shut off heaters, except crucible heater.
24. Clean mold housing.

EMERGENCY STOP:

25. Pull plunger rod clevis pin.
26. Shut off motor.
27. Pull plunger lever all the way up by hand.

15—Shut Off Motor

Motor switch is located on left end of panel on front of machine.

Be sure that several full length starter strips have been laid aside before stopping the machine.

16—Turn Hand Wheel to Zero Position

Turn hand wheel located at left end of machine until zero mark on hand wheel is in alignment with zero mark on the left end of the table immediately above it. At this point the zero mark on the Puller Slide Cam Housing EC1485 must be in alignment with the zero mark on the puller slide immediately above it.

17—Open and Close Sealing Valve

When the machine is stopped on zero position as previously instructed, the plunger is on the downward stroke and there is metal under pressure between the mold and the bottom of the plunger.

To relieve this pressure, open up the Sealing Valve EC1396D, Plate 2, by turning it one-quarter turn counter-clockwise.

Then pull upward on the Plunger Lever Handle EC1315C, Plate 2, which will force the Plunger EC1327A, Plate 1, to the bottom of its travel and will relieve the pressure below it. If this is not done, a considerable quantity of metal will flow out of the mold chamber with the removal of the mold.

Then close the sealing valve by turning it one-quarter turn clockwise, or toward the rear of the machine. If this is not done, the metal in the crucible will flow out when the mold is unsealed.

Remove Mold Cover AEC1328C and leave the Metal Drip Cup AEC1337B in place.

18—Change Heaters to Maximum Heat

On the electric heated Elrod turn on the "Bottom Throat," "Side Throat—High" and "Sealing" switches on the left front of the machine.

On the gas heated Elrod turn the "Throat Burner" and "Mold Housing Burner" to maximum.

19—Shut Off Water

Turn the Water Valve EC1195, Plate 14, to the OFF position. At this time the sealing heaters are on and the water is drained out of the machine.

The operator must not leave the machine until the mold is removed and the heaters shut off.

20—Shut Off Oil

Shut off the Pressure Oiler Shut-Off Valve EC1259, Plate 17, and move the pressure adjusting lever all the way to the left to relieve pressure.

21—Wait for Mold Seal to Melt Out

When the cooling indicator is entirely melted the metal seal will also be melted and will run into the drip cup.

As mentioned before, **do not leave the machine at this time.**

22—Remove and Clean Mold and Put it in Oil

If the mold does not come out readily, do not try to force it, but wait a minute or so until it is hotter and the metal around the sides of the mold is more liquid. The mold can then be pulled out easily with the special Pliers AEC1520, Plate 34.

Holding the mold with the pliers, immerse the mold in the crucible with the large opening downward and hold it there until the chilled metal is melted. Pour some of the Elrod mold oil into the small opening and dip the mold up and down a number of times in the metal. Then, with the large end downward, **tap the mold gently on a block of wood** to remove the metal and dirt.

Hold the mold up to the light, look through the small end of the mold cavity to see if there is any metal or foreign substance adhering to the inner surfaces. If there is, reheat, oil, and tap on wood until the inside of the mold is absolutely clean.

Wipe off the outer surface of the mold with a clean rag and immerse the mold, while still hot, in Mold Container AEC1020A, Plate 19. This container should have sufficient Elrod mold oil in it to cover the baskets at all times.

If the mold should stick in the housing so it cannot be removed with the pliers, the special Mold Remover AEC1655A, Plate 34, can be used. If this has to be done, there is an accumulation of dirt and dross in the mold housing that must be cleaned out.

The crucible throat behind the mold housing should be cleaned every three months to keep the METAL PASSAGE free from dirt and dross. Remove the diffusion tube and remove the dirt and dross with a long, flat metal tool.

Note: DO NOT LEAVE MOLD IN MACHINE OVER NIGHT.

23—Shut Off Heaters Except Crucible Heater

As soon as the mold is removed, shut off the "Sealing" heater on electric heated machines, and turn off the "Mold Housing Burner" on gas heated machines, unless another mold is to be inserted immediately.

If the machine is to stand for some time, turn off all switches except control panel switch on the electric heated machine, and turn off all burners except the "Crucible Burner" on the gas heated machine.

If machine is to be shut down, then turn off all switches on the front of the machine, and the control panel switch on electric heated machines, and all burners on the gas heated machine.

24—Clean Mold Housing

After the mold is removed the mold housing is well heated up, and this is the best time to use the Mold Housing Scraper AEC1715B, Plate 31, for thorough cleaning.

EMERGENCY STOP

It sometimes happens that the machine is stopped with the plunger in a raised position, or a mold loosens from improper sealing in the starting operation. The metal in the crucible will drain out through the mold chamber or the mold under these conditions unless this emergency stop is used promptly.

25—**Pull Plunger Rod Clevis Pin.** The quick removable Plunger Rod Clevis Pin AEC1319A, Plate 2, has been designed to permit the plunger to be lowered, regardless of the position of the machine. It is only necessary to grip the knurled head of the clevis pin and pull the pin out.

26—**Shut Off Motor.**

27—**Pull Plunger Lever All the Way Up by Hand.** By pulling the handle of the Plunger Lever EC1315C, Plate 2, up, the plunger is forced down, closing the port. If the sealing valve is also closed, no metal can escape through the mold chamber.

Fixed Adjustments of The Elrod

Following are the fixed adjustments that are covered in this section:

Clamp mechanism adjustment, page 22.

Cut-off eccentric stud adjustment, page 22.

Electric circuits:

- Electric crucible circuit, page 22.
- Motor circuit, page 22.
- Switch and panel circuit, page 23.
  (Throat and Sealing heaters.)
- Thermostat circuit, page 23.
- 100 to 150 volt equipment, page 23.
- 200 to 250 volt equipment, page 23.

Plunger height adjustment, page 23.

Plunger spring adjustment, page 24.

Positive pull-back adjustment and safety mechanism, page 24

Puller slide gib adjustment, page 24.

Stationary knife adjustment, page 25.

Thermostat adjustment, page 25.
(For thermostat on left side of crucible.)

Gas thermostat adjustment, page 26.

Clamp Mechanism Adjustment

Set machine to zero position. See that Material Clamp Plate EC1542½C, Plate 6, is in the machine.

The amount of travel given the Material Clamp Plate (movable) EC1545C, Plate 6, is controlled by the Material Clamp Lever Fulcrum Pin EC1510, Plate 7.

The fulcrum pin may be turned after loosening the Set Screw EC1322, Plate 7.

The proper adjustment is one that enables the clamp to just grip a piece of the thinnest material to be produced. Then lock the set screw.

Cut-Off Eccentric Stud Adjustment

Set machine to zero position. Pull out Plunger Clevis Pin AEC1319A, Plate 2. See that Movable Knife Spring EC1620F, Plate 26, is connected to its spring studs. Move the Cutter Head, Plate 26, to the right ¼ inch and block it there with a strip of 18 point material inserted between the cutter head and its left stop.

The Model E has only one stationary knife, but before making this adjustment on the Model F, see that the 36 point Stationary Knife EC1616A, Plate 26, is in position.

Now turn the machine over until the Cut-Off Lever AEC1522½, Plate 10, has pushed the Movable Knife EC1617C or EC1620½, Plate 26, as far toward the front as it will go.

In this position the bottom of the movable knife should pass the stationary knife approximately 1/16th of an inch.

If this adjustment is not correct, loosen Set Screw EC1322, Plate 4, and turn the Fulcrum Pin EC1510, Plate 4, until the bottom of the movable knife passes the stationary knife approximately 1/16th of an inch. Then lock the set screw.

Electric Crucible Circuit

Refer to Plate 23 for the crucible heater circuit. The main feed wires enter the bottom of the control panel and are connected to the terminals at the bottom of the control panel hand switch as shown on Plate 23.

From the two upper terminals of the control panel hand switch, the current passes through the crucible heater fuses, the magnetic switch and then from terminals No. 3 and No. 4 to the two crucible heaters. The opening and closing of the magnetic switch is controlled by the action of the thermostat.

All terminals and wires are plainly marked to correspond to the markings as shown in the diagrams on Plates 22 and 23. Plate 22 shows only the parts affected by the hookup necessary for 110 volt circuits.

Motor Circuit

From the two upper terminals of the control panel hand switch, the current passes through the motor fuses, the motor switch and then to the motor. See Plate 23.

Switch and Panel Circuit
(Throat and Sealing Heaters)

From terminals No. 1 and No. 2 in the control panel, there are two wires which lead to the five tumbler switches (throat and sealing heater switches) of the switch panel, and from there the circuit includes: Four resistors which are mounted in a housing just below the switch panel. Two side throat heaters. One bottom throat heater. Two sealing heaters.

Thermostat Circuit

Refer to Plate 23. The thermostat circuit is connected to terminals C, L and H in the control panel.

100 to 150 Volt Equipment

In the 100 to 150 volt equipment, the resistors, side throat and sealing heaters are connected in parallel as shown on Plate 22, otherwise the wiring is the same as for 200 to 250 volt equipment shown on Plate 23.

200 to 250 Volt Equipment

In the 200 to 250 volt equipment, the resistors, side throat and sealing heaters are connected in series as shown on Plate 23.

Plunger Height Adjustment

The correct setting of the Plunger EC1327A, Plate 1, is with the bottom of the plunger 3/16ths of an inch above the top edge of the port in the well, when the plunger is at the highest point of the stroke.

Turn the machine until the plunger is at the top of its stroke, with a mold in the machine, and the water turned on.

Disconnect the Plunger Connecting Rod EC1321½A, Plate 7, by pulling out Plunger Connecting Rod Pin EC1318B, Plate 7.

Take a piece of 1/16th inch rod and bend a right angle at one end about 5/8ths inch long. Push the rod down in the molten metal between the heating element and the rear wall of the well. Turn the rod so it enters the port hole.

Pull the rod up tightly against the top edge of the port hole and push the plunger down so it touches this rod. This lines up the bottom of the plunger with the top of the port hole.

In this position check the hole in the lever. The upper edge of the hole in the plunger connecting rod should be in the middle of the hole in the lever. If it is in this position, the plunger will be 3/16ths of an inch above the port hole when the connecting rod and lever are connected.

If the holes are not in position as described above, loosen the Check Nut EC1113½, Plate 19, at the top of the Plunger Lever Rod EC1332, and screw the Plunger Rod Clevis EC1316A, up or down as required.

Plunger Spring Adjustment

The distance between the bottom of Plunger Rod Clevis EC1316A, Plate 19, and the top of Plunger Spring EC1323, Plate 19, is 3⅛ inches for all ordinary operations.

The Adjusting Nut EC1113½, Plate 19, which is on top of the plunger spring, is adjusted up or down for the following conditions:

Sometimes conditions are improved on 1 point material and 2 point hairline by increasing the plunger pressure. When this is required, turn adjusting nut down, so there is a clearance of about 3⅜ inches between the bottom of the plunger rod clevis and the top of plunger spring.

When new cored molds are used it is advisable to reduce the plunger pressure. When this is required, turn adjusting nut up, so there is a clearance of about 2⅜ inches between the bottom of the plunger rod clevis and the top of plunger spring. When cored molds have been in use for some time, use the standard 3⅛ inch adjustment.

Positive Pull-Back Adjustment and Safety Mechanism

Positive Pull-Back Bracket EC1755, Plate 5, is attached to the right end of the puller slide and the Guide Sleeve EC1759A, Plate 4, is attached to it in such a way that the cutter head will be automatically returned to normal position after it has moved to the right during the cut-off operation.

When properly adjusted, the Knurled Screw EC1756A, Plate 4, should leave a gap of about 1/32nd of an inch between the knurled screw and the bracket, when the puller slide has moved to the end of its travel nearest the crucible. This adjustment may be obtained by loosening the Set Screw EC1682½, Plate 4, and turning Knurled Screw EC1756A in or out as required.

The safety mechanism is provided so that the Gauge Rod AEC1628C, Plate 25, upon which the Material Gauge, Plate 28, is mounted, will open up at the closed joint in the gauge rod if the moving strip material jams at the gauge. This telescoping rod is held together by Spring EC1633½A, Plate 25.

Puller Slide Gib Adjustment

Push the two Puller Slide Spring Plungers EC1482C, Plate 4, as far to the left as they will go, and turn the Lock Screws EC1482½ alongside the plungers so as to hold and lock the plungers in place.

Remove the following parts, which will allow the puller slide to slide freely: Puller Slide Release Plate Adapter EC1490B, Plate 12, which has three bolts holding it; Material Clamp Plate (movable) EC1545C, Plate 12, which is held in place with a cotter pin; Positive Return Bracket Retainer Screw EC1758A, Plate 12; and Puller Slide Cam Roll Stud EC1240A, Plate 11.

Back up the four Gib Screws 625A and EC1487½, Plate 12. Then tighten up the right and left gib screws first. Screw in until they bear lightly against the gib and then back them up a trifle, about 1/16th of a turn. Then push the puller slide back and forth

and see that it slides freely at both ends of its stroke. Readjust the right and left screws as necessary to get a smooth action. **The gib adjustment must not be tight, because the puller expands in operation as it gets heated up, and will get too tight and cause undue wear.** After properly adjusting the right and left screws, bring the two middle screws up to bearing. Push the puller slide back and forth to see that a smooth action is obtained, and that the gib adjustment is a little on the loose side.

After making this adjustment, put the cam roll stud in first, and then replace the other removed parts and release the spring plungers by turning their lock screws. Then disconnect the plunger lever and turn the machine over by hand a few times to be sure that it turns freely.

Stationary Knife Adjustment

This adjustment is usually made when the knife needs sharpening. On the Model F machines this adjustment is also made when the stationary knife is changed, per chart on page 7.

First disconnect the Movable Knife Spring EC1620F, Plate 26, from the spring stud attached to Movable Knife Operating Lever AEC1613½B, and let the spring hang from the rear spring stud.

Next back off the Stationary Knife Adjusting Screw EC1618½A. Then remove the two Screws EC1219 and remove the stationary knife. Then put in position the stationary knife to be used and put the EC1219 screws back in position, but do not tighten them. Next, push the Movable Knife EC1620½, Plate 26, all the way forward. Now bring the stationary knife up against the movable knife, so they barely touch. In this position bring the Stationary Knife Adjusting Screw EC1618½A, Plate 26, to just bear against the angular side of the stationary knife. Then lock the two Screws EC1219. Then work the movable knife back and forth a few times to make sure it does not strike the stationary knife, yet will just shear a piece of cigarette paper held between the two knives. Readjust as necessary to obtain this smooth action. Then give the two Screws EC1219 another tightening to be sure they will hold. Then reconnect the Movable Knife Spring EC1620F, Plate 26.

Caution: See that the cut-off eccentric stud is properly adjusted so that the bottom of the movable knife just passes the stationary knife at the farthest point of its travel.

Thermostat Adjustment

(For Thermostat on Left Side of Crucible)

Turn off all switches except the control panel switch. Remove mercury tube cover from top of crucible. Put a thermometer through the slot in the top of the crucible so it rests near the bulb of the thermostat.

Take cover off the thermostat box. Loosen the clamp screw so the knurled screw can be turned.

Turn the knurled screw down, or clockwise, a few turns.

When the rising temperature reaches 600° F., turn the knurled screw up, or counter-clockwise, until the magnetic switch in the control panel opens. Then tighten the clamp screw.

Wait until the thermostat completes a cycle of closing and opening the magnetic switch to be certain that it shuts off at 600° F. Readjust if necessary.

Gas Thermostat Adjustment

Turn off all burners except the crucible burner. Place a thermometer in the crucible and adjust the Gas Governor Adjusting Screw EC1816, Plate 3, as necessary to obtain a temperature between 585° and 600° F.

Maintenance of The Elrod

Following are the maintenance items that are covered in this section:

Crucible throat cleaning, page 28.

Diffusion tube care, page 28

Gas burners, page 29.

Machine lubrication, page 29.

Mold care, page 30.

Mold cooling chamber care, page 30.

Plunger, well, and sealing valve cleaning, page 31.

Pressure oiler care, page 32.

Crucible Throat Cleaning

The crucible throat behind the mold housing should be cleaned every three months to keep this metal passage free from dirt and dross.

Remove the diffusion tube, and with a long, flat metal tool remove the dirt and dross. Also use the Mold Housing Scraper AEC1715B, Plate 31, to scrape as far back as it will reach.

When molds are difficult to insert or remove, a thorough cleaning of the mold housing is indicated.

Diffusion Tube Care

Installing a Diffusion Tube: The Diffusion Tube AEC1281C, Plate 30, fits into a standpipe on the right of the crucible. The top of this standpipe is above the level of the metal in the crucible. There is an Adapter EC1332½D, Plate 2, between the diffusion tube and the standpipe that serves as an inexpensive wearable piece.

The diffusion tube should be put in when the crucible is hot, and the inside threads of the adapter should be well graphited. Then insert a wire into the hole at the top of the tube and keep filling this hole with Elrod mold oil, slowly removing the wire until the tube is entirely full. Connect the Feed Line AEC1279½, Plate 17, at the oiler and the diffusion tube. With the shut-off valve closed, raise the end of the pressure adjusting lever until it stops. This will charge the oiler. Now loosen the union at the top of the diffusion tube one turn and open the shut-off valve slowly so that oil and bubbles of air will be forced out of the end of the oil feed line. As soon as the air stops coming out, close the shut-off valve and tighten the union. The diffusion tube is now ready to operate.

Removing a Diffusion Tube: The best time to do this is just after a mold has been removed, as the standpipe is at its hottest and all metal in the standpipe is molten. Close the shut-off valve, disconnect the union on top of the diffusion tube, and loosen the union at the other end of the feed line, and swing the feed line out of the way. Then unscrew the diffusion tube.

Cleaning a Diffusion Tube: After a diffusion tube has been in service for some time, there will be a deposit of dross and dirt around the lower end of the tube, which may interfere with the proper flow of oil, requiring higher oil pressure to operate.

When this condition exists, remove the diffusion tube, scrape off the deposit from the outside of the tube, remove the screw in the bottom of the tube and clean out the threads in the screw as well as the threads in the lower part of the tube, using Tap EC1727, Plate 30. Replace the screw and tighten firmly. Do not disturb the asbestos packing in the tube.

Packing a Diffusion Tube: After the diffusion tube has been in steady service for some time (usually a matter of several weeks) it may develop that the oil does not feed quite fast enough. When this happens, return the diffusion tube to the Ludlow Typograph Company at Chicago, Illinois, for repacking, or repack it with a Repacking Set AEC1720A, Plate 30. Instructions are sent with the repacking set. Have spare tubes on hand for replacement.

Oil to Use in Diffusion Tube: Use Elrod mold oil only. It is sold by the Ludlow Typograph Company in 1 and 5 gallon cans, is red in color, and specially prepared for the purpose. Keep oil can closed, as dirt seriously interferes with the operation of the diffusion tube.

Prevent Drying Out of Diffusion Tubes: If the Elrod is kept heated, but not operating, the diffusion tube should be removed. The tube dries out with prolonged heating without oil flowing through it.

Diffusion tubes should be well oiled before being placed in storage.

Gas Burners

On account of the varying quality of gas used in different areas, a routine of regular inspection of the gas burners must be determined in each plant.

A spud in each of the burners calibrates the quantity of gas. These seldom need to be changed after installation, but the hole in them gradually becomes smaller after a year or two, and they should be cleaned or replaced.

The air mixer sleeve on the burners controls the amount of air. The proper mixture of air and gas is one that will burn clean without "popping," and that will direct the hottest portion of the flame to the surface to be heated. A piece of 1/16 inch iron wire placed in the path of the flame will disclose the hot and dead portions of the gas flame.

The "Throat Burner" and "Mold Housing Burner" screens should be frequently inspected in some areas where the gas plugs up the screens. The screens can be lifted off and cleaned with an air blast or with a wire.

If the screens cannot be thoroughly cleaned, it is best to replace them in order to obtain high gas efficiency.

Machine Lubrication

Regular lubrication is imperative if the machine is to give good results for any length of time. Use a good grade of machine oil. S.A.E. 20 is a good viscosity to use.

There are three main cam shaft bearings which should be oiled through the tubes extending from the bearings up through the table top. Two of these oil cups are located at the rear of the table, and one at the left end near the hand wheel. The counter-shaft bearing is lubricated by a grease cup, in which a good grade of cup grease should be used.

The oil cup at left end of table should have kerosene put in it once a month to clean the bearing. After running a short time with the kerosene, put in regular machine oil. This bearing needs this special attention on account of heat from the crucible.

The puller slide may be lubricated by putting oil in the nine small oilers located on top, and the puller slide cam and roller is lubricated by the oil cup on the right of the puller slide. The vertical shaft is oiled by oil cup on front of puller slide cam housing.

The gear housing under the table should be packed with grease once every six months. Remove six screws which fasten the gear housing cover, thoroughly clean the gears and housing with a brush and kerosene, and then fill the cover up to the overflow with Special Elrod Gear Housing Grease AEC1042.

Other moving surfaces and cam faces can be lubricated directly or by means of the oil holes provided in these parts.

NEVER USE ELROD MOLD OIL FOR BEARING LUBRICATION, as it is absolutely unfitted for this type of service.

Mold Care

The sides of Elrod molds are made of fine grain cast iron. They require a thin oil film on the inner surface of the mold to permit the material to pass through the mold smoothly. This oil film will not stand up indefinitely, but will dry out if exposed to the air any length of time, or if the mold is subjected to excessive heat in sealing or unsealing operations.

The mold should be cleaned thoroughly after removal from the mold chamber, per instruction 22 on "How to Stop The Elrod." When cleaning a mold, do not tap it on any other surface than wood. Failure to handle the mold with care in the cleaning operation is the most frequent cause of damage.

Mold trouble is also caused by forcing starting strips into the mold, which causes damage to the inner surfaces, or by overheating the mold when it is being removed from the machine.

A mold should never be left in the mold chamber more than a very short time after the inside reaches a metal-melting temperature. **When the water is turned off, and the throat and sealing heaters are turned on, the operator should not leave the machine.**

Molds may be easily damaged by careless handling, resulting in the production of imperfect strip material, or in extreme cases, the inability to produce any material at all from the damaged mold.

If satisfactory material cannot be obtained from a mold, it should be sent to the factory at Chicago for reconditioning. The mold should not be opened except at the factory, because of the difficulty in reassembling without the necessary tools.

Mold Cooling Chamber Care

The water in some sections of the country is highly alkaline and will in time clog the cooling chamber. If this is allowed to happen, the only remedy is to remove the water jacket blocks on the sides of the mold housing and scrape the deposit out.

In order to prevent this happening, the following method will work if it is regularly done each week-end. It will not clean out deposits that have accumulated, but will prevent deposits from forming.

The first thing to do in alkaline areas is to insert a globe valve in the upright supply pipe, at the union, shown on Plate 14.

Then obtain a bottle of cider vinegar, or in areas that have a

very bad alkaline condition obtain some "boiler compound" from a plumbing supply house, power house or factory having steam boiler installations. These compounds are made to suit local conditions.

Turn the Supply Valve EC1195, Plate 14, to "Off" position. Close globe valve on supply pipe. Then turn supply valve to "On" position.

Remove the Water Outlet Pipe EC1188½A, Plate 14, by disconnecting the Union EC1194A, Plate 14. Insert a small funnel in thr opening on top of the mold housing, and fill with cider vinegar or boiler compound and leave it in over the week-end.

Before starting, turn the supply valve to "Off" position, replace the water outlet pipe and open the globe valve on supply pipe.

Plunger, Well and Sealing Valve Cleaning

The Crucible Well EC1303D, Plate 1, and Plunger EC1327A, Plate 1, must be cleaned **at least twice weekly.**

Upon completion of a run of material, shut the machine off, turn it to zero position, turn off the sealing and throat heaters and let the water run. It is necessary that the mold and material be in the mold chamber when the plunger is pulled out of the well, otherwise the metal in the crucible will drain out.

Lift the lock holding the Connecting Rod Pin EC1318B, Plate 2, and pull out the pin. Raise the hinged portion of the pot cover and open the sealing valve. Pull straight up on the plunger link until the plunger is nearly out of the well, then pull the plunger link slightly to the right so it will clear the plunger lever, and then lift the plunger out of the crucible. It may be necessary to press down on plunger lever handle while doing this to make it easier.

While the plunger is still hot, wipe or brush it off. If all metal and dross does not come off readily, dip the plunger in the metal, swab on some Ludlow "Lubriclean" Fluid A945, and then wipe or brush again.

Place the Crucible Well Cleaning Tool AEC1290½, Plate 31, in the molten metal until it is thoroughly heated, and then swab some "Lubriclean" on the surface of the tool, and insert it in the crucible well. Operate the cleaning tool with an oscillating and up-and-down motion the full length of the crucible well, removing the cleaning tool frequently to wipe off the accumulated dross. Apply more "Lubriclean" each time the tool is wiped. Repeat this operation until no trace of dross remains.

Skim the dross and "Lubriclean" residue from the metal in the crucible, and apply a thin coat of "Lubriclean" to the outer surface of the plunger and replace it in the well. Move the plunger up and down a few times by hand to see that it moves freely. If it does not, repeat the cleaning process.

If the turning of the Sealing Valve EC1396D, Plate 2, becomes sluggish or difficult, clean it when the plunger is cleaned.

To remove the sealing valve, back off the retaining screw as far as it will go. This screw faces toward the front of the sealing valve

bracket. Then remove the sealing valve, clean it with a rag, and coat with "Lubriclean" and replace it in position in the well, rotating it several times until it turns freely. Remove and repeat the process, and then screw in the retaining screw as far as it will go.

The Plunger Cleaning Outfit AEC1015 consists of a heatproof Swab 946A, a stiff Brush 943, a Mold Housing Scraper AEC1715B, and a quart of "Lubriclean" A945. See Plate 31.

These tools, together with the Crucible Well Cleaning Tool AEC1290½, should be used for cleaning the plunger, well and mold chamber.

"Lubriclean" may be used to lubricate all of the hot parts on the Elrod, as it is especially made for use at high temperature.

Pressure Oiler Care

After the pressure oiler has been in service for some months, it may be necessary to replace the leather packing at the bottom of the piston.

With the Shut-Off Valve EC1259 closed, remove the Adjusting Lever Fulcrum Screw EC1276½, Plate 17, to permit sliding the Adjusting Lever EC1277A, Plate 17, through the slot in the Piston Pin AEC1268, Plate 17.

Remove the three screws which fasten the cover to the oiler body, and the piston may be pulled out of the cylinder. Remove the screw, retaining washer and worn leather packing from the lower end of the piston. Put on a new leather packing and re assemble, tightening the screw very lightly.

Insert the piston in the well and move it up and down a few times to centralize the packing. Pull the piston out and tighten the screw firmly, being careful not to move the leather packing.

Replace piston, cover, screws, adjusting lever and weight. Put Elrod mold oil in the oil cup and pump the adjusting lever up and down, and continuing to put oil in the cup until it remains full, after pumping. Then loosen the union at the top of the diffusion tube one turn and open the shut-off valve slowly so that the oil and bubbles of air will be forced out of the oil feed line. As soon as the air stops coming out, close the shut-off valve and tighten the union. The oiler is now ready to operate.

Electrical Troubles of The Elrod

Definition of electrical terms, page 34.

Test equipment, page 34.

Live test point, page 34.

Fuse test, pages 34 and 35.

Preliminary tracing of electrical trouble, page 34.

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Tracing a short circuit or an open circuit to a particular circuit, page 39.

Testing circuits for an open or shortened heater, page 41.

Removal or replacement of throat and sealing heaters, page 41.

Test Lamp

A Test Lamp A932A, as illustrated, is the most convenient and time-saving tool for locating electrical trouble in the crucible. This test equipment consists of a red prod containing a neon glow lamp, and a black prod and attachment plug. When plug is in the receptacle as shown in illustration, it is short-circuited. Plug is taken out of this receptacle and plugged into 110 volt line for some tests, as indicated in following instructions.

The red prod containing the neon glow lamp is the **live test point.**

How to Use the Test Lamp

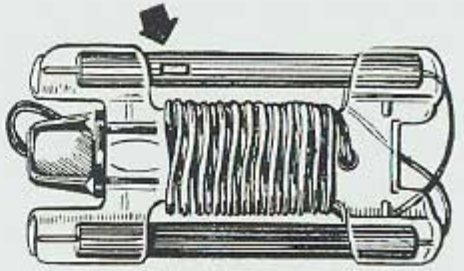
The test lamp may be used to locate a "ground," an "open circuit," a "short circuit," or a "dead" heating element. An explanation of these terms follows:

Ground: An electrical connection between an electrical circuit and the crucible or frame of the machine.

Short Circuit: A connection between the two sides of a circuit so that the current takes a shorter path than intended.

Open Circuit: An incomplete circuit, one broken at any point, so that current does not flow through any part of it. A broken wire or loose connection can cause an open circuit.

Dead Heater: A heater that has an open circuit.



A932A—Test Lamp

Fuse Test

Place the fuse to be tested on a piece of dry paper or wood. Connect test lamp to lighting circuit, and place a test point on each end of the fuse. If test lamp lights, the fuse is o.k.

Caution: In making the tests described on pages following, note carefully as to whether the test points are to be placed on "wires" or "terminals."

Preliminary Tracing of Electrical Trouble

Indication of electrical trouble will be variations of temperature or stopping of machine.

Variations of temperature have to do with the crucible heater

and throat heater circuits. Stopping of machine has to do with the motor circuit.

Fuses: The first source of trouble to look for is in the fuses. There are three sets of fuses: the motor fuses; the throat heater fuses; and the crucible heater fuses—the latter also control the thermostat circuit. There are also fuses on the main line, before it enters the machine.

When a fuse in the control panel blows out, it indicates a ground, a short circuit, a faulty fuse, or fuse fits too loosely in the fuse clips.

To find out if the fuses in the machine are at fault, turn off the panel switch and remove the fuses and test them as described under fuse test.

To find out if the main line fuses are at fault, turn off the panel switch, place plug of test lamp in short-circuiting receptacle and place the test points on terminals L-1 and L-2 just below the panel switch. If lamps do not light, these fuses are at fault.

In replacing the fuses, see that they are held firmly in their fuse clips. If a replaced fuse of proper amperage burns out again, this shows the trouble is not in the fuse, but in the circuit that the fuse controls. Check the circuit for a ground or a short, as explained on pages following.

Crucible Heater and Circuit: If the metal in the crucible fails to melt out, it is an indication of an open circuit in the heaters or connections, or the magnetic switch in the control panel box has failed to close.

If the metal in the crucible is too cold it will be indicated by a chilled-looking strip, or by the need of using higher than normal temperature on the throat heaters. If the metal is too hot it will be indicated by the appearance of the strip, or by breaking of the strip, or by the need of excessive water.

To check on variations of temperature, insert a thermometer in the crucible and see if the temperature is held within the recommended range. If it is much higher or lower than recommended, the trouble is either in the thermostat or crucible heater circuits. If magnetic switch will not close on low temperature, or if it remains closed on too high temperature, the trouble is in the thermostat circuit. If the temperature continues dropping, the trouble is in the crucible heater circuit.

If magnetic switch has an audible chatter, this is an indication of trouble in the thermostat circuit. Usually this indication means that the contact points of the thermometer on top of the crucible need cleaning.

Throat Heater Circuit: If it suddenly takes longer than ten minutes to melt out a mold with the throat and sealing heaters on, it is an indication that one or more of the heaters has an open circuit in the heater or connections. Look for a faulty fuse, or a fuse fitting too loosely in the fuse clips, a loose connection, a broken wire, a broken switch or a dead heater.

If it is noticed that the heating out of the mold is gradually taking longer to melt out, the screws that hold the heaters in close contact may have loosened. There are five headless screws which screw in to tighten the heaters. Two of these are located on the right side of the crucible casing in front of the diffusion tube, and

two are directly opposite at the rear of the diffusion tube. One is located on the bottom of the crucible, and is reached through a hole in the table below the throat heater.

Motor Circuit: If the motor fails to start, or slows down, or stops, or overheats, it is an indication of trouble in the motor or motor circuit. Before making any tests, take off the belt and see if trouble persists. If motor runs satisfactorily with the belt off, then look for trouble in the machine.

CONTROL PANEL TEST

Before making any of the tests on the following pages, make sure the trouble is not in the control panel.

If the test lamp fails to light in the following tests, it indicates there is a broken wire or loose connection on the back of the panel, or that the control panel switch is broken.

Place plug of test lamp in short-circuiting receptacle for each of the following tests.

To Test the Throat and Sealing Heater Circuit: Turn off the panel switch. Disconnect the wires from terminals 1 and 2. Turn on panel switch. Place one test point on terminal 1 and the other on terminal 2. The lamp should light.

To Test the Crucible Circuit: Turn off the panel switch. Disconnect the wires from terminals 3 and 4. Turn on the panel switch. Place one test point on terminal 3 and the other on terminal 4. Close the magnetic switch by hand. The lamp should light. If magnetic switch does not stay closed on this test, see "Magnetic Switch" test on page 38.

To Test the Motor Circuit: Turn off the panel switch. Disconnect the wires from terminals T-1 and T-2. Turn on the panel switch. Place one test point on terminal T-1 and the other on terminal T-2. The lamp should light.

Locating Trouble

Following tests are for the purpose of locating trouble after preliminary tracing has indicated where to look.

Crucible Heater and Circuit

Tests to be made are for ground, short circuit and open circuit.

Ground: Turn switch off. Disconnect wires B-1 and B-2 from terminals 3 and 4, at bottom of panel. Connect test lamp to light socket and with **the live test point** touch wire B-1 and B-2. If a light shows it indicates a ground in the crucible heater or in wire B-1 or B-2.

Short Circuit: Turn switch off. Disconnect wires B-1 and B-2 from terminals 3 and 4, at bottom of panel. Connect test lamp to light socket and place one test point on wire B-1 and the other on B-2. If lamp lights, the crucible heater is o.k.

Open Circuit: If no light shows on above test for short circuit, then there is an open circuit. This can be a broken wire, loose connection or dead heater.

Thermostat Circuit

(For Thermostat on Left Side of Crucible)

Tests to be made are for open and short circuit in the thermostat, magnetic switch, resistor and magnet coil.

Open Circuit: Turn switch off. Disconnect wires "C," "L" and "H" from terminals "C," "L" and "H" at bottom of control panel. See that temperature of metal in crucible is below 600° F. Connect test lamp to light socket and place one test point on wire "C" and the other on wire "L" in the control panel box. If circuit is o.k., the lamp will light. No light indicates an open circuit. This can be a broken wire or loose connection.

Remove the cover of the thermostat case. Raise the micro-switch lever and place a small piece of 6 point material between the top of the mercury-actuated plunger and the micro-switch. A click can be heard when the micro-switch lever is lowered. Now place one test point on wire "C" and the other on wire "H" in the control panel box. If circuit is o.k., lamp will light. No light indicates an open circuit. This can be a broken wire or loose connection.

Short Circuit: With switch off and wires disconnected as for above open circuit test, disconnect the "C," "L" and "H" wires on the micro-switch. Place test points on wires "C" and "L" and on wires "C" and "H." The lamp should not light. If lamp does light, it shows a short circuit.

Testing Micro-Switch: Remove micro-switch from thermostat case and with the test lamp connected to the light socket, place one test point on terminal "C" and the other on terminal "L." If this switch circuit is o.k., the lamp will light. Then place one test point on terminal "C" and the other on terminal "H" and press downward until the switch clicks. If this switch circuit is o.k., the lamp will light. If lamp does not light on these tests, replace micro-switch.

Magnetic Switch: Turn control panel switch off. Remove wires from terminals "C," "L" and "H" at bottom of panel. Then turn control panel switch on. Use a short length of insulated wire, the ends of which are bared. Place one end on terminal "C" and the other end on terminal "L." If the magnetic switch does not close automatically, then test the resistor and the magnet coil. If the magnetic switch does close, then it should stay closed when the test wire is removed. If the magnetic switch fails to stay closed, turn switch off and adjust the Retaining Contact A360EA, Plate 18, by adjusting Post A354½E to make contact slightly in advance of the Breaker Contacts 356E, Plate 18, as the switch closes.

The magnetic switch should open when the test wire is brought in contact with terminals "C" and "H." If it fails to open, it may be due to a broken wire or to an open circuit in the Kick-out Coil 329E, Plate 18. If Breaker Contacts 356E, Plate 18, are not clean, remove them from armature and rub lightly on a piece of fine sandpaper. To remove the breaker contacts, pull out the Armature Retainer 354E, Plate 18, which allows the movable part of the magnetic switch to be removed from its seat. The breaker contacts can then be removed by depressing the spring which holds them in place.

Resistor: Turn panel switch off. Remove Resistor 328E, Plate 18, and place on paper or a board and connect test lamp to lighting circuit and place a test point on each end of the resistor. The lamp will light if o.k.

Magnet Coil: Turn panel switch off. Connect test lamp to lighting circuit and place a test point on the terminals of the Magnet Coil 327E, Plate 18. The terminals are just above the magnet coil. The lamp will light if coil is o.k.

Motor Circuit

Tests to be made are for ground, short circuit and open circuit.

Ground: Turn off panel switch. Remove motor belt. Disconnect wires T-1 and T-2 from terminals T-1 and T-2, at bottom of panel. Turn on motor switch. Connect test lamp to lighting circuit and place the **live test point** on each of the wires T-1 and T-2. If lamp lights, it indicates a ground. If a ground is indicated, then trace its location as follows: Disconnect and separate the motor lead wires, at the motor. Place the **live test point** on the wires T-1 and T-2. If lamp lights, the ground is in the wires to or from the motor switch, or in the motor switch. If lamp does not light on this last test, then the ground is in the motor.

Short Circuit: Turn off panel switch. Remove motor belt. Disconnect wires T-1 and T-2 from terminals T-1 and T-2, at bottom of panel. Disconnect and separate the lead wires at the motor. Turn on motor switch. Connect test lamp to lighting circuit and place one test point on wire T-1 and the other test point on wire T-2. If lamp lights, there is a short circuit in the wires to or from the motor switch, or in the motor switch. If, after connecting the motor lead wires, fuses continue to burn out, there is a short circuit in the motor.

Open Circuit: Turn off panel switch. Remove motor belt. Disconnect wires T-1 and T-2 from terminals T-1 and T-2, at bottom of panel. Turn on motor switch. Connect test lamp to lighting circuit and place one test point on wire T-1 and the other test point on wire T-2. If lamp does not light, it indicates an open circuit. If this is indicated, then trace its location as follows: Disconnect the motor lead wires at the motor, and bring the ends of the lead wires together. Then place test points on wires T-1 and T-2. If lamp does not light, the open circuit is in the wires to or from the motor switch, or in the motor switch. If lamp lights, then the open circuit is in the motor.

Throat and Sealing Heater Circuit

Tests to be made are for ground, short circuit and open circuit.

The procedure to follow is to first test for ground, trace the ground, and then fix it. Next test for short or an open circuit Trace to a particular circuit. Then test this circuit for a heater that is open or shorted.

Note: The instructions below apply to 110 to 150 volt equipment. In order to trace the exact side throat or sealing heater that is

grounded on 200 to 250 volt equipment it will be necessary to remove the crucible throat covers shown on Plate 8, and remove the asbestos tape wrapped around the heater terminal connections, and test the heaters directly on their terminals. It will be necessary to remove the water piping from the mold housing to remove any one of the heaters.

Ground: Turn switch off. Disconnect wires D-1 and D-2 from terminals 1 and 2 at bottom of panel. Connect test lamp to lighting circuit, and with **the live test point** touch wires D-1 and D-2. If a light shows, it indicates a ground in one of the circuits.

When a ground is indicated, trace it to a particular circuit as follows: Remove the pressure oiler and terminal housing located at the back of the crucible, thereby exposing the wiring shown on Plate 7. Disconnect the two ST-1 wires (front side throat heater), the two ST-2 wires (rear side throat heater), one BT-1 wire and one BT-2 wire (bottom throat heater), the two S-1 wires (front sealing heater) and the two S-2 wires (rear sealing heater). Do not allow the wires to touch anything.

With test lamp connected to the lighting circuit touch each of the wires with **the live test point.** If a light shows, it indicates that the wire or the heater to which it is connected is grounded.

Tracing a Short Circuit or an Open Circuit to a Particular Circuit

On each of the following tests, proceed as follows: Turn panel switch off. Disconnect wires D-1 and D-2 from terminals 1 and 2 at bottom of panel. Turn switches on and off as directed in each of the following tests. Connect test lamp to lighting circuit and place one test point on wire D-1 and the other on wire D-2. If lamp lights, the heater is o.k. No light indicates a broken wire, a loose connection, a broken switch, a dead heater unit or an open resistor.

Bottom Throat Circuit: Turn on bottom throat switch and turn off all other switches. Proceed as above.

Sealing Heater Circuit: Turn on sealing switch and turn off all other switches. Proceed as above.

Side Throat Circuit: Turn on "High" side throat heater switch and turn off all other switches. Proceed as above.

Side Throat Circuit: Turn on "Medium" side throat heater switch and turn off all other switches. Proceed as above.

Side Throat Circuit: Turn on "Low" side throat heater switch and turn off all other switches. Proceed as above.

Side Throat Resistor: There are resistors in the "Medium" and "Low" circuits, and if the tests show there is an open circuit, it may be necessary to remove the wires from the right end of the resistors in order to find the open resistor.

Remove the switch box cover from the front of the machine, and the resistors shown on Plate 24 will be in a housing below the switches. There is a curved baffle plate at the top of the housing which protects the resistors. By working from the rear of the

machine, the two bolts holding the baffle plate can be removed and the baffle plate slipped out.

Remove all wires from the right end of the resistors (Place a tag on the terminals and on the wires as they are removed, so they may be properly replaced.) Place the test points of test lamp on the opposite ends of each resistor in turn. No light will show the open resistor, which must be replaced.

Testing Circuits for an Open or Shorted Heater

After the previous tests have located the circuit that has an open heater, it may be necessary to find out which heater is at fault, as the side throat and sealing circuits have two heaters each. Locate the faulty heater as follows:

110 TO 150 VOLT EQUIPMENT: Turn panel switch off. Remove the pressure oiler and terminal housing located at the back of the crucible, thereby exposing the wiring shown on Plate 7. Disconnect the wires of each circuit, as explained below. Connect test lamp to lighting circuit and place one test point on one of the disconnected wires, and the other on the other disconnected wire. If lamp lights, the heater is o.k. No light indicates a broken wire, a loose connection or a dead heater.

Bottom Throat Heater: Disconnect the BT-1 wire and the BT-2 wire. Test these wires as explained above.

Front Sealing Heater: Disconnect the two S-1 wires. Test these wires as explained above.

Rear Sealing Heater: Disconnect the two S-2 wires. Test these wires as explained above.

Front Side Throat Heater: Disconnect the two ST-1 wires. Test these wires as explained above.

Rear Side Throat Heater: Disconnect the two ST-2 wires. Test these wires as explained above.

See page 42 for "Removal or Replacement of Throat and Sealing Heaters."

200 TO 250 VOLT EQUIPMENT: Turn panel switch off. Remove the pressure oiler and terminal housing located at the back of the crucible, thereby exposing the wiring shown on Plate 7. Disconnect the wires of each circuit, as explained below. Connect test lamp to lighting circuit and place one test point on one of the disconnected wires, and the other on the other disconnected wire. If lamp lights, the heater is o.k. No light indicates a broken wire, a loose connection or a dead heater.

Bottom Throat Heater: Disconnect the BT-1 wire and the BT-2 wire. Test these wires as explained above.

Front and Rear Sealing Heaters: Disconnect the S-1 wire and the S-2 wire. Test these wires as explained above.

Front and Rear Side Throat Heaters: Disconnect the ST-1 wire and the ST-2 wire. Test these wires as explained above.

If an open circuit is indicated by above tests, it will be necessary to test the heaters directly on their terminals to determine which heater requires replacing. This is done as follows:

Removal or Replacement of Throat and Sealing Heaters

To test or replace a throat or sealing heater requires removal of Crucible Throat Covers EC1326½EA, EC1327½E, EC1330½E, EC1361½, Plates 7 and 8; front and rear Water Jacket Covers EC1882B, Plate 9; and water piping from the mold housing.

The heaters can then be pulled out, the asbestos tape taken off the heater terminal connections, and the heater can be tested and replaced with another heater if necessary. In putting heaters back in place, be sure they have a good contact with the surfaces they heat.

When putting the water jacket covers back on, clean all surfaces with a brass rule, never with an abrasive. Put graphite on the screw threads and hold the covers tight when putting in screws, so graphite will not get between the contact surfaces. Tighten screws evenly.

Mechanical Troubles of The Elrod

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Hairline Rule Broken, page 44.

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Material is Bowed, page 44.

Material Buckles, page 45.

Puller Slide Removal, page 45.

Puller Wedge Locks, page 46.

Puller Wedge Slips, page 46.

Shearing Pin Breaks, page 46.

Stationary Knife Jamming, page 46.

Cutter Head Sluggish

When the cutter head is sluggish in its return, adjustment of Tension Lever EC1770 is usually indicated. However, a sluggish return can be caused by dry and dirty bearings. Clean and oil the three bearings of the Material Cut-Off Operating Rod EC1628C, Plate 5, Material Cut-Off Safety Rod AEC1628½, Plate 5, and the Cutter Head Guide Rod EC1627, Plate 5. Also check the operating rod for straightness.

Hairline Rule Broken

Occasional breaks may be noticed in the face of rules. The cause of this may usually be determined by noticing whether the breaks are sharp or round in character.

Rounded edges indicate that too much oil is being used or that the oil is not properly distributed over the entire surface of the strip. This may be corrected by shutting off the oil supply for a short time, or by a reduction of heat or by an increase in water flow.

Sharp breaks are caused by a lack of oil or too long a stroke. Other causes may be from a damaged mold, or from improper heating or cooling conditions.

Machine Jams and Stops

It sometimes happens that the machine jams or stops with the plunger in a raised position, or a mold loosens from improper sealing in the starting operation. All the metal in the crucible will drain out through the mold chamber or the mold under these conditions, unless prompt action is taken.

When this happens grasp the knurled head of the Plunger Rod Clevis Pin AEC1319A, Plate 2, and pull the pin out. Then pull the handle of the Plunger Lever EC1315C, Plate 2, all the way up by hand, and shut off the motor.

By pulling the plunger lever up, the plunger is forced down, closing the port. If the sealing valve is also closed, no metal can escape through the mold chamber.

Material is Bowed

The operator should be careful to clean off the underside of the mold and the bottom of the mold chamber before inserting the mold, and hold the mold firmly against the bottom of the mold chamber and parallel to the sides of the mold chamber while the sealing is taking place, and thereby avoid the experience of producing "bowed" material.

When sealing a mold, it is advisable to lay a strip of 2 point on the material table and let the right end of the starting strip rest on it. This tends to keep the mold parallel to the bottom of the mold chamber.

A defective mold or improper lubrication can cause bowed material. If either the top or bottom of the strip is lubricated while the opposite edge is dry, this will cause a stretching of the material along the dry edge and will produce a bowed strip.

An abnormal amount of water will cause the material to bow. Check water flow to the proper amount.

If the material is bowed down or concave as delivered, and the lubrication and water are apparently o.k., it is an indication that the mold is improperly sealed, and this operation will have to be done over.

If the material is bowed up, or convex as delivered, and lubrication and water are apparently o.k., it will be necessary to adjust the Material Guide Roller EC1550, Plate 6, by means of the Adjusting Screw EC1554A, Plate 6, so the roller will press down on the material and straighten it.

Material Buckles

When producing the thinner point sizes, such as 2 point twin, and one or both of the strips buckle between the mold and the pulling mechanism, it indicates that the pulling mechanism is not releasing properly after the material has been pulled to the right. This may be due to metal or other material adhering to the Puller Wedge AEC1460C, Plate 7, or to the sliding Release Plate EC1498C, Plate 11.

These parts should be removed and thoroughly cleaned, making certain that the release plate slides freely back and forth.

If the trouble continues after cleaning, the Material Clamp Plate (movable) EC1545C, Plate 6, may not be properly adjusted.

Check the instructions for "Clamp Mechanism Adjustment" on page 22.

If the trouble continues after cleaning, and the material clamp plate adjustment is o.k., it may be that one or more of the Puller Slide Gib Screws 625A and EC1487½, Plate 12, are out of adjustment. Instructions for their adjustment are on page 24 of "Fixed Adjustments of The Elrod." Another possibility is that Material Clamp Spring EC1504 is broken. This is housed within Material Clamp Bracket AEC1541A, Plate 6.

Puller Slide Removal

To remove the puller slide for replacement of Puller Slide Springs EC1481A, Plate 5, or for any other reason, it may be done as follows:

Remove the following parts: Puller Slide Release Plate Adapter EC1490B, Plate 12, which has three bolts holding it; Material Clamp Plate (movable) EC1545C, Plate 12, which is held in place with a cotter pin; Positive Return Bracket Retainer Screw EC1758A, Plate 12; Puller Slide Cam Roll Stud EC1240A, Plate 11; Puller Slide Guard EC1486C, Plate 11, which has two screws holding it; Guard Plate EC1486½, which is a vertical plate underneath the puller slide guard, containing two screws.

After the above parts are removed, back off the four Gib Screws 625A and EC1487½, Plate 12, and remove the Gib EC1487, Plate 5, by pulling it out from the right end of the puller slide.

The puller slide can then be moved toward the left, and pulled straight up and out when it reaches the proper position.

The Puller Slide Plungers EC1482C, can now be easily removed, and springs inside can be replaced. After replacing, push the plungers in as far as they will go, and lock them in place with the Lock Screw EC1482½.

When reassembling, be sure that all parts are cleaned and oiled. Then insert the Gib EC1487 and adjust the gib per instructions on "Puller Slide Gib Adjustment," page 24. Then reassemble parts in reverse order as listed above. After parts are in place unlock the puller slide plungers by turning the lock screws.

Puller Wedge Locks

If the puller wedge should become locked, due to a splash of metal, do not use force on the puller wedge crank handle to release the puller wedge, but remove the puller wedge as follows:

Remove the four screws and clamp knob holding the cover. Remove shaft from hinged base and push base toward front of machine. The puller wedge will then be accessible for easy removal. If puller wedge is not easily removed, it may be necessary to remove the Release Plate Adapter EC1490B, Plate 12, which has three bolts holding it.

Puller Wedge Slips

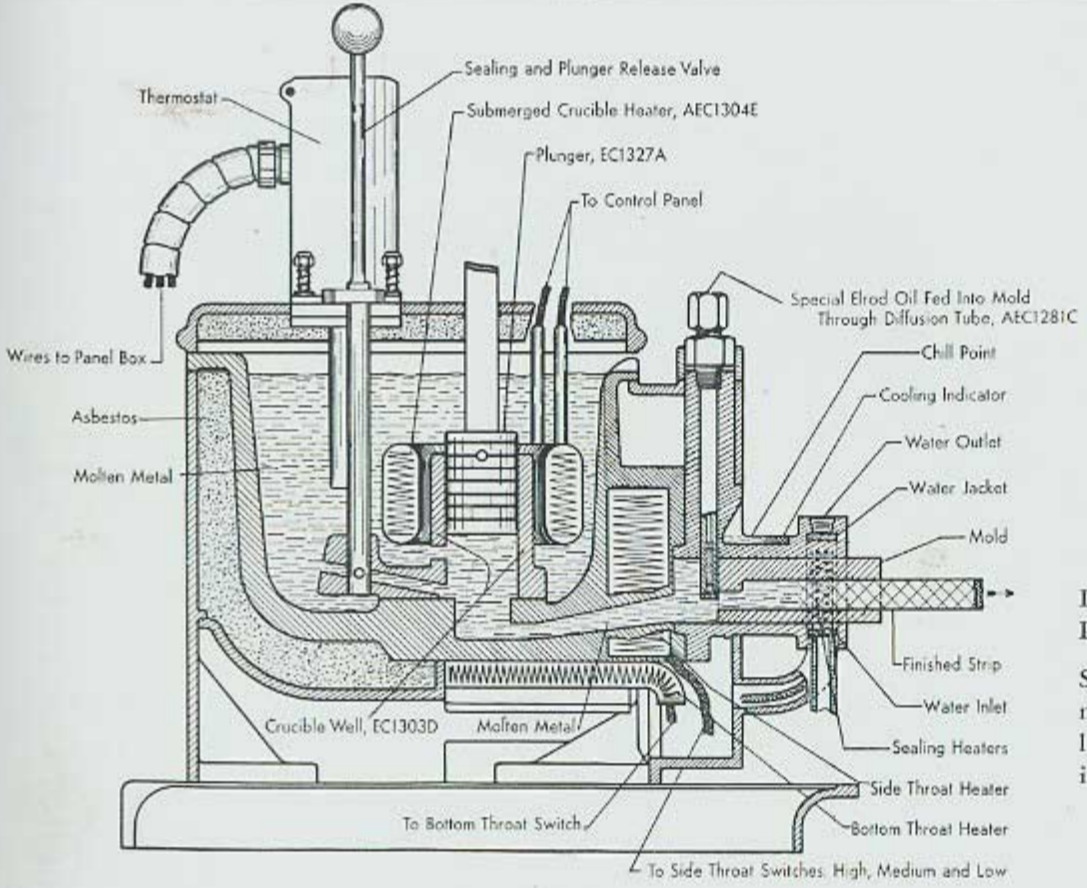
Sometimes when starting, the first few strokes will carry too much oil. Frequently this causes the puller wedge to slip. If it continues to slip, the puller wedge can be helped along by pressing toward the right on the Wedge Crank AEC1470, Plate 6, at each stroke until the oil disappears from the puller wedge and from the strip of material.

Shearing Pin Breaks

The Shearing Pin EC1318B, Plate 7, which connects the plunger lever and the plunger connecting link, is made of soft steel and is so designed that should the machine be turned on while the metal in the crucible is solid, this pin will be sheared, thereby preventing damage to the machine. If this pin is sheared while the metal in the crucible is molten, it is an indication that the plunger and well need cleaning, and this should be done before another shearing pin is used.

Stationary Knife Jamming

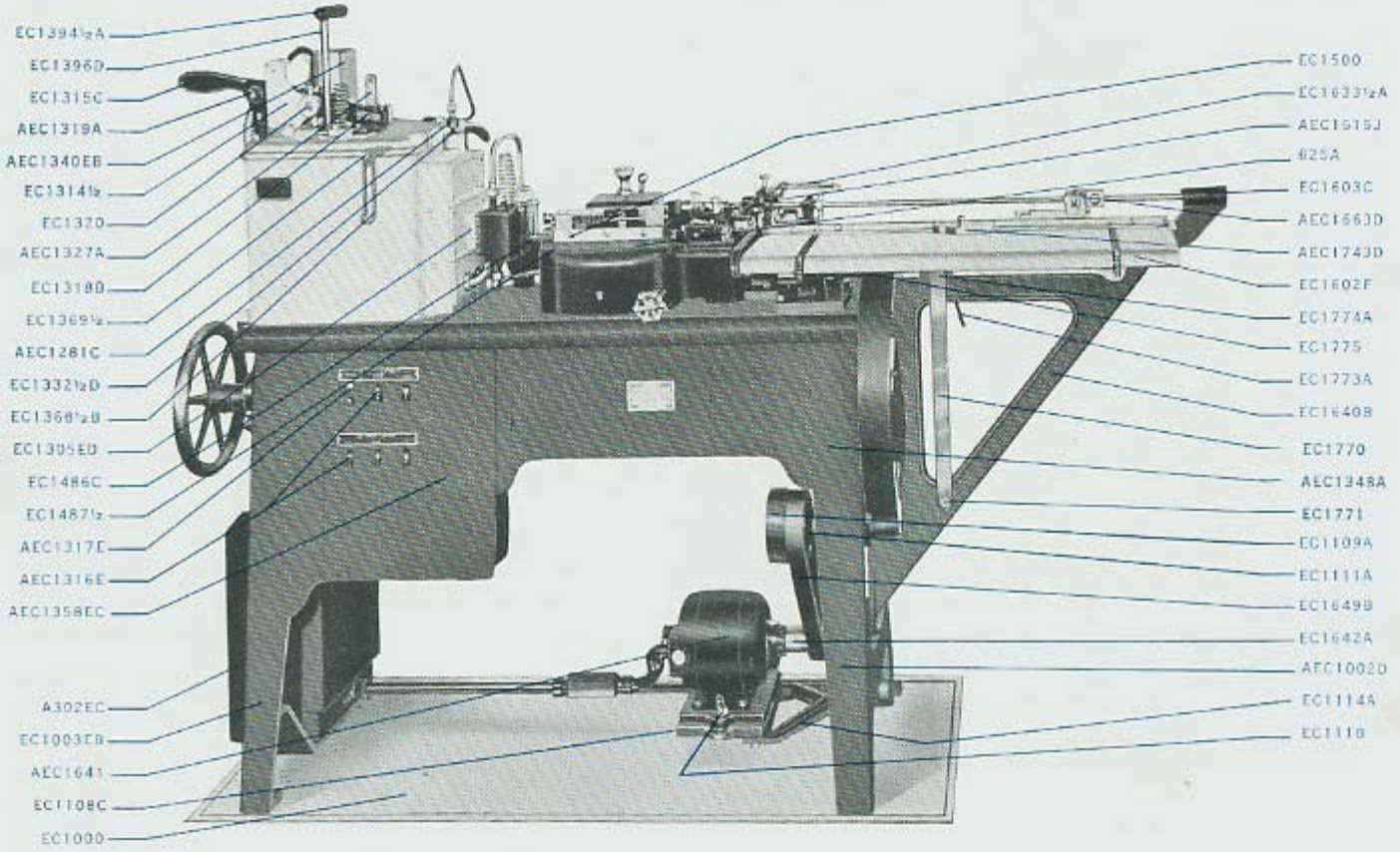
If instructions for adjusting the stationary knife are not carried out as shown in "Fixed Adjustments," it may result in the Model E machine suddenly stopping on account of the movable and stationary knives jamming. On the Model F it may result in breaking the Cut-Off Lever EC1522½.

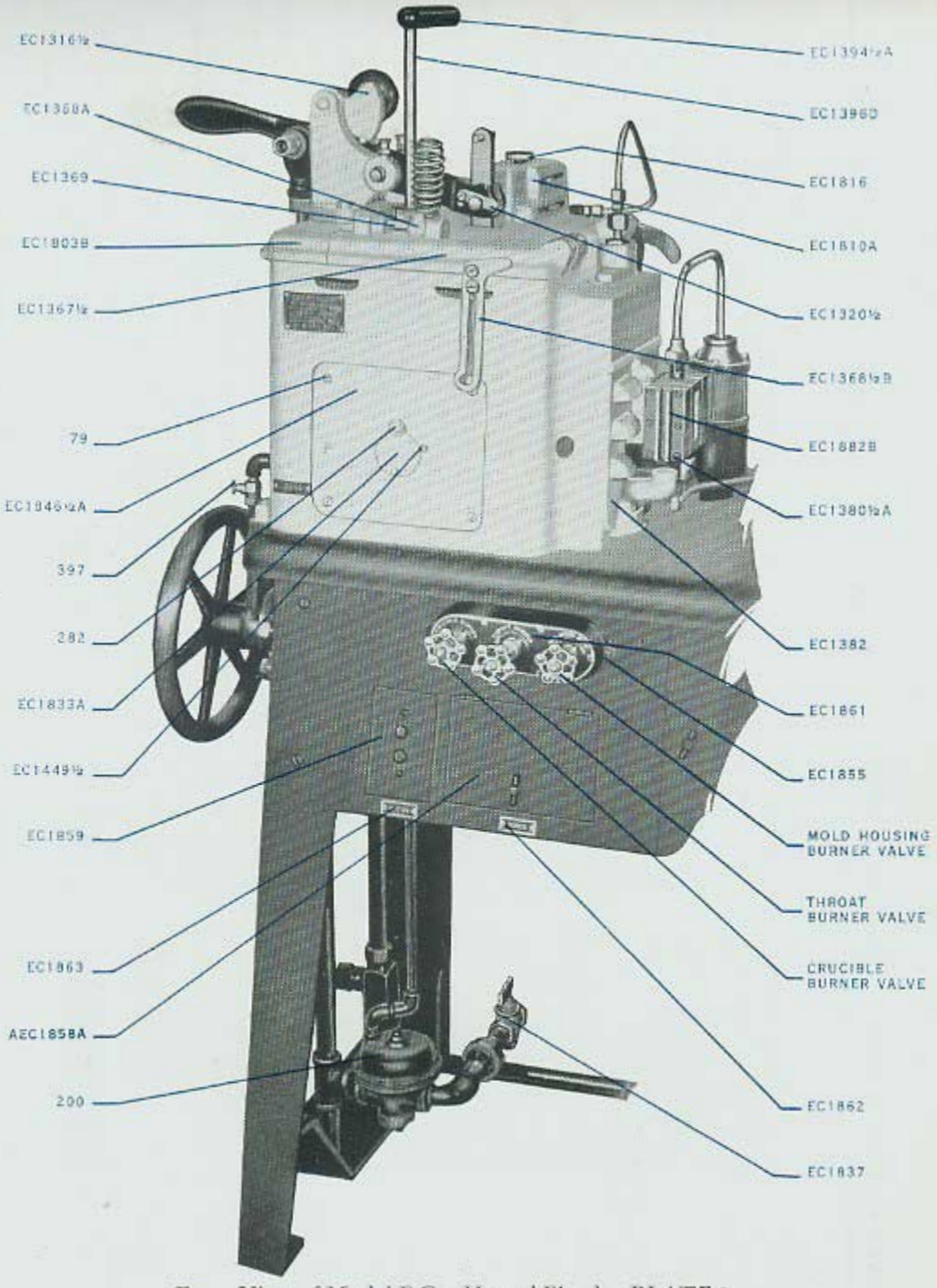


DESCRIPTION OF PROCESS

Showing how the type metal is melted, lubricated and cast in the electric Elrod.

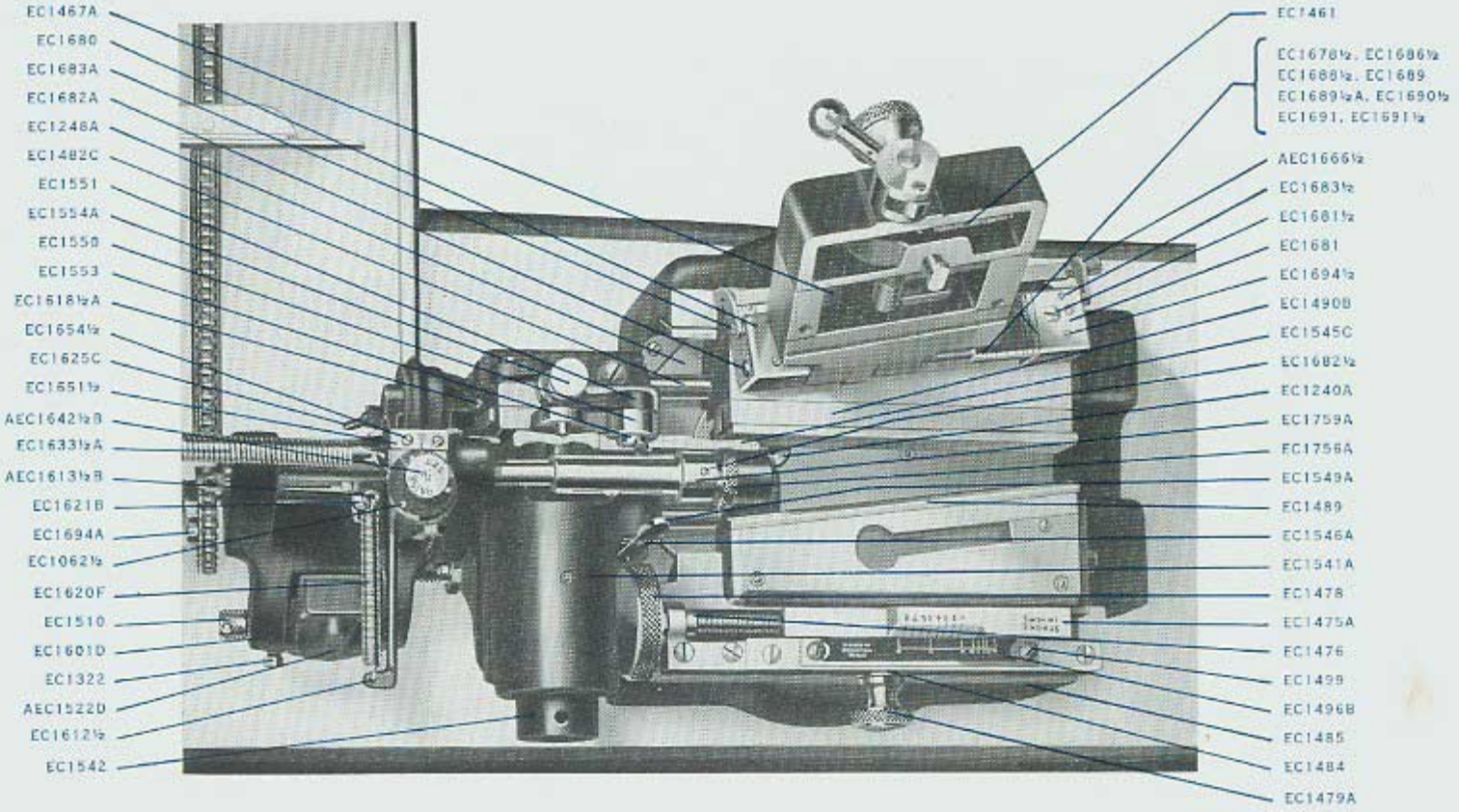
PLATE 2—Front View of Model E Electric Heated Elrod





Front View of Model E Gas Heated Elrod—PLATE 3

PLATE 4—Puller and Cutter Mechanism (Model E)



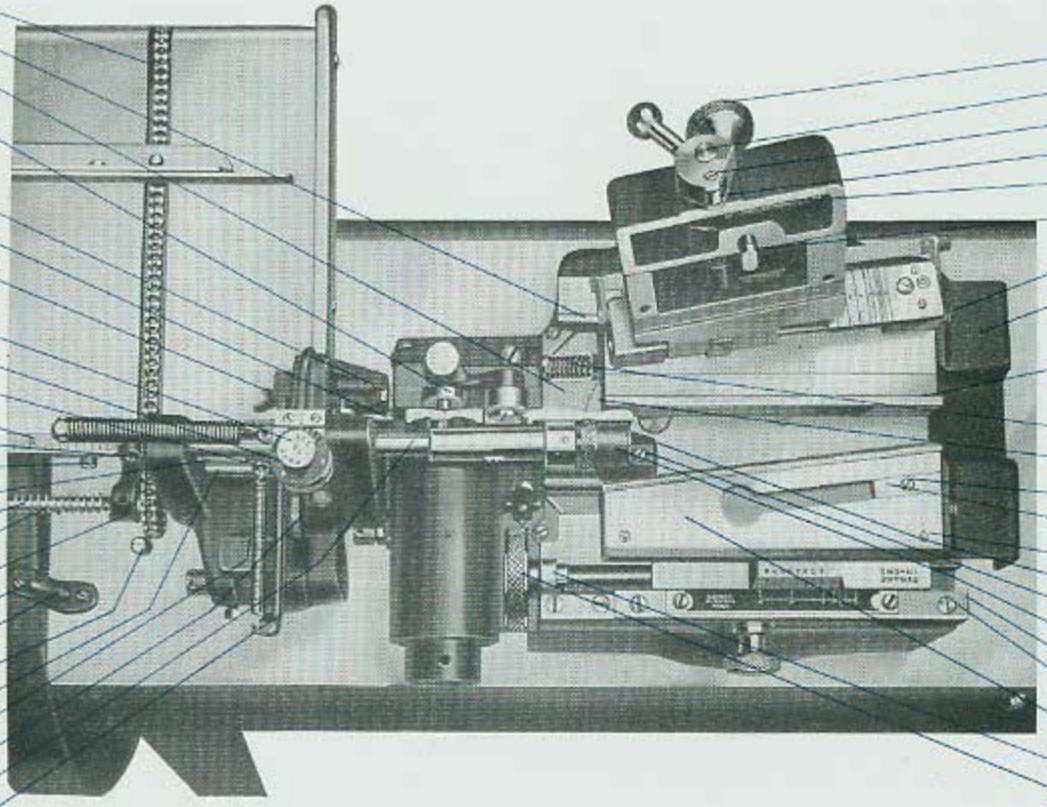
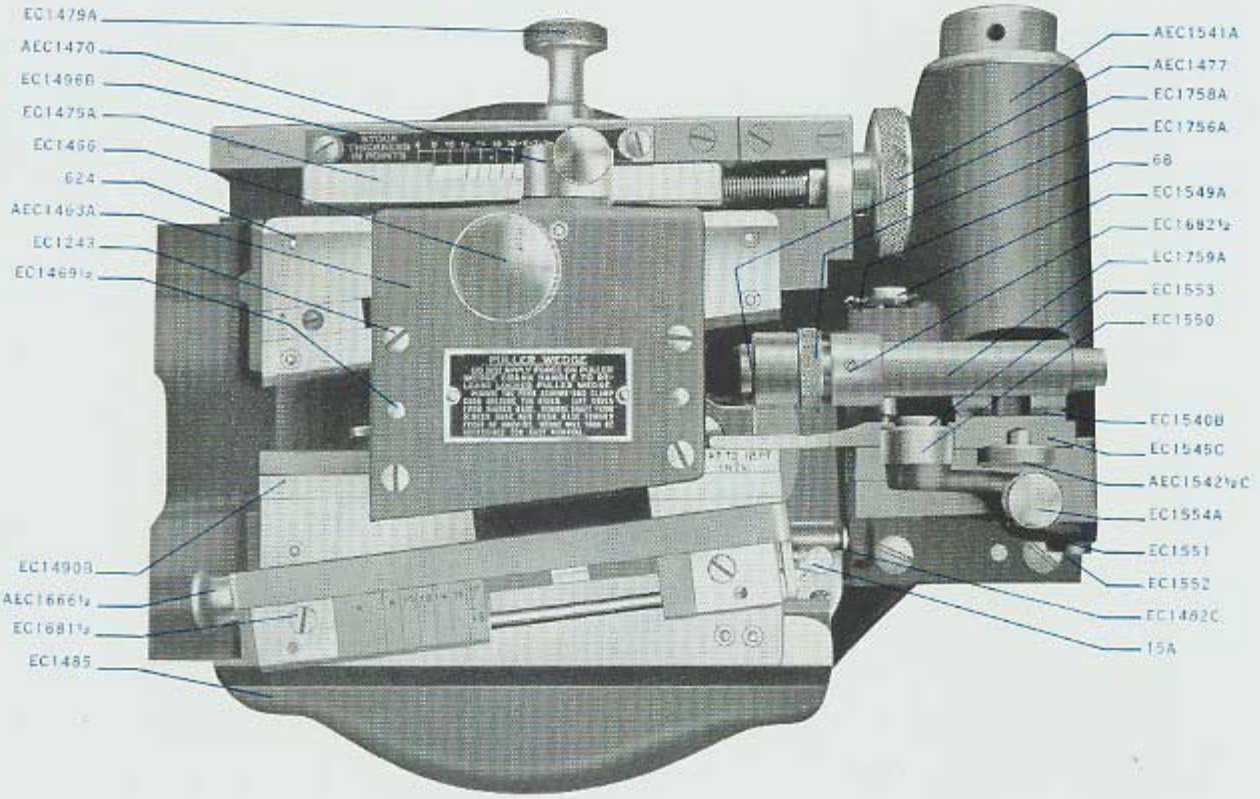

EC1695B
EC1487
EC1248A
AEC1542½C
AEC1615J
EC1622F
EC1625C
EC1622½B
EC1640½B
EC1611½
EC1628C
EC1790
EC1630B
EC1649½
EC1740A
EC1698½A
EC1697½A
EC1184
EC1210
15A
EC1627
EC1523B
EC1617C
AEC1628½
EC1617½D
EC1466
AEC1470
EC1473
EC1472
EC1461
EC1465
EC1243
EC1486C
EC1497C
EC1498C
EC1481A
EC1247
EC1544½
EC1480½
624
EC1755
EC1243
AEC1755
EC1488A
EC1488½
EC1480F
EC1474A
AEC1477

PLATE 6—Puller Slide (Model E)



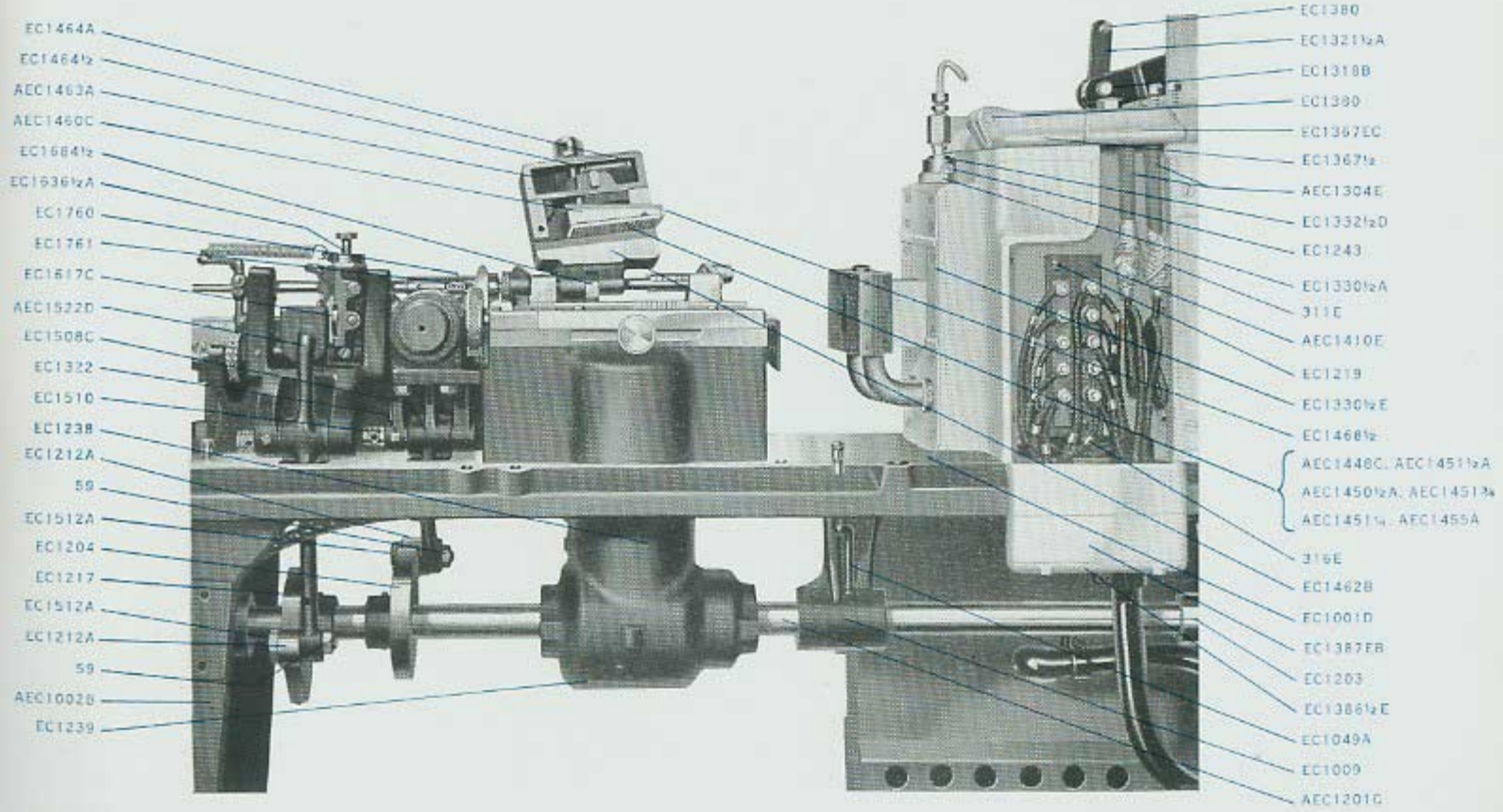
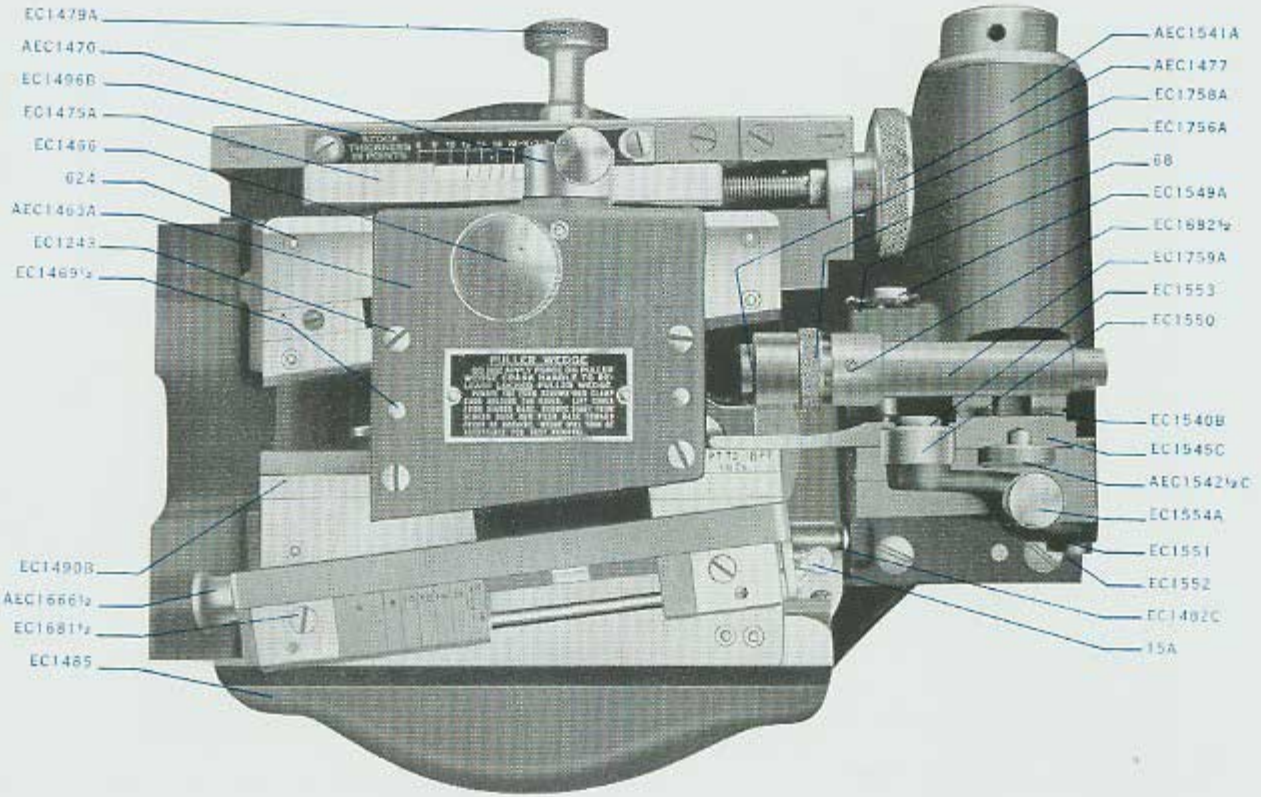

EC1464A
EC1464½
AEC1463A
AEC1460C
EC1684½
EC1636½A
EC1760
EC1761
EC1617C
AEC1522D
EC1508C
EC1322
EC1510
EC1238
EC1212A
59
EC1512A
EC1204
EC1217
EC1512A
EC1212A
59
AEC10028
EC1239
EC1380
EC1321½A
EC1318B
EC1380
EC1367EC
EC1367½
AEC1304E
EC1332½D
EC1243
EC1330½A
311E
AEC1410E
EC1219
EC1330½E
EC1466½
AEC1448C, AEC1451½A
AEC1450½A, AEC1451¾
AEC1451¼, AEC1455A
316E
EC1462B
EC1001D
EC1387EB
EC1203
EC1386½E
EC1049A
EC1009
AEC1201G

PLATE 6—Puller Slide (Model E)



Rear View Model E Electric Heated Elrod—PLATE 7

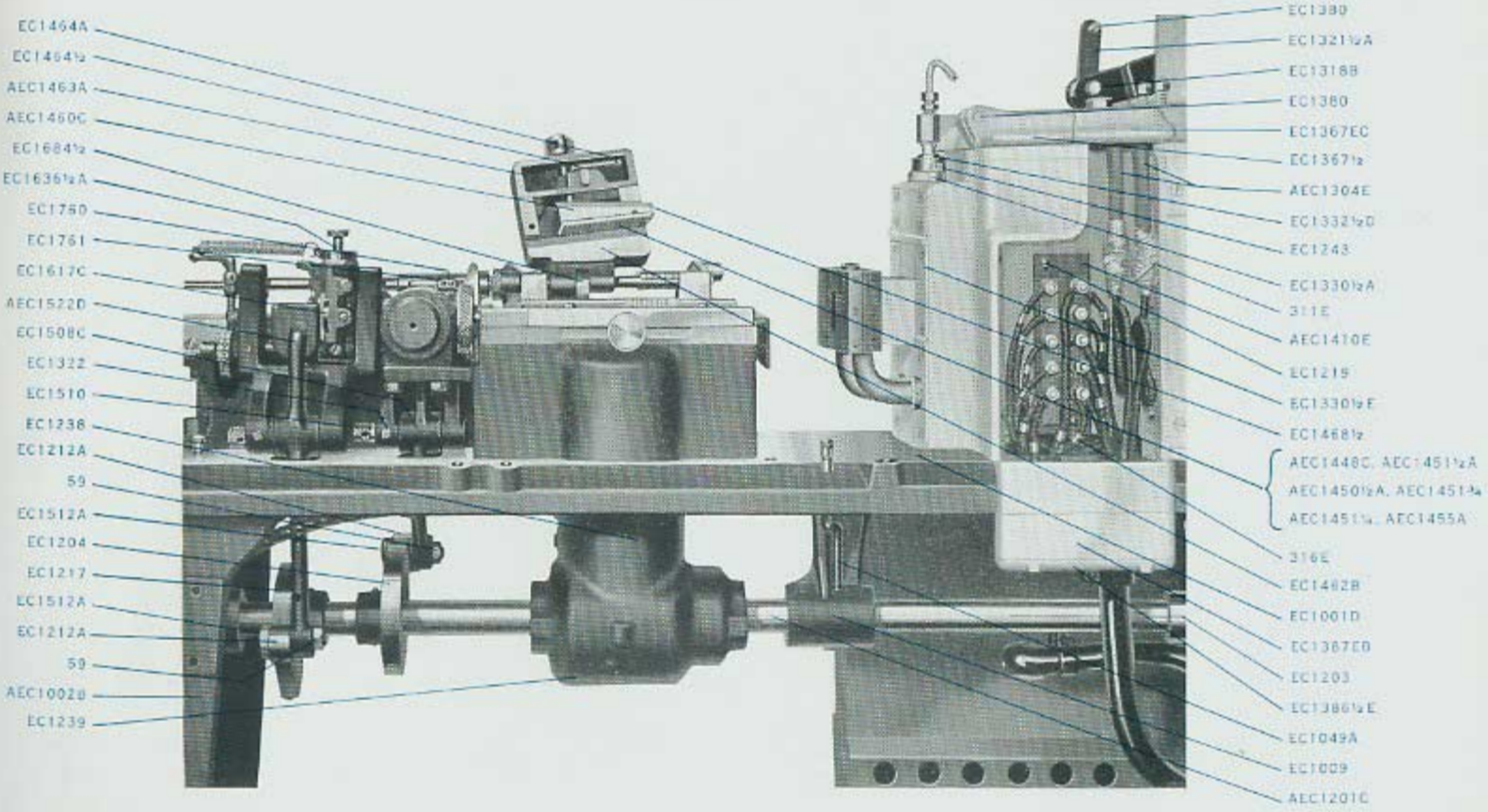
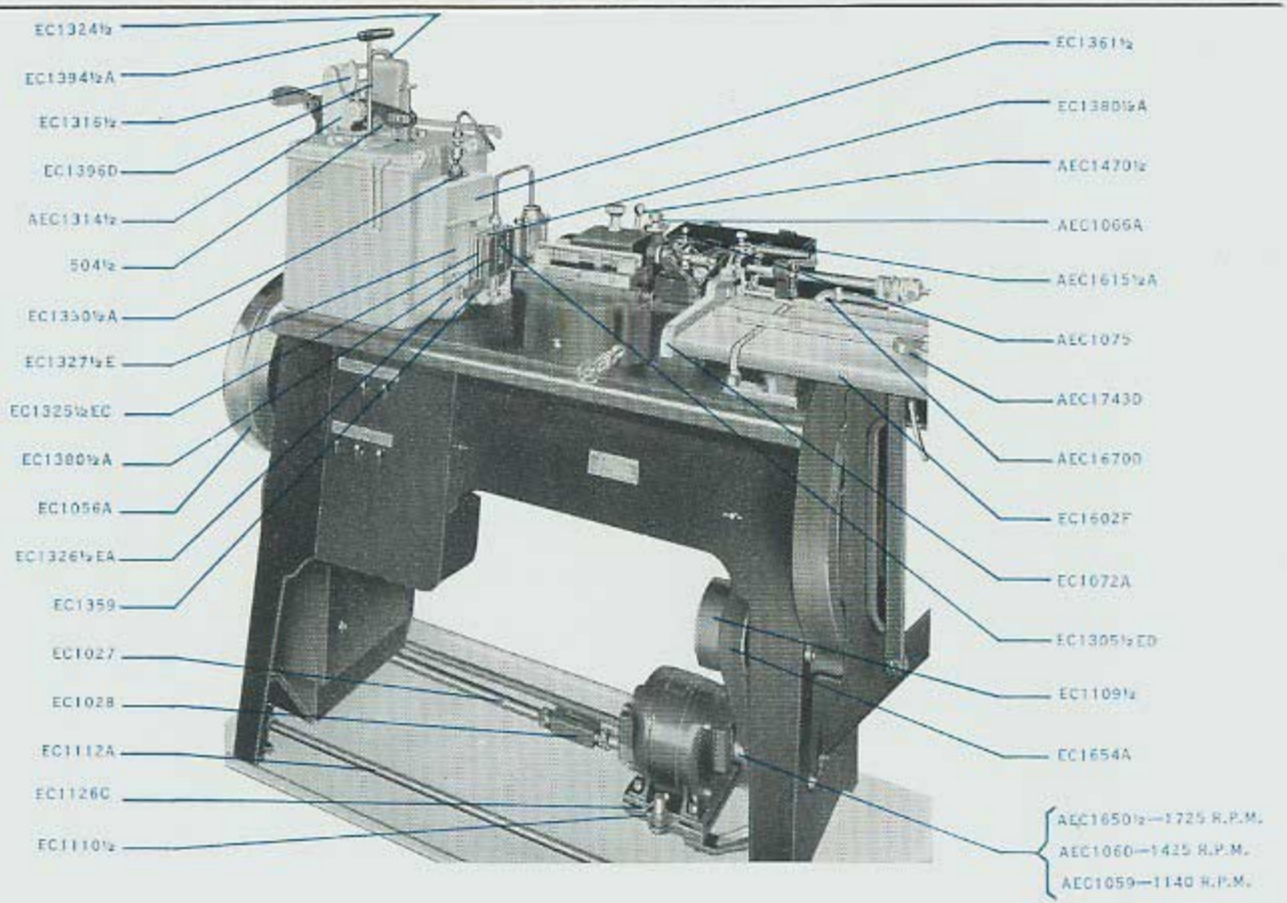
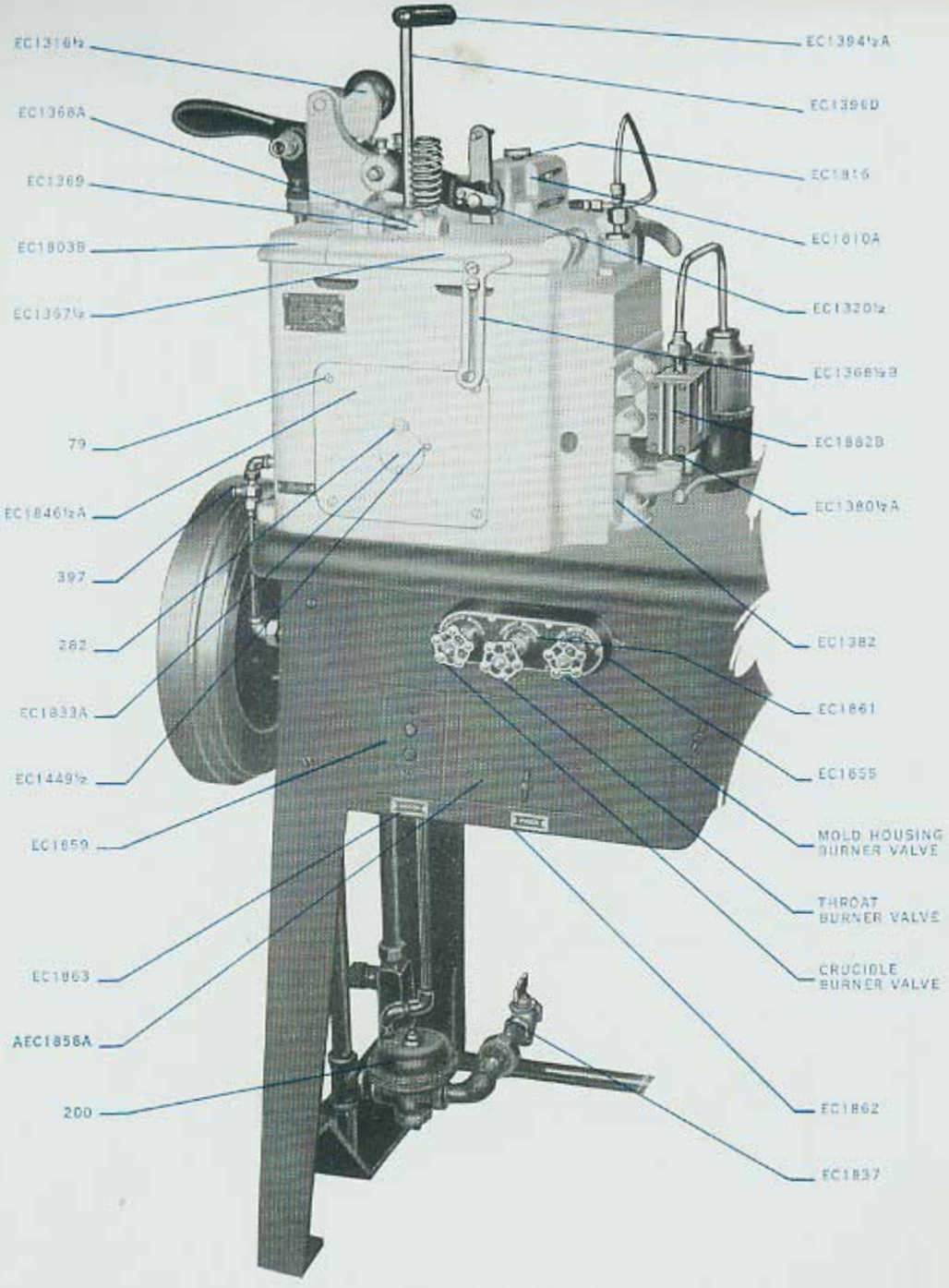


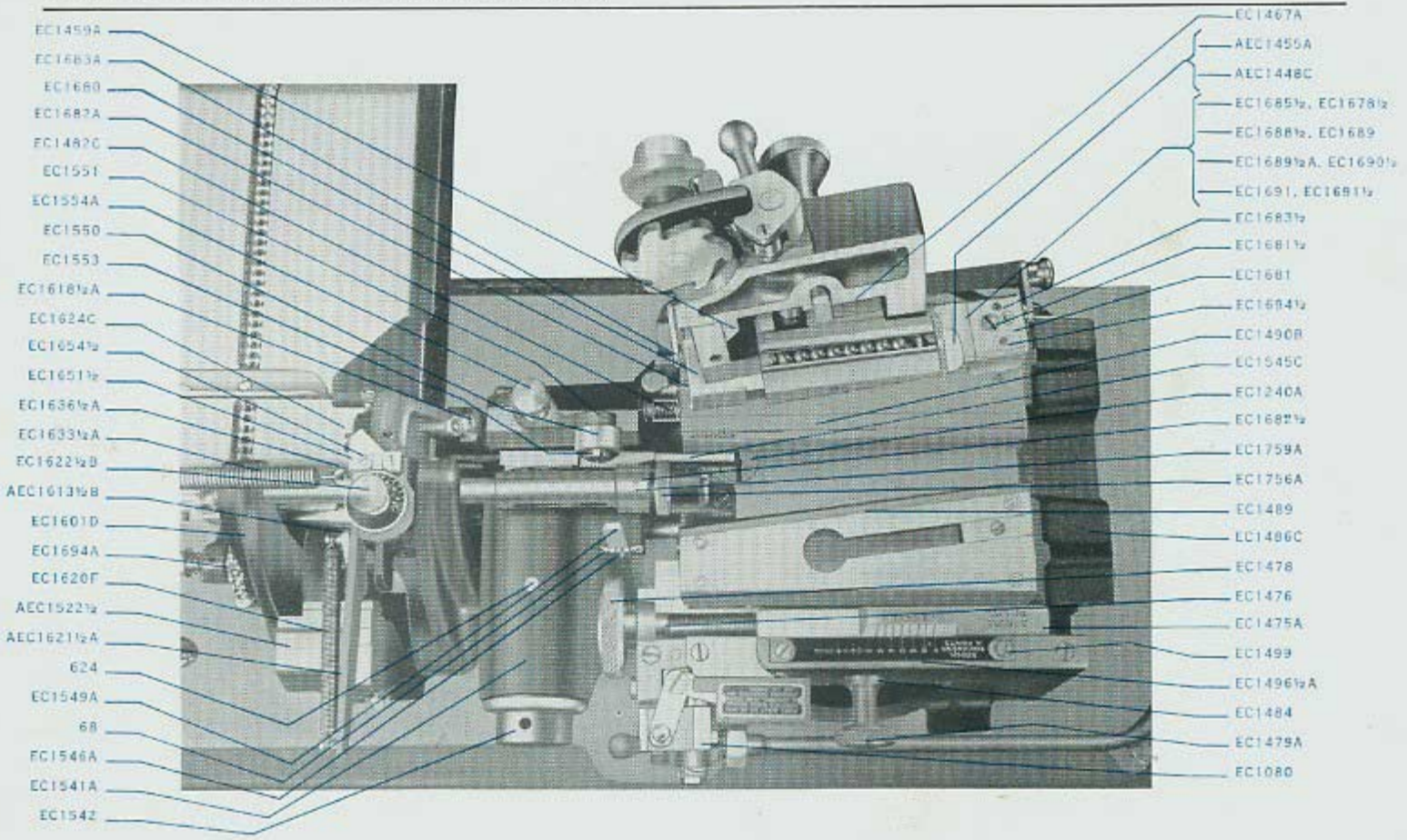
PLATE 8—Front View of Model F Electric Heated Elrod





Front View Model F Gas Heated Elrod—PLATE 9

PLATE 10—Puller and Cutter Mechanism (Model F)



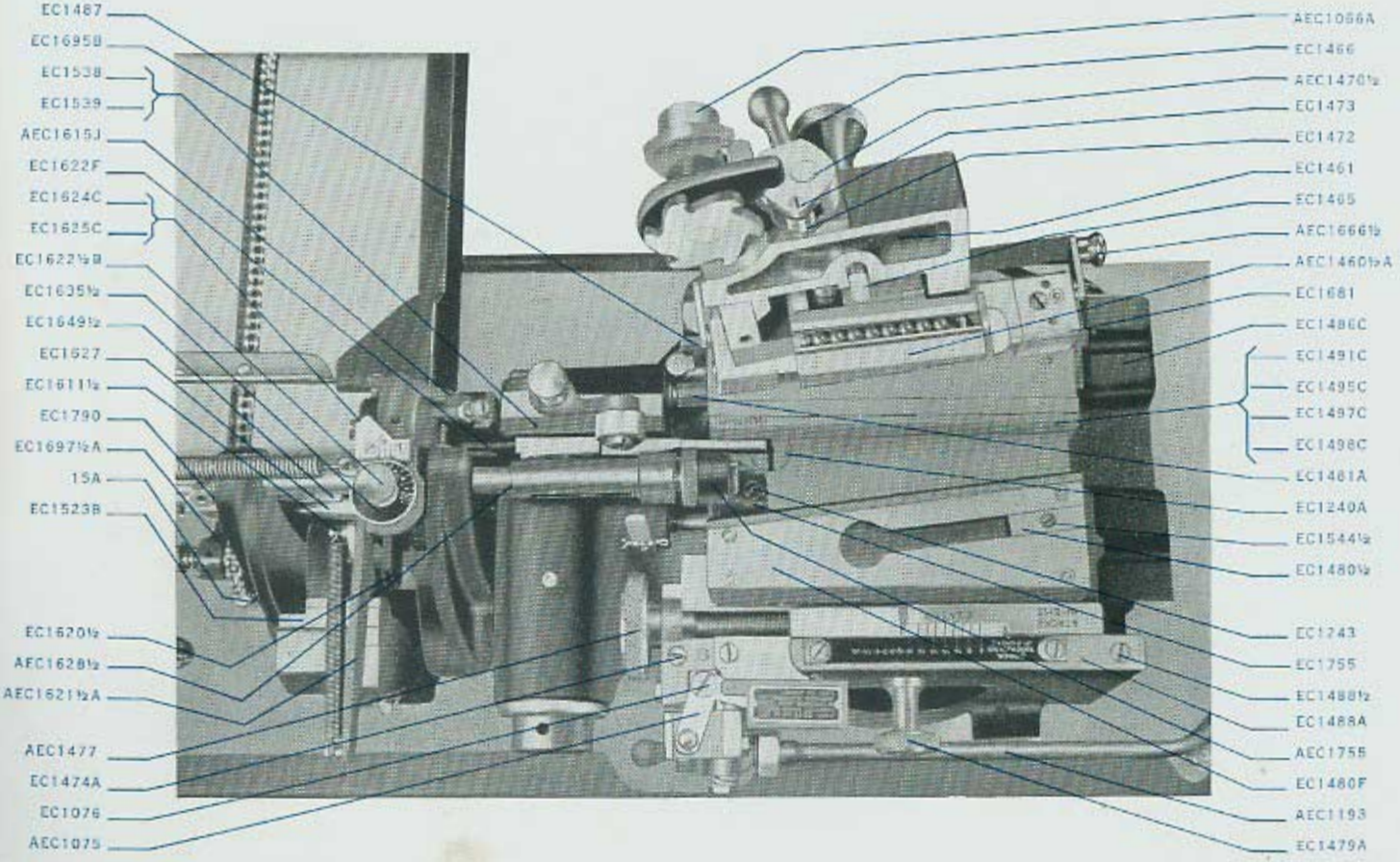
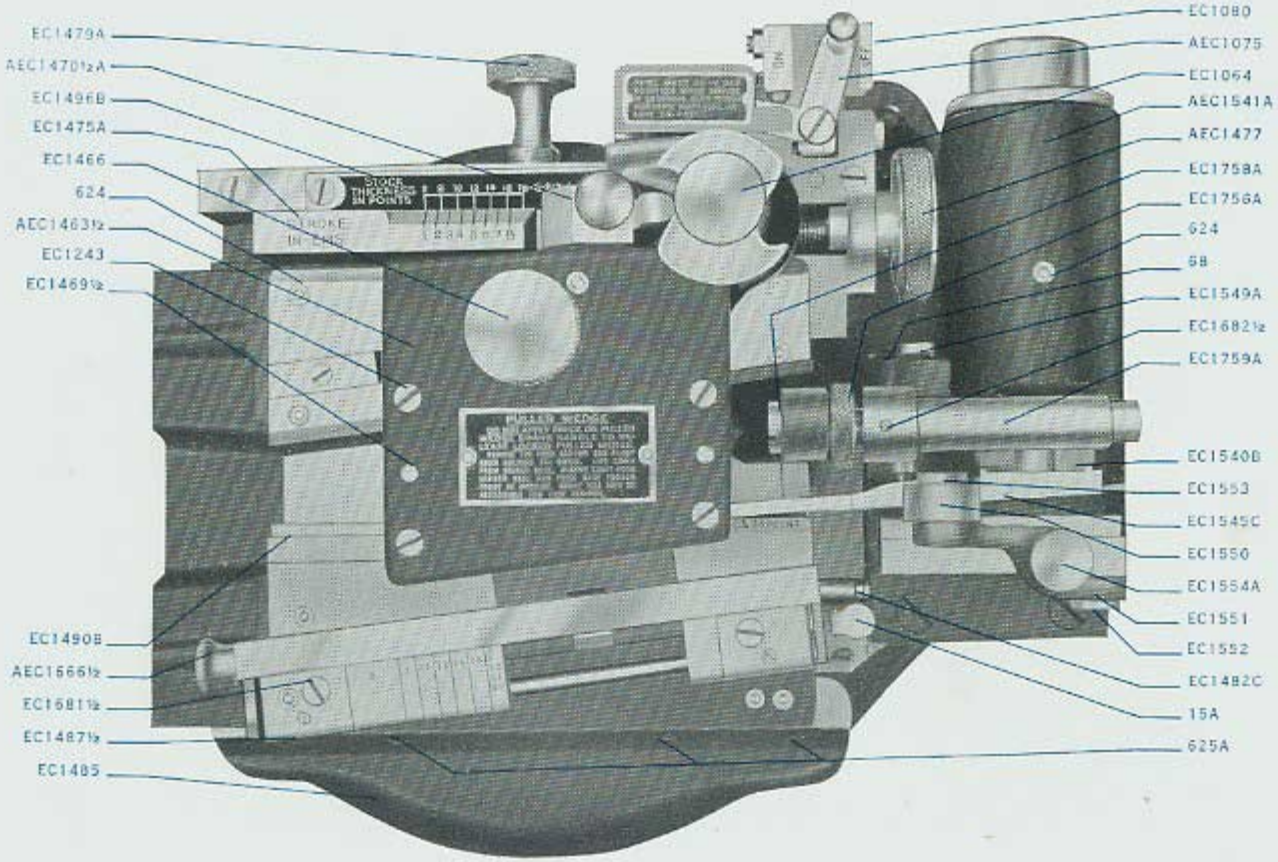
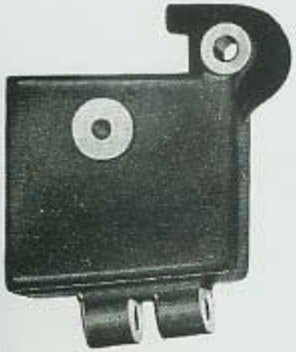

EC1487
EC1695B
EC1538
EC1539
AEC1615J
EC1622F
EC1624C
EC1625C
EC1622½B
EC1635½
EC1649½
EC1627
EC1611½
EC1790
EC1697½A
15A
EC1523B
EC1620½
AEC1628½
AEC1621½A
AEC1477
EC1474A
EC1076
AEC1075
AEC1056A
EC1466
AEC1470½
EC1473
EC1472
EC1461
EC1465
AEC1666½
AEC1460½A
EC1681
EC1486C
EC1491C
EC1495C
EC1497C
EC1498C
EC1481A
EC1240A
EC1544½
EC1480½
EC1243
EC1755
EC1488½
EC1488A
AEC1755
EC1480F
AEC1193
EC1479A

PLATE 12—Puller Slide (Model F)




EC1463½


AEC1470½


AEC1066A


EC1074


230


AEC1075


EC1076

659½


EC1067

EC1068


EC1472


EC1473


295½


AEC1084


EC1310½0


AEC1069—FOR ¾ INCH MOLD
AEC1019—FOR ⅝ INCH MOLD


EC1081

EC1073


EC1060


EC1082

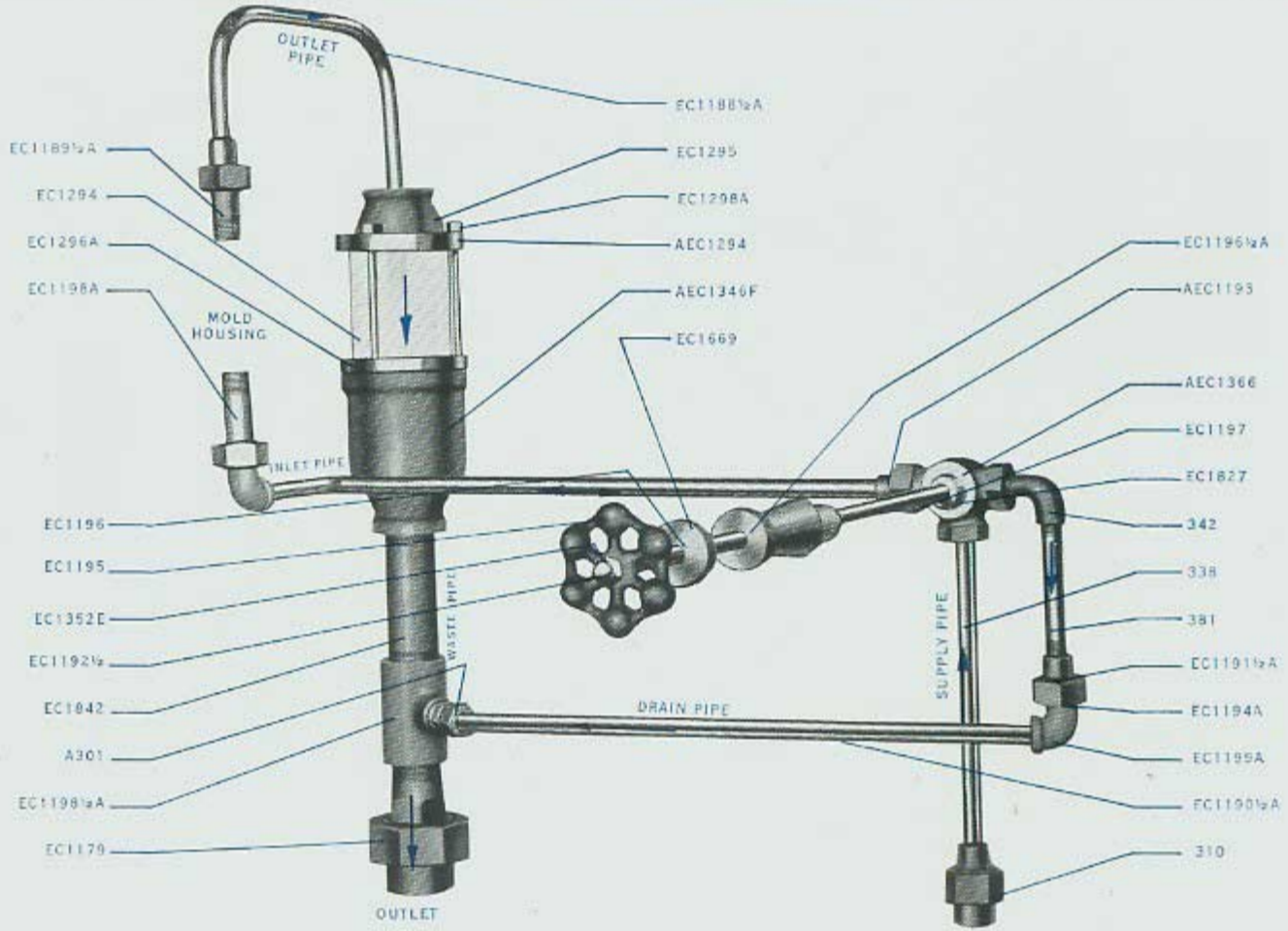

EC1085

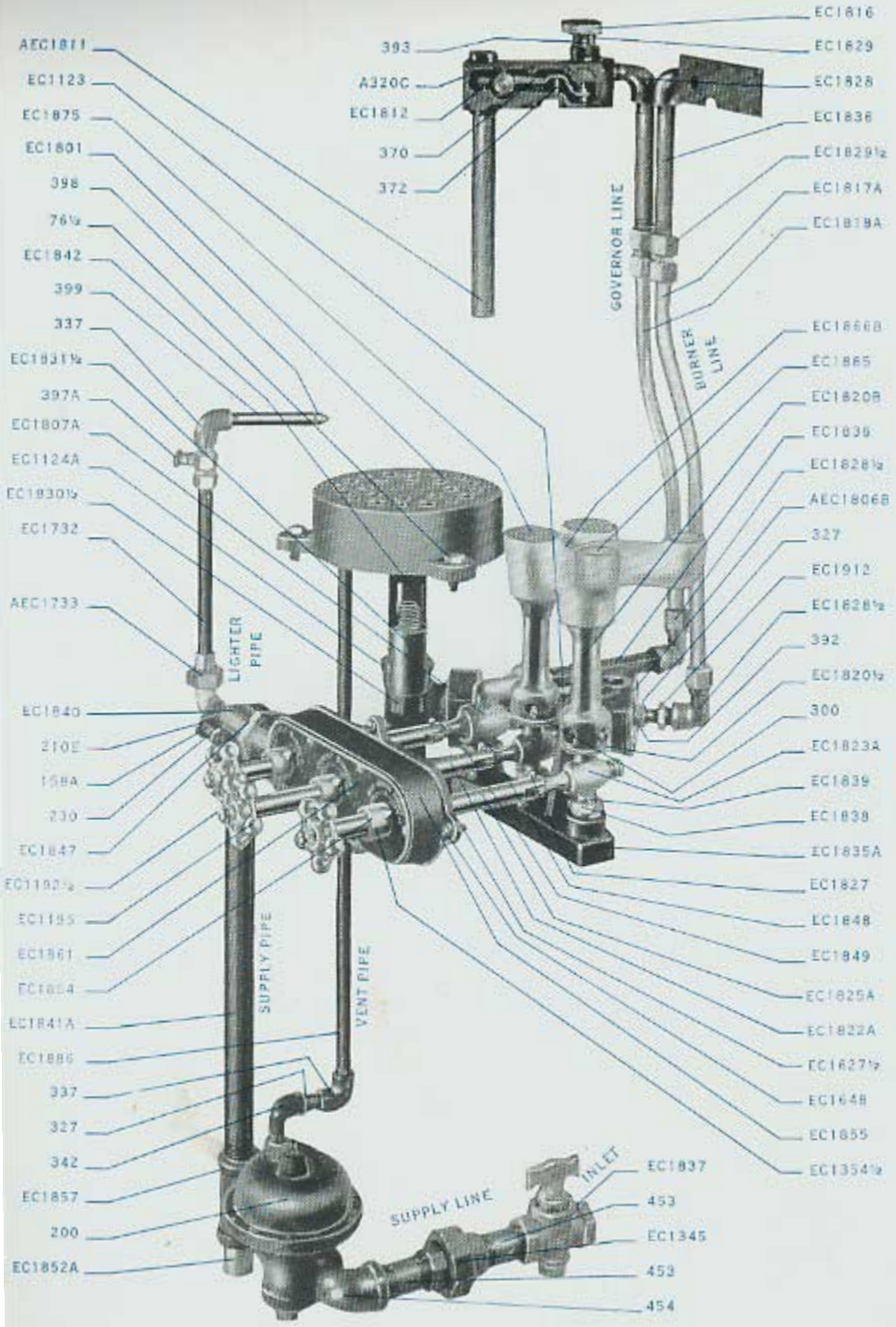

EC1497C—FOR 18 PT. & SMALLER
EC1495C—FOR 24 PT.
EC1491C—FOR 30 & 36 PT.


AEC1455A—FOR 6 TO 30 PT.
AEC1448C—FOR 36 PT.


EC1538—FOR 24 PT.
EC1539—FOR 30 & 36 PT.

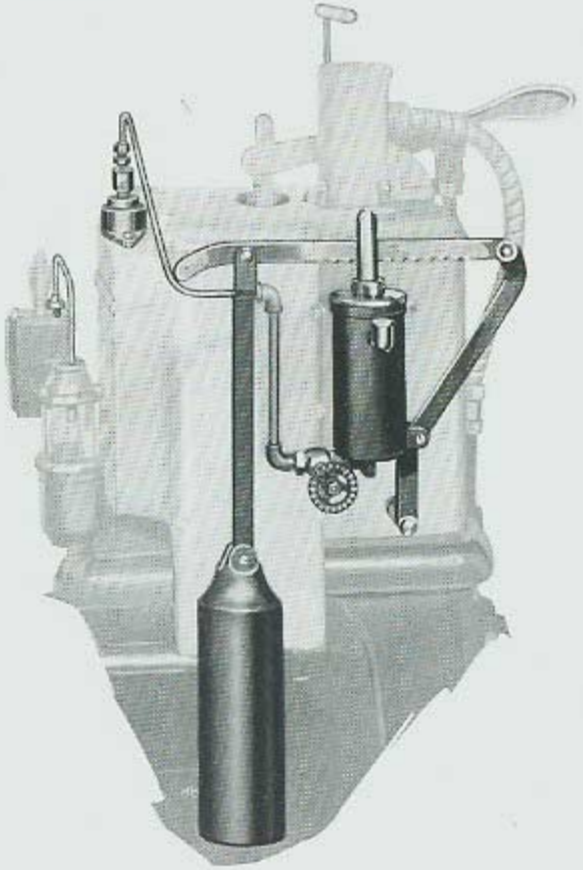
PLATE 14—Water Cooling System





Gas Heating System—PLATE 15

PLATE 16—Pressure Oiler



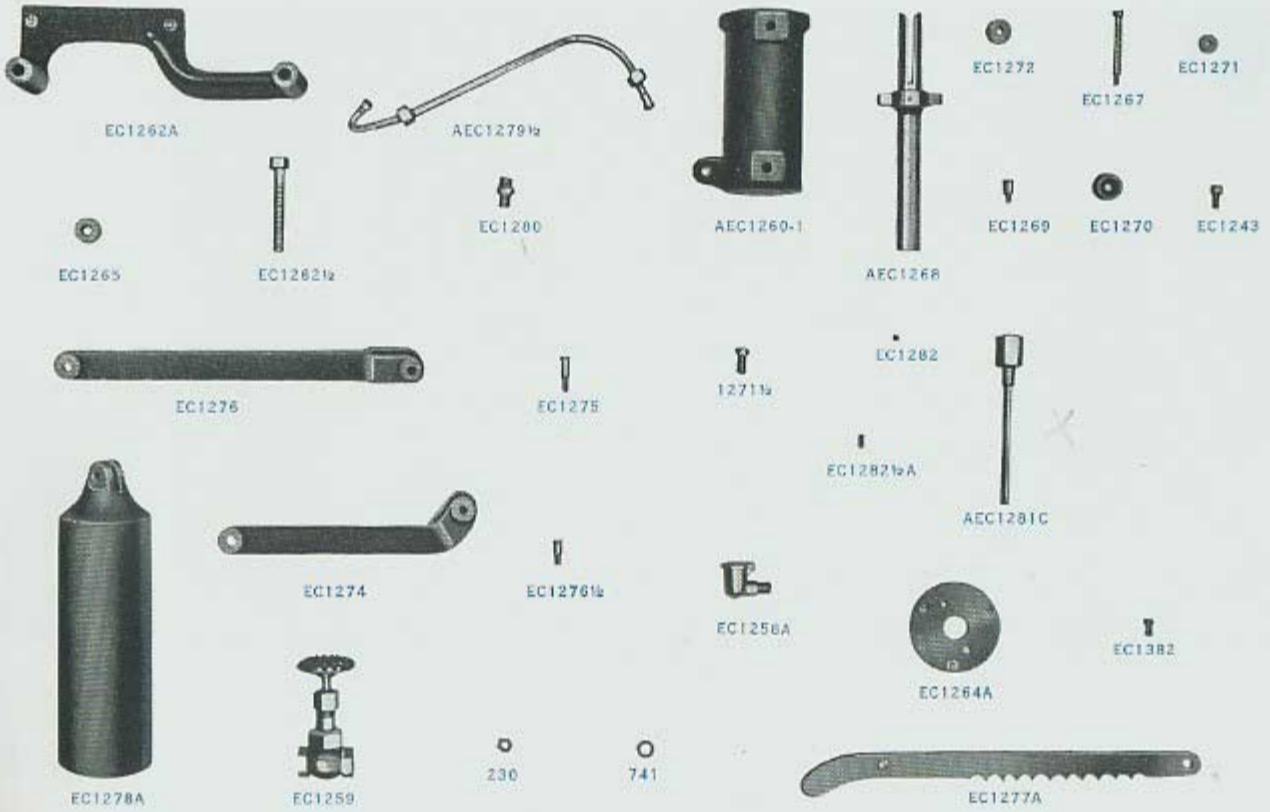
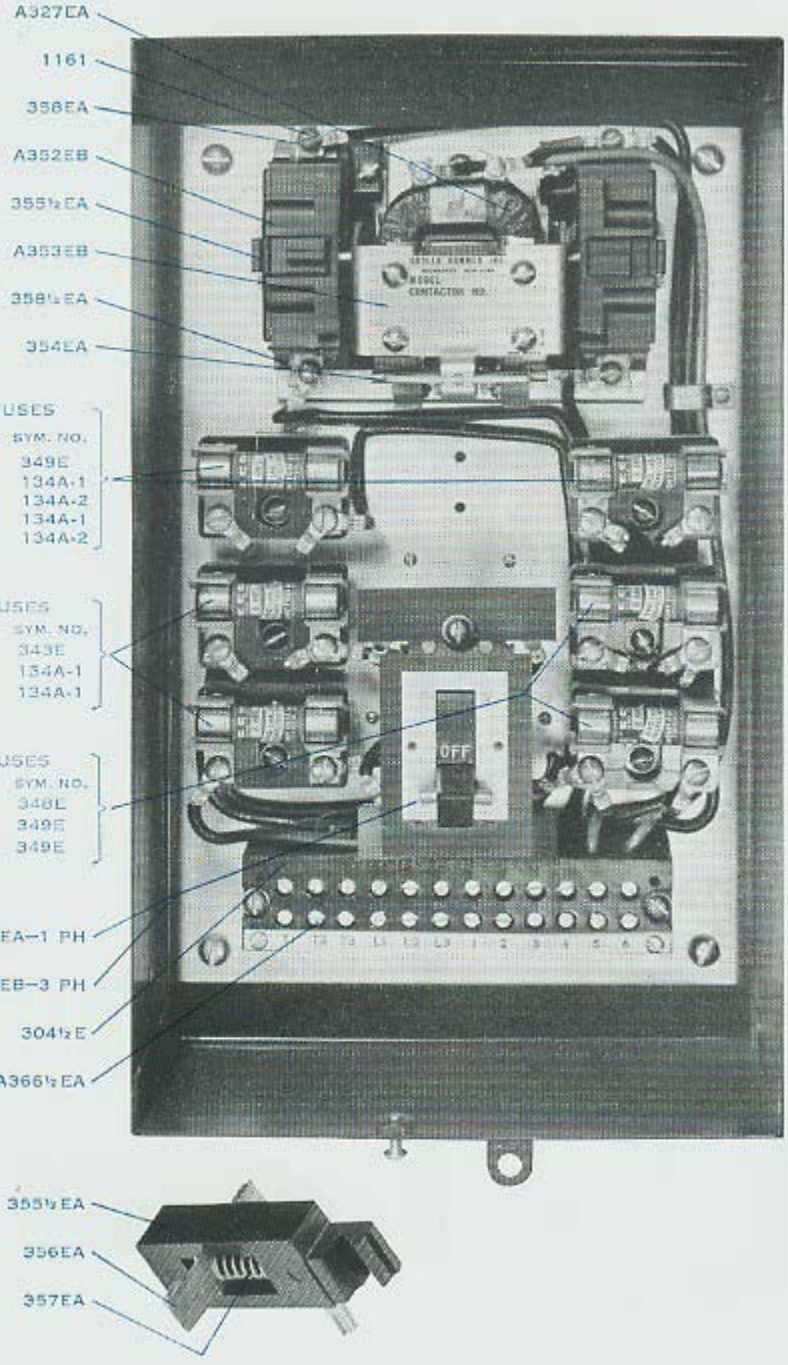
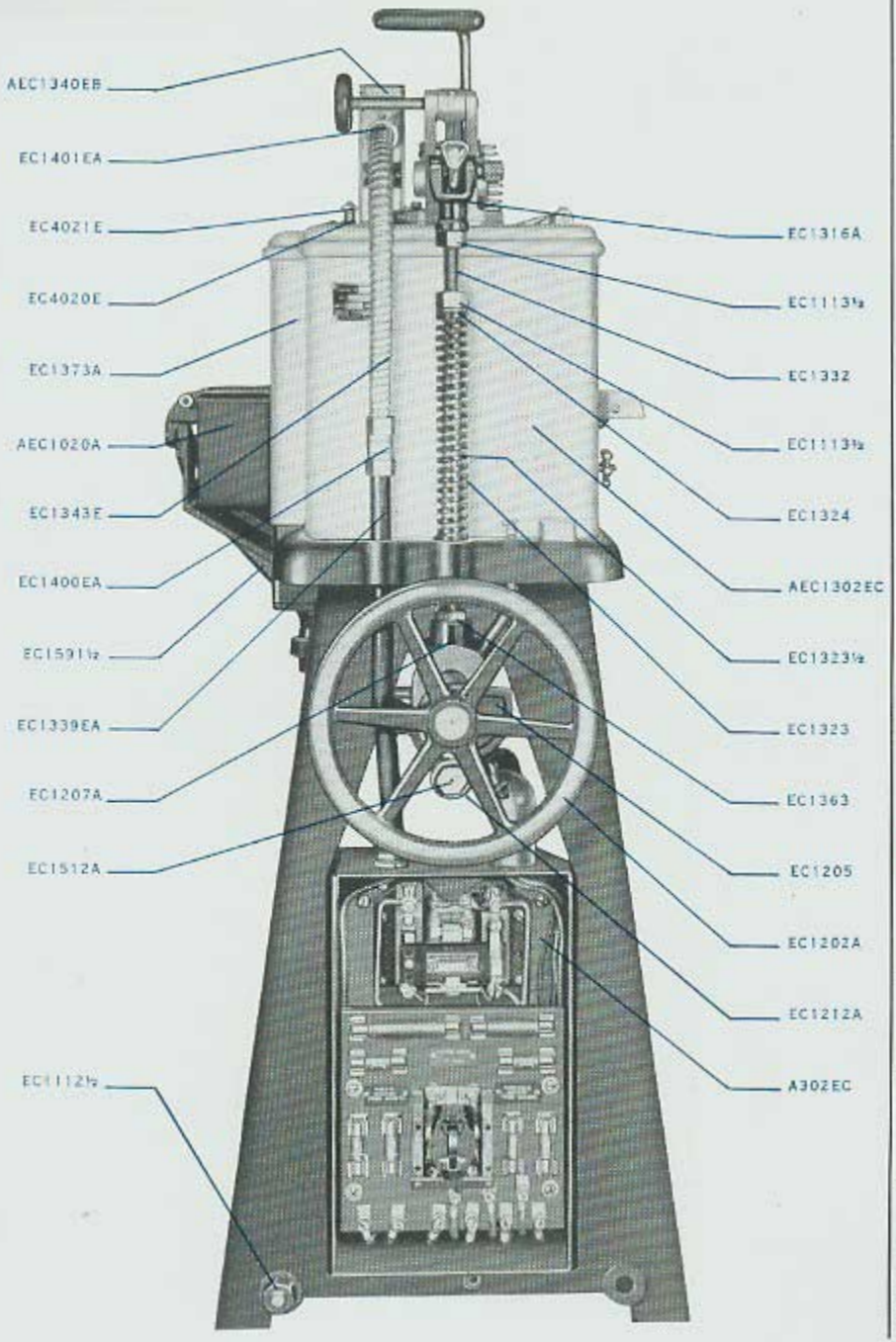

EC1262A
AEC1279½
EC1272
EC1267
EC1271
EC1265
EC1262½
EC1280
AEC1260-1
AEC1268
EC1269
EC1270
EC1243
EC1276
EC1275
12711½
EC1282
EC1282½A
AEC1281C
EC1274
EC1276½
EC1258A
EC1264A
EC1382
EC1278A
EC1259
230
741
EC1277A

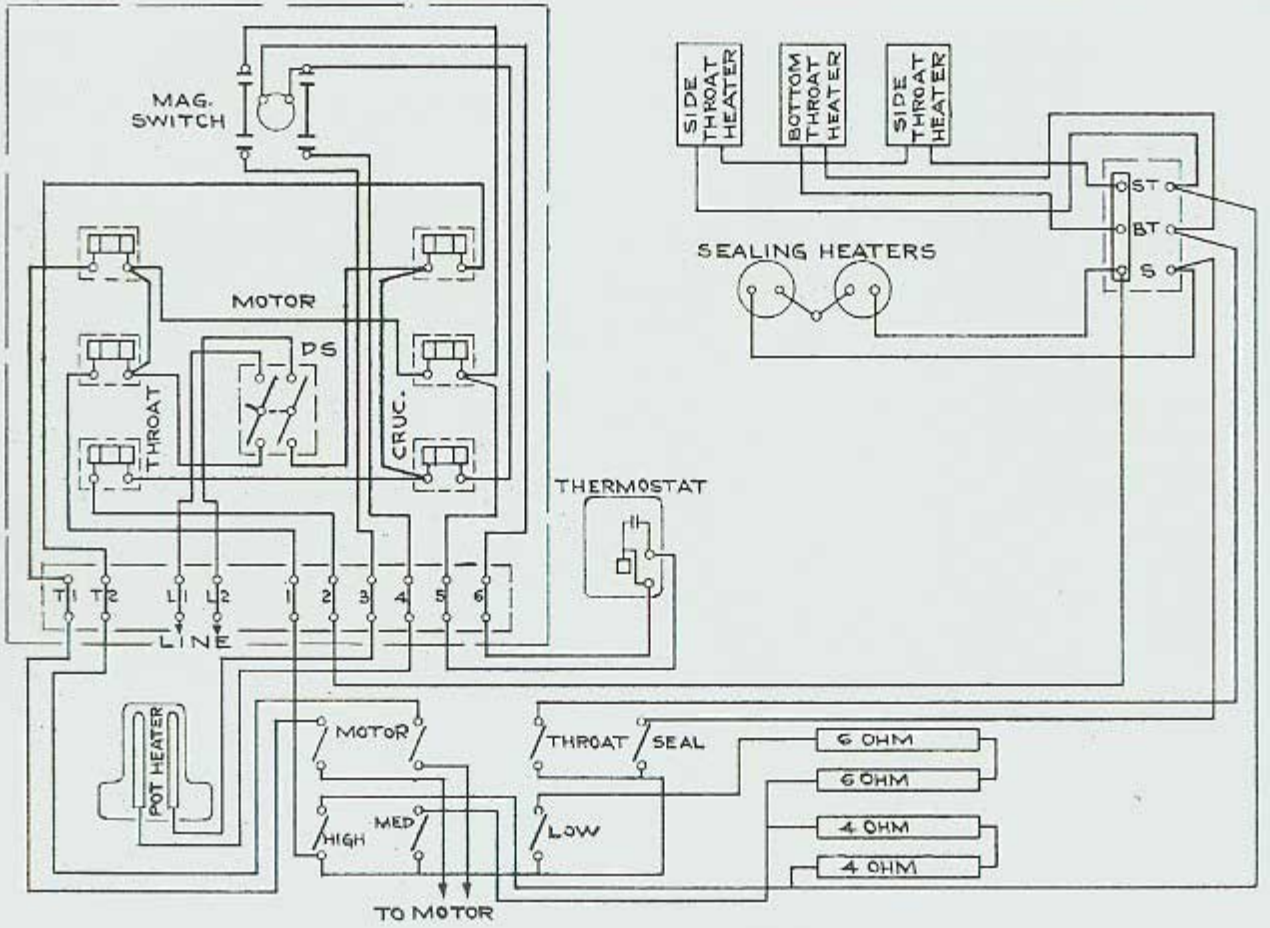
PLATE 18—Electric Heated Elrod Control Panel





Left End View Electric Heated Elrod (Model E)—PLATE 19

PLATE 20—Wiring Diagram of 200-250V. A.C. Single Phase Equipment



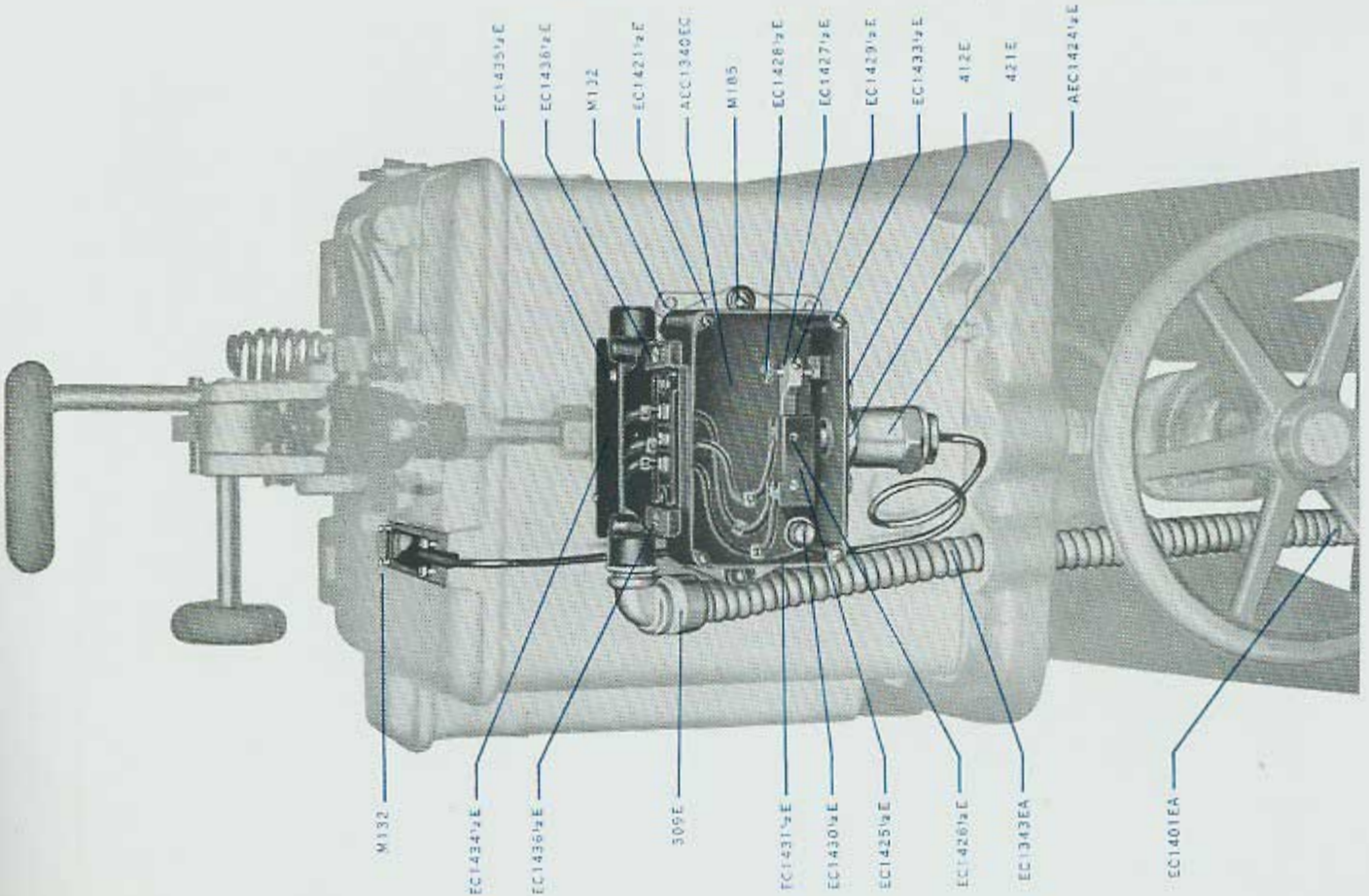
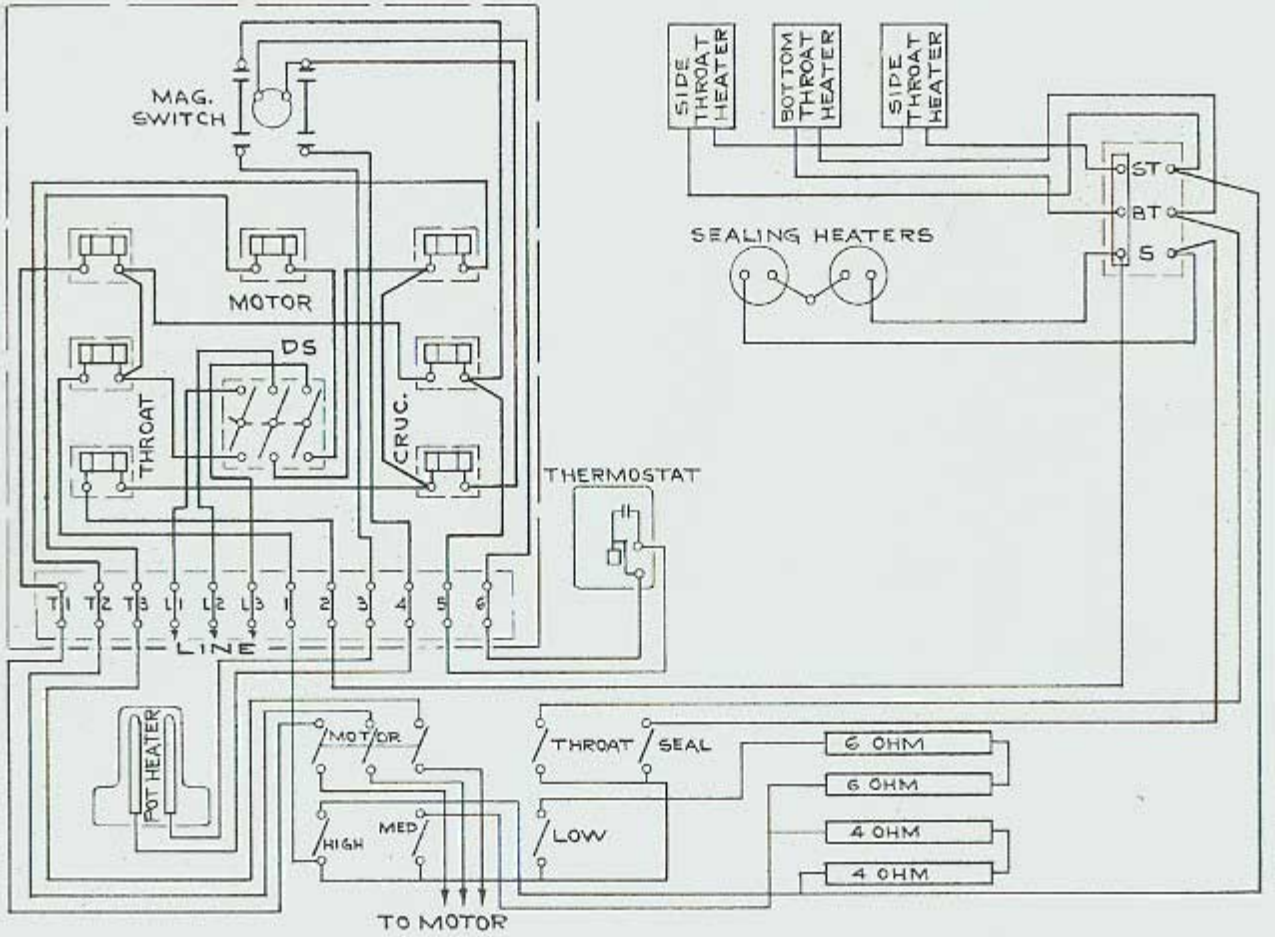

EC1435½E
EC1436½E
M132
EC1421½E
AEC1340EC
M185
EC1428½E
EC1427½E
EC1429½E
EC1433½E
412E
421E
AEC1424½E
M132
EC1434½E
EC1436½E
309E
EC1431½E
EC1430½E
EC1425½E
EC1426½E
EC1343EA
EC1401EA

PLATE 22—Wiring Diagram of 200-250V. A.C. 3-Phase Equipment



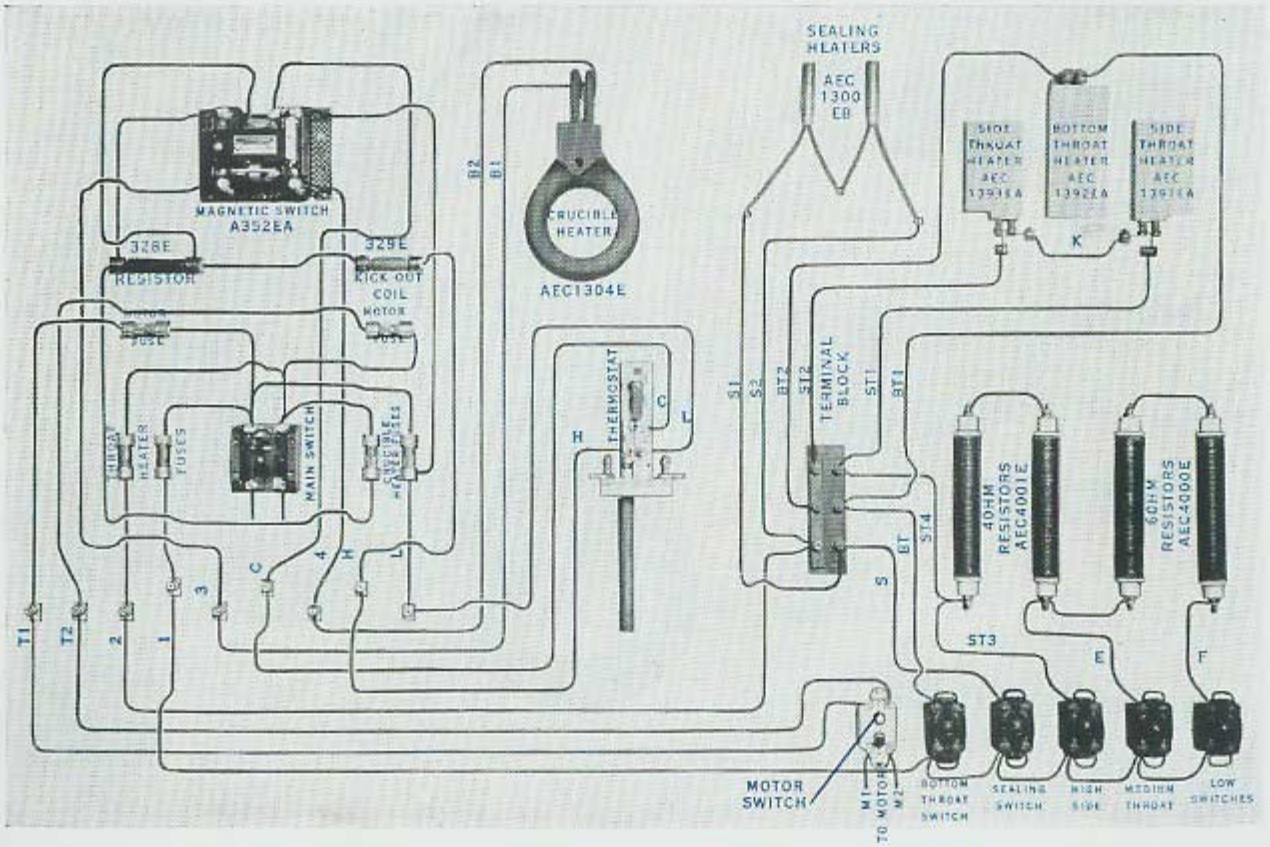
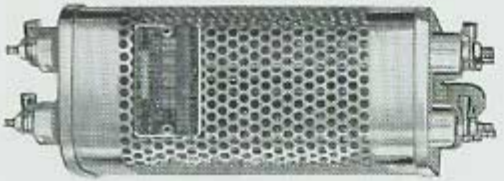

SEALING HEATERS
AEC 1300 EB
SIDE THROAT HEATER AEC 1391EA
BOTTOM THROAT HEATER AEC 1392EA
SIDE THROAT HEATER AEC 1391EA
K
MAGNETIC SWITCH A352EA
328E RESISTOR
329E KICK OUT COIL MOTOR
CRUCIBLE HEATER
AEC1304E
B2
B1
THERMOSTAT
H
C
L
S1
S2
BT2
ST2
TERMINAL BLOCK
ST1
BT1
THROAT HEATER FUSES
MAIN SWITCH
CRUCIBLE HEATER FUSES
T1
T2
2
1
3
C
4
H
L
S
BT
ST4
40HM RESISTORS AEC4001E
60HM RESISTORS AEC4000E
ST3
E
F
MOTOR SWITCH
M1
M2
TO MOTOR
BOTTOM THROAT SWITCH
SEALING SWITCH
HIGH SIDE
MEDIUM THROAT
LOW SWITCHES

PLATE 24—Heaters, Resistors and Switches



AEC1301E

AEC4000E (6 OHM)

AEC4001E (4 OHM)

AEC1391EA

AEC1300E8

AEC1304E

AEC1316E

AEC1317E

AEC1397EA

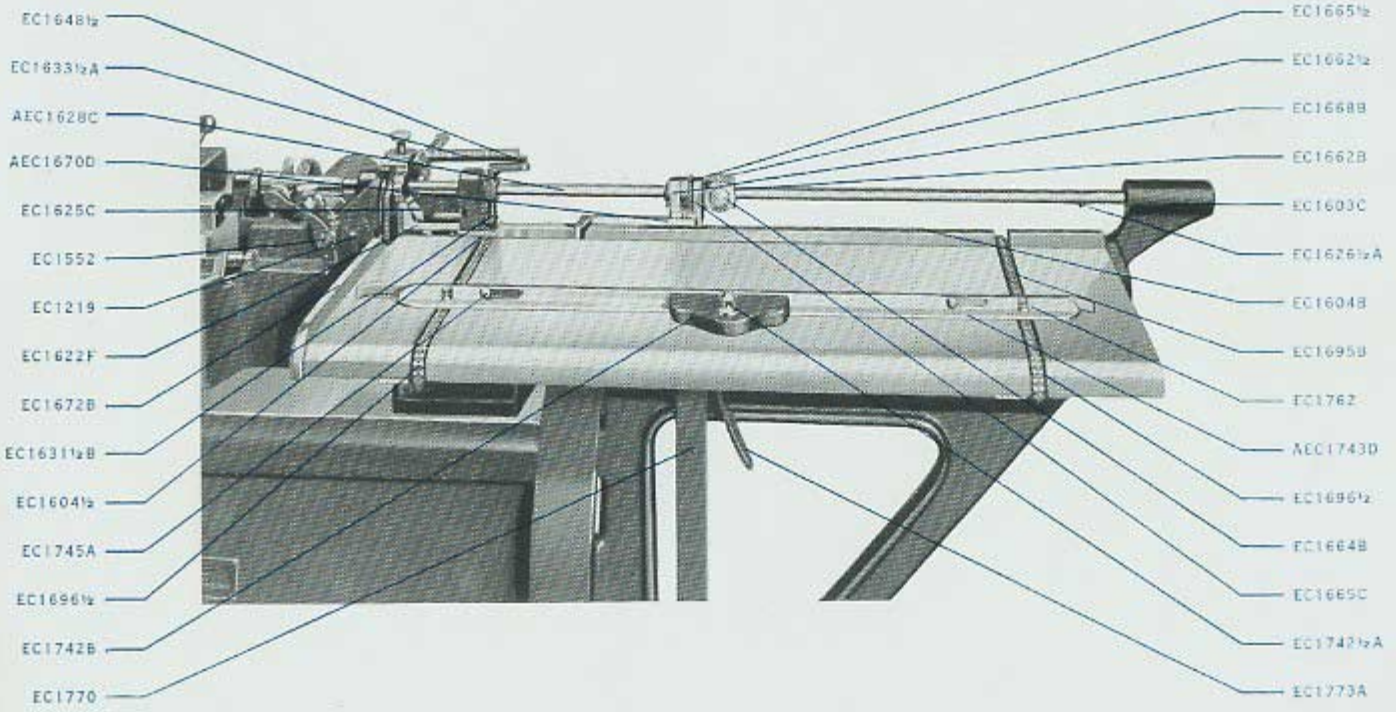
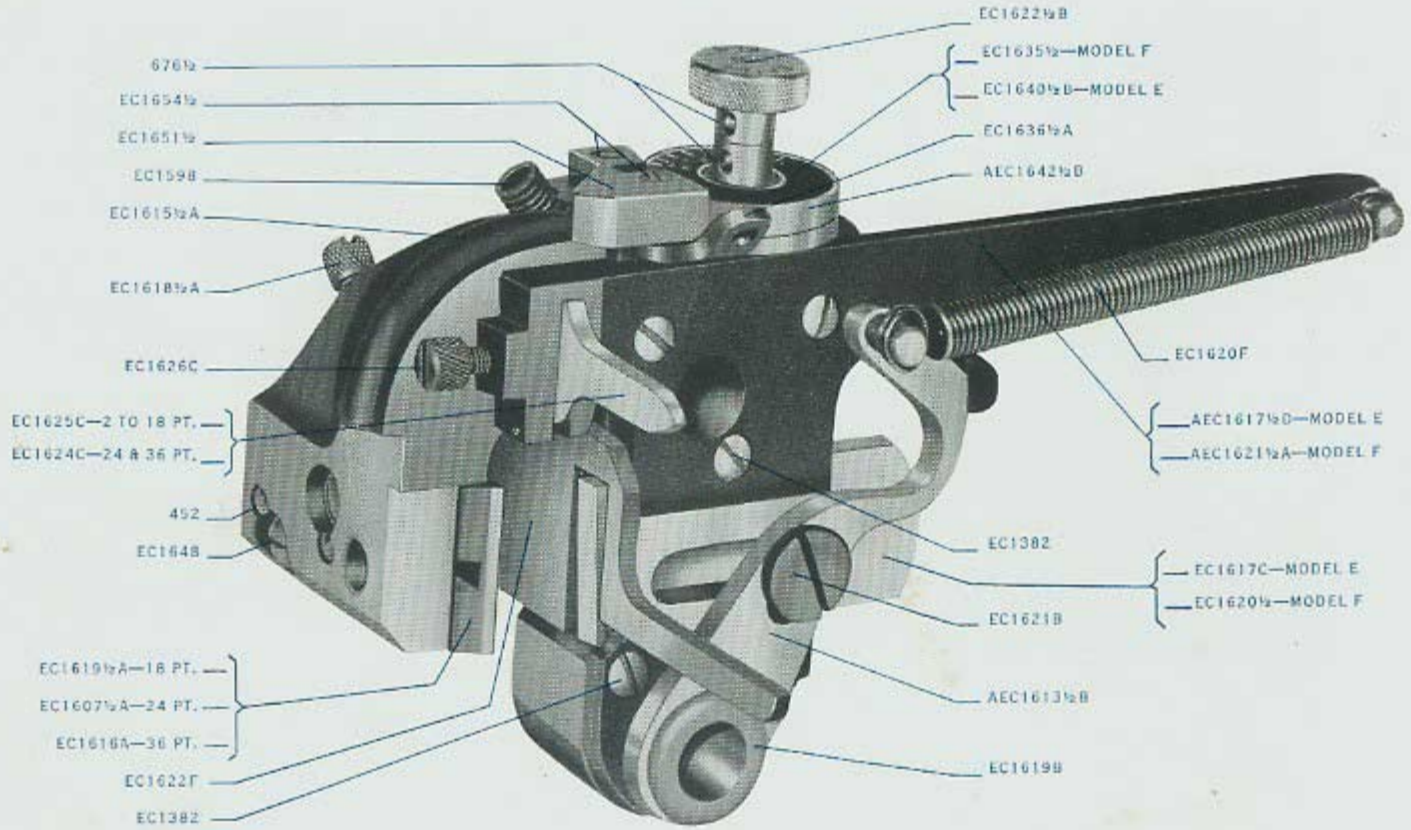

EC1648½
EC1633½A
AEC1628C
AEC1670D
EC1625C
EC1552
EC1219
EC1622F
EC1672B
EC1631½B
EC1604½
EC1745A
EC1696½
EC1742B
EC1770
EC1665½
EC1662½
EC1668B
EC1662B
EC1603C
EC1626½A
EC1604B
EC1695B
EC1762
AEC1743D
EC1696½
EC1664B
EC1665C
EC1742½A
EC1773A

PLATE 26—Cutter Head



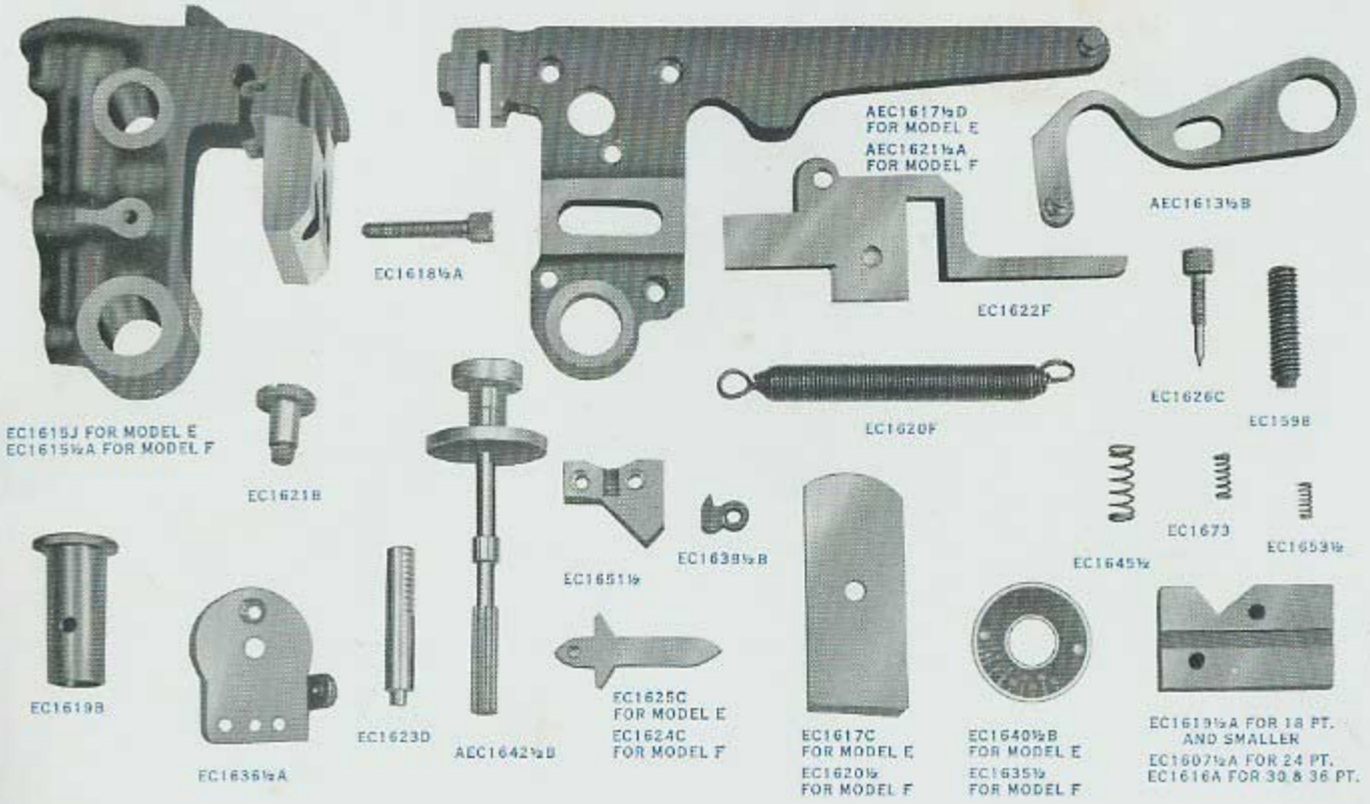
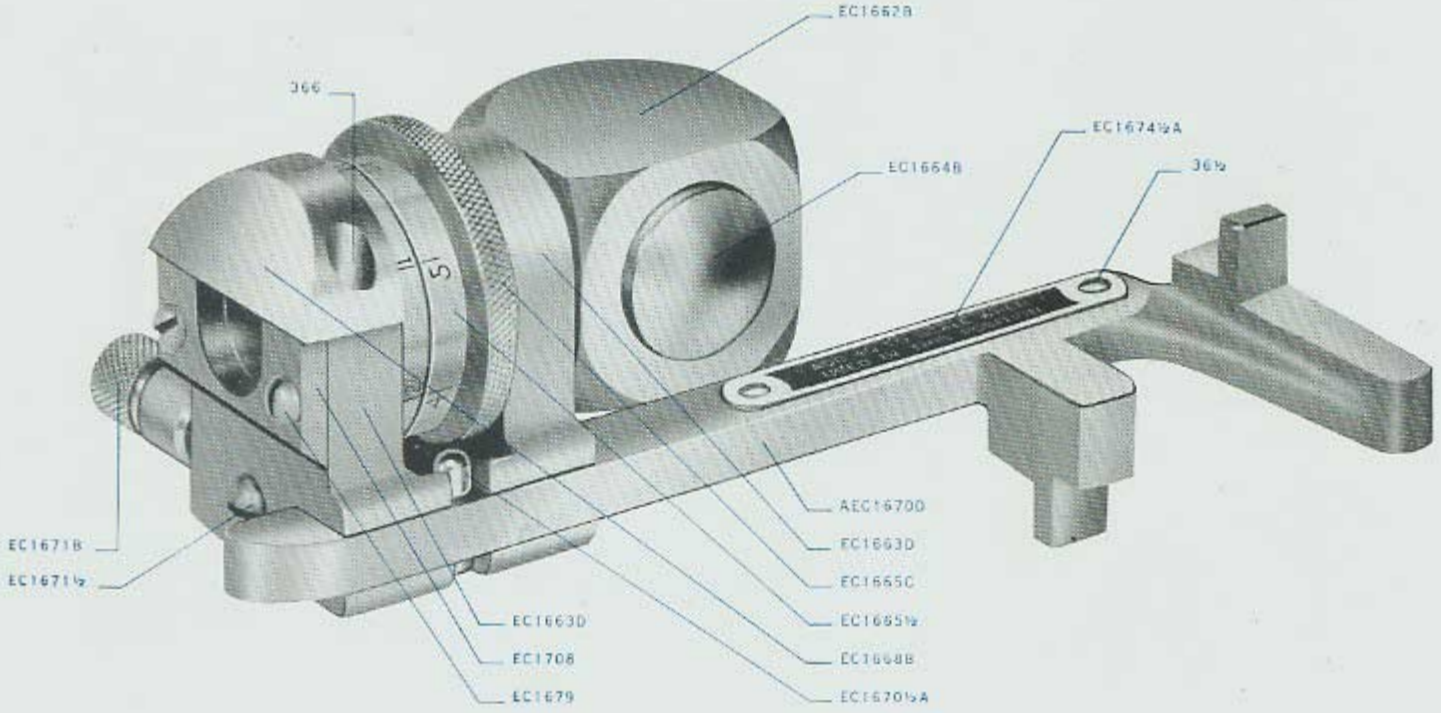

EC1615J FOR MODEL E
EC1615½A FOR MODEL F
EC1618½A
AEC1617½D
FOR MODEL E
AEC1621½A
FOR MODEL F
AEC1613½B
EC1622F
EC1626C
EC159B
EC1620F
EC1621B
EC1651½
EC1639½B
EC1645½
EC1673
EC1653½
EC1619B
EC1636½A
EC1623D
AEC1642½B
EC1625C
FOR MODEL E
EC1624C
FOR MODEL F
EC1617C
FOR MODEL E
EC1620½
FOR MODEL F
EC1640½B
FOR MODEL E
EC1635½
FOR MODEL F
EC1619½A FOR 18 PT.
AND SMALLER
EC1607½A FOR 24 PT.
EC1616A FOR 30 & 36 PT.

PLATE 28—Material Gauge



AEC1670D

EC1663D

EC1662B

EC1667

EC1679

EC1674

EC1672½A

EC1671½

EC1662½

EC1673A

EC1354½

366

EC1671B

EC1708

EC1665C

EC1665½

EC1668B

EC1666B

EC1664B

PLATE 30—Diffusion Tube and Diffusion Tube Repacking Set

AEC1281C (CROSS SECTION)

EC1724

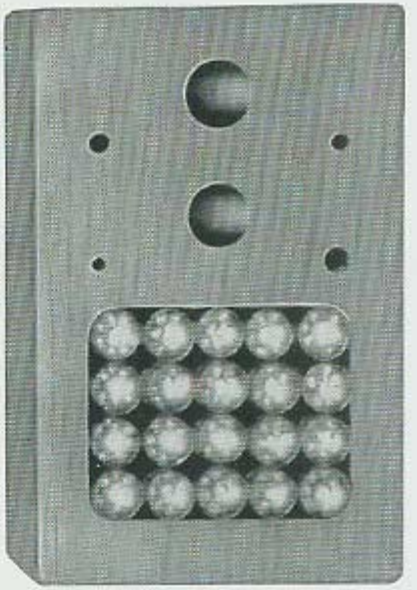
EC1727

EC1348½8

EC1726

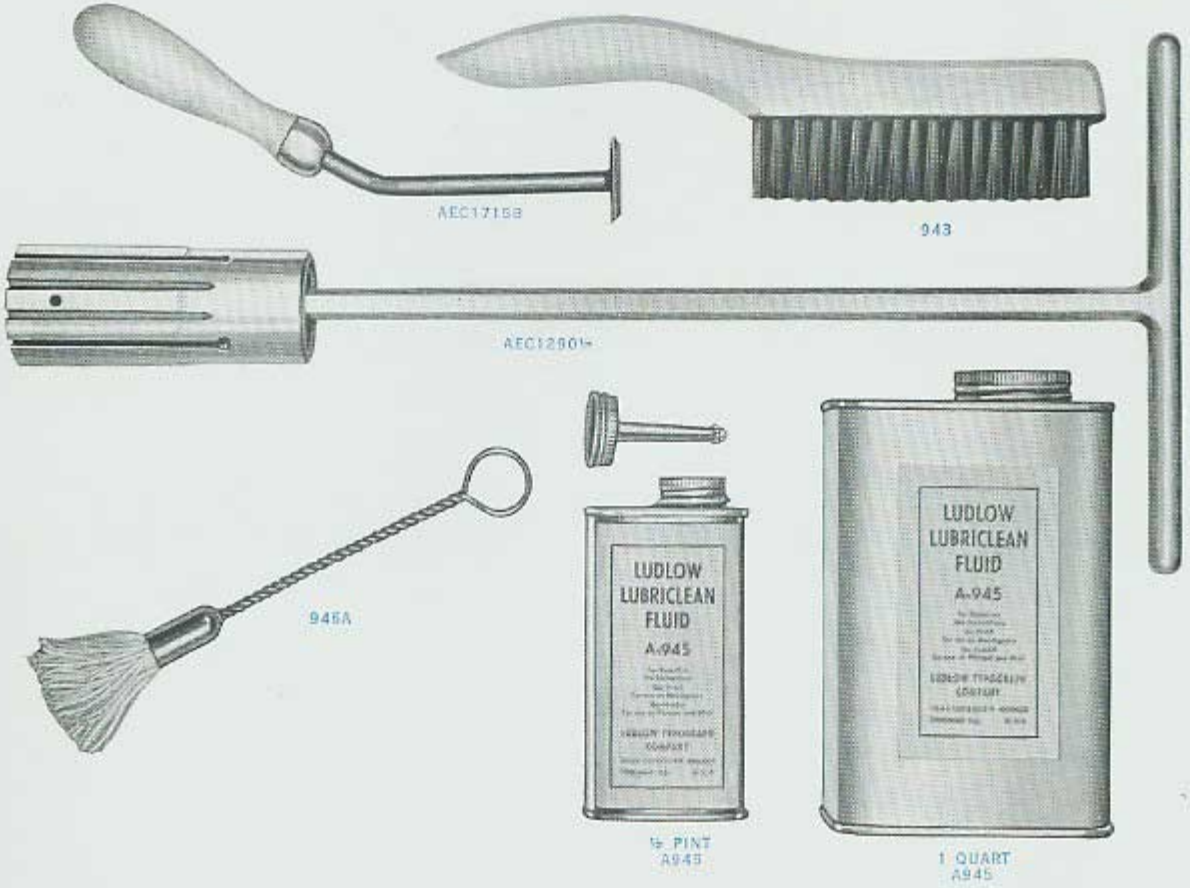
EC1725

AEC1721A



AEC1281½ (PELLET CAPSULE)

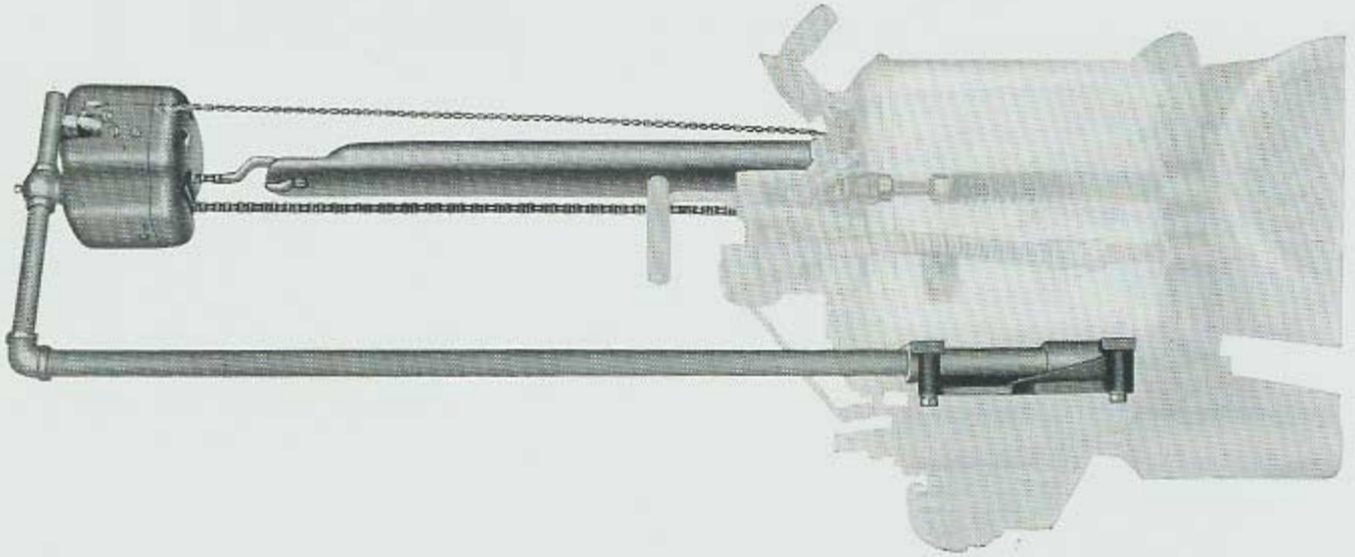
EC1720A (TOOL BLOCK)



½ PINT
A945

1 QUART
A945

PLATE 32—Margach Metal Feeder for Elrod



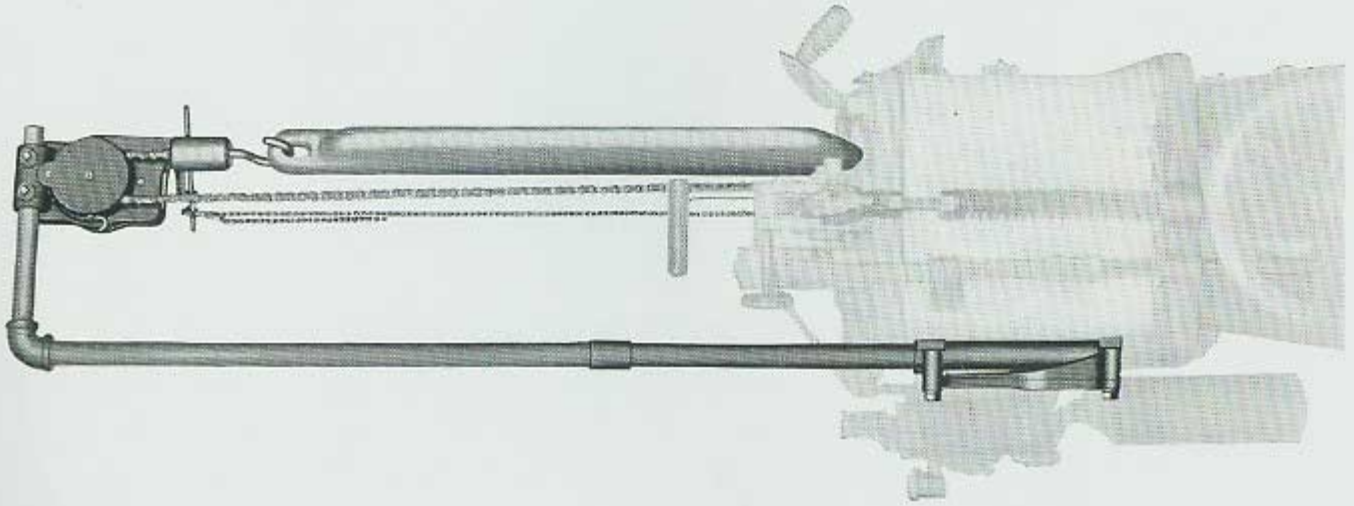
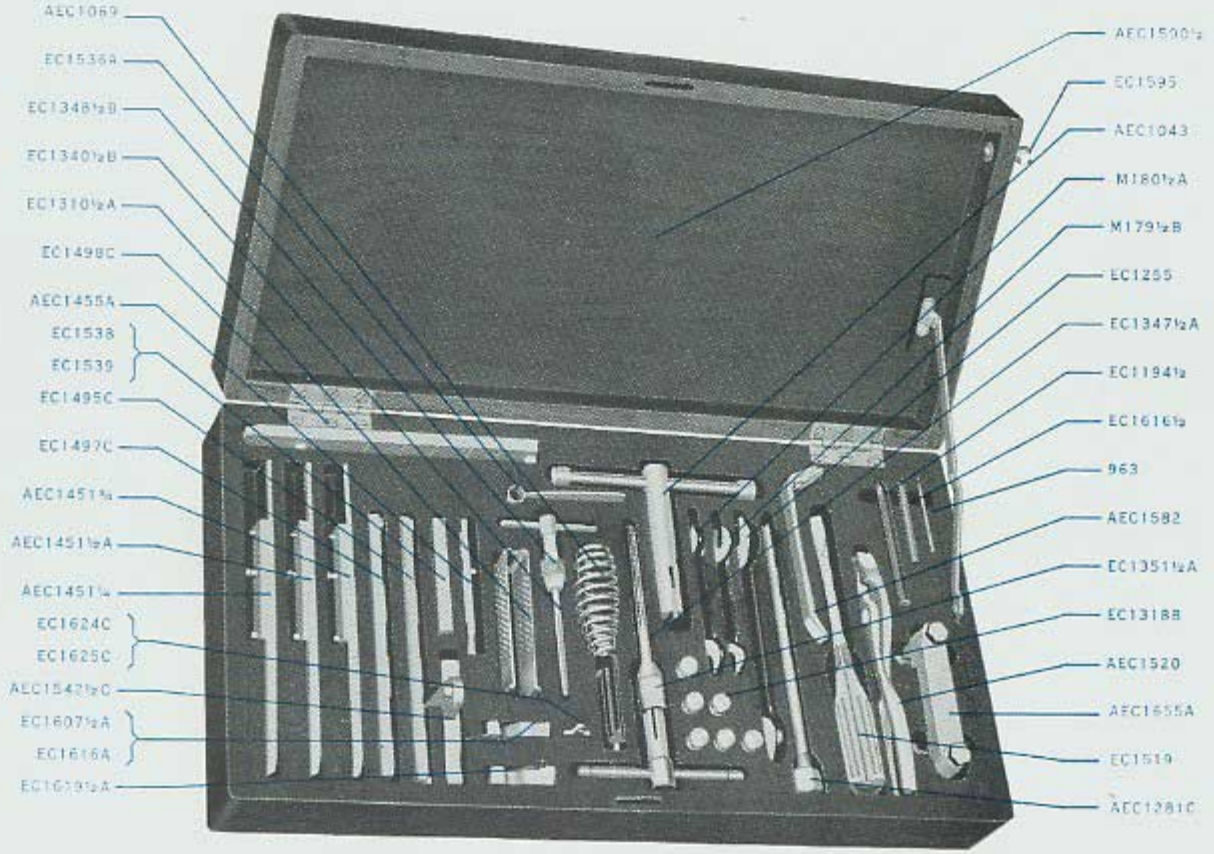


PLATE 34—Elrod Accessories Box and Contents



STYLE 3

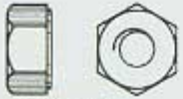
STYLE 7

STYLE 2

STYLE 8

STYLE 5

STYLE 4



STYLE 101

STYLE 102

STYLE 55

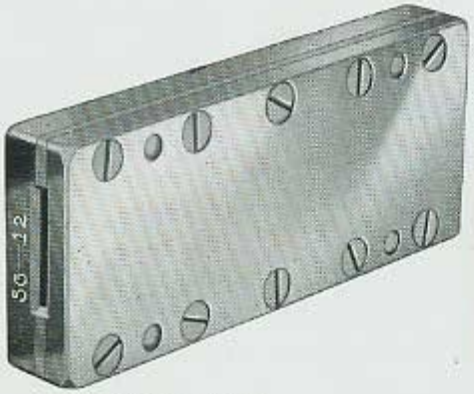
STYLE 56

STYLE 201

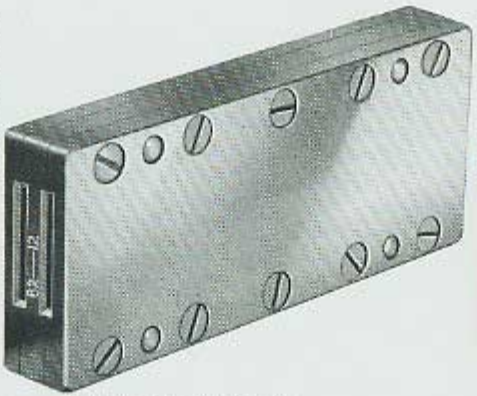
STYLE 57

STYLE 202

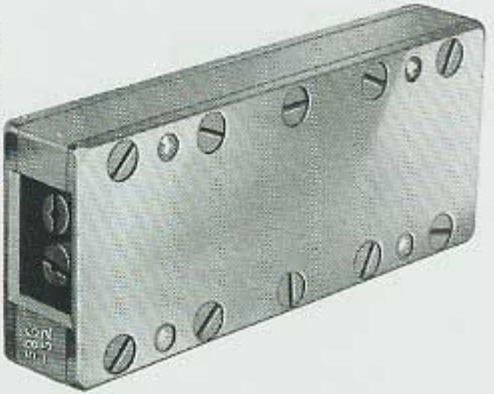
PLATE 36—Elrod Molds



6-point Slug Mold



Twin 2-point Mold



Hollowed Body 36-point Base Mold

Below are shown cross sections of the bodies on which Elrod strip material is cast. Leads, slugs, and base on these bodies are available from stock in four heights: .750, .765, .854 and .875.

Twin 1-Point Leads

Twin 2-Point Leads

Twin 3-Point Leads

6-Point Slug

Single-channel Tie-up

Hollow-Center Body 12-Point Slug

Hollowed-Body 18-Point Base

Hollowed-Body 24-Point Base

Hollowed-Body 30-Point Base

Hollowed Body 36-Point Base

73-31 — One and one-half point with Half-point — 3 pt.

74-04 — Cut-off Rule — 4 pt.

76-46 — Double Hairline centerface — 6 pt.

76-11 — Double Hairline (on side) — 6 pt.

76-47 — Double Half-point centerface (1½ Pt. white space) — 6 pt.

76-54 — Double Half-point centerface (2 Pt. white space) — 6 pt.

76-30 — Double Half-point (on side) — 6 pt.

76-19 — Double One-point (on side) — 6 pt.

76-28 — Double One-point (on side) — 6 pt.

76-13 — Double One-point — 6 pt.

76-31 — One and one-half point with Half-point (on side) — 6 pt.

76-32 — Two-point with Half-point (on side) — 8 pt.

76-33 — Two-point with One-point (on side) — 6 pt.

76-10 — Double Two-point — 8 pt.

76-12 — Tariff Rule — 6 pt.

76-29 — Three-point with One-point — 6 pt.

76-27 — Triple One-point — 6 pt.

76-34 — Four-point with Half-point — 6 pt.

76-35 — Two and one-half point with two Half-point — 6 pt.

76-36 — One-point with two Half-point — 6 pt.

76-37 — Two-point with two Half-point — 6 pt.

76-14 — Two-point with triple Hairline — 6 pt.

78-38 — Four-point with two One-point — 8 pt.

79-17 — Six-point with two One-point — 12 pt.

79-18 — Six-point with two Two-point — 12 pt.

79-40 — Three Half-point — 12 pt.

79-41 — Six Half-point — 12 pt.

79-42 — Two Two-point with four Half-point — 12 pt.

Information on above molds, and other single rule molds, as well as lead, slug and base molds are on following pages.

PLATE 38—Some Standard Elrod Rule Faces

Hairline

One-half Point

One Point

Two Point

Three Point

Four Point

Six Point

Eight Point

Ten Point

Twelve Point

Eighteen Point

Twenty-four Point

Thirty Point

Thirty-six Point

Mold No.	Face	Body	Code Word
	Solid Body, .918 High		
	(See Plate 37 for Parallel and Combination Rules)		
71-00	Hairline Centerface	1½ pt.	Mudge
72-01	Hairline Centerface	2 pt.	Score
72-20	One-point Centerface	2 pt.	Scour
72-21	One-point Sideface	2 pt.	Scrap
72-22	Two-point Fullface	2 pt.	Screw
72-39	Half-point Sideface	2 pt.	Shari
73-02	Hairline Centerface	3 pt.	Sripe
73-03	One-point Sideface	3 pt.	Scrub
73-23	Three-point Fullface	3 pt.	Scuff
73-31	One and one-half point with One-half point (on side)	3 pt.	Houff
74-04	Two-point and One-point (on side)	4 pt.	Sends
74-24	Hairline Centerface	4 pt.	Scull
76-05	Column Rule Centerface (.918)	6 pt.	Scurf
76-55	Tapered body Column Rule (.918)	5½-6 pt.	Hutch
	Column Rule .915 or other special heights, additional charge.		
76-06	One-point Sideface	6 pt.	Seats
76-07	Two-point Sideface	6 pt.	Sebum
76-08	Three-point Sideface	6 pt.	Sects
76-09	Four-point Sideface	6 pt.	Sedan
76-10	Two-point Parallel	6 pt.	Senna
76-11	Hairline Parallel (on side)	6 pt.	Sense
76-12	Two-point and One-point (on side)	6 pt.	Sepoy
76-13	One-point Parallel	6 pt.	Serge
76-14	Two-point with 3 Hairlines	6 pt.	Serum
76-15	Six-point Fullface	6 pt.	Seedy

Mold No.	Face	Body	Code Word
	Solid Body, .918 High		
76-19	One-point Parallel (on side)	6 pt.	Serfs
76-27	Three One-point	6 pt.	Shawm
76-28	One-point Parallel (on side)	6 pt.	Sharp
76-29	Three-point with One-point	6 pt.	Shawl
76-30	Half-point Parallel (on side)	6 pt.	Sharn
76-31	One and One-half point with Half-point (on side)	6 pt.	Shaul
76-32	Two-point with Half-point (on side)	6 pt.	Shaup
76-33	Two-point with One-point (on side)	6 pt.	Saith
76-34	Four-point with Half-point	6 pt.	Stull
76-35	Two and One-half point with two Half-points	6 pt.	Socks
76-36	One-point with two Half-points	6 pt.	Sheal
76-37	Two-point with two Half-points	6 pt.	Shear
76-44	Half-point Centerface	6 pt.	Shirk
76-45	One-point Centerface	6 pt.	Shive
76-46	Double Hairline Centerface	6 pt.	Shams
76-47	Double Half-point Centerface (1½ points white space)	6 pt.	Shand
76-48	Hairline Sideface	6 pt.	Shool
76-54	Double Half-point Centerface (2 points white space)	6 pt.	Shone
78-25	Hairline Centerface	8 pt.	Seine
78-38	Four-point with two One-points	8 pt.	Sheat
79-16	Twelve-point Fullface	12 pt.	Seize
79-17	Six-point with two One-points	12 pt.	Serve
79-18	Six-point with two One-points	12 pt.	Shack
79-40	Three One-half point rules	12 pt.	Jougs
79-41	Six One-half point rules	12 pt.	Howff
79-42	Two Two-point rules with four Half-point rules	12 pt.	Jundy

Mold No.	Face	Body	Code Word
	Hollowed Body, .918 High		
79-49	Hairline Sideface	12 pt.	Shiel
714-50	Hairline Sideface	14 pt.	Serbs
716-51	Hairline Sideface	16 pt.	Shill
718-26	18-point Fullface (3 round cores)	18 pt.	Shade
718-52	Hairline Sideface (3 round cores)	18 pt.	Shily
724-43	24-point Fullface (2 round cores)	24 pt.	Sheth
724-53	Hairline Sideface (2 round cores)	24 pt.	Shamo
730-56	30-point Fullface (2 round cores)	30 pt.	Sailo
736-55	36-point Fullface (2 round cores)	36 pt.	Sajou

Special Elrod Rule Molds

Other Elrod rule molds can be made to specifications as to rule face, height or body size (to 36 pt.)

ELROD MOLDS—LEADS AND SLUGS

Mold No.	Thickness	Height	Code Word
	Single Solid Body		
51-11	1½-point	.750	Kekle
51-12	1½-point	.765	Kelty
51-13	1½-point	.875	Kiver
51-14	1½-point	.854	Knoit
52-11	2-point	.750	Sacks
52-12	2-point	.765	Safer
52-13	2-point	.875	Sagas
52-14	2-point	.854	Krame
53-11	3-point	.750	Sager
53-12	3-point	.765	Sagum
53-13	3-point	.875	Sahib
53-14	3-point	.854	Kyloe
54-11	4-point	.750	Sales
54-12	4-point	.765	Saint
54-13	4-point	.875	Saker
54-14	4-point	.854	Kythe
56-11	6-point	.750	Salad
56-12	6-point	.765	Salep
56-13	6-point	.875	Salic
56-14	6-point	.854	Layne
59-11	12-point	.750	Sally
59-12	12-point	.765	Salon
59-13	12-point	.875	Salts
59-14	12-point	.854	Leein
	Single Channel Tie-up		
59-21	12-point	.750	Scald
59-22	12-point	.765	Scamp
59-23	12-point	.875	Scant
59-24	12-point	.854	Lyard

When ordering parts, always give serial number of the machine.

Mold No.	Thickness	Height	Code Word
	Twin-solid Body (Casts two leads at once.)		
60-11	1-point	.750	Sapro
60-12	1-point	.765	Sarah
60-13	1-point	.875	Saris
60-14	1-point	.854	Manty
61-11	1½-point	.750	Mawne
61-12	1½-point	.765	Mease
61-13	1½-point	.875	Meith
61-14	1½-point	.854	Micht
62-11	2-point	.750	Sapid
62-12	2-point	.765	Sapor
62-13	2-point	.875	Satin
62-14	2-point	.854	Mools
63-11	3-point	.750	Satyr
63-12	3-point	.765	Sauce
63-13	3-point	.875	Saved
63-14	3-point	.854	Mooth

ELROD MOLDS—SLUGS AND BASE

Mold No.	Thickness	Height	Code Word
	Hollow Body		
59-01	12-point (Rectangular core)	.750	Scape
59-02	12-point (Rectangular core)	.765	Scars
59-03	12-point (Rectangular core)	.875	Scath
59-04	12-point (Rectangular core)	.854	Moyen
518-61	18-point (3 round cores)	.750	Scaup
518-62	18-point (3 round cores)	.765	Scene
518-63	18-point (3 round cores)	.875	Scoup
518-64	18-point (3 round cores)	.854	Sabin
524-61	24-point (3 round cores)	.750	Shend
524-62	24-point (3 round cores)	.765	Shesl
524-63	24-point (3 round cores)	.875	Sairy
524-64	24-point (3 round cores)	.854	Sairs
530-51	30-point (2 round cores)	.750	Sacky
530-52	30-point (2 round cores)	.765	Sadly
530-53	30-point (2 round cores)	.875	Safes
530-54	30-point (2 round cores)	.854	Saffi
536-51	36-point (2 round cores)	.750	Sages
536-52	36-point (2 round cores)	.765	Sagos
536-53	36-point (2 round cores)	.875	Saida
536-54	36-point (2 round cores)	.854	Saily

When ordering parts, always give serial number of the machine.

Part No.	Name of Part	Plate No.	Code Word
15A	Oil Cup (spring cap) 5/16"-32 thread	5-6-11-12	Maims
24	Style 55, No. 5 Taper Pin x 2½" long	35	Coomb
25	Style 14, 41/64" Woodruff Key x ⅜" thick		Mangy
42	Style 3, ½"-13 Hexagon Head Screw x 1" long	35	Corns
123½	Motor Wire ½" Unilet Gasket		Vanil
124½	Motor Wire ½" Unilet Cover		Vanis
168	Style 3, 5/16"-18 Hexagon Head Screw x ½" long	35	Niest
257	Style 201, ⅞" x 35/64" Flat Washer x 3/32" thick	35	Jells
279	Style 56, ¼" Dowel Pin x 2" long	35	Organ
290E	Style 4, 5/16"-18 Headless Cup Point Set Screw x 1" long	35	Shard
451	Style 8, ¼"-20 Flat Head Screw x ½" long	35	Peach
562	Style 102, 5/16"-18 Hexagon Nut x 3/16" thick	35	Pewee
584	Style 201, 11/16" x 5/16" Washer x 1/16" thick	35	Enoch
731	Style 55, No. 2 Taper Pin x 1" long	35	Ratan
741	Style 202, 5/16" Plain Lock Washer	17-35	Reach
915	Style 3, ⅜"-16 Hexagon Head Screw x 1" long	35	Relys
EC1001D	Main Frame (Table)	7	Lolls
AEC1002D	Leg (Right Hand)	2-7	Lones
	Leg Mounting Screws—Use EC1116		
	Grease Cup—Use EC1129		
EC1003EB	Leg (Left Hand)	2	Longs
	Leg Mounting Screw—Use EC1116		
EC1005	Style 56, ¼" Dowel Pin x ¾" long	35	Tagus
EC1006C	Main Shaft Bearing Bracket (Left)		Taids
	Main Shaft Bearing Bracket Mounting Screw—Use 42		
	Main Shaft Bearing Bracket Dowel—Use EC1005		
	Main Shaft Bearing Oil Tube—Use EC1050A		
EC1008	Style 7, No. 10-32 Round Head Screw x 1" long	35	Taiga

When ordering parts, always give serial number of the machine.

FRAME, DRIVING MECHANISM, MAIN SHAFT AND CAM PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1009	Main Shaft Bearing Bracket (Center and right)	7	Tails
	Main Shaft Bearing Bracket Mounting Screws—Use 42		
	Main Shaft Bearing Bracket Dowel—Use EC1005		
	Main Shaft Bearing Oil Tube (Center)—Use EC1049A		
	Main Shaft Bearing Oil Tube (Right)—Use EC1050A		
EC1010B	Drive Shaft Bushing		Taine
	Drive Shaft Bushing Set Screw Nut—Use 562		
	Drive Shaft Bushing Set Screw—Use EC1024		
EC1011	Drive Shaft Bushing Collar		Taint
EC1024	Style 4, 5/16"-18 Bristo Half Dog Point Set Screw x 1" long	35	Stirk
EC1027	Main Conduit (14¼" long) (for Electric machine)	8	Radom
EC1028	Rectangular No Thread Unilet	8	Rafle
EC1029	Motor Unilet Nipple (for AC motors)		Rains
EC1031A	Three-way Rectangular No Thread Unilet (for Gas machine)		Rakes
EC1032A	Main Conduit (16½" long) (for Gas machine)		Rakee
EC1033B	Straight Conduit (10 3/16" long) (for Gas machine)		Ralph
EC1034A	Straight Conduit (4 3/16" long) (for Gas machine)		Ranee
EC1035	90° No Thread Elbow (for Gas machine)		Ramie
EC1036	45° No Thread Elbow (for Gas machine)		Ramon
EC1049A	Main Shaft Bearing Oil Tube (Center)	7	Longe
	Main Shaft Bearing Oil Tube Oiler—Use 15A		
EC1050A	Main Shaft Bearing Oil Tube (right and left hand)	8	Taler
	Main Shaft Bearing Oil Tube Oiler—Use 15A		
EC1056A	Main Shaft Hand Wheel (for Model F)	8	Rands
	Main Shaft Hand Wheel Woodruff Key—Use 25		
	Main Shaft Hand Wheel Taper Pin—Use EC1215½A		
AEC1059	Motor Pulley (for 1140 rpm motor) (½" hole) (Model F)		Ramps
	Motor Pulley Set Screw—Use 290E		

Part No.	Name of Part	Plate No.	Code Word
AEC1060	Motor Pulley (for 1425 rpm motor) (½" hole) (Model F) (see EC1059 and EC1060A)	8	Ramse
AEC1060A	Motor Pulley (for 1425 rpm motor) (⅝" hole) (Model F)		Acrid
EC1108C	Motor Table	2-8	Tamal
	Motor Table Screw—Use EC1108½		
EC1108½	Style 3, ½"-13 Hexagon Head Screw x 1½" long	35	Stook
EC1109A	Drive Shaft Pulley (for Model E)	2	Tames
	Drive Shaft Pulley Set Screw—Use EC1138		
EC1109½	Drive Shaft Pulley (for Model F)	8	Ramus
	Drive Shaft Pulley Set Screw—Use EC1138		
EC1110	Drive Pinion		Tammy
	Drive Pinion Dowel—Use EC1612		
EC1110½	Motor Table Front Nut Handle Ball	8	Stoor
EC1111A	Drive Shaft	2	Tamps
	Drive Shaft Screw—Use 451		
EC1112A	Leg Brace	8	Tampa
	Leg Brace Nut Pin—Use 731		
	Leg Brace Nut (outside)—Use EC1112½		
	Leg Brace Nut (inside)—Use EC1113½		
EC1112½	Style 101, ⅝"-11 Special Drilled Hexagon Nut x ⅝"thick	35	Tarns
EC1113½	Style 101, ⅝"-11 Hexagon Nut x ⅝" thick	19-35	Stoup
EC1114A	Motor Table Bracket	2	Tamra
	Motor Table Bracket Screw—Use EC1108½		
	Motor Table Bracket Screw Lock Washer—Use 257		
EC1114½	Motor Table Ball Socket Washer		Tana
EC1115½	Motor Table Rear Screw Nut		Stour
EC1116	Style 3, ½"-13 Hexagon Head Screw x 1¼" long	35	Taney
EC1117	Motor Table Front Screw		Ranas

FRAME, DRIVING MECHANISM, MAIN SHAFT AND CAM PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1118	Motor Table Front Nut	2	Tangs
	Motor Table Front Nut Lock Washer—Use 257		
	Motor Table Front Nut Pin—Use 279		
	Motor Table Front Nut Handle Ball—Use EC1110½		
EC1119	Motor Table Rear Screw		Tango
	Motor Table Rear Screw Washer—Use 741		
	Motor Table Rear Nut—Use EC1416		
EC1126C	Motor Table Plate	2	Tanks
	Motor Table Plate Screw—Use 915		
EC1129	Drive Shaft Grease Cup		Tansy
EC1133	Style 7, No. 8-32 Round Head Screw x ⅜" long	35	Tapes
EC1136	Drive Pinion Key		Taper
EC1138	Style 5, ⅜-16 Square Head Cup Point Set Screw x ⅝" long	35	Tapet
EC1142	Drive Pinion Flange (right hand)		Tardo
EC1143	Drive Pinion Flange (left hand)		Tardy
EC1151	Style 2, 5/16"-18 Fillister Head Screw x 1" long	35	Sturt
EC1161	Style 7, No. 10-32 Round Head Screw x ⅜" long	35	Tares
EC1184	Style 7, No. 8-32 Round Head Screw x ⅝" long	35	Trees
EC1186	Style 56, ⅜" Dowel Pin x 1" long	35	Relut
AEC1201C	Main Shaft Assembled (Model E), consisting of hand wheel and shaft with cams in place. Sold separately	7	Targe
AEC1201½	Main Shaft Assembled (Model F), consisting of hand wheel and shaft with cams in place. Sold separately		Randy
EC1202A	Main Shaft Hand Wheel (Model E)	19	Tarif
	Main Shaft Hand Wheel Pin—Use EC1211		
EC1203	Main Shaft Collar	7	Tarto
	Main Shaft Collar Pin—Use EC1211		
EC1204	Material Clamp Cam	7	Tarry
	Material Clamp Cam Pin—Use EC1211		

Part No.	Name of Part	Plate No.	Code Word
EC1205	Plunger Cam	19	Tarts
	Plunger Cam Pin—Use EC1211½		
EC1208C	Drive Gear		Tates
	Drive Gear Key—Use EC1231		
	Drive Gear Screw—Use EC1245		
EC1209	Gear Guard		Tatie
	Gear Guard Screw—Use EC1008		
EC1210	Gear Guard Bracket	5	Tatou
	Gear Guard Bracket Screw—Use EC1184		
EC1211	Style 55, No. 5 Taper Pin x 2" long	35	Tatty
EC1211½	Style 55, No. 5 Taper Pin x 1⅞" long	35	Tushs
EC1212A	1½" Dia. x ⅞" long Cam Roll	7-19	Taube
EC1215A	Style 55, No. 5 Taper Pin x 2¾" long	35	Sumph
EC1217	Cut Off Cam (Model E)	7	Taunt
	Cut Off Cam Pin—Use EC1211		
EC1217½	Cut Off Cam (Model F)		Rangs
	Cut Off Cam Pin—Use EC1211		
EC1219	Style 7, No. 10-32 Round Head Screw x ⅜" long	7-25-35	Tauro
EC1231	Style 14, No. 23 Woodruff Key—9/32" x 5/16" thick		Tawie
EC1237½B	Main Shaft Spiral Mitre Gear		Teals
	Main Shaft Spiral Mitre Gear Taper Pin—Use 24		
	Main Shaft Spiral Mitre Gear Key—Use EC1231		
EC1245	Style 4, 5/16"-18 Bristo Half Dog Point Set Screw x ¾" long	35	Teeth
AEC1348A	Table Apron Assembled, consisting of front plate, hinges and catches. Not sold separately	2	Thews
	Table Apron Mounting Screws—Use EC1133		
AEC1410½E	Motor Terminal Conduit Assembly (Westinghouse motors)	7	Actor
	Motor Plate Screw—Use EC1161		
EC1416	Style 101, 5/16"-18 Hexagon Nut x 5/16" thick	35	Torns
EC1612	Style 56, ⅛" Dowel Pin x ⅜" long	35	Turfs

When ordering parts, always give serial number of the machine.

FRAME, DRIVING MECHANISM, MAIN SHAFT AND CAM PARTS

Part No.	Name of Part	Plate No.	Code Word
AEC1641	Motor Assembled (Specify voltage and cycles)	2	Labor
	Motor Screws—Use 168		
	Motor Screw Washers—Use 584		
AEC1642A	Motor Pulley (for 1725 rpm motor) (½" hole) (Model E)	2	
AEC1642B	Motor Pulley (for 1725 rpm motor) (⅝" hole) (Model E)		Adage
AEC1643½	Motor Pulley (for 1425 rpm motor) (½" hole) (Model E)		
	Motor Pulley Set Screw—Use EC1614½		
AEC1643½A	Motor Pulley (for 1425 rpm motor) (⅝" hole) (Model E)		Addax
	Motor Pulley Set Screw—Use EC1614½		
AEC1644½	Motor Pulley (for 1140 rpm motor) (½" hole) (Model E)		
	Motor Pulley Set Screw—Use 290E		
EC1649B	Motor Belt (for Model E)	2	Lazar
AEC1650½	Motor Pulley (for 1725 rpm motor) (½" hole) (Model F)	8	Rance
AEC1650½A	Motor Pulley (for 1725 rpm motor) (⅝" hole) (Model F)		Addle
EC1654A	Motor Belt (for Model F)	8	Ranch
AEC1660½	Motor Pulley (for 1725 rpm DC motor) (½" hole) (Model E)		Gland
AEC1661½	Motor Pulley (for 1725 rpm DC motor) (½" hole) (Model F)		Snout
AEC1661½A	Motor Pulley (for 1725 rpm DC motor) (⅝" hole) (Model F)		Vinie

Part No.	Name of Part	Plate No.	Code Word
15A	Oil Cup (spring cap) (5/16"-32 thread)	5-6-11-12	Maims
40	Style 3, 5/16"-18 Hexagon Head Screw x 1" long	35	Marks
59	Style 101, 1/2"-13 Hexagon Nut x 5/16" thick	7-35	Matin
918	Plunger Rod Pin Retainer Stud		Aeric
EC1113½	Style 101, 3/8"-11 Hexagon Nut x 3/8" long	19-35	Stoup
EC1161	Style 7, No. 10-32 Round Head Screw x 3/8" long	35	Tapes
EC1207A	Plunger Lever Rod Yoke	19	Tatar
	Plunger Lever Rod Yoke Cam Roll Stud Nut—Use 59		
EC1212A	1½" Dia. Cam Roll x 7/8" long	7-19	Taube
AEC1314½	Plunger Lever Bracket Assembled	8	Hicht
	Plunger Lever Bracket Oiler—Use 15A		
EC1314½	Plunger Lever Bracket	2	Albit
	Plunger Lever Bracket Mounting Screws (short)—Use 40		
	Plunger Lever Bracket Mounting Screws (long)—Use EC1329½		
AEC1315C	Plunger Lever Assembled, consisting of lever, oiler and dowel pin (not sold separately)	2	Album
EC1316A	Plunger Rod Clevis	19	Thief
EC1316½	Plunger Lever Lock	3-8-9	Algat
	Plunger Lever Lock Set Screw—Use EC1614½		
EC1318½A	Plunger Lever Lock Shaft		Algol
AEC1319A	Plunger Rod Clevis Pin Assembled, consisting of pin and ball (not sold separately)	2	Thins
EC1320	Plunger Lever Bracket Pin	2	Thine
	Plunger Lever Bracket Pin Set Screw—Use EC1614½		
EC1320½	Plunger Rod Pin Retainer	3-9	Tawse
	Plunger Rod Pin Retainer Stud—Use 918		
	Plunger Rod Pin Retainer Washer—Use EC1322½		

PLUNGER MECHANISM

Part No.	Name of Part	Plate No.	Code Word
EC1321½A	Plunger Connecting Rod	7	Think
	Plunger Connecting Rod Lift Pin—Use EC1380		
EC1322½	Plunger Rod Pin Retainer Washer		Teugh
EC1323	Plunger Spring	19	Thirs
EC1323½	Plunger Lever Rod Sleeve	19	Aller
EC1324	Plunger Spring Washer	19	Thirl
EC1324½	Valve Wheel	8	Thole
	Valve Wheel Mounting Screws—Use EC1161		
AEC1327A	Plunger Assembled, consisting of plunger, connecting rod, pin and lift pin	1-2	Thoom
EC1327A	Plunger	1	Thors
	Plunger Pin—Use EC1328½		
EC1328½	Style 56, ¼" Dowel Pin x 1 1/16" long	4-7-35	Thorp
EC1329½	Style 2, 5/16"-18 Oval Fillister Head Screw x 2" long	35	Thoth
EC1332	Plunger Lever Rod	19	Thrap
EC1363	Style 101, ⅜"-11 Hexagon Nut x ⅜" thick	19-35	Tinos
EC1380	Style 56, 5/16" Dowel Pin x 2⅛" long	7-35	Tolas
EC1512A	Plunger Lever Rod Yoke Cam Roll Stud	7-19	Troth
EC1614½	Style 4, 5/16"-18 Bristo Cup Point Set Screw x ½" long	35	Tushs

Part No.	Name of Part	Plate No.	Code Word
230	Style 102, ¼"-20 Hexagon Check Nut x ⅛" thick	13-15-17-35	Trays
337	Style 6, ⅛" Pipe Elbow	15	Exile
342	Style 6, ⅛" Street Elbow	14-15	Polan
615½	Style 202, ⅜" x ⅛" Plain Lock Washer x 3/32" thick	35	Prune
741	Style 202, 5/16" x ⅛" Plain Lock Washer x 1/16" thick		Hylas
EC1243	Style 2, ¼"-20 Fillister Head Cap Screw x ½" long	5-6-7-11-12-17	Techy
EC1258A	Pressure Oiler Oil Cup	4-5	Macao
EC1259	Pressure Oiler Shut Off Valve	17	Maces
AEC1260	Pressure Oiler Body Assembly (complete as shown on Plate 16)	16	Maced
	Pressure Oiler Body Assembly Lock Washers—Use 615½		
	Pressure Oiler Body Assembly Mounting Screws—Use EC1262½		
	Pressure Oiler Body Assembly Mounting Bushings—Use EC1265		
AEC1260-1	Pressure Oiler Body Only Assembled	17	Makin
EC1262A	Pressure Oiler Bracket	17	Macro
	Pressure Oiler Bracket Lock Washer—Use 741		
	Pressure Oiler Bracket Mounting Screws—Use EC1271½		
EC1262½	Style 3, ⅜"-16 Hexagon Head Cap Screw x 2¾" long	17	Swats
EC1264A	Pressure Oiler Cover	17	Mafia
	Pressure Oiler Cover Screws—Use EC1382		
EC1265	Pressure Oiler Mounting Bushing (Not used with metal feeder)	17	Mages
EC1266½	Style 6, ⅛" Black Iron Pipe Nipple x 7" long		Ament
	Pressure Oiler Feed Line Elbow—Use 337		
	Pressure Oiler Feed Line Street Elbow—Use 342		
	Pressure Oiler Feed Line Shut Off Valve—Use EC1259		
EC1267	Pressure Oiler Piston Stop Stud	17	Magog
AEC1268	Pressure Oiler Piston Assembly, consisting of piston, stop and pin (Sold only as assembled)	17	Magus
	Pressure Oiler Piston Screw—Use EC1269		

PRESSURE OILER PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1268½	Pressure Oiler Piston Seal		Sweal
EC1269	Shoulder Screw (for Pressure Oiler Piston and Roller)	17	Mahan
EC1270	Pressure Oiler Packing	17	Mahat
EC1271	Pressure Oiler Packing Retainer	17	Mahdi
	Pressure Oiler Packing Retainer Screw—Use EC1243		
EC1271½	Style 3, 5/16"-18 Hexagon Head Cap Screw x 7/8" long	17	Anoly
EC1272	Pressure Oiler Piston Roller	17	Mahon
	Pressure Oiler Piston Roller Screw—Use EC1269		
EC1273	Style 202, 5/16" x 1/8" Lock Washer x 3/64" thick	35	Swear
EC1274	Pressure Oiler Adjusting Lever Link	17	Maids
	Pressure Oiler Adjusting Lever Link Fulcrum Nut—Use 230		
	Pressure Oiler Adjusting Lever Link Fulcrum—Use EC1275		
EC1275	Shoulder Screw (for Adjusting Lever and Weight Link)	17	Maiks
EC1276	Pressure Oiler Weight Link	17	Mains
	Pressure Oiler Weight Link Screw Nut—Use 230		
	Pressure Oiler Weight Link Lock Washer—Use EC1273		
	Pressure Oiler Weight Link Screw—Use EC1276½		
EC1276½	Shoulder Screw (for both ends of Pressure Oiler Adjusting Lever)	17	Mainz
EC1277A	Pressure Oiler Adjusting Lever	17	Maist
	Pressure Oiler Adjusting Lever Fulcrum Nut—Use 230		
	Pressure Oiler Adjusting Lever Fulcrum—Use EC1276½		
EC1278A	Pressure Oiler Weight	17	Malar
	Pressure Oiler Weight Screw Nut—Use 230		
	Pressure Oiler Weight Screw—Use EC1275		
EC1278½	Pressure Oiler Feed Line Close Nipple		Sweer
AEC1279½	Pressure Oiler Feed Line Assembly	17	Malis
EC1280	Pressure Oiler Feed Line Connector	17	Malms
AEC1281C	Pressure Oiler Diffusion Tube Assembled	1-2-17-30-34	Malts

Part No.	Name of Part	Plate No	Code Word
AEC1281½	Pressure Oiler Diffusion Tube Packing (asbestos) (box of 20 packings)	30	Hooly
EC1282	Pressure Oiler Diffusion Tube Packing Retainer	17	Malty
EC1282½A	Pressure Oiler Diffusion Tube Packing Retainer Screws	17	Mamey
EC1332½D	Pressure Oiler Diffusion Tube Adapter	2-7	Thraw
EC1382	Style 2, No. 10-32 Fillister Head Machine Screw x ⅜" long	3-9-17-26-35	Tolds

GAS CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
36½	Style 14, No. 2 Name Plate Drive Pin x ¼" long	28	Vanad
40	Style 3, 5/16"-18 Hexagon Head Screw x 1" long	35	Marks
76½	Style 3, ¼"-20 Hexagon Head Screw x ¾" long	35	Turco
79	Style 9, No. 10-30 Oval Flat Head Screw x ½" long	3-9	Merit
158A	Style 202, ¼" x 3/32" Lock Washer x 1/16" thick	15-35	Newsy
M185	Style 7, ¼"-20 Round Head Screw x ⅜" long	21-35	Tachy
200	Gas Pressure Regulator	3-9-15	Vario
	Gas Pressure Regulator Nipple—Use 6074		
210E	Style 7, ¼"-20 Round Head Screw x 1" long	15-35	Prate
230	Style 102, ¼-20 Hexagon Check Nut ⅛" thick	13-15-17-35	Trays
282	Sight Hole Cover Mounting Stud	9	Orris
300	Gas Burner Spud—Specify size by number or complete gas specifications, such as kind, calorific value in BTU, specific gravity and pressure	15	Rokel
A320C	Gas Governor Assembled	15	Okuma
	Gas Governor Mounting Screws—Use EC1646½		
	Gas Governor Street Elbow—Use EC1828		
327	Style 6, ⅛" Close Nipple x ¾" long	15	Eupon
337	Style 6, ⅛" Pipe Elbow	15	Exile
342	Style 6, ⅛" Street Elbow	14-15	Polan
370	Gas Governor Lever	15	Polla
371	Gas Governor Lever Fulcrum		Fanar
372	Gas Governor Lever Spring	15	Palmy
374	Gas Governor Valve		Palsy
375	Gas Governor Valve Washer		Panes
376	Gas Governor Valve Spring		Farad
377	Gas Governor Valve Spring Washer		Panne
392	Gas Burner Mixer Spud Adapter	15	Archi
393	Gas Governor Adjusting Screw Spring	15	Drape
397A	Crucible Gas Lighter Complete	3-9-15	Duple
398	Gas Lighter Orifice	15	Duran

When ordering parts, always give serial number of the machine.

Part No.	Name of Part	Plate No.	Code Word
399	Gas Lighter Nipple	15	Durst
419	Style 102, No. 10-30 Hexagon Nut x ⅛" thick	35	Party
453	Style 6, ½" Pipe Nipple x 2" long	15	Vedan
454	Style 6, ½" Street Elbow	15	Vedet
504½	Crucible Charging Door Wire Coil Handle	8	Arter
	Crucible Charging Door Handle Screw—Use 783		
	Crucible Charging Door Handle Nut—Use 230		
	Crucible Charging Door Handle Lock Washer—Use 158A		
556	Style 1, 5/16"-18 Fillister Head Screw x ¾" long		Perky
607	Style 56, 5/16" Dowel Pin x 19/32" long	35	Poilu
783	Style 7, ¼"-20 Round Head Screw x ⅝" long	35	Relet
EC1061½	No. 2 Drive Screw x ⅛" long	3-9	Volca
EC1116	Style 3, ½"-13 Hexagon Head Screw x 1¼" long	35	Taney
EC1123	Style 6, ¾" Nipple x 2½" long	15	Aside
EC1124A	Crucible Burner Elbow Union	15	Stown
EC1133	Style 7, No. 8-32 Round Head Screw x ⅜" long	35	Tapes
EC1184½	Style 2, No. 8-32 Oval Fillister Head Screw x ⅝" long	35	Astir
EC1191½A	Gas Lighter Inlet Coupling	14	Atlas
EC1192½	Valve Handle Stem Wheel Cap Nut	14-15	Atman
EC1195	Burner Valve Handle	15	Hindi
EC1243	Style 2, ¼"-20 Fillister Head Cap Screw x ½" long	5-6-7-11-12-17-35	Techy
EC1303D	Crucible Well	1	Tetra
	Crucible Well Mounting Screws—Use EC1311		
EC1305ED	Mold Housing (for Model E) (must be fitted to crucible at factory)	2	Thaes
EC1305½ED	Mold Housing (for Model F) (must be fitted to crucible at factory)	8	Radio
EC1311	Style 3, ¼"-20 Hexagon Head Screw x 1¼" long	35	Thens
EC1330½A	Diffusion Tube Adapter Shield	7-8	Audio
	Diffusion Tube Adapter Shield Mounting Screws—Use EC1243		

GAS CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1332½D	Diffusion Tube Adapter	2-7	Bater
EC1343½	Style 2, 5/16" Fillister Head Screw x 1¼" long	35	Waese
EC1345	Style 6, ½" Railroad Union	15	Thump
EC1354½	Style 4, No. 6-32 Cup Point Headless Set Screw x ⅛" long	15-29-35	Tiger
EC1361½	Crucible Throat Cover (upper)	8	Vultu
	Crucible Throat Cover Screws—Use EC1382		
EC1367½	Crucible Cover (hinged half) Assembled	3-7-9	Batik
	Crucible Cover (hinged half) Hinge Pins—Use EC1380		
EC1368A	Crucible Charging Door	3-9	Toads
EC1368½B	Crucible Cover Lock Stay	2-3-9	Toady
EC1369	Crucible Charging Door Hinge Pin	3-9	Tobit
EC1369½	Crucible Cover Lock Stay Screw	2	Tobol
EC1373A	Crucible Governor Tube Housing	19	Toils
	Crucible Governor Tube Housing Screws—Use EC1374		
EC1374	Style 2, No. 10-32 Fillister Head Screw x 1¾" long	35	Toits
EC1379A	Crucible Cover Hinge		Tokay
EC1380	Style 56, 5/16" Dowel Pin x 2⅛" long	7-35	Tolas
EC1380½A	Water Jacket Cover Screw	3-8-9	Whilk
EC1382	Style 2, No. 10-32 Fillister Head Screw x ⅜" long	3-9-17-26-35	Tolds
EC1388	Style 2, No. 10-32 Fillister Head Screws x 2" long	35	Tonal
EC1391½A	Water Jacket Cover Screws (15/16")		Begem
EC1394½A	Sealing Valve Stem Handle	2-3-8-9	Binet
	Sealing Valve Stem Handle Screw—Use EC1395½		
EC1395½	Style 8, No. 8-36 Flat Head Screw x ⅝" long	35	Biped
EC1396F	Sealing Valve Stem	2-3-8-9	Blond
AEC1398F	Sealing Valve Retainer Assembled (sold only as assembled)		Blurb
	Sealing Valve Retainer Assembled Mounting Screws—Use EC1184½		

Part No.	Name of Part	Plate No.	Code Word
EC1449½	Sight Hole Cover Stop Pin	3-9	Swink
EC1627½	Style 102, No. 10-32 Hexagon Nut x ⅛" thick	15-35	Unear
EC1646½	Style 7, No. 10-32 Round Head Screw x ¾" long	35	Lawks
EC1648	Style 7, No. 10-32 Round Head Screw x ½" long	15-26-35	Layer
EC1732	Gas Lighter Tube	15	Gyges
AEC1733	90°-⅜" O.D. Tube x ⅛" IPT Brass Elbow and Bushing	15	Gyrus
EC1799	Throat and Mold Sealing Burner Mixer Fiber Washer		Videt
EC1801	Crucible Gas Burner Complete (no parts sold separately)	15	Looms
	Crucible Gas Burner Mounting Screw—Use 76½		
AEC1802A	Gas Crucible Assembled (for Model E)		Botry
	Gas Crucible Mounting Screws—Use 556		
	Gas Crucible Dowel Pin—Use 607		
AEC1802½A	Gas Crucible Assembled (for Model F)		Brise
	Gas Crucible Mounting Screws—Use 556		
	Gas Crucible Dowel Pin—Use 607		
EC1803B	Gas Crucible Cover (fixed half)	3-9	Bulge
	Gas Crucible Cover Assembled Mounting Screws—Use EC1343½		
AEC1806B	Crucible Burner Gas Mixer Assembled—sold only as assembled	15	Lords
EC1807A	Crucible Burner Gas Valve	15	Lores
EC1810A	Gas Governor Cover	3-9	Loses
	Gas Governor Cover Mounting Screws—Use EC1379½		
AEC1811	Gas Governor Expansion Tube Assembled	15	Carge
EC1812	Gas Governor Carbon	15	Loshs
EC1816	Gas Governor Adjusting Screw	3-9-15	Lotze
EC1817A	Crucible Gas Line Tube	15	Lough
EC1818A	Gas Governor Line Tube	15	Louse
AEC1820B-1	Throat and Mold Sealing Burner Assembled, consisting of sealing burner, mixer and washer		Camit
EC1820B	Throat and Mold Sealing Burner	15	Carel

GAS CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1820½	Throat and Mold Sealing Burner Mixer	15	Usbeg
	Throat and Mold Sealing Burner Mixer Washer—Use EC1799		
EC1822A	Throat Burner Valve Shaft	15	Lowly
EC1823A	Throat and Mold Heater Cock	15	Lowpe
EC1825A	Sealing Burner Valve Shaft	15	Usher
EC1827	Burner Valve and Shaft Connecting Pin	15-35	Lucas
EC1828	¼" Street Elbow	15	Vacan
EC1828½	Gas Tube Compression Coupling Elbow Assembled	15	Colex
EC1829	Gas Governor Adjusting Stop Screw	15	Lucca
EC1829½	Governor Gas Line Union	15	Dacty
EC1830½	Style 3, ½"-13 Hexagon Head Screw x 2¾"	15-35	Lucid
EC1831½	Crucible Assembled Mounting Collar	15	Victo
EC1833A	Sight Hole Cover	3-9	Decal
	Sight Hole Cover Mounting Screw—Use 282		
	Sight Hole Cover Mounting Screw Nut—Use 419		
EC1835A	Gas Manifold	15	Lunch
	Gas Manifold Mounting Screw—Use EC1116		
EC1836	Style 6, ¼" Pipe Nipple x 4" long	15	Lungs
EC1837	Gas Supply Cock	3-9-15	Lunts
EC1838	Throat and Mold Burner Adjusting Bushing Clamp Screw	15	Lupin
EC1839	Throat and Mold Burner Adjusting Bushing	15	Lurch
EC1840	Gas Inlet Pipe Mounting Bracket	15	Lures
EC1841A	Gas Inlet Pipe	15	Lurid
EC1842	Crucible Gas Burner Elbow Connecting Nipple	14-15	Lurks
EC1846	Manifold Adjusting Bushing		Luzon
EC1846½A	Gas Crucible Casing Front Cover	3-9	Decre
EC1847	Manifold Adjusting Bushing Clamp Screw	15	Lying
EC1848	Crucible Burner Adjusting Bushing	15	Recty
EC1849	Crucible Burner Adjusting Bushing Clamp Screw	15	Recur

Part No.	Name of Part	Plate No.	Code Word
EC1852A	Gas Inlet Pipe Pedestal and Plug	15	Diode
	Gas Inlet Pipe Pedestal Mounting Screw—Use 40		
EC1854	Burner Valve Indicator	15	Lyric
EC1855	Burner Valve Stem Bracket	3-9-15	Dober
EC1857	Style 6, ½" x ½" x ½" Pipe Tee	15	Vican
AEC1858A	Fuse and Switch Box Assembled (Single Phase)	3-9	Lyssa
	Fuse and Switch Box Mounting Screw—Use M185		
	Fuse and Switch Box Mounting Screw—Use 76½		
EC1859	Motor Switch Flush Plate and Screws (Single Phase)	3-9	Lytta
EC1861	Gas Burner Valve Stem Bracket Name Plate	3-9-15	Udder
	Gas Burner Valve Stem Bracket Name Plate Screw—Use 36½		
EC1862	Fuse Box Name Plate	3-9	Ukase
	Fuse Box Name Plate Pins—Use EC1061½		
EC1863	Motor Name Plate	3-9	Ulcer
	Motor Name Plate Pins—Use EC1061½		
EC1866B	Throat and Mold Sealing Burner Cap	15	Drath
EC1874	Crucible Gas Line Cover		Drive
	Crucible Gas Line Cover Mounting Screws—Use EC1388		
EC1875	Throat Burner Grid	15	Wauff
EC1882B	Water Jacket Cover (specify whether 6 or 10 mounting screw holes. Ten hole type will also fit 6 hole type)	3-9	Dural
	Water Jacket Cover Screw (13/16")—Use EC1380½A		
	Water Jacket Cover Screw (15/16")—Use EC1391½A		
EC1885	Mold Sealing Burner Grid	15	Edams
EC1886	Style 6, ⅛" x 19¼" long, Nipple		Indic
EC1912	Style 6, ¼" to ⅛" Reducer	15	Valis
6074	Style 6, ½" Pipe Nipple x 1⅛" long		Endue

When ordering parts, always give serial number of the machine.

ELECTRIC CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
42	Style 3, ½"-13 Hexagon Head Screw x 1" long	35	Corns
158A	Style 202, ¼" x 3/32" Lock Washer x 1/16" thick	15-35	Newsy
230	Style 102, ¼"-20 Hexagon Nut x ⅛" thick	13-15-17-35	Trays
290E	Style 4, 5/16"-18 Headless Cup Point Set Screw x 1" long	35	Shard
293E	Style 7, ¼"-20 Round Head Screw x ⅜" long	35	Lofts
304E	Style 7, No. 8-32 Round Head Screw x ¼" long	35	Redit
305E	Style 102, No. 8-32 Hexagon Nut x 3/32" thick	35	Redot
311E	Asbestos Listing (50")	7	Logan
316E	Wire Markers (specify markings)	7	Logic
504½	Crucible Charging Door Wire Handle	8	Erase
	Crucible Charging Door Wire Handle Screw—Use 783		
	Crucible Charging Door Wire Handle Lock Washer—Use 158A		
	Crucible Charging Door Wire Handle Nut—Use 230		
556	Style 1, 5/16"-18 Fillister Head Screw x ¾" long	35	Perky
607	Style 56, 5/16" Dowel Pin x 19/32" long	35	Poilu
698	Style 1, ¼"-20 Fillister Head Screw x ½" long		Rails
734	Style 7, ¼"-20 Round Head Screw x ½" long	35	Relet
741	Style 202, 5/16" x ⅛" Lock Washer x 1/16" thick	17-35	Reach
754	Style 56, 3/16" Dowel Pin x 7/16" long	35	Rebut
783	Style 7, ¼"-20 x ⅜" long, Round Head Screw	35	Kench
EC1161	Style 7, No. 10-32 Round Head Screw x ⅜" long	35	Tares
EC1184½	Style 2, No. 8-32 Oval Fillister Head Screw x ⅜" long	35	Erode
EC1219	Style 7, No. 10-32 Round Head Screw x ⅜" long	7-35	Tauro
EC1243	Style 2, ¼"-20 Fillister Head Screw x ½" long	5-6-7-11-12-17-35	Techy
EC1284E	Side Throat Heater Pad (asbestos)		Tempo
EC1285E	Bottom Throat Heater Pad (asbestos)		Tempe
AEC1300EB	Cartridge Sealing Heater Complete (specify voltage)	22-23-24	Eruct
	Cartridge Sealing Heater Screw—Use 304E		
	Cartridge Sealing Heater Check Nut—Use 305E		

Part No.	Name of Part	Plate No.	Code Word
AEC1302EC	Electric Crucible and Casing Assembled Complete (for Model E) (specify voltage)	19	Testa
AEC1302½EA	Electric Crucible and Casing Assembled Complete (for Model F) (specify voltage)		Radas
	Electric Crucible and Casing Assembled Mounting Screw—Use 556		
	Electric Crucible and Casing Assembled Mounting Pin—Use 607		
EC1303D	Crucible Well (for Model E or F)	1	Tetra
	Crucible Well Mounting Screw—Use EC1311		
AEC1304E	Crucible Heater (specify voltage)	1-7-21-23-24	Thack
	Crucible Heater Mounting Screw—Use 42		
EC1305ED	Mold Housing (Model E) (must be fitted to crucible at factory)	2	Thaes
EC1305½ED	Mold Housing (Model F) (must be fitted to crucible at factory)	8	Radio
EC1307EA	Style 4, ⅜"-16 Round Point Headless Set Screw x 1½" long	35	Thane
EC1309½	Bottom Throat Heater Clamp Screw		Swoor
EC1310½B	Mold Adapter (Use with ⅜" mold in 36-point machine)	13-34	Redun
EC1311	Style 3, ½"-20 Hexagon Head Screw x 1¼" long	35	Thens
EC1312EA	Bottom Throat Heater Clamp Support		Escad
	Bottom Throat Heater Clamp Support Screw—Use EC1309½		
	Bottom Throat Heater Clamp Support Lock Washer—Use 741		
EC1313EA	Bottom Throat Heater Clamp		Thera
	Heater Clamp Adjusting Screw—Use 1307EA		
EC1325½EC	Water Jacket Cover (specify whether 6 or 10 mounting screw holes. Ten hole type will also fit 6 hole type)	8	Theek
	Water Jacket Cover Screw—Use EC1380½A		
	Water Jacket Cover-Sealing Heater Screw Plug—Use EC1378½E		
	Water Jacket Cover Screw—Use EC1391½A		
EC1326½EA	Crucible Throat Cover (lower)	8	Waile
	Crucible Throat Cover Screw—Use EC1382		
EC1327½E	Crucible Throat Cover (left center)	8	Tousy
	Crucible Throat Cover Screw—Use EC1382		

ELECTRIC CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
EC1330½A	Diffusion Tube Adapter Shield	7-8	Voile
	Diffusion Tube Adapter Shield Mounting Screw—Use EC1243		
EC1332½D	Diffusion Tube Adapter	2-7	Thraw
EC1343½	Style 2, 5/16"-18 Fillister Head Screw x 1¼" long	35	Waese
EC1359	Style 4, ¼"-20 Headless Set Screw x ¼" long	8-35	Timor
EC1361½	Crucible Throat Cover (upper)	8	Evert
	Crucible Throat Cover Screws—Use EC1382		
EC1362	½" Jiffy Clip		Tinks
	Jiffy Clip Mounting Screw—Use EC1161		
AEC1367EC	Crucible Cover Assembled (fixed half)	7	Evoke
	Crucible Cover Mounting Screw—Use EC1343½		
AEC1367½	Crucible Cover Assembled (hinged half)	3-7-9	Feter
	Crucible Cover Hinge Pins—Use EC1380		
EC1368A	Crucible Charging Door	3-9	Toads
EC1368½B	Crucible Cover Lock Stay	2-3-9	Femin
EC1369	Crucible Charging Door Hinge Pin	3-9	Tobit
EC1369½	Crucible Cover Lock Stay Screw	2	Tobol
EC1371½E	Sealing Unit Conduit		Veter
	Sealing Unit Conduit Set Screw—Use EC1359		
EC1373A	Crucible Terminal Housing	19	Toils
	Crucible Terminal Housing Mounting Screw—Use EC1374		
EC1374	Style 2, No. 10-32 Fillister Head Screw x 1¾" long	35	Toits
EC1378½E	Water Jacket Cover—Sealing Heater Screw Plug		Freud

Part No.	Name of Part	Plate No.	Code Word
EC1379A	Crucible Cover Hinge		Tokay
	Crucible Cover Hinge Screw—Use 698		
EC1379½	Style 2, No. 10-32 Fillister Head Screw x ½" long	35	Token
EC1380	Crucible Cover (hinged half) Hinge Pin (See EC1379A)	7-35	Tolas
EC1380½A	Water Jacket Cover Screws	3-8-9	Whilk
EC1382	Style 2, No. 10-32 Fillister Head Screw x ⅜" long	3-9-17-26-35	Tolds
EC1383EA	Side Throat Heater Clamp		Toles
	Side Throat Heater Clamp Set Screw—Use 290E		
EC1386½E	Crucible Condulet Terminal Box Cover	7	Tomes
	Condulet Terminal Box Cover Screw—Use EC1379½		
EC1387EB	Crucible Condulet Terminal Box	7	Tomsk
	Crucible Condulet and Cover Screw (long)—Use EC1374		
	Crucible Condulet and Cover Screw (short)—Use EC1388		
EC1388	Style 2, No. 10-32 Fillister Head Screw x 2" long	35	Tonal
AEC1391EA	Side Throat Heater Assembled (specify voltage)	22-23-24	Tonga
EC1391½A	Water Jacket Cover Screws (15/16" long)		Icily
AEC1392EA	Bottom Throat Heater Assembled (specify voltage)	22-23-24	Tonic
EC1394½A	Sealing Valve Stem Handle	2-3-8-9	Idler
	Sealing Valve Stem Handle Mounting Screw—Use EC1395½A		
EC1395½	Style 8, No. 8-36 Flat Head Screw x ⅜" long	35	Inaly
EC1396F	Sealing Valve Stem	2-3-8-9	Toons
AEC1398F	Sealing Valve Retainer Assembled (sold only as assembled)		Iliad
	Sealing Valve Retainer Assembled Mounting Screw—Use EC1184½		
AEC1399EA	Heater Terminal Lead Wire Group for 200 to 250 volt crucibles (consisting of two wires, terminals and markers, S1 and S2)		Topes
	Heater Terminal Lead Wire Jiffy Clip—Use EC1362		
AEC1405EA	Heater Terminal Lead Wire Group for 100 to 150 volt crucibles (consisting of six wires, terminals and markers, one ST1, one ST2, two S1, and two S2)		Toque
	Heater Terminal Lead Wire Jiffy Clip—Use EC1362		

ELECTRIC CRUCIBLE AND PARTS

Part No.	Name of Part	Plate No.	Code Word
AEC1410E	Terminal Block Assembled (110 volt)	7	Torah
	Terminal Block Mounting Screw—Use EC1219		
AEC1411E	Terminal Block Assembled (220 volt)	23	Torch
	Terminal Block Mounting Screw—Use EC1219		

Part No.	Name of Part	Plate No.	Code Word
76½	Style 3, ¼"-20 Hexagon Head Screw x ¾" long	35	Turco
134A-1	Cartridge Fuse (10 amp.) (box of 10)	18	Myrrh
134A-2	Cartridge Fuse (6 amp.) (box of 10)	18	Mathe
M185	Style 7, ¼"-20 Round Head Screw x ⅜" long	21-35	Tachy
230	Style 102, ¼"-20 Hexagon Nut x ⅛" thick	13-15-17-35	Trays
A302EC	Panel Box	2-19	Inarm
	Panel Box Mounting Screw Nut—Use 701		
	Panel Box Mounting Screw Nut—Use EC1351E		
304E	Style 7, No. 8-32 Round Head Screw x ¼" long	35	Redit
304½E	Terminal Block	18	Fabri
305E	Style 102, No. 8-32 Hexagon Nut x 3/32" thick	35	Redot
311E	Asbestos Listing (22" long)	7	Logan
316E	Wire Markers (specify markings)	7	Logic
A327E	Magnetic Switch Coil (specify voltage, current and cycles)		Sirup
A327EA	Magnetic Switch Coil (Specify voltage and frequency)	18	Fabul
A328E	Protective Resistance Coil (specify voltage, current and cycles)	23	Situs
A329E	Kickout Coil (specify voltage, current and cycles)	23	Slade
331E	Magnetic Switch Coil Liner for DC ("U" shape)		Slash
332E	Magnetic Switch Coil Liner for DC (flat shape)		Sleid
332EA	Magnetic Switch Coil Clamp	18	Facti
334½E	Fuse Block	18	Facto
342E	Asbestos Twine (6 ft. long)		Vangs
343E	Cartridge Fuse (110 volt, 20 amp.) (box of 10)	18	Shred
348E	Cartridge Fuse (30 amp.) (box of 10)	18	Magda
349E	Cartridge Fuse (15 amp.) (box of 10)	18	Magen
351E	Main Switch	23	Misio
A351EA	Control Panel Main Switch (Single Phase)	18	Garbo
A351½EB	Control Panel Main Switch (3-Phase)	18	Pedic
A352EA	Magnetic Switch Complete	23	Misal

ELECTRIC ELROD CONTROL PANEL, SWITCH AND RESISTOR PARTS

Part No.	Name of Part	Plate No.	Code Word
A352EB	Control Panel Magnetic Switch complete	18	Factu
352½E	Main Switch Insulating Cover	18	Pepto
A353EA	Magnetic Switch Removable Armature	18	Mixen
A353EB	Magnetic Switch Movable Contact Board Assembly	18	Facul
354A	Magnetic Switch Removable Armature Retainer	18	Moche
354EA	Magnetic Switch Removable Armature Retainer Yoke	18	Fadel
A354½E	Magnetic Switch Stationary Contact Point Assembled	18	Incur
355E	Magnetic Switch Removable Armature Retainer Spring		Modus
355EA	Magnetic Switch Removable Armature Retainer Yoke Spring		Fader
355½EA	Magnetic Switch Movable Contact Bar	18	Fadge
356E	Magnetic Switch Removable Armature Spring Contact	18	Mofet
356EA	Magnetic Switch Movable Contact	18	Fagen
357E	Magnetic Switch Removable Armature Contact Spring	18	Monad
357EA	Magnetic Switch Movable Contact Spring	18	Faina
358E	Magnetic Switch Stationary Contact	18	Monta
358EA	Magnetic Switch Stationary Contact (R.H.)	18	Falco
358¼EA	Magnetic Switch Stationary Contact (L.H.)	18	Fanti
359E	Magnetic Switch Stationary Contact Screw	18	Indol
A360EA	Magnetic Switch Retaining Contact and Wire Assembled	18	Inept
A360EB	Magnetic Switch Interlocking Assembly (D.C. only)		Fanto
A360¼EB	Magnetic Switch Interlock Contact Replacement Set (D.C. only)		Permu
360½E	Magnetic Switch Retaining Contact Retainer Spring		Inert
361½E	Magnetic Switch Retaining Contact Retainer Spring Washer		Infer
362½E	Magnetic Switch Retaining Contact Retainer Spring Washer Cotter Pin		Inlaw
363E	Panel Box Cover		Jessa
363½E	Magnetic Switch Removable Armature Spring Contact Porcelain Insulator	18	Jeste
365½E	Terminal Block Plug		Perpe
A366½E	Terminal Block Connector	18	Petar
1161	Style 7, No. 10-32 Round Head Screw x ⅜" long	18	Tares

When ordering parts, always give serial number of the machine.

Part No.	Name of Part	Plate No.	Code Word
701	Style 4, ¼"-20 Headless Oval Point Set Screw x 1" long	35	Reaks
734	Style 7, ¼"-20 Round Head Screw x ½" long	35	Relet
AEC1301E	Cage Type Resistor (complete as shown)	24	Tests
	Resistor Mounting Screw—Use M185		
	Resistor Mounting Screw Nut—Use 230		
AEC1316E	Mold Sealing or Throat Switch (complete as shown)	2-19-24	Inter
	Flat Head Mounting Screw—Use EC1317½		
AEC1317E	Motor Switch (complete as shown)	2-24	Thigs
	Flat Head Mounting Screw—Use EC1317½		
EC1317½	Style 8, No. 6-32 Flat Head Screw x ¼" long	35	Thigh
EC1351E	¼"-20 Hexagon Cap Nut		Ticht
EC1352½E	Panel Box Guard		Ticks
EC1353EA	Panel Box Bracket (top)		Tides
	Panel Box Bracket Screw—Use 734		
EC1354EA	Panel Box Bracket (bottom)		Tiffs
	Panel Box Bracket Screw—Use 734		
AEC1358EC	Fuse and Switch Box Assembled (specify voltage)	2	Irred
	Fuse and Switch Box Mounting Screw (hexagon head)—Use 76½		
	Fuse and Switch Box Mounting Screw (round head)—Use M185		
	Mounting Screw Nuts for above—Use 230		
EC1359EA	Fuse and Switch Box Bracket	8	Tinct
	Fuse and Switch Box Bracket Screw—Use 76½		
AEC1404EA	Switch Box Wire Group, consisting of seventeen wires, B1, B2, D1, D2, D3, D4, A, J, ST3, ST4, E, F, BT, S and M with wire markers		Topic
EC1436	Style 7, No. 6-32 Round Head Screw x 5/16" long	35	Torus
AEC4000E	6 ohm Resistor	23-24	Locus
AEC4001E	4 ohm Resistor	23-24	Lodge

When ordering parts, always give serial number of the machine.

ELECTRIC THERMOSTAT (ON TOP OF CRUCIBLE)

Part No.	Name of Part	Plate No.	Code Word
304E	Style 7, No. 8-32 Round Head Screw x ¼" long	35	Redit
305E	Style 102, No. 8-32 Hexagon Nut x 3/32" thick	35	Redot
311E	Asbestos Listing (22" long)	7	Logan
316E	Wire Markers (specify markings)	7	Logic
EC1339EA	Thermostat to Control Panel Conduit	19	Thuds
EC1340½E	Contact Lever Adjusting Roller		Ivied
EC1343E	Thermostat Flexible Conduit	19	Thumb
EC1400EA	½" No Thread Conduit Coupling	4-19	Toper
EC1401EA	½" No Thread Conduit Connector	19-21	Topek
AEC1403E	Thermostat to Control Panel Lead Wire Group, consisting of three wires, C, L and H with wire markers	21	Topee
	Wire Markers for above (specify markings)—Use 316E		
	Control Panel Lead Wire Clamp Screw—Use 304E		
	Control Panel Lead Wire Clamp Screw Nut—Use 305E		
	Asbestos Listing (22" long)—Use 311E		
EC1648	Style 7, No. 10-32 Round Head Screw x ½" long	15-26-35	Layer

ELECTRIC THERMOSTAT (ON LEFT SIDE OF CRUCIBLE)

Part No.	Name of Part	Plate No.	Code Word
M132	Style 2, No. 8-32 Oval Fillister Head Screw x ⅜" long	21	Serru
M185	Style 7, ¼"-20 Round Head Screw x ⅜" long	21-35	Tachy
309E	Thermostat Flexible Conduit 90° Angle Connector	21	Vehic
316E	Wire Markers (specify marking)	7	Logic
412E	Thermostat Mercury Element Mounting Screw	21	Genet
421E	Thermostat Mercury Element Flange	21	Ymirs
AEC1340EC	Thermostat Complete	21	Ixtle
	Thermostat Mounting Screws—Use M185		
EC1343EA	Thermostat to Control Panel—Flexible Conduit	21	Ketos
AEC1343EA	Thermostat to Control Panel—Flexible Conduit Assembled, consisting of conduit, three wires and markers H, C and L, 90° angle connector and straight connector	21	Matro
EC1401EA	Thermostat to Control Panel—½" No Thread Connector	19-21	Topek
AEC1403EA	Thermostat to Control Panel—Lead Wire Group, consisting of three wires and markers H, C and L	21	Modul
EC1421½E	Thermostat Bracket	21	Monik
	Thermostat Bracket Mounting Screws—Use M132		
EC1422½E	Thermostat Mercury Tube Opening Cover		Multi
	Thermostat Mercury Tube Opening Cover Screws—Use M132		
AEC1424½E	Thermostat Mercury Tube Assembled, consisting of mercury tube, plunger and plunger housing (not sold separately)	21	Nucle
EC1425½E	Thermostat Switch	21	Panto
EC1426½E	Thermostat Switch Mounting Screw	21	Patro
EC1427½E	Thermostat Switch Arm	21	Peeve
EC1428½E	Thermostat Adjusting Screw	21	Pheno
	Thermostat Adjusting Screw Set Screw—Use EC1429½E		
EC1429½E	Style 7, No. 6-32 Round Head Screw x ½" long	21	Punch
EC1430½E	Thermostat Switch Arm Pivot Screw	21	Reger
EC1431½E	Thermostat Switch Arm Spring	21	Revue

Part No.	Name of Part	Plate No.	Code Word
EC1432½E	Thermostat Cover		Serol
	Thermostat Cover Screws—Use EC1433½E		
EC1433½E	Style 9, No. 6-32 Oval Fillister Head Screw x ⅜" long	21	Slack
EC1434½E	Thermostat Terminal Housing Cover	21	Speec
	Thermostat Terminal Housing Cover Screws—Use EC1435½E		
EC1435½E	Style 7, No. 6-32 Round Head Screw x ⅜" long	21-35	Swept
EC1436½E	Style 8, No. 10-24 Flat Head Screw x ½" long	21-35	Tight

PULLING MECHANISM

Part No.	Name of Part	Plate No.	Code Word
24	Style 55, No. 5 Taper Pin x 2½" long	35	Coomb
40	Style 3, 5/16"-18 Hexagon Head Screw x 1" long	35	Marks
79	Style 9, No. 10-30 Oval Flat Head Screw x ½" long	3-9	Merit
100½A	Front Plate Oil Cup		Tuner
S129	Style 56, ⅛" Dowel Pin x ¾" long	35	Tacet
182	Style 56, 5/16" Dowel Pin x 1¼" long	35	Noisy
M210	Style 3, 5/16"-18 x ¾" long, Hexagon Head Cap Screw		Stoop
230	Style 102, ¼"-20 Hexagon Nut x ⅛" thick	13-15-17-35	Trays
295½	Ratchet Pawl Plunger Spring	13	Smash
419	Style 102, No. 10-30 Hexagon Nut x ⅛" thick	35	Party
517	Style 56, ⅛" Dowel Pin x 9/16" long	35	Tread
557	Style 56, 3/16" Dowel Pin x ¾" long	35	Freak
624	Oiler (Flush Type)	5-6-10-12	Porch
625A	Puller Slide Gib Screw (right hand)	2-12	Pores
653½	Style 56, 3/16" Dowel Pin x ¼" long	35	Veloc
659½	Style 4, ¼"-20 Headless Oval Point Set Screw x ¾" long	13-35	Prosy
EC1064	Wedge Release (for Model F)	12	Ratch
	Wedge Release Dowel—Use S129		
EC1065A	Wedge Release Shaft (for Model F)		Rater
EC1066A	Wedge Release Ratchet (for Model F)		Raths
	Wedge Release Ratchet Dowel—Use S129		
AEC1066A	Wedge Release Assembly (for Model F) consisting of knob, shaft and cam pinned together. Sold separately	8-11-13	Walde
EC1067	Wedge Release Stop Ball (for Model F)	13	Raton
EC1068	Wedge Release Stop Ball Spring (for Model F)	13	Raten
EC1073	Style 4, No. 10-32 Headless Set Screw x ⅜" long	13	Stoit
EC1074	Stroke Adjusting Screw Bearing Bracket (for Model F)	13	Ratin
	Stroke Adjusting Screw Bearing Bracket Screw—Use EC1488½		
EC1075	Ratchet Pawl (for Model F)		Raves
	Ratchet Pawl Stop Screw—Use EC1073		

Part No.	Name of Part	Plate No.	Code Word
	Ratchet Pawl Stop Screw Lock Nut—Use EC1627½		
AEC1075	Ratchet Pawl Assembly (for Model F) consisting of pawl, two brackets, handle and sleeve assembled. Sold separately	8-11-12-13	Ratun
EC1076	Ratchet Pawl Fulcrum Screw (for Model F)	11-13	Rayon
EC1077	Ratchet Pawl Handle (for Model F)		Razes
EC1078	Ratchet Pawl Handle Knob (for Model F)		Razee
EC1079	Ratchet Pawl Handle Sleeve (for Model F)		React
EC1080	Ratchet Pawl Bracket (for Model F)	13	Reads
	Ratchet Pawl Bracket Adjusting Screw—Use 659½		
	Ratchet Pawl Bracket Adjusting Screw Nut—Use 230		
EC1081	Ratchet Pawl Bracket Fulcrum Screw (for Model F)	13	Reams
EC1082	Ratchet Pawl Plunger (for Model F)	13	Reaps
	Ratchet Pawl Plunger Spring—Use 295½		
EC1084	Ratchet Pawl Guard (for Model F)		Rears
AEC1084	Ratchet Pawl Guard Assembled (for Model F)	13	Reame
EC1085	Ratchet Pawl Guard Screw (for Model F)		Reast
EC1116	Style 3, ½"-13 Hexagon Head Screw x 1¼" long	35	Taney
EC1161	Style 7, No. 10-32 Round Head Screw x ⅜" long	35	Tares
EC1230A	Puller Slide Cam		Tauto
	Puller Slide Cam Taper Pin—Use 24		
	Puller Slide Cam Key—Use EC1231		
EC1231	Style 14, No. 23 Woodruff Key		Tawie
EC1232	Puller Slide Cam Roll		Tawny
	Puller Slide Cam Roll Stud—Use EC1240A		
AEC1233B	Puller Slide Cam Shaft Assembly, consisting of shaft, cam, bearing, collar and mitre gear		Swall
EC1234A	Puller Slide Cam Shaft Bearing (cast iron)		Tazza
	Puller Slide Cam Shaft Bearing Mounting Screw—Use 40		
	Puller Slide Cam Shaft Bearing Mounting Pins—Use EC1321		
	Puller Slide Cam Oil Tube—Use EC1475½A		

PULLING MECHANISM

Part No.	Name of Part	Plate No.	Code Word
EC1235	Puller Slide Cam Thrust Bearing (bronze)		Teach
EC1238	Puller Slide Cam Shaft and Spiral Mitre Gear Housing	7	Teams
	Puller Slide Cam Shaft and Spiral Mitre Gear Housing Mounting Screw—Use M210		
EC1239	Mitre Gear Housing Cover	7	Tears
	Mitre Gear Housing Cover Screw—Use EC1243		
EC1240A	Puller Slide Cam Roll Stud	4-10-11	Tease
EC1242	Mitre Gear Housing Felt Packing		Tebet
EC1243	Style 2, ¼"-20 Fillister Head Cap Screw x ½" long	5-6-7-11-12-17	Techy
EC1247	Puller Slide Cam Roll Stud Washer	5	Teils
EC1248A	Puller Slide Cam Guard	4-5	Teing
	Puller Slide Cam Guard Mounting Screw—Use EC1161		
EC1321	Style 56, 5/16" Dowel Pin x 1⅛" long	35	Thing
EC1331½	Style 3, ½"-13 Hexagon Head Screw x 2¼" long	35	Thram
EC1338	3/16" Ball Bearing	14	Thore
EC1352E	Style 4, No. 10 x 3/32" Lock Washer x 3/64" thick	14-35	Warse
EC1382	Style 2, No. 10-32 Fillister Head Screw x ⅜" long	3-9-17-26-35	Tolds
EC1441	5/16" Ball Bearing		Torts
AEC1448C	Puller Wedge Shim Assembly (Model F—36 pt.) consisting of shim and dowels.	7-10-13	Nacre
	Puller Wedge Shim Snap On Stud—Use EC-1705		
EC1449A	Puller Wedge Shim Dowel (left hand—36 pt.)		Tough
EC1449½	Puller Wedge Shim Dowel (left hand) for 6 to 18 pt. Model E and 6 to 30 pt. Model F	3-9	Swink
AEC1450½A	Puller Wedge Shim Assembly (Model E—6 to 18 pt. incl.) consisting of shim and dowels	7	Nagan
	Puller Wedge Shim Snap On Stud—Use EC1706		
AEC1451¼	Puller Wedge Shim Assembly (for 2 pt. twin or 4 pt. single—Models E or F) consisting of shim and dowels	7-34	Under
	Puller Wedge Shim Snap On Stud—Use EC1707		

Part No.	Name of Part	Plate No.	Code Word
AEC1451½A	Puller Wedge Shim Assembly (for 1 pt. twin or 2 pt. single—Models E or F) consisting of shim and dowels	7-34	Ulter
	Puller Wedge Shim Snap On Stud—Use EC1707		
AEC1451¾	Puller Wedge Shim Assembly (3 pt. for Models E or F) consisting of shim and dowels	7-34	Wader
	Puller Wedge Shim Snap On Stud—Use EC1707		
EC1452½	Puller Wedge Shim Dowel (left hand) (1 and 2 pt. twin, 2, 3 and 4 pt. single—Models E or F)		Unbal
EC1453½	Puller Wedge Shim Dowel (right hand) (1 and 2 pt. twin, 2, 3 and 4 pt. single—Models E or F)		Unbat
EC1454A	Puller Wedge Shim Dowel (right hand) (36 pt.—Model F)		Touks
EC1454½	Puller Wedge Shim Dowel (right hand) (6-18 pt. Model E or 6-30 pt. Model F)		Unbem
AEC1455A	Puller Wedge Shim Assembly (6-30 pt. Model F) consisting of shim and dowels	7-10-13-34	Nagas
	Puller Wedge Shim Snap On Stud—Use EC1706		
EC1459A	Puller Wedge Blocks	10	Touls
	Puller Wedge Block Screw—Use EC1459½		
EC1459½	Style 2, ¼"-20 Fillister Head Screw x ⅜" long	35	Tours
EC1460C	Puller Wedge		Touse
AEC1460C	Puller Wedge Assembled (for Model E) consisting of shim assembly, wedge, guards, balls, together with dowels and screws. Sold separately	7	Towsy
AEC1460½A	Puller Wedge Assembled (for Model F) consisting of shim assembly, wedge, guards, balls, together with dowels and screws. Sold separately	11	Naker
EC1461	Wedge Crank Springs	4-5-11	Touzl
EC1462B	Wedge Housing (front)	7	Tower
EC1462½	Wedge Guide Key		Towns
EC1463A	Wedge Housing (rear) (Model E)		Toyon
	Wedge Housing Oiler—Use 624		
	Wedge Housing Mounting Screw—Use EC1243		
	Wedge Housing Dowel Pins—Use EC1469½		

Part No.	Name of Part	Plate No.	Code Word
AEC1463A	Wedge Housing Assembled (for Model E) consisting of front and rear housings, wedge assembly, crank assembly, block, spring, bolt, knob, stop plate, rollers and stud, together with screws, dowels and pins. Sold separately	6-7	
EC1463½	Wedge Housing (rear) (Model F)	13	Urate
	Wedge Housing Oiler—Use 624		
	Wedge Housing Mounting Screws—Use EC1243		
	Wedge Housing Dowel Pins—Use EC1469½		
AEC1463½	Wedge Housing Assembly (for Model F) consisting of front and rear housings, wedge assembly, crank assembly, block, spring, bolt, knob, stop plate, rollers and stud, together with screws, dowels and pins. Sold separately	12	Unbor
EC1464A	Wedge Crank Spring Stud (short)	7	Trace
EC1464½	Wedge Crank Spring Stud (long)	7	Track
EC1465	Wedge Housing Lock Bolt	5-11	Tract
	Wedge Housing Lock Bolt Washer—Use EC1465½		
EC1465½	Style 202, $^{21}/_{64}$" x $^{13}/_{32}$" Lock Washer x $^{1}/_{16}$" thick	35	Toyte
EC1466	Wedge Housing Lock Bolt Knob	5-6-11-12	Trags
EC1466½	Style 2, ¼"-20 Fillister Head Screw x ¾" long	35	Usage
EC1467A	Wedge Crank Stop Plate	4-10	Traik
	Wedge Crank Stop Plate Screw—Use EC1382		
EC1468½	Puller Wedge Ball Race Guard	7	Rebel
	Puller Wedge Ball Race Guard Screw—Use EC1746		
EC1469½	Wedge Housing Dowel Pin	6-12	Waift
AEC1470	Wedge Crank Assembly (for Model E). Sold only as assembled	5-6	Trait
AEC1470½	Wedge Crank Assembly (for Model F). Sold only as assembled	8-11-12-13	Recal
EC1472	Wedge Crank Shaft Outside Roller	5-11-13	Trans
EC1473	Wedge Crank Shaft Outside Roller Stud	5-11-13	Wapen
EC1474A	Stroke Adjusting Screw Bearing Bracket	5-11	Treks
	Stroke Adjusting Screw Bearing Bracket Screw—Use EC1488½		
EC1475A	Stroke Adjusting Slide	4-6-10-12	Trets

Part No.	Name of Part	Plate No.	Code Word
EC1475½A	Puller Slide Cam Oil Tube		Warty
	Puller Slide Cam Oil Tube Oiler—Use EC1491½A		
EC1476	Stroke Adjusting Slide Screw Collar	4-10	Trews
	Stroke Adjusting Slide Screw Collar Pin—Use 517		
AEC1477	Stroke Adjusting Slide Screw Assembly, consisting of screw, collar and knob pinned together. Not sold separately	5-6-11-12	Tripo
EC1478	Stroke Adjusting Slide Screw Knob	4-10	Tribe
	Stroke Adjusting Slide Screw Knob Pin—Use EC1653		
EC1479A	Stroke Adjusting Lock Screw	4-6-10-11-12	Trice
	Stroke Adjusting Lock Screw Washer—Use EC1484		
EC1480F	Puller Slide	5-11	Trick
	Puller Slide Oilers—Use 624		
	Puller Slide Oil Hole Plugs—Use 653½		
	Front Plate Oil Cup—Use 100½A		
EC1480½	Puller Slide Filler Piece	5-11	Tried
	Puller Slide Filler Piece Screw—Use EC1544½		
EC1481A	Puller Slide Spring	5-11	Trier
EC1482C	Puller Slide Spring Plunger	4-6-10-12	Trigs
EC1482½	Puller Slide Spring Plunger Lock Screw		Unbri
EC1484	Style 201, ⅞" Dia. Washer x 3/32" thick	4-10-35	Togos
EC1485	Puller Slide Cam Housing (Models E and F)	4-6-12	Trine
	Puller Slide Cam Housing Mounting Pin—Use 182		
	Puller Slide Cam Housing Mounting Screw (short)—Use EC1116		
	Puller Slide Cam Housing Mounting Screw (long)—Use EC1331½		
	Puller Slide Cam Housing Dowel Pin—Use EC1558		
EC1486C	Puller Slide Guard		
	Puller Slide Guard Screws—Use EC1243	2-5-10-11	Loins
EC1486½	Puller Slide and Cam Housing Guard Plate		Washy
	Puller Slide and Cam Housing Guard Plate Screws—Use 79		
	Puller Slide and Cam Housing Guard Plate Screw Nut—Use 419		

PULLING MECHANISM

Part No.	Name of Part	Plate No.	Code Word
	Puller Slide and Cam Housing Guard Plate Lock Washer—Use EC1352E		
EC1487	Puller Slide Gib	5-11	Tripe
	Puller Slide Gib Screws (three right hand)—Use 625A		
EC1487½	Puller Slide Gib Screw (left hand)	2-12	Trist
EC1488A	Stroke Adjusting Index Plate	5-11	Trite
	Stroke Adjusting Index Plate Screw—Use EC1488½		
EC1488½	Style 2, ¼"-20 Fillister Head Cap Screw x 1" long	5-11-35	Troch
EC1489	Puller Slide Wedge Bearing Plate	4-10	Trods
	Puller Slide Wedge Bearing Plate Screws—Use EC1466½		
EC1490B	Puller Slide Release Plate Adapter	4-6-10-12	Trogs
	Puller Slide Release Plate Adapter Screws—Use EC1500		
EC1491C	Puller Slide Material Release Plate (30 and 36 pt. Model F)	11-13	Troke
EC1491½A	Puller Slide Cam Outside Oiler		Waspy
EC1495C	Puller Slide Material Release Plate (24 pt. Model F)	11-13-34	Reced
EC1496B	Stroke Adjusting Index Name Plate (for Model E)	4-6	Ullex
	Stroke Adjusting Index Name Plate Screws—Use EC1499		
EC1496½A	Stroke Adjusting Index Name Plate (for Model F)	10	Utlin
	Stroke Adjusting Index Name Plate Screws—Use EC1499		
EC1497C	Puller Slide Material Release Plate (6 to 18 pt. inclusive)	5-11-13-34	Reces
EC1498C	Puller Slide Material Release Plate (1 pt. twin, 2 pt. and 2 pt. twin, 3 and 4 pt.)	5-11-34	Unciv
EC1499	No. 10-32 Oven Head Screw x ¼" long	4-10	Troop
EC1500	Style 2, 5/16"-18 Fillister Head Cap Screw x 2 7/16" long	2-35	Refid
EC1544½	Style 2, No. 10-32 Fillister Head Screw x ¾" long	5-11-35	Truro
EC1558	Style 56, 5/16" Dowel Pin x 13/16" long	35	Tuffs
EC1627½	Style 102, No. 10-32 Check Nut x ⅛" thick	15-35	Unear
EC1653	Style 56, ⅛" Dowel Pin x ⅞" long	35	Leaps
AEC1666½	Material Point Gauge Block Lock Assembled, consisting of frame and plunger handle. Not sold separately	4-6-11-12	Unrig
EC1678½	Material Point Gauge Block (6 pt.)	4-10	Wenny

Part No.	Name of Part	Plate No.	Code Word
EC1680	Wedge Housing Hinge Block (right hand)	4-10	Lenin
	Wedge Housing Hinge Block Dowel Pin—Use 557		
	Wedge Housing Hinge Block Mounting Screw—Use EC1681½		
EC1681	Wedge Housing Hinge Block (left hand)	4-10-11	Lents
	Wedge Housing Hinge Block Mounting Screw—Use EC1681½		
	Wedge Housing Hinge Block Dowel Pin—Use 557		
EC1681½	Style 2, ¼"-20 Fillister Head Screw x 1¼" long	4-6-10-12-35	Lento
EC1682A	Wedge Housing Hinge Shaft	4-10	Leons
	Wedge Housing Hinge Shaft Set Screw—Use EC1694½		
EC1683A	Material Point Gauge Hinge Shaft	4-10	Lenox
	Material Point Gauge Hinge Shaft Screw—Use EC1683½		
EC1683½	Style 4, No. 10-32 Headless Cup Point Set Screw x ⅜" long	4-10-35	Lerin
EC1684½	Wedge Housing Rest	7	Letch
EC1685½	Material Point Gauge Block (for Model F) (1 pt. twin, 2 pt., 2 pt. twin, 3, 4, 18 24, 30 and 36 pt.)	10	Whiny
EC1686½	Material Point Gauge Block (for Model E) (1 pt. twin, 2 pt., 2 pt. twin, 3, 4 and 18 pt.)	4	Whimp
EC1688½	Material Point Gauge Block (for Models E and F) (8 pt.)	4-10	Level
EC1689	Material Point Gauge Block (for Models E and F) (10 pt.)	4-10	Leven
EC1689½A	Material Point Gauge Block (for Models E and F) (12 pt.)	4-10	Levis
EC1690½	Material Point Gauge Block (for Models E and F) (14 pt.)	4-10	Recki
EC1691	Material Point Gauge Block Spacer	4-10	Levys
EC1691½	Material Point Gauge Block (for Models E and F) (16 pt.)	4-10	Recke
EC1694½	Style 4, No. 10-32 Headless Cup Point Set Screw x 3/16" long	4-10-35	Liane
EC1705	Puller Wedge Shim Snap On Stud (Model F) (30 and 36 pt.)		Whipt
EC1706	Puller Wedge Shim Snap On Stud (Model E—6 to 18 pt. incl., Model F—6 to 30 pt. incl.)		Whame
EC1707	Puller Wedge Shim Snap On Stud (Models E and F) (1 pt. twin, 2 pt., 2 pt twin, 3 and 4 pt.)		Willy
EC1746	Style 8, No. 8-32 Flat Head Screw x 5/16" long	35	Lilac

When ordering parts, always give serial number of the machine.

WATER COOLING SYSTEM PARTS

Part No.	Name of Part	Plate No.	Code Word
M247	Style 6, ⅛" x ½" Reducing Bushing		Sylva
A301	Water Drain Compression Coupling Connector	14	Wishy
310	Style 6, ⅛" Railroad Union	14	Tacks
327	Style 6, ⅛" Close Nipple		Eupon
338	Style 6, ⅛" Pipe Nipple x 6" long	14	Paddy
342	Style 6, ⅛" Street Elbow	14-15	Polan
381	Style 6, ⅛" Pipe Nipple x 2¾" long	14	Pansy
EC1179	¾" Union	14	Withy
AEC1188½A	Water Outlet Spout Assembled	14	Salet
	Water Outlet Spout Nipple—Use EC1189½		
EC1189½A	Water Outlet Spout Nipple (over mold housing)	14	Woold
	Water Outlet Spout Nipple Wrench—Use EC1194½		
AEC1190½A	Water Drain Nipple Assembled, consisting of nipple and elbow	14	Vacil
EC1191½	Water Drain Nipple Coupling	14	Valer
EC1192½	Valve Handle Stem Cap Nut	14-15	Valka
AEC1193	Water Supply Tube Assembled, consisting of tube, elbow, nipple and nut, sleeve and nut	11-14	Visco
EC1194½	Hexagon Wrench (5/16" across flats—for ⅜" hollow hexagon head set screw)		Value
EC1195	Supply Valve Handle	14	Visua
EC1196	Supply Valve Indicator	14	Vitul
	Supply Valve Indicator Set Screw—Use EC1669		
EC1196½A	Supply Valve Stem Support	14	Vanir
	Supply Valve Stem Support Set Screw—Use EC1333		
EC1197	Supply Valve Stem	14	Vexat
	Supply Valve Stem Handle Washer—Use EC1352E		
	Supply Valve Stem Pin—Use EC1827		

Part No.	Name of Part	Plate No.	Code Word
EC1198A	Water Supply Nipple (under mold housing)	14	Viadu
	Water Supply Nipple Wrench—Use EC1194½		
EC1198½A	Water Drain Tee	14	Vasty
EC1199	⅛" Union Elbow Thread Piece	14	Vatir
AEC1294	Water Drain Sight Glass Assembly, consisting of glass, top and bottom flanges, gaskets and clamp screws	14	Vault
EC1294	Water Drain Sight Glass	14	Turfa
EC1295	Water Drain Sight Glass Flange (top)	14	Terms
EC1296A	Water Drain Sight Glass Flange (bottom)	14	Terns
EC1297	Water Drain Sight Glass Gasket		Terra
EC1298A	Water Drain Sight Glass Clamp Screw	14	Terse
EC1333	Style 4, ¼"-20 Bristo Cup Point Set Screw x ½" long	35	Thred
AEC1346F	Water Drain Cup Assembled, consisting of cup and lock pins	14	
EC1352E	Style 202, No. 10, 3/32" Lock Washer x 3/64" thick	14-35	Warse
AEC1366	Water Supply Valve Assembled	14	Wheep
EC1669	Style 4, No. 8-32 Headless Cup Point Set Screw x ⅜" long	14-35	Legal
EC1827	Style 55, No. 0 Taper Pin x ½" long	15-35	Lucas
EC1842	Style 6, ¾" Pipe Nipple x 3½" long	14-15	Lurks

CLAMPING MECHANISM

Part No.	Name of Part	Plate No.	Code Word
59	Style 101, ½"-13 Hexagon Nut x 5/16" thick	7-35	Matin
68	Style 57, 3/32" Cotter Pin x ¾" long	6-10-12-35	Loess
624	Oiler (Flush type)	5-6-10-12	Porch
915	Style 3, ⅜"-16 Hexagon Head Screw x 1" long	35	Relys
EC1212A	1½" Dia. x ⅞" Long Cam Roll	7-19	Taube
EC1322	Style 5, 5/16"-18 Square Head Set Screw x ⅜" long	4-7-35	Teind
EC1491½A	Material Clamp Lever Oiler		Veldt
EC1504	Material Clamp Spring		Trops
EC1508C	Material Clamp Lever	7	Trope
	Material Clamp Lever Cam Roll—Use EC1212A		
	Material Clamp Lever Cam Roll Stud—Use EC1512A		
	Material Clamp Lever Cam Roll Stud Nut—Use 59		
	Material Clamp Lever Fulcrum Pin—Use EC1510		
	Material Clamp Lever Oiler Tube—Use EC1510½		
EC1510	Material Clamp Lever Fulcrum Pin	4-7	Trots
	Material Clamp Lever Fulcrum Pin Set Screw—Use EC1322		
EC1510½	Material Clamp Lever Oil Tube		Venom
	Material Clamp Lever Oiler—Use EC1491½A		
EC1512A	Material Clamp Cam Roll Stud	7-19	Troth
EC1536A	Twin Lead Separator	34	Trows
EC1537	Style 2, No. 10-32 Fillister Head Screw x ⅜" long	35	Refim
EC1538	Material Clamp Bracket Plate (24 and 30 pt. Model F)	11-13-34	Recko
	Material Clamp Bracket Plate Screw—Use EC1537		
EC1539	Material Clamp Bracket Plate (30 and 36 pt. Model F)	11-13-34	Desro
	Material Clamp Bracket Plate Screw—Use EC1537		
EC1540B	Material Clamp Plunger	6-12	Trowl
	Material Clamp Plunger Pin—Use EC1543		
EC1541A	Material Clamp Bracket	4-10	Truce
	Material Clamp Bracket Oiler—Use 624		
	Material Clamp Bracket Screw (Hex. Head)—Use 915		

Part No.	Name of Part	Plate No.	Code Word
	Material Clamp Bracket Screw (Fil. Head)—Use EC1557		
AEC1541A	Material Clamp Bracket Assembled	6-12	Vexed
EC1542	Material Clamp Spring Nut	4-10	Truck
AEC1542½C	Material Clamp Bracket Plate Assembled consisting of plate and dowels (Not sold separately) (For 1½ pt., 1 pt. twin, 2 pt., 2 pt. twin, 3 pt., 4 pt. and 6 to 18 pt. inclusive)	5-6-34	Walop
	Material Clamp Bracket Assembled Screw—Use EC1537		
EC1543	Material Clamp Plunger Pin		Truly
EC1545C	Material Clamp Plate (Movable)	4-6-10-12	Truss
EC1546A	Material Clamp Plate Plunger	4-10	Trust
	Material Clamp Plate Plunger Cotter Pin—Use 68		
EC1547	Material Clamp Plate Plunger Spring		Truth
EC1548	Material Clamp Plate Plunger Spring Adjusting Nut		Tryon
EC1549A	Material Clamp Plate Plunger Handle	4-6-10-12	Tryst
	Material Clamp Plate Plunger Handle Cotter Pin—Use 68		
EC1550	Material Guide Roller	4-6-10-12	Tubas
EC1551	Material Guide Roller Bracket	4-6-10-12	Tubby
EC1552	Material Guide Roller Bracket Fulcrum Stud	6-12-25	Tubes
EC1553	Material Guide Roller Stud	4-6-10-12	Looks
EC1554A	Material Guide Roller Bracket Adjusting Screw	4-6-10-12	Tucks
EC1556	Material Guide Roller Bracket Spring		Tudor
EC1557	Style 2, ⅜"-16 Fillister Head Cap Screw x ⅜" long	35	Tugas
EC1559	Material Clamp Plate Plunger Handle Guide		Tulas

CUTTING, STACKING AND GAUGE MECHANISM

Part No.	Name of Part	Plate No.	Code Word
13	Style 56, 3/8" Dowel Pin x 1 3/8" long	35	Mails
36½	No. 2 Name Plate Drive Pin x 1/4" long	28	Vanad
40	Style 3, 5/16"-18 Hexagon Head Screw x 1" long	35	Marks
42	Style 3, 1/2"-13 Hexagon Head Screw x 1" long	35	Corns
59	Style 101, 1/2"-13 Hexagon Nut x 5/16" thick	35	Matin
76½	Style 3, 1/4"-20 Hexagon Head Screw x 3/4" long	35	Turco
87½	Style 4, No. 10-32 Headless Oval Point Set Screw x 1/8" long	35	Minus
S129	Style 56, 1/8" Dowel Pin x 3/4" long	35	Tacet
S142	Style 56, 3/32" Dowel Pin x 21/32" long	35	Trawl
158A	Style 202, 1/4" x 3/32" Lock Washer x 1/16" thick	15-35	Newsy
243	Style 4, 1/4"-20 Headless Cup Point Set Screw x 3/8" long	35	Odors
303½	1/4" Drive Fit Oiler		Yager
366	Style 1, No. 5-44 Flat Fillister Head Screw x 5/16" long	28-29	Paean
452	Style 56, 3/16" Dowel Pin x 9/16" long	35	Redyt
517	Style 56, 1/8" Dowel Pin x 9/16" long	35	Tread
529	Material Stacker Safety Guide Spring		Pelfs
569	Style 1, No. 8-36 Flat Fillister Head Screw x 5/8" long		Piety
570	Style 1, No. 8-36 Flat Fillister Head Screw x 3/8" long		Pikes
581	Style 56, 1/4" Dowel Pin x 7/8" long	35	Pixie
676½	Style 56, 1/8" Dowel Pin x 3/8" long	26-35	Purse
726	Cut Off Lever Shoe Spring		Hazer
915	Style 3, 3/8"-16 Hexagon Head Screw x 1" long	35	Relys
EC1005	Style 56, 1/4" Dowel Pin x 3/4" long	35	Tagus
EC1062½	Name Plate Pin	4	Vinai
EC107 2A	Material Table End Piece (for Model F)	8	Recte
	Material Table End Piece Screw—Use EC1466½		
	Material Table End Piece Dowel Pin—Use EC1558		
EC1115½	Cutter Head Return Lever Fulcrum Nut		Stour
EC1186	Style 56, 3/8" Dowel Pin x 15/16" long	35	Relut
EC1212A	1½" Dia. Cam Roll x 7/8" long	7-19	Taube

Part No.	Name of Part	Plate No.	Code Word
EC1243	Style 2, ¼"-20 Fillister Head Cap Screw x ½" long	5-6-7-11-12-17	Techy
EC1249	Style 8, No. 10-32 Flat Head Screw x ⅜" long	35	Swank
EC1256	Style 2, 5/16"-18 Fillister Head Screw x ½" long	35	Temps
EC1300	Style 56, ¼" Dowel Pin x 9/16" long	35	Terry
EC1322	Style 5, 5/16"-18 Square Head Cup Point Set Screw x ⅜" long	4-7	Teind
EC1333	Style 4, ¼"-20 Bristo Cup Point Set Screw x ½" long	35	Thred
EC1352E	Style 202, No. 10 x 3/32" Lock Washer x 3/64" thick	14	Warse
EC1354½	Style 4, No. 6-32 Cup Point Headless Set Screw x ⅛" long	15-29	Tiger
EC1382	Style 2, No. 10-32 Fillister Head Screw x ⅜" long	3-9-17-26	Tolds
EC1436	Style 7, No. 6-32 Round Head Screw x 5/16" long	35	Torus
AEC1443	Tension Lever Handle Assembled (Sold only as assembled)		Torys
EC1466½	Style 2, ¼"-20 Fillister Head Screw x ¾" long	35	Utter
EC1473½	Style 56, 3/16" Dowel Pin x 1¼" long	35	Trass
EC1510	Cut Off Lever Fulcrum Pin	4-7	Trots
	Cut Off Lever Fulcrum Pin Set Screw—Use EC1322		
EC1512A	Cut Off Lever Cam Roll Stud	7-19	Troth
AEC1522D	Cut Off Lever Assembly (for Model E) consisting of lever, spring and guide, shoe, slide and holder, stud and all screws	4-7	Recka
	Cut Off Lever Roll Stud—Use EC1512A		
	Cut Off Lever Roll Stud Nut—Use 59		
	Cut Off Lever Cam Roll—Use EC1212A		
	Cut Off Lever Fulcrum Pin—Use EC1510		
	Cut Off Lever Oiler—Use 303½		
AEC1522½	Cut Off Lever Assembly (for Model F) consisting of lever, spring and guide, shoe, slide and holder, stud and all screws	10	Uncli
EC1523B	Cut Off Lever Shoe	5-11	Trojs
	Cut Off Lever Shoe Screw—Use 570		
EC1524	Cut Off Lever Shoe Spring Guide Holder		Fetro
	Cut Off Lever Shoe Spring Guide Holder Screw—Use EC1249		

CUTTING, STACKING AND GAUGE MECHANISM

Part No.	Name of Part	Plate No.	Code Word
EC1525	Cut Off Lever Shoe Slide Stud		Recoh
EC1526	Cut Off Lever Shoe Spring Guide		Recod
	Cut Off Lever Shoe Spring—Use 726		
EC1527	Cut Off Lever Shoe Slide		Recof
EC1529	Cut Off Lever Spring		Trout
	Cut Off Lever Spring Screw—Use 40		
EC1544½	Style 2, No. 10-32 Fillister Head Screw x ¾" long	5-11-35	Truro
EC1558	Style 56, 5/16" Dowel Pin x 1 3/16" long	35	Tuffs
EC1598	Style 4, 5/16"-18 Bristo Half Dog Point Set Screw x 1¼" long	26-27-35	Tulip
EC1599	Material Holding Catch Plunger		Tulle
	Material Holding Catch Plunger Spring—Use EC1673		
	Material Holding Catch Plunger Spring Tension Screw—Use EC1674		
EC1601D	Material Table and Cutter Head Bracket	4-10	Tumid
	Material Table and Cutter Head Bracket Screw—Use 42		
	Material Table and Cutter Head Bracket Pin—Use 13		
EC1602F	Material Table (for Models E and F)	2-8	Tumor
	Material Table Mounting Dowels—Use EC1186		
	Material Table Mounting Screws—Use 42		
EC1603C	Gauge Rod Bearing Bracket	2-25	Tumps
	Gauge Rod Bearing Bracket Screw—Use EC1256		
	Gauge Rod Bearing Bracket Mounting Pin—Use 581		
EC1604B	Material Guide Plate (rear adj.)	25	Tunas
	Material Guide Plate Stop Screw—Use EC1630B		
EC1604½	Material Guide Plate (rear adj.) Extension	25	Tunes
	Material Guide Plate (rear adj.) Extension Screw—Use EC1746		Tunic
EC1605B	Material Guide Plate (rear adj.) Screw Knob		
	Material Guide Plate Adj. Screw Knob Dowels—Use S129		
EC1605½	Material Guide Plate (rear adj.) Adjusting Screw		Tunis
EC1606½	Cutter Head Return Lever Fulcrum		Tuque

Part No.	Name of Part	Plate No.	Code Word
EC1607½A	Stationary Knife—24 pt. (for Model F)	26-27-34	Recog
	Stationary Knife Guide Pins—Use 452		
	Stationary Knife Screws—Use EC1648		
	Stationary Knife Screw Washers—Use EC1609½		
EC1609½	Style 202, 3/32" Shakeproof Lock Washer—.021" thick	35	Uncro
EC1611½	Front Movable Knife Spring Stud	5-11	Undra
EC1612½	Rear Movable Knife Spring Stud	4	Undul
AEC1613½B	Movable Knife Operating Lever Assembled, consisting of lever and stud—sold only as assembled	4-10-26	Turin
AEC1615J	Cutter Head Assembled (for Model E) consisting of main casting with stationary and movable knives, material size adjustment and holding catch assembled complete and ready to add to rods. All parts sold separately	2-5-11	Turks
AEC1615½A	Cutter Head Assembled (for Model F) consisting of main casting with stationary and movable knives, material size adjustment and holding catch assembled complete and ready to add to rods. All parts sold separately	8	Recom
EC1615½A	Cutter Head (for Models E or F)	26-27	Turki
	Cutter Head Set Screw (5/16" x 1¼")—Use EC1598		
	Cutter Head Set Screw (5/16" x 1½")—Use EC1618½A		
	Cutter Head Set Screw (No. 8-32 x 3/16")—Use EC1682½		
EC1616A	Stationary Knife (30 and 36 pt.) (for Model F)	26-27-34	Recon
	Stationary Knife Guide Pin—Use 452		
	Stationary Knife Screw—Use EC1648		
	Stationary Knife Screw Washer—Use EC1609½		
EC1617C	Movable Knife (for Model E)	5-7-26-27	Tutor
AEC1617½	Cutter Head Cover Assembled (for Model E) consisting of cover and rear movable knife spring stud	26-27	Vibra
	Cutter Head Cover Assembled Mounting Screw—Use EC1382		
EC1618½A	Stationary Knife Adjusting Screw	4-10-26-27	Hilam
	Stationary Knife Adjusting Screw Check Nut—Use EC1627½		
	Stationary Knife Adjusting Screw Lock Washer—Use EC1352E		

CUTTING, STACKING AND GAUGE MECHANISM

Part No.	Name of Part	Plate No.	Code Word
EC1619B	Operating Lever and Cutter Head Bushing	26-27	Twals
EC1619½A	Stationary Knife (1-pt. twin to 18-pt. inclusive) (for Models E and F)	26-27-34	Tweai
	Stationary Knife Guide Pin—Use 452		
	Stationary Knife Mounting Screw—Use EC1648		
	Stationary Knife Screw Washer—Use EC1609½		
EC1620F	Movable Knife Spring	4-10-26-27	Tweed
EC1620½	Movable Knife (for Model F)	11-26-27	Recow
EC1621B	Movable Knife Operating Screw	4-26-27	Twang
AEC1621½A	Cutter Head Cover Assembly (for Model F) consisting of cover and rear movable knife spring stud	10-11-26-27	Vicar
	Cutter Head Cover Mounting Screw—Use EC1382		
EC1622F	Cutter Head Guide Plate	5-11-25-26-27	Tweet
	Cutter Head Guide Plate Pin—Use EC1473½		
EC1622½B	Cutter Head Guide Plate Pinion Knob	5-10-11-26	Twier
	Cutter Head Guide Plate Pinion Knob Pin—Use 676½		
EC1623D	Cutter Head Guide Plate Rack	27	Twigs
EC1623½B	Operating Lever and Cutter Head Bushing Lock Screw		Twill
EC1624C	Material Holding Catch (24 to 36 pt.) (Model F)	10-11-26-27-34	Recoz
EC1625C	Material Holding Catch (1 pt. twin to 18 pt. inclusive) (Models E and F)	4-5-11-25-26-27-34	Twins
EC1625½A	Cutter Head Guide Plate Pinion		Twine
	Cutter Head Guide Plate Pinion Retaining Screw—Use EC1669		
EC1626C	Material Holding Catch Fulcrum Screw	26	Twire
EC1626½A	Material Cut Off Operating Rod Stop Screw	25	Twirl
EC1627	Cutter Head Guide Rod	5-11	Twist
	Cutter Head Guide Rod Set Screw—Use 243		
EC1627½	Style 102, No. 10-32 Hexagon Nut x ⅛" thick	15-35	Unear
EC1628C	Material Cut Off Operating Rod	5	Twixt
AEC1628C	Material Cut Off Operating Rod Assembled, consisting of rod, spring post and guide pinned together	25	Villa
AEC1628½	Material Cut Off Safety Rod Assembled (sold only as assembled)	5-11	Tyche

When ordering parts, always give serial number of the machine.

Part No.	Name of Part	Plate No.	Code Word
EC1630B	Material Guide Plate (rear adj.) Stop Screw	5	Recti
EC1631½B	Material Cut Off Safety Spring Post	25	Tyler
	Material Cut Off Safety Spring Post Dowel Pin—Use S129		
	Material Cut Off Safety Spring Post Screw—Use EC1790		
EC1633½A	Material Cut Off Safety Spring	2-4-10-25	Tymps
EC1635½	Cutter Head Guide Point Size Scale (for Model F)	11-26-27	Recta
	Cutter Head Guide Point Size Scale Pin—Use EC1062½		
EC1636½A	Cutter Head Ratchet Base	7-10-26-27	Typal
	Cutter Head Ratchet Base Dowel Pin—Use 676½		
	Cutter Head Ratchet Base Screw—Use EC1637½		
EC1637½	Style 8, No. 6-32 Flat Head Screw x 5/16" long	35	Tyros
EC1638½B	Cutter Head Guide Point Size Indicator	27	Viper
EC1640B	Material Table Brace	2	Lager
	Material Table Brace Screw (short)—Use 76½		
	Material Table Brace Screw (long)—Use 915		
	Material Table Brace Dowel Pin—Use EC1300		
	Material Table Brace Tension Lever Pawl Stop Pin—Use EC1062½		
EC1640½B	Cutter Head Guide Point Size Scale (for Model E)	5-26-27	Laban
	Cutter Head Guide Point Size Scale Pin—Use EC1062½		
AEC1642½B	Cutter Head Guide Plate Ratchet Assembled, consisting of ratchet, knob and pinion pinned together	4-26-27	Laura
	Cutter Head Guide Plate Ratchet—Use 676½		
	Cutter Head Guide Plate Pinion—Use EC1625½A		
	Cutter Head Guide Plate Pinion Knob—Use EC1622½B		
EC1645½	Cutter Head Guide Plate Pinion Spring	27	Laver
EC1648	Style 2, No. 10-32 Round Head Screw x ½" long	15-26-35	Layer
EC1648½	Safety Spring Post Pin	25	Layte
EC1649½	Safety Spring Post Guide	5-11	Lazes
EC1651½	Stripper Plate Indicator Pawl Housing	4-10-26-27	Unfee

Part No.	Name of Part	Plate No.	Code Word
	Stripper Plate Indicator Pawl Housing Screw—Use EC1654½		
	Stripper Plate Indicator Spring Retainer Screw—Use 87½		
EC1652½	Stripper Plate Indicator Stud		Unfol
EC1653½	Stripper Plate Indicator Spring	27	Unfor
EC1654½	Stripper Plate Indicator Housing Screw	4-10-26	Unglu
EC1662B	Material Cut Off Gauge Plunger Housing	25-28-29	Lears
EC1662½	Material Cut Off Gauge Plunger Housing Guide Screw	25-29	Lerns
EC1663D	Material Cut Off Gauge Bracket	28-29	Visit
AEC1663D	Material Cut Off Gauge Assembly, consisting of bracket, housing, guide screw, dial, graduated sleeve, indicator, plunger, screws and dowels	2	Least
EC1664B	Material Cut Off Gauge Plunger	25-28-29	Leave
EC1665C	Material Cut Off Gauge Dial	25-28-29	Leavy
EC1665½	Material Cut Off Gauge Micrometer Adj. Graduated Sleeve	25-28-29	Leddy
	Material Cut Off Gauge Micrometer Adj. Graduated Sleeve Set Screw—Use EC1354½		
EC1666B	Material Cut Off Gauge Locating Pin	29	Ledge
EC1667	Material Cut Off Gauge Plunger Spring	29	Leech
EC1668B	Material Cut Off Gauge Indicator	25-28-29	Leeks
	Material Cut Off Gauge Indicator Screw—Use 366		
EC1669	Style 4, No. 8-32 Cup Point Headless Set Screw x ⅜" long	14-35	Legal
AEC1670D	Material Cut Off Gauge Assembled, consisting of stop, name plate and pins	8-25-28-29	Leger
EC1670½A	Material Cut Off Gauge Stop Pin	28	Leggy
EC1671B	Material Cut Off Gauge Clamp Screw	28-29	Leith
EC1671½	Material Cut Off Gauge Clamp Screw Retaining Screw	28-29	Leman
EC1672B	Material Table End Piece (for Model E)	25	Lemma
EC1672½A	Material Cut Off Gauge Dial Plunger	29	Lemon
EC1673	Material Holding Catch Plunger Spring	27	Vivid
EC1673A	Material Cut Off Gauge Dial Plunger Spring	29	Lenas
EC1674	Material Cut Off Gauge Dial Spring Screw	29	Lemur
EC1674½A	Material Cut Off Gauge Name Plate (Model E or F)	28	Lends

Part No.	Name of Part	Plate No.	Code Word
	Name Plate Screw—Use 36½		
EC1679	Style 7, No. 4-40 Round Head Screw x ¼" long	2-28-29-35	Refiv
EC1682½	Style 4, No. 8-32 Cup Point Headless Set Screw x 3/16" long	4-6-10-12	Leper
EC1683½	Style 4, No. 10-32 Headless Cup Point Set Screw x ⅜" long	4-10-35	Lerin
EC1692½	Material Stacker Sprocket Chain Link		Unsad
EC1694A	Material Stacker Sprocket (rear)	4	Lhasa
	Material Stacker Sprocket Pin (rear)—Use S142		
	Material Stacker Sprocket Screw (rear)—Use EC1694½		
EC1694½	Style 4, No. 10-32 Headless Cup Point Set Screw x 3/16" long	4-10-35	Liane
EC1695B	Material Stacker Sprocket Chain	5-11-25	Liars
EC1695½	Material Stacker Sprocket Chain Link Rivet		Libau
EC1696	Material Stacker Sprocket Bracket (front)		Libel
	Material Stacker Sprocket Bracket Screw (front)—Use EC1544½		
EC1696½	Material Stacker Sprocket (front)	25	Liber
EC1697A	Material Stacker Sprocket Bracket (rear right hand)		Libra
	Material Stacker Sprocket Bracket Screw (rear right hand)—Use 76½		
EC1697½A	Material Stacker Sprocket Bracket (rear left hand)	5-11	Licht
	Material Stacker Sprocket Bracket Screw (rear left hand)—Use 76½		
EC1698A	Material Stacker Sprocket Stud		Licks
EC1698½A	Material Stacker Tension Spring	5	Lieds
	Material Stacker Tension Spring Retainer Screw—Use EC1436		
EC1704	Stacker Tension Spring Sleeve		Voice
EC1708	Material Cut Off Gauge Indicator Plate	28-29	Naiad
	Material Cut Off Gauge Indicator Plate Screws—Use EC1679		
EC1740A	Material Stacker Sprocket Shaft	5	Liens
EC1742B	Material Stacker Spring Housing	25	Lieve
EC1742½A	Material Stacker Spring Housing Knob	25	Ligan
EC1743D	Material Stacker		Namer
	Material Stacker Mounting Screws—Use EC1746		

Part No.	Name of Part	Plate No.	Code Word
AEC1743D	Material Stacker Assembled, consisting of stacker, housing, spring, knob, pins and screws	2-25	Light
	Material Stacker Safety Guide Spring—Use 529		
EC1743½	Material Stacker Spring Pin		Unsto
EC1744F	Material Stacker Safety Guide		Ligny
	Material Stacker Safety Guide Spring—Use 529		
EC1744½	Material Stacker Adj. Guide Spring Pin		Likin
EC1745A	Material Stacker Safety Guide Stud	25	Lilac
EC1746	Style 8, No. 8-32 Flat Head Screw x 5/16" long	35	Limps
EC1752A	Material Stacker Chain Stud		
	Material Stacker Chain Stud Nut—Use EC1762		
	Material Stacker Chain Stud Lock Washer—Use EC1763		
EC1752½B	Material Stacker Tension Spring Clutch Collar		Linen
	Material Stacker Tension Spring Clutch Collar Screws—Use EC1679		
EC1753A	Material Stacker Tension Spring Clutch		Lings
	Material Stacker Tension Spring Clutch Set Screw—Use EC1683½		
EC1753½	Material Stacker Sprocket Shaft Collar		Lingo
	Material Stacker Sprocket Shaft Collar Set Screw—Use EC1683½		
EC1755	Positive Return Bracket	5-11	Natal
AEC1755	Positive Return Bracket Assembly	5-11	Lints
	Positive Return Bracket Assembly Mounting Screws—Use EC1243		
EC1756A	Positive Return Bracket Adjusting Screw	4-6-10-12	Lions
	Positive Return Bracket Adjusting Screw Lock Screw—Use EC1682½		
	Spring Retainer Lock Washer—Use 158A		
EC1757	Positive Return Bracket Adjusting Screw Spring		Lippe
EC1758A	Positive Return Bracket Adjusting Screw Spring Retainer	6-12	Lisle
EC1759A	Positive Return Guide Sleeve	4-6-10-12	Lisps
EC1760	Positive Return Guide Sleeve Key	7	Lists
	Positive Return Guide Sleeve Key Screw—Use EC1761		
EC1761	Style 2, No. 3-56 Fillister Head Screw x ½" long	7-35	Lithy

Part No.	Name of Part	Plate No.	Code Word
EC1762	Material Stacker Chain Stud Nut	25	Lives
EC1763	Style 202, No. 6 x 3/64" Lock Washer x 1/32" thick	35	Liver
EC1770	Cutter Head Return Tension Lever	2-25	Livre
	Cutter Head Return Tension Lever Handle—Use AEC1443		
	Cutter Head Return Tension Lever Handle Stud—Use EC1770½		
EC1770½	Cutter Head Return Tension Lever Handle Stud		Torso
EC1771	Cutter Head Return Tension Lever Fulcrum Screw	2	Llano
EC1773A	Cutter Head Return Tension Lever Pawl	2-25	Lloyd
EC1774A	Cutter Head Return Tension Lever Pawl Fulcrum Screw	2	Loads
EC1775	Cutter Head Return Tension Spring	2	Loans
EC1776	Cutter Head Return Intermediate Lever		Loams
	Cutter Head Return Intermediate Lever Fulcrum—Use EC1606½		
EC1777	Cutter Head Return Lever Guard		Lobby
EC1790	Style 4, ¼"-20 Bristo Cup Point Set Screw x ¼" long	5-11-35	Local

MISCELLANEOUS PARTS AND SUPPLIES

Part No.	Name of Part	Plate No.	Code Word
38	Style 3, ½"-13 Hexagon Head Cap Screw x 1½" long	35	Nadir
63	Style 101, ½"-13 Hexagon Nut x 7/16" thick	35	Mavis
115½A	Saftofuse (three phase) (gas machine)		Runed
116½	Saftofuse (single phase) (gas machine)		Rupis
134A-1	Cartridge Fuse (10 amp.) (box of 10)	18	Myrrh
134A-2	Cartridge Fuse (6 amp.) (box of 10)	18	Mathe
M179½B	Mold Removing Wrench (⅜" and ½" inch openings)	34	Stare
M180½A	End Wrench (5/16" and 7/16" openings)	34	Starn
M208	Style 4, ⅜"-16 Headless Set Screw x ½" long	35	Stoat
273	Style 202, ½" Plain Lock Washer	35	Orbit
291½	Style 4, ⅜"-16 Headless Set Screw x ⅝" long	35	Skate
343E	Cartridge Fuse (20 amp.) (box of 10)	18	Shred
348E	Cartridge Fuse (30 amp.) (box of 10)	18	Magda
349E	Cartridge Fuse (15 amp.) (box of 10)	18	Magen
484	Metal Feeder Ingot Mold		Balsa
615½	Style 202, ⅜" Plain Lock Washer	35	Prune
915	Style 3, ⅜"-16 Hexagon Head Cap Screw x 1" long	35	Relys
A932A	Electric Testing Cord Complete	Page 34	Repri
943	Wire Brush	31	Stupa
A945	½ Pt. "Lubriclean" Fluid	31	Neath
A945	1 Qt. "Lubriclean" Fluid	31	Strum
A945	1 Gal. "Lubriclean" Fluid		Strun
946A	"Lubriclean" Fluid Swab	31	Yeans
963	¼" Bristo Set Screw Wrench	34	Arbal
EC1000	Elrod Base Tray	2	Taens
EC1008	Style 7, No. 10-32 Round Head Screw x 1" long	35	Taiga
AEC1015	Elrod Crucible Cleaning Outfit	31	Needs
AEC1019	Mold Sealing Plate (Model E—⅜" mold)	13	Redon

When ordering parts, always give serial number of the machine.

Part No.	Name of Part	Plate No.	Code Word
AEC1020A	Mold Container complete with cover and six baskets	19	Takes
	Mold Container Screw—Use 291½ (See AEC1022 and AEC1023)		
AEC1022	Mold Basket (small handle)		Talcs
AEC1023	Mold Basket (large handle)		Talds
AEC1042	Special Elrod Gear Housing Grease (½ pint)		Recor
AEC1043	Cam Roll Stud Screw Driver Assembled	34	Netar
AEC1069	Mold Sealing Plate (Model F—¾" mold)	13-34	Reden
EC1194½	Water Supply Union Nipple Wrench	34	Nexus
AEC1250A-1	Elrod Mold Oil (1 gal.) for use with pressure oiler		Telas
AEC1250A-5	Elrod Mold Oil (5 gal.) for use with pressure oiler		Telic
EC1255	End Wrench (9/16" and ¾" openings)	34	Tells
AEC1281½	Pressure Oiler Diffusion Tube Packing (box of 20 asbestos packings)	30	Hooly
AEC1290½	Crucible Well Cleaning Tool, complete	31	Nixie
EC1310½B	Mold Adapter Plate (for Model F)	13-34	Redun
AEC1328C	Mold Cover Assembly		Thorn
AEC1337B	Metal Drip Cup Assembly		Nodal
EC1340½B	Hollow Material Reamer (18 and 24 pt.)	34	Nomal
EC1347½A	Hollow Material Reamer (30 and 36 pt.)	34	Walth
EC1348½B	Hollow Material Reamer Handle (18 and 24 pt.) (See EC1340½B, EC1347½A, EC1351½A)	30-34	Nosol
EC1351½A	Hollow Material Reamer Handle (30 and 36 pt.)	34	Nugot
EC1361A	Mold Cover Slide		Times
EC1519	Screwdriver	34	Numid
AEC1520	Mold and Strip Grip Pliers	34	Nunch
EC1536A	Twin Lead Separator for Elrod Molds	34	Trows
AEC1582	Material Scraper Assembled	34	Nylon
EC1585	No. 10 Flat Head Iron Wood Screw x 1¼" long		Janus
EC1586	Style 7, No. 10-32 Round Head Screw x ¼" long	35	Japed
AEC1590	Accessories Box with Nest (for Model E)		Jasey

When ordering parts, always give serial number of the machine.

MISCELLANEOUS PARTS AND SUPPLIES

Part No	Name of Part	Plate No.	Code Word
AEC1590½	Accessories Box with Nest (for Model F)	34	Jeans
	Accessories Box Mounting Screws—Use EC1585		
EC1591	Accessories Box Bracket		Jeers
	Accessories Box Bracket Mounting Screw—Use 915		
	Accessories Box Bracket Lock Washer—Use 615½		
EC1591½	Mold Container Bracket	19	
	Mold Container Bracket Mounting Screw—Use 38		
	Mold Container Bracket Screw Nut—Use 63		
	Mold Container Bracket Leveling Screw—Use M208		
	Mold Container Bracket Lock Washer—Use 273		
EC1595	Accessories Box Cover Knob	34	
	Accessories Box Cover Knob Mounting Screw—Use EC1008		
EC1596	Accessories Box Cover Knob Pin		Jingo
EC1597	Accessories Box Cover Knob Screw Washer		Jinny
EC1598½	Mold Container Drip Pan		Joust
	Mold Container Drip Pan Mounting Screws—Use EC1586		
EC1616½	5/16" Bristo Set Screw Wrench	34	Tusks
EC1645	Metal Feeder Bracket Mounting Screw		Judge
AEC1655A	Mold Remover Assembly	34	Redyn
EC1657	Mold Remover Jaw (front) Clamp Screw	35	Unhan
EC1658	Mold Remover Jaw Clamp Screw Washer		Juice
EC1659	Mold Remover Jaw (front) Jack Screws	35	Unrob
AEC1693A	Metal Feeder Bracket (top)		Junco
AEC1693½A	Metal Feeder Bracket (bottom)	32-33	Jupon
	Metal Feeder Bracket Mounting Screw—Use EC1645		
	Metal Feeder Bracket Set Screw—Use EC1709		
EC1709	Style 4, 5/16"-18 Headless Cup Point Set Screw x 3/16" long	35	Juror
AEC1712	Margach Metal Feeder (complete with ingot mold)	32	Uncap
	Metal Feeder Ingot Mold—Use 484		

Part No.	Name of Part	Plate No.	Code Word
AEC1713	Star Metal Feeder (complete with ingot mold)	33	Undid
	Metal Feeder Ingot Mold—Use 484		
AEC1715B	Mold Housing Scraper Assembled	31	Undue
EC1720A	Diffusion Tube Repacking Tool Block	30	Upend
AEC1720A	Diffusion Tube Repacking Set Complete	30	Hoise
AEC1721A	Automatic Spring Hammer Assembled	30	Unsay
EC1722A	Automatic Hammer Point (state make of hammer)		Unsea
EC1724	Diffusion Tube Graduated Tamping Tool	30	Unsha
EC1725	Diffusion Tube Pin Punch	30	Unsop
EC1726	Twist Drill for Diffusion Tube Repacking Set	30	Usury
EC1727	Tap for Diffusion Tube Repacking Set	30	Uveat

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