Instructions for Erecting BLUE STREAK Model 5 Linotype

TRADE LINOTYPE MARK

Mergenthaler Linotype Company
Brooklyn 5, New York

FLOOR PLAN

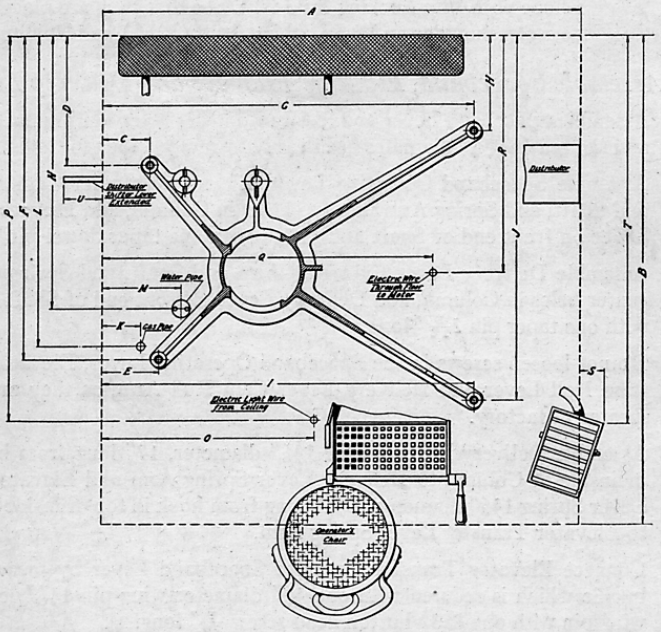
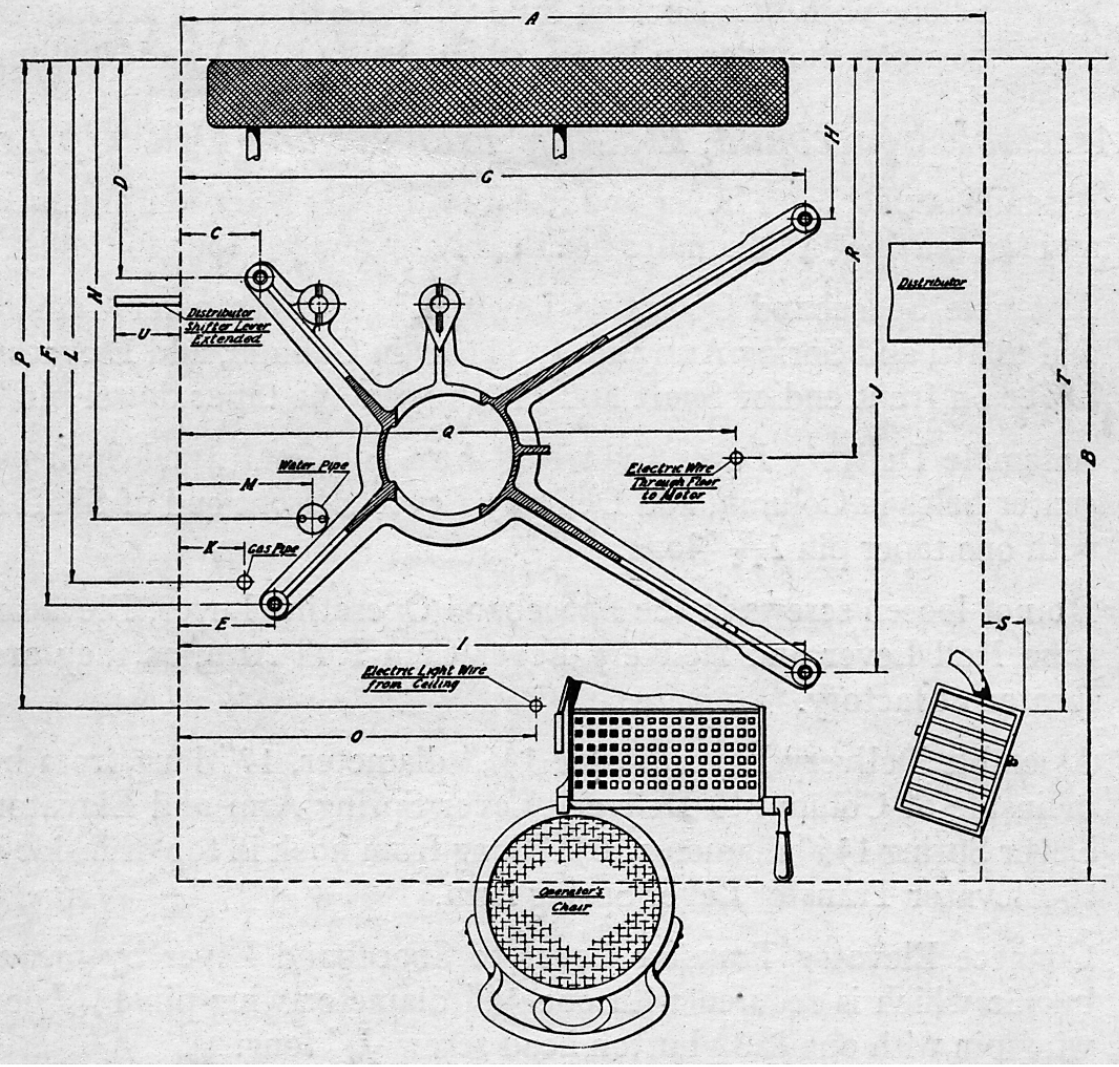


CHART OF FLOOR PLAN DIMENSIONS: A—61 inches; B—62 inches; C—6 inches; D—16¾ inches; E—7 inches; F—41½ inches; G—47½ inches; H—12⅛ inches; I—47¼ inches; J—46⅞ inches; K—5 inches; L—41 inches; M—10 inches; N—34½ inches; O—27 inches; P—49 inches; Q—42¼ inches; R—29⅞ inches; S—3½ inches; T—49½ inches; U—5 inches; Height—78½ inches.

Set in Linotype Old Style No. 7 and Garamond Bold No. 3. Printed in U. S. A. 621.05.1-K-Z-15Z

FLOOR PLAN



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Floor Plan from page 1 at a larger scale.

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See that all finished surfaces are clean and free from burrs that may have been caused in handling.

1. *Assemble Column to Base*

Drive two ⅜″ diameter dowels 1⅛″ long in Column so that they project approximately ⅛″ and set in position on Base.

Drive dowel pins flush with surface of Column and fasten with three ¾″ diameter hexagon head screws 2″ long and one ¾″ diameter hexagon head screw 2¾″ long and washer in left-hand front corner.

Assemble Elevator Transfer Lever Spring Hook and Delivery Lever Spring Hook to inside of Column.

Assemble Vise Locking Stud (R.H.) to Column and secure by means of one ½″ diameter slotted hexagon head screw 1¾″ long.

Note: When Vise Locking Stud Washers are required, they will be in envelope with Vise Locking Stud Nut. See that they are placed properly between shoulder on Vise Locking Stud (R.H.) and Column.

2. *Assemble Spaceband, Elevator Transfer and Delivery Levers*

Assemble Spaceband Lever and Shaft into lower holes in Column, add Collar and tighten one ¼″ diameter headless set screw ½″ long in Collar.

Assemble Spaceband Operating Lever, Elevator Transfer Cam Roll Lever and Shaft, and Spring Arm into top holes in Column, add Elevator Transfer Lever on front end of Shaft and fasten with one taper dowel pin $2\frac{5}{16}$″ long.

Assemble Delivery Lever Cam Roll Arm and Shaft, and Spring Hook into center holes in Column, add Delivery Lever to front end of Shaft and fasten with one taper pin $2\frac{5}{16}$″ long.

Do not loosen screws in the Spaceband Operating Lever, Elevator Transfer Cam Roll Lever and Delivery Lever Cam Roll Arm, as they are properly located at factory.

Assemble Delivery Lever Spring 1⅜″ diameter, 17″ long from hook in top of inside of Column to Delivery Lever Spring Arm and Elevator Transfer Lever Spring 1⅜″ diameter 10½″ long from hook in top of inside of Column to Elevator Transfer Lever Spring Arm.

Connect Elevator Transfer Lever to Spaceband Lever by means of turnbuckle which is secured with one ⅜″ diameter wing pin 1⅛″ long. Fasten wing pin with one 8x32 button head screw $\frac{5}{16}$″ long.

3. *Assemble Cam Shaft Brackets (R.H. and L.H.)*

Set Cam Shaft Bracket (L.H.) on Base and drive two $\frac{5}{16}$″ diameter dowels ⅞″ long and fasten with two ¾″ diameter hexagon head screws 2¾″ long.

Set Cam Shaft Bracket (R.H.) on Base and drive one $\frac{5}{16}$" diameter dowel $\frac{7}{8}$" long in the front and one $\frac{5}{16}$" diameter dowel $1\frac{1}{4}$" long in the back. Fasten with one $\frac{3}{4}$" diameter hexagon head screw $2\frac{1}{4}$" long in the front and one $\frac{3}{4}$" diameter hexagon head screw $2\frac{3}{4}$" long in the back.

Assemble the Distributor Shifter Lever Spring Screw $\frac{3}{8}$" diameter hexagon head $1\frac{1}{4}$" long to inside of Cam Shaft Bracket (L.H.).

4. *Assemble Driving Shaft and Bearing to Base and Cam Shaft Bracket (R.H.)*

Set two $\frac{1}{4}$" dowels $\frac{13}{16}$" long flush with finished surface of Driving Shaft Bearing. Insert right-hand end of Driving Shaft through bearing in Cam Shaft Bracket (R.H.). Then drive dowel pins flush with bearing and fasten with two $\frac{5}{8}$" diameter hexagon head screws $1\frac{1}{4}$" long to Base.

5. *Assemble Automatic Stop Fork Lever to Cam Shaft Bracket*

Assemble Automatic Stop Fork Lever to Cam Shaft Bracket (R.H.) by means of $\frac{15}{16}$" diameter fulcrum pin $3\frac{3}{16}$" long and fasten fulcrum pin with $\frac{5}{16}$" diameter square head set screw $\frac{1}{2}$" long in Cam Shaft Bracket (R.H.).

6. *Assemble Starting and Stopping Mechanism*

Assemble Vertical Starting Levers and Bracket by inserting lower end in Bearing in Column and secure Vertical Starting Lever Bracket to Column by one $\frac{1}{2}$" diameter hexagon head screw $2\frac{1}{4}$" long.

Assemble Starting and Stopping Lever Bracket to front of Column. Drive two $\frac{3}{16}$" diameter dowels $\frac{7}{8}$" long, flush and fasten with two $\frac{3}{8}$" diameter hexagon head screws 1" long.

Assemble Starting and Stopping Lever over Stud in Automatic Stop Fork Lever and secure to Starting and Stopping Lever Bracket by means of $\frac{3}{8}$" diameter wing pin $2\frac{13}{16}$" long, and fasten wing pin with one 8x32 button head screw $\frac{5}{16}$" long.

7. *Assemble Ejector Blade Controller*

Assemble Ejector Blade Controller Link Lift Guide to Base. Drive two $\frac{3}{16}$" diameter dowels $\frac{5}{8}$" long, flush and fasten with two $\frac{1}{4}$" diameter fillister head screws $\frac{23}{32}$" long.

Place Ejector Blade Controller Link Lift Roll over Stud in Lift.

Assemble Ejector Blade Control Lever and Bracket to Base, setting slotted end of Lever over Roll in Ejector Blade Controller Lever Link Lift. Then drive two $\frac{1}{4}$" diameter dowel pins $\frac{13}{16}$" long flush and fasten to Base with two $\frac{3}{8}$" diameter fillister head screws $1\frac{1}{8}$" long.

8. *Assemble Justification and Vise Closing Levers*

Assemble Justification Lever, Vise Closing Lever and Justification Lever Shaft Sleeve by inserting $1\frac{1}{4}$" diameter Justification Lever Shaft through Bearings in Cam Shaft Bracket (L.H. and R.H.) and tighten one $\frac{3}{8}$" diameter square head set screw 1" long in the Vise Closing Lever.

9. *Assemble Justification and Vise Closing Lever Springs*

Assemble Justification Lever Spring and Vise Closing Lever Spring by inserting lower end into Pockets in Base and top ends into Pockets in Levers.

Note: Nails which are at the bottom of springs are for the purpose of holding springs intact to facilitate assembling. Nails must be kept in place until machine is fully assembled.

Assemble grease cups and tubes to Driving Shaft Bearings.

Tie Delivery Lever to right-hand Keyboard banking face.

10. *Assemble Cams to Cam Shaft Brackets*

Remove locating piece from Cam Shaft, loosen set screw in Delivery and Elevator Transfer Cam, set Driving Shaft so that Clutch Arms are horizontal, or left-hand arm when facing Clutch, slightly below center, and assemble Cams into Bearings. Cams are to be at normal position, that is, when stopping Pawl is on Vertical Stop and Clutch is thrown out.

Assemble Cam Shaft Cap to Cam Shaft Bracket (R.H.), drive one ¼" diameter dowel ⅞" long flush and fasten with two ¾" diameter hexagon head screws 3¼" long.

Insert Tie Rod through Cam Shaft Cap and screw into Column, bringing up by fingers only, and lock with one 14x24 button head screw ½" long.

Do not use wrench on Tie Rod, to avoid introducing strains.

Assemble locating piece to Cam Shaft and fasten with two 8x32 button head screws $\frac{5}{16}$" long, and tighten set screw in Delivery and Elevator Transfer Cam.

11. *Assemble Vise Frame*

Insert Vise Frame Shaft through front Bearings of Base and Bearings of Vise Frame. See that Pot Leg Bushings are put in as marked (R.H. and L.H.) with oil holes to the front of machine. Secure Vise Frame Shaft with one ⅜" diameter headless set screw $\frac{13}{16}$" long into flat on Shaft.

12. *Assemble Pot*

Assemble Pot Lever to top bearing of Pot Jacket by means of Pot Lever Shaft ⅝" diameter 5¼" long in Pot Jacket and secure with one ¼" diameter square head set screw ½" long to lower lug by means of wing pin ⅜" diameter 1½" long and secure wing pin with one 8x32 button head screw $\frac{5}{16}$" long in lug.

Remove the Pot Leg Caps, loosen front adjusting screws in the Pot Legs and assemble Pot to machine by placing legs over bushings and tightening front adjusting screws in Pot Legs. Assemble Pot Leg Caps to Pot Legs and fasten with two 14x24 button head shoulder screws $\frac{21}{32}$" long, in each cap. Do not loosen rear adjusting screws, as they are adjusted at factory and represent correct lock-up setting.

Arrange spacing washers so that roll is central with Cam.

13. *Assemble Mold Gear Arm to Cam Shaft Bracket (L.H.)*

Make sure that surface of square pinion with set screw is facing upward and

Cams are in position so that Automatic Stop Pawl is within 6" of Vertical Stop or normal position.

Drive one taper dowel 1¼" long flush and fasten Mold Gear Arm to Cam Shaft Bracket (L.H.) with one ¾" diameter hexagon head screw 4" long in front and one ¾" diameter hexagon head screw 2" long in back.

14. Assemble Mold Gear Arm Support

Set Support on Base and move it up so that upper Bearing of Support touches Bearing of Mold Gear Arm.

Put two ⅜" diameter hexagon head screws 1¼" long into Base and screw up with fingers. Put one ⅜" diameter hexagon head screw 1¼" long through upper part of Support into Mold Gear Arm and screw up with fingers, seeing that upper and lower bearings are set square. At this time tighten all screws with wrench.

15. Assemble First Elevator Lever and Ejector Lever

Assemble First Elevator Lever and Ejector Lever by inserting First Elevator and Ejector Lever Shaft through lower rear bearings of Base.

16. Assemble Second Elevator Lever, Cam Lever, Safety Pawl and Starting Spring

Remove Second Elevator Lever Adjusting Spring, Stud and Nuts from Second Elevator Cam Lever.

Assemble Second Elevator Lever and Second Elevator Cam Lever by inserting Second Elevator Lever Shaft through upper rear bearing in Cam Shaft Bracket, secure Shaft with two $\frac{3}{16}$" diameter set screws ¾" long in Second Elevator Lever and assemble Second Elevator Lever Adjusting Spring, Stud and Nuts.

Assemble Second Elevator Safety Pawl to Cam Shaft Bracket (R.H.) by means of ½" diameter wing pin 5¼" long. Secure wing pin with 8x32 button head screw $\frac{5}{16}$" long and add cotter pin to wing pin.

Assemble Second Elevator Starting Spring by inserting lower end through hole in Cam Shaft Bracket (L.H.) and secure to Second Elevator Cam Lever by ⅝" diameter fillister head shoulder screw $1\frac{1}{32}$" long.

Note: Second Elevator Lever should be down on transfer position before adding starting spring to facilitate assembling.

17. Assemble Pot Balancing Spring and Pot Balancing Spring Base to Linotype Base

Assemble Pot Balancing Spring and Pot Balancing Spring Base to the Base and assemble Vise Balancing Spring from Pot Balancing Spring Base to Spring Hook on Vise Frame and fasten Spring Hook with two square head set screws ¼" diameter ½" long.

18. Assemble Pot Pump Bracket With Pot Pump Lever and Mold Cam Lever to Column

Assemble Pot Pump Bracket with Pot Pump Lever to Column and drive two ⅜" dowels 2" long flush and fasten with one ¾" diameter hexagon head

screw 3⅝" long on top and one ¾" diameter hexagon screw 2¼" long on bottom.

Assemble the Pot Pump Lever Support to the Cam Shaft Bracket (L.H.) locating on two ¼" diameter dowels $\frac{13}{16}$" long and fasten with two ⅜" diameter hexagon head screws 1" long. Connect the Pot Pump Lever to the Support with the Pot Pump Lever Support Shaft and secure Shaft with one ¼" diameter headless set screw $\frac{5}{16}$" long.

Remove fulcrum stud from Mold Cam Lever Handle and assemble Mold Cam Lever by adding roller to stud on Mold Cam Lever and inserting roller into Mold Cam. Then insert fulcrum stud and tighten set screw.

19. *Assemble Pot Pump Lever, Stop Lever, Operating Lever Bracket to Pot Pump Bracket*

Assemble Pot Pump Lever Stop Lever Operating Lever Bracket to Pot Pump Bracket and put in one ⅜" diameter hexagon head screw 1½" long on bottom and one ⅜" diameter hexagon head screw $1\frac{1}{16}$" long on top, bringing up with fingers only.

20. *Assemble Pot Pump Lever, Stop Lever, Operating Lever and Pot Pump Lever Spring*

Insert slotted end of Operating Lever over Stud in Pot Pump Lever Stop Lever Bracket and secure to Vise Locking Stud in Column, by means of ½" diameter shoulder screw $1\frac{15}{16}$" long having ⅜x16 thread.

Turn machine until Pot Pump Lever Roll is in low spot on Cam and assemble Pot Pump Spring $1\frac{5}{16}$" diameter 9" long to Pot Pump Lever and to Spring Hook at bottom on inside of Column.

Turn machine back to normal and adjust position of Pot Pump Lever Stop Lever Bracket vertically so that Pot Pump Lever Stop Lever clears under steel shoe of Pot Pump Lever and tighten two screws in the Pot Pump Stop Lever Bracket with wrench.

21. *Assemble Distributor Shifter Lever Hub and Spring*

Assemble Distributor Shifter Lever Hub by inserting Distributor Shifter Lever Shaft through bearings in Mold Gear Arm and secure with set screws. Hook spring 1" diameter 8" long over arm on Distributor Shifter Lever Hub and over stud on inside of Cam Shaft Bracket (L.H.).

22. *Assemble Mold Disk and Slide and Vise Locking Screws*

Insert Mold Disk Slide into dovetail seat on Column. Remove Mold Disk Plate and screws.

Assemble Mold Disk, Mold Disk Stud and Mold Disk Plate to Mold Disk Slide and secure with three ⅜" diameter flat head screws 2¾" long.

Connect Ejector Blade Controller between Ejector Blade Controller Link Lift and Ejector Slide with Ejector Blade Controller Link Rod. Connect piping for water cooling, if water is to be used.

Assemble Mold Disk Guides to Mold Disk Slide and secure with one ½" diameter hexagon head screw ⅞" long in each guide.

Note: Adjust one Mold Disk Guide so that front face of Mold Disk just touches Mold Disk Guide and then fasten. Adjust the other guide the same way.

Assemble Mold Disk Guide Lubricator to bottom of Mold Disk Guide (Lower).

Apply Back Trimming Knife to Mold Disk Slide so that back of Knife is against the adjusting screws which are set at the factory and fasten with two washers and two 14x24 hexagon head screws 1" long. Final adjusting to back face of mold is to be made after molds are placed in Mold Disk.

Assemble Ejector Lever Link by inserting in Ejector Slide and hooking over wing pin in Ejector Lever.

Assemble Vise Locking Screws (R.H. and L.H.) to Vise Cap.

23. *Assemble Distributor Bracket and Support*

Set two lower dowels $\frac{5}{16}$" diameter 1⅜" long in Distributor Bracket Support so that they project about $\frac{1}{16}$" beyond bearing face. Assemble Support to Base, drive dowels flush and fasten with two ½" diameter hexagon head screws 1¾" long in the right-hand side and one ⅜" diameter hexagon head screw 1½" long in the left-hand side.

Set one ½" diameter dowel 2⅜" long in Distributor Bracket so that it projects about $\frac{1}{16}$" beyond finished face and assemble to Column.

Set Distributor Bracket on Distributor Bracket Support, drive dowel flush in Column and secure Bracket to Column with four ⅝" diameter hexagon head screws 2½" long.

Fasten Distributor Bracket to Distributor Bracket Support with one ⅜" diameter hexagon head screw 1¼" long.

24. *Assemble Intermediate Shaft Bushing Bracket and Intermediate Shaft*

Set two ⅜" diameter dowels 1¼" long so that they project $\frac{1}{16}$" beyond finished face. Assemble Intermediate Shaft Bushing Bracket to Column, drive dowel pins flush and fasten with two ½" diameter hexagon head screws 1½" long and one ½" diameter slotted hexagon head screw 1¾" long. Slotted screw goes in upper left-hand corner.

Assemble Intermediate Shaft through bearings in the Distributor Bracket Support and Intermediate Shaft Bushing Bracket. As the Shaft is pushed through, add Keyboard Driving Pulley and Belt, Intermediate Shaft Bevel Gear and the Intermediate Shaft Driving Pulley and Belt. On the projecting end of Shaft assemble the Pi Stacker Driving Pulley. Secure Pulley and Gear with set screws.

25. *Assemble Stationary Front Guide Holder Brackets (R.H. and L.H.) and Stationary Front Guide Holder Bracket (R.H.) Support*

Assemble Stationary Front Guide Holder Bracket (L.H.) to Column locating on one $\frac{5}{16}$" diameter dowel ⅞" long in top and one $\frac{5}{16}$" diameter dowel

1¾" long in bottom and fasten with three ⅜" diameter fillister head screws 1⅜" long and one ⅜" diameter fillister head screw 1⅛" long.

Assemble Stationary Front Guide Holder Bracket (R.H.) Support to Distributor Bracket locating on two ¼" diameter dowels ¾" long. Drive dowels flush and fasten with two ⅜" diameter fillister head screws ¾" long.

26. *Assemble Channel Entrance Brackets (R.H. and L.H.)*

Set four $\frac{5}{16}$" diameter dowels 1¼" long so that they project about $\frac{1}{16}$" beyond finished surface and assemble to Distributor Bracket. Drive dowels flush and fasten with one ⅜" diameter fillister head screw 1⅛" long and one ⅜" diameter fillister head screw ¾" long in each Bracket.

27. *Assemble Magazine Frame*

Set Upper Lugs of Magazine Frame in the slots of the Magazine Frame Locating Blocks on the Channel Entrance Brackets (R.H. and L.H.) and rest frame on the Magazine Locating Blocks (Lower) (R.H. and L.H.).

Replace Magazine Locating Block Gibs and fasten with four (4) 8x32 button head screws ¼" long.

Note: Do not disturb any settings locating the Magazine Frame, they have been adjusted and locked at the factory.

28. *Assemble Keyboard Rod Frame*

Remove Assembler Driving Belt Pulley. Assemble Keyboard Rod Frame Bracket (R.H.) (Upper) to Keyboard Rod Frame locating on dowel and fasten with one Face Plate Frame Cover Stud.

Assemble Keyboard Rod Frame with protruding end of upper right-hand Bracket resting on lower side of slot in Stationary Front Guide Holder Bracket (R.H.) and on left-hand lower dowel in Intermediate Shaft Bushing Bracket.

Fasten lower right-hand corner to Distributor Bracket Support with one ¼" diameter fillister head screw ⅝" long and left-hand lower corner to Intermediate Shaft Bushing Bracket with one ¼" diameter fillister head screw ⅝" long.

Assemble Keyboard Rod Frame Bracket (Upper) (L.H.) to Stationary Front Guide Holder Bracket (L.H.), drive dowels flush and fasten with two ¼" diameter fillister head screws $\frac{15}{16}$" long. Secure Keyboard Rod Frame to upper left-hand Bracket with two ¼" diameter fillister head screws ⅝" long.

Make sure that the two small banking screws in the upper right-hand Bracket bank in slot so that strains will not be introduced when screw is put in.

Fasten upper right-hand Bracket to Stationary Front Guide Holder Bracket (R.H.) with one $\frac{5}{16}$" diameter fillister head screw ¾" long.

29. *Assemble Escapement and Magazine*

Assemble Escapement on Magazine Frame Locating on two ¼" diameter dowels $\frac{11}{16}$" long and fasten with two ¼" diameter fillister head screws ½" long.

Assemble Magazine onto Centerpiece and lower into position on Escapement.

30. *Assemble Face Plate Mechanism*

Locate Face Plate Frame on Column and Distributor Bracket Support by means of one ¼" diameter dowel 2⅜" long in Column and one ¼" diameter dowel 1$\frac{15}{16}$" long in Distributor Bracket Support. Fasten to Column with one ⅝" diameter hexagon head screw 3" long and one ⅜" diameter hexagon head screw 2⅝" long in lower left-hand side of Face Plate and to Distributor Bracket Support with one ⅝" diameter hexagon head screw 2½" long in right-hand end of Face Plate.

31. *Assemble Escapement Lever (Long) Guide and Spaceband Key Lever and Bracket*

Assemble Escapement Lever Guide Support to top of Face Plate Frame, making sure that projections on Escapement Levers are properly entered in slots in Escapement Rods. Locate on two taper draw dowels 1$\frac{1}{16}$" long and fasten with two ⅜" diameter hexagon head screws 1" long. Do not tighten nuts on dowels as they are for drawing only.

Assemble Escapement Lever Guide Support Bracket (L.H.) to Stationary Front Guide Holder Bracket (L.H.) with two $\frac{7}{16}$" diameter washers $\frac{1}{16}$" thick and two ¼" diameter fillister head screws $\frac{7}{16}$" long. Fasten to Support Bracket with two ¼" diameter fillister head screws $\frac{7}{16}$" long.

Assemble Escapement Lever Guide Support Bracket (R.H.) to Support with two $\frac{7}{16}$" diameter washers $\frac{1}{16}$" thick and two ¼" diameter fillister head screws ½" long and to Stationary Front Guide Holder Bracket (R.H.) with two $\frac{7}{16}$" diameter washers $\frac{1}{16}$" thick and two ¼" diameter fillister head screws ¾" long.

Space between Escapement Levers and Escapement Verge Plungers should be approximately .055".

If this space does not come correct then, the distance from the front of the Escapement Rods to the bearing surface for the Stationary Front Guide Holder should be checked. It should be approximately 2.179". Escapement Rod (Upper) Guide Support must be adjusted until this is obtained.

Note: Whenever it becomes necessary to remove Face Plate, screws and draw dowels should be removed from Support but Support Brackets should not be disturbed in order to retain proper setting between Escapement Levers and Escapement Verge Plungers.

Assemble Spaceband Key Lever and Bracket to bottom of Escapement Lever Guide Support and fasten with two 14x24 button head screws ¾" long. Insert left-hand end of Spaceband Key Lever into slot of Spaceband Box Pawl Lever, making sure that it lines up with slot. Connect right-hand end of Lever to Spaceband Key Rod by means of Spaceband Lever Key Rod Pin which is bent to prevent working out.

Assemble Quad Box to Intermediate Channel Plate (Front) with two ¼" diameter fillister head screws 1$\frac{3}{16}$" long.

Assemble Electric Light Holder and Insulator to Intermediate Channel Plate (Front) with two fiber washers and two 8x32 button head screws ½" long.

Assemble Second Elevator Guide (Lower) to top of Intermediate Channel Plate (Front) and fasten with one ¼" diameter fillister head screw ⅝" long.

Assemble Spaceband Lever Guide Rail to back of Intermediate Channel (Back) Plate and secure with one 10x32 fillister head shoulder screw $\frac{3}{8}$" long.

Assemble Spaceband Buffer to Assembler Slide Roll Bracket with one 8x32 fillister head shoulder screw $\frac{5}{16}$" long.

32. *Assemble Elevator Transfer Slide*

Remove Stop Screw from left-hand side of Face Plate Frame. Assemble Elevator Transfer Slide Finger to Transfer Slide by means of two 4x48 flat head screws $\frac{1}{4}$" long. Insert Elevator Transfer Slide and Finger. Replace Stop Screw and connect Elevator Transfer Link to Elevator Transfer Lever by means of $\frac{3}{16}$" diameter ball head hinge pin 1" long and fasten hinge pin with one 4x48 button head screw $\frac{1}{4}$" long.

Assemble First Elevator Jaw Line Stop Transfer Rod to end of Transfer Slide and fasten with two 8x32 button head screws $\frac{5}{16}$" long.

Assemble First Elevator Jaw Line Stop Transfer Rod Guard to back of Face Plate Frame and fasten with two 10x32 button head screws $\frac{1}{2}$" long.

Remove one 8x32 button head screw $\frac{3}{8}$" long from top of Delivery Lever, loosen the other screw, swing Delivery Lever Plate out, insert Stud (which is on Delivery Lever Link) into slot in Delivery Lever, replace Plate and tighten the screws.

33. *Assemble Assembler Entrance Plate, Stationary Front Guide Holder, Assembling Guides, Assembler Entrance Cover and Assembler Chute Finger*

Locate on dowel pins in Stationary Front Guide Holder Bracket (R.H. and L.H.). Adjust sideways so that the left-hand side of Guides lines with right-hand side of Magazine Channels and fasten Stationary Front Guide Holder to Bracket with three 14x24 button head screws $\frac{5}{8}$" long.

Fasten Assembler Entrance Plate to Face Plate with one button head screw $\frac{1}{4}$" diameter $\frac{5}{8}$" long and one fillister head screw $\frac{1}{4}$" diameter $\frac{5}{8}$" long.

Assemble Assembler Chute Finger and Spring to Assembler Entrance Plate with one 6x48 fillister head shoulder screw 1" long. (Chute Finger should be in upper position.)

Add Assembler Entrance Cover Support and fasten to Stationary Front Guide Holder by means of washer and one $\frac{3}{8}$" diameter fillister head shoulder screw $1\frac{3}{16}$" long.

Assemble the Assembler Slide Release Extension Finger to the Keyboard Rod Long Cover and fasten with one 8x32 fillister head shoulder screw $\frac{11}{16}$" long. Secure screw with one 8x32 hexagon nut $\frac{5}{16}$" thick.

Connect the Assembler Slide Spring to the end of Assembler Slide with one Assembler Slide Spring Stud. Adjust tension on Assembler Slide Spring by pulling out and turning the knob on the Assembler Slide Spring Drum Cover.

Remove Assembler Slide Stop from Face Plate Frame and assemble Face Plate Frame Cover. Replace Stop and fasten with two 8x32 button head screws $\frac{5}{16}$" long. Fasten top of Cover with two 8x32 button head screws $\frac{5}{16}$" long.

Note: Space between Magazine and Stationary Front should be approximately .035". Drop from Magazine to Stationary Front should be approximately $\frac{1}{32}$".

34. *Assemble Automatic Matrix Guard and Supports and Escapement Lever Locking Shaft Operating Link*

Assemble Escapement Lever Locking Shaft Operating Links to side of Automatic Matrix Guard Support (R.H. and L.H.) and secure with one 8x32 fillister head shoulder screw $\frac{21}{32}$" long in each Link.

Assemble Automatic Matrix Guard Support (L.H.) to left-hand end of Escapement Lever Frame and secure with one 8x32 fillister head shoulder screw (.200" diameter shoulder) in the upper slot and one 8x32 fillister head shoulder screw (.245" diameter shoulder) in the lower slot.

Assemble Automatic Matrix Guard Support (R.H.) to right-hand end of Escapement Lever Frame and secure with two 8x32 fillister head shoulder screws (.245" diameter shoulder).

Connect the lower end of links to Automatic Matrix Guard Levers with one 10x32 fillister head shoulder screw $\frac{15}{16}$" long in each Lever and secure screws with 10x32 hexagon nuts $\frac{3}{8}$" thick.

Assemble Automatic Matrix Guard to Matrix Guard Supports and secure left-hand end with one 8x32 flat head screw $\frac{1}{4}$" long and right-hand end with one 8x32 fillister head shoulder screw $\frac{9}{32}$" long.

35. *Assemble First Elevator Slide, Galley Brackets and Slug Adjuster*

Assemble First Elevator Slide to Vise Frame by adding right-hand Gibs and Knife Wiper Operating Lever and Rod. Adjust and fasten upper right-hand Gib with one $\frac{5}{16}$" diameter fillister head screw $\frac{7}{8}$" long. Locate lower right-hand Gib on Vise Frame by means of dowel.

Connect First Elevator Slide Link to First Elevator Slide Lever by means of wing pin $\frac{3}{8}$" diameter $1\frac{1}{4}$" long and fasten wing pin with set screw in Lever.

Assemble Galley Bracket (R.H.) to lower right-hand Gib and to Vise Frame and fasten with one $\frac{5}{16}$" diameter fillister head screw $1\frac{1}{4}$" long. Fasten upper end of Galley Bracket (R.H.) to Vise Frame with one 14x24 button head screw $\frac{3}{4}$" long.

Assemble Galley Bracket (L.H.) to Vise Frame and fasten upper end with one 14x24 button head screw $\frac{3}{4}$" long and lower end with one $\frac{5}{16}$" diameter fillister head screw $1\frac{1}{4}$" long in (L.H.) Lower Gib.

Assemble Galley Slug Adjuster to Vise Cap with one 8x32 knurled head screw $\frac{5}{16}$" long under shoulder.

36. *Assemble First Elevator Cam and First Elevator Auxiliary Lever*

Locate Cam on Cam Shaft by means of Key and tighten set screw.

Assemble First Elevator Auxiliary Lever on First Elevator Lever Shaft. Bring Lug on First Elevator Lever into contact with adjusting screw in First Elevator Auxiliary Lever (which controls alignment between First Elevator Jaw and Delivery Channel) and fasten with washer and one $\frac{5}{8}$" diameter hexagon head screw $\frac{7}{8}$" long. It should not be necessary to disturb setting of adjusting screw in Auxiliary Lever.

37. Assemble Slug Lever and Vise Automatic Stop Rod

Insert Slug Lever into Vise Frame and secure with one fillister head pilot screw.

Assemble Slug Lever Operating Arm Shaft Bracket to left-hand side of Vise Frame locating on two ⅛" dowels ½" long and fasten with two ¼x24 fillister head screws ⅝" long.

Connect Slug Lever Link to back of Slug Lever and fasten with one 8x32 shoulder screw .245" diameter $\frac{17}{32}$" long. Assemble Slug Lever Adjusting Screw to right-hand side of Vise. Adjust screw to allow Slug Lever to push slugs over far enough to clear the next slug coming down. Secure screw with nut.

Insert upper end of Vise Automatic Stop Rod into hole in Vise Cap and lower end between studs in Vise Frame.

Remove one stud, assemble spring to groove in studs, tighten stud and attach lower end of spring to projection on Vise Automatic Stop Rod.

38. Assemble Keyboard

Set Keyboard on Base and fasten with one Keyboard Pivot Screw ⅝x11 thread 5¾" overall at the same time placing on the screw below the Base one Keyboard Pivot Spring with a special washer on each end. The thickest washer goes on top. Secure Hinge Screw with one ⅜" diameter square head set screw ¾" long.

See that brass plug $\frac{5}{16}$" diameter ¼" long is in front of set screw in order to protect threads on Pivot Screw.

Drive left-hand Locking Bolt into hole in Base. (Bolt is 7½" long, knurled on handle.) Lock Keyboard in position by screwing up Locking Bolt.

Assemble Keyboard Stop to left-hand side of Keyboard Frame, drive dowel flush and fasten with one ¼" diameter fillister head screw ¾" long.

39. Assemble Assembling Elevator Lever and Shaft

Insert Assembling Elevator Lever Shaft through bearings in front of Keyboard Frame.

Assemble Lever to Shaft and drive in dowel. Attach spring ½" diameter 6¾" long from Assembling Elevator Handle to hook on Keyboard Frame.

Assemble Link to Assembling Elevator by means of 8x32 button head screw ⅜" long.

Connect Assembling Elevator Lever to Link on Assembling Elevator by inserting pin under snap spring.

40. Assemble Distributor, Distributor Box and Step

Assemble Step to Base. If necessary, remove left-hand side bolt and then replace after step is in position.

Set Distributor on Step on back of Distributor Bracket and put in two ⅝" diameter hexagon head screws $2\frac{1}{16}$" long, but do not tighten. Move Beam endways until lines scribed on top are even, then fasten.

Note: Do not disturb adjusting screws unless absolutely necessary, as they were set at the factory.

Assemble Distributor Clutch Lever onto Distributor Clutch Lever Hinge Pin and secure with headless set screw. See that Lever is free and falls of its own weight.

Assemble Distributor Box and tighten screw.

41. *Assemble Channel Entrance*

Assemble Channel Entrance to Channel Entrance Brackets (R.H. and L.H.) with one ⅜" diameter hinge pin $6\frac{3}{64}$" long in left-hand side and one ⅜" diameter hinge pin $1\frac{3}{64}$" long in right-hand end. Secure hinge pins with set screws.

Assemble one 8x32 spring hook to left-hand side of Distributor Bracket and attach Channel Entrance Frame Spring ⅜" diameter, 4⅛" long.

Note: Space between Channel Entrance and Magazine should be approximately .020". Drop from upper side of lower Channel Entrance Plate to bottom of groove in Magazine should be approximately .005".

It will be noticed that the Channel Entrance Frame Hinge Brackets (R.H. and L.H.) are adjustable which simplifies getting the proper drop.

42. *Assemble Second Elevator*

Assemble Second Elevator to upper end of Second Elevator Lever by means of one ¼" diameter fulcrum pin $2\frac{11}{16}$" long, insert cotter pin in each end of fulcrum pin and attach ⅜" diameter spring 5" long from hook in Second Elevator Link to button head screw in Second Elevator Lever.

Adjust Second Elevator Adjusting Spring so that the Roll leaves Second Elevator Cam when Second Elevator is down on Intermediate Channel Plates and is under compression with bolt loose, when Second Elevator is in upper position.

43. *Assemble Driving Pulley and Clutch*

Remove Driving Shaft Friction Clutch and Key and place Driving Pulley and Guard on Driving Shaft.

Assemble Driving Shaft Friction Clutch and Key onto Driving Shaft so that it rests against the shoulder on Driving Shaft and tighten binding screw.

Secure Driving Shaft Friction Link Collar to Driving Shaft Clutch Rod by means of one ¼" diameter fillister head screw 1" long.

44. *Assemble Motor and Gear Guard*

Remove two hexagon head screws from Cam Shaft Bracket (R.H.) Cap. Place motor so that holes in Bracket align with screw holes in Cap and replace the two hexagon head screws, but do not tighten.

Adjust motor by means of screw bushings so that the pinion is properly meshed with gear and lower lugs are against Cam Shaft Bracket, then tighten screws.

Fasten lower left-hand lug of motor to Cam Shaft Bracket with washer and one ½" diameter hexagon head screw 1½" long.

Add Gear Guard to motor by means of two ¼" diameter button head screws ½" long.

Add Gear Guard Support between lower part of Gear Guard and lower right-hand lug of motor and fasten to Gear Guard by means of one ⅜" diameter hexagon head screw 1" long.

Fasten other end of Support together with right-hand lug of motor to Cam Shaft Bracket by means of washer and one ½" diameter hexagon head screw 2¼" long.

45. *Assemble Matrix Tray, Pi Chute, Tube and Stacker, and Copy Holder*

Assemble Matrix Tray Brackets to Channel Entrance Brackets locating on two ⅛" diameter dowels $\frac{13}{32}$" long in each Bracket. Fasten with two ¼" diameter fillister head screws ⅝" long in each Bracket.

Assemble Matrix Tray to Matrix Tray Brackets and fasten with two 8x32 button head screws ¼" long in each Bracket.

Assemble Pi Chute to right-hand end of Channel Entrance Frame and fasten with two 8x32 button head screws ¼" long.

Assemble Pi Stacker Tube to side of Distributor Bracket by means of Pi Stacker Tube Clip (Upper) and fasten with two 8x32 button head screws ¼" long. Fasten Intermediate Clip to front of Distributor Bracket with two 8x32 button head screws ¼" long.

Assemble Pi Stacker Bracket to Stationary Front Guide Holder Bracket (R.H.) and fasten with two ¼" diameter fillister head screws ¾" long.

Assemble Sorts Box Bracket to Pi Stacker Bracket and fasten with two ⅜" diameter fillister head screws $\frac{19}{32}$" long. Add Sorts Box and place end of Pi Tube in Pi Stacker Tube (Lower) Clip.

46. *Assemble Vise Jaw (L.H.) Wedge Bracket and Galley*

Remove Vise Locking Screw (L.H.) Stop Screw and remove handle from Vise Jaw (L.H.) Adjusting Bar and insert Vise Jaw (L.H.) Adjusting Bar into Vise Cap.

Assemble Vise Jaw (L.H.) Wedge Bracket to Vise Cap and to upper part of Vise Frame. Locate on dowel pins and fasten with one ⅜" diameter hexagon slotted head screw 1" long and three ⅜" diameter hexagon head screws 1" long. Slotted head screw is used in lower left-hand position.

Replace Vise Locking Stud (L.H.) and add Vise Locking Stud Stop Screws in Vise Cap.

Replace Handle in Vise Jaw (L.H.) Adjusting Bar.

Connect lower end of Vise Jaw (L.H.) Wedge to Vise Closing Lever by means of ¼" diameter wing pin 1¼" long and secure wing pin to Lever with 8x32 button head screw $\frac{5}{16}$" long.

Attach upper end of spring ⅞" diameter 9½" long to lower left-hand screw in Vise Jaw (L.H.) Wedge Bracket, when facing left-hand side of machine and attach lower end of spring to projection at lower end of Wedge.

Assemble Galley to Galley Brackets by locating over dowel pin in left-hand Bracket.

47. *Assemble Delivery Air Cushion Cylinder to Column*

Assemble Delivery Air Cushion Cylinder to Column and fasten with two washers and two 3/8" diameter hexagon head screws 3/4" long.

Connect Link to Delivery Lever Cam Roll Arm by means of 5/16" diameter fillister head pilot screw 23/32" long.

48. *Assemble Knife Block and Knife Wiper*

Assemble Knife Block onto Vise Frame, locating on dowels and fasten with two 1/2" diameter slotted hexagon head screws 2" long.

Insert lower end of Knife Wiper into Lever, adjust spring and add cotter pin to guide on Vise Frame.

49. *Assemble Auxiliary Line Safety Rod Into Slot in First Elevator Jaw Back Guard*

Assemble Auxiliary Line Safety Rod into slot in First Elevator Jaw (Back) Guard, attach spring 13/64" diameter 29/32" long to pin in rod and pin in slot of Back Guard.

Assemble First Elevator Slide Filling Piece to Vise Cap with two 8x32 fillister head screws 3/8" long.

50. *Assemble Distributor Shifter Lever and Slide*

Assemble Distributor Shifter Lever to Distributor Shifter Lever Hub and fasten with two 3/8" diameter fillister head screws 5/8" long.

Remove Stop Screw from Distributor Shifter Slide Guide. Insert Distributor Shifter Slide and replace Stop Screw. Connect Distributor Shifter Lever Link by means of one 8x32 fillister head shoulder screw 11/16" long and lock nut on Distributor Shifter Lever and one 8x32 headless stud 23/32" long and lock nut on Distributor Shifter Slide.

Assemble Distributor Shifter Slide Latch to Distributor Beam and fasten with one 8x32 fillister head shoulder screw 11/16" long.

51. *Assemble Ejector Blade Scale Bar*

Insert Ejector Blade Scale Bar into Slot in Delivery Channel Plate (Back) and attach to Ejector Blade Controller Lever by means of one 10x32 fillister head shoulder screw 1/2" long.

52. *Assemble Mold Turning Gear Cover, Pot Pump Plunger, Spaceband Instruction Plate, Distributor Shifter Lever Spring*

Assemble Mold Turning Gear Cover to Mold Gear Arm and fasten with one 14x24 button head screw 3/4" long.

Assemble Pot Pump Plunger to Pot.

Assemble Spaceband Instruction Plate to Intermediate Channel Back Plate and fasten with four 4x48 flat head screws 1/4" long.

Add Distributor Shifter Lever Spring from projection on Lever to screw on Cam Shaft Bracket (L.H.).

53. *Hook Up Electrical Connections*

Hook up electrical connections on Pot Heaters, Electric Light and Motor or hook up gas connections if gas heated.

Fill Pot with metal and start heating.

54. *Test Transfer Alignment*

Test Transfer Alignment in upper position with Second Elevator on top of Intermediate Channel Plates and First Elevator Jaw in transfer position.

55. *Remove Nails and Assemble Distributor Driving Pulley*

Remove nails and tags from Justification Springs and add two copy hooks to Keyboard Frame.

Add Distributor Driving Pulley and tighten set screw.

Assemble all belts.

56. *Clean Molds*

Clean Molds thoroughly, and place in Mold Disk. Add Head-letter Safety Blocks and test lock-up.

57. *Run Mats*

Run mats through Distributor. Before doing so, see that all parts of Distributor are thoroughly cleaned and clean Magazine Channels with brush, Part No. I-158.

58. *Test Assembler, Keyboard and Assembling Guides*

Test Assembler, Keyboard and position of Assembling Guides by assembling mats and spacebands and circulating through machine.

59. *Assemble Mold Wiper (Back)*

Assemble Mold Wiper (Back) to (L.H.) front Lug on Column by unscrewing the ¾" diameter hexagon head screw 2¾" long in Column and sliding Wiper under washer.

Adjust face of Wiper so that it rests squarely against the back of Mold Disk and compressed ⅛" when the Mold Slide Lever is in operating position and Mold Slide fully back. Then tighten screw in Column.

Assemble Grease Cup to Intermediate Bracket.

Add Metal Pan to left-hand side of Base.

60. *Cast Slugs*

Cast Slugs, test and make final setting of side and back knives, measuring slug for body and height. Cast in more than one position to make sure of side knife setting.