ORIGINAL HEIDELBERG
10 1/4” x 15” - 26 x 38 cm
13 1/8” x 18 1/8” - 34 x 46 cm

OPERATION MANUAL

HEIDELBERGER DRUCKMASCHINEN AKTIENGESELLSCHAFT
SALES AND SERVICE THROUGHOUT THE WORLD

Please keep this manual in the pressroom
PREFACE

This Manual is intended as an aid to the printer who has not become acquainted with the Heidelberg. Our press erectors train the pressmen who will operate the press. In printing establishments where labour conditions permit, two persons should be trained for every press installed.

Moreover, the printer who has already worked on our presses should also read this Manual in order to become thoroughly conversant with the operation of the ORIGINAL HEIDELBERGS.

We have intensified our efforts to make life easier for the printers using our presses in all five Continents by simplifying the operation of the new model presses and by including many new devices.

It is thus possible to benefit more thoroughly than ever before from the many unique advantages of the ORIGINAL HEIDELBERGS.

The Heidelberg genuine all-purpose presses, printing anything that can be locked in their chases from a business card to the maximum sheet, from "air mail" (onion skin) to heavy cardboard, from a simple one-colour job to the most difficult four-colour process work. This reliable and unassuming workhorse of the pressroom handles all jobs, feeding and delivering one, two or more pieces of stock simultaneously with maximum speed and quality.

An now, may we make a request and a recommendation?

(1) Please lubricate the Original Heidelberg in exact conformity with the lubricating instructions on the press, daily, weekly, or half-yearly, as the case may be.

(2) Please clean the press regularly, especially after the spray gun has been in use.

(3) Please keep the blow-holes in the right-hand track and on the delivery blower open and clean.

This takes only a few minutes each day. The Heidelberg will respond by giving you efficient performance for many years without repairs and without the wear and tear caused by neglect.

Take care that the movement of the inking roller carriage is disengaged only when the press is stopped and the platen is closed.

This edition of the Manual again finds Manual and Spare Parts Catalogue separated. The Manual is to be kept with the press, while the Spare Parts Catalogue should be filed in your office.

Here is still another suggestion. Inks for platen presses should be of short consistency or should be adjusted by the pressman. The greater the care expended upon the ink adjustment, the greater the running speed and the production speed. All leading ink manufacturers supply special inks for high-speed automatic Platens.

We hope this Manual will contribute to the continued expert maintenance of the ORIGINAL HEIDELBERG

so that this highly efficient automatic platen can prove its superiority for the benefit of its owner.

HEIDELBERGER DRUCKMASCHINEN AKTIENGESELLSCHAFT
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This table can only give the approximate adjustment. Maximum production speed on each run depends upon paper, size, and ink. The experienced printer will, therefore, make minor adjustments as the run proceeds until he has obtained the highest running speed.

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<th>Cardboard</th>
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<td>Height of Feed Pile below Lower Edge of Suckers</td>
<td>Top sheet approx. (\frac{3}{8})&quot; from lower edge of sucker bar slide</td>
<td>Top sheet approx. (\frac{1}{4})&quot; from lower edge of suckers</td>
<td>Top sheet directly under lower edge of suckers</td>
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<td>Sucker Bar Tilt</td>
<td>Usually use plenty of tilt, but there is onion skin which can be run better without tilt</td>
<td>Tilt indicator in centre position</td>
<td>No tilt indicator on “Cardboard”</td>
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<tr>
<td>Paper Feed (Control Bar)</td>
<td>Paper feed indicator on or near “Thin Paper” setting</td>
<td>Indicator in centre position</td>
<td>Indicator on or near “Cardboard” setting</td>
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<td>Paper Feed (Extra Lift Control)</td>
<td>Paper feed indicator on “Normal Paper”</td>
<td>Indicator on “Normal Paper”</td>
<td>In case feed does not suffice, place indicator on “Cardboard” or “Heavy Cardboard”</td>
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<td>Paper Separation</td>
<td>For onion skin place pink slide on suckers. All separator springs as far out as possible</td>
<td>Red slide with small holes or yellow slide with larger holes can be used to advantage according to the stock printed</td>
<td>Place rubber discs on suckers. Retract front separator springs entirely. Replace by side separator springs extending more or less beyond edge of pâ©</td>
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<td>Feed Air Blast</td>
<td>Cut back air blast. Blower in top position</td>
<td>Medium to full air blast. Blower in middle position.</td>
<td>Full air blast. Blower in lowest position</td>
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<td>Delivery Air Blast</td>
<td>Cut back air blast more or less all the way, depending upon paper size and printing speed</td>
<td>Medium to full air blast</td>
<td>Full air blast</td>
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<td>Automatic Throw-off</td>
<td>Turn thumb screw counterclockwise</td>
<td>Thumb screw approx. in the middle.</td>
<td>Turn thumb screw clockwise all the way in</td>
</tr>
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</table>
## Specifications for the ORIGINAL HEIDELBERGS

<table>
<thead>
<tr>
<th></th>
<th>10(\frac{1}{4})&quot; x 15&quot;</th>
<th>13(\frac{3}{8})&quot; x 18(\frac{1}{8})&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 x 38 cm</td>
<td>34 x 46 cm</td>
</tr>
<tr>
<td><strong>Largest Paper Size</strong></td>
<td>10(\frac{1}{4})&quot; x 15&quot;</td>
<td>13(\frac{3}{8})&quot; x 18(\frac{1}{8})&quot;</td>
</tr>
<tr>
<td></td>
<td>26 x 38 cm</td>
<td>34 x 46 cm</td>
</tr>
<tr>
<td><strong>Smallest Paper Size</strong></td>
<td>1(\frac{1}{2})&quot; x 2(\frac{3}{4})&quot;</td>
<td>3(\frac{1}{2})&quot; x 4&quot;</td>
</tr>
<tr>
<td></td>
<td>4 x 7 cm</td>
<td>8.5 x 10.2 cm</td>
</tr>
<tr>
<td><strong>Smallest Paper Size, Two-up</strong></td>
<td>1(\frac{1}{2})&quot; x 2(\frac{3}{4})&quot;</td>
<td>3(\frac{1}{2})&quot; x 4&quot;</td>
</tr>
<tr>
<td></td>
<td>4 x 7 cm</td>
<td>8.5 x 10.2 cm</td>
</tr>
<tr>
<td><strong>Largest Width of Half Sheet</strong></td>
<td>5&quot;</td>
<td>6(\frac{5}{8})&quot;</td>
</tr>
<tr>
<td></td>
<td>12.8 cm</td>
<td>16.8 cm</td>
</tr>
<tr>
<td><strong>Inside Chase Measurement</strong></td>
<td>10(\frac{1}{4})&quot; x 13(\frac{3}{8})&quot;</td>
<td>12(\frac{3}{4})&quot; x 17(\frac{3}{4})&quot;</td>
</tr>
<tr>
<td></td>
<td>26 x 34 cm</td>
<td>32 x 45 cm</td>
</tr>
<tr>
<td><strong>Inside Measurement Skeleton Chase</strong></td>
<td>10(\frac{1}{4})&quot; x 13(\frac{3}{4})&quot;</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>26 x 35 cm</td>
<td>—</td>
</tr>
<tr>
<td><strong>Maximum Running Speed</strong></td>
<td>5500</td>
<td>4000</td>
</tr>
<tr>
<td><strong>Power Requirements</strong></td>
<td>1.25 KW = 1.7HP</td>
<td>1.5 KW = 2 HP</td>
</tr>
<tr>
<td><strong>Net Weight</strong></td>
<td>approx. 2,300 lbs ca. 1050 kgs</td>
<td>approx. 4,950 lbs ca. 2250 kgs</td>
</tr>
<tr>
<td><strong>Gross Weight</strong></td>
<td>approx. 2,850 lbs ca. 1300 kgs</td>
<td>approx. 5,500 lbs ca. 2500 kgs</td>
</tr>
<tr>
<td><strong>Depth including Motor</strong></td>
<td>5(\frac{6}{8})&quot;</td>
<td>6(\frac{1}{10})&quot;</td>
</tr>
<tr>
<td></td>
<td>1.68 m</td>
<td>2.08 m</td>
</tr>
<tr>
<td><strong>Width (facing machine)</strong></td>
<td>4(\frac{1}{10})&quot;</td>
<td>4(\frac{1}{10})&quot;</td>
</tr>
<tr>
<td></td>
<td>1.24 m</td>
<td>1.48 m</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>6(\frac{1}{10})&quot;</td>
<td>6(\frac{1}{10})&quot;</td>
</tr>
<tr>
<td></td>
<td>1.85 m</td>
<td>1.85 m</td>
</tr>
<tr>
<td><strong>Number of Forme Rollers</strong></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Uniform Diameter of Rollers</strong></td>
<td>2&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td></td>
<td>51 mm</td>
<td>51 mm</td>
</tr>
</tbody>
</table>
**Drip Tray**

Even with the greatest care taken in lubricating the press, it is unavoidable that in the course of time oil will run down the sides of the press and soil the floor. It is, therefore, advisable to place the press on a flanged drip tray. The oil will collect in this drip tray instead of soiling the floor. This is extremely important in the case of concrete floors, to prevent the oil from destroying the concrete. We recommend the following sizes of drip tray:

- for the Original Heidelberg 10\(\frac{1}{4}\)" x 15" .......... 3'2" x 4'7" — 0.95 x 1.4 m
- for the Original Heidelberg 13\(\frac{1}{6}\)" x 18\(\frac{1}{6}\)" .......... 3'5" x 5'11" — 1.05 x 1.8 m

The printer can obtain this drip tray from the Heidelberg agency or a local supplier. You will find the illustration of the drip tray we recommend on page 15.

**Cleaning the Press**

When the spraying apparatus is used, the press must be cleaned daily to remove any spray deposit. Special care must be taken to remove all deposit from any moving parts and to keep all oil holes and all air-blast holes open, especially the air-blast holes in the right-hand roller track and on the moving delivery blower. The oil holes must be cleaned, if necessary, with a pointed object, so that the oil can easily reach the surface to be lubricated.
Air Filter on the Pump

If the suction or blast air on the Original Heidelberg decreases, it is a sure sign that the air pump has to be cleaned. In order to prevent spray deposit from reaching the inside of the air pump through the intake valve, an air filter has been fitted to the pump cover. This filter should be taken off once a month, thoroughly cleaned in gasoline and then replaced. The frequency with which this filter has to be cleaned depends, of course, upon the frequency of use of the spraying apparatus. When this air filter clogs up, the pump will not draw sufficient air. In any event, we recommend that when the spraying apparatus is used daily the air filter be cleaned once every week.

Air Filter in the Suction Air Line

An air filter in the suction air line catches the paper dust, to prevent it from penetrating into the air pump. This filter must be cleaned once a week. To do so, the nozzle is screwed out and the filter cleaned. When running dusty or fluffy papers, this filter has to be cleaned more frequently.

A second air filter will be found in the cut-out body for tripping suction. To clean it, merely lift it out after turning the safety catch aside.
Lubrication of the Press

Careful and regular lubrication is of the greatest importance for the life of the press. Please pay special attention to the instruction plate on the back of the bracket on the pump side. It reads as follows:

For the central lubrication system, as well as for all other lubricating points, use only highest-quality, high viscosity lubricating oil with about 10° to 12° E/50°C. Thin oils and greases are unsuitable and should not be used.

We recommend the following oils:
Shell-Mex & B. P. Ltd.: Shell Vitrea Oil 69
Mobil Oil Companies: Mobil Vactra Oil Extra Heavy
Esso Petroleum Company, Ltd.: Esotic 65
or equivalent oils of other approved companies. Refrain from using "heavy" oil.

You will find that it is in nearly all cases unsuitable and in the long run it is much more expensive than approved trademark oils.

Central Lubrication: The red ball handle of the pump for the central lubrication system is to be pulled sharply in the direction of the arrow to its end position twice every four to eight hours, according to speed, while the machine is running. The back pressure has to be overcome. The oil container of the central lubrication system is to be filled regularly and should never be allowed to become empty.

Daily Lubrication: Oil lubricating points or oil cups marked red are to be lubricated with an oil can or an oil gun.

Weekly Lubrication: All lubricating points and oil cups marked yellow are to be oiled once a week. The V-belt pulley is specially mentioned here.

Half-yearly Lubrication: Oil the ball-bearing points marked green with a few shots from the oil can or oil gun.

The motor should be cleaned and oiled once every half year by an electrician. This is one of the pre-requisites for a smooth running of the motor.

Cleaning Machine: Due to the deposit of dust when working with the spraying apparatus, the lubricating points must be cleaned carefully. The air valve springs on the air pump should be kept clean. The air filter on the air pump and the two air filters underneath the sucker bar should be cleaned weekly, otherwise stock is not picked up smoothly and the efficiency of the machine will be impaired.
After the installation of the press, the oil reservoir attached to the base below the ink fountain (ink duct) is to be filled with one of the industrial lubricating oils recommended on the opposite page. Approximately 2 quarts of oil can be poured before the oil reaches the top of the indicator. For pouring in the oil, use a large oil can or a funnel having a suitable spout with a built-in sieve, such as can be purchased in any automobile supply store. If a funnel with built-in sieve is used, the sieve in the oil inlet pipe can be taken out so that the oil will flow faster.

When topping up the oil every week, however, the sieve must remain in the oil inlet pipe. Approximately ¼ pint should be refilled each week so that the oil level does not fall below the white marking. In order that no foreign matter clogs the valves of the central lubrication system or is carried to the lubricating points, oil that is filled into the oil reservoir must, in every case, go through a sieve.

After filling up with oil, the central lubrication pump can be used. This should be done when the press is running. It is important for the perfect operation of the central lubrication system that the oil level does not fall below the white marking on the indicator.

The red ball handle of the pump for the central lubrication system is to be pulled sharply in the direction indicated on the lubrication sign to the end position. This should be done twice every four to eight hours according to the speed with which the machine is running. The back pressure has to be overcome. If no back pressure is felt, it is a sign that there is no lubrication, e.g., when the oil reservoir is empty. If this happens, the oil reservoir has to be refilled with oil. Then the red ball handle must be pulled until back pressure is felt again. It may be necessary to do this up to fifty times so that no air is left in the system. The oil reservoir should therefore be refilled each week.
After installation of the press, the lever must be operated between ten and twenty times with short intermissions until no air is left in the system, and the oil containers above the toggle lever bearing, which can be seen when opening the door at the back of the press, are completely filled with oil. This liberal lubrication of the toggles at the beginning is very important.

During the first three months of operation, the central lubrication lever is to be operated every three to four hours until all important moving parts of the machine fed by the central lubrication are well run-in.

The fifteen most important bearings of the press are lubricated with one stroke of the pump of the central lubrication. The oil is forced to these points under a pressure of about 284 lbs. per square inch.

The remaining points which are not connected to the central lubrication system have to be oiled individually. It should be noted that the oil nipples should be lubricated with an oil gun while the open oil holes are lubricated with an oil can. Grease nipples and oil holes marked red must be lubricated daily.

All oil holes and grease nipples marked yellow are to be filled once a week, and it is best to do so at the beginning of the week.

The bearing points marked green must be lubricated every half year with a few shots from the oil can. These are all ball bearings for which a very small amount of oil will do.

The ball bearings on the journals of the forme rollers should be filled with a first-class ball-bearing grease line by hand approx. once every four weeks.
To lubricate the oiling points provided with nipples, fill up the oil gun with high-viscosity machine oil (the same as used in the central lubrication system). In no case should grease be used. When lubricating, the oil gun should be placed, if possible, in line with the nipple and pressed down vigorously.

We recommend the use of a drip tray as illustrated above, in which the oil running down the sides of the press is collected. The drip tray will prevent the floor from being soiled. Exact measurements of the drip tray are stated on page 10.
Hints for the Treatment of Rubber Rollers

The rubber rollers supplied with the machine are soft, resilient and suitable for high-quality work at speed. These rubber rollers can be placed in the machine without special treatment.

If a small forme is being printed, those parts of the rollers which are not inked up should be protected with a few drops of boiled linseed oil. In some cases it will be advisable to let out a small amount of ink over the full length, as the oil tends to mix with the ink and it will lose in colour strength.

When printing from heavy block formes, and in particular from large solid blocks, which require a lot of ink, it may be necessary (when the rollers are new) to allow the ink to run up for some time before the actual printing is started.

Another alternative is to place the rollers into the machine and let them be saturated with pure linseed oil, a little of varnish or zinc white. Of course, the saturation of the rubber rollers with the agents must only be done once. This will last for the entire lifespan of the rollers.

The rubber rollers take up the ink immediately, but in some cases, and particularly with strong colours, it may be necessary to let out more ink during the first few hours of printing.

Proved washing agents which are marketed by ink and roller manufacturers are recommended for washing the rollers. From experience it has been ascertained that white cleaning spirit is the best medium. In no case may use be made of washing agents containing aromatic hydrocarbons (such as benzine, toluol, etc.) or chlorinated hydrocarbons (such as trichloethylene, carbon tetrachloride, etc.). It may be mentioned that the washing agents sold by the firm Felix Böttcher (Cologne-Braunsfeld) are dyed blue so as to avoid any mistakes.

The surface tack of a rubber roller is an essential point in judging its condition. As long as the rubber rollers retain their velvet-like surface after washing, they are suitable for inking the heaviest formes. If, however, the surface of the rubber rollers becomes smooth and hardens, it will be necessary to have these rollers reground.

It will be sufficient in many cases to clean the rollers of the glazed skin which is caused by driers and varnish. This should be done at least once a week. The supplier of the rubber rollers (Felix Böttcher, Cologne-Braunsfeld) recommends for this purpose a regeneration paste, called “Rollopast”. This medium is best applied to the rollers overnight. The paste reacts upon the rollers and dissolves the varnish-like layer without affecting the rollers in any way. Next morning they can be cleaned with a rag, moistened in water. The use of this cleaning agent will ensure that the rollers remain serviceable much longer.
It is also important that the rollers be disengaged when the machine is to stand idle for any amount of time. Upon completion of the day’s work, ink should always be removed from the rollers by thorough washing. As long as the ink has not dried, it can be removed without difficulty. The automatic roller washing device on the Original Heidelberg reduces the irksome task of roller washing to an effortless routine, taking up very little time and with a large saving in rags and the elimination of a dirty task. Ink encrusted on the rollers will naturally cause difficulty during washing up, and there is a risk of bad print owing to the skin breaking up and remaining on the forme.

The rack which is supplied with the machine for storing rollers that are kept in reserve should be fastened to the wall and located in a dark and cool place.

**Printing of Mixed Formes (halftones and type matter)**

For such types of job, rubber is used only on the halftone areas. The ivory-finished cardboard should be pasted on the packing where type is locked in the forme. Care should be taken that the packing maintains overall the prescribed thickness of 1 mm (0.04”). Therefore, cut out the cardboard at such areas where rubber is located. Next, an impression is pulled on the pasted-on manila sheet after the forme has been positioned. This gives the machine minder the exact position for makeready. Now the usual levelling-out makeready is put into place (for this only thin tissue paper should be used). This is followed by the mechanical chalk overlay makeready or a Primaton makeready. Detailed explanations of the makeready systems will be found on page 24.

The makeready, (chalk relief, Primaton or 3 M.), which has been pointed at all four corners prior to the etching or has been provided with small pointed cuts, is then pasted on the levelling-out makeready. For the time being, a cover sheet is stretched across this makeready. As the packing has become thicker by the makeready and by the addition of a cover sheet, one or two fill-ins have to be removed from the packing. The cut-out pieces of rubber blanket should be placed upon the makeready so that they lie below the first packing sheet.

The machine minder now pulls an impression to ascertain whether any further makeready is required for the forme. In case uneven areas caused by the use of old type matter occur in the printed sheet, they can be levelled-out with tissue paper behind the forme. Any halftone areas that are still lacking good impression should be levelled out with tissue paper on the already pasted-on makeready. This subsequent makeready, however, should be underneath the rubber blanket.
When makeready is complete, i.e., when the whole form of blocks and type is printing evenly, the temporary sheet is removed and replaced by a manila tympan. This sheet should be clamped in at all four edges and must remain absolutely smooth. When larger runs which may take several days, are being printed preference should be given to a cover sheet.

It is always advisable for the machine minder to have available a number of ready-cut cover sheets in the same size. The better the quality of the material for the cover sheet, the better the result will be. We have found by experience that the use of a thin tough even-textured manila gives best results. Before it is put into place and clamped in the manila sheet is slightly moistened on both sides with a sponge so that the sheet is stretched taut. As soon as the sheet is starting to dry, it is placed upon the packing. This taut cover sheet will not change its form even after several days, because the paper shrinks during the drying and no creases or wrinkles can occur. If the sheet does not lie smooth, especially on the side where the side lay is located, differences in register can occur. Slurr may also be encountered if the packing is not smooth.

**Printing Illustrations on Original Heidelberg 10 x 15'' and 13 x 18''**

There is a difference between cylinder press printing and platen press printing. This difference is in the method of impression, but not necessarily in quality. Every expert is aware of this difference. Therefore, to obtain the best results from printing illustrations on platens, various points should be taken into consideration, such as makeready and the selection and composition of the ink to be used. We make these points clear in the brief notes below.

When printing on a platen press, the block must be brought to exact type height. Large plates should be mounted on metal mounts with the use of a thin adhesive sheet or be nailed down to patent metal mounts having wood inserts. Blocks mounted with adhesive sheet can be stripped easily by heating the mounts on an electric heater or over a gas flame.
When printing illustrations, the dressing and packing of the platen are of major importance. In our experience, one sheet of manila tympan paper should be pasted at its lower edge on the bottom edge of the platen and then clamped in with the tympan rod. Later, makeready is pasted on this sheet. Between this sheet and the platen surface, several paste boards or cardboard and M. F. paper are inserted, the thickness of this packing being brought up to 0.04" by adding the fill-ins.

When halftone plates are being printed, a sheet of rubber is placed on top. The top manila tympan sheet is then clamped at the top edge of the platen with the tympan bar.

When the forme contains larger illustrations, a general levelling-up should be made before preparing the chalk overlay makeready. For this purpose, an impression of the forme is taken on a sheet of the paper to be used for the job. This sheet is then placed, printed face-up, upon a sheet of carbon paper — the carbon facing the unprinted side of the impression sheet. The areas to be made ready are then marked out. Should there be any especially large or solid areas, it will be necessary to patch up with two or three layers of tissue paper. To do this, an impression is pulled on the pasted-on manila tympan sheet which gives the position for pasting on the makeready. If the block is mounted upon wood — a method which is being discarded in modern printing establishments producing quality jobs — the levelling-up makeready is pasted behind the forme or between the plate and the mount. A further tympan paper sheet is then added provisionally and is clamped at the top and bottom with tympan bars. Naturally, some of the paste-boards and M. F. paper should be removed according to the thickness of the tympan sheet to maintain the packing at the correct thickness of 0.040".

Detailed information concerning mechanical makereadies will be found on pages 24 to 26 of this manual. After the makeready is complete (that is, after a perfect impression has been produced) the provisional tympan paper sheet is removed and, instead, a cover sheet is clamped in at all four edges of the platen.

For good halftone illustration work, it is necessary to use a high quality process ink. Good printing results cannot be expected from a cheap ink manufactured for jobbing printing. The ink for printing good illustrations on platemats should be stiffer and more full-bodied than the ink required for cylinder printing. According to the class of paper used, a small percentage of linseed oil or printing ink medium may have to be added.
When ordering inks, it should be pointed out to the maker that they are to be used for platen printing. The manufacturer should then make the ink to the correct consistency and quality. Good platen ink is rich in pigment and stiff, but smooth flowing, and when taken up on the ink knife it should break off short.

The roller height must be checked, and for this a type-high gauge should be used. When the roller tracks are adjusted too low a slur will occur and the screen of a halftone will fill in. First-grade rubber rollers should be used for printing illustration work. It is important that the roller is cast exactly to the correct diameter for the Heidelberg, otherwise its circumference will be different from that of the forme roller runners.

Printing of Solids on Original Heidelbergs

When printing solids, it should be kept in mind that, on a platen, printing is affected over the whole area, and therefore the sheet has to be taken off the forme with one movement. In the case of a cylinder machine, the sheet is rolled over the forme by the cylinder so that only a narrow surface touches the forme at any time. It is for this reason that inks for platen presses must possess special qualities. Above all, they must be as stiff-bodied as possible. As a result of combined experience and lengthy experimental work in this field, there are special inks available for the Original Heidelberg which, apart from a few exceptions, can be used straight from the tin.

Despite this fact, it is sometimes necessary to adjust the ink to suit the paper, if the paper tends to pick. In this case, the ink has to be made softer and shorter by adding a small percentage of paste reducer or boiled oil. However, there is the danger that if used to excess, the ink becomes greasy and may rub off, even months after printing. In order to avoid this trouble and to give a more solid consistency to the ink, it is advisable to add a small quantity of French chalk or powdered starch. This addition will also keep the ink short, thus avoiding the annoying occurrence of paper sticking to the forme. By this method, the disadvantages of adding oil will be abolished. Usually, approximately 2—5% drying medium is added to the ink before commencing the run.

If an ink cannot be used directly from the can without additions being made, it should be mixed very thoroughly with these additional ingredients, the best way to do this being on a stone. A further
important factor for the production of faultless printing of solids is the correct composition of the packing. For this work, the use of a rubber sheet is recommended. The rubber is laid below the first sheet of the packing and above the makeready, and it is necessary to use sufficient rubber to cover the whole area of the solid being printed. Blotting paper for the packing is also suitable when large forms are printed.

Improvements to the inking can be achieved when printing large solids by using the rider rollers (extra accessory) of which there is one available for the Original Heidelberg 10 x 16" and two for the Original Heidelberg 13 x 19". Special care should be taken to ensure that the roller tracks for the roller runners, as well as the roller runners themselves, are absolutely free from grease. Powdered resin dusted on with a pad of cottonwool over the roller runners and tracks will help.

By observing these simple hints, it will be easy for every printer who knows his Heidelberg and his trade to print excellent solids. Numerous jobs of this kind that are printed every day by thousands of printshops are proof of the unequalled versatility of the Original Heidelbergs.

Repeats (Ghosting)

In cases where the size of the blocks exceeds the measurement corresponding to the circumference of the forme roller, it may happen that when difficult colour tones are used, repeat marks or "ghost" marks appear on the print.

To minimise such repeats, it is necessary to use rider rollers (extra equipment) on the forme rollers and to use inks with a strong body and density. When printing solids, the ink should be mixed with a relatively high percentage of transparent white and a proportion of zinc white, if the colour tone allows this.

Another important factor is the correct setting of the forme rollers. They should be carefully adjusted and should not be too low. Otherwise the rollers will bear too heavily on the forme, and this will aid the appearance of repeat marks (or, as they are sometimes called, ghost marks). Most of the ink manufacturers supply special inks which embody the qualities required for platen printing. It is always advantageous when ordering inks to specify whether they are to be used for printing screen or full-solid areas.
Printing of Multi-Colour Jobs on Original Heidelberg Platen Presses

The conditions necessary to obtain good multi-colour printing results on Heidelbergs are the same as those required for first-class printing on other machines, i.e. suitable stocks and inks in the skilled hands of an experienced pressman, who has knowledge of making ready and the critical ability to match inks.

The composition of the packing is the same as for halftone work. The base sheet for make-ready is pasted on the bottom edge of the platen. According to their weight, insert about 7—9 filler sheets between the base sheet and the platen. Place a rubber sheet on top of these fill-ins. When larger printing areas are involved, we suggest that three filler sheets are replaced by a sheet of blotting paper. This is best placed over the bare platen. Make sure that the packing thickness is always maintained.

For best results, it is advisable to fasten the plates securely to metal mounts by using a double-sided adhesive foil and, if it is preferred, this method can be combined with tacking down the flanges of the plate by interspersing wooden sections at convenient points. The use of a light metal mount combining wooden dowels provides a firm base suitable for either method.

If there is sufficient space in the forme, the pressman can facilitate positioning by means of a six point lockup. This is done by using one register quoin at each of the narrow sides of the mount, and two on each of the broad sides so that the entire mount and plate may be positioned exactly without disturbing the remainder of the forme.

The use of hand cut or mechanical overlay (Primatone or mechanical chalk relief overlay) for the make-ready depends upon the type of job to be printed. Any areas that do not print evenly after the overlay has been mounted are levelled up with thin tissue. After the printer has made sure that the forme prints clean, the rubber is placed over the make-ready. The cover sheet is then put on top, clamped in to all four edges of the platen. For larger runs, it is advisable to damp the top sheet with a sponge. When the sheet is dry, it will be found to have become quite taut, giving an excellent surface for good impression.

From experience gained throughout many years in producing multi-colour jobs, we have found that in most cases the sequence of printing colours should be blue, yellow, red, black. Frequently, the sequence black-yellow-red-blue will produce good results. When printing blue as the first colour, an even tone will be obtained throughout the whole run, whereas difficulties may be encountered when yellow is printed first, as is usually done. Since highly transparent yellow can now be obtained, it can be worked as the second colour without affecting the first. The sequence of printing black-yellow-red-blue is usually applied to such cases where the black forme gives the position, and it is not necessary to specially emphasize the black in the print. Where the printer has to work without progressive proofs, the best sequence of working the colours is black-yellow-red-blue. By so doing, he can use the blue to correct any colour discrepancies which may occur when working the first three colours.
Driers

Driers should be carefully used. The first three colours should be worked with only a base drier, otherwise the following colour will not take, because the first colours have become hard by the addition of excess or unsuitable driers. Care should be taken that the sheets do not stick together. Small piles of 500—600 sheets should be lifted from the delivery table. It is best to place a piece of strawboard on the delivery table and allow the printed sheets to be delivered on this for easy removal. In this way the work is kept perfectly flat, and the possibility of it being rubbed when lifted from the delivery table is reduced. Another important point to consider is the use of a suitable anti-setoff spraying solution for the various colours. For the first colours the minimum amount of a fine type of spray solution should be used, otherwise the surface of the paper may become roughened, and difficulties will be encountered when working the next colour.

A few Hints on Running thin Stock

In view of the generally known difficulties in printing thin stock, special care should be taken in adjusting the machine. These are the most important points:

a) For the Feed
The correct height adjustment of the blower for sheet separation on the feed pile, adjustment of the front separating springs as far as possible into the pile.
Adjustment of the side separator springs in such a way that they extend about \( \frac{1}{4} \)" past the edge of the pile.
It will serve a good purpose if the ends of the side separator springs are bent downwards a little so that they nearly touch the top sheet of the pile.
Cut back air-blast in the feed for sheet separation to such an extent that the top sheets are well separated, but the paper is not blown away from the front standard.
Place the sliding piece T 2220 on the rear edge of the pile so that the sheet is fed evenly.
For thin papers up to 11 lb Bank (30 gr. weight), use the red sucker bar slide.
For stock which is very light (less than 30 gr. weight) use the pink sucker bar slide with metal coating and pull thin stock button.

b) For Delivery
Cut back air-blast of delivery a little.
In order to ensure that air-blast for feed and delivery is not too strong, thus unnecessarily loading the pump, it is advisable to open the valve of the air pump slightly and let air escape.
It is also of special importance to see that stock is cut in the direction of the grain and that it is fed and delivered with the grain across the platen, i. e. the grain should run parallel with the long edge of the stock.
When printing thin stock with lay gauges, the printer can help himself by placing the transfer spring next to the left-hand lay guide.
Mechanical Makeready Systems

Mechanical chalk relief makeready

Just as hand-cut overlays are based on the rule that solids require more impression strength than highlights, so does the mechanical chalk overlay makeready follow the same principle. The standard of quality in printing illustrations has improved considerably within the past fifty years, but the demand for quantity has also grown. Mechanical overlays should therefore be able to stand long runs, and the faithful and crisp appearance of all tone values is a basic essential. The ultimate objective of capable blockmaking firms is true reproduction and the correct appearance of all tone values by the use of improved methods, and the printer, of course, should support these efforts by the use of up-to-date makeready methods.

The mechanical chalk makeready is one of the systems that is specially suited for the purpose, and its application is extremely easy. A brief description is given here, and the four photographs illustrate its use.

One of the most important conditions for a faultless makeready is that the block should print evenly. Make sure this is the case. Then pull two impressions in succession in absolute register using the specially prepared ink for the process. This ink should be used concentrated and without the addition of any oils, varnishes or reducers.

After pulling the impressions, rub the print over with a little French chalk or talcum powder. Before placing the foil into the etching solution, cuts are made at the corners or other striking points with a width of about 9 points. This is done in order to obtain indication points to paste up the mechanical makeready. However, nothing should be cut away from the sheet. Then prepare etching solution with etching powder. In accordance with the instructions on the con-
tainer dissolve about 5 drams in 2 pints of water of a temperature between 58-65° Fahrenheit (approx. 20° C.). Cold water will handicap the etching process. If necessary, heat it.

While immersing the overlay in the etching solution, care should be taken that both sides are immediately covered by the solution and that the foil is constantly kept in motion. Now and then pick up by the unprinted margin, turn the overlay and immerse it the other way around while maintaining continuous movement.

When during the etching process the overlay becomes slightly pinkish, withdraw it from time to time and try to remove the reddish layer by rubbing the margin between two fingers until the white surface of the lower base sheet appears.

The foil is correctly etched if the highlights show the white paper ground, the medium tones appear in a reddish hue and the solids are still covered by the black etching ink.

After the overlay foil has been adequately etched, it should be thoroughly rinsed and then pressed between blotting paper. The dry foil should then be rubbed over with talcum powder. The overlays can be used as often as desired.

The Primaton make-ready process

The Primaton make-ready is a thermoplastic method of make-ready and, according to the screen and grain in the block, a graduated overlay surface is evolved, thereby eliminating ink fill-up and mottle troubles in the subtle half-tones. Primaton make-ready plastic powders cover four grades, and the relief of the Primaton make-ready depends chiefly upon the grade of powder used. Always use Grade I for Original Heidelberg. The tack of the powder depends upon the amount of ink used. The more ink, the better the tack of the microscopic Primaton powder granules, and the more compact these granules are, the more pressure they create. The density of the powder is, therefore, the determining factor for bringing out the various tone graduations within the block.
Preparing a Primatone makeready is an easy matter. Obviously, it is important that the proofing of the halftone is even and firm. In most cases, a standard pressroom ink may be used, provided a few drops of a special blending agent (Fiegsoil) are applied to the inking rollers. If the standard ink proves to be unsatisfactory, a specially prepared ink may be obtained. The Primatone makeready ink has certain constituting properties, i.e., if 3–4 minutes are allowed to elapse between the inking of the forme and the actual impression, crisper tone values can be thus achieved. Suitable proof paper is a well-stored SC paper, having about 60 g/ sqm weight (smooth manila paper). It will be advisable to let the sheet run through twice. Placed in a flat tray, the print is now poured over with Primatone powder Grade I. Use a broad hairbrush to distribute the powder in a to-and-fro motion over the surface of the sheet until the powder has dissolved in the highlights. Then the sheet is treated in a second tray with the blue powder Grade 0.

This blue powder serves for filling and for developing the most delicate tones. Local corrections may be made with a small camel-hair brush, makeready knife, and a wad of cotton wool. Finally, the reverse side is cleaned of dust. The makeready is then heat-treated over a stove or a heater having a constant temperature of approx. 270° Fahrenheit (approx. 130° C.). The overlay sheet must be moved slowly to and fro over the heater. When the white hue of the powder has disappeared altogether, and the overlay shows a dull finish on the entire surface, it may be used straight away.

3 M Makeready System

An excellent makeready method has been developed by the 3 M company. It has found wide application in recent years. Special foils as well as a developing unit are required for this method. Exact details and instructions may be obtained from the 3 M company.

Slurs in Platen Press Printing

A difference should be made and thoroughly understood between slur caused by too thin ink, slur caused by forme rollers, and slur appearing when the ink is too long.

Slur — Ink too thin

A thin-bodied ink can cause a slur on type matter, halftones and rule work. It can be detected by the filling-up of the type face and spaces between the screen dots in the halftone. It is more readily detected in a halftone as the spaces between the dots are comparatively small and fill up more readily. With a thin-bodied ink or insufficient impression, the operator is apt to use too much ink in an endeavour to obtain the desired depth of the tone. Makes of machines with insufficient impressional strength, therefore, may easily cause slur when printing heavy foames. The slur is not so prominent on a deep etched halftone as the dots are more pointed compared with those on a block not so deeply etched. On stock with smooth surface, this kind of slur appears more often than on stock with a rough surface. In colour work, a slur caused by thin-bodied ink can even make the spaces between the dots darker in tone than the dots themselves.

When the slur first appears, it can be detected by small hair lines in the spaces of the screen.
Slur — caused by forme rollers

A slur caused by either incorrectly set or inferior forme rollers can appear anywhere on the printed sheet. When using rubber rollers, this slur may be caused by the deposit of fragments of a varnish-like layer from the rollers even although they are regularly washed. This coating of the rollers is a result of using dryers. In such cases, the whole print has a blurred effect. To avoid this trouble, it will be necessary to clean the rollers at least once a week with “Rollopast”, supplied by the manufacturers (Felix Böttcher, Cologne-Braunsfeld). The best time to cover the roller with this “Rollopast” is after working time. It reacts overnight and dissolves the varnish-like layer without affecting the rollers in any way. Next morning, the rollers can be cleaned with a rag soaked in water.

A similar slur can also be caused by the rollers being uneven or not perfectly round, and if this is the cause, the slur will appear wherever the uneven part of the roller contacts the forme. It may also happen when a reground rubber roller and a new rubber roller are being used together as inking rollers, and the resultant printing will not be satisfactory.

As regards the roller runners and the roller tracks, they should always be free from oil, and it is advisable to powder them from time to time with French chalk.

Slur — ink too long

This slur appears when the sheet to be printed sticks to the forme because unsuitable ink is being used. The rotating grippers grip the sheet and pull it sideways. At this moment, the dots of the screen may be blurred.

To avoid this trouble, it will be necessary to use a taut cover sheet on the tympan packing. When making ready, care should be taken that the packing does not bulge or cockle. It is most important that the ink is short, which can be ensured by adding starch or paste. In some cases, both can be used together. It may also help to use a frisket, and very often a cross finger can also be put to good advantage.

The sheet should leave the forme easily. This will be assisted by the air blowing from the holes in the right-hand inking roller track. The air blowing from these holes peels the sheet from the forme and keeps it smooth when it is swinging out. From time to time these blow holes should be cleaned of paper dust so that they can serve their purpose.
Slur on type matter and rule formes

This type of slur is usually described as a trapped air slur. It is caused by air which cannot escape being compressed between the sheet and the forme during printing. It is, therefore, advisable that when locking up the forme, as many hollow mounts as possible are used in order to avoid the air pockets. In such cases, the hollow spaces of the mounts should be at the top. The use of lead mounts reversed so that the hollow spaces are uppermost will also help to avoid the appearance of trapped air slur.

It is necessary to have a good hard packing and a taut cover sheet. We recommend the use of bond paper inks when printing rules and type, and the ink supply should not be too liberal. In addition, the use of friskets may be found helpful.

Die-cutting on the Original Heidelbergs 10 x 15” and 13 x 18”

The speedy Original Heidelberg presses have a tremendous advantage over die-cutting platens. The mere fact that it takes so little time to make a Heidelberg ready means money in the bank for you.

Die-cutting on an Original Heidelberg only requires the following simple steps:

1) Remove forme rollers from the machine, on the 13 x 18” Original Heidelberg, or disengage forme rollers, on the 10 x 15” Original Heidelberg.

2) Place a die-cutting plate on the platen instead of the packing.

3) Make tiny nicks in the cutting rules so that the cut-out adheres to the stock and can later be stripped easily by hand.

4) Place rubber ejectors on the die so that stock does not stick to the cutting rules.

Die-cutting is no more difficult than the printing of an ordinary job on the Original Heidelberg. Simple types of cutting dies requiring mainly straight rules, e.g. folding cartons, are available on the market in standard sizes. In addition to straight cutting rules, there
are round and curved shapes. Difficult dies, of course, have to be made to order because these have to correspond exactly with the outline of the cut-out.

The die-cutting plate is merely slid on to the platen and not glued to it as was previously the case. The plate, with its rivetted dogs, rests against the edges of the platen. The platen should be opened as wide as possible before putting the die-cutting plate in position. We supply this plate as an extra accessory. While making ready, the plate can be taken out at any time. At the top of the die-cutting plate, there is a small screw for fixing it by merely tightening the screw with a screw-driver.

If the die is to contain creasing rules with cutting rules, paste a sheet of tympan paper on the cutting plate so that the creasing lines can be made ready.

To locate them, dab a little ink on them. On both sides of the creasing rules a narrow strip of cardboard is pasted on the die-cutting plate. The space between both creasing rules should be about 1¼ to 2 mm (0.06" to 0.08") according to the thickness of the cardboard to be creased.

If you are specially interested in die-cutting on our machines, will you please write for a special pamphlet containing detailed instructions for profitable die-cutting on the Original Heidelbergs.

**Embossing on the Original Heidelbergs 10 x 15" and 13 x 18"**

The versatile Original Heidelbergs can also be put to good advantage for producing embossing jobs. Embossing requires a female die. This consists of a metal plate into which the design or the text to be embossed has been engraved in integlio. For very long runs, the die must be made of steel but usually it is made of brass, averaging 16 to 18 points in thickness. The die is brought up to type height by means of lead or iron backing to which the die is either screwed or cemented. Care should of course be taken that the exact type height is maintain-
ed. Nowadays, printers often have an original embossing die made of brass or steel. From these they order nickel-hardened embossing electrotypes, which are less expensive than the brass embossing plates generally used.

Next the male embossing die has to be prepared. This is the die having the same contours as the female die but in relief. In order to obtain satisfactory results, the male die must include all the details engraved on the female die.

The first step in making the male die is to clean the platen of grease and oil so that the adhesive will stick to it. Although you can use a commercial solvent, we recommend a trick of the trade by using an onion cut in half for cleaning the platen. Then gum the platen the size of the female die. Now paste a strong sheet of cardboard of about 0.4—0.5 mm (0.016”—0.020”) thickness and a little larger in size than the female die on the platen. Before pasting the flong, moisten it slightly, using a sponge. This is to ensure that it is pasted taut on the surface of the platen. After the cardboard has thoroughly dried, place the chase with the locked-up female die on the press. The female die should now be lightly inked by the forme rollers in order to obtain an impression on the flong, pasted on the platen. As this flong does not have the prescribed packing thickness, but only a thickness of 0.4—0.5 mm (0.016—0.020”), it will be necessary to place a few fill-ins under the die which together with the pasted-on cardboard should have a total thickness of 1—1.2 mm (0.039—0.047”). Now throw on impression, and an image of the female die appears on the cardboard pasted on the platen. This is necessary to make the male die and to determine exactly the position of the male die. Having done so, do not forget to remove the underlay immediately.

Although there are many ways of making a male embossing die, printers usually prefer the method described as follows. This is the best method to use if there is not enough time for an embossing compound to dry. After the cardboard has been pasted on the platen as described above, and an impression has been pulled on this pasted-on cardboard, a hard blotter card of about 0.7 mm (0.028”) thickness is run through the press with impression on so that this card is also imprinted. The blotting paper is the same as used for blotting pads, and can be obtained in a stationery shop.
The intaglio parts of the female die, which did not print on the blotter, have to be cut out with great accuracy and pasted on the corresponding places on the print of the female die on the packing in order to build up the male die. The cut-out blotting paper is best pasted with dextrin or gum.

Now disengage the inking rollers, on the 10 x 15" Original Heidelberg, or take them out, on the 13 x 18" Original Heidelberg, and wash the forme. Next start the machine and put on impression with low strength at first and increasing impressional strength until the male die is complete.

If the details of the male die are not sharp enough, paste another cut-out piece of blotter on top of it. This is to prevent the edges of the female die from marking the stock which is to be embossed. Make second blotter smaller than the actual size of the female die, but large enough to cover all intaglio parts. Now take a further impression with full impressional strength so that the Intaglio parts press sufficiently into the female die. In case there are small areas which have not satisfactorily embossed, use tissue paper, pasted on the appropriate areas, for levelling out.

The second method requires somewhat more time, and should be used where the male die has very many fine details which cannot be cut out with blotting paper.

First mix two parts plaster of Paris with three parts whiting (calcium carbonate) and add enough dextrin or gum arabic to make a doughy paste. It is best to wipe off the female die first with petroleum or oil, to prevent the blotting paper from sticking to the die.

You can also stick a piece of tissue paper with a drop of oil on the female die. Now start the machine with low impressional strength, then increase impressional strength slowly so that the compound is pressed into all the fine details of the female die. Now trim off the edges of the male die, i.e. cut off the surplus compound squeezed out during impression. Gradual increase of impressional strength should take place during the hardening process of the compound. As soon as the compound is hardened, impressional strength should no longer be adjusted.
Now permit the embossing compound to dry until it can just be cut with a makeready knife, and trim off excess around edges.

Finally, the male die is lightly powdered with talcum. We recommend that you make the male die the last thing in the afternoon so that you can leave it to dry over night. A male embossing die made in this manner will enable you to run many thousands of impressions without having the embossing lose its sharpness. Naturally, you will have to choose a stock for your run that is suitable for embossing. When producing larger embossings, do not use maximum impressional strength but only medium. Should this appear insufficient, it will be advisable to place an underlay (not more than 3 sheets bond paper) behind the female die.

We have a special pamphlet available containing more details about embossing on Original Heidelberg. If you are interested, we shall be pleased to let you have a copy.

Original Heidelberg Platen Cutter and Creaser 13 x 18” — Model GTS

To meet the steadily growing demand by paper converting and carton firms for Original Heidelbergs for die-cutting, a special Cutter and Creaser has been developed. This machine is supplied without inking device, rollers or any spray equipment. On the other hand, both the base and the swinging platen have been reinforced to withstand the increased strain that occurs when using especially heavy die-cutting forms.
The standard equipment of the Original Heidelberg Platen Cutter and Creaser comprises a 3 mm. (1/8") hardened and polished steel plate which is screwed on to the swinging platen, the latter being ground down accordingly. Apart from this, an 0.8 mm. (1/32") hardened steel plate for makeready, the so-called makeready plate is standard. It is always placed behind the die-cutting forme. Set pins guarantee a fixed position of the makeready plate to the chase.

For embossing jobs on the Original Heidelberg Platen Cutter and Creaser, steel plates of 2 mm. (0.08") thickness are available which are screwed on to the swinging platen instead of the 3 mm. (1/8") plate. When using the 2 mm. steel plate, there is a clearance of 1 mm. (0.039") between swinging platen and embossing die, this clearance being required for the male die.

The die-cutting and embossing plates are supplied with either 3 or 4 mounting holes. Plates with 3 mounting holes are used when the die-cutting forme or embossing forme extends to the utmost right-hand corner of the swinging platen—seen from the front side of the machine.

If a printshop has jobs which are frequently repeated with long runs, it is often advisable to order right from the beginning several die-cutting or embossing plates which make it possible to preserve the makeready for the creasing rules and the male dies once they are made. They can be used again for the repeat jobs, thus saving working time.

Here are a few hints for die-cutting jobs:

To protect the base, the 0.8 mm (1/32") makeready plate is placed behind the die-cutting forme. For makeready, at first a manila sheet and a sheet of carbon paper—carbon side touching the manila sheet—are put between die-cutting forme and makeready plate. Thereupon the machine should run once on impression so that due to the carbon paper the manila sheet behind the forme shows an impression of the cutting rules. Then pull an impression on a sheet of the actual stock. Now it can clearly be seen where makeready is required and this is pasted on the respective spots of the manila sheet. This manila sheet with pasted-on makeready is subsequently placed between makeready plate and base in exactly the same position as during the first impression, otherwise the makeready would be useless.

Should the die-cutting forme contain creasing rules also, a makeready for the creasing rules has to be made. As already described on page 29. For pasting the cardboard strips a paste of excellent quality must be used which, after drying, preserves a certain elasticity. Cardboard fixed with this paste sticks firmly and can be unstuck only with difficulty. Don’t use hard drying pastes which incur the risk of the cardboard strips chipping off during long runs.
On principle, when die-cutting also, the work should be started with little impressional strength which can be increased according to necessity. If, at the beginning, too much impressional strength is applied, the cutting die may lose its sharpness in too short a time. It should be mentioned that replacement of the die-cutting plate (3 mm.—$\frac{1}{6}''$) by an embossing plate (2 mm.—0.08'') and vice versa is very easily accomplished. The fastening screw need only be unscrewed and secured again.

The Original Heidelberg Platen Cutter and Creaser is equipped with an additional safety device which makes it impossible to start the machine unless the chase is correctly fastened. Thus the plate behind the forme will, inevitably, be in its correct position.

**Carbon printing on Original Heidelbergs 10 x 15'' and 13 x 18''**

For carbon printing we have designed an ink duct heating device with which the printer can produce carbon prints on Original Heidelbergs.

The printer undertaking such work will have to consider various points to accomplish good results.

The most important is the ink used. Carbon printing inks are mixed with wax, and can only be used if the stiff ink in the ink duct is heated to ensure that the duct and vibration rollers can take it on.

Any additions which are used for other inks, e.g. drying substances, boiled linseed oil etc. should not be used. The ink should always be used straight out of the can. If dilution is absolutely necessary, use only a specially prepared carbon paste.
It is always important to print with a consistent ink quantity. The carbon ink will not harden in the ink duct due to the heating device, which also enables printing with undiluted and viscous ink. However, when ordering carbon printing inks, state which machine is being used for the job and that an ink duct heating device is available. The ink supplier will then prepare an ink of stiffer consistency which will, of course, improve the copying qualities of the carbon. The quantity of ink should be much greater than when printing with ordinary letterpress inks. Set-off is prevented by piling the delivery sheets in small stacks.

Any material that can take ink is suitable for use as the printing plate. Therefore, copper or zinc blocks, smoothly planed hardwood blocks brought up to type height, synthetic plates and also rubber plates, resistant to fat and oil, can be used. The packing should be soft and resilient. Adjust impression strength as low as possible to prevent the ink from squashing and to ensure that the ink film applied is not too thin.

Make-ready should be prepared carefully and with great accuracy to ensure that the ink film applied to the paper is even. The use of a rubber blanket, placed beneath the top sheet, and a few fill-ins is recommended, especially when metal printing plates are being used.

The rollers should be resilient and—this applies especially to the forme rollers—must be very carefully adjusted, so that the ink is transferred evenly on the printing plates and no squashed edges result. If you repeatedly produce carbon print jobs, it is recommended that you have another set of rollers available.

The selection of a suitable paper will also be decisive in obtaining the best results in carbon ink printing. The harder the paper is, the better and the more durable the copying qualities are. The best paper to use is a paper which has a smooth surface, such as hard-sized glue-coated paper, middle-fine writing, drawing and typewriting paper containing wood. Cellulose paper is not suitable.

In any event, it will be advisable to make a few sample prints of the selected paper a few days in advance of the actual run and to watch the results obtained.

The storage of carbon printing inks is a most important factor for the copying qualities and durability of the carbon prints. The prints should always be stored in a cool place and in no case anywhere near a heater. Do not store the sheets horizontally but vertically, as is done with envelopes. If the prints are kept in a warm place, the copying qualities will soon be affected.

It is only necessary to place the ink duct heating device on the ink duct after connecting it to an electric supply. No changes on the machine are required. The heating device can also be used in cold rooms to produce normal print jobs. This will be the case when cold inks tend to "pick" and, especially when printshops are not heated, the heating device may then be put to good use in eliminating difficulties which may arise when printing with normal inks.

The ink duct heating device for carbon printing is listed under group No. 721 of our extra accessories.
Numbering

Very often our customers want to produce numbering jobs on the machine. Where plunger operated numbering machines are used, it is advisable to limit the number of boxes to, say, 4, 6 or 8 so that proper control can be exercised while printing. If more boxes than this are required, it is recommended that a centre drive, which can easily be fitted, should be used.

Unfortunately, plungers will eventually damage the rollers; furthermore, the printing speed has to be reduced because plunger operated boxes operate reliably only if the speed is kept within certain limits.

To enable the printer to obtain the full benefit of the Original Heidelberg's varied capabilities, we have evolved, in connection with a numbering machine factory, a device which can be considered as an excellent solution to numbering problems. The device avoids the disadvantages of the plunger-operated numbering machines and makes it possible for any desired quantity of boxes to be used. The operation is 100% reliable, and there is no limit to the speed of printing.

These new numbering machines are centrally-driven. They can be built into every normal chase of an Original Heidelberg. The drive of the push-rod is effected by an index-roll mechanism which is suitable for either vertical or horizontal positioning of the numbering machines.

The index-roll mechanism must always be fitted on the left-hand side of the chase so that the entire paper size can be utilized. The index-roll mechanism can be used for any quantity
of numbering machines as the spring can be adjusted according to the quantity, thus ensuring safe operation at all times.

Standard chase with numbering boxes with index-roll mechanism

However, it is necessary to reduce the length of the rollers on one side so that the index-roll mechanism does not come into contact with the rollers.

Our representatives will be pleased to supply any further information concerning delivery and the use of numbering machines. Detailed instructions for the application and the use of numbering machines will be provided by them.
Switch for Starting Motor

The switch illustrated herewith is mounted on the left side of the press underneath the clutch lever and serves to turn the motor on and off. Switch off electric motor while the machine is idle for a prolonged period and when inserting makeready or doing other work on the swinging platen or on the forme. This will increase safety of operation and cut down electricity consumption.

The squirrel-cage motor runs with a constant speed of \( n = 1400 \) to 1500 r.p.m.

Starting and Stopping the Press

Before starting the press, the main guard "Original Heidelberg" must be turned down. If it is turned up, the press is locked and cannot be started.

When starting the Original Heidelberg, merely turn and push clutch lever to the left with the left hand. When stopping the press, just turn the handle of clutch lever slightly in a clockwise direction. The clutch lever will then jump to the right by itself. The flywheel continues to turn, but the press stops immediately. In this way, the press can be started or stopped at any desired position. It is also possible to inch the press.

The press can also be stopped immediately by turning up the main guard ORIGINAL HEIDELBERG.
If the operator is standing behind the machine, e.g. when washing the rollers, the machine can also be stopped by turning over the lever illustrated which is connected to the guard original HEIDELBERG.

Speed Regulation

The speed of the press is regulated by turning the crank at the front of the press. If the crank is turned clockwise the speed increases, and if it is turned anticlockwise the speed indicated on a scale decreases.

It is a stepless regulation of speed without loss of electric power.
Limits have to be set for the speed regulation in order to prevent the V-belt from coming off the pulley or from running on the vertical surface of the pulley when its two discs are at their minimum position. When the V-belt is running with the largest diameter of the pulley, 0.08" (2 mm) below the outer edge of the pulley, the two hexagon nuts on the adjustment spindle under the motor bracket must be turned all the way to the threaded trunnion and locked. The same has to be done for the minimum speed, when the belt is running on the smallest diameter of the variable pulleys.

The opposite diagram shows the position of the V-belt on the pulleys at maximum and minimum speed.

**Modell T**
- max. 5500 l.p.h.
- min. 2200 l.p.h.

**Model GT**
- max. 4000 l.p.h.
- min. 1600 l.p.h.
The speed indication has to be adjusted when aligning the motor. With the crank turned to maximum speed, set red indicator of speed to 5,600 (T model) or 4,000 (GT models) respectively; this makes it necessary to take off the crank after loosening the tapered pin. Check whether V-belt still runs on the inclined surface of the pulley when speed is decreased by the crank to 2,200 (T model) and 1,800 (GT models). Under no circumstances may the belt run on the vertical surface, otherwise it might be squeezed and damaged.

What is very important for the mechanic to check when the machine is installed by him, is the parallel alignment of the motor to the axle of the flywheel. Should the motor have to be removed for any reason, the adjustment of the motor must be done very carefully. The shaft of the motor should run exactly parallel to the shaft of the flywheel.

Further, it is important that the V-belt is aligned in such a way on the flywheel that it runs on the outside edge of the flywheel when the number of revolutions is small. Contrarily, when the number of revolutions is large, the V-belt should run on the inside edge of the flywheel. In no case should the V-belt project over the rim.

To check whether the shaft of the motor is located exactly parallel to the shaft of the flywheel, a long straight edge or string should be used, placing the straight edge against the inside rim of the flywheel and aligning it with the rim of the motor pulley, and then doing the same with the motor pulley to the flywheel.
Replacing the V-belt

The Original Heidelberg 10 x 15" and 13 x 18" is supplied with complete electric driving equipment. The V-belt is properly fitted by the press-erector when installing the press. If after a few years of operation the V-belt has to be replaced due to normal wear, the pressman can do it himself. He should proceed as follows:

1) The complete drive guard is to be dismantled and the V-belt has to be taken off the motor V-belt pulley.

2) To take off the old belt and to place the new one on the flywheel it is necessary to loosen the connection between clutch lever and spring sleeve, and this is done by screwing off the cheeseheaded screw (illustration—arrow 1) which fastens the spring sleeve to the clutch lever. Then the pin (arrow 2) must be taken out after the split pin (arrow 3) has been removed.

3) The clutch lever is now swung away so that the worn belt can be taken off between clutch lever and shaft (arrow 4). Always ensure that clutch lever does not
glide out of the clutch cone, otherwise both guides at the fork end of the clutch lever would drop out.

4) The new V-belt is next placed on the upper portion of the flywheel and the clutch lever is re-fastened in reverse sequence.

5) Afterwards the V-belt is put on the motor pulley, and finally the belt is entirely drawn on to the flywheel.

6) It is of particular importance that the motor shaft and axle of the flywheel remain parallel. Poor alignment of motor shaft and flywheel axle would cause quick wear of the edges of the V-belt. The alignment of the motor to the axle of the flywheel is described in the preceding chapter.

When doing this work the motor should be in the position for maximum speed; the crank for speed regulation has to be turned clockwise to end position.

**Locking the Forme**

a) Without Using the Bottom Guides

One side of the chase is bevelled. This side is always the gripper edge on the Heidelberg. A gripper bite of ¾” has to be left on all jobs. If the margin is to be greater than ¾”, a corresponding amount of furniture has to be placed between the forme and this side of the chase. When locking up the forme, care must be taken that the stock extends over the bevel by the amount of the gripper bite. On the middle of the bevel, there is a mark which corresponds to the centre of the printing surface or the centre of the feed pile.

If possible, the forme should always be locked up in such a way that the above mark corresponds with the middle of the sheet. It must be noted, however, that this centre
mark can only be used if the bottom register lays are not used. It must also be emphasized that unlike the procedure on a job platen, the forme on the Heidelberg does not have to be centred in the chase. It can be locked up in any place inside the chase according to the size of the job and the arrangement of the forme.

![Diagram of forme in chase](image)

b) Using the Bottom Lays

When using the bottom lays, it must be noted, in addition to the instructions contained under (a) that the forme has to be locked in the lower right-hand corner of the chase. There are two marks on the bottom of the chase which give the lower grip bite when working with bottom lays.

The top mark indicates the position of the nickel lays, where the minimum margin is 1½ points if the forme is locked at the very bottom of the chase. The lower mark indicates the position of the brass guides which have a minimum margin of 14 points. If more margin is required, correspondingly more furniture has to be placed in the bottom of the chase.

After locking up, the chase is placed in the press on the two chase stops and pushed firmly against the type bed. Make sure that the top of the chase is firmly gripped by the chase catch, especially when the forme is underfelt in the process of making ready. It is advisable to tighten the grip screw of the chase catch. This ensures that the chase is locked and cannot come out.
Device for Pre-Registering Formes

To lock-up the forme with “final proof” accuracy, e.g. when producing multi-colour jobs or making imprints, the pre-registering device with the transparent sheet is used. The pre-registering device can be inserted with the index pins on the hinge joint into any chase which is provided with the two necessary holes.

After the forme has been locked and positioned for the first colour, the forme is inked with a hand roller. Then, the transparent sheet is placed upon the forme and an image is obtained by pressing down slightly with the flat of the hand or a rag on the transparent sheet.

The image now appearing on the lower side of the sheet is used to position with precision the subsequent formes. After the job is done, the image can be removed from the sheet with cleaning fluid.

The pre-registering device of the Original Heidelberg 10 x 15” can also be placed upon a chase of the Original Heidelberg 13 x 18” and vice versa.

On special request, a sheet can be supplied which is provided with cicero squares and which is mainly used for positioning type formes.
Packing

Packing for Job Work

For job work we recommend the following packing in the sequence as given.

1. 1 manilla top sheet turned over and clamped on all four sides.
2. 3 to 5 sheets of M. F. newsprint in the exact size of the printing surface, later to be placed over the makeready as fill-in (over sheet No. 3).
3. 1 manilla sheet clamped only at the bottom and at the top, on which the makeready is pasted.
4. 2 sheets of ivory-finished cardboard, the exact size of the printing surface, placed at the bottom of the packing against the platen surface.

Packing for Illustrations

1. 1 manilla top sheet turned over and clamped on all four sides.
2. Thin rubber blanket \((0.01'' = 0.25 \text{ mm})\) thick, the size of the plates in the forme, pasted on the makeready sheet (see pos. 4).
3. 3 to 5 sheets of M. F. newsprint, as fill-in, the exact size of the printing surface, later to be placed over the completed makeready (that is, over sheet No. 4).
4. 1 manilla sheet clamped only at the bottom and at the top for pasting on makeready.
5. 1 sheet ivory-finished cardboard, the exact size of the printing surface.

It is also recommended to keep a number of sheets of paper and cardboard in stock, cut to the exact size of the platen surface. Furthermore, a number of top sheets, cut to the right size and already creased at the four edges, should always be ready and available. When placing packing on the platen, it is best to proceed as follows.

Turn the press until the platen is open. Then clamp the top sheet at the bottom with the tympan bar. This sheet should extend \(2\frac{3}{8}''\) over the platen surface on both sides. When taking out and putting in the lower tympan bar for the packing, the sliding spring used mainly when printing with nickel guides, which can be moved to a corresponding position on the special guide bar, must be pulled off.

Then the various sheets of the packing are placed under the top sheet and the small sliding spring is replaced on the bar.

Another point which requires special attention when preparing the packing: the packing having the prescribed thickness must always cover the entire surface of the platen, no matter whether printing maximum paper size or not. Failure to do this will result in uneven wear of the platen bearings.
Clamps for the Packing

The top sheet as well as the sheet on which the makeready is pasted are always clamped first to the lower edge of the platen by means of the tympan bar. The remaining sheets and cardboards are not clamped, but merely inserted.

Then, as shown by the illustration, the packing is smoothed by means of the upper tympan bar, and this bar then pressed into place against the leaf springs.

The left tympan bar is clamped in a similar manner.
Fastening the Packing on the Gripper Side

The right-hand turned-down edge of the tympan ist held in place by a large clamp and underneath the side guide by a small clamp. First, the larger clamp is opened by turning the thumb screw. Then, the smaller clamp is turned back, and the edge of the cover sheet is smoothed down and the screw tightened again.

Then the edge of the cover sheet is placed under the large clamp and the thumb screw is retightened. The cover sheet should be tight and without creases. This is especially important for register work, so that the sheet can be smoothly pushed to the side guide. It is best to use pre-cut cover sheet paper, especially suited for the purpose, with the edges already turned down.
Slot Gauge for Packing Thickness

The packing is \( \frac{1}{25} \) in. = 1 mm thick. When printing cardboard, measure one sheet of the stock with the packing, so that the two together equal \( \frac{1}{25} \) in.

There is a slot exactly \( \frac{1}{25} \) in. thick on the right-hand delivery standard. By means of this slot, the thickness of the packing can be checked accurately. It goes without saying that this slot has to be kept clean, especially when working with the spray gun. The experienced pressman who knows the make-up of his packing will probably not have to use this gauge. He will check the correct thickness of his packing by the impressions and will recognize immediately by the impression on the back of the sheet whether he needs an additional sheet in the packing or whether a sheet has to be taken out. If the impression is good and the impression on the back of the sheet even, then the thickness of the packing is right.

If, however, there is more impression at the bottom than at the top, then the packing is too thick; one or more sheets have to be removed from the packing and, in place thereof, the impressional strength of the press increased.

If the impression on the back of the sheet is stronger at the top than at the bottom, the packing must be increased and the impressional strength of the press turned back.
Makeready

Makeready is exactly as on every other platen press. As the grippers move over the packing with a clearance of only 2½ points, care must be taken that the packing is not too thick. Care must also be taken that the packing is exactly \( \frac{1}{25} \)" thick, even after the makeready has been pasted on. In other words, for every sheet of makeready added, one sheet of the same thickness must be taken out of the packing. If it is a type forme, it is best to underlay first, and, if further makeready is needed, to paste it on the second manilla sheet. A corresponding number of sheets has to be removed from the packing.

The pressman will find that the use of a rubber blanket will greatly facilitate the printing of illustrations. This rubber blanket, however, must be placed over the makeready. Particularly for register work, put a tight damp sheet over the makeready or over the rubber blanket to guarantee smooth feeding of the stock. When making ready illustrations, any approved mechanical makeready system can be used. It is important that the plates be adjusted to exact height.
Adjusting
Impressional
Strength

Impression can be thrown on or off, increased or decreased even while press is running. The illustration shows the impression throw-off lever pulled out, i.e. impression on. The impression is thrown off when the bell-type handle is lifted gently and the lever pushed back into the machine.

The two knurled rings are used to change the impressional strength. To increase the impressional strength, the lower ring is turned clockwise. If it is turned counterclockwise, the impressional strength decreases. The upper ring is loosened before this adjustment is made and then tightened again. This ring is merely used to secure the setting of the lower ring so that it will not change while the press is running.

The grooved marks 0—1—2—3—4 serve as a guide for adjusting impressional strength. At the adjustment position 0, the platen is parallel, whereas maximum impressional strength is adjusted in the position 4.

In order to prevent excessive wear and tear on the type, the impressional strength should first be decreased when a new forme is placed on the press, as is the case on every other platen press. This is done by turning back the knurled ring to 0 and, after the first proofs have been pulled, the impressional strength is adjusted as needed.

The correct thickness of the tympan packing is very important. The printer should therefore always take special care to see that the tympan packing is in order, otherwise the machine will not print evenly.

The experienced printer judges the correct packing thickness by the print and immediately recognizes by the impression on the reverse of the sheet whether it is necessary to add a sheet to the packing or whether the packing has to be reduced by one sheet. If the impression on the reverse of the printed sheet is even by the adjustment of sufficient impressional strength, the packing is correct. In case there is a stronger impression on the bottom of the sheet than on the top, the packing is too thick. Therefore, one or perhaps two sheets will have to be removed from the packing, impressional strength being increased on the impression lever. Contrariwise, i.e. if the impression on the reverse of the sheet is stronger on top than at the bottom, one or perhaps two sheets should be added to the packing. In this case, impressional strength should be decreased.

These examples show how very important it is that the packing has the prescribed thickness. It is emphasized again that the packing has to be smooth over its entire surface.
Adjustments when Printing with Bottom Guides

Three adjustments have to be made on the press when printing with bottom guides. There are instruction plates on the machine for these three adjustments.

(1) The left-hand standard at the feed table must be pushed to the left against the stop. This stop has to be adjusted for brass or nickel guides, as the case may be. (See instruction plate at the stop.)
(2) The illustration shows the screwdriver inserted in the slot of the long screw on the gripper head, which has been screwed out and the cam moved forward as far as it will go. Then the screw is screwed in and tightened. In this position, the cam causes the gripper to open when the bottom guides push the sheet to the side guide.

(3) The handle engages or disengages the movement of the bottom guides. When bottom guides are being used, lock handle by dropping it so that pin goes into slot. When printing without the bottom guides, pull the handle out and turn to the right or to the left until the handle rides on the pin. When the bottom guides are disengaged and the press is standing still, the guides can be moved up to the printing position and back again. It goes without saying that the bottom guides should be engaged or disengaged only when the machine is standing still.
Changing the Bottom Guides

Two types of bottom guides are supplied with the machine. They can be recognized by their colour. When using the brass guides, the lower paper margin is approx. 14 points, and when using the nickel guides, the lower margin is approx. 1.5 points. The brass guides should be used in all cases when sufficient margin at the bottom of the sheet is available. If the lower paper margin is less than 14 points, then the brass guides should be replaced by the nickel guides.

The outer right-hand brass guide on pump side of press is pulled off to the right and the right-hand nickel guide is pushed on as far as the stop. The left-hand, movable guide is removed from the bar by tilting it backwards and the nickel guide snapped on. This guide is pushed back and forth on the bar to see that it does not move too easily. If, in the course of time, it is found that the guide moves too freely, it is taken off, and after loosening the screws, the leaf spring is pushed against the guide. The screws are then tightened again.
When running light-weight (onion skin or bible paper), it might happen that the corner of the sheet extending beyond the tip of the gripper does not lie smoothly and is bent over when placed on the right-hand guide (pump side of press). If this corner of the sheet does not lie smoothly on the guide, it may cause differences in register. In such cases, the difficulty can be removed by pulling off the right-hand brass guide from the bar and clamping it back on the bar next to the bar bracket. This causes the sheet to lie on the guide farther away from the turned-up corner which, therefore, cannot detrimentally affect the pushing of the sheet to the side guide. It is only possible to solve this difficulty in the above way when printing with the brass guides. The right-hand nickel guide must not be removed and clamped on the bar inside of the bracket.

After finishing the run with such light-weight stock and printing normal-weight paper again, the guide must be returned to its former position; i.e., the brass guide must again be pushed on to the outside of the bar.
Adjusting Bottom Guides

The left-hand guide on the flywheel side of the press can be moved on the bar to correspond with the size of the sheet being printed. As is the case on other presses, this guide should not be too near the corner of the sheet, but also not too near its centre.

Please note that there is a pin in the guide, which naturally must not be permitted to hit type or plates in the forme. This fact in many cases prescribes its position.

The illustration shows a guide which has been taken off the bar, with the pin in place. It goes without saying that the guide should only be taken off the bar when changing from brass guides to nickel guides or vice versa. The pin can only be inserted after the guide has been placed on the bar.

The pins are supplied in various sizes and serve to steer the sheet accurately onto the guides and hold it there. When printing a job at high speed, it is best to use the longer pin. After the pin has been inserted into the holes of the guide, the lower ends are spread apart, so that the pin cannot work up and damage the forme.
In addition to the two brass guides and the nickel guides, a pin is furnished with the Heidelberg. The brass and nickel guides serve to bring the sheet to register. The pin guide serves only to hold the pin and is, therefore, two points lower than the two brass guides. The pin guide is placed on the flywheel side at the end of the bar for the guides. When printing a job with very little margin because the text or the plates extend almost to the edge of the sheet, only a short pin can be used on the left-hand guide (flywheel side of the bar). This is especially true if there are no gutters in the forme, into which a long pin can fit. As several kinds of stock tend to jump over a short pin, resulting in feeding and register difficulties, it is advantageous in such cases to use the pin guide. A much longer pin can be inserted in the pin guide, steadying the outside corner of the sheet and preventing it from dropping off the guides when the gripper opens.

This is the purpose of the guide. It must be emphasized that the sheet itself does not come to rest on the pin guide, because this is lower than the regular guides.

The nickel guides should only be used when the lower paper margin is only approximately one point.
Adjusting the Slide Spring

When the brass guides are used, the slide spring described below does not have to be used. It definitely has to be used, however, when printing with nickel guides. This slide spring can be adjusted for position on a bar of its own behind the bar for the guides and, together with the pin, serves to drop the sheet onto the nickel guides. When changing the position of the left-hand guide (on the flywheel side of the bar), care must be taken that the slide spring is also moved to the new position. Therefore, the slide spring must always be beside the left-hand, adjustable nickel guide (flywheel side of press). To prevent the slide spring from being bent by the sideward movement of the left-hand guide, the following must be observed when adjusting the position of the slide spring.

First disengage the bar for the guides so that it can be moved up and down. With the platen open, the slide spring can be placed either to the right or to the left of the left-hand guide. If to the right of this guide, that is, between the two guides, then it must be pushed up to the guide with the bar raised to its top position. This, in most cases, is the normal position of the slide spring. If to the left, then the slide spring must be approximately 0.4" = 1 cm from the guide when the bar is raised all the way. This is necessary, because the bar for the guides moves sideward when pushing the sheet to the side guide. Check to see that when the bar drops down, the guide does not hit the slide spring. When placing the packing on the platen, the slide spring must be taken off.

This slide spring is also used on the Original Heidelberg 13" x 18" with brass guides and likewise serves the purpose to drop the sheet safely onto the guides.
Micro-Adjustment of Bottom Guides

The setting of the bar on which the movable bottom guides are placed, can be raised or lowered by two points at either bracket.

To do so, the hexagon nut is loosened with the small socket wrench. The small screw-driver is put through the hollow wrench and the bar adjusted higher or lower by turning the screw. Then the nut is tightened again with the wrench. The same adjustment can be made at the other bracket of the bar.

When the bar is in its top position against both brackets, then the setting is parallel and the lower paper margin is smallest.

The adjustment of the bar is used when printing stock which has not been cut at right angles or when making adjustments during register work.
Adjusting Side Guide

After loosening the cheese-headed screw, the side guide can be adjusted sideways by two points. When the side guide is in as far as possible, the gripper margin is \( \frac{3}{8}" = 6.5 \text{ mm} \) and when it is out as far as possible \( \frac{6}{16}" = 7.5 \text{ mm} \).

Minor adjustment for exact register can therefore be made without changing the forme.

Adjusting the Paper Tables

(1) Feed Table

The feed table can be raised or lowered if lever lifting pawl on ratchet wheel is pressed down. Then the feed table can be cranked up or down with the other hand. Please note that, if not disengaged, the delivery table will move reciprocally when feed table is raised or lowered.
(2) Delivery Table

If the delivery table reaches the top position against the stop, then the clutch which is situated at the right under the delivery table must be disengaged by turning the small hand-wheel counterclockwise. In doing so the delivery table, which is now disengaged, must be held with the left hand otherwise it will drop down. The delivery table can then be brought to any desired position independent of the feed table.

The delivery table can be pulled up by hand without loosening the clutch.
Obtaining Position

Obtaining Position when Printing without Bottom Guides

Place a few sheets of the stock to be run on the feed table which has been raised to its top position, and then pull a proof. Lay this proof on the feed table and correct the position of the side standards accordingly.

The centre mark on the chase, mentioned previously, simplifies the setting of the standards. If the forme, when locking up, is centred on this mark, then the centre of the front feed guide coincides with the centre of the sheet. Once position has been obtained, the feed table is cranked down and the stock loaded.

Getting Position when Printing with the Bottom Guides

When printing with bottom guides, the left-hand standard of the feed table must always be against the stop. When printing with nickel guides, the standards must be farther to the right than when printing with brass guides. The instruction plate on the left-hand standard, lower part, contains the necessary information.
Loading Stock

The stock to be run is loaded on the feed table in its lowest position. Before doing so, the left-hand side standard must be adjusted, for instance when printing with brass or nickel guides, because the left edge of the feed pile is adjusted accordingly.

Before loading the table, it is necessary to fan the stock, especially if it tends to hang together at the cut edges. The fanning of the stock prior to loading the feed table is very important if the run is to be completed with a minimum of stop-press time. A feed pile which has been properly prepared makes the work of the pressman considerably easier.

Loading Narrow Stock for Register Work

When printing with bottom guides on narrow stock which has to be loaded to the left, so that right-hand standard does not reach the pile, then the special standard shown in the illustration must be placed on the feed table and fastened with the clamping nut.

When this special standard is taken off, the clamping nut should be screwed into the bottom of the table from below, so that it is always readily available.
Sheet Steadier

When loading stock, the sheet steadier can be tilted upwards in order to make the table easily accessible. In the case of small sizes, the sheet steadier is first pulled back and then tilted up. After the stock has been piled on the table, the sheet steadier is pressed lightly against the pile and the clamping nut tightened. For especially long sizes, the two slow-down fingers, furnished with press, can be clamped on the left and right-hand sides of the sheet steadier bar. When printing long half sheets two-up, the middle slow-down finger can be used to separate the two piles.

Sheet Slow-Down Finger

There are stocks which tend to inch the next sheet forward on the feed pile when the top sheet is picked up, resulting in feed trouble. This is especially true for rough and light-weight stock. In such cases, the part pictured in the illustration is placed on the sheet steadier bar and clamped at the desired position to act as a sheet slow-down, thus preventing the next sheet from inching forward when the top sheet is picked up.
**Sucker Bar Slides**

Pink coloured sucker bar slide with metal inset and small holes for thin stock.

Red sucker bar slide with large holes for light stock.

Yellow sucker bar slide with larger holes for medium-weight stock.

When printing onion skin, the pink slide is carefully pushed onto the sucker bar. The small holes in the slide prevent the sucker bar from picking up more than one sheet at a time. The suckers beyond the edges of the stock have to be turned off.

For light stock, the red slide is best suited. The yellow slide can frequently be used for medium-weight stock. It results in a smoother pick-up and transfer of the sheets to the gripper. When printing at top speed, the slide prevents the sheet from striking against the suckers as it goes into the platen, providing in place of the single suckers a long, smooth surface in order to avoid the paper being torn.
Vacuum Release on Sucker Bar

For stock requiring very little suction air, for instance porous onion skin, the vacuum in the sucker bar can be reduced almost completely by turning the clip as illustrated, so that the vacuum release hole in the sucker bar is opened to a greater or less degree.

Rubber Discs for Cardboard

When running cardboard, place rubber discs, furnished with the machine, in the groove of as many suckers as strike the cardboard. The other suckers are to be shut off. When running extremely heavy cardboard there are special rubber discs available which are delivered on request only.
Lateral Adjustment of the Sucker Bar

Sometimes the holes of the suckers or of the slides do not hit the sheet correctly, that is, when the feed pile is in its correct position and the sucker bar in the suction position, the hole of one sucker is partially off the sheet. In such a case, the sucker bar must be moved to the right or to the left by the width of one sucker. When the sucker bar is adjusted correctly, the clamping nut is tightened again.

Changing the Angle of the Front Feed Guide

Stock that is not cut at right angles will sometimes necessitate changing the angle of the front feed guide. The two hexagon bolts on the base of the front feed guide must be loosened. By turning the right or left set screw on the front of the base of the front feed guide with a screwdriver, the angle of the front feed guide can be changed. The pointer indicates the direction of the angle. The hexagon bolts have to be tightened after adjustment is made.

After running the stock which was not cut at right angles, necessitating the change in the angle of the front feed guide, this guide has to be set back again, so that the pointer coincides with the mark on the instruction plate, as seen in the illustration.
Feed Air Blast

The best means of obtaining trouble-free sheet separation on the feed is by adjusting the air blast into the stock.

The adjustment of the strength of the air blast by means of the pet-cock shown in the illustration is best made while press is running.

For light-weight stock the air blast should be decreased. When running cardboard, the air blast pet-cock should be opened all the way.

Obtaining Good Sheet Separation on the Feed Table

In addition to the air blast loosening the top sheet of the pile, sheet separation is also aided by air blast from the side standards. Furthermore, sheet separation is improved by the sheet separator springs fastened to the front guide. These are adjusted as to their
height over the front edge of the stock through simply changing their position on the bracket by hand. The spring in the centre of the pile is clamped with the lower thumb screw and its height above the front edge of the feeder pile is adjusted by means of the upper thumb screw.

These springs are used for onion skin and all medium-weight stock.

When running cardboard, however, the above springs are retracted, and the springs at the right and the left corners of the feed pile are used. They must not extend very much over the edge of the stock, so that the sucker bar can pick up the cardboard. The heavier the cardboard, the less their distance over the edge of the stock should be.
Adjusting the Position of the Feed Blower

When running light-weight stock, the feed blower is placed in the upper position. When running heavy-weight stock or cardboard, it is dropped into the lowest position. The blower is set with the small handle which serves as a locking catch as shown in the illustration.

Setting Tilt of Sucker Bar

The correct tilt of the sucker bar can be adjusted while press is running. The indicator and the scale with the stock designation clearly show in which direction the adjustment has to be made. Care should be taken to tighten the upper locking nut once the adjustment has been completed.
Feed Lift

Depending upon the type of stock to be run, the handle has to be adjusted in such a way that the pointer is on the corresponding stock designation on the scale. In view of the fact that wavy, creased or electrically charged stock may cause pick-up difficulties, it is not possible to go exactly by the scale. In such cases, the most advantageous position has to be found for the feed lift to ensure uninterrupted printing. This adjustment can be made while press is running.

The indicator for the feed lift should normally be located on position NORMAL PAPER. When printing thicker cardboard and feed lift is not sufficient, the indicator is placed on the position CARDBOARD or HEAVY CARDBOARD. For adjusting the indicator use a spanner to loosen the hexagon bolt.

It will be advisable to replace the indicator on the position NORMAL PAPER after the job has been printed.
Button for Tripping Suction

If the press is to run without sheets being picked up, for example when ink is being run up, this button has to be pulled out. If paper is to be picked up, the button merely has to be pushed in. This can be done while press is running.

Automatic Throw-off

This screw regulates the automatic throw-off. If the press stops continually, although sheets are being picked up, the screw has to be turned counterclockwise. On the other hand, if the press continues to run even though no sheet has been picked up, the screw has to be screwed in. When the button for tripping the suction is pulled out, the automatic throw-off does not work.
Running Very Thin Stock

High printing speeds in running very thin stock, such as onion skin and bible paper, largely depend upon good sheet transfer from the sucker bar to the rotating grippers. For such jobs, the "Thin Stock Knob" should be pulled out. This enables the sheet to reach the lay edge smoothly since the suction of the sucker bar is still effective after the sheet has been passed to the gripper.

To run thin stock with the knob pulled out, place the pink slide (with metal covering) on the suckers.

With the knob pulled out, onion skin papers can be run better with less tilt or even without any tilt.

Place the sheet slow-down finger (illustration page 64) on the sheet steadier bar, and allow finger to rest lightly on rear end of feed pile. This ensures smooth feed of the sheet over the left-hand standard after the sheet is picked up from the pile.

Fanning the stock before loading and correct adjustment of sheet separators at the feed pile are very important if a job is to be completed with a minimum of press stops. Further hints on running very thin stock are given on page 23.

Push knob fully in when heavier stock or cardboard is run.
Extra Accessory for Printing Very Thin Stock (T 801/802)

The generally known difficulties in printing very thin stocks (onion skin) require special care.

The use of the "Extra Accessory for Printing Thin Stock T 801/802" on the 10 x 15" Original Heidelberg (not available for 13 x 18" OH) facilitates the running of extremely thin stock and ensures register at reasonably high production speeds.

The knob for thin stock (1) should be pulled out. Extremely thin stock tends to curl on the feed table. The wedges for the feed and delivery tables (2) help to eliminate curling by decreasing the slant of the feed and delivery piles. The feed tongues (3) which are placed on the feed control bar with the flat surface facing the sucker bar also help to prevent sheets from curling. The lower narrow paper stop (4) on the left side of the feed tables enables the thin sheet to glide smoothly to the platen.

When printing with lay guides, a third guide (5) is most important to support the thin sheet. This guide is placed on the lay bar in approximately centre position to the sheet. Two springs (6) positioned at both sides of the guides provide further support. Finally, the extension tongues (7) on both rotating grippers hold the lower sheet corner extending over the end of the gripper. This aid ensures that the sheet is taken safely to the lay guides. For running very thin stock, the use of the brass guides is recommended (when using nickel guides, remove extension tongues).
Standard
Two-up Feed

For two-up feed, for instance postcards or envelopes, the side feed standards on the machine are used. In addition, the partition standard, which is to be found in the drawer has to be placed on the press.
In the case of long sizes, it is recommended that a divider be placed on the sheet steadier bar between the two piles. Use one of the sheet slow-down fingers for this purpose.

Two-up of Long, Narrow Sizes

When printing without bottom guides, register depends upon an even feed pile, and for this reason, while printing long sizes, use two sheet slow-down fingers as side back guides, one on each corner of the pile, as shown in the illustration.
Two-up Feed, Small Sizes

For two-up feed of small sizes, the round bars supplied with the machine are used as side standards.

In the middle, the partition standard is used.

Corresponding slots are to be found in the paper table for fastening the round bars.

On the delivery, the usual side standards are employed with the partition standard in the middle.
**Delivery Pile**

After getting position, run a sheet of stock but stop the press before the gripper opens over the delivery table. Then set the long front side delivery standards to the right and left edges of the sheet. At the bottom of the sheet, the small movable side delivery guides are fastened to the delivery paper guide and have to be adjusted to the right and left of the sheet.

When feeding long, narrow-size sheets two-up, one of these delivery guides can be placed in the middle to get neat delivery piles.

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**Adjusting Rear Delivery Standard**

After the clamping nut shown in the illustration has been loosened, the rear delivery standard is slid backwards or forwards until there is a distance of half
Adjustment of Delivery Air Blast

The strength of the air blast of the travelling delivery blower is adjusted by means of the valve as illustrated. The air blast has to be adjusted in strength, depending upon the running speed, the size, and the kind of stock being run.

When running coated stock, for instance, the air blast prevents the printed sheet from touching the travelling delivery blower.

It is best to adjust the air blast while press is running, so that the effect of the adjustment can be seen immediately. Onion skin and light-weight stock, for instance, call for cutting back the air blast depending upon the running speed, while the full air blast has to be set for cardboard.

When running coated stock, full airblast should be adjusted on the delivery blower. To increase the effect it will do no harm to decrease airblast for feed.
Delivery Jogger

A jogger has been mounted on the right side of the delivery pile to get a neater pile. This jogger can usually be used when running porous stock, that is, stock on which the ink sets immediately.

After loosening the thumb screw, the collar can be moved and the position of the jogger plate adjusted with regard to the edge of the sheet.

The movement of the jogger is stopped altogether if the collar is pushed all the way to the right and, at the same time, the jogger plate is pulled back from the edge of the sheet.

When running coated stock tending to set-off, the movement of the jogger is locked by turning the small lever in front of the screw in a horizontal position (see illustration). The jogger plate, however, remains against the pile to improve delivery.

When the small lever is placed in a vertical position, the jogger is engaged and the jogger plate moves back and forth. This movement is pneumatic.
Running Business Cards with Register Guides

Small sizes, for instance business cards up to 1½” × 2¾”, can be run with register by means of the extended side guide. To use this extension side guide, merely screw it to the back of the bracket of the standard side guide as shown in the illustration. If the business cards are no longer than 2¾”, the right-hand nickel guide is the only bottom guide needed (see illustration below).

The stock in this case has to be piled up flush with the left, using the round bars. Care must be taken to see that the base of the left-hand bar is against the angle stop.

When using the extension side guide, only the nickel gauges can be used as bottom guides. Furthermore, to decrease the gripper bite, the two flat rods have to be placed between front guide and feed table, being hooked over the front guide.
The standard side guide can remain in the press and does not have to be screwed out.

The side guide extension, however, has to be screwed out after use to make sure, when running usual size stock, that the sheet is not thrown out of register by hitting two side guides.

Delivery of Small Sizes when Using Register Guides

The delivery is to the right with the normal side standard. At the left, the partition standard is placed in front of the delivery table. The slot in the base of the partition standard has been made especially long for this purpose. At the other end the stock piles up against the rear delivery standard.
Delivery of Small-Sized Stock

To improve the delivery of small-sized stock, a rod together with slide springs can be attached to the left-hand side standard (see illustration). The slide springs can be adjusted at different angles as required by the stock used in order to ensure trouble-free delivery. These slide springs should be used for printing envelopes. This will ensure that the envelopes are placed on the delivery table with closed flaps when a flap and the face of the envelope have been imprinted simultaneously. The flap of the envelope must, of course, be opened before being fed into the platen.

Decreasing Air-blast

If there is excess air-blast when printing thin stock, the valve on the pump can be opened by unscrewing it counterclockwise until the air escapes.
Mounting and Removal of the Ball Bearings from the Forme Rollers

Before a forme roller is placed into the machine, a ball race should be mounted upon both journals of the rollers. The ball bearings will ensure that the rollers run smoothly.

A device for removing and mounting the ball bearings has been attached to the delivery side of the machine.

When fitting a ball bearing, first slip on the roller runner. Care should be taken that the dog of the runner fits correctly on the bearing surface of the roller journal. Now the ball bearing is placed by hand onto the roller journal, and the roller is fitted into the lower boring of the device as shown on the illustration. Now the hand screw is turned down until the tip lodges in the centre bore of the top roller journal. When the hand screw is further turned, the ball bearing is pushed firmly upon the roller journal until it rests against the roller runner. Check whether the roller bearing runs smoothly. The same procedure is followed with the other end of the journal.

When the ball bearing races have to be removed, e.g. when the recoating of an inking roller is necessary, the roller, as shown on the illustration, is hung in the open crosspiece of the device. The hand screw is then turned down until the tip lodges into the centre bore of the roller journal. When the hand screw is further turned, the ball bearing is pulled off the roller journal. The removal of the second ball bearing is done in the same way.
Lubricating the Ball Bearings of the Forme Rollers

The ball bearings should always be kept clean. It is advisable to clean them from time to time in a cleaning solvent. After this has been done, they should be adequately greased. The head of the ball bearing can also be filled with a ball bearing vaseline. Such a filling will last about four weeks. The roller tracks should always be kept clean and dry.

Mounting and Removing Forme Rollers

The forme rollers are always placed in the press and taken out at the position shown in the illustration. The roller carriage, in this position, is approximately in the middle of the type bed. Before placing the forme rollers in the press, care should be taken that a ball bearing has been mounted on both sides of the roller journals.

The upper forme roller is always put in first. As is shown in the illustration, a forme roller with a ball bearing is pushed into the roller lock on the pump side. In doing so, the roller lock on the fly-wheel side is pushed out by the left hand pressing on the spring bar so that the roller can be lifted in horizontally without hindrance. The spring bar is now allowed to slide back, and the roller journal with the ball bearing slides into the open slot of the roller lock on the
flywheel side. Engage safety catch. The lower roller is inserted in the same way. When
taking the rollers out, the lower forme roller is always taken out first. It is only neces-
sary to put in or take out forme rollers when replacing them or when cleaning and lubri-
cating the ball bearings. The rollers can remain in the press at all times, as all can be
disengaged and because they, as well as the forme, can be washed with the built-in
washing device.

When having new rollers cast, give the following specifications to the roller manufacturer:
For rubber rollers:
Roller Diameter ........................................... 2" = 51 mm
Length of Rollers ........................................... 14¾" = 370 mm

All rollers are interchangeable. Only rubber rollers should be used for fast running machines
such as Original Heidelbergs, since they do not expand or contract and, contrary to other
casting methods, they can undergo heavy wear and tear. Good rubber rollers, as are
delivered with the Original Heidelbergs, can be compared favourably in regard to printing
quality with all other compositions without having their disadvantages.

Adjusting Roller Tracks

Each roller track can be separately adjusted so that it is possible to adjust the rollers to
exact type height. It is only necessary to loosen the two hexagon screws of each roller
track with a wrench, and then the small levers of the roller tracks can be raised
or lowered as needed. An adjusting scale is found on each lever indicating at "0" exact type height, which will
facilitate this adjustment.

In order to set the rollers to exact type height, a type-high gauge, such as that
shown in the illustration, is used. A 12 point rule could be used for this pur-
pose, too.

It is especially important to make an accurate adjustment when running rule
formes, because if the rollers are set too low, the rules will cut the rollers.
**Adjusting the Ductor Roller**

It is possible to adjust the width of the ink pick-up from 0—8 teeth of the ratchet wheel, the adjustment being made by means of a small lever on the ink fountain. The scale makes this adjustment simple. Each tooth increases the width of the ink pick-up by ⅛". The ink supply can be stopped completely if the lever is pushed back to "0", which automatically stops the movement of the ductor roller.

**Setting of Distributor Roller**

The distributor roller is simply placed into the open slots of both journals. This will automatically put the roller into the correct position between the large and small inking cylinders.

To protect the roller against wear and tear, it is advisable to set the adjusting screw seen on the illustration on both sides of the machine in such a way that the distributor roller only rests with slight pressure on the inking cylinders.
Adjustment of the Upper Steel Inking Cylinder

The pressure with which the upper steel inking cylinder presses against the distributor roller can be adjusted by turning the adjustment screws located on both sides.

Disengaging the Forme Rollers

The two forme rollers can be disengaged from the inking cylinder by raising the lever to the top, as shown in the illustration.

This device to disengage the forme rollers from the inking cylinder is used to good advantage when the press is stopped for a long period of time, so that the rollers will not be pressed flat. The device is also useful when running up ink. The forme rollers as well as all distributor rollers can always remain in the machine and need only be taken out for replacement.
Disengaging the Movement of the Inking Roller Carriage

The movement of the inking roller carriage can be disengaged on the 10 x 15" Original Heidelberg only. When the machine is stopped and the platen is closed, the pin is pulled out and secured by a locking lever.

The inking rollers are thus disengaged with or without contact to the inking cylinder, when as well as the swinging platen are then still more accessible.

The inking rollers are re-engaged only when the machine is stopped and the platen is closed: pull pin, turn locking lever upwards and let the pin engage.

Disengaging all Rollers

When the machine stands idle for a long period of time, especially after a day’s work, all rollers should be disengaged after cleaning. The two forme rollers are disengaged from the inking cylinder by means of the lever as previously mentioned. The upper small steel cylinder is tilted back. The rubber distributor roller under it is lifted up from its bearing on the flywheel side of the press and secured in this position by placing the catch under it. The vibrator roller is disengaged by placing the lever of the ductor roller on "0". Thus, all rollers remain in the press. Merely the steel rider for the forme rollers has to be taken out if it has been used. When beginning to print again, the rollers are replaced in operation position in a similar manner, but in reverse sequence, as described above.

The advantage of the device for roller and forme washing is that all rollers can remain in the press.
Running up Ink prior to Printing

On the Original Heidelberg the ink supply is interrupted when impression is off by the vibrator roller being automatically blocked. This prevents ink accumulation and double inking when printing.

When running up the ink prior to printing (at which time the impression lever is off) the blocking of the vibrator roller is interrupted by pressing down the lever seen in the illustration, and then the latch is put into its locking position.

When throwing on impression, the latch crops away automatically. When running up ink, care should be taken that the button for tripping suction, which has been described elsewhere, is pulled out and that the forme rollers are lifted from the large inking cylinder.

Setting the Ductor Roller against the Duct Cylinder

If it is found that the ink pick-up by the doctor roller is not parallel or that the doctor roller does not transfer the ink to the steel reciprocating cylinder along its full length, the following adjustment has to be made. The press is turned by hand until the doctor roller is against the duct cylinder. Then, with a wrench, the clamping screw of the outer roller bracket is loosened and the doctor roller is pressed against the duct cylinder with the other hand. The adjustment of the roller is checked by means of a strip of paper along the entire length of the roller.
After the vibrator has been accurately set in this way, the small steel reciprocating cylinder in turn is adjusted to pick up ink evenly from the vibrator. The machine is turned over until the vibrator roller has been moved to the other side and is against the small steel reciprocating cylinder. By means of a T-handle socket wrench, the two hexagon screws of the flange bushing of the steel reciprocating cylinder are loosened. The flange bushing is then brought into the desired position, so that the vibrator roller evenly touches the steel reciprocating cylinder along its entire length. Retighten the screws and, by means of a paper strip, check to see whether the vibrator roller is lying evenly against the cylinder all along the way.

**Positioning Rider**

The rider roller (extra accessory) is not supposed to distribute the ink. Its purpose is to store up ink, and for this reason it is only used on jobs on which "ghost" or repeat marks are likely. For light formes, tables, etc., the use of the rider roller is of no advantage. The rider roller is not pressed down on the forme rollers by springs. This would tend to act as a brake on the forme rollers. Instead, it is placed up on the forme rollers with slight pressure, and the setting of the bearing cannot be changed. The rider roller has ball bearings which guarantee easy movement. It is placed in position when the roller carriage is at the top of the inking cylinder. Position the rider roller upon the forme rollers in such a way that the slotted guide pieces coincide with the small extensions of the forme roller brackets. Then the four-cornered clamping pieces are placed in position, held by hexagonal bolts as shown. When these bolts are tightened with a wrench, the ride roller has to be pressed lightly against the forme rollers. Then the proofs are checked for even ink coverage. When working without the rider roller, it is recommended that the bolts and the clamping pieces be removed from the machine entirely.
Roller Rack

The roller rack we supply for storing the rubber rollers, which are kept in reserve, should be hung up in a dark location, if possible. The rubber rollers should never be subject to the direct effect of sun rays.

Many printers use for the light colour tones a second set of rubber rollers, while the other set of rubber rollers is used for all dark coloured inks. The set of rubber rollers not in use should be brushed over with linseed oil from time to time.

Washing the Rollers

The built-in roller washing device makes it possible to clean all rollers and inking cylinders without taking out the rollers. The type forme is cleaned simultaneously.

This makes a colour change-over possible in a matter of minutes.

The machine is started and set at lowest possible speed so that, when the rollers are washed, the ink sludge will not be thrown out.

Then the tube of the cleaning fluid container is taken down and the cleaning fluid, which flows through the tube by force of gravity, is poured on the large inking cylinder as shown in the illustration. The tube should be moved back and forth.

The pressman stands behind the machine when doing this.
Roller Cleaner

At the same time, the catch of the washing device is turned up as shown. This makes it possible to press the rubber cleaner against the large inking cylinder by means of the handle. The ink sludge flows into the catch basin. The rollers are clean in less than a minute. After the machine has been stopped, the rollers can be rubbed dry. If any ink remains on the rollers or the forme, additional cleaning fluid is poured on. Then the catch securing the handle of the rubber cleaner is again turned down.

It is most important to remove all ink residues from the rubber blade after every roller wash-up in order to prevent them from drying.

Emptying the Sludge Basin

After the rollers have been washed several times, the sludge basin has to be emptied and thoroughly cleaned. The catch is turned up, and the basin is pulled out by its handle towards the flywheel. Care must be taken that the ink sludge does not spill out.
After cleaning, the basin has to be put back in the press and secured by turning down the catch.

**Washing up the Ink Duct**

In order to wash up the ink duct quickly, the tube of the cleaning fluid container is used as shown in the illustration. As much cleaning fluid is poured into the duct as is needed.
The ink is rubbed off with a rag and, for this purpose, the ink knife is dropped back as shown in the illustration.

Dropping the Ink Duct away from the Duct Cylinder

The thumb screw is given two turns anti-clockwise and the head of the screw pushed back. Now the ink duct with the ink duct sides can be dropped back from the duct cylinder. This makes washing up the duct between colours much easier.

After the wash-up, the ink duct is pulled up and secured by tightening the thumb screw lightly, as shown in the illustration.
Using the Frisket Fingers

It is the purpose of the frisket fingers to push back the printed sheet from the forme when printing solids. They are also used, however, when printing rule formes, for instance on wavy paper, to prevent slurring.

Compared with other platen presses, it is seldom necessary to use the frisket fingers on the Heidelberg, as the sheet is gripped on the side by the feed grippers and also because air blast peels the sheet off the forme. If the frisket fingers are to be used, the slotted bar on which they are fastened is bolted to the bracket on the left side of the platen. The slotted bar is introduced into the sleeve of the bracket in such a way that the pin rests in the milled slot. The threaded pin is then screwed tight with a screwdriver to secure the bar. Next, the necessary frisket finger is fastened with a T-handle socket wrench and, of course, the frisket finger has to be placed on the margin of the forme, in a gutter or other clear space. The cross fingers are likewise adjusted in this way. The position of the frisket fingers and the cross fingers can
best be checked by pulling them back against the platen. To do so, disengage the index lever which is on the base under the right side of the flywheel. The index lever engages again automatically when the press starts up.

If the ink is too tacky, it has to be doped with linseed oil or paste, or otherwise, when the sheet is pulled off the forme, there will be a curved slur on the inside edge. The ink should always be doped before use, unless a special ink is available which can be used straight out of the tin. The attachment and use of the various frisket fingers may be seen on the following illustrations.

The illustration shows the use of the frisket finger with twin cross finger. The teeth cut into both sides of the frisket finger prevent the twin cross finger from changing its position.
Special care must be taken, of course, to see that the frisket finger and the twin cross finger do not hit the forme.

For small sizes of stock, the frisket finger off-set toward the inside is used, on which the single cross finger can be placed if needed.

This illustration shows the frisket placed on the margin. The frisket is off-set to the outside. As shown on the illustrations, the lay guides should not be placed at the locations where
the frisket finger has been placed. They should always be placed to the right or left of the frisket finger on the off-set side piece.

The straight frisket finger with two single cross fingers is shown in the illustration below.

Compressed Air for the Spraying Apparatus

If the spraying equipment is to be used, the disc valve at the lower end of the air pump has to be closed. This automatically furnishes the required compressed air, so that the spraying apparatus can automatically atomize the spraying solution. It is important to open the disc valve and let the air escape when the spraying equipment is not in use, because otherwise there will be an unnecessary load on the pump.

The disc valve can also be adjusted in such a way that some of the air can escape, e.g. when small printing areas are to be sprayed or when the machine is running at high speed.
Air Blast Holes in Roller Track

In the right-hand roller track there are holes for the air blast which peels the sheet off the forme and smooths out the sheet when the gripper pulls it away from the forme. These air blast holes have to be cleaned from time to time and the dust removed, so that the air blast can function properly.

Heidelberg Anti-Set-Off Powder Spray

When running jobs which tend to set off, the powder spray device is used. The Heidelberg spraying apparatus is designed to handle all suitable spray powders available on the market.

When using the powder spray apparatus, the valve of the air pump (see page 98) should be adjusted by increase or reduction according to the speed of the machine, for only a small amount of air-blast is necessary for powder spraying. Furthermore, when the spray apparatus is not in use it is necessary to open the valve completely so that the oil lubricating the pump is blown away, or it will enter the tube connecting the pump with the spray apparatus.
A valve is located on the side of the cover by which the amount of powder to be used for spraying can be increased or reduced. It is important to ensure that the freshly printed sheets receive as small an amount of powder as possible. The powder spray should be hardly visible against a dark background (black sheet). Never fill the powder container to the brim. Both jet pipes should be cleaned regularly with a brush. It is just as important to clean the holes in the jet. Before the extension pipe is pushed in again, slightly grease it on the outside.

The powder dust which settles on the machine absorbs the oil at the lubricating points and thus affects lubrication. It is, therefore, very important to clean the open lubricating points daily and to re-oil them. A valve coupled with the impression lever is fitted at the cover T 0157 of the base into the hose connecting the air pump and powder spray device. When throwing off impression, the supply of blow air to the powder spray is simultaneously interrupted. With the impression set again the powder spray device is automatically switched on.

Sheet Counter

The machine is equipped with a sheet counter which can be set from the pressman’s position in front of the machine. At the beginning of a run, the counter is set on “0” as shown in the illustration. The counter only counts printed sheets. It does not register when the impression is off. If, in the course of time, the counter has to be readjusted, proceed as follows:

1. Turn the platen to exact printing position. Impression must be on.
2. Then loosen the hexagon screw on the side and adjust the plunger in such a way that the digit has just been turned over, but so that the lever cannot move farther than is necessary to trip the digit. Press the striking gear to the inside and retighten the hexagon screw. Adjusted in this way, the sheet counter should register when impression is on, but when impression is off, it should not turn over.
Retightening Clutch

This adjustment might be necessary after a long period of operation. The adjustment becomes necessary when the flywheel no longer turns over the press with impression on.

The adjustment is very simple. Loosen the locking nut with a wrench and turn the slotted screw with a screw-driver no more than half a turn clockwise. Then retighten locking nut. The same is done with the slotted screw directly opposite. This minor adjustment will be enough in most cases. Both screws must always be adjusted together.

Tools and Accessories

The tools required for operating the press and the partition standards, the frisket fingers, etc. are placed in a drawer under the machine table base immediately accessible from the pressman's position in front of the machine.

Tools and accessories should always be put in proper order to enable the pressman to find the required tool always ready to hand.
Safety Device against Overload

In up-to-date machines such safety devices are used when the danger of overloading exists. The Original Heidelbergs have such a safety device against overloading in order to protect them against damage due to carelessness.

As the toggle-lever drive of our automatic platens results in tremendous impressional strength overcoming all resistance, such a safety device protects the press against overloading. The safety device goes into effect as soon as the maximum impression is exceeded. This maximum impression is much higher than that required for printing a forme filling the entire chase. The safety device works as follows.

The toggle-lever bearing transfers the pressure developed during impression to the hardened thrust-collar.

If the collar is sheared through by excessive pressure, the impression is automatically thrown off. The replacement of the broken ring only takes a few minutes and can be done by any pressman without difficulty and without special tools. The collar may not be entirely sheared through but only show signs of fracture; nevertheless, it must be replaced by a new one. The ring is replaced as follows:
The five hexagon screws as well as the centre screw and the end disc are screwed out with the wrench supplied with the press.

Then the broken ring with the thrust-collar pushed into it is taken out. Remove the sheared-off collar from the thrust-collar. If it jams, it should be knocked out.
The illustration shows the collar sheared into two pieces.

First place the disc, the new shearing collar, and finally the thrust-collar on the centre bolt.

Screw the centre bolt in first, so that it can be tightened easily later. Not until then are the remaining bolts screwed in; and finally all five pulled tight, one after the other. Special care must be taken to tighten all five bolts evenly and firmly. The safety catch for the centre bolt must be attached to one of the outer bolts in such a way that the angle to the centre bolt is the most convenient.
Turning back the Swinging Platen — In case of emergency only

It may happen by some incident or accident that the press will stick on impression while neither the swinging platen can be moved any further nor can the impression lever be shifted. If in this case a re-adjustment of the clutch (see page 101) does not help, it becomes necessary to turn back the swinging platen.

For this purpose the white painted safety catch is to be slightly lifted from underneath by a screw driver. After a few attempts to move the flywheel, it can be turned backward, that is in reverse to the normal direction so that the swinging platen is released from the forme.

By no means should the swinging platen be moved more than $\frac{3}{4}$" or at the most $\frac{7}{8}$" (1 to 2 cm) back from the forme, otherwise this will involve the risk of blocking and damaging the gripper mechanism.

Such damage would preclude the processing of register work and, should it occur, a qualified fitter should be called to carry out the resultant, necessary repair work.

It would be best to move back the swinging platen only so far as would make it possible to disengage the impression lever. Afterwards the machine can again run in forward direction without impression.

With the Original Heidelberg 10×15", the pressman can help himself by loosening the 6 bolts with which the end disc at the back of the machine is fastened (see illustrations on page 103). Thus the pressure is released and the impression lever can be disengaged.
Replacing Gripper Rubber Pads on the Original Heidelberg 10 x 15" and 13 x 18"

The grippers carrying the sheets from the feed pile to impression and further to the delivery pile are provided with rubber pads. These pads ensure a firm and even gripper bite for all types of stock. After several years of operation, especially when rough stock has frequently been run, these pads become worn. The following is a description of how every pressman can replace these rubber pads himself.

Material required:

(1) Double-sided adhesive foil of good quality.

(2) Sheet rubber of approximately 0.010" (0.25 mm) thickness, such as is used for printing of halftones on Original Heidelberg Platen Presses. (Do not use a fabric type blanket.)

Strip off a sheet of double-sided adhesive of sufficient width and of a length corresponding to that of the grippers, and apply to its unprotected side a rubber sheet of equal size. Cut the sheet into strips of 5/16" (8 mm) width and attach them to the steel grippers after having removed the protective layer of the adhesive foil. Thus the side with the rubber blanket is on top. Care should be taken that the rubber strip lies entirely flat on the gripper.

Illustration 1 shows the protective layer being removed from the adhesive.

Illustration 2 shows the rubber strip with adhesive being attached to the steel gripper and pressed down.

Illustration 3 — scissors are used to cut away the rubber at the side guide opening in the gripper blade.

It is very important that afterwards the grippers should not be cleaned with petrol or similar washing solvents, because this would entail the risk of the rubber strips peeling off again. It would be best to use a dry rag for cleaning.
Special Adjustments

on the

ORIGINAL HEIDELBERG

13³/₈" x 18¹/₈" — 34 x 46 cm
INDEX FOR ADJUSTMENTS

on the ORIGINAL HEIDELBERG 13\(\frac{3}{8}\)" x 18\(\frac{1}{8}\)" — 34 x 46 cm
which differ from those described
for the ORIGINAL HEIDELBERG 10\(\frac{1}{4}\)" x 15" — 26 x 38 cm

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Inserting the Forme Rollers

It is easiest to place the forme rollers in the press when the roller carriage is in the middle of the forme. Before placing a roller into the press, care should be taken that a ball race has been mounted on each end of the roller stock. The mounting and removal of the forme roller ball bearings are done in the same manner as already described for the Original Heidelberg 10½" × 15½".

First place the lower roller in position. From the flywheel side of the press, the journal of the roller with the ball bearing is first introduced into the roller socket on the opposite side. Then the roller socket on the flywheel side is pulled out and the journal of the roller with the second ball bearing inserted in the socket of the roller lock.

As shown in the second illustration, the safety catch is pulled out so that the roller journals can drop completely into the roller lock. When the safety button is allowed to slide back, the safety pin should lock in front of the ball bearing. The middle and the top rollers are put into position in the same way.

Very light jobs can be run with the two upper forme rollers alone. It is not absolutely necessary to use all three forme rollers.

When having rollers re-cast, specify the following:

Rubber Rollers: Roller Diameter 2¼" (51 mm), Length of Rollers 17¼" (455 mm).

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Lubricating the Ball Bearings of the Forme Rollers

The ball bearings should always be kept clean. It is advisable to clean them from time to time in a cleaning solvent. After this has been done, they should be adequately greased. The head of the ball bearing can also be filled with a ball bearing vaseline. Such a filling will last about four weeks. The roller tracks should always be kept clean and dry.

Adjusting the Distributor Rollers

The distributor rollers can be adjusted very easily without tools. The rollers are adjusted correctly if they touch lightly. In this position, the locking nut is retightened so that the rollers cannot shift while press is running.
Disengaging Rollers

All rubber and steel distributor rollers can be disengaged with the handle which is located left of the lever of the central lubrication system. It is, therefore, not necessary to take these rollers out of the press at night when work is done or when the press stands idle for a long period of time. The possibility of disengaging the rollers is also advantageous when washing the rollers or when taking off surplus ink.

The forme rollers can also be disengaged with a handle on top of the inking unit. Disengaging the forme rollers is of advantage because it is now possible, with the forme in place but the forme rollers disengaged, to run up ink without inking the forme. All the rollers can be disengaged while the press is running.

Due to the fact that all rollers can be washed with the built-in roller washing device, it is possible to leave all the rollers in the press at all times. They need only be taken out for replacement or for cleaning and lubrication of the ball bearings.

Running up Ink before Printing

Similar to the Original Heidelberg 10×15", ink supply is interrupted by the vibrator roller being automatically blocked when impression is off. To run up ink (when impression is off), the lever seen in the illustration is pressed down and the latch located behind placed in front of the catch. When impression is thrown on, this latch drops away automatically.
**Inserting Steel Riders**

The purpose of the steel riders (extra equipment) is not to distribute ink but rather to store up ink. For this reason they are used for jobs on which "ghost" marks are likely. The use of riders is of no advantage on light formes, rule formes, etc. In order to prevent excessive wear and tear on the forme rollers when using the riders, the bearings of the latter have been especially designed. These riders are not pressed down on the forme rollers by springs which would prevent the forme rollers from turning over, but are merely placed against the forme rollers with slight pressure, and this setting does not change. The use of roller bearings for these riders guarantees least resistance. Riders are placed in position when the roller carriage is up by the inking cylinder. First place one rider between the lower and the middle forme rollers. Then, first at the left and then at the right, slip the bearings over the bolts. The sprung safety catches are then inserted. Then the rider is pressed lightly against the forme rollers, and all four screws are tightened lightly with the socket wrench furnished with the press. When the rider is in the correct position, the screws are tightened.

The same is done with the upper rider.

If the rider rollers, contrary to our recommendations, are not placed on rubber rollers but on rollers that swell as a result of their warming up, the rollers should be readjusted every half hour. If this is not done, the swelling forme rollers may exercise too much pressure resulting in possible damage.
Readjusting the Friction Tracks of the Forme Roller Runners

A friction track has been attached to the roller tracks with screws. The purpose of this friction track is to prevent the rollers from slipping when inking the forme and also when reversing. As mentioned above, the friction track is attached to the roller track and is automatically adjusted when the roller track is adjusted. Only when the lining has been worn it is necessary to move the friction tracks slightly forward. To do so, the three hexagon screws are loosened. Such a readjustment of the friction tracks is necessary in order that the outside roller runner presses down sufficiently on the friction tracks. Special care should be taken when adjusting the friction tracks, because it is essential that the friction tracks do not lift the runners off the metal tracks. The friction tracks should not be higher than between ½ point and one point of the regular roller tracks. The screws have to be tightened securely after the adjustment has been made, so that they do not become loosened. On the other hand, the friction tracks must not be set too low, for then they will not fulfill their purpose at all. It should be checked from time to time whether the outside runners are still moving on the friction tracks, as after long use the friction lining will be worn down.

Washing Rollers

Rollers are washed, as with the Original Heidelberg 10"×15", by means of the built-in roller washing device. The only difference is that the roller cleaner is pressed against the large inking cylinder by hand with the rod and ball handle at the back of the machine, and is kept there until all rollers are clean. It is most important to remove all ink residue from rubber blade after every roller wash-up in order to prevent them from drying.
Removing Sludge Basin

After the rollers have been washed 3 or 4 times, the sludge basin has to be pulled out, emptied, and cleaned. Unlike the Original Heidelberg 10" x 15" this can only be done when the press is standing still. It is best that the forme rollers be on the inking cylinder when the sludge basin is taken out.

The red catch is turned up. Then, with the left hand, the white ball handle is pressed in slightly and the sludge basin pulled out a little way. This done, the ball handle can be let go. Now the sludge basin can be removed with both hands. Then the basin is carefully cleaned and placed back in the press. Care must be taken that it fits properly. Finally, the red catch has to be locked again.
Regulation of the Impressional Strength

The impressional strength is regulated by means of a scale and pointer. On the Original Heidelberg 13" x 18" this scale and pointer is on a bracket bolted firmly to the base. It is best to adjust the impression when the platen is almost closed. For the adjustment a T-handle socket wrench is used, as shown in the illustration. At the right is the scale showing strongest and weakest impression. When the pointer is set on "0", the impression is weakest, as would be used, for instance, when printing rule formes. The pointer must be tightened thoroughly with the T-handle socket wrench, so that the impression will not change during the run. When changing formes, always start with 0 impression.

Throwing Impression on and off

The impression is thrown on by lifting the easy-to-handle stirrup grip and engaging it on the pointer. The impression is thrown off by pushing the grip downwards. See illustration.

Adjustment for Printing with Register Guides

The Original Heidelberg 13" x 18" has only brass guides. It is not necessary to adjust the stop for the left-hand side feed standard as is the case on the 10" x 15". The left-hand side feed standard of the 13" x 18" is merely pushed against the stop and locked.
**Frisket Fingers for the Platen**

The frisket fingers serve to push the printed sheet away from the forme when printing solids. They can also be used to prevent slurring when printing rule formes.

As is the case with every other platen press, the frisket fingers can be moved on the frisket finger bar. As shown in the illustration, the hexagon nut is loosened for this purpose. Frisket fingers are not used as frequently on the Heidelberg as on other platen presses, because the rotating grippers hold the sheet and pull it away from the forme. The frisket fingers should only be placed in margins or gutters of the forme. For this reason, the press is equipped with narrow, wide, and short frisket fingers. When printing with register guides, the frisket fingers must be to the side of the register guides, otherwise the guides will be damaged.

The frisket fingers are serrated on both sides, so that during the run the cross fingers cannot move and damage the forme. A string can also be stretched from one frisket finger to the other if the margins or the gutters are not wide enough.

When using frisket fingers, always use the nickel plate guide for the fingers. Furthermore, the press-board slide supplied with the machine has to be placed over the frisket finger and the frisket finger guide plate. This prevents the sheet from being torn.

The illustration shows the adjustment.
Collapsible Feed Table

The feed table can be turned down. To do so, the rear part of the table is grasped with both hands and pulled out, and then it can be turned down. This makes it possible to get near the platen when packing it or making ready. Afterwards, the feed table is pulled back up into position.

Air Blast Holes in Right-hand Roller Track

The air blast holes in the roller track must be cleaned frequently with a wire to prevent them from getting clogged up. It goes without saying that when the air blast holes become clogged up, the air blast is ineffective and the sheet does not deliver properly. The air blast also helps to separate the printed sheet from the forme, so that in many cases it is not necessary to use frisket fingers.
Chase Catch

The chase of the Original Heidelberg 10×15" is held on the type bed by a chase catch which is secured by an adjusting screw.

The chase catch of the Original Heidelberg 13×18" is slightly different from that. To release the chase, the chase catch is lifted by the tommy bar which is supplied with the machine.

Safety Device against Overload

The lever which is on the shaft of the eccentric behind the pump is pivoted on a shearing bolt and connected to the impression lever of the machine by the impression bar. The shearing bolt protects the press against heavy overloads, for instance, when several sheets which are stuck together are fed into the press.

In case of overload, the bolt breaks with an audible snap. If this happens, the press should be shut off immediately and the broken bolt replaced.

When the bolt breaks, the lever on the shaft of the eccentric drops back to the stop on the base of the press. If the lever is not found in this position, it is pressed against the stop by hand. The two broken parts of the bolt can then be pushed towards the main base, and taken out, one after the other. The centrepiece of the bolt in the impression bar is removed after the grub screw has been screwed out.

Then the holes in the lever and in the impression bar are lined up and the replacement bolt pushed into the holes with the cimple upwards. Finally, the grub screw is screwed into the impression bar and tightened. Care should of course be taken that the grub screw hits the cimple provided on the part of the new shearing bolt.
Tools and Accessories

Several holes have been made in the right-hand side of the main table base. In these holes have been placed the following tools, which are always required when working with the machine:

1. Tommy bar with handle for the chase catch,

1. Large screwdriver used especially for taking out and putting back the three tympan bars,

1. Small screwdriver for adjusting the register guides,

1. T-handle socket wrench for adjusting impression.

The remaining tools and other accessories like partition standards, trisket fingers, etc. are placed in the drawer below the main table base.

In the small, lateral drawer are small parts, such as the pins for the bottom guides, the rubber discs, the duct separators etc.
Extra Accessories

On the following pages, a few of the extra accessories are illustrated which can be supplied to our customers when they are engaged in doing unusual jobs which cannot be produced on our machines with the standard equipment.

Detailed pamphlets are available for most of these extra accessories. If a customer is interested in any of these extra accessories, we and our representatives will be pleased to furnish any additional information. Apart from a few exceptions, which are described underneath the illustrations, the extra accessories are obtainable for the Original Heidelberg 10 × 15" and the Original Heidelberg 13 × 18".
Tilting feed table (Group 321)
for printing block-bottom paper bags,
piling up unequally on one side. This
device is designed for printing two-up.

Tilting feed table (Group 322)
for printing block-bottom paper bags,
piling up unevenly on two sides. This
device is designed for printing two-up.
The feed table can be tilted side-ways.
(Extra device for group 321)
Available for Original Heidelberg
10 × 15” only.
Device for printing open cut-out envelopes without lay gauges.
Group 402

Device for printing small sizes three- and four-up (tags, bags, etc.)
Group 331

<table>
<thead>
<tr>
<th>Width of Stock</th>
<th>Maximum size three-up</th>
<th>Minimum length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10 x 15&quot;</td>
<td>11/16&quot;</td>
</tr>
<tr>
<td></td>
<td>2 1/2&quot; to 3 3/8&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 3/16&quot; to 2 1/2&quot;</td>
<td>approx. 1 3/4&quot;</td>
</tr>
</tbody>
</table>

|                           | 13 x 18"              |                |
|                           | 2 3/4" to 4 1/3"      |                |
|                           | 1 3/8" to 2 3/4"      | approx. 2 3/4" |
Device for printing open cut-out envelopes and other shapes cut at oblique angles using lay gauges.
Group 381
Extra device for group 402 with various lay gauges. (In order to ascertain which lay gauges are necessary for the job, please submit stock samples.)

Same as group 381 as required for stock die-cut at sharper angles.
Group 382
Here special short grippers and higher lay gauges are required.
Device for printing slightly curved shapes (without lay gauges) (Group 441)
e. g., fat wrappings, paper cups, scales for measuring instruments, etc.
Bottom lay gauges with collapsible flat spring
Group T 781
for jobs without sufficient margin for a lay pin.

Bottom lay gauges for printing without paper margin. These are often used when printing bookkeeping forms, card files, etc., where the type matter or the rules have to be printed right up to the paper margin. T 0272/73. Available for Original Heidelberg 10 x 15" only.
Device for printing irregularly shaped labels for bottles (two-up).
Group 403
Available for Original Heidelberg 10 x 15” only.
Supplementary device for 403 for feeding labels cut at oblique angles
(Group 404) Available for Original Heidelberg 10 × 15" only.

Device for printing curved shapes with lay gauges
(extra device for group 441)

For slightly curved shapes: Group 492
For sharply curved shapes: Group 492 with short grippers and special high lay gauges.
(Please submit stock samples.)
Device for printing circular and oval discs, such as beer mats, milk bottle tops, etc., feeding two-up.

Group 494
**Adjustable sheet steadier** to handle sheets of unequal sizes when printing two-up

Group 521

Device for increasing the range of adjustment of the bottom lay gauges when the Original Heidelberg is also used for die-cutting, or a larger paper margin is required for fully utilizing the forme. Group 461
Adjustable sheet counter Group 255
with electrical contact device for stopping the machine. The sheet counter is adjusted
to the desired number of sheets. As soon as the adjusted number is reached, the machine
is automatically thrown off. (When placing order, please state type of current and voltage.)

Device for heating the ink duct (ink fountain) for carbon ink printing Group 721
Die-cutting plate made of high-grade steel for attaching to the platen when the Original Heidelberg is used for die-cutting work. Group 552

Imposing Surface Group 651
Chase with centre bar 294.001

Chase fitted with locking screws for use when it is not possible to insert quoins within the forme 296.001

Chase with longitudinal centre piece 295.001
Device for running rigid material (Group 862). Available for Original Heidelberg 13 x 18" only.
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AKTIENGESELLSCHAFT

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By the end of 1974, we have delivered 155,000 ORIGINAL HEIDELBERG Platen presses. Since 1962 more than 43,000 HEIDELBERG OFFSET presses for sheet sizes of 40 x 57 cm (15 5/8 x 22 3/4") up to 71 x 102 cm (28 x 40") have been installed. To demonstrate the printing quality of our offset presses, this reprint of the operation manual was accomplished on HEIDELBERG OFFSET Presses of the K and S-line series.
This is the Heidelberg Platen Printing Press 10 x 15" (26 x 38 cm) with special equipment for hot stamping of gold and colour roll foils (TP).

For gold and colour roll foil embossing on the 10 x 15" (26 x 38 cm) model, with serial No. T 160 001 onwards, an efficient, reliable and easy-to-handle device can be supplied at low cost. It consists of a heating plate with temperature probe, foil feeding mechanism with re-winding device (see illustration below) and waste container, and foil guide equipment. The maximum stamping area is approx. 2¾ x 2½" (10 x 10 cm). The foil roll is fastened beneath the typebed. Passing the disengaged inking rollers and the feed rollers, the foil band runs over the heating plate with stamping die. The waste roll foil may either pass on into the waste container or it can be re-wound automatically. Speed: up to 5,500 sheets per hour. Heating capacity: approx. 900 watts.
Jobs stamped with gold foil — produced on the TP

The samples on this page are typical jobs produced on the 10 × 15" (26 × 36 cm) Heidelberg platen with foil embossing device. This press is thus ideal for attractive decoration of prints with foil stamping up to a size of approx. 2½ × 2½" (10 × 10 cm) at very reasonable cost. A small investment will enable you to participate in this very interesting and constantly growing market.

A very important advantage: once the foil embossing device is fitted, it may remain on the machine, with the exception of the heating plate and foil guide bars, when normal printing jobs are done. The TP model as well is universal and changing over from foil stamping to printing and from printing to foil stamping resp. is quick and easy.
Jobs with foil stamping on the GTP

greeting cards, luxury packaging, badges, certificates, labels, ring books, display cards and calendar boards, even inner soles for shoes or hat linings become more attractive by brilliant foil stamping.

All these jobs are produced with excellent results on the well proven Heidelberg Special Cutter and Creaser for Hot Stamping of Gold and Colour Roll Foils 13 × 18" = 34 × 46 cm (GTP). Unlike the TP, this Heidelberg platen is a specialty machine. The larger size can almost fully be utilized for foil and hot stamping. The press is very economical for jobs printed several-up or for side-by-side stamping of up to four roll foils. Gluing of transparent foils for window-packagings is another field of application. Blind-embossing, die-cutting, cutting, creasing, scoring and perforating can also be made on this efficient platen.
This is the Heidelberg Special Cutter and Creaser for Hot Stamping of Gold and Colour Roll Foils 13 x 18" = 34 x 46 cm (GTP).

Far more than 1000 of this efficient Heidelberg specialty platen have been installed within a few years. The unusual sales success is due to the fact that the machine incorporates technical features that are ideal for the production of magnificently decorated printing and luxury packagings. Here are a few interesting details:

Temperature regulator adjustable up to 390°F (200°C). Heating plate with 500 register holes. Simultaneous stamping with up to four different roll foils up to a width of 4 1/2" (11.6 cm). Three different feed lengths. Extra device for single leaf rolls to a maximum width of 11 3/8" (30 cm). Exact feed of foils by means of guide bars. Two re-wind devices enable re-winding of stamping foils which were not fully utilized. Speed: up to 4,000 embossings per hour, when using 4 different foils up to 16,000 embossings. Heating capacity: approx. 3,000 watts.