Stages in the Makeready Process

Blind Embossing
Combination Stamping and Embossing
Flat Stamping

Reference Guide

B & K Support Products, Inc.
IMPORTANT NOTICE:

Before attempting any makereadies, carefully read and follow all safety precautions listed in your Press Operator’s Manual.

The press used in the video is a 14 x 22 KLUGE EHD Series Press. The techniques demonstrated, however, apply to all platen-style foil stamping, die-cutting and embossing machines.
Blind Embossing

Stage 1: Assemble Materials

A. Tools for Setting Up the Press
   - Kluge Automatic Platen Press Oil
   - Allen wrench
   - Screwdriver
   - 5/8" wrench
   - Toggle hooks and key
   - T-square
   - Pica stick
   - Optivisor

B. Counterdie Tools and Materials
   - Grayboard and capping board, cut to size of die
   - Packing materials
   - Counterdie powder and liquid
   - Disposable mixing cups
   - Mixing stick (can be putty knife, etc.)
   - Makeready glue
   - Mylar release film (or non-stick spray)
   - Duplofol double sided tape
   - Masking tape
   - Cover sheet (bond paper)
   - Clean-up knife
   - Makeready knife
   - Water spray bottle

C. Job-Specific Materials
   - Artwork for job (keyline/mechanical or sample)
   - Die(s)
   - Proper & sufficient stock for run
   - Suckers, gripper fingers, sheet holder tongue and diecutting plate appropriate to stock

NOTES:

Stage 2: Clear the Press

A. Inspect and Lubricate Press
   - Clean off dust, paper, oil and chad
   - Oil all points indicated in oiling chart
   - Check reservoir and prime system if press has automatic oiling system

B. Open Magazine
   - Lift lock handle on left leg of magazine
   - Swing magazine to the right 1/4 turn
   - Slide magazine side guides to left & right ends of magazine base

C. Lock Back Delivery Arms
   - Pull delivery arms toward you as far as possible
   - Lock open with delivery lock, on outside of delivery track casting
   - Swing delivery up to right in raised position

D. Lock Feed Head Eccentric
   - Lift the rear actuating rod
   - Lock feed head eccentric into lock pin, using lock handle

E. Rest Feeding Arm on Stop Bracket
   - Loosen feeding arm lock lever
   - Swing feeding arm over top until it rests on feeding arm stop bracket

F. Clear the Platen
   - Unbolt grippers, using 5/8" wrench
   - Remove sheet holder tongue
   - Loosen side register eyebolt nut to remove side register gauge assembly
   - Loosen bottom gauge band bracket tension screw
   - Remove band and bottom band blocks

NOTES:
Stage 3: Set up the Platen & Chase

A. Create Positioning Sheet
   • Measure on artwork location(s) of image(s) to be embossed
   • On piece of stock for the run, mark the measured locations
   • Using makeready knife, cut out hole of proper size, shape and location for each image
   • Place over artwork to verify accuracy of cuts

B. Lock Die Onto Toggle Base
   • Place positioning sheet on toggle base
   • Square positioning sheet with T-square
   • Tape positioning sheet along one edge of toggle base
   • Use positioning sheet as guide to position the die, then flip it back
   • Put in toggle hooks
   • Square die with edge of toggle base
   • Flip back positioning sheet for final check
   • Lock die on toggle base with toggle hooks
   • Remove positioning sheet; set aside for later use

C. Install the Toggle Base
   • Set toggle base onto bottom chase stops of hot plate
   • Slide by hand to right
   • Snug side stop screw with Allen wrench
   • Lock in the chase hook
   • Tighten side stop screw

D. Change the Diecutting Plate (if using especially thick stock)
   • Unscrew four corner screws of 1/8” diecutting plate and remove plate
   • Mount and screw in new diecutting plate as dictated by stock
   • Check thickness of bearer pads by turning flywheel to dead center on impression (pads should just meet the brass bearers on toggle base)
   • Clean the plate

E. Set Heat to 225°

Stage 4: Create the Counterdie

A. Attach Grayboard to Platen
   • Cover one side of grayboard with Duplofol
   • Use masking tape to place grayboard on die, with duplofol facing out
   • Pull Manual Impression knob OUT
   • Turn flywheel by hand through one impression (this will attach grayboard onto platen, directly opposite the die)
   • Remove masking tape
   • Cut mylar release film slightly larger than grayboard
   • Tape along one edge onto grayboard
   • Flip back the release film

B. Create the Counterdie Compound
   • Fill one disposable cup with counterdie liquid, one with counterdie powder (amount depends on size of die)
   • Pour powder into liquid (1 to 1 ratio)
   • Mix thoroughly with mixing stick

C. Make the Counterdie
   • Pour makeready compound onto grayboard and spread with clean-up knife
   • Cover with release film (as an alternative, use a non-stick spray on the die)
   • Slowly turn flywheel by hand (to squeeze out all air bubbles between film and compound) until side arm is positioned directly through the main shaft of the press (press is then closed dead center on impression)
B. Install Bottom Gauge Band and Blocks
- Install bottom gauge band and blocks to line up with bottom edge of stock
- Tighten bottom gauge band bracket tension screw
- Check and adjust brass bearers on toggle base to clear bottom gauge band and image area

C. Install Side Guides
- Attach side guide assembly
- Tighten side register eyebolt nut
- Manually turn gripper cam circle (which moves gripper bar) to adjust position of side guide (guide on operator's side should be slightly away from paper at rest to allow new sheet to slide in)

D. Replace Sheet
- Remove positioning sheet
- Put new sheet in according to bottom and side guides

E. Install Sheet Holder Tongue
- Install proper length tongue to be sure it is off the sheet when the side register starts to move (if using coated stock, use plastic-tipped tongue)
- Set tongue pressure for proper contact with stock

F. Install Grippers
- Install grippers (and, if needed, gripper fingers)
- Position them properly to clear the image area

G. Make Test Impression
- Close gate and push IN Start button
- Go through a single impression
- Push Manual Impression knob IN
- Check position of image(s) against artwork
- Reposition guides, if necessary

NOTES:

Stage 5: Position the Stock
A. Determine Stock Position
   • Tape positioning sheet over counterdie

NOTES:
Stage 6: Set Up and Run Press

A. Position Feed Arm
   • Swing feed arm down and lock it
   • From other side of press, unlock feed arm eccentric
   • From operator’s side, attach suckers appropriate to stock
   • Bring arm down to bottom gauge blocks area
   • Line up and evenly space suckers
   • Manually turn flywheel through impression to make sure feeding arm and suckers clear
   • Mark with pencil the location of end sucker on sheet

B. Position Delivery
   • Gently swing delivery arm down into operating position
   • Release delivery lock by holding back on delivery and unlocking
   • Manually turn flywheel until delivery arm extends over platen
   • Adjust delivery height and parallel adjustment screws so that suckers don’t scuff paper, leave marks, etc.
   • Make sure delivery does not interfere with gripper arms

C. Set Up Magazine
   • Swing magazine into place
   • Put marked sheet into magazine
   • Manually turn flywheel until feeder arm goes into magazine
   • Crank magazine handle until sheet is up to 1/8” of feeder arm
   • Slide paper until pencil mark lines up with end sucker
   • Slide magazine side rails into place
   • Release magazine back plate to lowest position; load magazine with stock
   • Crank magazine back plate up until stock is about 1” from sucker tips
   • Adjust bottom combers and magazine side combers

D. Set Stock Sensor Arm
   • Push Start button IN
   • Turn stock sensor arm adjusting knob

E. Adjust Magazine Blower Pipes And Jogger Guides
   • Turn Vacuum Pump Switch ON
   • Adjust magazine blower pipes (left/right, front/back, & for airflow)
   • Pull OUT Feed Without Impression cable & Feed cable to check that stock is being properly fed
   • Adjust delivery side guides to stock size

F. Perform Run-Through Check And Adjustments
   • STOP press; push ALL cables IN START press; START Vacuum Pump
   • Pull OUT Feed cable for one sheet
   • Push IN Feed cable
   • Check image and sheet for position and quality (Optivisor can be used)

G. (If harder impression is needed) Insert Packing
   • Open magazine
   • Loosen top two diecutting plate screws
   • With screwdriver under diecutting plate, insert packing
   • Tighten screws back down and close magazine

H. Start Press Run

NOTES:
Combination Stamping

Stage 1: Assemble Materials

A. Tools For Setting Up the Press
   • Kluge Automatic Platen Press Oil
   • Allen wrench
   • Screwdriver
   • 5/8" wrench
   • Toggle hooks and key
   • T-square
   • Pica stick
   • Optivisor

B. Counterdie Tools and Materials
   • Grayboard and capping board, cut to size of die
   • Packing materials
   • Counterdie powder and liquid
   • Disposable mixing cups
   • Mixing stick (can be putty knife, etc.)
   • Duplofol double sided tape
   • Masking tape
   • Makeready glue
   • Mylar release film (or non-stick spray)
   • Cover sheet (bond paper)
   • Clean-up knife
   • Makeready knife
   • Water spray bottle

C. Job-Specific Materials
   • Artwork for job (keyline/mechanical or sample)
   • Die(s)
   • Proper & sufficient stock for run
   • Suckers, gripper fingers, sheet holder tongue and diecutting plate appropriate to stock
   • Foil(s) for job
   • Foil cutter

NOTES

Stage 2: Clear the Press

A. Inspect and Lubricate Press
   • Clean off dust, paper, oil & chad
   • Oil all points indicated in oiling chart
   • Check reservoir & prime system if press has automatic oiling system

B. Open Magazine
   • Lift lock handle on left leg of magazine
   • Swing magazine to the right 1/4 turn
   • Slide magazine side guides to left & right ends of magazine base

C. Lock Back Delivery Arms
   • Pull delivery arms toward you as far as possible
   • Lock open with delivery lock, on outside of delivery track casting
   • Swing delivery up to right in raised position

D. Lock Feed Head Eccentric
   • Lift the rear actuating rod
   • Lock feed head eccentric into lock pin, using lock handle

E. Rest Feeding Arm on Stop Bracket
   • Loosen feeding arm lock lever
   • Swing feeding arm over top until it rests on feeding arm stop bracket

F. Clear the Platen
   • Unbolt grippers, using 5/8" wrench
   • Remove sheet holder tongue
   • Loosen side register eyebolt nut to remove side register gauge assembly
   • Loosen bottom gauge band bracket tension screw
   • Remove band and bottom band blocks

NOTES
Stage 3: Set up the Platen & Chase

A. Create Positioning Sheet
   - Measure on artwork location(s) of image(s) to be embossed
   - On piece of stock for the run mark the measured locations
   - Using makeready knife, cut out hole of proper size, shape and location for each image
   - Place over artwork to verify accuracy of cuts

B. Lock Die Onto Toggle Base
   - Place positioning sheet on toggle base
   - Square positioning sheet with T-square
   - Tape positioning sheet along one edge of toggle base
   - Use positioning sheet as guide to position the die, then flip it back
   - Put in toggle hooks
   - Square die with edge of toggle base
   - Flip back positioning sheet for final check
   - Lock die onto toggle base with toggle hooks
   - Remove positioning sheet; set aside for later use

C. Install the Toggle Base
   - Set toggle base onto bottom chase stops of hot plate
   - Slide by hand to right
   - Snug side stop screw with Allen wrench
   - Lock in the chase hook
   - Tighten side stop screw

D. Change the Diecutting Plate (if using especially thick stock)
   - Unscrew four corner screws of 1/8" diecutting plate and remove plate
   - Mount and screw in new diecutting plate as dictated by stock
   - Check thickness of bearer pads by turning flywheel to dead center on impression (pads should just meet the brass bearers on toggle base)
   - Clean the plate

E. Set Heat to 225°

Stage 4: Create the Counterdie

A. Attach Grayboard to Platen
   - Cover one side of grayboard with Duplofol
   - Use masking tape to place grayboard on die, with Duplofol facing out
   - Pull Manual Impression knob OUT
   - Turn flywheel by hand through one impression (this will attach grayboard onto platen, directly opposite the die)
   - Remove masking tape
   - Cut mylar release film slightly larger than grayboard
   - Tape along one edge onto grayboard
   - Flip back the release film

B. Make Test Impression
   - To make sure that a sharp edge will be formed by the die for cutting the foil, do the following:
     - Close gate and push IN Start button
     - Go through a single impression
     - Push Manual Impression knob IN
     - Check grayboard to see if impression is visible
     - If impression is not visible on grayboard, insert packaging:
       - Open magazine
       - Loosen top two diecutting plate screws
       - With screwdriver under diecutting plate, insert packing
       - Tighten screws back down and close magazine

C. Create the Counterdie Compound
   - Fill one disposable cup with counterdie
liquid, one with counterdie powder
(amount depends on size of die)
• Pour powder into liquid (1 to 1 ratio)
• Mix thoroughly with mixing stick

D. **Make the Counterdie**
- Pour makeready compound onto
  grayboard and spread with clean-up knife
- Cover with release film (as an alternative,
  use a non-stick spray on the die)
- Slowly turn flywheel by hand (to squeeze
  out all air bubbles between film and
  compound) until side arm is positioned
  directly through the main shaft of the
  press (press is then closed dead center on
  impression)
- Let sit for 5 to 7 minutes
- Turn flywheel by hand, until press is open
- Lift release film
- Cut and peel off excess countermaterial
  with clean-up knife

E. **Carve the Counterdie Border**
- With makeready knife, carve
  counterdie material right up to edge of
  impression, to create a sharp edge for the
  die to cut the foil

F. **Attach Capping Board**
- Cover one side of capping board with
  makeready glue
- Place board over counterdie
- Close gate and push **IN Start** button
- Impress several times
- Push **IN Stop** button, leaving press in
  open position
- Allow several minutes dry time

G. **Carve the Counterdie**
- Spray capping board lightly with water to
  raise grain; then impress
- Cut away with makeready knife all
  portions of capping board that you don’t
  want to emboss (bruise) the paper
- Put press on impression periodically to
  firm down cut edges
- Tape a test paper over the capping board;
  run through impression once
- Examine for bruises, shine around bevels,
  etc.
- Once you’re satisfied with results:

• Attach cover sheet over the
  counterdie with masking tape
• Close gate and push **IN Start**
  button
• Go through a single impression
• Push **Manual Impression** knob **IN**

**NOTES:**

Stage 5: **Position the Stock**

A. **Reset Temperature**
- Turn up temperature to 260° or slightly
  higher

B. **Load Foil**
- Load foil web(s) onto the spool rack,
  positioned over the die(s); shiny side
  towards die, dull side towards
  makeready base
- Thread foil through the pull rollers
  (use foil threading diagram in manual;
  web with longest draw should be on
  bottom roller)
- Wrap the end of the foil around the
  rewind core

C. **Set Foil Draw**
- Measure height of die image area
- Set chain fixture on drive bracket for
  that measurement (Outer chain = top
  roller; middle chain = middle roller;
  inner chain = bottom roller)

D. **Align Air Blast Nozzles**
- Loosen Allen set screw on air blast
  nozzle set collar
- Center each nozzle over the foil web
- Adjust angle of each blast so that it is
  parallel to bed.
• Tighten back Allen set screw
• Open brass valve (air flow pressure) one full turn

E. Determine Stock Position
• Tape reversed positioning sheet over counterdie

F. Install Bottom Gauge Band and Blocks
• Install bottom gauge band and blocks to line up with bottom edge of stock
• Tighten bottom gauge band bracket tension screw
• Check and adjust brass bearings on toggle base to clear bottom gauge band and image area

G. Install Side Guides
• Attach side guide assembly
• Tighten side register eyebolt nut
• Manually turn gripper cam circle (which moves gripper bar) to adjust position of side guide (guide on operator's side should be slightly away from stock at rest to allow new sheet to slide in)

H. Replace Sheet
• Remove positioning sheet
• Put new sheet in according to bottom and side guides

I. Install Sheet Holder Tongue
• Install proper length tongue to be sure it is off the sheet when the side register starts to move (if using coated stock, use plastic-tipped tongue)
• Set tongue pressure for proper contact with stock

J. Install Grippers
• Install grippers (and, if needed, gripper fingers)
• Position them properly to clear the image area

K. Make Test Impression
• Close gate and push IN Start button
• Go through a single impression
• Push Manual Impression knob IN
• Check position of image(s) against artwork

• Reposition guides, if necessary

NOTES:

Stage 6: Set Up and Run Press

A. Position Feed Arm
• Swing down feed arm and lock it
• From other side of press, unlock feed arm eccentric
• From operator's side, attach suckers appropriate to stock
• Bring arm down to bottom gauge blocks area
• Line up and evenly space suckers
• Manually turn flywheel through impression to make sure feeding arm and suckers clear
• With pencil, mark the location of end sucker on sheet

B. Position Delivery
• Gently swing delivery arm down into operating position
• Release delivery lock by holding back on delivery and unlocking
• Manually turn flywheel until delivery arm extends over platen
• Adjust delivery height and parallel adjustment screws so that suckers do not scuff stock, leave marks, etc.
• Make sure delivery does not interfere with gripper arms

C. Set Up Magazine
• Swing magazine into place
• Put marked sheet into magazine
• Manually turn flywheel until feeder arm goes into magazine
• Crank magazine handle until sheet is up to 1/8" of feeder arm
• Slide paper until pencil mark lines up with end sucker
• Slide magazine side rails into place
• Release magazine back plate to lowest position; load magazine with stock
• Crank magazine back plate up until stock is about 1" from sucker tips
• Adjust bottom combers and magazine side combers

D. **Set Stock Sensor Arm**
• Push Start button IN
• Turn stock sensor arm adjusting knob until it brings stock up to 1/4" of sucker tips

E. **Adjust Magazine Blower Pipes And Jogger Guides**
• Turn Vacuum Pump switch ON
• Adjust magazine blower pipes (left/right, front/back, & for airflow)
• Pull OUT Feed Without Impression cable and Feed cable to check that stock is being properly fed
• Adjust delivery side guides to stock size

F. **Perform Run-Through Check And Adjustments**
• STOP press; push ALL cables IN
• START press; START Vacuum Pump
• Pull OUT Feed cable for one sheet
• Push IN Feed cable
• With Optivisor, check image and sheet for position and quality (including foil coverage and sharpness of edge)

G. **(If harder impression is needed) Insert Packing**
• Open magazine
• Loosen top two diecutting plate screws
• With screwdriver under diecutting plate, insert packing
• Tighten screws back down and close magazine
• Repeat run-through check

H. **Start Press Run**
Stages in the Makeready Process

Flat Stamping

Stage 1: Assemble Materials
A. Tools For Setting Up The Press
   - Kluge Automatic Platen Press Oil
   - Allen wrench
   - Screwdriver
   - 5/8" wrench
   - Toggle hooks and key
   - T-square
   - Pica stick
   - Optivisor
B. Counterdie Tools and Materials
   - Phenolic board, cut larger than image area
   - Spot sheet (bond paper)
   - Packing paper
   - Masking tape
C. Job-Specific Materials
   - Artwork for job (keyline/mechanical or sample)
   - Die(s)
   - Proper & sufficient stock for run
   - Stickers, sheet holder tongue and diecutting plate appropriate to stock
   - Foil(s) for job, cut to size (slightly wider than image to be stamped)
   - Foil cutter

NOTES:

Stage 2: Clear the Press
A. Inspect and Lubricate Press
   - Clean off dust, paper, oil & chad
   - Oil all points indicated in oiling chart

Stage 3: Set up the Platen & Chase
A. Create Positioning Sheet
   - Measure, on artwork, location(s) of image(s) to be embossed
Stage 4: Create the Counterdie

A. Load Foil
   • Load foil web(s) onto the spool rack, positioned over the die(s); shiny side towards die
   • Thread foil through the pull rollers (use foil threading diagram in manual; web with longest draw should be on bottom roller)
   • Wrap the end of the foil around the rewind core

B. Set Foil Draw
   • Measure height of die image area
   • Set chain fixture on drive bracket for that measurement (Outer chain = top roller; middle chain = middle roller; inner chain = bottom roller)

C. Align Air Blast Nozzles
   • Loosen Allen set screw on air blast nozzle set collar
   • Center each nozzle over the foil web
   • Adjust angle of each blast so that it is parallel to bed
   • Tighten back Allen set screw
   • Open brass valve (air flow pressure) one full turn

D. Attach Phenolic Board to Platen
   • Tape phenolic board to platen along one edge with masking tape
   • Cut spot sheet slightly larger than phenolic board
   • Tape along one edge over phenolic board (so that, later, phenolic board can be flipped over the spot sheet)

E. Make Test Impression
   • Pull Manual Impression knob OUT
   • Close gate
   • Push Start button IN
   • Go through single impression
   • Push Manual Impression knob IN
   • Adjust foil air blast unit airflow (if needed) by turning brass valve (ease of release of foil determines needed strength of flow)

   If entire impression is too light:
   • Check temperature
   • As an alternative, insert
packing under diecutting plate

If portions of the impression are too light:

- Attach pieces of calibrated paper — either with masking tape or by wetting them — to portions of spot sheet where impression is too light
- Place spot sheet under phenolic board, without shifting their positions on platen
- Place new spot sheet over phenolic
- Make another test impression
- REPEAT until desired coverage is achieved

NOTES:

Stage 5: Position the Stock

A. Determine Stock Position
   - Place positioning sheet over spot sheet so that its holes line up with images on spot sheet

B. Install Bottom Gauge Band and Blocks
   - Install bottom gauge band and blocks to line up with bottom edge of stock
   - Tighten bottom gauge band bracket tension screw
   - Check and adjust brass bearers on toggle base to clear bottom gauge band and image area

C. Install Side Guides
   - Attach side guide assembly
   - Tighten side register eyebolt nut
   - Manually turn gripper cam circle (which moves gripper bar) to adjust

Stage 6: Set Up And Run Press

A. Position Feed Arm
   - Swing down feed arm and lock
   - From other side of press, unlock feed
arm eccentric
- From operator's side, attach suckers appropriate to stock
- Bring arm down to bottom gauge blocks area
- Line up and evenly space suckers
- Manually turn flywheel through impression to make sure feeding arm and suckers are clear
- Mark with pencil the location of end sucker on sheet

B. Position Delivery
- Gently swing delivery arm down into operating position
- Release delivery lock by holding back on delivery and unlocking
- Manually turn flywheel until delivery arm extends over platen
- Adjust delivery height and parallel adjustment screws so that suckers don't scuff paper, leave marks, etc.
- Make sure delivery does not interfere with gripper arms

C. Set Up Magazine
- Swing magazine into place
- Put marked sheet into magazine
- Manually turn flywheel until feeder arm goes into magazine
- Crank magazine handle until sheet is up to 1/8" of feeder arm
- Slide paper until pencil mark lines up with end sucker
- Slide magazine side rails into place
- Release magazine back plate to lowest position; load magazine with stock
- Crank magazine back plate up until stock is about 1" from sucker tips
- Adjust bottom combers and magazine side combers

D. Set Stock Sensor Arm
- Push Start button IN
- Turn stock sensor arm adjusting knob until it brings stock up to 1/4" of sucker tips

E. Adjust Magazine Blower Pipes and Jogger Guides
- Turn Vacuum Pump switch ON

F. Perform Run-Through Check And Adjustmenis
- STOP press; push ALL cables IN
- START press; START Vacuum Pump
- Pull OUT Feed cable for one sheet
- Push IN Feed cable
- With Optivisor, check image and sheet for position and quality (including foil coverage)

G. (If harder impression is needed)
Insert Packing
- Open magazine
- Loosen top two diecutting plate screws
- With screwdriver under diecutting plate, insert packing
- Tighten screws back down and close magazine

H. Repeat run-through check

NOTES:
To Help Protect Your Valuable Dies:

Dies are both fragile and costly. To help get the most out of them for the least cost and trouble in your next run, make sure you clean them thoroughly after use, and store them properly.

Brass or Copper dies may be cleaned with a Brass Bristle Brush.

Brass, Copper or Magnesium dies may be cleaned with a Fiberglass Brush or Fiberglass Stick.

For Additional Information

For additional information on Makeready Products and Supplies, contact:

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