

**KF 500** 



KF 1000

KF 2500

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### Warranty

The company warrants the original purchasers of all products manufactured by it such that products will be free from defects of material or workmanship for a period of 12 months from the date such products are shipped from its plants, provided that the Buyer gives prompt written notice of such defects. Said warranty is to remain in effect if and only if such products are used in accordance with all instructions as to maintenance and operation set forth in manuals and instruction sheets furnished by the Company. In no event shall this warranty be deemed to cover or obligate the Company in any way regarding items or components not actually manufactured by it.

This warranty is made in lieu of all other warranties express or implied including merchantability. No promise or affirmation of fact (including but not limited to statements regarding capacity or performance of a machine) shall constitute a warranty by the Company, or give rise to any liability of the Company.

The Company's liability under this warranty is limited to delivering to the Buyer F.O.B. the Company plant in Franklin Massachusetts, replacements of any equipment or parts determined by the Company to be defective. The Company's guarantee with respects to equipment manufactured by others will be the same as that of the manufacturer. In no event will the company be liable for damages (direct, consequential or otherwise) or injuries sustained as the result of defective workmanship or material in the equipment.

Buyer shall use, and shall require its employees to use all safety devices, guards and proper safe operation procedures as set forth in manuals or instruction sheets furnished by the Company. Buyer shall not remove or modify any such device or guard or warning sign. Buyer shall not permit any person other than required operating personnel to remain within ten feet of any machine or accessory manufactured by the Company during operation thereof. If Buyer fails to strictly observe each and every one of the obligations set forth in this paragraph with regard to any of the Company's products, Buyer agrees to indemnify and save the Company harmless from any liability or obligation incurred by the company to person'[s injured directly or indirectly in connection with the operation of such products.

Buyer shall notify the Company promptly, and in any event within 30 days of an accident or malfunction involving the Company's products which result in personal injury or damage to property and shall cooperate fully with the Company in investigating and determining the cause of such accident or malfunction, In the event that Buyer fails to give such notice to the Company and so cooperate, Buyer agrees to indemnify and save the Company harmless from any claims arising from such accident or malfunctions.

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### Warning

A hot stamping press applies heat and high pressure to the article being marked. Care should be taken by the operator to keep hands free of the stamping area whenever the equipment is connected to air and electricity. When handling large articles, hold them by the sides so that hands are not under the stamping head. When handling small parts, a manual or air slide table should be used during stamping and loading parts onto fixtures should take place away from the stamping area. Always remember that the die in a hot stamping press is very hot. Because of this, the heated head area, die holders, and dies should be handled with great care to avoid burns. Heat resistant, insulated gloves or hot pads should be made available for handling dies.

A transparent safety gate should be installed to protect the operator. Because this press is so versatile, it is impossible for the manufacturer to supply a universal safety gate or slide fixture. For further information or quotations on custom parts loading devices or safety gates, contact the manufacturer.

Presses are furnished with dual hand buttons wired so that an operator must depress both to initiate a cycle. An anti-tie down system is a standard component except where automatic loading features are provided with custom systems.

Any attempt to alter the wiring or construction of this press, disconnecting or disabling the two-hand trip or anti-tie down circuits is completely unauthorized and may result in serious injury (or death) to the operator.

Machines are throughly tested before shipment. Please remember that any machine can malfunction for a number of reasons beyond the manufacturer's control. The standard safety test outlined in the appendix should be conducted at the start of each shift and should be conducted by a throughly trained operator knowledgeable of all safety system operations. If any malfunction is detected, immediately turn of press and notify the shift foreman. Do not use press until the detected problem has been remedied.

Remember to disconnect all air and electrical lines when performing repairs or doing maintenance on equipment to prevent accidental actuation of the stamping head.

New operators should be trained in the safe operation of this equipment before use.

### Standard Test of Safety Systems

For presses equipped with optional Lite Touch sensors, touch finger area to activate press for all steps below.

- 1) Connect air and electrical supplies according to machine requirements.
- 2) Turn power On.
- 3) Set dwell time to 1.00 seconds.
- 4) With head switch in Off position, depress and hold left hand button.
- 5) Wit 3 seconds and depress right hand button. Press should not actuate.
- 6) Repeat test, pressing right hand button first and left second. Press should not actuate.
- 7) Depress both buttons simultaneously. Press should not actuate.
- 8) Turn head switch to On position.
- 9) Repeat steps 5 & 6. Press should not actuate.
- 10) Turn head switch to Setup position.
- 11) Repeat steps 5 & 6. Press should not actuate.
- 12) Depress both buttons simultaneously and immediately release. Press should start to actuate and return to up position when buttons are released.
- 13) Depress both buttons simultaneously and keep pressed while head descends to stamping position. Once head is down, release buttons. Head should stay down.
- 14) Turn head switch to Off position. Head should return to Up position.
- 15) Turn head switch to On position and set-up switch to Run position.
- 16) Repeat steps 5 & 6. Press should not actuate.
- 17) Depress buttons simultaneously and keep depressed while head descends to stamping position and release buttons. Head will stay down while dwell time elapses and then return to Up position.

### Advantages of Hot Stamping

### **Dry Method**

Hot stamping is a dry decorating method that requires no ink or clean-up. There are no concerns with EPA or Fire Safety rules when hot stamping as it does not contain any hazardous materials.

#### Save Time

Printed parts are immediately available for handling and packaging, allowing faster product timearound.

Set-up time is minimal, simply consisting of changing the roll of foil or die.

### Variety

Hot stamping can be used on a wide range of materials. Most plastics, wood, book cloth, leather, textiles, paper, cardboard and pre-painted metals may be stamped with successful results.

Hot stamping is the only decorating method that will apply a permanent gold and silver metallic finish. Foils are available in a wide range of colors and finishes including matte, gloss, brushed, chromium and wood grain.

Pre-printed heat transfers will accomplish multi-colored graphics to a variety of materials such as plastics, glass, fabrics, etc.

### **Surface Configurations**

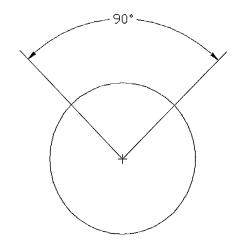
Hot stamping foils can be applied to a variety of surface configurations such as flat, cylindrical, spherical and contoured parts as well as raised graphics or beaded surfaces.

#### **Permanent Results**

The hot stamping process procedures graphics that have maximum adhesion and abrasion resistance due to the thermal bonding that takes place during stamping.

### Vertical Stamping

Vertical stamping is the most commonly used hot stamping method. It is ideal for applying foils and pre-printed heat transfers to smaller areas of flat or slightly contoured parts and to a maximum of 90 degrees on the circumference of cylinders or spheres.



In most thermoplastic foil vertical stamping applications, a silicone rubber die is mounted to the heater head of the vertical acting machine and positioned directly over the area of the part to be decorated. Dies will be constructed of heat and thickness' to accommodate various part materials and configurations. The image to be stamped are raised on the die surface at a minimum of 1/32" and are heated to temperature near the melting point of the plastic substrate, usually in excess of 350 degrees F.

Hanging directly underneath of the die, held by two stripper bars, is the hot stamp foil. Typically, 1-1/2" of space is required to be left between the foil and hot die face to ensure proper release of the foil.

### **Press Installation/Set-up**

### Unpacking/Inspection

- Upon receipt of press, remove upper crate and inspect to be sure no damage has occurred during shipping. If there is visible damage, please notify your shipping contractor immediately.
- Machine should be permanently mounted to a level, secure bench or table (or optional floor stand using the mounting holes provided. It should be at a level that allows the operator to press the hand buttons while forearms are parallel to the floor. Be sure to allow enough space around the machine for maintenance, set-up and production. If not using the KF floor stand, care should be taken to ensure that the bench is large enough and sturdy enough to prevent collapses or tipping over.

#### Air/Electrical

Connect air and electrical supplies according to machine requirements. Air supply requires a
minimum 3/8" line to prevent air starvation when operating press. Pneumatic quick connect should
also be 3/8". Recommended air pressure is ordinary shop air. Do not operate over 125
PSI.

#### Air Line Filter

The air filter cleans incoming air removing debris and moisture that is common to air lines. Filter
is self draining and this feature may become inoperative if the float is clogged with particle matter
from the air line. Be sure to clean air filter daily and exhaust all moisture before and after
operation.

#### **IMPORTANT**

This step must be completed prior to operating the machine.

#### Lubricators

- Press is shipped with lubricator(s) empty. Fill all bowls 3/4 full with SAE #10 Non-Detergent light weight machine oil only. Fill all pneumatic lead pull systems, automation devices and slide table that requires oil.
- Adjust each lubricator so one drop of oil falls through sight glass approximately every 50-60 cycles.
- Following manufacturer's instructions located in appendix, regulate oil flow until small amounts of oil are seen at the muffler on the exhaust port of each air valve.
- Do not allow the oil to become emulsified. Loss off clarity indicates contamination. If oil becomes contaminated, change it immediately.

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#### **Pneumatic Controls**

### **Pressure Regulation**

- Press will operate at pressures between 15 and 125 pounds per square inch.
- Pressure should be adjusted to give a firm squeeze on the part and will increase as the stamping area and hardness of the material increase.

### **Speed Control**

- Speed of the up and down stroke can be controlled at the main valve.
- The left hand screw controls the Upward stroke & right hand screw controls the Downward stroke.
- Turing the screws clockwise slows the stroke.
- · Screws should be locked after adjustments are made with the check nuts provided.

### **Holding Stamping Dies and Types**

A variety of dies and hand set types(slugs, etc.) can be used with your press. For flat, unmounted dies the dovetail that comes with the press or an optional hot-plate chase would be used. This is a solid block of metal with machined parallel sides mounted to a dovetail. Dies may be attached by using screws, glue or Dura Die Bond Tape, a heat sensitive adhesive. Steel, brass, zinc, magnesium and silicone rubber dies are frequently used with hot plate chases. The optional 4 Wall Chase is used for hand set type, lino type, Ludlow slugs or type high dies. Occasionally, flat thin photo-engraved or hand engraved dies mounted on metal blocks are held in the 4 wall chase.

- Slide dovetail chase into the right or left side of the 2" x 4" or 3" x 6" head or into the front of the 6" x 8" head.
- Position die using the adjustable stop provided on the head.
- Slide the holder to the stop and tighten the locking clamp. When tightening the clamp, use moderate pressure only. If too much tightening pressure is applied, especially to a cold holder, expansion can cause damage to the heater head.

### **Adjusting Stamping Height**

### (The distance between the die and the part to be marked)

The clearance between the die and the bed of the press can be adjusted as follows:

- Reduce the pressure to 5PSI
- Place the set-up switch in the SET-UP position.
- Loosen the four bolts or handles at rear of head assembly.
- Make sure there is 2-3/4" of daylight under the die so the die will not be damaged by hitting the part fixture. Turn the elevating handle to raise or lower the die.
- Tighten the head assembly using the four bolts/handles.
- Adjust the micrometer depth stop so there is 2-1/2" of stroke available.
- Upon actuation, the head will descend and stay down. The die should be above the part on it's
  fixture. Place the setup switch in the RUN position and gradually increase the amount of available
  stroke until the die begins to mark the part. Always place foil between the die and the part to
  keep melted plastic from filling and damaging the die.

#### **Metal Dies**

When metal dies, adjust the die to be lower than the top surface of the part to be stamped nut higher than the fixture. This allows the die to put enough pressure on the part to make a good imprint, preventing damage to the die or fixture if the machine is actuated with no part on the fixture. Next, adjust the pressure to provide the desired result. With this setting method, variations in overall part thickness will not affect the result, however, variations from cavity creating different angles between surfaces may.

#### Silicone Rubber Dies

For Silicon Rubber dies, follow the same procedure at much lower pressures. With small contact are between die and part, it may be necessary to use the depth stop to limit die distortion & wear.

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#### **Foil Selection**

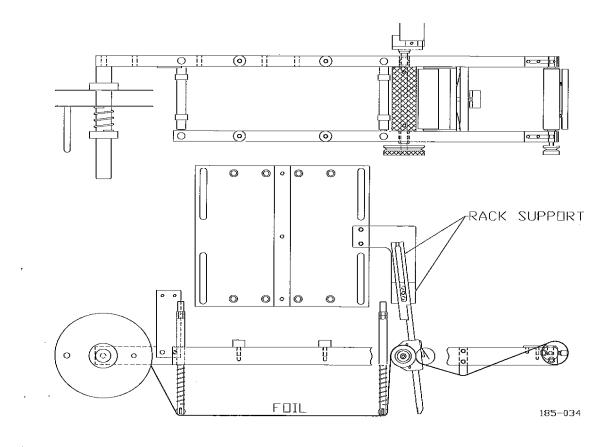
Hot Stamping foil is available in a wide variety of colors and designs. The more common foils include metallic and pigmented finishes, but designs such as wood-grains, brushed effects, continuous patterns and chromium are available and frequently used. Be sure that the foil you have selected will be compatible with the part material to ensure proper adhesion. Should you encounter difficulties with foils, you may send sample parts and artwork to our Technical Service Department for evaluation and suggestions.

### **Hot Stamping Foil Installation**

- Be sure that the disc & locking collar on foil holder bar are in place and locked.
- Load foil onto foil holder bar.
- Make sure the foil will unwind in a counterclockwise rotation, with the dull(coated) side facing the part to be stamped.
- Align foil with the mounted hot stamp die.
- Place supply disk onto bar and slide compression spring against disk. Place locking collar against spring and use handle to lock collar in place.
- Be sure foil is centered and tighten the clamps near the support bar while applying a small amount
  of pressure to the foil roll. Make sure that the foil is wide to cover the entire die and overhang
  approx. 1/4" on sides.
- Thread foil as follows: From holder bar -> under in-feed & out-feed stripper bars -> up over knurled roller (loosen foil pull release disk to separate the knurled and rubber rollers for ease during feeding) -> down between knurled and rubber roller -> wrap onto the rewind roller assembly. Be sure it is properly wrapped on the rewind roller to prevent spent foil from mis-feeding.
- Adjust the stripper bars to position the foil so it is not in contact with the die and be sure that the bars are level. If the foil travels to the side, adjusting the stripper bars will straighten it.

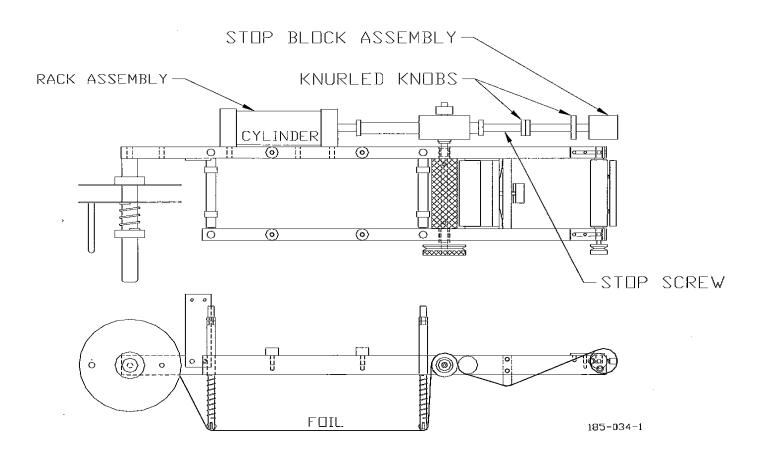
### Mechanical Foil Feed (KF 500)

The amount of foil pulled on each stroke is determined by the position of the screw that is threaded through the rack support at the top of the gear rack/ Maximum foil pull occurs when the screw is all the way in almost touching the shoulder screw. There should always be a small space between the end of the screw and the shoulder screw to permit the die to clear the part before leaf starts to advance when pulling on the stroke.



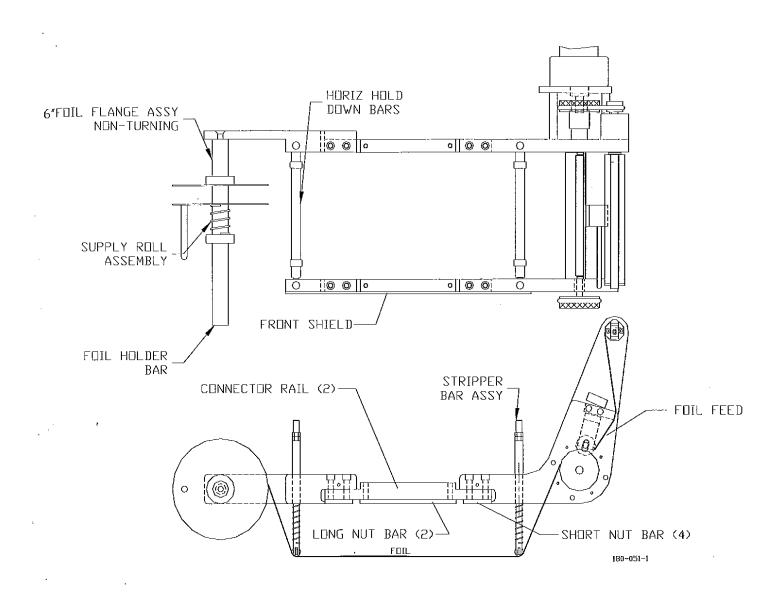
### Pneumatic Leaf Pull (KF 500)

The amount of leaf pull o each stroke is determined by the position of the knurled knobs on the threaded stop screw protruding from the stop block at the end of the leaf pull bar. The more stroke the position of these knobs allow the leaf pull cylinder and rack assembly, the more will feed. To adjust, loosen the knobs, change position, and tighten them against each other. Timing of leaf pull can be adjusted by turning the knob on the blue flow control valve attached to the pneumatic assembly. To delay the actuation of pull, turn the knob clockwise. To pull earlier, turn the knob counterclockwise.



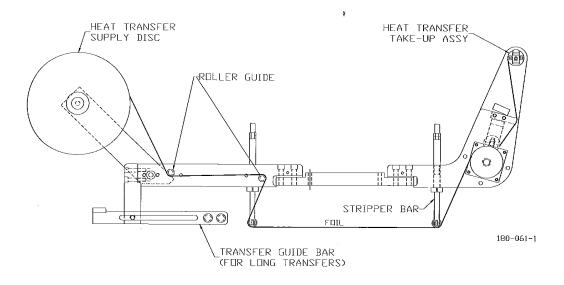
### Electric Leaf Pull (KF 1000 & 2500)

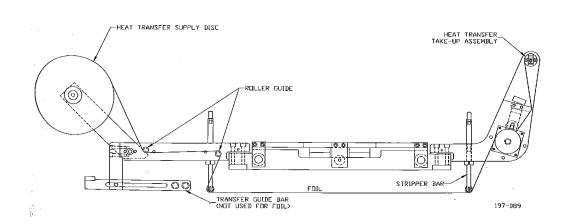
The amount of pull is set on the control box using the dial marked pull length. The timing is adjusted at the control box using the control using the dial marked delay.



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### Heat Transfer Indexers (KF 1000 & 2500)





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Hot Stamping Troubleshooting		
Problem	Cause	Solution
Incomplete hot stamped image.	Uneven die to part contact	Reposition fixture so decorating surface is parallel to a flat die or conforms to a contoured die
	Part contamination	Eliminate the use of flow agents anti-static solutions and/or silicone based mold releases.
	Dust particles on decorating surface	Clean surface with white cotton cloth or glove or use of destat system.
	Poor fixture support permitting the part to flex under the force of the machine	Redesign fixture to provide rigid support under surface of part and/or ensure that mandrel type designs do not deflect
	Air entrapment between foil and part surface	Redesign die face to include convex crown
Over stamping of image	Too much pressure	Decrease stroke length and/or reduce machine pressure
	Die face is too hot	Reduce temperature setting
	Dwell time is too long	Reduce dwell time setting
	Sinks in decorating surface	Use make-ready beneath the part in the area that are hitting light and adjust pressure accordingly
	Variations in wall thickness from part to part	Try a duel durometer silicone rubber die
Hot stamped image appears blurry.	Pressure may be too low	Change stroke length and/or increase pressure
	Part contamination	Eliminate the use of flow agents and/or silicone based mold releases
	Die face temperature too low	Increase temperature setting
	Dwell time is too short	Increase dwell time
	Foil stripping conditions	Slow head retraction speed and/or use head-up delay where applicable
	Foil is effected by heat of die prior to stamping	Use before/after foil selector to advance foil just prior to stamping
Poor foil to part adhesion	Insufficient die surface temperature	Increase temperature setting and/or move the thermocouple closer to the die face
	Dwell time is too short	Increase dwell time setting
	Part contamination	Eliminate the use of flow agents, anti-static solutions and/or silicone based mold releases
	Dust or particles on decorating part surface	Clean surface with white cotton cloth or glove or use a destat system
	Foil stamping problem	Switch to a different foil formulation

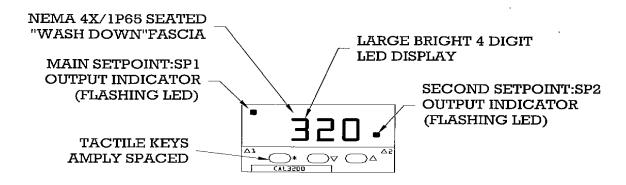
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#### Maintenance

- At the start of each shift, perform the Standard Test of Safety Items listed in this manual to be sure that the machine is properly functioning. If any problem is detected, disconnect the press until corrected.
- Press should be kept clean and free of dirt and contaminates.
- Pay attention to the amount of moisture and oil in the lubro control transparent bowls.
- Use a premium grade of high temperature grease on the main RAM.
- Keep the foil feed rack gear clutch lubricated at all times.
- No lubrication is required on the leaf pull bearings as they are self-lubricating Teflon.
- Occasionally, grease the die clamping screw and die pivot clamp with high temperature grease.

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### TEMPERATURE CONTROL

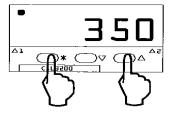


### DISPLAYING

NORMAL DISPLAY
PROCESS TEMPERATURE



ADJUSTMENT OF SETPOINT



PRESS AND HOLD \* BUTTON

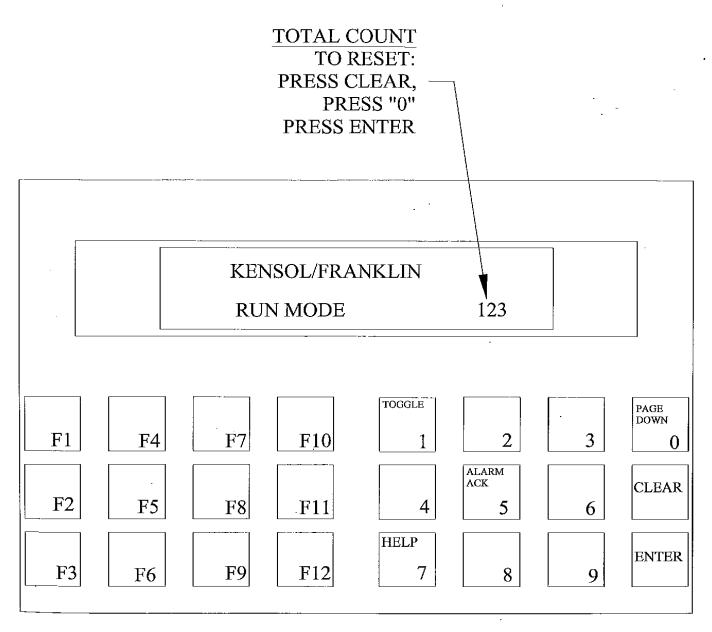
ADJUST T° UP

DOWN 🗸

RELEASE \* BUTTON

### PROGRAMMING INSTRUCTIONS

STANDARD ELECTRIC SYSTEM (GE-MPL-05)

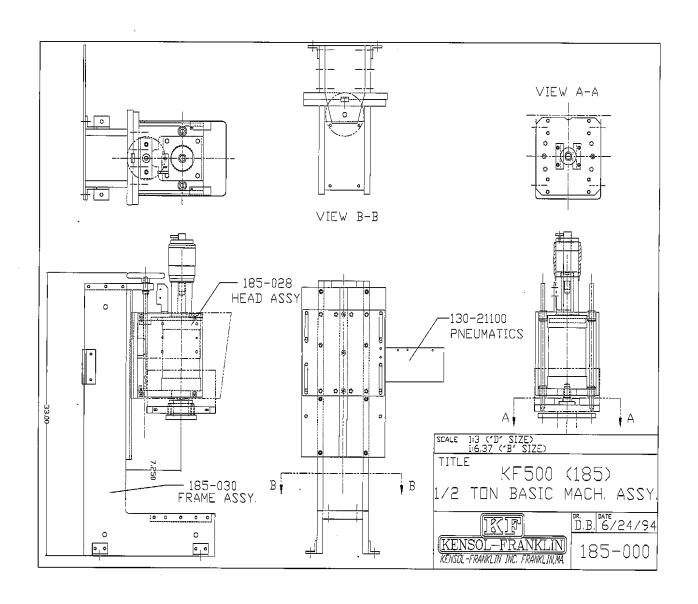


FUNCTIONS ARE PROGRAMMED AS DESIRED

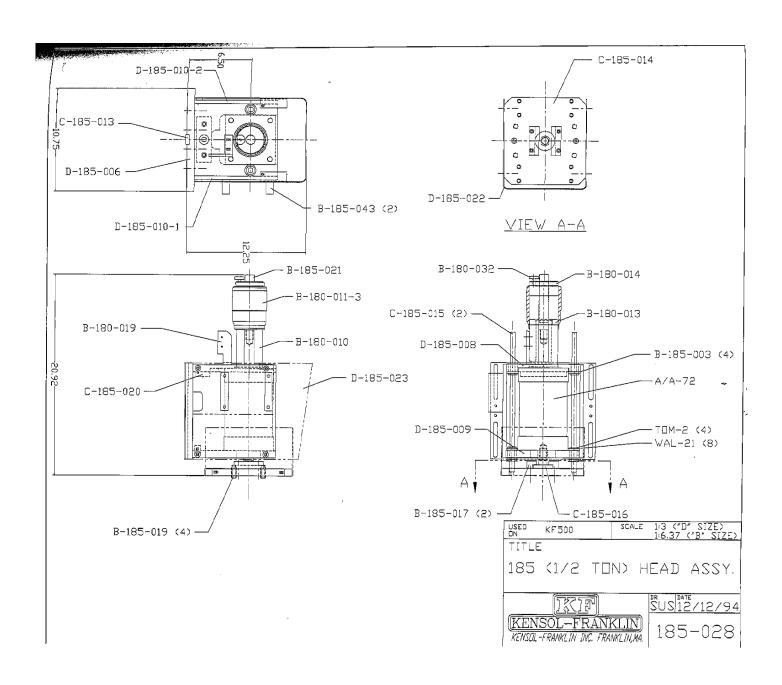
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# KF 500 Machine Drawings

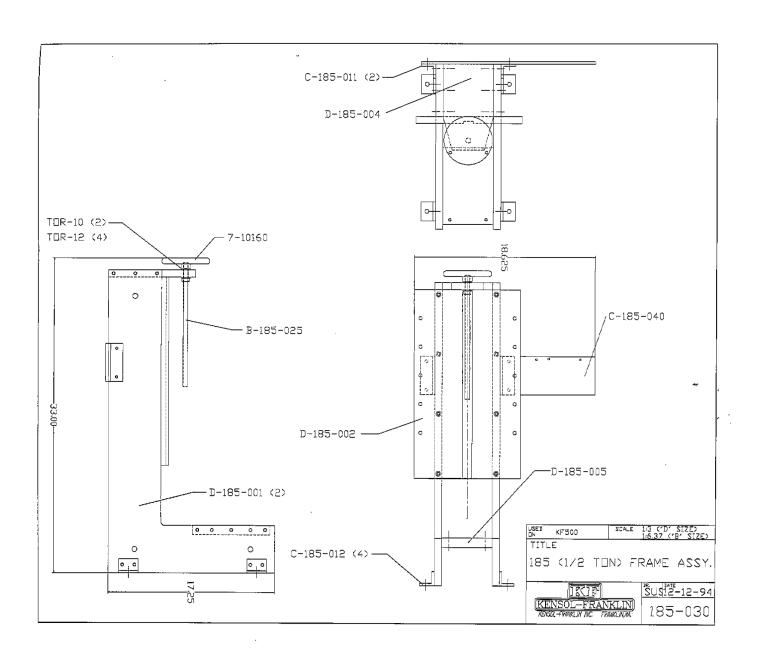
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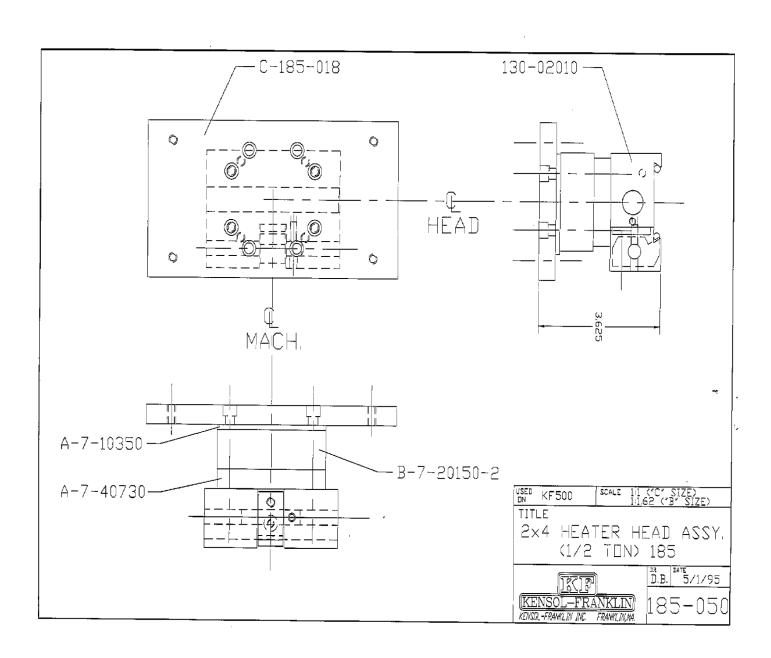
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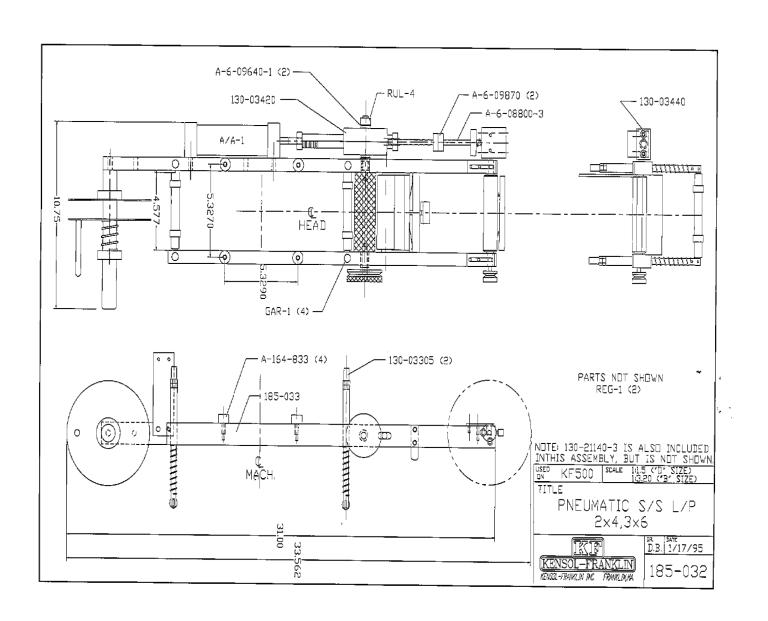
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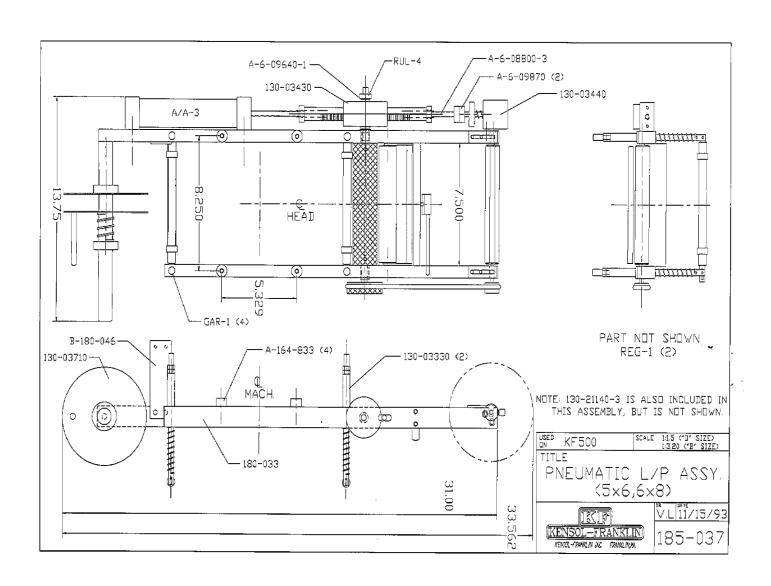
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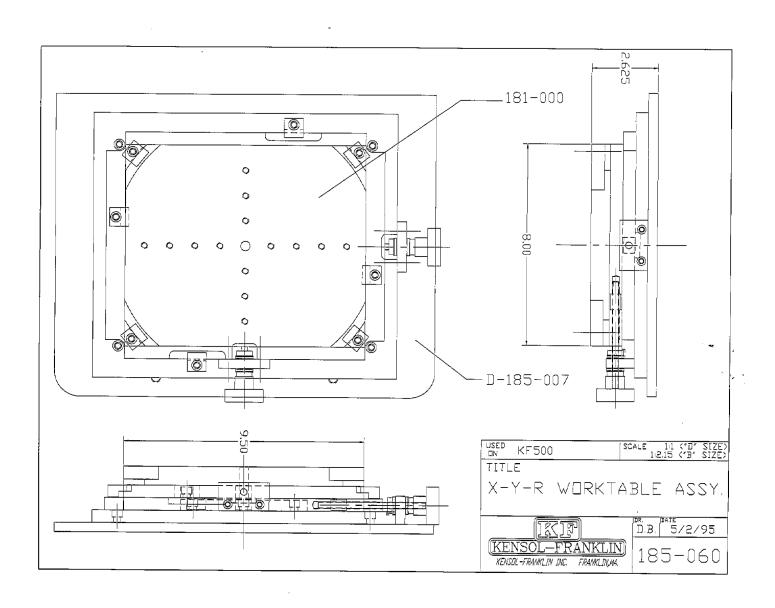
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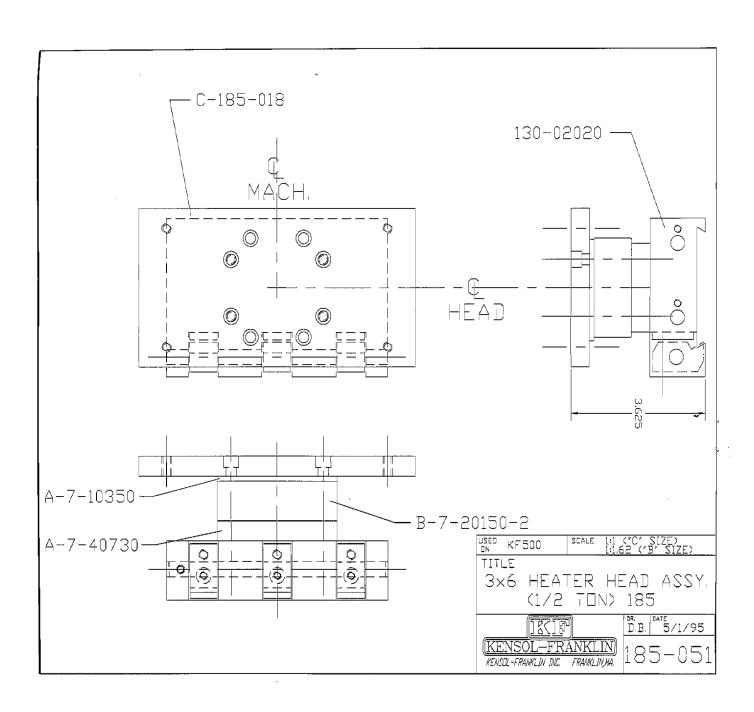
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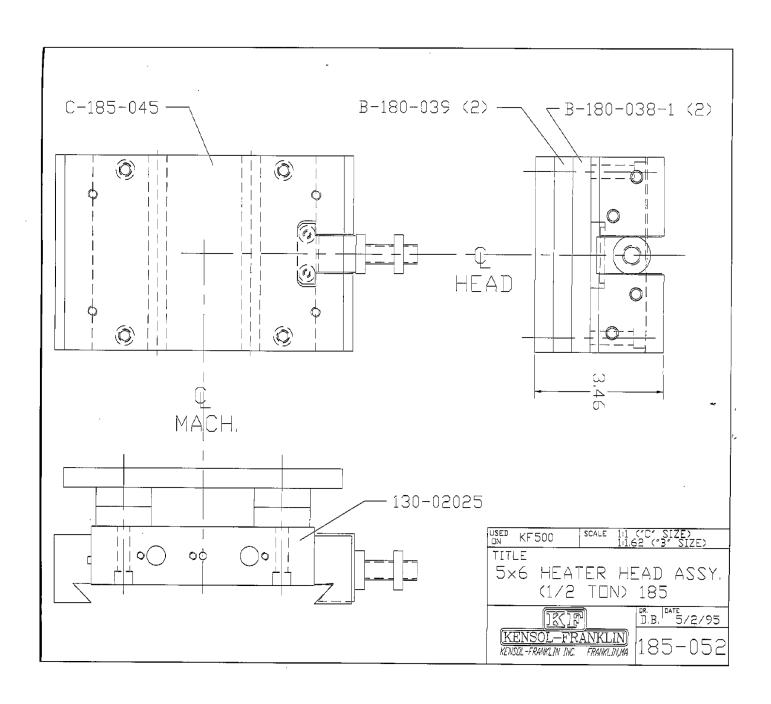


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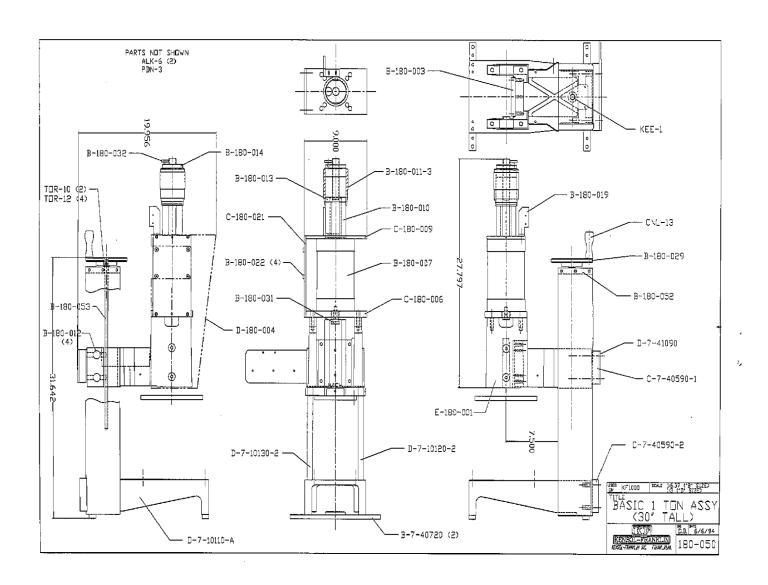




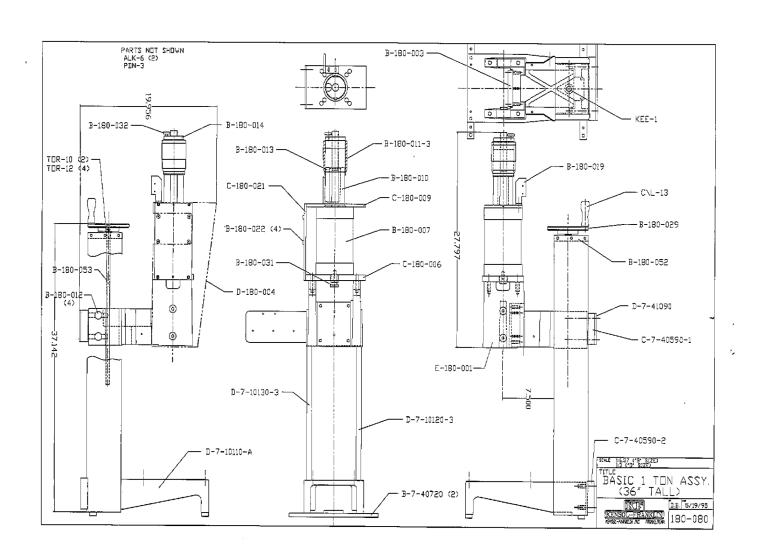
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# KF 1000 Machine Drawings

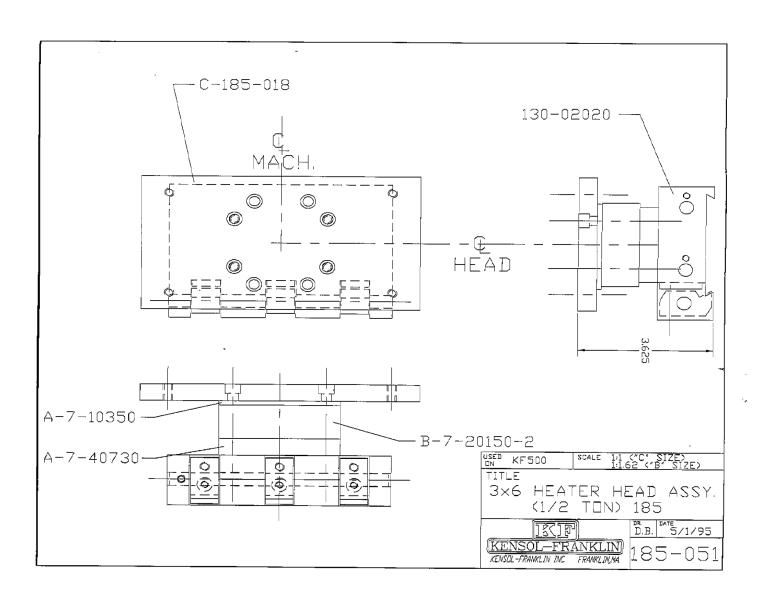
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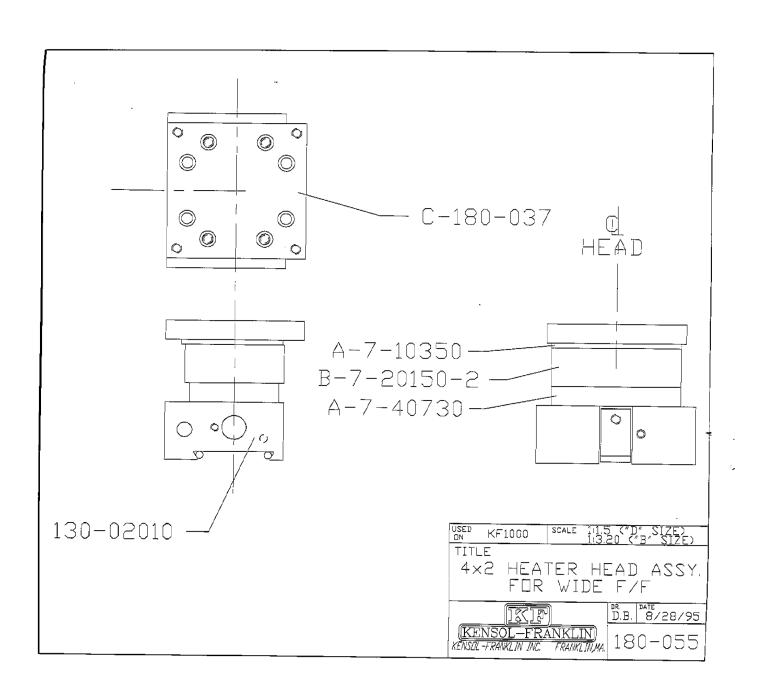
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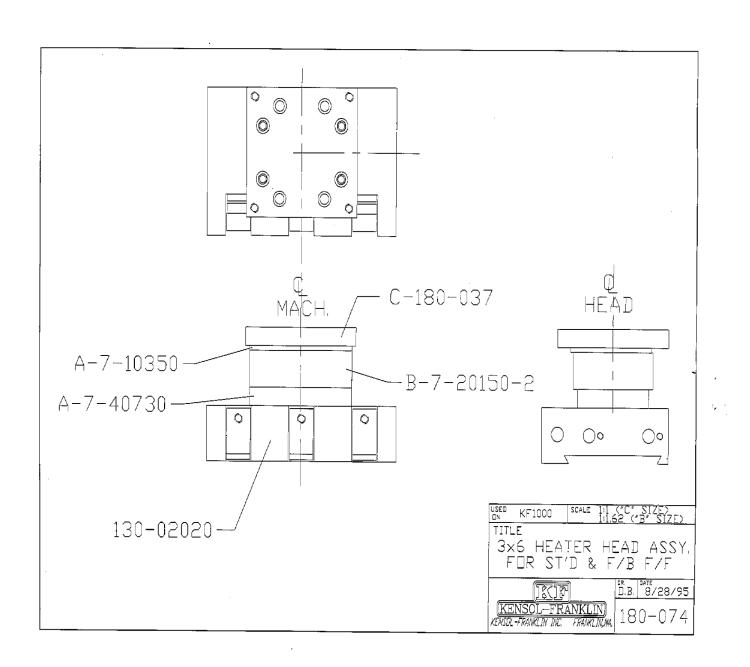
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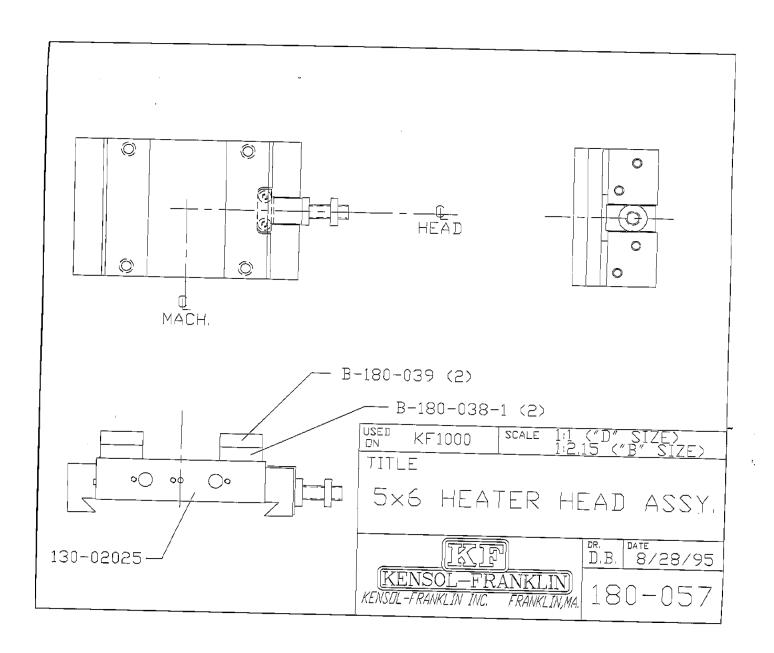


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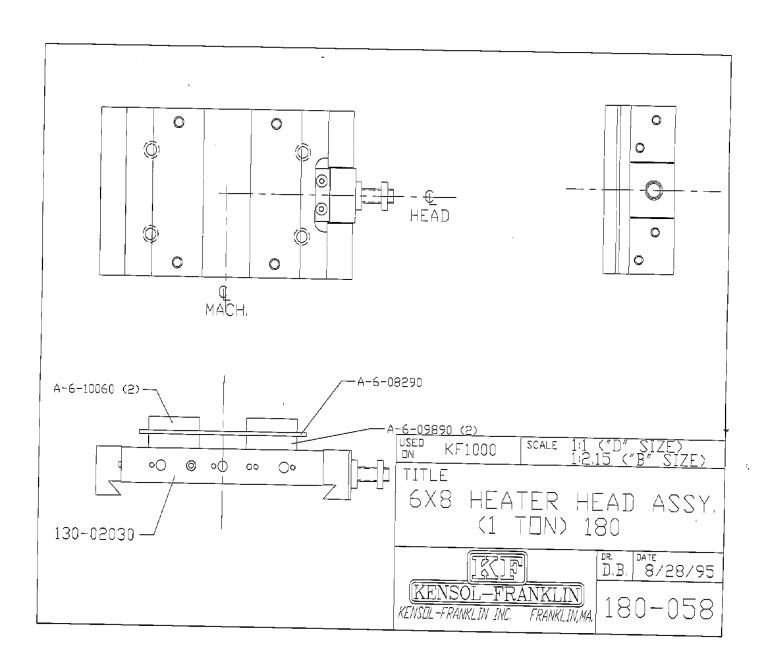


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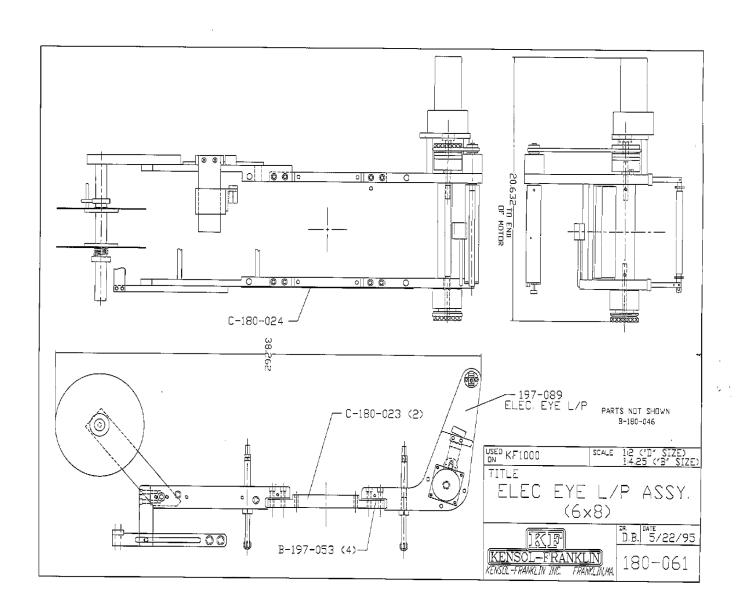




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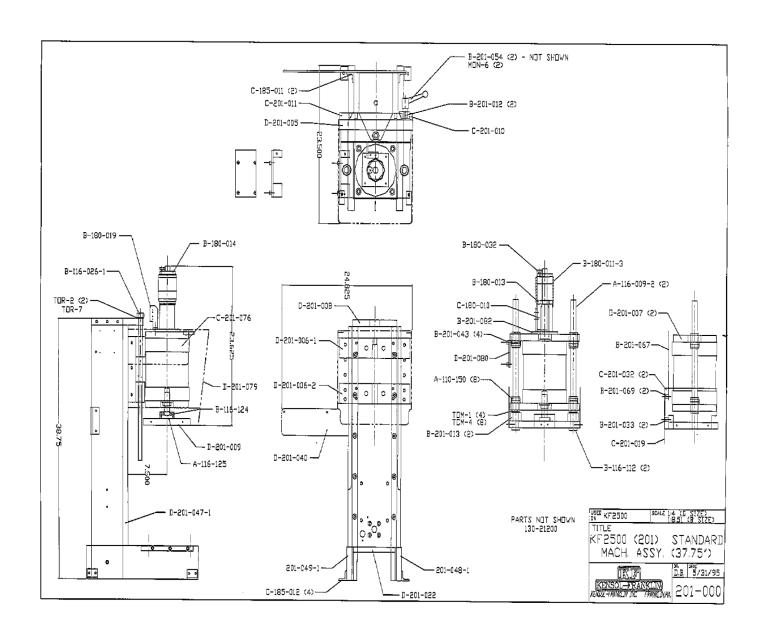


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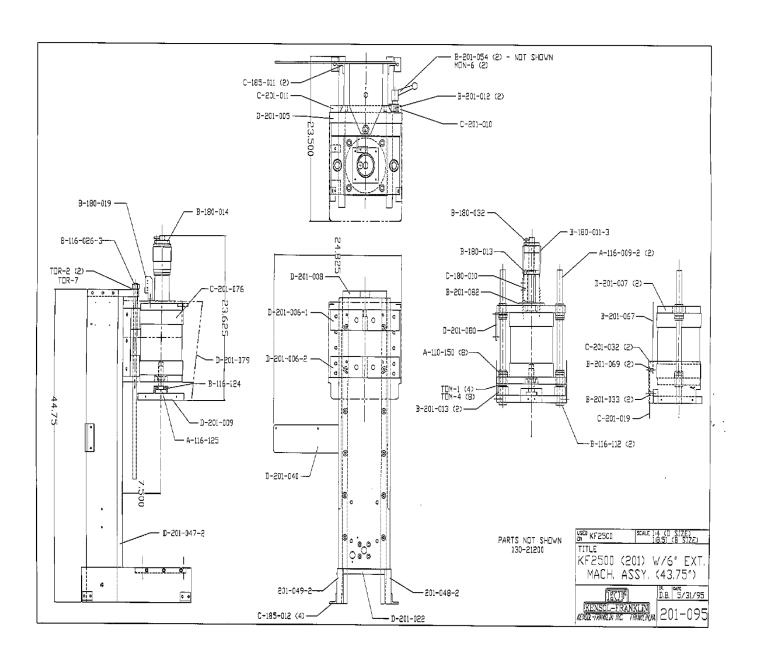


# KF 2500 Machine Drawings

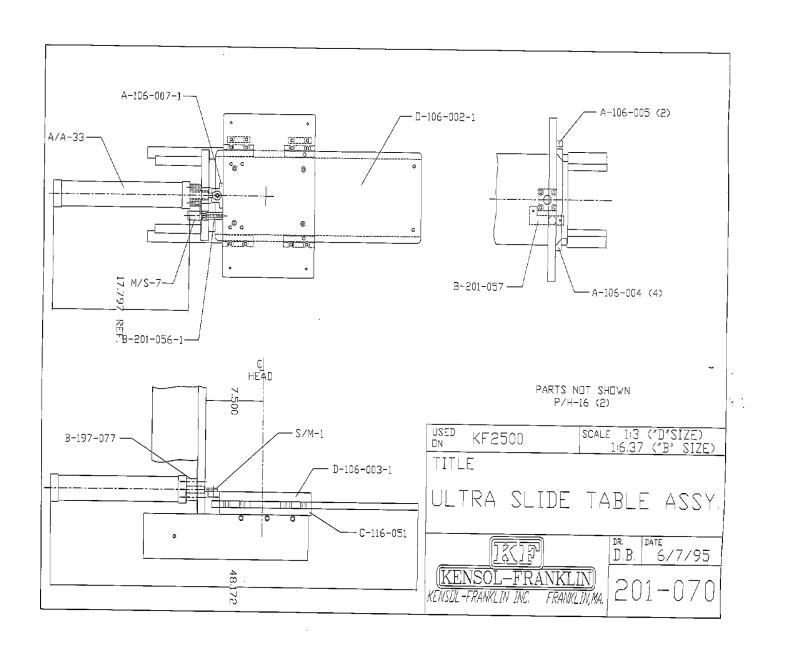
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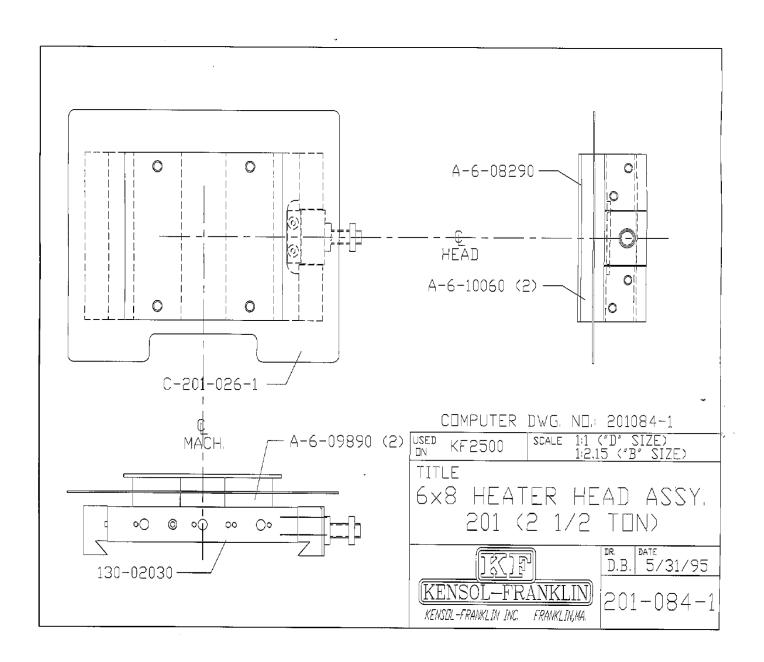
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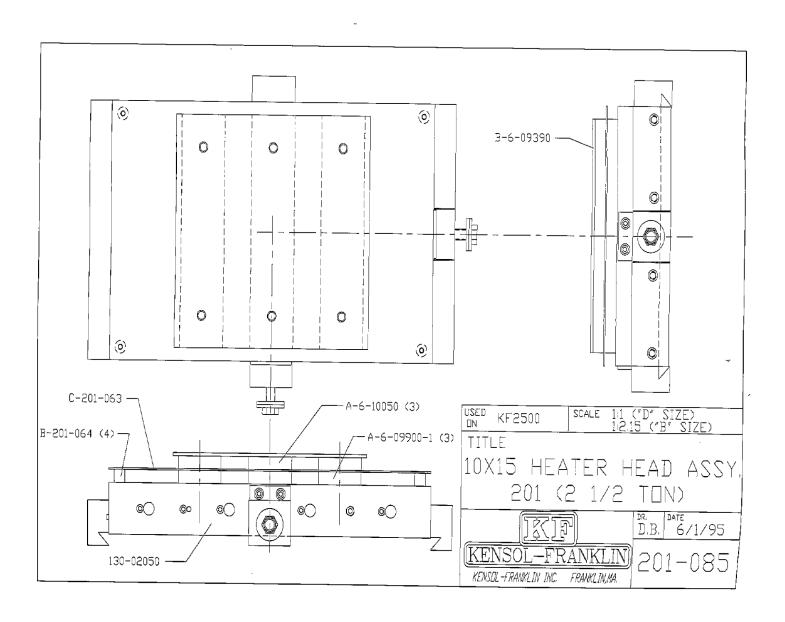
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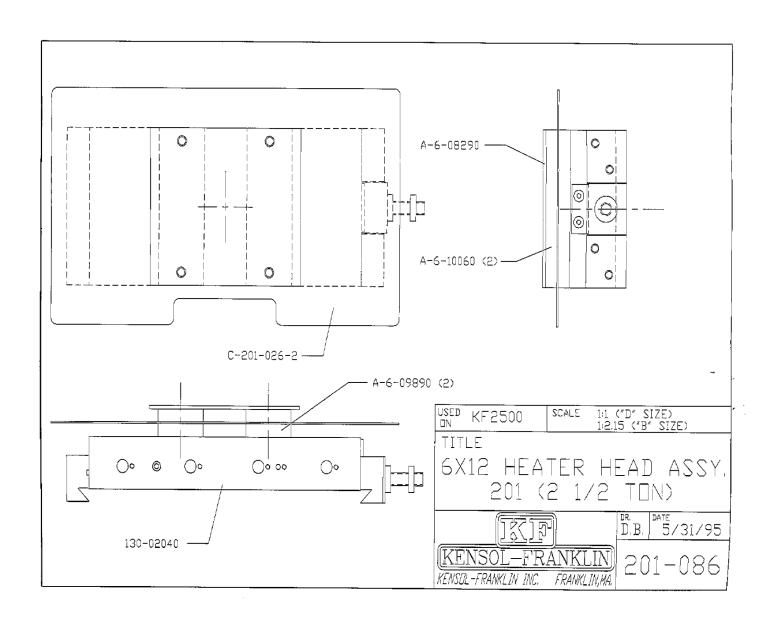
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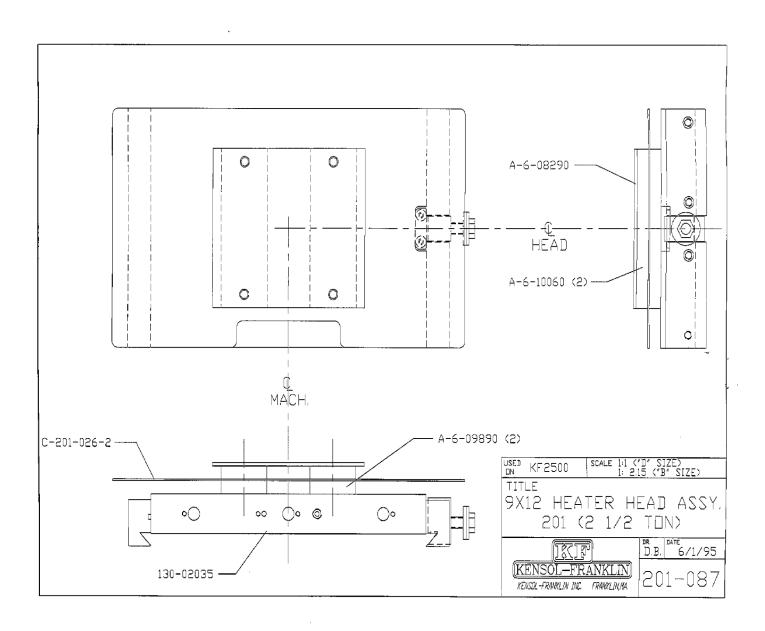


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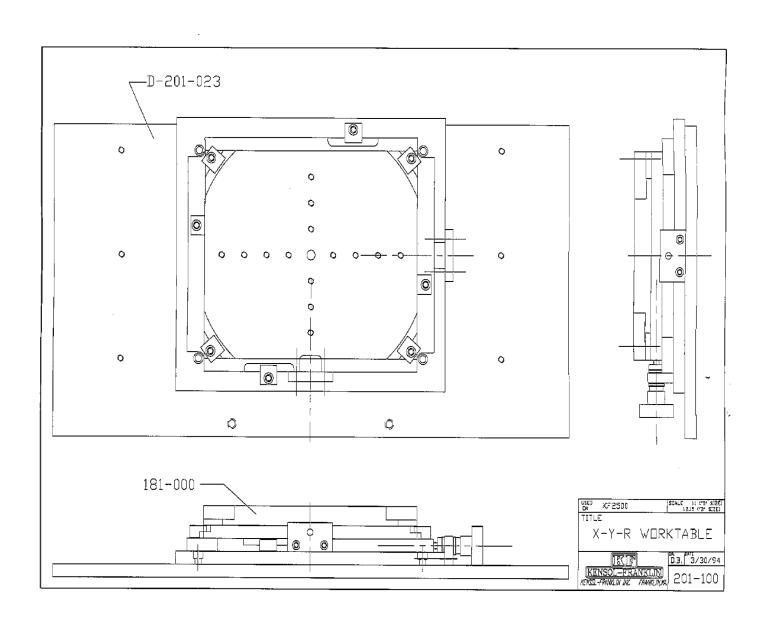


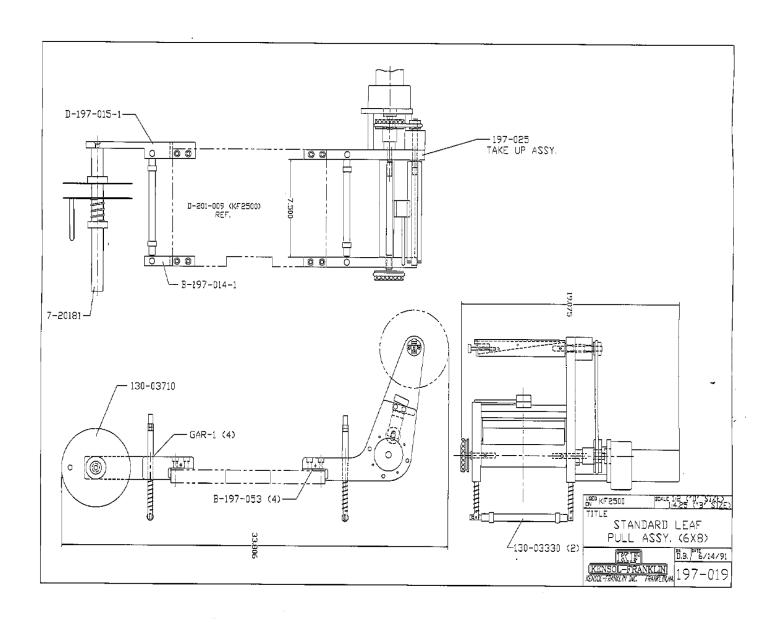
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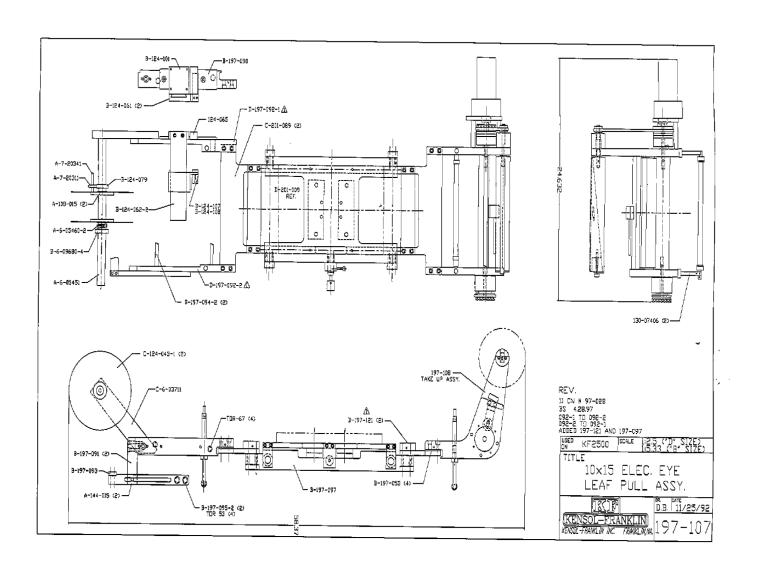


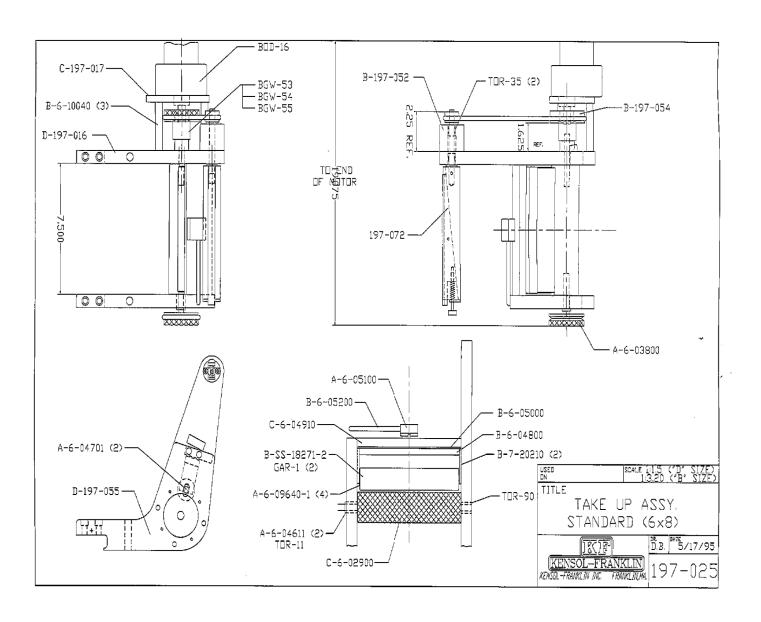


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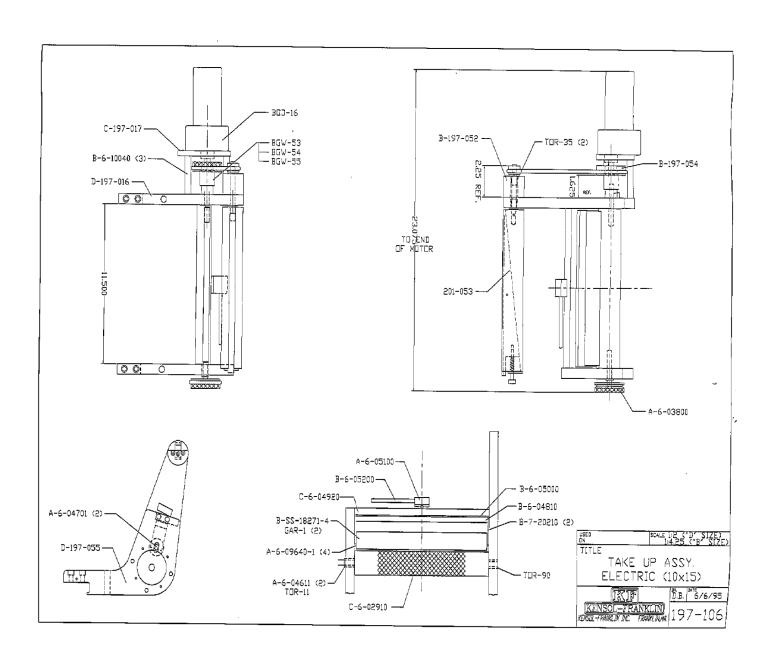




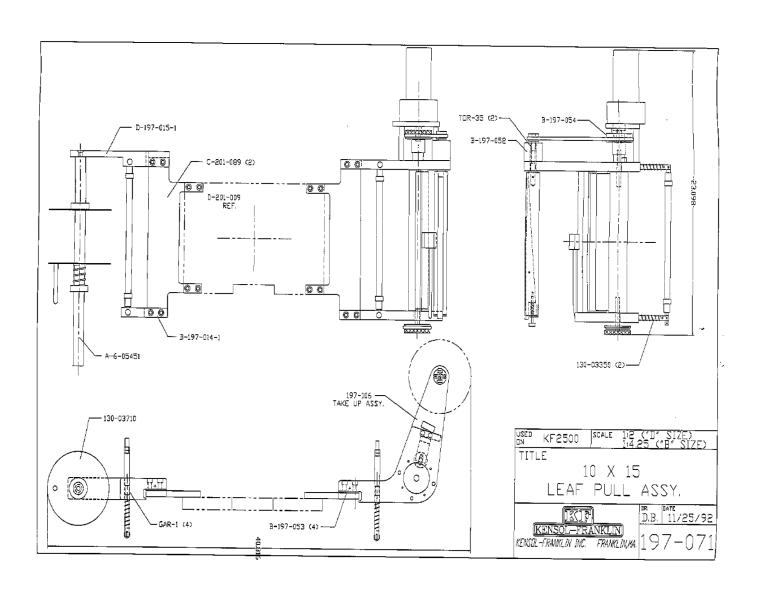


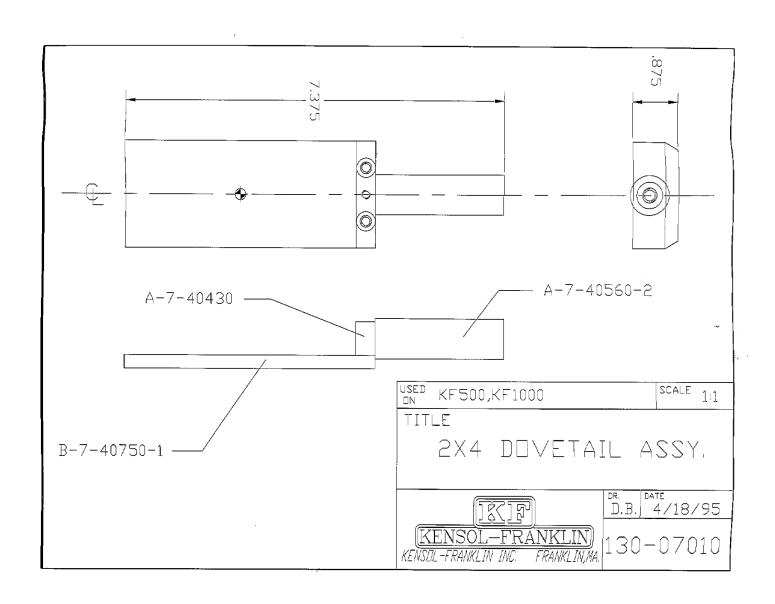


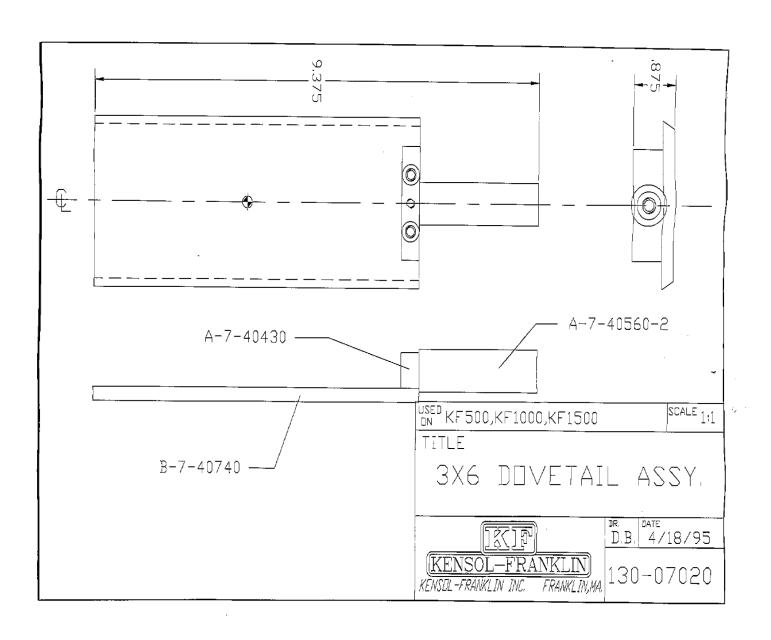
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