KENSOL-FRANKLIN

KF-500
KF-1000
KF-2500

PARTS AND INSTRUCTION MANUAL

Marking and Decorating Systems

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FAX: 508-528-6869

Nationwide Parts & Services

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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 it 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 malfunction

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 thoroughly 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 thoroughly trained operator knowledgeable of all safety system operations. If any malfunction is detected, immediately turn off 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) Depress and hold left hand button.
5) Wait 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 turn-around.

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 hot 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.

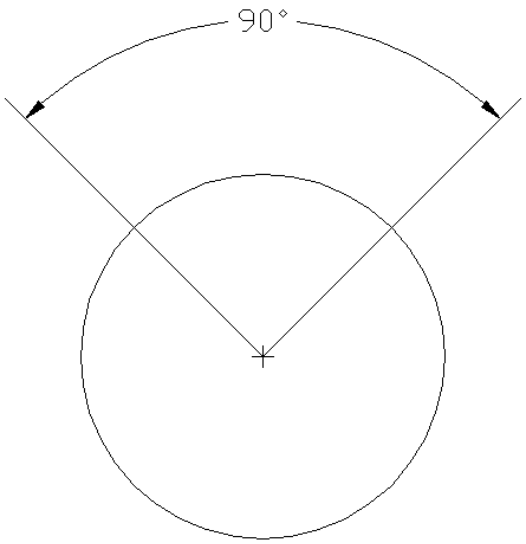
Pre-printed heat transfers will accomplish multi-colored graphics to a variety of materials such as plastics, glass, fabrics, etc.

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 produces 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 or 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 stable silicone rubber bonded to aluminum. Silicone dies are available in a range of durometers 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 collapse 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

NOTE: Standard presses do not require lubricators, and are not shipped with lubricators.

- Some attachments may require lubricators, If a lubricator is supplied, Fill bowl 3/4 full with **SAE #10 Non-Detergent light weight machine oil only.**

- 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 of clarity indicates contamination. **If oil becomes contaminated, change it immediately.**

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.
- Turning the screws clockwise slows the stroke.
- Screws should be locked after adjustments are made with the check nuts provided.

Holding Stamping Dies and Type

A variety of dies and hand set types(slugs, etc.)can be used with your press. For flat, un-mounted 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 5 PSI
- 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 or 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

With metal dies, adjust the die to be lower than the top surface of the part to be stamped but 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 to cavity creating different angles between surfaces may.

Silicone Rubber Dies

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

Foil Selection

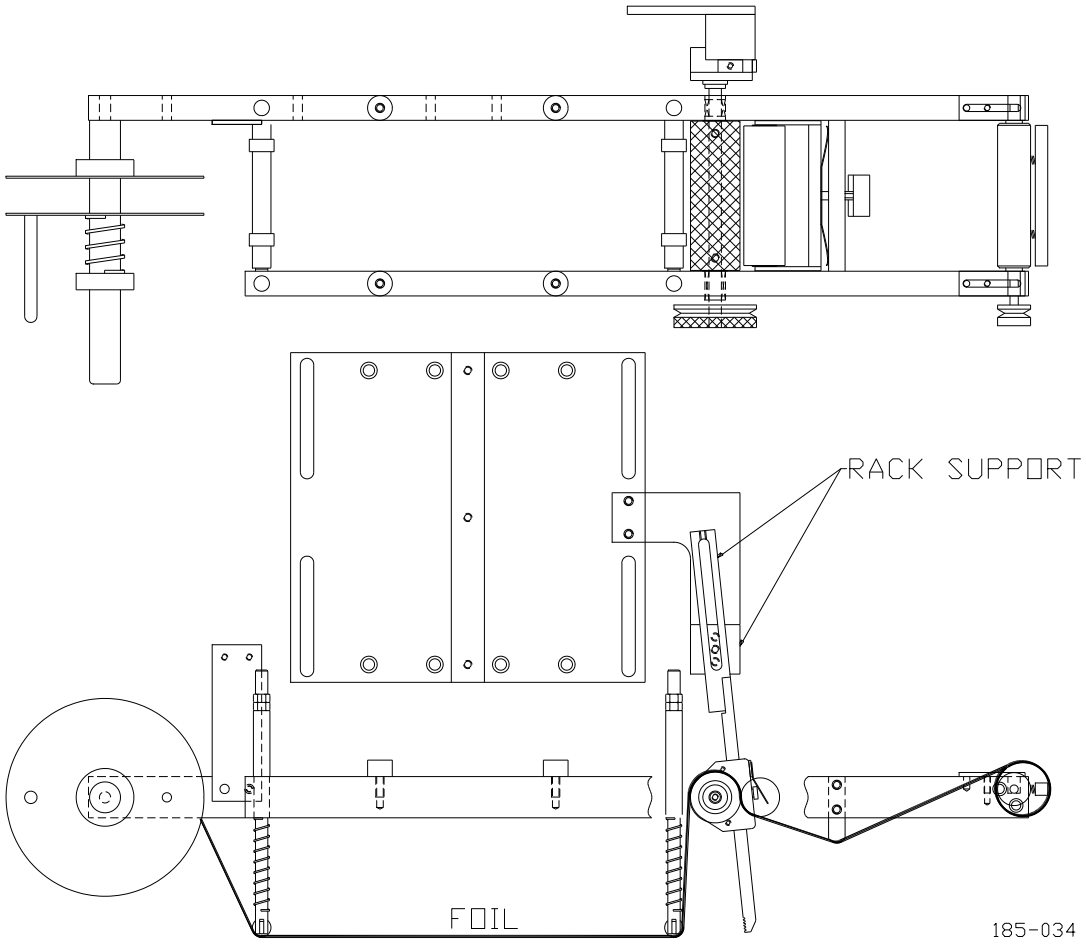
Hot stamping foil is available in a wide variety of colors and designs. The more common foils include metallic and pigmented finishes, but designs such as wood-grains, brushed effects, continuous patterns and chromium are available and frequently used. Be sure that the foil you have selected will be 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 Stamp 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.

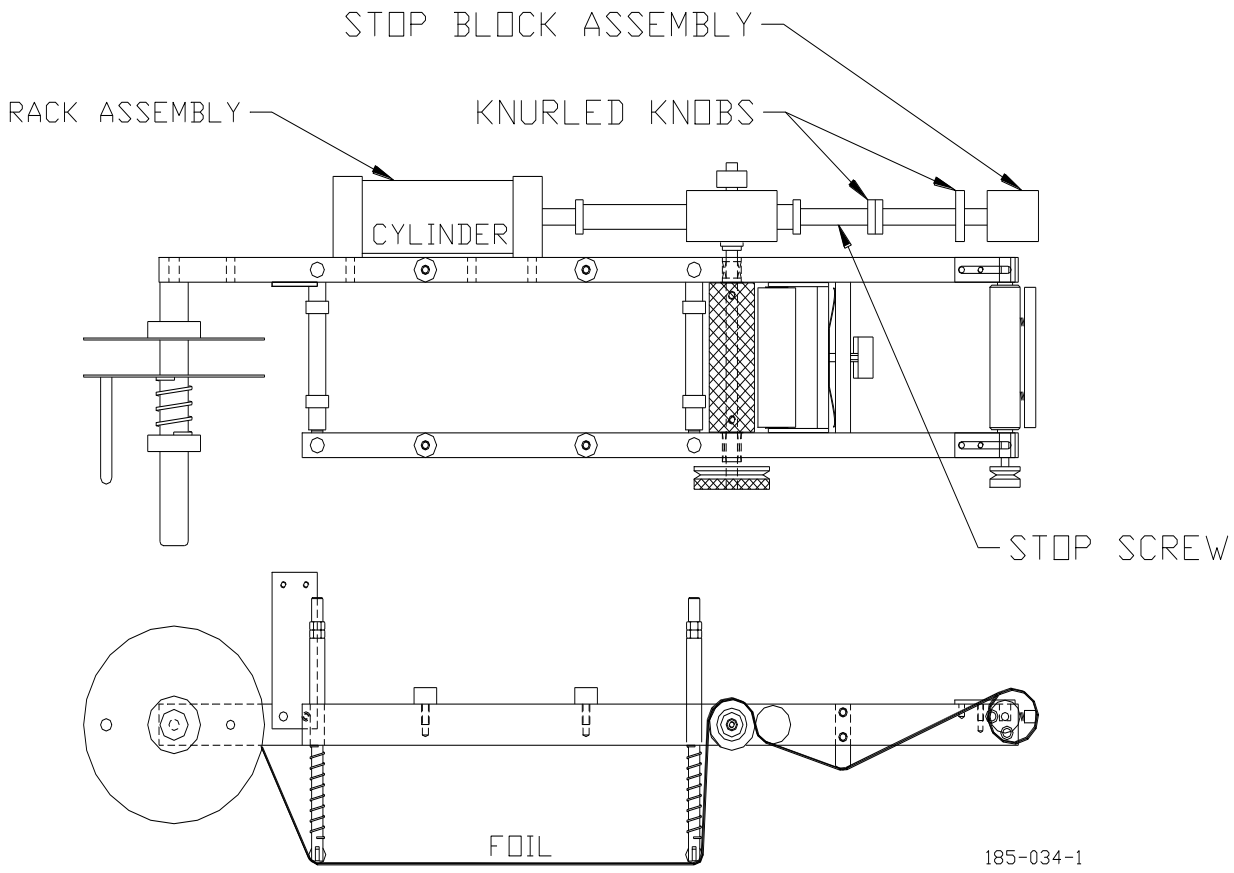
Mechanical Foil Feed (KF 500)

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 upstroke.



Pneumatic Leaf Pull (KF 500)

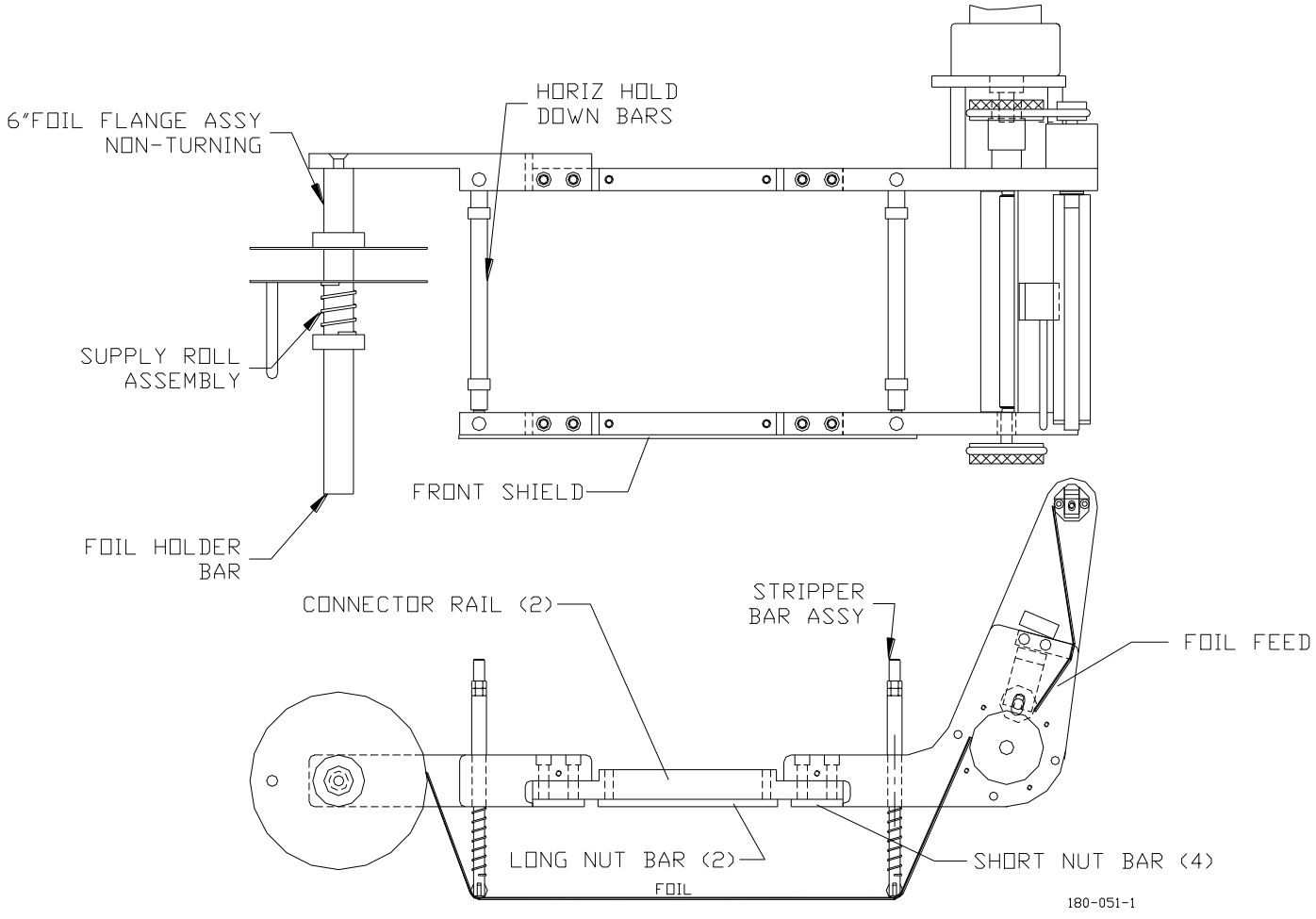
The amount of leaf pull on each stroke is determined by the position of the knurled knobs on the threaded stop screw protruding from the stop block at the end of the leaf pull bar. The more stroke the position of these knobs allows the leaf pull cylinder and rack assembly, the more will feed. To adjust, 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.

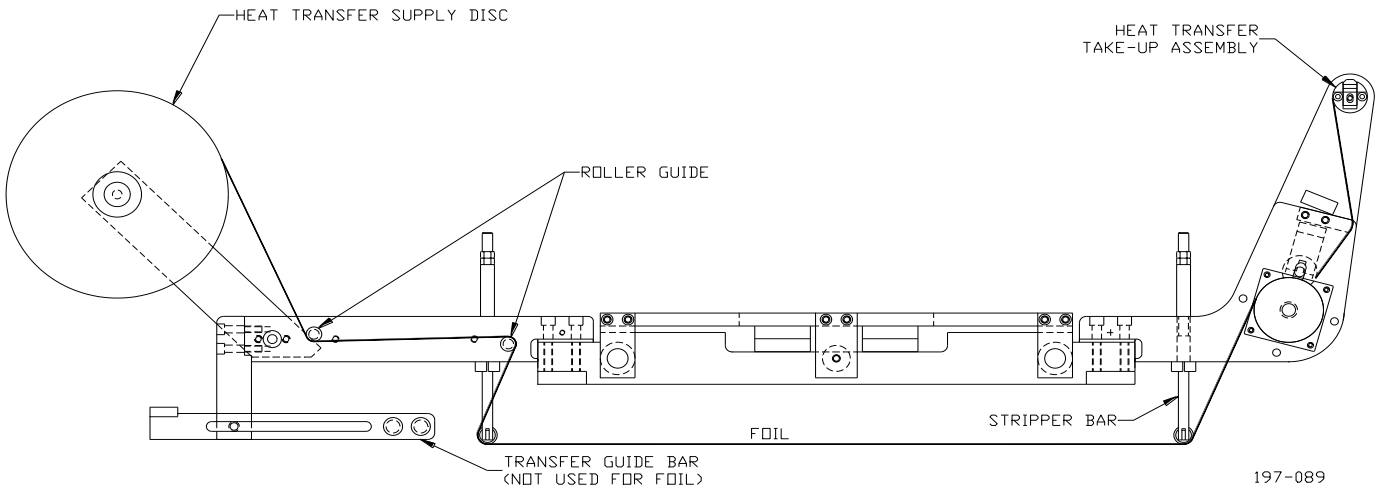


Electric Leaf Pull (KF 1000 & 2500)

The amount of pull is set on the control box by pressing the F1 key. Press clear, enter value for pull, press enter. Use the same sequence for foil pull delay. (Refer to programming instructions pg. 19 for more information.)

Heat Transfer Indexers (KF 1000 & 2500)




HEAT TRANSFER SUPPLY DISC
HEAT TRANSFER
TAKE-UP ASSEMBLY
ROLLER GUIDE
STRIPPER BAR
FOIL
TRANSFER GUIDE BAR
(NOT USED FOR FOIL)
197-089


STRIPPER BAR
FOIL
180-061-1
TRANSFER GUIDE BAR
(FOR LONG TRANSFERS)

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 a 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 areas 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.

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.

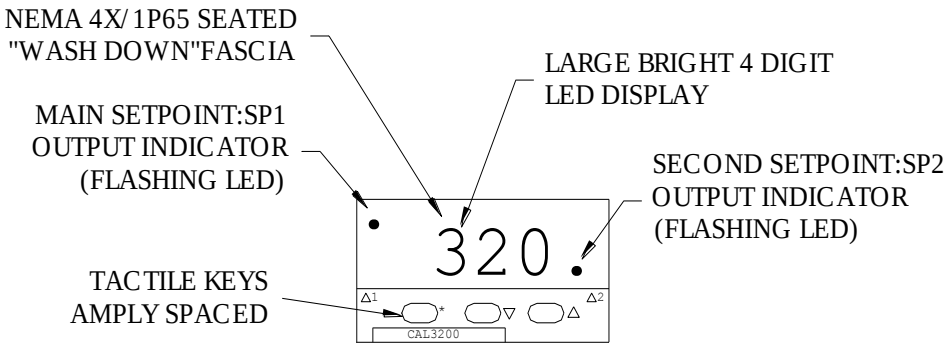
- Use a premium grade of high temperature grease on the main RAM.

- 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.

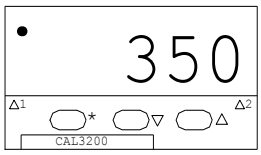
- Occasionally, grease the die clamping screw and die pivot clamp with high temperature grease.

TEMPERATURE CONTROL

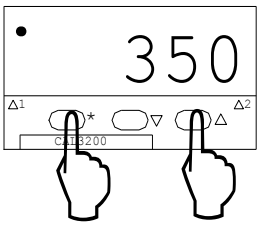


DISPLAYING

NORMAL DISPLAY
PROCESS TEMPERATURE



ADJUSTMENT OF SETPOINT



PRESS AND HOLD * BUTTON

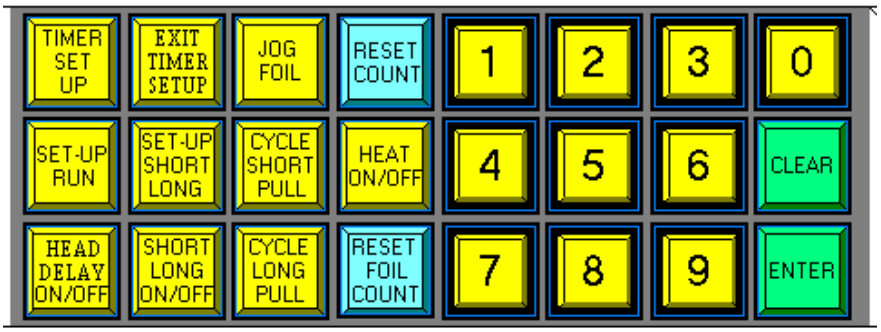
ADJUST T° UP △

DOWN ▽

RELEASE * BUTTON

PROGRAMMING INSTRUCTIONS

STANDARD ELECTRICAL SYSTEM (GE-MPL-01-B)



To change all values:
Press clear, enter new value, press enter.

Timer set up
Sets up head, dwell, foil pull delay, foil pull time,
Optional: head up distance, and head up delay time.

Set-up/run
Toggles press between run & set-up mode
Run mode, press will operate in normal mode
Set-up mode, head will come down and stay down until set-up/run is toggled again, returning press to run mode.

Head delay on/off
Turns head up delay on & off **Note;** this is an optional feature and may not be equipped on all presses.

Exit timer setup
Lets operator exit timer screens at any time

Set-up short long foil pulls
Sets up short foil pull time and number of repeats required, followed by long pull time required

Short Long on/off
Turns short/long foil feature on & off

Foil jog
Jogs foil while button is pressed

Cycle short pull
Cycles foil amount entered in short foil pull timer

Cycle long pull
Cycles foil amount entered in long foil pull timer

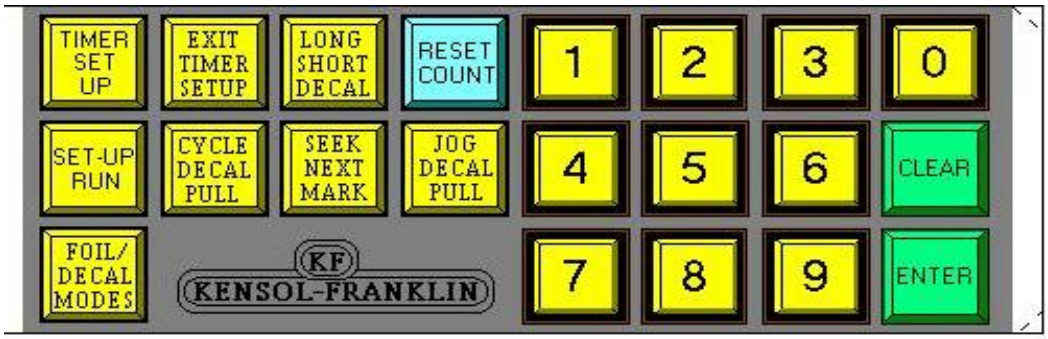
Reset count
Resets cycle counter, (press and hold button for 2 seconds)

Heat on/off
Turns heat on & off

Reset foil count
Resets foil count (short/long) sequence.

PROGRAMMING INSTRUCTIONS

STANDARD ELECTRICAL EYE SYSTEM (GE-MPL-02-B)



To change all values:
Press clear, enter new value, press enter.

Timer set up:
Sets up head, dwell, foil pull delay, foil pull time,
Optional: head up distance, and head up delay time.

Exit timer setup:
Returns to main menu

Foil/decal modes:
Toggles between standard foil pull, and light and dark decal modes

Long short decal:
Short decal uses slow speed only to find eye mark. Long decal uses both fast speed and slow speed to find eye mark.

Heat on/off:
Turns heat on & off

Jog decal pull:
Jogs foil while button is pressed

Cycle decal pull:
Cycles foil amount entered in foil pull timer

Seek next eye mark:
Cycles foil to next eye mark

Set-up/run:
Toggles press between run & set-up mode
Run mode, press will operate in normal mode
Set-up mode, head will come down and stay down until set-up/run is toggled again, returning press to run mode.

Reset count:
Resets cycle counter, (press and hold button for 2 seconds)

Note: Numbered speed control knob is used for decal mode only. This sets the slow speed only used to find the eye mark.

HEAT TRANSFER INDEXER

ELECTRICAL CONTROL – SETUP

ELECTRIC EYE – TRITRONICS CONTROL:

Initial setup - fibers should be adjusted so that there is a ¼ space between fiber optic cables. Place transfer so that the fibers are between the eye spots. Contrast indicator scale should read 8 or above. If less than 8 remove plastic plug on top of scanner and adjust internal pot with a small screwdriver so that a reading of 8 is obtained. If the carrier is Kraft Paper you may have to move the fiber optic cables closer together to obtain a reading of 8.

Next place the eye spot between the fibers. The contrast indicator should be 3 or below. The switch over point on the Tritronics control is 5 – minimum 2 points either side of 5 is preferred for consistent results.

FAST PULL TIME:

High speed advance between eye spots. Adjust time so that the transfer drive switches to low speed approximately 1" before the next eye spot.

SLOW SPEED:

Set adjustment knob to slowest speed (#5) for maximum registration accuracy.

SETUP:

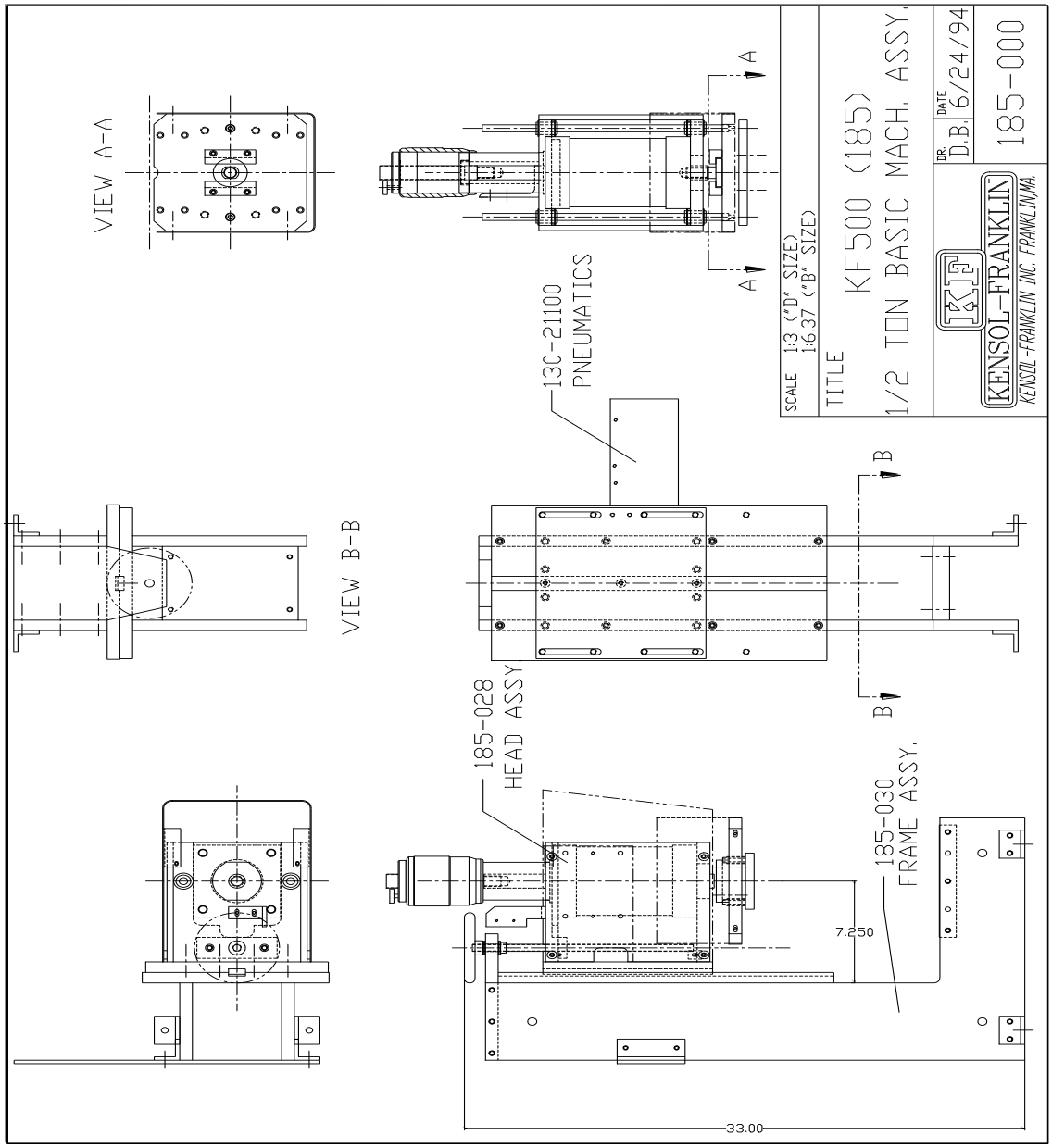
ON ANALOG CONVERSION UNITS:

Adjust actuation switch cam so that transfer is vertically stripped from part before high speed advance begins.

ON MICROPROCESSOR CONVERSION UNITS:

Press web or decal jog button to test web speed and registration – make adjustments to obtain a smooth transfer advance. On microprocessor based controls press decal seek button to advance web in slow speed to the next eye spot.

KF 500 Machine Drawings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130-21100
PNEUMATICS
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1:6.37 ("B" SIZE)
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KF500 (185)
1/2 TON BASIC MACH. ASSY.
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR D.B.
DATE 6/24/94
185-000
VIEW B-B
B
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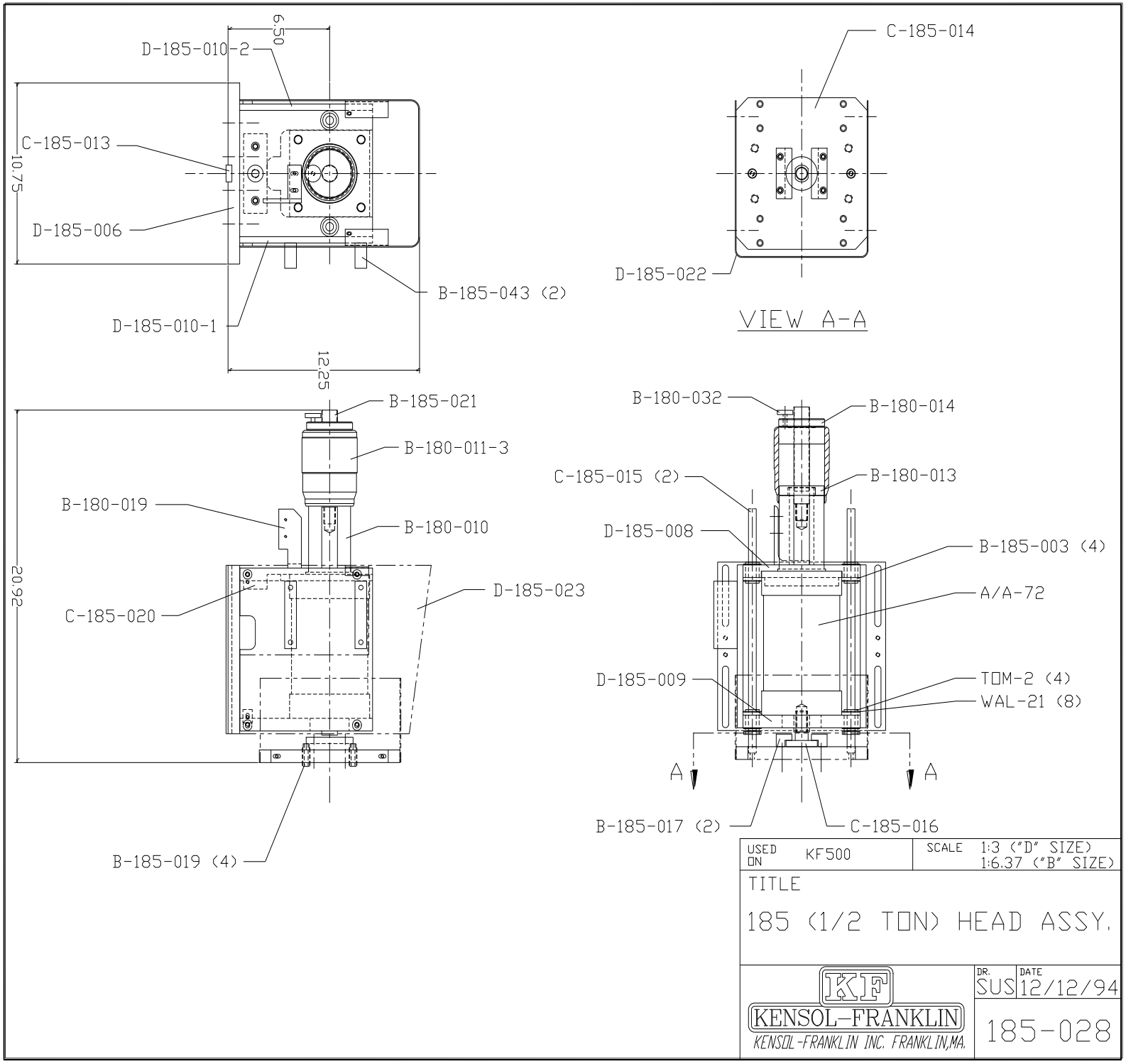
185-028
HEAD ASSY
185-030
FRAME ASSY.
7.250
33.00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A/A-72
D-185-009
TOM-2 (4)
WAL-21 (8)
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USED ON KF500
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TITLE
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KF
KENSOL-FRANKLIN
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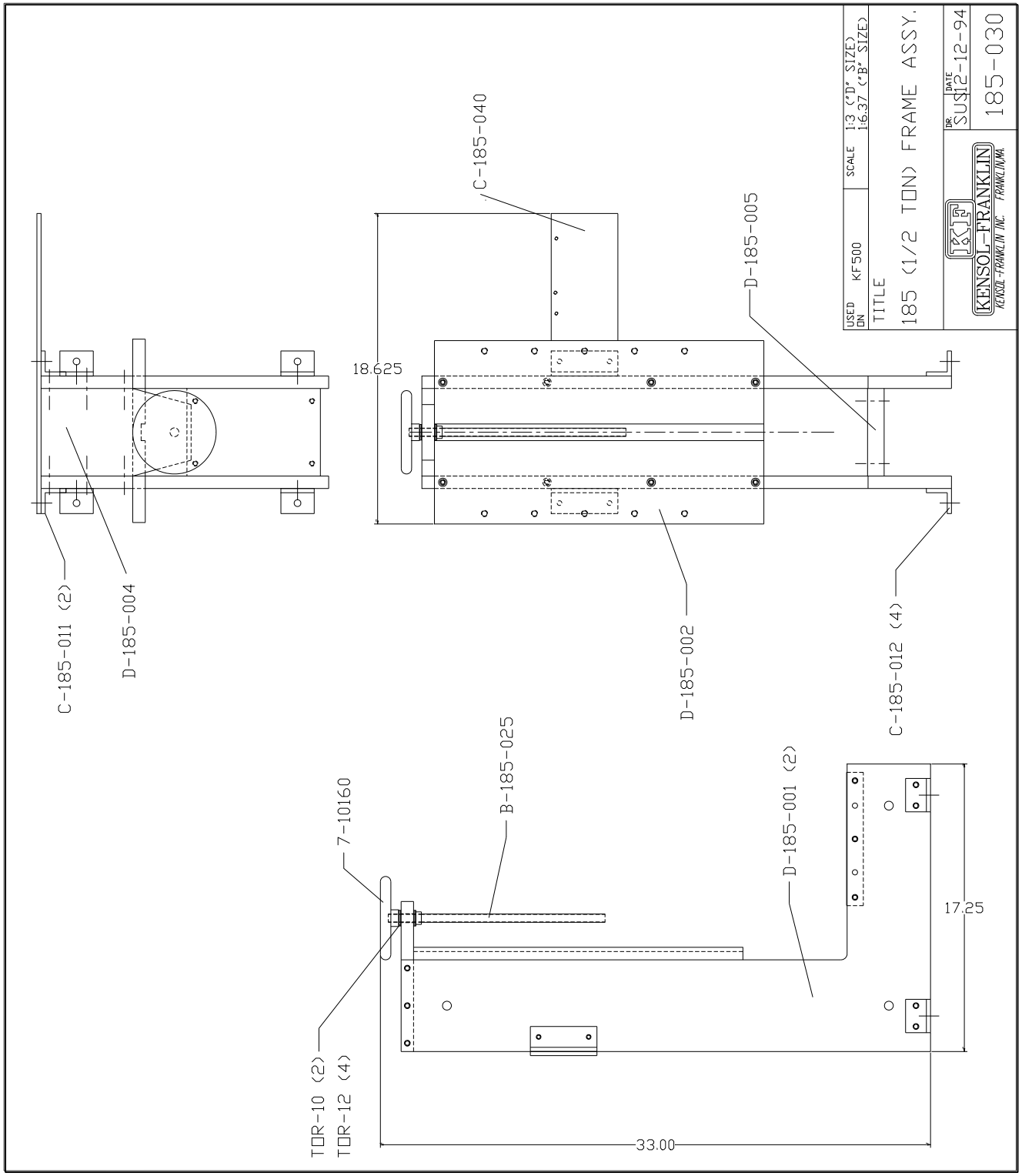
DR. SUS
DATE 12/12/94
185-028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D-185-005
18.625
C-185-011 (2)
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D-185-002
C-185-012 (4)
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TOR-10 (2)
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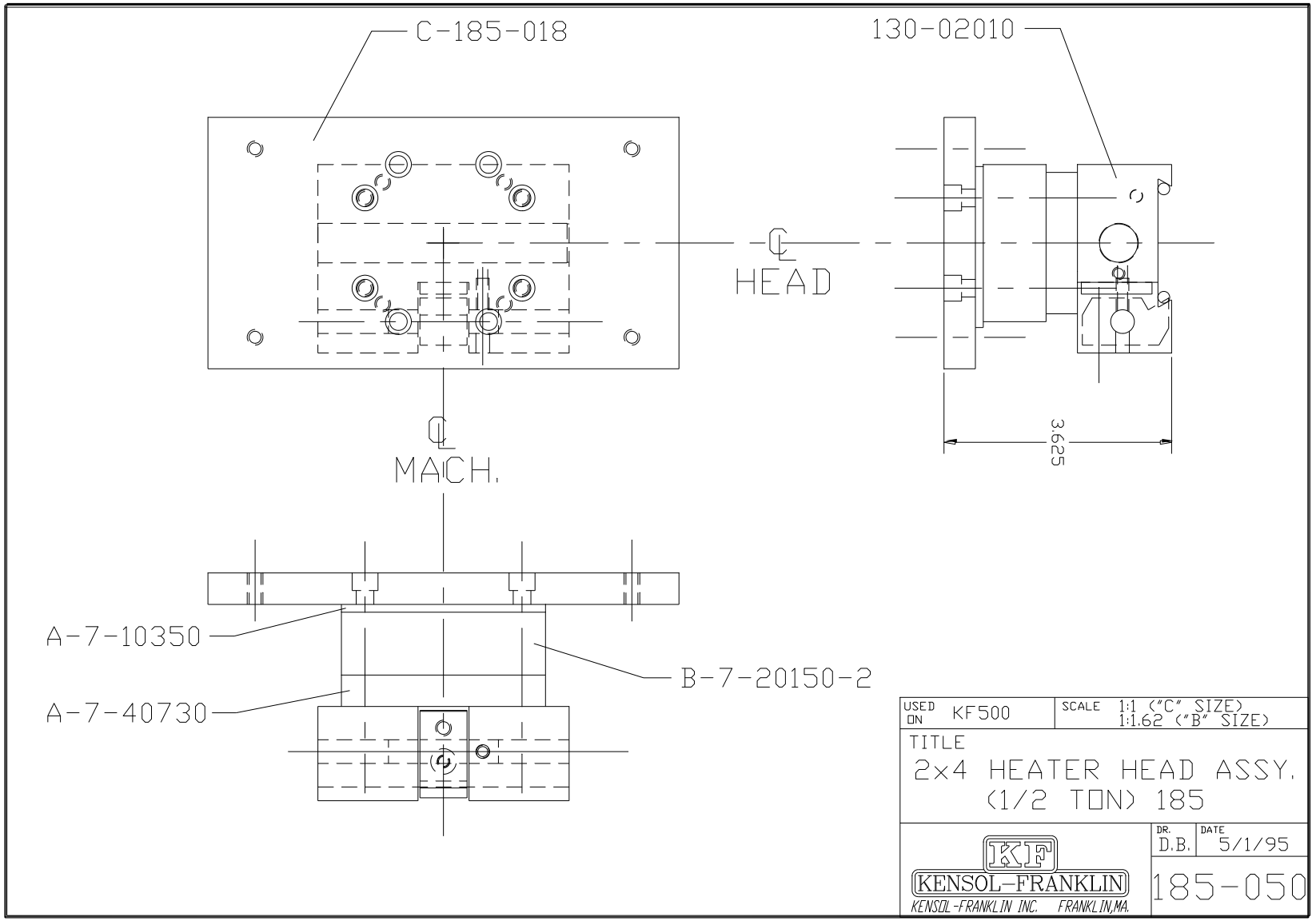
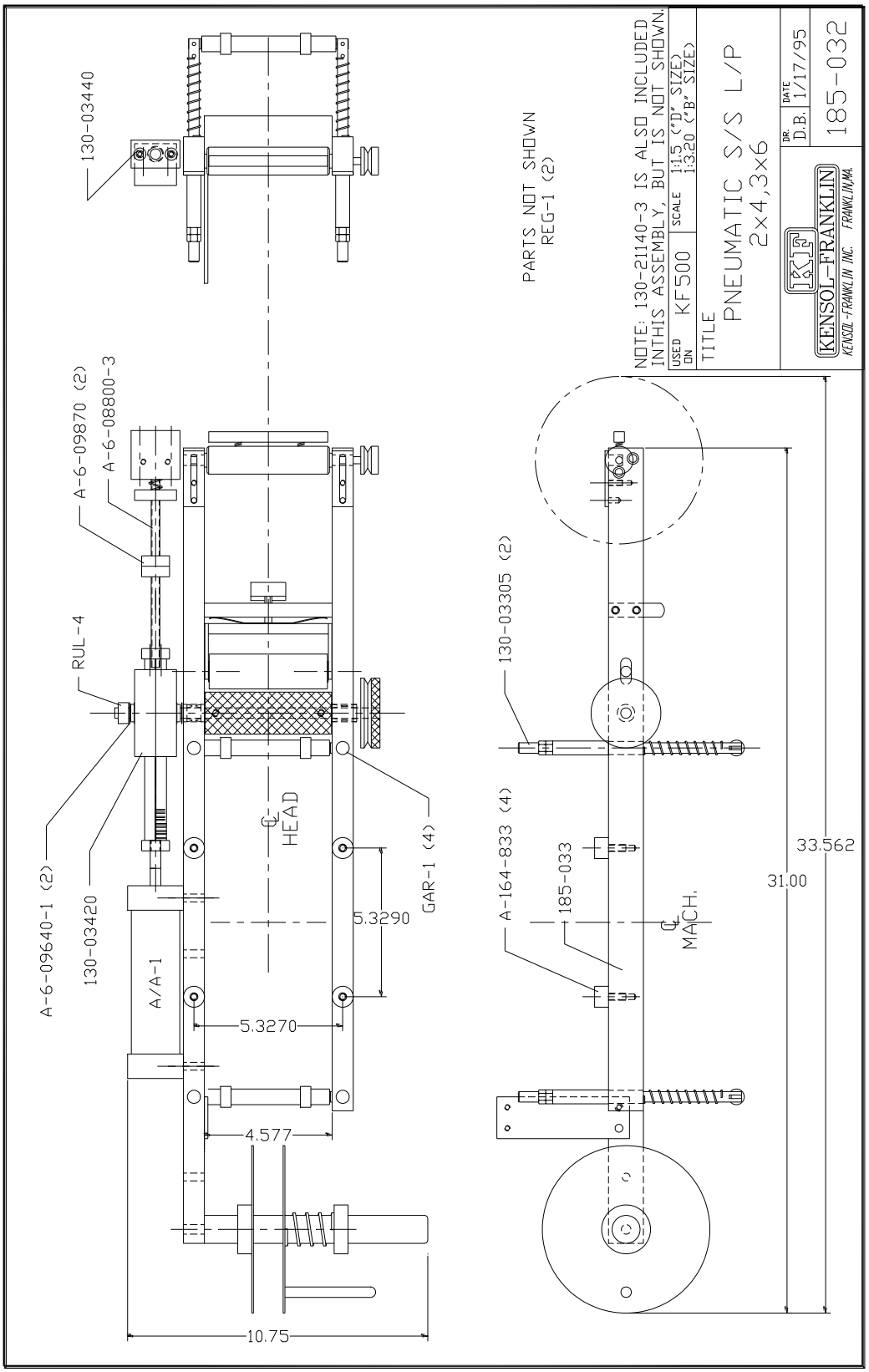
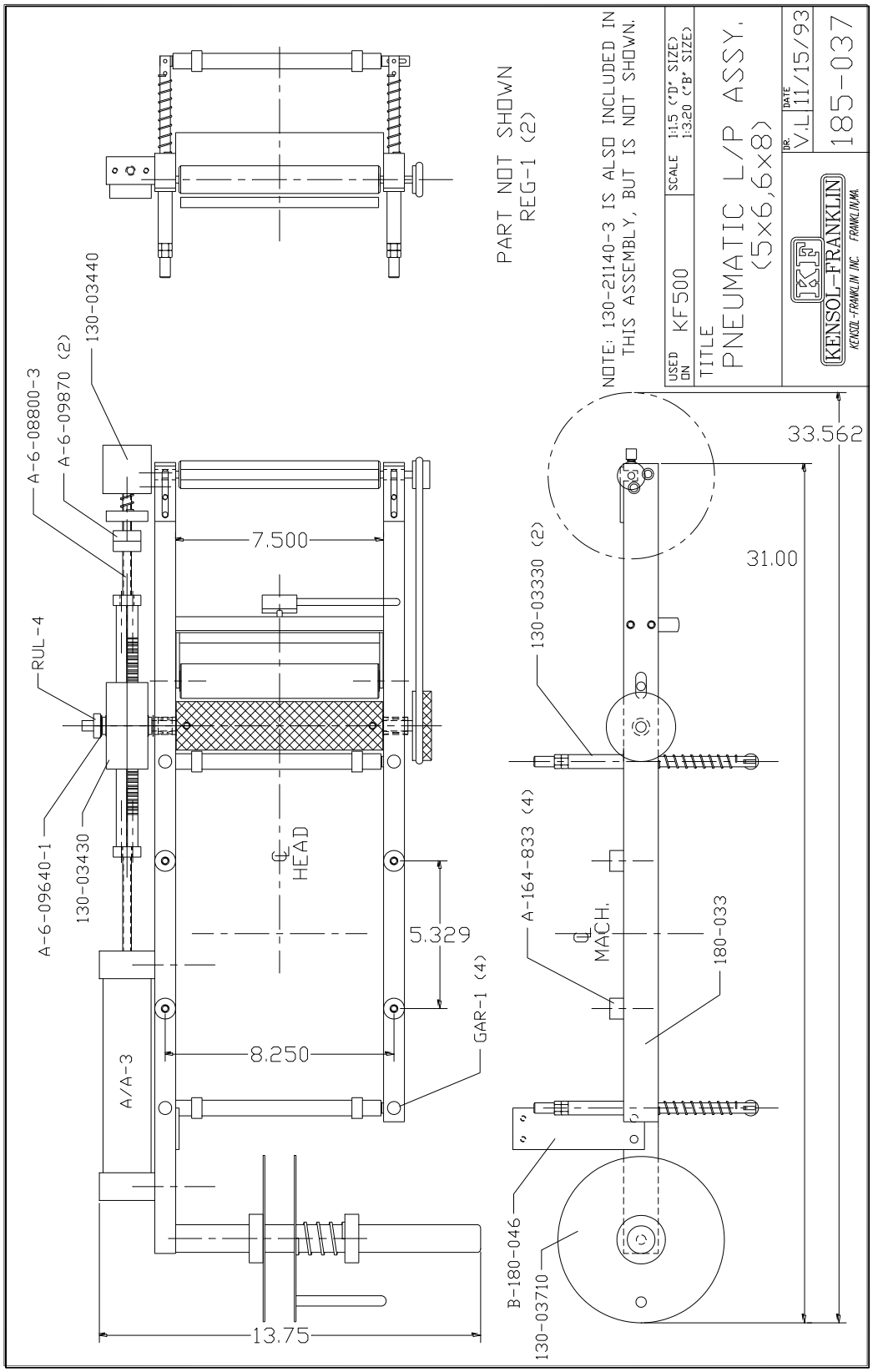
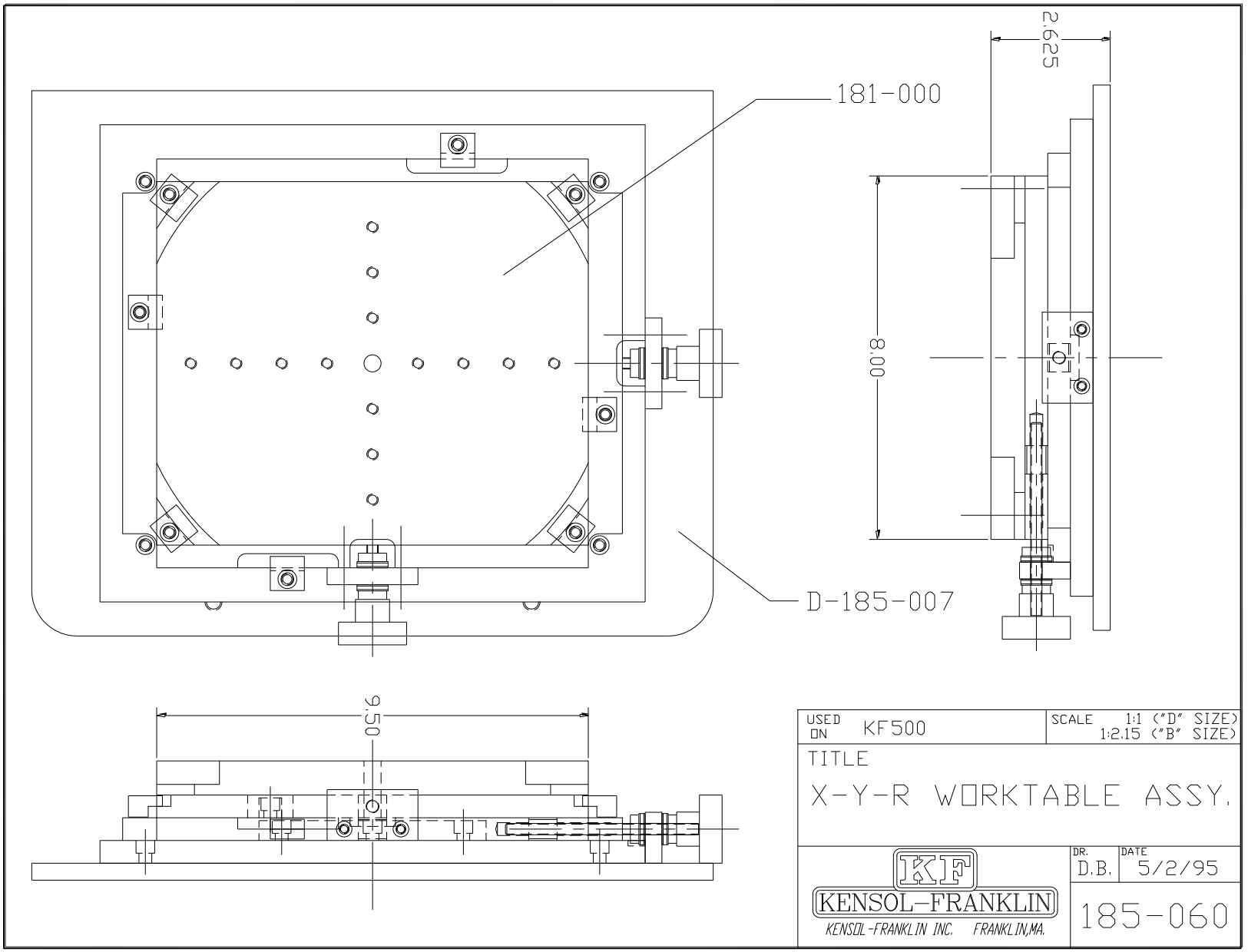
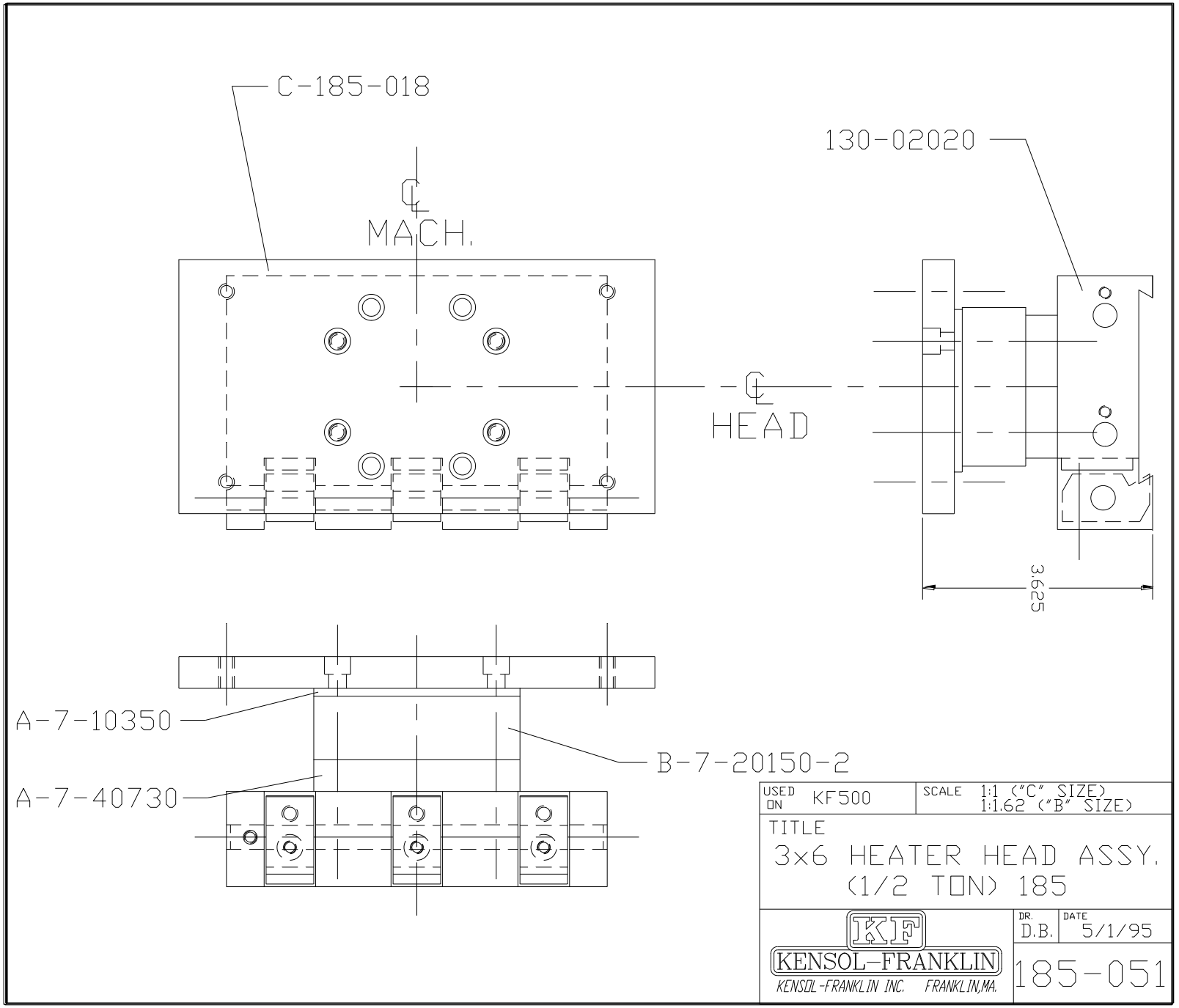
33.00
USED ON KF500
SCALE 1:3 ("D" SIZE) 1:6.37 ("B" SIZE)
TITLE
185 (1/2 TON) FRAME ASSY.
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR SUS
DATE 12-94
185-030

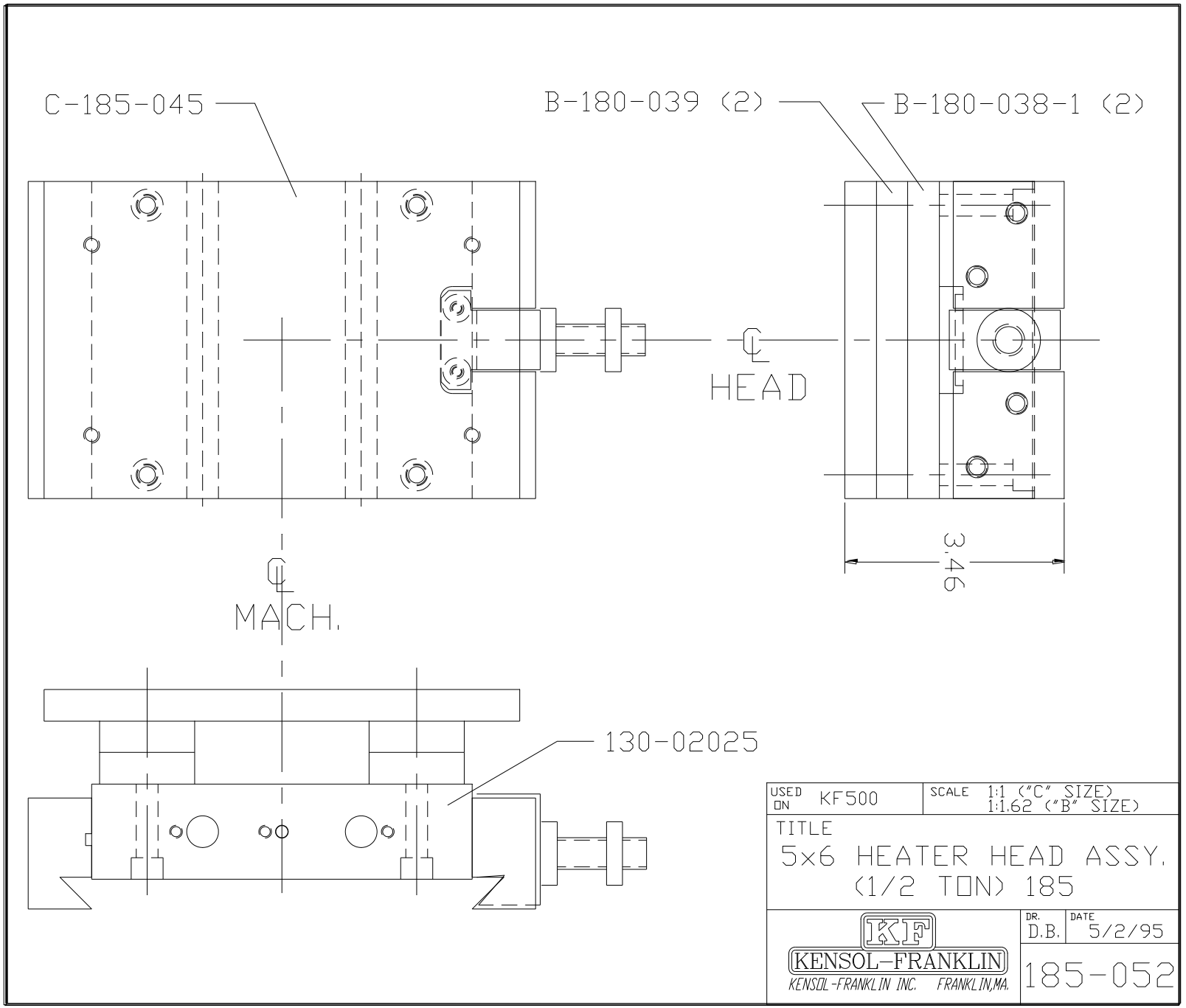

C-185-018
130-02010
HEAD
MACH.
3.625
A-7-10350
A-7-40730
B-7-20150-2
USED ON KF500
SCALE 1:1 ("C" SIZE) 1:1.62 ("B" SIZE)
TITLE
2x4 HEATER HEAD ASSY. (1/2 TON) 185
DR. D.B.
DATE 5/1/95
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
185-050


130-03440
A-6-09870 (2)
A-6-08800-3
RUL-4
A-6-09640-1 (2)
130-03420
A/A-1
℄ HEAD
GAR-1 (4)
5.3290
5.3270
4.577
10.75
PARTS NOT SHOWN
REG-1 (2)
130-03305 (2)
A-164-833 (4)
185-033
℄ MACH.
33.562
31.00
NOTE: 130-21140-3 IS ALSO INCLUDED
INTHIS ASSEMBLY, BUT IS NOT SHOWN.
USED ON KF500
SCALE 1:1.5 ("D" SIZE) 1:3.20 ("B" SIZE)
TITLE
PNEUMATIC S/S L/P
2×4,3×6
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 1/17/95
185-032

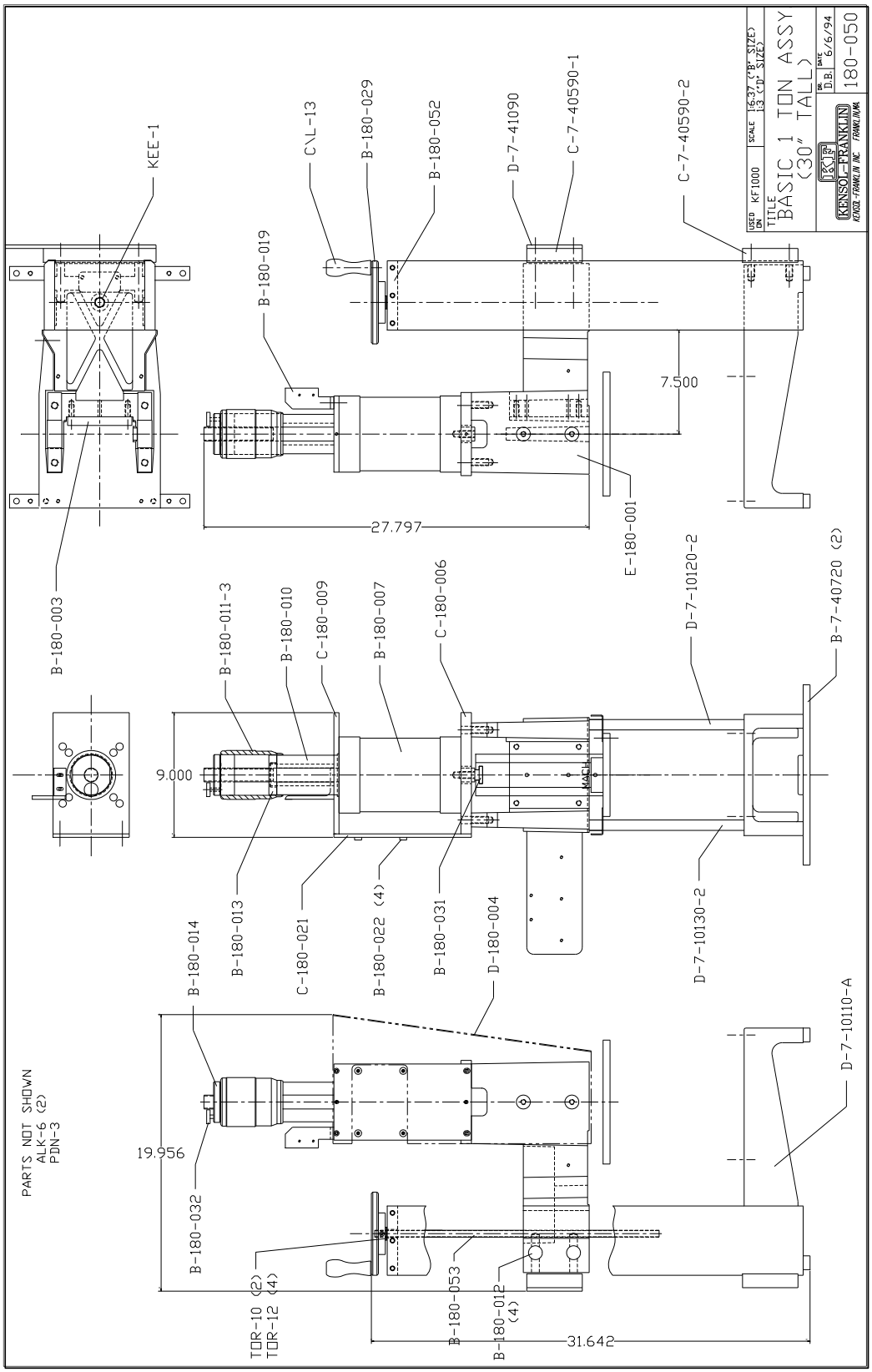

PART NOT SHOWN
REG-1 (2)
NOTE: 130-21140-3 IS ALSO INCLUDED IN THIS ASSEMBLY, BUT IS NOT SHOWN.
USED ON KF500
SCALE 1:1.5 ("D" SIZE) 1:3.20 ("B" SIZE)
TITLE
PNEUMATIC L/P ASSY, (5x6,6x8)
DR. V.L
DATE 11/15/93
185-037
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
A-6-08800-3
A-6-09870 (2)
130-03440
RUL-4
A-6-09640-1
130-03430
A/A-3
7.500
℄ HEAD
5.329
8.250
GAR-1 (4)
13.75
130-03330 (2)
A-164-833 (4)
℄ MACH.
180-033
B-180-046
130-03710
31.00
33.562

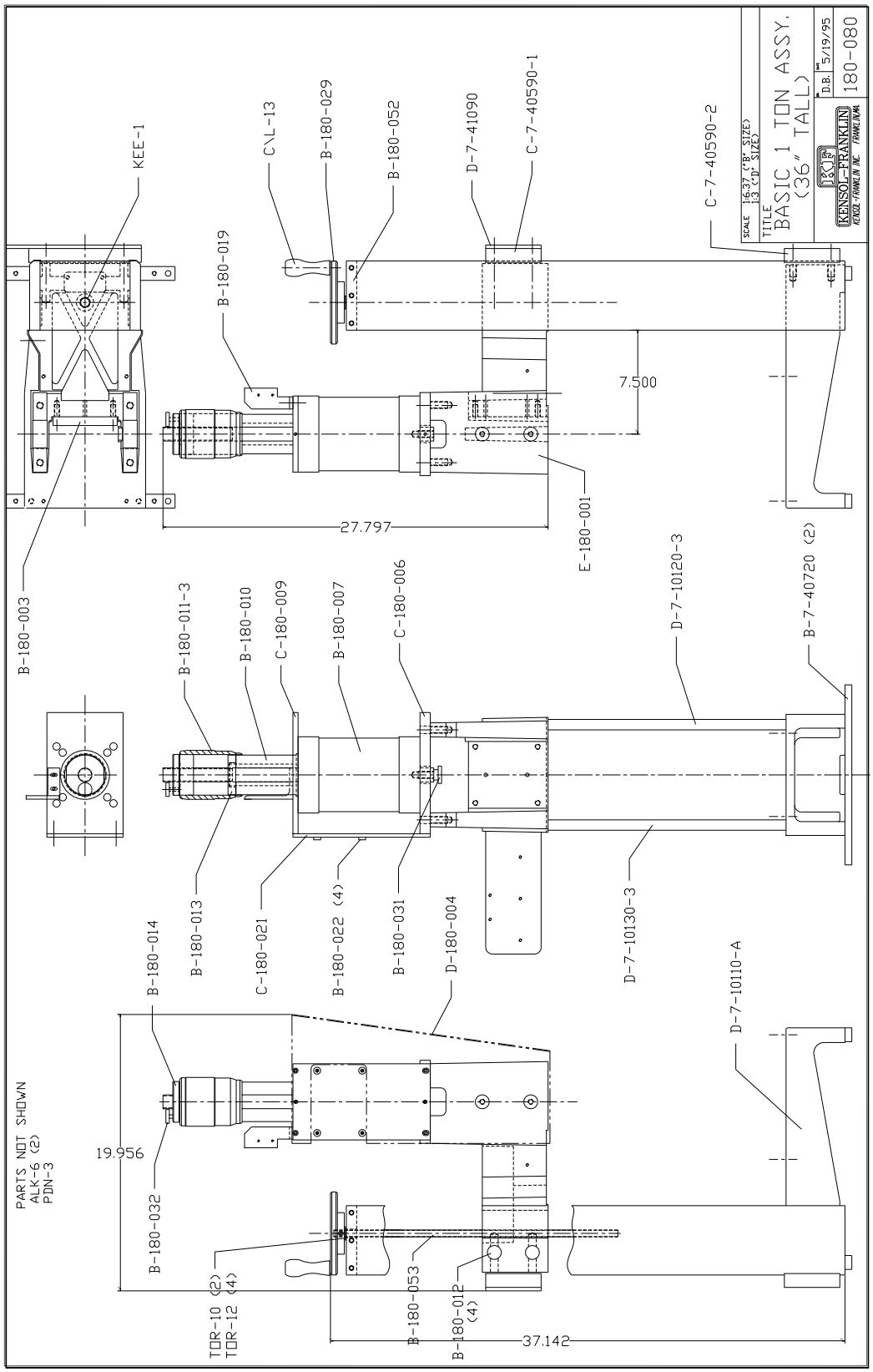

2.625
181-000
8.00
D-185-007
9.50
USED ON KF500
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
TITLE
X-Y-R WORKTABLE ASSY.
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 5/2/95
185-060

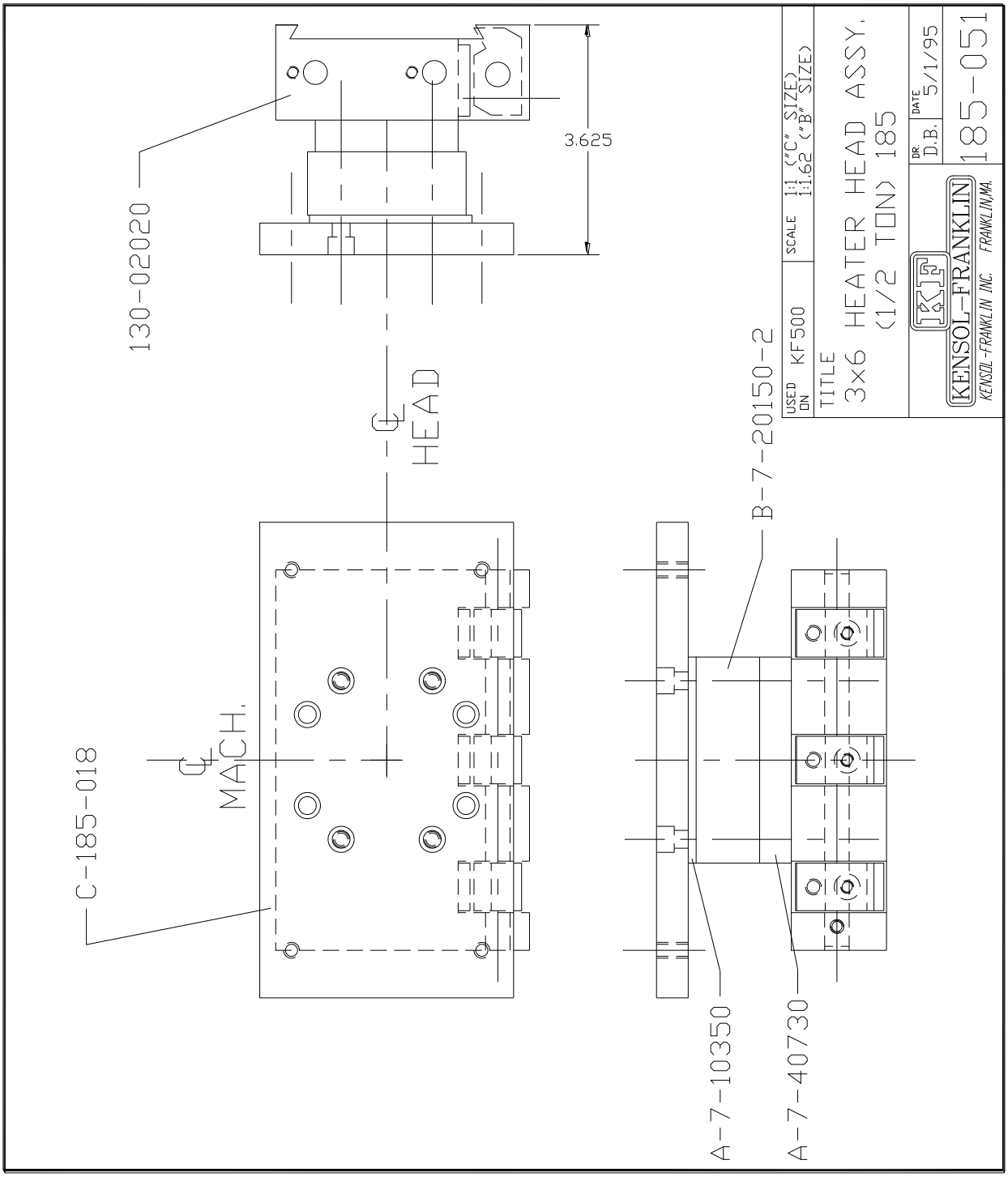

C-185-018
130-02020
MACH.
HEAD
3.625
A-7-10350
B-7-20150-2
A-7-40730
USED ON KF500
SCALE 1:1 ("C" SIZE) 1:1.62 ("B" SIZE)
TITLE
3x6 HEATER HEAD ASSY. (1/2 TON) 185
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 5/1/95
185-051

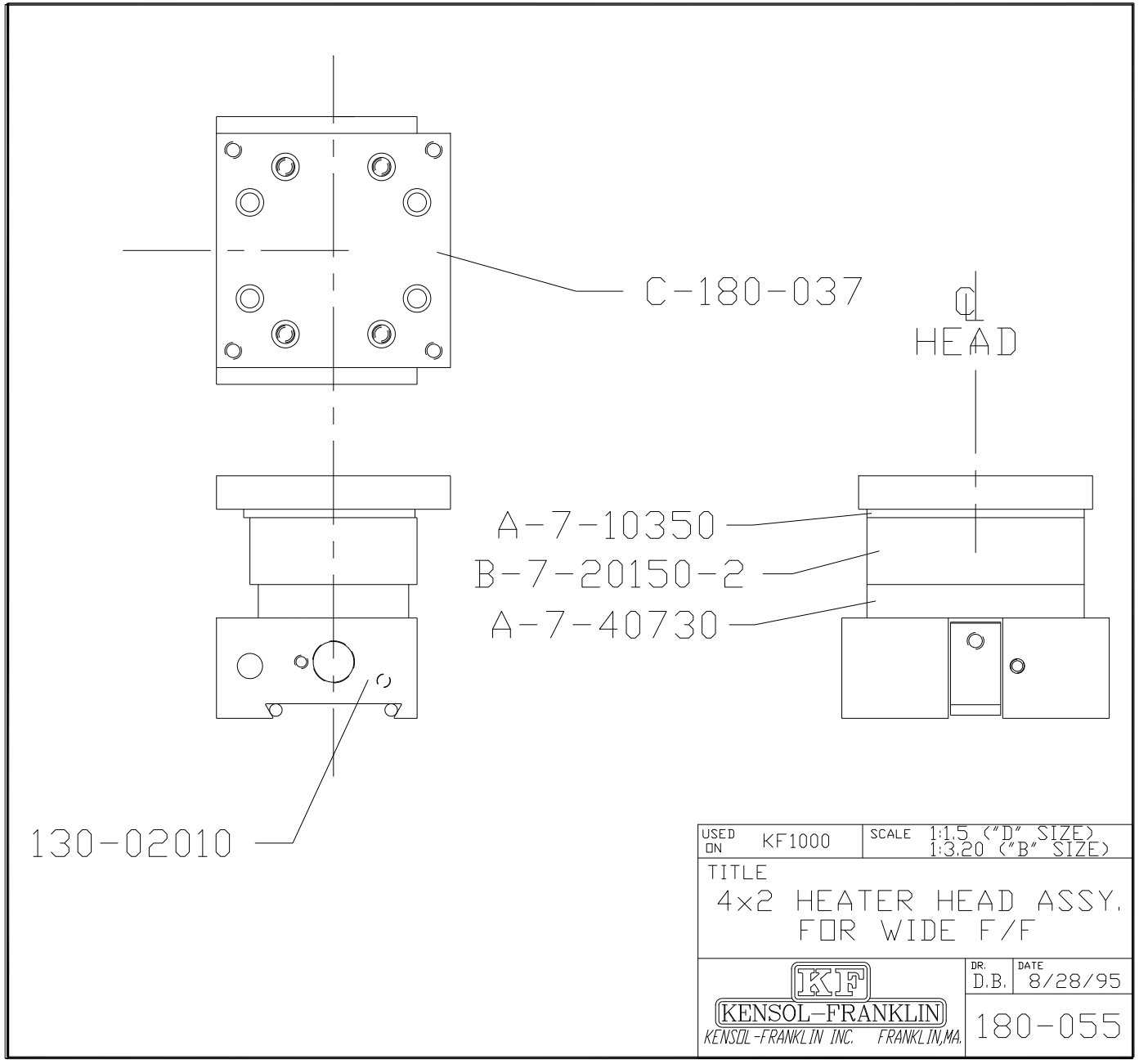

C-185-045
B-180-039 (2)
B-180-038-1 (2)
℄
HEAD
3.46
℄
MACH.
130-02025
USED ON KF500
SCALE 1:1 ("C" SIZE)
1:1.62 ("B" SIZE)
TITLE
5x6 HEATER HEAD ASSY.
(1/2 TON) 185
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 5/2/95
185-052

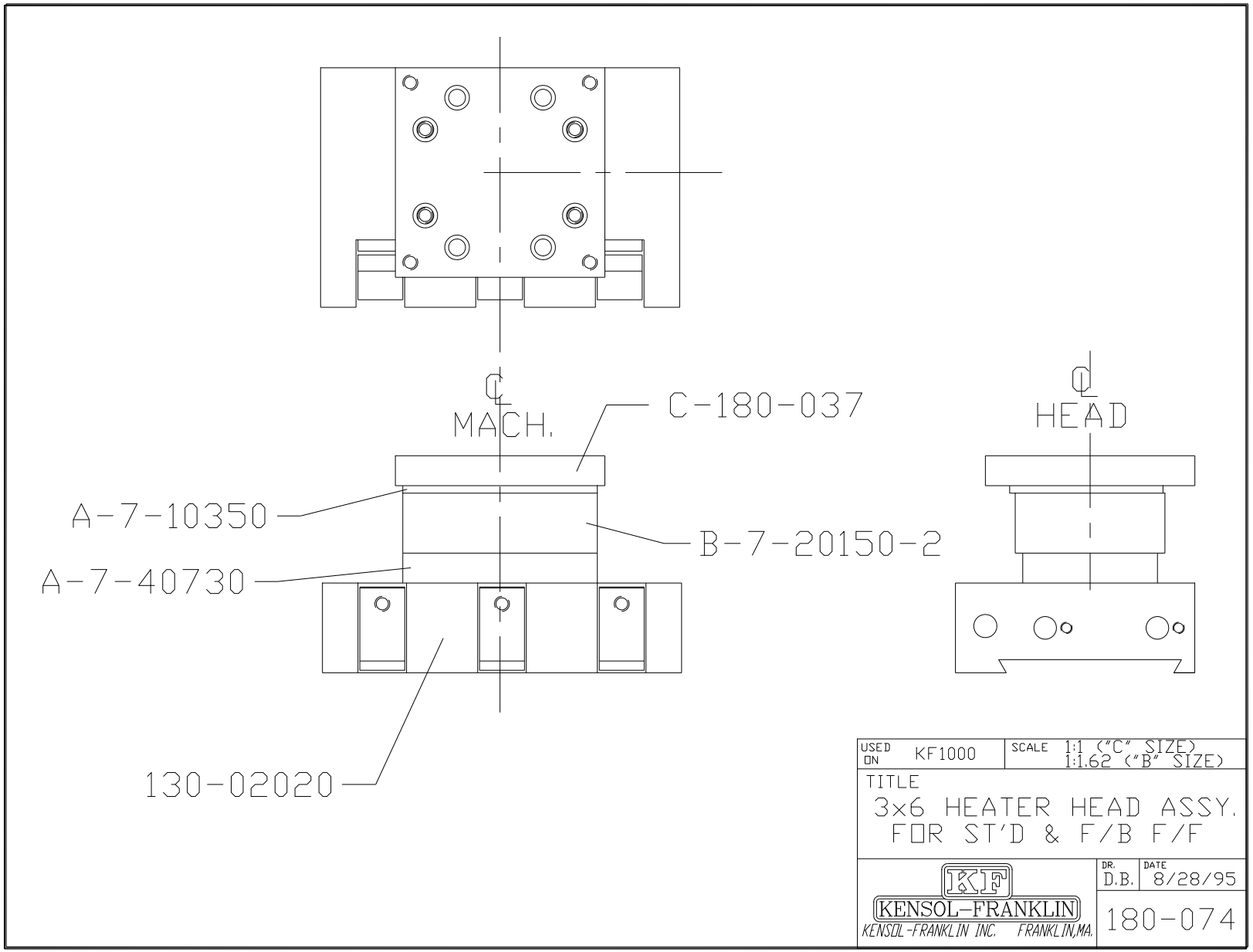
KF 1000 Machine Drawings

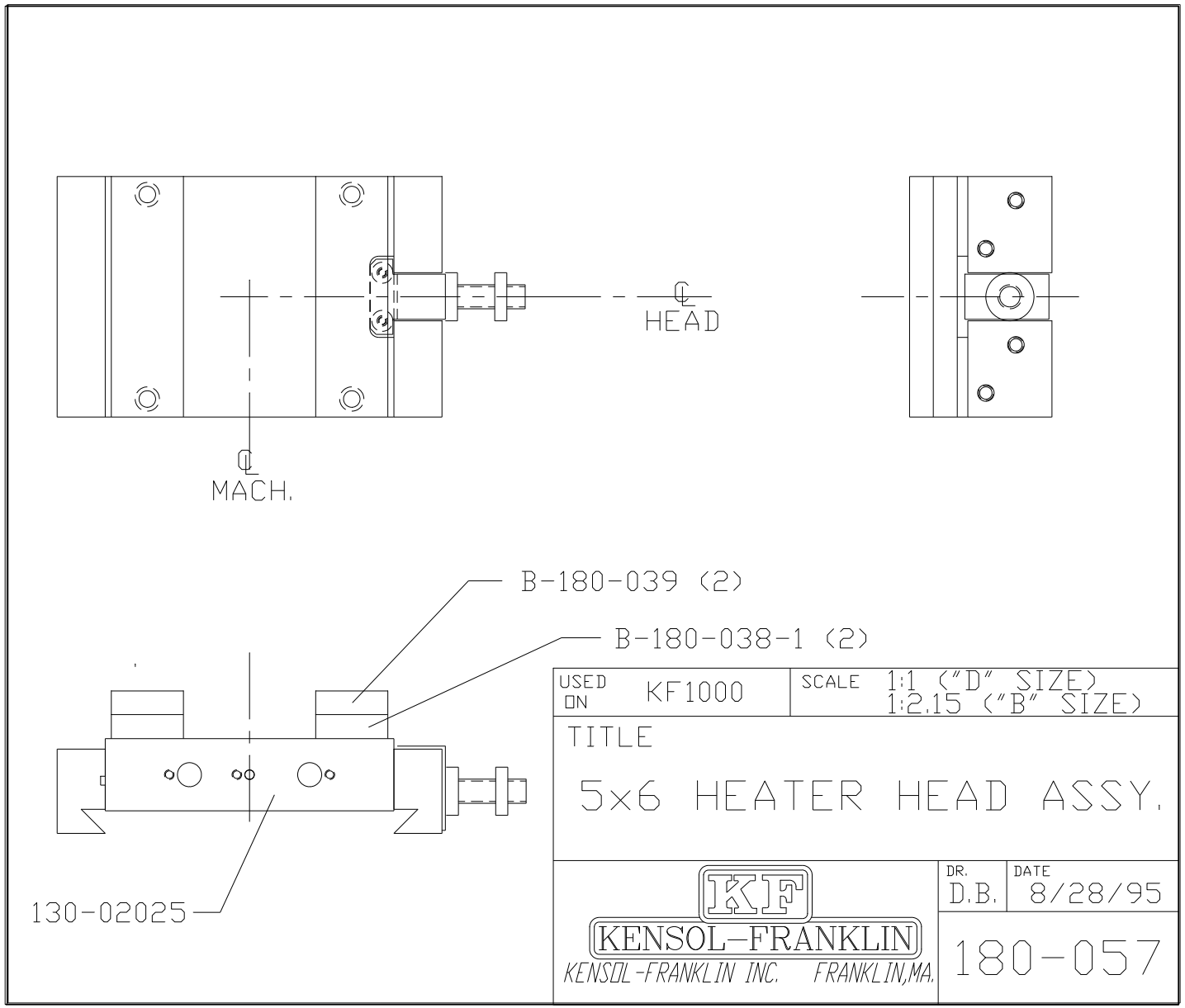

KEE-1
CVL-13
B-180-029
B-180-052
D-7-41090
C-7-40590-1
C-7-40590-2
B-180-019
7.500
27.797
E-180-001
B-180-003
B-180-011-3
B-180-010
C-180-009
B-180-007
C-180-006
D-7-10120-2
B-7-40720 (2)
9.000
B-180-013
C-180-021
B-180-022 (4)
B-180-031
D-180-004
B-180-014
D-7-10130-2
D-7-10110-A
19.956
B-180-032
TOR-10 (2)
TOR-12 (4)
B-180-053
B-180-012 (4)
31.642
PARTS NOT SHOWN
ALK-6 (2)
PIN-3
USED ON KF1000
SCALE 1:6.37 ("B" SIZE) 1:3 ("D" SIZE)
TITLE
BASIC 1 TON ASSY (30" TALL)
DR. D.B.
DATE 6/6/94
180-050
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC FRANKLIN MA

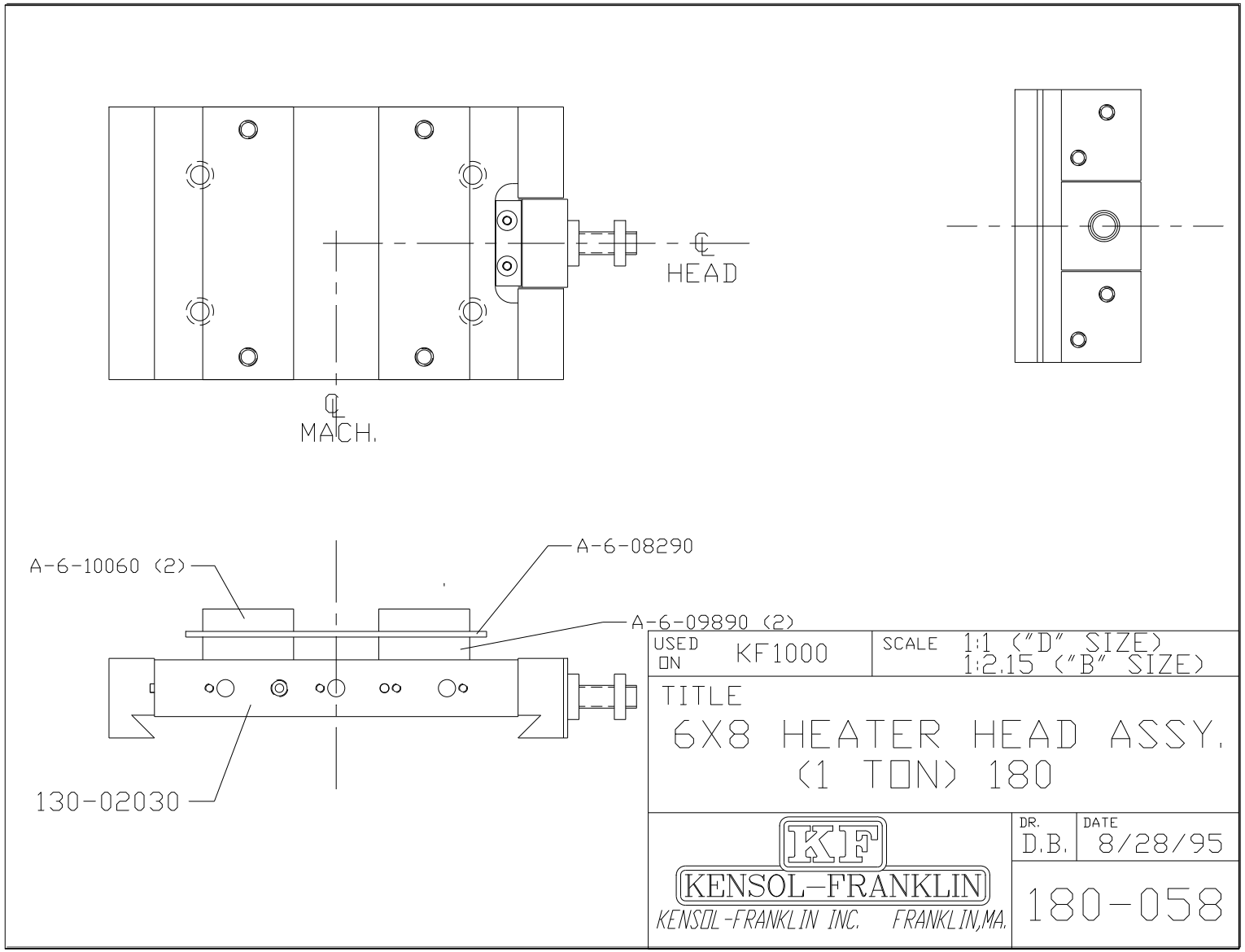

KEE-1
CYL-13
B-180-029
B-180-052
D-7-41090
C-7-40590-1
C-7-40590-2
B-180-019
7.500
27.797
E-180-001
B-180-003
B-180-011-3
B-180-010
C-180-009
B-180-007
C-180-006
D-7-10120-3
B-7-40720 (2)
B-180-013
C-180-021
B-180-022 (4)
B-180-031
D-180-004
D-7-10130-3
B-180-014
D-7-10110-A
19.956
B-180-032
TOR-10 (2)
TOR-12 (4)
B-180-053
B-180-012 (4)
37.142
PARTS NOT SHOWN
ALK-6 (2)
PDN-3
SCALE 1:6.37 ("B" SIZE)
1:3 ("D" SIZE)
TITLE
BASIC 1 TON ASSY.
(36" TALL)
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN, MA
D.B. 5/19/95
180-080

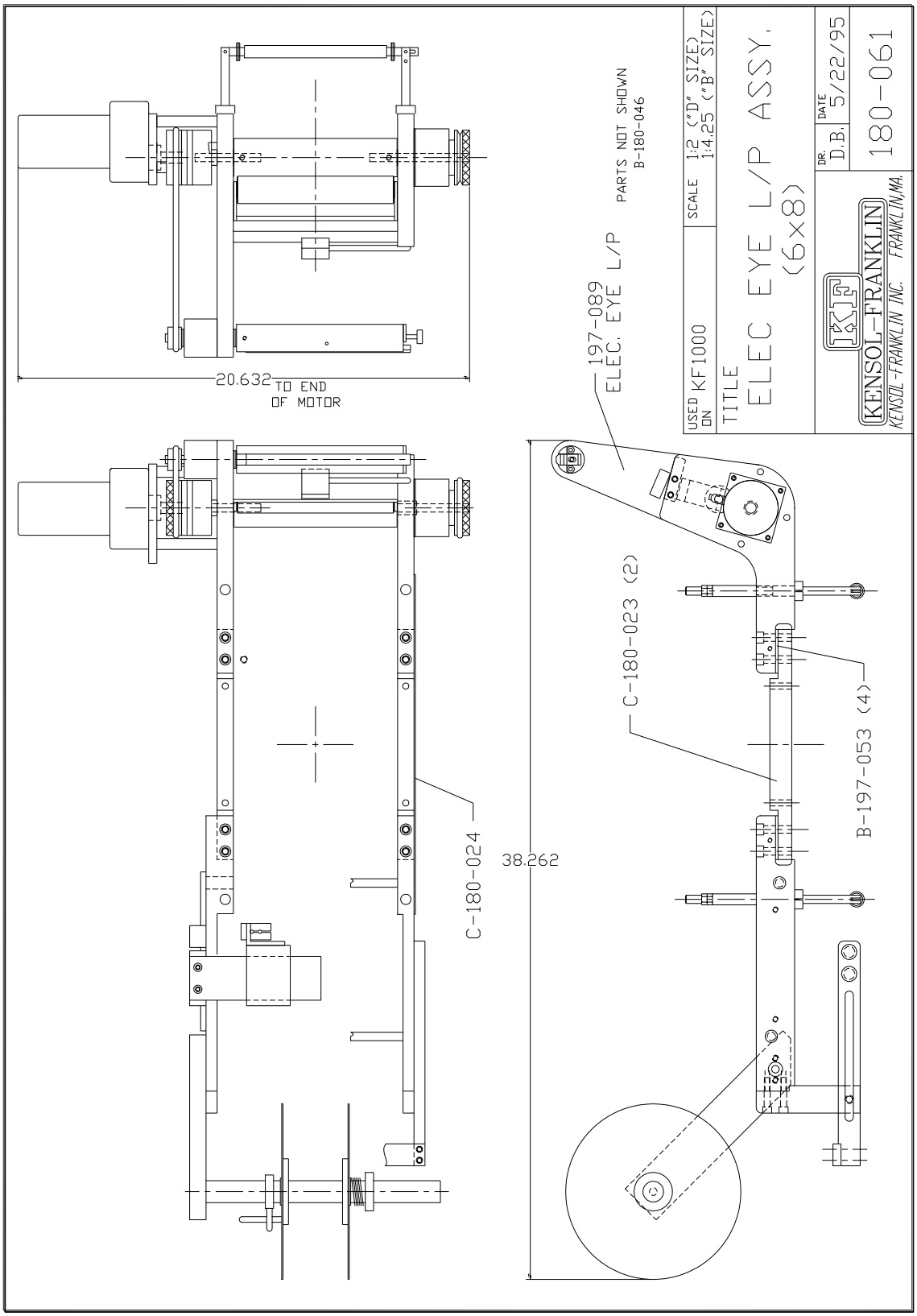

130-02020
3.625
℄ HEAD
B-7-20150-2
C-185-018
℄ MACH.
A-7-10350
A-7-40730
USED ON KF500
SCALE 1:1 ("C" SIZE) 1:1.62 ("B" SIZE)
TITLE
3x6 HEATER HEAD ASSY. (1/2 TON) 185
DR. D.B.
DATE 5/1/95
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
185-051


C-180-037
HEAD
A-7-10350
B-7-20150-2
A-7-40730
130-02010
USED ON KF1000
SCALE 1:1.5 ("D" SIZE) 1:3.20 ("B" SIZE)
TITLE
4x2 HEATER HEAD ASSY. FOR WIDE F/F
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 8/28/95
180-055

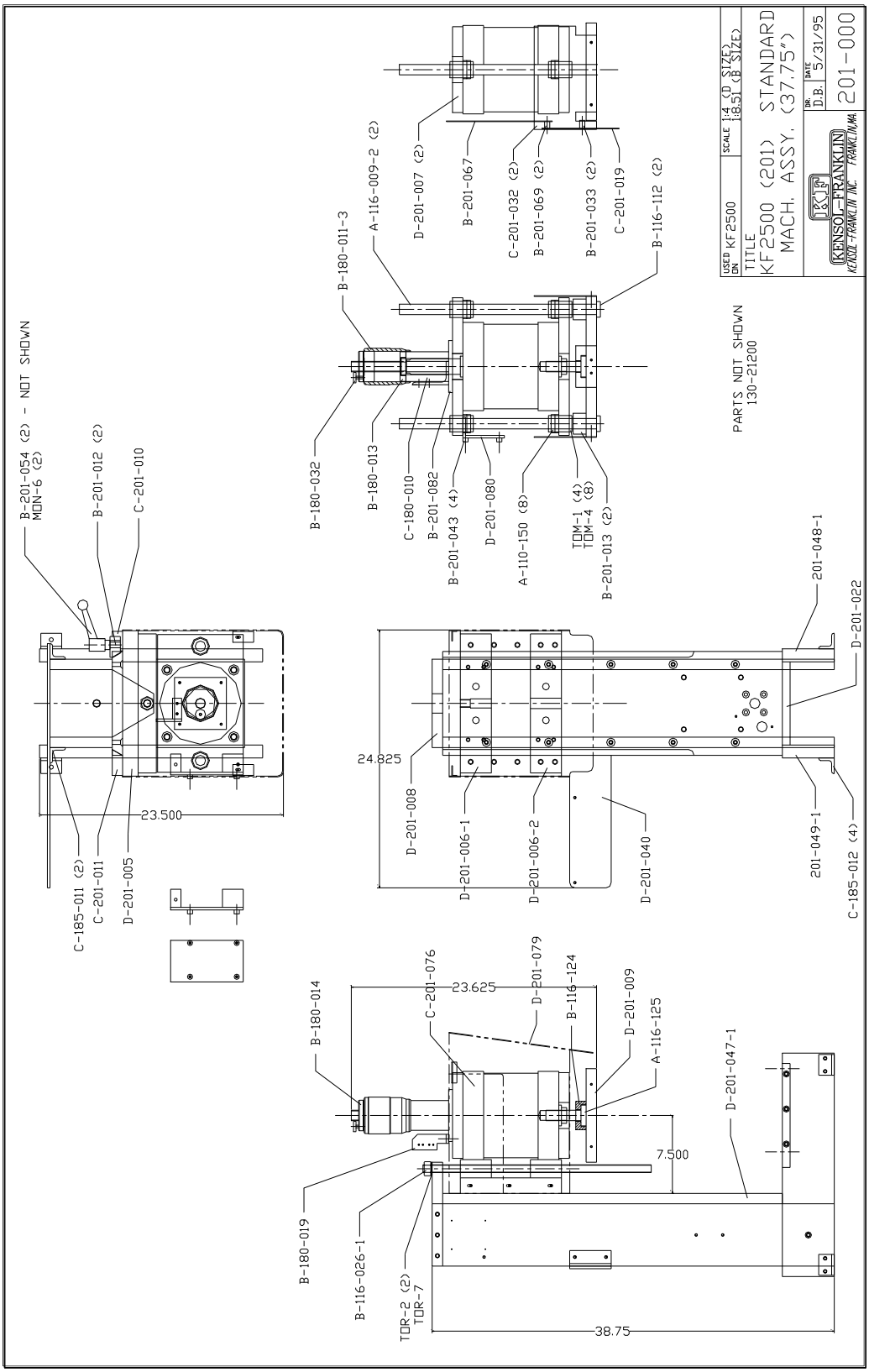

MACH.
C-180-037
HEAD
A-7-10350
B-7-20150-2
A-7-40730
130-02020
USED ON KF1000
SCALE 1:1 ("C" SIZE) 1:1.62 ("B" SIZE)
TITLE
3x6 HEATER HEAD ASSY. FOR ST'D & F/B F/F
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 8/28/95
180-074

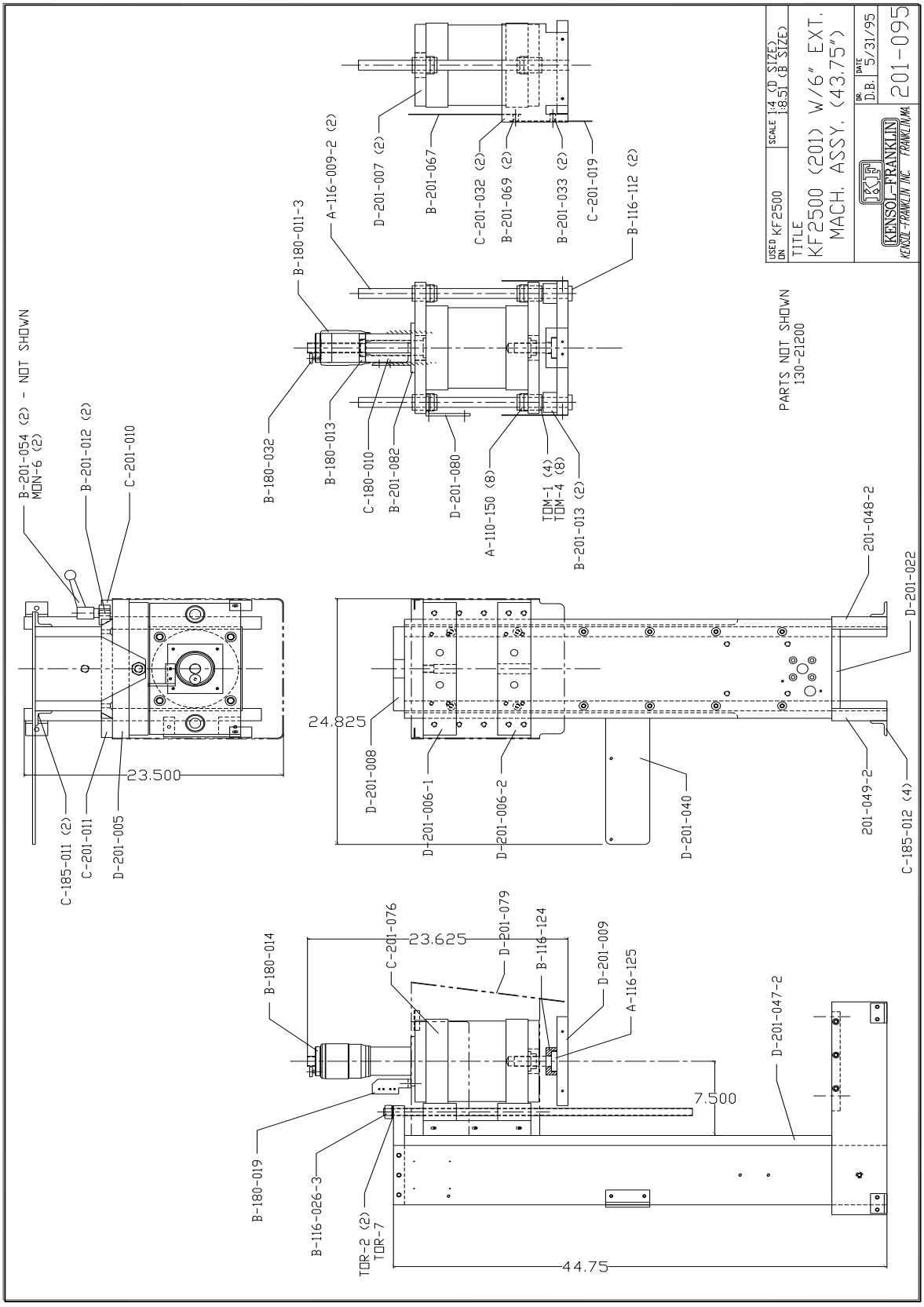

HEAD
MACH.
B-180-039 (2)
B-180-038-1 (2)
130-02025
USED ON KF1000
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
TITLE
5x6 HEATER HEAD ASSY.
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 8/28/95
180-057

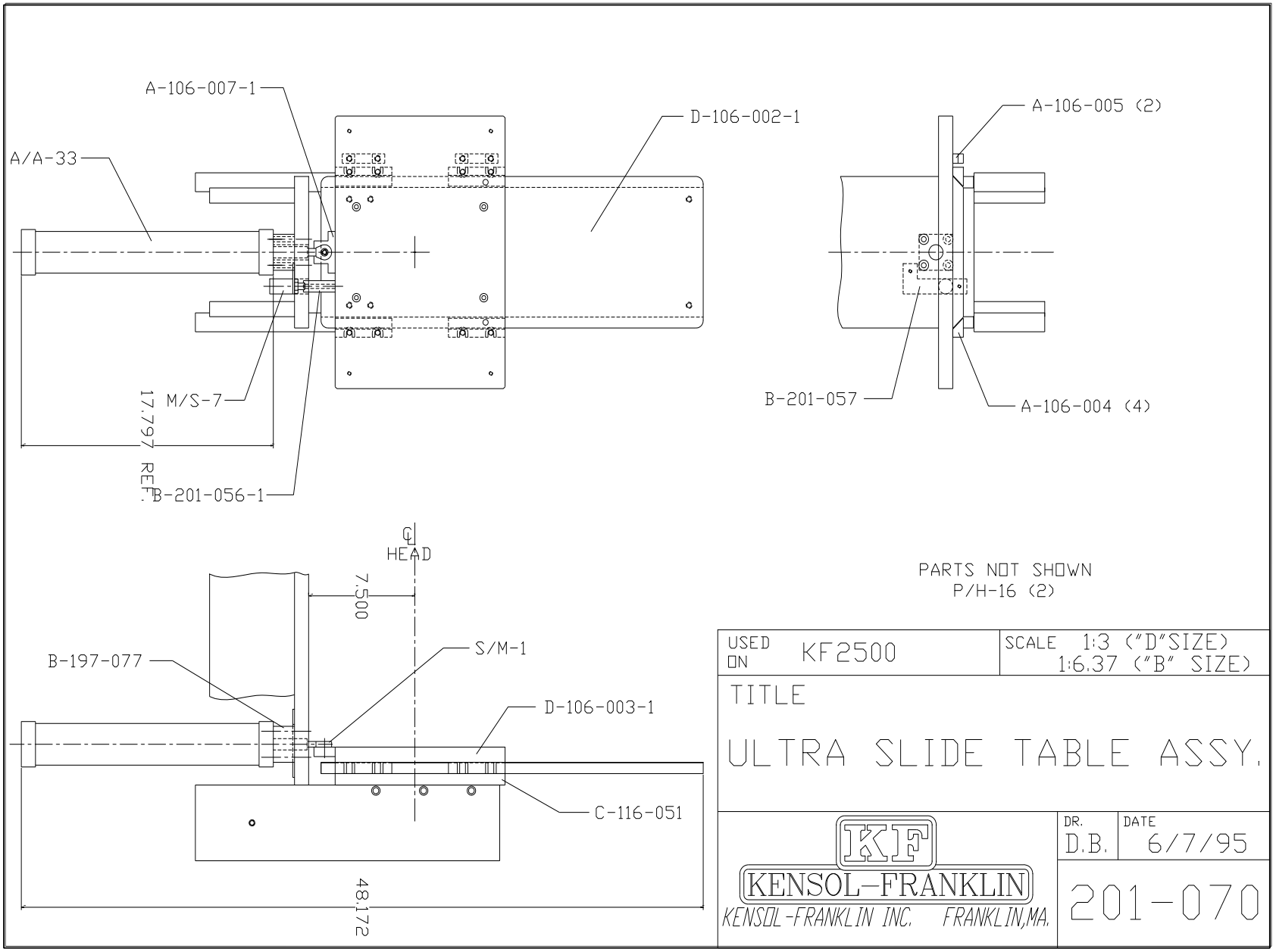

HEAD
MACH.
A-6-10060 (2)
A-6-08290
A-6-09890 (2)
130-02030
USED ON KF1000
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
TITLE
6X8 HEATER HEAD ASSY. (1 TON) 180
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 8/28/95
180-058

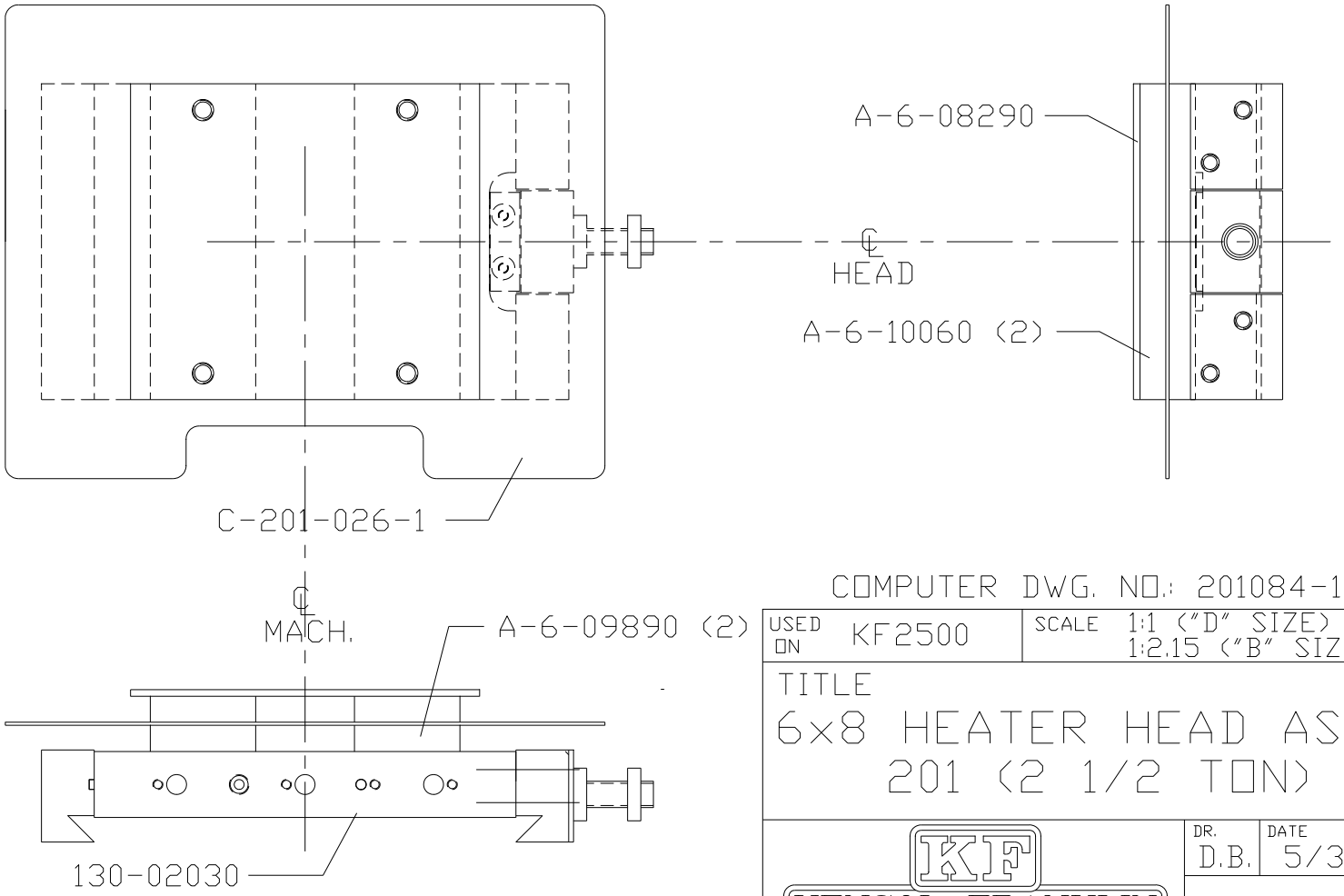

20.632
TO END
OF MOTOR
197-089
ELEC. EYE L/P
PARTS NOT SHOWN
B-180-046
C-180-023 (2)
B-197-053 (4)
C-180-024
38.262
USED ON KF1000
TITLE
ELEC EYE L/P ASSY.
(6x8)
SCALE 1:2 ("D" SIZE)
1:4.25 ("B" SIZE)
DR. D.B.
DATE 5/22/95
180-061
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.

KF 2500 Machine Drawings


B-201-054 (2) - NOT SHOWN
MDN-6 (2)
B-201-012 (2)
C-201-010
C-185-011 (2)
C-201-011
D-201-005
23.500
B-180-011-3
A-116-009-2 (2)
D-201-007 (2)
B-201-067
C-201-032 (2)
B-201-069 (2)
B-201-033 (2)
C-201-019
B-116-112 (2)
B-180-032
B-180-013
C-180-010
B-201-082
B-201-043 (4)
D-201-080
A-110-150 (8)
TDM-1 (4)
TDM-4 (8)
B-201-013 (2)
PARTS NOT SHOWN
130-21200
201-048-1
D-201-022
24.825
D-201-008
D-201-006-1
D-201-006-2
D-201-040
201-049-1
C-185-012 (4)
B-180-014
C-201-076
23.625
D-201-079
B-116-124
D-201-009
A-116-125
D-201-047-1
7.500
B-180-019
B-116-026-1
TDR-2 (2)
TDR-7
38.75
USED ON KF2500
SCALE 1:4 (D SIZE) 1:8.5 (B SIZE)
TITLE
KF2500 (201) STANDARD
MACH. ASSY. (37.75")
DR. D.B.
DATE 5/31/95
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN, MA.
201-000


B-201-054 (2) - NOT SHOWN
MDN-6 (2)
B-201-012 (2)
C-201-010
C-185-011 (2)
C-201-011
D-201-005
23.500
B-180-011-3
A-116-009-2 (2)
D-201-007 (2)
B-201-067
C-201-032 (2)
B-201-069 (2)
B-201-033 (2)
C-201-019
B-116-112 (2)
B-180-032
B-180-013
C-180-010
B-201-082
D-201-080
A-110-150 (8)
TDM-1 (4)
TDM-4 (8)
B-201-013 (2)
PARTS NOT SHOWN
130-21200
201-048-2
D-201-022
24.825
D-201-008
D-201-006-1
D-201-006-2
D-201-040
201-049-2
C-185-012 (4)
B-180-014
C-201-076
23.625
D-201-079
B-116-124
D-201-009
A-116-125
D-201-047-2
7.500
B-180-019
B-116-026-3
TDR-2 (2)
TDR-7
44.75
USED KF2500
DN
TITLE
KF2500 (201) W/6" EXT.
MACH. ASSY. (43.75")
SCALE 1:4 (D SIZE)
1:8.5 (B SIZE)
DR. D.B.
DATE 5/31/95
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
201-095


A-106-007-1
D-106-002-1
A/A-33
A-106-005 (2)
M/S-7
17.797 REF.
B-201-056-1
B-201-057
A-106-004 (4)
℄ HEAD
7.500
B-197-077
S/M-1
D-106-003-1
C-116-051
48.172
PARTS NOT SHOWN
P/H-16 (2)
USED ON KF2500
SCALE 1:3 ("D" SIZE)
1:6.37 ("B" SIZE)
TITLE
ULTRA SLIDE TABLE ASSY.
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 6/7/95
201-070



COMPUTER DWG. NO.: 201084-1

USED ON KF2500	SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)

TITLE

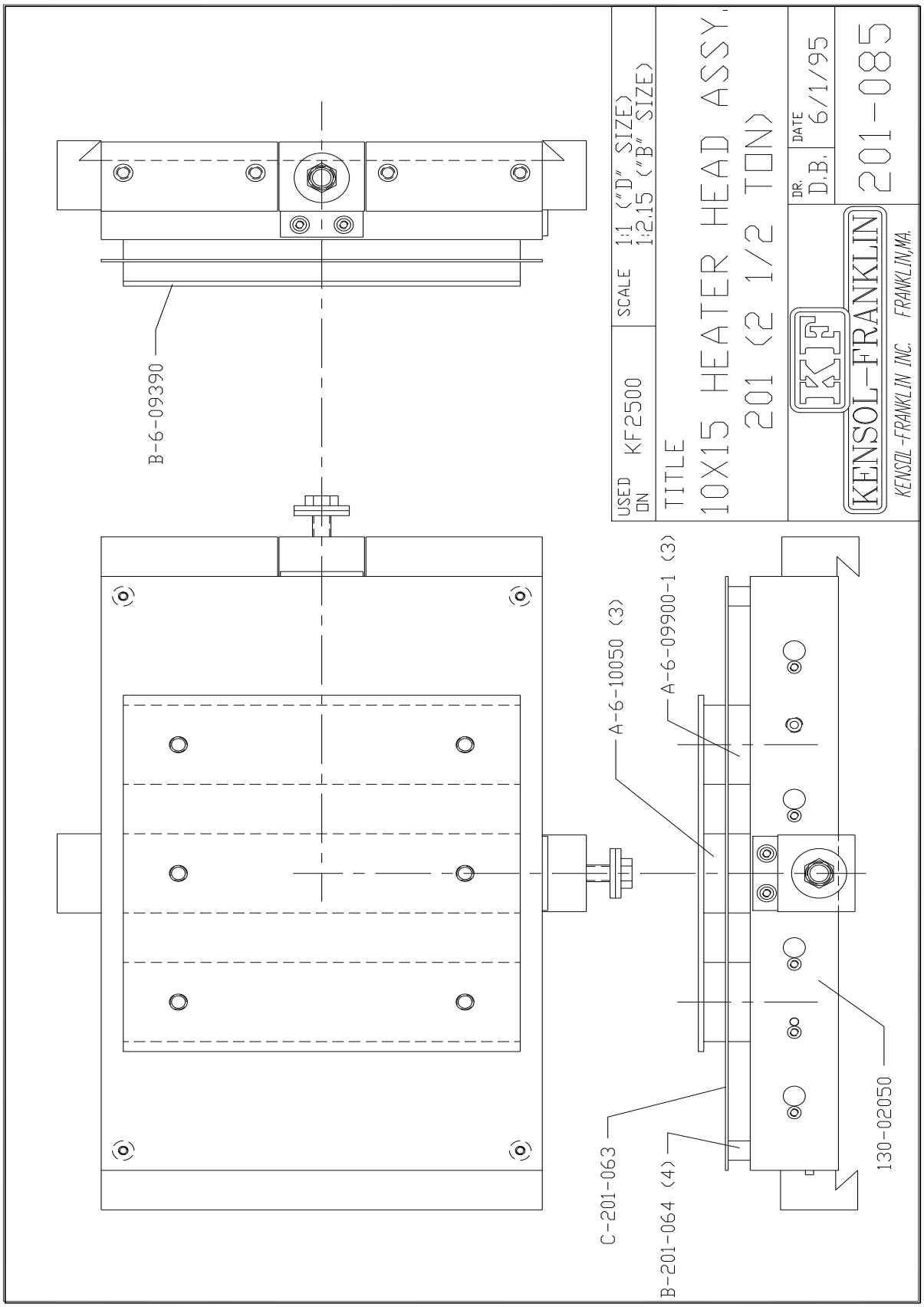
6×8 HEATER HEAD ASSY. 201 (2 1/2 TON)

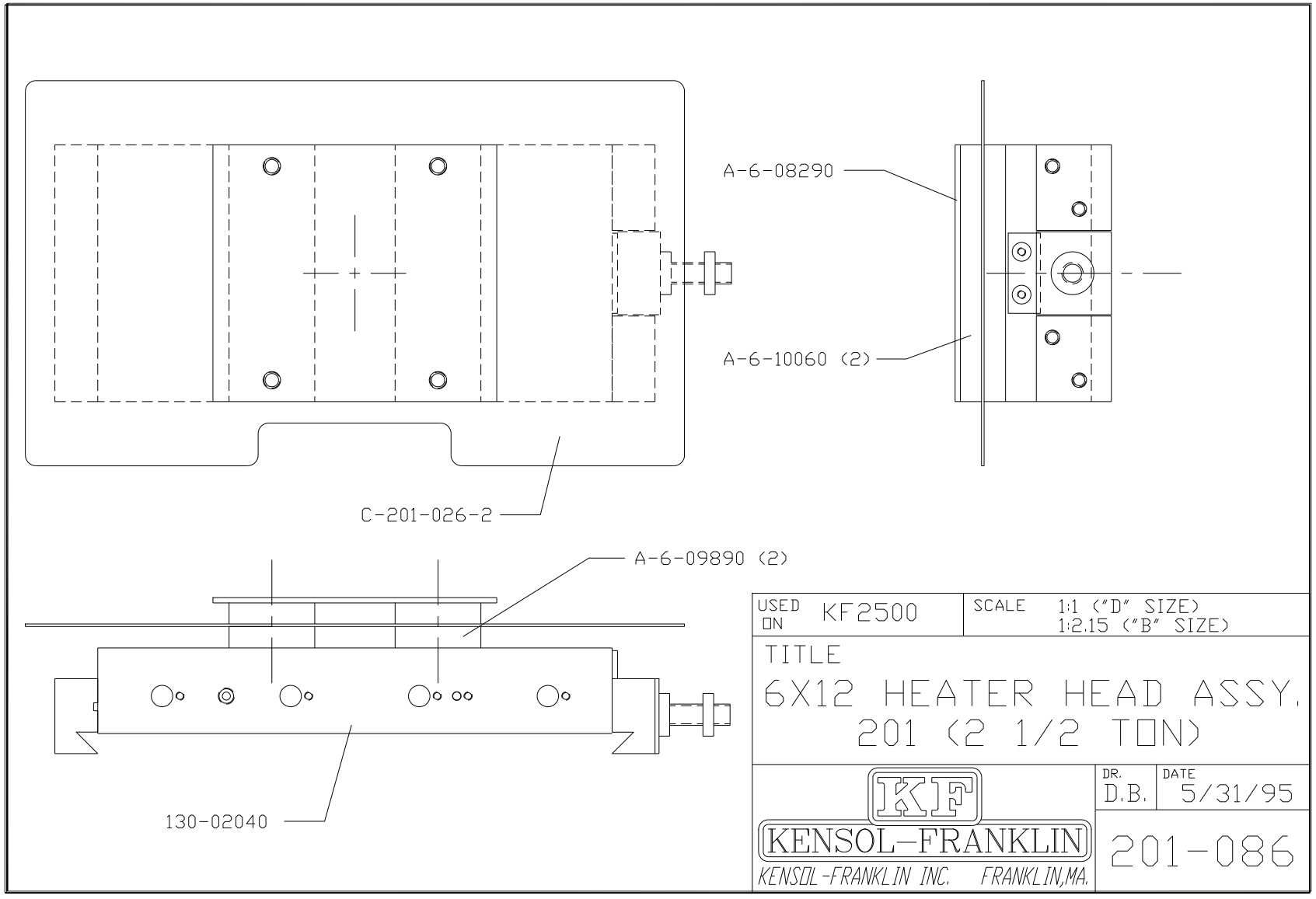
KENSOL-FRANKLIN

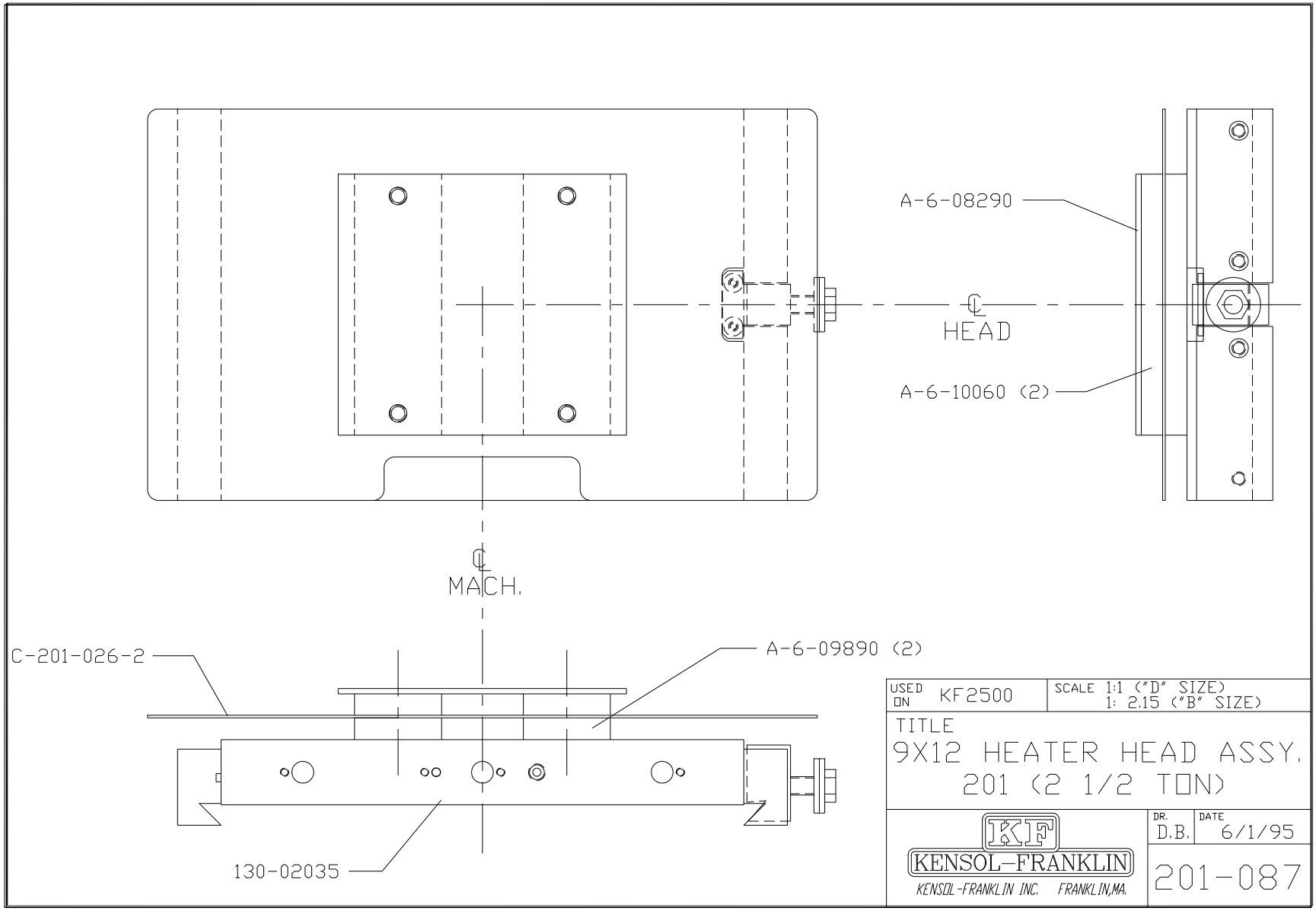
KENSOL-FRANKLIN INC. FRANKLIN,MA.

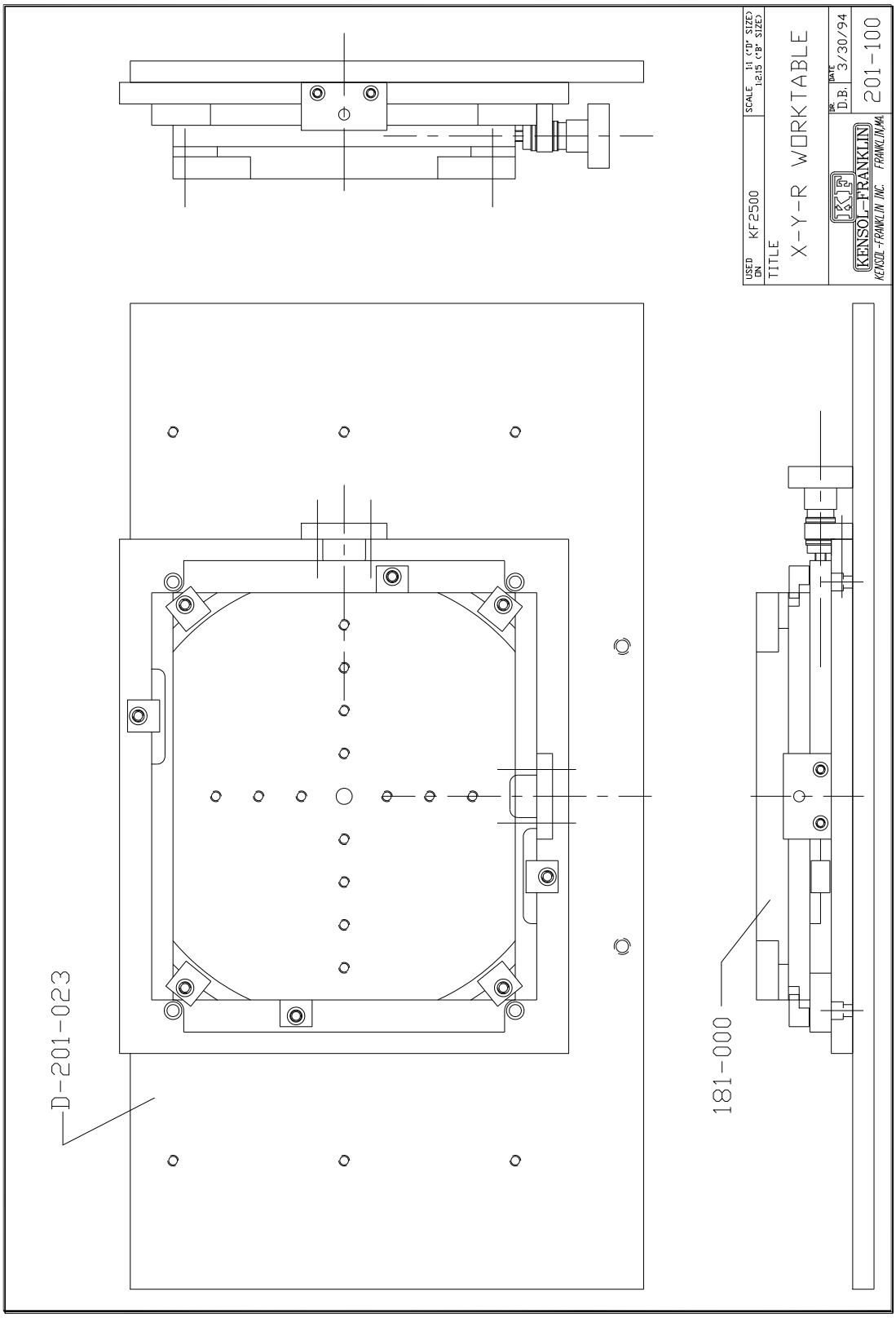
DR.	DATE
D.B.	5/31/95

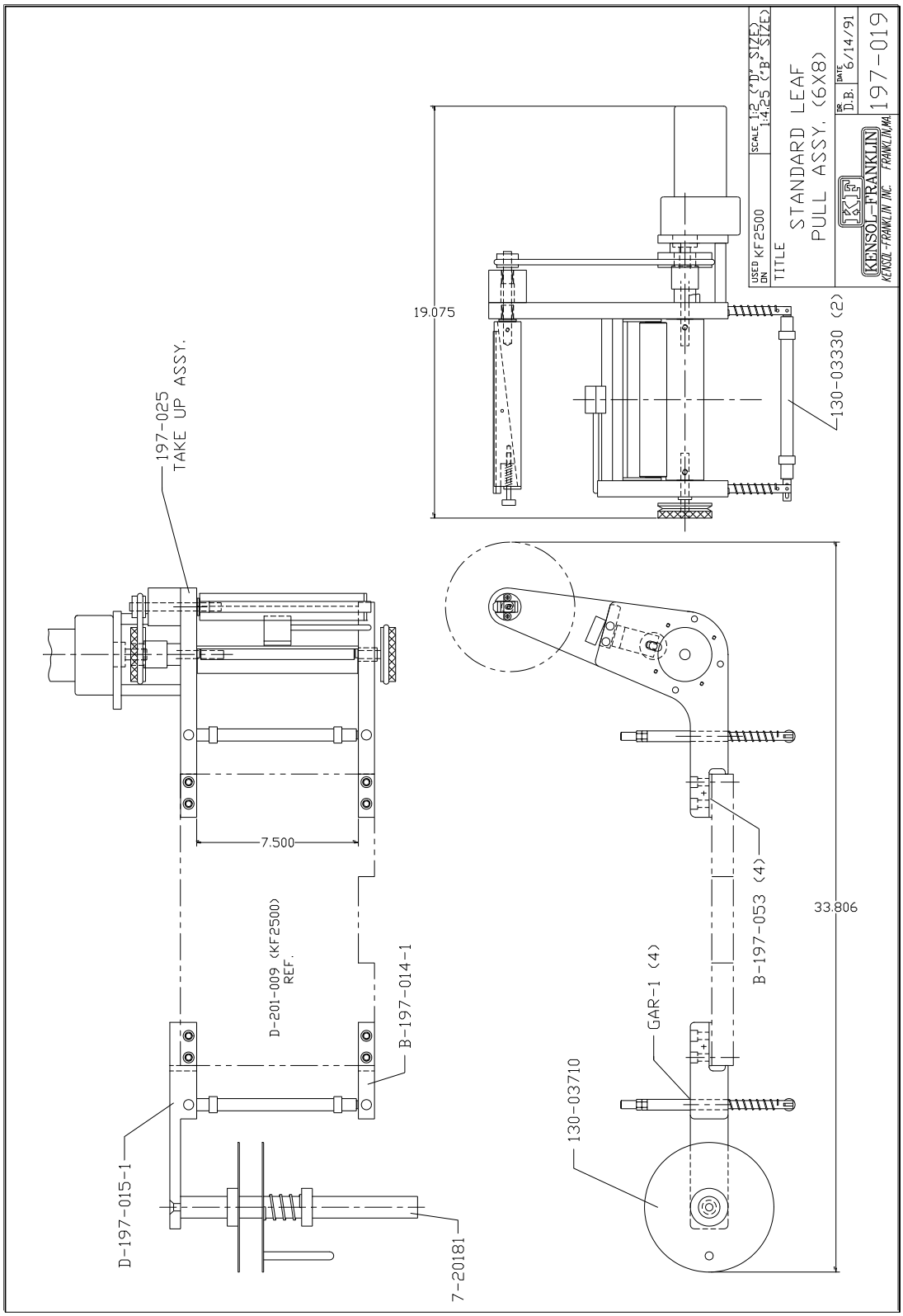
201-084-1

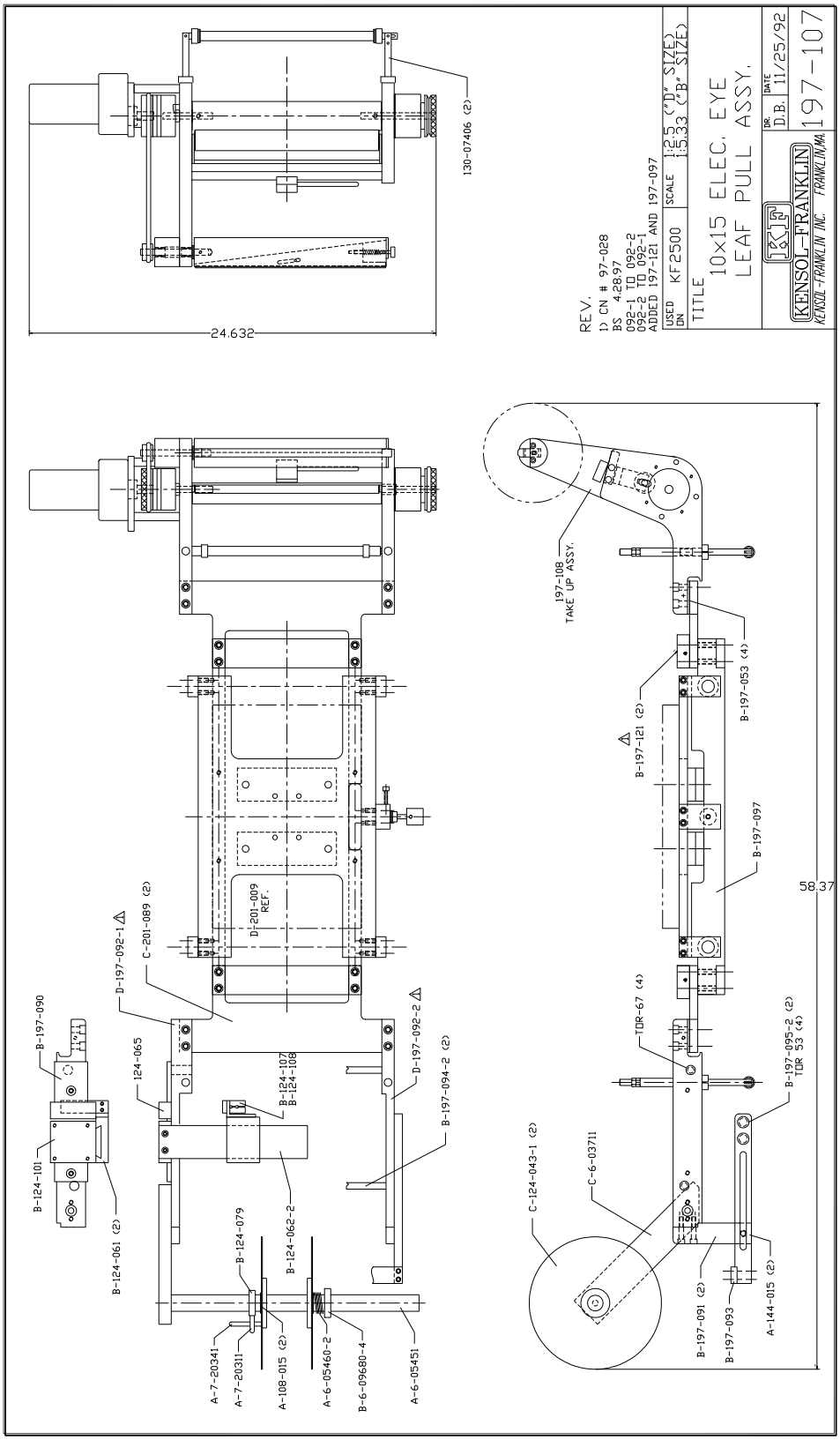

B-6-09390
A-6-10050 (3)
A-6-09900-1 (3)
C-201-063
B-201-064 (4)
130-02050
USED ON KF2500
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
TITLE
10X15 HEATER HEAD ASSY.
201 (2 1/2 TON)
DR. D.B. DATE 6/1/95
201-085
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.

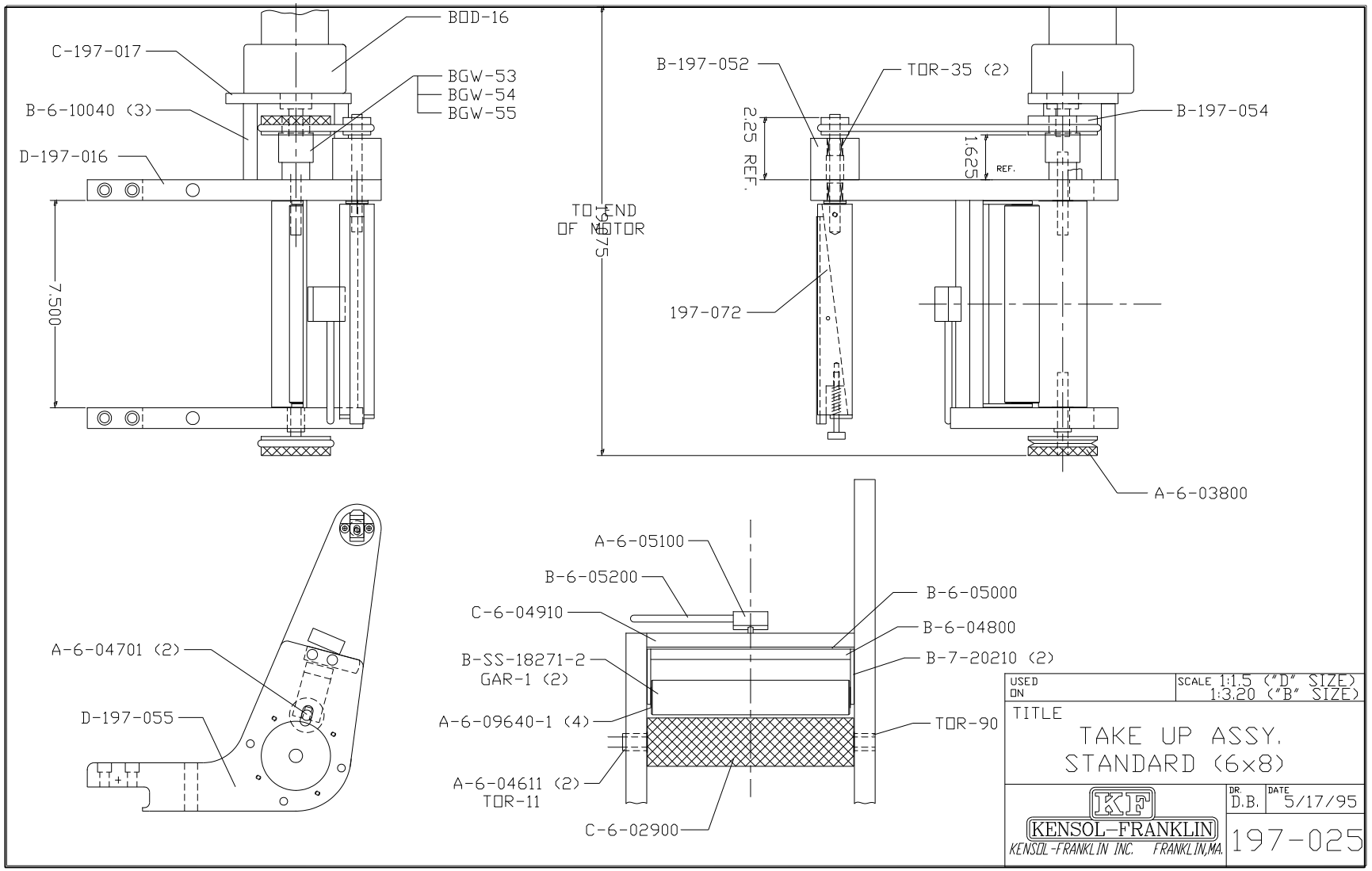

A-6-08290
A-6-10060 (2)
C-201-026-2
A-6-09890 (2)
130-02040
USED ON KF2500
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
TITLE
6X12 HEATER HEAD ASSY.
201 (2 1/2 TON)
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 5/31/95
201-086

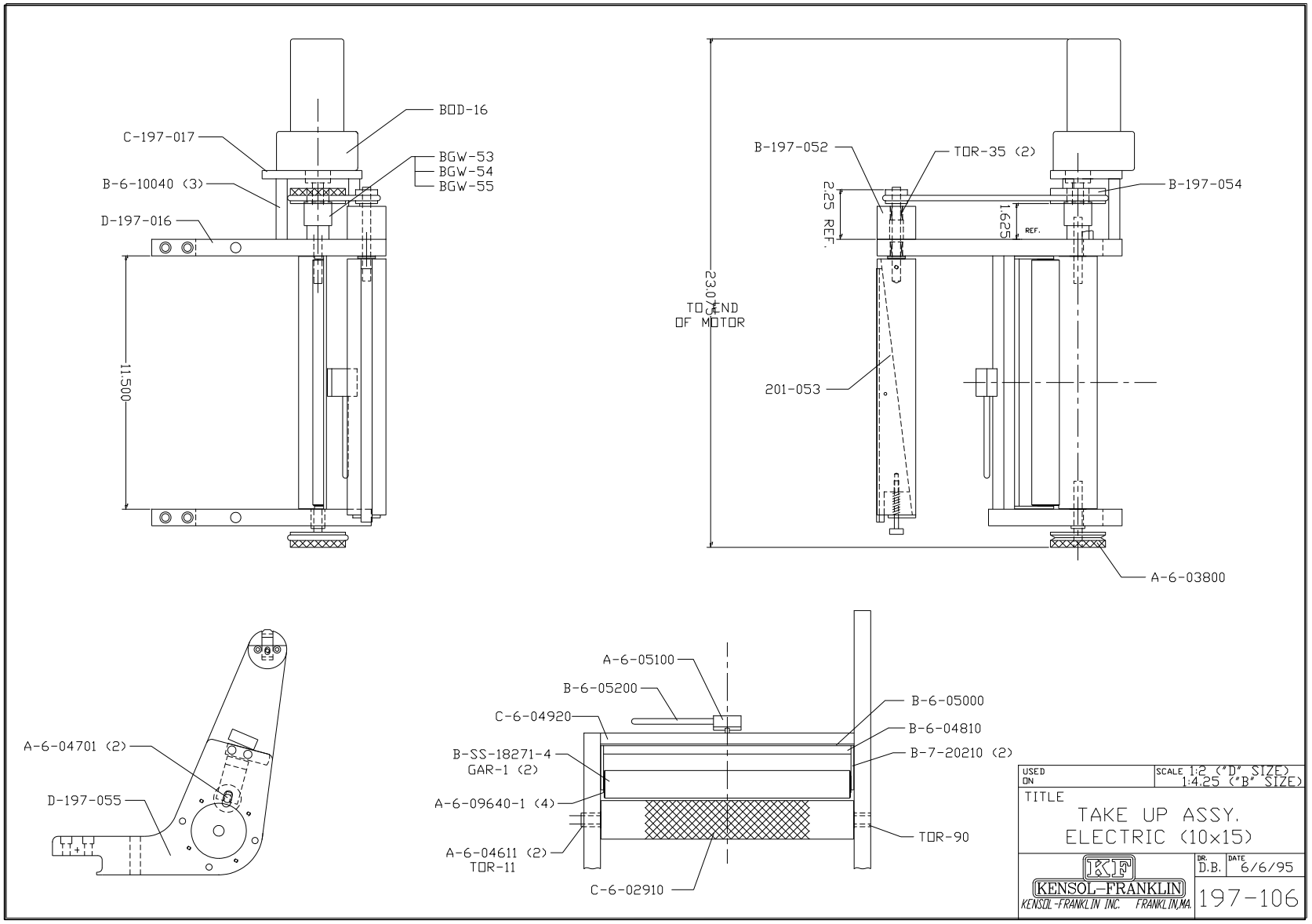

A-6-08290
℄
HEAD
A-6-10060 (2)
℄
MACH.
C-201-026-2
A-6-09890 (2)
130-02035
USED ON KF2500
SCALE 1:1 ("D" SIZE)
1: 2.15 ("B" SIZE)
TITLE
9X12 HEATER HEAD ASSY.
201 (2 1/2 TON)
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 6/1/95
201-087

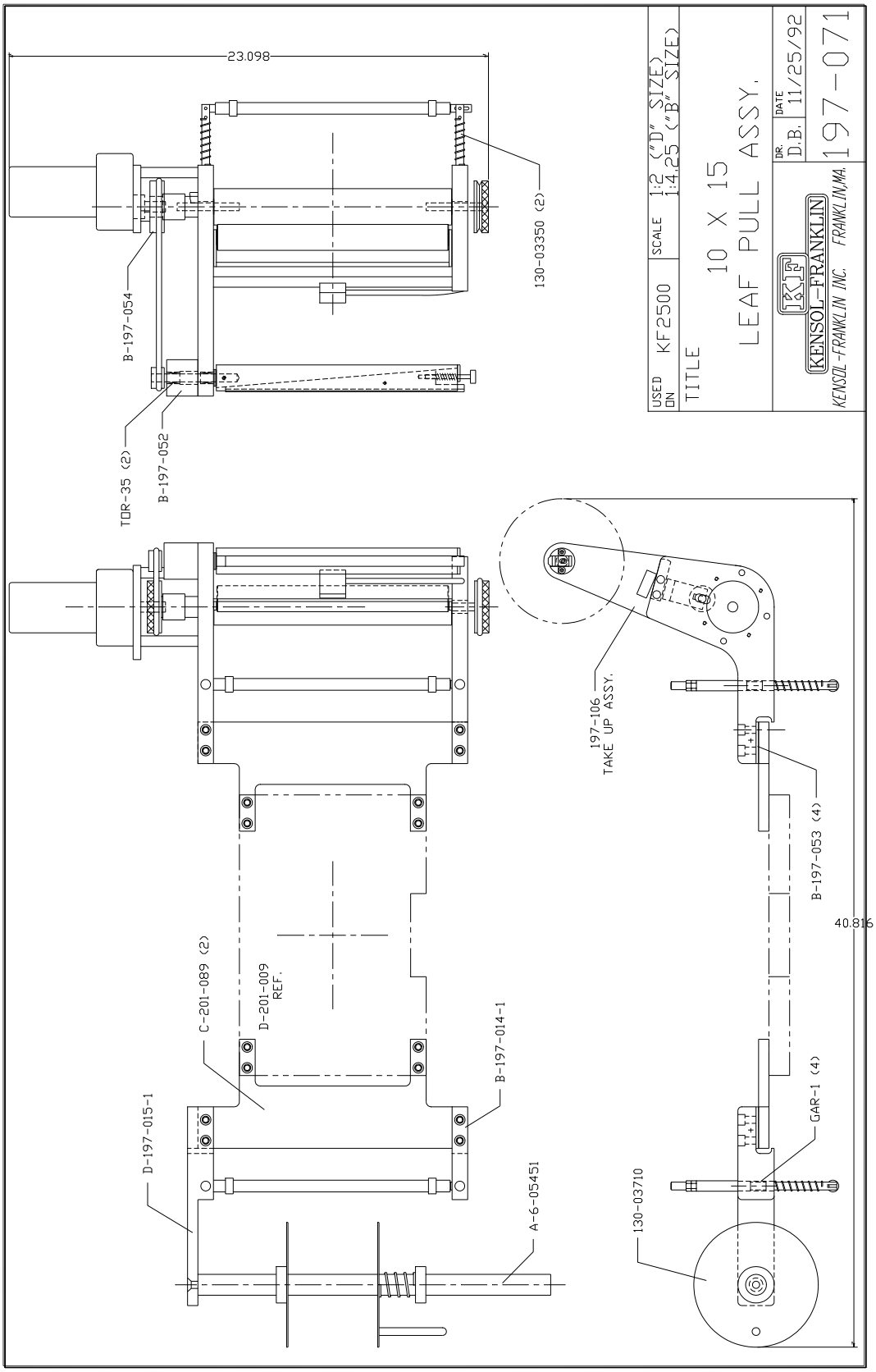

USED ON
KF2500
TITLE
X-Y-R WORKTABLE
SCALE 1:1 ("D" SIZE) 1:2.15 ("B" SIZE)
DR D.B.
DATE 3/30/94
201-100
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
D-201-023
181-000

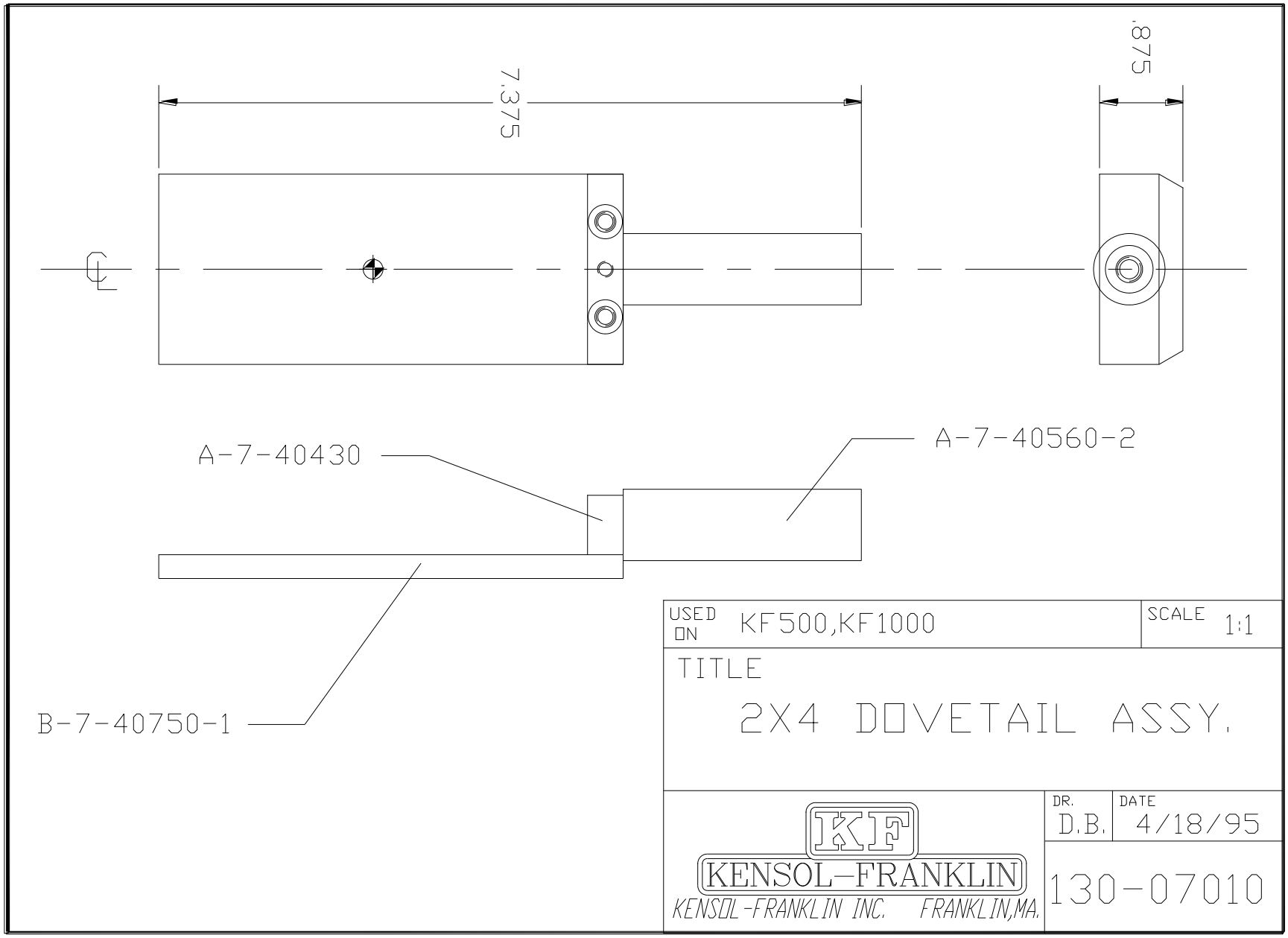

197-025
TAKE UP ASSY.
19.075
130-03330 (2)
USED IN KF2500
TITLE
STANDARD LEAF
PULL ASSY. (6X8)
SCALE 1:2 ("D" SIZE)
1:4.25 ("B" SIZE)
DR D.B.
DATE 6/14/91
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA
197-019
7.500
D-201-009 (KF2500)
REF.
B-197-014-1
D-197-015-1
7-20181
B-197-053 (4)
33.806
GAR-1 (4)
130-03710

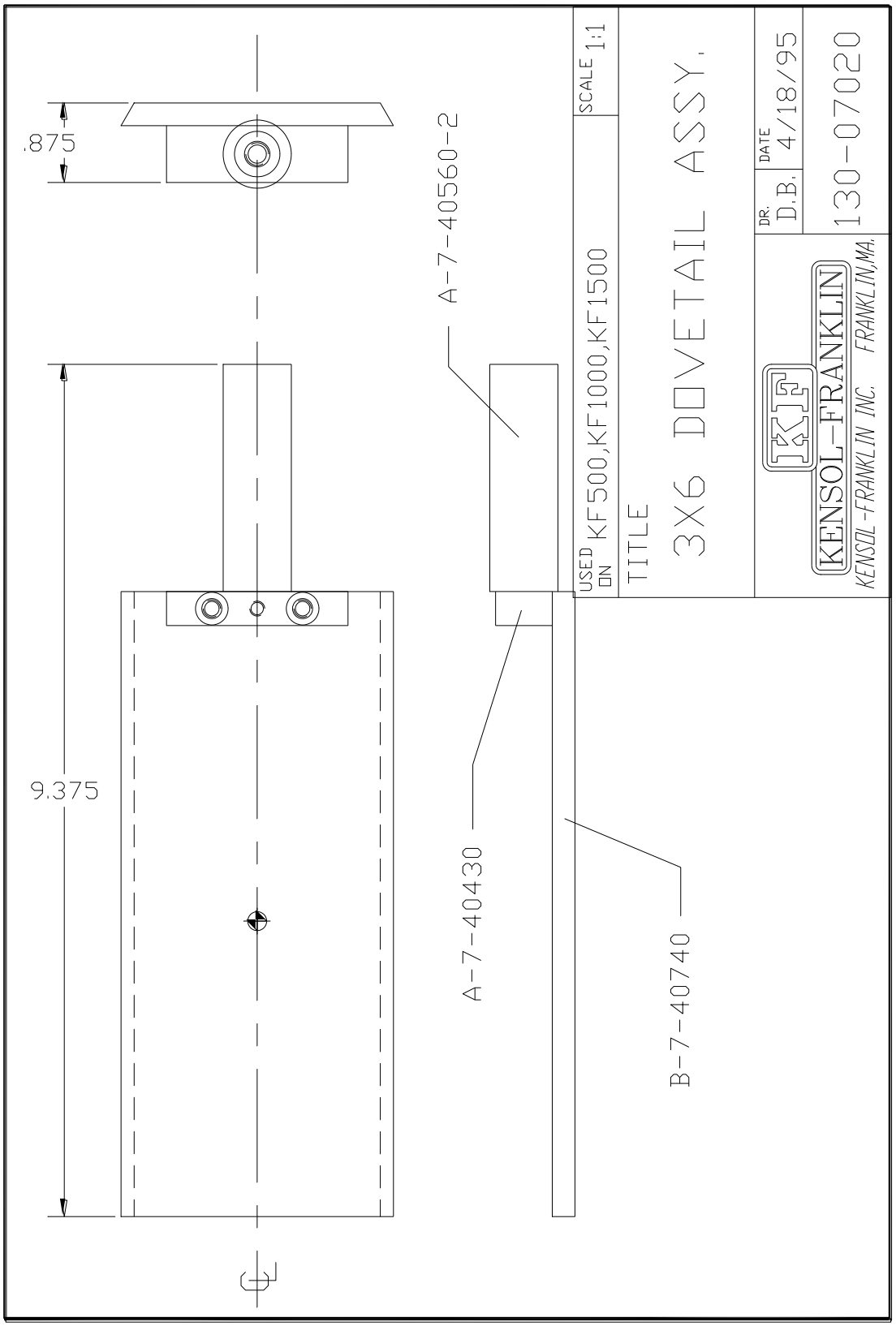

REV.
1) CN # 97-028
BS 4.28.97
092-1 TO 092-2
092-2 TO 092-1
ADDED 197-121 AND 197-097
USED ON KF2500
SCALE 1:25 ("D" SIZE) 1:5.33 ("B" SIZE)
TITLE
10x15 ELEC. EYE
LEAF PULL ASSY.
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA
DR. D.B.
DATE 11/25/92
197-107
130-07406 (2)
24.632
58.37
197-108 TAKE UP ASSY.
B-197-121 (2)
B-197-053 (4)
B-197-097
TDR-67 (4)
B-197-095-2 (2) TDR 53 (4)
C-124-043-1 (2)
C-6-03711
B-197-091 (2)
B-197-093
A-144-015 (2)
B-197-090
B-124-101
B-124-061 (2)
124-065
D-197-092-1
C-201-089 (2)
D-201-009 REF.
B-124-107
B-124-108
D-197-092-2
B-197-094-2 (2)
B-124-079
B-124-062-2
A-7-20341
A-7-20311
A-108-015 (2)
A-6-05460-2
B-6-09680-4
A-6-05451

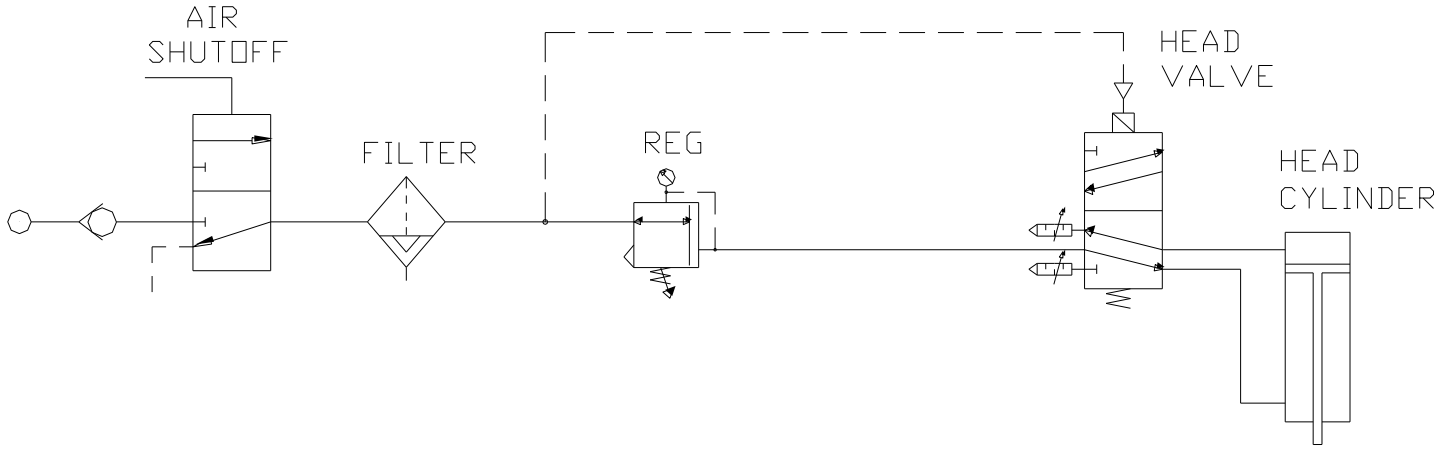

BOD-16
C-197-017
BGW-53
BGW-54
BGW-55
B-6-10040 (3)
D-197-016
7.500
TO END OF MOTOR
19.75
B-197-052
TOR-35 (2)
B-197-054
2.25 REF.
1.625 REF.
197-072
A-6-03800
A-6-05100
B-6-05200
C-6-04910
B-6-05000
B-6-04800
B-7-20210 (2)
B-SS-18271-2
GAR-1 (2)
A-6-04701 (2)
D-197-055
A-6-09640-1 (4)
TOR-90
A-6-04611 (2)
TOR-11
C-6-02900
USED ON
SCALE 1:1.5 ("D" SIZE)
1:3.20 ("B" SIZE)
TITLE
TAKE UP ASSY.
STANDARD (6x8)
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 5/17/95
197-025


C-197-017
B-6-10040 (3)
D-197-016
BOD-16
BGW-53
BGW-54
BGW-55
11500
B-197-052
TOR-35 (2)
B-197-054
2.25 REF.
1.625 REF.
230 TO END OF MOTOR
201-053
A-6-03800
A-6-04701 (2)
D-197-055
A-6-05100
B-6-05200
C-6-04920
B-SS-18271-4 GAR-1 (2)
A-6-09640-1 (4)
A-6-04611 (2) TOR-11
C-6-02910
B-6-05000
B-6-04810
B-7-20210 (2)
TOR-90
USED ON
SCALE 1:2 ("D" SIZE) 1:4.25 ("B" SIZE)
TITLE
TAKE UP ASSY. ELECTRIC (10x15)
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 6/6/95
197-106


23.098
130-03350 (2)
B-197-054
TDR-35 (2)
B-197-052
197-106
TAKE UP ASSY.
B-197-053 (4)
40.816
C-201-089 (2)
D-201-009
REF.
B-197-014-1
D-197-015-1
A-6-05451
GAR-1 (4)
130-03710
USED ON KF2500
SCALE 1:2 ("D" SIZE) 1:4.25 ("B" SIZE)
TITLE
10 X 15
LEAF PULL ASSY.
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 11/25/92
197-071


7.375
.875
A-7-40430
A-7-40560-2
B-7-40750-1
USED ON KF500,KF1000
SCALE 1:1
TITLE
2X4 DOVETAIL ASSY.
KF
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
DR. D.B.
DATE 4/18/95
130-07010


.875
9.375
A-7-40560-2
A-7-40430
B-7-40740
SCALE 1:1
USED ON KF500,KF1000,KF1500
TITLE
3X6 DOVETAIL ASSY.
DR. D.B.
DATE 4/18/95
130-07020
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.



JOB NO.

ELECTRICAL

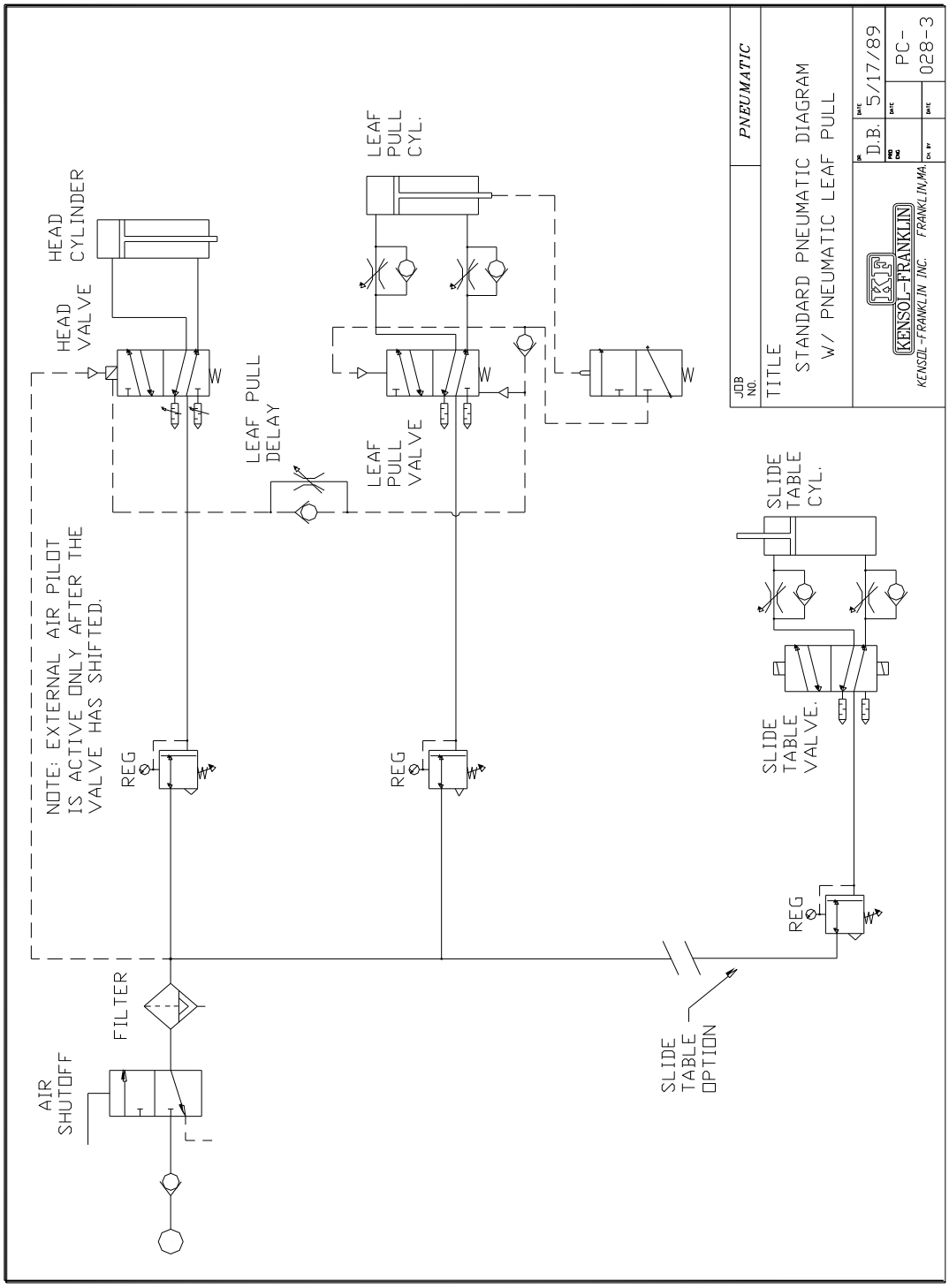
TITLE

STANDARD PNEUMATIC DIAGRAM
DIRECT AIR PRESSES

KENSOL-FRANKLIN

KENSOL-FRANKLIN INC. FRANKLIN,MA.

DR. D.B.	DATE 5/5/89		
PRO ENG	DATE	PC-029	
CH. BY.	DATE		


AIR SHUTOFF
FILTER
REG
REG
REG
SLIDE TABLE OPTION
NOTE: EXTERNAL AIR PILOT IS ACTIVE ONLY AFTER THE VALVE HAS SHIFTED.
HEAD VALVE
HEAD CYLINDER
LEAF PULL DELAY
LEAF PULL VALVE
LEAF PULL CYL.
SLIDE TABLE VALVE.
SLIDE TABLE CYL.
JOB NO.
PNEUMATIC
TITLE
STANDARD PNEUMATIC DIAGRAM
W/ PNEUMATIC LEAF PULL
KENSOL-FRANKLIN
KENSOL-FRANKLIN INC. FRANKLIN,MA.
D.B. 5/17/89
PC-028-3