

SERIES 450 CASE CODER Installation and Operation Instructions



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I GENERAL

Series 450 coders are used to print on moving cases, cartons, bags, drums and other containers. This simple, heavy duty, friction driven unit can be attached to virtually any conveyor, case sealer, packaging machine or system where the product can be powered or hand fed past the coder. The Series 450 is designed

for marking the sides, top or bottom of moving product. For convenience in mounting, type change or servicing, a universal mounting block with integral wrench is furnished with the coder.

II MOUNTING AND ADJUSTMENT

A. Location

The location selected should be easily accessible for changing type and servicing. Typical mounting locations are in the compression section of a case sealer or on a powered conveyor. Mounting on a gravity roller conveyor is not recommended.

Mounting Dimensions

B. Installation

Most installations can be made by attaching the mounting block with two 5/16" diameter bolts to the frame of a case sealer or powered conveyor. Light-weight cases not supported in he compression section of a case sealer may require a support opposite to the print wheel or a set of hold down rollers if cases are too light to rotate the marking wheel. Coder mounting should be made so that the rubber drive tracks will operate parallel to the product flow.



	A	۱	E	3	C	;	C)
Model	In.	mm	In.	mm	In.	mm	In.	mm
451	7/8	22	1-5/8	41	2-5/8	67	3-1/2	89
452	2	51	2-3/4	70	3-3/4	95	4-5/8	117
453	3-1/8	79	3-7/8	98	4-7/8	124	5-3/4	146
425	3-1/8	79	3-7/8	98	4-7/8	124	5-3/4	146

Net Weight (approx.).....Model 451 - 10 lbs Model 452 - 11 lbs

Model 452 - 11 lbs Model 453 - 12 lbs

Model 425 - 13 lbs

Notes:

1. "A" = Max. Print Height

2. Model 425 - 1/4 Consecutive

*** WARNING *** USE OF INKS OTHER THAN KIWI INKS ON THIS EQUIP-MENT WILL RENDER THE WARRANTY NULL AND VOID.

C. Case Interference

The recommended case interference is 1/4" as shown in Figure 2. For proper resetting, it may be necessary to increase this dimension to 1/2" to 3/4" depending on the speed, stability and running length of the case.

D. Swing Clearance

When imprinting low height cases the distance between the bottom of the imprint and bottom of the coder should be noted. The standard mounting arrangement has a 7/8" swing clearance as shown in Figure 3.

E. Swing Out

To swing the coder away from it's printing position, loosen the clamp screw with the wrench. The coder can then be pivoted away. See Figure 4.

F. Height Adjustment

Coder height can be adjusted by repositioning the split collar on the 3/4" diameter mounting shaft. The coder can be easily removed by pulling mounting shaft out of mounting block. Precise axial relocation is assured by the split collar registering against the mounting block. Precise angular relocation is obtained by a locating pin in the split collar engaging a roll pin in the mounting block.



FIGURE 4

G. Print Registration

The indexing spline located on the timer (Fig. 5) provides a means for positioning an imprint on the case without having to move the type in the marking wheel. Print location is adjusted by loosening the knob on top of the marking wheel, raising the wheel slightly, and indexing one tooth at a time until a satisfactory location is reached. Each increment moves the print location approximately 1/4". Retighten the knob securely and adjust anti-repeat ring if so equipped as described in Section VII-A.

H. Continuous or Random Imprinting

Unless otherwise ordered, all coders are furnished with timer springs and cam followers. To convert to continuous or random printing, remove timer springs and cam follower (Fig. 5).



(Cover Off, Marking Wheel Removed)

III MARKING WHEEL

A. Index Numbers

Index numbers, found on the marking wheel, permit exact relocation of the wheel once it has been removed from the coder. Before removing the marking wheel note the number opposite the index line. When replacing the marking wheel, match the number and the index line for exact repositioning.

When the optional anti-repeat ring is used, exact relocation of the ring is accomplished by noting the number that lines up opposite the "V"-notch in the ring.

B. Removing the Marking Wheel

Note: It is not necessary to remove the coder cover in or-

der to remove or replace the marking wheel.

- 1. Loosen clamp screw and swing coder away from conveyor.
- 2. Unscrew triangular knob on marking wheel.
- 3. Move inker away from marking wheel as follows:
 - a) With coder cover on- reach under the coder and slide cap nut away from marking wheel (See Fig. 6).
 - b) With coder cover off- use thumb tab on inker mounting plate to retract inker (See Fig. 5).
- 4. Hold inker in retracted position while lifting marking wheel off indexing spline.



BOTTOM VIEW (Mod. 451RH Shown)

C. Installing the Marking Wheel

- 1. Retract inker as described in B-3.
- 2. Position marking wheel in desired location and carefully lower onto spline.
- 3. Release inker and tighten knob.

D. Type Changing

See "Type Systems," Section IV.

E. Anti-Repeat Ring

See "Optional Equipment," Section VII-A.

IV TYPE SYSTEMS

The Series 450 was designed to accept the following type systems:

- 1. KIWI Channelok Deepcut Type (standard).
- 2. Baselock type (optional).
- 3. KIWI Adhesive Back Printing Mat. (optional).

In all cases, the type projection beyond the rubber drive tracks is approximately .020". These three type systems are described below:

A. Channelok Type (standard)

See KIWI Bulletin No. 191. KIWI deep cut channelok type is available in either individual characters or in strips containing full words, messages or numerals.

Figure 7 shows the general Channelok assembly, while the figures below will aid in selecting the proper type for your requirements.

First, determine the character height and the body size of the type. Then, using the charts and figures below, make certain that your type needs do not exceed the available space in the marking wheel.

The "H" dimension shown in chart "a" is the space required for a single line of type. For multiple lines of type, add the "H" dimensions together. The total must not be greater than the available space in the marking wheel ("J" dimension shown in Fig. 8 and chart "b").



KIWI Channelok Deepcut Type is available for the Series 450 as listed below.

CHARACTE	STYLE	
(inches)	(mm)	
3/8	10	227D
7/16	11	228D
1/2	13	229D
5/8	16	230D
3/4	19	231D
7/8	22	232D
1	25	400D
1-5/16	33	401D



	CHARACTER HEIGHT E	BODY SIZE F	SPACER DIMEN. G	SPACE REQ'D. H
ľ	3/8	1/2	0	5/8
ľ	7/16, 1/2, 5/8	3/4	1/4	7/8
ľ	3/4, 7/8	1	1/2	1-1/8
ľ	1	1-1/4	3/4	1-3/8
ľ	1-5/16	1-1/2	1	1-5/8

b.	MODEL	AVAILABLE SPACE J
	451	1-1/8
Note:	452	2-1/4
Dimensions shown in inches	453	3-3/8

B. Baselock Type (Optional)

See KIWI Bulletin #160. Baselock type is mounted to the marking wheel by pressing it into the baselock rings as shown in Fig. 9.

Before installation, loosen marking wheel cover and separate the rings slightly. Wetting the rings with water will ease the installation. Retighten cover securely when type installation is complete.

Baselock and channelok type can be mixed if so desired by assembling the applicable channelok type rings, baselock rings and spacer rings. Each baselock ring is approximately 1/8" thick.

Caution: Mixing old and worn type with new type may result in inconsistent inking and poor imprints. It is recommended that new type be used at all type changes.

C. Printing Mats - Adhesive Back

A cylindrical sleeve, which slides over the marking wheel and is locked in place to prevent rotation, is available for 1/8" adhesive backed printing mats.



FIGURE 9

MODEL	NUMBER OF BASELOCK RINGS
451	9
452	17
453	25

The sleeve permits installation and removal of copy in one piece, and is best suited for multi-line copy, company logos and designs.

VINK SYSTEMS

Two inker systems are available- the KIWI K-1 pre-inked throw-away ink cartridge and the KIWI K-7 reinkable ink cartridge. Both systems are shown in Fig. 10.

A. K-1 Ink Cartridge

The K-1 inker is fully charged with ink and cannot be reinked. It was designed as a disposable unit. The standard inker face is 1" and is available in black, red, blue, purple and green. The K-1 inkers are also available in 2" and 3" face widths in black and red only.

B. K-7 Ink Cartridge

The K-7 ink cartridge can be used as a throwaway, or may be reinked with KIWI #3 ink (for absorbent surfaces) or KIWI #875 ink (for semi-absorbent surfaces). They are available in face widths of 1", 2-3/16" and 3-3/16", and in black, red, green or blue colors

K7 SELECTION CHART					
MODEL	USES	P/N (BLACK ONLY)*			
451	K7-1	N078500			
452	K7-42	N078521			
453, 425	K7-43	N078522			



*Other colors available. Contact KIWI Order Dept.

C. Inker Removal and Replacement

Caution: When removing or replacing inkers, retract the inker mounting plate with the thumb tab to avoid getting ink on the marking wheel drive tracks.

- 1. Retract inker mounting plate.
- 2. Compress finger grips and pull up.
- 3. Change cartridge on spindle.
- 4. To replace- position spindle on the support flange

VI CHANGEOVER TO OPPOSITE HAND

"Hand" is determined by looking in the direction of product flow and noting whether the coder is mounted on the left or right side of the conveyor. See Figure 11.



A. Marking Wheel Rotation

For reference:

- For **right hand** coders- marking wheel rotation is always clockwise.
- For **left hand** coders- marking wheel rotation is always counter-clockwise.

Marking wheel rotation is determined by a cam located under the timer assembly. Figures 12a and 12b show the position of cam for right and left hand coders.

To change rotation:

- 1. Remove the coder cover, marking wheel and inker.
- 2. Remove timer springs.
- 3. Remove retaining ring and flat washer. Set aside for reuse.
- 4. Remove timer assembly. Be certain nylon sleeve bearing remains in place.
- 5. From under the coder, loosen the axle locknut and carefully remove the marking wheel axle and cam plate.
- 6. Replace the cam plate on the locating pin according to the "hand" desired as shown in Figure 12a or 12b. The letters "L" or "R" on the cam indicate the "hand" of the marking wheel.
- 7. Insert marking wheel axle and tighten locknut securely.
- 8. Slide timer assembly and flat washer on axle and secure with retaining ring.
- 9. Re-install timer springs on pulleys.

Marking wheel rotation has now been changed to the opposite "hand." On units with the anti-repeat ring, see Section VII-A for changing ring to opposite "hand." and gently push down until it "snaps" into place.

D. Inker Adjustment

part procedure presented below.

Adjust the contact between the inker face and the type with the thumb wheel located near the back of the coder. This wheel is accessible from beneath the unit, or from the inside with the cover off (see Figs. 5 & 6). Adjust for kiss contact between inker and type.

Should it be necessary to change "hand," follow the two



LEFT HAND MOUNT



FIGURE 12a



FIGURE 12b

B. Body Changeover

A torsion spring located in the pocket at the extreme rear of the coder provides firm pressure against the product being imprinted (see Fig. 6). When the coder "hand" is changed, this spring must also be changed to the corresponding "hand."

- Left hand coder- use left hand torsion spring; color coded yellow. Part No. F036962.
- Right hand coder- use right hand torsion spring; color coded red. Part No. F036963.

Note: Read the following removal and replacement instructions before attempting body changeover.



1. Torsion Spring Removal (See Fig. 13)

- a. Firmly secure the coder mounting shaft in a vise or other retaining device in a vertical position. Avoid scoring the marking shaft.
- b. Remove the hex head screw, 1/8" thick steel washer and 1/32" thick nylon washer from the top of the mounting shaft. Set aside for reuse.
- c. To disengage the coder from the torsion spring, grasp the unit firmly front and back, and slowly pull up.

Caution: As the coder raises up, it will break free of the limit block. At this point the torsion spring will want to unwind. This can cause the coder to rotate suddenly with some force. Keep a firm grip and allow the coder to rotate (approx. 180°) under control to its free position.

d. Lift the coder completely off the shaft and remove the torsion spring.

2. Torsion Spring Replacement

The "L" tang on the torsion spring must fit into one of the 3 holes in the limit block. Carefully examine Figure 14 for the proper tang location for your model. Figure 14a shows tang positions for right hand coders. Figure 14b shows tang locations for left hand coders.



Mod. 451—Right Hand Coder Shown. • Mod. 452—''L'' Tang in 2" Hole. • Mod. 453, 425 — Tang in 3" Hole.

FIGURE 14a

- a. Position spring on mounting shaft according to Figure 14. Be certain the centering disc is in place if so equipped.
- b. Lower coder on shaft so upper spring tang fits into the spring pocket as shown in Figure 15. Holes in limit block should be towards the front of the coder.
- c. Raise coder slightly until the bottom clears the limit block. Make sure the spring still rests on the limit block when the coder is raised.
- d. Rotate coder to wind spring (approx. 180°) then



Mod. 451—Left Hand Coder Shown. • Mod. 452—''L'' Tang in 2″ Hole. • Mod. 453, 425 —Tang in 3″ Hole.



firmly seat on limit block. Be certain to rotate in the proper direction or the torsion spring will be damaged. See Figure 15.

- e. Replace nylon and steel washers and secure assembly with 1/4-20 hex head screw and lock washer.
- f. Check to see if the upper spring tang is all the way up in the pocket. If not, gently tap tang with screwdriver blade until seated.

"Hand" conversion is now completed.



FIGURE 15

VII OPTIONAL EQUIPMENT

A. Anti-Repeat Assembly- Part # F038051

This option is recommended for:

- a. Precise imprint registration.
- b. Preventing imprint repetition on cases longer than 16" (circumference of Series 450 marking wheel). After the marking wheel has made its imprint, the two rollers ride on the case. When the end of the case is reached, the rollers fall off permitting the marking wheel to reset.
- 1. Setting. The recommended setting is shown in Figure 16.
- 2. *Conversion.* The anti-repeat assembly can easily be changed to the opposite "hand." Note that the ring is identified LEFT HAND on one side and RIGHT HAND on the other. Disassemble rollers, invert ring so that the desired "hand" is up and reassemble rollers as shown in Figure 17.

Item #	QTY	Part Number	Description
1	2	F036978	Roller Axle
2	2	F036980	Roller, Anti-Repeat
3	1	F038030	Anti-Repeat Ring
4	2	F011162	#10 Lockwasher
5	2	F011153	#10-32 x 1/2 Screw





Max.

B. 8" Top Mount Kit- Part # F035013

Recommended for applications up to 8" overhang.



VIII CONSECUTIVE MARKING WHEEL

Model 425 - 1/4 Character Height

A. Removal

- 1. Remove marking wheel cap. Loosen center knob and (3) thumbscrews.
- 2. Remove cylinder cam from shaft.
- 3. Remove marking wheel by grasping the throw bracket and lifting the wheel straight up.

Note: Retract inker assembly when removing marking wheel. See Section III-B. CONSECUTIVE MARKING WHEEL ASSEMBLY 1/4 Character Hgt. Pt. F038063



- Rubber Drive Track, Pt. F035035 (2)



B. Installation

- 1. Retract inker assembly.
- 2. Hold the marking wheel by the throw bracket and carefully lower onto indexing spline. The wheel may be positioned anywhere on the spline to achieve proper imprint location.

Note: Figure 20 shows a recommended position with the number "at rest" just before the inker.

- 3. Install cylindrical cam.
- 4. Run several sample imprints and adjust wheel for desired print location. (See Section II-G).
- 5. When satisfied, make certain cam is seated and replace marking wheel cap.

Please Note: The cap is designed to fit only one way. The long skirt on the cap fits into the wheel segment that has no flats.

C. Maintenance

For reliable operation the consecutive numbering head must be kept in good working order. Once a week clean dried ink from the head with a stiff brush and KIWI #1A cleaner/conditioner. Lubricate with several drops of cleaner/conditioner between numbering wheels. To repair an inoperative numbering head, it is recommended that the complete marking wheel be returned to the factory. Remove type rings, cam and drive tracks before shipment.

IX OPERATING SUGGESTIONS

A. Keep your Series 450 clean. Periodic cleanup of dust and ink on both the machine and type is recommended. KIWI #4 conditioner is ideal for this purpose. To clean type, use a toothbrush dipped in conditioner.

Note: No paint thinners, mineral spirits, gasoline or solvents for oil based products should be permitted to contact rubber type, drive tracks, molded type rings or inker rings. Severe damage could occur.

B. KIWI inks are recommended for use with the K-7 inker. These inks have been specially formulated so they will not react with the coders component parts.

C. When adjusting the contact between the inker and the rubber type, use kiss-contact. Excessive pressure will:

- 1. Restrict marking wheel rotation.
- 2. Cause premature inker wear.
- 3. Reduce inker mileage.

X RECOMMENDED SPARE PARTS

To minimize coder down time, it is recommended the following parts be kept on hand.

When ordering parts, or corresponding with the factory, please provide the model and serial numbers. These numbers are located in two places. One, on the nameplate attached on the cover, and two, permanently stamped at the rear deck of the coder, under the cover.

<u>Part Number</u>	<u>QTY</u>	Description
F035035	2	Drive Track, Rubber
F036960	3	Garter Spring

XI Exploded View - parts detail



GIVE SERIAL NUMBER OF MACHINE WHEN ORDERING PARTS

XII Parts List

SERIES 450 CASE CODER

Shaded area denotes part number is the same for all models

Indicates Complete Assembly

ITEM		STAN	NDARD MODELS	CONSEC	. MODELS
NO.	DESCRIPTION	451	452 453	425	
1	Housing Sub-Assembly		F038109		
2	Adjusting Screw		F011049		
3	Lead Screw		F037015		
4	Cover	F038102	F038103 F03810	4 F038104	
5	Thumbscrew, 10-32		F036987		1
6	Retaining Ring, 1/4		F035093		
7	Washer, 1/4 ID		F035117		
8	Cover standoff	N/A	F036981 F03698	2 F036982	
9	Spring, Tension		F036999		
10	Inker Mounting Plate		F038031		
11	Axle, Inker	F036988	F036989 F03699	F036990	
12	Inker Support Flange		F036958		
13	Compression Spring, Inker	F037016	F037016 F03701	7 F037017	
14	Sleeve Bearing, Nylon - 3/8 ID		F036955		
15	Retaining Ring, 3/8 External		F035092		
16	Acorn Nut, 1/4-20		F036184		
17	Flanged Bushing		F036969		
18	Screw, #10-32 x 1/2		F011153		
19	Lockwasher, #10		F011162		
20	20 Cartor Spring		F036960		
20		2 Req'd	2 Req'd 3 Req'o	3 Req'd	
21	Retaining Ring, 1/2 External		F011152		
22	Washer, 1/2 ID		F037021		
23	Axle, Marking Wheel	F036971	F036972 F03697	3 F036974	
24	Sleeve Bearing, Nylon - 1/2 ID		F036954		
25	Cam Plate		F036970		
26	Washer, 3/8 ID		F037020		
27	Nut, 3/8-16 Self-Locking, Thin		F037018		
28	Timer Assembly		F038029		
29	Indexing Gear & Plate		F038032		
30	Timer Pulley with Hub		F036975		
31	Timer Pulley w/o Hub		F036976		
32	Shoulder screw, #10-32 x 1/4 x 5/16		F037019		
33	Arm, Cam Follower		F036966		
34	Pulley, Axle		F036977		
35	Spacer, Cam Follower		F036961		
36	Bearing, 3/16 ID x 1/2 OD		F011170		
37	Screw, #10-32 x 3/4		F037011		
38	Torsion Spring, LH Coder (Yellow)		F036962		
39	Torsion Spring, RH Coder (Red)		F036963		
40	Mounting Shaft Assembly		F038057		

XII	Parts List - continued					
ITEM		STAN	IDARD MO	DELS	CONSEC.	MODELS
NO.	DESCRIPTION	451	452	453	425	
41	Mounting Shaft		F038	3043		
42	Limit Block		F03	6965		
43	Roll Pin- 3/16 dia x 1-1/2 lg		F03	7014		
44	Centering Disk		F03	7055		
45	Washer, 3/4 ID x 1/32 thk - Nylon		F03	7027		
46	Washer, 9/32 ID x 1/8 thk		F03	5106		
47	Lockwasher, 1/4"		F03	5113		
48	Screw, 1/4-20 x 1/2 Hex Head		F036	6047		
49	Collar & Pin Assembly		F03	5018		
50	Mounting Block Assembly		F03	5006		
51	Mounting Block & Pin		F03	5030		
52	7/16 Hex Wrench		F03	5054		
53	Clamp Screw		F03	5070		
54	Button Head Screw, 1/4-20		F03	5105		
55	Flatwasher, 5/16		F03	5111		
56	Inker Spindle Assembly	F038053	F038054	F038055	F038055	
57	Inker Spindle Only	F038033	F038034	F038035	F038035	
58	Finger Grip		F036	6959		
59	O-Ring		F03	7004		
60	Retaining Ring, 1-1/4 Internal		F03	7002		
61	*K-1 Adapter (Use with K-1 Inker)	F035069	2 Req'd	3 Req'd	3 Req'd	
62	**K-1 Ink Cartridge, Black	N035263	N078828	N078829	N078829	
63	**K-7 Ink Cartridge, Black	N078500	N078521	N078522	N078522	
64	Marking Wheel, Sub-Ass'y	F038058	F038059	F038060		
65	Marking Wheel Only	F038037	F038038	F038039		
66	Bearing, 3/8 ID x 7/8 OD		F037003			
67	Retaining Ring, 7/8 Internal		F037001			
68	Marking Wheel Cover Assembly		F038	3056		
69	Cover, Marking Wheel		F038	3036		
70	Knob		F036	6964		
71	Retaining Ring, 3/4"		F03	7013		
72	Drive Track, Rubber - Marking Wheel		F035035			
73	Drive Track, Metal - Marking Wheel		Obs	olete		
74	Baselock Type Ring		F03	5033		
75	Baselock Type Ring - Sectioned		-		F038045	
76	Channelok Type Ring		F035036			
77	1/4" Spacer Ring		F035271			
78	1/2" Spacer Ring		F035272			
79	Type Sleeve- Adhesive Mats	F038023	F038024	F038025		
80	Type Sleeve- Baselock Base	F038095	F038096	F038097		
81	Type Sleeve- Magnetic Mats	F038098	F038099	F038100		
* K-1	Inkers Only ** Other Colors Availabl	e, Contact k	KIWI Order I	Dept.		-



Printed in U.S.A.

e-mail: KIWICODERS@AOL.COM • Internet: WWW.KIWICODERS.COM