

## "NIP-IT"

### INSTALLATION AND GENERAL GAME OPERATION INSTRUCTIONS

#### INSTALLATION

On all games there are certain items that should be checked after shipment. These are visual inspections which may avoid time consuming service work later. Minor troubles caused by abusive handling in shipment are unavoidable. Cable plugs and sockets may be loosened, switches (especially tilt switches) may go out of adjustment. Plumb bob tilt switch should always be adjusted after game is set on location and leg levelers are adjusted.

Visual inspections before plugging in line cord: -

1. Check that all cable plugs are firmly seated in proper sockets.
2. Check that cables are clear of all moving parts and relays.
3. Check for any wires that may have become disconnected.
4. Check switches for loose solder or other foreign material that may have come loose in shipment and could cause shorting of contacts.
5. Check wires on relay coils for proper soldering, especially the bare (common) wire connecting a row of relay coils. Cold solder connections may not show up in factory inspection, but vibration in shipment may break contact.
6. Check that fuses are firmly seated and making good contact.
7. Check (manually) the stepping and resetting of all step-up units. The wiper action should not be sluggish.
8. Check transformer for any foreign material shorting across wiring lugs.
9. Check wiring of transformer to correspond to location voltage. (Transformer wiring card in front cabinet.)

Before the line cord is plugged in: -

Check all plugs and sockets and cable dressing:

- (A) Plugs in correct sockets.
- (B) Plugs securely seated in sockets.
- (C) Dress cables away from relays, step ups and any mechanically acting units.

Check adjustment of the three (normally open) tilt switches:

- (A) Panel tilt on bottom of playfield panel.
- (B) Plumb-bob tilt on left side of cabinet near front door.
- (C) Ball tilt above plumb-bob tilt.  
Insert one of the three balls into ball tilt assembly and adjust bracket so ball will roll over switch blade if front of cabinet is raised.

Adjustment of Kick-off and Anti-Slam Switches:

Check adjustment of the (normally open) kick-off switch at rear of cabinet mounting board, near cable plugs. Check adjustment of the (normally open) anti-slam switch, on front door. Either of these switches when closed will energize the delay relay.

GENERAL GAME OPERATION

Place 2 balls on playfield by the out hole.

Plug in the Line Cord:

Starting Game: Insert correct coin, if coin should be rejected, move on-off master switch at bottom right front corner of cabinet to "on" position. Then insert coin again. The coin lock-out device rejects all coins when power (master switch) is off. The delay relay when energized will de-energize the coin lockout coil.

- 1A. If a coin is inserted in 1st (nickel) coin chute and game is set for 1 play-5¢, it will energize the "coin relay". If game is set for 1 play-10¢, the first coin inserted will advance the "2-coin unit", then second coin inserted will energize the "coin relay" thru 2-coin unit switch. (See 1st coin chute adjustment plug positions on game adjustments sheet).
- 1B. If a coin is inserted in 2nd (dime) coin chute and game is set for 1 play-10¢, it will energize the "coin relay". If game is set for 2 plays-10¢, it will energize the "2nd coin chute relay" and the 2nd coin chute relay will advance "credit unit" (2 steps) thru coin credit circuit. (See 2nd coin chute adjustment plug positions on game adjustments sheet).
- 1C. If a coin is inserted in 3rd (quarter) coin chute and game is set for 2-3-4-5-or 6 plays-25¢, it will energize the "3rd coin chute relay" and 3rd coin chute relay will advance "credit unit" (2-3-4-5-6 steps) thru coin credit circuit. (See 3rd coin chute adjustment plug positions on game adjustments sheet).
- 1D. When "credit unit" has been advanced from 2nd or 3rd coin chute, (as described in section 1B and 1C) the front door "credit button" switch will energize the "credit relay" and then the credit relay will energize the "coin relay".

Note: The above four relays will become de-energized when the delay relay is energized.

REGULAR BALL TO BALL SEQUENCE OF OPERATION:

- 1A. When the "1st ball" is played, the "ball index relay" will be energized by the "10 point", "100 point" or "1000 point" score relay and it stays energized thru its own hold in switch, (normally closed) "player reset relay" switch and (normally closed) "player up unit" end of stroke switch.
- 1B. If the ball in play goes into the "bonus hole", another ball is released to shooter alley and the "same player" continues playing. (Note: A ball in the bonus hole will release a ball to shooter alley). If the ball in play goes into the outhole, it will energize the "outhole relay" thru (normally closed) #1 score motor switch, and it stays energized thru its own hold-in switch and (normally closed) #10 score motor switch.
- 1C. The outhole relay operates the score motor and thru (normally open) #4 score motor switch will energize the "outhole kicker solenoid", and it will kick the ball from outhole into ball trough.
- 1D. When more than one ball is active on playfield, the last ball in motion becomes the "ball in play". If it goes into the "bonus hole", another ball is released to shooter alley and "same player" continues playing. If it goes into the outhole, the outhole relay is energized, which in series with "ball trough switches" and/or "bonus relay switch", will energize the "2nd ball relay" and it stays energized thru its own hold-in switch and (normally closed) #6 score motor switch. When the outhole relay is de-energized, the "ball release relay" will be energized thru the same series of ball trough switches, the "bonus hole" relay switches, that energized the 2nd ball relay, and it stays energized thru its own hold-in switch and (normally closed) #6 score motor switch. In normal ball to ball play (depending on "single or "multiple" players) the combination of 2nd ball relay and ball release relay switches will either advance the "ball count unit" and reset the "player up unit" or advance the "player up unit", thru (normally open) #3 and/or #4 score motor switches and "player reset relay".
- 1E. When the last eligible player's final ball returns to the outhole, the advance of the ball count unit will in turn energize the "game over interlock relay trip coil" and the game is completed.

Note: Normal ball to ball sequence of operation is interrupted when a "tilt" occurs. A "tilt relay switch" will bypass the 3rd ball and reset the player up unit or advance the player up unit. When a tilt occurs, the captive ball in the "bonus hole" remains captive.

- 2A. The coin relay, when energized by any of the ways described, (in sections 1A thru 1D) will stay energized thru its own hold-in switch and (normally closed) #8 score motor switch.
- 2B. The coin relay will energize the "lock relay" which stays energized thru its own hold-in switch and cabinet kick-off switch. The "lock relay" will be de-energized when the delay relay is energized.
- 2C. The coin relay will energize the "reset relay" thru a game over relay switch and energize the "score motor", then thru (normally open) #2 and #11 score motor switches, pulse the "#1 and #2 score reset relays", and thru (normally open) #4 score motor switch will latch the game over relay. The reset relay when energized will continue to operate the score motor. The reset relay will stay energized thru (normally closed) #8 score motor switch, and/or until all "score counter units" are reset to "zero position".
- 2D. The coin relay, thru (normally open) #3 score motor switch will advance the "total play meter", and thru the reset relay will reset the "coin unit", "ball count unit" and "player up unit". The coin relay will also reset the "credit unit" (1 step) when energized by the credit button.
- 3A. A ball on the out hole switch will energize the "out hole relay", thru (normally closed) #1 score motor switch and it will stay energized thru its own hold-in switch and (normally closed) #10 score motor switch.
- 3B. The out hole relay will operate the "score motor" and then energize the "out hole kicker" solenoid thru (normally open) #4 score motor switch. The two balls will be kicked into the ball trough, one at a time. When the two balls have been kicked into the ball trough, one ball will be released to shooter alley and game is ready for 1st player to begin play.
- 3C. To condition game for "2nd player", inserting coin (s) or use of credit button now (before 1st ball is played) will energize the "coin relay" again. This time, coin relay will not energize the "reset relay". It will operate the "score motor", advance "total play meter", subtract a credit from "credit unit", (if credit button was used) and advance the "coin unit" thru (normally open) #3 score motor switch. Game is now set for "2 players". Repeating this sequence will condition game for "3rd player" and "4th player".

FEATURE OPERATION AND SCORING

Top Hole Feature:

A ball in the top hole scores 500 points and is kicked out automatically.

Ball Grabber Feature:

This feature is operated by a push button switch located on the right side of the cabinet by the right flipper push button switch. The ball grabber is located on the top right side of the playfield.

The idea of the ball grabber is to capture the ball when it comes close to the ball grabber. Any ball captured will roll down the right alley scoring 1000 points and advance the bonus score lite, then return to action area of the playfield.

Left Alley Feature:

Ball in the left alley scores 1000 points and the ball is kicked to the top of the playfield where it is possible for the ball grabber to capture the ball.

Bonus Hole Feature:

A ball in the bonus hole becomes a captive ball and a ball is released to the shooter alley and the same player shoots again. A ball in the bonus hole will lite the two release captive ball targets. These targets normally score 100; but, when lit they score the bonus score lite lit and the captive ball is kicked out of the bonus hole. The bonus score lite does not reset.

Thumper-Bumper Lite Feature:

The left top roll-over button lites the red thumper bumpers. The right top roll-over button lites the yellow thumper-bumpers. The thumper-bumpers score 10 points when hit; but when lit, they score 100 points. The lites remain lit until the ball goes into the outhole.

Free ball Gate Feature:

The free ball gate is located at the right out lane. This gate is opened when the upper left target is hit when lit. The lite is controlled by the 00-90 unit disc. This target also scores 100 points. When the gate is opened, it will remain open until a ball goes thru the gate or to the end of play for that player.

Bonus Score Lites Feature:

The bonus score lites start with 1000. The bonus score lite is advance 1000 score when advance bonus target is hit and when ball goes thru right alley. To collect the bonus score, it is necessary to hit the either release captive ball target when there is a ball in the bonus hole, at which time the bonus score lites do not reset. When the ball goes into the outhole at the end of a play, the bonus score is scored and the bonus lite is reset to 1000 score lite.

**"NIP-IT"****FEATURE OPERATION AND SCORING****Flipper-Zipper Feature:**

The flippers close when the mushroom-bumper is hit. The flippers open when the ball goes over the open flipper roll-over button, also at the end of a play and when the game is tilted.

"NIP - IT"

GAME ADJUSTMENTS

PLAYFIELD PANEL POST ADJUSTMENTS:

Posts that control left and right outlane opening on panel (see panel sketch FO-320) can be moved to make access to outlanes easier or harder for ball to enter.

Easier entry will "decrease" playing time and scoring.

Harder entry will "increase" playing time and scoring.

HI-SCORE ADJUSTMENT PLUG:

Located on back box lite insert. This plug provides a wide range of coverage at which hi-score "credits" can be scored. (see "Score adjustment card" in back box for plug positions).

MATCH FEATURE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to operate game on "5th ball" or "3 ball" play.

HI-SCORE FEATURE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to turn hi-score "credit" feature "on" or "off".

1ST COIN CHUTE ADJUSTMENT PLUG:

Located on the 2 coin unit, on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "1 play for 2 coins" thru the 1st (nickel) coin chute.

2ND COIN CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "2 plays for 1 coin" thru the 2nd (dime) coin chute. Note: When this plug is set for "2 plays - 1 coin", brown-white (male plug) wire on 3rd coin chute adjustment must be in "position 2".

3RD COIN CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "2 to 6 plays for 1 coin" thru the 3rd (quarter) coin chute. Use orange-white (male plug) wire.

PARTS LIST

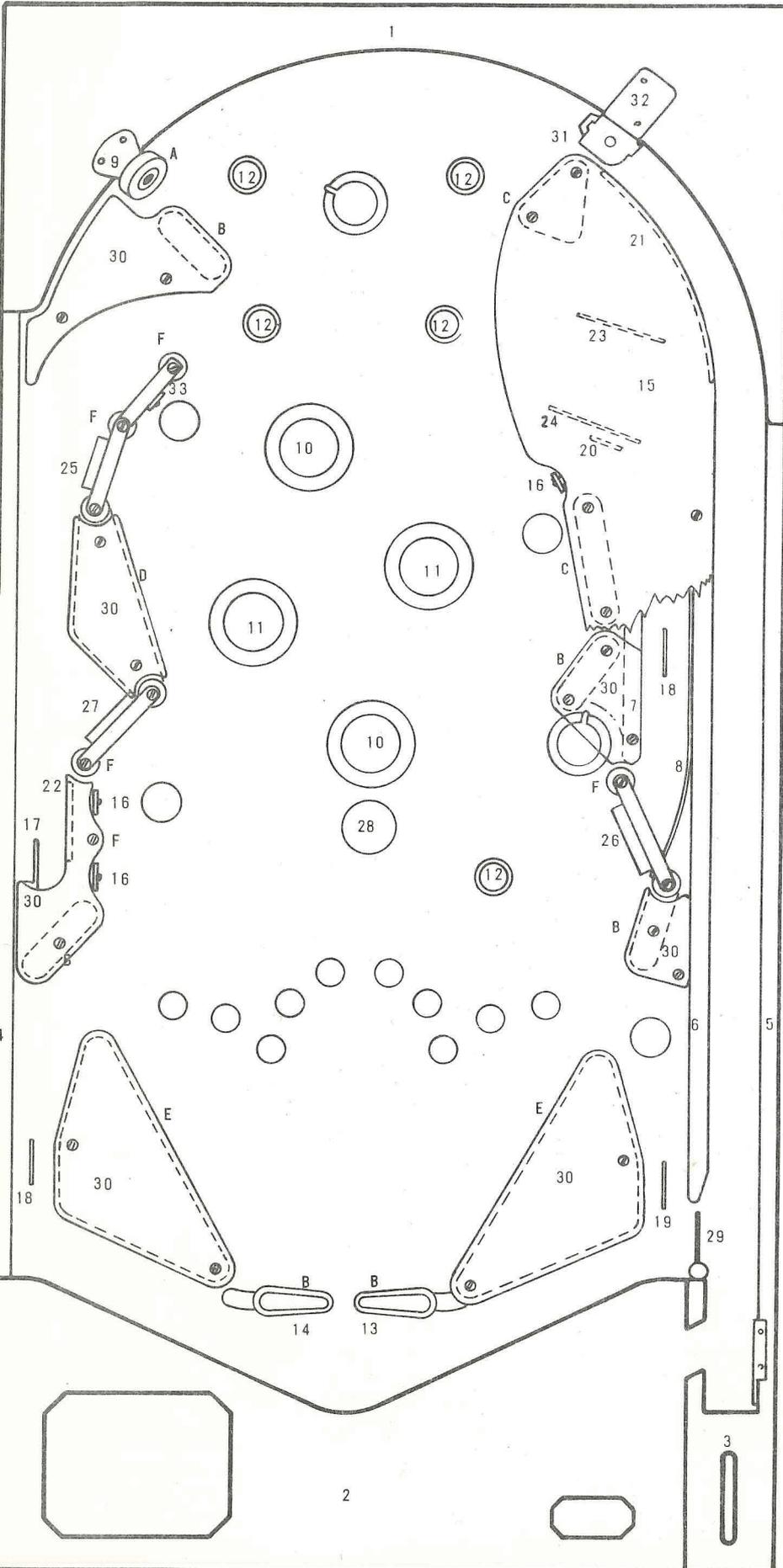
<u>MISCELLANEOUS</u>	<u>PART NO.</u>	<u>ASSEMBLY COILS</u>	<u>PART NO.</u>
Transformer	E-122-95	Ball Grabber (115V)	E-184-276
Score Motor (Domestic)	E-119-354	Coin Lockout	FC-33-2600
Score Motor (Export)	E-119-411	Knocker	C-27-1000
Total Play Meter	E-32-1700	10 Point Chime	CC-31-2000
		100 Point Chime	CC-31-2000
		1000 Point Chime	CC-31-2000
<u>RELAY COILS</u>		T-B's (4)	A-25-1000
Coin	G-31-2000	Top Hole Eject	A-27-1300
2nd coin chute	G-31-2000	Left Alley Kicker	A-26-1200
3rd coin chute	G-31-2000	Bonus Hole Eject	A-26-1200
Credit	G-31-2000	Out Hole Kicker	A-25-950
Lock	G-33-2800	Ball Release	A-27-1300
Delay	G-31-1600	Close Flippers	E-184-277
Player reset	G-31-2000	Open Flippers Coil	FC-30-1300
Top hole	G-31-2000	Gate	AF-27-1000/32-1300
Left alley	G-31-2000	Sling-Shots (2)	A-26-1200
Reset	G-31-2000	Flippers (2)	AF-25-600/28-800
#1 score reset	G-30-1500		
#2 score reset	G-30-1500	<u>UNIT COILS</u>	
Game over (latch)	G-31-2000	2 coin (step-up)	CD-29-1600
Game over (trip)	G-31-2000	Credit (step-up)	B-26-1100
Open flipper	G-31-2000	Credit (reset)	C-28-1100
Tilt	G-32-2500	Coin (step-up)	B-26-1100
Ball index	G-32-2500	Coin (reset)	C-28-1100
Ball release	G-31-2000	Ball count (step-up)	B-26-1100
2nd ball	G-31-2000	Ball count (reset)	C-28-1100
Outhole	G-31-2000	Player Up (step-up)	B-26-1100
Bonus hole	G-32-2500	Player Up (reset)	C-28-1100
Bonus target	G-31-2000	00-90 (step-up)	B-27-1300
Gate target	G-31-2000	Score drum (step-up)	CD-29-1600
M-B	G-31-2000	(16)	
Advance Bonus	G-31-2000	Bonus (step-up)	B-26-1100
1000 Point	G-31-2000	Bonus (reset)	C-28-1100
100 Point	G-31-2000		
10 Point	G-31-2000	<u>UNIT DISCS</u>	
Bonus Score	G-31-2000	Coin	W-923-260
5000 Score	G-31-2000	Ball count	W-1043-17
500 Score	G-31-2000	Player Up	W-923-207
Lite Red T-B	G-32-2500	00-90	W-1034-17
Lite Yellow T-B	G-32-2500	Bonus	W-1072-26
Open Gate	G-32-2500		
Ball Grabber	G-32-2500	<u>UNIT WIPERS</u>	
Top Red T-B	G-32-2000	Coin	AS-827-460
Bottom Red T-B	G-31-2000	Ball Count	AS-827-463
Left Yellow T-B	G-31-2000	Player Up	AS-827-467
Right Yellow T-B	G-31-2000	00-90	AS-827-512
		Bonus	AS-827-513

RUBBER PARTS

A	R 115-4	REBOUND	
B	R 521 1	1"	(8)
C	R 521 2	1-1 2"	(2)
D	R 521 5	3"	(1)
E	R 521 6	3 1 2"	(2)
F	R 243	5 16"	(6)

PANEL TOP PARTS

1	TOP ARCH	P 5839 60
2	BOTTOM ARCH	P 5871 38
3	SHOOTER GAUGE	P 6359 10
4	SIDE RAIL (L)	CA 1208 13
5	SIDE RAIL (R)	CA 1208 1
6	INSIDE RAIL	CA 1208 20
7	INSIDE RAIL	CA 1208 19
8	GUIDE RAIL	P 6244 53
9	REBOUND ASSEMBLY	A 493 3
10	BUMPER CAP (RED)	C 719 12
11	BUMPER CAP (YELLOW)	C 719 17
12	ROLLOVER BUTTON	C 387 5
13	FLIPPER & SHAFT (R)	AS 2214 6
14	FLIPPER & SHAFT (L)	AS 2214 7
15	ALLIGATOR COVER	M 1639 1
16	TARGET ASSEMBLY	AS-982-723
17	ROLLOVER WIRE	M 1336 18
18	ROLLOVER WIRE	M 1336 3
19	ROLLOVER WIRE	M 1336 2
20	BALL GUIDE WIRE	M 121 11
21	BALL GUIDE WIRE	M 121 16
22	BALL GUIDE WIRE	M 121 18
23	BALL GUIDE WIRE	M 121 41
24	BALL GUIDE WIRE	M 121 42
25	BALL GATE & WIRE	AS 2250 18
26	BALL GATE & WIRE	AS 2250 24
27	BALL GATE & WIRE	AS 2250 31
28	MUSHROOM BUMPER	AS 2291 13
29	GATE WIRE	M 1335
30	LIGHT SHIELDS (SET)	A 2890 88
31	BALL GATE	AS 1475 1
32	BALL GATE COVER	P 2996 5
33	TARGET ASSEMBLY	AS-982-699



## TIME DELAY CIRCUIT

Purpose of the time delay circuit is to prevent unnecessary abuse of the machine it is installed in.

The time delay relay is energized anytime one of the slam switches are made to contact. There are two factory installed slam switches, one on the front door and one on the mechanism mounting board. (Any number of slam switches could be installed by the operator, to meet his individual requirement). The switches should be adjusted to have approximately 1/16" gap between the contacts. The weighted blade should be adjusted to attain the desired sensitivity. Decreasing the gap between contacts will make switch more sensitive. Opening the gap will reduce sensitivity. The total time the delay relay is energized can be varied by changing the #455 lite bulb mounted on the delay relay frame. If unable to get a short enough time of delay, get a Westinghouse #455 bulb; these units are considerably faster. If still unable to bring the time down, check the location voltage. It should not be under 49.5 V.A.C. on the transformer secondary.

<u>OLD COIL NUMBER</u>	<u>NEW BALLY COIL NUMBER</u>
CO-25A-7	A-25-1050
CO-25GG-7	B-25-925
CO-25H-7	BC-25-925
CO-26A-9	A-26-1100
CO-26GG-9	B-26-1100
CO-27R-11	C-27-1000
CO-28R-15	C-28-1100
E-184-41	BF-27-1250
E-184-46	EA-30-1150
E-184-47	EA-32-1550
E-184-55	B-29-1200
E-184-56	A-27-1100
E-184-74	CF-28-1025
E-184-75	E-32-1700
E-184-112	EA-29-950
E-184-135	BA-25-925
E-184-155	D-27-425
E-184-156	D-28-500
E-184-160	B-25-750
E-184-175	AP-27-1300
E-184-180	CE-33-4800
E-184-190	AF-25-600/31-1000
E-184-204	AF-27-1000/32-1300
E-184-205	B-27-1300
E-184-206	CD-29-1600
E-184-207	A-27-1400
E-184-213	A-27-1300
E-184-218	F-31-1500
E-184-224	F-31-2100
E-184-231	CA-29-800/31-900
E-184-235	AK-25-1050
E-184-236	J-28-1100
E-184-237	BA-26-1040
E-184-241	AF-25-600/31-1000
E-184-243	A-26-1200
E-184-248	FC-30-1300
E-184-249	BF-28-1500
E-184-250	D-30-700
E-184-252	BB-26-655/32-1245
E-184-254	FC-30-1400
E-184-257	AP-25-1050
E-184-260	B-28-1600
E-184-261	AP-31-3000
E-184-262	A-26-1200
E-184-263	AF-27-775/31-861
E-184-264	A-28-1900
E-184-265	AF-25-600/31-1000
E-184-266	D-29-675
E-184-268	AF-26-750/31-900
E-184-269	FC-33-2600
E-184-270	AB-31-3000
E-184-271	AK-24-750
E-184-272	A-25-1000
E-184-274	FC-32-2100

NOTE:

THESE COILS MAY BE ORDERED BY THE OLD COIL NUMBER OR BY THE NEW COIL NUMBER OR BY BOTH.