

1. CHECK ALL MATERIAL RECEIVED AGAINST SHIPPING CHECK OFF LIST CONTAINED IN SYSTEM INSTALLATION PARTS PACKAGE (THIS PACKAGE CONTAINS ALL DETACHABLE CABLES ETC).
2. REMOVE ALL SHIPPING TAPE, BRACES AND OTHER MATERIAL AS PER PACKING AND UNPACKING INSTRUCTIONS INCLUDED WITH EACH UNIT.
- AT THIS TIME MAKE A THOROUGH PHYSICAL CHECK FOR DAMAGED, BROKEN OR LOOSE PARTS RESULTING FROM SHIPMENT (INCLUDING EDGE CONNECTORS). CAUTION - TURN FEED OVER MANUALLY WHEN REINSERTING BRUSH ASSEMBLY TO PREVENT BRUSH DAMAGE.
3. INSTALL THE FILE FEED MAGAZINE ON THE 1402. (AS PER REVISED 1402 CE REFERENCE MANUAL). PLACE FILTERS IN 1401.
4. CHECK THE 1402 RELAY GATE FOR LOOSE RELAYS AND DISPLACED ARMATURES.
5. MANUALLY TRIP CLUTCHES AND FEED CARDS THROUGH THE READ AND PUNCH FEEDS. CHECK FOR BINDS.
6. CHECK ALL MANUAL KNOBS, LEVERS, AND COVERS ON THE 1403 FOR PROPER OPERATION.
7. INSTALL (2) ANTI-WALK FOOT COMPONENT PARTS (2 SETS) TO THE 1403 FRAME NEAR THE CASTERS BY THE FOLLOWING PROCEDURE:  
INSERT THE MOUNTING STUD IN THE MACHINE FRAME FOR ITS FULL THREADED LENGTH. ASSEMBLE THE FOOT COVER AND MOUNTING FOOT TO THE STUD. BACK THE MOUNTING STUD OFF FOR THE REQUIRED DISTANCE TO STABILIZE THE MACHINE.
8. 1403-CHECK FOR OIL IN THE HYDRAULIC RESERVIOR. APPROX LEVEL TO BOTTOM OF MAGNETS.
9. 1403-CHECK FOR OIL IN THE RESERVOIR AT THE RIGHT END OF THE "T" CASTING (IBM #6)-1403.
10. ALL 1401 MACHINES FROM SERIAL NUMBER 20890 AND UP WILL BE DESIGNED FOR CABLES TO EXIT UNDERNEATH THE MACHINE. THE MACHINE WILL BE SHIPPED WITH CABLES ABOVE FRAME AND SHOULD BE INSTALLED AS DESCRIBED BELOW:
- (A) AT 01B1-01B8 - REMOVE THROW AWAY COVER AND DISCARD
- (B) AT 01B1 - REMOVE COVER SUPPORT BRACKET (194370) AND RETAIN. OPEN GATE 01B1.
- (C) AT 01B8 - RUN ALL CABLES DOWN THROUGH THE OPENING AT 01B1-01B8. STARTING WITH CABLE NEAREST REAR OF MACHINE, PLACE A LOOP THROUGH THE OPENING SUCH THAT THE CABLE CONNECTOR GOES THROUGH LAST.
- (D) AT 01B1-01B8 -  
INSTALL HOUSING (723351).  
INSTALL FILTER (723354).  
INSTALL COVER SUPPORT BRACKET, (194370) REMOVED IN STEP B, AT THE CENTER OF THE FRAME.  
INSTALL COVER (194372).  
FOR RAISED FLOOR INSTALLATION INSTALL KICK PLATE (597329).  
FOR ABOVE FLOOR INSTALLATION INSTALL KICK PLATE (723359).  
CLOSE GATE 01B1.
- (E) AT 02B4-02B5 -  
REMOVE COVER (194372).  
OPEN GATE 02B4.  
CONNECT CABLES - FIRST PASSING THEM UP FROM UNDERNEATH FRAME.  
INSTALL HOUSING (723352).  
FOR ABOVE FLOOR INSTALLATIONS INSTALL CLAMP (723353) TO HOLD CABLES AT 02B5 SIDE OF MACHINE. THIS INCLUDES THE THREE 1403 CABLES IF THEY PASS UNDERNEATH THE LENGTH OF THE 1401.  
INSTALL FILTER (723354).  
FOR ABOVE - FLOOR INSTALLATIONS INSTALL KICK PLATE (723360).  
FOR RAISED FLOOR INSTALLATIONS INSTALL KICK PLATE (597329).  
INSTALL COVER (194372).  
CLOSE GATE 02B4.
11. CONNECT CABLES FROM THE 1401 TO THE 1402. (WILL ONLY FIT ONE WAY).
12. CONNECT CABLES FROM THE 1401 TO THE 1403. (SHOE WITH GOLD PLATED PINS CONNECTS TO FRONT RECEPTACLE. ON CURRENT MACHINES THESE WILL ONLY FIT ONE WAY).
- 12A. IF SYSTEM HAS EXPANDED MEMORY, CONNECT POWER AND SIGNAL CABLES FROM 1401 TO THE 1406 (06B7) (WILL ONLY FIT ONE WAY AFTER 1401-20010).
13. CONNECT THE MAIN POWER CABLE TO THE UPPER TERMINALS ON THE INNER CIRCUIT BREAKER OF THE 1402 UNIT. THE GREEN (GROUND) WIRE SHOULD BE CONNECTED TO THE FRAME OF THE 1402. REFER TO 1402 WIRING DIAGRAM #609400, PAGE 11.01.11.1.  
ON SYSTEMS WITHOUT THE 1402 THE MAIN POWER CABLE WILL BE CONNECTED TO THE 1401 AT THE BULK POWER SUPPLY AT GATE LOCATIONS 02B7 AND 02B8. REFER TO 1401 POWER SUPPLY DIAGRAM. (BE SURE TO TIGHTEN ALL TERMINAL SCREWS FIRMLY).
14. DO NOT CONNECT TAPE UNIT CABLES AT THIS TIME.
15. CHECK CUSTOMERS POWER RECEPTACLE FOR THE PROPER TYPE OF VOLTAGE SUPPLY AND GROUND. IF IT IS NECESSARY TO CHANGE THE SYSTEM FROM 208V TO 230V COMPLETE THE FOLLOWING:

1401

- (A) EXPANDED BULK REGULATOR (ALL MODELS EXCEPT A)  
GATE 02A3 - MOVE WIRE OR WIRES ON BULK REGULATOR TB-4 TO TB-5.
- (B) 1250 WATT REGULATOR. LOCATED IN THE LEFT SIDE OF THE 1402. ON MODEL D SYSTEMS LOCATED ON GATE 02A7. MOVE THE WIRE ON THE 1250 WATT REGULATOR TB-4 TO TB-5.

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- (C) 115V AC ISOLATION TRANSFORMER. LOCATED BEHIND THE RELAY PANEL ASSEMBLY IN THE 1402. ON MODEL D SYSTEMS LOCATED IN 02B7-8 GATE AREA. REMOVE THE WIRE ON THE TRANSFORMER SOLDER TERMINAL 6 AND SOLDER TO TERMINAL 7. ON LATER MODEL D MACHINES TERMINAL 7 IS WIRED TO TERMINAL POSITION 7 OF THE 8 POSITION BLOCK NEAR THIS TRANSFORMER. ON THESE MACHINES REMOVE THE WIRE ON TERMINAL POSITION 6 OF THIS BLOCK AND INSTALL ON TERMINAL 7.
- (D) 24V AC STEP DOWN TRANSFORMER. LOCATED IN THE 1402 BEHIND THE FUSE PANEL. (DOES NOT EXIST ON SYSTEMS BELOW 20000) ON MODEL D SYSTEMS LOCATED IN 02B7-8 GATE AREA. REMOVE THE WIRE ON STEP DOWN TRANSFORMER TB POSITION 2 AND INSTALL ON TB POSITION 3.
- (E) -60V AT 10 AMP OR -60V AT 20 AMP SUPPLY. LOCATED IN THE BACK OF THE 1402. ON MODEL D MACHINES LOCATED IN GATE AREA 01B4. REMOVE WIRE FROM VRI-4 AND INSTALL ON VRI-5. (VRI IS THE 12 POSITION TERMINAL BLOCK LOCATED TO THE BOTTOM OF THIS UNIT.)
- (F) 3V MARGINAL CHECK SUPPLY. (EXCEPT PORTABLE SUPPLIES) LOCATED IN THE LEFT END OF THE 1402. LOCATED IN GATE 02A8 ON MODEL D. REMOVE WIRE ON MC POWER SUPPLY POSITION VRI-4 AND INSTALL ON POSITION VRI-5. (THIS WIRING CHANGE IS MADE INTERNALLY OF THE SUPPLY ASSEMBLY DIRECTLY ON THE TRANSFORMER.)
- 1406  
(A) 415 WATT REGULATOR IN 1406 GATE 06B8. (NOT ON EARLIER SYSTEMS) REMOVE WIRE FROM TB POSITION 4 AND INSTALL ON TB POSITION 5.
- 1403  
(A) ONLY THE CHAIN MOTOR IS AFFECTED. WIRE TB7 AS PER WIRING DIAGRAM PAGE 01.09.1.
- 1405  
(A) CHANGE TRANSFORMER TAPS FOR 3 TRANSFORMERS AS SHOWN ON LOGIC PAGES 75.58.11 AND 75.58.21.
- 1407  
(A) NO CHANGE REQUIRED.
- 7330  
(A) CHANGE LEAD GOING TO CONNECTION 2 TO CONNECTION 3 ON TRANSFORMER 556643 IN POWER SUPPLY 556810, GATE A8.  
(B) CHANGE LEAD GOING TO TB-4 TO TB-5 ON TRANSFORMER 556920 IN POWER SUPPLY 556810, GATE A8.  
(C) CHANGE LEAD GOING TO TB2-10 TO TB2-9 IN POWER SUPPLY 556751, GATE A5.
- 729  
(A) ADD FB 352075. THIS BILL INCLUDES A 230V TO 208V STEP DOWN TRANSFORMER.
- 15B. IF IT IS NECESSARY TO CHANGE THE SYSTEM FROM 230V TO 208V REVERSE THE INSTRUCTIONS IN STEP 15 ABOVE.
- 15C. IF A VOLTAGE CHANGE IS MADE ON THE SYSTEM ENTER AN MES ORDER SO THAT RECORDS WILL BE PROPERLY UPDATED.
16. LIFT CARRIAGE BRUSHES AND OPEN "T" CASTING ON THE 1403 BEFORE APPLYING POWER.
17. APPLY POWER. CHECK ALL BLOWERS FOR OPERATION ON THE 1401 (AND 1406) ESPECIALLY THE ONE OVER THE CORE STORAGE UNITS. ALSO CHECK THE CARRIAGE BLOWER ON THE RIGHT SIDE OF THE 1403. PLACE A CARD OVER THE LOUVERS IN THIS COVER. IF THE CARD IS DRAWN AGAINST THE COVER, THE BLOWER IS OPERATING.
18. CHECK FOR PROPER PHASE ROTATION ON THE 1403. SLIP A PIECE OF PAPER OR TAB CARD THROUGH THE PAPER FEED ROLLERS ON THE BACK OF THE MACHINE. THE PAPER OR CARD SHOULD BE FED DOWN. IF THIS IS CORRECT CLOSE THE "T" CASTING AND CHECK TO SEE THAT THE CHAIN IS TURNING COUNTER CLOCKWISE, LOOKING DOWN AT IT. FINALLY CHECK TO SEE THAT AIR IS BLOWING INTO THE HAMMER UNIT. THIS CHECK CAN BE MADE BY PLACING A CARD OVER THE LOUVERS IN THE COVER ON THE LEFT SIDE OF THE 1403. IF THE CARD IS DRAWN AGAINST THE COVER, AIR IS BEING BLOWN INTO THE MACHINE. COMPLETE THE CHECK BY FEELING THAT AIR IS BEING BLOWN OUT OF THE HAMMER UNIT AT THE SIDES OF THE UNIT. IF ALL THREE OF THE ABOVE ARE INCORRECT REVERSE ANY TWO LEADS ON THE MAIN POWER CABLE. IF ONE OR TWO ARE INCORRECT FOLLOW PROCEDURE OUTLINED IN THE 1403 REFERENCE MANUAL PAGE 6, FORM #225-6493.
19. IF ALL PHASING IS CORRECT IT IS NOW SAFE TO LOWER CARRIAGE BRUSHES. A CARRIAGE TAPE SHOULD BE INSTALLED.
20. CHECK 1401, 1402 (AND 1406) POWER SUPPLY VOLTAGES. THEY SHOULD BE  $\pm 2\%$  WHEN MEASURED AS DESCRIBED BELOW
- (A) MEASURE -6V, +6V, AND -12 VOLT OUTPUT AT GATE LOCATION 01B3. ADJUST FOR PROPER OUTPUT. ALWAYS ADJUST -6V BEFORE ADJUSTING -12V. SEE 1401 WIRING DIAGRAM FOR LOCATION OF SUPPLIES LOCATED ON 02A4 AND 02A5 (1401 ONLY).
- (B) MEASURE -6V, +6V, -12V, AND -36 VOLTS (IF THERE ARE NO TAPE ADAPTER UNIT GATES OR IF MACHINE IS EQUIPPED WITH TAU 9 -36V IS NOT PRESENT). AT GATE LOCATION 02B2 ON MACHINES WITH TAPES. IF THIS FEATURE IS NOT PRESENT, MEASURE AT GATE LOCATION 02A7, 02A8 OR 02B6 DEPENDING ON WHICH MAY BE PRESENT. ADJUST FOR PROPER OUTPUT FROM THE SUPPLIES WHICH ARE LOCATED ON 02A3 AND 02A6. ALWAYS ADJUST -6V BEFORE ADJUSTING -12V. REFER TO 1401 WIRING DIAGRAM. (1401 ONLY).
- (C) MEASURE -60 VOLTS ON 01B8 AT THE -60 VOLT BUS BAR. ADJUST FOR THE PROPER OUTPUT FROM THE SUPPLY LOCATED IN THE 1402. IN MODEL D THIS SUPPLY IS LOCATED ON 01B4 (1401 ONLY).

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- (D) MEASURE -20 VOLTS ON O1A1 AT F26R AND ADJUST FOR PROPER OUTPUT FROM THE SUPPLY LOCATED IN THE 1402. IN MODEL D, SUPPLY IS LOCATED ON GATE O2A8. (TURN OFF ALL POWER-INCLUDING LINE POWER INPUT TO 1402- AND MOVE TAPS ON SUPPLY IF ADJUSTMENT IS NECESSARY).
- (E) MEASURE +30 VOLTS ON O1A1 (AND 1406 CORE ARRAY GATES) AT F26N. MEASURE +12V FIXED ON O1A1 (AND 1406 CORE ARRAY GATES) AT F26Q. MEASURE +12V VARIABLE (18V DIFF) ON O1A1 (AND 1406 CORE ARRAY GATES) AT F13Q. ALWAYS ADJUST +30V BEFORE ADJUSTING +12 V. OPTIMUM VOLTAGE FOR THE +12 IS NOTED ON DECALS FOR EACH CORE ARRAY.
- (F) THE MARGINAL VOLTAGES ARE NOT MEASURED. (IF THE ABOVE STEPS ARE FOLLOWED, THESE VOLTAGES SHOULD BE WITHIN TOLERANCES).
- (G) ON LATER MACHINES THE MARGINAL VOLTAGE SUPPLY WILL NOT BE PERMANENTLY INSTALLED IN THE SYSTEM. A PORTABLE SUPPLY WILL BE MADE AVAILABLE. THIS WILL PROVIDE GREATER FLEXIBILITY FOR CHECKING THE SYSTEM INCLUDING ANY PERIPHERAL EQUIPMENT. A SPACE FOR STORAGE OF THE PORTABLE SUPPLY IS AVAILABLE IN THE LEFT END OF THE 1402 DIRECTLY UNDER THE PUNCH DRIVE MOTOR. THE PORTABLE SUPPLY CAN BE PLUGGED INTO ANY 115V RECEPTACLE AND IS USED THE SAME AS THE FIXED MARGINAL SUPPLY.
21. RUN READER AND PUNCH WITH NON-PROCESS RUNOUT KEY.
22. RUN READ WITH PROCESS UNIT. (PUT IN READ OP MANUALLY).
23. RUN PUNCH WITH PROCESS UNIT.
24. RUN PRINTER WITH PROCESS UNIT WITH NO INFORMATION IN THE PRINT AREA.
- 25A. IF THE 1401 IS A STAGE I, PROCEED NEXT TO STEP 26.
- B. IF THE 1401 IS A STAGE II, SKIP STEP 26 AND PROCEED NEXT TO STEP 27.
26. TEST RESET CHECK CIRCUIT AS FOLLOWS:
- (A) CLEAR THE ENTIRE PRINT AREA AND EXECUTE A PRINT OPERATION WITH THE SCOPE SYNC ON C17N +U NOT FIRST SCAN GOING PLUS ON 36.35.11.1 (O1A6).
- (B) SCOPE B03N AND B04N ON GATE O1B5, LOGIC 36.37.51.1 SHOULD GO TO +T WHEN NOT PRINTING AND -T WHEN PRINTING. SCOPE D03H, G AND D04G LOGIC 36.37.41.1 AND C04H, G AND D04H LOGIC 36.39.91.1 THEY SHOULD BE AT +T WHEN NOT PRINTING. WHEN PRINTING, THEY WILL GO +T IN THE HALF OF A SUBSCAN JUST PRIOR TO THE TIME 1/6 OF THE HAMMERS MAY BE OPTIONED TO PRINT (SIX RESETS PER PRINT SCAN).
- (C) SCOPE PIN E OF TRIGGER IN E21 ON O1B5, LOGIC 36.37.51.1 SHOULD TURN ON (GO TO +U) 110 USEC AFTER SYNC GOES POSITIVE. SHOULD TURN OFF 220 USEC AFTER IT TURNS ON. PATTERN SHOULD REPEAT ITSELF EVERY 555 USEC WHILE PRINTING.
- (D) SCOPE PIN E OF TRIGGER IN F20 ON O1B5, LOGIC 36.37.51.1 SHOULD TURN ON (GO TO +U) 190 USEC AFTER SYNC GOES POSITIVE. SHOULD TURN OFF 220 USEC AFTER IT TURNS ON. PATTERN SHOULD REPEAT ITSELF EVERY 555 USEC WHILE PRINTING.
- (E) IF ABOVE TRIGGERS ARE OPERATING PROPERLY, PROCEED TO STEP F. IF NOT, THE HAMMER DRIVER RESETS ARE NOT WORKING PROPERLY. CHECK LOGIC ON 36.37.41.1 TO GET RESETS WORKING PROPERLY. THEN REPEAT STEPS C AND D THEN PROCEED TO F IF C AND D ARE O.K.
- (F) SCOPE PIN G OF F02 ON O1B5 (LOGIC 36.37.51.1) FOR THE FOLLOWING STEPS.
- (G) BEING VERY CAREFUL, TIE PIN E OF TRIGGER IN E21 TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4B ON 36.37.51.1, AND PIN G OF F02 ON O1B5 SHOULD GO TO +U AND STAY THERE BECAUSE THE RESET CHECK LATCH HAS BEEN "SET" WHICH WILL HOLD ALL THE HAMMER DRIVERS RESET. AFTER REMOVING CLIP LEAD, RESET THE LATCH WITH THE I-O CHECK RESET SWITCH.
- (H) TIE E21H TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4C AND RESULT SHOULD BE AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (I) TIE F20E TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4D AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (J) TIE F20H TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4E AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (K) A WITH PRINT STORAGE - TIE E20B TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCKS 3F AND 4F AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.  
B WITHOUT PRINT STORAGE - TIE F15B TO "GROUND" WITH CLIP LEAD WHILE EXECUTING A PRINT OPERATION. THIS CHECKS LOGIC BLOCK 2G AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (L) A WITH PRINT STORAGE - OPEN T-FRAME ON 1403 WHILE EXECUTING THE ABOVE PRINT OPERATION WITH THE PRINT AREA CLEAR. THIS CHECKS LOGIC BLOCKS 5J AND 6J ON LOGIC 36.31.01.1 (GATE O1A6). RESULT SHOULD BE THE SAME AS FOR STEP G. RESET THE LATCH WITH THE I-O CHECK RESET SWITCH.  
B WITHOUT PRINT STORAGE - OPEN T-FRAME ON 1403 WHILE EXECUTING THE ABOVE PRINT OPERATION WITH THE PRINT AREA CLEAR. THIS CHECKS LOGIC BLOCKS 4J, 5J, AND 6J ON LOGIC 36.31.01.1 (GATE O1A6) AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET THE LATCH WITH THE I-O CHECK RESET SWITCH.
- (M) TRY TO PRINT IN ONE POSITION ONLY. IF O.K., EXPAND THE PRINT FIELD. AFTER PRINTING IN ALL POSITIONS CHECK TO SEE THAT THE -60V HAMMER RESPONSE COMMON FUSES (2) ARE NOT BLOWN. IF FUSES HAVE BLOWN AND BLOW A SECOND TIME, CHECK FOR GROUNDS ON THE HAMMER RESPONSE LINES.

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(N) PROCEED NEXT TO STEP 28.

## 27. TEST RESET CHECK CIRCUIT AS FOLLOWS:

- A (A) CLEAR THE ENTIRE PRINT AREA AND EXECUTE A PRINT OPERATION WITH THE SCOPE SYNC ON CIIN -T NOT FIRST SCAN GOING NEGATIVE ON 36.35.11.2(01A6). A
- B (B) SCOPE B03N AND B04N ON GATE 01B5, LOGIC 36.37.51.2 SHOULD GO TO +T WHEN NOT PRINTING AND -T WHEN PRINTING. SCOPE D03H, G AND D04G LOGIC 36.37.41.2 AND C04H, G AND D04H LOGIC 36.39.91.2. THEY SHOULD BE AT +T WHEN NOT PRINTING. WHEN PRINTING, THEY WILL GO +T IN THE HALF OF A SUBSCAN JUST PRIOR TO THE TIME 1/6 OF THE HAMMERS MAY BE OPTIONED TO PRINT (SIX RESETS PER PRINT SCAN).
- B (C) SCOPE PIN E OF TRIGGER IN E21 ON 01B5, LOGIC 36.37.51.2 SHOULD TURN ON (GO TO +U) 110 USEC AFTER SYNC GOES NEGATIVE. SHOULD TURN OFF 220 USEC AFTER IT TURNS ON. PATTERN SHOULD REPEAT ITSELF EVERY 555 USEC WHILE PRINTING. B
- (D) SCOPE PIN E OF TRIGGER IN F20 ON 01B5, LOGIC 36.37.51.2 SHOULD TURN ON (GO TO +U) 190 USEC AFTER SYNC GOES NEGATIVE. SHOULD TURN OFF 220 USEC AFTER IT TURNS ON. PATTERN SHOULD REPEAT ITSELF EVERY 555 USEC WHILE PRINTING.
- C (E) IF ABOVE TRIGGERS ARE OPERATING PROPERLY, PROCEED TO STEP F. IF NOT THE HAMMER DRIVER RESETS ARE NOT WORKING PROPERLY. CHECK LOGIC ON 36.37.41.2 TO GET RESETS WORKING PROPERLY. THEN REPEAT STEPS C AND D. THEN PROCEED TO F IF C AND D ARE O.K. C
- (F) SCOPE PIN G OF F02 ON 01B5 (LOGIC 36.37.51.2) FOR THE FOLLOWING STEPS.
- (G) BEING VERY CAREFUL, TIE PIN E OF TRIGGER IN E21 TO "GROUND" WITH CLIP LEAD. THIS CHECKS BLOCK 4B AND 36.37.51.2 AND PIN G OF F02 ON 01B5. SHOULD GO TO +U AND STAY THERE BECAUSE THE RESET CHECK LATCH HAS BEEN "SET" WHICH WILL HOLD ALL THE HAMMER DRIVERS RESET. AFTER REMOVING CLIP LEAD, RESET THE LATCH WITH THE I-O CHECK RESET SWITCH.
- D (H) TIE E21H TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4C AND RESULT SHOULD BE AS FOR STEP G. RESET LATCH AS FOR STEP G. D
- (I) TIE F20E TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4D AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (J) TIE F20H TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCK 4E AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (K) A WITH PRINT STORAGE - TIE E20B TO "GROUND" WITH CLIP LEAD. THIS CHECKS LOGIC BLOCKS 3F AND 4F AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G. E
- B WITHOUT PRINT STORAGE - TIE F15B TO "GROUND" WITH CLIP LEAD WHILE EXECUTING A PRINT OPERATION. THIS CHECKS LOGIC BLOCK 2G AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET LATCH AS FOR STEP G.
- (L) A WITH PRINT STORAGE - OPEN T-FRAME ON 1403 WHILE EXECUTING THE ABOVE PRINT OPERATION WITH THE PRINT AREA CLEAR. THIS CHECKS LOGIC BLOCK 6G (OR 6F) LOGIC 36.31.11.2 (GATE 01A6) AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET THE LATCH WITH THE I-O CHECK RESET SWITCH. F
- B WITHOUT PRINT STORAGE - OPEN T-FRAME ON 1403 WHILE EXECUTING THE ABOVE PRINT OPERATION WITH THE PRINT AREA CLEAR. THIS CHECKS LOGIC BLOCK 6G ON LOGIC 36.31.11.2 (GATE 01A6) AND RESULT SHOULD BE THE SAME AS FOR STEP G. RESET THE LATCH WITH THE I-O CHECK RESET SWITCH.
- (M) TRY TO PRINT IN ONE POSITION ONLY. IF O.K., EXPAND THE PRINT FIELD. AFTER PRINTING IN ALL POSITIONS CHECK TO SEE THAT THE -60V HAMMER RESPONSE COMMON FUSES (2) ARE NOT BLOWN. IF FUSES HAVE BLOWN AND BLOW A SECOND TIME, CHECK FOR GROUNDS ON THE HAMMER RESPONSE LINES.
- G 28. RUN COMBINATION OP CODES 3,5,6 AND 7. G
- G 29. REMOVE POWER AND INSTALL TAPE UNIT CABLES. G
- (A) FOR C,D AND F SYSTEMS - WHEN 729 AND 7330 TAPE UNITS ARE INTERMIXED, CABLES CANNOT BE CROSS CONNECTED. I.E. EACH END OF ANY TAPE CABLE MUST CONNECT TO THE SAME TYPE TAPE UNIT ON EITHER END. THE FIRST TAPE UNIT IN THE SYSTEM MUST ALSO BE CONNECTED TO THE PROPER CONNECTOR IN THE PROCESSING UNIT. AFTER THE INITIAL CABLE HOOKUP HAS BEEN MADE AND CHECKED OUT, THE CONNECTORS ON EACH END OF THE CABLES MUST BE IDENTIFIED WITH "729" OR "7330" LABELS PROVIDED IN THE SYSTEM MAINTENANCE PACKAGE FOR THIS PURPOSE.
- H 30. IF SYSTEM HAS TYPE 729 TAPE DRIVES APPLY POWER AND CHECK ROTATION OF MOTORS BY HITTING LOAD REWIND. IF THE HEAD DOES NOT COME DOWN, CHECK FOR VACUUM IN COLUMNS. IF AIR IS BLOWING OUT, THE PHASING IS REVERSED. IF AIR IS BEING SUCKED IN, PHASING IS CORRECT AND SOMETHING ELSE IS PREVENTING THE HEAD FROM COMING DOWN. IF ROTATION IS INCORRECT, TURN OFF ALL POWER TO SYSTEM (LINE POWER INCLUDED) AND REVERSE ANY TWO PHASES AT CIRCUIT BREAKER #2 IN THE 1402 (REFER TO 1402 LOGICS FOR DIAGRAM-SEC 1A). H
- NOTE: ON MOD D SYSTEMS, CIRCUIT BREAKER IS LOCATED 02B8. TURN POWER ON AND RECHECK ROTATION.
- J 30A. IF SYSTEM HAS TYPE 7330 TAPE DRIVES: J
- (A) CLEAN TRANSPORT AND CHAMBER.
- (B) CHECK 7330 POWER CONTROL SWITCHES OFF.
- (C) INSTALL TERMINATOR SHOE.  
CAUTION: DO NOT, AT ANY TIME, TURN POWER ON WITHOUT A TERMINATOR SHOE INSTALLED.

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- (D) TURN ON 1401 MAIN LINE POWER.
- (E) TURN ON 7330 POWER CONTROL SWITCHES.
- (F) CHECK: READ BUS SIGNAL LEVEL, WRITE CIRCUIT FEED THROUGH, SKEW AND TRACKING AS PER 7330 C.E. REFERENCE MANUAL.
31. CHECK TAPE OPERATION FROM THE C.E. CONSOLE (02A1)
- (A) WRITE TAPE WITH TERMINAL AT A26 ON PIN A FOR CONTINUOUS WRITING, ON PINS B,C, AND D FOR WRITING WITH GAPS AND ON PIN J FOR I CHARACTER RECORDS.
- (B) WRITE TAPE MARK
- (C) BACK SPACE AND READ 1 RECORD TO CHECK TAPE INDICATE.
- (D) REWIND AND READ.
32. CHECK TAPES WITH PROCESS UNIT
- (A) MANUAL TAPE OP WRITE
- (B) MANUAL TAPE OP READ
33. IF SYSTEM HAS EXPANDED MEMORY, RUN THE PROGRAMS SHOWN BELOW TO INSURE THAT THE 1406 SIGNAL CABLES CONTACTS ARE MAKING:
- (A) FOR 8K SYSTEM, MANUALLY ENTER A "C" BIT IN LOCATION 7999 AND THEN ENTER L 7999 7998, IN ANY MEMORY LOCATIONS. BY STARTING THE LOAD OP, THE ENTIRE MEMORY SHOULD BE LOADED WITH "C" BITS. STORAGE SCAN. MANUALLY ENTER C,A,B,8,4,2,1 INTO 7999. THEN PROCEED AS ABOVE BY LOADING C,A,B,8,4,2,1 INTO THE ENTIRE MEMORY. STORAGE SCAN.
- (B) FOR 12K SYSTEM, MANUALLY ENTER IN LOCATION 11,999 AND USING PROGRAM L 11,999 11,998, PROCEED AS IN STEP (A).
- (C) FOR 16K SYSTEM, MANUALLY ENTER IN LOCATION 15,999 AND USING PROGRAM L 15,999 15,998, PROCEED AS IN STEP (A).
34. RUN CE DIAGNOSTIC TEST AS OUTLINED IN THE 1401 INSTALLATION TESTING PROCEDURE ON PAGE 5,6 AND 7.
35. IF SYSTEM HAS EXPANDED MEMORY, PERFORM A FULL STORAGE PRINT OUT.

1401 SYSTEM  
INSTALLATION TESTING PROCEDURE

THE 1401 DIAGNOSTIC FUNCTION TESTS ARE FURNISHED IN THREE BOXES OF CARDS. TWO ARE FOR MODELS A AND B SYSTEMS, AND A THIRD BOX OF TAPE TESTS IS FOR MODEL C SYSTEMS. TESTS FOR MODEL D SYSTEMS ARE FURNISHED ON MAGNETIC TAPE (REFER TO PAGE 7, BLOCK 5310 FOR DETAILS).

BOX 1 CONTAINS ALL OF THE STANDARD FEATURES TESTS. THESE TESTS MAY BE RUN INDIVIDUALLY OR, IF THE ENTIRE BOX IS PLACED IN THE FILE FEED TRAY, THEY WILL RUN CHAINED (SEQUENTIALLY). IN EITHER CASE, THE FOLLOWING PRELIMINARY STEPS MUST BE TAKEN:

- ON MODELS A AND B WITHOUT THE EXPANDED EDIT OPTION, REMOVE CARDS 59-66 OF THE EDIT TEST DECK, BLOCK 0370.
- CORE STORAGE WORST PATTERN TEST, BLOCK 9100, MUST BE CUSTOMIZED TO YOUR SYSTEM'S STORAGE SIZE AS FOLLOWS:

IF STORAGE SIZE IS	REMOVE CARD NO
16K	NONE
12K	95
8K	94 AND 95
4K	93, 94 AND 95
2K	92, 93, 94 AND 95
1.4K	91, 92, 93, 94 AND 95

- RIPPLE READ TEST, BLOCK 1040, SHOULD BE THE LAST DECK TO RUN SINCE THIS TEST USES AS DETAIL CARDS THE 60 CARDS PUNCHED BY THE RIPPLE PUNCH TEST, BLOCK 1030. CHECK DECKS TO DETERMINE WHETHER OR NOT A RIPPLE PUNCH DECK HAS BEEN INCLUDED. IN ANY CASE, RUN ONLY 1 RIPPLE PUNCH TEST.
- USE THE CARRIAGE TAPE SHIPPED WITH SYSTEM. IT IS DESIGNED FOR USE WITH FORMS SPACING TEST, BLOCK 2000, FORMS SKIPPING TEST, BLOCK 2010, AND BRANCH ON CHANNELS 9 AND 12 TEST, BLOCK NO. 2020.
- USE SENSE SWITCHES AS FOLLOWS (NORMAL PROCEDURE):
  - SENSE SWITCH B - ON TO PERMIT SCOPING OF THE MAIN INSTRUCTION OF THE TEST (FOR EXAMPLE, EDIT INSTRUCTION IN EDIT TEST).
  - SENSE SWITCH C - ON TO PRINT CORRECT RESULTS.
  - SENSE SWITCH D - ON TO REPEAT PROGRAM FOR AN INDIVIDUAL CARD OR SET OF FACTORS AS OFTEN AS DESIRED.
  - SENSE SWITCH E - ON TO STOP ON ERRORS.  
OFF TO PRINT ERROR RESULTS.
- IF TITLE AND HEADINGS PRINTOUT IS DESIRED, MANUALLY ENTER "I" IN 1252.
- THERE MUST NOT BE A GROUP MARK IN 1398 WHEN RUNNING THE TESTS FROM CARDS.
- IF ERROR PRINTOUTS OR STOPS OCCUR REFER TO THE DETAILED WRITE-UP OF THAT TEST.

BOX 2 CONTAINS OPTIONAL FEATURES TESTS WITH THE EXCEPTION OF BLOCKS 0001, 0002,

DATE	EC NO	DATE	EC NO	DATE	EC NO
12-13-60	109998				
2-6-61	110738				
3-27-61	110306				
8-28-61	110301E				
11-20-61	113401				

9000 AND 9999. RUN ONLY THOSE TESTS IN THIS BOX THAT CORRESPOND TO THE FEATURES IN YOUR SYSTEM.

MOVE AND LOAD - BLOCKS 0001 AND 0002

DO NOT RUN THIS TEST UNLESS YOU THOROUGHLY UNDERSTAND IT AND THE DESCRIPTION OF IT. THESE TESTS SHOULD NOT BE RUN AS A GENERAL TEST. IN THE CASE OF TROUBLE WITH THE LOAD OR MOVE OP CODES, THEY MAY PROVE BENEFICIAL.

SENSE SWITCHES (B THROUGH G) - BLOCK 0003

TURN ON ALL THE SENSE SWITCHES AND LOAD THE PROGRAM DECK. AFTER THE "ON" POSITIONS HAVE BEEN TESTED, A PROGRAM STOP WILL OCCUR (I STAR=700). TURN "OFF" ALL SENSE SWITCHES. PRESS THE START KEY. A PROGRAM STOP WILL OCCUR (I STAR=900). IN CASE OF ERROR PRINT OUT, REFER TO DIAGNOSTIC WRITE UP.

READ-PUNCH RELEASE - BLOCK 3500

I/O CHECK STOP SWITCH OFF AND CHECK STOP SWITCH OFF. THE PROGRAM READS 50 DETAIL CARDS WITH MAXIMUM ALLOWABLE DELAY BETWEEN CARDS. FOR THE LAST CARD AN ADDITIONAL DELAY FORCES A READ CHECK STOP WITH THE I STAR AT 599 OR 600. TO RUN THE PUNCH PART OF THE TEST, DO A NONPROCESS RUNOUT AND START THE PROGRAM AT LOCATION 600. A FORCED PUNCH CHECK STOP IN THIS PROGRAM STOPS THE MACHINE AND ENDS THE TEST WITH THE I STAR AT 799 OR 800.

PUNCH FEED READ - BLOCK 3600

TURN I/O AND CHECK STOP SWITCHES ON, ALL SENSE SWITCHES OFF, AND LOAD THE PROGRAM. 80 CARDS WILL BE PUNCHED WITH THE NORMAL PUNCH OP CODE AND THE PROGRAM WILL STOP WITH I STAR = 500.

LOAD THE PUNCHED CARDS BACK IN THE PUNCH HOPPER WITH 2 BLANK CARDS BEHIND THEM. PRESS THE START KEY. THE PROGRAM THEN READS THESE CARDS, TRANSPOSES THE INFORMATION IN COL 1-40 AND 41-80 AND PUNCHES IT BACK IN THE SAME CARD.

READ ERRORS WILL BE INDICATED BY AN ERROR PRINTOUT. PUNCH ERRORS WILL STOP THE MACHINE.

SELECT STACKER - BLOCK 9000

SET THE CHECK STOP SWITCHES AND SENSE SWITCH A "ON" CLEAR PUNCH FEED.

THE PUNCH IN COLUMN 1 OF EACH DETAIL CARD INDICATES INTO WHICH POCKET THE CARD WILL SORT. AFTER THE LAST CARD IN THE READ FEED HAS BEEN SENSED, THE PUNCH WILL START AND CARDS WILL BE SELECTED INTO EACH OF THE POCKETS FROM THE PUNCH. A HOLE WILL BE PUNCHED IN COLUMN 1 CORRESPONDING TO THE POCKET INTO WHICH THE CARD IS TO BE SORTED.

IF SENSE SWITCH C IS "ON", CARDS FROM THE READ FEED WILL SORT IN POCKET 1, AND THE CARDS FROM THE PUNCH FEED WILL SORT IN POCKET 4. SENSE SWITCH D "ON" WILL CAUSE THEM TO MERGE IN THE 8/2 POCKET.

BRANCH LAST CARD (SENSE SW A) - BLOCK 9999

TURN SENSE SWITCH A, I/O CHECK, STOP "ON". RUN THE DECK IN; IT WILL BRANCH ON LAST CARD 4000 TIMES AND COME TO A PROGRAM STOP WITH I STAR AT 600. TURN SENSE SWITCH A "OFF" AND PRESS THE START KEY. THE PROGRAM WILL TEST BRANCH ON LAST CARD 4000 TIMES BUT WILL NOT BRANCH BECAUSE SWITCH A IS OFF. WHEN THE PROGRAM IS FINISHED, IT COMES TO A PROGRAM STOP WITH I STAR AT 700 IF TEST WORKS CORRECTLY (645 IF SWITCH A IS STILL ON OR SHORTED).

COLUMN BINARY TESTS (BLOCKS 3000-3040), ADVANCED PROGRAMMING TESTS (BLOCKS 3100-3130), MULTIPLY-DIVIDE-BRANCH DIVIDE OVERFLOW TESTS (BLOCKS 3200-3220), AND HIGH-LOW-EQUAL COMPARE TESTS (BLOCKS 3300-3320). (PRINT OUT ON EQUAL ONLY).

WITH SENSE SWITCH C AND E ON, THESE TESTS MAY BE RUN INDIVIDUALLY OR CHAINED USING STEPS 5 THROUGH 8 FOR THE STANDARD FEATURES TESTS. READ COLUMN BINARY (BLOCK 3030) SHOULD BE RUN LAST SINCE THIS TEST USES AS DETAIL CARDS THE 60 CARDS PUNCHED BY THE PUNCH COLUMN BINARY TEST (BLOCK 3020).

BOX 3 CONTAINS ALL OF THE TAPE TESTS. THEY MAY BE RUN INDIVIDUALLY OR CHAINED USING STEPS 5 THROUGH 8 FOR THE STANDARD FEATURES TESTS. IT IS SUGGESTED THAT SENSE SWITCH E BE LEFT OFF SO THAT TAPE ERRORS DO NOT STOP THE 1401. ADDITIONAL STEPS MUST BE TAKEN AS FOLLOWS:

1. ALL TAPE TESTS USE DRIVE 4 IN BLOCKS 5000 THROUGH 5080 WHICH ARE CHAINED. TAPE TO TAPE TEST (BLOCK 5020) USES DRIVES 4 AND 5.
2. IRG MEASUREMENT TEST (BLOCK 5500) REQUIRES DIFFERENT SENSE SWITCH SETTINGS THAN THE OTHER TESTS. THEREFORE, IT HAS A STOP CODE AT THE BEGINNING OF THE TEST (I STAR AT 400) TO ALLOW THE OPERATOR TO:
  - A. SET SENSE SWITCH C ON IF 729 MODEL IV  
OFF IF 729 MODEL II
  - B. SET SENSE SWITCH B ON TO WRITE VARIABLE LENGTH RECORDS  
OFF TO WRITE FIXED LENGTH RECORDS
  - C. SET SENSE SWITCH G ON IF INDEXING FEATURE IN THIS SYSTEM.
  - D. SET DRIVE 4 TO HIGH DENSITY.
  - E. TO OBTAIN PRINTOUT RESULTS, MANUALLY ENTER "1" IN 1252.

COMPRESSED TAPE READ AND EXPAND (5330B)

USE DRIVE 4, RUN THIS BLOCK ONLY IF YOUR 1401 HAS THE EXPAND COMPRESS TAPE FEATURE.

ROUTINES FOR WRITING, READING, AND COPYING TESTS ON TAPE

(TESTS ARE CHAINED. PUT DETAIL CARDS BEHIND THE TEST. SENSE SWITCH A "ON".)

DATE	EC NO	DATE	EC NO	DATE	EC NO
2-13-60	109998				
2-6-61	110738				
3-27-61	110306				
8-28-61	110301E				
11-20-61	113401				

WRITE TEST TAPE ROUTINE (BLOCK 5300)

THIS ROUTINE IS USED WITH AT LEAST A 2K STORAGE TO TRANSFER THE TEST PROGRAMS FROM CARDS TO TAPE (DRIVE 6). THE FOLLOWING PROGRAMS CANNOT BE WRITTEN ON TAPE:  
BLOCKS 0001, 0002, DETAIL CARDS FOR 1040 AND 5000, 1050 THROUGH 1080, 3500, 9000 AND 9999. NORMALLY, BLOCKS 5000, 5010, AND 5020 SHOULD BE RUN ONLY FROM CARDS.

PLACE THE WRITE, READ, AND COPY ROUTINES (BLOCKS 5300, 5310 AND 5320) IN THE FILE FEED IN FRONT OF ALL PROGRAMS TO BE WRITTEN ON TAPE. SET SENSE SWITCH A "ON". PRESS THE 1402 LOAD KEY TO CAUSE ALL OF THE TESTS TO BE WRITTEN ON TAPE DRIVE 6. BLOCK 5300 STAYS IN 1401 STORAGE AND DOES NOT GO ON TAPE.

READ TEST TAPE ROUTINE (BLOCK 5310) (FIRST RECORD ON TAPE)

THIS ROUTINE IS THE FIRST RECORD WRITTEN ON TAPE BY THE WRITE TEST TAPE ROUTINE. IT PROVIDES A PROGRAM TO RUN TESTS FROM TAPE AND IS SETUP AS FOLLOWS:

1. LOAD THE MASTER TAPE REEL ON DRIVE 1.
2. PRESS THE TAPE LOAD KEY. A PROGRAM STOP WILL OCCUR WITH THE I STAR AT 1366 TO PERMIT THE OPERATOR TO SET UP THE MACHINE:
  - A. ENTER A "1" IN 1252 IF TITLE AND HEADINGS PRINTOUT IS DESIRED.
  - B. SET SENSE SWITCHES AS DESIRED.
  - C. MANUALLY ENTER SELECTION CODES FOR OPTIONAL FEATURES TESTS. FOR EXAMPLE, ENTER A "1" IN 1257 TO RUN ADVANCED PROGRAMMING TESTS. REFER TO PAGES 12 AND 13 OF INTRODUCTION TO TEST DESCRIPTIONS (BLOCK 0008) FOR LISTING OF SELECTION CODES.
3. PRESS THE START KEY.
4. TESTS WILL RUN REPEATEDLY UNTIL STOPPED BY THE OPERATOR.

COPY TEST TAPE ROUTINE (BLOCK 5320) (SECOND RECORD ON TAPE)

THIS ROUTINE IS USED TO REPRODUCE THE MASTER TAPE REEL. IT MAY BE RUN FROM CARDS OR FROM THE MASTER TAPE REEL. IF RUN FROM TAPE:

1. PRESS THE TAPE LOAD KEY.
2. A PROGRAM STOP WILL OCCUR WITH THE I STAR AT 1366.
3. MANUALLY ENTER A "1" IN 1254.
4. PRESS START KEY TO CAUSE THE COPY TEST TAPE ROUTINE TO READ FROM DRIVE 1 AND WRITE ON DRIVE 2.

IF SENSE SWITCH D IS "ON", DRIVE 1 WILL BE WRITTEN REPEATEDLY ON DRIVE 2 UNTIL END OF REEL OCCURS ON DRIVE 2 OR SENSE SWITCH D IS TURNED "OFF". WHEN WRITING IS COMPLETED A TAPE MARK WILL BE WRITTEN ON DRIVE 2 AND THE PROGRAM ENDS AT THE STOP CODE IN LOCATION 240.

ON TAPE, THE PROGRAM TEST DECKS FOLLOW IN THE SAME ORDER AS THE CARD TEST THAT FOLLOWED BLOCKS 5300, 5310, AND 5320.

DATE	EC NO	DATE	EC NO	DATE	EC NO
2-13-60	109998				
2-6-61	110738				
3-27-61	110306				
8-28-61	110301E				
11-22-61	113401				

## BILL OF MATERIAL INDEX

## 1401 25000 SERIES

The high level of Engineering Change activity on the 1401 System has created a need for a uniform, updated B/M - E. C. History to be located with the ALD's. This Index has been prepared to accomplish this purpose.

The following detailed writeup on the use of this document should be read and thoroughly understood by all personnel servicing the 1401 System.

1. Insure that one of these packages is available for each 25000 Series 1401. If additional copies are required, order from Stationery Stores giving form number below.
2. Determine the category of each machine as defined in Section II of the writeup.
3. Determine the E. C. level of each gate in the machine by first referring to the S. D. I. (Systems Diagram Index) level of each gate specified on the E. C. History received from the Plant. The last page of the E. C. History package can list some B/M's which were applied in the Plant after the gates were wired by the automatic wiring machines. Put a check mark in the installed column of the attached Index for changes applied at the Plant.
4. Indicate all changes applied in the field in the same manner.
5. Each gate E. C. Level is now pinpointed; and any future prerequisite search is only necessary on the changes appearing on the Index after the present gate level.
6. Place this Document in the front of Logic Book #1 to standardize its location.

THIS IS NOW THE MASTER E. C. HISTORY FOR EACH MACHINE AND SHOULD BE UPDATED EACH TIME A CHANGE IS ORDERED, INSTALLED OR ADDITIONAL CEM'S ARE RELEASED.

1401 ENGINEERING CHANGES

The following is presented as an aid to understanding the mechanics of Engineering Changes on the 1401 System:

An E. C. number is a number given to a wiring change which, when applicable, is incorporated into new production machines. A Field Bill of Material is then written for applying this E. C. to machines in the field. The Field Bill is then assigned a number and is identified by its E. C. number on the logic pages affected by the change. All pages affected by this E. C. must now show this new E. C. number and all previous E. C. 's which affected these pages.

Changes must be installed in sequence. In order to install any given change, the configuration of wires already present must be known. Any added or removed wires can disturb previous wires on the gate; therefore, all prior changes are called wire-net prerequisites and are the only physical limitations necessary. (A wire-net or network is the continuation of any one circuit from pin to pin).

In order to furnish updated, printed logics, however, one step beyond the physical limitations mentioned above must be taken. Any changes which affected the same logic page must be installed as prerequisites; and in order to maintain an updated logic index page, all prior changes made on that gate must be applied. The logic index page lists all logic pages on a specific gate and the latest installed E. C. level of every page concerning that gate. The P/N of the logic index page does not change, but its E. C. number does.

In order to maintain printed logic pages and an updated logic index, all prior activity on the gate or gates affected must necessarily be called out as prerequisites. There is no one E. C. number which represents the E. C. level of the machine, (25000 Series) but the E. C. number at the top of each logic index page indicates the current level of that gate. This is the present method of E. C. control on 1401's serial 25,000 and above. The method used for 10,000 Series and 20,000 Series machines called out only wire-net prerequisites, but did not provide any method of maintaining current logics.

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Data Processing Division

Form # 229-2038

Numbers are assigned to E. C.'s and B/M's generally in sequential order, but due to variable delays such as; parts procurement, optional features and companion bills for I/O devices, there is little meaning to the sequence at the time of release. The department that controls B/M and E. C. numbers is currently "using up" obsolete B/M numbers; therefore, future CEM's may announce B/M's with numbers similar to those associated with 10,000 Series 1401's.

All Engineering Change B/M's are announced by CEM; except in cases where less than 20 machines are affected, a form letter along with the B/M is sent to the affected machines without benefit of a CEM. The title of the CEM usually describes the troubles which the change is designed to correct, but it is necessary to read the entire CEM, since multiple problems may be involved. Even though the trouble may not be applicable to a given machine, that machine may still be included in the machines affected section since it may need the change for logic page compatibility or as a prerequisite on a later change.

I. Series 10,000 and 20,000 Machines

In the Machines Affected section of the CEM, Series 10,000 refers to machines Serial 10,000 and above, but below 20,000. Series 20,000 refers to machines Serial 20,000 and above, but below 25,000.

There are three types of Engineering Change classifications:

- a. Parent Change, e. g. , 110431
- b. Suffix Change, e. g. , 110431A, 110431B
- c. Field Bill of Material

Parent change is the name given to an actual E. C. that has been incorporated into the 1401 by the automatic wiring machines; for example, E. C. 110431. From this point on, any problem which needed a design correction was written as a Field B/M at E. C. level 110432 with a letter suffix. The suffix letters were assigned in order as problems arose, but due to the time involved in determining the solution, the F suffix, for example, could actually predate the A Suffix. In some cases several B/M's have the same suffix; generally each B/M applies to a different gate.

These B/M's applied after a parent change cut-in were installed by hand wiring on the assembly line. Insert pages were provided to update the logics. After a number of suffix changes were written at E. C. 110432, the functional wiring involved in all of them was entered into the computer program and incorporated into the automatic machine wiring. The logics were then regenerated by the new program and the latest E. C. level on any altered page became 110432. This number now represents the highest E. C. level of this machine. Subsequent problems were solved by writing suffix changes of the next E. C. number, and so on.

A parent change cannot be installed in the field. However, after all suffix changes of a given level are applied, new logics can be provided as outlined in SA CEM 131 and 204.

II. Series 25,000

Above Serial 25,000 there are three categories of machines. Logic page 35.21.11 can be used to positively identify the three categories which are:

1. IFC - Serial number above 25,000 below 26410 with no process overlap installed. Logic 35.21.11 has E. C. 110320P, but not E. C. 113530 nor E. C. 112269.
2. IFCX - Serial number 26410 and above and all process overlap machines below 26410. Logic 35.21.11 has E. C. 113530, but not E. C. 112269.
3. CF or 1404 preparation - Serial number 26410 and above with CF preparation; with or without process overlap; also all machines Serial 28281 and above. Logic 35.21.11 has E. C. 112269.

Any rebuilt machine carries a 70,000 Serial number and can be placed in one of the above three 25,000 Series categories by the E. C. number on Logic 35.21.11 as defined above.

II. (Continued)

The parent E. C. number system is no longer used for machines above Serial 25,000. Generally each B/M is released on a separate E. C. number. The exceptions are for companion B/M's or a B/M which applies to machines with any given feature along with a similar B/M to update wiring on machines without the feature. B/M's for installing Sales Features are called Feature B/M's and use numbers 494xxx or 495xxx.

As announced in 1401 SA CEM 148, B/M's are now being released on an "As Required" basis. In some cases a change that is not needed now may be called out later as a prerequisite for a change which is needed. In all cases, the machine history and the MES Order will be analyzed to insure all prerequisites are satisfied.

III. CEM-Machines Affected and Prerequisite Description - All 1401's

- a. Since changes are usually not available to the production line on the first day of the month and seldom installed in machine serial number sequence, the following CEM ending is used to facilitate field analysis.

Machines Affected - 1401 25,000 Series prior to B2 suffix (with or without xx feature) except A2 suffix with E. C. 123456 on Logic 31. 21. 11. 2. In this example the change was installed during January; therefore, all systems prior to February are affected except January machines with E. C. 123456 on the specified logic page.

- b. The Prerequisite Section of the CEM identifies the prerequisite B/M's, the CEM's which announced them and the E. C. level of the affected logic page. Example: Prerequisites: B/M 654321 (1401 E. C. CEM 321) or E. C. 123456 on Logic 31. 21. 11. 2.

IV. Field Installation Procedure

- a. Each packaged B/M contains a yellow control card that must be returned to the Change Control Group at the Endicott Plant when the B/M has been installed. The machine serial number listed on this card must compare with the serial number on the machine affected.
- b. Prior to installing a B/M, review the CEM announcing it to further clarify the B/M and resolve discrepancies which might exist.

V. B/M Index

The B/M Index which follows, is a complete listing of all B/M's for 25,000 machines. It is divided into three sections by category of machine as defined in Section II. Two additional sections are provided: The first listing B/M's for machines with Magnetic Tape (TAU) and the last section lists 1406 B/M's. A cross reference index is provided in sequential B/M number order and the second half in sequential E. C. number order.

On each section of the B/M Index, B/M's are listed in installable sequence. The first column gives the B/M number and E. C. number along with the logic page to check to determine if the B/M or E. C. is installed. In the "Machines Affected" and "Prerequisite" columns "IO" refers to Serial IO feature.

The prerequisite column lists prerequisites and companion B/M's. When more than one prerequisite appears, all must be installed unless stated as applicable only to a specific feature.

In the CEM column, where stated "No CEM", there were less than 20 affected machines; therefore, no CEM was released. All affected machines have received the B/M by automatic shipment. Where the CEM number is left blank, the CEM is in process and will be published in the future. These items are listed as advance information and are not to be ordered until the CEM is received. At that time, enter the CEM number in the appropriate column.

B/M	E. C.	CEM	PAGE	LINE	B/M	E. C.	CEM	PAGE	LINE
485095	114179								
485095	114179								
485212	114052	635			485817	114155	588	IFCX	5 4
485265	114053				485817	114155	588	CF	5 3
485320	114054				485826	113833	NONE	IFCX	2 2
485347	114055				485829	113834	480	IFC	5 5
485424	116787				485830	113841	482	IFC	5 8
485458	117231				485830	113841	482	IFCX	1 9
485462	114182				485831	113842	518	IFC	5 6
485462	114182				485832	113838	479	IFC	5 3
485463	116797				485833	113838	479	IFC	5 4
485473	114057				485839	113841	482	IFC	5 9
485475	114057				485839	113841	482	IFCX	1 10
485516	114058				485841	114230	498	IFC	5 13
485552	116788				485844	114238	483	IFC	5 10
485553	116789				485844	114238	483	IFCX	1 5
485591	112226	434	TAU	1 1	485845	114239	484	IFC	5 11
485644	112226	472	TAU	1 1	485845	114239	484	IFCX	1 6
485649	112229	NONE	IFC	1 1	485847	114241	491	IFC	5 12
485656	112232	263	IFC	1 1	485848	114242	491	IFCX	1 7
485657	112233	366	IFC	1 1	485848	114242	NONE	IFCX	1 8
485658	112232	NONE	IFC	1 1	485849	113835	515	IFC	5 1
485660	112231	301	IFC	1 1	485849	113835	515	IFCX	1 4
485661	112232	264	IFC	1 1	485850	113825	478	IFC	4 14
485662	112232	268	IFC	1 1	485851	113839	468	1406	1 5
485699	112235	311	IFC	1 1	485852	113840	NONE	TAU	1 6
485700	112235	311	IFC	1 1	485853	113413	481	IFC	5 7
485701	112237	306	IFC	1 1	485854	114601	496	IFC	6 7
485702	112237	307	IFC	1 1	485854	114601	496	IFCX	1 12
485703	112237	284	IFC	1 1	485855	114243	516	IFC	6 1
485705	112240	261	IFC	1 1	485856	114244	493	IFC	6 2
485706	112243	322	IFC	2 2	485857	114246	494	IFC	6 3
485707	112241	321	IFC	2 2	485858	114025	567	IFC	6 8
485708	112242	373	IFC	2 2	485859	114125	NONE	IFCX	2 2
485709	112242	373	IFC	2 2	485860	114232	NONE	IFCX	1 14
485710	112243	324	IFC	2 2	485861	114248	495	IFC	6 4
485711	112243	NONE	IFC	2 2	485861	114248	495	IFCX	1 11
485712	112244	304	IFC	2 2	485863	113530	NONE	IFCX	1 1
485713	110234	358	1406	1 1	485864	113830	NONE	IFCX	1 3
485715	112245	374	IFC	2 2	485866	114231	NONE	IFCX	2 1
485716	112245	374	IFC	2 2	485867	114026	568	IFC	6 9
485717	112245	374	IFC	2 2	485868	114126	NONE	IFCX	2 3
485718	112246	NONE	IFC	2 2	485869	114127	NONE	IFCX	2 4
485719	112228	338	TAU	1 1	485870	114027	497	IFC	6 10
485720	112248	381	IFC	2 2	485874	113423	400	1406	1 4
485721	112249	377	IFC	2 3	485875	114613	520	IFC	6 14
485723	112248	381	IFC	2 2	485875	114613	520	IFCX	2 10
485729	112249	377	IFC	3 3	485877	115300	NONE	TAU	1 7
485730	114235	492	IFC	5 5	485879	114617	NONE	TAU	1 14
485732	112250	352	IFC	3 3	485880	114601	496	IFC	6 6
485733	112250	352	IFC	3 3	485880	114601	496	IFCX	1 13
485734	112251	390	IFC	3 10	485884	114028	519	IFC	6 11
485735	112252	294	IFC	2 4	485885	114128	NONE	IFCX	2 6
485736	110233	345	IFC	1 1	485887	114129	538	IFCX	2 7
485738	112248	381	IFC	3 3	485892	114130	NONE	IFCX	2 9
485739	112253	395	IFC	3 13	485893	114029	526	IFC	6 12
485740	112254	375	IFC	3 6	485894	114131	526	IFCX	2 11
485741	110243	375	1406	1 2	485895	114030	569	IFC	6 13
485742	112902	327	IFC	3 3	485896	114132	569	IFCX	2 12
485743	112251	390	IFC	3 12	485897	115278	523	IFC	7 1
485745	112903	342	IFC	3 14	485897	115278	523	IFCX	3 13
485747	112907	376	IFC	3 9	485899	114133	527	IFCX	2 14
485748	112908	389	IFC	4 1	485900	114133	527	IFCX	2 8
485749	112909	389	1406	1 3	485902	114129	539	IFCX	2 2
485750	112913	356	IFC	4 2	485903	115280	486	IFC	7 2
485751	112916	353	IFC	4 3	485903	115280	486	IFCX	3 1
485752	112917	331	IFC	4 4	485906	114621	537	TAU	7 3
485756	112922	570	IFC	8 8	485907	115289	524	IFC	7 3
485757	112924	418	IFC	4 8	485907	115289	524	IFCX	3 3
485760	113405	330	IFC	4 6	485908	114031	524	IFC	7 4
485763	113414	476	IFC	4 11	485909	114134	524	IFCX	3 4
485765	113526	475	IFC	4 10	485910	114134	524	IFC	3 5
485766	113525	474	IFC	4 9	485910	114135	NONE	IFCX	3 5
485770	114181		IFCX	8 8	485911	112238	NONE	TAU	1 11
485770	114181		CF	7 8	485912		445	IFC	4 8
485774	113540	473	IFC	4 13	485913		445	CF	1 7
485775	113422	398	IFC	4 7	485914		445	IFCX	3 6
485778	113542	348	TAU	1 4	485915	114136	528	IFCX	3 9
485813	113535	477	IFC	4 12	485916	114137	540	IFCX	3 4
485813	113535	477	IFCX	1 2	485916	114137	540	CF	1 5
485814	112238	372	TAU	1 5	485917	115294	540	IFC	7 8
485816	114155	588	IFCX	5 3	485917	115294	540	IFCX	3 3
485816	114155	588	CF	3 3	485918	114138	550	IFCX	3 10
485816	114155	588	CF	3 3	485918	114138	550	CF	1 6
					485919	114139	NONE	IFCX	3 11







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485095	114179	686	IFCX	9 5
485095	114179	686	CF	7 1
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485265	114053	661	IFC	10 4
485320	114054	662	IFC	10 5
485347	114055	660	IFC	10 6
485368	124681		IFC	16 6
485368	124681		IFCX	14 9
485389	124681		CF	13 4
485389	124682		IFC	16 7
485389	124682		IFCX	14 10
485424	116787		CF	13 5
485458	117231	668	CF	7 3
485462	114182	673	CF	8 5
485462	114182	663	IFCX	8 4
485463	116797	663	CF	7 7
485473	114057	697	CF	7 6
485475	114057	656	IFC	10 12
485516	114057	656	IFC	10 13
485516	114058	666	IFC	10 14
485553	116789	670	CF	7 4
485591	112226E	434	TAU	1 3
485604	116793	695	MECH	2 7
485605	116786	612	MECH	2 2
485644	112226E	472	TAU	1 4
485649	112229	NONE	IFC	1 2
485656	112232	263	IFC	1 4
485657	112233	366	IFC	1 8
485658	112232	NONE	IFC	1 5
485660	112231	301	IFC	1 3
485661	112232	264	IFC	1 6
485662	112232	268	IFC	1 7
485699	112235	311	IFC	1 9
485700	112235	311	IFC	1 10
485701	112237	306	IFC	1 11
485702	112237	307	IFC	1 12
485703	112237	284	IFC	1 13
485705	112240	261	IFC	1 14
485706	112243	322	IFC	2 5
485707	112241	321	IFC	2 1
485708	112242	373	IFC	2 2
485709	112242	373	IFC	2 3
485710	112243	324	IFC	2 6
485711	112243	NONE	IFC	2 7
485712	112244	304	IFC	2 8
485713	110234	358	1406	1 1
485715	112245	374	IFC	2 9
485716	112245	374	IFC	2 10
485717	112245	374	IFC	2 11
485718	112246	NONE	IFC	2 12
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485721	112249	377	IFC	3 2
485723	112248	381	IFC	2 14
485729	112249	377	IFC	3 3
485730	114235	492	IFC	5 12
485732	112250	352	IFC	3 4
485733	112250	352	IFC	3 5
485734	112251	390	IFC	3 10
485735	112252	294	IFC	2 4
485736	110233	345	IFC	1 1
485738	112248	381	IFC	3 1
485739	112253	395	IFC	3 13
485740	112254	375	IFC	3 6
485741	110243	375	1406	1 2
485742	112902	327	IFC	3 8
485743	112251	390	IFC	3 12
485745	112903	342	IFC	3 14
485747	112907	376	IFC	3 9
485748	112908	389	IFC	4 1
485749	112909	389	1406	1 3
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485751	112916	353	IFC	4 3
485752	112917	331	IFC	4 4
485753	117630	698	IFC	12 10
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485760	113414	476	IFC	4 11
485763	113526	475	IFC	4 10
485765	113525	474	IFC	4 9
485766	113525	666	IFCX	8 3
485770	114181	666	CF	7 5
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485774	113540	398	IFC	4 7
485775	113422	511	MECH	1 13
485777	113407	348	TAU	1 6
485778	113547	359	MECH	1 3
485780	113535	477	IFC	4 12
485813	113535	477	IFCX	1 3
485813	112238	372	TAU	1 7
485814	114155	588	IFCX	5 5
485816	114155	588	CF	3 2
485816	114155	588	IFCX	5 6
485817	114155	588	CF	3 3
485817	114155	588	CF	3 3

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485818	124684		IFCX	14 11
485818	124684		CF	13 6
485819	113828	344	MECH	1 1
485823	117133	647	MECH	2 5
485826	113833	NONE	IFCX	2 7
485827	117644	NONE	CF	9 5
485829	113834	480	IFC	5 4
485830	113841	482	IFC	5 6
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485831	113842	518	IFC	6 3
485832	113838	479	IFC	5 2
485833	113838	479	IFC	5 3
485836	114226	388	MECH	1 9
485837	114227	388	MECH	1 10
485839	113841	482	IFC	5 7
485839	113841	482	IFCX	1 12
485841	114230	498	IFC	5 11
485844	114238	463	IFC	5 8
485844	114238	463	IFCX	1 7
485845	114239	484	IFC	5 9
485845	114239	484	IFCX	1 8
485847	114241	491	IFC	5 10
485847	114241	491	IFCX	1 9
485848	114242	NONE	IFCX	1 10
485849	113835	515	IFC	4 13
485849	113835	515	IFCX	1 6
485850	113825	478	IFC	5 1
485851	113839	468	1406	1 5
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485853	113413	481	IFC	5 5
485854	114601	496	IFC	6 5
485854	114601	496	IFCX	1 14
485855	114243	516	IFC	5 13
485856	114244	493	IFC	5 14
485857	114246	494	IFC	6 1
485858	114025	567	IFC	6 6
485859	114125	NONE	IFCX	2 4
485860	114232	NONE	IFCX	2 2
485861	114248	495	IFC	6 2
485861	114248	495	IFCX	1 13
485863	113530	NONE	IFCX	1 1
485864	113830	NONE	IFCX	1 4
485865	113840A	680	TAU	1 10
485866	114231	NONE	IFCX	2 3
485867	114026	568	IFC	6 7
485868	114126	NONE	IFCX	2 5
485869	114127	NONE	IFCX	2 6
485870	114027	497	IFC	6 8
485873	114609	364	MECH	1 4
485874	113423	400	1406	1 4
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485875	114613	520	IFCX	2 12
485877	115300A	NONE	TAU	1 9
485878	113415	354	MECH	1 2
485879	114617	NONE	TAU	2 3
485880	114601	496	IFC	6 4
485880	114601	496	IFCX	2 1
485884	114028	519	IFC	6 9
485885	114128	NONE	IFCX	2 8
485887	114129	538	IFCX	2 9
485892	114130	NONE	IFCX	2 11
485893	114029	526	IFC	6 10
485894	114131	526	IFCX	2 13
485895	114030	569	IFC	6 11
485896	114132	569	IFCX	2 14
485897	115278	523	IFC	6 13
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485902	114129	539	IFCX	2 10
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485909	114134	524	IFCX	3 6
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485913	114141D	445	CF	1 3
485914	114141B	445	IFCX	3 9
485915	114136	528	IFCX	3 8
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485917	115294	540	CF	1 1
485918	114138	550	IFCX	3 12
485918	114138	550	CF	1 4
485919	114139	NONE	IFCX	3 13
485919	114139	NONE	CF	1 5
485920	114032	522	IFC	7 5
485921	114032	522	IFC	7 6
485922	114140	570	IFCX	3 14
485923	114141	583	IFCX	4 1
485925	115298	529	IFC	7 7

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485925	115298	529	IFCX	4 3
485925	115298	529	CF	1 11
485926	114142	584	IFCX	4 4
485926	114142	584	CF	1 12
485927	113840C	517	TAU	1 12
485928	114143	NONE	IFCX	4 5
485928	114143	NONE	CF	1 13
485929	114144	585	IFCX	4 7
485929	114144	585	CF	2 1
485930	115302	552	IFC	7 8
485930	115302	552	IFCX	4 6
485930	115302	552	CF	1 14
485931	114141A	583	CF	1 9
485932	114033	525	IFC	7 9
485933	114034	599	IFC	7 10
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485935	114036	521	IFC	7 12
485935	114036	521	IFCX	5 8
485935	114036	521	CF	3 5
485936	114037	597	IFC	7 13
485938	115303	NONE	CF	1 6
485939	115304	529	TAU	2 5
485940	115304	529	TAU	1 13
485941	115300B	529	TAU	1 14
485942	115285A	648	MECH	2 3
485943	115285A	648	MECH	2 4
485944	115310	529	TAU	2 6
485945	115300C	529	TAU	2 2
485946	115310A	529	TAU	2 1
485947	115316	NONE	CF	1 7
485948	114145	NONE	IFCX	4 8
485948	114145	NONE	CF	2 2
485949	114146	586	IFCX	4 9
485949	114146	586	CF	2 3
485950	114146	586	IFCX	4 10
485950	114146	586	CF	2 4
485952	114141C	562	IFCX	5 1
485952	114141C	562	MECH	1 14
485953	114140A	NONE	CF	1 8
485954	114147	525	IFCX	4 11
485954	114147	525	CF	2 5
485955	115310A	529	TAU	2 7
485956	114148	587	IFCX	4 12
485956	114148	587	CF	2 6
485969	114006B	371	MECH	1 6
485970	114006B	3		

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486038	116239	659	IFC	8 10
486038	116239	659	IFCX	6 4
486038	116239	659	CF	4 3
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486041	114164	657	IFCX	6 13
486041	114164	657	CF	4 13
486042	116353	685	IFC	9 7
486042	116353	685	IFCX	7 4
486042	116353	685	CF	5 4
486043	116354	NONE	CF	4 5
486044	116360	634	IFC	8 12
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486045	114044	634	IFC	8 13
486046	114165	634	IFCX	6 8
486047	116359	634	CF	4 7
486048	116361	616	IFC	8 14
486048	116361	616	IFCX	6 9
486048	116361	616	CF	4 8
486049	114045	616	IFC	9 1
486050	114166	616	IFCX	6 10
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486053	115300D	681	TAU	2 9
486054	115300E	681	TAU	2 10
486055	116234	681	TAU	2 11
486056	114046	681	TAU	2 13
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486118	114167	619	IFCX	6 12
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486121	116726	682	IFC	9 6
486121	116726	682	IFCX	7 3
486121	116726	682	CF	5 3
486122	116727	667	CF	4 14
486123	114048	667	IFC	9 5
486124	114168	669	IFCX	7 11
486125	115300F	682	TAU	2 14
486126	114169	682	TAU	3 1
486127	114170	667	IFCX	7 2
486128	114051	654	IFC	9 2
486129	114171	654	IFCX	6 14
486129	114171	654	CF	5 1
486130	116728	684	IFC	9 3
486130	116728	684	IFCX	7 1
486130	116728	684	CF	5 2
486131	116735	603	IFC	9 10
486131	116735	603	IFCX	7 6
486131	116735	603	CF	5 6
486132	114172	678	IFCX	8 2
486132	114172	678	CF	7 2
486133	114173	646	IFCX	7 7
486133	114173	646	CF	5 7
486134	116741	651	IFC	9 11
486134	116741	651	IFCX	7 8
486135	116738	651	CF	5 8
486136	116739	651	IFC	9 12
486136	116739	651	IFCX	7 9
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486137	114049	619	IFC	9 13
486138	114174	661	IFCX	7 10
486138	114174	661	CF	5 10
486139	114050	683	IFC	9 14
486140	114175	635	IFCX	7 12
486141	114176	660	IFCX	7 14
486141	114176	660	CF	5 12
486142	114177	662	IFCX	8 1
486142	114177	662	CF	5 14
486143	114178	661	IFCX	7 13
486143	114178	661	CF	5 11
486144	116778	669	CF	5 13
486146	117234	687	1406	1 6
486148	117238	708	IFC	11 12
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486148	117238	707	CF	8 7
486149	117239	707	CF	8 8
486150	117240	693	1406	1 7
486154	117242	698	IFC	10 1
486155	116749	698	IFCX	8 6
486155	116749	698	CF	6 1
486155	116749	698	CF	6 1
486156	116749A	698	IFCX	8 7
486156	116749A	698	CF	6 2
486157	116749A	698	IFCX	8 8
486157	116749A	698	CF	6 3
486158	116749B	698	IFC	10 2
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486158	116749B	698	CF	6 4
486158	116749E	698	CF	6 2
486159	116749C	698	TAU	3 2
486159	116749C	698	TAU	3 3
486160	116749D	698	TAU	10 7
486161	116749E	698	IFC	10 7
486161	116749E	698	IFCX	8 10
486161	116749E	698	CF	6 5

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486162	116749F	698	CF	6 6
486163	116749G	698	IFC	10 8
486163	116749G	698	IFCX	8 11
486163	116749G	698	CF	6 7
486164	116749H	698	IFC	10 9
486164	116749H	698	IFCX	8 12
486164	116749H	698	CF	6 8
486165	116749J	698	IFC	10 10
486165	116749J	698	IFCX	8 13
486165	116749J	698	CF	6 9
486166	116749K	698	IFC	10 11
486167	114177A	698	IFCX	8 14
486167	114177A	698	CF	6 10
486168	114177B	698	IFCX	9 1
486168	114177B	698	CF	6 11
486169	114177B	698	IFCX	9 2
486169	114177B	698	CF	6 12
486170	114177B	698	IFCX	9 3
486170	114177B	698	CF	6 13
486171	114179	698	TAU	3 4
486172	114177C	698	IFCX	9 4
486172	114177C	698	CF	6 14
486173	116798	703	IFC	11 1
486173	116798	703	IFCX	9 6
486173	116798	703	CF	7 8
486174	114183	694	IFCX	9 7
486174	114183	694	CF	7 9
486175	114177D	698	IFCX	8 5
486176	114059	698	IFC	11 2
486177	114059	698	IFC	11 3
486178	114059A	698	IFC	11 4
486179	117125	698	CF	7 10
486180	114059B	698	IFC	11 5
486181	114059C	698	IFC	11 6
486182	114059D	698	IFC	11 7
486183	114177E	698	IFCX	9 8
486184	116749L	698	IFC	11 8
486184	116749L	698	IFCX	9 9
486184	116749L	698	CF	7 11
486186	117134	671	CF	7 12
486187	117138	672	CF	7 13
486188	116793B	695	MECH	2 9
486190	117144	717	IFC	11 10
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486190	117144	717	CF	8 3
486191	114060	696	IFC	11 9
486192	114184A	696	IFCX	9 10
486192	114184A	696	CF	7 14
486193	114184A	696	IFC	9 11
486193	114184A	696	CF	8 1
486194	114185	696	IFCX	9 12
486195	117148A	696	CF	8 2
486196	117144	717	IFC	11 11
486196	117144	717	IFCX	9 14
486196	117144	717	CF	8 4
486197	117248	NONE	IFC	11 13
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486197	117248	NONE	CF	8 9
486198	114190	NONE	IFCX	11 9
486199	114186	661	IFCX	10 3
486199	114186	661	CF	8 10
486200	117475	706	CF	8 11
486201	117476	711	IFC	11 14
486201	117476	711	IFCX	10 4
486201	117476	711	CF	8 12
486202	117477	725	IFCX	10 5
486202	117477	725	CF	8 13
486203	117477	725	IFC	12 1
486205	114062	709	IFC	12 2
486206	114187	709	IFCX	10 6
486207	117479	709	CF	8 14
486208	117480	720	1406	1 8
486209	114188	720	IFCX	10 7
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486210	114063	720	IFC	12 3
486211	114064	661	IFC	12 4
486213	114065	732	IFC	12 5
486214	114189	732	IFCX	10 8
486215	117481	732	CF	9 2
486216	117484	717	IFC	12 6
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486216	117484	717	CF	9 3
486217	117484	717	IFC	12 7
486217	117484	717	IFCX	10 10
486217	117484	717	CF	9 4
486218	114066	698	IFC	12 6
486219	114066	698	IFC	12 9
486221	117951	700	IFC	12 11
486221	117951	700	IFCX	10 12
486221	117951	700	CF	9 6
486222	114191	700	IFCX	10 13
486222	114191	700	CF	9 7
486222	114191	700	IFC	12 12
486223	114067	724	IFC	12 13
486225	114067	724	IFC	10 14
486226	114191	724	CF	9 8
486226	114191	718	IFC	13 4
486227	117953	718	IFC	13 4

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486227	117953	718	IFCX	11 5
486227	117953	718	CF	9 14
486229	115300G	730	TAU	3 5
486230	114193	730	TAU	3 6
486377	114069	NONE	IFC	13 1
486377	114069	NONE	IFCX	11 4
486377	114069	NONE	CF	9 13
486378	114194	733	IFC	12 14
486378	114194	733	IFCX	11 1
486378	114194	733	CF	9 5
486379	117958	712	CF	9 10
486380	114070	NONE	IFC	13 2
486381	114195	NONE	IFCX	11 2
486381	114195	NONE	CF	9 11
486382	114196	NONE	IFC	13 3
486382	114196	NONE	IFCX	11 3
486382	114196	NONE	CF	9 12
486383	114197	731	IFCX	11 6
486383	114197	731	CF	10 1
486384	114197	731	IFCX	11 7
486384	114197	731	CF	10 2
486385	114197	731	IFCX	11 8
486385	114197	731	CF	10 3
486386	114071	731	IFC	13 5
486387	114071	731	IFC	13 6
486388	114071	731	IFC	13 7
486390	117904	722	CF	10 4
486391	114198	722	IFCX	11 10
486392	114072	723	IFC	13 8
486395	117971	719	CF	10 6
486396	114199	719	IFCX	11 12
486397	117972	715	IFCX	11 11
486397	117972	715	CF	10 5
486400	116300	726	TAU	3 8
486435	116306	752	IFC	13 9
486435	116306	752	IFCX	11 13
486435	116306	752	CF	10 7
486436	115300H	728	TAU	3 7
486437	114074	737	IFC	7 4
486439	114061A	721	IFC	13 10
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486483	114200	745 TAU	3	11
486484	114201	745 TAU	3	12
486485	114202	757 IFC	14	13
486485	114202	757 IFCX	13	3
486486	114202	757 CF	11	12
486489	114075	795 IFC	15	1
486490	119495	755 IFC	15	2
486491	119495	755 IFCX	13	5
486782	115300L	769 TAU	3	13
486783	114098	769 TAU	3	14
486784	114099	769 IFC	15	4
486784	114099	769 IFCX	13	7
486784	114099	769 CF	12	2
486785	114106	766 IFC	15	3
486785	114106	766 IFCX	13	6
486785	114106	766 CF	12	1
486787	114119	NONE IFC	15	5
486787	114119	NONE IFCX	13	8
486787	114119	NONE CF	12	3
486789	114203A	750 IFC	15	6
486789	114203A	750 IFCX	13	9
486790	114204	749 MECH	2	10
486791	114113	754 MECH	2	11
486794	114208	763 IFC	15	7
486794	114208	763 IFCX	13	10
486794	114208	763 CF	12	4
486795	114213	767 IFCX	13	11
486795	114213	767 CF	12	5
486796	114213	767 CF	12	6
486797	114214A	767 IFCX	13	12
486798	114203B	767 IFC	15	8
486803	114222	765 IFC	15	9
486803	114222	765 IFCX	13	13
486803	114222	765 CF	12	7
486804	114077	774 MECH	2	14
486809	114203C	773 IFC	15	13
486810	119488	773 IFCX	14	3
486810	119488	773 CF	12	12
486815	120059A	764 MECH	2	12
486816	120060A	764 MECH	2	13
486820	120069	771 IFC	15	14
486820	120069	771 IFCX	14	4
486820	120069	771 CF	12	13
487181	121856	IFC	15	10
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487181	121856	CF	12	8
487188	121864	CF	12	10
487194	121869	787 IFC	15	11
487194	121869	787 IFCX	14	1
487194	121869	787 CF	12	9
487275	121874	776 IFC	15	12
487276	121874	776 IFCX	14	2
487277	121874	776 CF	12	11
487283	114203D	IFC	16	2
487298	123436	MECH	3	1
487351	123448	IFCX	14	5
487351	123448	CF	12	14
487354	124202	IFC	16	1
487354	124202	IFCX	14	6
487354	124202	CF	13	1
487359	124205	MECH	3	2
487360	124205	MECH	3	3
487366	124208	TAU	4	1
487367	124207	IFCX	14	8
487367	124207	CF	13	3
487501	114203E	IFC	16	5
487507	124678	MECH	3	4
487510	124675	IFC	16	3
487514	124677	TAU	4	2
487515	124679	IFC	16	4
487515	124679	IFCX	14	7
487515	124679	CF	13	2

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110234	485713	358 1406	1	1
110243	485741	375 1406	1	2
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112226E	485644	472 TAU	1	4
112226F	485905	NONE TAU	1	11
112228	485719	338 TAU	1	5
112229	485649	NONE IFC	1	2
112231	485660	301 IFC	1	3
112232	485656	263 IFC	1	4
112232	485658	NONE IFC	1	5
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112232	485662	268 IFC	1	7
112233	485657	366 IFC	1	8
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112235	485700	311 IFC	1	10
112237	485701	306 IFC	1	11
112237	485702	307 IFC	1	12
112237	485703	284 IFC	1	13
112238	485814	372 TAU	1	7
112240	485705	261 IFC	1	14
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112242	485708	373 IFC	2	2
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112244	485712	304 IFC	2	8
112245	485715	374 IFC	2	9
112245	485716	374 IFC	2	10
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112246	485718	NONE IFC	2	12
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112248	485723	381 IFC	2	14
112248	485738	381 IFC	3	1
112249	485721	377 IFC	3	2
112249	485729	377 IFC	3	3
112250	485732	352 IFC	3	4
112250	485733	352 IFC	3	5
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112251	485743	390 IFC	3	12
112252	485735	294 IFC	2	4
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112902	485742	327 IFC	3	8
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113407	485773	430 MECH	1	11
113407	485777	511 MECH	1	13
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113415	485878	354 MECH	1	2
113422	485775	398 IFC	4	7
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113530	485863	NONE IFCX	1	1
113535	485813	477 IFC	4	12
113535	485813	477 IFCX	1	3
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113542	485778	348 TAU	1	6
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113840C	485927	517 TAU	1	12
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113841	485839	482 IFC	5	7
113841	485839	482 IFCX	1	12
113842	485831	518 IFC	6	3
114006B	485969	371 MECH	1	6
114006B	485970	371 MECH	1	7
114006B	485971	371 MECH	1	8
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114026	485867	568 IFC	6	7
114027	485870	497 IFC	6	8
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114029	485893	526 IFC	6	10
114030	485895	569 IFC	6	11

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114031	485908	524 IFC	7	2
114032	485920	522 IFC	7	5
114032	485921	522 IFC	7	6
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114034	485933	599 IFC	7	10
114035	485934	589 IFC	7	11
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114036	485935	521 IFCX	5	8
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114041	486029	607 IFC	8	8
114042	486031	642 IFC	8	6
114042	486031	642 IFCX	6	1
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114043A	485912	445 IFC	4	8
114044	486045	634 IFC	8	13
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114046	486056	681 TAU	2	13
114047A	486119	657 IFC	9	4
114048	486123	667 IFC	9	5
114049	486137	619 IFC	9	13
114050	486139	685 IFC	9	14
114051	486128	654 IFC	9	2
114052	485212	635 IFC	10	3
114053	485265	661 IFC	10	4
114054	485320	662 IFC	10	5
114055	485347	660 IFC	10	6
114057	485473	656 IFC	10	12
114057	485475	656 IFC	10	13
114058	485516	666 IFC	10	14
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114059	486177	698 IFC	11	3
114059A	486178	698 IFC	11	4
114059B	486180	698 IFC	11	5
114059C	486181	698 IFC	11	6
114059D	486182	698 IFC	11	7
114060	486191	696 IFC	11	9
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114063	486210	720 IFC	12	3
114064	486211	661 IFC	12	4
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114070	486380	NONE IFC	13	2
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114071	486388	731 IFC	13	7
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114113	486791	754 MECH	2	11
114119	486787	NONE IFC	15	5
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114142	485926	584	CF	1 12
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114145	485948	NONE	IFCX	4 8
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114149	486000	589	CF	2 7
114150	486001	NONE	IFCX	4 14
114150	486001	NONE	CF	2 8
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114165	486046	634	IFCX	6 8
114166	486050	616	IFCX	6 10
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114167	486118	619	IFCX	6 12
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114171	486129	654	CF	5 1
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114184A	486192	696	IFCX	9 11
114184A	486192	696	CF	7 14
114184A	486193	696	IFCX	9 11

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114186	486199	661	IFCX	10 3
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114187	486206	709	IFCX	10 6
114188	486209	720	IFCX	10 7
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114191	486222	700	IFCX	10 13
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114191	486226	724	IFCX	10 14
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114195	486381	NONE	IFCX	11 2
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114196	486382	NONE	IFC	13 3
114196	486382	NONE	IFCX	11 3
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114197	486383	731	IFCX	11 6
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114197	486384	731	IFCX	11 7
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114199	486396	719	IFCX	11 12
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114203A	486789	750	IFC	15 6
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114203B	486798	767	IFC	15 8
114203C	486809	773	IFC	15 13
114203D	487283		IFC	16 2
114203E	487501		IFC	16 5
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114238	485844	483	IFC	5 8
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114242	485848	NONE	IFCX	1 10
114243	485855	516	IFC	5 13
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115285A	485942	648	MECH	2 3
115285A	485943	648	MECH	2 4
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115294	485917	540	IFC	7 3
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115298	485925	529	IFC	7 7
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115300B	485945	529	TAU	2 2
115300C	485945	529	TAU	2 2
115300D	486053	681	TAU	2 9

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115300E	486054	681	TAU	2 10
115300F	486125	682	TAU	2 14
115300G	486229	730	TAU	3 5
115300H	486436	728	TAU	3 7
115300J	486481	745	TAU	5 9
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115310A	485946	529	TAU	2 1
115310A	485955	529	TAU	2 7
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115576	486003	NONE	CF	2 10
115582	486007	591	CF	2 13
115596	486017	641	IFC	8 1
115596	486017	641	IFCX	5 9
115596	486017	641	CF	3 6
115599	486013	485	MECH	1 12
116225	486018	631	IFC	8 2
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116225	486018	631	CF	3 7
116227	486020	NONE	CF	3 8
11				

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116749L	486184	698	IFC	11 8
116749L	486184	698	IFCX	9 9
116778	486184	698	CF	7 11
116786	486144	669	CF	5 13
116787	485605	612	MECH	2 2
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116793	485553	670	CF	7 4
116793B	485604	695	MECH	2 7
116797	486188	695	MECH	2 9
116798	485463	697	CF	7 6
116798	486173	703	IFC	11 1
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117138	486187	672	CF	7 13
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117144	486196	717	CF	8 4
117148A	486195	696	CF	8 2
117149	486453	752	IFC	14 11
117149	486453	752	IFCX	13 1
117149	486453	752	CF	11 10
117231	485458	673	CF	8 5
117234	486146	687	1406	1 6
117236	486148	708	IFC	11 12
117238	486148	708	IFCX	10 1
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117240	486150	707	CF	8 8
117242	486154	693	1406	1 7
117248	486197	NONE	IFC	11 13
117248	486197	NONE	IFCX	10 2
117248	486197	NONE	CF	8 9
117475	486200	706	CF	8 11
117476	486201	711	IFC	11 14
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117476	486201	711	CF	8 12
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117477	486203	725	IFC	12 1
117479	486207	709	CF	8 14
117480	486208	720	1406	1 8
117481	486215	732	CF	9 2
117484	486216	717	IFC	12 6
117484	486216	717	IFCX	10 9
117484	486216	717	CF	9 3
117484	486217	717	IFC	12 7
117484	486217	717	IFCX	10 10
117484	486217	717	CF	9 4
117630	485753	698	IFC	12 10
117630	485753	698	IFCX	10 11
117644	485827	NONE	CF	9 5
117951	486221	700	IFC	12 11
117951	486221	700	IFCX	10 12
117951	486221	700	CF	9 6
117953	486227	718	IFC	13 4
117953	486227	718	IFCX	11 5
117953	486227	718	CF	9 14
117958	486379	712	CF	9 10
117964	486390	722	CF	10 4
117971	486395	719	CF	10 6
117972	486397	715	IFCX	11 11
117972	486397	715	CF	10 5
118300	486405	728	TAU	3 8
118306	486435	752	IFC	13 9
118306	486435	752	IFCX	11 13
118306	486435	752	CF	10 7
118316	486440	NONE	IFC	13 11
118316	486440	NONE	IFCX	11 14
118316	486440	NONE	CF	10 8
118317	486441	751	IFCX	12 14
118317	486441	751	CF	11 9
118317	486442	714	IFC	13 12
118320	486442	714	IFCX	12 1
118320	486442	714	CF	10 9
118320	486444	714	IFC	13 13
118320	486444	714	IFCX	12 2
118320	486444	714	CF	10 10
118320	486447	714	IFC	13 14
118320	486447	714	IFCX	12 3
118320	486447	714	CF	10 11
118320	486449	714	IFC	14 1
118320	486449	714	IFCX	12 4
118320	486449	714	CF	10 12
118320	486450	714	IFC	14 2
118320K	486450	714	IFCX	12 5
118320K	486450	714	CF	10 13
118320M	486458	714	IFC	14 3
118320M	486458	714	IFCX	12 6
118320M	486458	714	CF	10 14
118322	486451	777	1406	1 9

E.C.	B/M	CEM	PAGE	LINE
118528	486455	759	IFCX	13 4
118575A	486460	748	IFC	14 4
118575A	486463	748	IFC	14 5
118575A	486465	748	IFC	14 6
118575A	486468	748	IFC	14 7
118575A	486471	748	IFC	14 9
118575A	486471	748	IFCX	12 12
118575A	486471	748	CF	11 7
118575A	486472	748	IFC	14 10
118575A	486472	748	IFCX	12 13
118575A	486472	748	CF	11 8
118575B	486461	748	IFCX	12 7
118575B	486461	748	CF	11 1
118575B	486464	748	IFCX	12 8
118575B	486464	748	CF	11 3
118575B	486466	748	IFCX	12 9
118575B	486469	748	IFCX	12 10
118575B	486469	748	CF	11 5
118575B	486470	748	IFC	14 8
118575B	486470	748	IFCX	12 11
118575B	486470	748	CF	11 6
118575C	486462	748	CF	11 2
118575C	486467	748	CF	11 4
118575X	486476	726	IFC	14 12
118575X	486476	726	IFCX	13 2
118575X	486476	726	CF	11 11
118582	486455	759	IFC	14 14
118582	486455	759	CF	11 13
119488	486810	773	IFCX	14 3
119488	486810	773	CF	12 12
119495	486489	755	IFC	15 2
119495	486490	755	IFCX	13 5
119495	486491	755	CF	11 14
120059A	486815	764	MECH	2 12
120060A	486816	764	MECH	2 13
120069	486820	771	IFC	15 14
120069	486820	771	IFCX	14 4
120069	486820	771	CF	12 13
121856	487181		IFC	15 10
121856	487181		IFCX	13 14
121856	487181		CF	12 8
121864	487188		CF	12 10
121869	487194	787	IFC	15 11
121869	487194	787	IFCX	14 1
121869	487194	787	CF	12 9
121874	487275	776	IFC	15 12
121874	487276	776	IFCX	14 2
121874	487277	776	CF	12 11
123436	487298		MECH	3 1
123448	487351		IFCX	14 5
123448	487351		CF	12 14
124202	487354		IFC	16 1
124202	487354		IFCX	14 6
124202	487354		CF	13 1
124205	487359		MECH	3 2
124205	487360		MECH	3 3
124207	487367		IFCX	14 8
124207	487367		CF	13 3
124208	487366		TAU	4 1
124675	487510		IFC	16 3
124677	487514		TAU	4 2
124678	487507		MECH	3 4
124679	487515		IFC	16 4
124679	487515		IFCX	14 7
124679	487515		CF	13 2
124681	485368		IFC	16 6
124681	485368		IFCX	14 9
124681	485368		CF	13 4
124682	485389		IFC	16 7
124682	485389		IFCX	14 10
124682	485389		CF	13 5
124684	485818		IFCX	14 11
124684	485818		CF	13 6

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE ORDERED INSTLLD
						HRS.	
486173 116798 77.01.11	1401 WITH HI-LO 1405 OR 1407	02A8	486165	PREVENT STAR AND PARITY ERRORS.	ERRORS ON 1ST B CY OF FILE ADDRESS TRANSFER IN THE CHARACTER REGISTER	703 .9	1
486176 114059 36.01.11	1401 WITH PRINT STORAGE W/O NUMERIC	01A6	486137	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	2
486177 114059 36.01.11	1401 WITH PRINT STORAGE WITH NUMERIC	01A6	486137	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	3
486178 114059A 32.42.11	ALL	01A8	485855	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	4
486180 114059B 35.28.31	ALL	01B4	486123	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	5
486181 114059C 37.30.31	ALL	01A2	486139	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	6
486182 114059D 32.40.21	ALL	01A7	486139	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	7
486184 116749L 41.11.51	1401 WITH COL. BINARY	02B8	485849	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	8
486191 114060 36.14.11	1401 EXCEPT MODEL D	01B4	486180	PREVENT PASSING OF EXTRA CARD	FEED EXTRA CARDS ON READ OP.	696 2.5	9
486190 117144 70.51.21	1401 WITH I/O	02A2	486158	PREVENT A FALSE DISCONNECT	FALSE DISC WHEN OVER- LAPPING I/O OP WITH GM WM IN B REGISTER.	717 .9	10
486196 117144 70.51.21	1401 WITH TAPES WITHOUT I/O	02A2	486163	PREVENT A FALSE DISC	FALSE DISC WHEN OVER- LAPPING I/O OP WITH GM WM IN B REGISTER	717 .9	11
486148 117233 73.11.31	1401 WITH I/O	02A2	486158	ELIMINATE OVERLOADING COND ON GM I/O FORCED CIRCUIT		708 .8	12
486197 117245 42.40.10	OBSOLETE BY BM486440	01B2	NONE	ADD NEEDED TIE-DOWNS		NONE .5	13
486201 117476 44.11.41	1401 MODEL B C-E-F WITH MULT. DIVIDE	02B7	486164	PREV FALSE SET MD CLEAR B FIELD LATCH.	INHIBIT OR A OR B REG. ERRORS ON MARGINAL WITH MD OR OVL P	711 .6	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM HRS.	DATE ORDERED INSTLLD
486203 117477 36.37.51	ALL	01B5	NONE	ELIM BLOWN HAMMER DRIVER FUSES.	PREV BLOWING H.D. FUSES WHEN HOLDING CHECK RESET.	725 2.6	1
486205 114062 36.43.21	ALL	01B1	485212	FAILURE TO DOUBLE AND TRIPLE SPACE.	ONE SPACE SHORT ON DOUBLE AND TRIPLE SPACE.	709 .7	2
486210 114063 31.31.11	ALL	01B2	485265 486208 IS 1406 COMP	INTERMITTENT STOR ADD. ERRORS	STOR. ADDR. ERRORS FOLLO WING ADDR MODIFY OP.	720 .8	3
486211 114064 31.12.12	ALL	01B3	485265	CORRECT A REG. DELAY	INHIBIT OR A OR B REG. ERRORS ON MARGINAL CHECK ON MD OR OVL P	661 1.3	4
486213 114065 36.10.11	ALL EXCEPT MODEL D.	01B4	486191	ADDITIONAL CARD FEED CYCLES.	PASSING CARDS READ SIDE	732 1.0	5
486216 117484 70.51.21	1401 WITH SER I/O	02A2	486190	INTERMITTENT A REG ERRORS	FALSE DISCONNECT WHEN OVL PING I/O WITH GM WM IN B REGISTER	717 .8	6
486217 117484 70.51.21	1401 W/O SERIAL I/O WITH MAG. TAPE.	02A2	486196	INTERMITTENT A REG ERRORS	FALSE DISCONNECT WHEN OVL PING I/O WITH GM WM IN B REGISTER	717 .8	7
486218 114066 36.17.21	1401 W/O PUNCH FEED READ EXCEP MOD D	01B7	485775	REDUCE ELECTRICAL NOISE.		698 .5	8
486219 114066 36.17.21	1401 WITH PUNCH FEED READ EXCEP MOD D	01B7	485832	REDUCE ELECTRICAL NOISE.		698 .5	9
485753 117630 46.51.41	ALL EXCEPT MODEL A	01A5	NONE	PROV IMPROVED LOGIC FOR MACHINES W/O STL		698 .5	10
486221 117951 35.28.31	ALL	01B1	485212	BLOWING HAMMER DR FUSE	H.D. FUSE 1 BLOWING	700 .5	11
486223 114067 36.31.11	1401 W/O PR BUFFER AND W/O NUMERIC	01A6	485475 486221 IS A COMP	BLOWING HAMMER DR FUSE	H.D. FUSE 1 BLOWING	700 1.1	12
486225 114067 36.31.11	1401 WITH- OUT PRINT BUF WITH NUMERIC	01A6	485473 486221 IS A COMP	BLOWING HAMMER DR FUSE	H.D. FUSE 1 BLOWING	724 1.1	13
486378 114194 36.21.11	ALL	01B2 01A3	485265 485516	CLARIFY LOGICS FOR 1311 FEATURE		735 .4	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE ORDERED INSTLLO
						HRS.	
486377 114069 75.01.06	1401 WITH 1311	02A8 1311	NONE	PREVENT LOSS OF BITS IN A STAR	DROPPING BITS IN HUND A STAR ON 1311 FILE OP	NONE 1.0	1
486380 114070 42.40.10	OBSOLETE BY 486440	01B2	NONE	ADD TIE DOWNS		NONE .5	2
486382 114196 42.40.10	OBSOLETE BY 486440	02A2	NONE	ADD TIE DOWNS		NONE .5	3
486227 117953 73.11.21	1401 WITH SERIAL I/O	02A2	486148 486216	FALSE SERVICE RESPONSE INDICATIONS TO SERIAL I/O DEVICES	FALSE 1401 CLOCK CYCLE INDICATION CAUSING TRANS- MISSION ERRORS	718 1.5	4
486386 114071 36.31.31	1401 W/O PUNCH FEED READ.	01A6	486223 NON-NUM 486225 NUMERIC	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 1.3	5
486387 114071 36.31.31	1401 WITH PUNCH FEED READ AND NUMERIC.	01A6	486177	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 .6	6
486388 114071 36.31.31	1401 WITH PUNCH FEED READ, W/O NUMERIC.	01A6	486176	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 .8	7
486392 114072 36.10.21	ALL EXCEPT MODEL D	01B4	486191	PREVENT FALSE SET UP CYCLES	A REG. ERRORS DUE TO SET UP CYCLES ON READ SCAN	723 1.0	8
486435 118306 73.11.31	1401 WITH SERIAL I/O	02A2	486227	FALSE SINGLE CHARACTER X FER AND OVLP I/O ERRORS	FALSE I/E CHANGE ON TAPE R/W OR A REG ERROR ON 1419 OVLP	752 .9	9
486439 114061A 31.03.31	ALL	01B2 01B6	485265	PROVIDE IMPROVED LOGIC DIAGRAMS.		721 .5	10
486440 118316 42.40.10	OBSOLETE BY 487275	TIE DOWN LIST	NONE	PROVIDE UPDATED TIE DOWN LIST		NONE 1.0	11
486442 118320 99.99.91	1401 MODEL A	01A6 01B1 01B2 01B4 01B6	NONE	INSTALL USE METER		714 4.0	12
486444 118320 99.99.91	ALL EXCEPT MODEL A	01A6 01B1 01B2 01B4 01B6	SEE CEM	INSTALL USE METER.		714 4.0	13
486447 118320 99.99.91	1401 WITH TAPES	02A1	NONE	PROVIDE TAU 9 TAPE SIGNAL FOR USE METER		714 2.5	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE ORDERED INSTLLG
						HRS.	
486449 118320 99.99.91	1401 WITH SERIAL I/O	02A2	NONE	PROVIDE SERIAL I/O SIGNAL FOR USE METER		714 1.0	1
486450 118320K 99.99.91	1401 WITH INQ.	02A8	NONE	PROVIDE INQUIRY SIGNAL FOR USE METER		714 1.5	2
486458 118320M 99.99.91	1401 WITH 1405	02A8	486444 IS A COMP	PROVIDE DISK STORAGE SIG FOR USE METER		714 1.0	3
486460 118575A 35.10.51	ALL	01A6	486386 486387 486388	PROVIDE LOGICS FOR USE METER		748 .5	4
486463 118575A 35.10.51	ALL	01B2	486378 486439	PROVIDE LOGICS FOR USE METER		748 .5	5
486465 118575A 35.10.51	ALL	01B4	485756 486213 486392	PROVIDE LOGICS FOR USE METER		748 .5	6
486468 118575A 35.10.51	ALL	01B6	486439	PROVIDE LOGICS FOR USE METER		748 .5	7
486470 118575B 73.11.31	1401 WITH SERIAL I/O	02A2	486435	PROVIDE LOGICS FOR USE METER		748 .5	8
486471 118575A 75.01.02	1401 WITH HI-LO EQ RAM OR INQ.	02A8	486173	PROVIDE LOGICS FOR USE METER		748 .5	9
486472 118575A 75.01.02	1401 WITH 1311	02A8 1311	486377	PROVIDE LOGICS FOR USE METER		748 .5	10
486453 117149 73.11.21	1401 WITH SERIAL I/O	02A2	486470	TO ALLOW PROPER OPERATION OF I/O WRITE CALL	A REG ERRORS ON DISC OF SERIAL I/O WRITE CALL.	752 .8	11
486476 118575X 99.99.91	ALL	01B6	METER B/M 486442 OR 486444	IMPROVE VOLTAGE SWING OF METER DELAY CARD		726 .6	12
486485 114202 75.01.03	1401 WITH 1311	02A8	486472	TO CORRECT EDGE CONNECTOR INFORMATION.	CORRECT EDGE CONN. REFER- ENCE FOR 02A8 LOGIC PAGES	757 .5	13
486455 118582 73.11.31	1401 WITH I/O	02A2	486453	PREVENT BLANKING A REG ON SERIAL I/O	A REG. ERRORS ON OVLPEP SERIAL I/O READ	759 .8	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486486 114075 36.31.11	1401 WITHOUT PRINT BUFFER	01A6	486460	TO PREVENT FALSE RESET CHECK	PRINT CHECK DUE TO FALSE RESET CHECKS ON RESTART AFTER PRINT CHECK	795 .8	1
486489 119495 NONE	1401 EXCEPT MOD D	01B4	486191 IS A COMP	TO ADD CARDS FOR MACHINES W/O READ PUNCH RELEASE		755 .5	2
486785 114106 73.11.41	1401 WITH I/O	02A2	486455	IMPROVE RESET TRANSFER ERROR LATCH SIGNAL	PROVIDE 6 USEC DURATIGN SIGNAL FOR TYPE 1231	766 1.5	3
486784 114099 71.31.21	1401 WITH TAPE	02A1	486161 486782 OR 486783 IS A COMP	ELIMINATE HANG UP COND ON REWIND UNLOAD INST	7330 AT LOAD POINT HANGS UP WHEN REWIND UNLOAD INST IS GIVEN	769 1.0	4
486787 114119 77.01.11	1401 WITH EC 119496 ON LOGIC 77.01.11-- 1409 ADAPT	02A8	NONE	ALLOW 1401 TO OPERATE WHEN 1409 IS DISCONNECTED		NGNE 1.0	5
486789 114203A 36.43.21	ALL	01B1	NONE	CORRECT FAILURE TO DOUBLE OR TRIPLE SPACE AFTER PRINT		750 1.0	6
486794 114208 31.02.31	1401 EXCEPT MOD D	01B2 01B4	NONE	TO IMPROVE START RESET CIRCUIT		763 1.0	7
486798 114203B 31.31.21	ALL	01B2 01B4 01B6	486463 486465 486468 486476	TO PROVIDE CIRCUITS FOR 1409-1447 FEATURE	IMPROVE I-RING 8 SIGNAL	767 1.1	8
486803 114222 73.11.41	1401 WITH SERIAL I/O	02A2	486785	TO INSURE PROGRAM SKIP DURING RESET OF I/O ERROR LATCH	FAILS TO BRANCH	765 .7	9
487181 121856 75.01.02	WITH 1409	02A8 1447	486787 1409 COMP 487179	PROVIDE TIME 030-060 TO 1409		.7	10
487194 121869 73.11.11	WITH I/O	02A2	486803	PROVIDE ADDITIONAL RESET FOR I/O DISCONNECT OUT LATCH		787 .7	11
487275 121874 42.40.10	ALL	NONE	NONE	PROVIDE TIEDOWN LIST		776 .5	12
486809 114203C 31.03.11	ALL	01B2	NONE	PREVENT I-STAR HUNDREDS GATE-IN DUE TO GLITCHES	HUNDREDS POSITION CHANGES DURING MANUAL ENTRY	773 .9	13
486820 120069 35.05.11	ALL	01B2	NONE	PROVIDE FORCE EXECUTE ELIMINATE LINE	CORRECT CABLE ERROR TO 1409	771 1.0	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
487354 124202 41.11.41	WITH COL BIN	02B8	486184	PREVENT SCRAMBLE LATCH TURN ON DURING 1050-1447 MOVE OP	1050 INFORMATION IS SCRAMBLED IN CORE	.4	1
487283 114203D 71.71.11	ALL	01A2	NONE	PROVIDE INSERT LOGIC TO SHOW DENSITY SWITCH		.5	2
487510 124675 NONE	26095 TO 26410 WITH TAPE	00XA	NONE	PROVIDE LOGICS FOR TAU GATE 00XA		1.0	3
487515 124679 31.02.31	MOD D	01B2	487507	TO IMPROVE START RESET CIRCUIT		1.0	4
487501 114203E NONE	1401 WITH PRINT STOR AND NUMERIC	01A6 PFNU	NONE	PROVIDE PROPER GATING OF TRANSFER INTERLOCK TRG.	ADD MISSING WIRE--LOGICS NOT AFFECTED	.3	5
485368 124681 75.01.05	1401 WITH HI-LO EQ. RAM OR 1407 E C 110324	02A8 RAM 1407	486471	PROVIDE IMPROVED NOT CLOCK CONTROL REFERENCE LINE	FALSE CLOCK STARTS	1.0	6
485389 124682 77.01.11	1401 WITH HI-LO EQ. FILE OR 1447 E C 119496	02A8 RAM 1447 AND 1311 1447	487181	CORRECT FALSE FIRST CHARACTER TRANSFER IN I/E OR SINGLE CYCLE MODE	1. 1ST CHARACTER SENT TO 1026 IS OP CODE OF NEXT INSTRUCTION STEP. 2. FALSE CLOCK STARTS.	2.0	7

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
485952 114141C NONE	ALL BELOW SERIAL 27260 W/O PROC. OVLV	NONE	NONE	SYNC POINT LABEL		562 .5	1
486002 114151 36.17.21	ALL 1401 EXCEPT MODEL D	01B7	W/O PFR 485923 WITH PFR 485926	PREVENT FALSE READ CHECKS DURING R-P OVERLAP OPERATION		602 2.0	2
486006 114153 31.09.51	ALL	01A6 01B2	486000 W/O PF 485910 WITH PF 485954	PROVIDE INTERLOCK FOR CARD FEED	PREVENT PREMATURE READ SCAN ON 12 EDGE READ ON THE 1404.	590 .6	3
486015 114154 41.50.01	ALL 1401 WITH ADV. PROG.	02B6	485950	PREVENT DROPPING CARRY ON SINGLE CYCLE OF IN- DEXING	STAR ERRORS	690 2.5	4
485816 114155 74.11.81	ALL 1401 WITH PROCESS OVLV	02B1	485928 485817 IS A COMP	PREVENT HANG UP - OVLV READ WITH TAPE AT L.P.	HANG UP ON OVERLAP TAPE OPERATION AT LOADPOINT	588 1.2	5
485817 114155 31.12.61	ALL	01B3	485956 485816 IS A COMP WITH OVLV	CORRECT LOGIC REFERENCE FOR 01B3		588 .5	6
486016 114156 34.31.14	ALL	01A3 01B3	485817 485929	PREVENT COMPLEMENT ADD FAILURES	FAILURE TO RESET READDRESS LATCH ON RECOMPLEMENT OPERATION	592 .9	7
485935 114036 44.11.21	ALL 1401 WITH MULTIPLY/ DIVIDE	02B7	NONE	ADD START RESET TO M.D. LATCHES	ERRORS IMMEDIATELY AFTER POWER ON	521 1.5	8
486017 115596 SEE CEM	ALL 1401 WITH MULTIPLY/ DIVIDE	02B7	NONE	ADD MISSING WIRE - MULTIPLY - DIVIDE		641 .5	9
486018 116225 70.11.41	ALL 1401 WITH I/O	02A2	495930	A REG ERRORS WHEN OVER- LAPPING SERIAL I/O	RANDOM TURN ON OF GM LATCH	631 2.0	10
486023 114157 36.01.31	ALL 1401 EXCEPT MODEL D	01B4	485922	PREVENT FALSE TURN ON OF READ COMPLETE TRIGGER	FAILURE TO READ 12 HOLES	571 .5	11
486025 114158 35.25.11	ALL	01A3 01B1	486016 485896	PROVIDE CROSS REFERENCE FOR WORD MARK TRANSFER CIRCUIT		632 .5	12
486026 116230 70.51.21	ALL 1401 WITH I/O	02A2	486018 486025 IS A COMP	ADD WORD MARK TRANSFER CIRCUIT TO I/O CONTROLS	ALLOWS TRANSMISSION OF WM TO UNITS ATTACHED TO SERIAL I/O.	632 2.6	13
486030 114159 74.11.71	ALL 1401 WITH PROC OVLV AND M-D	02B1	485816 486031 IS A COMP	PREVENT A REG. ERRORS IN PAR MODE	A REG. ERRORS IN PAR MODE OF MULT/DIVIDE OPER.	643 1.5	14

IFCX 6

1401 B/M INDEX-26410 TO 28281

IFCX 6

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTGM	CEM	DATE
						HRS.	ORDERED INSTLLD
486031 114042 44.11.11	ALL 1401 WITH MULTIPLY/ DIVIDE	02B7	486017 485935 WITH OVLP 486030 IS A COMP	PROVIDE -T NOT A CYCLE ELIMINATE LATCH SIGNAL TO 02B1	ERRORS WHEN SINGLE CYCLING M-D IN PAR MODE	642 1.0	1
486036 114160 74.31.61	ALL 1401 WITH PRO- CESS OVLP	02B1	486030	PREVENT OVLP INTERLOCK STOP FROM COMING ON PRIOR TO COMPLETED CARD FEED CYCLE	STACKER SEL FAILURES ON STOP KEY IN OVERLAP MODE	645 .6	2
486037 116239 70.11.41	ALL 1401 WITH I/O	02A2	486026	PREVENT ERRONEOUS SET OF OVERLAP ERROR LATCH & PREVENT STOPPING OF CLOCK DURING 1405 OR 1407 OP	CLOCK STOPS DURING A 1405 OR 1407 OPERATION	659 2.8	3
486038 116239 70.11.41	ALL 1401 WITH TAPE AND W/O I/O	02A2	485930	PREVENT STOPPING OF CLOCK @ I RING 1 DURING 1405 OR 1407 OP	CLOCK STOPS DURING A 1405 OR 1407 OPERATION	659 .8	4
486032 114161 41.51.61	1401 WITH ADV. PROG.	02B6	486015	STORAGE ADDRESS ERRORS WHEN INDEXING IN SINGLE CYCLE MODE	INCORRECT INDEXING IN SINGLE CYCLE MODE	691 1.2	5
486035 114162 35.22.11	ALL	01B1	486025	PREVENT ERRATIC CARRIAGE OPERATION	NOISE CAUSES TRIGGERING OF 4.5 MS. SS	633 .7	6
486044 116360 NONE	ALL	01A1	485847 486046 IS A COMP	REMOVE TIE DOWN LIST FROM 01A1		634 .5	7
486046 114165 42.40.10	ALL	01B1	486035 486044 IS A COMP	PROVIDE UPDATED TIE DOWN LIST		634 .5	8
486048 116361 77.01.21	1401 WITH 1405 OR 1407 OR HI-LO	02A8	485854 OR 485880 486050 IS A COMP	REDUCE NOISE SENSITIVITY OF RESET TO FILE OP LATCH	NOISE RESETS FILE OP LAT DURING ADDRESS TRANSFER	616 1.8	9
486050 114166 37.30.31	ALL	01A2	485923	PROVIDE CROSS REFERENCE FOR F/BM 486048		616 .5	10
486040 114163 36.31.81	1401 WITH NU- MERIC PRINT CONTROL	01A6	PR STOR. 485954 W/O PR. STOR. 486001	ADD FEED THROUGH OF -T STORAGE PRINT OUT		608 .5	11
486118 114167 36.01.11	ALL	01A6	NUM. PR. 486040 W/O NUM PRINT. 486006	PROVIDE PLUS U MAGNETIC EMITTER FEED THROUGH		619 .6	12
486041 114164 31.02.31	ALL	01B2 01B3 01B6	485918 486006 486016 WITH OV 485095 IS A COMP	PREVENT FALSE TURN ON OF RE-ADDRESS LATCH	INTERMITT OP REG. ERRORS AND INCOR RESULTS WHEN RUNNING AUTOCODER	657 3.5	13
486129 114171 35.11.11	ALL	01A3	486025	PREVENT EXTRA BIT FAILURES IN B-REG.	EXTRA BITS IN B REG	654 .4	14

IFCX 7

1401 B/M INDEX-26410 TO 28281

IFCX 7

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLO
486130 116728 70.51.31	1401 WITH I/O	02A2	486037	PREVENT MAG. TAPE ERRORS WITH I/O DIS- CONNECTED	TAPE READ ERRORS IN LOAD MODE WITH I/O DISCONNECT	684 1.5	1
486127 114170 35.28.31	ALL	01B1 01B4	486046 486023 486041	PREVENT FALSE LAST CD DETECTION AND TURN ON OF PCH SCN TRIGGER	LAST CARD INDICATION BEFORE LAST CARD IS PROCESSED	667 2.0	2
486121 116726 71.31.11	1401 WITH TAPE	02A1	485925	PROVIDE SIGNALS FOR -C 1401 IS STOPPED CHANGE.		682 2.2	3
486042 116353 73.11.41	1401 WITH I/O	02A2	486130 486127 WITH MT 486121 -TAU- 486126	ALLOW -C 1401 IS STOPPED SIGNAL ONLY WHEN MANUAL RESTART IS REQUIRED	INDICATES 1401 IS STOPPED ONLY WHEN MANUAL RESTART IS REQUIRED.	685 2.5	4
486120 116731 77.01.21	1401 WITH 1405	02A8	486048	PREVENT ERRONEOUS TURN ON OF PERCENT LATCH WHEN OVERLAPPING	FAILURES TO INDEX BECAUSE PERCENT LATCH WAS TURNED ON WHEN OVERLAPPING	630 .5	5
486131 116735 36.37.41	ALL	01B5	485923	PREVENT FALSE PRINT RESET CHECK	FALSE PRINT RESET CHECKS WHEN PRINTING MULTIPLE CHARACTERS ON 1 SUB SCAN	603 1.2	6
486133 114173 74.11.71	1401 WITH PROC. OVERLAP	02B1	486036	PREVENT O-A TRANSFER DURING STORE CYCLE PAR MODE	INTERMITTENT O TO A GATE DURING STORE CYCLES	646 2.0	7
486134 116741 46.36.81	1401 WITH PRINT STOR	01A5	486136 IS A COMP	PREVENT ERRONEOUS TURN ON OF PRINT BUF LATCHES	NOISE TURNS ON BUFFER LATCHES DURING PRINT OP	651 1.2	8
486136 116739 46.10.31	1401 WITH PRINT STOR	01A4	486134 IS A COMP	PREVENT ERRONEOUS TURN ON OF PRINT BUF LATCHES	NOISE TURNS ON BUFFER LATCHES DURING PRINT OP	651 1.2	9
486138 114174 31.12.12	ALL	01B3	486041 COMPS. 486143 486199	PREVENT A REG ERRORS DURING CARD READING	EXTRA BITS IN A REG DURING CARD READING	661 1.0	10
486124 114168 36.48.21	ALL	01B1	486127	PREVENT CARRIAGE MOTION ON POWER ON		669 .7	11
486140 114175 36.48.11	ALL	01B1	486118 1403 COMP 486101	ADD CIRCUITRY FOR MAG- NETIC EMITTER		635 1.9	12
486143 114178 31.10.11	ALL	01B2 01B3 01B6	486138 486199 IS A COMP	UPDATE FOR 1311 FEATURE		661 1.6	13
486141 114176 41.50.11	ALL WITH ADV. PROG.	02B6	486032	UPDATE FOR 1311 FEATURE		660 1.6	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEI	DATE ORDERED INSTLLD
						HRS.	
486142 114177 35.10.51	ALL	01A3	486129	PREVENT EXTRA BITS IN THE A REG. AND UPDATE FOR 1311	EXTRA BITS IN A REG WHEN READING CARDS	662 1.8	1
486132 114172 36.01.11	1401 WITHOUT NUMERIC WITHOUT PRINT STORAGE	01A6	486118	PROVIDE IMPROVED LOGIC DIAGRAMS		678 1.0	2
485770 114181 35.18.11	ALL	01A3	486142	IMPROVE B REG TRANSFER	TRANSFER B REG LINE LATE	666 2.0	3
485462 114182 35.30.31	ALL	01B2 01B3 01B6	486143	PREVENT FALSE FIRST EDIT RE-ADDRESS	RE-ADDRESS TR TURNED UN AT 000 TIME DURING A MOVE ZERO SUPPRESS OPERATION	663 2.2	4
486175 114177D 35.28.31	ALL	01B4	486127	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	5
486155 116749 42.53.11	ALL	01A1	486044	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	6
486156 116749A 36.38.61	1401 WITHOUT NUMERIC	01B5	486131	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	7
486157 116749A 36.38.61	1401 WITH NUMERIC	01B5	486131	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	8
486158 116749B 73.11.41	1401 WITH I/O	02A2	486042	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	9
486161 116749E 71.31.11	1401 WITH MAG. TAPES	02A1	486121	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	10
486163 116749G 70.11.41	1401 WITH MAGNETIC TAPES	02A2	486038	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	11
486164 116749H 44.11.11	1401 WITH MULTIPLY DIVIDE	02A7 02B7	486031	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	12
486165 116749J 77.01.21	1401 WITH HI-LO 1405 OR 1407	02A8	486120	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	13
486167 114177A 37.30.31	ALL	01A2	486050	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	14

IFCX 11

1401 B/M INDEX-26410 TO 28281

IFCX 11

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486378 114194 31.21.11	ALL	01B2 01A3	485770 485462	PROVIDE UPDATED LOGICS.	CLARIFY LOGICS FOR 1311 FEATURE	733 .4	1
486381 114195 42.40.10	OBSOLETE BY 486440	01B2	NONE	ADD NEEDED TIEDOWNS.		NONE .5	2
486382 114196 42.40.10	OBSOLETE BY 486440	02A2	NONE	ADD NEEDED TIEDOWNS.		NONE .5	3
486377 114069 75.01.06	1401 WITH 1311	02A8 1311	NONE	PREVENT LOSS OF BITS IN A STAR.	DROPPING BITS IN HUND. A STAR ON 1311 FILE OP	NONE 1.0	4
486227 117953 73.11.21	1401 WITH I/O	02A2	486148 486216	PREVENT FALSE SERVICE RESPONSE INDICATIONS TO I/O DEVICES	FALSE 1401 CLOCK CYCLE INDICATION CAUSING TRANSMISSION ERRORS	718 1.5	5
486383 114197 36.31.31	1401 W/O PRINT BUFFER	01A6	486222 W/O NUM 486226 WITH NUMERIC	SERVICE AID FOR TROUBLE SHOOTING PRINTER CIRCUITS	START PRINT AT HOME PULSE AND ALLOW SYNC CHECK WHEN NOT PRINTING	731 1.5	6
486384 114197 36.31.31	1401 WITH PRINT BUFFER AND NUMERIC	01A6	486169	SERVICE AID FOR TROUBLE SHOOTING PRINTER CIRCUITS	START PRINT AT HOME PULSE AND ALLOW SYNC CHECK WHEN NOT PRINTING	731 1.0	7
486385 114197 36.31.31	1401 WITH PRINT BUFFER W/O NUMERIC	01A6	486168	SERVICE AID FOR TROUBLE SHOOTING PRINTER CIRCUITS	START PRINT AT HOME PULSE AND ALLOW SYNC CHECK WHEN NOT PRINTING	731 1.0	8
486198 114190 36.11.11	OBSOLETE BY 486391	01B4				NONE .8	9
486391 114198 36.10.21	ALL EXCEPT MOD. D	01B4	486194	PREVENT A REG ERRORS DURING A 5 OP	A REG ERRORS DUE TO SET UP CYCLES DURING READ SCAN ON 5 OP	722 1.1	10
486397 117972 41.50.41	1401 WITH ADV PROG	02B6	486141	PREVENT O STAR ADDRESS ERRORS	O STAR ERRORS ABOVE 4K AND WITH INDEXING BECAUSE OF SET UCZ DURING O CYCLE	715 1.0	11
486396 114199 36.44.11	ALL	01B1	486140	PREVENT ERRONEOUS GATING TO THE SPACE SKIP REG	SPACE SKIP LATCHES SET ERRONEOUSLY DURING OVLP OPERATION	719 1.0	12
486435 118306 73.11.31	1401 WITH I/O	02A2	486227	PREVENT FALSE SINGLE CHARACTER TRANSFER AND OVLP I/O ERRORS	FALSE I/E CHANGE ON TAPE R/W OR A REG ERRORS WHEN 1419 OVLP	752 .9	13
486440 118316 42.40.10	OBSOLETE BY 487276	TIE DOWN LIST	NONE	PROVIDE UPDATED TIE-DOWN LIST		NONE 1.0	14

IFCX 12

1401 B/M INDEX-26410 TO 28281

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486442 118320 99.99.91	1401 MOD. A	01A6 01B1 01B2 01B4 01B6	NONE	INSTALL USE METER.		714 4.0	1
486444 118320 99.99.91	1401 EXCEPT MOD A	01A6 01B1 01B2 01B4 01B6	SEE CEM	INSTALL USE METER.		714 4.0	2
486447 118320 99.99.91	1401 WITH MAG TAPE	02A1	NONE	PROVIDE TAU 9 TAPE SIGNAL FOR USE METER		714 2.5	3
486449 118320 99.99.91	1401 WITH I/O	02A2	NONE	PROVIDE SERIAL I/O SIGNAL FOR USE METER		714 1.0	4
486450 118320K 99.99.91	1401 WITH 1407	02A8	NONE	PROVIDE INQUIRY SIGNAL FOR USE METER		714 1.5	5
486458 118320M 99.99.91	1401 MODEL F	02A8	486444 IS A COMP	PROVIDE DISK STORAGE SIGNAL FOR USE METER		714 1.0	6
486461 118575B 35.10.51	ALL	01A6	486383 486384 486385	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	7
486464 118575B 35.10.51	ALL	01B2	486378	PROVIDE LOGICS FOR USE METER CHANGE		746 .5	8
486466 118575B 36.10.21	ALL	01B4	486214 486391	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	9
486469 118575B 35.10.51	ALL	01B6	485462	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	10
486470 118575B 73.11.31	1401 WITH I/O	02A2	486435	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	11
486471 118575A 75.01.02	1401 WITH HI-LO OR 1405 OR INQ	02A8	486173	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	12
486472 118575A 75.01.02	1401 WITH 1311	02A8 1311	486377	PROVIDE LOGICS FOR USE METER CHANGE		748 .5	13
486441 118317 31.31.11	1401 W/O PRINT BUFFER	01A6	486461	PREVENT FALSE RESET CHECKS WHEN PRINTING FOLLOWING OVLP OPERATION	FALSE RESET CHECKS ON NON BUFFERED SYSTEMS WHEN WAITING TO PRINT AFTER OVLP OPERATION COMPLETED	751 .8	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486453 117149 73.11.21	1401 WITH I/O	02A2	486470	TO ALLOW PROPER OPERATION OF I/O WRITE CALL	A REG ERRORS ON DISCONNECT OF SERIAL I/O WRITE CALL	752 .8	1
486476 118575X 99.99.91	ALL	01B6	NONE	IMPROVE VOLTAGE SWING TO METER DELAY CARD.		726 .8	2
486485 114202 75.01.03	1401 WITH 1311	02A8 1311	486472	TO CORRECT EDGE CONNECTOR INFORMATION.	CORRECT 1311 EDGE CONN. CHART FOR REF. LOGIC PAGE	757 .5	3
486455 118528 73.11.31	1401 WITH I/O	02A2	486453	PREVENT BLANKING A REG ON SERIAL I/O	A REG ERRORS ON OVER LAPPED I/O READ CALL	759 .7	4
486490 119495 NONE	ALL EXCEPT MOD D	01B4	486194 IS A COMP	ADD CARDS FOR MACHINES W/O READ-PUNCH-RELEASE		755 .5	5
486785 114106 73.11.41	1401 WITH I/O	02A2	486455	IMPROVE RESET TRANSFER ERROR LATCH SIGNAL	PROVIDE 6 USEC DURATION SIGNAL FOR TYPE 1231	766 1.5	6
486784 114099 71.31.21	1401 WITH TAPES	02A1	486161 486783 IS A COMP	ELIMINATE HANG UP COND ON REWIND UNLOAD INST	7330 AT LOAD POINT HANGS UP WHEN REWIND UNLOAD INST IS GIVEN	769 1.0	7
486787 114119 77.01.11	1401 WITH EC 119496 ON LOGIC 77.01.11-- 1409 ADAPT	02A8	NONE	ALLOW 1401 TO OPERATE WHEN 1409 IS DISCONNECTED		NONE 1.0	8
486789 114203A 36.43.21	ALL	01B1	NONE	CORRECT FAILURE TO DOUBLE OR TRIPLE SPACE AFTER PRINT		750 1.0	9
486794 114208 31.02.31	1401 EXCEPT MOD D	01B2 01B4	NONE	TO IMPROVE START RESET CIRCUIT		763 1.0	10
486795 114213 31.31.21	ALL	01B2 01B6	486464 486469 486476 486794 486797	TO PROVIDE CIRCUITS FOR 1409-1447 FEATURE	IMPROVE I-RING 8 SIGNAL	767 .6	11
486797 114214A 36.19.11	1401 EXCEPT MOD D	01B4	486466	TO PROVIDE FEED THROUGH FOR 1409-1447 FEATURE		767 .8	12
486803 114222 73.11.41	1401 WITH SERIAL I/O	02A2	486785	TO INSURE PROGRAM SKIP DURING RESET OF I/O ERROR LATCH	FAILS TO BRANCH	765 .7	13
487181 121856 75.01.02	WITH 1409	02A8 1447	486787 1409 COMP 487179	PROVIDE TIME 030-060 TO 1409		.7	14



CF 3

1401 B/M INDEX-28281 & ABOVE

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486015 114154 41.50.01	1401 WITH ADV PROG	02B6	485950	PREVENT DROPPING CARRY ON SINGLE CYCLE OF INDEXING	STAR ERRORS	690 2.5	1
485816 114155 74.11.81	1401 WITH PROCESS OVERLAP	02B1	485928 485817 IS A COMP	PREVENT HANG-UP, OVLP, READ WITH TAPE AT L.P.	HANGS UP ON OVERLAP TAPE OPERATION AT LOAD POINT	588 1.2	2
485817 114155 31.12.61	ALL	01B3	485956 WITH OVLP 485816 IS A COMP	CORRECT LOGIC REFERENCES FOR 01B3		588 .5	3
486016 114156 34.31.14	ALL	01A3 01B3	485817	PREVENT COMPLEMENT ADD FAILURE	FAILURE TO RESET READDR LATCH ON RECOMPLEMENT OPERATION	592 .9	4
485935 114036 44.11.21	1401 WITH MULTIPLY- DIVIDE	02B7	NONE	ADD START RESET TO M D LATCHES	ERRORS IMMEDIATELY AFTER POWER ON	521 1.5	5
486017 115596 SEE CEM	1401 WITH MULTIPLY- DIVIDE	02B7	NONE	ADD MISSING WIRE- MULTIPLY/DIVIDE		641 .5	6
486018 116225 70.11.41	1401 WITH SERIAL I/O	02A2	485930	A REG ERRORS WHEN OVERLAPPING SERIAL I/O	RANDOM TURN ON OF G.M. LATCH.	631 2.0	7
486020 116227 74.60.01	1401 WITH A 1404	02B8	486003 IS A COMP	PREVENT STOP WITH NO ERROR - 1404	FALSE MACH STOPS. NOISE ON PLUS U NOT INTLK STOP LINE TURNING OFF 1404 RUN TRIGGER	NONE 1.5	8
486021 116228 36.01.31	ALL	01A5 01B1 01B4	486014 486007 486016 IS A COMP	ADD WIRING FOR SELECTIVE TAPE LISTER		NONE 1.7	9
486022 116228 74.60.01	1401 WITH A 1404	02B8	485020 486021 IS A COMP	MAKE 1404 ADAPTER COM- PATIBLE WITH STL ADAPTER		NONE 1.9	10
486026 116230 70.51.21	1401 WITH SERIAL I/O	02A2	486018 486028 IS A COMP	ADD WORD MARK TRANSFER CIRCUIT TO I/O CONTROLS		632 2.6	11
486028 116231 35.25.11	ALL 1401 EXCEPT A MODELS	01B1 01A3	486016 486021	PROVIDE CROSS-REFERENCE FOR WORD MARK TRANSFER CIRCUIT		632 .5	12
486030 114159 74.11.71	ALL 1401 WITH PROCESS OVERLAP	02B1	485816 486031 IS A COMP WITH M/D	PREVENT A REG ERRORS IN PAR MODE	A REG ERRORS IN PAR. MODE OF MULT/DIV. OP.	643 1.5	13
486031 114042 44.11.11	1401 WITH MULTIPLY- DIVIDE	02B7	485935 486017 WITH OVLP 486030 IS A COMP	PROVIDE -T NOT A CYCLE ELIMINATE LATCH SIGNAL TO 02B1	ERRORS WHEN SINGLE CYCLING M-D	642 1.0	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLO
486036 114160 74.31.61	1401 WITH PROCESS OVERLAP	02B1	486030	PREVENT OVLP INTERLOCK STOP FROM COMING ON PRIOR TO COMPLETED CARD FEED CYCLE	STACKER SELECT FAILURE ON STOP KEY IN OVERLAP MODE	645 .6	1
486037 116239 70.11.41	1401 WITH I/O	02A2	486026	PREVENT ERRONEOUS SET OF OVLP ERROR LATCH & PRE- VENT STOPPING OF CLOCK ON 1405 OR 1407 OP	CLOCK STOPS DURING A 1405 OR 1407 OPERATION.	659 2.8	2
486038 116239 70.11.41	1401 WITH TAPE WITHOUT I/O	02A2	485930	PREVENT STOPPING OF CLOCK & I RING 1 DURING 1405 OR 1407 OP	CLOCK STOPS DURING A 1405 OR 1407 OPERATION.	659 .8	3
486032 114161 41.51.61	1401 WITH ADV PROG	02B6	486015	STORAGE ADDRESS ERRORS WHEN INDEXING IN SINGLE CYCLE MODE	INCORRECT INDEXING IN SINGLE CYCLE MODE	691 1.2	4
486043 116354 NONE	1401 WITH 486021 APPLIED	01B1	486021	CORRECT FEED THRU FOR NOT START RESET LINE	CORRECTS ERROR INTRODUCED ON BM 486021	NONE .6	5
486044 116360 42.40.10	ALL	01A1	486047 IS A COMP	REMOVE TIE DOWN LISTS FROM 01A1		634 .5	6
486047 116359 42.40.10	ALL	01B1	486028 486044 IS A COMP	PROVIDE UPDATED TIE DOWN LISTS		634 .5	7
486048 116361 77.01.21	1401 WITH 1405 OR 1407	02A8	486050 IS A COMP	REDUCE NOISE SENSITIVITY OF RESET TO FILE OP LAT	FILE OP LATCH RESETS DURING ADDRESS TRANSFER	616 1.8	8
486050 114166 37.30.31	ALL	01A2	485931	PROVIDE CROSS REFERENCE FOR F/BM 486048		616 .5	9
486040 114163 36.31.81	1401 WITH NUMERIC	01A6	WITH PF 485954 W/O PF 486001	ADD FEED THROUGH OF -T STORAGE PRINT OUT.		608 .5	10
486118 114167 36.01.11	ALL	01A6	WITH NUM 486040 W/O NUM 486006	PROVIDE -U MAGNETIC EMITTER FEED THROUGH		619 .6	11
486116 116369 36.48.31	ALL	01B1	486047 486118 1403 COMP 486101	ADD CIRCUITRY FOR MAGNETIC EMITTER		635 1.3	12
486041 114164 31.02.31	ALL	01B2 01B3 01B6	485918 486006 486016 WITH OV 485095 IS A COMP	PREVENT FALSE TURN ON OF THE RE-ADDRESS LATCH	INTERMITTENT UP REG ERROR AND INCORRECT RESULTS WHEN RUNNING AUTOCODER	657 3.5	13
486122 116727 35.28.31	ALL	01B1 01B4	486116 486041 486021	PREVENT FALSE LAST CARD DETECTION AND TURN ON OF PUNCH SCAN TRIGGER.	FALSE TURN ON OF PUNCH SCAN TRIGGER	667 2.9	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486129 114171 35.11.11	ALL	01A3	486028	PREVENT EXTRA BIT FAILURES IN B REGISTER	NOISE ON BUS LINES ON SET OF B REG LATCHES ADDS FILTER CARD TO F22	654 .4	1
486130 116728 70.51.31	1401 WITH I/O	02A2	486037	PREVENT MAG TAPE ERRORS WITH I/O ATT. DISCONNECTED	TAPE READ ERRORS IN LOAD MODE WITH I/O DEVICE DISCONNECTED	684 1.5	2
486121 116726 71.31.11	1401 WITH MAG. TAPE	02A1	485925	PROVIDE SIGNALS FOR -C 1401 IS STOPPED CHANGE	1401 IS STOPPED IND NOT OCCURRING WHEN TAPE OP IS ATTEMPTED AND TAPE IS NOT READY	682 2.2	3
486042 116353 73.11.41	1401 WITH I/O	02A2	486130 486122 486121 TAU 486126 486048	ALLOW -C 1401 IS STOPPED SIGNAL ONLY WHEN MANUAL RESTART IS REQUIRED	INDICATE 1401 IS STOPPED ONLY WHEN MANUAL RESTART IS REQUIRED.	685 2.5	4
486120 116731 77.01.21	1401 WITH 1405	02A8	486048	PREVENT ERRONEOUS TURN ON OF % LATCH	FAIL TO INDEX BECAUSE % LATCH WAS TURNED ON WHEN OVERLAPPING	630 .5	5
486131 116735 36.37.41	ALL	01B5	485931	PREVENT FALSE PRINT RESET CHECK	FALSE PRINT RESET CHECK WHEN PRINTING MULTIPLE CHAR ON ONE SUE SCAN	603 1.2	6
486133 114173 74.11.71	1401 WITH PROCESS OVERLAP	02B1	486036	PREVENT O-A TRANSFER DURING STORE CYCLE PAR MODE	INTERMITTENT O TO A GATE DURING STORE CYCLES	646 2.0	7
486135 116738 46.36.81	1401 WITH PRINT STORAGE	01A5	486021 486136 IS A COMP	PREVENT ERRONEOUS TURN ON OF PR BUFFER LATCHES	PR BUFFER LATCHES TURNED ON BY NOISE DURING PR OP.	651 1.3	8
486136 116739 46.10.31	1401 WITH PRINT STORAGE	01A4	486135 IS A COMP	PREVENT ERRONEOUS TURN ON OF PR BUFFER LATCHES	PR BUFFER LATCHES TURNED ON BY NOISE DURING PR OP.	651 3.6	9
486138 114174 31.12.12	ALL	01B3	486041 COMPS 486143 486199	PREVENT A REG ERRORS DURING CARD READING	EXTRA BITS IN A REG WHEN READING.	661 1.0	10
486143 114178 31.10.11	ALL	01B2 01B3 01B6	486138 486199 IS A COMP	UPDATE FOR 1311 FEATURE		661 1.6	11
486141 114176 41.50.11	ALL WITH ADV. PROG.	02B6	486032	UPDATE FOR 1311 FEATURE		660 1.5	12
486144 116778 36.48.21	ALL	01B1	486122	PREVENT CARRIAGE MOTION ON POWER ON	NOISE TRIGGERING 80 U SEC SINGLE SHOT CAUSING CARR MOTION ON POWER ON.	669 .8	13
486142 114177 35.10.51	ALL	01A3	486129	PREVENT EXTRA BITS IN THE A REGISTER	EXTRA BITS IN A REG WHEN READING CARDS.	662 1.8	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486155 116749 42.53.11	ALL	01A1	486044	PROVIDE IMPROVED LOGIC DIAGRAMS		696 .5	1
486156 116749A 36.38.61	1401 WITHOUT NUMERIC	01B5	486131	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	2
486157 116749A 36.38.61	1401 WITH NUMERIC	01B5	486131	PROVIDE IMPROVED LOGIC DIAGRAMS		696 .5	3
486158 116749B 73.11.41	1401 WITH I/O	02A2	486042	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	4
486161 116749E 71.31.11	1401 WITH MAG TAPE	02A1	486121	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	5
486162 116749F 32.31.11	ALL	01A7	485931	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	6
486163 116749G 70.11.41	1401 WITH MAG TAPE	02A2	486038	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	7
486164 116749H 44.11.11	1401 WITH MULTIPLY DIVIDE	02A7 02B7	486031	PROVIDE IMPROVED LOGIC DIAGRAMS		696 .5	8
486165 116749J 77.01.21	1401 WITH HI-LO 1405 OR 1407	02A8	486120	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	9
486167 114177A 37.30.31	ALL	01A2	486050	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	10
486168 114177B 36.01.11	1401 WITH PRINT STORAGE WITHOUT NUMERIC	01A6	486118	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	11
486169 114177B 36.01.11	1401 WITH PRINT STORAGE WITH NUMERIC	01A6	486118	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	12
486170 114177B 36.01.11	1401 WITH NUMERIC WITHOUT PRINT STOR	01A6	486118	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	13
486172 114177C 32.42.41	ALL	01A8	NONE	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486209 114188 31.31.11	ALL	01B2	486143 1406 486208 IS A COMP	PREVENT INTERMITTENT STOR ADDRESS ERRORS.	STORAGE ADDR ERRORS FOLL- OWING ADDR MODIFY OP	720 .9	1
486215 117481 36.10.11	1401 EXCEPT MOD D	01B4	486150 486187	PREVENT ADDITIONAL CARD FEED CYCLES	PASSING CARDS ON READ SIDE	732 1.0	2
486216 117484 70.51.21	1401 WITH SERIAL I/O	02A2	486190	PREVENT INTERMITTENT A REG ERRORS	FALSE DISCONNECT OVLPIG I/O WITH GMWM IN B REG	717 .8	3
486217 117484 70.51.21	1401 WITH MAG TAPE W/O SERIAL I/O	02A2	486196	PREVENT INTERMITTENT A REG ERRORS	FALSE DISCONNECT OVLPIG I/O WITH GMWM IN B REG.	717 .8	4
485827 117644 36.11.11	OBSOLETE BY 486390	01B4	486150	PREVENT A REG ERRORS DURING A 5 OP		NONE .9	5
486221 117951 35.28.31	ALL	01B1	485553	PREVENT BLOWING HAMMER DRIVER FUSE	H.D. FUSE 1 BLOWING	700 .5	6
486222 114191 36.31.11	1401 W/O PRINT BUFFER W/O NUMERIC	01A6	486132 486221 IS A COMP	PREVENT BLOWING HAMMER DRIVER FUSE	H.D. FUSE 1 BLOWING	700 1.1	7
486226 114191 36.31.11	1401 W/O PRINT BUFFER WITH NUMERIC	01A6	486170 486221 IS A COMP	PREVENT BLOWING HAMMER DRIVER FUSE	H.D. FUSE 1 BLOWING	724 1.1	8
486378 114194 31.21.11	ALL	01B2 01A3	486143 485770	PROVIDE UPDATED LOGICS	CLARIFY LOGICS FOR 1311 FEATURE	733 .4	9
486379 117958 36.01.31	ALL	01B4	486150	PREVENT READ CHECKS DURING READ RELEASE OP		712 1.0	10
486381 114195 42.40.10	OBSOLETE BY B/M 486440	01B2	NONE	ADD TIE-DOWNS.		NONE .5	11
486382 114196 42.40.10	OBSOLETE BY BM 486440	TIE DOWN LIST	NONE	ADD TIE-DOWNS		NONE .5	12
486377 114069 75.01.06	1401 WITH 1311	02A8 1311	NONE	PREVENT LOSS OF BITS IN A STAR	DROPPING BITS IN HUND. A STAR ON 1311 FILE OP	NONE 1.0	13
486227 117953 73.11.21	1401 WITH SERIAL I/O	02A2	486148 486216	FALSE SERVICE RESPONSE INDICATIONS TO I/O DEVICES	FALSE 1401 CLOCK CYCLE INDICATION CAUSING TRANS- MISSION ERRORS	718 1.5	14

CF 10

1401 B/M INDEX-28281 & ABOVE

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486383 114197 36.31.31	1401 W/O PRINT BUFFER	01A6	486222 NON-NUM 486226 NUMERIC	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 1.6	1
486384 114197 36.31.31	1401 WITH PRINT BUFFER AND NUMERIC	01A6	486169	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 1.0	2
486385 114197 36.31.31	1401 WITH PRINT BUFFER W/O NUMERIC	01A6	486168	SERVICE AID FOR PRINTER	JUMPER FOR TYING DWN HOME	731 1.0	3
486390 117964 36.10.21	ALL EXCEPT MOD D	01B4	486379	PREVENT A REG ERRORS DURING A 5 OP		722 1.1	4
486397 117972 41.50.41	1401 WITH ADV PROG	02B6	486141	PREVENT O STAR ADDRESS ERRORS		715 1.0	5
486395 117971 36.44.11	ALL	01B1	485553	PREVENT ERRONEOUS GATING TO THE SPACE SKIP REGISTERS	SPACE SKIP LATCHES SET ERRONEOUSLY DURING OVLP OPERATION	719 1.4	6
486435 118306 73.11.31	1401 WITH SERIAL I/O	02A2	486227 486453 IS A COMP	PREVENT FALSE SINGLE CHAR TRANSFER AND OVLP I/O ERRORS	FALSE I/E CHANGE ON TAPE A REG ERRORS UN 1419 OVLP R/W OR A REG ERRORS ON 1419 OVLP	752 .9	7
486440 118316 42.40.10	OBSOLETE BY 487277	TIE DOWN LIST	NONE	PROVIDE UPDATED TIE DOWN LIST		NONE 1.0	8
486442 118320 99.99.91	1401 MODEL A	01A6 01B1 01B2 01B4 01B6	NONE	INSTALL USE METER		714 4.0	9
486444 118320 99.99.91	1401 MODELS B, C, D, E, F	01A6 01B1 01B2 01B4 01B6	SEE CEM	INSTALL USE METER		714 4.0	10
486447 118320 99.99.91	1401 WITH MAG TAPE	02A1	NONE	PROVIDE TAU 9 TAPE SIGNAL FOR USE METER		714 2.5	11
486449 118320 99.99.91	1401 MODELS B, C, D, E, F WITH SER I/O	02A2	NONE	PROVIDE SERIAL I/O SIGNAL FOR USE METER		714 1.0	12
486450 118320K 99.99.91	1401 WITH INQUIRY EXCEPT MOD A	02A8	NONE	PROVIDE INQUIRY SIGNAL FOR USE METER		714 1.5	13
486458 118320M 99.99.91	1401 WITH A 1405	02A8	486444 IS A COMP	PROVIDE DISK STORAGE SIG FOR USE METER		714 1.0	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486461 118575B 35.10.51	ALL	01A6	486383 486384 486385	PROVIDE LOGICS FOR USE METER		748 .5	1
486462 118575C 36.44.11	ALL	01B1	485458 486149 486207 486221 486395	PROVIDE LOGICS FOR USE METER		748 .5	2
486464 118575B 35.10.51	ALL	01B2	486378	PROVIDE LOGICS FOR USE METER		748 .5	3
486467 118575C 36.10.21	ALL	01B4	486200 486215 486390	PROVIDE LOGICS FOR USE METER		748 .5	4
486469 118575B 35.10.51	ALL	01B6	485462	PROVIDE LOGICS FOR USE METER		748 .5	5
486470 118575B 73.11.31	1401 WITH SERIAL I/O	02A2	486435	PROVIDE LOGICS FOR USE METER		748 .5	6
486471 118575A 75.01.02	1401 WITH HI-LO OR RAM OR INQ	02A8	486173	PROVIDE LOGICS FOR USE METER		748 .5	7
486472 118575A 75.01.02	1401 WITH 1311	02A8 1311	486377	PROVIDE LOGICS FOR USE METER		748 .5	8
486441 118317 31.31.11	1401 W/O PRINT BUFFER	01A6	486461	PREVENT FALSE RESET CHKS WHEN PRINTING DURING OVERLAP	PRINT CHECKS DUE TO FALSE RESET CHECKS WHEN PRINT- ING FOLLOWING AN OVLP UP	751 .8	9
486453 117149 73.11.21	1401 WITH SERIAL I/O	02A2	486470	TO ALLOW PROPER OPERATION OF I/O WRITE CALL	A REG ERRORS ON DISC OF SERIAL I/O WRITE CALL.	752 .8	10
486476 118575X 99.99.91	ALL	01B6	NONE	IMPROVE VOLTAGE SWING OF METER DELAY CARD		726 .8	11
486485 114202 75.01.03	1401 WITH 1311	02A8 1311	486472	TO CORRECT EDGE CONNECTOR INFORMATION	TO CORRECT 1311 EDGE CONN REFERENCE FOR 02A8 LOGIC PAGES	757 .5	12
486455 118562 73.11.31	1401 WITH SERIAL I/O	02A2	486453	PREVENT BLANKING A REG ON SERIAL I/O.	A REG ERRORS ON SERIAL I/O READ CALL	759 .7	13
486491 119495 NONE	ALL EXCEPT MODEL D	01B4	486195 IS A COMP	TO ADD CARDS FOR MACHINE W/O READ PUNCH RELEASE		755 .5	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE ORDERED INSTLLD
						HRS.	
486785 114106 73.11.41	1401 WITH I/O	02A2	486455	IMPROVE RESET TRANSFER ERROR LATCH SIGNAL	PROVIDE 6 USEC DURATION SIGNAL FOR TYPE 1231	766 1.5	1
486784 114099 71.31.21	1401 WITH TAPES	02A1	486161 486783 IS A COMP	ELIMINATE HANG UP COND ON REWIND UNLOAD INST	7330 AT LOAD POINT HANGS UP WHEN REWIND UNLOAD INST IS GIVEN	769 1.0	2
486787 114119 77.01.11	1401 WITH EC 119496 ON LOGIC 77.01.11-- 1409 ADAPT	02A8	NONE	ALLOW 1401 TO OPERATE WHEN 1409 IS DISCONNECTED		NONE 1.0	3
486794 114208 31.02.31	1401 EXCEPT MOD D	01B2 01B4	NONE	TO IMPROVE START RESET CIRCUIT		763 1.0	4
486795 114213 31.31.21	ALL	01B2 01B6	486464 486469 486476 486794 486796	TO PROVIDE CIRCUITS FOR 1409-1447 FEATURE	IMPROVE I-RING 8 SIGNAL	767 .6	5
486796 114213 36.19.11	1401 EXCEPT MOD D	01B4	486467	TO PROVIDE FEED THROUGH FOR 1409-1447 FEATURE		767 .5	6
486803 114222 73.11.41	1401 WITH SERIAL I/O	02A2	486785	TO INSURE PROGRAM SKIP DURING RESET OF I/O ERROR LATCH	FAILS TO BRANCH	765 .7	7
487181 121856 75.01.02	WITH 1409	02A8 1447	486787 1409 COMP 487179	PROVIDE TIME 030-060 TO 1409		.7	8
487194 121869 73.11.11	WITH I/O	02A2	486803	PROVIDE ADDITIONAL RESET FOR I/O DISC OUT LATCH		787 .7	9
487188 121864 36.43.21	ALL	01B1	486462	CORRECT FAILURE TO DOUB- LE OR TRIPLE SPACE AFTER PRINT		.5	10
487277 121874 42.40.10	ALL	NONE	NONE	PROVIDE TIEDOWN LIST		776 .5	11
486810 119488 31.03.11	ALL	01B2	486795	PREVENT I-STAR HUNDREDS GATE-IN DUE TO GLITCHES	HUNDREDS POSITION CHANGES DURING MANUAL ENTRY	773 .8	12
486820 120069 35.05.11	ALL	01B2	NONE	PROVIDE FORCE EXECUTE ELIMINATE LINE	CORRECT CABLE ERROR TO 1409	771 1.0	13
487351 123448 74.21.31	WITH OVERLAP	02B1	486174	PREVENT STORAGE INHIBIT ERRORS DURING TAPE OVLP READ OP	STORAGE INHIBIT ERRORS ON DISCONNECT	.6	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
487354 124202 41.11.41	WITH COL BIN	02B8	486184	PREVENT SCRAMBLE LATCH TURN ON DURING 1050-1447 MOVE OP	1050 INFORMATION IS SCRAMBLED IN CORE	.4	1
487515 124679 31.02.31	MOD D	01B2	487507	TO IMPROVE START RESET CIRCUIT		1.0	2
487367 124207 NONE	1401 WITH PRINT STOR AND NUMERIC	01A6 PFNU	NONE	PROVIDE PROPER GATING OF TRANSFER INTERLOCK TRG.	ADD MISSING WIRE--LOGICS NOT AFFECTED	.3	3
485368 124681 75.01.05	1401 WITH HI-LO EQ. RAM OR 1407 E C 110324	02A8 RAM 1407	486471	PROVIDE IMPROVED NOT CLOCK CONTROL REFERENCE LINE	FALSE CLOCK STARTS	1.0	4
485389 124682 77.01.11	1401 WITH HI-LO EQ. FILE OR 1447 E C 119496	02A8 RAM 1447 AND 1311 1447	487181	CORRECT FALSE FIRST CHARACTER TRANSFER IN I/E OR SINGLE CYCLE MODE	1. 1ST CHARACTER SENT TO 1026 IS OP CODE OF NEXT INSTRUCTION STEP. 2. FALSE CLOCK STARTS.	2.0	5
485818 124684 74.21.31	1401 WITH PROCESS OVERLAP	02B1	487351	PREVENT FALSE TURN ON OF OVERLAP PROCESS INTERLOCK LATCH	DROPS BITS ON OVERLAP TAPE READ.	1.0	6

TAU 1

1401 B/M INDEX-WITH MAG TAPES

TAU 1

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLO
				THE FOLLOWING CONDITIONS EXIST ON GATES 00XA-00XB  THERE ARE TWO DIFFERENT 00XA GATES USED. THE OLD 00XA IS IDENTIFIED BY EC 109350C ON LOGIC B9.60.40 AND THE SDI IS PN 723394. THE 00XA 0-REG GATE IS IDENTIFIED BY EC 113840 ON LOGIC B9.60.40 AND THE SDI IS PN 729196.			1
				THERE ARE TWO DIFFERENT 00XB GATES USED. THE OLD 00XB IS IDENTIFIED BY EC 109350D ON LOGIC B9.30.51 AND THE SDI IS PN 723395. THE 00XB 800 GATE IS IDENTIFIED BY EC 113420 ON LOGIC B9.30.51 AND THE SDI IS PN 805535.			2
485591 112226E B9.30.53	ALL	00XB OLD	NONE	7330 TIMING IMPROVEMENT	INCOMPLETE ERASE	434 1.3	3
485644 112226E B9.60.02	ALL	00XA OLD	NONE	REWIND LATCH IMPROVEMENT TAU 9	HANGS UP ON REWIND	472 .7	4
485719 112228 B9.60.10	ALL	00XA OLD 00XB OLD	NONE	PREVENT MACHINE HANG-UP	ENABLES RESTART AFTER FILE-PROTECT CONDITION IS CORRECTED.	338 1.2	5
485778 113542 B9.30.40	ALL	00XA OLD 00XB OLD	NONE	PREVENT ERRONEOUS BKSP. OPR. - ALSO GIVE A FORWARD STOP DELAY 12.5 MS.	BACKSPACE PAST LOAD POINT	348 1.5	6
485814 112238 B9.40.10	ALL	00XA OLD 00XC	NONE	TAU 9 ACCEPTANCE LEVELS	FALSE WRITE CHECKS	372 2.0	7
485852 113840 B9.30.55	SERIAL 26095 TO 26410	00XA OLD 00XB 800	NONE	REVISE FORWARD STOP DELAY	ERRONEOUS OPERATION ON A BACKSPACE FOLLOWING A REWIND AT LOAD POINT.	NONE 1.7	8
485877 115300A B9.60.01	SERIAL 25000 TO 26410	00XA OLD	NONE	PROVIDE LOAD FOR DBZ		NONE .8	9
485865 113840A B9.30.52	1401 WITH 00XB 800	00XB 800	485852	PREVENT ERRORS ON OVER- LAP OF WRITE TAPE MARK OP	TRIES TO DO TWO TAPE OP- ERATIONS SIMULTANEOUSLY	680 1.3	10
485905 112226F B9.30.10	1401 INSTALLING 800 CPI	00XA OLD 00XC	NONE	PRE-REQ FOR 800 CPI		NONE 5.0	11
485927 113840C B9.60.31	SERIAL 25000 TO 26410	00XA OLD	485849 IS A COMP	WRITE T.M. FOLLOWED BY SERIAL I/O	HANG UP IF WRITE TM OP. FOLLOWED BY SERIAL I/O OP	517 .8	12
485940 115304 B9.10.31	1401 WITH 00XB 800	00XB 800	485925 IS A COMP	PREVENT RC 5 TO 02A1 DURING A WRITE OP.	DROPPED CHARACTERS DURING TAPE WRITE.	529 1.2	13
485941 115300B B9.10.31	SERIAL 25000 TO 26095	00XB OLD	485925 IS A COMP	PREVENT RC 5 TO 02A1 DURING A WRITE OP.	DROPPED CHARACTERS DURING TAPE WRITE.	529 1.2	14

TAU 2

1401 B/M INDEX-WITH MAG TAPES

TAU 2

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
485946 115310A B9.30.54	1401 WITH OOXB 800	OOXB 800	NONE	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES	529	1
						1.5	
485945 115300C B9.30.54	SERIAL 25000 TO 26095	OOXB OLD	NONE	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES	529	2
						1.5	
485879 114617 B9.60.10	1401 WITH OOXA 0-REG	OOXA OREG	485875 IS A COMP	PROVIDE CE INDICATOR DRIVERS		NONE	3
						2.4	
485906 114621 B9.60.01	1401 WITH OOXA 0-REG	OOXA OREG	485879	TO CORRECT AN UNLOADED CIRCUIT		537	4
						.8	
485939 115304 B9.10.31	SERIAL 26410 AND ABOVE	OOXB 800	485925 IS A COMP	PREVENT RC-5 TO O2A1 DURING A WRITE OP.	DROPPED CHARACTERS DURING TAPE WRITE.	529	5
						1.2	
485944 115310 B9.30.54	SERIAL 26410 AND ABOVE	OOXB 800	485939 485955 IS A COMP	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES.	529	6
						1.5	
485955 115310A B9.30.54	SERIAL 26410 AND ABOVE	OOXB 800	485939 485944 IS A COMP	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES.	529	7
						.5	
486005 114152 B9.40.10	ALL	OOXC	NONE	TO INCREASE READ-WRITE RELIABILITY - 729 MOD. 5	IMPROVED SENSE AMP CARD FOR 800 CPI	513	8
						1.5	
486053 115300D B9.30.40	SERIAL 25000 TO 26095	OOXB OLD	485778 486054 OR 486056 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	631	9
						3.4	
486054 115300E B9.40.61	SERIAL 25000 TO 26410	OOXA OLD	486053 OR 486055 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	10
						1.3	
486055 116234 B9.30.54	SERIAL 26095 AND ABOVE AND OOXB 800	OOXB 800	IFC 485865 485852 485940 485946 485054 IS A COMP IFCX 485944 486056 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	11
						2.7	
486056 114046 B9.40.61	1401 WITH OOXA 0-REG	OOXA OREG	485906 486055 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	661	13
						1.3	
486125 115300F B9.60.01	SERIAL 25000 TO 26410	OOXA OLD	NONE	PREVENT NEGLECT OF RE- WIND UNLOAD CALL	REWIND UNLOAD CALL TO NOR DRIVE WHICH IS REWINDING, IS IGNORED.	682	14
						1.0	

TAU 2

1401 B/M INDEX-WITH MAG TAPES

TAU 2

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLO
485946 115310A B9.30.54	1401 WITH OOXB 800	OOXB 800	NONE	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES	529	1
						1.5	
485945 115300C B9.30.54	SERIAL 25000 TO 26095	OOXB OLD	NONE	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES	529	2
						1.5	
485879 114617 B9.60.10	1401 WITH OOXA 0-REG	OOXA OREG	485875 IS A COMP	PROVIDE CE INDICATOR DRIVERS		NONE	3
						2.4	
485906 114621 B9.60.01	1401 WITH OOXA 0-REG	OOXA OREG	485879	TO CORRECT AN UNLOADED CIRCUIT		537	4
						.8	
485939 115304 B9.10.31	SERIAL 26410 AND ABOVE	OOXB 800	485925 IS A COMP	PREVENT RC-5 TO O2A1 DURING A WRITE OP.	DROPPED CHARACTERS DURING TAPE WRITE.	529	5
						1.2	
485944 115310 B9.30.54	SERIAL 26410 AND ABOVE	OOXB 800	485939 485955 IS A COMP	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES.	529	6
						1.5	
485955 115310A B9.30.54	SERIAL 26410 AND ABOVE	OOXB 800	485939 485944 IS A COMP	ADD S.S. TO RDD 144 RESET	DISCONNECT FAILURES.	529	7
						.5	
486005 114152 B9.40.10	ALL	OOXC	NONE	TO INCREASE READ-WRITE RELIABILITY - 729 MOD. 5	IMPROVED SENSE AMP CARD FOR 800 CPI	513	8
						1.5	
486053 115300D B9.30.40	SERIAL 25000 TO 26095	OOXB OLD	485778 486054 OR 486056 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	9
						3.4	
486054 115300E B9.40.61	SERIAL 25000 TO 26410	OOXA OLD	486053 OR 486055 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	10
						1.3	
486055 116234 B9.30.54	SERIAL 26095 AND ABOVE AND OOXB 800	OOXB 800	IFC 485865 485852 485940 485946 485054 IS A COMP IFCX 485944 486056 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	11
						2.7	
486056 114046 B9.40.61	1401 WITH OOXA 0-REG	OOXA OREG	485906 486055 IS A COMP	INSURE FULL ERASE OF PREVIOUS RECORD	CHANGE STOP DELAYS	681	13
						1.3	
486125 115300F B9.60.01	SERIAL 25000 TO 26410	OOXA OLD	NONE	PREVENT NEGLECT OF RE- WIND UNLOAD CALL	REWIND UNLOAD CALL TO NOR DRIVE WHICH IS REWINDING, IS IGNORED.	682	14
						1.0	

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486126 114169 B9.60.01	1401 WITH OOXA 0-REG	OOXA OREG	486056	PROVIDE SIGNALS FOR -C 1401 IS STOPPED CHANGE.		682 1.8	1
486159 116749C B9.30.54	1401 WITH OOXB 800	OOXB 800	486055	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	2
486160 116749D B9.40.10	ALL	OOXC	486005	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	3
486171 114179 B9.90.51	1401 WITH OOXA 0-REG	OOXA OREG	486126	PROVIDE IMPROVED LOGIC DIAGRAMS		698 .5	4
486229 115300G B9.60.31	SERIAL 25000 TO 26410	OOXA OLD	NONE	PREVENT ERRONEOUS RESET OF TAPE ERROR LATCH	SERIAL I/O D-MODIFIER t TURNS ON TAPE ERASE CALL	730 .9	5
486230 114193 B9.60.31	1401 WITH OOXA 0-REG	OOXA OREG	486171	PREVENT ERRONEOUS RESET OF TAPE ERROR LATCH	RESETTING TAPE ERROR ON SERIAL I/O COMMAND	730 1.1	6
486436 115300H B9.30.50	SERIAL 25000 TO 26095	OOXB OLD	NONE	PREVENT DISCONNECT DURING BACKSPACE OVER 1 BIT CHARACTERS	FAILS TO BACKSPACE OVER ENTIRE RECORD	728 1.0	7
486405 118300 B9.30.50	1401 WITH OOXB 800	OOXB 800	486159	PREVENT DISCONNECT DURING BACKSPACE OVER 1 BIT CHARACTERS	PARTIAL RECORDS - NOT BACKSPACING OVER COMPLETE RECORD	728 1.0	8
486481 115300J B9.30.51	SERIAL 25000 TO 26095	OOXB OLD	NONE	PROVIDE SIGNAL FOR 7330 WR BKSP LATCH		745 .8	9
486482 115300K B9.60.40	SERIAL 25000 TO 26410	OOXA OLD	486481 OR 486483 IS A COMP	PREVENT SHORT INTER RECORD GAPS	SHORT I R GAPS ON READ - BKSP - WRITE OPERATION	745 1.1	10
486483 114200 B9.30.51	1401 WITH OOXB 800	OOXB 800	486405	PROVIDE SIGNAL FOR 7330 WRITE BKSP LATCH		745 .8	11
486484 114201 B9.60.40	1401 WITH OOXA 0-REG	OOXA OREG	486230 486481 OR 486483 IS A COMP	PREVENT SHORT INTER RECORD GAPS	SHORT I R GAPS ON READ - BKSP - WRITE OPERATION	745 .9	12
486782 115300L B9.60.01	SERIAL 25000 TO 26410	OOXA OLD	486054 486125 486784 AND 487514 ARE COMPS	PROVIDE SIGNAL FOR 7330 REWIND UNLOAD INSTRUCTION	7330 AT LOAD POINT HANGS UP AFTER REWIND UNLOAD INSTRUCTION	769 1.1	13
486783 114098 B9.60.01	1401 WITH OOXA 0-REG	OOXA OREG	486484 486784 AND 487366 ARE COMPS	PROVIDE SIGNAL FOR 7330 REWIND UNLOAD INSTRUCTION	7330 AT LOAD POINT HANGS UP AFTER REWIND UNLOAD INSTRUCTION	769 .9	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE ORDERED INSTLLD
						HRS.	
487366 124208 B9.60.02	1401 WITH OOXA O-REG	OOXA OREG	486783	CORRECT 7330 OPERATION WHILE AT LOAD POINT	1401 HANGS UP ON NEXT TAPE INST. AFTER 7330 AT LOAD POINT WAS GIVEN REWIND UNLOAD INST.	.7	1
487514 124677 B9.60.02	SERIAL 25000 TO 26410	OOXA OLD	486782	CORRECT 7330 OPERATION WHILE AT LOAD POINT	1401 HANGS UP ON NEXT TAPE INST. AFTER 7330 AT LOAD POINT WAS GIVEN REWIND UNLOAD INST.	.6	2

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B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
485819 113828 38.11.75	1401 WITH W/D SUFFIX 480254C-F 480255C-G 480256C-F 480614C-F	02A4	NONE	MINUS 60 VOLT BLOWN FUSE INDICATION		344 3.0	1
485878 113415 NONE	1401 25000 TO 26875 EXCEPT A AND D	NONE	NONE	DISK WRITE SWITCH LEAD INTERCHANGE		354 .5	2
485780 113547 NONE	1401 PRIOR TO D2 SUFFIX	NONE	NONE	ADD FUNCTIONAL LABELS		359 2.5	3
485873 114609 1401 38.11.75 1406 42.82.11	1401 WITH W/D SUFFIX 480254*-F 480255*-G 480256*-F 480614*-G 1406 WITH W/D SUFFIX 805639* THRU 805639C	-A- 01A5 B-F 02A5 1406 06B8	NONE	ADD HEAT SINK AND FUSE TO 18V DIFFERENTIAL	** 1401 - 1.5 HOURS 1406 MOD 1 OR 2 - 1.5 HRS 1406 MOD 3 - 2.2 HOURS	364	4 5
485969 114006B NONE	ALL 1401	01A1	1402 COMP 605411 OR 605265 SEE CEM	INSTALLATION OF FAN ASSEM -COOLING-STORAGE ARRAY		371 .7	6
485970 114006B NONE	ALL 1406 MODELS 1 AND 2	06B1	485969	INSTALLATION OF FAN ASSEM -COOLING-STORAGE ARRAY		371 .5	7
485971 114006B NONE	ALL 1406 MODEL 3		485970	INSTALLATION OF FAN ASSEM -COOLING-STORAGE ARRAY		371 .5	8
485836 114226 75.11.75	1401 WITH W/D SUFFIX 480254A-F 485255A-G 485256A-F 480614A-F	01A1 01A2 01B8	NONE	1401 THERMAL IN SERIES WITH POWER ON SWITCH		388 1.0	9
485837 114227 42.82.11	1406 WITH W/D SUFFIX 805369* THRU 805369C	06B8	NONE	1406 THERMAL IN SERIES WITH POWER ON SWITCH		388 1.0	10
485773 113407 NONE	1401 MOD D	IFC	NONE	CORRECT MAIN SIGNAL CABLE ERRORS		430 4.5	11
486013 115599 NONE	1401 ABOVE 20263	NONE	NONE	SMS CARD REF. DRAWINGS		485 .5	12
485777 113407 32.45.31	1401 WITH 1405 OR 1407	02A8	NONE	ADD WIRE FOR SYNC SIGNAL AT IFC		511 1.3	13
485952 114141C NONE	1401 ABOVE S/N 26409 W/O PROCESS OVERLAP	NONE	NONE	INSTALLATION OF SYNC POINT LABEL		562 .5	14

B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF.	PREREQS	NAME	SYMPTOM	CEM	DATE
						HRS.	ORDERED INSTLLD
486039 116358 38.11.71	1401 MOD D W/D SUFFIX 480854*-A 480256*-J	02B7 0228	NONE	REMOVE PRIMARY VOLTAGE HAZARD		572 1.0	1
485605 116786 NONE	ALL 1401	01A3 4-7- 8 01B2 3-6	NONE	BACKPANEL CAPACITORS-- BASIC VOLTAGE NOISE RE- DUCTION		612 1.0	2
485942 115285A NONE	MOD B-F PRIOR TO S/N 27457	02A4	NONE	ADD DUST COVER ON RELAY GATE		648 .3	3
485943 115285A NONE	MOD A 1401 PRIOR TO S/N 27457	01A4	NONE	ADD DUST COVER ON RELAY GATE		648 .3	4
485823 117133 1401 38.11.75 1406 42.82.11	1401 WITH W/D SUFFIX 480254*-K 480255*-L 480256*-L 480614*-K 1406 WITH W/D SUFFIX 805369A-E	-A- 01A5 B-F 02A5 1406 06B8	486873 ALSO 1401 WITH 480254*-A 1406 480255*-A 480256*-A 480614*-A NEED 485294	PRE DAMAGE TO CURRENT SOURCE CARDS IN MEMORY		647 1.5	5 6
485604 116793 1401 38.11.71 1406 42.83.11	1401 WITH W/D SUFFIX 480254*-J 480255*-K 480256*-K 480614*-J 1406 WITH W/D SUFFIX 805369*-D	-A- 01A5 B-F 02A5 1406 06B8	NONE	PREVENT LOSS OF REGUL- ATION ON 18 V. DIFF SUP.	1401 - 1.5 HOURS 1406 MOD 1 OR 2 - 1.5 HRS 1406 MOD 3 - 2.5 HOURS	695	7 8
486188 116793B 42.83.11	1406 MOD 3 W/D SUFFIX 805369*-D	06B8	NONE	PREVENT LOSS OF REGUL- ATION ON 18 V. DIFF SUP.		695 2.5	9
486790 114204 NONE	ALL WITH PROCESS METER	01B8	NONE	PROVIDE DETERRENT DEVICE FOR TB-1 TERMINALS		749 .5	10
486791 114113 NONE	1401 WITH 1311	NONE	NONE	PROVIDE SMS CARD DRAWINGS FOR DJE-DJF-DJD CARDS		754 .1	11
486815 120059A 42.40.63	ALL 1406	06B1 06B5	NONE	PREVENT CORE STORAGE ERRORS		764 .6	12
486816 120060A 42.40.53	ALL 1401 ABOVE 20000	01A1	NONE	PREVENT CORE STORAGE ERRORS		764 .6	13
486804 114077 38.11.41	1401 EXCEPT MOD D	01A1 CA- BLE	NONE	MAKE PLUS 12 V. AVAILABLE TO 1402	ALLOW USE OF 1402 MAGNETIC PA CB-S	774 .3	14

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B/M E.C. LOGIC	MACHINES AFFECTED	GATE AFF. PREREQS	NAME	SYMPTOM	CEM	DATE
					HRS.	ORDERED INSTLLD
487298 123436 38.11.21	ALL 1401	02A4 NONE	INSTALL -60 V. SENSE RELAY			1
					.7	
487359 124205 NONE	1401 MOD D WITH NUM PRINT	01B4 NONE	ADD FUSE TO -60 V. SUPPLY			2
					1.0	
487360 124205 NONE	1401 MOD D W/O NUM PRINT	01B4 NONE	ADD FUSE TO -60 V. SUPPLY			3
					1.0	
487507 124678 NONE	ALL 1401	NONE 486794 OR 487515 IS A COMP	INSTALL START RESET SWITCH			4
					.8	