

HIGH SPEED TAPE READER

(DX TYPE)

TEST PROCEDURE

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and a closed circuit current of 3 to 8 milliamperes, resistive load.

CAUTION: DURING ANY TEST THE GOLD CONTACTS MUST NOT BE SUBJECTED TO EXCESSIVE VOLTAGE OR CURRENT.

2. STROBE TESTS

CODE READING, VERIFY, AND FEED CONTACTS

Note: The contact wave forms can be viewed on an oscilloscope using a test tape which has a repetitive marking and spacing output pattern for each level.

2.01 For speeds up to and including 240 operations per second, the code and verify contacts will be closed for each perforated hole in the tape between 1.1 and 1.3 milliseconds after each succeeding clock pulse with no breaks exceeding a 5.0 microsecond (minimum) closure during this time.

2.02 At operating speeds above 240 and including 300 operations per second, code and verify contacts will be closed for minimum of 0.2 milliseconds for each perforated hole in the tape. This closure occurs between 0.4 and 2.0 milliseconds after each succeeding clock pulse with no breaks exceeding 5 microseconds.

2.03 Where there are no holes in the tape, there will be no signal output during the closure intervals described above. The feed contact will be closed for a minimum of 10 microseconds for each perforated feed hole in the tape and will occur between the clock pulse and 3.0 milliseconds after each clock pulse.

2.04 If the above requirements cannot be met, check related adjustments in Section 592-804-700, TAPE SENSING AND TRANSPORT MECHANISM ALIGNMENT and TAPE SENSING WIRES AND FEED WHEEL ALIGNMENT. Readjust if necessary.

1. GENERAL

1.01 This section provides test procedures for High Speed Tape Readers (DX Type). It is reissued to include the latest engineering information and corrections. Marginal arrows indicate changes or additions.

1.02 Test procedures should be conducted after complete assembly and adjustment of the unit is made. Tests should be performed with the reader stepping at the desired operating speeds up to 300 operations per second.

1.03 Contact strobing tests should be made using an oscilloscope or comparable instrument synchronized with the reader driver and triggered by an external input from the reader clock to the oscilloscope. An appropriate test setup is required to provide a contact load having an open circuit voltage of 3 to 8 volts dc,

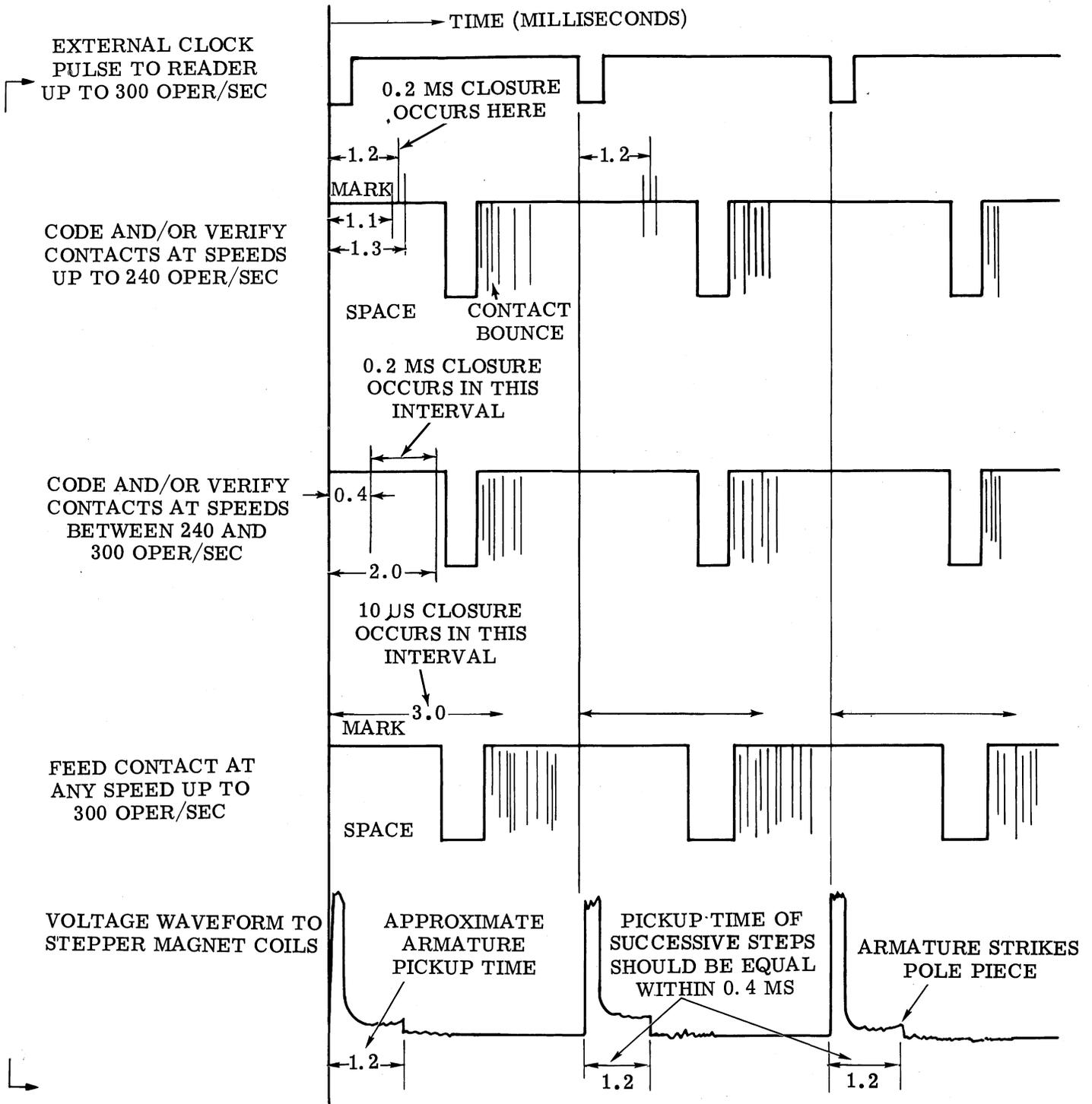


Figure 1 - Code and Verify Contact Strobing

STEPPER MECHANISM

2.05 The armature pickup time of the left and right magnets should be of equal duration within 0.4 milliseconds. The armature signal may be picked up at terminal 6 on TB1 on the TP318800 electronic magnet driver or the front terminal of the left magnet (terminal 2, brown wire). The signal may be viewed on an oscilloscope at speeds up to 300 operations per second, as shown in Figure 1. If this requirement cannot be met, recheck the following adjustments in Section 592-804-700:

- (a) Pallet and Escapement Wheel Alignment
- (b) Feed Wheel Travel; Step to Step

Readjust if necessary.

EDC BLOCK COUNTER CONTACTS

Note: View contact signals on oscilloscope with tape in reading head.

CAUTION: TO AVOID SEVERE PARTS DAMAGE, ACTUATE RETRACTOR SOLENOID BEFORE OPERATING READER IN REVERSE DIRECTION.

A. Forward End-of-Block Indicator Contact

2.06 This contact should close once every 80 characters when operating reader in forward direction at speeds up to and including 240 operations per second. The contact should close for a minimum of 0.2 milliseconds between 1.1 and 1.3 milliseconds after a clock pulse with no breaks over 5 microseconds.

2.07 Operating speeds between 240 and 300 operations per second require the contact to be closed a minimum of 0.2 milliseconds between 0.4 and 2.0 milliseconds after a clock pulse and have no breaks over 5 microseconds.

2.08 If the above requirements cannot be met, check related adjustments in Section 592-804-700, END-OF-BLOCK CONTACTS AND BRACKET and END-OF-BLOCK CONTACT CAMS. Readjust if necessary. There is no requirement for the forward contact when the reader is operating in reverse.

B. Reverse End-of-Block Indicator Contact

2.09 When the reader is operated in reverse at speeds up to and including 240 operations per second, the contact is required to close

once every 80 characters. The contact will be closed a minimum of 0.2 milliseconds between the clock pulse and 2.0 milliseconds after the clock pulse with no breaks exceeding 5 microseconds (Figure 2).

2.10 When operating at speeds between 240 and 300 operations per second, the contact will be closed a minimum of 0.2 milliseconds between 0.4 and 2.0 milliseconds after a clock pulse with no breaks exceeding 5 microseconds.

2.11 The reverse end-of-block closure should be oriented to the forward end-of-block contact closure. With the unit stopped in the forward direction and the forward contact closed, the reverse contact should close when the unit is reversed and stepped 78 characters.

2.12 If the above requirements cannot be met, check related adjustments in Section 592-804-700, END-OF-BLOCK CONTACTS AND BRACKET, and END-OF-BLOCK CONTACTS CAMS. Readjust if necessary.

C. Block Counter Contacts

2.13 When either forward or reverse end-of-block contacts are closed any one of three block counter contacts should be closed.

2.14 If the above requirement cannot be met, check related adjustments in Section 592-804-700, BLOCK COUNTER CONTACT, and BLOCK COUNTER CONTACT BRACKET. Readjust if necessary.

TANGLED-TAPE/TAPE-OUT CONTACTS

2.15 The tangled-tape contact should be closed and the tape-out contact should be open with a minimum gap of 0.003 inch when tape is not in the reading head.

2.16 With tape in the reading head and tape lid closed, both contacts should be closed. With the bail raised to its uppermost position, the tangled-tape contact should be open with a minimum gap of 0.005 inch.

2.17 If the above requirements cannot be met, check related adjustment in Section 592-804-700, TANGLED-TAPE AND TAPE-OUT CONTACT ASSEMBLY. Readjust if necessary.

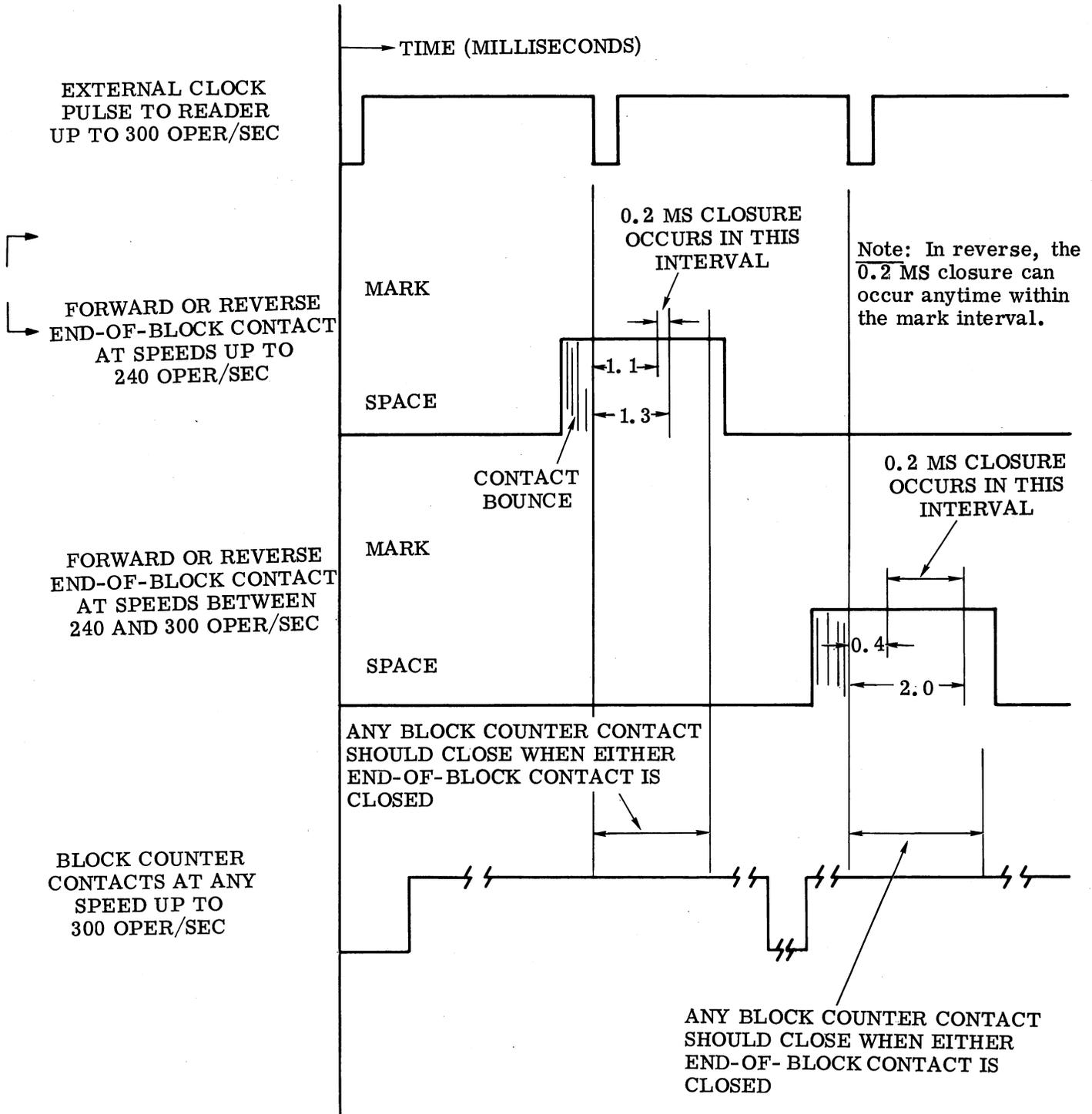


Figure 2 - EDC Block Counter Contact Strobing