

DATA SET 208B-TYPE TRANSMITTER-RECEIVER MAINTENANCE

1. GENERAL

1.01 This section contains information concerning maintenance of data set (DS) 208B-type. It is designed to coordinate efforts of the crafts employee and the data test center (DTC) in locating and eliminating trouble involving DS 208B-type.

1.02 This section is reissued to include information pertaining to DS 208B-L1B, which replaces DS 208B-L1A. Concurrent with the introduction of DS 208B-L1B, DS 208B-L1A is rated Manufacture Discontinued/Not Orderable (MD/NO).

1.03 Routine maintenance is not required for DS 208B-type. Local data set repairs should be limited to circuit pack (CP) replacement. It is recommended that the data set not be returned to the distributing house for CP replacement.

1.04 DS 208B-L1 can be converted to a DS 208B-L1A by replacing CP HG19 with a CP HG24 and CP HG18 with a CP HG18B. The procedure for removing and installing CPs is given in 1.06.



A simple operational method to determine whether the data set is a 208B-L1 or 208B-L1A or -L1B is as follows:

- (1) *With the data set connected to a data terminal, telephone set and line (or line simulator), depress the appropriate LINE button on the telephone set.*
- (2) *Lift the handset but DO NOT DIAL.*
- (3) *Observe that the TR lamp on the data set is lighted.*
- (4) *Depress the DATA button on the telephone set and observe the MR lamp on the data set. If*

the data set is a 208B-L1A or -L1B, the MR lamp will light immediately. If the data set is a 208B-L1, there will be a delay of approximately 4 seconds before the MR lamp lights.

1.05 The CP complement for each kind of DS 208B-type is listed in Table A.

1.06 To gain access to the CPs, remove front cover and CP locking bar. Each CP except HG19 (DS 208B-L1), HG24 (DS 208B-L1A), or HG25 (DS 208B-L1B) can be removed by pulling forward on the plastic tab. To replace the CP, align it in the proper slot and push gently into place. To remove HG19 or HG24, first remove the screwdriver by gently pulling it forward, then remove HG19 or HG24 by grasping the black plastic block and pulling gently forward. To remove HG25, grasp the black plastic block and pull gently forward. To replace, align it in the proper slot and push gently into place. (No screwdriver is provided with CP HG25.) To replace HG19 or HG24, align it in the proper slot and push gently into place. Replace screwdriver by aligning it in the captive slots and pushing gently in. Replace the locking bar before replacing front cover. It is not necessary to remove power from the data set prior to removal of CPs or interface connectors.



When CP HG19, CP HG24 or CP HG25 is replaced, install the correct options in the replacement CP before installing it in the data set. Refer to Section 592-030-200 for information on installing options.

1.07 If CPs are replaced, tag the defective CP, noting the nature of the trouble; carefully pack in the shipping carton supplied with the maintenance kit (D-180497 for support of DS

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→TABLE A←

CIRCUIT PACK COMPLEMENT FOR DATA SETS 208B-TYPE

208B-L1 (MD)	208B-L1A (MD)	208B-L1B
HG2	HG2	HG2
HG3	HG3	HG3
HG4	HG4	HG4
HG5 (A&M)	HG5 (A&M) (Note 1)	—
HG6 (A&M)	HG6 (A&M) (Note 1)	—
HG11	HG11	HG11
HG12 (Note 2)	HG12 (Note 2)	HG12 (Note 2)
HG13	HG13	HG13
HG14 (MD) (Note 3)	HG14 (MD) (Note 3)	HG14B
HG15 (MD) (Note 3)	HG15 (MD) (Note 3)	HG15B
HG16 (MD) (Note 3)	HG16 (MD) (Note 3)	HG16B
HG17 (A&M)	HG17 (A&M) (Note 1)	—
HG18 (MD) (Note 4)	HG18B (A&M) (Note 6)	—
HG19 (MD) (Note 5)	—	—
HG20	HG20	HG20
HG21	HG21	HG21
HG22	HG22	HG22
—	HG24 (A&M) (Note 6)	—
—	—	HG25
—	—	HG26

Note 1: CP HG5, HG6, and HG17 in DS 208B-L1A are replaced by CP HG26 in DS 208B-L1B.

Note 2: Two CP HG12 required in each data set.

Note 3: CP HG14B, HG15B, and HG16B are direct replacements for CP HG14, HG15, and HG16, respectively.

Note 4: CP HG18 in DS 208B-L1 is replaced by CP HG18B in DS 208B-L1A.

Note 5: CP HG19 in DS 208B-L1 is replaced by CP HG24 in DS 208B-L1A. When a CP HG24 is installed in a DS 208B-L1, CP HG18 *must also* be replaced with a CP HG18B.

Note 6: CP HG18B and HG24 in DS 208B-L1A are replaced by CP HG25 in DS 208B-L1B.

208B-L1; D-180657 for support of DS 208B-L1 and DS 208B-L1A and D-180718 for support of all DS 208B-type). Mark the carton with the data set code, CP code, and date of manufacture. For example:

Data set 208B

HG8 IV 75

Send the properly packed and marked carton to the telephone company (telco) supplies operation group and notify that group in the normal manner that a replacement CP is needed. The telco supplies operation group will place a requisition for a replacement CP with the local Western Electric service center which will expedite the requisition to the Montgomery (ILL) merchandise organization to ensure its receipt within 24 hours. The

Montgomery merchandise organization will ship the CP (via fastest method) directly to the designated telco location within 24 hours after receiving the requisition.

Note: If the telco supplies operation group determines that the CP is within the 12-month warranty period, use procedures outlined in Section 010-700-020.

1.08 The D-180718 maintenance kit contains the following CPs:

HG2	HG15B
HG3	HG16B
HG4	HG17
HG5	HG18B
HG6	HG20
HG7	HG21
HG8	HG22
HG11	HG23
HG12	HG24
HG13	HG25
HG14B	HG26

Note: Circuit packs in the D-180718 maintenance kit **not** used in DS 208B-type are used to support DS 208A-type.

1.09 When investigating trouble reports, the DTC will proceed as in Fig. 1. Refer to Section 592-030-500 for test procedures applicable to DS 208B-type.

2. MAINTENANCE AIDS

2.01 The following equipment should be taken when dispatched on a maintenance visit, in addition to regular repair tools:

- 914C data test set (DTS), or 914B DTS and 903-type DTS

- KS-14510 volt-ohm-milliammeter (VOM) or equivalent
- 6H impulse counter or equivalent
- 565HK-type telephone set
- M13F cord
- 149B connector block and 801-type automatic calling unit (ACU) if required
- Maintenance kit (D-180497, D-180657 or D-180718) consisting of circuit packs for DS 208B-type (see 1.07 and 1.08)
- Yellow resistor test pin for 914-type DTS.

Note: Maintenance kits should be kept on hand according to Table B.

TABLE B

RECOMMENDED NUMBER OF MAINTENANCE KITS

NUMBER OF 208-TYPE SETS IN SERVICE IN MAINTENANCE TERRITORY	RECOMMENDED NUMBER OF MAINTENANCE KITS
1 to 9	1
10 to 35	2
36 to 55	3
56 to 80	4
Over 80	Not more than 5% of number of sets in service.

2.02 In addition, the circuit description, schematic drawing, and BSPs listed in Part 3 may aid in troubleshooting the data set.

2.03 The CA-CB interval and CA-CF interval tests require a resistor pin for use with the 914-type DTS. The resistor pin contains a 3.3kΩ resistor. The pin is used to eliminate the effects of contact bounce caused by the S switches on the 914-type DTS in these tests.

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2.04 If the resistor pin is not available, a 3.3kΩ resistor should be connected between the center terminals of pins 9 and 4 of the interface selector switches on the 914-type DTS before the CA-CB interval and CA-CF interval tests are performed.

2.05 If a CP HG19 is replaced with a CP HG24, and CP HG18 is replaced with a CP HG18B, care should be taken to observe the difference in operation between DS 208B-L1 and 208B-L1A as described in Section 592-030-100. In addition, the data set code must be changed to indicate that it has been modified to a DS 208B-L1A. ♦DS 208B-L1B is operated in the same manner as DS 208B-L1A.♦

2.06 After the data set has been repaired, verify to the customer that service is satisfactory by allowing the customer to make a data call.

2.07 If trouble persists after the tests have been successfully completed:

- (a) Check that the options connected in the data set agree with those called for on the service order or circuit layout record card, and that the option screws ♦or straps♦ are positioned properly.
- (b) Confirm if possible that the business machine has been tested and checks satisfactorily.
- (c) Perform an impulse noise test.
- (d) Refer to supervision and the DTC for further analysis.

3. REFERENCES

3.01 The following documents provide additional information concerning DS 208B-type.

NUMBER	TITLE
CD- & SD-1D242-01	Data Systems Station—Data Set 208B-Type

SECTION	TITLE
010-700-020	General Engineering Complaint GEC-9400—Procedure for Expedited Handling of Certain Initially Defective Apparatus and Equipment
502-543-405	565HK Telephone Set
590-002-111	Data Set 208B-Type Transmitter-Receiver—Reference Guide
592-030-100	Data Set 208B-Type Transmitter-Receiver—Description and Operation
592-030-150	Data Set 208B-Type Transmitter-Receiver—Supplementary Information
592-030-180	Data Set 208B-Type Transmitter-Receiver—Summarizing Specification
592-030-200	Data Set 208B-Type Transmitter-Receiver—Installation and Connections
592-030-500	Data Set 208B-Type Transmitter-Receiver—Test Procedures
598-010-Series	Data Auxiliary Set 801A-Type for Automatic Calling
598-012-Series	Data Auxiliary Set 801C-Type for Automatic Calling
999-100-139	How to Operate Data Set 208B-Type.

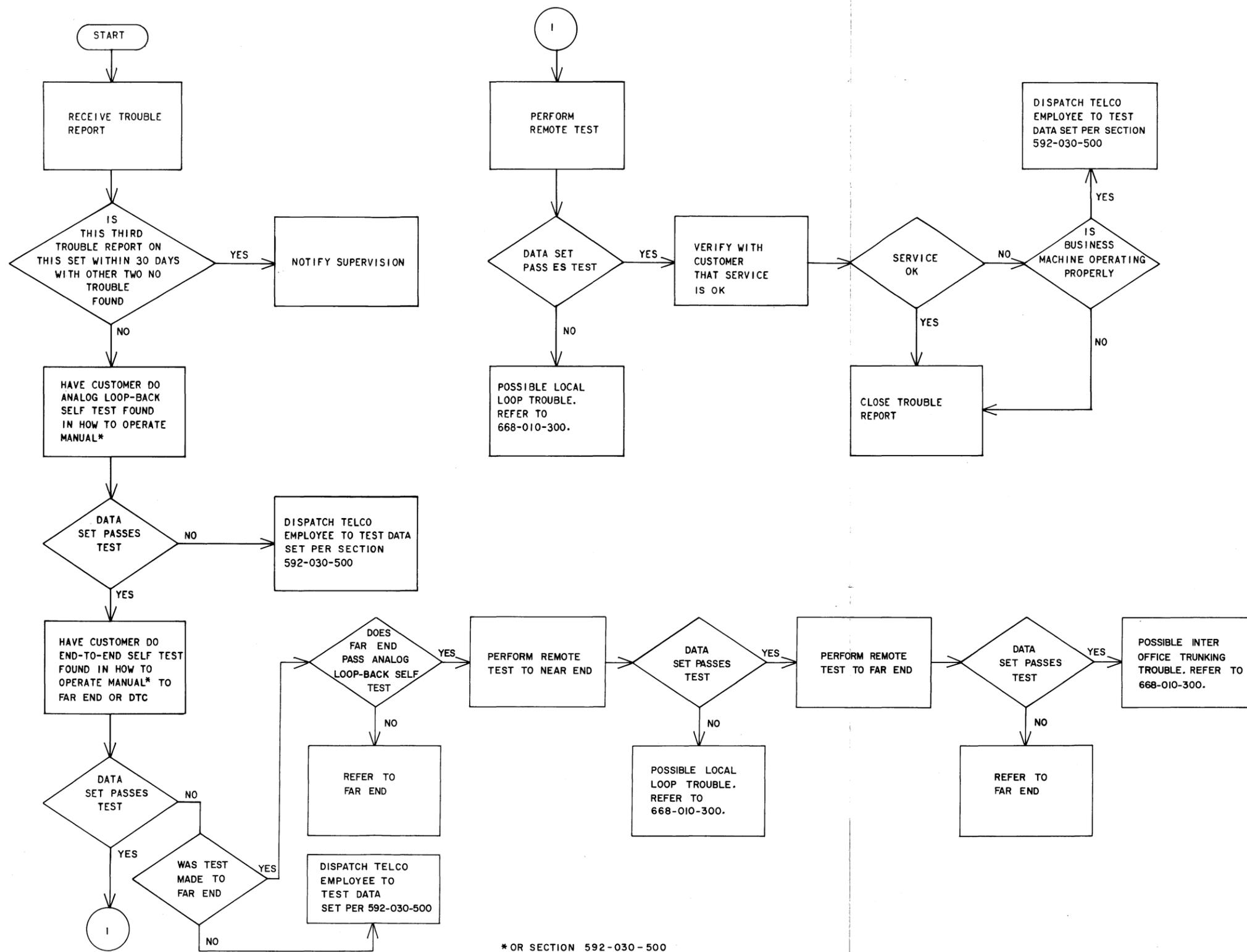


Fig. 1—Maintenance Flowchart for Data Test Center