TEST PLAN AND PROGRESS CONTROL

CONTENTS

1. GENERAL

1.01 Purpose: This section describes the procedure to be followed when preparing and maintaining the Test Plan and Progress Control Charts for No. 1 Crossbar.

1.011 The object of these test plans is to provide a standard procedure for planning and controlling the test effort on installations of the above equipment.

1.02 Description: The charts are arranged as nearly as possible to agree with equipment groups, and in the sequence in which the tests are performed. Each chart is numbered to correspond with an index or summary section of this handbook, with a suffix A, B or C etc., designating the sheet of the section. The form is subdivided into three major portions as follows:

(a) A summary of circuits or tests to be applied to the equipment group, with other pertinent information described more fully in Paragraph 5.

(b) A plan and control section which is arranged to show the manhours planned to be used for each test by weeks, and the net result of the effort for each test by weeks.

(c) A test progress section in which will be entered the actual number of units completed and the actual operation labor hours required to do the work by weeks.

1.03 Test-Plan and Control Chart Used as ID-1315, Summary of Tests Other Than Routine and General

1.031 For equipment groups and circuits covered by these charts, it will be unnecessary to prepare ID-1315 test records, Summary of Tests other than Routine and General. At the completion of the installation the forms shall be cut at the heavy dashed line after Column B and disposed of as the ID-1315's would have been (See J.C.H. Sections 20 and 26). ID-1315 forms shall be prepared when required for circuits not listed on the charts, or blank charts may be used as noted in Paragraph 5.23.

1.032 If additional copies are to be furnished they may be made as required using the extra forms supplied in Paragraph 2.2.

1.04 New or Addition

1.041 Check in appropriate location if job is new or addition.

1.042 An addition shall be considered any equipment added to a office already in service.

1.05 Preparation and Maintenance

1.051 The effort of preparing and maintaining these charts need not be done by the test supervisor, but may be done by the job clerk or an hourly rated installer selected for the operation. The supervisor need only assure himself that the postings are accurate and up to date.

1.06 Test Plan and Progress Control Sheets

1.061 The planning and control methods described herein depend on the use of Test Plan and Progress Control forms, listed in Paragraph 2.2. All tests that apply and the paragraph numbers of Handbooks 61, 62 and 63 in which they are described are listed. Opposite each test is a breakdown of the cost indicating what part of the total is required to perform that test. With these forms it is possible to plan the tests individually and to check performance against the plan.

1.062 This test plan is not intended to supersede the ID-999. Prepared and maintained properly, this plan will be an aid in the upkeep of ID-999.

1.07 Concentrated Load Tests are to be performed after all routine tests have met the requirements and all supplementary tests listed in Sections 2 to 10 have been completed. The "A" and "B" switchboard and miscellaneous circuit tests

listed in Handbook 63 may be performed at any time since this equipment is not involved in the load tests. However, care should be taken to make certain that troubles, especially with the alarm circuits, are not introduced which may interfere with the load tests.

1.08 Cables and Cross-Connections to be Left Open for Test

1.081 Handbook 9, Section 29A, Figure 1 lists cables that should be fanned but not connected until after certain tests have been completed. In general they are the O.M. and T.M. multiple cables which should be left open at the O.M. and T.M. frames and leads that are paralleled as a safety precaution; such as the frame indication leads at terminating senders. It should not be taken for granted that these leads will be left open during connecting operations. Handbook 9 shall be reviewed and information checked with interested parties. If leads are connected they will have to be disconnected.

1.082 Cross-connections on HLDF shall not be closed down until after LL crosspoint tests have been completed. Ground on the M lead will block the test. As soon as crosspoints have been completed on any LL frame, the associated cross-connections can then be closed down at HLDF.

1.09 Request for Cross-Connection Information

1.091 Immediately after the start of a job, a letter should be forwarded to the Telephone Company Equipment Engineer (Handbook 8, Section 2D, Figure 1) thru lines of organization, requesting that all cross-connection information be furnished within the time limits as set up in local instructions.

1.10 Shop Fused Frames

1.101 Where fuses are installed by the shop, and where the test methods describe a test which requires the circuit to be free of battery, it will be necessary to remove the associated fuse. No other shop mounted fuses are to be removed.

1.102 When fuses are installed by the shop, observe each fuse block and fuse panel equipped with alarm type fuses and check that the fuses are correctly positioned, that the fuses are of the correct type and current carrying capacity and that there are no loose screws.

1.103 When fuses are not installed by the shop, perform the fusing tests as outlined in the associated test method.

2. ORDERING HANDBOOKS AND STATIONERY

2.1 A check should be made to see that the following handbooks either are available or will be available by the start of test; 50, 61, 62, 63 and 100. Handbook 72 will be required for jobs that include a Toll Board.

NOTE: Sufficient extra copies of the various sections of the handbooks should be ordered, to be handed out to each tester as a test is assigned, and the test supervisor should maintain a complete up-to-date copy of each handbook.

2.2 The following stationery should be available in the approximate amounts specified. The ID forms may be requisitioned from Hawthorne per Handbook 250, Section 0.

1 Cat. No. 382.9F Folder (Front)
1 Cat. No. 382.11-2 Folder (Back)
5 Sets Cat. No. 406.123 Index Sheet
ID-1313 - Trouble Record (At least one pad for 2 testers)
1 Pad ID-1315 Test Summary - Supp. (See Paragraph 1.3)
3 Pads ID-1316 Test Summary - General
3 Pads ID-1334 Test Summary - Routine
1 Pad ID-710 Troubles Requiring Action
5 ID-2200 Section 2A Index of Tests - Supplementary Line Link Frames
5 ID-2201 Section 2B Index of Tests - Supplementary and Routine - Line Link Frames
5 ID-2202 Section 3A Index of Tests - Supplementary - Non-AMA District Junctor Test Frame, Zone Registration Test Frame, District Junctor (Other Than "A")
5 ID-2203 Section 3B Index of Tests - Supplementary District Junctor (SD-25620-02) "A" Swbd. District Junctor, Dialing District, District Link Frame
5 ID-2204 Section 3C Index of Tests - Supplementary - Subscribers Sender Link, Sdr. Link Controller TBLE IND.
5 ID-2205 Section 3D Index of Tests - Supplementary - Coin Supervisory and A Sdr. Link, Coin Supervisory Circuit
5 ID-2206 Section 3E Index of Tests - Supplementary - Routine - Zone Registration Controller, District Jctr. (SD-25868-01), Routine (SD-25868-01)
5 ID-2207 Section 3F Index of Tests - Routine Non-AMA District Junctor, Key Pulsing District, Dialing District
5 ID-2208 Section 4A Index of Tests - Supplementary - Office Link Frame and Outgoing Trunk Test Frame
5 ID-2209 Section 5A Index of Tests - Supplementary - Non-AMA Subscribers and Key Pulsing Senders and Test Frame
5 ID-2210 Section 5B Index of Tests - Supplementary - Non-AMA Subscribers and Key Pulsing Senders,
5 ID-2211 Section 5C Index of Tests - Routine Non-AMA Subscribers Senders
5 ID-2212 Section 5D Index of Tests - Key Pulsing Senders
5 ID-2213 Section 6A Index of Tests - Originating Markers
5 ID-2214 Section 6B Index of Tests - Supplementary - Originating
5 ID-2215 Section 6C Index of Tests - Supplementary - Routine, Originating Markers Marker Connectors and Trouble Indicator
5 ID-2216 Section 7A Index of Tests - Supplementary - AMA District Junctor, Dist. Jctr. Test Fr. and AMA Cabling
5 ID-2217 Section 7B Index of Tests - Supplementary - District Group Connector, Call Identity Indexer, Recorder and Connector

5 ID-2218 Section 7C Index of Tests - Supplementary - Maintenance Records, Reader, Printer and Line Verification Trunk
5 ID-2219 Section 7D Index of Tests - Routine - AMA District Junctor, Call Identity Indexer, Recorder and Recorder Connector
5 ID-2220 Section 8A Index of Tests - Supplementary - AMA Subscribers Senders
5 ID-2221 Section 8B Index of Tests - Supplementary - Sender Test Frame, Calling Line Register, Multiple, Translator, and Transverter Tble. Indicator
5 ID-2222 Section 8C Index of Tests - Supplementary - Transverter, Transverter Connector, Line Link to Sdr. Cabling
5 ID-2223 Section 8D Index of Tests - Supplementary and Routine - Master Timer
5 ID-2224 Section 8E Index of Tests - Routine - AMA Subscribers Senders
5 ID-2225 Section 8F Index of Tests - Routine - Translator and Transverter
5 ID-2226 Section 9A Index of Tests - Concentrated Load Tests Originating Equipment

NOTE: The dates on these forms shall agree with the dates on the corresponding sections in this handbook and Handbooks 62 and 63.

3. ORDERING TEST EQUIPMENT

3.1 Due to unusual conditions, some job in the District may require more test equipment than was planned. It is therefore essential for your protection, at least 35 days (J.C.H. Section 6, Paragraph 2.6) before the start of test that a memorandum be forwarded to the Area Supervisor or District Superintendent listing the entire job test equipment requirements.

4. PREPARATION OF TEST PLAN AND PROGRESS CONTROL CHART

4.1 General

4.11 The test supervisor shall have prepared a detailed test plan for the equipment using Test Plan and Progress Control forms listed in Paragraph 2.2. When the detailed plans have been summarized so that an estimate of the number of manhours required for each test is available, an overall plan for the test shall be made on ID-999, Installation Job Plan and Progress Record.

4.12 Preparation of the detailed plan consists of (a) completing the list of circuits by adding the miscellaneous circuits that are peculiar to the job; (b) entering the number of units (c) calculating the number of manhours needed to perform each test and from this the number of manhours to be planned; (d) in the case of extended tests scheduling the manhours to be spent on these tests.

NOTE 1: A sample form properly filled in appears on the last page of this section.

NOTE 2: Where fusing is installed by the shop, it will not be necessary to perform the fusing tests, therefore, draw a line thru the fusing information appearing on the index of tests. (Refer to Paragraph 1.10)

5. PREPARATION OF SUMMARY PORTION OF CHART

5.1 Form Headings

5.11 Fill in the spaces at the top of the form, as indicated by the headings. If any equipment is turned over in advance of the job completion date, list the equipment and dates of turnover in the space for remarks.

5.2 Name of Circuit or Test

5.21 This column lists the tests to be applied to major circuits.

5.22 The list has been made up to fit all jobs. Any tests that do not apply to a particular job should be marked out. Entire sheets which do not apply may be disregarded.

5.23 Blank sheets may be used for tests of circuits not listed on the standard forms, or where the sheets furnished require too much modification to fit job conditions.

5.24 All specifications, appendices and wiring lists shall be reviewed to insure that all circuits are listed either on the test plan or on the record of General Tests ID-1316.

5.3 Interval Before Turnover: This column lists the weeks before turnover within which the associated test is to be performed. Tests made outside this interval do not meet requirements and must be repeated within the specified period.

NOTE: This interval shall be considered before load tests on equipment for which load tests are specified.

5.4 File Number: This is the number that is to be used for identifying Test Trouble Records, ID-1313. It is made up of a base number that is the same as the Handbook section; a letter "S" for supplementary tests, "G" for general tests and "R" for routine tests; and a final number which is assigned consecutively for the number of tests made on a particular section. The same system should be used on the tests written in on blank sheets. Individual ID-1313 trouble records need not be prepared for tests on which no trouble is experienced or several tests may be combined on one sheet. (See Handbook 50, Section 3, Paragraph 3.2).

5.5 Handbook, Section and Paragraph are shown to provide a cross-reference to the methods describing the tests.

5.6 Test Set: This column lists the test sets required for the associated tests. It does not list miscellaneous items, cords or accessories.

5.7 Date Completed and No. Tbles: These two columns should show the date when the test was completed and the total number of troubles encountered for each test.

5.8 See Note: The notes referred to will be found in the test handbook section corresponding to the section number at the top of the chart.

5.9 Test Unit and No. of Units (Columns A-B): The test unit is the circuit, equipment group or other natural division upon which the particular test is based and upon which the operation labor hours are figured. The number of units are the number of test units as defined above, which are installed on the specific job.

6. OPERATION LABOR HOUR PLAN AND CONTROL CHART

NOTE: Any portion of the following instructions may be disregarded, if job is too small to warrant effort of maintaining detailed records.

6.1 O.L.H. (Operation Labor Hours)

6.11 AVG. (Column C); In this column is shown in hours the average time required to make the associated test on one unit of test as shown in Column A. This time represents better than average performance for the Division but does not equal the best performance as reported by some jobs.

6.12 OBJ Adj. (Column D): In this column the job supervision may enter the job figure corresponding to Column C adjusted by a job ratio. This ratio should be established by considering the job conditions and the experience of the testers. The figure may be higher or lower than that shown in Column C. However every effort should be made to shoot for a lower estimate.

6.13 Job Estimate (Column E); This column should show the product of Column B (number of units) times either Column D, if a job estimate has been made, or Column C if division objective is used.

6.14 Job Actual (Column F); In this column show the actual operation labor hours required to complete each test. It is the sum of the entries for each line shown in weekly columns OLH under Test Progress,

6.2 Date and Per Cent of Interval

6.21 Show in these spaces the week ends during which the test operations are to be performed, and in what per cent of the total job interval the week occurs.

6.3 Plan and Net

6.31 In the PLAN column, for each week show the number of operation labor hours planned to be used to complete each test.

6.32 The NET column shall show the actual results for each test for which time was charged. The figure is obtained by multiplying the number of units completed (Test Progress) by the associated objective (Column C or D). The figures in this column, compared to those in the PLAN column will be a guide to whether the job is equalling, exceeding or bettering the plan.

NOTE: On small jobs involving 4 weeks or less test time, the net column need not be maintained if job supervision feel they can control job withoug this detail.

6.4 Total: Line 46M-46N. Line 46M should show the total of all the individual items listed in Column E. Line 46N should show the total of all items listed in Column F, when the work is completed.

6.5 Adjd. Line 47M. Enter in this space the adjusted hours obtained by multiplying item 46M by the factor which the job plans to work to. This figure will be either greater, less than or equal to 46M.

6.6 This figure represents the expected job test performance, as established by the job supervision.

7. TEST PROGRESS

7.1 Week Ends: Show week end dates to agree with the dates in similar columns under operation labor hour and control plan.

7.2 Units Complete and O.L.H.: Each week enter the actual units completed for each test item and in the associated O.L.H. column, the actual labor hours required to perform the work.

8. CALCULATION OF RESULTS AND RATIO

8.01 MH Planned: Item P in lower portion of chart, line 47. On this line show the sum of the planned hours for each week.

8.02 MH Spent (R1) Line 48: For each week show the actual number of operation labor hours spent. This is the total of the hours shown for the items in Column OLH.

8.03 Net Hours (R2): For each week insert the net hours used for the work accomplished. This figure is obtained by multiplying the work units completed for each test item by the associated unit O.L.H., Column C or D. The sum of these individual products for each week is the net hours for the week.

8.04 Cum. MH Spent (S1): Each week the sum of R1, current week added to S1 of the previous week will equal the cumulative manhours spent.

8.05 Cum. Net Hours (S2): Each week the sum of R2, current week added to S2 of the previous week will equal the cumulative net manhours spent.

8.06 Cum. Objective OLH (T): This item is the weekly sum of the current and previous manhours planned, (line P).

8.07 Cum. Ratio (U): This is the weekly going ratio and is obtained by dividing S1 by S2.

8.08 Cum. % Complete (V): The cumulative per cent complete for the effort included on the sheet by weeks is obtained by dividing S1 Cum. MH (46M) spent by the total number of estimated hours.

8.09 PV MH to Complete (W): The present manhours to complete is obtained by subtracting the cum. net manhours (S2) from the sum of the planned manhours line 46M.

8.10 Plan Revision (X): When the sum of the manhours spent plus the present view manhours to completion exceeds 47M adjusted job estimate hours the plan shall be revised to agree with the new estimate.

→ Arrowed lines indicate new or changed information.

Superintendent, Installation Engineering

ATTACHMENT
ID-2200 and ID-2201.

Reason for Reissue:
To delete Paragraph 1.042 and change 1.043. Replaces Section 0 dated 11-21-57.

10-2200 (9-51)
HANDBOOK 61
WESTERN ELECTRIC COMPANY
INCORPORATED
INSTALLATION DIVISION

INDEX OF TESTS - SUPPLEMENTARY LINE LINK FRAME

SECTION 2A
DATE 9-20-51

TEST PLAN AND PROGRESS CONTROL CHART

OPERATION LABOR HOUR PLAN AND CONTROL CHART

* THE OBJECTIVE OPERATION LABOR HOURS, COLUMN "C", ARE FOR PLANNING PURPOSES ONLY AND ARE NOT TO BE CONSIDERED PRODUCTION.

TEST PROGRESS

HB 61

SECTION 0
DATE 9-20-51

NO. 1 CROSSBAR	TOWN AND STATE	OFFICE	ORDER NO.	AREA	JOB TURNOVER DATE
	NEW YORK N.Y.	MAIN	99999H	NEW YORK	7-21-51

NAME OF CIRCUIT OR TEST	INITIAL BEFORE T'OVER	TEST ID-1313 FILE NO.	TEST SECT.	TEST PARA.	TEST SET	DATE COMPLETED	NO. TBLES.	SEE NOTE	TEST U. A	TEST U. NO. U. B	OBJECTIVE O.L.H. AVG. # C	OBJ. AVG. D	JOB EST. E	JOB ACT. F'
FUSING	–	S-1	101	4.1	–	4-5-51	40		FR.	32	1.41	1.4	44.8	44.0
CONTACT PROTECTION		S-2	101	4.2	ITE-8253	5-1	8		"		.43	.4	12.8	14.25
CHECK FOR CROSSES		S-3	101	5	ITE-4261	4-16	112		"		2.19	2.2	70.4	73.0
PRIMARY SWITCH CROSSPOINT		S-4	101	6	ITE-4009	4-18	241		"		2.68	2.6	83.2	83.0
SECONDARY SWITCH CROSSPOINT		S-5	101	7	"	4-18	23		"		1.33	1.4	44.8	47.75
LINE JUNCTOR	–	S-6	1011	8	"	4-27	3		"		.50	–	16.0	16.0
B AND LL LEADS		S-7	101	9	ITE-4033	4-20	5		"		.42	–	13.44	15.0
S LEADS		S-8	101	10	ITE-4033	5-19	2		"		.46	–	14.72	16.0
CK AND BK LEADS		S-9	101	11	"	4-20	0		"		.15	.2	6.4	5.5
G AND SL LEADS THRU D RELAY		S-10	101	12	–	5-3	13		"		.60	.5	16.0	14.5
DA LEADS	–	S-11	101	13	–	4-28	2		"		.35	.4	12.8	15.5
PL LEAD TO TRAFFIC REG.		S-12	101	14	–	5-21	0		"		.13	–	4.16	3.5
RL RELAY LOCKING		S-13	101	15	–	4-19	1		"		.03	–	.96	1.0
PR AND RP RELAYS		S-14	101	16	–	4-19	0		"		.03	.05	1.6	1.4
LP AND VP RELAYS (SD-25553)		S-15	101	17	–	4-19	1		"		.14	.05	1.6	1.6
MISCELLANEOUS CKTS.	–	S-16	101	18	–	4-20	6		"		.25	–	8.0	8.25
CHECK M LEADS TO D-JCTR		S-17	102	4.9	–	4-30	8		"		.92	–	29.5	37.0
CHECK LOCKING – SHORT CKT. PATHS		S-18	102	5.8	–	4-19	1		"		.07	–	2.24	2.5
OPERATING TESTS														
(a) 10 SIMUL. CALLS IN SAME HORIZONTAL LINE GRP.	–	S-19	102	4.2	ITE-4032	5-12	6		"		.92	1.0	32.0	30.0
(b) 10 SIMUL. CALLS IN DIFF. HORIZONTAL GRPS.		S-20	102	4.3	"	5-14	0		"		.47	–	15.0	15.0
(c) TROUBLE LOCKOUT		S-21	102	4.4	"	5-19	2		"		.10	–	3.2	3.0
(d) 10 SIMUL. CALLS IN LINE SUBGRP. OF 10 LINES	–	S-22	102	4.5	"	5-18	1		"		.19		6.0	6.0
(e) TRAFFIC LOCKOUT		S-23	102	4.6	"	5-16	0		"		.31	–	9.6	8.0
(f) HOME-MATE OPERATION		S-24	102	4.7	"	5-19	2		"		.15	–	4.6	6.0
(g) DIST.GRP.-CHECK OF DA, TA, TB, RA, RB LEADS		S-25	102	4.8	"	5-18	1		"		.47	–	15.0	12.0
(h) MINOR ALARMS	–	S-26	102	5.1	–	5-4	5		"		.26	.25	8.0	8.25
(i) MAJOR ALARMS		S-27	102	5.2	–	5-5	1		"		.10	–	3.2	3.0
(j) LOCKOUT-TERMINATING CALL		S-28	102	5.3	–	5-7	0		"		.06	–	1.92	2.0
(k) ALT. JCTR. GRP. SEL.		S-29	102	5.4	–	5-8	1		"		.10	–	3.2	2.5
(l) CLASS OF SERVICE		S-30	102	5.71	–	5-16	3		"		.92	–	29.5	31.0
(m) LO AND LE LEADS	–	S-31	102	5.72	–	5-20	0		"		.06	–	1.92	1.5
(n) L RELAY OPER.-NON OPER.		S-32	102	5.5	ITE-4106	5-7	36		"		.53	–	17.0	18.5
CHECK OF REGISTERS		S-33	102	5.6	–	5-14	2		"		.30	–	9.6	7.0
CHECK OF INTERRUPTERS		S-34	102	5.9	–	4-19	3		"		.05	–	1.6	1.7
CABLING MDF TO PRI.L SW.														
(a) NON-COIN-GRD ON TIP		S-35	103	5	ITE-4015 – 4033	5-12	1		"	29	1.06	1.0	29.0	28.0
(b) COIN – NO GRD. TIP	–	S-36	103	6	"	5-12	0		"	3	1.05	1.0	3.0	3.3
(c) COIN FIRST – CROSSED TIPS		S-37	103	7	"	5-12	0		"	3	.30	–	.9	1.0

DATE AND PERCENT OF INTERVAL

OBJECTIVE OPERATION LABOR HOURS

	4-7	4-14	4-21	4-28	5-5	5-12	5-19	5-26	6-2	6-9
	4.6%	9.2%	13.8%	18.4%	23%	27.6%	32.2%	36.8%	41.4%	46%
	50%	54%	58%	63%	67%	71%	75%	79%	83%	88%
PLAN	44.8		4.2			12.8		12.8		
NET	40.6					0				
PLAN		40		40				32		
NET		47.75		39.6				32.0		
PLAN				30.4						
NET				30.8						
PLAN				60						
NET				59.8						
PLAN		40		23.2						
NET		47.75		23.4						
PLAN				4.8						
NET				–						
PLAN				13.44						
NET				13.44						
PLAN							14.72			
NET							14.72			
PLAN				6.4						
NET				6.4						
PLAN								16		
NET								16		
PLAN						12.8				
NET						12.8				
PLAN				.96						
NET				.96						
PLAN				1.6						
NET				1.6						
PLAN				1.6						
NET				1.6						
PLAN				8.0						
NET				8.0						
PLAN								24.5		
NET								24.5		
PLAN				2.24						
NET				2.24						
PLAN						32				
NET						32.0				
PLAN							15.0			
NET							15.0			
PLAN							3.2			
NET							3.0			
PLAN							6.0			
NET							6.0			
PLAN							9.6			
NET							9.6			
PLAN							4.6			
NET							4.6			
PLAN							15.0			
NET							15.0			
PLAN								8.0		
NET								8.0		
PLAN								3.2		
NET								3.2		
PLAN						1.92				
NET						1.92				
PLAN						3.2				
NET						3.2				
PLAN							29.5			
NET							29.5			
PLAN									1.92	
NET									1.92	
PLAN						17.0				
NET						17.0				
PLAN								9.6		
NET								9.6		
PLAN				1.6						
NET				1.6						
PLAN						29.0				
NET						29.0				
PLAN						3.0				
NET						3.0				
PLAN						.9				
NET						.9				

WEEK ENDS

UNITS COMPLETE AND ACTUAL O.L.H.

	4-7		4-14		4-21		4-28		5-5		5-12		5-19		5-26		6-2		6-9	
	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH
	29	40	3	4																
					18	40	14	33.4	32	14.25										
					23	60	9	23.0												
			32	47.75																
							32	16.0												
					32	15.0														
													32	16						
					32	5.5														
									32	14.5										
							32	15.5												
															32	3.5				
					32	1.0														
					32	1.4														
					32	1.6														
					32	8.25														
									32	37.0										
					32	2.5														
											32	30								
													32	15.0						
													32	3.0						
													32	6.0						
													32	8.0						
													32	6.0						
													32	12.0						
									32	8.75										
									32	8.0										
											32	2.0								
											32	2.5								
													32	31.0						
															32	1.5				
											32	18.5								
									32	7.0										
			32	1.7																
											29	28.0								
											3	3.3								
											3	1.0								

REMARKS

NEW JOB ☒ ADDITION ☐

APPROVED John Smith

TOTAL	597.8	588.0
ADJD.	597.8	
RATIO	1.0	
	M	N

M	44.8		40		140.44		95.2		66.3		85.02									
N	40.0	40.6	51.75	51.45	136.95	137.44	87.9	83.0	114.5	79.1	55.3	87.02								
M	40.0	40.6	91.75	97.55	223.7	229.8	313.6	312.8	428.1	391.9	483.4	479.9								
N	44.8		84.8		225.4		320.6		386.9		471.9									
M		.99		.99		.99		1.0		1.05		1.01								
N				8.0		20.0		47.0		36.		47.								
M				1044.5		909.0		826.0		746.9		659.9								

continued on sheet 2B

CODE

P	MH PLANNED	
R1	MH SPENT	R-2 NET HOURS
S1	CUM MH SPENT	S-2 CUM NET HOURS
T	CUM OBJECTIVE OLH	S1 ÷ S2
U	CUM RATIO	S1 ÷ 46M
V	CUM % COMPLETE	46M – S2
W	PV MH TO COMPLETE	
X	WHEN R + W EXCEEDS 47M PLAN SHALL BE REVISED	

REMARKS

APPROVED John Smith

TD-2201 (9-51)
HANDBOOK 61
WESTERN ELECTRIC COMPANY
INCORPORATED
INSTALLATION DIVISION

INDEX OF TESTS - SUPPLEMENTARY & ROUTINE
LINE LINK FRAME

SECTION 28
DATE 9-20-51

OPERATION LABOR HOUR PLAN AND CONTROL CHART

THE OBJECTIVE OPERATION LABOR HOURS, COLUMN "C", ARE FOR PLANNING PURPOSES ONLY AND ARE NOT TO BE CONSIDERED PRODUCTION.

TEST PROGRESS

HB 61

SECTION 0
DATE 9-20-57

NO. 1 CROSSBAR | TOWN AND STATE: NEW YORK N.Y. | OFFICE: MAIN | ORDER NO.: 99999 H | AREA: NEW YORK | JOB TURNOVER DATE: 7-21-51

NAME OF CIRCUIT OR TEST	INTVAL. BEFORE T'OVER	ID-1313 FILE NO.	TEST SECT.	TEST PARA.	TEST SET	DATE COMPLETED	NO. TBLES.	SEE NOTE	TEST U. A	NO. U. B	OBJECTIVE O.L.H. AVG. B	OBJ. AVG. C	JOB EST. D	JOB ACT. E	F
LINE LOAD CONTROL									FR.	32					
FUSING		S-38	104	4	–	5-26-51	1		"		.07	–	2.24	2.20	
COMMON CONTROL FIG. 3		S-39	104	5	–	"	0		"		.11	–	3.52	3.30	
FRAME KEY – LAMP FIG. 1		S-40	104	6	–	"	4		"		.11	–	3.52	3.60	
OPERATING CHAIN B-C RELAY		S-41	104	7	–	"	0		"		.11	–	3.52	3.50	
CONTINUITY AB-AC LEADS					–										
ST LEADS THRU B-C RELAYS		S-42	104	8	–	"	3		"		.09	–	2.88	3.10	
SERVICE ON CL A LINES WHEN B-C		S-43	104	9	–	"	1		"		.09	–	2.88	2.90	
LINES ARE DENIED															
LINE GRP. OVERLD. LP-RELAY		S-44	104	10	–	"	3		"		.07	–	2.24	2.20	
CKT. FIG. 4-5															
FRAME LINE JACKS FIG. 6		S-45	104	11		"	0		"		.10	–	3.20	3.00	
LINE REG. CROSS CONNECTIONS		S-46	62-245	–	ITE-4033	6-26	22		CONN	14800	.011	–	162.	178.	
SUBSCRIBER LINE		S-47	62-246	–	ITE-4010	6-29	253		"	12500	.026	–	299	260.	
ROUTINE #2701 CYCLE 1		R-1.1	102	6	ITE-4032	7-3-51	25	1	FR.	32	.85	.8	25.6	24.	
2		R-1.2			"	7-5	0		"		.47	.4	12.8	8.	
3		R-1.3			"	7-9	4		"		.21	.2	6.4	9.	
4		R-1.4			"	7-11	0		"		.21	.2	6.4	7.	
5		R-1.5			"	7-12	0		"		.16	.15	4.8	5.	
6		R-1.6			"						.15				
7		R-1.7			"						.15				
8		R-1.8			"						.15				
9		R-1.9			"						.15				
10		R-1.10			"						.15				
11		R-1.11			"						.15				
12		R-1.12			"						.15				

DATE AND PERCENT OF INTERVAL

	5-19	67%	5-26	71%	6-2	75%	6-9	77%	6-16	82%	6-23	86%	6-30	90%	7-7	93%	7-14	96%	7-21	100%
OBJECTIVE OPERATION LABOR HOURS PLAN																				
NET																				
PLAN			2.24																	
NET			2.24																	
PLAN			3.52																	
NET			3.52																	
PLAN			3.52																	
NET			3.52																	
PLAN			3.52																	
NET			3.52																	
PLAN			2.88																	
NET			2.88																	
PLAN			2.88																	
NET			2.88																	
PLAN			2.24																	
NET			2.24																	
PLAN			3.20																	
NET			3.20																	
PLAN										70	76.4	80.0	77.0	82.	85.8					
NET																				
PLAN					80	80.4	90	93.6	70	75.4	40	52	79	23.4						
NET																				

WEEK ENDS

	5-19		5-26		6-2		6-9		6-16		6-23		6-30		7-7		7-14		7-21	
UNITS COMPLETE AND ACTUAL O.L.H.	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH	UNITS	OLH
			32	2.2																
			32	3.3																
			32	3.6																
			32	3.5																
			32	3.1																
			32	2.9																
			32	2.2																
					3100	75	3600	78	2900	56	2000	80	7800	98.						
													900	11						

REMARKS

NEW JOB ☒ ADDITION ☐

APPROVED John Smith

TOTAL	1138.8	1102.8	97.72		30.1		80		90		70		120		101		38.4		17.6	
ADJD.	1138.8		97.0	97.5	28.8	30.1	75	80.4	78	93.6	56	75.4	120	129	109	109.2	3.2	32	21	21
RATIO	1.0		580.4	576.4	609.2	606.5	684.2	687.1	766.2	780.7	818.2	856.1	938.2	985.1	1047	1094.3	1079.2	1126.3	1100	1147
M			569.7		599.8		679.8		769.8		839.8		959.8		1060.8		1098.2		1116.8	
N				1.01		1.01		.99		97.6		95.5		95.2		95.6		95.		95.6
				51		53.5		60.0		66.8		71.9		82.3		94.8		99.4		100
				562.4		532.3		457.1		358.1		282.7		153.7		44.5		6.1		—

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