

EQUIPMENT TEST LIST
CALCULAGRAPHS, CLOCKS, AND TIMERS

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1. GENERAL

1.01 This section provides an index and information access system to locate the standard tests applicable to equipment listed in the preceding table of contents. Test classification and frequency of periodic routine are also provided.

- 1.02 This Equipment Test List (ETL) is reissued to incorporate changes which are indicated by an arrow to the left of each line which has been changed.
- 1.03 Comments on this section should be made by following the instructions in Bell System Practices (BSP), Section 000-010-015.
- 1.04 Routine test information is arranged in the following order from left to right: Section number, issue/addendum, test letter or paragraph number, test title, test class, frequency, and the last space is for a locally assigned job number.
- 1.05 Section 010-300-011 provides Equipment Test List instructions.

NOTICE
Not for use or disclosure outside the
Bell System except under written agreement

SECTION 030-001-012

13.0 CALC, CLK, TMRS

13.1 CALC, CLK, TMRS; CALCULAGRAPHS

SELECT ONLY ONE CATEGORY

MODEL 6

030-100-301 (1/1)	3.24	(3.24 - 3.28) CHECK AUTOMATIC TRANSFER TO RESERVE POWER	MW W	-----
	3.29	(3.29 - 3.30) CHECK RESERVE MOTOR ALTERNATOR OPERATION	MW W	-----
030-100-701 (6/0)	2.01	CLEAN CALCULAGRAPH	MW 12M	-----
	2.02	(A) LUBRICATE CLOCK MVMT BEARINGS, PALLET PTS & ESCPT WHEEL	MW 12M	-----
	2.02	(B) LUBRICATE CAMS, PLNGRS, STPG LEVRS, STPG SHAFTS, TD DIAL, PTR, INTER SHAFT & REV MECH PAWL, RATCH & PIVOTS (OR AS REQD)	MW 6M	-----
	2.02	(C) LUBRICATE MOTOR PINION GEAR	MW 12M	-----
	2.05	CHECK FREEDOM OF MOVEMENT	MW 12M	-----
	2.06	(A) CHECK ACCURACY OF CLOCK MVMT	MW 3M	-----
	2.09	CHECK SYNCN OF TIME-OF-DAY DIAL & HANDS	MW 3M	-----
	2.11	CHECK REVERSAL AM & PM STAMPS	MW 6M	-----
	2.12	(A, C) CHECK MOVEMENT OF STAMPING MECHANISM	MW 6M	-----
	2.21	WINDING	MW 2W	-----

MODEL 30

030-100-301 (1/1)	3.24	(3.24 - 3.28) CHECK AUTOMATIC TRANSFER TO RESERVE POWER	MW W	-----
	3.29	(3.29 - 3.30) CHECK RESERVE MOTOR ALTERNATOR OPERATION	MW W	-----
030-100-701 (6/0)	2.01	CLEAN CALCULAGRAPH	MW 12M	-----
	2.02	(A) LUBRICATE CLOCK MVMT BEARINGS & ESCPT WHEEL	MW 6M	-----
	2.02	(B) LUBRICATE CAMS, PLNGRS, STPG LEVRS, STPG SHAFTS, TD DIAL, PTR, INTER SHAFT & REV MECH PAWL, RATCH & PIVOTS (OR AS REQD)	MW 6M	-----
	2.02	(C) LUBRICATE MOTOR PINION GEAR	MW 12M	-----
	2.02	(D) LUBRICATE MOTOR BEARING	MW 12M	-----
	2.05	CHECK FREEDOM OF MOVEMENT	MW 12M	-----
	2.06	(B) CHECK ACCURACY OF CLOCK MVMT	MW 3M	-----
	2.08	CHECK SYNCN OF CALCULAGRAPHS IN OPERATOR ROOM	MW 3M	-----
	2.09	CHECK SYNCN OF TIME-OF-DAY DIAL & HANDS	MW 3M	-----
	2.10	CHECK RELATION BETWEEN ELAPSED-TIME POINTERS	MW 6M	-----
	2.11	CHECK REVERSAL AM & PM STAMPS	MW 6M	-----
	2.12	(B, C) CHECK MOVEMENT OF STAMPING MECHANISM	MW 6M	-----

MODEL 33 (KS-7769)

030-100-301 (1/1)	3.24	(3.24 - 3.28) CHECK AUTOMATIC TRANSFER TO RESERVE POWER)	MW W	-----
	3.29	(3.29 - 3.30) CHECK RESERVE MOTOR ALTERNATOR OPERATION	MW W	-----
030-102-701 (7/0)	2.01	CLEAN CALCULAGRAPH	MW 6M	-----

030-102-701 (7/0)	2.02 (B) LUBRICATION	MW 6M	-----
	2.02 (C) LUBRICATE MOTOR BEARINGS	MW 12M	-----
♦	2.05 CHECK FREEDOM OF MOVEMENT	MW 12M	-----
♦	2.06 CHECK ACCURACY OF CLOCK MVMT	MW 3M	-----
♦	2.07 CHECK SYNCN OF CALCULAGRAPHS IN OPERATOR ROOM	MW 3M	-----
♦	2.08 CHECK SYNCN OF TIME-OF-DAY DIAL & HANDS	MW 3M	-----
♦	2.09 CHECK SYNCN OF CLOCK HANDS	MW 3M	-----
♦	2.10 CHECK MOVEMENT ELAPSED--TIME DIAL & TIME-OF-DAY DIAL	MW 6M	-----

TROUBLE TESTS

MODEL 6

030-100-301 (1/1)	3.01 (3.01, 3.02 & 3.04 - 3.07) CORRECTNESS OF TIME	TT	-----
	3.08 WINDING	TT	-----
	3.10 ACCURACY OF ELAPSED TIME STAMPS	TT	-----
	3.12 REV DIRN OF RIBBON TRAVEL	TT	-----
	3.13 ADVG RIBBON	TT	-----
	3.14 (3.14 & 3.15) STAMPING	TT	-----
	3.16 (3.16 - 3.18) OPRN OF AM & PM STAMPS	TT	-----
	3.19 (3.19, 3.21 - 3.23) NEW OR REPD CALCULAGRAPHS	TT	-----
♦ 030-100-701 (6/0)	2.07 CLRNC BETWEEN MOTOR & ASSOCD PARTS	TT	-----
	2.13 OPRG LEVER MVMT	TT	-----
	2.14 PLNGR OPRG	TT	-----
	2.15 RIBBON FRAME POSITION	TT	-----
	2.16 TICKET OR CARD ENTRY	TT	-----
	2.17 CLRNC OF CARD GUIDES & IBM CARDS	TT	-----
	2.18 RIBBON WIND PAWL & RIBBON SPOOL RATCHET MVMT	TT	-----
	2.19 RIBBON REVERSE MECH	TT	-----
	2.20 RIBBON SPOOL BRAKE TENSION	TT	-----

MODEL 30

030-100-301 (1/1)	3.01 (3.01, 3.02 & 3.04 - 3.07) CORRECTNESS OF TIME	TT	-----
	3.08 WINDING	TT	-----
	3.09 RELATION BETWEEN ELAPSED TIME PTRS	TT	-----
	3.11 ACCURACY OF ELAPSED TIME STAMPS	TT	-----
	3.12 REV DIRN OF RIBBON TRAVEL	TT	-----
	3.13 ADVG RIBBON	TT	-----
	3.14 (3.14 & 3.15) STAMPING	TT	-----
	3.16 (3.16 - 3.18) OPRN OF AM & PM STAMPS	TT	-----
	3.20 (3.20 - 3.23) NEW OR REPD CALCULAGRAPHS	TT	-----
♦ 030-100-701 (6/0)	2.07 CLRNC BETWEEN MOTOR & ASSOCD PARTS	TT	-----
	2.13 OPRG LEVER MVMT	TT	-----

030-100-701 (6/0)	2.14	PLNGR OPRG	TT	-----
	2.15	RIBBON FRAME POSITION	TT	-----
	2.16	TICKET OR CARD ENTRY	TT	-----
	2.17	CLRNC OF CARD GUIDES & IBM CARDS	TT	-----
	2.18	RIBBON WIND PAWL & RIBBON SPOOL RATCHET MVMT	TT	-----
	2.19	RIBBON REVERSE MECH	TT	-----
	2.20	RIBBON SPOOL BRAKE TENSION	TT	-----

MODEL 33 (KS-7769)

030-100-301 (1/1)	3.01	(3.01, 3.03 - 3.07) CORRECTNESS OF TIME	TT	-----
	3.08	WINDING	TT	-----
	3.09	RELATION BETWEEN ELAPSED TIME PARTS	TT	-----
	3.11	ACCURACY OF ELAPSED TIME STAMPS	TT	-----
	3.12	REV DIRN OF RIBBON TRAVEL	TT	-----
	3.13	ADVG RIBBON	TT	-----
	3.14	(3.14 & 3.15) STAMPING	TT	-----
	3.16	(3.16 - 3.18) OPRN OF AM & PM STAMPS	TT	-----
	3.20	(3.20 - 3.23) NEW OR REPD CALCULAGRAPHS	TT	-----

030-102-701 (7/0)	2.04	RIBBON CONDITION	TT	-----
	2.11	OPRG LEVER MVMT	TT	-----
	2.12	TICKET OR CARD ENTRY	TT	-----
	2.13	CLRNC OF CARD GUIDES & IBM CARDS	TT	-----
	2.14	RIBBON WIND PAWL & RIBBON SPOOL RATCHET MVMT	TT	-----
	2.15	RIBBON REVERSE MECH	TT	-----
	2.16	RIBBON SPOOL BRAKE TENSION	TT	-----
	2.17	OPRG LEVER OPRN	TT	-----
	2.18	RIBBON REV THROWOUT LATCH TENSION	TT	-----

13.2 CALC, CLK, TMRS; CLOCKS

SELECT ONLY ONE CATEGORY

ELECTRIC CLOCK KS-8155

030-110-701 (2/0)	2.01	CLEAN CLOCK	MW 6M	-----
	2.02	(A) LUBRICATE COMMUTATOR & SLIP RINGS	MW 6M	-----
	2.02	(B) LUBRICATE GEAR CASE (OR AS REQD)	MW 6M	-----
	2.04	CHECK ACCURACY OF CLOCK MVMT	MW 12M	-----
	2.05	CHECK COMMUTATOR SPRINGS & TENSION SPRINGS ALNMT	MW 12M	-----
	2.06	CHECK TIGHTNESS OF SCREWS	MW 12M	-----
	2.07	CHECK FREEDOM OF MOVEMENT ADVANCE-RETARD MECH	MW 12M	-----
	2.08	CHECK MINUTE & HOUR FIGURE ALNMT ON HOUR DRUM AND FRACL MINUTE DISC	MW 3M	-----
	2.09	CHECK FRACL MINUTE DISC & MINUTE DRUM ALNMT	MW 3M	-----
	2.10	CHECK COMMUTATOR SPRING PRESSURE	MW 12M	-----
	2.11	CHECK SLIP RING SPRING PRESSURE	MW 12M	-----

030-110-701 (2/0)	2.12	CHECK ST & XT COMMUTATOR SEGMENT ALNMT	MW 3M	-----
	2.13	CHECK C & T COMMUTATOR SPRINGS & ASSOC SPRINGS RELATION	MW 12M	-----
	2.14	CHECK ST COMMUTATOR SPRINGS POSITION	MW 12M	-----
	2.15	CHECK CLOSED PERIOD OF C, T & ST COMMUTATOR SPRINGS & ASSOC COMMUTATORS	MW 12M	-----
	2.16	CHECK SYNCN OF XT & X COMMUTATOR SPRINGS & TIME OF DAY	MW 12M	-----
	2.17	CHECK CLOSED PERIOD OF XT & X COMMUTATOR SPRINGS & THEIR ASSOCD COMMUTATORS	MW 12M	-----

S1 S1A & S10 TIMERS & KS-8160 ELEC STOP CLOCK

030-111-701 (2/0)	2.01	CLEAN CLOCK & TIMERS	MR 6M	-----
	2.02	LUBRICATE HAIRPIN CLUTCHES, MOTOR PINION MATING GEAR TEETH, RESET SHAFT BEARINGS & RESET LEVER ROLLER BEARINGS	MR 6M	-----
	2.03	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.04	CHECK ACCURACY OF TIMER	MR 12M	-----
	2.05	CHECK MOVEMENT ELAPSED TIME & TOTALIZER HANDS	MR 6M	-----
	2.06	CHECK RESET MECHANISM OPRN	MR 12M	-----
	2.07	CHECK POSITION OF MANUAL RESET LEVER	MR 12M	-----

ELECTRIC STOP CLOCK KS-8259

030-112-701 (2/0)	2.01	CLEAN CLOCK	MR 6M	-----
	2.02	LUBRICATE HAIRPIN CLUTCHES, RESET LEVER BEARINGS, RESET LEVER ROLLER BEARINGS, MOTOR PINION MATING GEAR TEETH & MOTOR RESERVOIR	MW 12M	-----
	2.03	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.04	CHECK ACCURACY OF MVMT	MR 12M	-----
	2.05	CHECK ELAPSED-TIME, SPLIT-SECOND & TOTZG HANDS MVMT	MR 12M	-----
	2.06	CHECK RESET LEVER OPRN	MR 12M	-----
	2.07	CHECK BRAKING MECH OPRN	MR 12M	-----
	2.08	CHECK RESET LEVER CONTACT SPRINGS OPRN	MR 12M	-----

MOTOR DRIVEN SWITCHBOARD CLOCK KS-8263

030-113-701 (3/0)	2.01	CLEAN CLOCK	MR 6M	-----
	2.02	LUBRICATE MOTOR PINION, GEAR SHAFT BEARINGS, ROCKER ARM BEARINGS & ROLLER BEARINGS	MW 12M	-----
	2.03	CHECK ACCURACY OF CLOCK MVMT	MR 12M	-----
	2.08	CHECK SECONDS DRUM POSITION	MR 12M	-----
	2.09	CHECK TIME DRUM FREEDOM OF MVMT	MR 12M	-----
	2.10	CHECK ROCKER ARM SPRING TENSION	MR 12M	-----
	2.11	CHECK ALNMT OF DRUM NUMERALS	MR 12M	-----
	2.12	CHECK PLUG CONTACT PRESSURE	MR 12M	-----
	2.13	CHECK TIGHTNESS OF CLOCKCASE WINDOW	MR 12M	-----

ELECTRIC STOP CLOCK KS-14235

030-115-701 (2/2)	2.01	CLEAN CLOCK	MR 6M	-----
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	2.02	LUBRICATE HAIRPIN CLUTCHES, RESET MECH LINKAGE BEARINGS & RESET MECH ROLLER BEARINGS	MW 12M	-----
030-115-701 (2/2)	2.03	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.04	CHECK ACCURACY OF CLOCK MVMT	MR 12M	-----
	2.05	MVMT ET, SPLIT-SECOND & TOTALIZING HANDS	MR 12M	-----
	2.06	CHECK POSITION OF RESET MECHANISM	MR 12M	-----
	2.07	CHECK OPRN OF BRAKING MECHANISM	MR 12M	-----
	2.15	CHECK FREEDOM OF MVMT OF CONTROL KNOB	MR 12M	-----
CLOCK CIRCUITS				
030-121-501 (2/0)	2.01	(2.01 - 2.05) POSITION CLOCKS	MW D	-----
	2.06	(2.06 - 2.15) MASTER CLOCKS	MW D	-----
	2.16	(2.16 - 2.21) SECONDARY CLOCKS	MW D	-----
MASTER CLOCKS KS-1299, KS-1924 THRU KS-1931, KS-6777, KS-6778				
030-121-701 (2/0)	2.01	CLEAN CLOCK	MR 12M	-----
	2.02	LUBRICATE CLOCK	MW 24M	-----
	2.10	CHECK ACCURACY OF CLOCKS	MW D	-----
ELECTRIC CLOCKS 1-TYPE				
030-122-701 (3/0)	2.01	CLEAN BEARINGS & CONTACT SURFACES	MW 12M	-----
	2.02	LUBRICATE SHAFT BEARINGS, PINION TEETH & PINION BEARINGS	MW 12M	-----
	2.05	CHECK ARMATURE AIRGAP	MR 12M	-----
	2.06	CHECK TIGHTNESS OF ARMTR ADJG SCREW LOCKNUT	MR 12M	-----
	2.07	CHECK FRACL MINUTE WHEEL BACK LASH	MR 12M	-----
	2.08	CHECK OPERATING PAWL FREEDOM OF MOVEMENT	MR 12M	-----
	2.09	CHECK POSITION OF STOP PAWL	MR 12M	-----
	2.10	CHECK FRACL MINUTE WHEEL HUB ENDPLAY	MR 12M	-----
	2.11	CHECK OPRG PAWL & OVERTHROW STOP CLEARANCE	MR 12M	-----
	2.12	CHECK POSITION OF RETRACTILE SPRING	MR 12M	-----
	2.13	CHECK CLRNC OF RETRACTILE SPRING LUG TIP & TOP FRAME CROSS PIECE	MR 12M	-----
	2.14	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
	2.15	CHECK COVER TIGHTNESS	MR 12M	-----
SECONDARY CLOCKS NO. 1A STEPPING MOVEMENT				
030-124-701 (2/0)	2.01	CLEAN STEPPING MVMT	MW 60M	-----
	2.02	CHECK DRIVING PAWL & DRIVING PAWL OVERTHROW STOP CLRNC	MR 12M	-----
	2.03	CHECK BACKSTOP PAWL & EDGE OF RATCHET WHEEL TOOTH CLRNC	MR 12M	-----
	2.04	CHECK ARMATURE TO CORE OPRN	MR 12M	-----
	2.05	CHECK DRIVING PAWL & EDGE OF FOLLOWING RATCHET WHEEL TOOTH CLRNC	MR 12M	-----
	2.06	CHECK BACKSTOP PAWL & BACKSTOP PAWL OVERTHROW STOP CLRNC	MR 12M	-----
	2.07	CHECK DRIVING PAWL SPRING & SAFETY PIN CLRNC	MR 12M	-----

030-124-701 (2/0)	2.08	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
SECONDARY CLOCKS NO. 1 STEPPING MOVEMENT				
030-124-701 (2/0)	2.09	CLEAN STEPPING MVMT	MW 60M	-----
	2.10	CHECK DRIVING PAWL & DRIVING PAWL OVERTHROWN STOP CLRNC	MR 12M	-----
	2.11	CHECK LOCK PAWL & EDGE OF RATCHET WHEEL TOOTH CLRNC	MR 12M	-----
	2.12	CHECK ARMATURE TO CORE OPRN	MR 12M	-----
	2.13	CHECK DRIVING PAWL TO RATCHET WHEEL CLRNC	MR 12M	-----
	2.14	CHECK LIP OF DRIVING PAWL TO TAIL OF LOCK PAWL CLRNC	MR 12M	-----

TROUBLE TESTS

MOTOR DRVN SWBD CLOCK KS-8259

030-112-701 (2/0)	2.09	SPRING CLRNC	TT	-----
	2.10	SPRING TENSION	TT	-----
	2.11	SPRING CONTACT SEPN	TT	-----
	2.12	SPRING CONTACT PRESSURE	TT	-----

MOTOR DRVN SWBD CLOCK KS-8263

030-113-701 (3/0)	2.04	BACKLASH OF GEARS	TT	-----
	2.05	CAM, ROLLER & ROCKER ARM FREEDOM OF MVMT	TT	-----
	2.06	DRUM OPRG FINGERS FREEDOM OF MVMT	TT	-----
	2.07	DRUM OPRG FINGERS ALNMT	TT	-----

ELECTRIC STOP CLOCK KS-14235

030-115-701 (2/2)	2.08	CONTACT MAKE	TT	-----
	2.09	CONTACT BREAK	TT	-----
	2.10	CONTACT SPRING TENSION	TT	-----
	2.11	SPRING CLRNC	TT	-----
	2.12	SPRING TENSION	TT	-----
	2.13	CONTACT SEPN	TT	-----
	2.14	CONTACT PRESSURE	TT	-----

MASTER CLOCKS KS-1299, KS-1924 - KS-1931, KS-6777 & KS-6778

030-121-701 (2/0)	2.03	MOUNTING	TT	-----
	2.04	CKT CLSG CONTACTS SPRING CLRNC	TT	-----
	2.05	CKT CLSG CONTACT ALNMT	TT	-----
	2.06	CKT CLSG CONTACT SPRINGS & RATCHET WHEEL TEETH CLRNC	TT	-----
	2.07	CKT CLSG CONTACT SEPN	TT	-----
	2.08	CKT CLSG CONTACT CLSR TIME	TT	-----
	2.11	WDG CKT CONTACT SEPN	TT	-----
	2.12	WDG CKT CONTACT SPG & CONTACT SECTOR ALNMT	TT	-----
	2.13	WDG CKT CONTACT ALNMT	TT	-----
	2.14	MOTOR ELECTRICAL REQTS	TT	-----
	2.15	MOTOR ARMTR POSITION	TT	-----

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030-121-701 (2/0)	2.16	MOTOR SPIRAL CONTACT SPG POSITION	TT	-----
	2.17	MOTOR CONTACT ALNMT	TT	-----
	2.18	MOTOR CONTACT SPG TENSION	TT	-----
	2.19	MOTOR CONTACT SEPN	TT	-----
	2.20	MOTOR CONTACT SEQ	TT	-----
	2.21	SYNCG MECH ELECT REQT	TT	-----
	2.22	SYNCG ARMTR AIR-GAP	TT	-----
	2.23	SYNCG LEVER OPRN	TT	-----
	2.24	SECONDS ROLLER & CAM CLRNC	TT	-----
	2.25	SYNCG LEVER CONTACT SEPN	TT	-----
	2.26	SYNCG LEVER CONTACT ALNMT	TT	-----
	2.27	SYNCG LEVER CONTACT SEQ	TT	-----

13.3 CALC, CLK, TMRS; BLDG MSTR CLOCK

FOR ALL UNITS

030-125-501 (5/0)	2.02	CHECK MASTER CLOCK TIME	MW D	-----
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13.4 CALC, CLK, TMRS; TIMERS

SELECT ONLY ONE CATEGORY

NONZONE TMRS 1A & D-99005 WH DRS 51A, 51C, 52A, D-99004 & D-179538

030-140-701 (3/1)	2.01	CLEAN TIMER CONTACTS	MW 12M	-----
	2.02	(A1, A4, A5, D) LUBRICATION	MW 12M	-----
	2.02	(A2, A3, A6, B & C) LUBRICATION	MW 24M	-----
	2.04	CHECK DRIVING SHAFT END PLAY	MR 12M	-----
	2.05	CHECK ENGAGEMENT OF MTR & DRVG SHAFT GEARS PINION	MR 12M	-----
	2.06	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.07	CHECK ENGAGEMENT OF SHIFTING SPRG TANG & PINION	MR 12M	-----
	2.08	CHECK FREEDOM OF SHAFT MVMT	MR 12M	-----
	2.09	CHECK TRIPPING CAM CLRNC	MR 12M	-----
	2.10	CHECK FREEDOM OF PINION MVMT & SHIFTING SPRING TENSION	MR 12M	-----
	2.11	CHECK ARMTR	MR 12M	-----
	2.12	CHECK ARMTR ADJG SCREW CLRNC	MR 12M	-----
	2.13	CHECK INDEX FINGER POSITION	MR 12M	-----
	2.14	CHECK PINION POSITION	MR 12M	-----
	2.15	CHECK GEAR STOP PAWL POSITION	MR 12M	-----
	2.16	CHECK ENGAGEMENT OF TIMER GEAR & GOVERNOR PINION	MR 12M	-----
	2.17	CHECK CONTACT ALNMT	MR 12M	-----
	2.18	CHECK 'A' CAM STUD CLRNC	MR 12M	-----
	2.19	CHECK SOLID SPRING TENSION	MR 12M	-----
	2.20	CHECK CONTACT PRESSURE OF 'A' CAM CONTACTS & BASIC 'C' CAM CONTACTS	MR 12M	-----

030-140-701 (3/1)	2.21	CHECK CONTACT SEPARATION	MR 12M	-----
	2.22	CHECK CONTACT MAKE	MR 12M	-----
	2.23	CHECK CONTACT FOLLOW	MR 12M	-----
	2.24	CHECK SPRING SEQUENCE	MR 12M	-----
	2.25	CHECK 'A' CAM BIFURCATED SPRING POSITION	MR 12M	-----
	2.26	CHECK 'C' CAM POSITION	MR 12M	-----
	2.27	CHECK 'A' CAM POSITION	MR 12M	-----
	2.28	CHECK TIMER GEAR RETRACTILE SPRING CLEARANCE	MR 12M	-----
	2.29	CHECK TIMER GEAR RETRACTILE SPRING TENSION	MR 12M	-----
	2.30	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	2.31	CHECK SEPN BETWEEN SPRINGS	MR 12M	-----
	2.32	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
	2.33	CHECK TIMING REQUIREMENTS	MR 12M	-----

COIN TMRS 1B, D-99006 & D-159938 WH DRS 51A, 51C, 52A,
D-99004 & D-179538

030-140-702 (4/1)	2.01	CLEAN TIMERS	MW 12M	-----
	2.02	(A1, A4, A5, D) LUBRICATION	MW 12M	-----
	2.02	(A2, A3, A6, B, C) LUBRICATION	MW 24M	-----
	2.04	CHECK DRIVING SHAFT ENDPLAY	MR 12M	-----
	2.05	CHECK ENGAGEMENT OF MTR & DRIVING SHAFT GEARS	MR 12M	-----
	2.06	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.07	CHECK ENGAGEMENT OF SHIFTING SPRG TANG & PINION	MR 12M	-----
	2.08	CHECK FREEDOM OF SHAFT MOVEMENT	MR 12M	-----
	2.09	CHECK TRIPPING CAM CLEARANCE	MR 12M	-----
	2.10	CHECK FREEDOM OF PINION MVMT & SHIFTING SPRING TENSION	MR 12M	-----
	2.11	CHECK ARMTR TRAVEL	MR 12M	-----
	2.12	CHECK ARMTR ADJG SCREW CLRNC	MR 12M	-----
	2.13	CHECK INDEX FINGER AND TIMER GEAR CLRNC	MR 12M	-----
	2.14	CHECK PINION POSITION	MR 12M	-----
	2.15	CHECK GEAR STOP PAWL POSITION	MR 12M	-----
	2.16	CHECK GEAR STOP SPRING POSITION	MR 12M	-----
	2.17	CHECK ENGAGEMENT OF TIMER GEAR & GOVERNOR PINION	MR 12M	-----
	2.18	CHECK CONTACT ALNMT	MR 12M	-----
	2.19	CHECK SOLID SPG SPACER CLRNC	MR 12M	-----
	2.20	CHECK SPRING TENSION	MR 12M	-----
	2.21	CHECK CONTACT SEPARATION	MR 12M	-----
	2.22	CHECK SPRING GAUGING	MR 12M	-----
	2.23	CHECK 'A' CAM POSITION	MR 12M	-----
	2.24	CHECK 'C' CAM POSITION	MR 12M	-----
	2.25	CHECK TIMER GEAR RETRACTILE SPRING CLEARANCE	MR 12M	-----

030-140-702 (4/1)	2.26	CHECK TIMER GEAR RETRACTILE SPRING TENSION	MR 12M	-----
	2.27	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	2.28	CHECK SEPN BETWEEN SPRINGS	MR 12M	-----
	2.29	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
	2.30	CHECK TIMING REQUIREMENTS	MR 12M	-----
NONZONE 1C, D-99325 & CN 1D, D-99326 TEST TMRS WH DRS 51A & 51D				
030-140-703 (4/1)	2.01	CLEAN TIMER	MW 12M	-----
	2.02	(A1, A4, A5, C) LUBRICATION	MW 12M	-----
	2.02	(A2, A3, A6, B) LUBRICATION	MW 24M	-----
	2.04	CHECK DRIVING SHAFT END PLAY	MR 12M	-----
	2.05	CHECK ENGAGEMENT OF MTR & DRIVING SHAFT GEARS	MR 12M	-----
	2.06	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.07	CHECK ENGAGEMENT OF SHIFTING SPRG TANG & PINION	MR 12M	-----
	2.08	CHECK FREEDOM OF SHAFT MVMT	MR 12M	-----
	2.09	CHECK TRIPPING CAM CLRNC	MR 12M	-----
	2.10	CHECK FREEDOM OF PINION MVMT & SHIFTING SPRING TENSION	MR 12M	-----
	2.11	CHECK ARMTR TRAVEL	MR 12M	-----
	2.12	CHECK ARMTR ADJG SCREW CLRNC	MR 12M	-----
	2.13	CHECK INDEX FINGER AND TIMER GEAR CLRNC	MR 12M	-----
	2.14	CHECK PINION POSITION	MR 12M	-----
	2.15	CHECK GEAR STOP PAWL POSITION	MR 12M	-----
	2.16	CHECK GEAR STOP SPRING POSITION	MR 12M	-----
	2.17	CHECK ENGAGEMENT OF TIMER GEAR & GOVERNOR PINION	MR 12M	-----
	2.18	CHECK CONTACT ALNMT	MR 12M	-----
	2.19	CHECK SOLID SPG SPACER & STUD CLRNC	MR 12M	-----
	2.20	CHECK SPRING TENSION	MR 12M	-----
	2.22	CHECK CONTACT SEPARATION	MR 12M	-----
	2.23	CHECK SPRING GAUGING	MR 12M	-----
	2.24	CHECK CONTACT FOLLOW	MR 12M	-----
	2.28	CHECK TIMER GEAR RETRACTILE SPRING CLEARANCE	MR 12M	-----
	2.29	CHECK TIMER GEAR RETRACTILE SPRING TENSION	MR 12M	-----
	2.30	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	2.31	CHECK SEPN BETWEEN SPRINGS	MR 12M	-----
	2.32	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
	2.33	CHECK TIMING REQUIREMENTS	MR 12M	-----
TIMER 2-TYPE, 4A, 4B, 4E & D-171689				
030-141-701 (9/0)	3.01	CLEAN TIMER	MW 12M	-----
	3.02	(A) LUBRICATE 2-TYPE 4A & D-171689 TMR CAM FACE & BUTTON	MW 24M	-----

030-141-701 (9/0)	3.02	(A) LUBRICATE 4B TMR CAM FACE & BUTTON	MW 12M	-----
	3.04	CHECK CAM POSITION	MR 12M	-----
	3.05	CHECK CONTACT ALNMT	MR 12M	-----
	3.06	CHECK CONTACT SEPARATION	MR 12M	-----
	3.07	CHECK CONTACT MAKE	MR 12M	-----
	3.08	CHECK OPRG FINGER CLRNC	MR 12M	-----
	3.09	CHECK SPRING TENSION	MR 12M	-----
	3.10	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	3.12	CHECK TIMING REQUIREMENTS	MR 12M	-----
TIMER 3-TYPE				
030-142-701 (2/0)	2.01	CLEAN TIMER	MW 12M	-----
	2.02	(A) LUBRICATE CNTR, LEFT END, RIGHT END & MICRO SW ROLLER BEARINGS, CORE GEAR AND MOTOR PINION	MW 24M	-----
	2.02	(B) LUBRICATE RETRACTILE SPG	MW 12M	-----
	2.02	(C) LUBRICATE MOTOR	MW 12M	-----
	2.04	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.05	CHECK TIGHTNESS OF TIMER TERMINALS & LOCKOUTS	MR 12M	-----
	2.06	CHECK COVER SPRING PRESSURE	MR 12M	-----
	2.07	CHECK CAM SHAFT & CORE END PLAY	MR 12M	-----
	2.08	CHECK STOP LEVEL & CAM SHAFT CLRNC	MR 12M	-----
	2.09	CHECK CAM SHAFT FREEDOM OF MOVEMENT	MR 12M	-----
	2.10	CHECK FREEDOM OF SWITCH MVMT	MR 12M	-----
	2.11	CHECK CAM & SWITCH ROLLER ENGAGEMENT	MR 12M	-----
	2.12	CHECK GEAR & PINION ENGAGEMENT	MR 12M	-----
	2.13	CHECK CAM SHAFT RESTORING SPRING TENSION	MR 12M	-----
	2.14	CHECK MOTOR TORQUE	MR 12M	-----
	2.15	CHECK TIMING REQUIREMENTS	MR 12M	-----
NONZONE TMR D-159823 WH 51A DR				
030-150-701 (2/0)	2.01	CLEAN TIMER	MW 12M	-----
	2.02	(A1, A4, A5, D) LUBRICATION	MW 12M	-----
	2.02	(A2, A3, A6, B, C) LUBRICATION	MW 24M	-----
	2.04	CHECK DRIVING SHAFT ENDPLAY	MR 12M	-----
	2.05	CHECK ENGAGEMENT OF MTR & DRIVING SHAFT GEARS	MR 12M	-----
	2.06	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.07	CHECK ENGAGEMENT OF SHIFTING SPRG TANG & PINION	MR 12M	-----
	2.08	CHECK FREEDOM OF SHAFT MVMT	MR 12M	-----
	2.09	CHECK TRIPPING CAM CLRNC	MR 12M	-----
	2.10	CHECK FREEDOM OF PINION MVMT & SHIFTING SPRING TENSION	MR 12M	-----
	2.11	CHECK ARMTR TRAVEL	MR 12M	-----
	2.12	CHECK ARMTR ADJG SCREW CLRNC	MR 12M	-----

030-150-701 (2/0)	2.13	CHECK INDEX FINGER AND TIMER GEAR CLRNC	MR 12M	-----
	2.14	CHECK PINION POSITION	MR 12M	-----
	2.15	CHECK GEAR STOP PAWL POSITION	MR 12M	-----
	2.16	CHECK ENGAGEMENT OF TIMER GEAR & GOVERNOR PINION	MR 12M	-----
	2.17	CHECK CONTACT ALNMT	MR 12M	-----
	2.18	CHECK SPRING TENSION	MR 12M	-----
	2.19	CHECK CONTACT PRESSURE OF 'C' CAM CONTACTS	MR 12M	-----
	2.20	CHECK CONTACT SEPARATION	MR 12M	-----
	2.21	CHECK SPRING GAUGING	MR 12M	-----
	2.22	CHECK CONTACT FOLLOW	MR 12M	-----
	2.23	CHECK 'A' CAM POSITION	MR 12M	-----
	2.24	CHECK 'C' CAM POSITION	MR 12M	-----
	2.25	CHECK TIMER GEAR RETRACTILE SPRING CLEARANCE	MR 12M	-----
	2.26	CHECK TIMER GEAR RETRACTILE SPRING TENSION	MR 12M	-----
	2.27	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	2.28	CHECK SEPN BETWEEN SPRINGS	MR 12M	-----
	2.29	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
	2.30	CHECK TIMING REQUIREMENTS	MR 12M	-----

TIMERS KS-8543 & KS-8564

030-156-701 (1/0)	2.01	CLEAN TIMERS	MW 12M	-----
	2.02	LUBRICATE SW ROLLER, CAM SHAFT, ROCKER ARM, INTER GEAR, GOV & GOV GEARINGS, LUBRICATION WIRE END COUPLING & INTER GEAR PINION	MW M	-----
	2.04	CHECK MOUNTING OF TIMER & TIMER PARTS	MR 12M	-----
	2.05	CHECK CAM & SWITCH ROLLER ENGAGEMENT	MR 12M	-----
	2.06	CHECK CAM SHAFT FREEDOM OF MVMT & ENDPLAY	MR 12M	-----
	2.07	CHECK FREEDOM OF SWITCH MVMT	MR 12M	-----
	2.08	CHECK CAM SHAFT GEAR RETRACTILE SPRING TENSION	MR 12M	-----
	2.09	CHECK TIMING REQUIREMENTS	MR 12M	-----
	2.10	CHECK STOP SCREW POSITION	MR 12M	-----

TIMERS KS-16329 L1 & L2

030-159-701 (3/0)	2.01	LUBRICATE GEAR TEETH & BEARINGS	MW 12M	-----
	2.02	CHECK CONTACT SPRING ROLLER POSITION	MR 12M	-----
	2.03	CHECK CONTACT ALNMT	MR 12M	-----
	2.04	CHECK FREEDOM OF MVMT OF CONTACT SPG	MR 12M	-----
	2.05	CHECK CONTACT PRESSURE	MR 12M	-----
	2.06	CHECK CONTACT SEPARATION	MR 12M	-----
	2.07	CHECK CONTACT SPRING ROLLER & CAM CLRNC	MR 12M	-----
	2.08	CHECK CLUTCH MAGNET DETENTE POSITION	MR 12M	-----
	2.09	CHECK TIMER RELEASE	MR 12M	-----
	2.10	CHECK MOTOR OPRN	MR 12M	-----

030-159-701 (3/0)	2.11	CHECK TIMING REQUIREMENTS	MR 12M	-----
	2.12	CHECK MOTOR CAM CONTACTS OPRN	MR 12M	-----
	2.13	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
CALL TIMING SWITCH KS-5464				
030-170-701 (1/0)	2.01	CLEAN CONTACTS	MR 12M	-----
	2.02	CHECK MOUNTING OF TIMER	MR 12M	-----
	2.03	CHECK CONTACT ALNMT	MR 12M	-----
	2.04	CHECK SPRING CLEARANCE	MR 12M	-----
	2.05	CHECK STRAIGHTNESS OF SPRINGS	MR 12M	-----
	2.06	CHECK TIMING CONTACTS SEPN	MR 12M	-----
	2.07	CHECK MOTOR STOP CONTACTS FOLLOW	MR 12M	-----
	2.08	CHECK CAM & SPRING ALNMT	MR 12M	-----
	2.09	CHECK MOTOR SHAFT PINION FRAME CLRNC	MR 12M	-----
	2.10	CHECK DAMPER FAN & FRAME CLRNC	MR 12M	-----
	2.11	CHECK MOTOR STOP CONTACTS OPRN	MR 12M	-----
	2.12	CHECK CLUTCH & CLUTCH ARM FREEDOM OF MVMT	MR 12M	-----
	2.13	CHECK ELECTRICAL REQUIREMENTS	MR 12M	-----
STROMBERG TIME STAMP				
030-176-701 (2/0)	2.01	CLEAN TIME STAMP	MW 12M	-----
	2.02	LUBRICATE BEARINGS	MW 12M	-----
	2.04	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.06	CHECK IMPRINT	MR 12M	-----
	2.07	CHECK COVER LATCH SPRING TENSION	MR 12M	-----
	2.08	CHECK TIME-OF-DAY HANDS & STAMP SYNCN	MW D	-----
	2.09	CHECK ACCURACY OF DATE STAMP	MW D	-----
	2.10	CHECK RIBBON SHAFT RETAINER TENSION	MR 12M	-----
	2.11	CHECK RIBBON SPOOL MVMT	MR 12M	-----
	2.12	CHECK RIBBON REVERSING MECHANISM	MR 12M	-----
	2.13	CHECK LIFT LEVER TENSION	MR 12M	-----
	2.14	CHECK RIBBON SHOE POSITION	MR 12M	-----
	2.15	CHECK CLUTCH WHEEL & POWER WHEEL ENGMT	MR 12M	-----
	2.16	CHECK MONTH WHEEL SETTING SHAFT SPRG POSITION	MR 12M	-----
	2.17	CHECK CONTACT SEPARATION	MR 12M	-----
PROG TMRS KS-14741 L3 OR L8				
030-157-701 (7/0)	2.01	(B)) CLEAN TIMER	MW 12M	-----
	2.02	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.03	CHECK SYNCN OF MINUTE HAND W/HR DIAL	MR 12M	-----
	2.05	CHECK TRIP ARM ENGAGEMENT	MR 12M	-----
	2.10	CHECK DAY WHEEL OPERATING TAB MOUNTING	MR 12M	-----
	2.11	CHECK POSITION OF DAY CUTOFF RATCHET	MR 12M	-----
	2.12	CHECK DAY WHEEL POSITION	MR 12M	-----

030-157-701 (7/0)	2.13	CHECK ENGAGEMENT OF DAY CUTOUT OPERATING PAWL & DAY CUTOUT PIN	MR 12M	-----
	2.15	CHECK DAY CUTOUT SWITCH CONTACT BREAK	MR 12M	-----
PROG TMRS KS-14741 L1, L2, L4 - L7 & L9 - L11				
030-157-701 (7/0)	2.01	(A&B) CLEAN TIMER	MW 12M	-----
	2.02	CHECK FREEDOM OF MVMT	MR 12M	-----
	2.03	CHECK SYNCN OF MINUTE HAND W/HR DIAL	MR 12M	-----
	2.04	CHECK TRIP ARM SWITCH ACTUATOR AND LEVER ENGMT	MR 12M	-----
	2.05	CHECK TRIP ARM ENGAGEMENT	MR 12M	-----
	2.06	CHECK TRIP ARM SWITCH CONTACT CLOSURE	MR 12M	-----
	2.07	CHECK INNER CAM AND MOTOR GEAR HOUSING CLRNC	MR 12M	-----
	2.08	CHECK CAM SPRING ACTUATOR AND CAMS ENGMT	MR 12M	-----
	2.09	CHECK CAM SPRG CONTACT CLOSURE	MR 12M	-----
	2.10	CHECK DAY WHEEL OPERATING TAB MOUNTING	MR 12M	-----
	2.11	CHECK POSITION OF DAY CUTOUT RATCHET	MR 12M	-----
	2.12	CHECK DAY WHEEL POSITION	MR 12M	-----
	2.13	CHECK ENGAGEMENT OF DAY CUTOUT OPERATING PAWL & DAY CUTOUT PIN	MR 12M	-----
	2.14	CHECK DAY CUTOUT SPRING ACTUATOR AND LEVER ENGMT	MR 12M	-----
	2.15	CHECK DAY CUTOUT SWITCH CONTACT BREAK	MR 12M	-----