

EQUIPMENT TEST LIST

SWITCHES

MISCELLANEOUS APPARATUS

1. GENERAL

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

1.02 It is issued in lieu of the American Company section, which is NONSTANDARD for use in Pacific Company.

1.03 This equipment test list (ETL) is presented in the format currently being used for this type of section. It is intended to provide better organization of the various tests.

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
- Last space — locally assigned job number

1.05 Section 010-300-011 provides ETL instructions.

1.06 Comments on this section should be submitted on Form E 3973-1PT according to instructions in Section 000-010-901PT.

2. SWITCHES

2.01 *KNIFE*

For All Units

030-740-701 (8/0)	2.01	LUBRICATION	MR	12M	_____
	2.02	SWITCH BLADES	TT		_____
	2.03	CROSSBAR (MULTIPLE SWITCHES)	TT		_____
	2.04	HANDLES	TT		_____
	2.05	MOUNTING OF SWITCHES	TT		_____
	2.06	CLIPS & TONGUES	TT		_____
	2.07	CONTACT AREA	TT		_____
	2.08	CONTACT PRESSURES	TT		_____
	2.09	VOLTAGE DROP	TT		_____
	2.10	LINKAGES	MR	12M	_____
	2.11	TEMPERATURE	MW	6M	_____
	2.12	OPERATION OF ROTOR (KS-15820 ONLY)	TT		_____
	2.13	CONTACT ALIGNMENT (KS-15820 SW ONLY)	TT		_____

NOTICE

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

**SECTION 030-001-015PT**

**2.02 EMER LTNG REL SW**

For All Units

030-742-701	(3/0)	2.01	CONTACTS AND BRUSH ARM	TT	-----
		2.02	OPERATION	MW	12M -----
		2.03	MAIN CONTACTS	MW	12M -----
		2.04	UNDERVOLTAGE DEVICE CONTACTS & BRUSH ARM	MW	12M -----
		2.05	CONTACTOR MECHANISM	MW	6M -----
		2.06	OPERATION	MW	6M -----
		2.07	TEMPERATURE	TT	-----

**2.03 MAN OPRD ROT SW**

For All Units

030-744-701	(10/0)	2.01	SWITCH MOUNTING	TT	-----
		2.02	OPERATION	MW	12M -----
		2.03	CONTACT SURFACES	TT	-----
		2.04	TEMPERATURE	MW	12M -----
		2.05	CLEANLINESS	TT	-----

**2.04 34, 37, ART LN SW**

For All Units

030-765-701	(1/0)	2.01	CLEANING & LUBRICATION	MW	-----
		2.02	ALIGNMENT OF CONTACT SPRINGS	MW	-----
		2.03	PRESSURE OF CONTACT SPRINGS	MW	-----
		2.04	PRESSURE OF DETENT SPRINGS	MW	-----

**2.05 212 INPUT TRNSF**

For All Units

030-765-702	(2/0)	2.01	CLEANING & LUBRICATION	MW	-----
		2.02	ALIGNMENT OF CONTACT SPRINGS	MW	-----
		2.03	PRESSURE OF CONTACT SPRINGS	MW	-----
		2.04	PRESSURE OF DETENT ROLLER	MW	-----

**2.06 STUD TYPE ROT SW**

For All Units

030-765-703	(1/0)	2.01	CLEANING & LUBRICATING	MW	-----
		2.02	ALIGNMENT OF CONTACT SPRINGS	MW	-----
		2.03	CONTACT SPRING PRESSURE	MW	-----
		2.04	DETENT SPRING PRESSURE	MW	-----

**2.07 25PT HVY DUTY**

For All Units

030-766-701	(5/0)	2.02	LUBRICATION	MW	24M -----
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**2.08 25 PTLT DUTY**

For All Units

030-766-702 (4/0) 2.02 LUBRICATION MW 24M \_\_\_\_\_

**2.09 A3 & A5 PRV SYS**

For All Units

030-767-701 (6/1) 2.01 CLEANING MW 6M \_\_\_\_\_  
 2.02 LUBRICATION ITEMS A4, B1 MW 6M \_\_\_\_\_  
 2.02 LUBRICATION ITEMS A1, A2 MR 3M \_\_\_\_\_  
 2.04 ALIGNMENT OF COUPLING SHAFT  
 W/GEAR BOX SHAFTS MW 12M \_\_\_\_\_

Optional Features: SELECT NO MORE THAN ONE CATEGORY

**LOW SPEED CAM SPRING ASSEMBLIES**

030-767-701 (6/1) 2.05 RELATION BETWEEN CAM & CAM SHOE MW 12M \_\_\_\_\_  
 2.06 CONTACT ALIGNMENT MW 12M \_\_\_\_\_  
 2.07 PRESSURE OF CAM SHOE ON CAM MW 12M \_\_\_\_\_  
 2.08 POSITION OF OUTER CONTACT SPRING MW 12M \_\_\_\_\_  
 2.09 CONTACT SEPARATION MW 12M \_\_\_\_\_  
 2.10 CONTACT PRESSURE MW 12M \_\_\_\_\_

**HIGH SPEED CAM SPRING ASSEMBLIES**

030-767-701 (6/1) 2.11 RELATION BETWEEN CAM & CAM SHOE MW 12M \_\_\_\_\_  
 2.12 CONTACT ALIGNMENT MW 12M \_\_\_\_\_  
 2.13 PRESSURE OF CAM SHOE ON CAM MW 12M \_\_\_\_\_  
 2.14 POSITION OF UPPER CONTACT SPRING MW 12M \_\_\_\_\_  
 2.15 CONTACT PRESSURE MW 12M \_\_\_\_\_  
 2.16 CONTACT SEPARATION MW 12M \_\_\_\_\_  
 2.17 ENDPLAY OF UPPER GEAR BOX SHAFT MW 12M \_\_\_\_\_  
 2.18 SWITCHING OF INTERVAL & SYNC  
 OF TERMINALS MW 12M \_\_\_\_\_  
 2.19 RELATION BETWEEN HIGH & LOW  
 SPEED CAMS MW 12M \_\_\_\_\_  
 2.20 TIMING OF HIGH SPEED CAMS MW 12M \_\_\_\_\_

**2.10 25 & 80 AMP CEMF**

For All Units

030-780-701 (2/0) 2.01 LUBRICATION ITEMS M1 & M2 MW 6M \_\_\_\_\_  
 2.01 LUBRICATION ITEM M3 MW 2M \_\_\_\_\_  
 2.01 LUBRICATION ITEM M4 MW W \_\_\_\_\_  
 2.02 MOUNTING MW 6M \_\_\_\_\_  
 2.03 FREEDOM OF OPERATION MW 6M \_\_\_\_\_  
 2.04 ENDPLAY MW 6M \_\_\_\_\_  
 2.05 CLEARANCE BETWEEN SWITCH ARM  
 & STOP PIN MW 6M \_\_\_\_\_

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**Optional Features**

**MAIN CONTACT BRUSH**

030-780-701	(2/0)	2.06	CONTACT SURFACE	MW 6M	-----
		2.07	CONTACT PRESSURE	MW 6M	-----
		2.08	FREEDOM OF MOVEMENT	MW 6M	-----

**AUXILIARY CONTACT BRUSH**

030-780-701	(2/0)	2.09	CONTACT SURFACE	MW 6M	-----
		2.10	POINT OF CONTACT	MW 6M	-----

**ADJUSTABLE CONTACT BRUSH**

030-780-701	(2/0)	2.11	CONTACT SURFACE	MW 6M	-----
		2.12	POINT OF CONTACT	MW 6M	-----

**MAIN & INTERMEDIATE CONTACTS**

030-780-701	(2/0)	2.13	CONTACT SURFACE	MW 6M	-----
		2.14	CONTACT HEIGHT	MW 6M	-----

**AUXILIARY CONTACTS**

030-780-701	(2/0)	2.15	CONTACT SURFACE	MW 6M	-----
		2.16	CONTACT HEIGHT	MW 6M	-----

**ADJUSTABLE CONTACT STUD**

030-780-701	(2/0)	2.17	CONTACT SURFACE	MW 6M	-----
		2.18	CAM	MW 6M	-----

**LIMITED SPRING ASSEMBLIES**

030-780-701	(2/0)	2.19	CONTACT SURFACE	MW 6M	-----
		2.20	ALIGNMENT OF CONTACT POINTS	MW 6M	-----
		2.21	CONTACT SEPARATION	MW 6M	-----
		2.22	OPERATION	MW 6M	-----
		2.23	ALIGNMENT	MW 6M	-----
		2.24	FREEDOM OF MOVEMENT	MW 6M	-----
		2.25	BRUSH LENGTH	MW 6M	-----
		2.26	BRUSH FIT	MW 6M	-----
		2.27	BRUSH PRESSURE	MW 6M	-----
		2.28	COMMUTATOR SURFACE	MW 6M	-----
		2.29	NOISE & VIBRATION	MW 6M	-----
		2.30	OPERATION LIMITS	MW 6M	-----

2.11 *KS-15610, KS-15624*

## For All Units

030-785-701	(8/0)	2.01	OPERATION GROUP 1 POSITION	MW	3M	-----
		2.01	OPERATION GROUP 2 POSITION	MW	12M	-----
		2.01	MANUAL OPERATION	MW	12M	-----
		2.02	LUBRICATION	MR	12M	-----
		2.04	MOUNTING OF CONTACTS	TT		-----
		2.05	CONDITION OF CONTACTS, CLIPS & BLADE	TT		-----
		2.06	ENGAGEMENT OF MOVABLE & STATIONARY MAIN & KNIFE SWITCH CONTACTS	TT		-----
		2.07	ARCING CONTACT FOLLOW	MW	12M	-----
		2.08	ARCING CONTACT CLEARANCE	TT		-----
		2.09	ARCING CONTACT ALIGNMENT	TT		-----
		2.10	VOLTAGE DROP ACROSS MAIN CONTACTS	MW	6M	-----
		2.11	NOISE & VIBRATION	TT		-----
		2.12	VOLTAGE & CURRENT OF MOTOR	TT		-----
		2.13	MOTOR TORQUE	TT		-----
		2.14	CONDITION OF MOTOR COMMUTATOR SURFACE	TT		-----
		2.15	COMMUTATION	TT		-----
		2.16	BRUSHES	TT		-----
		2.17	POSITION OF CONTROL RAILS	TT		-----
		2.18	CONDITION OF ALIGNMENT OF CONTROL RAILS & CONTROL BRUSH SLIDING CONTACTS	TT		-----
		2.19	CONTACT PRESSURE & FREEDOM OF MOVEMENT OF CONTROL CONTACTS	TT		-----
		2.20	MOUNTING OF LIMIT SWITCHES & OFF-NORMAL SW	TT		-----
		2.21	OPERATION OF LIMIT SWITCHES	TT		-----
		2.22	OPERATION OF OFF-NORMAL SWITCH	TT		-----
		2.23	STRUTHERS-DUNN 166BXB 100 RELAY	TT		-----
		2.24	RESISTORS	TT		-----
		2.25	TEMPERATURE	MW	6M	-----

2.12 *KS-15847*

## For All Units

030-786-701	(4/1)	2.01	LUBRICATION ITEM A	MW	12M	-----
		2.01	LUBRICATION ITEM C	MW	12M	-----
		2.01	LUBRICATION ITEM D	MW	12M	-----
		2.03	CONDITION OF CAM CONTACTS A & STATIONARY CONTACTS B	MW	12M	-----
		2.04	CONTACT FOLLOW	MW	12M	-----
		2.05	VOLTAGE DROP	MR	6M	-----

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030-786-701	(4/1)	2.06	NOISE & VIBRATION	TT	-----
		2.07	VOLTAGE & CURRENT OF MOTOR	TT	-----
		2.08	MOTOR TORQUE	TT	-----
		2.09	MOTOR COMMUTATOR SURFACE	MW	12M-----
		2.10	COMMUTATOR	MW	12M-----
		2.11	BRUSHES	MW	12M-----
		2.12	WARD LEONARD RELAY	MR	12M-----
		2.13	AUXILIARY SWITCHES	MR	12M-----
		2.14	TEMPERATURE	MR	12M-----

2.13 *KS-5502, KS-15836*

For All Units

030-787-701	(7/0)	2.01	LUBRICATION ITEM A	MW	6M-----
		2.01	LUBRICATION ITEMS B & D	MW	36M-----
		2.01	LUBRICATION ITEM C	MW	12M-----
		2.02	CONDITION OF MOTOR BEARING	TT	-----
		2.03	MOUNTING OF KNIFE SWITCH CONTACTS	TT	-----
		2.04	CONDITION OF KNIFE SWITCH BLADES & CONTACT CLIPS	TT	-----
		2.05	ENGAGEMENT OF KNIFE SWITCH BLADES & CONTACT CLIPS	TT	-----
		2.06	VOLTAGE DROP	MW	6M-----
		2.07	NOISE & VIBRATION	TT	-----
		2.08	VOLTAGE & CURRENT OF MOTOR	TT	-----
		2.09	MOTOR TORQUE	MW	3M-----
		2.10	CONDITION OF MOTOR COMMUTATOR SURFACE	TT	-----
		2.11	COMMUTATION	TT	-----
		2.12	BRUSHES	TT	-----
		2.13	CONDITION OF CAM SWITCHES	TT	-----
		2.14	OPERATION OF CAM SWITCHES	TT	-----
		2.15	CONDITION OF LIMIT SWITCHES	TT	-----
		2.16	OPERATION OF LIMIT SWITCHES	TT	-----
		2.17	TEMPERATURE	MW	6M-----

2.14 *EM CELL MTR DRVN*

For All Units

030-789-701	(1/0)	2.01	LUBRICATION ITEMS A, C, D, G, H	MW	1M-----
		2.01	LUBRICATION ITEM B	MW	6M-----
		2.01	LUBRICATION ITEM E	MW	12M-----
		2.04	BRUSHES	MW	1M-----
		2.05	MOTOR TORQUE	MW	1M-----
		2.06	MOTOR COMMUTATOR SURFACE	MW	1M-----
		2.07	COMMUTATION	MW	1M-----
		2.08	NOISE & VIBRATION	MW	1M-----
		2.09	TEMPERATURE	MW	6M-----
		2.10	CAM SWITCH	MW	12M-----

030-789-701	(1/0)	2.11	LIMIT SWITCHES	MW	12M	-----
		2.12	MAIN CONTACTS & LAMINATED BRUSHES	MW	12M	-----
		2.13	CENTERING OF LAMINATED BRUSHES ON CONTACTS	MW	12M	-----
		2.14	DIRECTION CONTROL MAGNETS	MW	12M	-----
		2.15	BRAKE MAGNETS	MW	12M	-----
		2.16	WORM & WORM GEAR	MW	12M	-----

2.15 *AUTO SW CO TRANS*

## For All Units

030-790-701	(1/1)	2.01	MOUNTING	MW	12M	-----
		2.02	CLEANING CONTACTS & REMOVING BUILDUPS	MW	12M	-----
		2.03	CONTACT ALIGNMENT	MW	12M	-----
		2.04	CONTACT SEQUENCE	MW	12M	-----
		2.05	PLUNGER & AUXILIARY CONTACT SETTING	MW	12M	-----
		2.06	CONTACT PRESSURE & FOLLOW	MW	12M	-----
		2.07	FREEDOM OF OPERATION	MW	12M	-----
		2.08	ELECTRICAL REQUIREMENTS	MW	12M	-----
		2.09	TEMPERATURE	MW	12M	-----

2.16 *SEQUENCE SWITCHES; SELECT ONLY ONE CATEGORY*

## A &amp; B TYPE

030-801-501	(2/0)	1.03	TESTING SEQUENCE SWITCHES	MW	6M	-----
030-801-701	(6/0)	2.01	CLEANING	MW	18M	-----
		2.02	LUBRICATION ITEMS B, C, & D	MW	24M	-----
		2.02	LUBRICATION ITEM E	MR	6M	-----
		2.05	SPRING CLEARANCE	MR	36M	-----

## SPRING DRIVEN

030-801-501	(2/0)	1.03	TESTING SEQUENCE SWITCHES	MW	6M	-----
030-802-701	(2/0)	2.01	CLEANING	MR	24M	-----
		2.02	LUBRICATION ITEM A	MR	1M	-----
		2.02	LUBRICATION ITEM B	MR	6M	-----

## Trouble Tests

030-801-701	(6/0)	2.02	(2.02, 2.05-2.17 & 2.19-2.23) PART 2	TT		-----
030-802-701	(2/0)	2.04	(2.04-2.15) PART 2	TT		-----

2.17 *202-TYPE*

## Trouble Tests

030-710-701	(2/0)	2.01	(2.01-2.15) PART 2	TT		-----
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2.18 211 & 212-TYPE

Trouble Tests

030-711-701 (2/0) 2.01 (2.01-2.13) PART 2 TT -----

2.19 216 & 217-TYPE

Trouble Tests

030-712-701 (3/0) 2.01 (2.01-2.07) PART 2 TT -----

2.20 223-TYPE COAXIAL

Trouble Tests

030-713-701 (4/0) 3.01 (3.01-3.05) CLEANING TT -----  
4.01 (4.01-4.09) TESTS TT -----  
5.01 (5.01-5.04) TEST RQTS TT -----

2.21 300 THROUGH 303-TYPE

Trouble Tests

030-715-701 (7/0) 2.01 (2.01-2.42) PART 2 TT -----

2.22 304-8, 314-15, 318

Trouble Tests

030-717-701 (6/0) 2.01 (2.01-2.40) PART 2 TT -----

2.23 324-25, 28, 34, 38

Trouble Tests

030-720-701 (9/0) 2.01 (2.01-2.40) PART 2 TT -----

2.24 SMALL CROSSBAR

Trouble Tests

030-721-701 (5/1) 2.01 (2.01-2.42) PART 2 TT -----

2.25 4-TYPE FOOT

Trouble Tests

030-760-701 (3/1) 2.02 (2.02-2.12) PART 2 TT -----

**2.26 PLUNGER TYPE****Trouble Tests**

030-761-701	(2/1)	2.01	(2.01-2.23) PART 2	TT	-----
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**2.27 SOLENOID TP MA****Trouble Tests**

030-762-701	(2/0)	2.01	(2.01 & 2.03-2.34) PART 2	TT	-----
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**2.28 ROT AECO 25 PT**

030-766-701	(5/0)	2.04	(2.04-2.25) PART 2	TT	-----
030-766-702	(4/0)	2.04	(2.04-2.27) PART 2	TT	-----