SMEF Corner

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Model 40 Cassette Drive Damage

This is a reminder to take extra care and USE THE MANUAL when disassembling the cassette drive. The pins on P7 of the SSI/AS Interface unit are very brittle and easily broken. If you do break a pin, a new 408590 filter assembly, NSN 5915-01-067-3057, must be installed at a cost of about $46.00. Instructions for replacing this card are found in the Model 40 Shop Manual 359, Volume I - Issue 4, pages 2-121 and 2-122.

Model 40 CGPMS Note

The current Maintenance Procedure Cards do not address the need for demagnetizing the Model 40 cassette tape drive heads. Demagnetizing is a standard procedure for general tape recording equipment and will be added to the Model 40 CGPMS.

In the interim, cassette drive heads should be demagnetized at least annually. An excellent cassette style demagnetizer is available through the stock system for $15.16. The NSN is 5950-01-109-7158.

The demagnetizing cassette is an active device that uses a battery (supplied) and generates a tapering pulse of AC. The only moving part is a switch to activate the device, so tape head wear is non-existent and the unit may be used as often as necessary.

Due to the active nature of the demagnetizer, it is very important to secure power to the cassette drive prior to use. This caution is repeated in the manufacturer's literature, supplied with the unit. The demagnetizer is being used successfully at SMEF with no other precautions or side-effects.

CV-3883/UG Converter-Keyer AFSK Frequency Adjustment Information

If you have ever aligned a CV-3883/UG (Dovetron), you probably noticed the absence of Navy and Coast Guard frequency shift information. To complicate matters; prior to about 1972 the Navy's "Normal" mode of operation was wide shift RATT with the MARK tone HIGH and the SPACE tone LOW.

The Navy made "Reverse" keying (MARK tone LOW and SPACE tone HIGH) the normal mode of operation in 1972 but stayed with wide shift. On existing signal conversion equipment, radio operators would put the RATT converter in the "REVERSE" mode to correct the output logic of the received, now MARK-LOW, signals. Technical manuals for older Navy equipment reflect the original Mark-High, Space-Low convention; e.g. the CV-2460/SGC. Manuals for newer equipment, e.g. the AN/URA-17E, reflect the Mark-Low convention.

The Coast Guard uses Space-High, Mark-Low, narrow shift keying as its normal mode of operation. Some old-timers argue

that this is "REVERSE" keying, but the bottom line is that Mark-Low is the standard to which we align our CV-3883/UG in the "Normal" mode of operation.

Confused yet? The current conventions for normal wide and narrow band RATT are defined in COMDINST M10550.14, chapter 8.

The following alignment matrix was provided to the SMEF by Coast Guard Baltimore Yard. The potentiometers are physically located on the printed circuit board provided by Field Change #2.

fc = 2000 Hz
850 Hz Shift Range 170 Hz

Wide Mark	+15	Narrow mark
	+15	
1575 HZ	+15	1915 Hz
	+15	
Adj. R208B	+15	Adj. R208A
Wide Space	-15	Narrow Space
	-15	
2425 Hz	-15	2085 Hz
	-15	
Adj. R210B	-15	Adj. R210A

The matrix reflects the physical potentiometer positions if you stand in front of the unit and look "through" the front panel. The individual potentiometers are also labeled on the PCB.

Model 40 - EOT Lamp Adjustment

Some of the newer EOT Lamps, Teletype Corp. part number 406121, have been noticeably dimmer than earlier productions. We suspect this is to increase the operating life of the lamp. Past failure rates have been high.

The older and brighter lamps are very forgiving. Installation adjustments that are "close" are usually good enough to keep the BOT-EOT sensor happy. The newer and dimmer lamps will work but, the adjustment must be done by the book. The correct adjustment procedure can be found in the Model 40 Shop Manual 359, Volume I - Issue 4, page 2-103. In the event you still can't achieve a satisfactory adjustment, you should check the BOT-EOT sensing tube adjustment found on page 2-104.

Model 40 - EOT Lamp Stock Number Correction

All cassette drive APL entries for the END-of-Tape lamp assembly, Teletype Corp. part number 406121, show the NSN as 6210-00-462-0471. This number is incorrect: you will get something that resembles a lamp assembly for an automobile.

The correct stock number is 6210-01-087-1248. Crossing the Teletype Corp. part number to a stock number will also yield the correct NSN. Note the correct stock number in existing APL's.

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