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6213

FIELD SERVICE MEMO

Date: May 22, 1961
Memo No: 6
Model No: FR-400
Mailing No: 658

Subject: Addition of the Zener Diode Retrofit Kit to improve rewind characteristics.

With the introduction of the split cross arm assembly, new problems have become evident in the rewind characteristics of the earlier FR-400's to which the new cross arms are fitted. Those problems are presented as follows:

- 1) Speed-up and slow-down of the tape rewind.
- 2) Stopping of the tape in the middle of a rewind.
- 3) Inability of the system to begin rewinding tape.

In order that the above difficulties might be avoided, a change has been introduced in production FR400's involving the addition of a zener diode in the rewind circuit. These improvements should be added to any machine converted to the new assembly in the field.

The zener, when placed across R20 in the control unit assembly, as shown in figure 2 (print #42844) helps to eliminate those rewind problems. When the torque reel motor starts to stall or slow down while rewinding, the zener breaks down effectively shorting R20, thereby supplying more current to the torque motor.

In the event your system employs the use of S22 located physically on the left hand side of the control unit assembly, the change should be made according to figure 1 of the attached print, #42844.

If desiring to order those parts necessary to complete a rewind retrofit, you can order all parts necessary as a kit by requesting part number 42844. Delivery time will be about thirty days.

DRAWN BY	INITIALS	DATE
CHECKED BY		
SPEC. ENG.		
ENGINEER	DA	10/1/54
APPROVED BY		
APPROVED BY		
AUTHORIZED BY		

UNLESS OTHERWISE SPECIFIED:

SCALE:

DIMENSIONS ARE IN INCHES.

TOLERANCE ON FRACTIONS ±

DECIMALS ± ANGLES ±

TOLERANCE ON HOLE DIAMETERS:

THRU + -

THRU + -

THRU + -

BREAK SHARP EDGES AND DEBURR.

SURFACE ROUGHNESS PER NAS 30.

ALL MACHINED SURFACES

DO NOT SCALE THIS DRAWING.

TITLE:

ZENER DIDDE

RETROFIT KIT

FR-400 ALL MODELS

FIRST USED ON MODEL:

NEXT ASSY:

DRAWING NO.

A-42844

ISSU

SHEET

OF

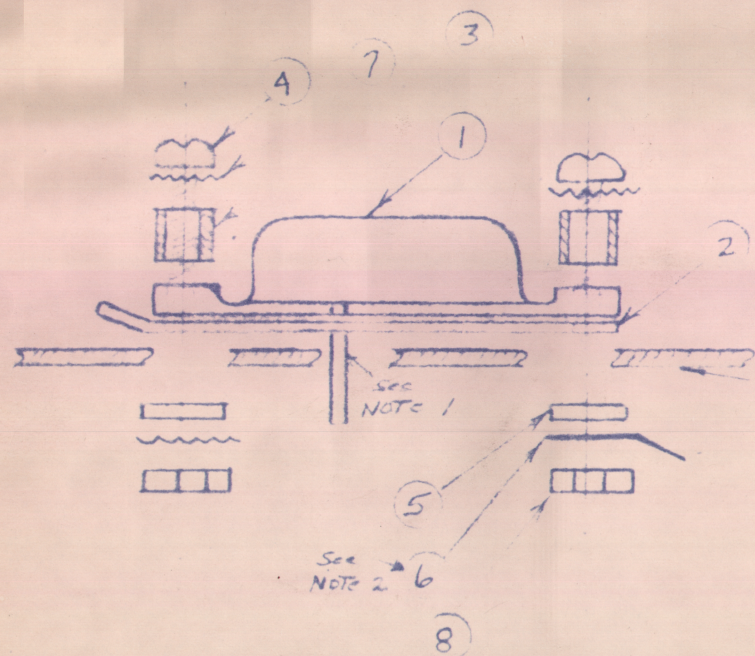
REDWOOD CITY, CALIFORNIA, U.S.A.

REVISIONS

REV.	AND/OR ECN NO.	BY	CHKD	ENG.	DATE
A	CH 200-100-100	DA		DA	10/1/54

MATERIALS LIST

QTY	ITEM NO.	AMPEX PART NO.	GOVT. OR MIL. NO.	DESCRIPTION	SCHEM REF. NO.
1	1	015-170		DIDDLE, ZENER (NIPOLA 50M17Z5)	
1	2	240-031		INSULATOR PLATE	
2	3	600-035		TUBING, BLACK #10 (3/4" LENGTH)	
2	4	471-063		SCREW, PAN HD 400 x 3/16 STL CHD PATE	
2	5	502-012		WASHER, FIBER SHOULDER #6	
1	6	172-004		SOLDER LUG #4	
3	7	502-013		WASHER, LOCK EXT TOOTH #4 STL CHD PATE	
2	8	472-004		NUT, PLAIN HEX #400 STL CHD PATE	



NOTE 1. CONNECT DIDDLE PINS TO POSITIVE END OF RESISTOR. (USE EITHER PIN) MEASURE WITH VOLTMETER.

NOTE 2. CONNECT SOLDER LUG TO NEGATIVE END OF RESISTOR.

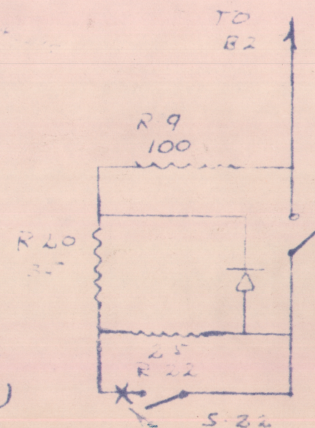


Fig 1

BATTERY CONNECTION

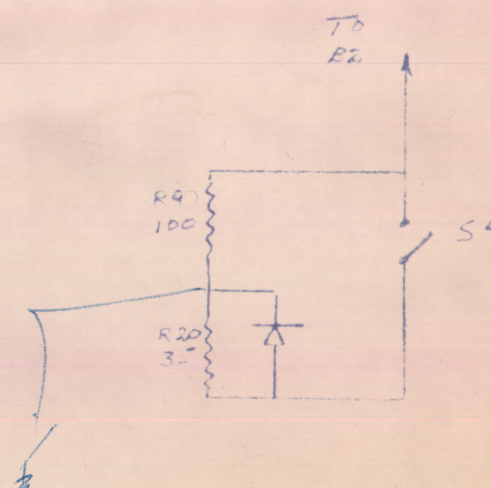


Fig 2