

THE HP SYSTEM MONITORS COIL RESISTANCE AND CHECKS FOR COIL-TO-COIL SHORTS CONTINUOUSLY DURING THE KEYING PROCESS. AN ALARM IS GENERATED IF THE PERCENT DIFFERENCE BETWEEN THE UPPER AND LOWER COIL RESISTANCE EXCEEDS 1% OR IF A SHORT IS DETECTED FROM UPPER TO LOWER COIL.

PRESS CLOSURE IS MONITORED BY READING THE POSITION OF LVDT'S AT THE PRESCRIBED VERTICAL (100-JACK) PRESSURES.

KEY INSERTION IS MONITORED BY READING THE POSITION OF POTENTIOMETERS AT THE PRESCRIBED HORIZONTAL (SIDE-JACK) PRESSURES.

SET-UP PROCEDURE:

1. CONNECT THE CABLES THAT MEASURE UPPER AND LOWER COIL RESISTANCE. CONNECT THE CABLES THAT MEASURE COIL-TO-COIL RESISTANCE.
2. CONNECT THE 8 COLOR-CODED CABLES AT THE RETURN END OF THE MAGNET THAT CONNECT THE DATA ACQUISITION SYSTEM TO THE POTENTIOMETERS. THE LVDT'S ARE PERMANENTLY CONNECTED TO THE DATA ACQUISITION SYSTEM.

PROCEDURE FOR RUNNING THE COMPUTER PROGRAM

1. AT THE 'LOGIN' PROMPT, TYPE 'KEYING'.
2. AT THE 'PASSWORD' PROMPT, TYPE 'KEYING'.
3. THE PROGRAM WILL AUTOMATICALLY LOAD. IF WILL TAKE A FEW MINUTES. WAIT UNTIL YOU ARE PROMPTED TO ENTER MAGNET NUMBER.
4. ENTER THE MAGNET NUMBER AS PROMPTED.
5. ENTER PROCEDURE AS PROMPTED.
6. ENTER NAME AS PROMPTED.
7. ENTER COMMENT AS PROMPTED.
8. NOW THE PROGRAM WILL PROCEED TO CONTINUALLY MONITOR AND DISPLAY ALL JACK PRESSURES AND COIL RESISTANCE DATA.
9. WHEN THE PRESS REACHES A PRESSURE AT WHICH YOU WANT TO TAKE AND RECORD RESISTANCE, LVDT, AND POTENTIOMETER DATA, HIT THE "MEASURE ALL" KEY. A MESSAGE WILL BE ON THE SCREEN WHILE IT IS TAKING MEASUREMENTS SAYING, "MEASUREMENTS ARE IN THE PROCESS OF BEING TAKEN, PLEASE WAIT...". WHEN IT IS FINISHED MAKING THE MEASUREMENTS, THE PROGRAM WILL AUTOMATICALLY RESUME MONITORING THE PRESS PRESSURES AND COIL RESISTANCES.
10. TO LOOK AT THE CUMULATIVE RESISTANCE DATA COLLECTED, HIT "OHM HISTORY".
11. TO LOOK AT THE CUMULATIVE LVDT DATA COLLECTED, HIT "PLOT LVDT". WHEN A LVDT IS WITHIN 1 MIL OF ITS CLOSED POSITION, IT IS PLOTTED IN GREEN. THE DEFINITION OF "CLOSED POSITION" IS THE POSITION OF EACH LVDT AT THE GIVEN PRESSURE WITH NO MAGNET IN THE MOLD.
12. TO LOOK AT THE CULUMATIVE POTENTIOMETER DATA COLLECTED, HIT "POT DISPLACE" OR "DELTA POTS". THE MOST COMMONLY DESIRED PLOT TO CHECK TO SEE IF KEYIN IS FINISHED IS "POT DISPLACE". WHEN A POT IS WITHIN 10 MILS OF ITS KEYED POSITION, IT IS PLOTTED IN GREEN.
13. TO OBSERVE THE DATA AS A FUNCTION OF TIME, HIT "TIME PLOT".
14. WHEN KEYING IS ACCOMPLISHED, HIT "STOP PROGRAM".
15. YOU WILL BE PROMPTED TO ANSWER WHETHER YOU WANT TO SAVE THE DATA. ANSWER 'Y' FOR YES.
16. THE DATA WILL NOT BE WRITTEN TO A FILE. A MESSAGE WILL APPEAR SAYING "DATA IS BEING WRITTEN TO A FILE, PLEASE WAIT...". THIS WILL TAKE ABOUT 30 MINUTES. DO NOT ENTER ANY MORE COMMANDS UNTIL THE MESSAGE "PROGRAM STOPPED. DATA HAS BEEN SAVED." APPEARS ON THE COMPUTER SCREEN.
17. A HARDCOPY OF THE RESISTANCE DATA WILL AUTOMATICALLY BE PRINTED TO THE "IBC3W_PS" PRINTER.
18. TO OBTAIN PLOT OF LVDT'S AND POTS, ASK BOB ANDREE TO PLOT 3 FILES THAT WERE GENERATED (XXX REFERS TO MAGNET NO.):
/USERS/KEYING/RMB_PROGS/XXX_DELTA.BITS, /XXX_LVDT.BITS, XXX_POT.BITS.
19. WHEN THE PROGRAM IS FINISHED WRITING THE DATA TO A FILE, TYPE 'SHIFT CONTROL RESET' (ALL 3 KEYS SIMULTANEOUSLY) TO LOG OUT.

REV.	DESCRIPTION	ORIGIN	DATE
		APPD.	DATE
A	GEN'L REV: WAS 2 PAGES	NWS RS	3/13/82 83696

UNLESS OTHERWISE SPECIFIED:	ORIGINATOR	D. KUBIK	6/21/91
1. ALL DIMENSIONS ARE IN MILLIMETERS.	DRAWN	P. A. WINTERS	10/9/91
2. TOLERANCES: ±1 mm.	CHECKED		
3. DIMENSIONS BASED UPON ANSI Y14.5M-1982.	APPROVED	J. A. Carson	10/10/91
4. 1 INCH DIMENSIONS ARE FOR REFERENCE ONLY.	USED ON	N/A	
5. BREAK ALL SHARP EDGES.	MATERIAL	N/A	
6. DO NOT SCALE DRAWING.			
7. MAX. ALL MACH. SURFACES			
8. DIMENSION IDENTIFICATION: MILLIMETER; MILLIMETER/INCH			

 FERMION NATIONAL ACCELERATOR LABORATORY
UNITED STATES DEPARTMENT OF ENERGY
SSC

SSC 50MM DIPOLE COLD MASS
HP COMPUTER DATA ACQUISITION
DURING KEYING PROCEDURE

SCALE	DRAWING NUMBER	SHEET	REV.
	0102-ES-292423	1 of 1	A
CREATED WITH I-DEAS 5.0		USER NAME: NancyB	