2-152. SUBPROGRAM U18 (PRTINT). PRTINT interprets card columns 55-60 for direct or delayed output. The FORTRAN II reference statement is CALL PRTINT.

a. Inputs. The input is the information in columns 55-60 of the TAA or RSD control cards. The information is in BCD form in the card image area CDI9.

b. Outputs. The output is SW(82) set ØN if direct print is required, or ØFF if delayed output is required.

c. Program Logic. FD U18

(1) Steps 1-3. The contents of index registers 1, 2, and 4 are saved. SW(82) is set ØFF and zeros are stored in GRASE-2.

(2) Steps 4-6. Columns 55-60 are examined. If they contain b (blank) PRT-Y, SW(82) is set ØN and the subprogram continues at step 7. If the columns contain bPRT-N, the subprogram continues at step 7. Otherwise the subprogram continues at step 9.

(3) Steps 7-8. The contents of the index registers are restored. If any errors occurred, the columns in error were indicated in GRASE-2. GRASE-2 is now stored in CLER and the subprogram exits to the user subprogram.

(4) Steps 9-13. Columns 55-59 are examined one at a time. If they do not contain bPRT- , the column or columns in error are indicated in GRASE-2. If column 60 contains an

N or Y, the subprogram continues at step 7. Otherwise column 60 is indicated in GRASE-2, and the subprogram continues at step 7.

2-153. SUBPROGRAM U12 (PRTSSW). PRTSSW prints an indication of the SENSE switch settings 1-6. The FORTRAN II reference statement is CALL PRTSSW.

a. Inputs. The inputs are the settings of the SENSE switches.

b. Outputs. The output is the statement SENSE SWITCH SETTINGS _ _ _ _ _ _ printed and written. Each dash is replaced by 0 or 1 depending on the setting of the particular SENSE switch 1-6.

c. Program Logic. The registers that are designated to contain the setting indicators for SENSE switches 1-6 are initialized to zero. Each SENSE switch is interrogated. If ØN, a 1 replaces the 0 in the appropriate register; if ØFF, the register remains 0. The output statement is printed and written and the subprogram exists to the user subprogram.

2-154. SUBPROGRAM U17 (RESCD). RESCD in conjunction with U41, converts the check point number from BCD to floating point binary. The FORTRAN II reference statement is CALL RESCD.

a. Inputs. The input is a Restart card in BCD format located in the card image area. The bit configuration for the CDI1 and CDI2 is illustrated in paragraph 2-209. The format of the card is as follows:

COLUMNS	CONTENTS
1-7	Blank
8-10	RES
11-12	Blank
13-17	Check point number
21-24	If present, non-standard transfer point; otherwise blank.

b. Outputs. The output is the converted check point number stored in IRECR.

c. Program Logic. FD U17

(1) Steps 1-3. The contents of index registers 1 and 4 are saved, and IFLAG is set to identification integer 2117. SW(70) is set ØFF, and zeros are stored in ITYER, CLEL, and CDI4.

(2) Steps 4-6. Columns 21-24 are examined for blanks. If present, control is transferred to step 7. Otherwise U41 converts the columns from BCD to floating point binary and stores them in CDI4.

(3) Steps 7-9. Columns 12 and 18 are examined for blanks. If present, the subprogram continues at the next step; otherwise the column or columns in error are indicated by setting to one the corresponding bit in CLEL. SW(70) is set ØN and a four is stored in ITYER.

(4) Steps 10-14. U41 converts the check point number (col 13-17) to floating binary form. The converted data is stored in IRECR. SENSE light 4 is interrogated to determine if an error occurred in U41. If an error occurred (SENSE light 4 ON), SW(70) is set ØN and a four is stored in ITYER. In all cases, the contents of index registers 1 and 4 are restored, and the subprogram exits to user subprogram.

2-155. SUBPROGRAM U27 (TGTTYP). TGTTYP, in conjunction with U40 and U41, converts the target data stored in BCD form in the card image area to floating point binary form and stores the data in Common registers. The FORTRAN II reference statement is CALL TGTTYP.

a. Inputs. The input is the information from one TGT card in BCD form stored in CDIO-CDI4. Figure 2-2 illustrates the types and formats of these cards. The table in paragraph 2-209 illustrates the bit configuration of these columns in the card image area. U22 sets the corresponding target switch SW(91)-SW(100) for each target number ØN or ØFF.

b. Outputs. If an error occurs in TGTTYP, SW(70) is set ØN and the columns in error are indicated by setting to one the proper bits in CIEL. The following are also outputs:

COMMON TAG	ITEM (switch in ØN state)
SW(72)	LAT card input
SW(73)	LON card input
SW(76)	TOT requested
SW(161)-SW(170)	Punch OGE card

The converted data is stored as follows:

COMMON TAG	DIMENSION	ITEM
UTDIN	10,1	Target data inventory number
IDGZP	10,1	Desired ground zero point

COMMON TAG	DIMENSION	ITEM
IDPTG	10,1,1	Duplicate target slot number
TOLT	2,10	Geodetic latitude
TOLN	2,10	Geodetic longitude
TOGS	2,10	Geoidal separation
TOAL	2,10	Altitude above mean sea level
TODA	2,10	Detonation altitude above target
TOPD	2,10	Maximum latitude of prearm boundary
TOPR	2,10	Maximum longitude of prearm boundary
TOPU	2,10	Minimum latitude of prearm boundary
TOPL	2,1o	Minimum longitude of prearm boundary
FRFSG and FRFSG-1	2,6,10	Time adjustment factor and altitude adjustment factor
USPAR-2	14,1	Spare block number

The target data inventory (TDI) number and the desired ground zero (DGZ) point are stored in BCD form in TOID and TOGZ respectively. The inputs are stored in UTGIT-UTGIT-3.

c. Program Logic. FD U27

(1) Steps 1-6. The contents of index registers 1, 2, and 4 are saved. IFLAG is set to identification integer 2127. If TOT is requested, new tape switch SW(83) is set ON before identifying the card type from columns 4-6. The subprogram continues according to the card type as follows:

CARD TYPE	CONTINUE AT STEP	CARD TYPE	CONTINUE AT STEP
IDT	12	GSP	91
LAT	56	ALT	91
LON	66	DDA	91
PA1	58	TAF	105
PA2	59	PTI	114
PA3	61	AAF	125
PA4	62		

If none of the card types are found, an error exists and is indicated in CLEL.

(2) Steps 7-10. In step 7, a four is stored in error indicator ITYER after which SW(70) is set ØN in step 10. In step 8, a four is stored in ITYER and columns 2-3 are stored in CLEL after which SW(70) is set ØN.

(3) Step 11. The contents of the index registers are restored and the subprogram exits to the user subprogram.

(4) Steps 12-16. If the IDT card is not a dummy target, control is transferred to step 17. If a dummy target, the target number (col 2-3) is examined. If the target number is not valid or if the corresponding target switch is ØN, control is returned to step 8. If the target number is valid and if the corresponding target switch is ØFF, the target number is stored in UTGIT. The corresponding OGE card switch is set ØFF and control is returned to step 11.

(5) Steps 17-22. If column 13 is not numerical, control is transferred to step 41. If column 13 is numerical but column 14 is not, both columns are indicated in CLEL and control is returned to step 7. If both columns are numerical, the target number (col 2-3) is examined. If the target number is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If columns 12 and 21 are not blank, the subprogram continues at step 23. If none of these conditions exist, the subprogram continues at step 24.

(6) Step 23. The columns in error, which have been initialized for each control card, are stored in CLEL. Control is returned to step 7.

(7) Steps 24-29. U41 converts the TDI number (col 13-17) to an integer. An error in U41 (step 27) returns control to step 10. If there was no error, the input is examined. If the previous input was not the same type, the converted TDI number is stored in the UTDIN block and the TDI number in BCD form is stored in the TOID block, each according to the target number. The subprogram continues at step 32. If the previous input was the same type, the subprogram continues at the next step.

(8) Steps 30-31. A five is stored in ITYER, columns 4-6 are indicated in CLEL (step 31), and control is returned to step 10.

(9) Steps 32-40. The absence of a blank in column 23 is indicated in CIEL and control is returned to step 7. If there is a blank, U41 converts columns 19-21 to an integer. An error in U41 returns control to step 10. If no error occurred, the converted data is stored in the IDGZP block according to target number; and columns 18-23 and 22-23 in BCD form are stored in TOGZ and UEXTR blocks, respectively, according to target number. The input from the IDT card is stored in UTGIT and the OGE switches are set ØN or ØFF, according to a Y or N in column 36 of the input card. Control is returned to step 11.

(10) Steps 41-55. If SA is not in columns 13-14, the columns in error are indicated in CIEL and control is returned to step 7. If SA is present, the target number is examined. If the target number is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If the target number is valid and if the corresponding target switch is ØN, columns 21-22 are examined. If blank or if the target number (col 21-22) is not valid, the columns in error are indicated in CIEL and control is returned to step 7. If these columns contain a valid target number, the corresponding target switch is examined. If ØN, or if ØFF and this is the target switch for SAME AS target on the old tape, the target number is stored in the IDPTG block, according to target number. If the target switch is not for SAME AS target, the columns in error are indicated in CIEL and control is returned to step 7. After

the target number is stored in IDPTG, the tape is checked. If this is a new tape, or if an old tape and the word TAPE is not in columns 25-28, the input from the IDT card is stored in UTGIT. If the word TAPE is present, the switch corresponding to the proper target number is set ØN and then the input is stored in UTGIT. Control is returned to step 11.

(11) Steps 56-68. The LAT indicator LTIND is set to zero for a PA1 card or to a non-zero value for a PA2 card. The LON indicator LNIND is set to zero for a PA3 card or to a non-zero value for a PA4 card. After the indicator is set for the particular card being processed, or if the card was LAT or LON, SW(73) is set ØN and SW(72) is set ØFF. If the target number (col 2-3) is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If columns 12 and 21 are not blank, control is returned to step 23. If none of these conditions exist, U40 converts the data (latitude LAT, longitude LON, maximum latitude PA1, minimum latitude PA2, maximum longitude PA3, or minimum longitude PA4) to floating point binary. An error in the conversion returns control to step 7; otherwise control is transferred to step 69 for LAT, step 73 for LON, step 77 for PA1 and PA2, or step 84 for PA3 and PA4.

(12) Steps 69-76. LAT (or LON) data is being processed. If the previous data was the same type, control is returned to step 31. If not the same type and if the converted data is zero, control is returned to step 7. If

not zero, the converted LAT data is stored in the TOLT block (LON data stored in TOLN). The input from the LAT (or LON) card is stored in UTGIT and control is returned to step 11.

(13) Steps 77-90. PA1 or PA2 (PA3 or PA4) data is being processed. If the previous data was the same type, control is returned to step 31. If not the same type, the converted data is stored as follows: PA1 in the TØPD block, PA2 in the TØPU block, PA3 in the TØPR block, or PA4 in the TØPL block. The input from the PA1 or PA2 card is stored in UTGIT-2; the input from the PA3 or PA4 card is stored in UTGIT-4.

(14) Steps 91-104. GSP, ALT, or DDA card is being processed. If the target number (col 2-3) is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If columns 12 and 21 are not blank, control is returned to step 23. If none of these conditions exist, U41 converts the geoidal separation GSP, altitude ALT, or detonation altitude above target DDA to floating point binary. An error in U41 returns control to step 27; otherwise the previous data is compared to the data just processed. If the previous data is the same type, control is returned to step 31. Otherwise, the converted data is stored as follows: GSP in the TOGS block, ALT in the TOAL block, or DDA in the TODA block. The input from the GSP, ALT, or DDA card is stored in UTGIT-1. Control is returned to step 11.

(15) Steps 105-113. TAF card is being processed. If the target number is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If columns 12 and 19 are not blank, control is returned to step 23. If none of the above conditions exist, U41 converts the time adjustment factor TAF to floating point binary. An error in U41 returns control to step 27. If no error occurred, the relative location of the correct storage register is found and placed in index register 2 for later address modification. If the previous data was the same type, control is returned to step 31. If not the same type, the converted TAF data is stored in the FRFSG block which is modified by index register 2 to give the correct location in storage. The input from the TAF card is stored in UTGIT-3 and control is returned to step 11.

(16) Steps 114-124. PTI card is being processed. U41 converts the control number to floating point binary. If the control number is greater than 689999, the columns in error are indicated in CLEL. Otherwise the control number is stored in ICONT. The effective data is stored in BCD in UPDAT and UEDAT. If any errors are indicated in CLEL, control is returned to step 7. Otherwise, the PTI data is stored in the UPTID block. The BCD block number is stored in USPAR-1. U41 converts the PTI data to floating point binary. An error in U41 returns control to step 7. Otherwise, the block number is stored in USPAR-2 and control is returned to step 11.

(17) Steps 125-133. AAF card is being processed. If the target number (col 2-3) is not valid or if the corresponding target switch is ØFF, control is returned to step 8. If none of the above conditions exist, U41 converts altitude adjustment factor AAF to floating point binary. An error in U41 returns control to step 10. If there was no error, the relative location of the correct storage register is found and placed in index register 2 for later address modification. If the previous data was the same type, control is returned to step 31. If not the same type, the converted AAF data is stored in the FRFSG block which is modified by index register 2 to give the correct location in storage. The input from the AAF card is stored in UTGIT-3 and control is returned to step 11.