APPENDIX J

V*IST*A BLOOD BANK USER MANUAL ALERTS AND WARNING MESSAGES

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# Alerts and Warning Messages

As with the file structure and documentation, the functional requirements in section IX and the software requirements specifications earlier in section X (pages X-28 through

X-58), the listing of alerts and warning messages has been divided into the same groupings, i.e. donor, inventory and patient. This listing provides a description of the design safeguard and a detailed trace to the routine, or the field in the data dictionary, which controls the functionality.

This table elaborates more specifically as to the exact nature of the functionality, including the specific triggers to warning and alert messages. There are seven columns in this table. From left to right their functions are:

* **WM #:** Number assigned to the specific warning message described. This number will be used to link the warning message to a specific validation test plan case.
* **Design Safeguard:** Extract from a Design Safeguard as documented in Section IX.
* **Option(s):** V*IST*A option, which executes the warning message when certain conditions are met.
* **Controlling field or routine:** Actual field or line(s) of code, which control if the Alert or Warning message will be displayed to the user.
* **Algorithm**: Actual logic, which triggers the Alert or Warning message.
* **Alert or Warning message**: Screen capture of the actual display of the Alert or Warning message. Data displayed during option execution not directly related to the Alert or Warning message has been omitted for brevity and readability of this report.
* Trace: List of the Intended Use (IU) #'s, Safety Critical Requirement (SCR) #'s, Software Requirement Specification (SRS) #'s associated with the Alert/Warning Message, as well as the Test case detailed in Section XII.

**Note:** Not all control functions are associated with alert or warning messages. Several methods of control are utilized in the programming, i.e., control of the data type at the field level by the data dictionary, use of cross references (listing based on specific parameters), system security, etc.

## Donor Functions

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or**  **routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD1 | Creates a unique cumulative donor record for each individual donor/patient, which includes a variety of identification and demographic information. | Donor registration [LRBLDLG]  Donor collection/ processing [LRBLDC] | DNR^LRBLDL G  I^LRBLDC VA  FileManager call MIX^DIC1 | Query made to the BLOOD DONOR File (# 65.5) using VA FileManager for existing entries. If no entries exist, then the user  is prompted by FileManager to confirm if a  new record should be created. | Select BLOOD DONOR NAME: BBDONOR,ONE  **Are you adding** BBDONOR**,ONE' as a new BLOOD DONOR (the 73RD)? No//** | IU # D1  SRS # D10  SCR # D1  TC # D44 D50 |
| WMD2 | During registration, checks existing entries in the BLOOD DONOR file (#65.5)  for duplicate donors, based on comparison of the name and/or a combination of the first letter of the last name and the date of birth. | Donor Registration [LRBLDLG] | DNR^LRBLDL G  VA  FileManager call MIX^DIC1 | A search made to the BLOOD DONOR File  (#65.5) cross-references for any possible matches.  "B" (Donor name)  "C" (Previous Unit ID) "D" (1st letter last name, Month/Day DOB)  "G4" (1st letter last name, last 4 # of SSN)  All valid choices displayed for selection. | Example # 1:  Select BLOOD DONOR NAME: D0706  1 D0706 BBDONOR,ONE M 07-06-47 DALLAS  2 D0706 BBDONOR,ONE M 07-06-47 DALLAS  3 D0706 BBDONER,ONE M 07-06-47 DALLAS  **CHOOSE 1-3:**  Example # 2:  Select BLOOD DONOR NAME: BBDONOR,TWO  **Are you adding 'BBDONOR,TWO' as a new BLOOD DONOR (the 75TH)? No//** Y (Yes) | IU # D9  SRS # D20  SCR # D1  TC # D17 D26 D51 |
|  |  |  |  |  | Donors with same last name, first name initial and sex as your entry:  BBDONOR,ONE DOB: 07/06/47 |  |
|  |  |  |  |  | Your entry: BBDONOR,TWO DOB: 07/06/47 |  |
|  |  |  |  |  | Want to delete your entry? **NO**// Y (YES) Ok, BBDONOR,TWO deleted. |  |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD3 | Locks donor record during data entry to prevent access by another terminal/user | Donor demographics [LRBLDD]  Donor collection/ processing [LRBLDC] | Routine LRBLDED  which calls up CK^LRU | Routine LRBLDED calls CK^LRU which attempts to lock the record. If lock is not established after one  second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | 2nd tech attempting Donor demographics: Select Donor Option: DD Donor demographics  Select BLOOD DONOR NAME: BBDONOR,ONE M 07-06-47 DALLAS  **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  2nd tech attempting Donor collection/processing Select Donor Option: dc Donor collection/processing | IU # D10  SRS # D13  SCR # D4  TC # D15 |
|  |  |  |  |  | Select BLOOD DONOR NAME: BBDONOR,ONE M 07-06-47 DALLAS  **ANOTHER TERMINAL IS EDITING THIS ENTRY!** |  |
| WMD4 | Prevents assignment of "duplicate" unit ID's based on a search of the existing entries in the BLOOD DONOR file (#65.5) | Donor registration [LRBLDLG]  Donor collection/ processing [LRBLDC] | Field 65.54 UNIT ID Input transform triggers routine LRBLU | Routine LRBLU checks both the BLOOD  INVENTORY file (#65) and the BLOOD DONOR file (#65.5) for possible duplicate UNIT ID. Alerts  user of duplicate deletes entry and prompts user for new entry. | UNIT ID: DON001  **DON001 assigned to BBDONOR,ONE??**  **Enter ID that component(s) prepared from donation will be labeled.**  **Not less than 6 or more than 11 characters**  UNIT ID: | IU # D14  SRS # D21  SCR # D3  TC # D22 D55 D63 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD5 | Calculates age of donor. Displays warning if donor is less than or=17 yrs old. | Donor registration [LRBLDLG] | OK^LRBLDG  FileMan utility  %DTC | Calculates the number of days from the donor's DOB  and the day of donation. AGE=# days/365.25.  If AGE<18 user is displayed warning message and asked to confirm to continue. | Select BLOOD DONOR NAME:  BBDONOR,THREE F 12-31-80 AUGUSTA  ???  **Is this the Donor ? YES//** (YES)  **Age:17 Does donor have permission to donate ? YES//** | IU # D16  SRS # D22  SCR # D11  TC # D36 D37 |
| WMD6 | Calculates age of donor. Displays warning if donor is greater than 65 yrs old. | Donor registration [LRBLDLG] | OK^LRBLDG  VA FileMan  %DTC | Calculates the number of days from the donor's DOB  and the day of donation. AGE=# days/365.25.  If AGE>64 user is displayed warning message and asked to confirm to continue. | Select BLOOD DONOR NAME: BBDONOR,FOUR M 04-10-30 DALLAS  **Is this the Donor ? YES//** (YES)  **Age: 67 Does donor have physician permission to donate ? YES//** | IU # D16  SRS # D22  SCR # D12  TC # D32 |
| WMD7 | Donors cannot donate homologous whole blood more often than every 8 weeks. | Donor registration [LRBLDLG] | A+4^LRBLDC  VA FileMan utility %DTC | If donation type =homologous determines the date 55 days previous to the current donation date. Checks donation records that are after the date determined above.  For each donation, checks the DONATION/ DEFERRAL  CODE entry. If W (whole blood) AND the donation is within the above date range, user is displayed the most recent WHOLE BLOOD donation and warning message and is exited from the  record. | ARRIVAL/APPT TIME: NOW// T@0600 (MAR 02, 1998@06:00)  DONATION/DEFERRAL CODE: WHOLE BLOOD// WHOLE BLOOD  DONATION TYPE: HOMOLOGOUS// HOMOLOGOUS  **LAST WHOLE BLOOD DONATION Feb 27, 1998**  **SORRY NOT 8 WEEKS SINCE LAST DONATION OF WHOLE BLOOD**  **COME BACK ON OR AFTER Apr 24, 1998**  Select BLOOD DONOR NAME: | IU # D15  SRS # D23  SCR # D10  TC # D19 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD8 | Prevents registration of a homologous donor if that donor is permanently deferred. | Donor registration [LRBLDLG] | OK+4^ LRBLDLG | Software checks for the presence of a YES entry in field 65.5,.1 PERMANENT  DEFERRAL. If yes, the user is prompted to allow autologous donation. If autologous donation not selected, the user is exited from the option. | DR Donor registration  [LRBLDLG]  Select BLOOD DONOR NAME: BBDONOR,FIVE F 04-10-60 DALLAS  **Is this the Donor ? YES//** (YES)  **IDENTIFICATION NUMBER: 5 NAME: BBDONOR,FIVE**  **SEX: FEMALE**  **PERMANENT DEFERRAL: YES** DATE REGISTERED/EDITED: OCT 22, 1992  DEFERRAL ENTER/EDIT BY: BBPROVIDER,ONE  SSN: 000-00-0005  PERMANENT DEFERRAL DATE CHANGE: MAR 20, 1997@09:42  **BBDONOR,FIVE permanently deferred except for autologous or therapeutic donation. If any questions see physician in charge.**  **Do you want autologous/therapeutic donation ? NO//** (NO) | IU # D20 D22  SRS # D27  SCR # D14  TC # D27 |
| WMD9 | Prevents entry of collection data on a homologous donor who is permanently deferred | Donor collection/ Processing [LRBLDC] | Input transform of field 65.5,5,1.1 | The input transform of field 65.5,5,1.1 DONATION TYPE checks the Donor record for presence of a YES in field 65.5,.1 PERMANENT  DEFERRAL. If the field is yes, then only allows entry of Autologous or Therapeutic for a DONATION TYPE. | DC Donor collection/Processing [LRBLDC]  Select BLOOD DONOR NAME: BBDONOR,FIVE F 04-10-60 DALLAS  NAME: BBDONOR,FIVE//  Select DONATION OR DEFERRAL DATE: OCT 22,1992// T APR 07, 1998  DONATION/DEFERRAL CODE: WHOLE BLOOD// WHOLE BLOOD  DONATION TYPE: HOMOLOGOUS// HOMOLOGOUS  **Permanent deferral, only autologous or therapeutic donation allowed.??**  **Choose from:**  **H HOMOLOGOUS A AUTOLOGOUS** | IU # D20 D22  SRS # D27  SCR # D14  TC # D27 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
|  |  |  |  |  | **T THERAPEUTIC D DIRECTED**  **DONATION TYPE: HOMOLOGOUS// HOMOLOGOUS**  Permanent deferral, only autologous or therapeutic donation allowed.??  Choose from:  **H HOMOLOGOUS A AUTOLOGOUS T THERAPEUTIC D DIRECTED**  **DONATION TYPE: HOMOLOGOUS// ^** |  |
| WMD10 | Provides link between autologous donor/patient. Limits entry of patient restrictions for autologous units to patients in the PATIENT file (#2). | Donor registration [LRBLDLG]  Donor collection/ processing [LRBLDC] | A^LRBLDLG  Input template to  the BLOOD DONOR file (#65.5) [LRBLDCP]  Input transform of field 65.5,1.2 RESTRICTED FOR. ^LRUG | If the DONATION TYPE=  Autologous or Directed, user prompted for the field RESTRICTED FOR  (#65.5,5,1.2). The input transform of this field compares the patient name to valid entries in PATIENT file and compares the DOB of that patient against the DOB of the Donor as entered in the BLOOD DONOR file (#65.5).  All must match or else the RESTRICTED FOR entry is deleted. | Log-in donor visits  Select BLOOD DONOR NAME: BBDONOR,THREE 12-31-80 AUGUSTA  DONATION TYPE: HOMOLOGOUS// A AUTOLOGOUS  RESTRICTED FOR: BBDONOR,THREE//  **Donor: BBDONOR,THREE DOB:12-31-80 SSN:000000003**  **BBDONOR,THREE not entered in PATIENT FILE??**  **If autologous donation donor must be the same as the patient**  PATIENT:  Select PATIENT NAME: BBDONOR,THREE Select PATIENT NAME:  RESTRICTED FOR:  **Autologous donation and RESTRICTED FOR: field not entered.**  **Delete all data from this donation ? NO//** Y (YES) | IU # D25  **??**  SRS # D34  SCR # D9  TC # D58 D59 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD11 | For Autologous units, compares birth date of donor to birth date of the patient being selected for entry in the RESTRICTED  FOR field (#65.5,5,1.2). | Donor registration [LRBLDLG]  Donor collection/ processing [LRBLDC] | Input transform of field 65.5,1.2 RESTRICTED FOR.  ^LRUG | Once an entry has been made in the RESTRICTED  FOR field (#65.5,5,1.2), routine LRUG compares  the DOB of the PATIENT file (#2) entry against the DOB field (#65.5/.03) of the Donor file entry. They must match exactly or the entry is deleted. | Select BLOOD DONOR NAME: BBDONOR,SIX M 04-09-30 DALLAS  Is this the Donor ? YES// (YES)  DONATION/DEFERRAL CODE: WHOLE BLOOD// WHOLE BLOOD  DONATION TYPE: HOMOLOGOUS// A AUTOLOGOUS  **RESTRICTED FOR: BBDONOR,SIX//**  **Donor:BBDONOR,SIX DOB:04-09-30 SSN:000000006**  **AGE: 67 DATE OF BIRTH: APR 10,1930 BBDONOR,SIX**  Dates of birth are different??  If autologous donation donor must be the same as the patient  **PATIENT:**  Select PATIENT NAME:<CR> RESTRICTED FOR:<CR>  Autologous donation and RESTRICTED FOR: field not entered.  Delete all data from this donation ? NO// Y (YES) | IU # D9  SRS # D35  SCR# D9  TC # D60 D62 |
| WMD12 | Prevents entry of future donation date/time. | Donor registration [LRBLDLG] | LRBLDLG+4 Sets %DT(0)="- N"  which prevents future date/time entry. | FileMan call %DT used for DONATION DATE: data  input and validation. Input variable %DT(0)="-N" prevents entry of a future  date/time. %DT responds with "**??**" when invalid data  is entered. | Select Donor Option: Donor registration  Log-in donor visits  Enter DONATION DATE: TODAY// T+1 (APR 09, 1998) **??**  Enter DONATION DATE: TODAY// T@1700 **??** | IU # D31  SRS # D38  SCR # D4  TC # D20 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD13 | Prevents entry of future donation date/time. | Donor collection/ Processing [LRBLDC] | Input transform for field 65.5,5,.01 DONATION OR DEFERRAL DATE  uses %DT to validate data input. | Input transform sets input variable %DT(0)="-T" which prevents entry of a future date/time. %DT responds with "**??**" when invalid data is entered. | Select Donor Option: DC Donor collection/ processing  Select BLOOD DONOR NAME: BBDONOR,SEVEN F 07-01-80  NAME: BBDONOR,SEVEN//  Select DONATION OR DEFERRAL DATE: APR 8,1998// T+1 APR 09, 1998 **??**  Select DONATION OR DEFERRAL DATE: APR 8,1998// T@1800 **??** | IU # D31  SRS # D38  SCR # D4  TC # NONE |
| WMD14 | Prevents entry of a collection completion date/time before the collection start date/time. | Donor registration [LRBLDLG]  Donor collection/ Processing [LRBLDC] | Input template to the BLOOD DONOR file (#65.5) [LRBLDCPN]  for option Donor registration [LRBLDLG].  Or  Input template to the BLOOD DONOR file (#65.5) [LRBLDCP] for  option Donor collection/ processing [LRBLDC]. | During execution of input templates [LRBLDCPN] and [LRBLDCP] the entry for the field DATE/ TIME COLLECTION STARTED  (#65.5,5.4.2) is stored. This  is compared with the entry of the DATE/ TIME COLLECTION  COMPLETED field (#65.5,5,4.3). If the DATE/ TIME COLLECTION  COMPLETED is earlier than the DATE TIME COLLECTION STARTED,  the user is displayed a warning message and prompted again for data entry. | Select BLOOD DONOR NAME: BBDONOR,EIGHT F 08-20-54 ANYWHERE  DATE/TIME COLLECTION STARTED: T@0915 (APR 08, 1998@09:15)  DATE/TIME COLLECTION COMPLETED: T@0850 (APR 08, 1998@08:50)  **Collection completed time must be later than started time**  DATE/TIME COLLECTION COMPLETED: APR 8,1998@08:50// T@0914 (APR 08, 1998@09:14)  **Collection completed time must be later than started time**  DATE/TIME COLLECTION COMPLETED: APR 8,1998@09:14// T@0920 (APR 08, 1998@09:20) | IU # D32  SRS # D39  SCR # D4  TC # D42 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD15 | Prevents data entry when the maximum allowable component preparation time has been exceeded based on entry in the BLOOD PRODUCT  file (#66) field COLLECTION/ PREP HOURS (#66,.13). | Collection disposition/ Component preparation [LRBLDCP] | Input transform of field 65.6,66,.03 DATE/TIME STORED  executes routine LRUT. | Routine LRUT:   1. Determines the component being prepared. 2. Determines the maximum COLLECTION/PREP HOURS allowed from field 66,.13 for the product being prepared. 3. Determines the DATE/ TIME COLLECTION COMPLETED from field 65.5,5,4.3. 4. Determines the DATE/ TIME STORED from current entry in field 65.5,66,.03. 5. Determines the amount of time elapsed between the DATE/TIME COLLECTION COMPLETED and the DATE/TIME STORED and compares to the MAXIMUM   COLLECTION PREP HOURS  allowed.   1. If MAXIMUM COLLECTION PREP HOURS is exceeded for the component being prepared, the user is given a warning message and re-prompted for data entry. | Select Donor Option: Collection disposition/ component preparation  Select BLOOD DONOR: BBDONOR,NINE M 01-20-44 DALLAS  Donation date/time: Apr 08, 1998 09:15 Unit ID: STALL01  COLLECTION DISPOSITION: PREPARE COMPONENT(S)// <CR>  DATE/TIM E PROCESSED: APR 8,1998@10:00//  <CR>  Select BLOOD COMPONENT: PLATELETS,20-24 C, 5 DAY EXP  DATE/TIME STORED: 04/08/98@10:00// N (APR 08, 1998@13:50)  **Time between collection and storage too long !! ??**  **Must enter DATE and TIME**  **Time stored must not be earlier than time processed**  **Future date/time not allowed.**  DATE/TIME STORED: 04/08/98@10:00// T@1330 (APR 08, 1998@13:30)  **Time between collection and storage too long !! ??**  **Must enter DATE and TIME**  **Time stored must not be earlier than time processed**  **Future date/time not allowed.**  DATE/TIME STORED: 04/08/98@10:00// T@1100 (APR 08, 1998@11:00)  EXPIRATION DATE: Apr 13, 1998// (APR 13, 1998) | IU # D42  SRS # D43  SCR # D19  TC # D70 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD16 | Donor record is locked during access to prevent simultaneous data entry for the same donor via a different terminal  /user | Collection disposition/ Component preparation [LRBLDCP] | REST+8^  LRBLDC calls up the common utility subroutine CK^LRU | Software attempts to lock the BLOOD DONOR file  (#65) record for the donation. If the record is already locked by another user the user is given a warning message and is then exited from the option. | CP Collection disposition /component preparation  Select BLOOD DONOR: BBDONOR,NINE M 01-20-44 DALLAS  Donor: BBDONOR,NINE ABO: O Rh: POS  Donation date/time: Apr 08, 1998 09:15 Unit ID: STALL01  **ANOTHER TERMINAL IS EDITING THIS ENTRY!** | IU # D10  SRS # D13  SCR # D4  TC # D68 |
| WMD17 | Evaluates the number of components being prepared against the bag type and prevents entry of more than the maximum that  could be logically allowed. | Collection disposition/ Component preparation [LRBLDCP] | C+2^LRBLDC | Routine evaluates the total number of components prepared against the entry for the donation in the field 65.5,5,2,4.1 PRIMARY BAG. If  total number of components prepared, is NOT less than the PRIMARY BAG entry, no more components are allowed. | Collection disposition/component preparation  Select BLOOD DONOR: BBDONOR,TEN M 10-10-40 DALLAS  COLLECTION DISPOSITION: PREPARE COMPONENT(S)//  DATE/TIME PROCESSED: APR 10,1998@11:57// CPDA-1 RED BLOOD CELLS  FRESH FROZEN PLASMA, CPDA-1  Select BLOOD COMPONENT: PLATELETS **??** | IU # D37  SRS # D45  SCR # D4  TC # D79 |
| WMD18 | Ensures that no more than ONE component containing RBCs is prepared from a donation. | Collection disposition/ Component preparation [LRBLDCP] | C+1^LRBLDC  through C+3^LRBLDC | Evaluates current products prepared for RBC product type by looking for a YES in the Pointed to product  field CONTAINS RED CELLS  (#66,.19). If a new product to be created also has a YES in the Pointed to product field 66,.19, then a warning message is given and the new product is immediately DELETED. | CP Collection disposition/component preparation  Select BLOOD DONOR: BBDONOR1,ONE F 04-09-40 DALLAS  COLLECTION DISPOSITION: PREPARE COMPONENT(S)//<CR>  DATE/TIME PROCESSED: APR 13,1998@09:40//  <CR>  CPDA-1 RED BLOOD CELLS  Select BLOOD COMPONENT: AS-1 RED BLOOD CELLS 04211 AS-1 1  **Cannot select more than one red blood cell product.**  **Selection AS-1 RED BLOOD CELLS canceled !** | IU # D38  SRS # D46  SCR # D4  TC # D67 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD19 | Excludes preparation of components which are not collected in the proper anticoagulant | Collection disposition/ Component preparation [LRBLDC] | File 65.5 input template [LRBLDC]  works with the SCREEN on  field 65.5,5,66, .01 BLOOD  COMPONENT. | The SCREEN on field 65.5,5,66,.01 compares the anticoagulant of the product the user is attempting to prepare with the anticoagulant of the actual collection as recorded in field 65.5,5,2,4.11. If they do not match, VA FileMan responds with "**??**" and does not allow the component to be processed. | Collection disposition/component preparation  Select BLOOD DONOR: BBDONOR1,ONE F 04-09-40 DALLAS  COLLECTION DISPOSITION: PREPARE COMPONENT(S)//<CR>  DATE/TIME PROCESSED: APR 13,1998@09:40//<CR>  CPDA-1 RED BLOOD CELLS  Select BLOOD COMPONENT: FFP  **??** | IU # D39  SRS # D47  SCR # D4  TC # D71 |
| WMD20 | Prevents access for entry of collection information on donors entered through 'Old records' | Collection disposition/ Component preparation [LRBLDCP] | Rest+2  ^LRBLDC | If there is a YES in the  field 65.5,5,.14, the software returns the warning message that the option cannot be used to enter data on this donor. | Collection disposition/component preparation  Select BLOOD DONOR: BBDONOR1,TWO M 08-20-54  **Not allowed, data entered via old blood donor records option.** | IU # D13  SRS # D37  SCR # D4 TC #  NONE |
| WMD21 | Locks donor record during data entry to prevent simultaneous access for the same donor via a different terminal/user for specified options. | Lab tests (not ABO/Rh) on donor units [LRBLDT] | DNR+4^LRBL D  T | Software attempts to lock the BLOOD DONOR file  (#65) record for the donation. If the record is already locked by another user, a warning message id displayed and the user is prompted for a new record to enter. | LA Lab tests(not ABO/Rh) on donor units Select DONOR ID: DON011  **Someone else is editing this record.**  Select DONOR ID: | IU # D10  SRS # D13  SCR # D4  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD22 | Locks donor record during data entry to prevent simultaneous access for the same donor via a different terminal/user for specified options. | Test review/ component labeling/ release [LRBLDRR] | P+3^LRBLDR R | Software attempts to lock the BLOOD DONOR file  (#65) record for the donation. If already locked by another user a warning message is displayed and the user is then prompted for a different record. | LR Test review/Component labeling/release Select UNIT FOR LABEL/RELEASE: DON011  **Someone else is editing this entry!**  Select UNIT FOR LABEL/RELEASE: | IU # D10  SRS # D13  SCR # D1  TC # NONE |
| WMD23 | Checks current ABO/Rh results for the specific donor unit against the donor's historical record. | ABO/Rh testing of donor units [LRBLDAT] | BLOOD DONOR  file(#65.5) input template [LRBLDABRH] | Input template has embedded code, which compares the current field entry against the historical record. If the two do not match, the user is given a warning message and  prompted to accept the current entry or not. | DT ABO/Rh testing of donor units Select DONOR ID: DON009  ABO: O Rh: POS  ABO INTERPRETATION: B B  **B not the ABO group on record**  **Is present testing OK ? YES//** N (NO) ABO INTERPRETATION: B// O O  RH INTERPRETATION: NEG NEGATIVE  **NEG not the Rh type on record**  **Is present testing OK ? YES//** N (NO)  RH INTERPRETATION: NEGATIVE// P POSITIVE | IU # D44  SRS # D13  SCR # D1  TC # D101 D103 |
| WMD24 | Compares ABO/Rh recheck information to original processing results. | Donor unit ABO/Rh recheck [LRBLDUC] | BLOOD DONOR  file (#65.5) input template LRBLDUC | Input template has embedded code, which  compares the current ABO/Rh recheck entry against the original processing results. If they do not match, the user is given a warning message. | Donor unit ABO/Rh recheck Select DONOR ID: DON009  ABO INTERPRETATION RECHECK: AB AB  **Recheck not equal to original interpretation**  RH INTERPRETATION RECHECK: NE NEGATIVE  **Recheck not equal to original interpretation** | IU # D45  SRS # D51  SCR # D21  TC # D96 D106 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD25 | Prevents same tech from entering both original & recheck results for ABO/Rh. | Donor unit ABO/Rh recheck [LRBLDUC] | BLOOD DONOR  file (#65.5) input template LRBLDUC | Compares the current user to the user who entered the original ABO/Rh results. If  they match, the user is given a warning message and is exited from the record. | Donor ABO/Rh Recheck Select DONOR ID: DON009  **Tech entering recheck results cannot be the same tech entering the original interpretation**. | IU # D46  SRS # D52  SCR # D21  TC # D104 |
| WMD26 | If results of TDD marker testing are anything other than "negative" or "non-reactive" for units which have already been released to inventory on an emergency basis, a bulletin is automatically generated detailing the test result and sent to all users of the LRBLSUPER key. | Lab tests (not ABO/Rh) on donor units [LRBLDT] | REST+5  ^LRBLDC MSG^LRBLDT | If field 65.5,5,66,.08 COMPONENT DISPOSITION  for current record is RELEASED, variable LRR is set = 1. Then each TDD result is evaluated for a nonnegative entry. If a nonnegative entry exists, a message is created which includes the actual test performed and the result.  This message is sent via Mailman to all users with  the LRBLSUPER security key. The current user is also displayed a warning message. | LA Lab tests(not ABO/Rh) on donor units Select DONOR ID: DON001  HIV ANTIBODY: NEGATIVE// R REACTIVE HTLV -I ANTIBODY: NEGATIVE// R REACTIVE HIV ANTIGEN: NEGATIVE// R REACTIVE  **Component(s) released with one or more positive test results!....**  Select DONOR ID:  Following message sent to all users with the LRBLSUPER key:  **Blood donor unit ID: DON001 Component(s) released with one or more positive test results!**  **DONATION TYPE: HOMOLOGOUS HIV ANTIBODY:REACTIVE**  **HTLV-I ANTIBODY:REACTIVE HIV ANTIGEN:REACTIVE** | IU # D50  SRS # D57  SCR # D24  TC # D118 D130 D153 D155 D158 D161 D164 D167 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD27 | Prevents editing of results after components are released unless the user has a higher level of security access. | Lab tests (not ABO/Rh) on donor units [LRBLDT] | CKRL^LRBLD T  REST+7  ^LRBLDC | If field 65.5,5,66,.08 COMPONENT  DISPOSITION for the current record is RELEASED, variable LRR is set = 1. Later, if the component has been released the software checks the security keys of the current user. If the LRBLSUPER key is not assigned to the user, the user is prompted with a message, denied access to  edit any results, and exited from record. | User without the LRBLSUPER security key. Lab tests(not ABO/Rh) on donor units  Select DONOR ID: DON002  UNIT#:DON002 ABO:A Rh:POS Donation date: Jun 10, 1996  **One or more components were released. You may not edit existing test results.** | IU # D7  SRS # D58  SCR # D4 D6  TC # D129 |
| WMD28 | Prevents entry of the same antigen as 'present' and 'absent' | Donor phenotyping [LRBLDPH] | BLOOD  DONOR file (#65.5) input template LRBLPAG. | Since entries to the fields RBC ANTIGEN PRESENT  (#65.56) and RBC ANTIGEN  ABSENT (#65.57) are pointers to the same file, the input template contains code which examines the corresponding RBC/HLA ANTIGEN  PRESENT/ ABSENT field within the BLOOD DONOR file (#65.5). If the identical pointer entry is entered, the user is given an alert message and does not allow the data to be entered. | Donor phenotyping  Select BLOOD DONOR NAME: BBDONOR1,SEVEN M  Select RBC ANTIGEN PRESENT: E Select RBC ANTIGEN PRESENT:  Select RBC ANTIGEN ABSENT: E  **E antigen cannot be absent & present ??**  Select RBC ANTIGEN ABSENT:  Select HLA ANTIGEN PRESENT: HLA-A10 ANTIGEN  Select HLA ANTIGEN PRESENT:  Select HLA ANTIGEN ABSENT: HLA-A10 ANTIGEN 44650 HLA-A10 ANTIGEN  **HLA-A10 ANTIGEN antigen cannot be present & absent ??**  Select HLA ANTIGEN ABSENT: | IU # D54  SRS # D61  SCR # D4  TC # D123 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD30 | Locks donor record during data entry to prevent simultaneous access to the same donor via a different terminal/user | Donor henotyping [LRBLDPH] | REST^LRBLD P H  CK^LRU | Software attempts to lock the BLOOD DONOR file  (#65) record for the donation. If the record is  already locked the user is given a warning message and is then prompted for a  new record. | DP Donor phenotyping  Select BLOOD DONOR NAME: BBDONOR1,THREE  **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  Select BLOOD DONOR NAME: | IU # D10  SRS # D13  SCR # D4  TC # NONE |
| WMD31 | Checks current ABO/Rh results for a specific donor unit against the donor's historical record. If ABO/Rh recheck data is to be transferred to the INVENTORY file when the unit is released prevents release if a  discrepancy exists. | Test review/ component labeling/ release [LRBLDRR] | REST^LRBLD R  R | Current unit ABO/Rh is compared with Donor historical ABO/Rh. If a discrepancy, user is given a warning message and unable to proceed. | Review-label-release components  Select UNIT FOR LABEL/RELEASE: DON010  **Donor ABO (B) is different from unit ABO (O). Resolve discrepancy.**  **Donor Rh (POS) is different from unit Rh (NEG). Resolve discrepancy.**  Select UNIT FOR LABEL/RELEASE: | IU # D58  SRS # D65  SCR # D21  TC #  D139 D151 |
| WMD32 | Checks current ABO/Rh results against donor's historical record. If ABO/Rh recheck, data is NOT to be transferred to the BLOOD  INVENTORY file (#65) when the unit is released (according to site parameter in file 69.9), displays a warning message and releases the unit.  Requires a higher security access and generates a bulletin. | Test review/ component labeling/ release [LRBLDRR]. | REST^LRBLD R  R | Current unit ABO/Rh is compared with Donor historical ABO/Rh. If a discrepancy, user is given a warning message. If user has LRBLSUPER key then user can proceed after being notified that notification will be sent to users with the Blood Bank Supervisor's key (LRBLSUPER). | LR Test review/Component labeling/release Select UNIT FOR LABEL/RELEASE: DON010  **Donor ABO (B) is different from unit ABO (O). Resolve discrepancy.**  **Donor Rh (POS) is different from unit Rh (NEG). Resolve discrepancy.**  **If you continue with label/release of DON010 a message will be sent to all users holding the blood bank supervisor's key.**  **Do you want to continue with label/release of DON010? NO//** (NO)  Select UNIT FOR LABEL/RELEASE: | IU # D56  SRS # D66  SCR # D21  TC # D152 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD33 | Checks current ABO/Rh results for the specific donor unit. Prevents release of units to inventory if no current ABO/Rh results exist. | Test review/ component labeling/ release [LRBLDRR]. | REST^LRBLD R  R | Software checks for presence of a result in fields 65.5.5,10 ABO Interpretation and 65.5,5,11 RH Interpretation. If both results not entered, user is prompted with warning message and unable to proceed. | LR Test review/Component labeling/release Select UNIT FOR LABEL/RELEASE: DON015  **Must perform ABO/Rh testing !!**  Select UNIT FOR LABEL/RELEASE: | IU # D56  SRS # D63  SCR # D25  TC # D109 |
| WMD34 | Prevents release of homologous, directed donor and therapeutic phlebotomy units with positive disease marker testing. | Test review/ component labeling/ release [LRBLDRR]. | A^LRBLDRR1 | All TDD testing results evaluated during execution  of option. Software determines the Donation Type of each donation. If donation type is NOT Autologous and ANY of the TDD testing is POSITIVE, unit is quarantined. | LR Test review/Component labeling/release  Select UNIT FOR LABEL/RELEASE: DON999  Unit: DON999  Unit testing: Tech  HBsAg : REACTIVE CM   1. CPDA-1 RED BLOOD CELL Jul 17, 1998 13:34 Aug 21, 1998 2. FRESH FROZEN PLASMA, Jul 17, 1998 10:00 Jul 17, 1999   Select COMPONENT by number (2 choices): 1 CPDA-1 RED BLOOD CELL  OK to label component ? YES// (YES) **Component should not be released- Unit quarantined.**  **COMPONENT DISPOSITION:** DISCARD COMPONENT DISP DATE/TIME: NOW// (JUL 17, 1998@13:49) | IU # D61  SRS # D68  SCR # D26  TC # D146 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD35 | Prevents same tech from labeling and releasing unit if process done manually (no bar coded labels) | Test review/ component labeling/ release [LRBLDRR]. | A+14^LRBLD RR 1 | Software determines if barcode scanner being  used. If scanner not used then the current user is  compared to the user who labeled the component. If the same user, warning message given and user is exited from the record. | LR Test review/Component labeling/release  To use BAR CODE READER  Pass reader wand over a GROUP-TYPE (ABO/Rh) label => <CR>  Select UNIT FOR LABEL/RELEASE: DON888   1. CPDA-1 RED BLOOD CELL Jul 22, 1998 08:33 Aug 26, 1998 2. FRESH FROZEN PLASMA, Jul 22, 1998 08:33 Jul 22, 1999   Select COMPONENT by number (2 choices): 1 CPDA-1 RED BLOOD CELL  **OK to label component ?** YES// (YES) Select UNIT FOR LABEL/RELEASE: DON888   1. CPDA-1 RED BLOOD CELL labeled Jul 22, 1998 08:33 Aug 26, 1998 2. FRESH FROZEN PLASMA, Jul 22, 1998 08:33 Jul 22, 1999   Select COMPONENT by number (2 choices): 1 CPDA-1 RED BLOOD CELL  **Since you labeled component someone else must release to inventory** | IU # D63  SCR # D27  SRS # D73  TC # D133 |
| WMD36 | Verifies accuracy of labeling of ABO/Rh label by comparing labeling to ABO/Rh results for unit ID. | Test review/ component labeling/ release [LRBLDRR]. | X^LRBLDRR1 | ABO/Rh results of either the scanned donor ABO/Rh label or manually input ABO/Rh on label is  compared against the ABO/Rh of the unit as  entered by the typing tech. If they do not agree, a warning message is given  and the user is prompted again for data entry. | Select UNIT FOR LABEL/RELEASE: DON888   1. CPDA-1 RED BLOOD CELL labeled Jul 22, 1998 08:33 Aug 26, 1998 2. FRESH FROZEN PLASMA, Jul 22, 1998 08:33 Jul 22, 1999   Select COMPONENT by number (2 choices): 2 FRESH FROZEN PLASMA,  ABO/Rh LABEL: B NEG  **ABO/Rh label does NOT match ABO/Rh of unit**  ABO/Rh LABEL: | IU # D64  SCR # D28  SRS # D72  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling**  **field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMD37 | During data entry via old records, checks unit ID's already in the BLOOD INVENTORY File  (#65) to identify potential duplicates and/or inappropriate entries. | Old blood donor records [LRBLDO] | LRBLU+3 | Routine queries both the BLOOD DONOR file (#65.5) and BLOOD  INVENTORY file (#65) for matches with the DONOR UNIT ID as entered by user. If a match is found, a warning message is given and the user is prompted  for a new DONOR UNIT ID: | DO Old blood donor records  Select BLOOD DONOR NAME: BBDONOR1,EIGHT  **Are you adding 'BBDONOR1,EIGHT' as a new BLOOD DONOR (the 79TH)? No/**/ Y (Yes)  Select DONATION OR DEFERRAL DATE: 5-3-95 MAY 03, 1995  DONOR UNIT ID: DON001  **DON001 assigned to BBDONOR,ONE Enter ID that component(s) prepared from donation will be labeled. Not less than 6 or more than 11 characters**  DONOR UNIT ID: | IU # D12  SCR # D4  SRS # D18  TC # D6 |
| WMD38 | Prevents access to existing donor records via the Old blood donor records option [LRBLDO] | Old blood donor records [LRBLDO] | G^LRBLDED | The BLOOD DONOR file (#65.5) is queried for the presence of an entry with the same BLOOD DONOR NAME  as entered. If there  is a match, a warning message is given and the user is exited from the  option. | DO Old blood donor records  Select BLOOD DONOR NAME: BBDONOR1,FOUR F 08/20/1954  **DONOR PREVIOUSLY ENTERED.**  **THIS OPTION IS FOR ENTERING OLD DATA ON DONORS NOT PREVIOUSLY ENTERED !** | IU # D13  SCR # D4  SRS # D19  TC # D5 |

## Inventory Functions

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI1 | Prevents data entry of duplicate Unit ID into the BLOOD  INVENTORY file (#65). | Log-in regular (invoices) [LRBLILR] | E+9^LRBLJLG | The BLOOD INVENTORY  File (# 65) is searched for possible duplicate Unit ID. If Unit ID already exists, the original record is searched to identify the product type. If the new product type is the same as the previous, then the previous record searched for Disposition. If no disposition or disposition is NOT equal to Return to Supplier or Send elsewhere, a warning message is given and the user is prompted for a new unit ID. | LR Log-in regular (invoices)  Select BLOOD COMPONENT: CPDA-1 RED BLOOD CELLS  UNIT ID: DON999 B POS CPDA-1 RED BLOOD CELLS  **CPDA-1 RED BLOOD CELLS already in inventory with same Unit ID !**  **Institution: REGION 7 ISC,TX (CHL)**  UNIT ID: | IU # I14  SCR # I1  SRS # I18  TC # IP10 IP11 |
| WMI2 | Limits re-entry of units to those with dispositions of 'S' (send elsewhere) or 'R' (returned to supplier). | Log-in regular (invoices) [LRBLILR] | EN1+1^ LRBLJLG1 | The BLOOD INVENTORY  File (# 65) is searched for possible duplicate Unit ID. If Unit ID already exists, the original record searched to identify the product type. If the new product type is the same as the previous, then the previous record searched for Disposition. If no disposition or disposition is equal to Return to Supplier or Send elsewhere, a warning message is given and the user is prompted to re-enter Unit ID. | LR Log-in regular (invoices)  Select BLOOD COMPONENT:  CPDA-1 RED BLOOD CELLS  UNIT ID: DON777 **O POS CPDA-1 RED BLOOD CELLS**  **CPDA-1 RED BLOOD CELLS already in inventory with same Unit ID !**  *Institution: REGION 7 ISC,TX (CHL)*  **DISPOSITION: RETURNED TO SENDER.**  **Re-enter unit in inventory ? NO//** Y (YES) UNIT ID: | IU # I18  SCR # I1  SRS # I22  TC # IP42 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI3 | For autologous and directed units entered, requires the entry of a patient name in the RESTRICTED FOR  field. (#65,8). | Log-in regular (invoices) [LRBLILR] | ED+16  ^LRBLJLG | The BLOOD PRODUCT  (File # 66) field AUTOLOGOUS/DIRECTE D COMPONENT (#66,.25)  is evaluated for each Unit ID entered. If this field contains either 1 for Autologous or 2 for Directed, then the BLOOD INVENTORY File (#65) field RESTRICTED FOR  (#65,8) is prompted. If no valid entry is made in this field, the user is given a warning message and the record is deleted. | LR Log-in regular (invoices)  Select BLOOD COMPONENT: AUTOLOGOUS RED BLOOD CELLS  UNIT ID: DON666 ABO/Rh: O POS  EXPIRATION DATE/TIME: T+35 (AUG 25, 1998) RESTRICTED FOR: <CR>  *Answer prompt. To quit enter '^' and unit will be deleted.*  RESTRICTED FOR: BBPATIENT,ONE  PATIENT: <CR>  Select PATIENT NAME: <CR> **??**  PATIENT: <CR> RESTRICTED FOR:  *Answer prompt. To quit enter '^' and unit will be deleted.*  RESTRICTED FOR: BBPATIENT,TWO **PATIENT: DY 05-02-55 000-00-0102 NO NSC VETERAN**  **BBPATIENT,TWO**  (patient accepted)  POS/INCOMPLETE SCREENING TESTS: N NO | IU # I16  SCR # I18  SRS # I19  TC # IP19 |
| WMI4 | Locks unit record during data entry to prevent simultaneous access via a different terminal/user. | Disposition-not transfused [LRBLIDN] | REST^LRBLJD CK^LRU | Routine LRBLJD calls CK^LRU which attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON555 OPOS CPDA-1 RED BLOOD CELLS A**NOTHER TERMINAL IS EDITING THIS ENTRY!**  Select UNIT ID FOR DISPOSITION: | IU # I5  SCR # I3  SRS # I11  TC # IP230 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI5 | Locks unit record during data entry to prevent simultaneous access via a different terminal/user. | Edit unit log-in [LRBLSEL] | LRBLJED CK^LRU | Routine LRBLJED calls CK^LRU which attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | LI Edit unit log-in  Select BLOOD INVENTORY UNIT ID: DON555 OPOS CPDA-1 RED BLOOD CELLS **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  Select BLOOD INVENTORY UNIT ID: | IU # I5  SCR # I3  SRS # I11  TC # NONE |
| WMI6 | Locks unit record during data entry to prevent simultaneous access via a different terminal/user. | Edit unit- patient fields [LRBLSEC] | LRBLJED CK^LRU | Routine LRBLJED calls CK^LRU which attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | PI Edit unit - patient fields  Select BLOOD INVENTORY UNIT ID: DON555 OPOS CPDA-1 RED BLOOD CELLS **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  Select BLOOD INVENTORY UNIT ID: | IU # I5  SCR # I3  SRS # I11  TC # 253 |
| WMI7 | Locks unit record during data entry to prevent simultaneous access via a different terminal/user. | Edit unit disposition fields [LRBLSED] | LRBLJED CK^LRU | Routine LRBLJED calls CK^LRU which attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | DI Edit unit disposition fields  Select BLOOD INVENTORY UNIT ID: DON555 OPOS CPDA-1 RED BLOOD CELLS  **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  Select BLOOD INVENTORY UNIT ID: | IU # I5  SCR # I3  SRS # I11  TC # 255 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI8 | Restricts selection of blood components to those in the BLOOD PRODUCT File (#66)  with entries in the SUPPLIER field (#66.01). | Log-in regular (invoices) [LRBLILR] | C+3^LRBLJLG | For each component type entered, the BLOOD PRODUCT file (#66) is searched for the presence of a valid SUPPLIER. If there are no suppliers entered in the field SUPPLIER (#66.01) a  warning message is given and the user is prompted again to enter a valid supplier. | LR Log-in regular (invoices)  Select BLOOD COMPONENT:  ACD-A RED BLOOD CELLS  **Must have at least one supplier for this component**  **Please have appropriate person enter supplier(s) in BLOOD PRODUCT FILE (#66)**  Invoice number: XXX  Select BLOOD COMPONENT: | IU # I24  SCR # I3  SRS # I28  TC # IP3 |
| WMI9 | Evaluates validity of expiration date based on the entry in the MAXIMUM  STORAGE DAYS  field (#66,.135) for that blood Component. | Log-in regular (invoices) [LRBLILR] | ED+2  ^LRBLJLG | For the product being entered, the field MAXIMUM STORAGE DAYS (#66,.135) is  evaluated. From this, the maximum date for product outdate is calculated. This calculated date is then compared with the input expiration date/time. If the input date/time exceeds the calculated date/time, the user is given a warning message and is prompted again to enter an expiration date/time. | **Log-in regular (invoices)**  Select BLOOD COMPONENT: CPDA-1 RED BLOOD CELLS  UNIT ID: DON444 ABO/Rh: O POS  EXPIRATION DATE/TIME: T+36 (AUG 29, 1998)  *Expiration date exceeds allowable limit !*  EXPIRATION DATE/TIME: T+35 (AUG 28, 1998) UNIT ID: | IU # I25  SCR # I3  SRS # I30  TC # IP5 |
| WMI10 | When editing data on  a pooled product, limits access to units for which the component is defined as a pooled product based on the entry in the POOLED PRODUCT field in the BLOOD PRODUCT file (#66). | Edit pooled product [LRBLJM] | REST^LRBLJM | For the product type of the Unit ID being edited, a check is made to the field POOLED PRODUCT  (#66,.27). If this field is not set to YES, then FileMan does not allow the edit and responds with "??". | PP Edit pooled blood product Select POOLED UNIT: DON555 **??**  Select POOLED UNIT: | IU # I25  SCR # I3  SRS # I30  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI11 | Limits access to those units assigned to the same division as the user. | Enter blood inventory typing charges [LRBLILS] | SET^LRBLJA | Software compares the division of the current user with the division of unit being edited based on the entry in the DIVISION field (#65,.16). If they do not match, the user is not allowed to edit this record. | Enter blood inventory typing charges  **BBDONOR INSTITUTION**  Select BLOOD INVENTORY UNIT ID: DON001? Select BLOOD INVENTORY UNIT ID:  ENTER Blood inventory typing charges  **REGION 7 ISC,TX (CHL)**  Select BLOOD INVENTORY UNIT ID: DON001 APOS CPDA-1 RED BLOOD CELLS  TYPING CHARGE: 12.00// | IU # I9  SCR # I3  SRS # I13  TC # NONE |
| WMI12 | Limits access to those units assigned to the same division as the user. | Edit unit log-in [LRBLSEL] | G+3^LRBLJED | Software compares the division of the current user with the division of unit being edited based on the entry in the DIVISION field (#65,.16). If they do not match, the user is not allowed to edit this record. | Edit unit log-in  **You are logged in to BBDONOR INSTITUTION**  Select BLOOD INVENTORY UNIT ID: DON001 **??**  Select BLOOD INVENTORY UNIT ID:  Edit unit log-in  **You are logged in to REGION 7 ISC,TX (CHL)**  Select BLOOD INVENTORY UNIT ID: DON001 APOS CPDA-1 RED BLOOD CELLS  DON001// | IU # I9  SCR # I3  SRS # I13  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI13 | Limits access to those units in the BLOOD INVENTORY File (#65)  assigned to the same division as the user. | Edit  Unit-patient fields [LRBLSEC] | G+3^LRBLJED | Software searches the BLOOD INVENTORY File  (#65) and compares the division of the current user with the division of unit being edited based on the entry in the DIVISION field (#65,.16). If they do not match, the user is not allowed to edit this record. | Edit unit - patient fields  **You are logged in to BBDONOR INSTITUTION**  Select BLOOD INVENTORY UNIT ID: DON001 **??**  Select BLOOD INVENTORY UNIT ID:  Edit unit - patient fields  **You are logged in to REGION 7 ISC,TX (CHL)**  Select BLOOD INVENTORY UNIT ID: DON001 APOS CPDA-1 RED BLOOD CELLS  Select PATIENT XMATCHED/ASSIGNED: | IU # I9  SCR # I3  SRS # I13  TC # IP67 |
| WMI14 | Limits access to those units in the BLOOD INVENTORY File (#65)  assigned to the same division as the user. | Edit unit disposition fields [LRBLSED] | G+3^LRBLJED | Software searches the BLOOD INVENTORY File  (#65) and compares the division of the current user with the division of unit being edited based on the entry in the DIVISION field (#65,.16). If they do not match, the user is not allowed to edit this record. | Edit unit disposition fields  Yo**u are logged in to BBDONOR INSTITUTION**  Select BLOOD INVENTORY UNIT ID: DON001 **??**  Select BLOOD INVENTORY UNIT ID:  Edit unit disposition fields  **You are logged in to REGION 7 ISC,TX (CHL)**  Select BLOOD INVENTORY UNIT ID: DON001 APOS CPDA-1 RED BLOOD CELLS DISPOSITION: TRANSFUSE// | IU # I9  SCR # I3  SRS # I13  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI15 | Prevents entry of future disposition dates. | Disposition not transfused [LRBLIDN]  Edit unit disposition fields [LRBLSED] | Input transform of the DISPOSITION  DATE field (# 65,4.2) | Input transform of the DISPOSITION DATE field  (# 65,4.2) is defined to prevent entry of a future date/time. | DN Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON333 DISPOSITION: DISCARD  DISPOSITION DATE: NOW// T+1 (JUL 28, 1998)**??**  **Examples of Valid Dates:**  **JAN 20 1957 or 20 JAN 57 or 1/20/57 or 012057 T (for TODAY), T+1 (for TOMORROW), T+2,**  **T+7, etc.**  **T-1 (for YESTERDAY), T-3W (for 3 WEEKS**  **AGO), etc.**  **If the year is omitted, the computer uses CURRENT YEAR. Two-digit year assumes no more than 20 years in the future, or 80 years in the past. If only the time is entered, the current date is assumed. Follow the date with a time, such as JAN 20@10, T@10AM, 10:30, etc. You may enter a time, such as NOON, MIDNIGHT or NOW.**  **Enter only past or present Date/time**  DISPOSITION DATE: NOW// | IU # I31  SCR # I3  SRS # I31  TC # IP34 IP39 |
| WMI16 | Requires both a date and a time to log in an Invoice from an outside supplier. | Log-in regular (invoices) [LRBLILR] | D^LRBLJLG | At the prompt "DATE/TIME RECEIVED:  NOW// ", software evaluates the format of the input. If the input does not contain a time element, then the user is given a warning message and prompted again for entry of the data. | Log-in regular (invoices)  Enter INVOICE (or order) NUMBER: TIMING DATE/TIME RECEIVED: NOW// T (AUG 25, 1998)  **Must enter a TIME. Future DATE/TIME not allowed.**  DATE/TIME RECEIVED: NOW// T-1 (AUG 24, 1998)  **Must enter a TIME. Future DATE/TIME not allowed.**  DATE/TIME RECEIVED: NOW// | IU # I13  SRS # G7 G8 I17  SCR # I6  TC # IP1 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI17 | Compares confirmatory ABO/Rh recheck test results to unit log in information. | Unit ABO/Rh confirmation [LRBLIUC] | Input template for the BLOOD PRODUCT file (#65) LRBLIABRH. | When a unit is logged into the BLOOD INVENTORY  file the fields ABO GROUP (#65,.07) and RH TYPE  (#65,.08) are set. During the option Unit ABO/Rh confirmation [LRBLIUC] the input template compares the entries made in the fields ABO INTERPRETATION (#65,10) and RH INTERPRETATION  (#65,11) with the respective ABO GROUP or RH TYPE. If they do not match, the user is given a warning message and asked to confirm. | UC Unit ABO/Rh confirmation  UNIT ID: DON222 ABO: O Rh: POS  ABO INTERPRETATION: B *B*  **B not the ABO group on record Present testing OK ? YES/**/ N (NO) ABO INTERPRETATION: O O  RH INTERPRETATION: NEG  **NEG not the Rh type on record Present testing OK ? YES/**/ N (NO) RH INTERPRETATION: POSITIVE | IU # I37  SCR # I13  SRS # I41  TC # IP28 IP30 |
| WMI18 | Limits access to those units assigned to the same division as the user if data entry is done by unit (not if done by batch) | Unit ABO/Rh confirmation [LRBLIUC] | E+3^LRBLJCK | Software compares the division of the current user with the division of unit being edited based on the entry in the DIVISION field (#65,.16). If they do not match, the user is not allowed to edit this record. | Unit ABO/Rh confirmation  **Division: BBDONOR INSTITUTION**  UNIT ID: DON100 **(NOT IN INVENTORY FILE)** | IU # I38  SCR # I3  SRS # I42  TC # IP24 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI19 | Prevents modification of autologous components to  non-autologous component if the entry in the field POS/INCOMPL SCREENING TESTS (#65,8.1) =YES. | Disposition - not transfused [LRBLIDN] | REST+9^ LRBLJD | For the unit being modified, a check is made for an entry in the BLOOD INVENTORY file (#65)  field POS/INCOMPLETE SCREENING TESTS  (#65,8.1). Another check made to the target BLOOD PRODUCT file (#66) field AUTOLOGOUS/DIRECTE D COMPONENT (#66,.25). If the POS/INCOMPLETE SCREENING TESTS  (#65,8.1)= YES then the AUTOLOGOUS/DIRECTE D COMPONENT (#66,.25)  MUST be Autologous or a warning message is given and the user is prevented from modifying the unit. | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON101 DISPOSITION: MODIFY  DISPOSITION DATE: NOW// <CR>  Select MODIFY TO: LIQUID PLASMA, CPDA-1  **Unit has positive screening tests and component selected is not autologous.**  Select MODIFY TO: | IU # I49  SCR # I16  SRS # I51  TC # IP49 IP51 IP270 IP271 |
| WMI20 | Alerts user of short dated units | Log-in regular (invoices) [LRBLILR] | Input Transform of field EXPIRATION DATE/TIME (#65,.06) | The date entered at this prompt is compared with the current date. If the dates are the same or the input date is previous to the current date, the user is given a warning message that the unit expires today. | Log-in regular (invoices)  DATE/TIME RECEIVED: NOW// (AUG 25, 1998@06:58)  Invoice number: PLATELETS Select BLOOD COMPONENT: PLATELETS,20-24 C, 5 DAY  Select SUPPLIER: SELF//  UNIT ID: DON102 ABO/Rh: O POS  EXPIRATION DATE/TIME: T@1600 (AUG 25, 1998@16:00)  **Unit expired or expires today.**  UNIT ID: | IU # I20  SCR # I10  SRS # I24  TC # IP16 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI21 | Restricts selection of component choices to those defined in the MODIFY TO field (66.03) for the specific component of the unit being modified. | Disposition - not transfused [LRBLIDN] | REST+6  ^LRBLJD  VA FileMan | The BLOOD PRODUCT  file (#66) field MODIFY TO (#66.03) is a "Pointer field". The option uses the VA FileMan call ^DIC to restrict choices to those entries in the MODIFY TO field (#66.03) for the product being modified. | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON222 OPOS CPDA-1 RED BLOOD CELLS DISPOSITION: MODIFY  DISPOSITION DATE: NOW// (JUL 27, 1998@12:53) Select MODIFY TO: PLAT **??**  Select MODIFY TO: ?  **Answer with MODIFY TO, or NUMBER Choose from:**  47 CPDA-1 RED BLOOD CELLS, DIVIDED UNIT  53 RED BLOOD CELLS, WASHED  Select MODIFY TO: | IU # I51  SCR # I3  SRS # I54  TC # IP44 IP199 |
| WMI22 | Restricts selection of component choices to those defined in the PEDIATRIC PRODUCT  field (66,.22) for the specific component of the unit being modified. | Pediatric unit preparation [LRBLPED] | P+3^LRBLPED | For the product type selected for modification, a check is made for an entry in the field PEDIATRIC PRODUCT (#66,.22). If no  entry in this field, a warning message is displayed to the user. | Pediatric unit preparation  Blood component for pediatric prep: CPDA-1 RED BLOOD CELLS 04060  **PEDIATRIC PRODUCT must be entered for this component and pediatric product selection must be an entry in the Blood Product file.**  Blood component for pediatric prep: | IU # I51  SCR # I3  SRS # I54  TC # IP283 |
| WMI23 | Prevents multiple modifications to the same unit by excluding selection of units which already have a disposition entered. | Disposition - not transfused [LRBLIDN] | REST^LRBLJD | Routine checks for the presence of an entry in the field DISPOSITION (#65,4.1) for the unit being modified. If a disposition is present, the user is not allowed to edit the record using this option. | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DONOR01 **??**  Select UNIT ID FOR DISPOSITION: | IU # I53  SCR # I3  RS # I56  TC # IP48 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI24 | Requires entry of a new unit ID for units being created, deleting the entire new entry in the BLOOD  INVENTORY File (#65)  if new unit ID is NOT entered. | Disposition - not transfused [LRBLIDN] | ID^LRBLJD1 | Prompts for new unit ID for a pooled product. If none entered, the  new-pooled unit is deleted along with the associated unit's disposition data. | Disposition –not transfused  Select UNIT ID FOR DISPOSITION: DON103 DISPOSITION: MODIFY  Select MODIFY TO: POOLED PLATELETS 12091 PP 1  Selection 1 (unit ID to pool): DON103 O POS Selection 2 (Unit ID to pool): DON104 OPOS Selection 3 (Unit ID to pool): DON105 OPOS Selection 4 (Unit ID to pool): DON106 OPOS Selection 5 (Unit ID to pool):  Select UNIT ID number for POOL: <CR>  **UNITS selected were NOT pooled !**  Select UNIT ID FOR DISPOSITION: | IU # I54  SCR # I3  SRS # I57  TC # IP60 |
| WMI25 | If a unit is divided/split into other components, evaluates the sum of the new unit volumes to make sure the sum does not exceed the volume of the original unit. | Disposition - not transfused [LRBLIDN] | C^LRBLJDM | For each component selected at the MODIFY TO: prompt, the volume as entered in the VOLUME (ml) field (66,.1) is used to calculate the total volume of all of the components combined. This value is compared to the entry in the VOLUME (ml) field (66,.1) for the original component being modified. If greater, a warning message is given, the modifications are deleted, and the user is prompted again for data entry. | Disposition –not transfused  Select UNIT ID FOR DISPOSITION: DON107 OPOS CPDA-1 WHOLE BLOOD DISPOSITION: MODIFY  VOLUME (ml): 450//  Select MODIFY TO: CPDA-1 RED BLOOD CELLS 04060  Select MODIFY TO: FFP FRESH FROZEN PLASMA, CPDA-1  Select MODIFY TO: CRYOPRECIPITATE, CPDA-1 10100 CA1 1  Select MODIFY TO: <CR>  **You have selected the following component(s): CRYOPRECIPITATE, CPDA-1 vol(ml): 25**  **CPDA-1 RED BLOOD CELLS vol(ml): 250 FRESH FROZEN PLASMA, CPDA-1 vol(ml): 225**  **Total vol(ml): 500**  **Total volume of components greater than unit. SELECTIONS DELETED TRY AGAIN !**  Select MODIFY TO: | IU # I55  SCR # I3  SRS # I59  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI26 | Evaluates the calculated expiration date of new unit created against the  expiration date of unit being modified. Displays alert message if calculated expiration date of new unit exceeds the original expiration date, or in the case of  a pooled product, exceed any of the units in the pool. | Disposition - not transfused [LRBLIDN] | LRBLJDA+6 | Routine calculates a tentative calculation date based on the field DAYS LEFT (#66,.11) for the new product being created.  Then this new expiration date is compared with the expiration date of the original product. If the new is later than the original, a warning message is given and the user is asked to confirm. | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON100 OPOS CPDA-1 RED BLOOD CELLS DISPOSITION: MODIFY  DISPOSITION DATE: NOW//<CR> (JUL 28, 1998@07:16)  Select MODIFY TO: FROZEN RBCS RED BLOOD CELLS  **New ID #: DON100 RED BLOOD CELLS, FROZEN**  DATE/TIME RECEIVED: NOW// (JUL 28, 1998@07:17)  EXPIRATION DATE/TIME: Jul 28, 2005// (JUL 28, 2005)  **Expiration date exceeds original unit expiration date**  **Aug 31, 1998 OK ? NO//** Y (YES) | IU # I57  SCR # I3  SRS # I61  TC # IP47 IP212 |
| WMI27 | Prevents entry of future disposition dates. | Disposition not transfused [LRBLIDN] | Input transform for field DISPOSITION DATE (#65,4.2)  VA FileMan Utility %DT | Input parameter S  %DT(0)="-N" prevents the utility %DT from selecting a future date. | Disposition -not transfused  Select UNIT ID FOR DISPOSITION: DON107 DISPOSITION: MODIFY  DISPOSITION DATE: NOW// T+1 (JUL 29, 1998)**??**  **Examples of Valid Dates:**  **JAN 20 1957 or 20 JAN 57 or 1/20/57 or 012057 T (for TODAY), T+1 (for TOMORROW), T+2,**  **T+7, etc.**  **T-1 (for YESTERDAY), T-3W (for 3 WEEKS**  **AGO), etc.**  **If the year is omitted, the computer uses CURR**ENT **YEAR. Two-digit year assumes no more than 20 years in the future, or 80 years in the past.**  **If only the time is entered, the current date is assumed.**  **Follow the date with a time, such as JAN 20@10, T@10AM, 10:30, etc.**  **You may enter a time, such as NOON, MIDNIGHT or NOW.** | IU # I58  SCR # I3  SRS # I62  TC # IP45 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED) Enter only past or present Date/time**  DISPOSITION DATE: NOW// T@1000 (JUL 28,  1998@10:00)**??**  **Examples of Valid Dates:**  **(Same examples as in previous page)** DISPOSITION DATE: NOW// <CR> (JUL 28, 1998@07:38) | **Trace** |
| WMI28 | If pediatric component is being created, restricts unit selection to those of  appropriate age  based  on the entry in the MAX AGE FOR PEDIATRIC  USE field (#66,.21) field for the component of the unit being modified. | Pediatric unit preparation [LRBLPED] | OK+2^LRBLPE D | The maximum outdate allowed for a Pediatric Unit is calculated based on the entry in the field MAX AGE FOR PEDIATRIC  USE (#66,.21) for the product being used. Once the actual Unit ID is entered, the outdate of that unit is compared to the maximum outdate allowed. If the Unit ID has a longer outdate than allowed, the user is prompted for a new Unit ID. | Pediatric unit preparation  Blood component for pediatric prep: CPDA-1 RED BLOOD CELLS  Select UNIT: DON108 DON108 ***(user exited and prompted for new UNIT:)***  Select UNIT: DON444 DON444  DON444 O POS 08/28/98 5 DAYS OLD 250 ml  DON444 O POS 08/28/98 Vol(ml): 250 Wt(gm): 270  VOL ('W' to edit weight, 'V' to edit volume): 250ml// | IU # I59  SCR # I3  SRS # I63  TC # IP283 |
| WMI29 | Displays alert message for any patients selected who have autologous and/or directed components in inventory. | Disposition - relocation [LRBLIDR] | EN^LRBLPUS | Once the patient name is selected, the BLOOD INVENTORY file (#65) is searched for any entries which have that patient name entered in the RESTRICTED FOR field (#65,8). | Disposition -relocation  Select Patient Name: BBPATIENT,THREE 05-05-55 000000103  **Units restricted for BBPATIENT,THREE DON101 FRESH FROZEN PLASMA, CPDA-1** | IU # I65  SCR # I8  SRS # I69  TC # IP264 IP272 IP275 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI30 | Displays warning message if unit selected is double cross matched and still assigned to another patient at the time the unit is being issued for transfusion. | Disposition - relocation [LRBLIDR] | W+1^LRBLJL1 | All units with a status of "assigned" are stored in the  ^LRD(65,"AP",PATIENT,U  NIT IEN) cross-reference. When a unit is displayed as being assigned for a patient, if the same unit is also assigned to a different patient a warning message is displayed. | Disposition –relocation  Select Patient Name: BBPATIENT,FOUR 01-01-50 000000104  Unit assigned/xmatched: Exp date Location  1) FDA0001 CPDA-1 RED BLOOD CE O POS 08/28/1998 Blood Bank  **\*\*\* Also assigned/xmatched to BBPATIENT,FIVE 000000105**  DATE/TIME UNIT RELOCATION: NOW// | IU # I66  SCR # I18  SRS # I70  TC # IP190 |
| WMI31 | Displays alert message for any patients selected who have an entry in either the ANTIBODIES  IDENTIFIED field (#63.075) or BLOOD BANK COMMENTS  field (#63.076) | Disposition - relocation [LRBLIDR] | LRDPA+6 | During patient lookup for a Blood Bank accession area, software searches for entries in the ANTIBODIES  IDENTIFIED field (#63.075). All entries in this multiple field are displayed. | Disposition –relocation  Select Patient Name: BBPATIENT,TWO 05-02-55 000-00-0102 NO N  PATIENT LOCATION: ???// 3E 3 EAST  **Antibody present: ANTI E**  TRANSFUSION REACTIONS WITHOUT UNIT IDENTIFIED: Jan 15, 1997 ALERGIC  Units restricted for BBPATIENT,TWO SELF10 AUTOLOGOUS RED BLOOD CELLS | IU # I67  SCR # I19  SRS # I71  TC # IP173 |
| WMI32 | For patients with an entry in the ANTIBODIES  IDENTIFIED field (#63.075) prevents issue of units not appropriately phenotyped. | Disposition - relocation [LRBLIDR] | C^LRBLJL | During relocation episode for each unit, when the patient has an entry in the ANTIBODIES  IDENTIFIED field (#63.075) a check is made in the RBC ANTIGEN ABSENT field (65.05) for presence of the corresponding antigen phenotyping. If the corresponding antigen is not entered in this field, a warning message is given and the relocation episode is not allowed. | Disposition –relocation  Select Patient Name: BBPATIENT,TWO 05-02-55 Antibody present: ANTI E  Unit assigned/xmatched: Exp date Location   1. DON109 CPDA-1 RED BLOOD CE O POS 08/08/1998 2. DON108 CPDA-1 RED BLOOD CE O POS 08/13/1998   Select (1-2): 1  1) DON109 CPDA-1 RED BLOOD CE O POS 08/08/1998  **E. RBC ANTIGEN**  **Above antigen(s) not entered in RBC ANTIGEN ABSENT field for DON109**  **\*\*\* UNIT NOT RELOCATED \*\*\***  Select Patient Name: | IU # I69  SCR # I19  SRS # I73  TC # IP73 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI33 | Prevents issue if no ABO recheck results are entered for components with the entry in the CONTAINS RED CELLS field (#66,.19) | Disposition - relocation [LRBLIDR] | D+1^LRBLJL | For the product type being relocated, a check is made to the entry in the field CONTAINS RED CELLS  (#66,.19). If yes, then the Unit record in the BLOOD INVENTORY file (#65)  field ABO INTERPRETATION  (#65,10) is checked for an entry. If there is no entry, the user is given a warning message and the relocation episode is not allowed. | Disposition -relocation  Select Patient Name: BBPATIENT,TWO 05-02-55 000000102  Unit assigned/xmatched: Exp date Location   1. DON109 CPDA-1 RED BLOOD CE O POS 08/08/1998 2. DON108 CPDA-1 RED BLOOD CE O POS 08/13/1998 3. DON110 CPDA-1 RED BLOOD CE O POS 09/03/1998   Select (1-3): 3  3) DON110 CPDA-1 RED BLOOD CE O POS 09/03/1998  **ABO not rechecked for DON110 \*\*\* UNIT NOT RELOCATED \*\*\***  Select Patient Name: | IU # I71  SCR # I20  SRS # I75  TC # IP174 |
| WMI34 | Prevents issue if no Rh recheck results are entered for Rh negative components with the entry in the CONTAINS RED CELLS field (#66,.19) | Disposition - relocation [LRBLIDR] | D+2^LRBLJL | For the product type being relocated, a check is made to the entry in the field CONTAINS RED CELLS  (#66,.19). If yes, and the Unit record in the BLOOD INVENTORY file (#65) RH  Type field (#65,.08) = "NEG", then the field RH INTERPRETATION  (#65,11) is checked for an entry. If there is no entry, the user is given a warning message and the relocation episode is not allowed. | Disposition -relocation  Select Patient Name: BBPATIENT,FIVE 05-02-33 000000105 YES SC  Unit assigned/xmatched: Exp date Location   1. DON444 CPDA-1 RED BLOOD CE O POS 08/28/1998 2. DON111 CPDA-1 RED BLOOD CE O NEG 09/03/1998   Select (1-2): 2  2) DON111 CPDA-1 RED BLOOD CE O NEG 09/03/1998  **Rh NEG unit not rechecked for NEG001**  **\*\*\* UNIT NOT RELOCATED \*\*\***  Select Patient Name: | IU # I71  SCR # I20  SRS # I75  TC # IP174 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI35 | Prevents issue of unit if the inspection is entered as Unsatisfactory for that specific relocation. | Disposition - relocation [LRBLIDR] | T+4-6^LRBLJL | If UNSATISFACTORY is  entered at the INSPECTION: prompt during data input, the user is prompted to confirm. If the UNSATISFACTORY  input is confirmed, the user is displayed a warning message and the relocation episode is not allowed. | Disposition -relocation  Select Patient Name: BBPATIENT,TWO 05-02-55 000-00-0102  DATE/TIME UNIT RELOCATION: NOW// (JUL 30, 1998@08:46)  INSPECTION: U UNSATISFACTORY  **Are you sure ? NO//** Y (YES)  **No units with incomplete answers or units to be sent from the blood bank with unsatisfactory inspections can be relocated. Relocation entry <DELETED>** | IU # I72  SCR # I21  SRS # I76  TC # IP244 |
| WMI36 | Prevents issue of unit if the inspection from any previous relocation of that unit is unsatisfactory. | Disposition - relocation [LRBLIDR] | L+5-6 ^LRBLJL1 T+7^LRBLJL | For the unit being relocated, all previous relocation episodes are checked for the presence of an UNSATISFACTORY  entry to the INSPECTION field (#65.03,.02). If present, the user is given a warning message and the unit cannot be relocated. | Disposition –relocation  Select Patient Name: BBPATIENT,FIVE 05-02-33 Unit assigned/xmatched: Exp date Location   1. **#**DON109 CPDA-1 RED BLOOD CE O POS   08/08/1998   1. **#**DON444 CPDA-1 RED BLOOD CE O POS 08/28/1998   \*\*\* Also assigned/xmatched to BBPATIENT,FOUR 000000104   1. DON111 CPDA-1 RED BLOOD CE O NEG 09/03/1998   **( # unsatisfactory unit)**  Select (1-3): 1  1) #FDA0003 CPDA-1 RED BLOOD CE O POS 08/08/1998  **Unit unsatisfactory cannot release.**  Select Patient Name: | IU # I72  SCR # I21  SRS # I77  TC # IP194 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI37 | Evaluates the expiration date of unit and displays warning message if unit is expired when compared to the current time. | Disposition - relocation [LRBLIDR] | L+9^LRBLJL1 | For each unit assigned to a patient, the EXPIRATION DATE/TIME field (#65,.06)  is evaluated against the current time. If less, the unit is marked with an "\*". If any of the units are deemed outdated by the above algorithm, a warning message explaining the "\*" is displayed. | Disposition -relocation  Select Patient Name: BBPATIENT,FIVE 05-02-33 000000105 YES SC  Unit assigned/xmatched: Exp date Location  1) DON111 CPDA-1 RED BLOOD CE O NEG 07/29/1998**\***  **( \*Expired unit )**  DATE/TIME UNIT RELOCATION: NOW// | IU # I73  SCR # I22  SRS # I78  TC # IP205 |
| WMI38 | Prevents issue of unit if the component definition in the BLOOD PRODUCT file  (#66) has A "YES" in the field MODIFIED BEFORE  RELEASE (#66,.14) | Disposition - relocation [LRBLIDR] | L+10^LRBLJL1 | For the product type being relocated, a check is made to the BLOOD PRODUCT  File (#66) entry for the field MODIFIED BEFORE RELEASE (#66,.14). If the  field is YES, then a warning message is given and the user cannot relocate that unit. | Disposition –relocation  Select Patient Name: BBPATIENT,SIX 05-02-75 Units restricted BBPATIENT,SIX  **DON112 FRESH FROZEN PLASMA O POS**  **11/17/1998 Blood Bank**  **This unit needs to be modified before release !** | IU # I74  SCR # I23  SRS # I7  TC # NONE |
| WMI39 | Prevents entry of a relocation date/time, which is prior to the date/time the unit was assigned to the patient. | Disposition - relocation [LRBLIDR] | T+2^LRBLJL | The date/time entered at the prompt DATE/TIME UNIT RELOCATION:  NOW// is compared with the entry in the field DATE/TIME UNIT ASSIGNED (#65.01,.02) for  the unit. If the relocation time is earlier than the assigned time, a warning message is given and the user is exited from the record. | Disposition -relocation  Select Patient Name: BBPATIENT,SIX 05-02-75 Unit assigned/xmatched: Exp date Location  1) DON013 FRESH FROZEN PLASMA B NEG 08/19/1998@07:18 Blood Bank  DATE/TIME UNIT RELOCATION: NOW// T@0600 (AUG 18, 1998@06:00)  **Relocation time must be after DATE/TIME unit assigned (08/18/98 07:17)**  Select Patient Name: | IU # I75  SCR # I3  SRS # I80  TC # IP186 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI40 | Restricts relocation of units to standard locations within the same associated division, UNLESS user enters a nonstandard location and overrides the check. | Disposition - relocation [LRBLIDR] | Input transform to field LOCATION (#65.03,.04) calls  routine LRUC. | Routine LRUC searches the HOSPITAL LOCATION  File (#44) for a match for the input value. If one does not exist, the user is given a chance to accept a  non-standard location and is prompted for override. | Disposition -relocation  Select Patient Name: BBPATIENT,SIX 05-02-75 Unit assigned/xmatched: Exp date Location  1) DON013 FRESH FROZEN PLASMA B NEG 08/19/1998@07:18 Blood Bank  DATE/TIME UNIT RELOCATION: NOW// (AUG 18, 1998@07:25)  INSPECTION: S SATISFACTORY LOCATION: 8 E  **NON-STANDARD LOCATION ! OK ? NO//** Y (YES)  ISSUED TO/REC'D FROM:  DON013 relocated Select Patient Name: | IU # I77  SCR # I3  SRS # I82  TC # IP188 |
| WMI41 | Locks unit record during data entry to prevent simultaneous access via a different terminal/user. | Unit phenotyping [LRBLIUP] | A^LRBLJA calls up CK^LRU | Routine LRBLJA calls CK^LRU which attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | Unit phenotyping  Select BLOOD INVENTORY UNIT ID: DON013 B NEG CPDA-1 RED BLOOD CELLS **ANOTHER TERMINAL IS EDITING THIS ENTRY!**  Select BLOOD INVENTORY UNIT ID: | IU # I5  SCR # I3  SRS # I11  TC # IP223 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMI42 | Prevents entry of the same antigen in the RBC ANTIGEN  PRESENT field (#65.04) and the RBC ANTIGEN ABSENT  field (#65.05) for the unit being phenotyped. | Unit phenotyping [LRBLIUP] | Input template LRBLIAG  evaluates each RBC ANTIGEN PRESENT and RBC ANTIGEN  ABSENT fields for conflicts. | During data entry for the field RBC ANTIGEN PRESENT, a check is made to the corresponding field RBC ANTIGEN ABSENT.  The same entry cannot be in both fields. Again, during data entry for the field RBC ANTIGEN ABSENT, the same check is made to the corresponding field RBC ANTIGEN PRESENT. If a  conflict, a warning message is given. | Unit phenotyping  Select BLOOD INVENTORY UNIT ID: DON013 B NEG CPDA-1 RED BLOOD CELLS  Select RBC ANTIGEN PRESENT: e// E  **E antigen cannot be present & absent ??**  Select RBC ANTIGEN PRESENT: | IU # I83  SCR # I3  SRS # I87  TC # IP182 |
| WMI45 | Prevents release of autologous or directed donor units for allogeneic use for units with a "YES" in the POS/INCOMP. SCREENING TESTS  field (#65,8.1). | Free autologous/dire cted donor units [LRBLSEE] | A+2^LRBLJED | A check is made to the field POS/INCOMPLETE SCREENING TESTS (#65,8.1). If YES, a  warning message is given and the unit cannot be freed from the autologous donor. | FREE autologous/directed donor units  Select BLOOD INVENTORY UNIT ID: DON014 O POS AUTOLOGOUS RED BLOOD CELLS  **One or more screening tests from donation are positive.**  **DELETION NOT ALLOWED !**  Select BLOOD INVENTORY UNIT ID: | IU # I85  SCR # I26  SRS # I89  TC # IP273 |
| WMI46 | Prevents release of units from locations other than BLOOD BANK. | Units release to stock (cancel) by patient [LRBLIUR] | REL+1^LRBLJ R | A check is made to the current location of the unit to be released from the patient. If the location does not contain the words "BLOOD BANK", a  warning message is given and the user is exited from the record. | Units release to stock (cancel) by patient  Select Patient Name: BBPATIENT,SIX 05-02-75  # Unit ID ABO/Rh Component Exp date Xmatch date Location  1) DON013 B NEG FRESH FROZEN PLASMA, 08/19 07:18 08/18 07:17 8 E  Date/time work completed: NOW// (AUG 18, 1998@08:48)  **DON013 not returned to BLOOD BANK. Cannot release.**  Select Patient Name: | IU # I86  SCR # I3  SRS # I90  TC # NONE |

## Patient Functions

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP1 | Prevents entry of historical unit information if unit is already in the BLOOD  INVENTORY file (#65). | Previous records [LRBLPER] | Input transform for field COMPONENT ID (#63.017,.03)  calls EN^LRBLU | When this option is used, the input transform of the field COMPONENT ID calls routine EN^LRBLU to search the existing entries in the BLOOD INVENTORY File (#65) for  any possible matches. If the same product exists and the same unit ID, the  user is given a warning message and exited from the record. | Previous records  Select Patient Name: BBPATIENT,SIX 05-02-75  Select TRANSFUSION RECORD TRANSFUSION DATE/TIME: T-10@0800 AUG 08, 1998@08:00 TRANSFUSION RECORD COMPONENT: CPDA-1 RED BLOOD CELLS  TRANSFUSION RECORD COMPONENT ID: DON113  *UNIT IN INVENTORY - EDIT TRANSFUSION DATA THERE !?? ANSWER MUST BE 2-12 CHARACTERS IN LENGTH*  TRANSFUSION RECORD COMPONENT ID: | IU # P28  SCR # P3  SRS # P28  TC # IP65 |
| WMP2 | Checks for previous specimens within 72 hrs, regardless of division. Based on a search of the DATE/TIME SPECIMEN TAKEN  field (#63.01,.01) for specimens = BLOOD. | Specimen log-in [LRBLPLOGIN]  Blood component requests [LRBLPCS] | VA FileMan date/time utility %DTC EN2^LRBLU | The software calculates the date/time for 72 hrs previous to 'NOW'. The LAB DATA File (#63) entry for the patient is then searched for any/all blood bank specimens which have an entry in the DATE/TIME SPECIMEN TAKEN field (#63.01,.01)  after the date/time calculated above. All valid specimens are then displayed to the user. | Specimen log-in  Select Patient Name: BBPATIENT,SIX 05-02-75  You have just selected the following tests for BBPATIENT,SIX 000-00-0106 entry no. Test Sample 1 TRANSFUSION REQUEST BLOOD  All satisfactory? Yes// <CR> (Yes) LAB Order number: 544  **~For Test: TRANSFUSION REQUEST BLOOD**  **Specimen(s) received within past 72 hrs: 08/19/98 06:28 BB 0819 1** | IU # P33 P36  SCR # P16 P25  SRS # P35 P36 P37  TC # IP71 IP89 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP3 | Evaluates pre- operative component requests against audit criteria as defined in the OPERATIONS (MSBOS) File (#66.5) | Specimen log-in [LRBLPLOGIN]  Blood component requests [LRBLPCS] | EN^LRBLPCS S | If "YES" is entered at the prompt 'Is patient Pre-op  ?', and a Surgery is requested via the Surgery package, the following are checked:  The OPERATION (MSBOS) file (#66.5) is checked for an entry matching the CPT code of the Surgery Requested for the patient.  If an entry exists, the entry in field NUMBER OF UNITS (#66.51,.02) for the  specific component compared is compared with current request. If the current request exceeds the NUMBER OF UNITS field  entry, a warning message with override is displayed to the user. | Specimen log-in  Select Patient Name: BBPATIENT,SEVEN 05-02-55 000000107  You have just selected the following tests for BBPATIENT,SEVEN 000-00-0107 entry no.  Test Sample  1. TRANSFUSION REQUEST BLOOD  All satisfactory? Yes// (Yes) Is patient Pre-op ? Y (YES)  **Operation scheduled: Aug 20, 1998**  **19140**  **CPT file number: 19140 MASTECTOMY FOR GYNECOMASTIA**  Select BLOOD COMPONENT REQUEST: POOLED PLATELETS// AS-1 RED BLOOD CELLS REQUESTING PERSON: ME  REQUEST DATE/TIME: N (AUG 19, 1998@06:48) NUMBER OF UNITS: 5  **Number exceeds maximum surgical blood order number (1) for this component**  **for this procedure. Request still OK ? NO//**  (NO) | IU # P38 P39  SCR # P17  SRS # P38 P39  TC # IP82 IP83 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP4 | Evaluates request against facility defined audit criteria. Flags requests which may be potential inappropriate and allows input of justification | Blood component requests [LRBLPCS]  Specimen log-in [LRBLPLOGIN] | EN3^LRBLPC S | For each component type requested, the BLOOD PRODUCT File (#66) is  searched for entries in the fields TESTS TO CHECK (#66.04) or PRE-OP TESTS TO CHECK (#66.08),  depending on the user's answer to the prompt 'Is patient Pre-op ?'. For each entry in the above appropriate multiple field, the patient's record in the LAB DATA File (#63) is  searched for the most recent result. If the result is outside of the criteria defined in the above fields, the user is flagged with an alert message and override. If the order is accepted via override, the input template is also modified to prompt for additional fields for QA data entry. | Select Patient Name: BBPATIENT,EIGHT 05-02-55  Select BLOOD COMPONENT REQUEST: FRESH FROZEN PLASMA, CPDA-1// <CR>  **No PT results No PTT results**  **Request still OK ? NO//** Y (YES) REQUESTING PERSON: ME  REQUEST DATE/TIME: N (AUG 19, 1998@08:57) NUMBER OF UNITS: 3  DATE/TIME UNITS WANTED: N (AUG 19, 1998@08:57)  **COMPONENT REQUEST REASON:** TESTING (TESTING)  **APPROVED BY:** THE MEDICAL DIRECTOR TREATING SPECIALITY: MEDICAL ICU Select BLOOD COMPONENT REQUEST: | IU # P40 P41  SCR # P17  SRS # P40 P41  TC # IP75 IP76 |
| WMP5 | Displays alert message for patients who have autologous and/or directed units in inventory, regardless of division. | Blood component requests [LRBLPCS]  Specimen log-in [LRBLPLOGIN]  Select units for patient [LRBLPIC] | EN^LRBLPUS | Autologous/Directed units MUST be associated with a valid patient upon entry into the system. These are then stored in the  ^LRD(65,"AU",PATIENT,  UNIT ID) global. For each patient accessed, this global is searched for possible entries. All entries for the patient are then displayed. | Select Patient Name: BBPATIENT,THREE 05-05-55 BBPATIENT,THREE 1111 A POS  **Units restricted for BBPATIENT,THREE DON101 FRESH FROZEN PLASMA, CPDA-1** | IU # P22  SCR # P18  SRS # P22  TC # IP84 IP257 IP260 IP267 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP6 | Limits component selection to those for which the CAN BE REQUESTED field in the BLOOD PRODUCT File (#66)=YES and  which  are assigned to the appropriate division. | Blood component requests [LRBLPCS]  Specimen log-in  [LRBLPLOGIN] | Input transform for the field BLOOD COMPONENT REQUEST (#63.084,  .01) | The input transform screens all entries for this field and only allows entries for which the BLOOD PRODUCT File  (#66) entries for the fields CAN BE REQUESTED  (#66,.15) = YES and the ASSOCIATED DIVISION  multiple (#66.1) contains an entry equal to the division of the user. | Select Patient Name: BBPATIENT,NINE  Select BLOOD COMPONENT REQUEST: CPDA-1 RED BLOOD CELLS// CPD RED **??** | IU # P23  SCR # P19  SRS # P23  TC # IP77 |
| WMP7 | Prevents deletion of accession if there is verified data entered for that accession. | Remove an accession [LRDELOG] | DUOUT+6^ LRTSTJAN | Before an accession can be removed, a check is made to the field DATE REPORT COMPLETED (#63.\_AREA\_,.03) | REMOVE AN accession  Select Accession or UID:  BLOOD BANK  Accession Date: TODAY//T-1 (AUG 19, 1998) Number part of Accession: 7 BBPATIENT,NINE 000-00-0109  BLOOD TRANSFUSION REQUEST  ROUTINE Test Complete 08/20/1998@08:26 BB 0819 7  For accession BB 0819 7  Is this the one? NO// YES  For this specimen, remove all associated accessions? NO// YES  **CAN'T DO IT. The data has been verified for that log number.** | IU # P43  SCR # P3  SRS # P43  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP8 | Compares current ABO/Rh interpretations to patient history and displays a warning message if a discrepancy exists. | Enter Test Data [LRBLPET] | Input template to the LAB DATA File (#63) LRBLSCREEN | The historical record for ABO and Rh testing is stored separately from the current record/accession. When the current specimen record is having the ABO and Rh testing entered, immediately after data entry a check is made to the historical record for the corresponding ABO or Rh. If the two do not match, a warning message is given with a chance to override. The historical record is not updated until someone with the LRBLSUPER key uses a different option to change the historical record. | Enter test data  Select Accession Number: 8 for Aug 19, 1998 BBPATIENT,NINE ID: 000-00-00109 ABO: O Rh: POS  Specimen: BLOOD  Patient record ABO: O Rh: POS ABO INTERPRETATION: B B  **B not the ABO group on record**  **Is present testing OK ? NO//** (NO)  ABO INTERPRETATION: O O RH INTERPRETATION: NEG NEG  **NEG not the Rh type on record Is present testing OK ? NO//** (NO)  RH INTERPRETATION: POS POS  ANTIBODY SCREEN INTERPRETATION: NEG NEG | IU # P46  SCR # P1  SRS # P46  TC # IP103 IP106 IP234 |
| WMP9 | Displays warning message for patients who have no previous ABO/Rh history. | Enter Test Data [LRBLPET] | Input template to the LAB DATA File (#63) LRBLSCREEN | The historical record for ABO and Rh testing is stored separately from the current record/accession. When the current specimen record is having the ABO and Rh testing entered, immediately after data entry a check is made to the historical record for the corresponding ABO or Rh. If there is no historical record, a warning message is given with a chance to override. | Enter test data  Select Accession Number: 1 for Aug 20, 1998 BBPATIENT,TWENTY ID: 000-00-0020 ABO: Rh:  Patient record ABO: Rh:  **ABO &/or Rh not on file**  **CAUTION !! No checking can be done.**  ABO INTERPRETATION: O O  **Are you sure ? NO//** Y (YES)  RH INTERPRETATION: POS POS  **Are you sure ? NO//** Y (YES)  ANTIBODY SCREEN INTERPRETATION: NEG NEG | IU # P47  SCR # P1  SRS # P47  TC # IP101 IP114 IP117 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP10 | Compares current ABO/Rh interpretations to current specimen results if previously entered and displays a warning message if a discrepancy exists. | Enter Test Data [LRBLPET] | Input template to the LAB DATA File (#63) LRBLSCREEN | During data entry, if a change is made to an ABO or Rh entry from a previous data entry  session, the user is prompted with a warning message and request to confirm the new result. | Enter test data  Select Accession Number: 2 for Aug 25, 1998 BBPATIENT1,ONE ID: 000-00-0111 ABO: O Rh:NEG  Patient record ABO: O Rh: NEG ABO INTERPRETATION: O// B  B not the ABO group on record  Is present testing OK ? NO// Y (YES)  **B not the ABO group of present specimen Is present testing OK ? NO//** (NO)  ABO INTERPRETATION: O//  RH INTERPRETATION: NEG// P POS  POS not the Rh type on record  Is present testing OK ? NO// Y (YES) *POS not the Rh type on present specimen* **Is present testing OK ? NO//** (NO) | IU # P51  SCR # P4  SRS # P17  TC # IP104 IP107 |
| WMP11 | Displays alert message for any patients with a previous antibody history based on the entry in the ANTIBODIES  IDENTIFIED field (#63.075). | Specimen log-in  [LRBLPLOGIN]  Blood component requests [LRBLPCS]  Select units for patients [LRBLPIC]  Enter Test Data [LRBLPET] | LRDPA2+6 | When a patient's record is accessed, the LAB DATA field ANTIBODIES IDENTIFIED (#63.075) for  that patient is searched. Any entries to this field are displayed to the user. | Select Patient Name: BBPATIENT,TWO 05-02-55  000-00-0102  Antibody present: ANTI E  TRANSFUSION REACTIONS WITHOUT UNIT IDENTIFIED:  Jan 15, 1997 ALERGIC | IU # P20  SCR # P14 P29  SRS # P20  TC # IP112 IP148 IP224 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP12 | Locks the patient record during data entry to prevent simultaneous access via a different terminal/user. | Enter Test Data [LRBLPET] | TEST+3  ^LRBLPE | Routine LRBLPE attempts to lock the record. If lock is not established after one second, it is because the record is locked by another user. If this is the case, the routine returns the message ANOTHER TERMINAL IS EDITING THIS ENTRY! | Enter test data  Select Accession Number: 2 for Aug 20, 1998  BBPATIENT,TWO ID: 00-00-0102  Test: TRANSFUSION REQUEST  *ANOTHER TERMINAL IS EDITING THIS ENTRY!*  Select Accession Number: | IU # P10  SCR # P3  SRS # P10  TC # IP105 IP251 |
| WMP13 | Compares unit ABO/Rh to patient history & prevents unit selection if there is no entry. | Select units for patient [LRBLPIC] | LRBLPA+4 | For the patient being accessed by the option, a check is made for entries in the current specimen for ABO/Rh typing results. If none are present, the user is given a warning message and is exited from the record. | Select units for patients  Select Patient Name: BBPATIENT1,TWO 01-01-60 000-00-0112  ABO group: Rh type:  AGE: 38 DATE OF BIRTH: JAN 1,1960 PATIENT LOCATION: 3E// 3 EAST  **No Patient ABO &/or Rh !**  Select Patient Name: | IU # P65  SCR # P20 P23 P24  SRS # P69  TC# IP207 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP14 | Checks for valid patient specimen based on entry in PATIENT SPECIMEN AGE  ALLOWED field (# 66,.16) of the BLOOD PRODUCT  file (#66) for the specific  component requested and which division the specimen is accessioned. | Select units for patient [LRBLPIC] | ^LRBLPCS1  +10 | For the blood product being requested, if the PATIENT/PRODUCT  REQUIREMENT field (#66,.09) is set for crossmatch, the field PATIENT SPECIMEN AGE ALLOWED is  searched for an entry. If no entry, then the entry is assumed to be 72 hrs. The date/time assigned to the PATIENT SPECIMEN  AGE ALLOWED field previous to the current time is calculated using VA FileMan utility %DTC. Then, the patient record in the LAB DATA File (#63) the BLOOD BANK  subscript field DATE/TIME SPECIMEN TAKEN  (#63.01,.01) is searched for any date/time entries after the time determined above. If there are no valid specimens, the user is given a warning message  and not allowed to proceed. | Select units for patients  Select Patient Name: BBPATIENT1,THREE 04-10-30 000-00-0113  Blood component for unit selection: CPDA-1 RED BLOOD CELLS 04060  **No patient blood sample within required time Obtain a new sample from the patient for compatibility testing**  Blood component for unit selection: | IU # P36  SCR # P16 P25  SRS # P36 P37  TC # NONE |
| WMP15 | Checks for appropriate confirmatory unit testing. Displays warning message if testing not complete. | Enter crossmatch results [LRBLPX] | EN^LRBLPX1 | For each unit selected for crossmatch, the BLOOD INVENTORY File entries for entries in the ABO INTERPRETATION field (#65,10) and RH INTERPRETATION field  (#65,11) if the entry for RH TYPE (#65,.08) is  NEGATIVE. If either or both of the results  are not complete, a warning message is given. | Enter crossmatch results  Select Patient Name: BBPATIENT1,FOUR 10-25-62 000000114  Unit for XMATCHING Exp date Loc  1) DON115 AS-1 RED BLOOD CELLS O NEG 09/25/98 Blood Bank  **ABO not rechecked**  **Rh NEG unit not rechecked** | IU # P64  SCR # P25 P22  SRS # P66  TC # IP167 |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP16 | For allogeneic units, checks for appropriate confirmatory unit testing. Displays warning message if testing not complete. | Enter crossmatch  results [LRBLPX] | C^LRBLPX1 | If the patient has any entry(ies) in the LAB DATA File (#63) field ANTIBODIES IDENTIFIED (#63.075), a  check is made for the unit being crossmatched in the BLOOD INVENTORY File (#65) field RBC ANTIGEN  ABSENT Field (#65.05) for presence of the corresponding antigen. If not entered, a warning message is given. | Enter crossmatch results  Select PATIENT NAME: BBPATIENT1,FOUR 10-25-62 000000114  Unit for XMATCHING Exp date Loc  1) DON115 AS-1 RED BLOOD CELLS O NEG 09/25/98 Blood Bank  **E. RBC ANTIGEN Above antigen(s) not**  **entered in RBC ANTIGEN ABSENT field** | IU # P64 P72  SCR # P25 P22 P31  SRS # P66 P74  TC # IP166 |
| WMP17 | Displays warning message if current volume is less than the average volume for the component. | Select units for patient [LRBLPIC] | I+7  ^LRBLPUS1 | For the product type selected, the value of the VOLUME (ml) field (#66,.1) is evaluated against the BLOOD INVENTORY field VOLUME (ml) (#65,.11). If  the individual unit volume is less than the product average volume, then this volume is displayed to the user. | Select units for patients  Select Patient Name: BBPATIENT,TEN 01-01-99 000000110  Blood component for unit selection: CPDA-1 RED BLOOD CELLS  Select UNIT: DON222 DON222 DON222 O POS 08/28/98 **(125ml)**  TIME001 EXPIRES IN 7 DAYS  UNIT OK for BBPATIENT,TEN 000-00-0110 ? YES// (YES) | IU # P61  SCR # P25  SRS # P63  TC # NONE |

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| **WM #** | **Design Safeguard** | **Option(s)** | **Controlling field or routine** | **Algorithm** | **Alert or Warning message**  **(User input is Underlined. Computer generated messages are BOLDED)** | **Trace** |
| WMP18 | For allogeneic units, evaluates unit phenotyping against clinically significant patient antibodies. Prevents selection if corresponding antigen is present in the unit. | Select units for patient [LRBLPIC] | CK+2  ^LRBLPUS1 ALL+3  ^LRBLPUS1 | The patient's record in the LAB DATA File (#63) field ANTIBODIES IDENTIFIED (#63.075) is  checked for any entries. Entries are checked for corresponding antigens based on the field CORRESPONDING ANTIGEN/ANTIBODY (#  61.3,.04). If there is an entry in this field, and this entry is in the BLOOD INVENTORY File entry for the unit being selected (#65.04), the unit id is only echoed back to the user and cannot be selected. | Select units for patients  Select Patient Name: BBPATIENT1,FOUR 10-25-62  Component Units Request date Date wanted Requestor  Blood component for unit selection: AS-1 RED BLOOD CELLS  Select UNIT: DON115 **DON115**  Select UNIT: | IU # P71  SCR # P31  SRS # P6 P73  TC # IP225 |
| WMP19 | Prevents entry of crossmatch interpretation if no ABO/RH results entered on the current specimen. | Enter crossmatch results [LRBLPX] | EN+10  ^LRBLPX1 E+2^LRBLPX | For the current patient specimen, a check is made for a valid entry in the fields ABO INTERPRETATION (#63.01,10) and RH INTERPRETATION  (#63.01,11). If there are no entries in these fields, the user is given a warning message and is exited from the record. | Enter crossmatch results  Select Patient Name: BBPATIENT1,FIVE 05-02-22 000000115  Unit for XMATCHING Exp date Loc  1) DON116 CPDA-1 RED BLOOD CELLS O POS 08/31/98 Blood Bank  *No patient ABO &/or Rh results*  **No antibody screen results (spec date:08/24/98 07:08 acc#:1)**  **Sorry, must have ABO/Rh results to enter XMATCH results**  Select Patient Name: | IU # P68  SCR # P20 P23 P24  SRS # P70  TC # IP238 |

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| WMP20 | Displays warning message if no results entered for the antibody screening on  the current specimen. | Enter crossmatch results [LRBLPX] | EN+11  ^LRBLPX1 E+3^LRBLPX | For the current patient specimen, a check is made for a valid entry in the field ANTIBODY SCREEN INTERPRETATION  (#63.01,6). If no entry, the user is given a warning message and opportunity for override. | Enter crossmatch results  Select Patient Name: BBPATIENT1,FIVE 05-02-22 000000115  Unit for XMATCHING Exp date Loc  1) DON116 CPDA-1 RED BLOOD CELLS O POS 08/31/98 Blood Bank  **No antibody screen results (spec date:08/24/98 07:08 acc#:1)**  **Antibody screen results not entered. OK to continue ? NO//** (NO)  Select Patient Name: | IU # P69  SCR # P26  SRS # P71  TC # IP243 |
| WMP21 | Prevents entry of future transfusion dates. | Blood transfusion results [LRBLPT] | Input transform to field TRANSFUSIO N DATE/TIME (#63.017,.01)  prevents the entry of a future date in this field.  Uses VA FileMan %DT to enforce. | VA FileMan input variable %DT(0)= "-N". When this occurs, a future date cannot be entered at this prompt. | Blood transfusion results  Select Patient Name: BBPATIENT1,FIVE 05-02-22 000000115  Unit assigned/xmatched: Exp date Loc  1) DON116 CPDA-1 RED BLOOD CELLS O POS 08/31/98 3 EAST  DON116 CPDA-1 RED BLOOD CELLS O POS 08/31/98 3 EAST  Is this the unit ? YES// (YES)  DATE/TIME TRANSFUSION COMPLETED: T@1500 (AUG 24, 1998@15:00) **??**  DATE/TIME TRANSFUSION COMPLETED: N (AUG 24, 1998@07:50)  DATE/TIME TRANSFUSION COMPLETED: Aug 24, 1998 07:50 ? YES// (YES)  Select Patient Name: | IU # P82  SCR # P3  SRS # P84  TC # IP215 |

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| WMP22 | Displays warning message when accessioning specimens on patients  with no previous ABO/Rh results on file | Specimen log-in [LRBLPLOGIN]  Blood component requests [LRBLPCS] | LRBLPA+4 | The LAB DATA File (#63)  records are searched for the patient for Historical ABO/Rh using the fields ABO GROUP (#63,.05) and RH TYPE (#63,.06). If no  entries in these fields, a warning message is given. | Select Patient Name:  BBPATIENT1,ONE 06-29-38 000000111  *ABO group: Rh type:*  AGE: 60 DATE OF BIRTH: JUN 29,1938  You have just selected the following tests for BBPATIENT1,ONE. 000000111  entry no. Test Sample  1 TRANSFUSION REQUEST BLOOD All satisfactory? Yes// (Yes)  LAB Order number: 185242  ~For Test: TRANSFUSION REQUEST BLOOD  **No Patient ABO &/or Rh !** | IU # P19  SCR # P10  SRS # P19 P30  TC # IP69 |
| WMP23 | Prevents deletion of historical ABO/Rh on patient with a current record. | Patient ABO/Rh edit [LRBLEDIT] | F^LRBLP | Software checks for any previous Blood Bank specimen results and/or presence of current or previous component requests. If any are present, the user is given a warning message and instructions. User cannot delete unless instructions are followed. | PATIENT ABO/Rh edit  Select Patient Name: BBPATIENT,THREE 05-05-55 000-00-0103  ABO GROUP: A// @  **Any component requests, unit’s assigned/ crossmatched, transfusion records, RBC antigens present or absent, antibodies identified or blood bank comments must be removed before deletion allowed.**  ABO GROUP: A// RH TYPE: POS// @  **Any component requests, units assigned/ crossmatched, transfusion records, RBC antigens present or absent, antibodies identified or blood bank comments must be removed before deletion allowed.**  RH TYPE: POS// | IU # P66  SCR # P4  SRS # P16  TC # IP131 |

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| WMP24 | Prevents selection of units when ABO/Rh of current specimen does not agree with ABO/Rh of historical record. | Select units for patients [LRBLPIC] | R^LRBLPUS | The current specimen entry for field ABO INTERPRETATION (#63.01,10) and ABO INTERPRETATION  (#63.01,11) are compared to the patient's historical record fields ABO GROUP (#63,.05) and RH TYPE  (#63,.06). If there is a discrepancy, the user is given a warning message and is exited from the record. | Selection of units for a patient  Select Patient Name: BBPATIENT1,ONE 06-29-38 000000111  Blood component for unit selection: CPDA-1 RED BLOOD CELLS 04060  **Results on BB 0825 2 do not match the Patient's previous ABO/Rh history**  **Resolve the discrepancy before proceeding**  Blood component for unit selection: | IU # P67  SCR # P29  SRS #  TC # IP235 |