

Fujitsu Technology Solutions

TomDoors-M (BS2000/OSD)
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Release Notice

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1 GENERAL

TomDoors-M (BS2000) V5.0E00

Toolmanager Monitor

TomDoors-M (Toolmanager Monitor) is the main element of software development in BS2000 in the C, COBOL, Assembler and FORTRAN languages and for working with COLUMBUS85 and COLUMBUS.

This release notice is a summary of the major extensions, requirements and operating information for TomDoors-M V5.0E00 under the BS2000 operating system.

The release level is that of Januar 2004.

1.1 Ordering

TomDoors-M V5.0E00 can be ordered from your local distributors.

1.2 Delivery

TomDoors-M V5.0E00 files are delivered via SOLIS.

The files delivered and the library tables of contents are listed in the appendix to this release notice.

Files to be delivered:

PAM pages	File name	Meaning
15	SYSMSH.TOMDOORS-M.050.TXTOB	Tool Manager's HELP
6	SYSMSH.TOMDOORS-M.050.THTOB	
123	SYSMSH.TOMDOORS-M.050.TXHLP	
15	SYSMSH.TOMDOORS-M.050.THHLPE	
111	SYSMSH.TOMDOORS-M.050.TXHLPE	
15	SYSMSH.TOMDOORS-M.050.THHLPE	
15	SYSPRC.TOMDOORS-M.050.INSTALL	Installation procedure
4251	SYSLIB.TOMDOORS-M.050	Product library
57	SYSFGM.TOMDOORS-M.050.E	Release notice (English)
57	SYSFGM.TOMDOORS-M.050.D	Release notice (German)
9	SYSSII.TOMDOORS-M.050	Information file for IMON

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1.3 Documentation

The following TomDoors-M manuals can be separately ordered:

Title	! Order no.	! Level
TOM-M (BS2000) V4.2 Toolmanager-Monitor Einfuehrungshandbuch	! U20673-J-Z127-1	! 5.93
TOM-M (BS2000) V4.2 Toolmanager Monitor Introductory Guide	! U20673-J-Z127-1-7600	! 5.93
TOM-M (BS2000) V4.2 Toolmanager-Monitor Referenzhandbuch	! U20672-J-Z127-1	! 5.93
TOM-M (BS2000) V4.2 Toolmanager Monitor Reference Guide	! U20672-J-Z127-1-7600	! 5.93
TOM-M (BS2000) V4.2 Toolmanager-Monitor Benutzerhandbuch fuer Assembler, C, FORTRAN	! U20669-J-Z127-1	! 5.93
TOM-M (BS2000) V4.2 Toolmanager Monitor for Assembler, C and FORTRAN User Guide	! U20669-J-Z127-1-7600	! 5.93
TOM-M (BS2000) V4.2 Toolmanager-Monitor Benutzerhandbuch fuer COBOL, COLUMBUS, COLUMBUS85	! U20671-J-Z127-1	! 5.93
TOM-M (BS2000) V4.2 Toolmanager Monitor for COBOL, COLUMBUS and COLUMBUS85 User Guide	! U20671-J-Z127-1-7600	! 5.93
TomDoors-M (BS2000) Version 5.0A Toolmanager-Monitor Benutzerhandbuch Grafische Oberflaeche auf PC	! U22877-J-Z125-1	! 4.95
TomDoors-M (BS2000) Version 5.0A Toolmanager-Monitor User Guide Interface on PC	! U22877-J-Z125-1-7600	! 4.95

In addition to the above manuals, the BS2000-GA manuals and the supported programming languages may also be necessary or of use when working with TOM-M.

2 TECHNICAL INFORMATION

2.1 Resource requirements

TomDoors-M V5.0E00 can be used on systems with a main memory capacity of at least 2 Mbytes.

Approximately 4300 PAM pages are required on disk.

2.2 Software configuration

BS2000

Operating system: BS2000 >= V10.0 and VTSU V11.0, if the FHS-DOORS graphics interface is used.

Operating mode: Dialog mode

Software: EDT >= V16.4
TOM-TI >= V3.0C
LMS >= V2.0
TSOSLNK >= V21.0
BINDER >= V1.0

Optional software (depending on functionality required):

ASSEMB >= V30.0
ASSEMBH >= V1.1
COB1 >= V2.3
C >= V2.1A
C >= V3.0A
COBOL85 >= V1.2
COBOL2000 >= V1.0A
FOR1 >= V2.1
COLUMBUS85 >= V1.0B
COLUMBUS-COB >= V4.1B
COLUMBUS-ASS >= V2.2F
FORMPLAG-D >= V2.4
FORMPLAG-E >= V2.4
IFG >= V5.0
FMS >= V2.4 *)
KMS >= V1.3
TOM-DOC >= V3.1B
TOM-REF >= V2.2
TOM-REFG >= V2.1A
TOM-CA >= V2.0A
TOM-JA >= V2.0A
TOM-MP >= V1.0B
TOM-TA >= V1.0B
TOM-RTEST >= V2.0A10
TOM-MTEST >= V1.1B
TOM-GEN >= V2.1A
UDS-DDA >= V1.0B
SESAM-DDA >= V3.0A

PC (only relevant when a graphics interface is used):

Operating system: MS-DOS >= V5.0

Software: WINDOWS >= V3.1

- *) To convert libraries that have been created under FMS V2.3 into the FMS V2.4 format, please refer to the FMS V2.4 release notice.

FHS-D00RS >= V2.0B
BS2000 terminal emulation that supports the
SNI DDE interface, e.g. MT9750 >= Version.0C
Corrections version 00 03.
(the "mini-emulation" in FHS-D00RS is not
sufficient)

2.3 Product installation

The contents of the customer tape are loaded into the system.

When the SOLIS tape is loaded, the TomDoors administrator has to start the pre-installation procedure SYSPRC.TOMDOORS-M.050.INSTALL.

This procedure installs TomDoors-M on the userid, specified by the administrator.

Note: When the SOLIS tape is loaded, files existing under identical names are overwritten. This may be undesirable for the central TOMLIB (TOM.TOMLIB.TOM.CENTRAL) and the load module library (TOM.OML) as user-specific modifications/extensions are made here. Therefore, these two files should first be saved and then mixed. If elements exist under the same name, the user must decide whether he wants to use the "old" element or the "new" one in his TOM installation.

The release notice is stored on tape and can be printed with the following command:

```
/PRINT-FILE SYSPRC.TOMDOORS-M.050.D,CONTROL-CHARACTERS=EBCDIC  
(German)
```

or

```
/PRINT-FILE SYSPRC.TOMDOORS-M.050.E,CONTROL-CHARACTERS=EBCDIC  
(English)
```

TomDoors-M is installed in the following steps:

1. The files have to be installed
2. The TOM phase is linked in.
3. The TOM phase and the central TOMLIB are initialized in the TOMSTART run.
4. The STANDARD parameter sets are assigned and the central special functions are installed in the central TOMLIB.

2.3.1 Installation of the files

The procedure SYSPRC.TOMDOORS-M.050.INSTALL installs TomDoors-M in the UserId specified by the administrator.

The following parameters will be requested while the procedure runs in dialog.

&SOURCE	UserId of the installation source
&DESTINATION,	UserId to the target

Files needed at runtime:

PAM pages	File name	Meaning
15	TOB.P.TEXT.TOB	Tool Manager's HELP
6	TOB.P.THES.TOB	pool

123	TOB.P.TEXT.TOMHELP	
15	TOB.P.THES.TOMHELP	
111	TOB.P.TEXT.TOMHELPE	
15	TOB.P.THES.TOMHELPE	
576	TOM.MONITOR.LNKLIB	Shared code
93	TOM.TOMLIB.TOM.CENTRAL	Central TOMLIB
1440	TOM.OML	Central load module library for all TOM components
9	TOM.LNK.PRC	linking procedure
33	TOM.M.LNKLIB	module library
15	TOM.SERV.OML	for generation tasks
183	TOMSTART	initialization program
	SYSFGM.TOMDOORS-M.050.E	release notes in english
	SYSFGM.TOMDOORS-M.050.D	release notes in german
162	TOM.TOMLIB.TOM.BEISPIEL	a tomlib example
306	TOM.TOMLIB.TOM.MBOERSE	

2.3.2 linking the phase TOM

Linkage of the TOM phase is user-specific, based on the desired configuration level (e.g. with or without the FORMPLAG function). As a result, a number of TOM phases can be linked in various configuration levels (e.g. under different User-Ids) on the same computer.

The procedure TOM.LNK.PRC is used to link the phase TOM. Following parameters are provided:

```

&FORMPLAG=    {Y|N} is FORMPLAG to be used
&FLNK         Destination of the FORMPLAG Library, if
               &FORMPLAG=Y ($TSOS.FORMPLAG.D.LNKLIB)
&FMS=         {ON|OFF} is FMS to be used
&FMSID=       UserId of the FMS-library, if FMS=ON
&MLNK         Name of the TOM-Lnklib (TOM.M.LNKLIB)
&ELNK         Name and Destination of the TOM-TI library

&LIST         filename of the SYSLST output (TOM.LNK.LST)
&XREF         {Y|N} switch the XREF link listing
&PRINT        {Y|N} print the link listing

&LNK          Name an destination of TSOSLNK ($TSOSLNK)
&TOMVERS=V5.0E00

```

2.3.3 Initialization of the TOM phase and the central TOMLIB

You initialize the runtime environment of TOM-M in a so-called TOMSTART run, in which you enter the scope of the functions, and the names of the compilers and utility routines to be used in a number of screen menus. The input fields in these menus are filled with default values recommended by TOMSTART. During the TOMSTART run, the central TOMLIB is created or updated. This library (as also the user-own TOMLIB of individual users) is a PLAM library.

In addition, the TOM phase is logically linked with the central TOMLIB, the TOM.MONITOR.LNKLIB, and the load module library TOM.OML.

Some of the data you entered during the TOMSTART run is written to the TOM phase (e.g. the name of the central TOMLIB), and some of it is copied to the central TOMLIB.

2.3.4 Start of TOM phase

With the linking procedure a phase is generated by the default name of TOM. After all the installation steps have been performed, the TOM phase can be called with the following command:

```
/EXEC $userid.TOM
```

The steps are described in the "Administration" chapter of the TOM-M V4.2 Reference Guide.

3 Special Functions

3.1 The REORG special function

As of Version 4.1C, you can reorganize your own TOMLIB only via the REORG special function which is to be installed centrally. In the TOMSTART procedure, specify REORG (without parameters) in screen 7. This function can then be used by all TOM users, even without updating the menu parameter set, by entering 'SP (REORG)' in the command line.

3.2 The IFG special function

Should the FHS formatting program not be in the \$TASKLIB module library, the IFG special function must have the following FILE command added to it:

```
/FILE library-name, LINK=MROUTLIB
```

A further FILE command is necessary if the IFG format file does not have the default name (IFG.MAPS) and/or is not under the user-own ID or \$TSOS.

```
/FILE file-name, LINK=IFGMAPS
```

4 Product use

4.1 Station name of the TOM subtask

For the purpose of data protection, LOGON exits are used for checking authorization for a LOGON command via the station name. This causes difficulties in the case of the TOM subtask as this is assigned the station name „TOM#tsn“ (tsn=TSN of the main task) by default.

The user can, however, assign this station name himself with the following BS2000 command:

```
/APPLICATION <station-name>,LINK=TOMCLINK
```

The command must be issued in the main task before TomDoors creates the subtask.

4.2 Data protection/security

The central TOMLIB is created with the SHARE=YES and ACCESS=WRITE file attributes by default. During installation, a WRITE password can be assigned. The LOGON passwords of the IDs under which TOM is called up are saved in the central TOMLIB in encoded form (in the <userid>.LOG element) so that TOM can generate a subtask, if necessary.

If you do not want the LOGON passwords to be saved, you must assign the central TOMLIB the ACCESS=READ password after installation. However, this means that the LOGON password must be entered in the BPSW mask after every TOM call. The password is automatically requested when the <userid>.LOG element is missing in the central TOMLIB.

4.3 Incompatibilities with respect to TOM-M V4.2A

The special function C85PRPT has been renamed C85PRINT.

All compilation procedures and the linkage procedure (for BINDER, not TSOSLNK) must be regenerated before they can be used in TomDoors-M V5.0D, V5.0E or greater. This has become necessary due to hunting being called up in the procedure itself.

4.4 Incompatibilities with respect to TOM-M V4.2B

The COLUMBUS85 procedure has changed:

This procedure no longer requires the EDT call. The old version, however, remains compatible. The parameter set does not need to be generated (see also the procedure in Appendix 3).

4.5 Incompatibilities with respect to TomDoors-m V5.0A

Since version 5.0B00, Tom Doors-M generates all parameter sets in SDF- in place of ISP-format. The parameter sets generated with an old version can still be executed or edited without any conversion of the procedure.

The FHS-Doors masks and resources are frozen since this version.

4.6 Incompatibilities with respect to TomDoors-m V5.0B

Only Columbus85 as of V1.0B is supported.

4.7 Incompatibilities with respect to the TomDoors-M V5.0D

TomDoors-M V5.0E00 is fully compatible with TomDoors-M V5.0D.

4.8 Restrictions

The runtime of programs containing modules that were compiled with the COBOL parameter TOMTEST will increase considerably when such programs are executed outside TOM.

The COBOL parameter sets are compatible as well with the compiler COBOL85 as with the compiler COBOL2000, but the parameter TOMTEST is no longer supported by the new compiler. If this parameter has been marked, the corresponding COMOPT will be rejected by the new compiler.

4.9 Miscellaneous

When the option 'TOMTEST=YES' has been specified in a COBOL85 parameter set using COBOL85 compiler V2.2C or higher, the module ITCMTOM0 must be linked with the user program in place of ITCN-TOM0.

The COPY-elements as the error messages are always inserted before the COPY statements or the erroneous lines.

For the C-Compiler, since version 2.0, the parameter COMPILER-ACTION=MODULE-GENERATION(ETPND=*NONE) must be specified in place of COMPILER-ACTION=MODULE-GENERATION(ETPND=NO)

4.10 Procedure in the event of errors

Enclose with your TomDoors-M V5.0D00 error reports a detailed description of the error condition (the preceding sequence of functions, where applicable) and the following documentation in file form, if possible:

1. The linkage editor listing of the TOM phase. This is stored by default in the TOM.LNK.LST file and can be printed with the following command:

```
/PRINT-FILE TOM.LNK.LST,CONTROL-CHARACTERS=EBCDIC
```
2. For errors that are not easy to reproduce, it is usually very helpful if you enclose the processed TOMLIB (by file transfer or on magnetic tape) and a detailed description of the error message sequence.
3. Error messages concerning the "Parameter generation" function for the compiler either directly or indirectly (i.e. possibly also concerning the "Compiler", "COLLIST" and "COLCOB" functions themselves) should be accompanied by the (pre-)compiler procedure that was generated by TOM and, whe-

re necessary, modified by the user.

4. For error messages concerning the transfer of TOM libraries from the FMS to the LMS format (generation task V4TRANS), enclose the runtime log (default: "nkz.V4TRANS.LST.project" where "nkz" is the abbreviated name and "project" is the project designation of the TOMLIB to be transferred).

5 SOFTWARE EXTENSIONS

Only the extensions and enhancements to TomDoors V5.0C, are described below.

5.1 General functions

5.1.1 COBOL2000 compiler support.

As of V5.0D, TomDoors-M supports the COBOL2000 compiler. The parameter sets generated for COBOL85 can be used with restrictions for the new compiler COBOL2000. Only the parameter TOMTEST is no longer supported by the new compiler.

If you generate a new parameter set, you can specify the module format for the module to be generated (object module (OM) or link-and-load module (LLM)). The capacity for the additional compiler options has been extended from 2 up to 14 lines.

A parameter set generated for COBOL2000 can still be used without any conversion for COBOL85, but only if the user does not have specified COMOPT's, which are not compatible.

The new compiler can process together a group of compilation units (program definition, class definition, interface definition). Those compilation groups are also supported by TomDoors-M V5.0E. At the end of the compilation run, a summary of all detected errors in the compilation units will be displayed and the error messages are merged into the respective compilation units.

5.1.2 CPU limit.

The operand CPU time specified as operand in the LOGON command will be used when TOM initiates a subtask, except if another value has been set in TOMSTART (additional operands for LOGON-command in screen 8).

5.2 Solved Problems

- A0469197 Columbus-Procedure (TYPE:OCL) generations was wrong, when CatId was used in the identifications mask (01).
- A0470562 Compilation of C always ended with TOM-Message 3771. The error text was not merged into the source.
- A0476781 After the input of KOMP.*T in the delete mask of the libraryservice function the secondary elements MOD and LLM are not shown in the next mask and also not deleted.
- A0480780 After input of CatId in the identification mask, the central SPF's were overwritten by extending the filenames with this CatId. When the central TOMLIB was write-protected, the error 3909: OPEN-ERROR appeared.
- A0494264 If a prefix was used in the TOMSTART run but no suffix, the filenames in the COBOL-parameter set (.OCO) were generated wrong.

6 Appendix1: Outline of the standard procedures and hunting call

6.1 Standard link procedure

```

/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK LINK UTILITY=BINDER
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/.PAR START-PROGRAM FROM-FILE=$BINDER
MOD-ERR-PRO MES-CON=ERROR
MOD-MAP-DEF OUT=&NKZ..&KOMP..IFL.&PROJECT
START-LLM-CREA INT-NAME=&KOMP
INC-MOD LIB=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT,ELEM=&KOMP,TYP=R
RES-BY-AUTO LIB=(
FORTRAN runtime system , -
COBOL runtime system for COBOL85 , -
COBOL runtime system for COB1 , -
runtime system for COLUMBUS file 3 , -
runtime system for COLUMBUS file 2 , -
runtime system for COLUMBUS file 1 , -
central module library 3 , -
central module library 2 , -
central module library 1 , -
COLUMBUS85 runtime system , -
C runtime system , -
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT , -
$userid.TOM.OML ) -
,SYMBOL-NAME=DUMMY -
,TYP=R
SAVE-LLM LIB=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
SHOW-MAP OUT=&NKZ..&KOMP..IFL.&PROJECT
END
/SET-JOB-STEP
START-PROGRAM FROM-FILE=*PHASE(LIBRARY= -
/ $userid.TOM.OML -
/ ,ELEMENT=POSABL,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
END
/SET-JOB-STEP
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE

```

6.2 Standard C compilation procedure

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/SET-JOB-STEP
/START-PROGRAM FROM-FILE=$C
//COMPILE SOURCE = *LIBRARY-ELEMENT( -
//LIBRARY = -
//$&USERID..&NKZ..TOMLIB.TOM.&PROJECT -
//,ELEMENT = &KOMP..&TYP) -
//,USER-INCLUDE-LIBRARY = ( -
//*SOURCE-LIBRARY, -
//$CLIB) -
//,SOURCE-PROPERTIES = STD -
//,COMPILER-ACTION = MODULE-GENERATION( -
//      SHAREABLE-CODE = NO -
//      ,ENUM-TYPE = VALUE-DEPENDENT -
//      ,SUBROUTINE-CALL = BASR -
//      ,MODULE-FORMAT = OM) -
//,MODULE-LIBRARY = -
//$&USERID..&NKZ..TOMLIB.TOM.&PROJECT ( -
//ELEMENT = &KOMP (VERSION = *UPPER-LIMIT)) -
//,LISTING = NO -
//,TEST-SUPPORT = NO -
//,OPTIMIZATION = STD -
//,COMPILER-TERMINATION = PARAMETERS ( -
//      MAX-ERROR-NUMBER = 50 ) -
//,RUNTIME-OPTIONS = STD
//END
/SET-JOB-STEP
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML -
/      ,ELEMENT=POSC,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
C
END
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE
```


6.3 Standard COBOL85/COBOL2000 compilation procedure

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/ASSIGN-SYSLST TO=&NKZ..&KOMP..SLS.&PROJECT..TEMP
/SET-JOB-STEP
/.TYPCOB CREATE-FILE FILE-NAME= &NKZ..&KOMP..C01.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCOB SET-FILE-LINK LINK-NAME= SRCLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..C01.&PROJECT..TEMP -
/.TYPCOB CREATE-FILE FILE-NAME= &NKZ..&KOMP..C04.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCOB SET-FILE-LINK LINK-NAME= ERRLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..C04.&PROJECT..TEMP -
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC5.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCCO SET-FILE-LINK LINK-NAME= SRCLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC5.&PROJECT..TEMP -
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC8.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCCO SET-FILE-LINK LINK-NAME= ERRLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC8.&PROJECT..TEMP -
/SET-FILE-LINK LINK-NAME= COBLIB -
/                                     ,FILE-NAME=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
/START-PROGRAM FROM-FILE=$COBOL85
COMOPT LISTFILES=(SOURCE,DIAG),SYSLIST=(NO),MIN-SEV=I,SYMTEST=ALL
COMOPT ACC-L-T-U=NO,EXP-COPY=YES,ACT-W-MECH=NO,CHECK-TAB=NO
COMOPT SHORT-XREF=NO,TERM-A-SEM=NO,TEST-W-C=NO,SORT-MAP=NO
COMOPT TERM-A-SYN=NO,TRUNC-LIT=YES,SUP-MOD=NO,TRUNC-COMP=NO
COMOPT MODULE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
COMOPT GEN-LLM=NO
?TYPCOB END $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..&TYP)
?TYPCCO END $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC2)
/SET-JOB-STEP
/.TYPCOB REMOVE-FILE-LINK LINK-NAME=SRCLINK
/.TYPCOB REMOVE-FILE-LINK LINK-NAME=ERRLINK
/.TYPCCO REMOVE-FILE-LINK LINK-NAME=SRCLINK
/.TYPCCO REMOVE-FILE-LINK LINK-NAME=ERRLINK
/REMOVE-FILE-LINK LINK-NAME=COBLIB
/.TYPCCO SET-JOB-STEP
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC5.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCCO SET-FILE-LINK LINK-NAME= SOURCE -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC5.&PROJECT..TEMP -
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC8.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING -
/.TYPCCO SET-FILE-LINK LINK-NAME= ERRFIL -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC8.&PROJECT..TEMP -
/.TYPCCO START-PROGRAM FROM-FILE=$REFTOM.COL.COLNUMC
?TYPCCO PAR CLIST = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC1)
?TYPCCO PAR CNUM = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC4)
?TYPCCO END
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/SKIP-COMMANDS TO-LABEL=&TYP
/.COB START-PROGRAM FROM-FILE=*PHASE(LIBRARY= -
```

```

/      $userid.TOM.OML -
/      ,ELEMENT=POSCOB,VERSION=*STD)
$userid.TOM.OML
&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COBOL85
END
/SKIP-COMMANDS TO-LABEL=END
/.C86 START-PROGRAM FROM-FILE=*PHASE(LIBRARY= -
/      $REFTEST.TOM.OML -
/      ,ELEMENT=POSCOB,VERSION=*STD)
$userid.TOM.OML
&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COL85-COBOL85
END
/SKIP-COMMANDS TO-LABEL=END
/.CC0 START-PROGRAM FROM-FILE=*PHASE(LIBRARY= -
/      $REFTEST.TOM.OML -
/      ,ELEMENT=POSCCO,VERSION=*STD)
$userid.TOM.OML
&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COL-COBOL85
END
/SKIP-COMMANDS TO-LABEL=END
/.END REMARK END OF PROCESS
/ASSIGN-SYSDTA TO=*PRIMARY
/DELETE-FILE FILE-NAME=&NKZ..&KOMP..SLS.&PROJECT..TEMP -
/      ,SELECT=BY-ATTRIBUTES
/EXIT-PROCEDURE

```

6.4 Standard COB1 compilation procedure

```

/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/ASSIGN-SYSLST TO=&NKZ..&KOMP..SLS.&PROJECT..TEMP
/SET-JOB-STEP
/.TYPCOB CREATE-FILE FILE-NAME= &NKZ..&KOMP..C01.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCOB SET-FILE-LINK LINK-NAME= SRCLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..C01.&PROJECT..TEMP
/.TYPCOB CREATE-FILE FILE-NAME= &NKZ..&KOMP..C04.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCOB SET-FILE-LINK LINK-NAME= ERRLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..C04.&PROJECT..TEMP
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC5.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCCO SET-FILE-LINK LINK-NAME= SRCLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC5.&PROJECT..TEMP
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC8.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCCO SET-FILE-LINK LINK-NAME= ERRLINK -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC8.&PROJECT..TEMP
/SET-FILE-LINK LINK-NAME= COBLIB -
/                                     ,FILE-NAME=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
/PARAM CODE=2,ERRFIL=YES
/PARAM SAVLST=SOURCE
/PARAM LIST=NO,MAP=NO,OBJLST=NO,XREF=NO,SYMDIC=NO
/START-PROGRAM FROM-FILE=$COB1
COBRUN WRLST,ACTKEY=TTTR,SYMTEST=ALL,RANGECHECK=NO,LINE64
COBRUN DIAGTEXT=ENGLISH,ERRPRI,TRUNCATE=YES
COBRUN MODULE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
?TYPCOB END $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..&TYP)
?TYPCCO END $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC2)
/SET-JOB-STEP
/.TYPCOB REMOVE-FILE-LINK LINK-NAME=SRCLINK
/.TYPCOB REMOVE-FILE-LINK LINK-NAME=ERRLINK
/.TYPCCO REMOVE-FILE-LINK LINK-NAME=SRCLINK
/.TYPCCO REMOVE-FILE-LINK LINK-NAME=ERRLINK
/REMOVE-FILE-LINK LINK-NAME=COBLIB
/.TYPCCO SET-JOB-STEP
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC5.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCCO SET-FILE-LINK LINK-NAME= SOURCE -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC5.&PROJECT..TEMP
/.TYPCCO CREATE-FILE FILE-NAME= &NKZ..&KOMP..CC8.&PROJECT..TEMP -
/                                     ,SUPPRESS-ERRORS=*FILE-EXISTING
/.TYPCCO SET-FILE-LINK LINK-NAME= ERRFIL -
/                                     ,FILE-NAME=&NKZ..&KOMP..CC8.&PROJECT..TEMP
/.TYPCCO START-PROGRAM FROM-FILE=$REFTOM.COL.COLNUMC
?TYPCCO PAR CLIST = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC1)
?TYPCCO PAR CNUM = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC4)
?TYPCCO END
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/SKIP-COMMANDS TO-LABEL=&TYP
/.COB START-PROGRAM FROM-FILE=*PHASE(LIBRARY=

```

```

/      $userid.TOM.OML -
/      ,ELEMENT=POSCOB,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COB1
END
/SKIP-COMMANDS TO-LABEL=END
/.C86 START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML -
/      ,ELEMENT=POSCOB,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COL85-COB1
END
/SKIP-COMMANDS TO-LABEL=END
/.CC0 START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML -
/      ,ELEMENT=POSCCO,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COL-COB1
END
/SKIP-COMMANDS TO-LABEL=END
/.END REMARK END OF PROCESS
/ASSIGN-SYSDTA TO=*PRIMARY
/DELETE-FILE FILE-NAME=&NKZ..&KOMP..SLS.&PROJECT..TEMP -
/      ,SELECT=BY-ATTRIBUTES
/EXIT-PROCEDURE

```

6.5 Standard COLCOBOL compilation procedure

```

/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=(
/
/      &USERID=,&NKZ=,&PROJECT=,
/      &KOMP=,&TYP=,&PARAM=,&PTYPE=,
/      08/11/04=,15:06:33=,&LOGUSID=,&TSN=
/      ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/.COLINDA CREATE-FILE FILE-NAME= &NKZ..&KOMP..CAS.&PROJECT..TEMP
/      ,SUPPRESS-ERRORS=*FILE-EXISTING
/.COLINDA SET-FILE-LINK LINK-NAME= CINPUT
/      ,FILE-NAME=&NKZ..&KOMP..CAS.&PROJECT..TEMP
/.COLINDA CREATE-FILE FILE-NAME= &NKZ..&KOMP..CA4.&PROJECT..TEMP
/      ,SUPPRESS-ERRORS=*FILE-EXISTING
/.COLINDA SET-FILE-LINK LINK-NAME= COUTPUT
/      ,FILE-NAME=&NKZ..&KOMP..CA4.&PROJECT..TEMP
/.COLLISTA CREATE-FILE FILE-NAME= &NKZ..&KOMP..CAS.&PROJECT..TEMP
/      ,SUPPRESS-ERRORS=*FILE-EXISTING
/.COLLISTA SET-FILE-LINK LINK-NAME= CINPUT
/      ,FILE-NAME=&NKZ..&KOMP..CAS.&PROJECT..TEMP
/.COLLISTA CREATE-FILE FILE-NAME= &NKZ..&KOMP..CA1.&PROJECT..TEMP
/      ,SUPPRESS-ERRORS=*FILE-EXISTING
/.COLLISTA SET-FILE-LINK LINK-NAME= CLIST
/      ,FILE-NAME=&NKZ..&KOMP..CA1.&PROJECT..TEMP
/.COLINDA START-PROGRAM FROM-FILE=$.COL.COLINDA
/.COLLISTA START-PROGRAM FROM-FILE=$.COL.COLLIST
/.COLLISTC START-PROGRAM FROM-FILE=$.COL.COLLIST
/.COLCOB START-PROGRAM FROM-FILE$.COL.COLCOB
/.COLNUMA START-PROGRAM FROM-FILE=$.COL.COLNUMA
?COLLISTC PAR CINPUT =
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC0)
?COLLISTC PAR CLIST = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC1)
?COLCOB PAR CINPUT = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC0)
?COLCOB PAR CLIST = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC3)
?COLCOB PAR COUTPUT = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CC2)
?COLNUMA PAR ASMLST = $&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CA3)
?COLNUMA PAR EWCLIST =
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..CA2)
?COLINDA PAR INDAMT=2,RENUM=YES,PROCSIZE=250
?COLLISTA PAR PROC-
SIZE=250,STATEMENT=YES,LIST=STR,COMMENT=YES,LEVLIM=20
?COLLISTA PAR LINELIM=64,FULPCLST=YES,INDAMT=2,LSTCOL=100
?COLLISTC PAR STATEMENT=YES,LIST=STR,COMMENT=YES,LEVLIM=20,LINELIM=64
?COLLISTC PAR FULPCLST=YES,INDAMT=2,LSTCOL=89,RENUM=NO,COPYLIST=YES
?COLLISTC PAR GENLIST=YES,DELIM='@:*',' ',PROCSIZE=250
?COLLISTC PAR COBLIB=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
?COLCOB PAR DE-
LIM='@:*',' ',PROCSIZE=250,COMMENT=NO,DT=NO,OPTIM=NO,TEST=NO
?COLCOB PAR COBLIB=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT,LINELIM=64
END
/.COLINDA REMOVE-FILE-LINK LINK-NAME=CINPUT
/.COLINDA REMOVE-FILE-LINK LINK-NAME=COUTPUT
/.COLLISTA REMOVE-FILE-LINK LINK-NAME=CINPUT
/.COLLISTA REMOVE-FILE-LINK LINK-NAME=CLIST
/SET-JOB-STEP
/.COLINDA SKIP-COMMANDS TO-LABEL=INDA
/.COLNUMA SKIP-COMMANDS TO-LABEL=NUMA
/.COLLISTA SKIP-COMMANDS TO-LABEL=LISTA
/.COLLISTC SKIP-COMMANDS TO-LABEL=LISTC
/.COLCOB SKIP-COMMANDS TO-LABEL=COB

```

```

/.INDA START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML
/      ,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
&&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COLINDA
END
/SKIP-COMMANDS TO-LABEL=END
/.NUMA START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML
/      ,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
&&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COLNUMA
END
/SKIP-COMMANDS TO-LABEL=END
/.LISTA START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML
/      ,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
&&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COLLISTA
END
/SKIP-COMMANDS TO-LABEL=END
/.LISTC START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML
/      ,ELEMENT=POSCCO,VERSION=*STD)
$userid.TOM.OML
&&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COLLISTC
END
/SKIP-COMMANDS TO-LABEL=END
/.COB START-PROGRAM FROM-FILE=*PHASE(LIBRARY=
/      $userid.TOM.OML
/      ,ELEMENT=POSCCO,VERSION=*STD)
$userid.TOM.OML
&&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COLCOB
END
/.END REMARK END OF PROCESS
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE

```

6.6 Standard COLUMBUS85 compilation procedure

```

/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/ASSIGN-SYSLST TO=&NKZ..&KOMP..C87.&PROJECT..TEMP
/SET-JOB-STEP
/SET-FILE-LINK LINK-NAME=COBLIB -
/      ,FILE-NAME=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT -
/START-COLUMBUS85 -
/  SOURCE=*LIBRARY-ELEMENT( -
/    LIBRARY=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT -
/    ,ELEMENT=&KOMP..&TYP.), -
/  ACTION=PRECOMPILE( -
/    LAYOUT=PARAMETERS( -
/      LOWER-CASE-KEYWORDS = NO, -
/      INDENTATION-AMOUNT=2), -
/    TEST-INSTRUMENTATION=NO, -
/    OUTPUT=*LIBRARY-ELEMENT( -
/      LIBRARY=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT -
/      ,ELEMENT=&KOMP..C86), -
/    ), -
/  DIAGNOSTICS=YES( -
/    MINIMAL-WEIGHT=NOTE, -
/    OUTPUT=*SYSLST), -
/  COPY-STATEMENTS=FLAGGED
/SET-JOB-STEP
/REMOVE-FILE-LINK LINK-NAME=COBLIB
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML -
/      ,ELEMENT=POSC85,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP.
&PARAM..&PTYPE.
COL85
END
/SET-JOB-STEP
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE

```

6.7 Standard Assembler compilation procedure

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/.TYPASM ASSIGN-SYSLST TO=&NKZ..&KOMP..AS1.&PROJECT..TEMP
/.TYPCAS ASSIGN-SYSLST TO=&NKZ..&KOMP..CA3.&PROJECT..TEMP
/.TYPMSA ASSIGN-SYSLST TO=&NKZ..&KOMP..AS1.&PROJECT..TEMP
/START-PROGRAM FROM-FILE=$ASSEMB
*COMOPT SOURCE=&NKZ..&KOMP..&TYP..&PROJECT..TEMP,NOATXREF,NODUET
*COMOPT NOHWTST,NOISD,LIST,NOMLPRNT,NONDLIST,NOPRTALL,NOXREF
*COMOPT LINECNT=50,PRTOFF=@
*COMOPT MODULE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
*COMOPT NOALTLIB,NOALTLIB2,NOALTLIB3,NOALTLIB4,NOALTLIB5
*END
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/SKIP-COMMANDS TO-LABEL=&TYP
/.ASM REMARK ASM NACHLAUF
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML -
/,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
FASSEMB
END
/SKIP-COMMANDS TO-LABEL=END
/.MSA REMARK MSA NACHLAUF
/DELETE-FILE FILE-NAME=&NKZ..&KOMP..AS1.&PROJECT..TEMP, -
/      SELECT=BY-ATTRIBUTES
/SET-JOB-STEP
/DELETE-FILE FILE-NAME=&NKZ..&KOMP..&TYP..&PROJECT..TEMP, -
/      SELECT=BY-ATTRIBUTES
/SET-JOB-STEP
/SKIP-COMMANDS TO-LABEL=END
/.CAS REMARK COLASSEMB NACHLAUF
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML -
/,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COL-FASSEMB
END
/SET-JOB-STEP
/.END REMARK END PROCESS
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE
```


6.8 Standard FORTRAN compilation procedure

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/ASSIGN-SYSLST TO=&NKZ..&KOMP..F03.&PROJECT..TEMP
/SET-JOB-STEP
/START-PROGRAM FROM-FILE=$.FOR1
?NI *COMOPT LIST=(SOURCE,SUMMARY)
?NI *COMOPT SOURCE=&NKZ..&KOMP..FOR.&PROJECT..TEMP
?IM *COMOPT LIST=(SUMMARY)
?IM *COMOPT SOURCE=&NKZ..&KOMP..FOR.&PROJECT..TEMP
?IM *COMOPT OUTPUT=(WS=&NKZ..&KOMP..F02.&PROJECT..TEMP)
?IM *COMOPT DIALOG=(ENGLISH)
?IO *COMOPT LIST=(SUMMARY)
?IO *COMOPT SOURCE=(PRIMARY)
?IO *COMOPT OUTPUT=(WS=&NKZ..&KOMP..F02.&PROJECT..TEMP)
?IO *COMOPT DIALOG=(ENGLISH)
*COMOPT EJECT,EXPAND,EXPUNDERF,ERRKILL=FAILURE,LINECNT=64,GEN
*COMOPT LISTFILE=&NKZ..&KOMP..F01.&PROJECT..TEMP(OPTIONS,SOURCE,DIAG,
*COMOPT MAP,SUMMARY),OBJECT=(*),MSGLEVEL=WARNING,MAXERR=100,
*COMOPT OPTIMIZE=1,TESTOPT=(STNR),NOPAD,TRUNCONST
*COMOPT MODULE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
*END
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY= -
/      $userid.TOM.OML -
/      ,ELEMENT=POSFOR,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
FORTRAN
END
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE
```

6.9 Standard ASSEMBH compilation procedure

```

/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/ASSIGN-SYSDTA TO=*SYSCMD
/SKIP-COMMANDS TO-LABEL=&TYP
/.ASM REMARK ASSEMBLER SOURCE
/.MSA REMARK MASK SOURCE
/ASSIGN-SYSLST TO=&NKZ..&KOMP..AS1.&PROJECT..TEMP
/SKIP-COMMANDS TO-LABEL=COMPILE
/.CAS REMARK COLUMBUS-ASSEMBLER SOURCE
/ASSIGN-SYSLST TO=&NKZ..&KOMP..CA3.&PROJECT..TEMP
/COMPILE REMARK COMPILING WITH ASSEMBH
/START-PROGRAM FROM-FILE=$.ASSEMBH
//COMPILE SOURCE = *LIBRARY-ELEMENT( -
//LIBRARY = -
//&$USERID..&NKZ..TOMLIB.TOM.&PROJECT -
//,ELEMENT = &KOMP..&TYP) -
//,SOURCE-PROPERTIES=STD -
//,COMPILER-ACTION=MODULE-GENERATION( -
//      MODE=STD) -
//,COMPILER-TERMINATION=STD -
//,MODULE-LIBRARY = -
//&$USERID..&NKZ..TOMLIB.TOM.&PROJECT ( -
//ELEMENT = &KOMP (VERSION = *UPPER-LIMIT)) -
//,LISTING=STD -
//,MACRO-LIBRARY=*NONE -
//,COPY-LIBRARY=*NONE -
//,TEST-SUPPORT=NO
//END
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/SKIP-COMMANDS TO-LABEL=&TYP
/.ASM REMARK ASSEMBLER SOURCE
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML -
/,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
&$USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
ASSEMBH
END
/SET-JOB-STEP
/SKIP-COMMANDS TO-LABEL=END
/.MSA REMARK ASSEMBLER SOURCE
/MODIFY-JOB-SWITCHES ON=(1,4,5)
/START-PROGRAM FROM-FILE=$LMS
LIB &$USERID..&NKZ..TOMLIB.TOM.&PROJECT,BOTH
PAR OVER=YES
ADDS &NKZ..&KOMP..AS1.&PROJECT..TEMP>&KOMP..AS1
END
/SET-JOB-STEP
/DELETE-FILE FILE-NAME=&NKZ..&KOMP..AS1.&PROJECT..TEMP, -
/      SELECT=BY-ATTRIBUTES
/SET-JOB-STEP
/SKIP-COMMANDS TO-LABEL=END
/.CAS REMARK ASSEMBLER SOURCE

```

```
/START-PROGRAM FROM-FILE=*PHASE(LIBRARY=$userid.TOM.OML
-
/ ,ELEMENT=POSASM,VERSION=*STD)
$userid.TOM.OML
$&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE.
COL-ASSEMBH
END
/SET-JOB-STEP
/.END REMARK END OF JOB
/MODIFY-JOB-SWITCHES OFF=(1,4,5)
/ASSIGN-SYSDTA TO=*PRIMARY
/EXIT-PROCEDURE
```

7 Appendix 2: ESQL special functions and parameter sets

7.1 special function ESQL.SPF

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES(PROCEDURE-PARAMETERS=( -
/                                     &USERID=,&NKZ=,&PROJECT=, -
/                                     &KOMP=,&TYP=,&PARAM=,&PTYPE=, -
/                                     08/11/04=,15:06:33=,&LOGUSID=,&TSN=, -
/                                     &ESQLUSID=,&GTYP=,&SQLSCHEMA=, -
/                                     &INSTUID,&DUE= -
/                                     ),ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/REMARK SPECIAL FUNCTION ESQLCOB PRECOMPILER
/SKIP-COMMANDS TO-LABEL=&TYP
/.SQL REMARK RIGHT TYPE
/ASSIGN-SYSDTA TO=*SYSCMD
/ASSIGN-SYSLST TO=$&USERID..&NKZ..&KOMP..SQ2.TEMP
/SET-JOB-STEP
/REMARK HERE WILL BE INSERTED THE CONTENT OF THE PARAMETER SET
/SET-JOB-STEP
/ASSIGN-SYSLST TO=*PRIMARY
/SET-JOB-STEP
/START-PROGRAM FROM-FILE=*PHASE( -
/                                     LIBRARY=$&INSTUID..TOM.OML, -
/                                     ELEMENT=POSSQL,VERSION=*STD)
&INSTUID..TOM.OML
&USERID..&NKZ..TOMLIB.TOM.&PROJECT
&KOMP..&TYP
&PARAM..&PTYPE
ESQL
END
/SET-JOB-STEP
/ASSIGN-SYSDTA TO=*PRIMARY
/SKIP-COMMANDS TO-LABEL=ENDP
/.&TYP REMARK *** WRONG TYPE ***** &DUE
/ENDP REMARK END OF PROCEDURE
/EXIT-PROCEDURE
```

7.2 parameter set ESQPAR.PSQ

```
/START-PROGRAM FROM-FILE=$&ESQLUSID..ESQLCOB
SQLOPT SOURCE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT(&KOMP..&TYP)
SQLOPT ERRST=YES,EXTLST=YES,ISO=OFF,SQLDIA=NO
SQLOPT TARGET=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT.(&KOMP..&GTYP)
SQLOPT MODULE=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT.
SQLOPT SQLMID=&KOMP.
SQLOPT SQLSCHEMA=&SQLSCHEMA
SQLOPT UDS=OFF,SES=USE,UTMCHK=NO
END
```

7.3 special function ESQLV2.SPF

```
/BEGIN-PROCEDURE LOGGING=NO,PARAMETERS=YES (PROCEDURE-PARAMETERS=( -
/                                     &USERID=, &NKZ=, &PROJECT=, -
/                                     &KOMP=, &TYP=, &PARAM=, &PTYPE=, -
/                                     08/11/04=, 15:06:33=, &LOGUSID=, &TSN=, -
/                                     &ESQLUSID=, &GTYP=, &ENTRY=, -
/                                     &INSTUID=, &DUE= -
/                                     ), ESCAPE-CHARACTER='&')
/REMARK TOMDOORS V5.0D
/REMARK SPECIAL FUNCTION ESQVCOB PRECOMPILER
/SKIP-COMMANDS TO-LABEL=&TYP
/.SQL REMARK RIGHT TYPE
/ASSIGN-SYSDTA TO=*SYSCMD
/SET-JOB-STEP
/SET-FILE-LINK LINK-NAME=BLSLIB00, FILE-NAME=$.SYSLNK.CRTE
/SET-FILE-LINK LINK-NAME=SESAMOML, FILE-NAME=$&ESQLUSID..SYS.MOD
/REMARK HERE WILL BE INSERTED THE CONTENT OF THE PARAMETER SET
/SET-JOB-STEP
/START-PROGRAM FROM-FILE=*PHASE( -
/                                     LIBRARY=$&INSTUID..TOM.OML, -
/                                     ELEMENT=POSSQLV2, VERSION=*STD)
&INSTUID..TOM.OML
&USERID..&NKZ..TOMLIB.TOM.&PROJECT.
&KOMP..&TYP
&PARAM..&PTYPE
&GTYP.
ESQLV2
END
/SET-JOB-STEP
/ASSIGN-SYSDTA TO=*PRIMARY
/REMOVE-FILE-LINK LINK-NAME=BLSLIB00
/REMOVE-FILE-LINK LINK-NAME=SESAMOML
/SKIP-COMMANDS TO-LABEL=ENDP
/.&TYP REMARK *** WRONG TYPE ***** &DUE
/ENDP REMARK END OF PROCEDURE
/EXIT-PROCEDURE
```

7.4 parameter set ESQLV2.PSQ

```
/START-ESQLCOB -
/ SOURCE=*LIBRARY-ELEMENT( -
/     LIBRARY=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT. -
/     ,ELEMENT=&KOMP..&TYP. -
/     ) -
/ ,SOURCE-PROPERTIES=PARAMETERS( -
/     HOST-LANGUAGE=COBOL -
/     ,ESQL-DIALECT=ALL-FEATURES( -
/         UTM-RESTRICTIONS=NO -
/     ) -
/     ,QUOTATION-CHARACTER=ESQL-STANDARD -
/     ,CATALOG=*INLINE -
/     ,SCHEMA=*INLINE -
/     ,AUTHORIZATION=*IMPLICIT -
/     ,REPLACE-BY-FILE=*NONE -
/     ,REPLACE-TOKENS=*NONE -
/     ) -
/ ,INCLUDE-LIBRARY=$&ESQLUSID..SYSLIB.ESQL-COBOL.020.INCL-V2 -
/ ,HOST-PROGRAM=*LIBRARY-ELEMENT( -
/     LIBRARY=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT. -
/     ,ELEMENT=&KOMP..&GTYP. -
/     ) -
/ ,MODULE-LIBRARY=*LIBRARY-ELEMENT( -
/     LIBRARY=$&USERID..&NKZ..TOMLIB.TOM.&PROJECT. -
/     ,ELEMENT=&KOMP..OUT -
/     ) -
/ ,PRECOMPILER-ACTION=PARAMETERS( -
/     DATABASE-CONTACT=NO -
/     ,SQL-ENTRY-NAME=&ENTRY. -
/     ,ESQL-XREF=NO -
/     ) -
/ ,MONJV=*NONE
```

8 Appendix 3 Content of libraries

- Module-Library: TOM.OML

TYP	NAME	VER	(VAR#)	DATE	NAME	VER	(VAR#)	DATE
(C)	POSABL	@	(0001)	2003-08-14	POSASM	@	(0001)	2003-08-14
(C)	POSC	@	(0001)	2003-08-14	POSCCO	@	(0001)	2003-08-14
(C)	POSCOB	@	(0001)	2003-08-14	POSC85	@	(0001)	2003-08-14
(C)	POSFOR	@	(0001)	2003-08-14	POSSPL	@	(0001)	2003-08-14
(C)	POSSQL	@	(0001)	2003-08-14	POSSQLV2	@	(0001)	2003-08-14

10 (C)-ELEMENT(S) IN THIS TABLE OF CONTENTS

TYP	NAME	VER	(VAR#)	DATE	NAME	VER	(VAR#)	DATE
(R)	CLOSE	@	(0001)	1982-10-05	DUMMY	@	(0001)	2002-10-01
(R)	IDFPLGM	@	(0001)	1996-05-24	ITCMTOM0	@	(0001)	1997-01-29
(R)	ITCNTOM0	@	(0001)	1988-04-14	ITCOTOM0	@	(0001)	1983-10-14
(R)	ITOMTEST	@	(0001)	2002-10-01	MASKABI	@	(0001)	2003-08-14
(R)	MASKGA2	@	(0001)	2003-08-14	MASKGCC	@	(0001)	2003-08-14
(R)	MASKGCX	@	(0001)	2003-08-14	METTABL	@	(0001)	2002-10-01
(R)	MSSGP00L	@	(0001)	2002-11-15	NMH0ID74	@	(0001)	2002-10-01
(R)	PROGABI	@	(0001)	2003-08-14	PROGGA2	@	(0001)	2003-08-14
(R)	PROGGCC	@	(0001)	2003-08-14	PROGGCX	@	(0001)	2003-08-14
(R)	TOBAF	@	(0001)	1994-05-27	TOMVAL	@	(0001)	2003-08-14
(R)	TRTLONG	@	(0001)	1994-05-27	TYPTABL	@	(0001)	2002-10-01
(R)	UPPCASE	@	(0001)	1994-05-27	UTMDBEZ	@	(0001)	1994-05-27
(R)	UTMDIAG	@	(0001)	1994-05-27	UTMDISP	@	(0001)	1994-05-27
(R)	UTMOASA	@	(0001)	1981-11-09	UTMPOOLS	@	(0001)	1994-05-27
(R)	UTMREQ	@	(0001)	1994-05-27	UTMRUECK	@	(0001)	1994-05-27

30 (R)-ELEMENT(S) IN THIS TABLE OF CONTENTS

TYP	NAME	VER	(VAR#)	DATE	NAME	VER	(VAR#)	DATE
(S)	BLAETTER.RES	@	(0001)	1995-04-18	BLAETTER.SDC	@	(0001)	1995-04-18
(S)	BU3.RES	@	(0001)	1995-04-18	BU3.SDC	@	(0001)	1995-04-18
(S)	CCOMP01.RES	@	(0001)	1995-04-18	CCOMP01.SDC	@	(0001)	1995-04-18
(S)	CCOMP02.RES	@	(0001)	1995-04-18	CCOMP02.SDC	@	(0001)	1995-04-18
(S)	CCOMP03.RES	@	(0001)	1995-04-18	CCOMP03.SDC	@	(0001)	1995-04-18
(S)	CCOMP04.RES	@	(0001)	1995-04-18	CCOMP04.SDC	@	(0001)	1995-04-18
(S)	CCOMP05.RES	@	(0001)	1995-04-18	CCOMP05.SDC	@	(0001)	1995-04-18
(S)	CCOMP06.RES	@	(0001)	1995-04-18	CCOMP06.SDC	@	(0001)	1995-04-18
(S)	CCOMP07.RES	@	(0001)	1995-04-18	CCOMP07.SDC	@	(0001)	1995-04-18
(S)	CCOMP08.RES	@	(0001)	1995-04-18	CCOMP08.SDC	@	(0001)	1995-04-18
(S)	CCOMP09.RES	@	(0001)	1995-04-18	CCOMP09.SDC	@	(0001)	1995-04-18
(S)	CCOMP10.RES	@	(0001)	1995-04-18	CCOMP10.SDC	@	(0001)	1995-04-18
(S)	CCOMP11.RES	@	(0001)	1995-04-18	CCOMP11.SDC	@	(0001)	1995-04-18
(S)	COL8501.RES	@	(0001)	1995-04-18	COL8501.SDC	@	(0001)	1995-04-18

(S) COL8502.RES	e	(0001)	1995-04-18	COL8502.SDC	e	(0001)
1995-04-18						
(S) COL8503.RES	e	(0001)	1995-04-18	COL8503.SDC	e	(0001)
1995-04-18						
(S) COL8504.RES	e	(0001)	1995-04-18	COL8504.SDC	e	(0001)
1995-04-18						
(S) COL8505.RES	e	(0001)	1995-04-18	COL8505.SDC	e	(0001)
1995-04-18						
(S) D\$TFMB.RES	e	(0001)	1994-11-21	D\$TFMB.SDC	e	(0001)
1994-11-21						
(S) D\$TFOB.RES	e	(0001)	1994-11-21	D\$TFOB.SDC	e	(0001)
1994-11-21						
(S) DDTFMB.RES	e	(0001)	1995-04-18	DDTFMB.SDC	e	(0001)
1995-04-18						
(S) DDTFOB.RES	e	(0001)	1995-04-18	DDTFOB.SDC	e	(0001)
1995-04-18						
(S) EDITFOR1.RES	e	(0001)	1995-04-18	EDITFOR1.SDC	e	(0001)
1995-04-18						
(S) EDITFOR2.RES	e	(0001)	1994-11-21	EDITFOR2.SDC	e	(0001)
1994-11-21						
(S) HASM01.RES	e	(0001)	1995-04-18	HASM01.SDC	e	(0001)
1995-04-18						
(S) HASM02.RES	e	(0001)	1995-04-18	HASM02.SDC	e	(0001)
1995-04-18						
(S) HASM03.RES	e	(0001)	1995-04-18	HASM03.SDC	e	(0001)
1995-04-18						
(S) HASM04.RES	e	(0001)	1995-04-18	HASM04.SDC	e	(0001)
1995-04-18						
(S) HASM05.RES	e	(0001)	1995-04-18	HASM05.SDC	e	(0001)
1995-04-18						
(S) HASM06.RES	e	(0001)	1995-04-18	HASM06.SDC	e	(0001)
1995-04-18						
(S) HASM07.RES	e	(0001)	1995-04-18	HASM07.SDC	e	(0001)
1995-04-18						
(S) HASM08.RES	e	(0001)	1995-04-18	HASM08.SDC	e	(0001)
1995-04-18						
(S) HASM09.RES	e	(0001)	1995-04-18	HASM09.SDC	e	(0001)
1995-04-18						
(S) HASM10.RES	e	(0001)	1995-04-18	HASM10.SDC	e	(0001)
1995-04-18						
(S) KDONRAHM.RES	e	(0001)	1995-04-18	KDONRAHM.SDC	e	(0001)
1995-04-18						
(S) KDORAHM2.RES	e	(0001)	1995-04-18	KDORAHM2.SDC	e	(0001)
1995-04-18						
(S) KDORAHM3.RES	e	(0001)	1995-04-18	KDORAHM3.SDC	e	(0001)
1995-04-18						
(S) LEER.RES	e	(0001)	1995-04-18	LEER.SDC	e	(0001)
1995-04-18						
(S) LEER1.RES	e	(0001)	1995-04-18	LEER1.SDC	e	(0001)
1995-04-18						
(S) LEER10.RES	e	(0001)	1995-04-18	LEER10.SDC	e	(0001)
1995-04-18						
(S) LEER11.RES	e	(0001)	1995-04-18	LEER11.SDC	e	(0001)
1995-04-18						
(S) LEER12.RES	e	(0001)	1995-04-18	LEER12.SDC	e	(0001)
1995-04-18						
(S) LEER13.RES	e	(0001)	1995-04-18	LEER13.SDC	e	(0001)
1995-04-18						
(S) LEER14.RES	e	(0001)	1995-04-18	LEER14.SDC	e	(0001)
1995-04-18						
(S) LEER15.RES	e	(0001)	1995-04-18	LEER15.SDC	e	(0001)
1995-04-18						

(S) LEER16.RES 1995-04-18	@	(0001)	1995-04-18	LEER16.SDC	@	(0001)
(S) LEER17.RES 1995-04-18	@	(0001)	1995-04-18	LEER17.SDC	@	(0001)
(S) LEER18.RES 1995-04-18	@	(0001)	1995-04-18	LEER18.SDC	@	(0001)
(S) LEER19.RES 1995-04-18	@	(0001)	1995-04-18	LEER19.SDC	@	(0001)
(S) LEER2.RES 1995-04-18	@	(0001)	1995-04-18	LEER2.SDC	@	(0001)
(S) LEER3.RES 1995-04-18	@	(0001)	1995-04-18	LEER3.SDC	@	(0001)
(S) LEER4.RES 1995-04-18	@	(0001)	1995-04-18	LEER4.SDC	@	(0001)
(S) LEER5.RES 1995-04-18	@	(0001)	1995-04-18	LEER5.SDC	@	(0001)
(S) LEER6.RES 1995-04-18	@	(0001)	1995-04-18	LEER6.SDC	@	(0001)
(S) LEER7.RES 1995-04-18	@	(0001)	1995-04-18	LEER7.SDC	@	(0001)
(S) LEER8.RES 1995-04-18	@	(0001)	1995-04-18	LEER8.SDC	@	(0001)
(S) LEER9.RES 1995-04-18	@	(0001)	1995-04-18	LEER9.SDC	@	(0001)
(S) MELARAHM.RES 1994-11-21	@	(0001)	1994-11-21	MELARAHM.SDC	@	(0001)
(S) MELNRAHM.RES 1995-04-18	@	(0001)	1995-04-18	MELNRAHM.SDC	@	(0001)
(S) MSGEINGB.RES 1995-04-18	@	(0001)	1995-04-18	MSGEINGB.SDC	@	(0001)
(S) PSEU1.RES 1995-04-18	@	(0001)	1995-04-18	PSEU1.SDC	@	(0001)
(S) PSEU10.RES 1995-04-18	@	(0001)	1995-04-18	PSEU10.SDC	@	(0001)
(S) PSEU11.RES 1995-04-18	@	(0001)	1995-04-18	PSEU11.SDC	@	(0001)
(S) PSEU12.RES 1995-04-18	@	(0001)	1995-04-18	PSEU12.SDC	@	(0001)
(S) PSEU13.RES 1995-04-18	@	(0001)	1995-04-18	PSEU13.SDC	@	(0001)
(S) PSEU14.RES 1995-04-18	@	(0001)	1995-04-18	PSEU14.SDC	@	(0001)
(S) PSEU15.RES 1995-04-18	@	(0001)	1995-04-18	PSEU15.SDC	@	(0001)
(S) PSEU16.RES 1995-04-18	@	(0001)	1995-04-18	PSEU16.SDC	@	(0001)
(S) PSEU17.RES 1995-04-18	@	(0001)	1995-04-18	PSEU17.SDC	@	(0001)
(S) PSEU18.RES 1995-04-18	@	(0001)	1995-04-18	PSEU18.SDC	@	(0001)
(S) PSEU19.RES 1995-04-18	@	(0001)	1995-04-18	PSEU19.SDC	@	(0001)
(S) PSEU2.RES 1995-04-18	@	(0001)	1995-04-18	PSEU2.SDC	@	(0001)
(S) PSEU20.RES 1995-04-18	@	(0001)	1995-04-18	PSEU20.SDC	@	(0001)
(S) PSEU3.RES 1995-04-18	@	(0001)	1995-04-18	PSEU3.SDC	@	(0001)
(S) PSEU4.RES 1995-04-18	@	(0001)	1995-04-18	PSEU4.SDC	@	(0001)
(S) PSEU5.RES 1995-04-18	@	(0001)	1995-04-18	PSEU5.SDC	@	(0001)

(S) PSEU6.RES	e	(0001)	1995-04-18	PSEU6.SDC	e	(0001)
1995-04-18						
(S) PSEU7.RES	e	(0001)	1995-04-18	PSEU7.SDC	e	(0001)
1995-04-18						
(S) PSEU8.RES	e	(0001)	1995-04-18	PSEU8.SDC	e	(0001)
1995-04-18						
(S) PSEU9.RES	e	(0001)	1995-04-18	PSEU9.SDC	e	(0001)
1995-04-18						
(S) SDTFRF.RES	e	(0001)	1995-04-18	SDTFRF.SDC	e	(0001)
1995-04-18						
(S) SDTFRI.RES	e	(0001)	1995-04-18	SDTFRI.SDC	e	(0001)
1995-04-18						
(S) SDTFRM.RES	e	(0001)	1995-04-18	SDTFRM.SDC	e	(0001)
1995-04-18						
(S) SDTF0.RES	e	(0001)	1995-04-18	SDTF0.SDC	e	(0001)
1995-04-18						
(S) SDTF1.RES	e	(0001)	1995-04-18	SDTF1.SDC	e	(0001)
1995-04-18						
(S) SDTF2.RES	e	(0001)	1995-04-18	SDTF2.SDC	e	(0001)
1995-04-18						
(S) SDTF3.RES	e	(0001)	1995-04-18	SDTF3.SDC	e	(0001)
1995-04-18						
(S) SDTF4.RES	e	(0001)	1995-04-18	SDTF4.SDC	e	(0001)
1995-04-18						
(S) SDTF41.RES	e	(0001)	1995-04-18	SDTF41.SDC	e	(0001)
1995-04-18						
(S) SDTF5.RES	e	(0001)	1995-04-18	SDTF5.SDC	e	(0001)
1995-04-18						
(S) SDTF51.RES	e	(0001)	1995-04-18	SDTF51.SDC	e	(0001)
1995-04-18						
(S) SDTF6.RES	e	(0001)	1995-04-18	SDTF6.SDC	e	(0001)
1995-04-18						
(S) SDTF7.RES	e	(0001)	1995-04-18	SDTF7.SDC	e	(0001)
1995-04-18						
(S) SDTF8.RES	e	(0001)	1995-04-18	SDTF8.SDC	e	(0001)
1995-04-18						
(S) SDTF9.RES	e	(0001)	1995-04-18	SDTF9.SDC	e	(0001)
1995-04-18						
(S) START1.RES	e	(0001)	1994-11-21	START1.SDC	e	(0001)
1994-11-21						
(S) START2.RES	e	(0001)	1994-11-21	START2.SDC	e	(0001)
1994-11-21						
(S) START3.RES	e	(0001)	1994-11-21	START3.SDC	e	(0001)
1994-11-21						
(S) START4.RES	e	(0001)	1994-11-21	START4.SDC	e	(0001)
1994-11-21						
(S) START5.RES	e	(0001)	1994-11-21	START5.SDC	e	(0001)
1994-11-21						
(S) START6.RES	e	(0001)	1994-11-21	START6.SDC	e	(0001)
1994-11-21						
(S) START7.RES	e	(0001)	1994-11-21	START7.SDC	e	(0001)
1994-11-21						
(S) START8.RES	e	(0001)	1994-11-21	START8.SDC	e	(0001)
1994-11-21						
(S) TF0N1.RES	e	(0001)	1995-04-18	TF0N1.SDC	e	(0001) 1995-
04-18						
(S) TF0N11.RES	e	(0001)	1995-04-18	TF0N11.SDC	e	(0001)
1995-04-18						
(S) TF0N12.RES	e	(0001)	1995-04-18	TF0N12.SDC	e	(0001)
1995-04-18						
(S) TF0N13.RES	e	(0001)	1995-04-18	TF0N13.SDC	e	(0001)
1995-04-18						

(S) TF0N2.RES	e	(0001)	1995-04-18	TF0N2.SDC	e	(0001)
1995-04-18						
(S) TF0N3.RES	e	(0001)	1995-04-18	TF0N3.SDC	e	(0001)
1995-04-18						
(S) TF0N4.RES	e	(0001)	1995-04-18	TF0N4.SDC	e	(0001)
1995-04-18						
(S) TF0N5.RES	e	(0001)	1995-05-05	TF0N5.SDC	e	(0001)
1995-05-05						
(S) TF0N6.RES	e	(0001)	1995-04-18	TF0N6.SDC	e	(0001)
1995-04-18						
(S) TF0N7.RES	e	(0001)	1995-04-19	TF0N7.SDC	e	(0001)
1995-04-19						
(S) TF0N8.RES	e	(0001)	1995-04-18	TF0N8.SDC	e	(0001)
1995-04-18						
(S) TF0N9.RES	e	(0001)	1995-04-18	TF0N9.SDC	e	(0001)
1995-04-18						
(S) TF00.RES	e	(0001)	1995-04-18	TF00.SDC	e	(0001)
1995-04-18						
(S) TF1N1.RES	e	(0001)	1995-04-18	TF1N1.SDC	e	(0001)
1995-04-18						
(S) TF1N1N1.RES	e	(0001)	1995-04-18	TF1N1N1.SDC	e	(0001)
1995-04-18						
(S) TF1N10.RES	e	(0001)	1995-04-18	TF1N10.SDC	e	(0001)
1995-04-18						
(S) TF1N11.RES	e	(0001)	1995-04-18	TF1N11.SDC	e	(0001)
1995-04-18						
(S) TF1N2.RES	e	(0001)	1995-04-18	TF1N2.SDC	e	(0001)
1995-04-18						
(S) TF1N2NA.RES	e	(0001)	1995-04-18	TF1N2NA.SDC	e	(0001)
1995-04-18						
(S) TF1N2NB.RES	e	(0001)	1995-04-18	TF1N2NB.SDC	e	(0001)
1995-04-18						
(S) TF1N2NC.RES	e	(0001)	1995-04-18	TF1N2NC.SDC	e	(0001)
1995-04-18						
(S) TF1N4.RES	e	(0001)	1995-04-18	TF1N4.SDC	e	(0001)
1995-04-18						
(S) TF1N5.RES	e	(0001)	1995-04-18	TF1N5.SDC	e	(0001)
1995-04-18						
(S) TF1N6.RES	e	(0001)	1995-04-18	TF1N6.SDC	e	(0001)
1995-04-18						
(S) TF1N7.RES	e	(0001)	1995-04-18	TF1N7.SDC	e	(0001)
1995-04-18						
(S) TF1N8.RES	e	(0001)	1995-04-18	TF1N8.SDC	e	(0001)
1995-04-18						
(S) TF1N9.RES	e	(0001)	1995-04-18	TF1N9.SDC	e	(0001)
1995-04-18						
(S) TF2C.RES	e	(0001)	1995-04-18	TF2C.SDC	e	(0001)
1995-04-18						
(S) TF2N1.RES	e	(0001)	1995-04-18	TF2N1.SDC	e	(0001)
1995-04-18						
(S) TF2N1N0.RES	e	(0001)	1995-04-18	TF2N1N0.SDC	e	(0001)
1995-04-18						
(S) TF2N1N1.RES	e	(0001)	1995-04-18	TF2N1N1.SDC	e	(0001)
1995-04-18						
(S) TF2N1N2.RES	e	(0001)	1995-04-18	TF2N1N2.SDC	e	(0001)
1995-04-18						
(S) TF2N1N3.RES	e	(0001)	1995-04-18	TF2N1N3.SDC	e	(0001)
1995-04-18						
(S) TF2N1N4.RES	e	(0001)	1995-04-18	TF2N1N4.SDC	e	(0001)
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(S) TF2N1N5.RES	e	(0001)	1995-04-18	TF2N1N5.SDC	e	(0001)
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(S) TF2N10N1.RES @ (0001) 1995-04-18 TF2N10N1.SDC @ (0001)
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(S) TF2N10N2.RES @ (0001) 1995-04-18 TF2N10N2.SDC @ (0001)
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(S) TF2N14A.RES @ (0001) 1995-04-18 TF2N14A.SDC @ (0001)
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(S) TF2N14B.RES @ (0001) 1995-04-18 TF2N14B.SDC @ (0001)
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(S) TF2N2N0.RES @ (0001) 1995-04-18 TF2N2N0.SDC @ (0001)
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(S) TF2N3N0.RES @ (0001) 1995-04-18 TF2N3N0.SDC @ (0001)
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(S) TF2N9N3.RES @ (0001) 1995-04-18 TF2N9N3.SDC @ (0001)
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(S) TF3N1.RES @ (0001) 1995-05-10 TF3N1.SDC @ (0001)
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(S) TF3N2.RES @ (0001) 1995-04-18 TF3N2.SDC @ (0001)
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(S) TOMDOORS.RES @ (0001) 1995-04-18 TOMDOORS.SDC @ (0001)
1995-04-18
(S) TOMFEHL.RES @ (0001) 1995-04-18 TOMFEHL.SDC @ (0001)
1995-04-18

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- Modulbibliothek: TOM.M.LNKLIB

TYP	NAME	VER	(VAR#)	DATE	NAME	VER	(VAR#)	DATE
(R)	COMMNPR	@	(0001)	2002-11-21	C10AS	@	(0001)	1988-08-09
(R)	EDX#M	@	(0001)	2002-10-01	FORMBI	@	(0001)	2003-08-14
(R)	PGLINK	@	(0001)	2002-10-01	TOMBEGIN	@	(0001)	2003-07-02
(R)	TOMDUMMY	@	(0001)	2002-10-01	UPPCASE	@	(0001)	1994-05-27

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- Module-Library: TOM.SERV.OML

TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(R) TOMLNK	000 (0004)	1989-07-27	V4TRANS	000 (0004)	1988-01-15

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- TOM-Library: TOM.TOMLIB.TOM.CENTRAL

TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(J) CBEAUTY.SPF	@ (0004)	2000-05-22	CPRINT.SPF	@ (0005)	2000-05-22
(J) C85PRINT.SPF	@ (0004)	2000-05-22	C85TRANS.SPF	@ (0005)	2000-05-22
(J) ESQ.L.SPF	@ (0005)	2000-05-22	ESQLV2.SPF	@ (0004)	2000-05-22
(J) IFG.SPF	@ (0005)	2000-05-22	REORG.SPF	@ (0004)	2000-05-22
(J) STANDARD.SPF	@ (0006)	2000-05-22	TOMVAL.PRC	@ (0002)	1998-08-26

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TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(M) MESSG	@ (0001)	1996-12-23	REFGRP	@ (0001)	1996-12-23
(M) REFINT	@ (0001)	1996-12-23	REFOTH	@ (0001)	1996-12-23
(M) REFREL	@ (0001)	1996-12-23	REFTYP	@ (0001)	1996-12-23
(M) REFVALST	@ (0001)	1996-12-23	REFVGR	@ (0001)	1996-12-23
(M) REFVIN	@ (0001)	1996-12-23	REFVPG1	@ (0001)	1996-12-23
(M) REFVPG2	@ (0001)	1996-12-23	REFVST	@ (0001)	1996-12-23

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TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(S) C.BTF	@ (0001)	1995-05-23	C.PPR	@ (0001)	1996-12-24
(S) C85.PPR	@ (0001)	1996-12-24	C85EXEC.PPR	@ (0001)	1996-12-24
(S) C85XREF.PPR	@ (0001)	1996-12-24	ESQLPAR.PSQ	@ (0002)	1997-04-21
(S) ESQ.LV2.PSQ	@ (0001)	1998-08-13	MSSGPOOL.ASM	@ (0001)	1997-03-05
(S) MSSGPOOL.OAS	@ (0001)	1996-12-24			

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- TOM-Library: TOM.TOMLIB.TOM.MBOERSE

TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(C) CTIME	@ (0001)	1988-06-28	FORTIME	@ (0001)	1988-06-28
(C) HOTSPOT	@ (0001)	1988-06-28	MODTIME	@ (0001)	1988-06-28

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TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(J) CPUMRTS.PRC	@ (0001)	1996-07-12	P#CC.PRC	@ (0001)	1996-07-12
(J) TKADMIN.SPF	@ (0001)	1996-07-12	TKPRTALL.SPF	@ (0001)	1996-07-12
(J) TK00.PRC	@ (0001)	1996-07-12	TK01.PRC	@ (0001)	1996-07-12
(J) TK02.PRC	@ (0001)	1996-07-12	TK03.PRC	@ (0001)	1996-07-12

(J) TK04.PRC @ (0001) 1996-07-12 TK05.PRC @ (0001)
 1996-07-12
 (J) TK06.PRC @ (0001) 1996-07-12 TK07.PRC @ (0001)
 1996-07-12
 (J) TK08.PRC @ (0001) 1996-07-12 TK09.PRC @ (0001)
 1996-07-12
 (J) TK10.PRC @ (0001) 1996-07-12 TK11.PRC @ (0001)
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 (J) TK12.PRC @ (0001) 1996-07-12 TK13.PRC @ (0001)
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 (J) TK14.PRC @ (0001) 1996-07-12 TK15.PRC @ (0001)
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 (J) TK16.PRC @ (0001) 1996-07-12 TK17.PRC @ (0001)
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 (J) TK18.PRC @ (0001) 1996-07-12 TK19.PRC @ (0001)
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 (J) TK20.PRC @ (0001) 1996-07-12 TK21.PRC @ (0001)
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 (J) TK22.PRC @ (0001) 1996-07-12 TK23.PRC @ (0001)
 1996-07-12
 (J) TOM-KMS.SPF @ (0001) 1996-07-12
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TYP NAME VER (VAR#) DATE
 (R) CPUMRTS 000 (0001) 1987-10-20
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TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(S) CPUMON.BES	@ (0001)	1996-07-12	CPUMRTS.CAS	@ (0001)	
1996-07-12					
(S) PAMHDL.ASM	@ (0001)	1996-07-12	STANDARD.PED	@ (0001)	
1996-07-12					
(S) TKPROFIL.D01	@ (0001)	1996-07-12	TOM-KMS.BES	@ (0001)	
1996-07-12					
(S) TOM-KMS.DOK	@ (0001)	1996-07-12			
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- TOM-Library: TOM.TOMLIB.TOM.BEISPIEL

TYP NAME VER (VAR#) DATE
 (J) COLNAS.SPF @ (0003) 2000-05-22
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TYP NAME VER (VAR#) DATE
 (M) MACDAT @ (0001) 1988-09-14
 1 (M)-ELEMENT(S) IN THIS TABLE OF CONTENTS

TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)	DATE
(R) AUSGABE	@ (0001)	1989-08-30	BILD	@ (0001)	1988-09-14
(R) BIO	@ (0001)	1988-09-14	BIO2	@ (0001)	1988-09-14
(R) COLASS	@ (0001)	1988-09-14	COLCOBOL	@ (0001)	1988-09-14
(R) DISPL	@ (0001)	1989-08-30	EINGABE	@ (0001)	1989-08-30
(R) FEHLER	@ (0001)	1989-08-30	FORMPL	@ (0001)	1989-08-30
(R) FORTRAN	@ (0001)	1988-09-14	NURASS	@ (0001)	1988-09-14
(R) NURCOBOL	@ (0001)	1989-08-30			
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TYP NAME	VER (VAR#)	DATE	NAME	VER (VAR#)
DATE				

(S) AUSGABE.MSK 1988-09-14	@	(0001)	1989-08-30	BIO.COB	@	(0001)
(S) BIO2.COB 1988-09-14	@	(0001)	1988-09-14	COLASS.CAS	@	(0001)
(S) COLASS.UR 1988-09-14	@	(0001)	1988-09-14	COLCOBOL.CCO	@	(0001)
(S) COLCOBOL.UR 1988-09-14	@	(0001)	1988-09-14	DATUM	@	(0001)
(S) DISPL.CCO 1993-02-02	@	(0002)	1993-02-02	DISPL.IFC	@	(0001)
(S) DISPL.UR 1989-08-30	@	(0002)	1993-09-10	EINGABE.MSK	@	(0001)
(S) FEHLER.MSK 1988-09-14	@	(0001)	1989-08-30	FORMPL.CCO	@	(0001)
(S) FORMPL.UR 1988-09-14	@	(0001)	1988-09-14	FORTRAN.FOR	@	(0001)
(S) KBEREICH 1988-09-14	@	(0001)	1988-09-14	NURASS.ASM	@	(0001)
(S) NURCOBOL.COB 1993-02-10	@	(0003)	1993-02-10	NURCOBOL.COB.\$	@	(0001)
(S) NURCOBOL.IFC 1993-02-02	@	(0002)	1993-02-10	PRINIMPL.C85	@	(0001)
(S) PSEUDO.CCO 1989-08-31	@	(0001)	1988-09-14	RTEST002.PAT	@	(0001)
(S) RTEST002.RT1 1989-08-31	@	(0001)	1989-08-31	RTEST002.RT2	@	(0001)
(S) SAVEIMPL.C85 1993-02-02	@	(0001)	1993-02-02	STANDARD.PED	@	(0001)
(S) STANDARD.PTA 1997-04-17	@	(0001)	1993-02-02	SWAP.C	@	(0002)
(S) TABIMPL.C85 1993-02-02	@	(0001)	1993-02-02	TEIMPL.C85	@	(0001)

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