

**Biceri Ltd Integrated
Reporting System
Documentation**

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1. Functionality of Report Generator

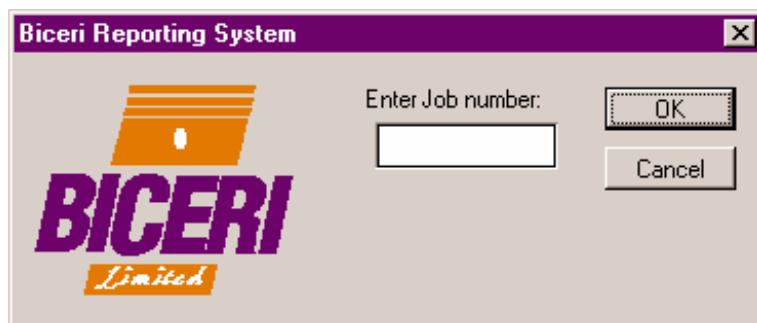
1.1. Building a report

All jobs are entered into the Access database. At this point the directory structure is created as shown in section 10 on page 21.

The directory structure is used to check whether a job has been entered into the system at the initial point of report creation in Word (for performance reasons). However, if the directories have been created, illegally, by hand the Word code will alert the user when it can not find the appropriate data in the database tables.

The job number entry dialog box performs many validations and permits the job number to be entered in upper or lower case (converting it to upper if necessary), and the run number can be entered as one, two or three digits i.e. run number 3 may be entered as 3, 03, or 003. The run number is padded out to three numerics in all cases. The dividing character between the test Id and the run number may be any non-alphanumeric i.e. it will accept "/", "-", etc.

Figure 1 - Job Number Entry Dialog Box



1.2. Handling a previously generated report

If a report already exists for the requested job number the dialog shown in Figure 2 appears. Selecting Yes will open the existing report and refresh ALL values in the report. Selecting No will present the user with the option of deleting the existing report and starting again (see Figure 3).

Figure 2 - Dialog when a report already exists

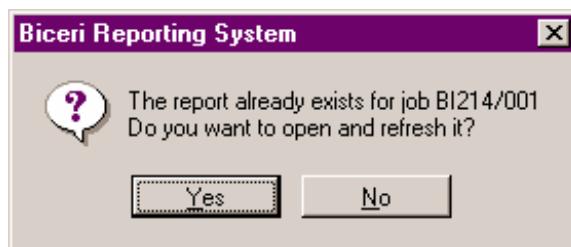
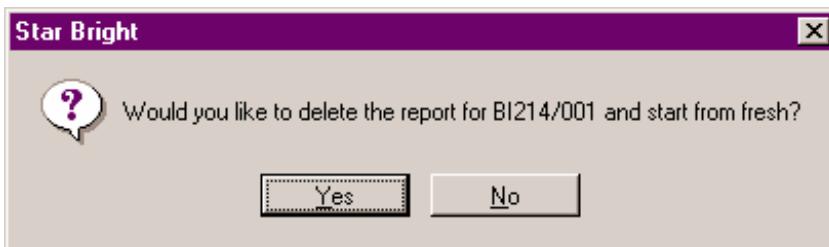
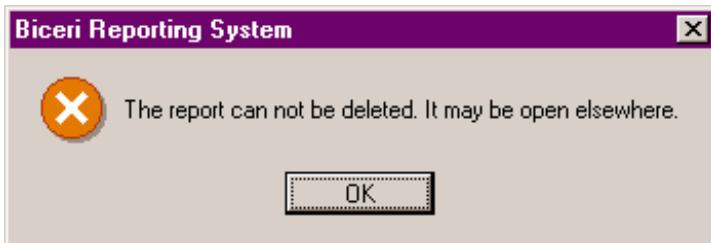


Figure 3 - Option to scratch report and start again



If the existing report can not be deleted, for example if it is already open somewhere else then the message box shown in Figure 4 appears. This aborts the reporting system.

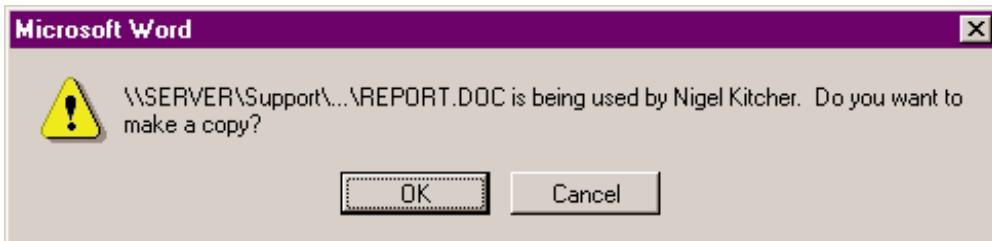
Figure 4 - Failure to delete existing report



Note: Selecting YES at the first dialog allows the user to generate a subsequent issue of the report. Choosing NO at the first and YES at the second allows the user to re-generate an issue #1.

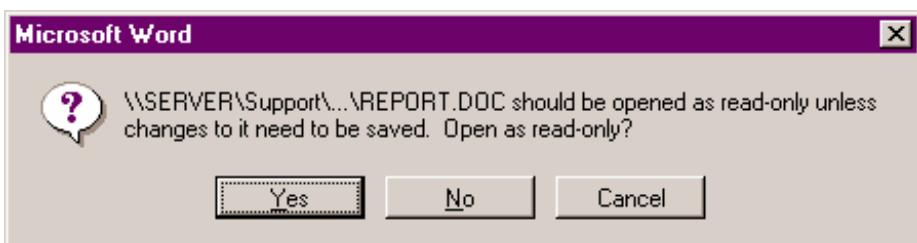
If the user selects to open an existing file, but the file can not be opened because it already opened, for editing, elsewhere the dialog shown in Figure 5 appears. If Cancel is chosen the reporting system ends.

Figure 5 - Report has been opened elsewhere



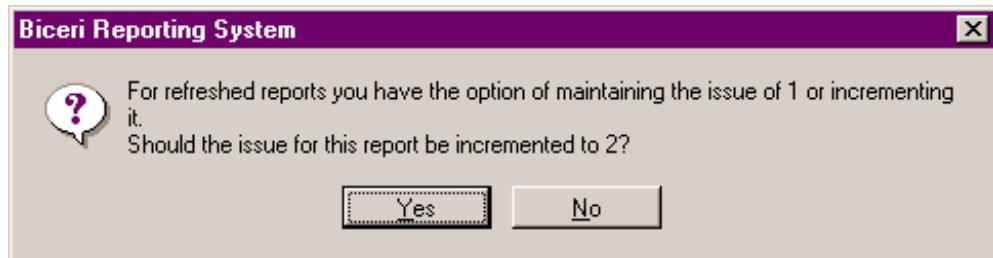
Note: Documents are saved as “Recommended Read Only”. If a report is opened outside of the reporting system the dialog shown in Figure 6 appears. Editing a document directly may create problems later if the reporting system is used to refresh the document. You should always open report files in Read-Only mode to maintain integrity and allow other users access to the document.

Figure 6 - Opening documents outside of the reporting system



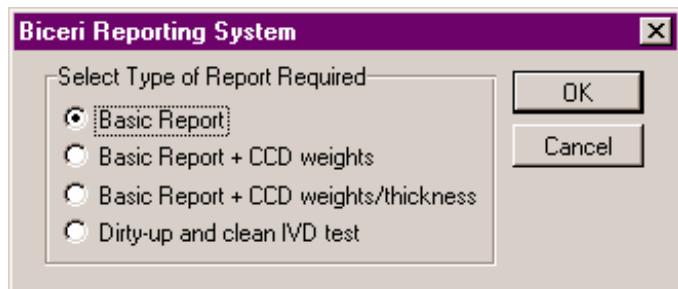
If a report has previously been written and the user has chosen the option of opening the report and refreshing the data a dialog similar to Figure 7 appears offering the choice of maintaining the present issue number or automatically incrementing it.

Figure 7 - Option to increment the issue number



As the Biceri test ID is not unique to an individual type of report the dialog box shown in Figure 8 will appear if there is more than one report format. In this case the dialog is prompting for reports for test type 214.

Figure 8 - Report type selection dialog box



|| Note: the text for this dialog box comes from the TEMPLATE.INI file - see section 9.2.

1.3. Report Building

Once the job number, and optionally the type of report, has been entered the process of generating the report is automatic. The status of the process can be seen at the bottom of the screen in the status bar and should proceed in a manner similar to the following (test dependant):

- *Connecting to database...*
- *Building SQL Select statement...*
- *Waiting for database transaction...*
- *Obtaining field names... retrieved (n)*
- *Building Report... Fields Inserted (n)*
- *Closing connection to database...*
- *File ... saved to disk*
- *Done.*

When the report has been completed and the document saved in the correct directory the dialog box shown in Figure 9 will appear.

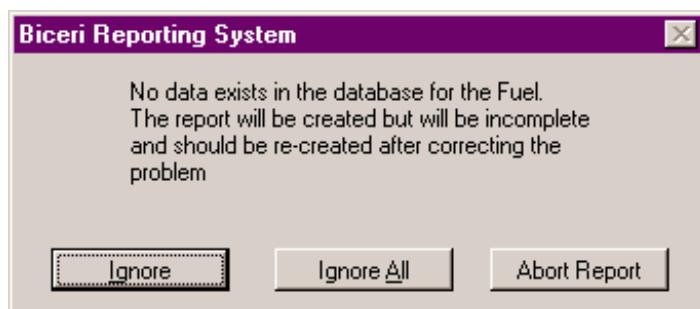
Figure 9 - Dialog box for completed report



1.4. Errors during Report building

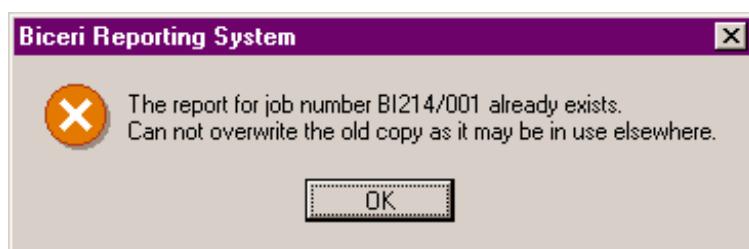
During the report building phase a message box similar to one shown in Figure 10 will appear when an item of required information is missing. Choosing Ignore will just ignore the one item and still prompt for each subsequent missing item, whereas Ignore All will not prompt on subsequent missing information. Choosing Abort Report will halt report production.

Figure 10 - Error message for missing information



If a report is being recreated then the document will already exist in the correct directory. As the reporting system can not overwrite the file (it could be opened elsewhere on the network) the message box shown in Figure 11 will appear. If you know that it is safe to save the file then you may do so however this version will be outside of the reporting system.

Figure 11 - Error message when report already exists



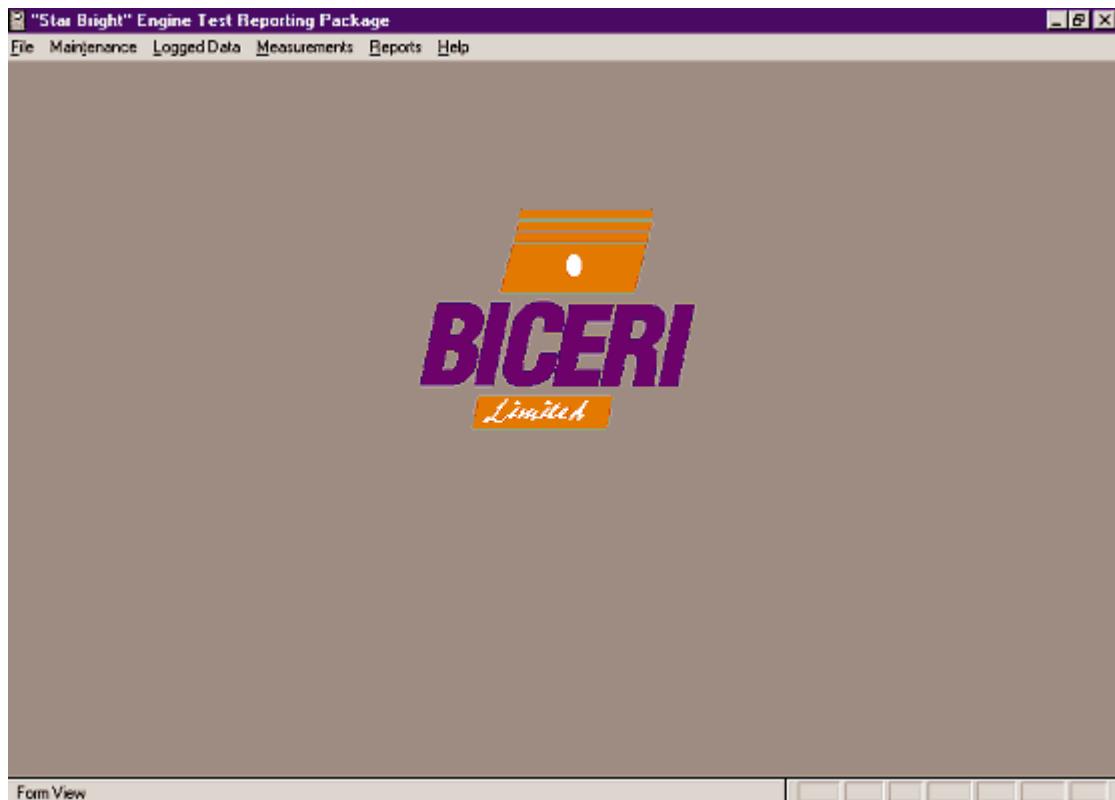
NOTE: Reports should not be recreated by simply choosing create report a second time. The report document should be opened and then create report should be chosen.

2. Using the Reporting System Database

2.1. Overview of Database

The terminology of the database is as follows: Tests are tests offered by the company, Jobs are specific instances of a test.

Figure 12 - "Star Bright" Main Database opening screen



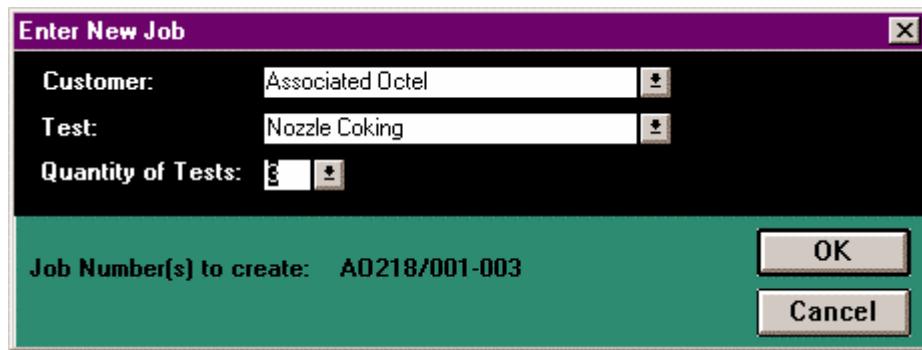
2.2. Adding Jobs to the database

Jobs are added to the system via the “Add Job” menu option under “Maintenance”.

The user is then presented with the dialog shown in Figure 13 - The Enter New Job(s) Dialog. To enter a new job or jobs the customer and test type must be selected from the drop down lists. After these have been selected the job number that will be allocated is displayed at the bottom of the dialog box. If the user wishes to add more than one job then the “quantity of tests” should be changed in the edit box. In this case the range of job numbers to be allocated is then displayed.

Selecting “OK” will start the process of creating entries for the chosen job(s). Part of this process is the construction of the directory structure for the reporting system (see Reporting Directory Structure on page 21).

Figure 13 - The Enter New Job(s) Dialog



2.3. Entering/Amending Job Specific data

At the time a job is created by the system a number of fields are automatically set to predetermined defaults as follows:

Bed This is set the preferred bed for the given test type¹

Engineer Set the `Preferred_Engineer` entry as listed in the table Tests.

Order Date Set to the current date (when job is created in system)

To ease inputting of dates into the system the user may use the CTRL+D key combination to insert the current date into a date field.

Note that the following information is automatically updated by other components in the system:

Reporting: Written This date is updated by the system when a report has been created via the "Report Builder" in Microsoft Word (see 1.3 Report Building on page 3)

Reporting: Dispatch This date is updated by the system when a covering letter is created via the "Letter Writer" in Microsoft Word (see 6 The letter writing system on page 15)

¹ This is held in the database table tBedTest. At the time of writing this table is not readily available to average user.

Figure 14 - Customer and date information Dialog Box

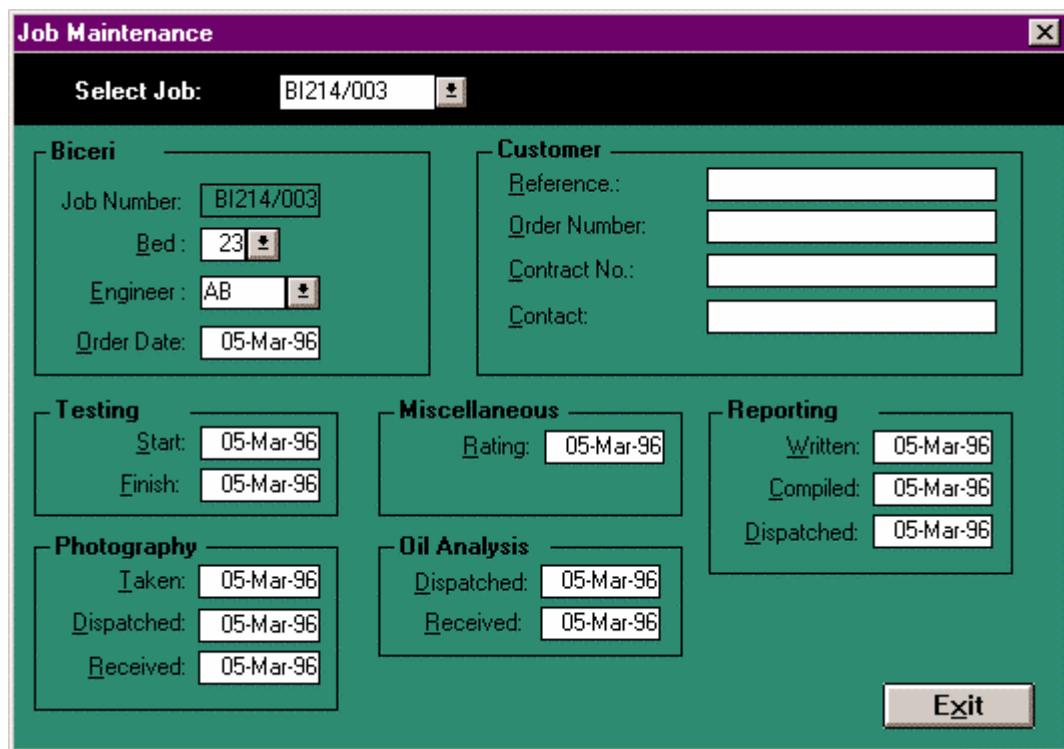
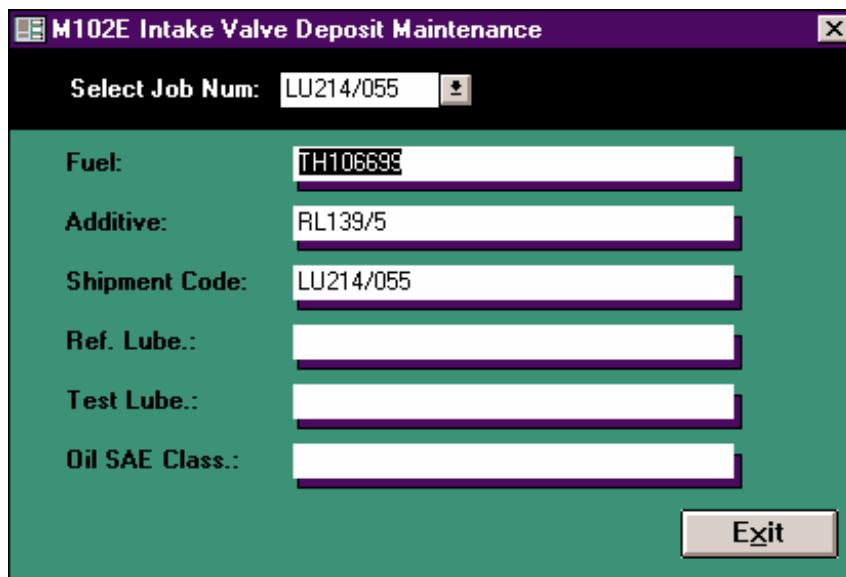


Figure 15 - The Maintenance dialog for M102E IVD Jobs

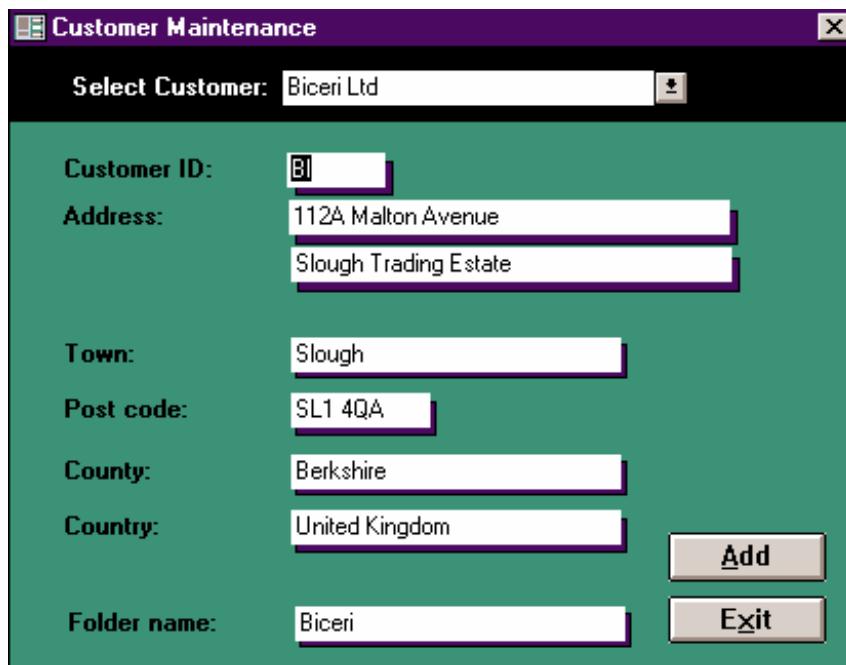


2.4. Customer Maintenance

Customer information can be amended in the customer maintenance dialog box (see Figure 16).

To add a customer select the “Add” button.

Figure 16 - The Customer Maintenance Dialog box



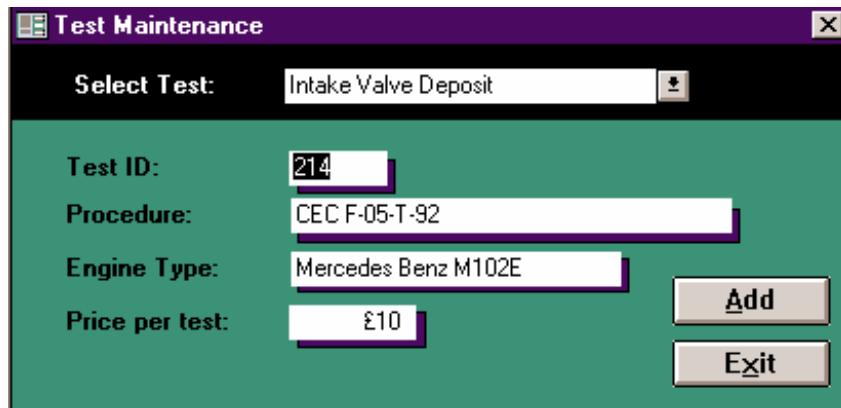
NOTE: The entry labelled "Folder name" is the directory name used for this customer. After migration to Windows'95 and long file names, this entry will no longer be applicable as the full customer name will be used instead.

2.5. Test Maintenance

Test information can be amended in the test maintenance dialog box (see Figure 17).

To add a test select the "Add" button.

Figure 17 - The Test Maintenance Dialog box

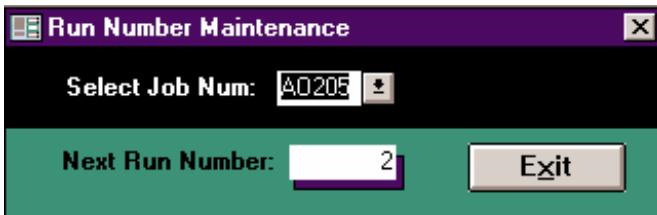


2.6. Run Number Maintenance

The system keeps a note of which run or sequence numbers have been already been allocated for each combination of Customer and Test type. If for any reason the next run number is required to be different it may be manually adjusted in the run number maintenance dialog box (see Figure 18).

First select the customer/test combination in the “Select Job Num” drop down list and then type the next required run number. It should be noted that entries for an unused customer/test combination will not exist until at least one job has been run. Hence it is not possible to start a sequence from a number other than “1” until a job has been added.

Figure 18 - The Run Number Maintenance Dialog box



NOTE: THIS SHOULD BE USED WITH EXTREME CARE AND ONLY UNDER THE GUIDANCE OF THE I.T. DEPARTMENT AS CHANGING THE NEXT RUN NUMBER MAY CAUSE DATA INTEGRITY ERRORS.

2.7. *Tips and shortcuts*

The following is a list of tips and shortcuts to aid inputting of data:

- To ease inputting of dates into the system the user may use the CTRL+D key combination to insert the current date into a date field.
- The action of the [ENTER] key may be adjusted through the state of the [SCROLL LOCK] key for tabular forms. With the [SCROLL LOCK] key is down pressing [ENTER] will move the cursor to the next cell downwards. With [SCROLL LOCK] key off pressing [ENTER] will move the cursor to the next cell to the right.
- Where an edit box on a form is not large enough to display all of the contents of the field use [SHIFT]+[F2] to bring up the zoom box.

3. The Mercedes M102E Data Entry

3.1. Valve Rating Entry

The M102E valve rating entry screen is shown in Figure 19. To select the appropriate entry sheet choose the required job number, valve number and phase from the drop down lists at the top of the screen. The cursor may be moved around the screen by use of the arrow keys.

The use of the [ENTER] key may be adjusted through the state of the [SCROLL LOCK] key. With the [SCROLL LOCK] key is down pressing [ENTER] will move the cursor to the next cell downwards. With [SCROLL LOCK] key off pressing [ENTER] will move the cursor to the next cell to the right.

Figure 19 - M102E valve rating entry dialog box

Segment	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
1	-	-	-	-	-	-	-	-	-	3	7	-
2	-	-	-	-	-	-	-	-	-	4	6	-
3	-	-	-	-	-	-	-	-	2	4	4	-
4	-	-	-	-	-	-	-	2	4	1	3	-
5	-	-	-	-	-	-	-	-	-	7	3	-
6	-	-	-	-	-	-	-	-	-	5	5	-
7	-	-	-	-	-	-	-	-	2	1	7	-
8	-	-	-	-	-	-	-	-	-	2	8	-
9	-	-	-	-	-	-	-	-	-	2	8	-
10	-	-	-	-	-	-	-	-	-	1	9	-
Total	0	0	0	0	0	0	0	2	8	30	60	0
Merit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.68	2.70	5.70	0.00
												9.24

Exit

Whilst entering a number into a cell the left and right arrow keys will not move to cursor to a new cell - in this case use the ENTER key to move the cursor to the next cell or use the up and down arrow keys.

A number of calculated items are placed around the entry table.

To the right of the table is the sum of each segment shown as a red number. When the total equals 10 the number will disappear.

At the bottom of each merit column is the total of the column, and the merit. The total merit for the current valve is also displayed.

The total for each segment is re-calculated each time a number is entered. However the sums for the columns, and the merit are only calculated once a complete segment has been entered. As such once the final number has been entered for the final segment the cursor must be moved to different segment for the calculations to take place.

Figure 20 - M102E Valve Weight Entry

Mercedes Benz M102E Valve Weights

M102E Valve Weights

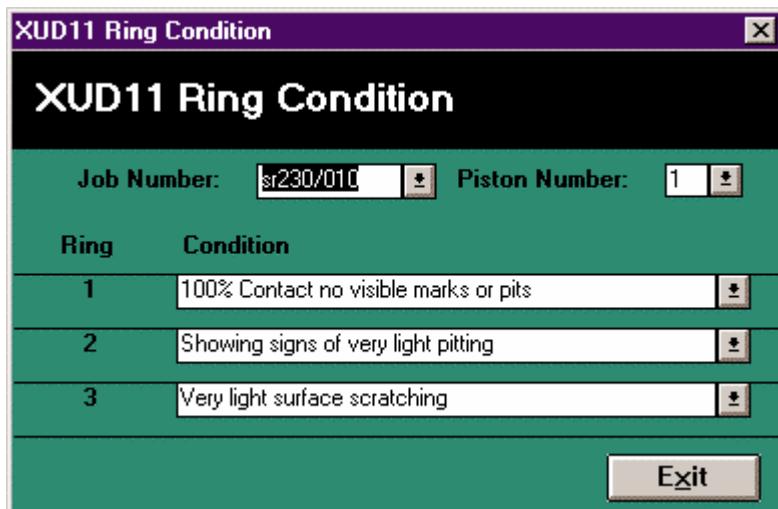
Job Number: PA214/016

Weight (grams)			
Valve	Before	After	Difference
1	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000

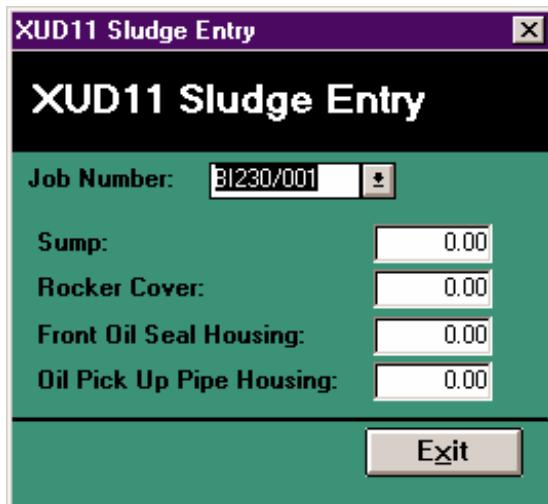
4. The XUD11 Data Entry

4.1. Ring Condition Entry

Figure 21 - XUD11 Ring condition Entry Dialog Box



4.2. Sludge Entry



4.3. Piston Merit

XUD11 Piston Merit Entry

Job Number: Piston Num:

Lacquer

Land 2:	<input type="text" value="0.00"/>
Groove 1:	<input type="text" value="0.00"/>
Groove 2:	<input type="text" value="0.00"/>

Carbon

Groove 1:	<input type="text" value="0.00"/>
Groove 2:	<input type="text" value="0.00"/>

Total:

Merit:

4.4. *Main Bearings Block/Cap, Big End Bearing Rod and Cap*

XUD11 Main Bearings Block

Job Number:

Bearing	Condition
1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>
4	<input type="text"/>
5	<input type="text"/>

5. Intelligent Documents

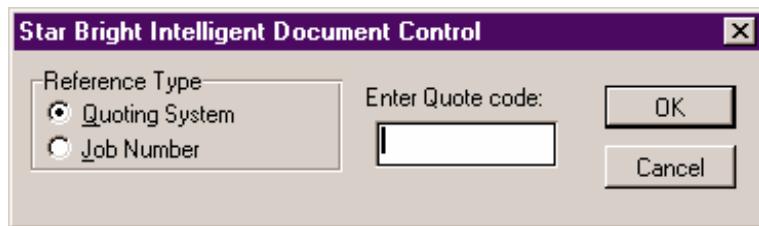
5.1. Overview

The “Star Bright” package extends the functionality of Microsoft Word via a process named “Intelligent Documents”. As documents are created by the reporting system the documents are labelled with the relevant job number and information as to the type of document. This intelligence may be overridden or adjusted at a later date by use of the “Intelligence” button on the “Star Bright Toolbar”.

5.2. Purpose of document intelligence

As documents maintain some sort of intelligence they can aid the general usage. This is most notably when performing a FILE/SAVE AS. At this point the document adjusts the default folder so that the user does not have to navigate the file structure to find the relevant folder.

Figure 22 - The Intelligence Control Dialog box



6. The letter writing system

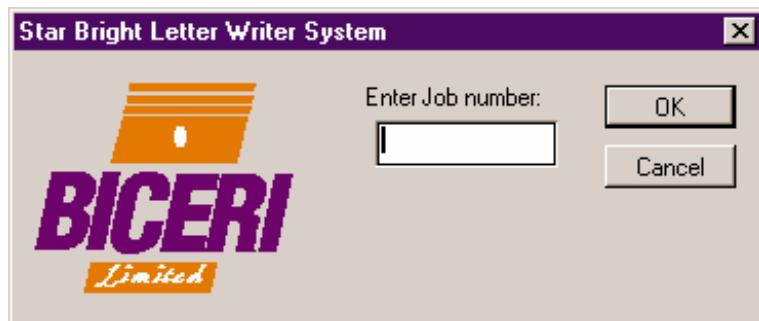
6.1. Overview

The “Star Bright” reporting package includes the facility to produce a cover letter for one or more report(s). This facility extracts the customer and test information for a given job or jobs and inserts them into the body text of the letter. Once it is complete the system writes it the file to the appropriate directory and offers the user the chose of printing immediately.

6.2. Using the Letter Writer

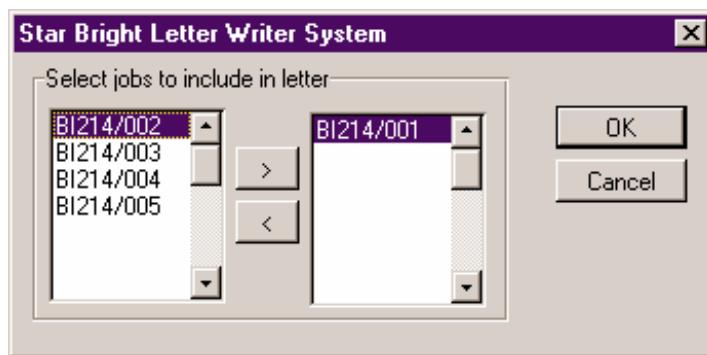
To start the letter chose the “Write Letter” button on the “Star Bright Reporting” toolbar (alternatively choose FILE/NEW and “Report Covering Letter”). A dialog box similar to the one in Figure 23 will appear and prompt for the required job number. If you wish to write a letter covering more than one report you should enter the job number with the lowest run number.

Figure 23 - Letter Writer Job Number Entry Dialog



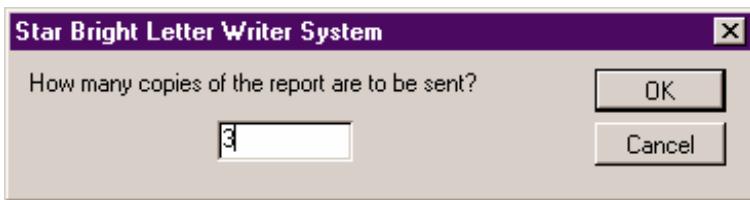
On choosing OK the system will check if there are any reports of that test type, for that customer that have higher run numbers than the one entered. If there are, a dialog similar to Figure 24 will appear to allow selection of additional jobs. The job first entered will appear already in the right hand list box which is for those jobs to be included in the letter. Select additional job numbers in the left hand list box and chose “>” to include them. To exclude jobs select them in the right hand side and chose “<”.

Figure 24 - Additional Job Selection



Once the job(s) have been entered the user will be prompted (see Figure 25) to enter the number of copies of the report which will be sent with the letter. Valid numbers are between 1 and 10.

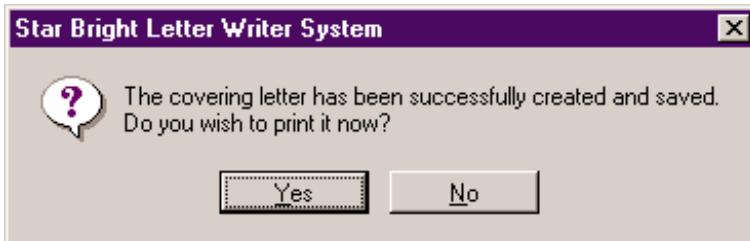
Figure 25 - Number of Report Copies Entry



All the information required by the system has then been entered and a letter will be automatically produced with the correct information regarding the customer, the test type, each job(s) and the number of copies which will accompany the letter.

The letter will be saved in the directory relating to the first job number. The last message given to the user allows them to print the letter immediately.

Figure 26 - Option to print letter immediately



Once the letter has been created the dispatch date for the report is automatically updated to the current date.

7. The Fax Writer system

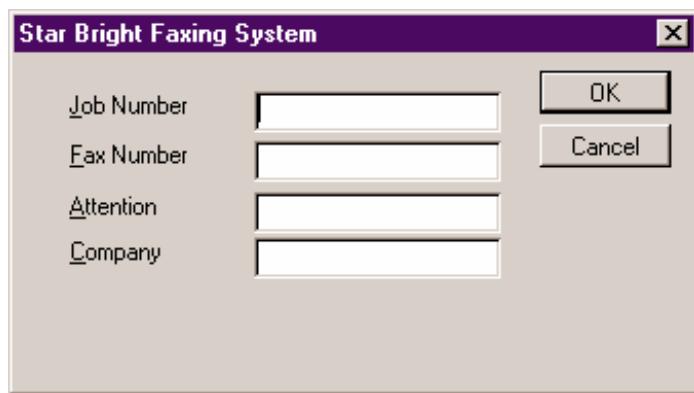
7.1. Overview

In addition to the letter writing system, the fax writer aids fax writing.

7.2. Using the fax writer

The Fax writer provides a few minor benefits over the previous fax form used by Word 2.0/6.0. The addition of a “Job Number” edit box allows the user to enter the appropriate job number (this is not currently validated). The customer ID of the job number is used to look up the company, fax number and contact from a given list (this is currently held outside of the main Star Bright database).

Figure 27 - Initial Fax dialog box



Unlike the letter writer, the fax writer does not save the fax. However, if the user wishes to save the fax on choosing the File Save or File Save As menu items the default directory is changed to reflect the job number entered in the initial dialog box.

8. The Progress Report Writer System

8.1. Overview

The “Progress Report Writer” offers the same facilities as those outlined in section 7 The Fax Writer system on page 17.

8.2. Using the Progress Report Writer

To start the letter chose the “Progress Report” button on the “Star Bright Reporting” toolbar or alternatively choose FILE/NEW and “Progress Report”. General operation is similar to the letter writer, however only one job may be selected.

9. Creation of Automated report templates

9.1. Location of dynamic text in a report

The report template only contains static text. Any text which changes from test to test comes from one of several databases (e.g. the rating database, the tests database). So that Word knows where to insert dynamic text you must insert bookmarks².

The bookmark should surround at least one space character. Not doing so will not permit you to refer to the bookmark at a later point in the document or indeed to re-run the report on the current document. When you want to reference a table's cell in another table the bookmark for that cell should surround the text/formula not the entire cell. If the entire cell is selected when adding the bookmark you will get a "Not a valid result for table" as the reference is trying to insert a cell with in a cell.

The bookmark name should also match the name of the field within the required database.

For rating tables the first cell to be used for inserting rating data should have a bookmark defined as "xRatingTablen" where *n* is the value number, and *x* is either **C** for clean-up, or **D** for dirty-up.

Convention is that bookmarks used for referencing within the document (i.e. references which do not come from fields in the database(s) e.g. calculated's) are prefixed with an underscore.

9.2. Multiple Report formats

If there are different report formats for a particular test ID then an entry must be made in the TEMPLATE.INI file.

A section heading should be made using the test ID. Under this heading create entries of "Type#" for each differing report and list the descriptive text that will be displayed in the dialog box (see Figure 8). The code currently permits up to 10 different report formats.

When the user selects which report format to use the code takes the default template to be type 1, while type 2 has an "A" suffix, type 3 has a "B" suffix and so on. For example, in the case of the 214 report the basic report uses template "214.DOT", while the CCD weights addition is in template "214A.DOT".

Figure 28 - Sample TEMPLATE.INI Entry

```
[214]
Type1=Basic Report
Type2=Basic Report + CCD weights
Type3=Basic Report + CCD weights/thickness
Type4=Dirty-up and clean IVD test
```

NOTE: The use of TEMPLATE.INI is not necessary when there is only one report layout for a particular test. In this case the test ID is the name of the template file.

² A bookmark should only be inserted in the text for the first occurrence of the information. Subsequent references should refer back to this original bookmark (Word does not permit multiple bookmarks of the same name in any case)

10. Location of Report Generator Files

Files	UNC	Directory	Filename
Word report formats	\\SERVER\DATABASE	\DOCUMENT	see ³
Main Test Database	\\SERVER\DATABASE	\	Office.MDB
Individual Test DB's	\\SERVER\DATABASE	\	TestID.MDB
Multiple template map	\\SERVER\DATABASE	\	TEMPLATE.INI
Splash screen	\\SERVER\DATABASE	\	???.BMP
Forms/Code Database	\\SERVER\DATABASE	\	Reporter.MDB
Completed reports	\\SERVER\ENGINEER	\Reporting System	n/a

The location of report formats may be changed in the Library.GetReportTemplate\$.

The name of the database may be changed in the function Library.GetDatabaseOpen\$. To change the location for the database the ODBC icon in the Windows Control Panel should be used.

The location of the file TEMPLATE.INI may be changed in the function Library.GetReportTemplate\$.

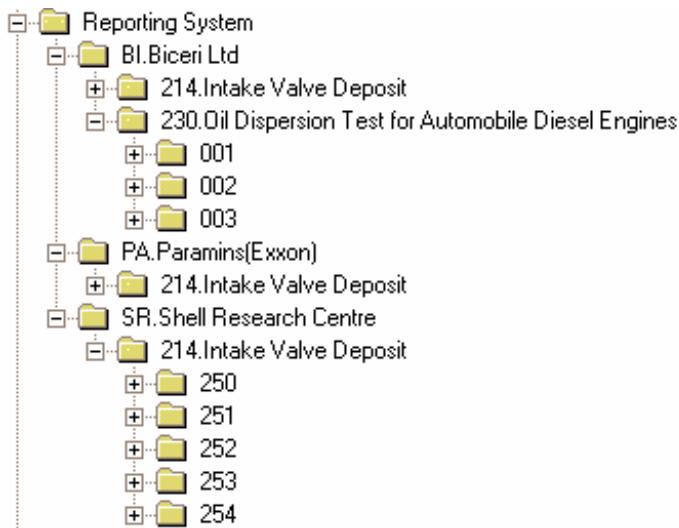
The location into which reports are saved may be changed in the function Library.GetBaseReportingDirectory\$. The naming of directories depending on company and test name may be changed in the Access tables: Customers, and Tests.

³ The name of the template is *NNN.DOT* where *NNN* is the Biceri test number ID e.g. M102E IVD would be 214.DOT

11. Reporting Directory Structure

The customer name is shortened to eight characters and the Biceri customer id is used as the extension. Under each customer each test name is also shortened to eight characters and the Biceri test id used as the extension. The run number is then simply used as the last directory name.

Figure 29 - Directory (Folder) Structure under Windows '95/NT



This method allows anyone given a job number to easily find the files for the job by simply taking each part of the id (which is the extension), or the description (base directory name).

**For additional information see section 5.2 of Biceri Information Management Plan
dated March 95**

12. Issue Controller

12.1. Overview of issues

All documents created by the reporting system contain a limited amount of issue control. The issue control keeps track of the date of issue changes, the initials of the person making the change and a user comment.

12.2. Automatic handling of issue numbers

When a test report is created by the reporting system the issue number is automatically set to one, the date is set to the current date, the users initials are logged, and the comment set to "Created by Reporting System". If the document contains a bookmark named "Issue" then the text at that location is automatically set to read "1". As the issue number is incremented the text at the bookmark will be automatically incremented.

12.3. Manually handling issue numbers

To increment the issue number you must type a comment in the "New issue" edit box, and then choose Add. Note that by default the issue number is not incremented. To do this the user must first check the "Increment Issue" check box. When the issue number is incremented the text at the bookmark "Issue" (if it exists) is automatically incremented.

If a document does not contain the required issue controlling additions the message box shown in Figure 31 appears. Choosing "YES" will make the required amendments.

Figure 30 - Document History Control Dialog box

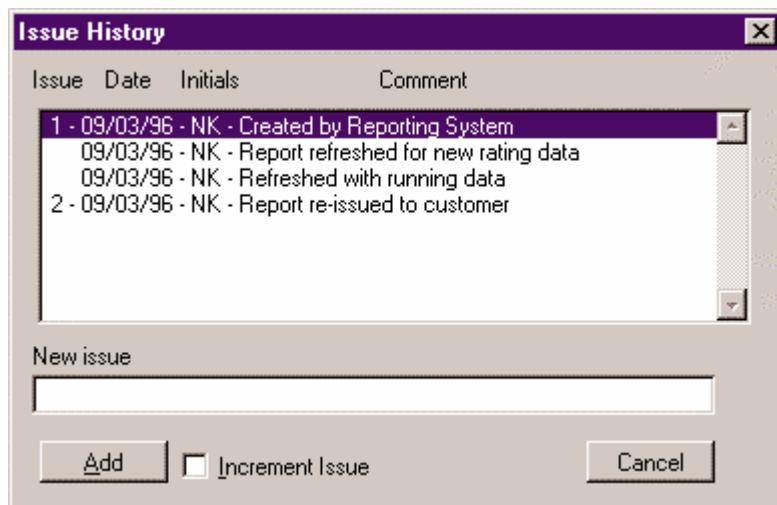


Figure 31 - Message box when document has no issue control

