Maintenance Module

Overview

The Maintenance module provides you with all the tools required to plan, carry out, and document the breakdown and preventive maintenance associated with the instruments in your plant.

Breakdown Maintenance

These features deal with the malfunction of equipment. You can deal with problems on two levels:

- **Work Requests**

  A work request can be initiated by most of the technical staff. A work request describes a possible malfunction or repair that may be required in the future. The work requests are then examined by the maintenance supervisor or foreman who can approve them and then create an actual work order (repair).

- **Repair Forms**

  A repair form is the actual repair or work that has been approved by the maintenance supervisor or foreman. It indicates the repair date and describes the nature of the problem as well as the work group that is assigned to carry out the job. The repair form also includes, in a different section, the information that is filled in by the person who performed the work, malfunction cause and action taken, as well as the down and repair time.

Preventive Maintenance

These features enable you to maintain and schedule periodic maintenance activities that contain tasks and procedures.

Note

- The Maintenance module is available only if it is included in the software license that you purchased from Intergraph.

Maintenance Module Principles

Prior to carrying out the Maintenance module activities, take a quick look at the overall concepts to clarify the strategies for both **Breakdown Maintenance** and **Preventive Maintenance**.

Note that issuing new work requests, repairs or preventive maintenance work orders is done only from the Instrument Index module. Once maintenance records have been added, you need to access the **Maintenance Activities Summary** window for further handling of these activities.

Access Rights in the Maintenance Module

There are several different access right levels in the Administration module that control the data input for the Maintenance module. The access right levels are arranged by the form types:

Level	Entity	Description
Plant	Supporting tables	Ability to access, edit and delete items from the supporting tables of the module which controls the forms.
Unit	Module Access	Ability to allow or deny access to this module.
Unit	Work Request – Technician	Ability to add new work request Forms from the Index module. This option should be enabled to all technical staff.
Unit	Repair – Technician	Ability to convert and schedule the work request into an actual work order.
Unit	Repair – Supervisor	Technician's option includes filling in the repair data.
Unit	Preventive Maintenance – Supervisor	Preventive Maintenance supervisor's option to schedule PM activities, assign a work group and schedule dates.
Unit	Preventive Maintenance – Technician	Preventive Maintenance technician options include filling out test results.

Starting the Maintenance Module

The following procedures explains how to start the Maintenance module. Before starting this module, check with the Domain Administrator to ensure that you have been granted appropriate access rights for the tasks you will carry out.

Note

- The Maintenance module is available only if it is included in the software license that you purchased from Intergraph.

➢ To start the Maintenance module from any SmartPlant Instrumentation module

1. Do one of the following:
   - On the **Modules** menu, click **Maintenance**.
   - On the main toolbar, click .

➢ To start the Maintenance module from an Instrument Index Browser view

1. Open an Instrument Index Standard Browser view.
2. In the browser view, select and then right-click the tag numbers that require maintenance.
3. On the shortcut menu, point to **Maintenance** and then click one of the following options:
   - **Schedule Preventive Maintenance Activities**
   - **Work Request Form**
   - **Repair Form**

Filtering Maintenance Activities

Use this procedure to filter the maintenance records of the current domain displayed in the **Maintenance Activities Summary** window. These include the following types of records:

- Preventive maintenance
- Repair forms
- Work requests

➢ To filter maintenance activities

1. Open the **Maintenance Activities Summary** window.
2. Under **Process function**, do one of the following:
   - To display records for tags of all process functions, select the blank row.
   - To limit the records to tags of one process function, select the process function of interest.
3. To limit the display of preventive maintenance records to a given preventive maintenance code, select the code under **Preventive maintenance code**.
4. To limit the display of maintenance records to a given date range, do the following:
   a) Under **From**, enter the starting date.
   b) Under **To**, enter the ending date.
5. Do one of the following under **Data level**:
   - To limit the records displayed, select Plant, Area, or Unit.
   - To not limit the records displayed, accept the default setting of Domain.
6. To limit the display of maintenance records by tag category, select a value from the **Category** list.

7. In the **Maintenance records** pane, do one of the following:

    - To display records for all of the tags that have maintenance data, select **All Activities**.
    - To display records for selected tags, do the following:

        a) Click ⊞ to open the tree.

        b) Select the tag for which you want to display maintenance records.

Note

- To clear all filter settings, click **Reset**.

Generating Maintenance Reports

This option enables you to select and generate a maintenance report. You can generate the following reports:

- Scheduled Preventive Maintenance Report
- Summary of Failure Reason Report
- Summary of Repair Action Report
- Summary of Outcome Report
- Repair Details Report

➢ To generate a maintenance report

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, on the Reports menu, click the report that you want to generate.
3. In the **Report Properties** dialog box, in the **Date range** group box, do one of the following to set the date range for the report:
   - Select the **User defined** option and set a specific period by typing or selecting the required dates from the **From** and **To** lists.
   - Select the **Predefined** option to generate a report for the last, current or next week, month, or year.
4. To filter the data level of the report, select Domain, Plant, Area, or Unit.
5. Click **OK**.

Preventive Maintenance

Performing Preventive Maintenance

Before scheduling new preventive maintenance (PM) activities, you have to predefine preventive maintenance attachments, tasks, and activities.

Scheduling new preventive maintenance work orders is done only from the Instrument Index module (unless you are extending an already assigned PM job). Once a PM work order has been scheduled, you open the **Maintenance Activities Summary** window for further handling of these activities where you fill in the maintenance details or reports.

To define the raw PM activities, tasks and attachments, you need to access the Maintenance module and start to define the tasks from the lowest level – the 'attachment'. An 'attachment' describes a set of instructions to the technical staff. An attachment can be associated with any external document (a 'Word' file, a scanned image, or manufacturer maintenance document). Typical attachments define safety precaution instructions, technical instructions for bypassing a process, the actual set of instructions required to carry out the activity itself, restoring the process back to its operational status, and so forth.

A task is a set of instructions associated with an attachment. You can associate a single attachment with multiple PM activities. A task can include the attachment and a description.

Once you define the attachments and tasks, you can introduce a new PM activity. Each PM activity can hold several tasks in the sequence they were added. At this stage, it is also advisable to associate a PM code with a particular typical instrument (for example, transmitter, transducer, control valve, switch, and so forth.) This is very useful for report generation and other statistics. Moreover, a PM activity contains additional default information, such as the required calibration values, the down/repair time that an average maintenance job will take, the interval and frequency for each PM job.

Once all the required attachments, tasks, and activities have been defined, the preventive maintenance supervisor can schedule these activities to the selected tags from an Instrument Index Standard Browser view. At this stage, the PM activities are ready to be further processed and be filled in by the maintenance crew in due time.

The following is the recommended flow of activities for preventive maintenance:

1. Start the Maintenance module and define the raw PM activities, tasks, and attachments. (See Preventive Maintenance Preliminary Activities.)

2. Start the Instrument Index module and open an Instrument Index Standard Browser view.

3. Select the required tag numbers for which you want to schedule a PM job and start the Calibration module.

4. If the instrument requires calibration, enter the required calibration settings for the selected tags (for details, see Defining Calibration Settings).

Caution

- Failure to define the calibration settings prior to starting the Maintenance module result in the inability to enter the calibration values when entering preventive maintenance details. (The **Calibration As Found/As Left** dialog box will not be accessible.) Therefore, it is essential that you enter the calibration settings for the selected tags before you schedule a PM job from the browser view.

5. Go back to the browser view and right-click the selected tags.

6. Associate the required tag category and criticality as needed.

7. On the shortcut menu, point to **Maintenance**, and click **Schedule Preventive Maintenance Activities**.

8. Create the new schedule for the PM activity.

9. Start the Maintenance module and fill out the PM activity details as required.

10. At this stage, you can also issue work requests and open repair forms for the required instrument if needed.

Note

- When saving PM activity details, SmartPlant Instrumentation prompts you to create a work request if the result of the PM activity is Failed. Clicking **Yes** creates the Preventive Maintenance record and opens the **Work Request** dialog box where you can create a repair form.

Preventive Maintenance Preliminary Activities

You have to define certain preliminary settings before you can start scheduling preventive maintenance activities or issuing work requests and repair forms. These preliminary settings include the following three definitions:

- Preventive maintenance attachment definition
- Preventive maintenance task definition
- Preventive maintenance activity definition

These definitions then serve as references for the actual maintenance procedures carried out by the field maintenance personnel.

Defining Preventive Maintenance Attachments

This is the very first procedure that you have to carry out before you can schedule preventive maintenance. An attachment is an external document that is provided to the maintenance crew. An attachment can be a text document, a drawing, a sketch, and so forth.

Here you define the preventive maintenance attachments, enter their descriptions and associate them with an external file (a .doc file, a drawing, and so forth) that then serves as a reference for the field maintenance personnel.

➢ To define a preventive maintenance attachment

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, do one of the following:
   - On the **Tables** menu, click **Attachments**.
   - Click  .
3. In the **Attachments** dialog box, click **New** to define a new attachment.
4. Click in the **Name** field and type the attachment name or code that will then serve as a reference for the task.
5. In the **Description** field, type an appropriate description.
6. Click **Browse** to associate the current attachment with an external file which can be a drawing, a text file, or a vendor's document, and so forth.
7. Click **View** to view the external file to make sure it is the correct one.
8. Click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.

Defining Preventive Maintenance Tasks

After defining the preventive maintenance attachments, you have to define the appropriate maintenance tasks that will be carried out. The tasks are associated with the attachments you have defined and then they will be included in the appropriate maintenance activities.

➢ To define a preventive maintenance task

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, do one of the following:
   - On the **Tables** menu, click **Preventive Maintenance Tasks**.
   - Click  .
3. In the **Preventive Maintenance Tasks** dialog box, click **New** to define a new task.
4. Click in the **Task** field and type the new task name.
5. Click in the **Attachment** field and select the appropriate attachment with which new task is to be associated.
6. Click in the **Note** field and type any note you deem fit for the current task.
7. Click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.

Defining Preventive Maintenance Activities

Defining the preventive maintenance activities is the last preliminary activity that you have to carry out before you can start scheduling a PM job. You define the preventive maintenance activities after defining the preventive maintenance tasks and attachments. Each activity can hold a number of tasks which are in turn associated with the defined attachments. You select the defined tasks in the sequence they are to be performed. The defined activity also contains other default scheduling information, such as the down/repair time, the interval and frequency for the current PM activity, the required calibration values, and so forth.

➢ To define a preventive maintenance activity

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, do one of the following:
   - On the **Tables** menu, click **Preventive Maintenance Activities**.
   - On the module toolbar, click  .
3. In the **Preventive Maintenance Activities** dialog box, click **New** to define a new activity.
4. Click in the **PM code** field and type a new preventive maintenance code for the current activity.
5. Click in the **Typical Instrument** field and select the appropriate typical instrument from the list. If the required option is not available, click **Typical Instrument**.
6. Click in the **Description** field and type an appropriate description for the current activity.
7. Click in the **Note** field and type any appropriate note if necessary. Use the horizontal scroll bar to make the **Note** field visible.
8. In the **Associated preventive maintenance tasks** section, click **Add** to include a task with the activity.

9. Click in the **Task** field and select the appropriate task from the list. You can assign more than one task to the same activity. Click **Add** to add more tasks as required. Note that each task must be unique. If the required task is not available, click **Tasks**.

   The software assigns the new task a sequence number. The appropriate attachment is selected and it appears in the **Attachment** field.

10. Enter the default scheduling data as needed by selecting the appropriate scheduling settings from the **Default scheduling** and **Estimated maintenance time** sections.

    Caution

    - Selecting the **Calibration Required** check box enables you to enter calibration values when filling out the Preventive Maintenance details. This option becomes available in the **Preventive Maintenance Activity Details** dialog box if you have defined the required calibration settings for the current tag before you started the Maintenance module. See Performing Preventive Maintenance.

11. Click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.

Scheduling Maintenance

Now that you have defined all your required maintenance attachments, tasks, and activities, you can select a tag or a number of tags and schedule them for maintenance. As the Maintenance module is closely connected with the Instrument Index module, you schedule tag maintenance activities from an Instrument Index Standard Browser view and then return to the **Maintenance Activities Summary** window to continue your maintenance operations.

➢ To schedule maintenance

1. With the **Maintenance Activities Summary** window open, click  on the **Main** toolbar to start the Instrument Index module.

2. On the **Actions** menu, click **Browse Index** or click  on the Instrument Index module toolbar.

3. In the Instrument Index Standard Browser view, select the instrument for which you want to schedule maintenance. You can select multiple tag numbers if needed.

4. Right-click the selected tags to open a shortcut menu, point to **Maintenance** and select **Schedule Preventive Maintenance Activities**.

5. From the **PM code** list, select the appropriate preventive maintenance code to associate the selected instruments with the required PM code, or click  .

6. From the **Assigned workgroup** list, select the work group to which the preventive maintenance activity will be assigned. If the required work group is not available in the list, click  .

7. From the **Priority** list, select the required job priority.

8. Set the starting date, frequency, and the PM interval. By default, these values are taken from PM definition.

9. In the **Limit by** section, select either the **Date** or the **Number of PM Activities** option button to choose whether you want to set the number of times this PM activity to be carried out or be limited by a time period.

10. In the **Scheduling Options** section, select how you want to fine-tune the scheduling:

    - **No changes** — the scheduling will remain as you defined it in the **Start date**, **Frequency**, **Interval**, and **Limit by** options.

    - **Schedule jobs for** —fine-tune the scheduling by selecting a specific day of the week, for example every Tuesday of the month.

    - **Schedule jobs for each** — fine-tune the scheduling by selecting a specific day of the month, for example every 15th of the month.

11. Click **Preview** to display the scheduling in the **Preview** data window.

    Tip

    - You can also fine-tune the scheduling by editing the PM dates in the **Preview** data window. Click on the required PM date and modify the date as needed. All the changes will be implemented after you click **Generate**.

12. Click **Generate** and then click **Close**.

13. Go back to the **Maintenance Activities Summary** window by selecting it from the **Window** menu.

14. In the **Maintenance Activities Summary** window, click  to display the new PM records that you have just scheduled for selected instruments.

Extending Existing Scheduling

This option allows you to extend the existing scheduling of maintenance for a selected tag.

➢ **To extend the existing scheduling of maintenance**

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, filter the records as needed.
3. Highlight the required row in the **Preventive Maintenance** data window and do one of the following:
   - On the **Actions** menu, click **Extend**.
   - Click  .
4. In the **Extend Scheduling** dialog box, do the following:
   a) In the **Take scheduling data from** group box, select one of the following:
      - **Last preventive maintenance activity** — fetch the scheduling data from the last PM activity.
      - **Preventive maintenance code defaults** — fetch the scheduling data from the PM codes.

   b) In the **Limit scheduling by** group box, select one of the following:
      - **Date** — limit the scheduling by date. Use the spinner to set the required date.
      - **Number of activities** — limit the scheduling by the number of activities. Enter the number of activities in the field provided.
5. Click **Generate**.
6. Click **Close** after the record generation is complete.

Entering Preventive Maintenance Details

Once preventive maintenance has been scheduled, the repair technician can enter the PM details and create a work request if that activity has failed. The technician can indicate the starting and the completion dates, the service and the down time, enter the maintenance results, failure reason if needed, and the repair action. Note that if a value is not available in any of the lists in the **Work Activity Details** window, you can access the required supporting table on the **Table** menu.

➢ To enter preventive maintenance details

1. Start the Maintenance module.
2. In the **Maintenance Activities Summary** window, filter the records that you want to display.
3. Highlight the required row in the **Preventive Maintenance** pane and do one of the following:
   - On the **Actions** menu, click **Open**.
   - Click  .
4. In the **Work Activity Details** window, from the **Work Status** list, select the required work status if you need change the displayed one.

    **Note**

   - The following parameters in this window are not accessible to the repair technician and can be modified only by the maintenance supervisor: **PM code**, **Priority**, **Created by**, **Creation Date**, **Last preventive maintenance**, **Interval**, and **Frequency**.
5. Assign the required work group by selecting the required option from the **Maintenance staff (scheduled)** list.
6. Modify the automatically generated work order number if required.
7. Modify the scheduled date if needed.
8. Enter the start and completion dates, service and down time.
9. From the **Maintenance staff (actual)** list, select the repair technician.

10. Select the required PM result from the **Results** list.

11. If the maintenance result is Failed, select the failure reason and repair action.

    Note

    - The Failure reason and Repair action lists are available only if the maintenance result is Failed.

12. Type any additional notes you might require in the **Note** data window.

13. Select the **Calibration Required** check box and click  to open the **Calibration Data Entry** window where you enter the required calibration values. Note that the **Calibration Data Entry** window is accessible only if you have entered appropriate calibration settings for the selected instrument before entering PM activity details.

14. To change the work status, select the required option from the **Work status** list.

15. Click  and create a work request if needed.

    Click Yes when prompted for SmartPlant Instrumentation to create a work request automatically.

    Tip

    - SmartPlant Instrumentation prompts you to create a work request when a maintenance activity fails. This happens when you select Failed from the **Results** list in the **Work Activity Details** window.

16. Click Close the **Work Activity Details** window to return to the **Maintenance Activities Summary** window.

Associating Tag Category, Criticality, and Quality System

You can associate a selected instrument with several tag categories and one instrument criticality.

You can associate instruments that require preventive maintenance with either Process Safety Systems or Quality Systems. For example, if an instrument is used for custody purposes, it can be defined as a Quality System.

➢ To associate an instrument with tag categories and instrument criticality

1. Open an Instrument Index Standard Browser view.

2. In the browser view, right-click an instrument, and on the shortcut menu, point to **Tag Number Activities** and click **Associate Categories and Criticality**.

   Tip

   - Note that you have to select one tag number only as this association works per instrument.

3. To associate the desired categories with the selected tag, do one of the following:

   - Drag a category from **Unassociated Categories** to **Associated Categories**.
   - Click a category in the **Unassociated Categories** data window and then click  .

   Tip

   - You can associate the selected tag number with as many categories as you require. To add more values to the **Unassociated Categories** list, in the **Instrument Index Module** window, on the **Tables** menu, click **Instrument Criticality**.

4. To dissociate categories from the currently selected tag, do one of the following:

   - Drag a category from the **Associated Categories** data window to the **Unassociated Categories** data window.
   - Click a category in **Associated Categories** and then click  .

5. From the **Criticality** list, select a value to associate the current instrument with a criticality setting.

6. Select the **Quality System** check box to associate the currently selected tag with a Quality System (ISO).

7. Click **OK**.

Breakdown Maintenance

Performing Breakdown Maintenance

You create new work requests or repair forms from the Instrument Index module. These procedures depend on the level of access rights granted to you (see Access Rights in the Maintenance Module for details). Once a new work request or a repair form has been created, it can only be accessed from the Maintenance module **Maintenance Activities Summary** window. The maintenance supervisor can review the work requests and use them to create repair forms. The repair form indicates the work request number that was used to create it. The repair form also includes the problem description. At this stage, it is also possible to indicate that calibration is required. The supervisor then schedules this work for a certain date and assigns the work group that will deal with it. The status of the job at that point is Scheduled.

After the maintenance work is carried out, the technician responsible for it can fill in the rest of the repair information, and change its status to Done or close it. You can customize additional statuses such as Hold, Turnaround, and so forth to cope with situations and that comply with the conventions at your plant.

Note also that it is recommended to set the required Quality System and Criticality prior to starting the Maintenance module.

The following is the recommended flow of activities for breakdown maintenance:

1. Start the Instrument Index module and open an Instrument Index Standard Browser view.

2. Select the required instruments (tag numbers) for which you want to enter work requests and start the Calibration module.

3. If the instruments require calibration, enter the required calibration settings for the selected tag numbers. (For details, see Defining Calibration Settings.)

   Caution

   - Failure to define the calibration settings prior to starting the Maintenance module results in the inability to enter the calibration values when completing a Repair Form. (The **Calibration As Found/As Left** dialog box will not be accessible.) Therefore, it is essential that you enter the calibration settings for the selected tags before you open Work Requests from the Instrument Index Standard Browser view.

4. Go back to the Instrument Index Standard Browser view and right-click the selected tags.

5. Associate the required tag category and criticality as needed.

6. In the browser view, right-click the selected tags and on the **Maintenance** menu, click the **Repair Form** or the **Work Request Form** option.

7. Enter the required repair or work request values.

8. Start the Maintenance module to complete the entry of the required repair or work request values.

Issuing a New Work Request

You can issue new work requests only from the Instrument Index Standard Browser view or from the **Work Activity Details** window if the activity result was Failed. This option is on the lowest access rights level and there are no restrictions on its access. Note that some options are not available – see Access Rights in the Maintenance Module for details.

➢ To issue a new work request

1. Open an Instrument Index Standard Browser view.
2. Select the required tag number for which you want to issue a work request.

   Caution

   - Do not select multiple tag numbers in the browser view. This option is available for single instruments only.

3. Right-click the selected tag to open a shortcut menu. Point to **Maintenance** and click **Create Work Request**.
4. In the **Create Work Request** dialog box, modify the work request number if needed – the software fills in the values automatically.
5. Select the **Typical Instrument** and the **Work Request Reason** from the lists.
6. Type the required work request title.
7. Type the appropriate problem description if needed.
8. Click **Save** and then **Close** to return to the browser view.

   Note

   - You cannot generate a repair form in this case.

Opening a Work Request

You can open work requests from an Instrument Index Standard Browser view or from the **Maintenance Activities Summary** window. However, you can issue new work requests only from the Instrument Index Standard Browser view or from the **Work Activity Details** window if the activity result was Failed. It is recommended that you create a new work request from the browser view and then open this new work request record in the **Maintenance Activities Summary** window. Due to the access rights restrictions, some of the work request features are disabled if accessed from the browser view.

If you have been granted full access rights and you are the maintenance supervisor, you can first issue a new work request in the Instrument Index Standard Browser view and then open it in the **Maintenance Activities Summary** window. This enables you to create a repair form. Repair form creation is not available when issuing a new work request, which is only possible from the **Maintenance Activities Summary** window. It is not possible to create a repair form from the work request because all work requests have to be reviewed by the supervisor.

When you issue or open a work request, SmartPlant Instrumentation automatically assigns this record a work request number that you can modify if needed.

➢ To open an existing work request

1. In the **Maintenance Activities Summary** window, filter the records as needed.

2. In the **Work requests** pane, select the required records and click  .

   Note

   - All work requests have the **WR** notation preceding the work request number.

3. In the **Work Request** window, modify the work request number and title if needed — these are filled in automatically by SmartPlant Instrumentation. If you leave the **Word request title** field blank, the software fills it after you select a typical instrument and a work request reason.

4. Modify or select the typical instrument and the work request reason from the lists. If the required option is not on the list, on the **Tables** menu, click **Typical Instruments** or **Work Request Reasons** as needed.

5. Type the appropriate problem description if needed.

6. To generate a repair form, on the **Actions** menu, click **Repair Form**.

   Notes

   - This option is not available if you opened the **Work Request** dialog box from an Instrument Index Standard Browser view.

   - This option is accessible only if you have been granted the appropriate access rights.

7. Click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.

Creating Repair Forms

You can issue a new repair form from an Instrument Index Standard Browser view. This can be done by a repair supervisor with appropriate access rights. (See Access Rights in the Maintenance Module for details.) Note that the repair options are not available at this stage. Subsequently, you can open this repair form from the **Maintenance Activities Summary** window where you can fill out the repair options.

Also, it is possible to create a new repair form from the **Work Request** window when opening a work request from the **Maintenance Activities Summary** window (see Opening a Work Request for details). You can then open the newly created repair form from the **Maintenance Activities Summary** window.

➢ To create a new repair form

1. Open an Instrument Index Standard Browser view.
2. Select the required tag number for which you want to issue a work request.
3. Right-click the selected tag to open a shortcut menu. Point to **Maintenance** and click **Repair Form**.
4. In the **Repair (scheduled)** group box of the **Repair Form** window, modify the scheduled date and the work order number if necessary.

   Note

   - The **Repair (actual)** options are not available at this stage. The **Repair** options contain the actual work order information.
5. Select a work request reason from the list. If the required option is not available in the list, click the required option on the **Tables** menu.
6. Type the work request title and the problem description.
7. Set the repair priority by selecting the required option from the **Priority** list.
8. From the **Maintenance staff (scheduled)** list, select the appropriate work group from the list or accept the displayed one. If the required option is not available, click the required option on the **Tables** menu.
9. Click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.

In due time, a repair technician can open this repair form from the **Maintenance Activities Summary** window and fill out the information under **Repair (actual)**.

Note

- A repair form that you create from a work request retains **WR** identification number.

Filling Out Repair Forms

The following procedure describes how to fill out a repair form.

Note

- To add entries to supporting tables that you need below, on the **Tables** menu, click the relevant menu command.

➢ To fill out a repair form

1. In the **Maintenance Activities Summary** window, filter the records as needed.
2. In the **Repairs** pane, select the required records and click .
3. In the **Repair (scheduled)** group box of the **Repair Form** window, do the following:
   a) Update the work status from the **Work Status** list.
   b) Modify other values as needed.
4. In the **Repair (actual)** group box, set the start and completion dates.
5. Set the down and repair time.
6. To perform calibration, do the following:
   a) Select the **Calibration required** check box.
   b) On the **Actions** menu, click **Calibration**.
   c) Follow the calibration flow of activities.
7. From the **Maintenance staff (actual)** list, select the person who is assigned to carry out the repair.
8. From the **Failure reason** list, select the failure reason of the instrument
9. From the **Outcome** list, select the required item that describes the effect of the current failure, for example partial or complete unit shutdown, and so forth.
10. From the **Repair Action** list, select the value that describes what action has been taken to repair the failure.
11. In the **Comments** data window, type a brief comment if needed.
12. When done, click **Save** and then **Close** to return to the **Maintenance Activities Summary** window.