

ERP - PROJECT

SUGMAYA

END USER DOCUMENT

FOR

PLANT MAINTENANCE

CALIBRATION MAINTENANCE

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1 DOCUMENT CONTROL

This is a controlled document and will be maintained on UJVNL portal.

Changes to this document will be recorded below and must be published to all interested parties.

1.1 DOCUMENT HISTORY

Version	Date	Author	VERSION DETAILS
V01	06-02-2018	Nimish Agrawal	First ISSUE

1.2 DISTRIBUTION

Date	Name	Purpose
	Mandeep Singh	For Information
	Brijesh Yadav	For Information

2 PROCESS OVERVIEW: CALIBRATION MAINTENANCE

The Calibration Maintenance process shall consist of the following major activities:

- Creation of Calibration Task Lists
 - Creation of Calibration Maintenance Plan
 - Scheduling of Calibration Maintenance Plan
 - Processing of Call Object
 - Result recording for inspection lot
 - Usage Decision
1. Task list is created including **inspection characteristics** for the technical object whose maintenance plan should be created for proper planning and execution of calibration activities.
 2. Maintenance plan is created by choosing plan category based on what should be the call object (e.g. Notification or Maint. order) of plan. Based on what is the frequency of maintenance, cycle time is given to the plan. If plan is counter based then the measurement counter number for the individual equipment/functional location will be maintained in plan. Respective reference object and task list is assigned to the maintenance plan. The call object is "order" & Order type ZM06: Calibration Maintenance will be maintained in plan.
 - A **single cycle plan** is the simplest form of maintenance plan. Create a single cycle plan and define exactly one time-based or performance-based maintenance cycle, in which it is needed to specify the interval at which all the tasks of maintenance plan should be executed. It might be used, for example, for the 6-monthly maintenance of a DG Set or for the preventive maintenance of a Generator after every 2,000 running hours.
 - In contrast, **strategy plans** are used to show complex maintenance cycles. We create a strategy plan and assign a maintenance strategy in which we define the different maintenance cycles of the strategy (called as Packages) to be used. For example, it makes sense to use a strategy plan if different maintenance tasks for a Control oil station are due in different cycles: oil check every 2000 running hours and oil change every 4000 running hours.
 - In time based strategy plan, we can plan maintenance item for Weekly, Monthly, Quarterly or Half Yearly maintenance activities for total period of the plan
 3. Maintenance plan is scheduled so that the planned dates and call dates are displayed based on the scheduling parameters maintained in plan.
 4. The call object is generated based on call horizon and planned date. Order will be processed in usual manner. Calibration order can be created in 2 ways
 - Direct creation
 - Automatic creation from scheduling of Maintenance Plan
 5. Applying permit(s) for work if required
 6. Release of order by authorized person/supervisor in maintenance dep't. **Inspection Lot** will be generated in the order after release.
 7. Issuing of permit(s) by Operation dep't or concerned agency
 8. Issue of materials from store.
 9. Execution of work at site by internal manpower and/or external agency.
 10. Work Completion (WOCO) of maintenance order, which denotes permit cancellation request in system.
 11. Return of permit(s) by Maintenance and closing of the same by Operations
 12. Untagging/Normalisation of Isolations by operations dep't
 13. Result recording will be done for the generated inspection lot
 14. Usage decision (UD) will be given to accept the result recording
 15. Time confirmation of order operations (internal) by maintenance dep't

- 16. Completion of tasks in notification and subsequently Notification completion (NOCO)
- 17. Technical Completion (TECO) of order.
- 18. Month-end settlement of Maintenance order by F&A dep't.

Icons:

	Caution
	Note

Abbreviations:

PM	Plant Maintenance
MTP	"Maintenance Planning" group in the Plant
WCM	Work Clearance Management
WAP	Work Approval
WCA	Work Clearance Application
WCD	Work Clearance Document
PTW	Permit to Work

3 CREATE CALIBRATION TASK LIST

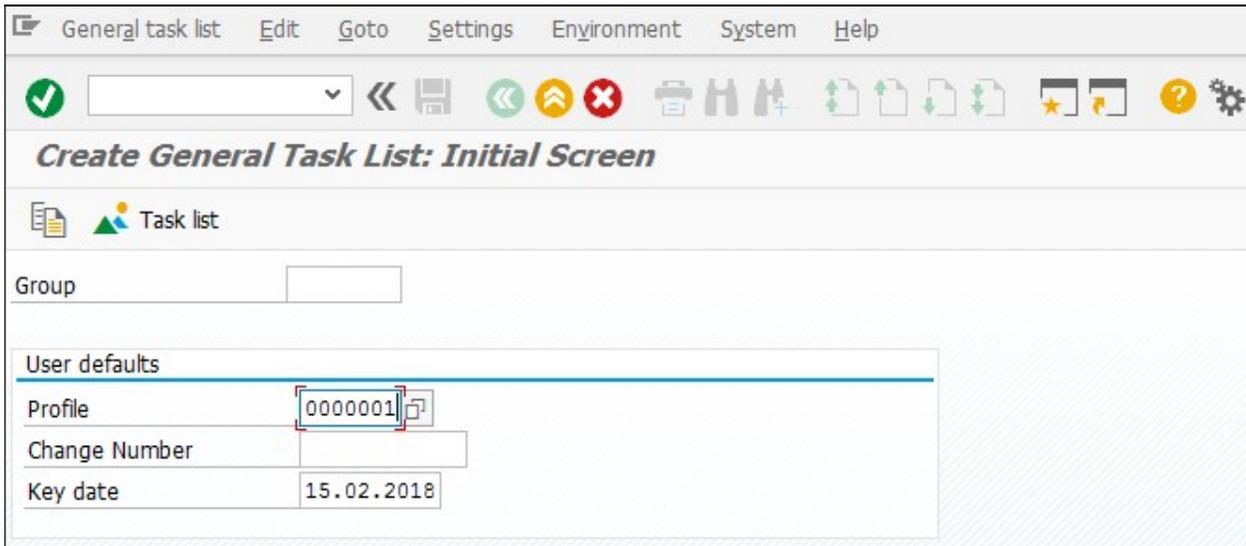
Maintenance task lists describe a sequence of individual maintenance activities which must be repeatedly performed within a company. They are used to standardize repetitive work processes, to plan them more effectively, and to save time when creating maintenance orders and maintenance plans.

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Work Scheduling → Task Lists → For Functional Location
Transaction Code	IA01

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Work Scheduling → Task Lists → For Equipment
Transaction Code	IA11

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Work Scheduling → Task Lists → General Maintenance Task Lists
Transaction Code	IA05

On running IA05, we get the initial screen as shown below:



Step No	Field Name	Description	User Action and Values
1	Group	Key identifying a task list group.	Leave blank
2	Profile	A profile is a collection of default values and settings for task list maintenance. You will need the information entered in the profile time and again when maintaining routings or standard networks.	
3	Change Number	Number used to uniquely identify a change master record.	
4	Key Dates	Date on which the standard task list is edited or displayed. All objects (for example, header or operation) that are valid on this key date are displayed.	Default Value
5	Equipment no	Equipment no in case of equipment task list	Enter the Equipment No.
6	Functional location	Functional location code in case of FL Task lists	Enter the Functional location



Press "Enter" key or select "Enter" icon . Create General Task List: Header General view screen is open

General task list Edit Goto Task list header Extras Environment System Help

Create General Task List: Header General View

Group 25 Calibration of RTD

Group 25

Group Counter 1 Calibration of RTD

Planning plant 1305

Assignments to Header

Work center E&M_PH1 / 1305 ELECTRICAL MAINTENANCE-1

Usage 4 Plant maintenance

Planner group

Status 4 Released (general)

System Condition

Maintenance strategy

Assembly

Deletion flag

QM Data

Inspection points 300 Inspection point for equipment

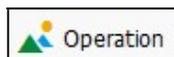
Ext. numbering

Inspection point should be entered for calibration task lists

Step No	Field Name	Description	User Action and Values
1	Group	If a group contains several standard task lists, they are identified by a group counter. Key identifying a task list group.	System Generated number
2	Group Counter	This key and the task list group uniquely identify a standard task list.	System Generated number
3	Task list description	Description of task list. Long text is possible. The text is transferred to the first line of the long text for the task list.	Enter a description
4	Plant	Number uniquely identifying a plant.	Default Value
5	Work Center	Key identifying the work center. Work center responsible for the completion of the maintenance tasks.	Select from List Enter the work center
6	Work Center Plant	Number which clearly identifies the maintenance plant. The plant that the work center belongs to.	Enter the plant code
7	Usage	Key specifying the areas in which the standard task list can be used (for example, in production or plant maintenance).	Select from List. Usage 4 will limit the usage to only Plant Maintenance
8	Planner Group	Key which identifies the planner group responsible for maintaining the standard task list.	Select from List. Enter a planner group within the maintenance plant
9	Status	You use the status key to indicate the processing status of a standard task list. For example, you can indicate whether the task list is still in the creation phase or has already been released.	Select from list. To assign a task list to an operation status must be released.
10	System Condition	Key for the system condition of an operational system	Select from List
11	MaintStrategy	Key identifying a preventive maintenance strategy	Select from list
12	Assembly	Number which uniquely identifies an assembly	Select from List
13	Deletion Flag	You use this indicator to specify that the task list will be deleted with a deletion program during the next archiving run if you selected deletion flags as a selection criterion for the archiving run. You can reset the deletion flag any time before the next archiving run.	Check Box. Enter only if planned to be deleted.
14	Inspection points	Set this indicator if you desire to use the task list to process the task based on inspection points. Enter 300 for Equipment specific and 310 for Functional location specific calibration task list	Enter the inspection point field combination.



If the inspection point number is not given in the task list header, then no inspection lot will be generated in the maintenance order.



After entering the values press Operations Button, enter the following data

Create General Task List: Operation Overview

Group 25 Calibration of RTD Grp.Countr 1

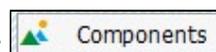
General Operation Overview

Act	SOp	Work ctr	Plnt	Ctrl	Operation Description	LT	Work	Un.	No.	Duration	Un.	C Pct	Int. distr	Fac	ActTyp
0010		E&M_PH1	1305	WCM	Obtain Permit	<input type="checkbox"/>								1	
0020		E&M_PH1	1305	PM01	Perform Calibration	<input type="checkbox"/>	2	H	1	2	H	2	100	1	

Step No	Field Name	Description	User Action and Values
1	Act	Number that identifies an activity.	System generated
2	SbOp	Number which identifies the sub-operation of an operation.	Insert operation if required
3	Work ctr	Key identifying the work center. Work center responsible for the completion of the maintenance tasks.	Defaults from previous screen
4	Plnt	Maintenance plant. The plant is a place where technical objects are installed and maintenance activities are done.	Will default from planning plant in the header data screen
5	Ctrl	Key specifying the business transactions to be carried out for the respective object of a standard task list or an order, such as scheduling or costing.	Select from list. PM01 for internal operations PM03 for external services and WCM for issuing permit.
6	Description	First line of the descriptive text.	Enter meaningful operation
7	LTx	Long Text	Check Box Indicates long text exists
8	Work	Amount of work involved in carrying out the activity.	Numeric entry. It will be calculated automatically based on the number of capacity and duration
9	Un.	Unit for work. (May default based on profile). Usually "H" (hours) is used.	Select from list.
10	No	Number of the capacity required of the capacity category to carry out the operation.	Numeric entry. Enter the number of persons, or leave blank.
11	Duratn	The normal duration required to carry out the activity.	Numeric entry. Enter the duration of the operation
12	Un.	Unit for work. (May default based on profile). Usually "H" (hours) is used.	Select from list.

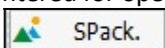
13	Calc	Calculation key for duration, work or number of required capacities in the activity.	Select from list
14	Fct	Number of times the processing of an operation or sub-operation is repeated during order processing.	Numeric input
15	Std txt	Key which identifies text that is frequently used to describe processes (for example, turning or milling).	Select from list
16	C	Key for the system condition of an operational system	Select from list

For entering material select the operation and press the “Components Button”



Step No	Field Name	Description	User Action and Values
1	Material	Enter the material code of the material required	Leave blank
2	Quantity	Enter the quantity Required	

Services can be entered for operation for which control Key PM03 has been entered by pressing the “Service Package” Button



Step No	Field Name	Description	User Action and Values
1	Service No	Enter the service no of service required.	
2	Short Text	Comes default if Service no is entered.	
3	Quantity	Enter the quantity	
4	Unit	Units are copied if service no is entered. If not Enter the units	

If Strategy is entered in the header area maintenance packages can be assigned for individual operation. Click the “Mntpack” (maintenance Package) button and tick the package required for an operation.

Inspection characteristics need to be maintained for each operation by selecting the operation number and choosing the button



Create General Task List: Operation Overview

Group 25 Calibration of RTD Grp.Count1

Act	SOp	Work ctr	Plnt	Chk	Operation Description	LT Work	Un. No.	Duration	Un. C	Pct	Int	distr	Fac	ActTyp	StTex...
0010	E&M_PH1	1305	WCM		Obtain Permit								1		
0020	E&M_PH1	1305	PM01		Perform Calibration	2	H 1	2	H	2	100		1		
0030	E&M_PH1	1305	PM01												
0040	E&M_PH1	1305	PM01												
0050	E&M_PH1	1305	PM01												
0060	E&M_PH1	1305	PM01												
0070	E&M_PH1	1305	PM01												
0080	E&M_PH1	1305	PM01												
0090	E&M_PH1	1305	PM01												
0100	E&M_PH1	1305	PM01												
0110	E&M_PH1	1305	PM01												
0120	E&M_PH1	1305	PM01												
0130	E&M_PH1	1305	PM01												
0140	E&M_PH1	1305	PM01												
0150	E&M_PH1	1305	PM01												
0160	E&M_PH1	1305	PM01												
0170	E&M_PH1	1305	PM01												
0180	E&M_PH1	1305	PM01												

Components Rel PRT SPack. **Insp.C...** Entry 1 / 2

Select the line

Click on this button

Create General maintenance task list: Characteristic Overview

Group 25 Calibration of RTD Grp.Count1

Activity 0020 Perform Calibration

Char. Preset...	Qn	QI	Master i...	Plant	Version	R..	Short text insp.char	Lo...	To...	Method	Ins...	Version	Samplin...	S...	Base ...	SPC criterion	M... Te...
10		<input checked="" type="checkbox"/>	TEMP	1305	1		WINDING TEMPRATURE						PM		1.00		
20		<input type="checkbox"/>		1305							1305				1.00		

Click button to save Task List ✔ General task list 25 saved

System will give a message in the message bar that your Task List saved as shown above

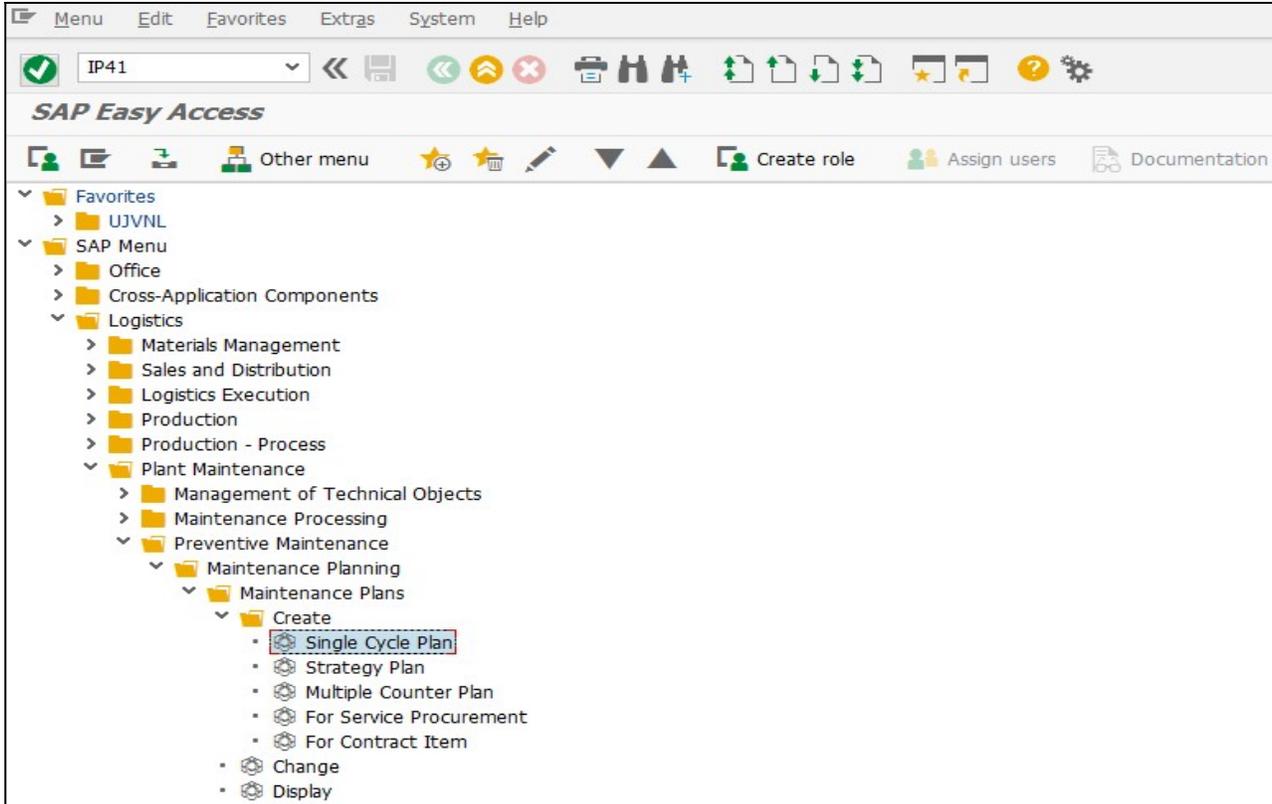
The creation procedure of equipment and functional location task lists will be like general maintenance task list, the difference being that in the Header the FunctLocation code will be entered for FunctLocation task list and equipment code will be entered for equipment task list

Sampling procedure PM/QM1 has sample size 1, i.e. 1 reading will be entered for each characteristic.

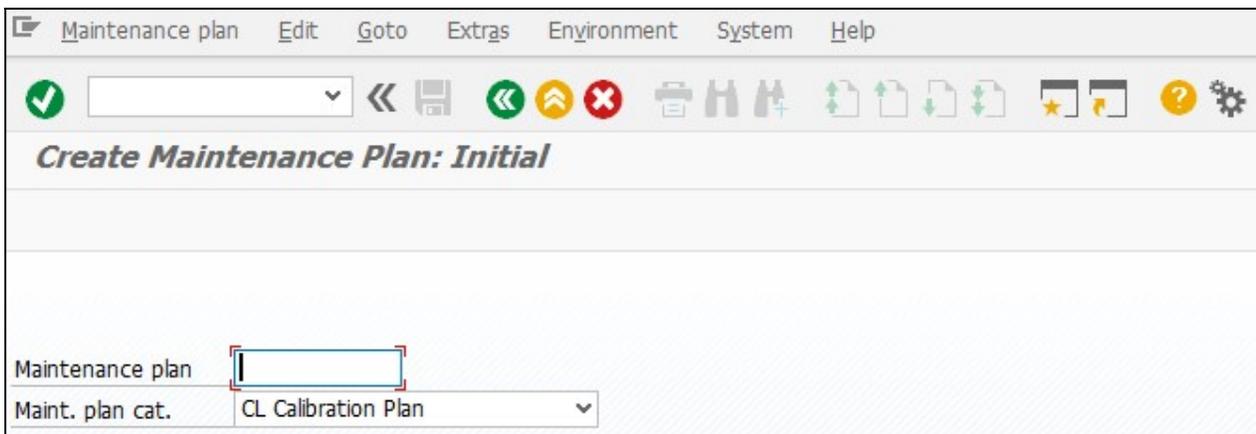
4 MAINTENANCE PLANS

Maintenance plans merge the records of specific strategies, task lists, items and measuring points (when necessary) to generate a recurring maintenance schedule for the resultant orders/notifications which are copied from the task lists.

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Maintenance Planning → Maintenance Plans → Create → Single cycle plan
Transaction Code	IP41



On running IP41, we get the initial screen as shown below:



Step No	Field Name	Description	User Action and Values
1	Maintenance plan	The number assigned to this maintenance plan to locate it within SAP	Unless external number assignment is being used, this field will be automatically filled in when the record is saved. Internal Numbering
2	Maint. plan cat	Determines what document will be created by the maintenance call	Select the maintenance plan category. Choices are orders, notifications.

Press "Enter" key or select "Enter" icon . Create Create Maintenance Plan: Single Cycle Plan Master Data screen will open

Item | Object list item | Item location

Maintenance Item | Maint. Plan for Calibration

Reference object

Functional loc.	1305-COM-AICR-AICS	AIR CONDITIONING SYSTEM
Equipment	11000742	COMPRESSOR-1 OF AIR CONDITIONER -1
Assembly		

Planning Data

Planning plant	1305 Khatima	Maint. Planner Group	001 OPH & ELE Maint
Order Type	ZM06 Calibration order	MaintActivityType	
Main WorkCtr	E&M_PH2 / 1305 MECHANICAL MAIN...	Business Area	
Priority		Settlement Rule	
Sales Document			

Task List

Typ	Task LstGrp	GrpCr	Description
A	/ 25	/ 1	Calibration of RTD

Step No	Field Name	Description	User Action and Values
1	Maintenance plan	A concise description in the header for the maintenance plan	Enter a description of the plan.
2	Cycle/Unit	The cycle length or frequency which the plan will be based on. A basic label to describe the numeric data in a field	Enter a number for the cycle length and select a unit of measure
3	Cycle text	A concise description of the cycle	Add a free text description
4	Offset/unit	A one-time waiting period before starting the cycle length of the package	Enter a number to be multiplied by the strategy unit, which the plan will wait before the first order will be automatically called
5	Counter	A performance monitoring gauge attached/linked to a piece of equipment or functional location	Enter a counter number which is linked to the reference object.
6	FuncnLocation	Functional Location Identifier of technical object assigned to plan	Enter Functional Object Identifier
7	Equipment	Equipment Identifier of technical object assigned to plan	Enter Equipment Identifier
8	Assembly	Assembly Identifier of technical object assigned to plan	Enter Assembly Identifier
9	Planning plant	Identifier for Plant where technical objects and planning object are defined	Enter Planning Plant if different from default from technical object
10	Planner group	Identifier for persons responsible for maintaining plan profiles	Enter Planner Group if different from default from technical object

11	Order type	Identifier for Order type. Different order types may have different options	Enter Order Type if different from default from technical object
12	MaintActivityType	Identifier for Maintenance Activity Type	Enter Maintenance Activity Type if different from default from technical object
13	Main WorkCtr	Identifier for Work Center which has responsibility for maintenance of technical object	Enter Main Work Center if different from default from technical object
14	(Main WorkCtr) / Plant	Identifier for Plant that Main Work Center is assigned to	Enter Main Work Center Plant if different from default from technical object
15	Business area	Identifier for Business Area organizational unit	Enter Business Area if different from default from technical object
16	Priority	Importance level for processing	Enter Priority if different from default from technical object
17	Task list / General task list	Section Header	Select the Task List to be assigned to orders via this plan
18	Object list item	Tab Strip	Used to assign multiple technical objects to the plan
19	Item Location	Tab Strip	Displays location information of technical objects

The screenshot shows the SAP 'Create Maintenance Plan: Single cycle plan' configuration interface. The main title is 'Create Maintenance Plan: Single cycle plan'. Below the title, there are tabs for 'Maintenance plan cycle', 'Maintenance plan scheduling parameters', and 'Maintenance plan additional data'. The 'Maintenance plan scheduling parameters' tab is active. It contains several input fields and sections:

- Date determination:** Shift Factor Late Compl. (input field), Tolerance (+) (input field), Shift Factor Early Compl. (input field), Tolerance (-) (input field), Cycle modification factor (input field, value: 1.00), Factory calendar (input field, value: IN).
- Call control parameter:** Call horizon (input field, value: 90), Scheduling period (input field, value: 365, unit: DAY), Completion Requirement (checkbox, unchecked).
- Scheduling indicator:** Radio buttons for Time, Time - key date (selected), and Time - factory caldr.
- Start scheduling:** Start of cycle (input field, value: 15.01.2018).

Step No	Field Name	Description	User Action and Values
1	Maintenance plan scheduling parameters	Tab Strip	
2	SF later confirmation	Modifies future scheduled call dates by the indicated percentage should the completion of the original call date is late by more than the tolerance	Accept the default or modify
3	Tolerance (+)	The percentage work can be completed in advance of the scheduled call date and not change shift the call dates of future work	Accept the default or modify
4	SF earlier confirmation	Modifies future scheduled call dates by the indicated percentage should the completion of the original call date be earlier by more than the tolerance	Accept the default or modify
5	Tolerance (-)	The percentage work can be completed after the scheduled call date and not change shift the call dates of future work	Accept the default or modify
6	Cycle modification factor	Used in maintenance plans, it allows the planner the ability to multiply cycle length of all the packages used in the plan by a certain factor to make the maintenance show up more or less frequently.	Accept the default or modify
7	Call horizon	Call horizon is how much of the cycle length you want to wait before the system creates the next order automatically	Accept the default or modify
8	Scheduling Period	Used to determine the length of time for which the system creates maintenance calls during scheduling of a maintenance plan.	Accept the default or modify
9	Requires confirmation	The next call is generated only when the previous one has been closed.	Put a check in the box if this is desired.
10	Time	A maintenance strategy based on the 12-month calendar. Ex: A 30-day maintenance package will be due every 30 days, 7/1, 7/31, 8/29, etc	Accept the default or modify. Used with time based plans
11	Time-key date	A maintenance strategy based on the 12-month calendar, which allows the planner to select a specific date the maintenance will be performed on, regardless of the day of the week. Ex: every 20th of the month.	Accept the default or modify. Used with time based plans
12	Time-factory caldr	A maintenance strategy based on the 12 months calendar which only takes working days into consideration. Ex: A 30-day maintenance package will have maintenance due ever 30 working days (usually 6 calendar weeks)	Accept the default or modify. Used with time based plans

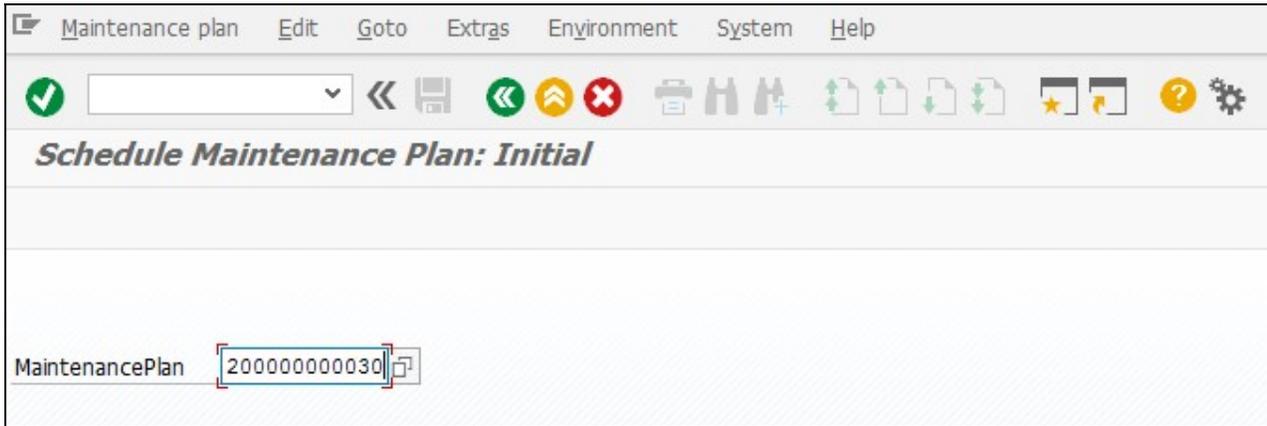
Click  button to save Maintenance Plan  System will give a message in the message bar that your Maintenance Plan created as shown above.

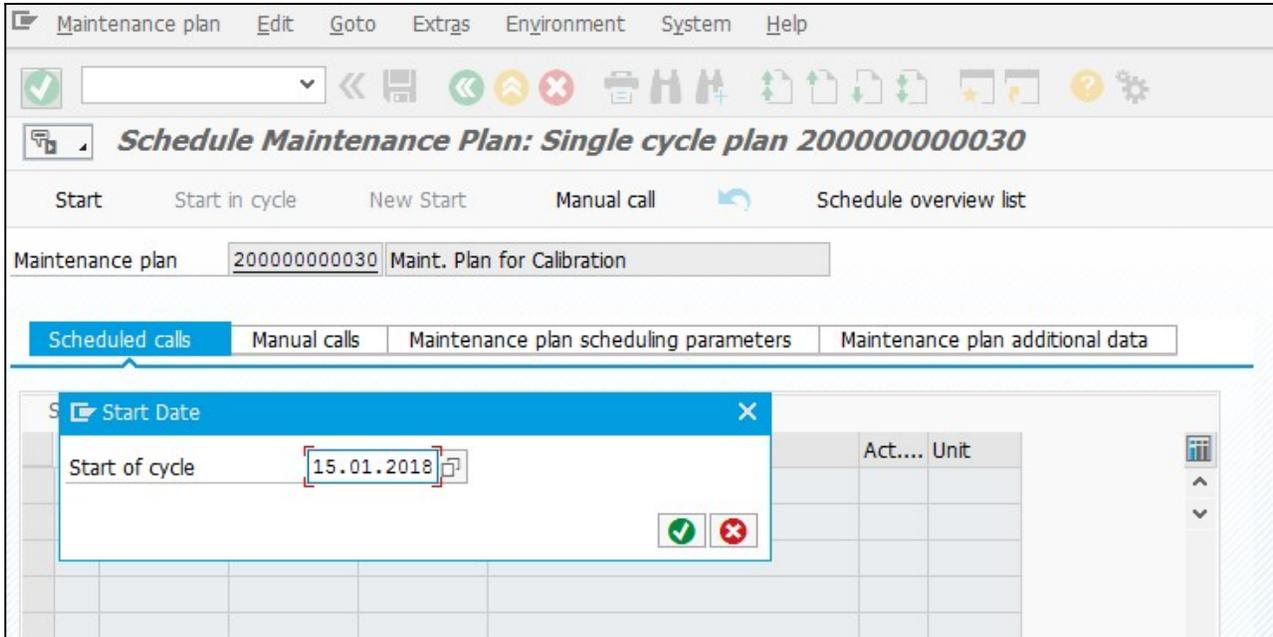
5 SCHEDULING OF MAINTENANCE PLANS

To generate call objects (Maintenance orders/Notifications) the plan needs to be scheduled

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Maintenance Planning → Scheduling for Maintenance Plans → Schedule
Transaction Code	IP10

Step No	Field Name	Description	User Action and Values
1	Maintenance plan number	Enter the maintenance plan number	





Step No	Field Name	Description	User Action and Values
1	Start of cycle	Enter the start date from which the maintenance plan needs to be scheduled	Enter a suitable date. The maintenance plans are scheduled from this start date.

The Start of cycle date is defaulted from maintenance plan. It can be changed if required.

Press to continue.

A list is displayed with all the plan dates and call dates as per the settings in maintenance plan for the entire duration of Scheduling period (1 year in our case).

C...	PlanDate	Call date	Completio...	Scheduling Type / Status	Act....	Unit
1	15.02.2018			New start: Save to call		
2	15.03.2018	12.03.2018		Scheduled Hold		
3	15.04.2018	12.04.2018		Scheduled Hold		
4	15.05.2018	12.05.2018		Scheduled Hold		
5	15.06.2018	12.06.2018		Scheduled Hold		
6	15.07.2018	12.07.2018		Scheduled Hold		
7	15.08.2018	12.08.2018		Scheduled Hold		
8	15.09.2018	12.09.2018		Scheduled Hold		
9	15.10.2018	12.10.2018		Scheduled Hold		
10	15.11.2018	12.11.2018		Scheduled Hold		
11	15.12.2018	12.12.2018		Scheduled Hold		
12	15.01.2019	12.01.2019		Scheduled Hold		



The list of calls as per cycle length is displayed with status as **Scheduled Hold** which signifies that the plan is scheduled but the date on which the call object (Order or Notification) is to be generated is in future.



The call for which Call Date has arrived is shown in above image
The call object (order or notification) is generated as soon as save button is clicked.

Important Icons:



- **Manual release** of a call -This can be used to release a call object i.e. to call an order or a notification whose date lies in the future and is still on hold and provided that the previous call has occurred.



- **Fix call** - This functionality can be used to fix a call for a date, provided the previous call has occurred. The fixing can only be done between the previous call date and next call date.



- **Skip call** -This functionality can be used to skip a call which is on hold provided the previous call is released or skipped or called.

Click  button to save the scheduling of Maintenance Plan

 Maintenance plan 200000000030 scheduled

System will give a message in the message bar that your Maintenance Plan schedule as shown above.

The scheduling status displays the status as Called i.e. the maintenance order has been called.

C...	PlanDate	Call date	Completio...	Scheduling Type / Status	Act...	Unit
1	15.02.2018			New start Called		
2	15.03.2018	12.03.2018		Scheduled Hold		
3	15.04.2018	12.04.2018		Scheduled Hold		
4	15.05.2018	12.05.2018		Scheduled Hold		
5	15.06.2018	12.06.2018		Scheduled Hold		
6	15.07.2018	12.07.2018		Scheduled Hold		
7	15.08.2018	12.08.2018		Scheduled Hold		
8	15.09.2018	12.09.2018		Scheduled Hold		
9	15.10.2018	12.10.2018		Scheduled Hold		
10	15.11.2018	12.11.2018		Scheduled Hold		
11	15.12.2018	12.12.2018		Scheduled Hold		
12	15.01.2019	12.01.2019		Scheduled Hold		

To display the maintenance order selects the line and below a display icon  can be used to display the order.

Maintenance plan Maint. Plan for Calibration

Scheduled calls | Manual calls | Maintenance plan scheduling parameters | Maintenance plan additional data

C...	PlanDate	Call date	Completi...	Scheduling Type / Status	Act....	Unit
1	15.02.2018			New start Called		
2	15.03.2018	12.03.2018		Scheduled Hold		
3	15.04.2018	12.04.2018		Scheduled Hold		
4	15.05.2018	12.05.2018		Scheduled Hold		
5	15.06.2018	12.06.2018		Scheduled Hold		
6	15.07.2018	12.07.2018		Scheduled Hold		
7	15.08.2018	12.08.2018		Scheduled Hold		
8	15.09.2018	12.09.2018		Scheduled Hold		
9	15.10.2018	12.10.2018		Scheduled Hold		
10	15.11.2018	12.11.2018		Scheduled Hold		
11	15.12.2018	12.12.2018		Scheduled Hold		
12	15.01.2019	12.01.2019		Scheduled Hold		



In case a plan contains more than one item, the number of orders generated will be equal to the number of items in a maintenance plan.

The maintenance order Type-ZM06 has been generated on the due date.

Order Edit Goto Extras Environment System Help

Display Calibration order 60000081: Central Header

Work Approval

Order ZM06 60000081 Maint. Plan for Calibration

Sys.Status WCM CRID MANC NMAT PRC

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

Person responsible

PlannerGrp 001 / 1305 OPH & ELE Maint

Mn.wk.ctr E&M_PH2 / 1305 MECHANICAL MAI...

Message

Costs 0.00 INR

PMActType

SystCond.

Address

Dates

Bsc start 15.02.2018 00:00 Priority

Basic fin. 15.02.2018 00:00 Revision

Reference object

Func. Loc. 1305-COM-AICR-AICS AIR CONDITIONING SYSTEM

Equipment 11000742 COMPRESSOR-1 OF AIR CONDITIONER -1

Assembly

First operation

Operation Obtain Permit Cckey

WkCtr/Plnt E&M_PH1 / 1305 Ctrl key WCM Acty Type PRT

Work durtn 0.0 Number 0 Oprtn dur. 0.0 Comp.

Person. no 0

In the operations Tab, the operations are included in the order from the task list which was selected in the maintenance plan.

Order Edit Goto Extras Environment System Help

Display Calibration order 60000081: Operation Overview

Work Approval

Order ZM06 60000081 Maint. Plan for Calibration

Sys.Status WCM CRID MANC NMAT PRC

HeaderData Operations Components Costs Partner Objects Additional Data Location Planning Control

Act	SOp	Work ctr	Plant	Co...	StTextK	S...	Operation short text	L...	Actual work	Work	Un	N...	Dur.	Un	C.Key
0010		E&M_PH1	1305	WCM			Obtain Permit		0.000	0.0	0		0.0		
0020		E&M_PH1	1305	FM01			Perform Calibration		0	2H	1		2H	2	Calculate ...

The maintenance order can be processed in the same way as explained in Breakdown Process user manual

6 LIST EDITING OF MAINTENANCE PLANS

To display a list of maintenance plans.

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Maintenance Planning → Maintenance Plans → List Editing → Display
Transaction Code	IP16

Give the selection criteria based on which the plans need to be scheduled.

Display Maintenance Plan: Selection Criteria

Maint. plan selection

Maintenance Plan				
MaintPlanText		to		
Maintenance strategy		to		
Maint. plan cat.	CL	to		
MaintPlan sort field		to		
Measuring point		to		
AuthorizGroup		to		
Status included		to		
Status excluded		to		
Maintenance item assignments	<input checked="" type="radio"/> with or without <input type="radio"/> with <input type="radio"/> without			

Execute button (F8)

Press F8 key or click on execute button
List of all plans meeting this search criteria is displayed.

S	MntPlan	MaintPlan dscrptn	Strat.
	200000000000	Unit Testing1 for Calibration Maintenanc	
	200000000001	Maint. Plan for Calibration	
	200000000010	Maint. Plan for Calibration	
	200000000020	Maint. Plan for Calibration	
	200000000030	Maint. Plan for Calibration	



User specific maintenance plan list layout variant can be saved after setting the columns & their sequence. This way every time the user will get the plan list layout defaulted when he will execute the transaction IP16.

7 SCHEDULING OVERVIEW

Menu Path	SAP Menu → Logistics → Plant Maintenance → Preventive Maintenance → Maintenance Planning → Scheduling for Maintenance Plans → Scheduling Overview → List Display
Transaction Code	IP24

Maintenance item selection

Maint. plan cat.	<input type="text" value="CL"/>	to	<input type="text"/>	<input type="button" value="F4"/>
MaintPlan sort field	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Maintenance Plan	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Maintenance item	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Maintenance strategy	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Maint. item text	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Functional Location	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Equipment	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Assembly	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Material	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Serial Number	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>

Settlement rule: with or w/o w/ w/o
 with object list

Maintenance dates

Order	<input type="text"/>	to	<input type="text"/>
Notification	<input type="text"/>	to	<input type="text"/>
Entry Sheet	<input type="text"/>	to	<input type="text"/>
Scheduled start date	<input type="text"/>	to	<input type="text"/>
Completion date	<input type="text"/>	to	<input type="text"/>
Scheduling status	<input type="text"/>	to	<input type="text"/>

Maintenance status: with or w/o w/ w/o
 Not blocked

Work scheduling/task list data

Planning plant	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>
Planner group	<input type="text"/>	to	<input type="text"/>	<input type="button" value="F4"/>

Give the selection criteria as plan category

Enter period for which the plans need to be displayed, if required

Plant code: E.g. 1305 for Khatima, if required

Planner Group i.e. department, if required

Press F8 key or click on execute button  The output will be as displayed below:

List Edit Goto Environment Settings System Help

Scheduling overview list form: Maintenance Scheduling Overview List

Maintenance item Maintenance plans

S	Maintenance item	MntPlan	Strat.	Maintenance item description	Call Number	Start date	Order
	163	200000000010		Compressor Motor	12	03.10.2018	
	163	200000000010		Compressor Motor	13	03.11.2018	
	181	200000000020		Maint. Plan for Calibration	1	01.03.2018	
	181	200000000020		Maint. Plan for Calibration	2	01.04.2018	
	181	200000000020		Maint. Plan for Calibration	3	01.05.2018	
	181	200000000020		Maint. Plan for Calibration	4	01.06.2018	
	181	200000000020		Maint. Plan for Calibration	5	01.07.2018	
	181	200000000020		Maint. Plan for Calibration	6	01.08.2018	
	181	200000000020		Maint. Plan for Calibration	7	01.09.2018	
	181	200000000020		Maint. Plan for Calibration	8	01.10.2018	
	181	200000000020		Maint. Plan for Calibration	9	01.11.2018	
	181	200000000020		Maint. Plan for Calibration	10	01.12.2018	
	181	200000000020		Maint. Plan for Calibration	11	01.01.2019	
	181	200000000020		Maint. Plan for Calibration	12	01.02.2019	
	181	200000000020		Maint. Plan for Calibration	90,000,000	01.02.2018	600000060
	202	200000000030		Maint. Plan for Calibration	1	15.02.2018	600000081
	202	200000000030		Maint. Plan for Calibration	2	15.03.2018	
	202	200000000030		Maint. Plan for Calibration	3	15.04.2018	
	202	200000000030		Maint. Plan for Calibration	4	15.05.2018	
	202	200000000030		Maint. Plan for Calibration	5	15.06.2018	
	202	200000000030		Maint. Plan for Calibration	6	15.07.2018	
	202	200000000030		Maint. Plan for Calibration	7	15.08.2018	
	202	200000000030		Maint. Plan for Calibration	8	15.09.2018	
	202	200000000030		Maint. Plan for Calibration	9	15.10.2018	
	202	200000000030		Maint. Plan for Calibration	10	15.11.2018	
	202	200000000030		Maint. Plan for Calibration	11	15.12.2018	
	202	200000000030		Maint. Plan for Calibration	12	15.01.2019	
	202	200000000030		Maint. Plan for Calibration	13	15.02.2019	



User specific notification list layout variant can be saved after setting the columns & their sequence. This way every time the user will get the notification list layout defaulted when he will execute the transaction IP24.

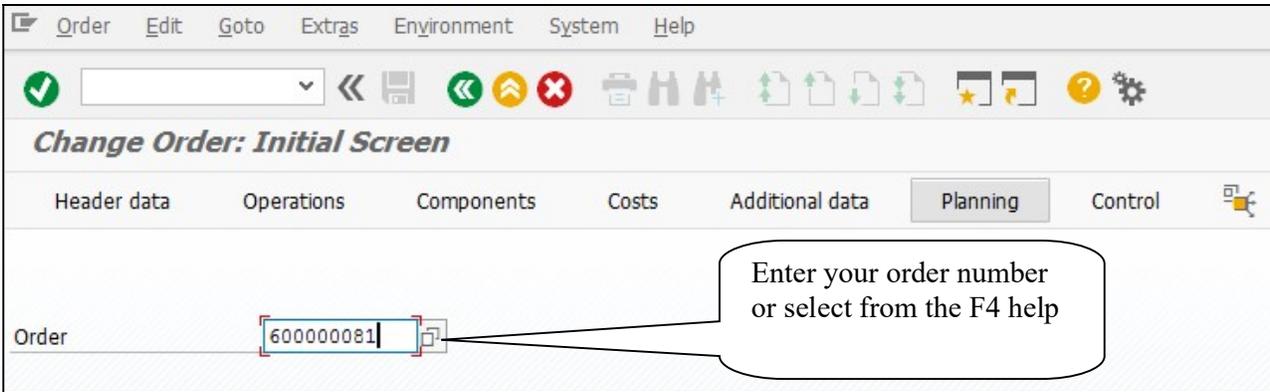


For Scheduling Overview & Simulation t-code IP19 can be used. It has the option of displaying scheduling overview in graphical form as well, apart from tabular form.

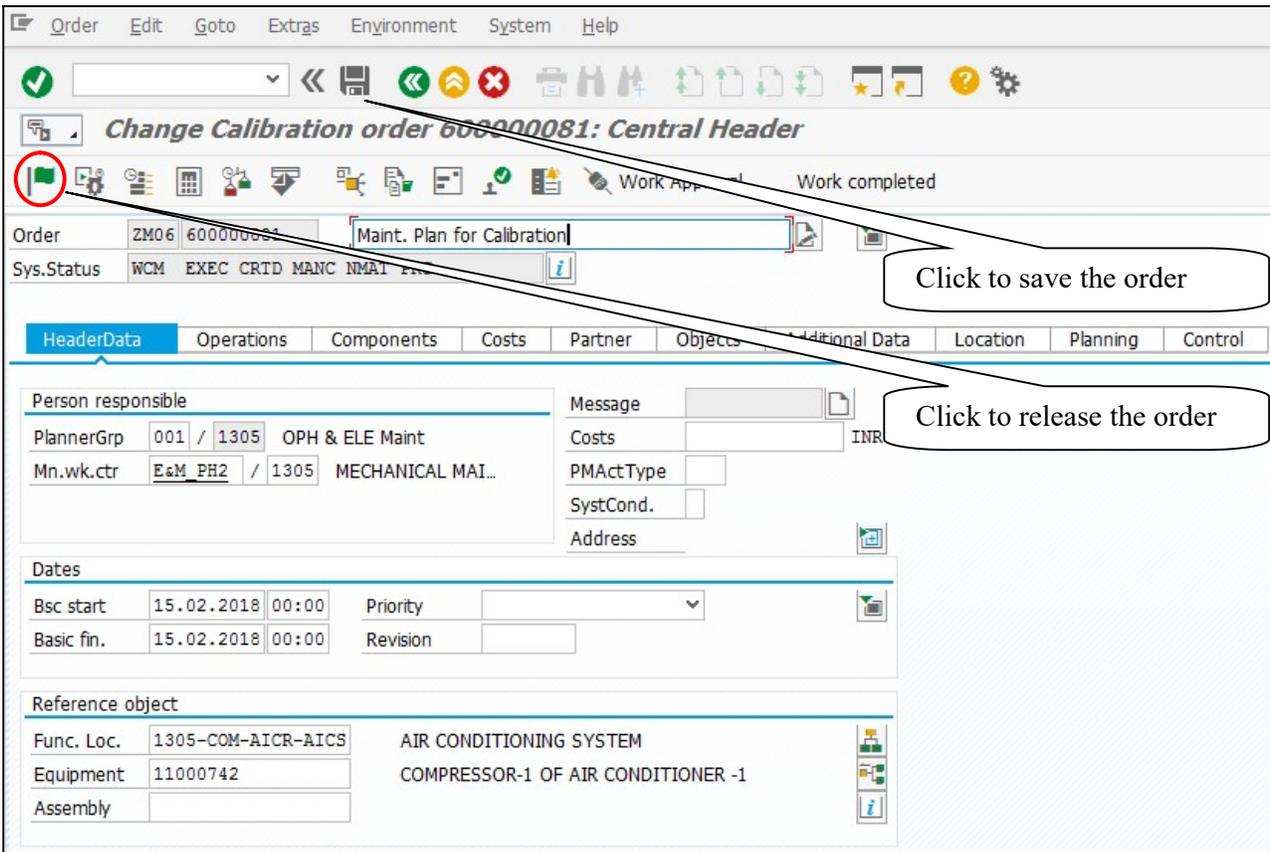
8 INSPECTION LOT GENERATION/ORDER RELEASE

To record calibration results inspection lot is generated in the maintenance order. The Calibration order needs to be released for generating inspection lot after required permits are issued.

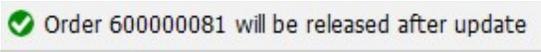
Menu Path	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Change
Transaction Code	IW32



Press "Enter" key or select "Enter" icon . Order header screen will open.

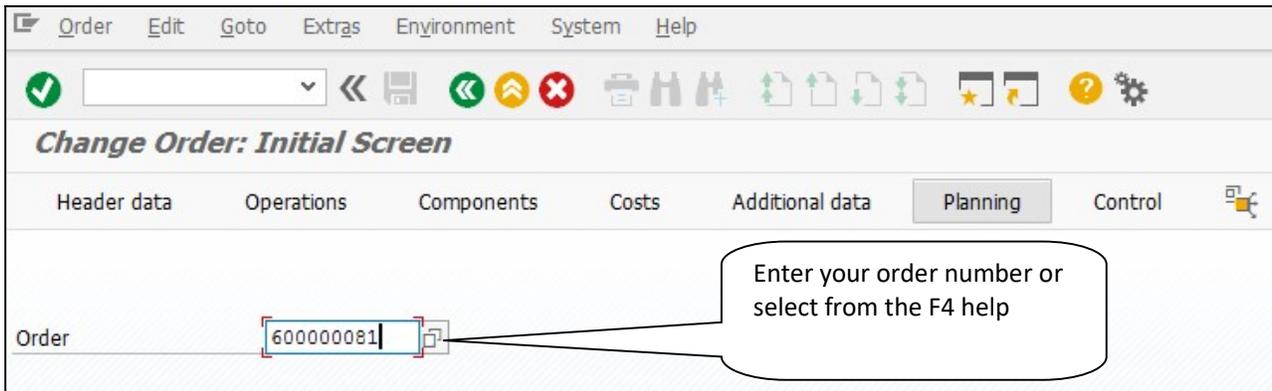


Click  button at application toolbar at top to release the order.

You will get system message  and the order gets REL status by replacing CRTD

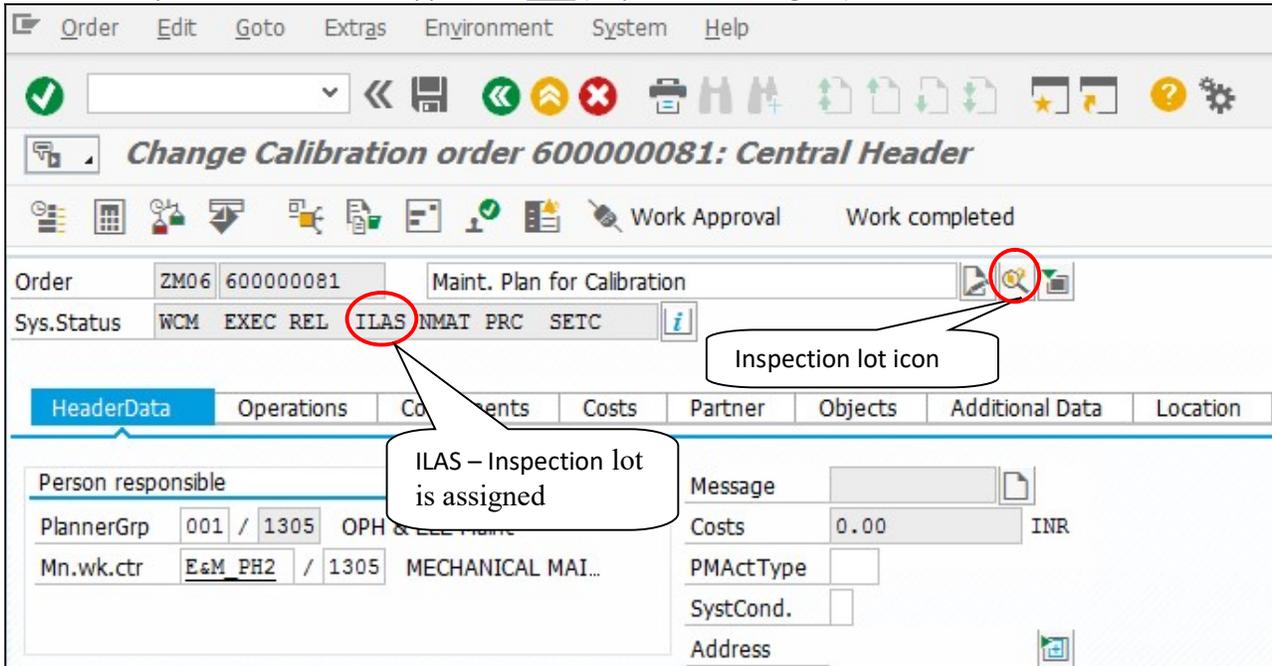
Again, open the maintenance order:

Menu Path	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Change
Transaction Code	IW32



In the change calibration order screen an icon appears next to the order description long text icon clicking on which will give the inspection lot number

In the order system status, a status appears as **ILAS** (Inspection lot assigned)



Click  button to check the system status on order, shown below:

Extras Edit Goto System Help

[Dropdown] [Icons]

Change Status

i

Order: 600000081 Order Type: ZM06 Planning plant: 1305
Description: Maint. Plan for Calibration

Status Business processes

Syst. Status		
X	St...	Text
<input checked="" type="checkbox"/>	BLIC	Block technical completion
<input checked="" type="checkbox"/>	WCM	Work Clearance Management
<input checked="" type="checkbox"/>	EXEC	Released for execution
<input checked="" type="checkbox"/>	REL	Released
<input checked="" type="checkbox"/>	ILAS	Inspection lot assigned
<input checked="" type="checkbox"/>	NMAT	No material components
<input checked="" type="checkbox"/>	PRC	Pre-costed
<input checked="" type="checkbox"/>	SETC	Settlement rule created

Status with Status Number			
X	Status	Text	No.

Status Without Status No.		
X	Status	Text

Active Status
 Change Docs

Status Profile:

When the icon is pressed a screen appears which displays the inspection lot number

Usage decision Edit Goto Extras Environment Inspection processing System Help

Display Usage Decision: Characteristic Overview

Non-inspected equipment Inspection Lot Results history... Defective quantity... Administrative data... Change history...

Inspection Lot 140000000201 COMPRESSOR-1 OF AIR CONDITIONER -1

System Status REL CALC UserStatus

Insp. End Date 15.02.2018 You have not completed all characteristics

Defects Characteristics Equipment

Chars relevant for usage d... Charact. 1

C...	V...	L...	Weighting	Defect ...	Specifications	Result	Short text for the insp...	No...	Shar...	S..	Valuation	Ac...	Ch...	Insp. quantity	S...	Data Orig
			02 Ma...		90 .. 100		WINDING TEMPRATURE	0		1	No v...	0020	10	1.000	PC	

Usage decision

UD code

Quality score 0 From usage decision code

FollowUpActn

9 INSPECTION RESULT RECORDING

Menu Path	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Inspection Processing → Inspection Result → For Equipment → Enter
Transaction Code	QE17

Menu Path	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Inspection Processing → Inspection Result → For Functional Location → Enter
Transaction Code	QE20

Step No	Field Name	Description	User Action and Values
1	Inspection lot number	Enter the Inspection lot number	Enter the number
2	Operation number	Operation number in maintenance order against which inspection characteristics are maintained	
3	Equipment	Enter the Equipment number	Enter the Equipment

Record Equipment Results: Initial Screen

Inspection Lot: 140000000201 COMPRESSOR-1 OF AIR CONDITIONER -1

Operation: 0020 Perform Calibration Work center: E&M_PH1

Plant: 1305

Char. filter: 1 All characteristics

Equipment: 11000742

Assigned Insp. Pnt

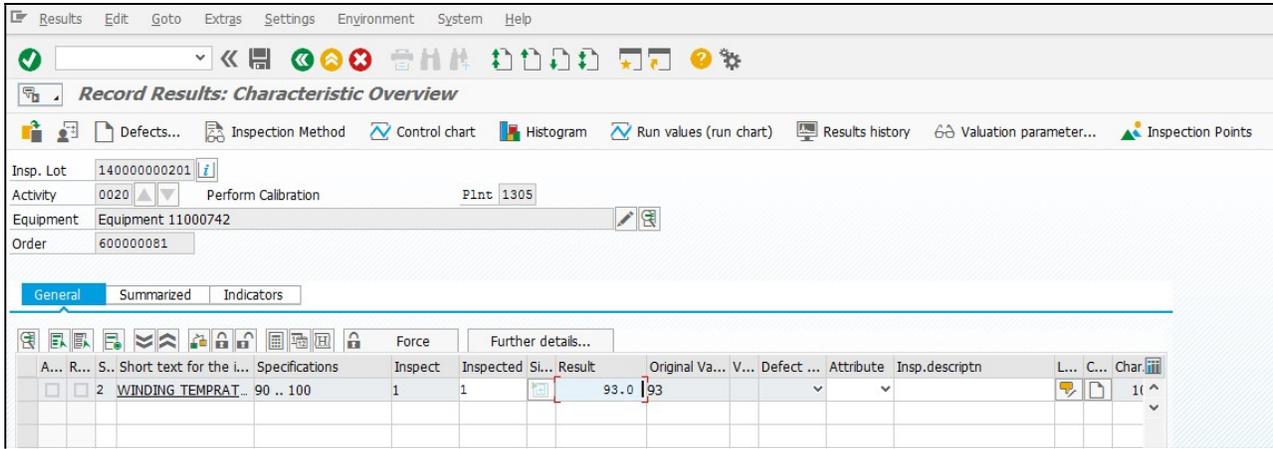
Inspector: CHAKRAVARTHY Insp.start time: 15.02.2018 16:48:59

Op.	Short text	Operation relevant for insp.	Work Ctr	Plnt	Sequence	Val
0010	Obtain Permit	◆	E&M_PH1	1305	0	
0020	Perform Calibration	▲	E&M_PH1	1305	0	

Choose the operation relevant for inspection (indicated with ▲ sign). Operation 0020 is relevant in this case.

Now Press “Enter” key or select “Enter” icon  or press 

A screen appears in which the results are recorded



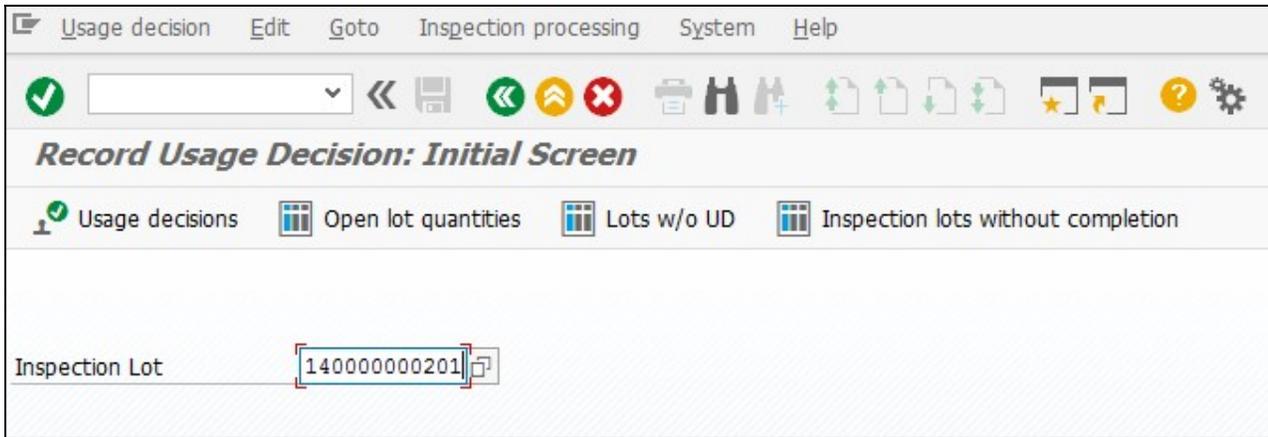
Now Press “Enter” key or select “Enter” icon 

Click  button to save Result Recording 
 System will give a message in the message bar as shown above.

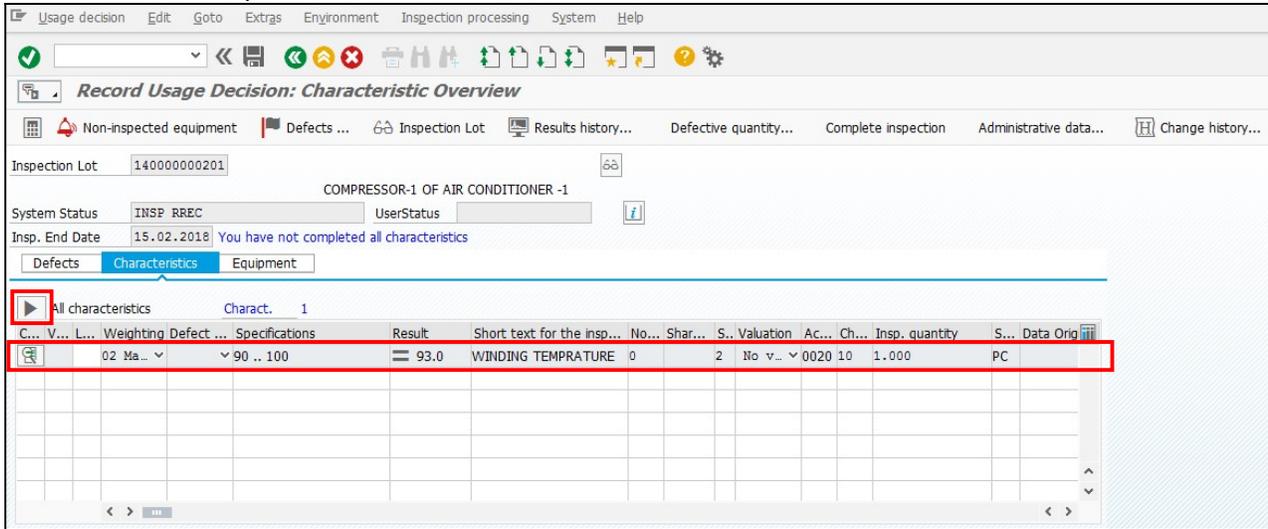
10 USAGE DECISION

Menu Path	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Inspection Processing → Usage Decision → Enter
Transaction Code	QA11

Step No	Field Name	Description	User Action and Values
1	Inspection lot number	Enter the Inspection lot number	Enter the number



Now Press "Enter" key or select "Enter" icon 



To see results recorded for other characteristics, press  button.

Based on the readings/observations, the Maintenance Supervisor/In charge can provide a usage decision on What action needs to be taken on this equipment, i.e. whether the equipment can be used, cannot be used or Some adjustment/repair is required.

Record Usage Decision: Characteristic Overview

Inspection Lot: 140000000201

System Status: INSP RREC

Insp. End Date: 15.02.2018

C...	V...	L...	Weighting	Defect ...	Specifications	Result	Short text for the insp...	No...	Shar...	S.	Valuation	AC...	Ch...	Insp. quantity	S...	Data Orig
			02	Ma...	90 .. 100	93.0	WINDING TEMPRATURE	0		2	No v...	0020	10	1.000		PC

Usage decision

UD code:

Quality score: 0

FollowUpActn:

Usage Decision for Inspection Lot

- Decision Usage decisions
 - 14 14 Calibration inspection (PM/QM)
 - A Can be used
 - R1 Adjustment required
 - R2 Cannot be used

Choose Up Down Cancel

Select the required usage decision.

Usage decision Edit Goto Extras Environment Inspection processing System Help

Record Usage Decision: Characteristic Overview

Non-inspected equipment Defects ... Inspection Lot Results history... Defective quantity...

Inspection Lot 140000000201 COMPRESSOR-1 OF AIR CONDITIONER -1

System Status INSP RREC UserStatus

Insp. End Date 15.02.2018 You have not completed all characteristics

Defects Characteristics Equipment

C...	V...	L...	Weighting	Defect ...	Specifications	Result	Short text for the insp...	No...	Shar...	S..	Valuation
			02 Ma...		90 .. 100	93.0	WINDING TEMPRATURE	0		2	No v... 0

Usage decision

UD code A 14 CAN BE USED

Quality score 100

FollowUpActn QM_FM

Click button to save Usage Decision ✔ Usage decision for lot 1305 140000000201 is saved
 System will give a message in the message bar as shown above.

11 TIME CONFIRMATION AND TECHNICAL COMPLETION

Further processing of the order can be done in the same way as shown in breakdown process user manual. Please refer the same to complete the process.

12 GLOSSARY

Company code	SAP term for legal entity for which a complete self-contained set of accounts can be drawn up for external statutory reporting
Plant	In Logistics, a plant is an organizational unit for dividing an enterprise according to production, procurement, maintenance, and materials planning. A place where materials are produced, or goods and services are provided.
Maintenance Plant	Maintenance plant is a plant in which the technical objects of the company are installed and where maintenance is done.
Maint. Planning Plant	A plant in which maintenance tasks are planned and prepared. The planning responsibility for a maintenance plant is defined using a planning plant. Maintenance plant are assigned to planning plants. Planning is performed for the Maintenance plants in the planning plants.
Plant Section	Plant section is subdivision of Maintenance Plant into different process / functional areas.
Planner Group	Planner Group is a group of persons responsible for maintenance planning in a Planning plant.
Functional Location	The business object functional location is an organizational unit within Logistics, that structures the maintenance objects of a company according to functional, process-related or spatial criteria. A functional location represents the place at which a maintenance task is to be performed.
Equipment	An equipment is known as an individual object in the system that is maintained independently. Equipment can be installed at different functional locations. You can create an individual equipment in an organization based on the object-based structure of a technical system.
Work Center	An organizational unit that defines where and when an operation must be performed. The work center has an available capacity. The activities performed at or by the work center are evaluated by charge rates, which are determined by cost centers and activity types. Work centers can be: <ul style="list-style-type: none"> - Machines - People - Production lines
Task List	It's the set of operations to be performed for the maintenance of a technical object
Object Type	You can assign each piece of equipment and each functional location to a technical object type. This allows pieces of equipment that have the same use, for example, to be combined into groups. You can use this grouping for evaluating your master data or maintenance data.
Catalog Profile	Catalog profile will group distinct characteristics of the notification which will cater the needs of management to analyze the company assets & to ascertain the decisions accordingly. Catalog profiles have sub class of code groups which will group the codes as per their feature.

13 APPENDIX

13.1 T - CODES FOR REOPRTS

T-Code	Description
IW38	PM Order List Change
IW39	PM Order List Display
IW47	Display PM Order Confirmation using Operation List
IA08	Task List Change
IA09	Task List Display
IP15	Maintenance Plan List Change
IP16	Display Maintenance Plan
IP18	Maintenance Item List Display
IP24	Scheduling overview list form
MM60	Materials List
MMBE	Display Material Stock Overview

13.2 T - CODES FOR PM

T-Code	Description
IA05	Create General Task list
IA06	Change General Task list
IA07	Display General Task list
IA01	Create Equipment Task List
IA02	Change Equipment Task List
IA03	Display Equipment Task List
IA11	Create FunctLoc Task List
IA12	Change FunctLoc Task List
IA13	Display FunctLoc Task List
IP41	Create single cycle Maintenance Plan
IP01	Create Strategy Maintenance Plan
IP02	Change Maintenance Plan
IP03	Display Maintenance Plan
IP10	Schedule Maintenance Plan
IP30	Deadline Monitoring
IW21	Create PM Notification
IW22	Change PM Notification
IW23	Display PM Notification
IW31	Create PM Order
IW32	Change PM Order
IW33	Display PM Order
IW34	Create Notification Order
IW41	PM Order Confirmation
IW42	Overall Completion Confirmation
IW43	Display PM Order Confirmation
IW45	Cancel PM Order Confirmation
QE17	Create Results for Equipment
QE18	Change Results for Equipment
QE19	Display Results for Equipment
QE20	Create Results for Functional Location
QA11	Create Usage Decision
QA12	Change Usage Decision with History
QA13	Display Usage Decision