

**ERP - PROJECT**

**SUGMAYA**

**END USER DOCUMENT**

**FOR**

**PLANT MAINTENANCE**

**REFURBISHMENT 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
V0	19-02-2018	Nimish Agrawal	First ISSUE

### **1.2 DISTRIBUTION**

Date	Name	Purpose
	Mandeep Singh	For Information
	Brijesh Yadav	For Information

## 2 PROCESS OVERVIEW: REFURBISHMENT MAINTENANCE

- The process of refurbishment is applicable to refurbish-able materials only. A refurbish-able material is one for which valuation type (e.g. New, Damaged and Refurbish) is defined in material master. Stock is maintained for these materials in storage locations for each valuation type/batch separately. The price of material is different for each valuation type. For valuation type **NEW** the price will be as per the purchase price, for valuation types **REFURBISH** and **DAMAGED**, nominal price e.g. 0.1 INR (Indian rupee) or so will be decided by F&A and MM dep't as per the company policy.
- When such a material/component gets damage in the operative plant, it is removed from its equipment and immediately replaced with its spare, drawn from the stores. The damage material is returned to the stores in valuation type **DAMAGED**, which increases the stock of damaged materials.
- Later whenever the refurbishment of faulty materials will be planned based on the availability of manpower to do refurbishment or requirement of working condition spare materials in near future like for shutdown or overhauling event, material refurbishment will be done using Refurbishment orders.
- Based on the stock level of **DAMAGED**, batch of a material in the storage location, decision can be taken whether to go for refurbishment or not. This can be done in Daily Planning meeting.



A material which has no standby stock and which is not split valued in the batches of New, Damage & Refurbish based on its condition; is not in the scope of SAP refurbishment process. It must be repaired immediately and installed back on to its equipment using the corrective maintenance cycle (through Breakdown order).

### Benefits of Refurbishment Process:

1. Stock of a material in each of its batch NEW, DAMAGED & REFURBISH will be visible by any PM, MM or any authorized user across the organization.
2. For common materials being used in different plant sections, less no. of standby materials/inventory will be required which will cater collectively to all the sections. This will reduce inventory cost.
3. The maintenance person can decide whether to issue New material or Refurbished material if maintenance cost needs to be controlled.
4. This is particularly useful in case of high cost items, imported items, items with high procurement lead time and obsolete materials which can be repaired and working condition spares will always be available and need not to purchase unnecessarily.
5. Faulty material stock is always visible (since they will be stocked centrally in the store) to all unlike when they are kept in individual department's possession and over the time there is a possibility to lose or forget them.

### Refurbishment Process can be done in two ways:

1. **Refurbishment with in plant** - The refurbishment will be done in plant by internal manpower and/or contractual manpower. Refurbishment order (in PM module) will be used in this case.



2. **Refurbishment at vendor's place** – The refurbishment will be done at vendor's place. The material(s) will be sent to vendor for repairing. The material(s) will be sent and received with the help of store. Service Purchase Order will be created for the repair of material against the automatic service PR generated from the Refurbishment order or a Contract will be in place for repair service of specific items. Returnable Gate pass will be created by referring to the service PO or Contract for sending damaged material(s) to the vendor for refurbishment.

Gate pass will have the material details (Quantity, Out-date, Vendor details etc.) that is being sent out to the vendor for repair as per the process design in Materials Management module.

After repair, materials will be received back against Returnable gate pass.

Service Entry Sheet will be furnished by receiving maintenance dep't after inspecting the repaired materials. Service charges will be paid to the vendor against the service PO or contract.

**Icons:**

	Caution
	Note

**Abbreviations:**

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

### 3 RETURNING OF DAMAGED MATERIAL/COMPONENT TO STORE WHENEVER RECLAIMED FROM PLANT

Any defective material removed from its equipment location shall be identified by the maintenance department either as refurbish-able or scrap, and returned to stores.



The scrap will be returned as per the procedure defined by MM module. Please refer MM module's documents for this process.

When the faulty material is removed from equipment/machine during a breakdown/overhauling maintenance and replaced by a working spare then the removed material should be returned to store (if found refurbish-able) by entering in the maintenance order being used for that breakdown/overhauling maintenance activity. The returned quantity will be entered in negative with batch DAMAGED and a reservation will be generated through the order for this returning quantity. The faulty material will be returned to store against this reservation no./order no.

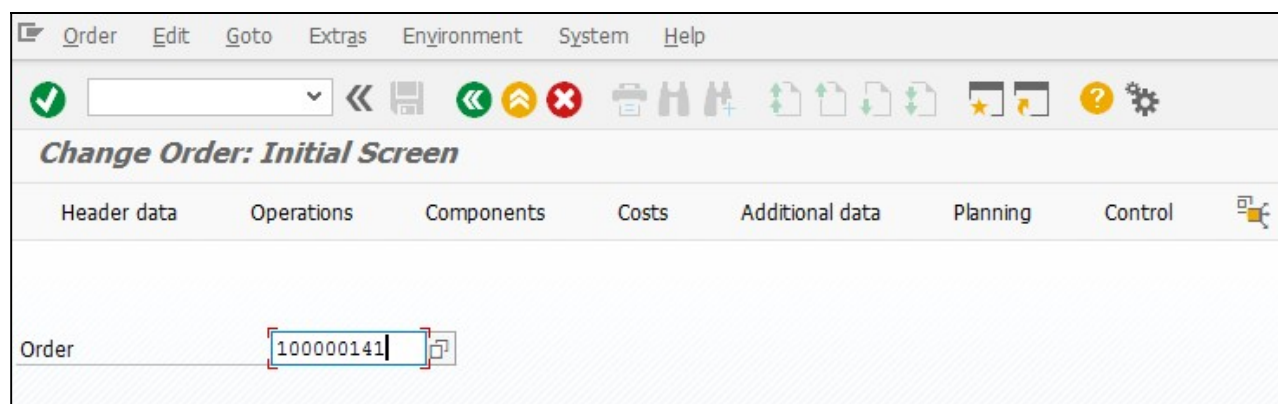


The order's actual cost will be reduced by the cost of returned faulty material(s) when the goods movement will be posted in MM module by stores person.


The faulty material which is to be returned to store, will be entered in the current maintenance order of the maintenance activity where the faulty material was reclaimed. Following steps should be performed for this.

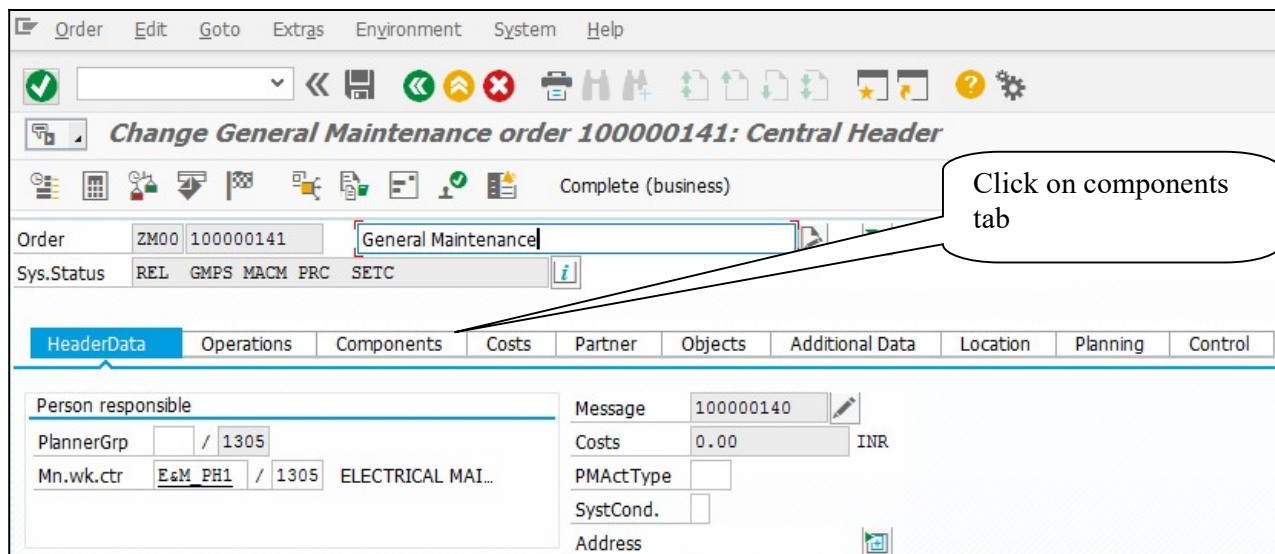
<b>Menu Path</b>	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Change
<b>Transaction Code</b>	IW32

Step No	Field Name	Description	User Action and Values
1	Order	Enter the current order no. where the returning faulty material is to be entered.	You can also select from dropdown list (F4 help for the field) by giving proper selection criteria in selection option 'PM orders using order list'.



The screenshot shows the SAP 'Change Order: Initial Screen' interface. The 'Order' field is highlighted with a red box and contains the value '100000141'. The interface includes a menu bar (Order, Edit, Goto, Extras, Environment, System, Help) and a toolbar with various icons. Below the menu bar, there are tabs for 'Header data', 'Operations', 'Components', 'Costs', 'Additional data', 'Planning', and 'Control'. The 'Order' field is located under the 'Header data' tab.

Press "Enter" key or select "Enter" icon . Change General Maintenance order screen will open.



Order: ZM00 100000141 General Maintenance

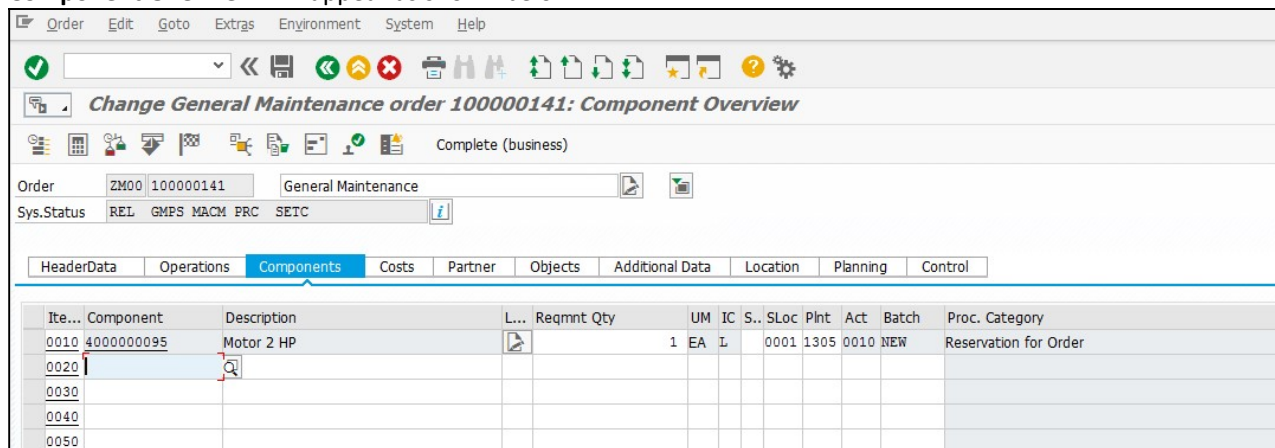
Sys.Status: REL GMPS MACM PRC SETC

HeaderData | Operations | **Components** | Costs | Partner | Objects | Additional Data | Location | Planning | Control

Person responsible: PlannerGrp: / 1305 Mn.wk.ctr: E&M PH1 / 1305 ELECTRICAL MAI...

Message: 100000140 Costs: 0.00 INR PMActType: SystCond.: Address:

Component Overview will appear as shown below.

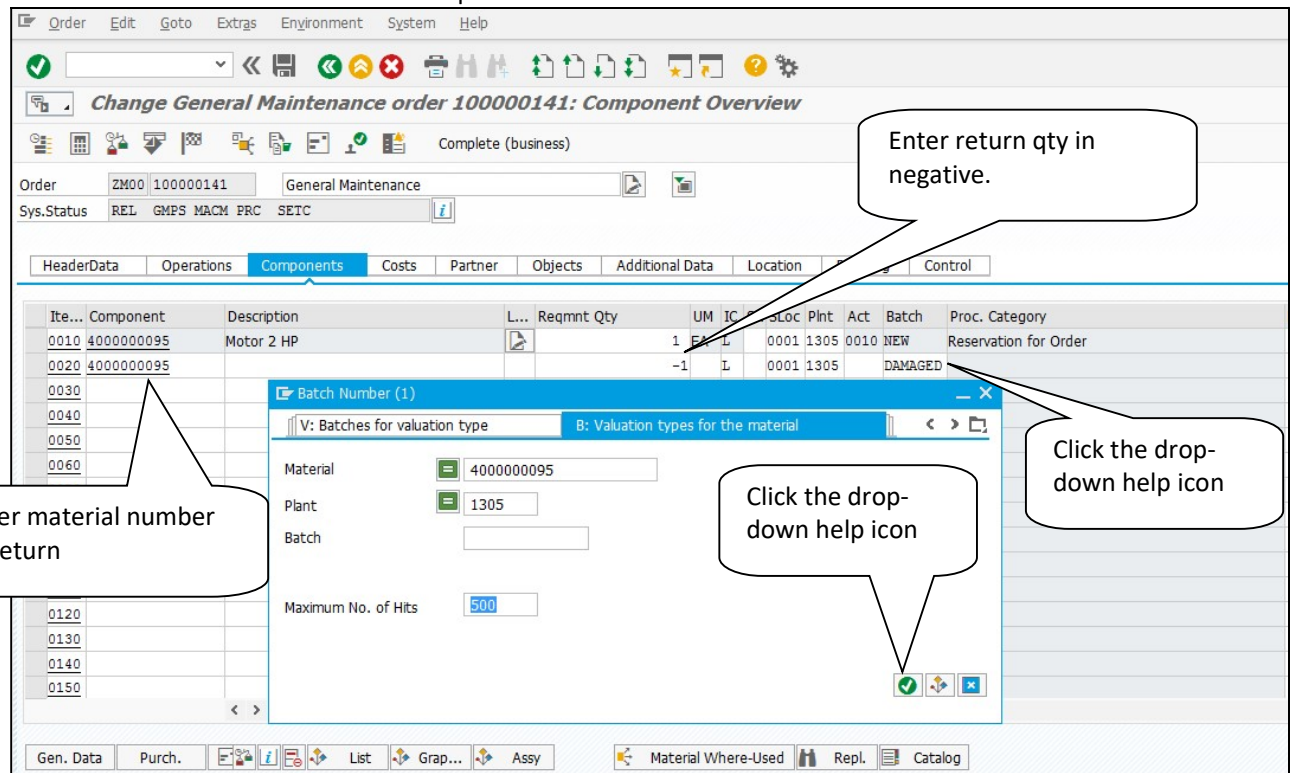


It...	Component	Description	L...	Reqmnt Qty	UM	IC	S.	SLoc	Plnt	Act	Batch	Proc. Category
0010	4000000095	Motor 2 HP		1	EA	L		0001	1305	0010	NEW	Reservation for Order
0020												
0030												
0040												
0050												

Enter the faulty material no. with quantity in negative and batch **DAMAGED** in the component list as shown below

Step No	Field Name	Description	User Action and Values
1	Component	Material number. Enter the material no. of the faulty item to be returned to store.	You can select from dropdown list (F4 help for the field) using search option 'Plant Material by Description'.
2	Reqmnt Qty	Enter the quantity of removed faulty material in negative.	Quantity should be always negative for the material to be returned to store.
3	SLoc	Enter the Number of storage location in plant where the material is to be returned	You can select from dropdown list (F4 help for the field).
4	Batch	Enter the Valuation type DAMAGED	Select from dropdown list (F4 help for the field).
5	Item Category	Enter L if material is in stock	

How to select a material batch from drop-down list is shown below.



Order: ZM00 100000141 General Maintenance

Sys.Status: REL GMPS MACM PRC SETC

HeaderData Operations **Components** Costs Partner Objects Additional Data Location Control

It...	Component	Description	L...	Reqmnt Qty	UM	IC	SLoc	Plnt	Act	Batch	Proc. Category
0010	4000000095	Motor 2 HP		1	EA	L	0001	1305	0010	NEW	Reservation for Order
0020	4000000095			-1	L		0001	1305		DAMAGED	
0030											
0040											
0050											
0060											
0120											
0130											
0140											
0150											

Batch Number (1)

V: Batches for valuation type B: Valuation types for the material

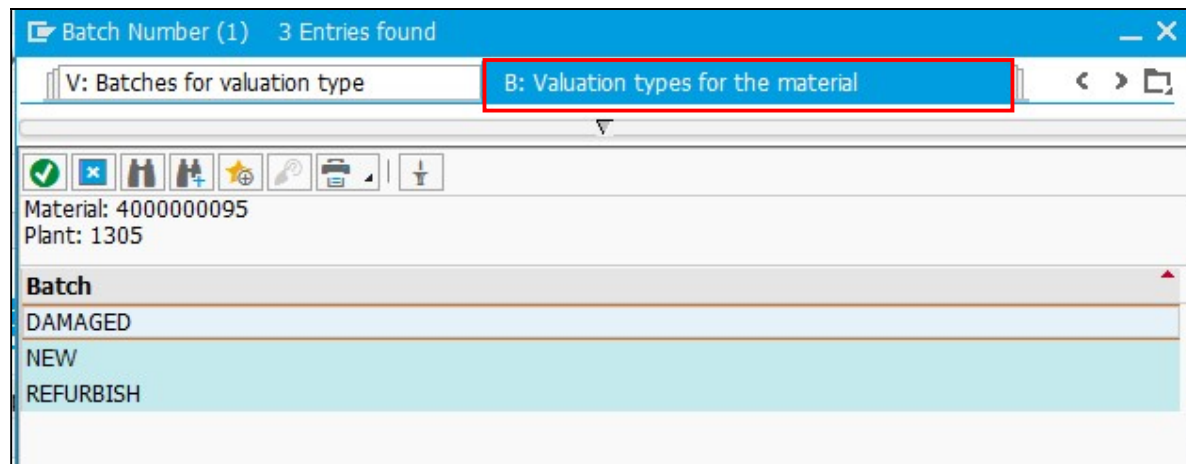
Material: 4000000095

Plant: 1305

Batch:

Maximum No. of Hits: 500

Gen. Data Purch. List Grap... Assy Material Where-Used Repl. Catalog



Batch Number (1) 3 Entries found

V: Batches for valuation type B: Valuation types for the material

Material: 4000000095

Plant: 1305

**Batch**

DAMAGED

NEW

REFURBISH

Press ENTER key and component description & unit will be fetched by the system from material master.



Order Edit Goto Extras Environment System Help

Change General Maintenance order 100000141: Component Overview

Complete (business)

Order ZM00 100000141 General Maintenance

Sys.Status REL GMPS MACM PRC SETC

HeaderData Operations **Components** Costs Partner Objects Additional Data Location Planning Control

Ite...	Component	Description	L...	Reqmnt Qty	UM	IC	S..	SLoc	Plnt	Act	Batch	Proc. Category
0010	4000000095	Motor 2 HP		1	EA	L		0001	1305	0010	NEW	Reservation for Order
0020	4000000095	Motor 2 HP		1-EA	L		0001	1305	0010	DAMAGED		Reservation for Order
0030												

Check the reservation no. for returning the faulty material as shown below.

Change General Maintenance order 100000141: Component Overview

Complete (business)

Order ZM00 100000141 General Maintenance

Sys.Status REL GMPS MACM PRC SETC

HeaderData Operations **Components** Costs Partner Objects Additional Data Location Planning Control

Ite...	Component	L...	Reqmnt Qty	UM	IC	S..	SLoc	Plnt	Act	Batch	Proc. Category
0010	4000000095			1	EA	L	0001	1305	0010	NEW	Reservation for Order
0020	4000000095			1-EA	L		0001	1305	0010	DAMAGED	Reservation for Order
0030											
0040											
0050											
0060											
0070											
0080											
0090											
0100											
0110											
0120											
0130											
0140											
0150											

Select your component (material)

Click this 'Gen. data' button.

Gen. Data Purch. List Grap... Assy Material Where-Used Repl. Catalog

Order Edit Goto Extras Environment System Help

Change General Maintenance order 100000141: Component Detail General D

Order 100000141 Activity 0010

Material 4000000095 Motor 2 HP

Item 0020 Item cat. I

**General Data**

Component

Plant	1305	Storage Loc.	0001
Batch	DAMAGED	Sort String	
Goods Recipient		Unloading Point	
Reqmt Date	19.02.2018 18:41:40	Offset	
Reservation	1037 2	Movement type	262


**Quantities**


Requirement Qty	1-	Unit of Measure	EA	<input type="checkbox"/> Fixed qty.
Committed Qty	0			
Withdrawal Qty	0	<input type="checkbox"/> Final issue		

**General Indicators**

<input type="checkbox"/> Backflushing	Res./Purc. req.	3 Immediately
<input type="checkbox"/> Bulk Material	CostingRelevncy	X 100% Relevant to ...
<input checked="" type="checkbox"/> Mvt Allowed	Mat. Prov. Ind.	

Click to save

Click Save button  in the standard toolbar at top of the screen to save the changes in the order.

 Order 100000141 saved with notification 100000140

System will give a message in the message bar that your Order saved as shown above.

Physically return the faulty material in stores against this reservation no./order no.

The store person will post the goods movement transaction (MIGO) in MM module and the Damaged batch stock of this material will increase by the returned quantity.

#### 4 CHECKING THE STOCK OF DAMAGED GOODS & DECISION FOR REFURBISHMENT


- Any damaged material removed from its equipment location shall be returned to store by the maintenance department if the material is refurbish-able and a Fresh (New) or Repaired material will be issued to replace the faulty material at site. Thus, over a period the stock of Damaged material will be increased and stock of working condition material (in New and Refurbished batch) will be reduced. Hence the Damaged materials should be repaired using Refurbishment orders in good time so that in emergencies enough numbers of working condition spares should be available.
- By seeing the stocks of refurbish-able materials, a central planning dep't can take judicious decision to initiate refurbishment process by notifying it to responsible department. By seeing the criticality of the material and its current stock level/ procurement lead time, oncoming shutdown or overhauling schedule, the central planning dep't in co-ordination with all the Maint. Dept.'s shall prioritize and plan the refurbishment job. Accordingly, they shall coordinate with the concerned maintenance section which is responsible for repairing the material and plan the refurbishment jobs.

The material stock can be checked using stock overview transaction as explained below.

<b>Menu Path</b>	SAP Menu → Logistics → Material Management → Inventory Management → Environment → Stock → Stock Overview
<b>Transaction Code</b>	MMBE

On the screen **Stock Overview: Company Code/Plant/Storage Location/Batch**, make the following entries:

Step No	Field Name	Description	User Action and Values
1	Material	Enter material no. for which stock to be checked.	Or select from dropdown list (F4 help for the field)
2	Plant	Enter your plant code	Can be selected from dropdown list (F4 help for the field). If plant code will be left blank then system will show the material stock overview in all the plants where this material is maintained.

Click  button at top of the screen.

The **Stock Overview: Basic List** screen appears where the material stock is shown plant-wise, Storage location wise and Batch wise as shown below.



Stock Overview: Basic List

Selection

Material: 4000000095 Motor 2 HP  
 Material Type: ERS A Spare Parts  
 Unit of Measure: EA Base Unit of Measure: EA

Company Code

Batch/Valuation type wise stock of material

Stock Overview

Detailed Display

Client/Company Code/Plant/Storage Location/Batch/Special Stock	RecValSit	Unrestricted use	Qual. inspection	Res
Full	0.000	100.000		
1000 UJVN Limited	0.000	100.000		
1305 Khatima	0.000	100.000		
0001 Central Store	0.000	100.000		
DAMAGED	0.000	1.000		
NEW	0.000	99.000		

Batches

Storage Location

Plant



The Unrestricted use quantity is withdrawable quantity. The reserved quantity shows that material is reserved for this quantity of material by material reservations created through maintenance order or manually.

## 5 CREATE REFURBISHMENT ORDER

For refurbishment of any material, some repair work need to be executed. For execution of work, responsible dep't will do the planning e.g. for manpower, material (if required) etc and then execute the work. For this purpose, a Refurbishment order will be created.

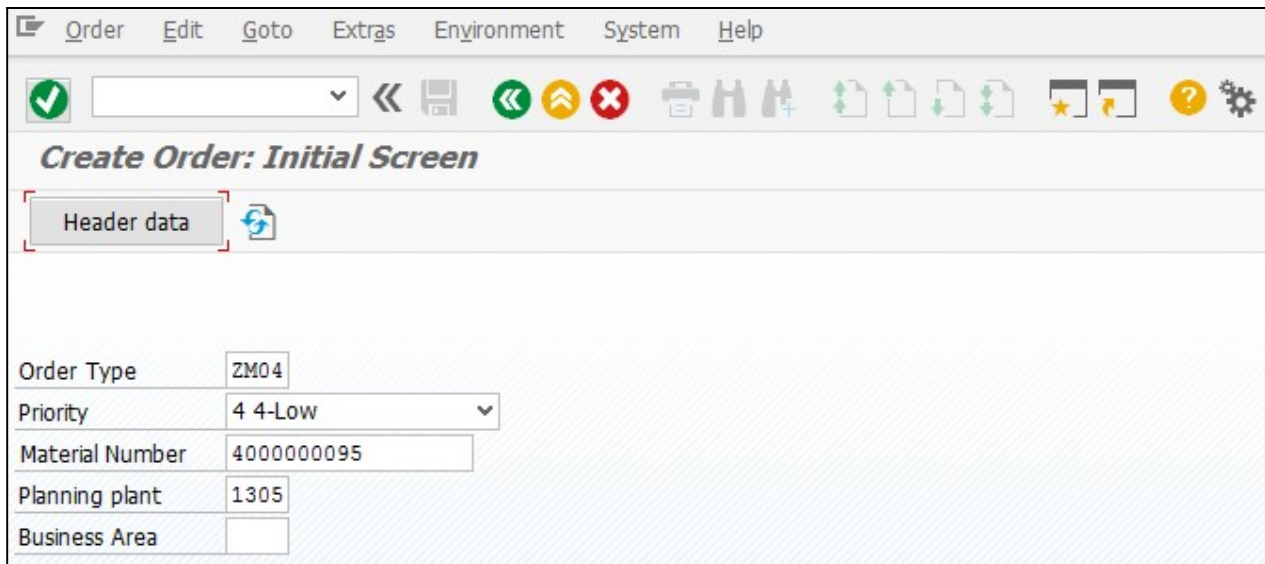


A refurbishment order needs to be created directly. It cannot be created with respect to a notification, nor can the copy reference to an order be used.

Refurbishment order can be created for one material code only with the required quantity.

<b>Menu Path</b>	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Order → Create (Special) → Refurbishment order
<b>Transaction Code</b>	IW81

Step No	Field Name	Description	User Action and Values
1	Order Type	ZM04	You can also select from dropdown list (F4 help for the field)
2	Priority	Select a priority, if needed	
3	Material Number	Refurbish-able Material number Enter the Material No.	Or select from dropdown list (F4 help for the field)
4	Planning Plant	Plant Code Enter the plant code	Or select from dropdown list (F4 help for the field)



The screenshot shows the SAP 'Create Order: Initial Screen' for transaction IW81. The interface includes a menu bar (Order, Edit, Goto, Extras, Environment, System, Help) and a toolbar with various icons. The main area is titled 'Create Order: Initial Screen' and contains a 'Header data' section. The fields are as follows:

Field Name	Value
Order Type	ZM04
Priority	4 4-Low
Material Number	4000000095
Planning plant	1305
Business Area	

Press "Enter" key or select "Enter" icon



**Create Refurbishment order: Central header,** enter the following entries as specified in the table below and depicted in the screen shots:

Step No	Field Name	Description	User Action and Values
1	Order description	Order short text. Long text is available, if needed.	Enter a short text.
2	Planner Group	Group responsible for planning tasks	Enter planner group (department) responsible for refurbishment of the selected material. Or select from the dropdown list.
3	Main WorkCtr	Work center responsible for the completion of the refurbishment tasks	Enter work center responsible for refurbishment task of the selected material. Or select from the dropdown list.
4	User Responsible	Person responsible for execution of work	Enter employee code of person or select from the dropdown help using Last name and First name.
5	Target qty	Target or planned quantity of components to be refurbished on the work order	Enter the quantity. (Default quantity 1 will be entered if no quantity is specified.) The unit of measure is defaulted from material master.
6	From Plant	Plant code from which the material has to be issued	Enter the plant code from which the material will be issued. Or select from the dropdown list.
7	From Stor. Loc.	Storage location within plant from where the defective & repairable spare will be obtained or withdrawn.	Enter the storage location or select from the drop-down list. If the defective material is unaccounted and was kept in the plant only then no need to enter this field.
8	To Plant	Plant code to which the material should be sent after the refurbishment	Enter the plant code to which the material will be send after the refurbishment
9	To Stor. Loc	Storage location within plant to which the repairable spare will be returned after refurbishment.	Enter the storage location.
10	From Val. Type	Valuation type or condition of the repairable spare	Enter valuation type DAMAGED. Or select from dropdown list (F4 help for the field).
11	To Val. Type	Valuation type or condition in which <i>the repairable spare will be returned after repairing.</i>	Enter valuation type REFURBISH. Or select from dropdown list (F4 help for the field).

Order Edit Goto Extras Environment System Help

✓ [Dropdown] [Icons]

**Create Refurbishment order : Central Header**

[Icons]

Order ZM04 \$000000000001 Order for Refurbish compressor motor [Icon] [Icon]

Sys.Status CRTD MANC NTUP [Icon]

HeaderData Operations Components Costs [Dropdown] Additional Data Location Planning Control

Person responsible

PlannerGrp 001 / 1305 OPH & ELE Maint Costs [Dropdown] INR

Mn.wk.ctr E&M PH1 / 1305 ELECTRICAL MAI... PMActType [Dropdown]

Material 4000000095 Motor 2 HP

Quantities

Target qty 1 EA Del. qty 0

Refurbishment

From Plant	1305	Stor. Loc.	0001	Val. Type	DAMAGED
To Plant	1305	Stor. Loc.	0001	Val. Type	REFURBISH

Dates

Bsc start 22.02.2018 11:26 Priority 4 4-Low [Dropdown] [Icon]

Basic fin. 27.02.2018 11:26 Revision [Dropdown]

Annotations:

- Enter concise description of order
- Enter suitable planner group
- Enter suitable work Center
- Enter suitable Valuation types in these fields
- Enter the plant code & Stor. Loc. (From & To)

Now go to the components screen by clicking on the components tab

Components

On the screen **Create Refurbishment order: Components overview**, the defective material with target quantity and Batch (valuation type) as planned in the order header is defaulted by the system (with item no. 0000) as shown below.



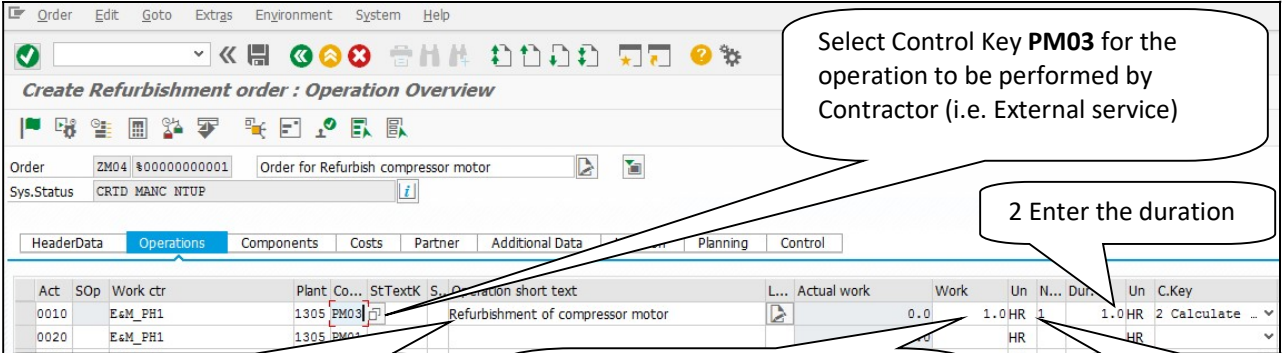
If some other materials are required for refurbishment, they can be added here and issued with the damaged material which is to be refurbished.

## 6 RESOURCE PLANNING IN REFURBISHMENT ORDER (FOR EXTERNAL SERVICE)

Go to the 'Operations' page by clicking on **Operations** tab. On the screen **Create Refurbishment order: Operation overview** enter the operations to be executed, manpower required, predicted duration for execution and then release the order and save it.



The first operation in the operations screen gets copied from the order header description as default by the system as shown below. It can be replaced with some other operation text as required.



**Select Control Key PM03 for the operation to be performed by Contractor (i.e. External service)**

**2 Enter the duration**

**1 Enter the manpower numbers**

**System will calculate this work time based on entries of step 1 & 2**

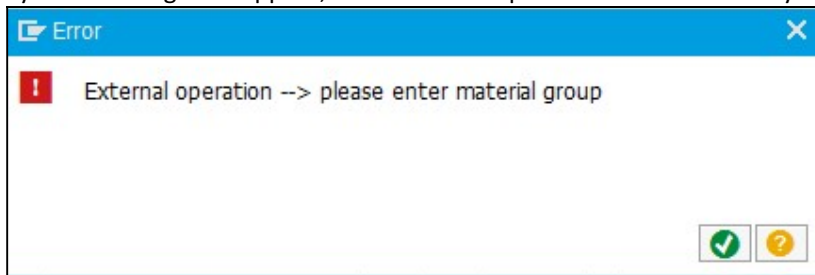
**First operation gets copied from the order header, it can be replaced if required**


Act	SOp	Work ctr	Plant	Co...	StTextK	S...	Operation short text	L...	Actual work	Work	Un	N...	Dur...	Un	C.Key
0010	EaM_PH1		1305	PM03			Refurbishment of compressor motor		0.0	1.0	HR	1	1.0	HR	2 Calculate ...
0020	EaM_PH1		1305	PM03							HR			HR	

Control Key	Description
<b>PM01</b>	For Internal operations
<b>PM03</b>	For external services (operations to be performed by contractor)
<b>WCM</b>	Work Clearance Management (For operation pertaining to Permit for work)

Press **ENTER** key.

System message will appear, since external operation with Control key PM03 is entered:



Click  button and then enter/ select data in the following popup screen, which appears next.

Create Refurbishment order : External Processing Operation

Opr. short text: Refurbishment of compressor motor

Operation qty: 1 AU Sort Term:

Price: 0.00 INR per: 1

Material Group:  Cost Element:

Purch. Group: / 1000 Vendor:

Agreement: / Info record:

Recipient: Unloading Point:

Requisitioner: Tracking Number:

Pl. Deliv. Time: FW Order: /

☐ ☐

Purchasing Group for External Processing Activity (1) 42 Entries found

Restrictions

PGr	Description	Telephone Fax Number
111	CSPPO	
112	CPO	
121	Chhibro	
122	Pathri	
123	Dhakrani	
124	Dhalipur Civil	
125	Kulhal	
126	PDD	
127	Dhalipur Civil	
131	Chilla	
132	Pathri	
133	Mohamadpur	
134	Kalagarh	
135	Lohiahead	
141	MB-I	
142	MB-II	
143	MB-I & II Civil	

42 Entries found

Material Group (1) 59 Entries found

Restrictions

Matl Group	Material Group Desc.	Description 2 for the mat
1047	Fire Fighting Equipm	Fire Fighting Equipment
1048	Station Air Compress	Station Air Compressor
1049	EOT Crane	
1050	Other	
1051	Ferrous Scrap	
1052	Non-Ferrous Scrap	
1053	Vehicle Assessories	
1054	Service	
1055	General	
1056	Cement	
1057	Steel	
1058	Testing Equipments	
1059	Battery & Accessorie	Battery & Accessories

59 Entries found

Select appropriate material group & purchasing group by pressing F4 on both the fields

**Create Refurbishment order : External Processing Operation**

Opr. short text	Refurbishment of compressor motor		
Operation qty	1	AU	Sort Term
Price	0.00	INR	per
Material Group	1054		Cost Element
Purch. Group	135	1000	Vendor
Agreement		/	Info record
Recipient			Unloading Point
Requisitioner			Tracking Number
Pl. Deliv. Time			FW Order

Press "Enter" key or select "Enter" icon



Enter the details for External services required.  
Go to the External tab of Operation detail screen as shown below.  
Select the required Service(s) and assign to the operation.





**Create Refurbishment order : Operation Overview**

Order: ZM04 \$000000000001    Order for Refurbish compressor motor

Sys.Status: CRID MANC NIUP

HeaderData   **Operations**   Components   Costs   Partner   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	EaM_PH1		1305	PM03			Refurbishment of compressor motor		0.0	0.0 HR	1		1.0 HR	0	Maintain m...
0020	EaM_PH1		1305	PM01					0.0		HR				
0030	EaM_PH1		1305	PM01					0.0		HR				
0040	EaM_PH1		1305	PM01					0.0		HR				
0050	EaM_PH1		1305	PM01					0.0		HR				
0060	EaM_PH1		1305	PM01					0.0		HR				
0070	EaM_PH1		1305	PM01					0.0		HR				
0080	EaM_PH1		1305	PM01					0.0		HR				
0090	EaM_PH1		1305	PM01					0.0		HR				
0100	EaM_PH1		1305	PM01					0.0		HR				
0110	EaM_PH1		1305	PM01					0.0		HR				
0120	EaM_PH1		1305	PM01					0.0		HR				
0130	EaM_PH1		1305	PM01					0.0		HR				
0140	EaM_PH1		1305	PM01					0.0		HR				
0150	EaM_PH1		1305	PM01					0.0		HR				

General   Internal   External   Dates   Act. Data   Enhancement         Catalog

Order Edit Goto Extras Environment System Help

**Create Refurbishment order : External Processing Operation**

Header data Operations Components Costs Partners

Order \$00000000001 Activity 0010 / Ctrl key PM03  
StdTextKey/ShrtText Refurbishment of compressor motor

General Internal **External** Dates Act. Data Enhancement

Operation qty 1 AU Sort Term  
Price 0.00 INR per 1  
Material Group 1054 Cost Element  
Purch. Group 135 / 1000 Vendor  
Agreement / Info record  
Recipient Unloading Point  
Requisitioner Tracking Number  
Pl. Deliv. Time FW Order /

Services Components Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crcy	Overf. Tol.	U S...	Edi...	SSC It
10							INR				
20							INR				
30							INR				
40							INR				
50							INR				

Service Sel. Catalog Line 10

Enter Notification type or use F4 help & select from drop down help

Activity Number screen will open

Activity Number (1)

T: Service by Short Text U: Classification

Service Short Text


Activity number

Language Key = EN

Maximum No. of Hits 500

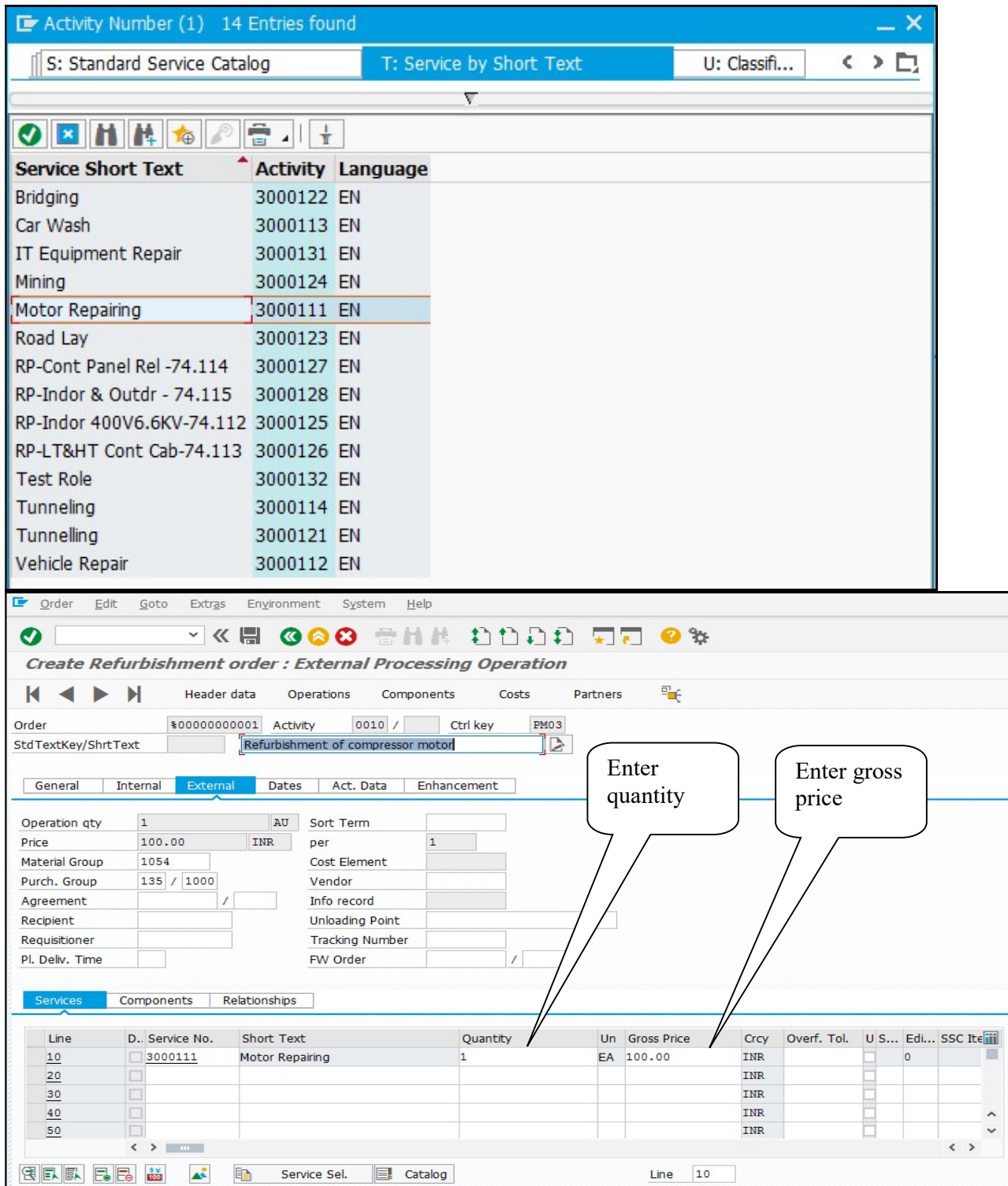
✓ ✎ ✕



Press “Enter” key or select “Enter” icon 

Again, a new window will be open as shown below which will display all the services available.

Select appropriate service as per the requirement

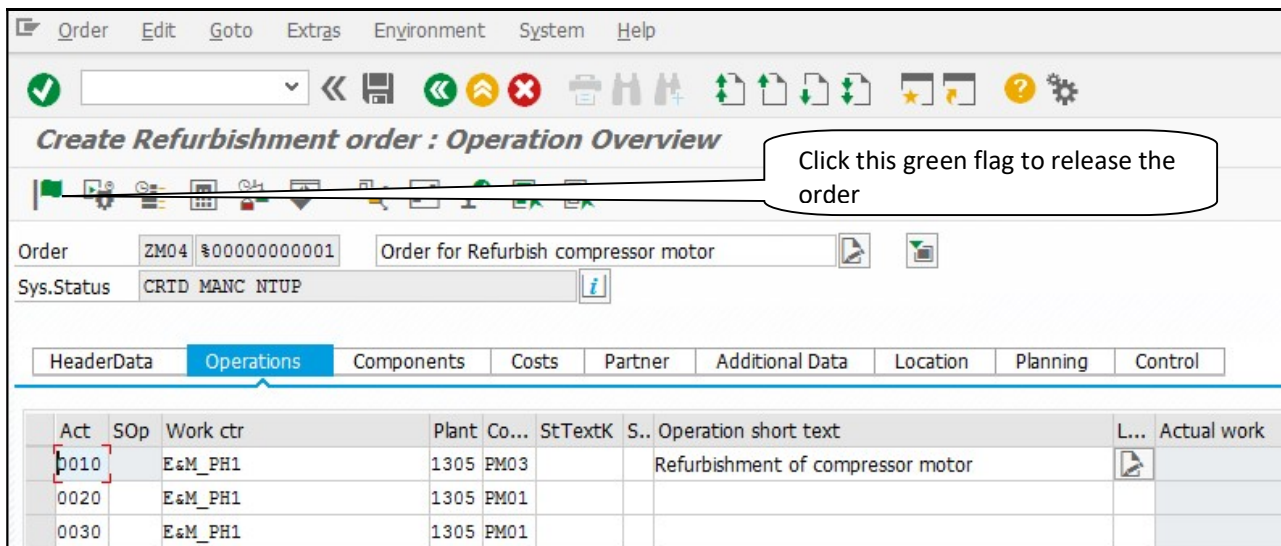


The image shows two screenshots from the SAP system. The top screenshot is the 'Activity Selection' window, titled 'Activity Number (1) 14 Entries found'. It displays a list of services with columns for 'Service Short Text', 'Activity', and 'Language'. The 'Motor Repairing' service (Activity 3000111) is highlighted. The bottom screenshot is the 'Create Refurbishment order : External Processing Operation' window. It shows the 'Header data' tab with fields for Order, Activity, and Ctrl key. The 'StdTextKey/ShrtText' field contains 'Refurbishment of compressor motor'. The 'Services' tab is active, showing a table with columns: Line, D., Service No., Short Text, Quantity, Un, Gross Price, Crpy, Overf. Tol., U S..., Edi..., and SSC It. The first line (Line 10) shows 'Motor Repairing' with a quantity of 1 and a gross price of 100.00. Two callout boxes point to the 'Quantity' and 'Gross Price' fields in the table, with text 'Enter quantity' and 'Enter gross price' respectively.

Service Short Text	Activity	Language
Bridging	3000122	EN
Car Wash	3000113	EN
IT Equipment Repair	3000131	EN
Mining	3000124	EN
<b>Motor Repairing</b>	<b>3000111</b>	<b>EN</b>
Road Lay	3000123	EN
RP-Cont Panel Rel -74.114	3000127	EN
RP-Indor & Outdr - 74.115	3000128	EN
RP-Indor 400V6.6KV-74.112	3000125	EN
RP-LT&HT Cont Cab-74.113	3000126	EN
Test Role	3000132	EN
Tunneling	3000114	EN
Tunnelling	3000121	EN
Vehicle Repair	3000112	EN

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crpy	Overf. Tol.	U S...	Edi...	SSC It
10		3000111	Motor Repairing	1	EA	100.00	INR			0	
20							INR				
30							INR				
40							INR				
50							INR				

Go back to Operation overview by clicking  button at top of the screen.

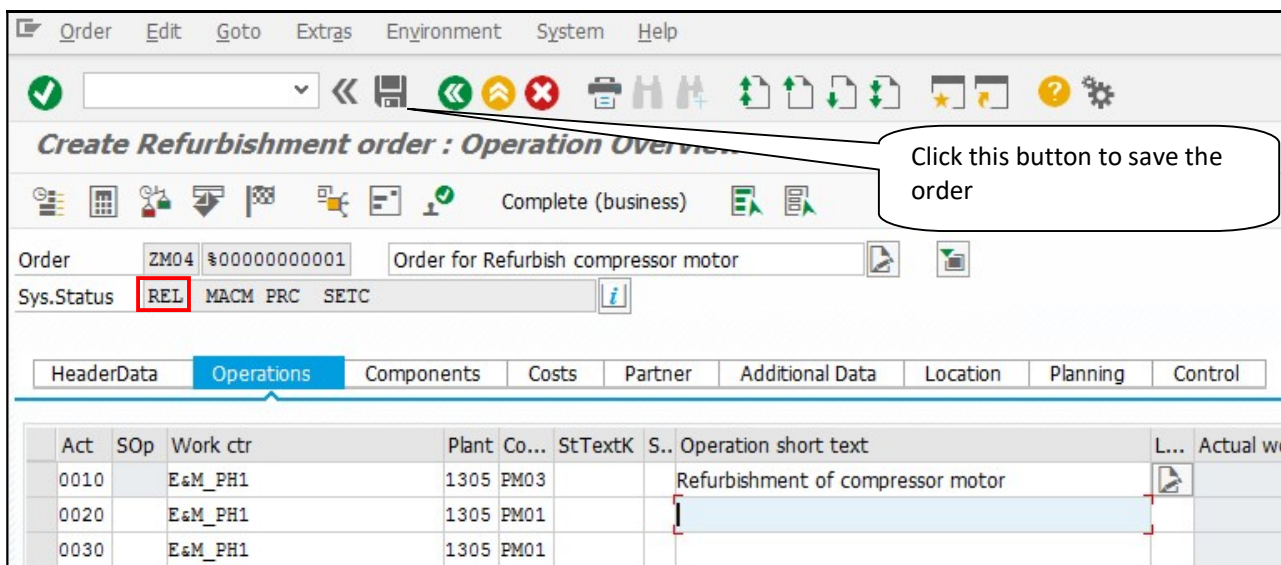


**Create Refurbishment order : Operation Overview**

Order: ZM04 \$000000000001 Order for Refurbish compressor motor

Sys.Status: CRTD MANC NTUP

Act	SOp	Work ctr	Plant	Co...	StTextK	S..	Operation short text	L...	Actual work
0010		E&M_PH1	1305	PM03			Refurbishment of compressor motor		
0020		E&M_PH1	1305	PM01					
0030		E&M_PH1	1305	PM01					




**Create Refurbishment order : Operation Overview**

Order: ZM04 \$000000000001 Order for Refurbish compressor motor

Sys.Status: REL MACM PRC SETC

Act	SOp	Work ctr	Plant	Co...	StTextK	S..	Operation short text	L...	Actual work
0010		E&M_PH1	1305	PM03			Refurbishment of compressor motor		
0020		E&M_PH1	1305	PM01					
0030		E&M_PH1	1305	PM01					

System will give a message in the message bar that your Order saved as shown below.

 Order saved with number 400000081



Materials can be withdrawn from the store only after releasing the order. If any operation is to be carried out by contractual manpower then change the control key of that operation to PM03 and assign services. This includes service entry sheet maintenance when the job is completed by external manpower.

## 7 DAMAGED MATERIAL/COMPONENT WITHDRAWAL FROM THE STORE

Before executing the actual work, defective material which needs to be refurbished will be withdrawn from the store by responsible department.

When the order will be released system will automatically check the availability of material (If assigned in the order) in the store and generate a **Reservation** no. for that material(s), against which that material can be drawn from the store. To get that reservation no., open Component tab of your order, select the component & click on



button. Note the **Reservation** no.

- For drawing material from store, please follow process as defined in the Materials management (MM) module of UJVNL  
(Please refer relevant user manual of MM module.)
- Now the maintenance person will go to store with the reservation no. (if required and if defined in MM module process), and draw the material.



## 8 ISSUE OF DAMAGED MATERIAL FROM THE STORE – BY MM DEP'T

If any materials have been assigned to any operations in the order, with stock available in store then store person will issue that materials against the order with reference to the reservation no. generated for the refurbishment order.

- The maintenance person will go to store for picking the materials against order no./Reservation number
- Store person will run goods movement transaction in SAP MM module, enter the Reservation no./Order no. & execute the goods issue in the system. This will result in posting of Material document with

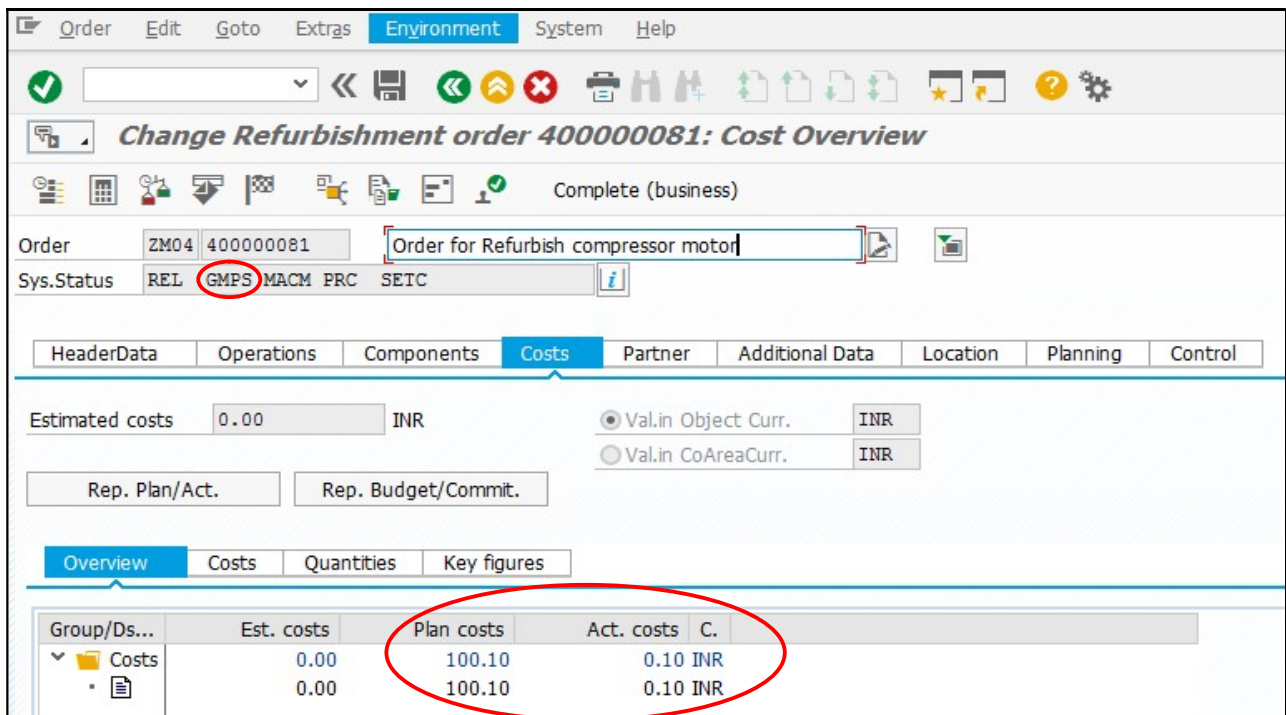
following system message

✓ Material document 4900000170 posted

- Then store person will physically issue all the materials to the maintenance person.



When the material gets issued from the store against Maintenance order, the order gets a new status GMPS (Goods movement posted) as shown below. The Actual cost of Materials is also updated in the Costs tab as shown below.



Order: ZM04 400000081 Order for Refurbish compressor motor

Sys.Status: REL **GMPS** MACM PRC SETC

HeaderData | Operations | Components | **Costs** | Partner | Additional Data | Location | Planning | Control

Estimated costs: 0.00 INR

Val.in Object Curr. INR

Val.in CoAreaCurr. INR

Rep. Plan/Act. Rep. Budget/Commit.

Overview | **Costs** | Quantities | Key figures

Group/Ds...	Est. costs	Plan costs	Act. costs	C.
Costs	0.00	100.10	0.10 INR	
	0.00	100.10	0.10 INR	

## 9 SERVICE PR FOR EXTERNAL SERVICES REQUIRED IN ORDER

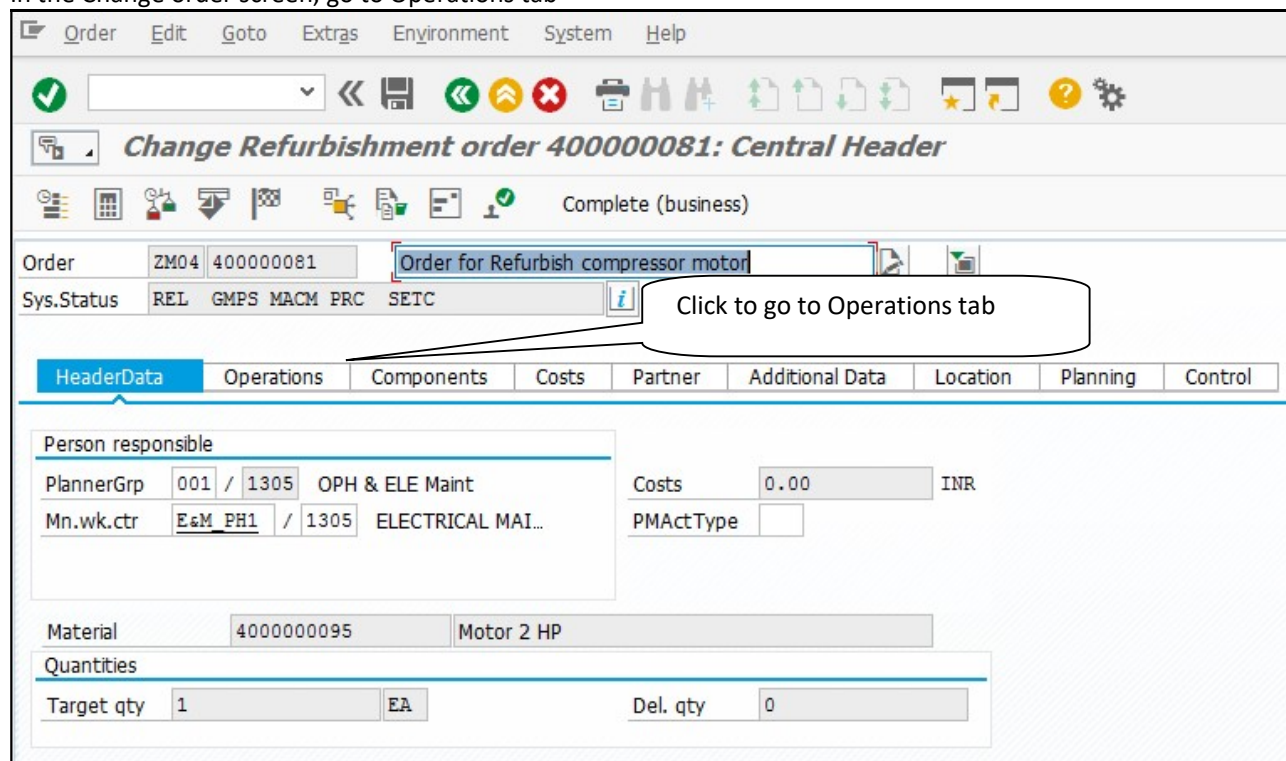
Sometimes some operations of Maintenance order need to be performed by vendor/ contractor. In that case, the contractor's job is assigned to the order operation(s) as External service(s) during order planning. External services can be assigned in form of standard Service masters.

There will be annual service Contract available for regular services or sometimes once-in-a-while kind of services/ new services are required for which fresh Purchase order cycle is executed.

- In case of regular services assigned in order, Service PR gets automatically generated against the existing service.
- Once the services are performed by the contractor/ vendor at site as per the PO, the responsible maintenance supervisor will accept (confirm) the performed service quantities/ measurements using the Service Entry sheet. This can be done immediately or at regular interval.
- The Finance dep't does the payment to contractor/ vendor based on the actual service quantities as per Service Entry sheet.



When the Maintenance order is released, the service PR gets generated automatically as shown below. In the Change order screen, go to Operations tab



Order: ZM04 400000081 Order for Refurbish compressor motor

Sys.Status: REL GMPS MACM PRC SETC

Complete (business)

HeaderData Operations Components Costs Partner Additional Data Location Planning Control

Person responsible

PlannerGrp: 001 / 1305 OPH & ELE Maint

Mn.wk.ctr: E&M\_PH1 / 1305 ELECTRICAL MAI...

Costs: 0.00 INR

PMActType:

Material: 4000000095 Motor 2 HP

Quantities

Target qty: 1 EA Del. qty: 0

Order Edit Goto Extras Environment System Help

Change Refurbishment order 400000081: Operation Overview

Complete (business)

Order ZM04 400000081 Order for Refurbish compressor motor

Sys.Status REL GMP5 MACM PRC SETC

HeaderData Operations Components Costs Partner 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	EaM_PH1	1305 PM03	Refurbishment of compressor motor		0.0	0.0 HR	1	1.0 HR	0	Maintain m...			
0020	EaM_PH1	1305 PM01			0.0	HR		HR					
0030	EaM_PH1	1305 PM01			0.0	HR		HR					
0040	EaM_PH1	1305 PM01			0.0	HR		HR					
0050	EaM_PH1	1305 PM01			0.0	HR		HR					
0060	EaM_PH1	1305 PM01			0.0	HR		HR					
0070	EaM_PH1	1305 PM01			0.0	HR		HR					
0080	EaM_PH1	1305 PM01			0.0	HR		HR					
0090	EaM_PH1	1305 PM01			0.0	HR		HR					
0100	EaM_PH1	1305 PM01			0.0	HR		HR					
0110	EaM_PH1	1305 PM01			0.0	HR		HR					
0120	EaM_PH1	1305 PM01			0.0	HR		HR					
0130	EaM_PH1	1305 PM01			0.0	HR		HR					
0140	EaM_PH1	1305 PM01			0.0	HR		HR					
0150	EaM_PH1	1305 PM01			0.0	HR		HR					

General Internal External Dates Act. Data Enhancement Catalog

Click to select the external operation with Control key PM03

Click to go to Actual Data screen

Order Edit Goto Extras Environment System Help

Change Refurbishment order 400000081: General Operation Data

Header data Operations Components

Order 400000081 Activity 0010 / Ctrl key PM03

StdTextKey/ShrtText Refurbishment of compressor motor

General Internal External Dates Act. Data Enhancement

Completion confirmation

Confirmation 2886

Actual work 0.0 HR

Forecast work 0.0

Purchasing

Requisition 1200000040 1 GR Qty 0.000

Res./Purc. req. 3 Immediately

Services Components Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crcy	Overf. Tol.	U S...	Edi...	SSC It...
10		3000111	Motor Repairing	1	EA	100.00	INR			0	
20							INR				

Service PR, created at the time of order release.

Double click to display the service PR

## **10 EXECUTION OF WORK**

Now the damaged material(s) will be sent to the external agency by process defined in MM module. Please refer the user manual of MM for the same (**UJVNL\_MM\_PURCHASE REQUISITION\_SERVICES, UJVNL\_MM\_PURCHASE ORDER\_SERVICES & UJVNL\_MM\_SES**) & will be refurbished by the external agency.

**11 RETURN OF REFURBISHED MATERIALS TO STORE – BY MAINT. DEP'T**


After the material has got refurbished it will be physically returned by the responsible Maint. Dep't to store but with a new valuation type i.e. REFURBISHED

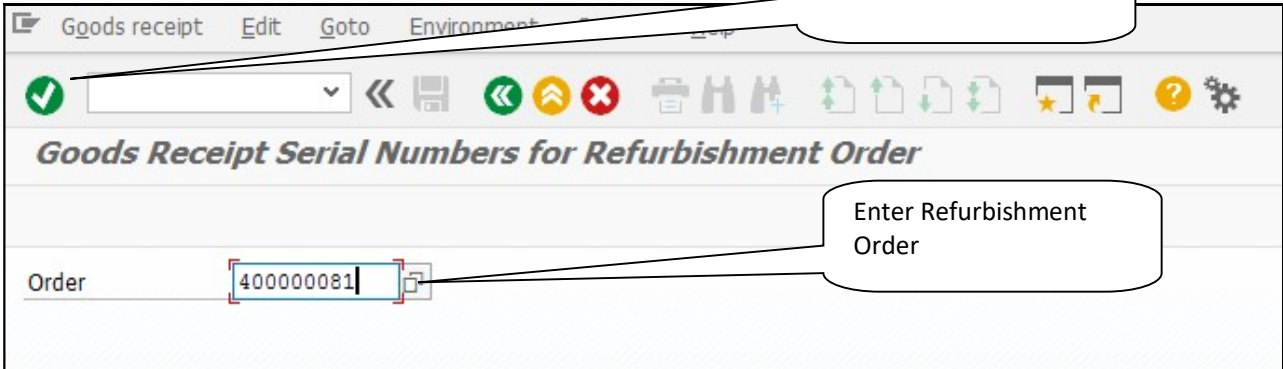
## 12 GOODS RECEIPT FOR REFURBISHED ITEMS BY STORE

Store will receive the refurbished materials from maintenance dep't and maintain the stock accordingly for that item.

Store person will run Refurbishment goods receipt transaction for the Refurbishment order and then the refurbished stock of the material will be updated and increased by the quantity returned.

<b>Menu Path</b>	SAP Menu → Logistics → Plant Maintenance → Maintenance Processing → Completion Confirmation → Goods Movement → Refurbishment → Goods Receipt
<b>Transaction Code</b>	IW8W

On the screen **Goods Receipt for Refurbishment order**, enter the order no. as shown below and then press enter or click  button.



Following screen will appear with all the information like Material no., Quantity, Valuation type, Plant and storage location defaulted from Refurbishment order.



Goods receipt Edit Goto Environment System Help

✓ [dropdown] [back] [save] [undo] [redo] [cancel] [print] [refresh] [delete] [help] [settings]

**Goods Receipt Serial Numbers for Refurbishment Order 400000081**

Order  Order for Refurbish compressor motor

Data for goods receipt

Material Number	4000000095		
Posting Date	21.02.2018	Doc.Header Text	
Document Date	21.02.2018	Reference	
Quantity in UnE	1.000	EA	
Valuation Type	REFURBISH		
Plant	1305		
Storage Loc.	0001		
Stock Type			

☒ Deliv. Compl.

Click this indicator only if all damaged material is refurbished and are being returned to store. By default, it will be checked

Step No	Field Name	Description	User Action and Values
1	Material no.	No action.	Will default from order.
2	Quantity in UnE	Quantity in Unit of Entry	Will default from order. But can be edited to reduce the quantity if all the materials planned in the order are not repaired and only some items to be returned which were repaired.
3	Valuation Type	No action.	Will default from order as planned in the <b>To Valuation type</b> field in order header.
4	Plant	No action.	Will default from order as planned in the <b>To Plant</b> field in order header.
5	Stor.Location	Storage Location where the repaired material is to submit. Maintain if not maintained in the order.	Will default from order as planned in the <b>To Stor.Loc.</b> field in order header.
6	Deliv.Compl.	"Delivery Completed" indicator Will be selected by default.	Deselect this indicator if delivery is not complete i.e. the return quantity is less that target quantity mentioned in order.

Click Save button  in the standard toolbar at top of the screen to save the changes

✓ Document 5000000446 posted

System will give a message in the message bar that your Order saved as shown above.



In case not all quantity of the issued defective material is returned, the ☒ Delv. Compl. indicator needs to be un ticked and the quantity needs to be reduced to quantity that is being returned. If remaining material are refurbished later and returned, IW8W can be executed again for the same order with this indicator ticked and with remaining quantity.



After goods receipt of repaired materials by store, the stock of refurbished material is increased as shown below.

Stock Overview: Basic List

Selection

Material: 4000000095 Motor 2 HP  
Material Type: ERSA Spare Parts  
Unit of Measure: EA Base Unit of Measure: EA

Stock Overview

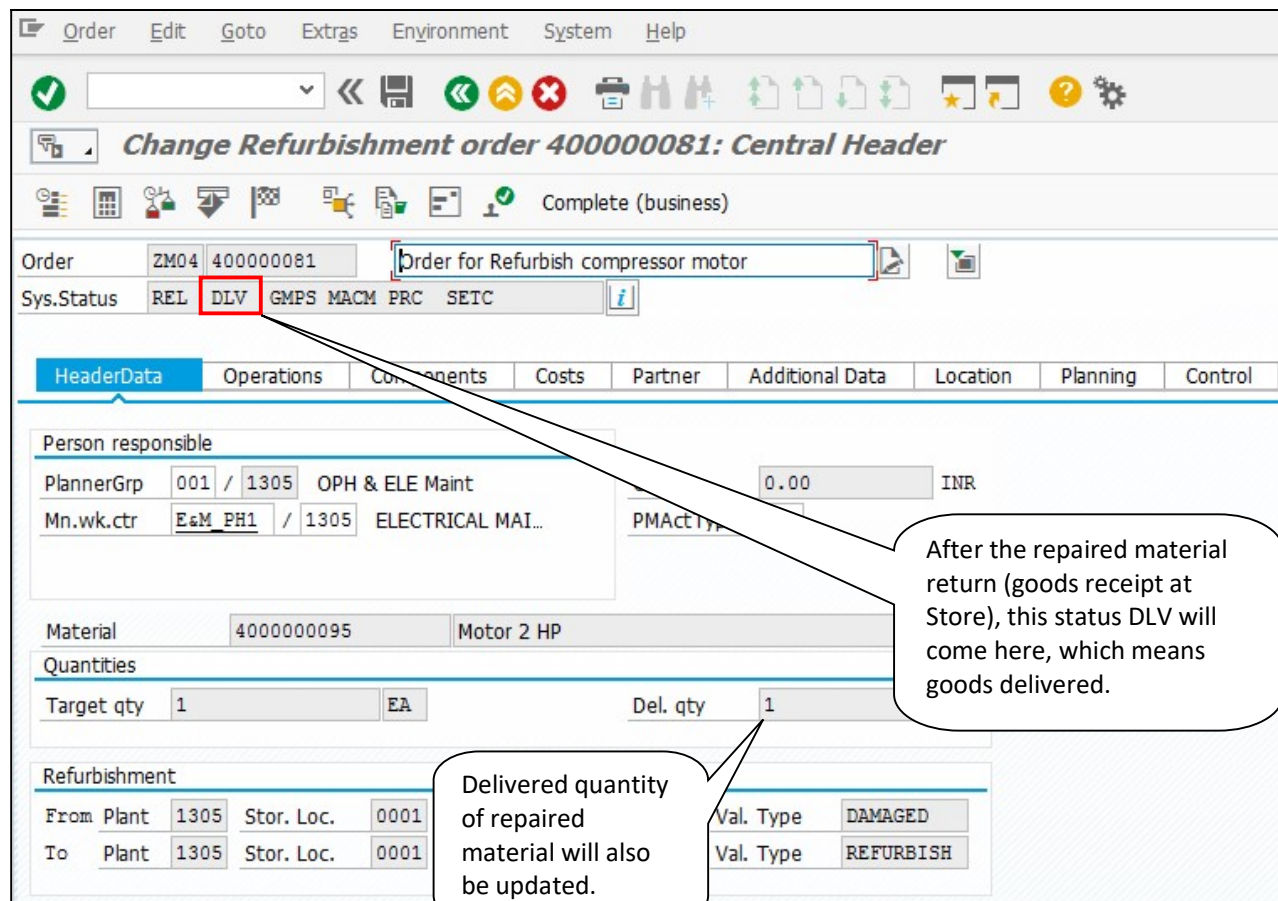
Client/Company Code/Plant/Storage Location/Batch/Special Stock	RecValSit	Unrestricted use	Qual. inspection	Reserved	Rcpt reservation	On-Order Stock
Full	0.000	100.000		1.000		
1000 UJVNL Limited	0.000	100.000		1.000		
1305 Khatima	0.000	100.000		1.000		
0001 Central Store	0.000	100.000		1.000		
DAMAGED	0.000	1.000		1.000		
NEW	0.000	98.000				
REFURBISH	0.000	1.000				

The stock of refurbished material increases from 0 to 1. As 1 damaged material is refurbished in our example



When the Repaired material gets received in the store, Refurbishment order status will change to DLV as shown below.





**Change Refurbishment order 400000081: Central Header**

Order: ZM04 400000081 Order for Refurbish compressor motor

Sys.Status: REL **DLV** GMPS MACM PRC SETC

HeaderData | Operations | Components | Costs | Partner | Additional Data | Location | Planning | Control

Person responsible

PlannerGrp: 001 / 1305 OPH & ELE Maint 0.00 INR

Mn.wk.ctr: E&M\_PH1 / 1305 ELECTRICAL MAI... PMActTyp

Material: 4000000095 Motor 2 HP

Quantities

Target qty: 1 EA Del. qty: 1

Refurbishment

From Plant: 1305 Stor. Loc.: 0001 Val. Type: DAMAGED

To Plant: 1305 Stor. Loc.: 0001 Val. Type: REFURBISH

Deliv. Compl. ☒

After the repaired material return (goods receipt at Store), this status DLV will come here, which means goods delivered.

Delivered quantity of repaired material will also be updated.



If all defective materials issued are not returned, i.e. ☐ Deliv. Compl. is un ticked, the status updated in order is PDLV (partially delivered). Later; when remaining materials are refurbished and returned this indicator can be ticked. The order status will change from PDLV to DLV.



The Refurbishment order cost is also updated as shown below.

Order Edit Goto Extras Environment System Help

Change Refurbishment order 400000081: Cost Overview

Complete (business)

Order ZM04 400000081 Order for Refurbish compressor motor

Sys.Status REL DLV GMPS MACM PRC SETC

HeaderData Operations Components **Costs** Partner Additional Data Location Planning Control

Estimated costs 0.00 INR

Val.in Object Curr. INR

Val.in CoAreaCurr. INR

Rep. Plan/Act. Rep. Budget/Commit.

Overview Costs Quantities Key figures

Group/Dscrptn	Est. costs	Plan costs	Act. costs	C.
Costs	0.00	100.10	0.00	INR
• Costs	0.00	100.10	0.00	INR
Goods Receipt	0.00	0.00	16,999.90-	INR
• Goods Receipt	0.00	0.00	16,999.90-	INR

List Edit Goto Views Settings System Help

Plan/Actual Comparison

Order 400000081 Order for Refurbish compressor motor

Order Type ZM04 Refurbishment order

Plant 1305 Khatima

Planned Quantity 1 EA each

Actual Quantity 1 EA each

Plan Version 0 Plan/Act - Version

Cumulative Data

Legal Valuation


Company Code Currency/Object Currency

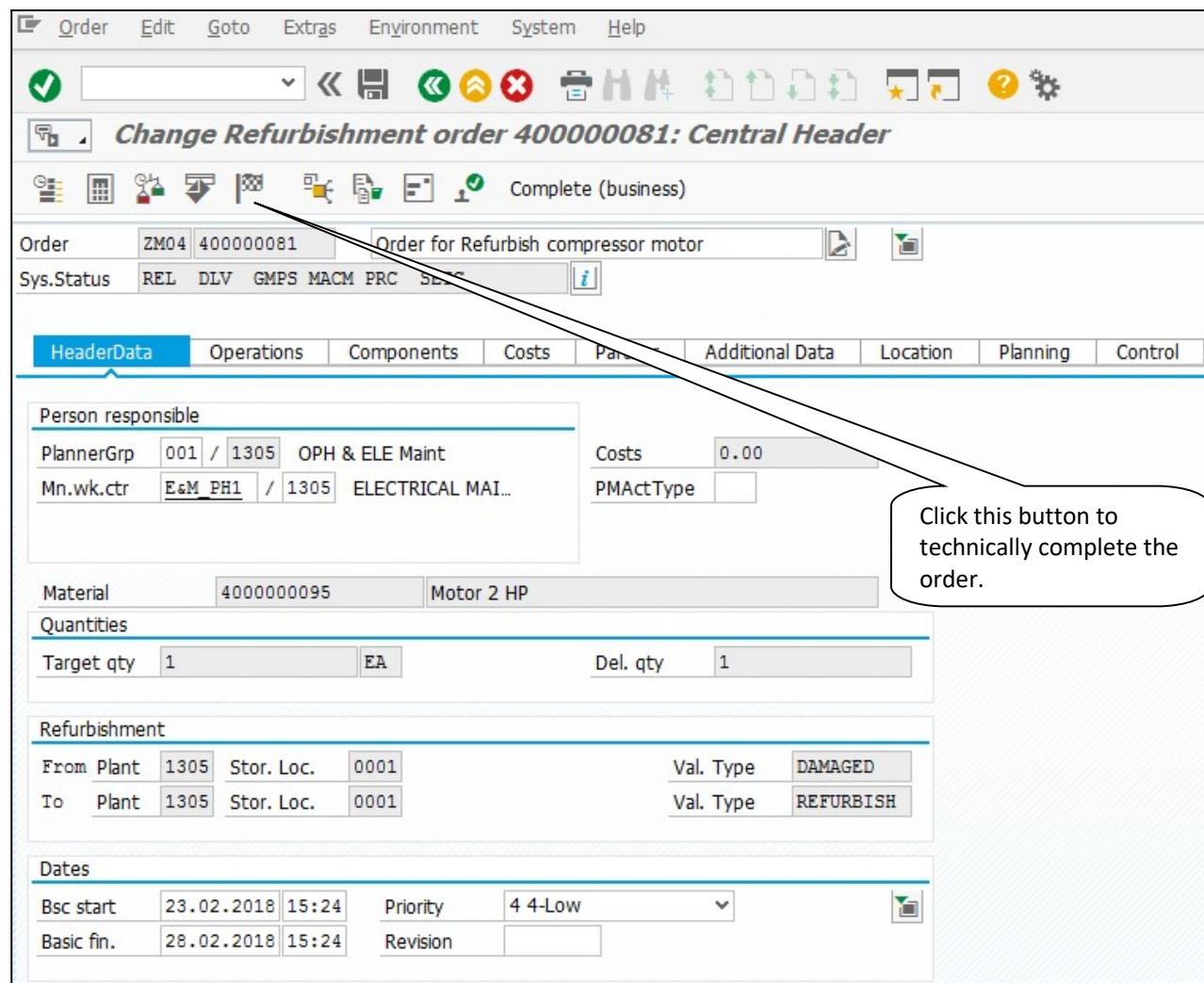
Cost Element	Cost Element (Text)	Σ	Total plan costs	Σ	Total actual costs	Σ	Plan/actual variance	P/A var(%)	Currency
72200004	O&M Damage		0.10		0.10		0.00		INR
74105000	Turbine Incl CondensorBearing Cool Oil S		100.00		0.00		100.00-	100.00-	INR
<b>Debit</b>			<b>100.10</b>		<b>0.10</b>		<b>100.00-</b>		<b>INR</b>
72200005	O&M Refurbishment		17,000.00-		17,000.00-		0.00		INR
<b>Delivery</b>			<b>17,000.00-</b>		<b>17,000.00-</b>		<b>0.00</b>		<b>INR</b>
			<b>16,899.90-</b>		<b>16,999.90-</b>		<b>100.00-</b>		<b>INR</b>

### 13 TECHNICAL COMPLETION OF ORDER

After returning refurbished material piece(s) to store, the responsible Maint. dep't will technically complete the order.

For technical completion open the Refurbishment order in change mode as shown in breakdown process user manual.

On the screen **Change Refurbishment order**, as shown below, click  button to technically complete the order.



**Change Refurbishment order 400000081: Central Header**

Order: ZM04 400000081 Order for Refurbish compressor motor

Sys.Status: REL DLV GMPS MACM PRC SESS

Complete (business)

HeaderData | Operations | Components | Costs | Additional Data | Location | Planning | Control

Person responsible

PlannerGrp: 001 / 1305 OPH & ELE Maint

Mn.wk.ctr: E&M\_PH1 / 1305 ELECTRICAL MAI...

Costs: 0.00

PMActType

Material: 4000000095 Motor 2 HP

Quantities

Target qty: 1 EA Del. qty: 1

Refurbishment

From Plant: 1305 Stor. Loc.: 0001 Val. Type: DAMAGED

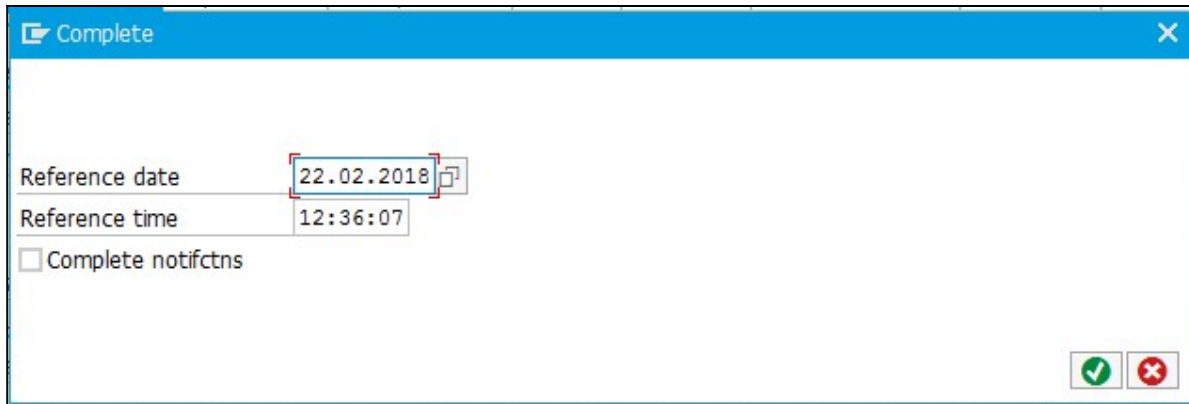
To Plant: 1305 Stor. Loc.: 0001 Val. Type: REFURBISH


Dates


Bsc start: 23.02.2018 15:24 Priority: 4 4-Low

Basic fin.: 28.02.2018 15:24 Revision:

Following popup will come with reference date & time proposal. Confirm this by clicking the green tick button as shown below.



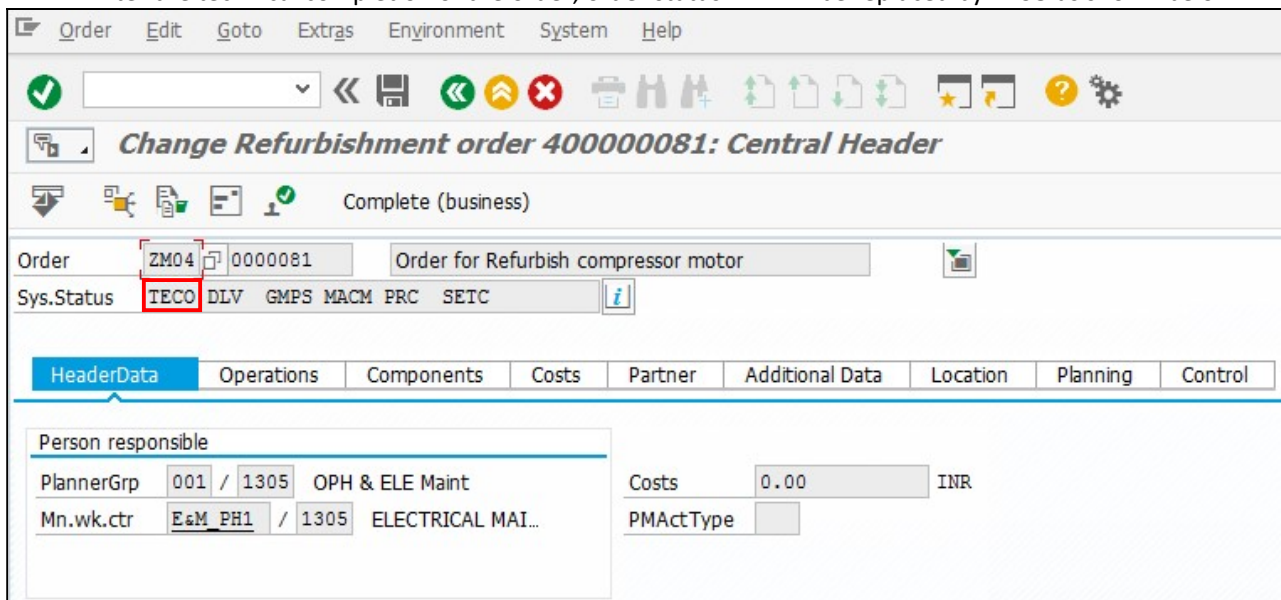
Click Save button  in the standard toolbar at top of the screen to save the changes

 Order saved with number 400000081

System will give a message in the message bar that your Order saved as shown above.



After the technical completion of the order, order status REL will be replaced by TECO as shown below.



After TECO the order fields become grey and cannot be changed. Only limited functions can be done on order like

- Actual cost can come on order e.g. external service cost through service entry sheet when done after TECO
- Order cost settlement can be done to settle the cost on cost centre by the F&A dep't at their month end activities.
- Order closing (business completion) after settlement.



## 14 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: - 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.

## **15 APPENDIX**

### **15.1 T - CODES FOR REOPRTS**

<b>T-Code</b>	<b>Description</b>
IW38	PM Order List Change
IW39	PM Order List Display
IW47	Display PM Order Confirmation using Operation List
MM60	Materials List
MMBE	Display Material Stock Overview

## 15.2 T - CODES FOR PM

T-Code	Description
IW81	Create Refurbishment Order
IW32	Change PM Order
IW33	Display PM Order
IW41	PM Order Confirmation
IW42	Overall Completion Confirmation
IW43	Display PM Order Confirmation
IW45	Cancel PM Order Confirmation
IW8W	Goods Receipt with respect to Refurbishment Order
ML81N	Service Entry Sheet