



RAIL DIVISION

North Carolina Department of Transportation

MATERIALS MANAGEMENT STANDARD OPERATING PROCEDURE

Wheelset Inventory Management MCSOP – 0001006A

Revision Level 0

Issued (April 4, 2016)

Approved by: **Kyle O. Anderson**
Rail Operations Manager
NCDOT Rail Division
koanderson@ncdot.gov



Wheelset Inventory Management

REVISION LEVEL HISTORY

REV LVL	ISSUE DATE	AUTHOR	CHECKED	CHANGE DETAILS



Wheelset Inventory Management

Table of Contents

1. Purpose	4
2. Scope.....	4
3. Hierarchy.....	4
4. Personnel Requirements.....	4
5. Procedure.....	4
5.1 Add Wheelset to Inventory.....	5
5.2 Replace Installed Wheelset.....	21
5.3 Repair/Refurbish Condemned Wheelsets	40
5.4 Receive wheelset back into inventory.	56
6. Tips and Tricks.....	66
6.1 ME22N—Close Internal Purchase Order.....	66
6.2 IW33—Display Individual Work Order.....	66



WHEELSET INVENTORY MANAGEMENT PROCESSES: GENERAL

1. Purpose

This specification defines the requirements for managing wheelsets throughout the cradle-to-grave lifecycle.

2. Scope

Material Control Personnel are the only authorized employees permitted to receive wheelsets into the warehouse inventory and to process receipt/issuance of wheelsets within SAP.

3. Hierarchy

This specification is the top-level NCDOT document regarding the requirements for all lifecycle processes for serialized wheelsets. If any other documents are found to be non-compliant with regard to this specification, the requirements of this specification shall govern.

4. Personnel Requirements

The receiving of wheelsets into the warehouse inventory and SAP shall be performed only by individuals with appropriate material control and SAP skills and understanding of NCDOT's high standards for proper documentation of inventory.

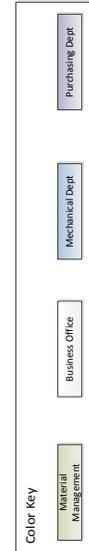
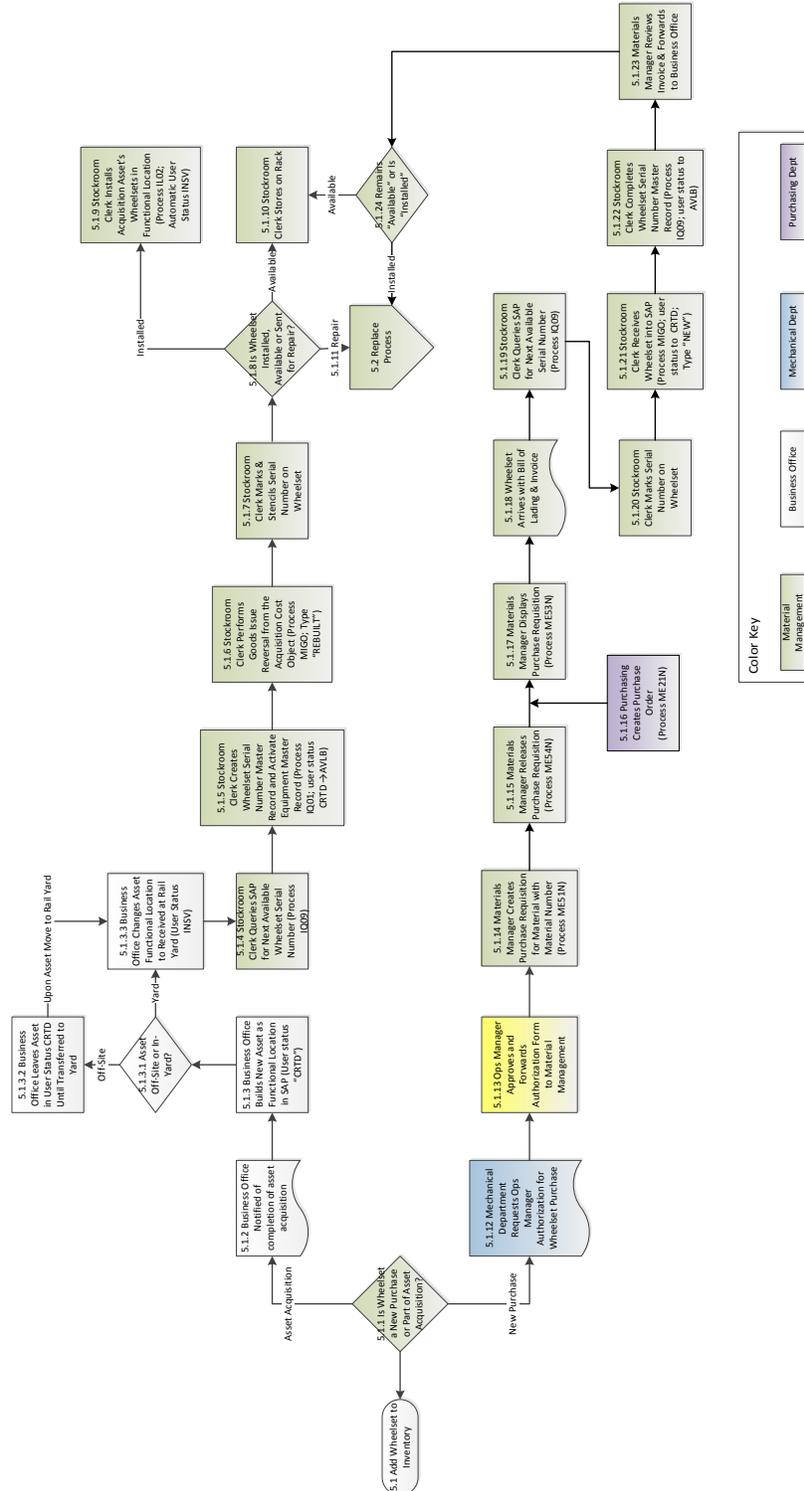
5. Procedure

The following procedural steps outline a series of lifecycle processes involved in NCDOT Wheelsets. Some of these processes are infrequent (e.g.: Add New Wheelset to Inventory), and others are more regular (e.g.: Replace and Repair/Refurbish). Unless indicated otherwise, Material Control personnel are responsible for executing these steps.



WHEELSET INVENTORY MANAGEMENT PROCESSES: ADD TO INVENTORY

5.1 Add Wheelset to Inventory





Wheelset Inventory Management

Figure 1: Add Wheelset to Inventory Process Flow Diagram

- 5.1.1 Determine if wheelset is a new purchase or an equipment component of an asset acquisition. If new purchase, proceed to 5.1.12; if equipment component of an asset acquisition, proceed to 5.1.2.
- 5.1.2 Business Office notified of completion of asset acquisition.
- 5.1.3 Business Office builds the new asset as Functional Location.
 - 5.1.3.1 Determine if the asset is located off-site or on-yard. If off-site, proceed to 5.1.3.2; if on-yard, proceed to 5.1.3.3.
 - 5.1.3.2 If asset is off-site, leave the asset in “CRTD” status until it has been physically received on-yard; once asset is received on-yard, proceed to 5.1.3.3.
 - 5.1.3.3 Receive the asset into yard by changing user status to INSV in SAP.
- 5.1.4 Stockroom Clerk queries SAP for next available serial number.

Transaction	IQ09
Information Required	Material Number of same-type wheelset
Results	View a list of all serial numbers that have been issued for same-type wheelsets so you can choose the next available serial number to assign to a new wheelset

- 5.1.4.1 Enter transaction code IQ09 in the Command field on the SAP Easy Access screen.
- 5.1.4.2 Enter the appropriate Material Number for the type of wheelset for which the serial number is needed in the Material field.
- 5.1.4.3 Select . The Display Material Serial Number: Serial Number List displays.
- 5.1.4.4 Select the Serial Number column at the header to highlight all numbers in the column.
- 5.1.4.5 Select  to sort the list by serial number.
- 5.1.4.6 Write down the next available number higher than the highest in the sequence of existing serial numbers.
- 5.1.5 Stockroom Clerk creates wheelset Serial Number Master Record and activates Equipment Master Record for wheelset (User status CRTD → AVLB).



Wheelset Inventory Management

Transaction	IQ01
Information Required	Material Number of same-type wheelset
Results	Serial Number Master Record and Equipment Master Record created for new wheelset

- 5.1.5.1 Enter transaction code IQ01 in the Command field on the SAP Easy Access screen.
- 5.1.5.2 Enter the appropriate Material Number for the type of wheelset for which the serial number is needed in the Material field.
- 5.1.5.3 Enter the available serial number that was written down in step 5.1.4.6 above.
- 5.1.5.4 Enter the same Material Number into the Reference box Material field.
- 5.1.5.5 Enter an existing serial number for the same type of wheelset into the Reference box Serial Number field.
- 5.1.5.6 Select  or press Enter. The Create Material Serial Number: SerNo.Detail screen displays.
- 5.1.5.7 Select  Equipment view . The General, Location, Organization, and Structure tabs display to the left of the SerData tab.
- 5.1.5.8 Select the General tab.
 - 5.1.5.8.1 Enter 1060 into Object Type field to designate Rail Division.
 - 5.1.5.8.2 All other fields are optional.
- 5.1.5.9 Select the Location tab.
 - 5.1.5.9.1 Enter 1510 into Maint Plant field.
 - 5.1.5.9.2 Enter 092 into Location field (designates Wake County).
 - 5.1.5.9.3 Enter R01 into Plant section field (designates Rail Planner).
 - 5.1.5.9.4 Enter RAILWORK into Work center field.
- 5.1.5.10 Select the Organization tab.
 - 5.1.5.10.1 Enter 1500 into Company Code field; will default with previous entry and validation (press ENTER) of Maint Plant 1510



Wheelset Inventory Management

5.1.5.10.2 Enter 150716 into Cost Center field.

5.1.5.10.3 Enter 32162 into WBS Element field.

5.1.5.10.4 Planning plant will default with 1510 with previous entry and validation (press ENTER) of Maint Plant 1510.

5.1.5.10.5 Enter R01 into Planner group field.

5.1.5.10.6 Enter RAILWORK into Main WorkCtr field.

5.1.5.10.7 Enter PM01 into Catalog Profile.

5.1.5.11 Select the Structure tab.

5.1.5.11.1 Material Number will default into Const Type field with validation (press ENTER) of any field following Equipment view activation.

NOTE

Functional Location will be populated with the Installation of the wheelset onto a rail car or loco.

5.1.5.12 Select the SerData tab.

5.1.5.12.1 Enter NEW, REBUILT, or CORE into Master Batch field, depending on nature of purchased wheelset.

NOTE

The Stock information will be populated by the system at SAVE of the MIGO Goods Receipt.

5.1.6 Stockroom Clerk performs Goods Issue Reversal from the Acquisition Cost Object (Process MIGO; Type "REBUILT").

Transaction	MIGO, IQ09, & IQ02
Information Required	Material Number of wheelset(s) Quantity of wheelsets Work Breakdown Structure (WBS) Element (from Business Office) Serial Numbers assigned to acquired/new wheelset(s) Valuation Types (CORE; REBUILT) assigned by serial number to acquired/new wheelset(s)
Results	Costs of acquired/new wheelsets are assigned to proper WBS Element

NOTE

When there are multiple wheelsets with different Valuation Types to process, you will repeat this MIGO transaction on separate Line Items for each different Valuation Type. For example, the Functional Location has four wheelsets. Three of them will remain on the Functional Location, but one of them has been condemned. In this scenario, you may process the three remaining on the Functional Location on one MIGO transaction Line Item, assigning the Valuation Type of "REBUILT," but the condemned wheelset must be processed on a



Wheelset Inventory Management

separate MIGO Line Item to assign the Valuation Type of “CORE” to that wheelset.

- 5.1.6.1 Enter transaction code MIGO into the Command field on the SAP Easy Access screen.
- 5.1.6.2 Ensure and are the selected drop-down options; change the defaults if necessary.
- 5.1.6.3 Change the entry in the GI for project field to 222, if necessary.
- 5.1.6.4 Select , or press Enter.
- 5.1.6.5 On the “Material” tab, enter the Material Number of the wheelset(s) into the Material field, and press Enter.
- 5.1.6.6 On the “Quantity” tab, enter the count of wheelsets receiving the same Valuation Type, and press Enter.
- 5.1.6.7 On the “Where” tab:
 - 5.1.6.7.1 Verify the Movement Type is 222.
 - 5.1.6.7.2 Enter 1510 into the Plant field.
 - 5.1.6.7.3 Enter 0683 into the Storage Location field, and press Enter.
- 5.1.6.8 On the “Account Assignment” tab:
 - 5.1.6.8.1 Enter 150716 into the Cost Center field.
 - 5.1.6.8.2 Enter 6080 into the Functional Area field.
 - 5.1.6.8.3 Select the button. The Coding Block screen displays.
 - 5.1.6.8.4 Enter the WBS Element number (typically 32162, but confirm this with the Business Office) into the WBS Element field, and select to accept and close.
 - 5.1.6.8.5 Press Enter.
- 5.1.6.9 On the “Serial Numbers” tab, enter the assigned Serial Numbers for the acquired/new wheelsets that all share the same Valuation Code (CORE or REBUILT), and press Enter.
- 5.1.6.10 Return to the “Material” tab, now newly populated with the Valuation Type field; enter the appropriate Valuation Type for the wheelset(s) (CORE or REBUILT) into that field, and press Enter.



Wheelset Inventory Management

- 5.1.6.11 Press  to ensure all required fields have been populated properly; fix any errors.
- 5.1.6.12 Press  to post the transaction.
- 5.1.6.13 Select  to save your changes.
- 5.1.6.14 Select  to exit this transaction.
- 5.1.6.15 Enter transaction code IQ09 into the Command field on the SAP Easy Access screen.
- 5.1.6.16 Enter the appropriate Material Number for the type of wheelset for which the serial number is needed into the Material field.
- 5.1.6.17 Select . The Display Material Serial Number: Serial Number List displays.
- 5.1.6.18 Select the Serial Number column at the header to highlight all numbers in the column.
- 5.1.6.19 Select  to sort the list by Serial Number.
- 5.1.6.20 Select the Serial Number(s) of the newly added wheelsets (hold the CTRL key down to select multiple wheelsets), and press Enter. The Change Status page displays with the Serial Number of the first wheelset populated.
- 5.1.6.21 Select , to activate the Change Status page.
- 5.1.6.22 The 1 CRTD Created radio button will be selected. Step through each Status sequentially until the correct one can be selected:
 - 5.1.6.22.1 Select the 2 AVBL Available for Service radio button, and press enter; the 2 AVBL Available text color will change from black to blue. Proceed to the next step (5.1.6.22.2).
 - 5.1.6.22.2 Select the 3 INSV In Service radio button, and press enter; the 3 INSV In Service text color will change from black to blue. If the wheelset will remain installed on the Functional Location, you may proceed to 5.1.9; if the wheelset is being removed and placed on the rack to be repaired/refurbished, proceed to the next step (5.1.6.22.3).



Wheelset Inventory Management

5.1.6.22.3 Select the 4 OOSV Out Of Service radio button, and press enter; the 4 OOSV Out Of Service text color will change from black to blue. Proceed to the next step (5.1.6.22.4).

5.1.6.22.4 Press Enter. If you previously selected more than one Serial Number earlier from the IQ09 list, the next serial number will display in the Serial Number of the Change Status screen. Repeat steps 5.1.6.22.1 through 5.1.6.22.4 for each wheelset in your list.

5.1.6.23 Select  to save your changes.

5.1.6.24 Select  to exit this transaction.

5.1.7 Stockroom Clerk chalk marks and stencils (on the axle) the wheelset with newly assigned serial number.

5.1.8 Stockroom Clerk determines if wheelset is “installed,” “available,” or “sent for repair.” If installed, proceed to 5.1.9. If available, proceed to 5.1.10. If it will be sent for repair, proceed to 5.1.11.

5.1.9 When the wheelset is still installed on the acquired asset, install in acquired asset Functional Location in SAP.

Transaction	IL02
Information Required	Functional location of equipment being replaced Material number of replacement equipment Serial number of replacement equipment
Results	Wheelset installed in SAP to newly acquired functional location

Note

When the equipment is installed in SAP, the user status is automatically changed from AVLB (Available) to INSV (In Service)

5.1.9.1 Enter transaction code IL02 into the Command field on the SAP Easy Access.

5.1.9.2 Select  or press Enter. The Change Functional Location: Initial Screen displays.

5.1.9.3 Enter the functional location to receive the replacement equipment into the Functional loc. Field.

5.1.9.4 Select  or press Enter. The Change Functional Location: Master data screen displays with the general tab selected.

5.1.9.5 Select the structure tab.



Wheelset Inventory Management

- 5.1.9.6 Select  in the equipment section. The InstallLoc: Install equipment screen displays.

Note

If other equipment is currently installed at the functional location, the InstallLoc.: Equipment Overview screen displays. Select  Installation to install additional equipment.

- 5.1.9.7 Select in the first available line of the Equipment column.
- 5.1.9.8 Select . The Equipment Number dialog box displays.
- 5.1.9.9 Select the Material Serial Numbers tab.
- 5.1.9.10 Enter the appropriate material number into the Material field, if necessary.
- 5.1.9.11 Select or press Enter. A list of equipment matching the material number displays.
- 5.1.9.12 Double click the serial number of the replacement equipment. The InstallLoc.: Install Equipment screen displays with the Equipment column populated.

Note

This is the serial number recorded in the MIGO- Issue/Return Serialized Material from/to Inventory procedure.

- 5.1.9.13 Repeat steps 8 - 12 as necessary for additional equipment to install.
- 5.1.9.14 Select  to return to the Change Functional Location: Master data screen.
- 5.1.9.15 Select  to save your changes.
- 5.1.9.16 Select  to exit this transaction. (Add Wheelset process ends here.)
- 5.1.10 When wheelset has been removed from acquired asset:
- 5.1.10.1 Leave in AVLB user status in SAP.
- 5.1.10.2 Store wheelset on rack.
- 5.1.10.3 Add Wheelset process ends here.
- 5.1.11 When wheelset will be sent for repair/refurbishment, proceed to 5.2 (Replace Process).



Wheelset Inventory Management

- 5.1.12 Mechanical Department requests Rail Operations Manager authorization for new wheelset purchase
- 5.1.13 Rail Operations Manager Approves and Forwards Authorization Form to Material Management.
- 5.1.14 Materials Manager creates Purchase Requisition for Material with Material Number.
- 5.1.14.1 Enter transaction code ME51N into the Command field on the SAP Easy Access screen.
- 5.1.14.2 Select  or press Enter.
- 5.1.14.3 The Create Purchase Requisition screen displays.
- 5.1.14.4 Select  in the field to the right of , then select DOT Standard Req., if necessary.
- 5.1.14.5 Select  to expand the Item Overview section, if necessary.
- 5.1.14.6 Enter or select a value for the following required fields:
- Material - material number
 - Quantity -total number of items needed
 - Plant-1510
 - Storage Location- 0683 (Raleigh)
- 5.1.14.7 Select  or press Enter.
- 5.1.14.8 The Item Detail section displays.
- 5.1.14.9 Enter account assignment data.
- 5.1.14.10 Select the Source of Supply tab.
- 5.1.14.11 Enter a vendor number into the Desrd Vndr field, if a specific vendor is desired.
- 5.1.14.12 Select  to check the requisition for errors.
- 5.1.14.13 Select . The following message displays: Purchase requisition XXXXXXXXXX created
- 5.1.14.14 Record the Purchase Requisition number.
- 5.1.14.15 Select  to exit this transaction.
- 5.1.15 Materials Manager releases Purchase Requisition.



Wheelset Inventory Management

Transaction	ME54N
Information Required	Purchase Requisition Number
Results	Wheelset approved for purchase.

5.1.15.1 Enter transaction code ME54N into the Command field on the SAP Easy Access screen.

5.1.15.2 Select  or press Enter.

Note

If the Information dialog box displays with the message Purchase requisition XXXXXXXXXXXX cannot be released, you will press Enter to clear the dialog box. Proceed to next step (step 5.1.15.3).

If the Display Purchase Req XXXXXXXXXXXX screen displays, the last Purchase Requisition accessed has been released. Proceed to next step (step 5.1.15.3).

If the Release Purchase Req XXXXXXXXXXXX screen displays, review the purchase order number in the screen title. If it is correct, proceed to step 5.1.15.5 or 5.1.15.6, as appropriate. If not, continue with next step (5.1.15.3).

5.1.15.3 Select  to select a different Purchase Requisition. The Select Document dialog box displays.

5.1.15.3.1 Ensure the Purch. requisition radio button is selected.

5.1.15.3.2 Enter the number of the Purchase Requisition into the Purchase Requisition field.

Note

This is the Purchase Requisition number recorded above in step 5.1.14.14 in the ME51N Create Purchase Requisition procedure.

5.1.15.3.3 Select Other Document button.

5.1.15.3.4 The Release Purchase Req. xxxxxxxxxx screen displays the selected Purchase Requisition with the Release strategy tab selected.

5.1.15.4 If Purchase Requisition has multiple lines and all will be released, proceed to 5.1.15.5; if only one line of Purchase Requisition will be released, go to 5.1.15.6.

5.1.15.5 Release All Lines

5.1.15.5.1 Select  to the left of the column headings in the Item Overview section to select all lines of the Purchase Requisition.



Wheelset Inventory Management

5.1.15.5.2 Select . The release option values on the Release strategy tab change to , and the following message displays: Release executed

5.1.15.5.3 Proceed to step 5.1.15.7.

5.1.15.6 Release One Line

5.1.15.6.1 Select to the left of the line to release in the Item Overview section.

5.1.15.6.2 Select  on the Release strategy tab for the line that corresponds to your approver status. The release option value changes to , and the following message displays: Release effected with release code [A 1, A2 or A3]

5.1.15.7 Select . The following message displays: Purchase requisition XXXXXXXXXXXX changed

Note

If the Purchase Requisition was released by the A1 approver and A2 approver, this procedure must be repeated by the A3 approver before a purchase order can be created.

5.1.15.8 Select  to exit this transaction.

5.1.16 Purchasing creates Purchase Order.

5.1.17 Materials Manager displays Purchase Requisition.

Note

You should regularly check to see if the purchase order has been created by Purchasing by displaying the Purchase Requisition.

5.1.17.1 Enter transaction code ME53N into the Command field on the SAP Easy Access screen.

5.1.17.2 Select  or press Enter. The Display Purchase Req. XXXXXXXXXXXX screen displays the last Purchase Requisition accessed.

Note

If the Purchase Requisition displayed is not the desired Purchase Requisition, select  and enter the number of the desired Purchase Requisition in the Purchase Requisition field. Ensure the Purch. requisition radio button is selected, then press Enter.



Wheelset Inventory Management

5.1.17.3 Select the Status tab.

5.1.17.4 Review the Proc. Status field.

Note

When the Proc.Status field value is PO created, the purchase order has been created.

Find the line for the Purchase order in the Doc. cat. long text column. The corresponding number in the Purch.Doc. column is the purchase order number.

Record the number for future reference.

5.1.17.5 Select  to exit this transaction.

5.1.18 Wheelset arrives with Bill of Lading (BOL) and invoice.

5.1.18.1 Stockroom Clerk notifies forklift operator of arrival.

5.1.18.2 Stockroom Clerk receives the wheelset shipment by:

5.1.18.2.1 Verifying the delivery address.

5.1.18.2.2 Verifying the number of wheelsets delivered matches the BOL. for evidence of damage.

5.1.18.2.3 Conducting visual inspection to determine if damage is present; if damage is present, proceed to 5.1.18.2.3.1; if no damage is present, proceeds to 5.1.18.3.

5.1.18.2.3.1 Take pictures.

5.1.18.2.3.2 Note details of visible damage on BOL.

5.1.18.2.3.3 Notify Materials Manager who will determine whether to refuse the shipment from the carrier.

5.1.18.2.3.4 If shortages or damage exists it must be noted on the BOL. Do not sign on the line stating "shipment received in apparent good order."

5.1.18.3 As wheelsets are off-loaded, Stockroom Clerk verifies wheelsets are in good order. If there is concealed damage, proceed to step 5.1.18.4. If there is no concealed damage, proceed to 5.1.18.5.

5.1.18.4 Concealed Damage

5.1.18.4.1 Stockroom Clerk notifies the Materials Manager immediately.



Wheelset Inventory Management

5.1.18.4.2 Stockroom Clerk notifies the carrier/vendor immediately.

5.1.18.5 Stockroom Clerk compares wheelset to vendor packing slip; verifying:

5.1.18.5.1 Vendor

5.1.18.5.2 Vendor part number

5.1.18.5.3 NCDOT part number

5.1.18.5.4 NCDOT purchase order number

5.1.18.5.5 Quantities. Determine if there are quantity discrepancies between number of wheelsets and Packing Slip; if there are discrepancies, proceed to 5.1.18.5.5.1; if no discrepancies, proceed to 5.1.19.

5.1.18.5.5.1 If there are discrepancies on the quantity received in comparison to the packing slip, hold the shipment for disposition in the designated area.

5.1.18.5.5.2 Note details of discrepancies on Packing Slip.

5.1.18.5.5.3 Notify Materials Manager.

5.1.18.5.5.4 Notify the vendor and record the resolution on the packing slip.

5.1.18.5.5.5 After the discrepancies have been resolved the wheelsets may be received in SAP and placed in their proper locations.

5.1.19 Stockroom Clerk queries SAP for next available serial number.

Transaction	IQ09
Information Required	Material Number of same-type wheelset
Results	View a list of all serial numbers that have been issued for same-type wheelsets so you can choose the next available serial number to assign to a new wheelset

5.1.19.1 Enter transaction code IQ09 into the Command field on the SAP Easy Access screen.

5.1.19.2 Enter the appropriate Material Number for the type of wheelset for which the serial number is needed into the Material field.



Wheelset Inventory Management

- 5.1.19.3 Select . The Display Material Serial Number: Serial Number List displays.
- 5.1.19.4 Select the Serial Number column at the header to highlight all numbers in the column.
- 5.1.19.5 Select  to sort the list by serial number.
- 5.1.19.6 Write down the next available number higher than the highest in the sequence of existing serial numbers.

5.1.20 Stockroom Clerk chalk marks and stencils (on the axle) the wheelset with newly assigned serial number.

5.1.21 Stockroom Clerk receives wheelset into SAP.

Transaction	MIGO
Information Required	Purchase Order Number
Results	Receives wheelset(s) from Purchase Order into SAP

- 5.1.21.1 Enter transaction code MIGO into the Command field on the SAP Easy Access screen.
- 5.1.21.2 Select  or press Enter. The screen title displays the last executable action and reference document type accessed followed by your user name.
- 5.1.21.3 Select  in the first field, then select Goods Receipt, if necessary.
- 5.1.21.4 Select  in the second field, then select Purchase Order, if necessary.
- 5.1.21.5 Enter the number of the purchase order into the third field.

Note

This is the Purchase Order number recorded above in step 5.1.17.4 in the ME53N – Display Purchase Requisition procedure.

- 5.1.21.6 Ensure 101 displays in the Movement Type field.
- 5.1.21.7 Select  or press Enter. The Goods Receipt Purchase Order XXXXXXXXXXXX--[user name] screen displays.
- 5.1.21.8 Select the checkbox in the OK column for each line to receive.
- 5.1.21.9 Because wheelsets are serialized, the Display logs dialog box displays the following message: Maintain serial numbers for total quantity.
- 5.1.21.10 Select the checkbox, then select the Detail data button.



Wheelset Inventory Management

- 5.1.21.11 Select the Serial Numbers tab, then enter the serial number(s) in the Serial number column.
- 5.1.21.12 Select the Check button. The system displays the following message: Document is O.K.
- 5.1.21.13 Select  or press Enter to continue.
- 5.1.21.14 Select Post button. The following message displays: Material document XXXXXXXXXX posted
- 5.1.21.15 Select  to exit this transaction.

5.1.22 Stockroom Clerk completes wheelset Serial Number Master Record.

Transaction	IQ09
Information Required	Material Number of same-type wheelset Serial Number of new wheelset
Results	Changes user status of newly received wheelset from CRTD to AVLB

Note

Use this procedure to change the user status of a serialized material from CRTD (created) to AVLB (available for service).

- 5.1.22.1 Enter transaction code IQ09 into the Command field on the SAP Easy Access screen.
- 5.1.22.2 Select  or press Enter. The Display Material Serial Number: Serial Number Selection screen displays.
- 5.1.22.3 Enter the wheelset material number to complete into the Material field.
- 5.1.22.4 Select . The Display Material Serial Number: Serial Number List screen displays.
- 5.1.22.5 Select . The screen title changes to Change Material Serial Number: Serial Number List.
- 5.1.22.6 Select to the left of the line with CRTD in the User Status column.
- 5.1.22.7 Select . The Change Equipment: SerNo.Detail screen displays.
- 5.1.22.8 Select  to the right of the Status fields. The Change Status screen displays.
- 5.1.22.9 Select the AVLB Available For Service radio button.



Wheelset Inventory Management

- 5.1.22.10 Select . The Change Equipment: SerNo.Detail screen displays.
 - 5.1.22.11 Select  to save the change. The Change Material Serial Number: Serial Number List screen displays the following message: Equipment XXXXXXXXXX changed
 - 5.1.22.12 Select  to exit this transaction.
- 5.1.23 Materials Manager reviews invoice and forwards to Business Office for processing.
- 5.1.24 Determine if wheelset will remain Available or be Installed; if Available, store on a rack in Rail Yard; if it is to be Installed, proceed to 5.2.



WHEELSET INVENTORY MANAGEMENT PROCESSES: REPLACE

5.2 Replace Installed Wheelset

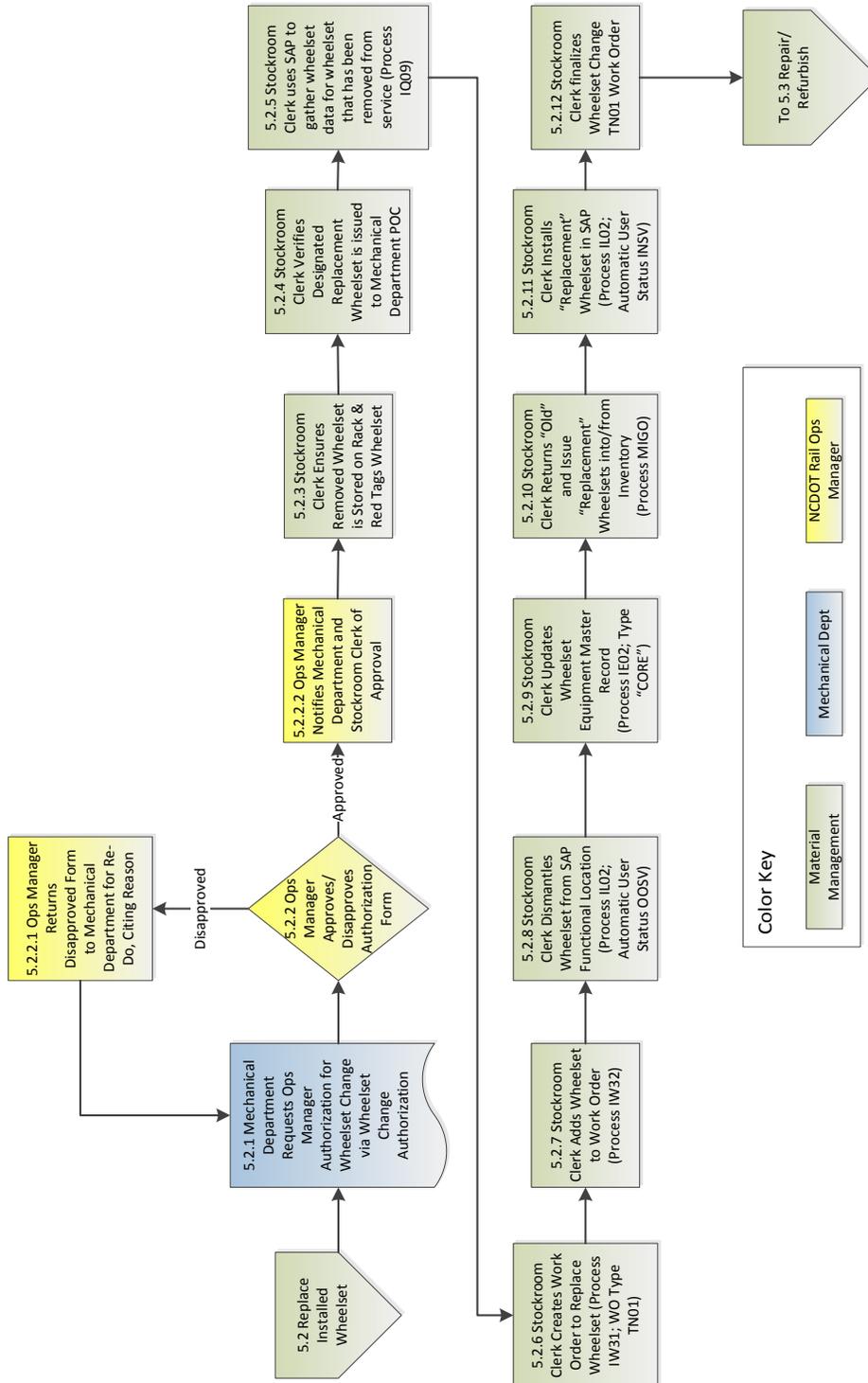


Figure 2: Replace Installed Wheelset Process Flow Diagram



Wheelset Inventory Management

- 5.2.1 Mechanical Department requests NCDOT Rail Operations Manager authorization for wheelset change via Wheelset Change Authorization and Tracking form; there are two Wheelset Change Authorization and Tracking Forms, one for locomotive wheelsets and traction motors, and the other for all other wheelsets. To complete the form:



Figure 3: Locomotive Wheelset Change Authorization and Tracking Form (double click icon to open form)



Figure 4: All Other Wheelsets Change Authorization and Tracking Form (double click icon to open form)

- 5.2.1.1 In “2. WHEELSET POSITION,” the Mechanical Department indicates with an “X” the axle position (Axle 1, Axle 2, Axle 3, or Axle 4) of the wheelset being removed.
- 5.2.1.2 In “3a. NCDOT SERIAL #,” the Mechanical Department enters NCDOT Serial # as stenciled on the wheel set axle of the wheelset being removed.
- 5.2.1.3 **LOCOMOTIVES ONLY:** In “3o. TRACTION MOTOR SERIAL #,” the Mechanical Department enters the serial number of the condemned wheelset’s associated traction motor.
- 5.2.1.4 In each empty “4. WHEEL PLATE #” field, the Mechanical Department enters the wheel position numbers (For example: Axle 1: R1 and L1; Axle 2: R2 and L2; Axle 3: R3 and L3; and Axle 4: R4 and L4) of each wheel associated with the wheel set being removed.
- 5.2.1.5 In the associated “5. RIM THICKNESS MEASUREMENT” fields, the Mechanical Department enters the rim thickness measurements of each wheel as identified by the wheel plate numbers in 4. WHEEL PLATE # fields.
- 5.2.1.6 In the associated “6. FLANGE HEIGHT MEASUREMENT” fields, the Mechanical Department enters the flange height measurements of each wheel as identified by the wheel plate numbers in 4. WHEEL PLATE # fields.
- 5.2.1.7 In the associated “7. FLANGE THICKNESS MEASUREMENT” fields, the Mechanical Department enters the flange thickness



Wheelset Inventory Management

measurements of each wheel as identified by the wheel plate numbers in 4. WHEEL PLATE # fields.

- 5.2.1.8 In the associated "8. WHEEL PLATE S/N" fields, the Mechanical Department enters the wheel plate serial numbers of each wheel as identified by the wheel plate numbers in 4. WHEEL PLATE # fields.
- 5.2.1.9 In "9. REASON FOR WHEELSET REMOVAL," the Mechanical Department enters the condemning criteria/criterion or measurement(s) in the block(s) appropriate to the reason(s) for removing the wheelset.
- 5.2.1.10 In "10a. NCDOT SERIAL #," the Mechanical Department enters the NCDOT Serial # as stenciled on the wheelset axle for the replacement wheelset.
- 5.2.1.11 **LOCOMOTIVES ONLY:** In "10o. TRACTION MOTOR SERIAL #," the Mechanical Department enters the serial number of the replacement wheelset's associated traction motor.
- 5.2.1.12 In each empty "11. WHEEL PLATE #" field, the Mechanical Department enters the wheel position numbers (For example: Axle 1: R1 and L1; Axle 2: R2 and L2; Axle 3: R3 and L3; and Axle 4: R4 and L4) of each wheel associated with the replacement wheel set.
- 5.2.1.13 In the associated "12. RIM THICKNESS MEASUREMENT" fields, the Mechanical Department enters the rim thickness measurements of each wheel as identified by the wheel plate numbers in the 11. WHEEL PLATE # fields.
- 5.2.1.14 In the associated "13. FLANGE HEIGHT MEASUREMENT" fields, the Mechanical Department enters the flange height measurements of each wheel as identified by the wheel plate numbers in the 11. WHEEL PLATE # fields.
- 5.2.1.15 In the associated "14. FLANGE THICKNESS MEASUREMENT" fields, the Mechanical Department enters the flange thickness measurements of each wheel as identified by the wheel plate numbers in the 11. WHEEL PLATE # fields.
- 5.2.1.16 In the associated "15. WHEEL PLATE S/N" fields, the Mechanical Department enters the wheel plate serial numbers of each wheel as identified by the wheel plate numbers in the 11. WHEEL PLATE # fields.



Wheelset Inventory Management

- 5.2.1.17 In “16. COMMENTS,” the Mechanical Department enters any other important information about the wheelset swap that has not previously been covered.
- 5.2.1.18 The Mechanical Department delivers the form to the Material Management Department for completion of the “1. NCDOT MATERIAL #,” “3b. EQUIPMENT #,” and “10b. EQUIPMENT #” fields.
- 5.2.1.19 In the “1. NCDOT MATERIAL #” field, the Material Management Department enters the NCDOT Material # for the wheelset.
- 5.2.1.20 In the “3b. EQUIPMENT #” field, the Material Management Department enters the NCDOT Equipment # for the wheelset being removed.
- 5.2.1.21 In the “10b. EQUIPMENT #” field, the Material Management Department enters the NCDOT Equipment # for the replacement wheelset.
- 5.2.1.22 The Materials Management Department delivers the form to the Mechanical Department Foreperson.
- 5.2.1.23 In “17. Foreperson’s Signature and Date Verifying the Accuracy of the Request,” the Mechanical Department’s Foreperson acknowledges the accuracy of the information on the form AND the condemning need for the wheelset swap action by signing and adding the date of signature to the form.
- 5.2.1.24 In “18. General Manager’s Signature and Date Confirming Accuracy,” the Mechanical Department’s General Manager confirms the accuracy of the information on the form AND the condemning need for the wheelset swap action by signing and adding the date of signature to the form.
- 5.2.1.25 The Mechanical Department delivers the form to the NCDOT Rail Operations Manager for authorization signature.
- 5.2.2 NCDOT Rail Operations Manager reviews the Wheelset Change Authorization and Tracking Form. If approved, proceeds to step 5.2.2.2; if disapproved, proceeds to step 5.2.2.1.
 - 5.2.2.1 NCDOT Rail Operations Manager returns disapproved Wheelset Change Authorization and Tracking Form to Mechanical Department for correction and resubmission, step 5.2.1.



Wheelset Inventory Management

- 5.2.2.2 In “19. NCDOT Rail Operations Manager Authorization Signature and Date for Wheelset Swap as Described Above,” the NCDOT Rail Operations Manager signs and provides date of approval for wheel swap, and returns approved Wheelset Change Authorization and Tracking Form to Mechanical Department to complete fields 20a-22b, 27a-27b, and 28a-28b.
- 5.2.2.2.1 In the “20a. Wheelset Number Returned” field, the Mechanical Department enters the serial number found stenciled on the condemned wheelset’s axle (found on the Wheelset Change Authorization and Tracking Form in field 3a.).
- 5.2.2.2.2 **LOCOMOTIVES ONLY:** In the “20o. Traction Motor Returned Serial Number” field, the Mechanical Department enters the serial number for the traction motor associated with the condemned wheelset (found on the Locomotive Wheelset Change Authorization and Tracking Form in field 3o.).
- 5.2.2.2.3 In the “21. Identify Rack (North or South) To Which Wheelset was Returned” field, the Mechanical Department enters the rack location on which the condemned wheelset is placed.
- 5.2.2.2.4 In the “22a. Returned By (Name)” field, the Mechanical Department enters the name of the Mechanic who returned the condemned wheelset to the Materials Management Department wheelset rack.
- 5.2.2.2.5 In the “22b. Returning Party’s Signature” field, the Mechanic who returned the condemned wheelset to the Materials Management Department wheelset rack signs acknowledging wheelset placement on the rack identified in 21.
- 5.2.2.2.6 Mechanic provides Wheelset Change Authorization and Tracking Form to Materials Management Department.
- 5.2.2.2.7 In the “23a. Returned To (Name)” field, the Materials Management Department enters the name of the Materials Management Department employee who acknowledges receipt of the condemned wheelset on the rack identified in field 21 of the Wheelset Change Authorization and Tracking Form.



Wheelset Inventory Management

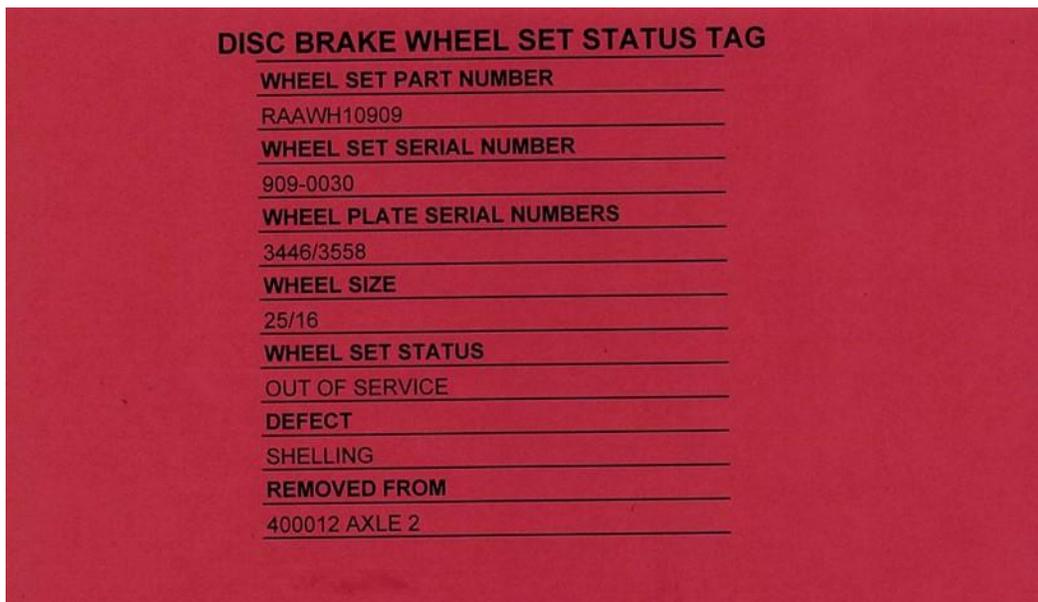
5.2.2.2.8 In the “23b. Receiving Party’s Signature” field, the Materials Management Department employee who acknowledged receipt of the condemned wheelset to the rack identified in field 21 signs the form.

5.2.2.3 Proceed to step 5.2.3.

5.2.3 Stockroom Clerk

5.2.3.1 Verifies removed wheelset is stored on rack.

5.2.3.2 Completes all fields on Red Tag.



DISC BRAKE WHEEL SET STATUS TAG

WHEEL SET PART NUMBER	RAAWH10909
WHEEL SET SERIAL NUMBER	909-0030
WHEEL PLATE SERIAL NUMBERS	3446/3558
WHEEL SIZE	25/16
WHEEL SET STATUS	OUT OF SERVICE
DEFECT	SHELLING
REMOVED FROM	400012 AXLE 2

Figure 5: Example Red Tag

5.2.3.3 Puts Red Tag into weatherproof sleeve and affixes to the wheelset on rack.

5.2.3.4 Completes fields 24a-24b on the Wheelset Change Authorization and Tracking Form.

5.2.3.4.1 In the “24a. Red Tagged By (Name)” field, the Stockroom Clerk who affixes the Red Tag to the condemned wheelset enters his/her name.

5.2.3.4.2 In the “24b. Tagging Party’s Signature” field, the Stockroom Clerk who affixes the Red Tag to the condemned wheelset signs the form.

5.2.4 Stockroom Clerk verifies designated replacement wheelset is issued to Mechanical Department POC and completes fields 25a-26b on the Wheelset Change Authorization and Tracking Form.



Wheelset Inventory Management

- 5.2.4.1 In the “25a. Serial Number of Issued Wheelset” field, the Stockroom Clerk enters the serial number found stenciled on the axle of the issued wheelset; this serial number should be the same one as identified in field 10a. of the Wheelset Change Authorization and Tracking Form.
 - 5.2.4.2 **LOCOMOTIVES ONLY:** In the “25o. Serial Number of Issued Traction Motor” field, the Stockroom Clerk enters the serial number of the traction motor associated with the issued wheelset; this serial number should be the same one as identified in field 10o. of the Wheelset Change Authorization and Tracking Form.
 - 5.2.4.3 In the “26a. Issued By (Name)” field, the Stockroom Clerk who issued the replacement wheelset enters their name.
 - 5.2.4.4 In the “26b. Issuing Party’s Signature” field, the Stockroom Clerk who issued the replacement wheelset signs the form.
 - 5.2.4.5 The Stockroom Clerk provides the form to the Mechanic receiving the replacement wheelset.
 - 5.2.4.6 In the “27a. Issued To (Name)” field, the Mechanic who received the replacement wheelset enters his/her name.
 - 5.2.4.7 In the “27b. Receiving Party’s Signature” field, the Mechanic who received the replacement wheelset signs the form.
 - 5.2.4.8 In the “28. Wheelset Swap Completed By (Names)” fields, the Mechanics who swapped the wheelsets out enter their names.
 - 5.2.4.9 In the “28a. and 28b. Signature of Party 1 and Signature of Party 2 Completing Swap” fields, the Mechanics who swapped the wheelsets sign the forms.
- 5.2.5 Stockroom Clerk uses SAP to gather wheelset data for wheelset that has been removed from service.

NOTE

As an alternative to IH01, IQ09 may be used, however the IQ09 report layout set must include the installed Functional Location so as to correctly identify the wheelset to be "dismantled." The Functional Location by axle position is the Reference Object on the TN01 work order for the wheel swap.

- 5.2.5.1 Enter IH01 into the Command field on the SAP Easy Access screen.
- 5.2.5.2 Select  or press Enter. The Functional Location Structure: Selection screen displays.
- 5.2.5.3 Enter DOT-TRANS-1510 in the Functional Location field.



Wheelset Inventory Management

- 5.2.5.4 Enter 99 in the Display Levels Below field.
- 5.2.5.5 Select the Equipment installed checkbox.
- 5.2.5.6 Select . The Functional Location Structure: Structure List screen displays.
- 5.2.5.7 Select  to the left of functional locations to display the appropriate functional location, if necessary.
- 5.2.5.8 Select  to the left of the appropriate equipment to display the material number, if necessary.

Note

Select the Expand whole button to expand the entire structure, if desired.

- Select  to display the Color Legend dialog box, which provides a key to the colors and icons displayed in the structure, if desired.

-  displays the left of functional locations
-  displays to the left of equipment numbers
-  (Constructn Type) displays to the left of material numbers
- Select  or press Enter to close the dialog box.

- 5.2.5.9 Record the functional location, equipment number(s) and material number(s) to be replaced.
- 5.2.5.10 Double click an equipment number to be replaced. The Display Equipment: General screen displays.
- 5.2.5.11 Ensure INST (installed) and INSV (in service) display in the Status fields.
- 5.2.5.12 Select the SerData tab.
- 5.2.5.13 Ensure the fields on the left side of the Stock Information section are blank to verify that the equipment has been issued from inventory.
- 5.2.5.14 Record the material serial number displayed in the Serial number field.
- 5.2.5.15 Select  to return to the Functional Location Structure: Structure List screen.
- 5.2.5.16 Select  to exit this transaction.

- 5.2.6 Stockroom Clerk creates Maintenance Work Order to replace wheelset.



Wheelset Inventory Management

Transaction	IW31
Information Required	Functional location Required description of work to be performed PM activity type Date work will begin Due date for work to be completed
Results	Work order created
Tip	RECORD WORK ORDER NUMBER BEFORE EXITING

5.2.6.1 Enter transaction code IW31 into the Command field on the SAP Easy Access screen.

5.2.6.2 Select  or press Enter. The Create TRANSIT Corrective Maintenance Order: Initial Screen displays.

5.2.6.3 Enter TN01 into the Order Type field.

5.2.6.4 Enter the functional location of the wheelset to be replaced into the Func. Loc. field.

Note

This is the functional location you recorded above in the IQ09— Gather Wheelset Data for Wheelset that has been Removed from Service, step 5.2.4.4.

5.2.6.5 Press Enter. The Create TRANSIT Corrective Maintenance Order: Central Header screen displays with the HeaderData tab selected.

5.2.6.6 Enter a brief description of the work to be performed into the field to the right of the Order fields.

Note

The first 40 characters of the description are available for searching purposes. Including keywords such as wheelset or using shortened references such as 1792 instead of City of Raleigh in the first part of the description will be helpful if you need to search for a work order by description.

5.2.6.7 Select the PMActType field.

5.2.6.8 Select  to the right of the PMActType field, then double click the appropriate activity type.

Note

If you need to enter additional text describing the work order, select  to the right of the brief description entered in step 5.2.6.6. Enter additional text as necessary. Select  when finished.

5.2.6.9 Enter the date work will begin into the Bsc start field, if other than the defaulted (current) date.



Wheelset Inventory Management

- 5.2.6.10 Enter the due date for work to be completed into the Basic fin. field, if other than the defaulted (current) date.

Note

If the work requires more than one day to perform, select  to expand the Dates section. Clear the Automat. sched. checkbox. Select  to collapse the section.

- 5.2.6.11 Select the Operations tab.
- 5.2.6.12 Select . The Create TRANSIT Corrective Maintenance Order: Initial Screen displays the following message: Order [number] saved with notification [number]
- 5.2.6.13 Write down Work Order number.
- 5.2.6.14 Follow the menu path Order → Change.
- 5.2.6.15 Ensure the same work order number displays in the Order field.
- 5.2.6.16 Select  or press Enter. The Change [order type] [order number]: Central Header screen displays.
- 5.2.6.17 Select  to put the work order in process. The Order: Put in Process dialog box displays.
- 5.2.6.18 Select the Print w/o online window radio button.

Note

If you have not already set up your default printer in SAP, select the Print with online window radio button and search for your SAP printer by selecting  in the OutputDevice field. Enter *SAP* in the Output Device field, then press Enter. Double click your SAP printer from the list that displays.

- 5.2.6.19 Select . The Create TRANSIT Corrective Maintenance Order: Initial Screen displays the following message: Order XXXXXXXXXXX saved with notification XXXXXXXX
- 5.2.6.20 Record the work order number.
- 5.2.6.21 Select  to exit the transaction.
- 5.2.6.22 Complete “29. Work Order to replace wheelset/traction motor (TM) has been created (SAP Process IW31; WO Type TN01)” fields by entering name, date, and signature in the appropriate fields.

5.2.7 Stockroom Clerk Adds Wheelset to TN01 Work Order



Wheelset Inventory Management

Transaction	IW32
Information Required	Work order number Material number of wheelset to be replaced
Results	Available serialized material in inventory reserved for work order

- 5.2.7.1 Enter transaction code IW32 into the Command field on the SAP Easy Access screen.
- 5.2.7.2 Select  or press Enter. The Change Order: Initial Screen displays with the number of the last work order accessed in the Order field.
- 5.2.7.3 If the work order number is not the current active one, enter the number of the work order to be changed in the Order field.
- 5.2.7.4 Select  or press Enter. The Change TRANSIT Corrective Maintenance Order XXXXXXXXXX: Central Heade screen displays with the HeaderData tab selected.
- 5.2.7.5 Select the Components tab.
- 5.2.7.6 Enter the material number of the serialized wheelset to be replaced into the first blank field in the Component column.

Note

This is the material number you recorded in the IQ09 – Stockroom Clerk uses SAP to Gather Wheelset Data procedure.

If you need to search for the number, select  in the first blank field in the Component column. Enter RAA* in the Material field on the Material Number/Material Description tab. Press Enter. Double click the appropriate material.

- 5.2.7.7 Enter -1 into the Reqmnt Qty field.

CAUTION

Be sure to enter -1 (negative one). If you fail to enter the minus symbol, the wheelset movement will be incorrect.

- 5.2.7.8 Enter 0683 (Raleigh) into the SLoc field.
- 5.2.7.9 Enter CORE into the Batch field for the condemned wheelset.
- 5.2.7.10 Enter the material number of the replacement serialized wheelset into the next blank field in the Component column.

Note

This material number should be the same as the material number of the serialized material to be replaced.



Wheelset Inventory Management

5.2.7.11 Enter 1 into the Reqmnt Qty field.

CAUTION

Do not enter a minus symbol.

5.2.7.12 Enter 0683 for the storage location of the replacement serialized material into the SLoc field.

5.2.7.13 Press Enter to validate your entries. The Information dialog box displays the following message: Enter a valuation type for material XXXXX into the "Batch" field

5.2.7.14 Select  or press Enter until the dialog box closes.

5.2.7.15 Select . The Change Order: Initial Screen displays the following message: Order XXXXXXXXXXXX saved with notification XXXXXXXXXXXX

5.2.7.16 Select  to exit this transaction.

5.2.7.17 Complete "30. Wheelset/TM being replaced has been added to Work Order (SAP Process IW32)" fields by entering name, date, and signature in the appropriate fields.

5.2.8 Stockroom Clerk removes (dismantles) wheelset from SAP Functional Location.

Transaction	IL02
Information Required	Functional location of equipment to be replaced Equipment number of wheelset to be replaced
Results	Equipment to be replaced removed from functional location master record

Note

When the equipment is dismantled in SAP, the user status of the equipment is automatically changed from INSV (In Service) to OOSV (Out of Service).

5.2.8.1 Enter transaction code IL02 into the Command field on the SAP Easy Access screen.

5.2.8.2 Select  or press Enter. The Change Functional Location: Initial Screen displays.

5.2.8.3 Enter the functional location from which to remove equipment into the Functional loc. field.

5.2.8.4 Select  or press Enter. The Change Functional Location: Master data screen displays with the General tab selected.

5.2.8.5 Select the Structure tab.



Wheelset Inventory Management

- 5.2.8.6 Select  in the Equipment section. The InstallLoc.: Equipment Overview screen displays.
- 5.2.8.7 Select to the left of the equipment to dismantle. Make Note of the SAP Equipment Number for Step 5.2.9.3.
- 5.2.8.8 Select  Dismantling. The Change Installation/Dismantling Time For Selected Equipment dialog box displays.
- 5.2.8.9 Select to accept the defaulted current date and time.

Note

If the equipment dismantled was the only equipment installed on the functional location, the following message displays: No equipment is installed at functional location DOT-TRANS-1510-XXXXXX-XXX

- 5.2.8.10 Select  to return to the Change Functional Location: Master data screen.
- 5.2.8.11 Select  to save your changes.
- 5.2.8.12 Select  to exit this transaction.
- 5.2.8.13 Complete “31. Returned Wheelset/TM has been dismantled from Functional Location in SAP (SAP Process IL02; User Status OOSV)” fields by entering name, date, and signature in the appropriate fields.

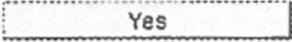
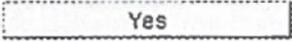
5.2.9 Stockroom Clerk Updates Wheelset Equipment Master Record.

Transaction	IE02
Information Required	Equipment number of wheelset to be replaced
Results	Valuation type of wheelset to be replaced changed to CORE on equipment master record

- 5.2.9.1 Enter transaction code IE02 into the Command field on the SAP Easy Access screen.
- 5.2.9.2 Click  or press Enter. The Change Equipment: Initial Screen displays.
- 5.2.9.3 Enter the equipment number of the dismantled wheelset into the Equipment field.
- 5.2.9.4 Click  or press Enter. The Status management: Change technical object dialog box displays.



Wheelset Inventory Management

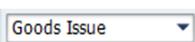
- 5.2.9.5 Click . The Change Equipment: General screen displays with the General tab selected.
- 5.2.9.6 Select the SerData tab.
- 5.2.9.7 Enter CORE into the Master batch field.
- 5.2.9.8 Click  or press Enter. The Status management: Change of material dialog box displays.
- 5.2.9.9 Click .
- 5.2.9.10 Click . The Change Equipment: Initial Screen displays the following message: Equipment XXXXXXXXX changed
- 5.2.9.11 Click  to exit this transaction.
- 5.2.9.12 Complete “31. Returned wheelset/TM Equipment Master Record has been updated in SAP (SAP Process IE02; Type CORE)” fields by entering name, date, and signature in the appropriate fields.

5.2.10 Material Management returns “old” and issues “replacement” serialized wheelsets into/from inventory.

Transaction	MIGO
Information Required	Work order number Serial number of wheelset to be replaced Serial number of replacement wheelset Valuation type of replacement wheelset
Results	Wheelset to be replaced returned to inventory and replacement wheelset issued from inventory
Tip	Record serial numbers of replacement equipment

Note

The dismantled serialized material must be returned to inventory and the replacement serialized material must be issued from inventory. Both actions can be done at the same time using MIGO.

- 5.2.10.1 Enter transaction code MIGO into the Command field on the SAP Easy Access screen.
- 5.2.10.2 Select  or press Enter. The screen title displays the last executable action and reference document type accessed, followed by your user name.
- 5.2.10.3 Select , if necessary.



Wheelset Inventory Management

- 5.2.10.4 Select , if necessary.
- 5.2.10.5 Enter the work order number (recorded earlier in step 5.2.6.20) into the third field.
- 5.2.10.6 Ensure 261 displays in the Movement Type field.
- 5.2.10.7 Select or press Enter. The Goods Issue Order XXXXXXXXXXXX- [user name] screen displays.

CAUTION

Ensure the Valuation Type for the wheelset being removed is CORE. If it is not, the work order is incorrect. Refer to the IW32- Add Serialized Material to Work Order procedure to change the work order.

- 5.2.10.8 Select  to collapse the Data detail section, if necessary.
- 5.2.10.9 Select the checkbox in the OK column for the wheelset to move.
- 5.2.10.10 Select . The Display logs dialog box displays the following messages: Maintain serial numbers for total quantity
Enter valuation type
- 5.2.10.11 Select or press Enter to continue.
- 5.2.10.12 Select to expand the Detail data tabs, if necessary.
- 5.2.10.13 Select the Serial Numbers tab.
- 5.2.10.14 Enter serial number of dismantled wheelset.

- 5.2.10.14.1 Enter the serial number of the dismantled wheelset into the serial number column.

Note

This is the serial number you recorded in the IQ09 – Stockroom Clerk uses SAP to Gather Wheelset Data procedure (5.2.4.4).

Caution

Be careful to enter the correct serial number for the line number displayed in the **Line** field.

- 5.2.10.14.2 Select  to select the next line.
- 5.2.10.15 Find serial numbers for replacement equipment.



Wheelset Inventory Management

5.2.10.15.1 Select  to display the line number of the first replacement equipment in the **Line** field.

Note

If you know the serial number of the replacement equipment, repeat steps 5.2.10.14.1 and 5.2.10.14.2 to enter it, then proceed to step 5.2.10.16. Otherwise, continue with next step (5.2.10.15.2).

5.2.10.15.2 Select  to the right of the serial column. The display material serial number: serial number selection screen displays with the material field populated.

5.2.10.15.3 Select . The display material serial number: serial number list screen displays a list of in-stock material.

Note

If the report does not display columns for batch and statuses, perform the following:

1. Select .
2. Double click the following values in the Column Set section to add them into the Displayed Columns section: Batch, User Status and Equipment.
3. Select . Enter your first name into the Save layout field.
4. Enter a brief description of the layout into the Name field.
5. Select the User-specific and Default setting checkboxes.
6. Select  or press Enter twice to return to the report screen

5.2.10.15.4 Ensure the replacement wheelset (as noted on the Wheelset Change Authorization and Tracking Form) is displaying AVLB in the User Status column and NEW or REBUILT in the Batch column. If so, double click the wheelset. The Goods Issue Order screen displays with the Serial number column populated.

5.2.10.15.5 Record the equipment number, serial number, and batch (valuation type) of the selected wheelset.

5.2.10.16 Enter Valuation Type for Replacement Equipment.

5.2.10.16.1 Select the material tab.



Wheelset Inventory Management

5.2.10.16.2 Select  as necessary to display the line number of the replacement wheelset in the Line field

5.2.10.16.3 Enter the *valuation type of the replacement equipment* into the Valuation Type field.

Note

This is the value (NEW or REBUILT) that displayed in the Batch column in step 5.2.10.15.4.

5.2.10.17 Select . The Display logs dialog box displays the following messages: User status OOSV is active (EQU XXXXXXXXXXXX) Check the status of serial number XXXXX

5.2.10.18 Select  or press Enter to continue.

5.2.10.19 Select  to save and post the selected material numbers to the work order. The following message displays: Material document XXXXXXXXXXXX posted.

5.2.10.20 Complete “33. “Old” Wheelset/TM has been returned into inventory and “Replacement” wheelset/TM has been issued from inventory in SAP (SAP Process MIGO)” fields by entering name, date, and signature in the appropriate fields.

5.2.11 Stockroom Clerk installs replacement wheelset in SAP

Transaction	IL02
Information Required	Functional location of wheelset being replaced Material number of replacement wheelset Serial number of replacement wheelset
Results	Replacement wheelset added to functional location master record

Note

When the equipment is installed in SAP, the user status is automatically changed from AVLB (Available) to INSV (In Service).

5.2.11.1 Enter transaction code IL02 into the Command field on the SAP Easy Access.

5.2.11.2 Select  or press Enter. The Change Functional Location: Initial Screen displays.

5.2.11.3 Enter the functional location that received the replacement equipment into the Functional loc. field.

5.2.11.4 Select  or press Enter. The Change Functional Location: Master data screen displays with the general tab selected.

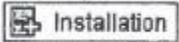


Wheelset Inventory Management

5.2.11.5 Select the structure tab.

5.2.11.6 Select  in the equipment section. The InstallLoc: Install equipment screen displays.

Note

If other equipment is currently installed at the functional location, the InstallLoc.: Equipment Overview screen displays. Select  to install additional equipment.

5.2.11.7 Select in the first available line of the Equipment column.

5.2.11.8 Select . The Equipment Number dialog box displays.

5.2.11.9 Select the Material Serial Numbers tab.

5.2.11.10 If it has not already defaulted to the correct entry, enter the appropriate material number for the replacement wheelset into the Material field.

5.2.11.11 Select or press Enter. A list of equipment matching the material number displays.

5.2.11.12 Double click the serial number of the replacement equipment (this should be the same serial number indicated on the Wheelset Change Authorization and Tracking Form). The InstallLoc.: Install Equipment screen displays with the Equipment column populated.

Note

This is also the serial number selected and recorded in the MIGO- Issue/Return Serialized Material from/to Inventory procedure step 5.2.10.15.5.

5.2.11.13 Select  to return to the Change Functional Location: Master data screen.

5.2.11.14 Select  to save your changes.

5.2.11.15 Select  to exit this transaction.

5.2.11.16 Complete "34. "Replacement" Wheelset/TM has been installed into Functional Location in SAP (SAP Process IL02; User Status INSV)" fields by entering name, date, and signature in the appropriate fields.

5.2.12 Stockroom Clerk finalizes Wheelset Change TN01 Work Order



Wheelset Inventory Management

- 5.2.12.1 Ensure Wheelset Change Authorization and Tracking Form is complete and that the data in SAP matches the transaction documented on Wheelset Change Authorization form.
- 5.2.12.2 Perform a final inventory check/confirmation of the correct SAP data by running an IQ09 query on each serial number and comparing IQ09 data to what is shown on the Wheelset Change Authorization and Tracking Form.
- 5.2.12.3 Complete "35. Wheelset/TM Change TN01 Work Order has been finalized by querying to confirm correct status of both wheelsets/TMs, attaching scan of this form to SAP Work Order, and TECOing in SAP (SAP Processes IQ09 and TECO)" fields by entering name, date, and signature in the appropriate fields.
- 5.2.12.4 Scan Wheelset Change Authorization form and attaches to Wheelset Change TN01 Work Order, and returns form to NCDOT Rail Operations Manager.
- 5.2.12.5 TECO the Wheelset Change TN01 Work Order.
- 5.2.12.6 Provide completed Wheelset Change Authorization and Tracking Form to NCDOT Rail Operations Manager
- 5.2.12.7 NCDOT Rail Operations Manager signs and adds date to field 36 of Wheelset Change Authorization and Tracking Form and files for reference.



WHEELSET INVENTORY MANAGEMENT PROCESSES: REPAIR/REFURBISH

5.3 Repair/Refurbish Condemned Wheelsets

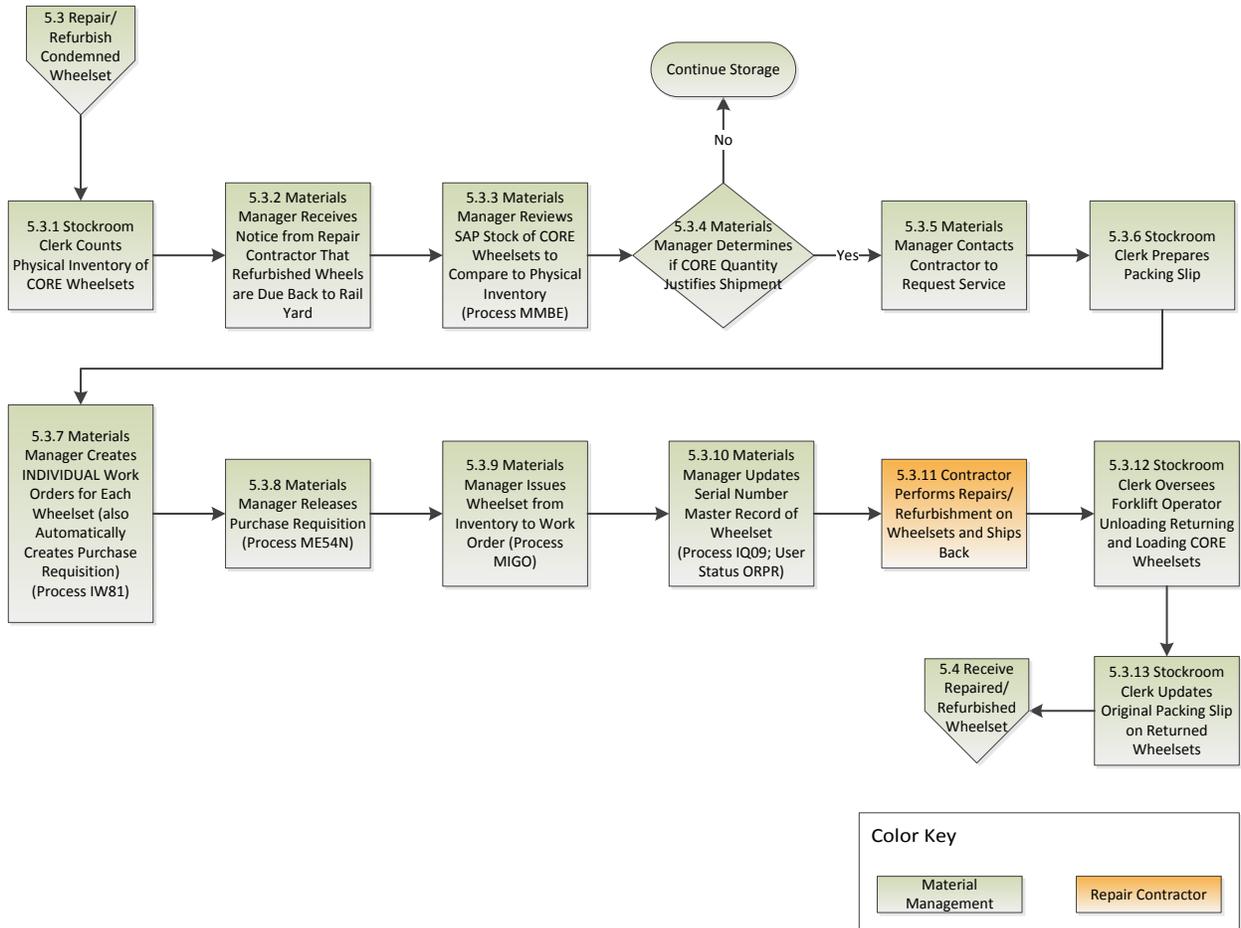


Figure 6: Repair/Refurbish Condemned Wheelset Process Flow Diagram

Note

When wheelsets need repair by certified vendors, Rail creates one TN03 work order per each specific wheelset. Each work order shall contain ONLY ONE wheelset. A certified vendor outline agreement (contract) should always exist for wheel set repairs. TN03 work orders are created referencing the wheel set material number. The outline agreement (contract) number for wheelset repair is referenced when creating the Purchase Requisition within the order. The resulting Purchase Requisition is referenced when creating the quantity Internal Purchase Order against the agreement.

5.3.1 Stockroom Clerk conducts physical count of CORE wheelsets by serial number.



Wheelset Inventory Management

Note

The primary purpose of this transaction is to display the quantity of wheelsets in stock by valuation type. It also allows you to view the serial number, user status and system status for each wheelset. Reviewing this detail data is necessary prior to creating a refurbishment work order. By comparing the CORE serial numbers you saw in your physical count to the SAP data, you ensure that the items you plan to send offsite for repair have the correct valuation type and statuses, and that all wheelsets tagged for refurbishment are sent with the order.

- 5.3.3.1 Enter transaction code MMBE into the Command field on the SAP Easy Access screen.
- 5.3.3.2 Select or press Enter. The stock overview: Company Code/Plant/Storage Location/Batch screen displays.
- 5.3.3.3 Enter the material number of the serialized wheelset to be refurbished into the Material field.
- 5.3.3.4 Enter 1510 into the Plant field.
- 5.3.3.5 Enter 0683 into the Storage location field.
- 5.3.3.6 Select . The Stock Overview: Basic List screen displays the number of items in stock for each valuation type in the Unrestricted use column.
- 5.3.3.7 Select CORE to select it.
- 5.3.3.8 Follow the menu path Environment→Equipment/Serial Number. The Stock Overview: Serial Number List screen displays the serial number, valuation type (in the Batch column), user status and system status for each CORE item.
- 5.3.3.9 Select to the left of the line item to be refurbished.

Note

If you want to select more than one line item, select to the left of the first line item. Press and hold Shift, then select to the left of the last line item.

To select non-consecutive line items, press and hold Ctrl as you select the to the left of each desired line item.

Do not select a line item with any values other than:

Batch -CORE; User Status – OOSV; System status - ESTO

If line items exist with any values other than these, there is an error in the equipment master record that requires investigation.



Wheelset Inventory Management

- 5.3.3.10 Record the material number of the wheelset to be refurbished.
- 5.3.3.11 Select . The Display Equipment: SerNo.Detail screen displays the first equipment selected.
- 5.3.3.12 Record the Equipment and Serial number.
- 5.3.3.13 Select .

Note

If you have additional line items, the Display Equipment: SerNo.Detail screen displays the next line item. Repeat steps 5.3.2.12 - 13 as needed for additional line items.

If this is your last line item, the Stock Overview: Serial Number List screen displays.

A checkmark displays in the Selected line column indicating the line items were processed.

- 5.3.3.14 Select  to exit this transaction.
- 5.3.4 Materials Manager determines if the quantity of CORE wheelsets is sufficient to justify shipment for repair; a minimum of five is required. If yes, proceed to 5.3.5. If no, continue storage.
- 5.3.5 Materials Manager contacts contractor by phone to request service.
 - 5.3.5.1 Contractor informs Materials Manager of count and details of wheelsets returning from repair/refurbishment.
 - 5.3.5.2 Materials Manager informs contractor of count and details of wheelsets being shipped out for repair/refurbishment.
- 5.3.6 Stockroom Clerk prepares Packing Slip documenting all outbound wheelsets. Double click PDF icon below to open Packing Slip in fillable form version.



Wheelset Packing
Slip.pdf

- 5.3.6.1 At this time, the Stockroom Clerk will complete all fields on the Packing Slip EXCEPT:
 - 5.3.6.1.1 Materials Manager will complete Purchase Order Number field after creation of Purchase Requisition.



Wheelset Inventory Management

5.3.6.1.2 Materials Manager will complete Work Order # fields after creation of Work Orders. (Reminder: EACH wheelset must have its own individual Work Order.)

5.3.6.1.3 Date Rec'd and Qty Rec'd will be completed when the wheelsets are returned to the Rail Yard after repair/refurbishment.

5.3.6.2 Print four copies of the Packing Slip.

5.3.6.2.1 Place one copy into the book.

5.3.6.2.2 Provide two copies to the freight driver.

5.3.6.2.3 Provide one copy to the Materials Manager who will use it to create the Work Orders for the wheelsets.

5.3.7 Materials Manager creates an individual Refurbishment Work Order for each wheelset.

Transaction	IW81
Information Required	Material number of wheelset to be refurbished Description of work to be performed Number of wheelsets to be refurbished (you will have to create a NEW Work Order for each individual wheelset being sent for refurbishment) Serial numbers of wheelsets to be refurbished OQT agreement and line item numbers Moving average price of refurbished wheelsets
Results	Work Order and Purchase Requisition created
Tip	Record work order number

CAUTION

Refurbishment work orders shall contain only one serialized wheelset (identified by material number). If more than one wheelset needs refurbishment, the Refurbishment of Serialized Material Work Orders process shall be executed for each wheelset.

5.3.7.1 Enter transaction code IW81 into the Command field on the SAP Easy Access screen.

5.3.7.2 Select  or press Enter. The Create Order: Initial Screen displays.

5.3.7.3 Enter TN03 into the Order Type field.

5.3.7.4 Enter the material number of the serialized material to be refurbished into the Material Number field.

5.3.7.5 Enter 1510 into the Planning plant field.



Wheelset Inventory Management

- 5.3.7.6 Select or press Enter. The Create TRANSIT Material Refurbishment Order: Central Header screen displays with the HeaderData tab selected.
- 5.3.7.7 Enter a brief description of the work to be performed into the field to the right of the Order fields.
- 5.3.7.8 Enter R01 into the PlannerGrp field, if necessary.
- 5.3.7.9 Enter RAILWORK and 1510 into the Mn.wk.ctr fields, if necessary.
- 5.3.7.10 Ensure 075 displays in the PMActType field.
- 5.3.7.11 Enter the 1 into the Target qty field. This is a default value.
- 5.3.7.12 Enter values for the following fields on the “from” line into the Refurbishment section:
 - 5.3.7.12.1 Plant-1510
 - 5.3.7.12.2 Stor. Loc.- 0683
 - 5.3.7.12.3 Val. Type- CORE
- 5.3.7.13 Enter values for the following fields onto the “To” line in the Refurbishment section:
 - 5.3.7.13.1 Plant-1510
 - 5.3.7.13.2 Stor. Loc - 0683
 - 5.3.7.13.3 Val. Type- REBUILT
- 5.3.7.14 Press Enter to validate your entries.
- 5.3.7.15 Select to clear the Error dialog box and activate the Create TRANSIT Material Refurbishment Order: External Processing Oper dialog box.
- 5.3.7.16 Enter 815 into the Material Group field.
- 5.3.7.17 Enter A14 into the Purch. group field.
- 5.3.7.18 Enter the number of the outline agreement and line item number into the Agreement fields.

Note

If this work order does not reference an outline agreement, leave this field blank

- 5.3.7.19 Enter RAIL-VPO into the Tracking Number field.
- 5.3.7.20 Select or press Enter. The Create TRANSIT Material Refurbishment Order: Central Header screen displays.



Wheelset Inventory Management

5.3.7.21 Select . The Maintain Serial Numbers dialog box displays.

5.3.7.22 Enter the serial number of the wheelset to be refurbished into the Serial Number field.

Note

This is the serial number recorded in the MMBE- Review Stock on Hand & Equipment Master Records procedure, step 5.3.2.

5.3.7.23 Select or press Enter. The Document lines: Display messages dialog box displays.

5.3.7.24 Select or press Enter until both dialog boxes clear.

5.3.7.25 Select to the right of the brief description above the tabs to enter the following text: Refurbish RAAWH1xxxx Wheel Set xxx-xxxx.

Note

For RAAWH1, "xxxx" designates the Material Master. For Wheel Set, "xxx-xxxx" designates the Serial Number of the wheel set being refurbished.

5.3.7.26 Select  to return to the Create TRANSIT Material Refurbishment Order: Central Header screen.

5.3.7.27 Select the Operations tab.

5.3.7.28 Select to the left of the first operation activity.

5.3.7.29 Select . The Create TRANSIT Material Refurbishment Order: External Processing Oper screen displays.

Note

If this work order does not reference an outline agreement, perform the following:

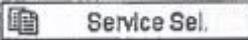
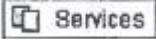
1. Enter a brief description of the service on the first line of the Short Text column.
2. Enter 1 into the Quantity column.
3. Enter AU into the Un column.
4. Enter the cost of the service into the Gross Price column.
5. Press Enter.
6. Enter 0683 into the Stor.Loc. field.



Wheelset Inventory Management

7. Press Enter.

8. Proceed with step 39.

- 5.3.7.30 Select . The Service Selection dialog box displays.
- 5.3.7.31 Ensure the From Purch. Document radio button is selected and the number of the outline agreement and line item number display in the From Purch. Document fields.
- 5.3.7.32 Select . The Select Services as Reference screen displays.
- 5.3.7.33 Select to the left of the appropriate line item.
- 5.3.7.34 Select . The Create Purchase Requisition: Item XXXXX screen displays.
- 5.3.7.35 Enter 0683 into the Stor. Loc. Field.
- 5.3.7.36 Press Enter. The Create TRANSIT Material Refurbishment Order: External Processing Oper screen displays.

Note

Change the value in the Quantity column on the Services tab, if necessary. Press Enter. The value in the Price field updates accordingly.

- 5.3.7.37 Select . The Create TRANSIT Material Refurbishment Order: Operation Overview screen displays.
- 5.3.7.38 Select the HeaderData tab.
- 5.3.7.39 Select . The Create TRANSIT Corrective Maintenance Order: Initial Screen displays the following message: Order saved with number [number]
- 5.3.7.40 Write down Work Order number on Packing Slip.
- 5.3.7.41 Follow the menu path Order → Change.
- 5.3.7.42 Ensure the same work order number displays in the Order field.
- 5.3.7.43 Select  or press Enter. The Change TRANSIT Material Refurbishment Order [order number]: Central Heade screen displays.
- 5.3.7.44 Follow the menu path Extras → Documents for Order → Document Flow.
- 5.3.7.45 Record the Purchase Requisition number.



Wheelset Inventory Management

- 5.3.7.46 Select  to return to the Change TRANSIT Material Refurbishment Order [order number]: Central Heade screen.
- 5.3.7.47 Select . The Order: Put in Process dialog box displays.
- 5.3.7.48 Select the Print w/o online window radio button.
- 5.3.7.49 Select or press Enter. The following message displays:
Order saved with number XXXXXXXXXXXX.

Note

When a refurbishment work order is created and saved, SAP automatically creates a Purchase Requisition for the work order

- 5.3.7.50 Record the work order number on the appropriate line on the Packing Slip copy.
- 5.3.7.51 Select  to exit this transaction.
- 5.3.7.52 Provide copy of amended Packing Slip to Stockroom Clerk to update master electronic copy.

5.3.8 Materials Manager releases Purchase Requisition

Transaction	ME54N
Information Required	Work order number
Results	Purchase Requisition released
Tip	Record purchase requisition number Purchase Requisition must be released by the A 1 approver and again by the A3 approver

Note

A Purchase Requisition is created for the work order to request that the funds necessary to perform the service be allocated. All Purchase Requisitions must be released by the A 1 approver and A2 approver, and finally again by the A3 approver.

- 5.3.8.1 Enter transaction code ME54N into the command field on the SAP Easy Access screen.
- 5.3.8.2 Select or press Enter.

Note

If the Information dialog box displays with the message Purchase requisition XXXXXXXXXXXX cannot be released, press Enter to clear the dialog box. Proceed to next step (step 5.3.8.3).

If the Display Purchase Req XXXXXXXXXXXX screen displays, the last Purchase Requisition accessed has been released. Proceed to next step (step 5.3.8.3).



Wheelset Inventory Management

If the Release Purchase Req XXXXXXXXXXX screen displays, review the. description on the Texts tab to determine if the Purchase Requisition is for the applicable refurbishment work order. If it is correct, proceed to step 5.3.8.8. If not, continue with step 5.3.8.3

5.3.8.3 Select  to select a different Purchase Requisition. The Select Document dialog box displays.

5.3.8.4 Enter the Purchase Requisition number into the Purchase Requisition field.

Note

This is the Purchase Requisition number recorded in the IW81- Create Refurbishment Work Order procedure step 5.3.7.45.

If you did not record the requisition number, perform the following to search for it:

1. Select  in the Purchase Requisition field. The Purchase Requisition Number dialog box displays.

2. Select the Purchase Requisitions per Order tab.

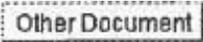
3. Enter the refurbishment work order number into the Order field. (This is the work order number recorded in the IW81 - Create Refurbishment Work Order procedure.)

4. Select  or press Enter. A list displaying the work order that matches the search criteria displays.

5. Double click the Order to populate the Purchase Requisition field in the Select Document dialog box.

6. Record the Purchase Requisition number

5.3.8.5 Ensure the Purch. requisition radio button is selected.

5.3.8.6 Select . The Release Purchase Req. xxxxxxxxxx screen displays the selected Purchase Requisition with the Release strategy tab selected.

5.3.8.7 Select  to switch to release mode, if necessary (If screen says display).

Note

All requisitions must be released at the A3 level in order to create a purchase order or internal purchase order. The release strategy for Rail is as follows:

A1 Materials Manager; Backup: Materials Clerk



Wheelset Inventory Management

A3 \$0 to \$3,000: Rail Division Operations Manager or Administrative Officer II or Backup: Processing Assistant

A3 \$3,001 to \$10,000: Administrative Officer II with approval of Director, Operations & Facilities

A3 \$10,001 and higher: Administrative Officer II with approval of Director, Operations & Facilities and Division Director and Deputy Secretary for Transit

Approvals of Director- Operations & Facilities, Division Director, and Deputy Secretary for Transit are internal and will be obtained by Administrative Officer before approving in SAP.

- 5.3.8.8 Select  in the release options column on the line that corresponds to your approver status. The release option value changes to , and the following message displays: Release effected with release code XX

Note

If the Purchase Requisition has many lines to release, select  to the left of the column headings in the Item Overview section to select all lines, then select .

The XX in the message corresponds to the release level (A1 or A3) selected

- 5.3.8.9 Select . The following message displays: Purchase requisition XXXXXXXXXX changed

Note

If released by the A1 approver, the procedure must be repeated by the A3 approver before a purchase order can be created.

- 5.3.8.10 Select  to exit this transaction.

5.3.9 Materials Manager issues wheelset from inventory to work order.

Transaction	MIGO
Information	Work order number
Required	Serial numbers of wheelset to be refurbished
Results	Wheelset to be refurbished issued from inventory

Note

The wheelsets to be refurbished must be issued to the refurbishment work order by serial number before the items can be sent offsite.

- 5.3.9.1 Enter transaction code MIGO into the Command field on the SAP Easy Access screen.



Wheelset Inventory Management

- 5.3.9.2 Select , or press Enter. The screen title displays the last executable action and reference document type accessed followed by your user name.
- 5.3.9.3 Select , if necessary.
- 5.3.9.4 Select , if necessary.
- 5.3.9.5 Ensure 261 displays in the Movement Type field.
- 5.3.9.6 Select , or press Enter.
- 5.3.9.7 Enter the number of the refurbishment work order into the third field; captured on the Packing Slip in step 5.3.7.50.
- 5.3.9.8 Press Enter. Details from the refurbishment work order display on the first line item.
- 5.3.9.9 Select to expand the Detail data tabs, if necessary.

Note

If the tabs are already expanded, the button does not display.

- 5.3.9.10 Select the Serial Numbers tab.
- 5.3.9.11 Enter the serial number of the wheelset to be refurbished into the Serial number column; remember, each wheelset requires its own individual Work Order.
- 5.3.9.12 Select the Item OK checkbox.
- 5.3.9.13 Ensure 1 displays in the Line field.
- 5.3.9.14 Select . The following message displays: Document is O.K.
- 5.3.9.15 Select . The following message displays: Material document XXXXXXXXXXXX posted
- 5.3.9.16 Select  to exit this transaction.

5.3.10 Materials Manager updates serial number on Master Record to ORPR.

Transaction	IQ09
Information Required	Work Order number(s) of wheelset(s) to be refurbished
Results	User status of serialized material to be refurbished changed to ORPR on serial number master records



Wheelset Inventory Management

Note

The serial number master records need to be updated to change the user status from OOSV (out of service) to ORPR (out for repair).

- 5.3.10.1 Enter transaction code IQ09 in the Command field on the SAP Easy Access screen.
- 5.3.10.2 Select  or press Enter. The Display Material Serial Number: Serial Number Selection screen displays.
- 5.3.10.3 Enter the material number of the wheelset to update into the Material field.
- 5.3.10.4 Select . The Display material serial Number: Serial Number List screen displays.
- 5.3.10.5 Select . The Change Material Serial Number: Serial Number List screen displays.
- 5.3.10.6 Select to the left of the lines with OOSV in the User Status column.

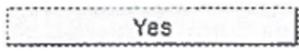
Note

The serial numbers should match those recorded in the MMBE Review Stock on Hand & Equipment Master Records (5.3.3.10), IW81 - Create Refurbishment Work Order procedures (5.3.7.22), and documented on the Packing Slip in step 5.3.7.50.

Note

If you want to select more than one line item, select to the left of the first line item. Press and hold Shift, then select to the left of the last line item.

To select non-consecutive line items, press and hold Ctrl as you select the to the left of each desired line item.

- 5.3.10.7 Select . The Status management: Change technical object dialog box displays.
- 5.3.10.8 Select . The Change Equipment: SerNo.Detail screen displays.
- 5.3.10.9 Select  to the right of the Status fields. The Change Status screen displays.
- 5.3.10.10 Select the ORPR “Out For Repair” radio button.



Wheelset Inventory Management

5.3.10.11 Select . The Change Material Service Number: SerNo.Detail screen displays.

5.3.10.12 Select .

Note

If you selected multiple lines in step 5.3.10.6, the Status management: Change technical object dialog box displays. Repeat steps 5.3.10.8 through 5.3.10.12 for additional equipment to update.

If you selected a single line in step 5.3.10.6, or if this is the last record to process, the Change Material Serial Number: Serial Number List screen displays the following message: Equipment XXXXXXXXX changed.

The equipment number displayed corresponds to the last equipment master record updated.

Checkmarks display in the Selected line column indicating the line items processed.

5.3.10.13 Select  to exit this transaction.

5.3.11 Contractor performs repair/refurbishment work and ships wheelsets back.

5.3.12 Stockroom Clerk oversees Mechanical Department unloading of returning wheelsets and loading of CORE wheelsets for shipping to repair/refurbishment contractor.

5.3.12.1 Unloading of returning wheelsets

5.3.12.1.1 Secure forklift operator from Mechanical Department to unload wheelsets.

5.3.12.1.2 Obtain Bill of Lading from driver.

5.3.12.1.3 Verify the delivery address for the inbound shipment.

5.3.12.1.4 Verify the quantity of wheelsets delivered matches the BOL.

5.3.12.1.5 Conduct visual inspection to determine if damage is present; if damage is present, proceed to 5.3.12.1.5.1; if no damage is present, proceeds to 5.3.12.1.6.

5.3.12.1.5.1 Take pictures.

5.3.12.1.5.2 Note details of visible damage on BOL.

5.3.12.1.5.3 Notify Material Manager who will determine whether to refuse the shipment from the carrier.



Wheelset Inventory Management

- 5.3.12.1.5.4 If shortages or damage exists they must be noted on the BOL. Do not sign on the line stating "shipment received in apparent good order."
 - 5.3.12.1.6 Upon off-load, verify wheelset is in good order. If there is concealed damage, proceed to step 5.3.12.1.6.1. If there is no concealed damage, proceed to 5.3.12.1.7.
 - 5.3.12.1.6.1 Notify the Materials Manager, the General Manager, and the NCDOT Rail Operations Manager immediately.
 - 5.3.12.1.6.2 Notify the carrier/vendor immediately.
 - 5.3.12.1.7 Stockroom Clerk compares wheelsets physically present to Bill of Lading; verifying:
 - 5.3.12.1.7.1 Vendor information.
 - 5.3.12.1.7.2 NCDOT purchase order number.
 - 5.3.12.1.7.3 Wheelset serial numbers as stenciled on axles.
 - 5.3.12.1.7.4 Quantities. Determine if there are quantity discrepancies between contents and Packing Slip; if there are discrepancies, proceed to 5.3.12.1.8 if no discrepancies, proceed to 5.3.12.2.
 - 5.3.12.1.8 If there are any discrepancies in comparison to the Bill of Lading, hold the shipment for disposition in the designated area.
 - 5.3.12.1.9 Note details of discrepancies on Bill of Lading.
 - 5.3.12.1.10 Notify Material Manager.
 - 5.3.12.1.11 Notify the vendor and record the resolution on the Bill of Lading.
 - 5.3.12.1.12 After the discrepancies have been resolved the wheelsets may be received into SAP and placed into their proper locations.
- 5.3.12.2 Loading of ORPR wheelsets for shipment.
- 5.3.12.2.1 As they are loaded, verify that serial numbers stenciled on axles match Packing Slip.



Wheelset Inventory Management

5.3.12.2.2 Check off each axle on retained Packing Slip as it is loaded onto truck.

5.3.12.2.3 Provide two copies of Packing Slip to driver.

5.3.13 Stockroom Clerk updates original Packing Slip(s) created when the returning wheelsets were shipped out.

5.3.13.1 Confirms Packing Slip is correct document by comparing wheelset serial number(s) on Bill of Lading with Packing Slip.

5.3.13.2 Adds Date Rec'd to Packing Slip.

5.3.13.3 Adds Qty Rec'd and Clerk initials to Packing Slip.



WHEELSET INVENTORY MANAGEMENT PROCESSES: RECIEVE

5.4 Receive wheelset back into inventory.

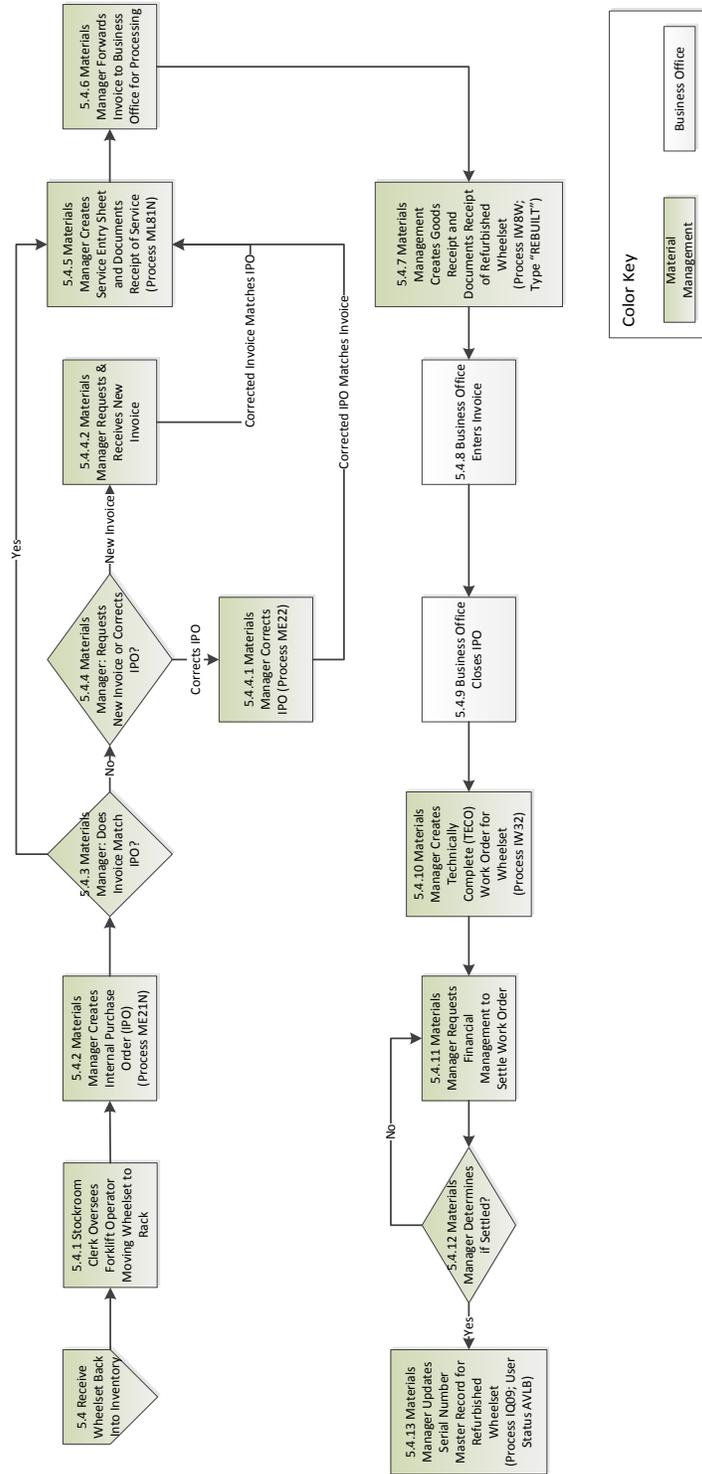


Figure 8: Receive Wheelset Back into Inventory Process Flow Diagram



Wheelset Inventory Management

- 5.4.1 Stockroom Clerk oversees Forklift Operator moving wheelsets to rack.
- 5.4.2 Material Management creates Internal Purchase Order (IPO).

CAUTION

Use the Invoice received from the contractor for the returned wheelsets to create the IPO.

- 5.4.2.1 Enter transaction code ME21N into the Command field on the SAP Easy Access screen.
- 5.4.2.2 Select  or press Enter. The Create Purchase Order screen displays.
- 5.4.2.3 Select  in the field to the right of . then select DOT Quantity IPO, if necessary.

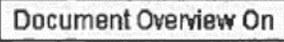
NOTE

If incorrect Document type is selected and process has been started, that is, data has been entered, then the Document Type cannot be corrected. You must exit the process without saving your entries and start the IPO process again from the beginning.

- 5.4.2.4 Change the Doc. date to the date you received the materials.

CAUTION

The Doc. date determines the unit price if there are multiple validity periods on the outline agreement. The date must be entered before the Purchase Requisition is adopted.

- 5.4.2.5 Select  to display the Document Overview section, if necessary.
- 5.4.2.6 Select the right side of , then select My Purchase Requisitions, if necessary.
- 5.4.2.7 Select and drag the Purch.Req. from the Document Overview section to the . Data from the Purchase Requisition that references the outline agreement populates the internal purchase order.

Note

This is the Purchase Requisition number recorded in the ME54N Release Purchase Requisition procedure originally created for that wheelset. This number may be found on the original Packing Slip created to ship the wheelset to the contractor for repair/refurbishment.



Wheelset Inventory Management

If you did not change the Doc. date before adopting the Purchase Requisition, the PO Document date dialog box displays a warning message. If the date in the field is the date of the actual goods receipt, select  to continue with step 5.4.2.8. If the date is incorrect, select , then exit the internal purchase order and start over.

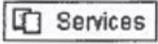
5.4.2.8 Determine if the base repair price matches the actual repair cost. If it does, proceed to 5.4.2.9; if it does not, proceed to next step (5.4.2.8.1).

5.4.2.8.1 Select . The Service Selection dialog box displays.

5.4.2.8.2 Ensure the Outline Agreement number displays in the From Contract field.

5.4.2.8.3 Select  or press Enter. The Select Services as Reference screen displays.

5.4.2.8.4 Select to the left of the line item to adopt.

5.4.2.8.5 Select . The XXXXXXXXXX Create Entry Sheet screen displays the services selected and the remaining available quantity of the purchase order.

5.4.2.8.6 Select  or press Enter.

5.4.2.9 Enter 150716 into the Cost Center field and enter the Work Order Number, if necessary.

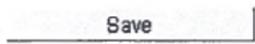
5.4.2.10 Select  or press Enter. The Create Purchase Order screen displays.

5.4.2.11 Select  to check for errors.

5.4.2.12 Select  to clear any messages.

5.4.2.13 Make corrections, if necessary.

5.4.2.14 Select . The following message displays: System messages issued. Do you want to save document or process data?

5.4.2.15 Select . The following message displays: DOT Quantity /PO created under the number XXXXXXXXXX

5.4.2.16 Record the IPO number.



Wheelset Inventory Management

5.4.2.17 Select  to exit this transaction.

5.4.3 Materials Manager compares the invoice to the IPO to ensure the invoice amount matches the amount on the IPO. If the amount matches, record the IPO number(s) with reference to the invoice line items and applicable quantities and proceed to step 5.4.5. If the amount does not match, proceed to step 5.4.4.

CAUTION

Invoice amount must match internal purchase order (IPO) amount.

5.4.4 If the amounts do not match, Materials Manager determines the appropriate corrective action. If correcting the IPO, proceed to step 5.4.4.1. If requesting a new invoice, proceed to step 5.4.4.2.

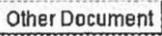
5.4.4.1 Correct the IPO

5.4.4.1.1 Enter transaction code ME22 into the Command field on the SAP Easy Access screen.

5.4.4.1.2 Select  or press Enter. The screen title displays the last purchase order type and number accessed followed by your user name.

5.4.4.1.3 If you do not see the correct Purchase Order, select  to choose a different purchase order. The Select Document dialog box displays.

5.4.4.1.4 Enter the number of the internal purchase order to change into the Pur. order field.

5.4.4.1.5 Click .

5.4.4.1.6 Make necessary changes to values in the Item overview section.

Note:

If the original IPO did not reference the correct outline agreement, you must “Close” the incorrect IPO and create a new one referencing the correct outline agreement. The Close process may be found in the Tips and Tricks section of this document, found here [6.1](#).

5.4.4.1.7 Upon completion of IPO corrections, proceed to 5.4.5.

5.4.4.2 Request New Invoice.



Wheelset Inventory Management

5.4.4.2.1 Contact the vendor to request corrected invoice.

5.4.4.2.2 Upon receipt of corrected invoice, proceed to 5.4.5.

5.4.5 Material Management creates Service Entry Sheet and documents receipt of service.

Transaction	ML81N
Information Required	IPO number Description of service performed Dates between which service was performed
Results	Service entry sheet created

Note

When the refurbished serialized material is returned, it should be physically inspected to ensure the quality of the repair is satisfactory. During this inspection, record the serial numbers of the items returned for future reference.

A service entry sheet is created to record receipt of the service. Refer to the ML81N - Change Service Entry Sheet procedure in the Tips & Tricks section if you need to make changes.

5.4.5.1 Enter transaction code ML81N into the Command field on the SAP Easy Access screen.

5.4.5.2 Select or press Enter. The XXXXXXXXXX Display Entry Sheet screen displays.

Note

If the Service Entry Sheet screen displays or if the service entry sheet displayed is not the desired service entry sheet, select Other Purchase Order. Enter the number of the IPO recorded into the ME21N- Create Value Internal Purchase Order (5.4.2.16) procedure in the Purchase order field.

5.4.5.3 Select or press Enter. The Service Entry Sheet Against Purchase Order XXXXXXXXXX XXXXX screen displays.

5.4.5.4 Select . The XXXXXXXXXX Create Entry Sheet screen displays.

5.4.5.5 Enter text that describes the service performed into the header Short text field.

5.4.5.6 Enter the dates between which the service was performed into the Period (to and from) fields on the Basic Data tab.

5.4.5.7 Press Enter to validate your entries.

Note

If the message Runtime for entry must fall within runtime of purchase order displays, the dates entered in the Period fields fall outside the validity period on the purchase order. Contact the purchasing agent to resolve the issue.



Wheelset Inventory Management

- 5.4.5.8 Select . The Service Selection dialog box displays.
- 5.4.5.9 Ensure the internal purchase order number displays in the From Purchase Order field.
- 5.4.5.10 Select or press Enter. The Select Services as Reference screen displays.
- 5.4.5.11 Select to the left of the line item to adopt.
- 5.4.5.12 Select . The XXXXXXXXXX Create Entry Sheet screen displays the services selected and the remaining available quantity of the purchase order.
- 5.4.5.13 Select  or press Enter.
- 5.4.5.14 Select the Vals tab.
- 5.4.5.15 Ensure the Total value of the service entry sheet is correct.
- 5.4.5.16 Select . The acceptance indicator light changes from  No acceptance to  Will be accepted
- 5.4.5.17 Select . The Entry Sheet XXXXXXXXXX dialog box displays.
- 5.4.5.18 Select . The acceptance indicator light changes to  Accepted, and the following message displays: Service entry sheet saved, acceptance document XXXXXXXXXX posted
- 5.4.5.19 Select  to exit this transaction.

5.4.6 Materials Manager forwards invoice to Business Office for processing.

5.4.7 Material Management creates Goods Receipt and Document Receipt of Refurbished Wheelset.

Transaction	IW8W
Information Required	Work order number Serial numbers of wheelsets sent out for refurbishment (for comparison to serial numbers of refurbished serialized material received)
Results	Goods receipt created
Tip	Record material number and serial number(s) of refurbished serialized material received



Wheelset Inventory Management

- 5.4.7.1 Compare the serial numbers of the refurbished serialized material received to the serial numbers recorded in the MMBE -- Review Stock on Hand and Equipment Master Records procedure (step 5.3.2) to confirm that the items received back match the items sent out.

Note

You must create a Goods Receipt to receive the inspected refurbished wheelset(s) in SAP. Transaction IW8W allows the receipt of goods by serial number and also automatically changes the valuation type based on the values entered on the work order.

- 5.4.7.2 Enter transaction code IW8W into the Command field on the SAP Easy Access screen.
- 5.4.7.3 Select  or press Enter. The Goods Receipt Serial Numbers for Refurbishment Order screen displays.
- 5.4.7.4 Enter the number of the Work Order into the Order field.
- 5.4.7.5 Select  or press Enter. The Goods Receipt Serial Numbers for Refurbishment Order XXXXXXXXXX screen displays.
- 5.4.7.6 Select to the left of the serial number received in the Serial Number Data section.

CAUTION

Do **NOT** select serial numbers you did not receive.

- 5.4.7.7 Record the material number and serial number of the wheelset received.
- 5.4.7.8 Select the Deliv. Compl. checkbox if all line items in the Serial Number Data section have been selected.

CAUTION

If the work order was incorrectly created with multiple serial numbers, do not select the Deliv. Com pl. checkbox if you did not receive all of the items. This will allow you to reopen the document and receive the remaining items at a later time.

- 5.4.7.9 Select . The Goods Receipt Serial Numbers for Refurbishment Order screen displays the following message: Document XXXXXXXXXX posted
- 5.4.7.10 Select  to exit this transaction.

- 5.4.8 Business Office enters invoice.



Wheelset Inventory Management

5.4.9 Business Office closes IPO.

5.4.10 Materials Manager creates Technically Complete (TECO) Work Order.

Transaction	IW32
Information Required	Work order number Date refurbished serialized material received
Results	Work order is TECOed
Tip	Immediately request settlement of work order

Note

After the invoice has been entered and validated, the work order needs to be TECOed.

- 5.4.10.1 Confirm with Business Office that the invoice is entered.
- 5.4.10.2 Enter transaction code IW32 into the Command field on the SAP Easy Access screen.
- 5.4.10.3 Select  or press Enter. The Change Order: Initial Screen displays with the number of the last work order accessed showing in the Order field.
- 5.4.10.4 Enter the number of the work order to be TECOed into the Order field, if necessary.

Note

This is the work order number recorded in the IW81 – Create "" Refurbishment Work Order procedure (5.3.7.40).

- 5.4.10.5 Select  or press Enter. The Change TRANSIT [Type] Order XXXXXXXXXXXX: Central Heade screen displays with the HeaderData tab selected.
- 5.4.10.6 Select . The Complete dialog box displays.
- 5.4.10.7 Enter the date work was **actually** completed into the Reference date field.
- 5.4.10.8 Select  or press Enter. The Change Order: Initial Screen displays the following message: Order saved with number XXXXXXXXXXXX
- 5.4.10.9 Select  to exit this transaction.

5.4.11 Materials Manager requests Financial Management to Settle Work Order

Transaction	NA
Information Required	Number of work order to be settled
Results	Work order charges are settled



Wheelset Inventory Management

Tip	Do not update the serial number master records before work order is Settled Refer to the IW33- Display Individual Work Order procedure in Tips & Tricks for instructions on determining settlement of order
-----	--

Note

The work order must be settled before updating the equipment user status to available for service.

5.4.11.1 Provide the work order number to Financial Management so that they can settle the work order.

5.4.11.2 Confirm settlement of work order.

5.4.12 Materials Manager determines if settlement has been completed. If yes, proceed to 5.4.13. If not, wait 24 hours and return to 5.4.11.2.

5.4.13 Materials Manager updates Serial Number Master Record for Refurbished Wheelset.

Transaction	IQ09
Information Required	Material number of refurbished wheelset
Results	User status of refurbished serialized material changed to AVLB on serial number master records

Note

The serial number master records need to be updated for received refurbished wheelsets to change the user status from ORPR (out for repair) to AVLB (available for service).

5.4.13.1 Enter transaction code IQ09 into the Command field on the SAP Easy Access screen.

5.4.13.2 Select  or press Enter. The Display Material Serial Number: Serial Number Selection screen displays.

5.4.13.3 In the Material field, enter the material number for the wheelset being updated.

5.4.13.4 Select . The Display material serial Number: Serial Number List screen displays.

5.4.13.5 Select . The Change Material Serial Number: Serial Number List screen displays.

5.4.13.6 Select to the left of the lines with ORPR in the User Status column.



Wheelset Inventory Management

Note

The serial numbers should match those recorded in the IW81 - Create Refurbishment Work Order (5.3.5) procedures and the Bill of Lading for the wheelsets returned with the shipment.

Note

If you want to select more than one line-item, select to the left of the first line-item. Press and hold Shift, then select to the left of the last line item.

To select non-consecutive line-items, press and hold Ctrl as you select the to the left of each desired line item.

5.4.13.7 Select . The Status management: Change technical object dialog box displays.

5.4.13.8 Select . The Change Equipment: SerNo.Detail screen displays.

5.4.13.9 Select  to the right of the Status fields. The Change Status screen displays.

5.4.13.10 Select the AVLB Available For Service radio button.

5.4.13.11 Select . The Change Material Service Number: SerNo.Detail/ screen displays.

5.4.13.12 Ensure REBUILT displays in the Master batch field.

5.4.13.13 Select .

Note

If you selected multiple lines in step 5.4.13.6, the Status management: Change technical object dialog box displays. Repeat steps 5.4.13.8 - 5.4.13.13 for additional wheelsets to update.

If you selected a single line in step 5.4.13.6, or if this is the last record to process, the Change Material Serial Number: Serial Number List screen displays the following message: Equipment XXXXXXXXX changed

The equipment number displayed corresponds to the last equipment master record updated.

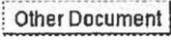
Checkmarks display in the Selected line column indicating the line items processed.

5.4.13.14 Select  to exit this transaction.



6. Tips and Tricks

6.1 ME22N—Close Internal Purchase Order

- 6.1.1 Enter transaction code ME22 into the Command field on the SAP Easy Access screen.
- 6.1.2 Click  or press Enter. The screen title displays the last purchase order type and number accessed followed by your user name.
- 6.1.3 Click  to select a different purchase order, if necessary. The Select Document dialog box displays.
- 6.1.4 Enter the number of the internal purchase order to close into the Pur. order field.
- 6.1.5 Click .
- 6.1.6 Click  to expand the Item details section.
- 6.1.7 Select the Invoice tab.
- 6.1.8 Click the Final Invoice checkbox.
- 6.1.9 Select the line(s) to close in the Item overview section.
- 6.1.10 Click  to block the line.
- 6.1.11 Click . The following message displays: DOT [internal purchase order type] XXXXXXXXXXXX changed
- 6.1.12 Click  to exit this transaction.

6.2 IW33—Display Individual Work Order

- 6.2.1 Enter transaction code IW33 into the Command field on the SAP Easy Access screen.
- 6.2.2 Click  or press Enter. The Display Order: Initial Screen displays with the number of the last work order accessed in the Order field.
- 6.2.3 Enter the number of the work order to display into the Order field, if necessary.
- 6.2.4 Click  or press Enter. The Display TRANSIT [work order type] Order XXXXXXXXXXXX: Central Head screen displays with the HeaderData tab selected.
- 6.2.5 Review the following fields:



Wheelset Inventory Management

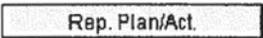
- Mn.wk.ctr- main work center (always RAILWORK and 1510)
- PMActType - activity type describing the type of work to be performed
- Bsc start- date actual work begins
- Basic fin. -due date for work to be completed
- Func. Loc. - functional location to receive work
- Ctrl key - PM01 for internal operations and PM03 for external operations

6.2.6 Select the Operations tab and review the following columns:

- OpAc - operation/activity number determines the order in which operations are performed
- Operation short text- brief description of work to be performed

6.2.7 Select the Components tab and review the following columns:

- Component- material number (double click to display material master data)
- Description - brief description of material
- Reqmnt Qty - number of components needed
- Batch- valuation type of component

6.2.8 Select the Costs tab, then select  to view the plan and actual costs.

Note

If all services and materials have been received and the work order has been settled, a Settlement line displays and the last value in the Total actual costs column is 0.

6.2.9 Click  to exit this transaction.