

SOPs for BPR Initiatives under Mail and Parcel Optimization Project (MPOP) of Department of Posts.

Index

S.No	SOPs for BPR Initiatives	Page no.
1	SOP for handheld device-based delivery processing	1
2	SOP for Prevention of booking of Dangerous Goods (DG), Restricted & PG Shipments for International Articles	6
3	SOP for Sorting Methodology for International Outbound Shipments at Foreign Post Offices (FPOs)	11
4	SOP for Bag closure and identification using flap seals and thermal printed bag tags	20
5	SOP for Vehicle sealing with bullet seal & digital reconciliation at receipt	26
6	SOP for Article Weight Capture and reconciliation at processing using SWS - Static Weighing Scale	29
7	SOP for Vehicle sealing using Smart locks	32
8	SOP for Continuous Sorting Operations	35
9	SOP for Floor Marking for Delivery Centers, Hubs and TMOs	49
10	SOP for bulk Pickup using handheld scanners	58
11	SOP for ABPM, revised mail conveyance and Delivery models for Branch offices	62
12	SOP for storing incoming bags in roller containers	65
13	SOP for replacing loose bag loads with delivery office-mapped collapsible totes for faster, accurate milk run deliveries	67
14	SOP for Faster Customs Clearance	70

Standard Operating Procedure (SOP) for handheld based delivery processing

1. Objective

To standardize and automate the deployment, usage, and management of Handheld Devices (HHDs) for scanning and invoicing articles to postmen at the Delivery Office.

This SOP ensures accurate article-level data capture, error-free reconciliation, transparency, and accountability in the last-mile delivery process.

2. Scope

This SOP applies to:

1. Delivery Offices: Offices responsible for article distribution to postmen for delivery.
2. Postal assistant: Staff responsible for carrying HHDs and executing article-level delivery scans.
3. Supervisors / Delivery Office Managers: Responsible for monitoring device performance, managing discrepancies, and reporting exceptions.
4. IT / Tech Support Team: Responsible for device health monitoring, application/software updates, and real-time system integration.

3. Roles & Access Control

Delivery Office Postal assistant staff

- Scans and invoices articles to postmen prior to delivery.
- Generates the electronic delivery slip (E-delivery slip) with article and address details.

Delivery Office Supervisor

- Assigns HHDs to delivery staff.
- Monitors daily delivery logs, failed delivery reports, and device usage.
- Escalates unresolved discrepancies to Circle Office.

IT / Tech Support Team

- Ensures device connectivity, synchronization, and integration with APT 2.0 / delivery system.
- Provides troubleshooting support for device or application issues.
- Maintains system uptime and error logs.

4. Process Flow

Step 1: Procurement & setup

1. Circles allocate HHD devices to Delivery Offices for use by delivery office.
2. Devices are pre-loaded with the delivery application integrated with APT 2.0.
3. Articles received at Delivery Office are available in the system after arrival scans.
4. Devices are tested for connectivity (mobile network / Wi-Fi) prior to deployment.

Step 2: Deployment & assignment

1. Supervisor assigns HHD to the postal assistant before the delivery round.
2. Device checked for battery status and connectivity.
3. Postal assistant logs into the HHD using role-based credentials.
4. Assigned articles are synced with the HHD from the delivery system.

Step 3: Article invoicing & delivery slip generation

1. Delivery Office staff, postal assistant scans articles post sorting.
2. Articles are invoiced to the respective postman through the system.
3. Upon invoicing, the system generates an E-Delivery slip containing:
 - Article number
 - Recipient name
 - Delivery address
 - Contact details (if available)
4. The invoiced articles are automatically mapped to the postman's mobile device app.

Step 4: Delivery Execution

1. Postman reaches the delivery address with the article and mobile device.
2. Article barcode is scanned at the time of delivery.
3. Delivery outcomes captured in the mobile device:
 - Delivered: Recipient confirmation captured (signature/OTP).

- Undelivered: Appropriate reason selected (e.g., addressee not available, incorrect address).
- 4. Delivery data is transmitted in real time to the backend system.
- 5. In case of connectivity issues, the mobile device stores delivery data locally and auto-syncs once network connectivity is restored.

Step 5: End of day reconciliation

1. At the end of the delivery round, the postman returns to the Delivery Office.
2. Undelivered articles are returned and verified.
3. HHD automatically generates a delivery summary, including:
 - Delivered articles
 - Undelivered articles
 - Failed delivery attempts
4. Delivery Office Supervisor verifies reconciliation and closes the delivery cycle for the day.

5. Exception Handling

1. Device Failure
 - Delivery details recorded through system/manually.
 - Data later entered into the system at Delivery Office.
2. Connectivity Issues
 - HHD operates in offline mode.
 - Data automatically syncs once network connectivity is restored.
3. Article discrepancies
 - Recorded in system logs and escalated to Delivery Office Supervisor.
4. Unauthorized Access
 - Controlled through role-based login credentials.
 - Any device misuse escalated to the supervisor.

6. Maintenance

1. Supervisors to ensure HHDs are charged, updated, and functional before trips.
2. Faulty devices logged with IT helpdesk- replaced/repaired.

3. For reassignment: Deregister device from existing agent- reassign via portal.
4. Vendor to provide technical support during pilot phase.

7. Handheld scanner Specification



Fig 1: Sample image for handheld scanner

Physical Characteristics

Dimensions	6.92 in. L x 3.09 in. H x 0.56 in. D 175.8 mm L x 78.6 mm W x 14.2 mm D
Weight	9.38 oz/266 g
Display	6.5 inch/16.51 cm HD+, 720 x 1600, 450 NITS
Touch Panel	Capacitive multi-touch
Power	Removable, rechargeable Li-Ion battery, 5,000 mAh; 19.35Wh
SIM	Dual nano SIM or One NANO one Micro SD
Network Connections	WLAN, WWAN, WPAN, Type C USB 2.0
Notifications	Audible tone; multi-color LEDs; vibration
Keypad	On-screen touch keypad

Voice and Audio	Speaker 1 Watt Two (2) microphones Audio headset supported from USB-C port or Bluetooth
Buttons	Scan button on each side; volume up/down button; power button; Programmable button

Data capture

Scanning	SE4100 1D/2D Scan Engine, SE4710 1D/2D Scan Engine ³
Camera	Rear camera: 13 MP auto-focus camera with user controllable LED flash Front camera: 5 MP
NFC	Reader/Writer: ISO 14443 Type A and B, MIFARE, FeliCa™, ISO 15693, NFC Forum Tag Types 1 to 5; Host Card Emulation, NFC Forum compliant

Standard Operating Procedure (SOP): Prevention of booking of Dangerous Goods (DG), Restricted & PG Shipments for International Articles

1. Purpose

International articles are predominantly transported by air and are therefore governed by DGCA regulations, IATA Dangerous Goods Regulations (DGR), and destination-country import requirements.

Non-compliant acceptance of articles can pose aviation safety risks, lead to airline rejection of shipments, and disrupt international mail operations.

This SOP establishes a classification-based acceptance framework to prevent the booking of Dangerous Goods (DG), restricted items, and non-compliant shipments at international booking counters of DNKs and IBCs.

The SOP ensures that booking counter clerks identify and classify shipments correctly at the point of booking and take appropriate action before accepting the article for international transmission.

2. Scope

This SOP applies to:

- Booking of international articles at Dak Niryat Kendras (DNKs) and International Business Centres (IBCs)
- Booking counter clerks and supervisory staff responsible for acceptance of international articles
- The SOP covers the classification, screening, and acceptance decision that must be carried out at the booking counter before an article is accepted for international dispatch.

3. Principle of Acceptance & Classification

Every international article must be classified at the time of booking based on the declared contents provided by the customer.

The classification determines whether the article:

- Can be accepted for booking
- Must be refused for international air transmission
- Can be accepted only with prescribed documentation

Booking counter clerks must obtain explicit declaration of contents from the customer.

Clerks must not rely on assumptions, vague descriptions, or informal statements from the sender. If the contents are unclear or insufficiently declared, the article must not be accepted until proper clarification is obtained.

4. Shipment Classification & Acceptance Rules

International articles shall be classified into **three categories** at the booking counter.

Category 1 – Permitted Articles (Good to Accept)

These are articles that are generally permitted for international transmission and do not fall under Dangerous Goods (DG) or restricted categories.

Such articles may be accepted for booking provided they comply with normal postal requirements and are correctly declared by the customer.

Indicative Examples

- Documents and printed materials
- Garments and textiles
- Books and stationery items
- Handicrafts and non-restricted merchandise
- Non-hazardous commercial good

Action at Booking Counter

- Booking may be accepted after obtaining proper content declaration from the customer
- Appropriate customs declaration (CN22 / CN23) must be completed
- The clerk must ensure that the declared contents do not fall under restricted or prohibited categories

Category 2 – Prohibited / Dangerous Goods (DG)

These are articles that are prohibited for air carriage under aviation safety regulations, national law, or international conventions.

Such articles pose safety risks during air transport and therefore cannot be accepted for international transmission.

Indicative Examples

- Narcotics, drugs, psychotropic substances
- Explosives, ammunition, fireworks
- Weapons and weapon parts
- Radioactive, toxic, or corrosive substances
- Flammable items and pressurised containers
- Lithium batteries and power banks

- Magnetised materials
- Contraband or illegal goods
- Currency and counterfeit items

Action at Booking Counter

- Booking must be **refused immediately**
- No exception, escalation, or manual override is permitted
- The customer must be informed that the item cannot be transported by air under aviation safety regulations

Booking clerks must refer to the official India Post reference lists available at:

Prohibited HS Code List
https://www.indiapost.gov.in/documents/offerings/prohibited_items/List_of_Harmonized_System_Codes.pdf

General Information on Prohibited Articles
https://www.indiapost.gov.in/documents/offerings/prohibited_items/General_Information.pdf

These documents provide guidance on items that cannot be accepted for international transmission.

Booking clerks are expected to be familiar with these lists and consult them whenever there is uncertainty about an item.

Category 3 – PG Shipments (Permitted with Conditions)

Certain articles are not prohibited for air carriage but are permitted only when supported by required regulatory and destination-country compliance documentation.

These shipments may be accepted only if the required supporting documents are verified at the booking counter.

Indicative Examples

- Food items (processed or packaged)
- Cosmetics and personal care products
- Medicines, health supplements, nutraceuticals
- Ayurvedic and herbal products

Typical Supporting Requirements

- Ingredient declaration
- Manufacturer details
- Applicable regulatory certification or clearance
- Destination-country import compliance documents, where applicable

Action at Booking Counter

- Booking may be accepted only after verifying the required documents
- If documents are incomplete, unclear, or unavailable, the booking must be refused

Role of Circle Nodal Officer

The Circle Nodal Officer shall ensure that:

- Booking counter clerks at DNKs and IBCs are trained on DGCA and IATA-aligned shipment classification
- Booking staff clearly understand the difference between prohibited, restricted, and PG shipments
- Booking staff are able to identify commonly mis-declared articles during customer interaction

The Circle Nodal Officer shall also ensure that booking counters maintain easy access to reference materials and regulatory guidance required for screening international shipments.

5. Training & Awareness

All booking counter clerks handling international shipments must undergo mandatory orientation on:

- Identification of Dangerous Goods (DG)
- Commonly mis-declared items
- Correct questioning techniques while interacting with customers
- Procedures for refusing non-compliant shipments

Periodic refresher sessions shall be conducted to address:

- Seasonal shipment trends
- Repeated compliance issues
- Updates to DG regulations or destination-country restrictions

Booking clerks must remain familiar with the list of prohibited and restricted items published on the India Post website.

6. Reference Material at Booking Counters

Booking counters handling international articles shall maintain printed reference copies of the following documents for operational guidance and customer awareness:

- List of prohibited HS codes for international transmission
- General information on prohibited items for international dispatch

These documents are available on the India Post website at:

https://www.indiapost.gov.in/documents/offerings/prohibited_items/List_of_Harmonized_System_Codes.pdf

https://www.indiapost.gov.in/documents/offerings/prohibited_items/General_Information.pdf

Printed copies of these documents are recommended to be kept at the booking counter so that booking clerks can consult them quickly and also explain restrictions to customers where required.

7. Compliance Expectation

Correct classification and screening of international articles at the booking counter is a critical control point for aviation safety and regulatory compliance.

No international article shall be accepted for booking unless:

- The contents have been clearly declared by the customer
- The shipment has been classified according to the categories defined in this SOP
- All required documentation has been verified where applicable

Failure to follow these procedures may result in acceptance of prohibited shipments and disruption of international dispatch operations.

Standard Operating Procedure (SOP): Sorting Methodology for International Outbound Shipments at Foreign Post Offices (FPOs)

1. Objective

To establish a standardized sorting methodology for international outbound shipments handled at Foreign Post Offices (FPOs).

This revised SOP makes the X-Ray Scan a mandatory operational control point before any destination-wise sorting. No article shall be moved into primary sorting, secondary sorting, bagging, or dispatch staging until it has been X-Ray scanned and cleared, or formally released after examination by the competent officer.

The methodology is intended to reduce repeated handling of shipments, improve utilization of sorting floor space, enable faster bagging and dispatch preparation, and maintain clear segregation between pre-X-Ray, X-Ray-cleared, and exception articles.

2. Scope

This SOP applies to all international outbound shipments processed at FPOs, including EMS, Parcel, ITPS, Registered and other international outbound products handled in the export branches.

The SOP covers receipt, bag opening, article receipt scan (B-scan), customs interaction, X-Ray Scan, exception handling, post-X-Ray sorting, bagging and dispatch staging within FPO premises.

Since operational practices differ across FPO locations, the sequence of article receipt scan (B-scan) and customs clearance may vary. Accordingly, two operational process flows are provided. In both flows, destination sorting shall start only after the X-Ray Scan and clearance decision.

3. Volume-Based Destination Classification

Each FPO shall classify destination countries into three categories for each international mail product, i.e., EMS, Parcel, ITPS and Registered, in the respective export branches based on historical shipment volumes handled at the branch.

The classification shall be carried out by the Branch Supervisor based on shipment data available for the FPO.

Category	Description	Typical Share
Top 6 destination lanes	Highest volume countries handled at the FPO	~60%
Next 18 destinations	Medium volume destinations	~32%
Remaining destinations	All other low-volume destinations	~8%

The exact list of countries in each category shall be determined by the FPO based on historical shipment data and reviewed periodically. The list shall be maintained product-wise and displayed at the sorting area for operational reference.

4. Equipment Used in Sorting Operations

Sno.	Equipment	Purpose
1	Large bag opening table	Opening incoming international bags, article presentation and controlled movement to the pre-X-Ray stage
2	Package trolleys	Holding loose articles in pre-X-Ray, X-Ray-cleared and exception stages; used for post-X-Ray primary sorting
3	Roller containers	Movement and holding of closed/grouped bags and completed dispatch bags

Sno.	Equipment	Purpose
4	Sorting bag / standing bagging stand	Destination-wise bagging operations after dispatch scan
5	Bin racks	Secondary sorting for the next 18 destinations after X-Ray clearance
6	Hand-held scanner	B-scan, dispatch scan, article verification and exception movement recording
7	X-Ray scanner	Mandatory security/customs screening before any destination-wise sorting
8	Exception holding trolley/rack	Separate holding of articles marked for examination, pending assessment, pending customer action, scan exception or rejected/hold

- Package trolleys shall be used when handling loose articles.
- Roller containers shall be used when handling closed bags or grouped bags.
- Pre-X-Ray, X-Ray-cleared and exception trolleys shall be physically separate and clearly labelled.
- Equipment dimensions are provided in the Annexures below. X-Ray equipment shall be operated as per the approved security/customs and procurement specifications applicable at the FPO.

5. Post-X-Ray Primary Sorting Layout

Primary sorting shall be carried out only on articles that have completed the X-Ray Scan and are cleared for sorting. The sorting point shall be placed on the output side of the X-Ray process so that X-Ray pending or exception articles cannot enter destination-wise sorting containers.

Eight sorting containers shall be positioned around the large bag opening table or post-X-Ray sorting table to facilitate primary sorting of X-Ray-cleared loose articles.

Allocation of Sorting Containers

Container	Purpose
6 containers	Top 6 destination lanes
1 container	Next 18 destinations
1 container	Remaining destinations

Positioning of Containers

Eight containers shall be positioned around the post-X-Ray sorting table in the following configuration:

- Three containers on one side of the table.
- Three containers on the opposite side of the table.
- Two containers positioned in front of the table.

This arrangement allows staff to place X-Ray-cleared articles directly into the correct container with minimal movement and reduces congestion around the sorting table.

No destination-wise sorting shall be done before X-Ray Scan. Before X-Ray, articles may only be grouped for control purposes, such as product-wise, bag-wise, batch-wise or scan-status-wise staging.

When sorting is performed at the loose article level, the containers shall be package trolleys. When grouped or closed bags are being moved after bagging, roller containers shall be used.

6. Common Process Controls - Sorting Gate After X-Ray Scan

The X-Ray Scan is the mandatory sorting gate. Articles that are awaiting X-Ray Scan, marked for examination, pending assessment, pending customer action, scan exception or rejected/hold shall not be placed into any destination sorting container or dispatch bag.

Control Point	Action Required	Output / Status
Pre-X-Ray staging	Hold articles after receipt/B-scan or customs release without destination sorting. Label each trolley or tray with product, date, batch, source bag and count.	Awaiting X-Ray
X-Ray Scan	Pass articles through the X-Ray scanner as per local operating instructions. The operator or customs/security officer reviews the image and marks the result.	Cleared / Examination / Pending / Hold
X-Ray cleared output	Move only cleared articles to the clearly labelled post-X-Ray sorting feed trolley.	Cleared for Sorting
Exception output	Move marked articles to the designated exception trolley/rack. Record article ID, reason and date/time if local systems or registers require it.	Do Not Sort / Under Review
Re-entry after examination	After examination or release, return the article to the X-Ray-cleared feed only if formally cleared. Do not bypass the post-X-Ray sorting gate.	Released for Sorting

X-Ray Decision Status

- Cleared for Sorting: Article may enter primary sorting and normal bagging workflow.
- Marked for Examination: Article shall be kept in the examination/hold trolley until examined and released.
- Pending Assessment / Pending Customer Action: Article shall be kept in the pending trolley/rack and shall not be sorted or bagged.
- Rejected / Hold / Do Not Sort: Article shall be segregated and handled as per customs/security instructions.
- Scan or Barcode Exception: Article shall be sent to the scan exception desk before further movement.

Floor Discipline Requirements

- Use separate signs for Awaiting X-Ray, X-Ray Cleared - For Sorting, Marked for Examination, Pending Assessment, Rejected/Hold and Dispatch Staging.
- Do not allow pre-X-Ray articles and X-Ray-cleared articles to share the same trolley, shelf, table or bagging stand.
- Maintain first-in, first-out movement for pre-X-Ray staging wherever operationally feasible.
- The Branch Supervisor shall periodically verify that only X-Ray-cleared articles are present at primary sorting, secondary sorting racks and bagging stations.

7. Process Flow - Case 1

Receipt Scan (B-scan) Before Customs Clearance

This process flow shall be followed at FPOs where article receipt scanning is carried out before customs clearance. In this case, the B-scan may occur early in the workflow, but destination sorting shall still start only after X-Ray Scan and clearance.

Step 1 - Receipt of Bags

- International outbound bags are received at the FPO.
- The bag ID shall be scanned in APT 2.0, segregated product-wise in the mail agency and brought to the processing area of the respective export branch.
- Bags shall be arranged in a systematic opening sequence so that the source bag, product and batch can be traced during later processing.

Step 2 - Bag Opening and Article Verification

- Bags shall be opened on the large bag opening table using the standard bag opening procedure.
- Articles shall be removed carefully and placed with address, barcode and destination details visible for scan and screening activities.
- Damaged, leaking, suspicious, unreadable or loose-label articles shall be moved to the appropriate exception handling point and shall not enter sorting.

Step 3 - Article Receipt Scan (B-scan)

- Each article shall undergo receipt scanning in IPS through a hand-held scanner before further processing.
- The B-scan records the entry of the article into the FPO system and must be completed before customs presentation where this operating model is followed.

- Articles with failed scans, duplicate scan alerts or unreadable barcodes shall be sent to scan exception handling. They shall not be sorted by destination until the issue is resolved and the article is X-Ray cleared.

Step 4 - Pre-X-Ray Staging

- After B-scan, articles shall be moved to an Awaiting X-Ray trolley/tray or directly to the X-Ray feed point, depending on available space and machine capacity.
- At this stage, staff shall not sort articles into Top 6, Next 18 or Remaining destination containers.
- Temporary grouping is permitted only for control and traceability, such as product-wise, bag-wise, batch-wise or scan-status-wise grouping.
- Each pre-X-Ray trolley/tray shall be labelled with product, date/time, batch number or source bag ID and approximate article count.

Step 5 - Customs Presentation and X-Ray Scan

- Articles shall be presented to customs/security for X-Ray Scan as per the operational practice followed at the FPO.
- Each article or tray of articles shall pass through the X-Ray scanner before it is allowed to enter the sorting workflow.
- The X-Ray operator or competent officer shall review the image and identify the article as cleared, marked for examination, pending assessment or hold/rejected, as applicable.

Step 6 - X-Ray Decision and Exception Handling

- X-Ray-cleared articles shall be placed only into the X-Ray Cleared - For Sorting trolley.
- Articles marked for examination shall be placed in the Examination trolley/rack and presented for further inspection. They shall not be sorted or bagged.
- Articles pending assessment, pending customer action or rejected/hold shall be moved to the respective labelled exception trolley/rack.
- If an exception article is subsequently released, it shall be returned to the X-Ray-cleared feed before primary sorting. The release shall be recorded as per the local system or register practice.

Step 7 - Post-X-Ray Primary Sorting

- Only articles available in the X-Ray Cleared - For Sorting trolley shall be taken up for primary sorting.
- Staff shall verify the destination country on the article label and place the article into one of the eight sorting containers: six Top 6 destination containers, one Next 18 container and one Remaining destinations container.
- If the destination is unclear, the item shall be sent to the exception desk instead of being guessed or placed in a sorting container.

Step 8 - Movement to Category Processing

- The six Top 6 destination containers shall move to dedicated bagging stations for those lanes.
- The Next 18 container shall move to the secondary sorting rack area.
- The Remaining destinations container shall move to the manual sorting area.
- Trolley handover shall be controlled by the Branch Supervisor or designated staff so that pre-X-Ray and post-X-Ray materials are not mixed.

Step 9 - Dispatch Scan, Bagging and Dispatch Staging

- Further processing shall follow Section 8 of this SOP.
- Dispatch scan shall be completed before final placement into destination bags or before bag closure, as per system requirements.
- Completed bags shall be closed, labelled and placed onto roller containers for dispatch staging.

8. Processing of Destination Categories After X-Ray Clearance

The following methodology applies to both Case 1 and Case 2 after articles have passed the X-Ray Scan and have entered the post-X-Ray primary sorting stream.

8.1 Top 6 Destination Lanes

Top 6 destination lane articles shall be moved to dedicated bagging stations after post-X-Ray primary sorting.

1. Confirm that the bagging station is labelled with the destination country, mail product and dispatch details.
2. Move only X-Ray-cleared articles from the relevant Top 6 sorting container to the station.
3. Complete dispatch scan for each article through the hand-held scanner or designated terminal.
4. Immediately after dispatch scan, place the article into the correct destination bag on the standing bagging stand.

5. If an exception, unreadable barcode or destination mismatch is found, remove the article from the station and send it to the exception desk.
6. Once the bag reaches operational capacity or dispatch cut-off, close, seal and label the bag.
7. Place completed bags into roller containers for dispatch staging.

8.2 Next 18 Destinations

Articles for the next 18 destinations shall be moved to the secondary sorting area only after X-Ray clearance and primary sorting.

1. Open the Next 18 primary sorting container at the secondary sorting rack area.
2. Use two sorting racks containing 30 shelves. Each shelf shall be labelled with one destination country or an approved temporary allocation.
3. Additional shelves may be allocated to higher-volume destinations within the next 18 countries, provided the shelf label is updated immediately.
4. Staff shall place articles on the appropriate shelf based on the destination country. Non-cleared or unclear items shall not be placed on the shelves.
5. Once sufficient articles accumulate for a destination, move those articles to the dispatch scan terminal dedicated to bag closing for these destinations.
6. After dispatch scan, place the articles into the destination-country specific bag.
7. Close, label and stage completed bags for dispatch. At shift end, shelves shall be checked for leftover or mis-sorted articles.

8.3 Remaining Destinations

Remaining destinations shall be handled in the manual sorting area after X-Ray clearance.

1. Move the Remaining destinations primary sorting container to the manual sorting area.
2. Sort articles destination-wise on the sorting surface or in clearly labelled temporary containers.
3. For very low-volume countries, articles may be accumulated until dispatch quantity is sufficient, subject to the applicable dispatch plan and cut-off.
4. Complete dispatch scan before placing articles into destination bags.
5. Close, seal and label the completed bags, then move them to dispatch staging.
6. Remaining destination processing shall not obstruct Top 6 or Next 18 sorting lanes.

9. Process Flow - Case 2

Receipt Scan (B-scan) After Customs Clearance

This process flow shall be followed at FPOs where customs clearance is carried out before article-level processing. In this case also, sorting shall occur only after B-scan, X-Ray Scan and clearance/release.

Step 1 - Receipt of Bags and Pre-Customs Staging

- International outbound bags are received at the FPO and kept ready for customs processing.
- Bag IDs shall be scanned in APT 2.0 wherever applicable, and bags shall be segregated product-wise and branch-wise.
- Bags shall be kept unopened or handled as per local customs instructions until clearance/opening authorization is received.

Step 2 - Customs Clearance / Opening Authorization

- Bags shall be presented to customs for inspection and clearance as per the operating process followed at the FPO.
- Once customs clearance or opening authorization is received, the bags shall be moved to the large bag opening table.

Step 3 - Bag Opening and Article Presentation

- Bags shall be opened on the large bag opening table.
- Articles shall be removed carefully and placed with address, barcode and destination details visible for B-scan and X-Ray Scan.
- Damaged, suspicious, leaking or unreadable items shall be diverted to exception handling and shall not enter sorting.

Step 4 - Article Receipt Scan (B-scan)

- Each article shall undergo receipt scanning through a hand-held scanner before entering the X-Ray and sorting workflow.
- Articles with scan exceptions shall be resolved before movement to post-X-Ray sorting.

Step 5 - X-Ray Scan

- Immediately after B-scan, articles shall be passed through the X-Ray scanner.
- No article shall be placed into a Top 6, Next 18 or Remaining destination sorting container before X-Ray Scan and clearance.
- If the operating model treats X-Ray as part of customs/security control, the article shall move to sorting only after the competent officer has released it.

Step 6 - X-Ray Decision and Exception Handling

- X-Ray-cleared articles shall be placed into the X-Ray Cleared - For Sorting trolley.
- Marked, pending, rejected/hold or scan exception articles shall be moved to the corresponding exception trolley/rack and shall not be sorted or bagged.
- If an article is released after examination, it shall re-enter the process through the X-Ray-cleared feed, not directly through destination sorting or bagging.

Step 7 - Post-X-Ray Primary Sorting of Articles

- After X-Ray clearance, loose articles shall be sorted into eight package trolleys positioned around the post-X-Ray sorting table.

Package Trolley	Purpose
6	Top 6 destination lanes
1	Next 18 destinations
1	Remaining destinations

- This arrangement shall be followed because the unit being handled at this stage is a loose article.

Step 8 - Further Processing

- After post-X-Ray primary sorting, further processing shall follow Section 8: Top 6 lanes at dedicated bagging stations, Next 18 destinations at secondary sorting racks, and Remaining destinations at the manual sorting area.
- Dispatch scan, bag closure, labelling and dispatch staging shall be completed as per Section 8.

10. Operational Notes

- The classification of Top 6 lanes and Next 18 destinations shall be determined by each FPO based on historical shipment data and reviewed periodically by the Branch Supervisor.
- The eight-container arrangement around the post-X-Ray sorting table and the two-rack, thirty-shelf configuration for the next eighteen destinations shall be treated as the standard sorting configuration.
- Sorting shall not commence unless the article has completed X-Ray Scan and is cleared or formally released for sorting.
- Package trolleys shall be used when sorting loose articles, while roller containers shall be used when handling grouped bags and completed dispatch bags.
- The Awaiting X-Ray, X-Ray Cleared, Examination/Pending, Rejected/Hold and Dispatch Staging areas shall be visibly separated through signage, labels and floor discipline.
- Bagging stations may be used dynamically depending on operational load, but the destination and product being processed at the station shall be clearly identified at all times.
- All exception articles shall be reconciled at shift handover and at end of day. No exception article shall remain on an unlabelled table, shelf or trolley.
- All equipment dimensions are provided in the Annexures. X-Ray machine technical specifications shall be governed by the approved equipment installed at the location.

11. Expected Operational Benefits

Implementation of this revised sorting methodology is expected to improve the efficiency, control and discipline of outbound operations at FPOs.

Positioning the X-Ray Scan before sorting ensures that only cleared articles enter destination-wise sorting and bagging. This reduces the risk of re-opening destination bags, avoids mixing of cleared and non-cleared articles, and improves traceability of articles marked for examination or pending assessment.

The structured destination-based segregation after X-Ray clearance reduces repeated handling of shipments, enables faster movement of high-volume lanes, provides an organised approach for the next eighteen destinations, and ensures that low-volume countries can be handled without affecting the main sorting workflow.

Overall, the methodology improves utilization of the sorting floor, reduces congestion, creates a predictable workflow for frontline staff and supervisors, and strengthens control over exceptions before dispatch preparation.

Annexure. Equipment Specifications

Annexure 1 - Bag Opening Table

Parameter	Specification*
Dimensions	1200 - 1800 mm (L) x 750 - 900 mm (W) x 850 - 950 mm (H)
Tabletop Material	Mild Steel with powder coating or stainless steel
Load Capacity	100 - 200 kg
Panel	4 panels (100 - 150 mm height); 2 latches on each side of the panel
Thickness	3 - 5 mm
Work Surface	Smooth, non-abrasive, anti-static surface
Edge Design	Rounded or chamfered edges
Scanning Integration	Space for handheld or fixed-mount scanners
Wheels	4 castor wheels (all swivel) with brake mechanism
Wheels	125 mm diameter; mounted by bolted or welded caster plates
Wheels	Detachable wheel assembly to allow quick removal, replacement, and maintenance
Accessory Mounting	Optional frame for monitor or display
Service Life	5 - 7 years

Annexure 2 - Package Trolley

Feature	Specification*
Load Capacity	300 - 500 kg
Base dimension	1,200 mm x 600 mm (900 mm x 600 mm in hubs with space constraints)
Cage Height	1,000 mm - 1,200 mm
Door	Hinged, openable side
Wheels	4 wheels, 2 fixed + 2 swivel with brake mechanism
Wheels	125 mm diameter; mounted by bolted or welded caster plates
Edges	10 - 14 mm thick; Support bar: 8 - 10 mm thick
Mesh	50 x 50 mm mesh cages, 4 - 6 mm thick
Material	Mild Steel (MS) or Stainless Steel, with powder coating / galvanization for resistance
Safety features	Rounded edges, no sharp protrusions, brakes

Annexure 3 - Roller Container

Parameter	4-Sided Roller Container	3-Sided Roller Container
Type	Fully enclosed with 4 mesh sides + door	Open-front with 3 mesh sides; front side open for easy access
Typical Dimensions (mm)	1200 (W) x 1000 (D) x 1700 (H)	1200 (W) x 1000 (D) x 1700 (H)
Load Capacity	500 - 800 kg	500 - 700 kg
Material	Mild steel frame, zinc-plated or powder-coated mesh	Same
Wheels	Castor wheels (125 mm diameter), 4 (2 fixed + 2 swivel with brakes)	Same
Nestability	Non-nestable (rigid frame)	Non-nestable (rigid frame); collapsible versions to be used for hubs with space constraints
Edges	10 - 14 mm; Support bar: 8 - 10 mm	Same
Mesh	50 mm x 50 mm; 4 - 6 mm	Same
Access/Loading Efficiency	Moderate (requires door/gate opening)	High - open front enables faster loading/unloading
Security	High - fully enclosed, prevents fall over and theft	Lower - suitable only when items are bagged, boxed, or well-contained
Stability During Movement	Very high - enclosed on all sides	Slightly lower - relies on careful stacking
Shelf Options	Collapsible/foldable shelves for bag stacking	Same
Pros	Secure; stable; suitable for loose parcels or mixed loads	Faster loading/unloading; ideal for short-distance intra-hub movement
Cons	Bulkier when empty; slower to load than 3-sided	Less secure; higher risk of load spillage

Annexure 4 - Sorting Bag

Feature	Specification
Bag Width	45 - 50 cm (exact dimensions will depend on the specific PTL rack slot sizes used in each hub)
Bag Height	70 - 85 cm (supports 140 - 200 L volume)
Material	Heavy-duty waterproof PP-woven or polyester
Structural Features	Reinforced seams, rigid/foldable base; for repeated use and storage efficiency
Branding	Standardized across hub network for visual consistency
Capacity	Supports 15+ kg evenly distributed load

Annexure 5 - Racks

Parameter	Specification*
Configuration	3 vertical rows x 5 shelves per row (total 15 shelves)
Dimensions (per shelf)	610 mm (H) x 915 mm (W) x 457 mm (D)
Overall Rack Dimensions	~3050 mm (H) x 2750 mm (W) x 500 mm (D) including frame and spacing
Material	High-quality hardwood / plywood with laminated or painted finish
Shelf Structure	Fixed or adjustable shelves with reinforced base support
Load Capacity (per shelf)	25 - 40 kg uniformly distributed load
Load Capacity (overall rack)	~375 - 600 kg depending on material strength
Frame Structure	Wooden frame with vertical and horizontal reinforcements for stability
Back Support	Optional full/partial back panel for structural rigidity
Edge Design	Rounded edges to avoid injuries and damage to articles

Parameter	Specification*
Surface Finish	Smooth, polished, non-abrasive surface for safe handling of articles
Labeling Provision	Space for lane/country/product labels on each shelf
Anchoring	Provision for floor/wall anchoring to prevent tipping
Mobility	Fixed installation (no wheels recommended for stability)
Service Life	8 - 10 years

Annexure 6 - Hand-Held Scanner

Feature	Specification
Weight	<300 g (pocketable)
Scan	1D/2D barcode scanning, ~100 scans/min
Scan	Range ~1 m
Display	>=4 inch touchscreen
Camera	5 MP front; 13 MP rear
Connectivity	4G + Wi-Fi + Bluetooth
OS & Security	Android 10+ with basic enterprise browser
Battery and charging	4,000 - 5,000 mAh, 8 - 10 hrs runtime
Battery and charging	Standard removable battery; fast charge for 24x7 operations
Battery and charging	Fast charging - 0 to 80% in under 2 hours
Lifecycle	3 - 4 years

Annexure 7 - X-Ray Scanner Operational Readiness

Feature	Requirement
Purpose	Security/customs screening of international outbound articles before any destination-wise sorting
Location	Installed between pre-X-Ray staging and post-X-Ray primary sorting output, with clear physical separation between pending, cleared and exception material
Article handling	Suitable trays/conveyor handling for EMS, Parcel, ITPS, Registered and other outbound products handled at the FPO
Operator controls	Image review and decision marking as available on the installed machine and as prescribed by customs/security instructions
Safety controls	Operation by trained personnel only; radiation safety, emergency stop and warning signage to be maintained as per applicable norms
Status segregation	Output must support clear segregation of Cleared for Sorting, Marked for Examination, Pending Assessment and Hold/Rejected articles
Records	X-Ray decisions and exception movement shall be recorded in the system or register as per local instructions

SOP: Bag closure and identification using flap seals and thermal printed bag tags

1. Purpose: Ensure bags are closed using tamper-evident flap seal and identified using thermal printed tags, eliminate paper tags and improve traceability.

2. Intervention:

2.1 From: Zip seals and manually filled paper labels are used to close the bags.

2.2 To: Flap seal to close bags; with printed labels pasted on them for closing bags

3. Scope: Applicable to all bagging activities at Booking Office; BPCs; BNPLs, Hubs; TMO; and Delivery Centre where articles are consolidated into bags for dispatch or handover.

4. Equipment and system inputs:

4.1 Tamper-evident flap seal

4.2 Thermal printed bag label

4.3 Thermal Printer

4.4 Handheld scanner or booking system access

4.5 Exception log register.

5. Equipment design and specification

5.1 Bag label

- Bag labels are system-generated and printed on-site using thermal printers, ensuring accuracy and reducing manual errors.
- Labels are affixed to the designated space on the flap seal, creating a single integrated identity point for each bag.
- The label contains critical shipment metadata, including:
 - Service indicator (A/S): Mode of transport identifier for the bag (e.g., Air/Surface).
 - Bag Priority type marker (P): Bag category code for priority or non-priority articles (P for priority) used for handling and segregation.
 - India Post branding: logo and standard header to indicate official system-generated label.
 - Origin: origin office code/name where the bag is created and sealed.
 - Destination: destination office code/name to which the bag is addressed for dispatch.

- 2D code: machine-readable code encoding the unique Bag ID for scanning at dispatch, receipt, and opening.
- Bag ID printed for readability in case of scan issues with 2D bar code
- Bag closure date and time: system timestamp capturing when the bag was closed/sealed.
- Weight of bag: system generated bag weight at closure (kg)



Fig1: Sample bag label design

- Bag label specifications

Parameter	Specification
Label type	Thermal printed; adhesive-backed
Label size	A7; 105 mm × 74 mm

Material	Moisture-resistant; tear-resistant thermal label stock; strong adhesive
Print quality	Minimum 200 DPI; preferred 300 DPI

5.2 Bag flap seal

- Tamper-evident seal used to securely close the bag; once applied, it cannot be opened without visible damage.
- Provides a designated flap/ space to paste the bag label, so sealing and identification are combined at one point.

Parameter	Specification
Seal Type	Tamper-evident flap seal with integrated barcode
Material	Moisture-resistant, tear-proof polymer or reinforced synthetic material suitable for all-weather logistics operations
Total Seal Size (L × B)	Approx. 105 mm × 74 mm (A7 label size) + 1.5 cm margin on all sides → 135 mm × 104 mm (13.5 cm × 10.4 cm) overall size of the flap seal
Tail / Locking Strap Length	25 cm – flexible, high-tensile locking strap attached to the flap seal for secure fastening to the bag closure
Bag Label Space	Back side of the flap seal designed for affixing a system-generated A7-sized label (74 × 105 mm) with 1.5 cm safety margin.
Tamper Evidence	Seal irreversibly breaks when opened and cannot be resealed without visible damage, ensuring tamper detection
Environmental Resistance	Resistant to moisture, tearing, temperature variation, and rough handling during transport

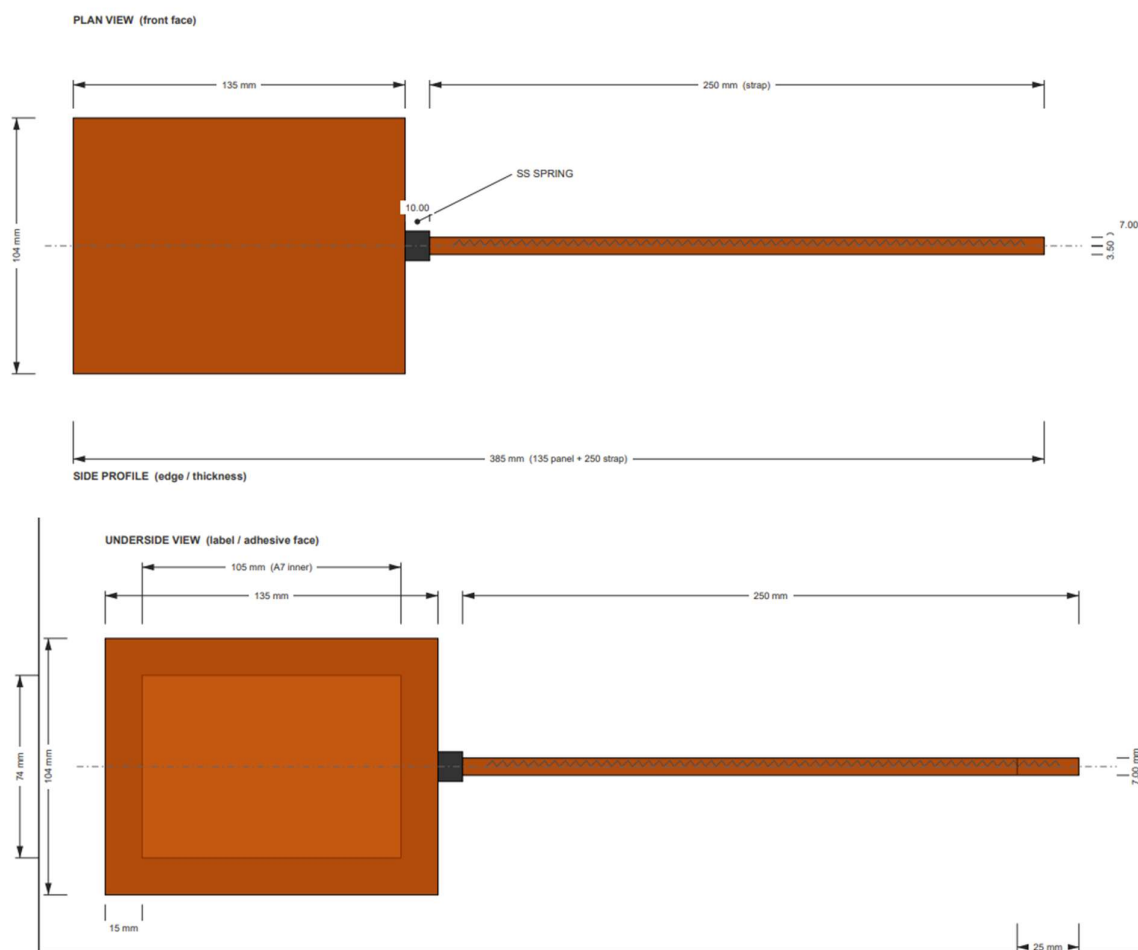


Fig2: Sample bag seal design

6. Procedure

Bag closing

- 6.1 Prepare materials: Ensure flap seal and thermal tags are available at bagging station; verify thermal printer is connected and has stock; confirm scanner is working.
- 6.2 Create bag ID in system: Create or generate bag ID in the system to generate barcode for bag ID.
- 6.3 Fill and verify contents: Insert articles into bag; ensure all articles are scanned into the bag ID where scanning is enabled; verify count versus bag list before closure.
- 6.4 Print bag tag: Print thermal bag tag using thermal printer
- 6.5 Attach tag: Fix thermal tag to designated tag flap seal; ensure barcode/QR is visible and scannable; do not place tag inside the bag.
- 6.6 Close bag with flap seal: Close bag with flap seal; tighten fully to prevent reopening without cutting.
- 6.7 Scan confirmation: Scan bag ID after closure to confirm status “Bag closed; ready for dispatch”; stage bag in outbound area as per route plan.

Bag opening and reconciliation

- 6.8 Receive bag at next node: Bags received at Hub/DO are segregated by dispatch batch; placed in opening area under supervisor oversight.
- 6.9 Verify label and seal integrity: Check flap seal is intact and bag label is present and legible; confirm no cuts/tamper marks.
- 6.10 Scan bag ID for receipt: Scan bag label (bag ID) to mark “Bag received” in system and pull the expected bag list/count.
- 6.11 Decision before opening: If seal is intact and bag ID is valid; proceed to opening; if seal is broken/missing or bag ID not readable; tag as exception and escalate to supervisor.
- 6.12 Controlled bag opening: Cut/remove flap seal under CCTV surveillance.
- 6.13 Reconcile contents: Scan articles out of the bag (or verify count vs expected list where scanning is not available); record shortages/excess in exception register and article receipt gets updated in IT 2.0 system.
- 6.14 Close bag record: Update system with bag closure once all articles have been scanned; add exception reason (if any); operator ID; supervisor sign-off for discrepancy cases.

7. Exceptions and controls

- 7.1 Tag damaged or barcode not scanning: Reprint tag and replace immediately; destroy defective tag.

7.2 Flap seal breaks or cannot tighten: Replace seal; re-close bag; do not dispatch with loose closure.

SOP: Vehicle sealing with bullet seal & digital reconciliation at receipt

1. Purpose: Standardize truck sealing using bullet seals and ensure end-to-end reconciliation from dispatch to receipt; prevent undetected opening in transit; improve chain-of-custody and accountability.

2. Intervention:

2.1 From: Vehicles sealed using non-standard methods (e.g., bag seals): limited use of bullet seals

2.2 To: Bullet seal number is captured in the dispatch manifest and reconciled at receipt; future integration enables scan-based validation prior to article induction.

3. Scope: Applicable to all trucks transiting between Hubs/ TMOs, point to point movement of trucks (e.g., RTN schedules).

4. Equipment: Bullet seal with unique serial number / barcode, handheld scanner or mobile, manual register for system downtime.

5. Process flow

5.1 Dispatch at origin node

5.1.1 Position the vehicle at the designated loading point under supervisor oversight and CCTV coverage, Load bags as per the trip plan, secure and latch the vehicle doors.

5.1.2 Apply bullet seal: Insert seal pin through designated latch points; lock fully until engagement is confirmed; ensure seal is intact and serial is clearly visible.

5.1.3 Capture bullet seal ID in system: Enter bullet seal serial number in the dispatch manifest against trip ID and vehicle number. Tech integration required: System must provide an editable field in the dispatch manifest screen to enter the bullet seal serial number against the trip ID and vehicle number. Manifest generation should be blocked until this field is populated. Once entered, the seal number must be auto-printed on the dispatch manifest.

In the future state, manual entry of the seal number will be replaced by scan-based capture using a handheld scanner or mobile phone, eliminating manual entry errors and making scan confirmation the mandatory trigger for dispatch.

Future tech integration- Scan the bullet seal barcode in the dispatch manifest against trip id and vehicle number with handheld scanner or mobile phone; the seal scan becomes the primary capture method and dispatch confirmation/ manifest finalization is enabled only after a valid scan is recorded in the system.

5.1.4 Dispatch manifest generation control: The system should allow the dispatch manifest to be generated only after the bullet seal ID has been captured, once captured; bullet seal id gets added and printed in the dispatch manifest.

5.1.5 Final dispatch sign-off: The dispatch supervisor confirms the bullet seal is affixed and intact, verifies the serial number matches the system record, then authorizes dispatch in the system and releases the vehicle.

5.2 Receipt at destination node

5.2.1 Register arrival: Pull the dispatch manifest for the trip ID in the system and reconcile vehicle number in the system; arrival time gets auto populated. Ensure vehicle is held at the designated receiving point under supervisor oversight and CCTV coverage.

5.2.2 Physical seal verification: Before opening the vehicle, visually confirm the bullet seal is present and intact and verify the seal number on the written on the manifest, against the Seal number on the bullet seal. If it matches, only then permit unloading else escalate to supervisor.

5.2.3 Reconcile and confirm receipt: *Future tech integration: Enter seal number in the system, If seal id matches and seal is intact; mark “Seal reconciled; Pass” and confirm receipt of the truck in the system; only then permit unloading. If mismatch or tamper is observed; mark “Seal reconciled; Fail”; escalate to supervisor. Further in next phase Scan the seal barcode and auto reconciliation happens in the system. System allows bag/article receipt only if the reconciliation is successful.*

5.2.4 Controlled opening and unloading: After seal verification; cut the bullet seal under supervisor presence and CCTV and proceed with unloading.

5.2.5 Close receipt record: Reconciliation log gets updated with result, verifier name, timestamps, exception reference (if any) and complete trip closure in the system.

6. Exceptions and controls

6.1 Seal or lock mismatch: Re-check trip id and data entry manually if still mismatch: open only with supervisor and security present under CCTV coverage. Capture photo evidence in the system and create exception log in the system with supervisor id. Supervisor override required in the system to initiate unloading.

6.2 System downtime: Capture seal number in manual register; supervisor override required to initiate unloading only after successful manual reconciliation. Capture details in the system once restored.

8. Bullet seal specification

Feature	Specification
Seal type	High-security single-use bullet seal for truck door latches; tamper-evident; non-resettable
Material	Hardened steel pin; aluminium or zinc alloy locking barrel; corrosion-resistant finish
Pin diameter	8 mm standard; confirm latch hole compatibility; 9 mm option where latch permits
Pin length	80–100 mm usable length to pass through latch + hasp; variants as per truck type
Locking mechanism	One-way locking; anti-pullback; anti-twist; anti-pick design; cannot be reopened without destruction
Tamper evidence	Visible indication on cutting; twisting; drilling; or forced extraction; lock barrel deforms on attack
Serial marking	Unique non-repeat serial number; human-readable + 2D barcode. The bullet seal serial number can follow a 8-digit format: first two digits denote the issuing circle code (e.g., 06 for Delhi), followed by

	a 4-digit sequential number, and last two digits represent the year of issue (e.g., 25 for 2025).
Scanability <i>(future tech integration)</i>	Barcode/QR scannable by handhelds in low light; placement designed to remain readable with dust/grime
Application	Thread pin through designated latch points; push fully until lock engages; confirm “click” and no back-movement



Fig 1: Sample picture for bullet seal

SOP: Article weight capture and reconciliation at processing using SWS- Static Weighing Scale

1. Purpose: Ensure parcel weight is captured accurately and reconciled at processing using SWS (Static Weighing Scale); eliminate manual estimation using tapes; improve booking accuracy; reduce disputes and exceptions.

2. Intervention

2.1 From: Parcel weight is either not reconciled or measured manually using measurement tapes.

2.2 To: Articles are scanned in SWS (Static Weighing Scale) for weight reconciliation and volumetric weight measurement.

3. Scope: Applicable to all received articles processed at bulk booking centers where weight capture is required.

4. Equipment and system requirements

4.1 Static Weighing Scale integrated with scanner

4.2 System requirements: System integration to fetch and update Article ID record

- Weight
- Dimensions
- Timestamp
- Operator ID

5. Roles and responsibilities

5.1 Bulk booking office staff: Routes articles to SWS and performs scan to capture weight & dimensions

5.2 Supervisor: Reviews mismatches, approves overrides, closes exceptions and signs off end-of-day reconciliation.

5.3 IT / CEPT support: Ensures system integration between IT2.0 and SWS and issue resolution.

5.4 Vendor / AMC partner: Calibration, preventive maintenance, breakdown support as per SLA.

6. SWS specifications

Parameter	Minimum specification
Throughput	400–600 parcels/hour
Maximum parcel size	600 × 600 × 600 mm (L×B×H)

Minimum parcel size	25 × 25 × 25 mm (L×B×H)
Weight Range	10 g – 50 kg
Shipment Types	Regular & irregular parcels
Barcode Scanner	1D / 2D supported (wired/wireless)
Portability	Portable (table-top)
Display	Required to show dimensions & weight
Warranty & Calibration	1 year warranty + AMC & calibration support
Interface	USB / Wi-Fi based serial connectivity to host systems
Surface Material	Stainless steel

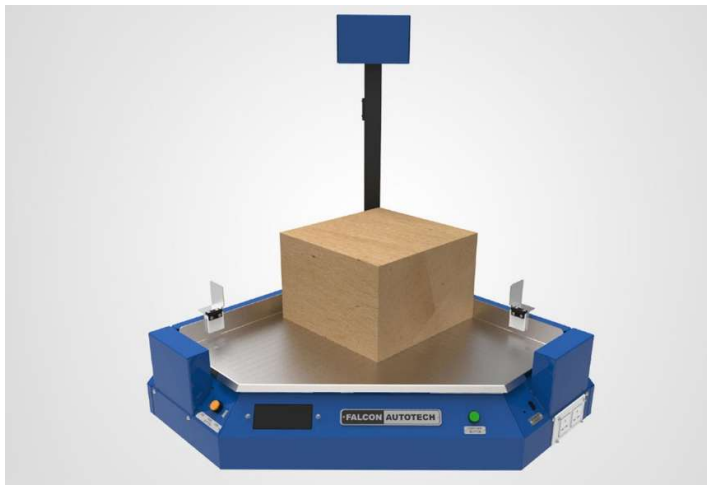


Fig 1: Sample image for SWS.

7. Procedure

7.1 Prepare SWS: Confirm device is ON; zeroed and connected to system (IT2.0).

7.2 Identify article: Place article centrally on SWS platform with barcode visible on the side of the scanner; inbuilt scanner of SWS scans the article and fetches the article id from the system.

7.3 Weigh and capture: Wait for stable weight reading; system auto-captures weight and dimensions against article ID.

7.4 Verify capture: Confirm captured weight and dimensions appears on SWS screen

7.5 Reconcile vs declared weight: Declared vs measured weight is treated as “Reconciled; Pass” if the difference is within the system configured tolerance;

recommend ± 10 g for up to 500 g; ± 20 g for 500 g–2 kg; ± 50 g for above 2 kg. If the difference exceeds tolerance; “Reconciled; Fail” tag gets updated in the system.

7.6 Action on mismatch: If “Reconciled; Fail” flagged; reweigh the article and confirm final weight and dimensions measured by SWS in system before onward processing.

7.7 Handover forward: Only after SWS capture and reconciliation status is updated; move article to next sorting step.

8. Exceptions and controls

Articles not measurable on SWS (weight not reconciled through SWS); Any article for which SWS weight capture cannot be completed must be auto tagged in the system as “Weight not reconciled; SWS” before proceeding to next sorting step.

Reasons to be selected in system by the booking staff:

- Over-dimension: Parcel exceeds maximum measurable L×B×H supported by SWS.
- Over-weight: Parcel exceeds maximum weight capacity supported by SWS.
- SWS not functioning: device error; unstable readings; calibration failure; or hardware fault. Intimate AMC vendor in this case.
- System integration / connectivity issue: SWS unable to post weight to system due to network or interface failure. Raise ticket with CEPT/IT team in this case.
- Power outage: SWS unavailable due to power loss and no backup.

SOP: Vehicle sealing using smart locks

1. Purpose: Standardise vehicle sealing using smart locks and ensure controlled opening only at authorised nodes; prevent unauthorised access in transit; maintain custody discipline with supervisor-controlled unlock authorization.

2. Intervention:

2.1 From: Vehicles sealed using non-standard methods (e.g., bag seals); limited control on who can open vehicles.

2.2 To: Vehicles sealed with smart locks leading to enhanced security and controlled access.

3. Scope: Applicable to all trucks transiting between Hubs/TMOs; point-to-point truck movement (e.g., RTN schedules) where smart locks are deployed.

4. Equipment and application requirements:

4.1 Smart lock device.

4.2 Vendor mobile app on authorised supervisor device(s).

4.3 Supervisor role-based access on vendor app for PIN generation/authorization.

4.4 Authorised operator role on vendor app for executing unlock using PIN.

4.5 RFID (NFC) access cards configured as fail-safe unlocking method.

4.6 Manual register for downtime and exception logging

4.7 CCTV coverage at sealing/unsealing points.

5. Roles and responsibilities:

5.1 Supervisor (custody owner)

- Authorises opening and generates PIN in vendor app
- Controls user access
- Approves exceptions
- Signs off unlock events in register

5.2 Authorised lock operator

- Applies lock at dispatch; executes unlock at receipt using supervisor-issued PIN
- Follows exception controls.

5.3 Enroute monitoring staff: Maintains in-transit custody; reports any lock tamper/alerts immediately.

6. Procedure:

6.1 Dispatch at origin node (locking)

6.1.1 Position vehicle at designated loading/sealing point under supervisor oversight and CCTV coverage; load bags as per trip plan; secure and latch vehicle doors.

6.1.2 Fit one smart lock on designated latch points; ensure correct seating.

6.1.3 Lock the smart lock using vendor app (authorised operator); confirm status shows “Locked” on app/device.

6.1.4 Dispatch sign-off: supervisor visually verifies lock is affixed and intact; confirms “Locked” status in vendor app; records trip reference; vehicle number; lock applied time; and operator name in the dispatch register; releases the vehicle.

6.2 Receipt at destination node (controlled opening)

6.2.1 Register arrival: record vehicle number; trip reference; arrival time; allocate unloading bay; hold vehicle at designated receiving point under supervisor oversight and CCTV coverage.

6.2.2 Physical verification: Confirm smart lock is present and intact; check for visible damage/tamper marks; do not open if tamper suspected.

6.2.3 Supervisor authorization: supervisor generates/authorises a one-time PIN in the vendor app for that vehicle/lock. PIN generation is enabled only when vehicle is inside the authorised geo-fence.

6.2.4 Unlock execution: Authorised operator initiates unlock in vendor app and enters the supervisor-issued PIN; confirm status changes to “Unlocked.”

6.2.5 Controlled opening and unloading: open door latches; begin unloading; record unlock time and operator name in receipt register; proceed with bag receipt.

6.2.6 Close record: supervisor signs off the receipt register entry; vehicle handover/opening for that trip is treated as closed.

7. Exceptions and controls:

7.1 PIN unlock fails due to network/connectivity: move vehicle to hold bay (do not delay dock flow if possible); attempt unlock once network is restored or shift to a better signal zone; log “Network issue” in exception register.

Fail-safe unlock using RFID access card (when PIN unlock is not possible): supervisor approves RFID fallback; authorised operator uses configured RFID (NFC) access card to unlock the smart lock; confirm “Unlocked” status; record reason as “RFID fallback” with supervisor sign-off in exception register.

7.3 Tamper suspected or lock damaged: Do not open immediately; quarantine vehicle; inform supervisor/security; open only under joint supervision and CCTV; document with photos and save in local computer; record incident in exception log register. *Future state: System-enabled photo upload to capture and store tamper evidence as digital proof.*

7.4 Unauthorised access control: only authorised users can access the vendor app; supervisor controls PIN generation and approves RFID fallback; PINs must not be shared over informal

channels; access cards must be issued by supervisor and tracked (card ID; holder; issue/return).

8. Smart Lock specification

Here are the specifications of smart locks:

Feature	Specification
Display	0.96-inch OLED screen displaying network signal, time, and lock status
Security Strength	Stainless steel 9 mm shackle with up to 500 kg pull force
Lock Body	Compact size: 10.5 cm × 8 cm; made of strong aluminum alloy
Bluetooth	Nordic Semiconductor chipset for unlocking operations and status checks
Communication	Dual 4G SIM card support
Location	7Q chip with 2.5 m accuracy
QR Code	Unique device ID
Battery	10,000 mAh LG lithium-ion battery with 10–60 days backup
Lock/Unlock	Auto-locking with PIN based/RFIDUnlocking and tampering alert indication
Clear Button	Press to clear passcode and wake up the device



Fig 1: Sample picture for smart lock

Standard Operating Procedure (SOP) for Continuous Sorting Operations

1. Purpose

This Standard Operating Procedure establishes a comprehensive framework for continuous sorting operations without interruption. This procedure integrates immediate bag opening, dual-stream sorting, dynamic manpower allocation, and accountability management to eliminate bottlenecks and maximize throughput while maintaining operational visibility and control.

2. Scope

This SOP applies to:

- All sorting facilities operational across three shifts (24-hour continuous operations)
- Shift inspectors, supervisors, and HAS responsible for sorting and quality
- PAs and SAs

3. Definitions and Abbreviations

Term	Definition
TD Articles	Articles to be sorted for local town delivery
NTD Articles	Articles sorted for outward transmission
Opening Buffer	Quantity of articles opened but not yet sorted (measured in hours of sorting capacity)
Closure Backlog	Quantity of sorted articles awaiting bag closure (measured in hours of closure capacity)
Dual-Stream Sorting	Parallel processing of TD and NTD articles by dedicated staff who cannot cross-sort
Dynamic Allocation	Real-time adjustment of staff between opening, sorting, and closure activities

Continuous Operations	24-hour sorting with no planned downtime, maintaining flow across shift handovers
-----------------------	---

Table 1: Key terminology

4. Key Operational Parameters

4.1 Activity Efficiency Rates

Activity	Efficiency Rate	Notes
Bag Opening & Scanning	1000 articles/hour/person	Includes TD/NTD identification and documentation
TD Article Sorting	700 articles/hour/person	TD sorting
NTD Article Sorting	700 articles/hour/person	Non-TD sorting
Article scanning and bag closure	1000 articles/hour/person	Includes sealing, labeling, and handover

Table 2: Standard efficiency rates by activity

- **Critical constraint:** Any SA can sort either TD or NTD articles at any given time, not both simultaneously

4.2 Buffer and Backlog Requirements

- **Minimum Opening Buffer:** Maintain 2 hours of sorting inventory ahead (opened but not yet sorted)
- **Maximum Opening Buffer:** Do not exceed 4 hours of sorting inventory (space and accountability constraints)
- **Closure Backlog Target:** Keep closure activity within 2 hours of sorting completion to prevent backlog
- **Separate tracking:** TD and NTD buffers and backlogs monitored independently

4.3 Shift Structure

Shift	Timing	Duration
Shift A (Morning)	06:00 - 14:00	8 hours
Shift B (Evening)	14:00 - 22:00	8 hours
Shift C (Night)	22:00 - 06:00	8 hours

Table 3: Three-shift continuous operation schedule

5. Core Operating Principles

5.1 Continuous Flow Philosophy

Sorting operations must never stop. All procedures, staff allocation, and exception handling prioritize maintaining uninterrupted dual-stream sorting at maximum capacity.

1. **Sorting is the Bottleneck:** At 700 articles/hour/person efficiency, sorting requires the most staff and determines overall throughput.
2. **Support Activities Enable Sorting:** Opening and closure activities exist to ensure sorting never waits for opened articles or space.
3. **Buffers Provide Continuity:** Maintain 2-4 hour opening buffers to absorb variability without stopping sorting.
4. **Backlogs are Managed:** Closure deliberately lags sorting during early shifts, then accelerates to achieve equality by end of day.

5.2 Dual-Stream Sorting Constraint

Staff sort EITHER TD OR NTD articles, not both simultaneously.

- TD sorting staff process only TD articles throughout their assigned period
- NTD sorting staff process only Non-TD articles throughout their assigned period
- Staff can be reallocated between TD and NTD streams only at shift boundaries or hourly breaks with formal handover
- Opening and closure staff handle both categories but track and segregate them throughout processing

5.3 Dynamic Allocation Principle (Add role mapping)

Staff are flexibly deployed to where they are most needed, moment-by-moment.

- SAs are multi-skilled across receipt scan, sorting (both TD and NTD), and bagging activities
- Allocation between TD and NTD sorting, bag opening and bag closure adjusted hourly based on buffer status, backlog status, and progress vs. target
- Reallocation decisions follow documented trigger conditions highlighted in section 6.3 and section 8.2

5.4 Accountability in Operations

Clear ownership is maintained despite flexible deployment and blurred boundaries.

- One named owner for every activity, metric, and handoff at any given time
- Decisions about ownership are documented in shift logs and visible to all affected roles

- Handoffs between shifts, activities, or categories require explicit transfer of ownership with acknowledgment

6. Immediate Bag Opening Procedure

6.1 Principle

All bags are opened immediately upon arrival (subject to buffer conditions being met as mentioned in section 6.3) to maximize sorting capacity utilization and maintain continuous flow. No batching or delayed opening permitted except during documented exception conditions.

6.2 Opening Process

Step 1: Bag Receipt and Verification (0-2 minutes)

1. PA accepts bag from MMS at TMO/ agency with timestamp
2. Scan bag barcode and verify against manifest
3. Identify bag category (TD or NTD) based on manifest or physical markings
4. Place bag in appropriate opening queue (TD or NTD)

Step 2: Immediate Opening (2-5 minutes from arrival)

1. PAs retrieves next bag from queue (FIFO within category)
2. Cut seal and open bag carefully to avoid article damage
3. Keep all articles from 1 bag into a single tray
4. Scan articles as removed from bag (individual or batch scanning)
5. Record article count, condition notes, and any discrepancies in system
6. Update opening buffer inventory (system driven, TD and NTD separately)

Step 3: Article Staging (immediate)

1. Place opened TD article trays in TD sorting buffer area
2. Place opened NTD articles trays in NTD sorting buffer area
3. Ensure articles are accessible and visible to sorting staff
4. Article trays handed over to sorting staff by MTS
5. Maintain FIFO flow within each category buffer
6. Alert supervisor if buffer approaching maximum or minimum

6.3 Opening Buffer Management

TD Buffer Monitoring:

$$\text{TD Opening Buffer (hours)} = \frac{\text{TD opened articles awaiting sorting}}{\text{TD sorting rate/hour}}$$

TD sorting rate/ hour:

TD sorting rate per hour = No. of SA allocated to TD sorting * hourly sorting capacity per SA

NTD Buffer Monitoring:

$$\text{NTD Opening Buffer (hours)} = \frac{\text{NTD opened articles awaiting sorting}}{\text{NTD sorting rate/hour (4,200)}}$$

Buffer Control Actions:

Buffer Status	Alert Level	Action Required
< 1.5 hours	CRITICAL	Immediately add 2-3 opening staff; suspend non-critical tasks
< 2 hours	WARNING	Add 1-2 opening staff at next hourly reallocation
2-4 hours	NORMAL	Maintain current opening allocation
> 4 hours	EXCESS	Reduce opening staff by 2-3; redeploy to sorting or closure

Table 4: Opening buffer triggers and responses

7. Dual-Stream Sorting Operations

7.1 Sorting Capacity Allocation

Constant sorting capacity maintained 24 hours:

- **TD Sorting:** Begin with distributed approach, total expected TD articles for the day divided by hourly sorting capacity per SA
- **NTD Sorting:** Begin with distributed approach, total expected NTD articles for the day divided by hourly sorting capacity per SA

7.2 Sorting Process

Step 1: Article Retrieval

1. MTS retrieves articles trays from TD buffer area to sorting area (FIFO)
2. MTS retrieves articles trays from NTD buffer area to sorting area (FIFO)
3. Verify article category matches assigned stream (TD or NTD)

Step 2: Destination Sorting

1. Read destination code on article
2. Place article in corresponding destination bin/slot/chute
3. For TD articles: prioritize accuracy and speed (time-sensitive)
4. For NTD articles: prioritize accuracy (standard timeline)

Step 3: Sorted Article Staging

1. Full destination bins emptied to bags and moved to closure staging area
2. Maintain TD and NTD segregation in staging
3. Update system: article sorted, awaiting closure
4. Track sorted-but-unclosed inventory (closure backlog)

7.3 Sorting Stream Separation

Critical operational rule: TD and NTD sorting streams are independent.

- TD sorting staff assigned to TD stream for entire shift (8 hours) or until formal reallocation
- NTD sorting staff assigned to NTD stream for entire shift (8 hours) or until formal reallocation
- Staff cannot switch between streams mid-shift except at hourly boundaries with supervisor reallocation
- If TD buffer critically low, add opening staff for TD bags, or move TD SA to NTD sorting
- If NTD buffer critically low, add opening staff for NTD bags, or move NTD SA to TD sorting

7.4 Sorting Performance Monitoring

Hourly monitoring (at :00 of each hour):

1. **TD Sorting Output:**
TD articles sorted this hour = Current TD cumulative – Previous hour TD cumulative
2. **NTD Sorting Output:**
NTD articles sorted this hour
= Current NTD cumulative – Previous hour NTD cumulative

8. Bag Closure Operations

8.1 Closure Process

Step 1: Sorted Article Retrieval

1. Closure staff retrieve bags from staging area to closure area
2. Verify destination and article category (TD or NTD)
3. Scan articles into bags to record start of closure process
4. Count articles and verify expected article list

Step 2: Bag Preparation and Packing

1. Print label for bag closure
2. Seal bag securely
3. Scan sealed bag barcode to close in system

Step 3: Closed Bag Handover

1. Move closed bag to dispatch staging area (TD and NTD separate areas)
2. Record bag weight, final article count, and closure staff ID
3. Update system: articles bagged and ready for dispatch
4. Maintain bags in dispatch area by destination and category in roller containers for efficient loading

8.2 Closure Backlog Management

TD Closure Backlog:

$$\text{TD Closure Backlog (hours)} = \frac{\text{TD sorted but unclosed articles}}{\text{TD closure rate/hour}}$$

NTD Closure Backlog:

$$\text{NTD Closure Backlog (hours)} = \frac{\text{NTD sorted but unclosed articles}}{\text{NTD closure rate/hour}}$$

Backlog Control Actions:

Backlog Status	Alert Level	Action Required
< 1 hour	OPTIMAL	Maintain current closure allocation
1-2 hours	NORMAL	Monitor closely; prepare to add closure staff
2-3 hours	WARNING	Add 1-2 closure staff within 30 minutes
> 3 hours	CRITICAL	Immediately add 2-4 closure staff; suspend non-critical tasks

Table 5: Closure backlog triggers and responses

9. Dynamic Manpower Allocation System

9.1 Allocation Framework

Initial allocation to sorting activity to be done basis average volume per day in TD and NTD sections, followed by trigger based hourly adjustment to allocation.

1. **Priority 1: Sustain Category-Specific Opening Buffers**

- Monitor TD and NTD buffers independently every hour
 - If either buffer < 2 hour: immediately add opening staff
 - If both buffers > 4 hour: reduce opening staff and redeploy to sorting/ closure
 - Opening staff handle both categories but track separately
2. **Priority 2: Prevent Category-Specific Closure Backlogs**
 - Monitor TD and NTD backlogs independently every hour
 - If either backlog > 2 hour: add closure staff
 -

9.2 Hourly Reallocation Process

Step 1: Status Check (at :50 of each hour)

Shift supervisor checks and records:

1. TD opening buffer (hours and article count)
2. NTD opening buffer (hours and article count)
3. TD closure backlog (hours and article count)
4. NTD closure backlog (hours and article count)
5. Cumulative progress vs. target (TD, NTD, and combined %)
6. Current staff allocation (opening/TD sort/NTD sort/closure)

Step 2: Trigger Evaluation

Compare status against trigger thresholds (see Tables in Sections 6.3 and 8.2).

Identify required actions:

- Add opening staff? How many? From where (closure or reserve)?
- Reduce opening staff? How many? Redeploy where (closure)?
- Add closure staff? How many? From where (opening or reserve)?

Step 3: Reallocation Execution

1. Shift supervisor identifies specific staff to be reallocated by name/ID
2. Communicate reallocation decision to affected staff and activity supervisors
3. Staff complete current task (finish current bag, batch, or bin)
4. Update tracking system with activity change, staff ID, and timestamp
5. Staff move to new activity station with proper handover to activity supervisor
6. Activity supervisor assigns specific work and confirms staff is productive
7. Shift supervisor documents reallocation reason and outcome in shift log

Step 4: Verification (at :15 of each hour)

- Verify staff are working in newly assigned activities

- Check that buffers/backlogs are responding as expected
- If not improving, escalate to shift manager for additional action

9.3 Allocation Adjustments

Deviations from standard model permitted when:

- Actual buffers or backlogs trigger reallocation thresholds (per Tables in Sections 6.3 and 8.2)
- Inbound volume significantly above or below planned (>10% variance)
- Staff shortages require proportional reduction
- Equipment failures reduce sorting capacity temporarily

Approval required for:

- Reducing TD or NTD sorting below 9 and 6 persons respectively (shift manager approval)
- Total staff per hour exceeding 45 persons (operations manager approval)
- Sustained deviation from standard model for >4 consecutive hours (operations manager notification)

10. Accountability management

10.1 Purpose

This section defines how accountability is maintained when work boundaries between roles (opening, TD sorting, NTD sorting, closure, supervision) are overlapping, evolving, or not fully defined due to dynamic reallocation.

10.2 General Accountability Principles

- There must always be one **clearly named owner** for each activity, metric, and handoff, even if multiple people are involved in execution
- When in doubt, staff must **escalate for role clarification** rather than assume "someone else will handle it"
- Clarifications and decisions about ownership must be **documented and visible** to all affected roles
- Handoffs between activities or shifts require **explicit transfer of ownership** with acknowledgment

10.3 Role Clarification Process

When boundaries are blurred for any task (for example, who logs a TD/NTD discrepancy or who closes a partially sorted bin):

1. The staff member identifies the specific task or decision that is unclear

2. The issue is raised immediately to the on-duty Shift Supervisor (verbally or via communication channel)
3. The Shift Supervisor assigns:
 - One **Accountable Owner** (who is ultimately answerable for the outcome), and
 - One or more **Responsible Operators** (who perform the work)
4. The decision is:
 - Recorded in the shift log or handover report
 - Communicated to all affected staff during the next huddle or briefing
5. Until updated, this clarification remains in force for all subsequent similar cases

10.4 Temporary Ownership in Ambiguous Cases

If a decision cannot be made immediately (e.g., shift supervisor temporarily unavailable):

1. The person who first identifies the issue becomes **Temporary Owner**
2. They:
 - Ensure the task is not dropped (take best-effort action within their authority)
 - Capture basic facts (time, bag ID, article count, category, issue description, actions taken)
 - Escalate again to the Shift Supervisor at the earliest opportunity
3. The Shift Supervisor later confirms or reassigns ownership and documents the final decision in the shift log

10.5 Accountability in Activity Handoffs

To prevent loss of accountability during reallocation or shift changes:

During reallocation (staff moving between activities):

1. Outgoing activity supervisor confirms staff has completed or properly handed over current task
2. Staff logs activity change in system with timestamp
3. Incoming activity supervisor assigns specific work and confirms ownership
4. Any incomplete work from previous activity is explicitly assigned to a named person

During shift handover:

1. Outgoing shift prepares handover report including:
 - Status of "who owns what" for in-progress activities
 - Any incomplete tasks with named owners
 - TD and NTD buffer/backlog status
2. Incoming shift manager confirms understanding and signs handover

3. The outgoing Shift Manager remains accountable for any item not explicitly handed over with a named new owner
4. The incoming Shift Manager confirms understanding and accepts ownership

10.6 Accountability in Dual-Stream Operations

TD/NTD stream separation requires clear ownership:

- **TD Sorting Supervisor:** Accountable for TD sorting output, quality
- **NTD Sorting Supervisor:** Accountable for NTD sorting output, quality
- **Opening Coordinator:** Accountable for segregating TD and NTD during opening, maintaining separate buffers
- **Closure Coordinator:** Accountable for closing TD and NTD bags separately, tracking backlogs by category
- **Shift Manager:** Overall accountable for combined daily target (250,000 articles) and shift performance

11. Shift Handover Procedure

11.1 Pre-Handover Preparation (30 minutes before shift end)

Outgoing Shift Manager prepares handover report including:

1. **Sorting Summary:**
 - Total articles sorted during shift (TD and NTD separately)
 - Total articles bagged during shift (TD and NTD separately)
 - Cumulative daily progress vs. target (percentage for each category)
2. **Current Inventory Status:**
 - TD opening buffer (hours and article count)
 - NTD opening buffer (hours and article count)
 - TD closure backlog (hours and article count)
 - NTD closure backlog (hours and article count)
3. **Staffing and Allocation:**
 - Current staff allocation (opening/TD sort/NTD sort/closure)
 - Any reallocations made during shift and reasons
 - Staff absences or performance issues
 - Recommended starting allocation for incoming shift based on buffer/backlog status
4. **Issues and Exceptions:**
 - Equipment failures or downtime (duration and impact)

- Quality issues or article discrepancies
- Unusual inbound volume or category mix
- Any incomplete tasks with named owners
- Escalations or decisions requiring follow-up

11.2 Handover Meeting (15 minutes at shift boundary)

1. Outgoing and incoming Shift Managers meet in person
2. Outgoing manager presents handover report (5 minutes)
3. Incoming manager asks clarifying questions (5 minutes)
4. Joint physical walkthrough of work areas (5 minutes):
 - Verify buffer and backlog inventory visually
 - Check equipment status
 - Confirm staff assignments
5. Formal handover sign-off in system by both managers with timestamp

11.3 Post-Handover Actions (first 15 minutes of new shift)

1. Incoming Shift Manager reviews recommended allocation and current status
2. Decide initial allocation for new shift (may differ from recommendation if conditions changed)
3. Communicate allocation to shift supervisors and staff
4. Log initial allocation in system
5. Begin hourly monitoring cycle (first check at :00 of first hour)

11.4 Handover Documentation

Handover report must be:

- Completed in standardized template (digital or paper)
- Signed/acknowledged by both outgoing and incoming Shift Managers
- Filed in shift log and available for review by Operations Management
- Retained for 90 days for audit and continuous improvement analysis

12. Performance Metrics and Reporting

12.1 Key Performance Indicators (KPIs)

Metric	Measurement Frequency
--------	-----------------------

Daily articles sorted & closed (total)	Daily
Daily TD articles sorted & closed	Daily
Daily NTD articles sorted & closed	Daily
Hourly combined sorting throughput	Hourly
TD opening buffer maintenance	Hourly
NTD opening buffer maintenance	Hourly
TD closure backlog	Hourly
NTD closure backlog	Hourly
Staff utilization rate	Per shift
Reallocation frequency	Per shift
Shift handover buffer variance	Per handover
Sorting operation downtime	Per shift
End-of-day target achievement	Daily

Table 8: Key performance indicators and targets

12.2 Daily Reporting

Shift Managers generate shift reports showing:

- Shift sorting summary (TD, NTD, and combined)
- Hour-by-hour manpower allocation (opening/TD sort/NTD sort/closure)
- Buffer and backlog trends by category (graphical if possible)
- Reallocation actions taken, triggers, and outcomes
- Exceptions and their resolution
- Progress vs. daily target at shift end (cumulative percentage)
- Staff absences, performance issues, or training needs

Operations Manager consolidates shift reports into daily summary:

- Daily target achievement (total and by category)
- 24-hour cumulative sorting curve (actual vs. target)
- Average staff allocation and deviations from standard model
- Exception frequency and types
- Recommendations for next day adjustments

12.3 Weekly Analysis

Operations Manager conducts weekly review meeting with Shift Managers:

1. Review daily target achievement rate (7-day average)
2. Analyze allocation pattern effectiveness:
 - Did standard model work well or require frequent adjustments?
 - Which hours had most reallocation activity?
 - Were buffers and backlogs maintained within target ranges?
3. Assess staff productivity trends:
 - Are efficiency rates (1000 opening, 700 sorting, 1000 closure) being achieved?
 - Which activities or staff need attention?
 - Multi-skilling gaps or training needs
4. Review exception frequency:
 - Staff shortages: how often, which roles, what was impact?
 - Equipment failures: how often, which equipment, downtime duration?
 - Volume/category variances: how often, how large, were adjustments effective?
5. Identify continuous improvement opportunities:
 - Process bottlenecks not addressed by current procedures
 - Technology or equipment upgrades needed
 - Staffing model refinements
 - Training curriculum updates
6. Update standard allocation model or SOP procedures if needed

Standard Operating Procedure (SOP): Floor Markings for India Post Delivery Centers, Hubs, and Transit Mail Offices

1. FLOOR MARKER (FLOOR MARKINGS)

1.1 Purpose

To establish a standardized, safe, and efficient floor marking system across India Post Delivery Centers (DCs), Hubs, National Sorting Hubs (NSHs), and Transit Mail Offices (TMOs) using visual management principles (5S/Lean). Floor markings shall clearly define movement paths, sorting lanes, staging/storage areas, processing cells, loading/unloading interfaces, restricted zones, and safety-critical locations to reduce errors, improve throughput, and prevent accidents.

1.2 Scope

This SOP applies to all India Post Delivery Centers, Hubs, National Sorting Hubs (NSHs), Transit Mail Offices (TMOs), Delivery Branch Sorting Areas, and other India Post premises where mail or parcels are received, sorted, processed, staged, loaded/unloaded, or moved using trolleys, roller containers, hand pallet trucks, or forklifts. It covers indoor floors (concrete/epoxy/tile) and, where applicable, covered outdoor loading zones.

1.3 Standard Color and Pattern Code (India Post Recommended)

All facilities shall use a consistent legend so that any employee moving between a Delivery Center, Hub, NSH, or TMO can interpret markings without additional explanation. Where local constraints require deviation, the legend shall be displayed prominently at entry points and near the main operating floor. Additional operational colors used to differentiate sections shall not override hazard, restricted, fire-safety, or keep-clear markings.

Color / Pattern	Meaning (Standard)	Typical India Post Applications (DC/Hub/TMO)
Yellow (solid lines)	Pedestrian aisles / walkways (safe movement paths)	Main walkways, cross-walks at MHE routes, shared movement aisles
White (solid lines)	Storage / staging boundaries and equipment footprint	Pre-sort and post-sort staging bays, roller-container slots, trolley parking, bin locations
Green (solid lines)	Safe zones / priority processing / emergency equipment access	Priority sorting zone identifiers, first-aid station area, muster point path, emergency exit approach
Red (solid lines)	Danger / prohibited areas; fire equipment keep-clear	Fire extinguisher zones, "No entry", "Do not block"
Blue (solid lines)	Primary sorting / information / quality / administrative zones	Primary sorting sectors, QC/exception handling area, IT/scan desk, supervisor desk boundary
Purple (solid lines)	Secondary / detailed sorting zones	Secondary sorting sectors, low-volume destination sort bays, bag segregation blocks

Orange (solid lines)	Processing / work-cell zones	Bag opening, facing, article scan, bag closing, other process handling cells
Black-yellow stripes	Caution / hazard (edge, pinch point, obstacle)	Dock edges, pit edges, column protection, low headroom zones
Red-white stripes	Restricted / high-risk (only authorized persons)	Electrical panels, battery charging, DG/UPS rooms, chemical storage
Hatched box (diagonal)	Keep-clear zone (no parking / no stacking)	In front of exits, fire panels, switchboards, dock door swing area

1.4 Standard Dimensions and Layout Rules

a. Line width (typical):

- Pedestrian walkways: 50 mm (each boundary line)
- Operational area boundaries and storage/staging bays: 75 mm
- Vehicle/MHE lanes (where applicable): 100 mm
- Hazard stripes: 100-150 mm (striped)

b. Walkway width (recommended):

- Low-traffic pedestrian aisle: 4 ft minimum (approx. 1.22 m)
- High-traffic / material movement aisle (package trolleys, roller containers, cages): 5 ft minimum (approx. 1.52 m)
- Cross-walk at MHE lanes: align at 90 degrees and mark with “STOP/LOOK” text or symbols

c. Keep-clear distances (typical):

- Fire equipment: maintain a marked keep-clear box (at least 1.0 m x 1.0 m) in red
- Electrical panels: maintain a keep-clear box (at least 1.0 m depth) in red-white stripes
- Emergency exits: keep-clear approach path and “EXIT” direction arrows in green

d. Readability and accessibility:

- Avoid using color alone: add text, arrows, patterns, and zone names for color-blind accessibility
- Maintain contrast with the floor; recoat/replace when contrast is poor
- Use bilingual labels and section names (English/Hindi or local language) where feasible

1.5 Marking of Operational Areas, Staging Areas, and MHE Footprints

All operational sections in a Delivery Center, Hub, NSH, or TMO shall have a clearly marked boundary, a visible zone name, and dedicated footprints for movable equipment. Unmarked parking or overflow stacking is not permitted.

- Use the standard color code to mark outer boundaries of each operational section. Repeat the section name (for example, “PRIMARY SORTING”, “PRE-SORT STAGING”) at entry points and along long boundaries for easy identification.
- Use white solid lines to mark each equipment footprint (rectangle) with an ID label (for example, “RC SLOT PS-01”, “TROLLEY PARK T-05”, “CAGE SLOT LU-02”).

- Size each footprint to the equipment's measured length x width plus clearance (recommended: 150 mm / 6 in on all sides for safe handling). For roller containers, slot length = RC length + 300 mm and slot width = RC width + 300 mm.
- In sorting and processing zones, provide dedicated inbound and outbound equipment spots adjacent to the working face, but keep the operator standing/working envelope and hand-reach zone free of parked equipment.
- In pre-sort and post-sort staging zones, divide the area into individual roller-container/trolley slots and group them by function, route, dispatch, origin, or destination as applicable.
- At loading/unloading points, mark queue lanes, dock interface warning bands, and staging pockets by door/bay number. Keep vehicle swing, shutter travel, and fire access areas within hatched keep-clear markings.
- Maintain a 5 ft (approx. 1.52 m) material movement aisle connecting sorting -> processing -> staging -> loading/unloading, and keep yellow pedestrian aisles free of trolleys, containers, or loose bags.
- Use hatched "KEEP CLEAR" boxes where obstruction is not allowed (exits, fire equipment, electrical panels, dock door swing, equipment turning circles).
- If multiple roller-container/trolley sizes exist, mark different slot sizes (for example, RC-S / RC-L) and label accordingly. Sites may also mark separate footprints for full, empty, damaged, or quarantine equipment where operationally required.

1.6 Material Specifications (Example / Best-Practice Guidance)

The following specifications are examples for standardization across Delivery Centers, Hubs, NSHs, and TMOs. Procurement may be through GeM/approved vendors; final selection shall follow India Post procurement rules, traffic levels, and site conditions.

Item	Recommended spec	Typical use	Notes	Potential vendors
Vinyl/PVC floor marking tape (Basic)	Width 50/75/100 mm; thickness 150-200 micron; pressure-sensitive acrylic adhesive; high-visibility colors	Walkways, storage borders, temporary zones	Fast install. Replace when edges lift or color fades.	Virag Industries, Brady India
Industrial-grade vinyl/PU tape (Advanced)	Width 50-100 mm; thickness 500-1000 micron; abrasion-resistant; optional edge-seal primer	High-traffic aisles, trolley/pallet truck lanes	Longer life; better on rough floors.	Brady India, Ajit Industries
Anti-slip tape / anti-slip coating (Advanced)	Grit surface (medium); strong adhesive; or epoxy with anti-slip aggregate	Ramps, wet docks, wash areas, entrances in monsoon	Use contrasting color with warning symbols.	Ajit Industries, Univolen

Single-pack floor paint (Basic)	Acrylic/alkyd floor marking paint; quick-dry; 2 coats	Low/medium traffic lines; indoor dry areas	Lower durability than epoxy; easy touch-up.	Amitek Infra, Univolen
2K epoxy floor marking paint (Advanced)	Two-component epoxy; chemical and abrasion resistant; compatible primer; 2 coats; optional PU topcoat	Forklift zones, loading bays, long-life markings	Requires mixing, pot life control, and curing.	Amitek Infra, Univolen
Reflective strips/beads (Advanced)	Retro-reflective tape or glass beads broadcast into wet paint	Low-light areas, night loading, emergency paths	Ensure sufficient lighting and clean surface.	Sunrise Overseas, Ajit Industries
Pre-printed decals / stencils	Laminated vinyl decals or reusable stencils; bilingual where feasible	Arrows, “KEEP CLEAR”, zone IDs, “STOP/LOOK”	Use overlaminate/clear coat for longer life.	Safety Signs India, SafetySignLabels

1.7 Application Procedure (Installation Guidelines)

1.7.1 Safety and work permits

- Barricade the work area and display “Work in Progress - Do Not Enter”.
- Ensure emergency exits remain accessible at all times.
- Use PPE: safety shoes, gloves, eye protection; respirator where paint/solvent fumes exist.
- Ensure adequate ventilation for paints/primers; follow MSDS/TDS.

1.7.2 Surface preparation (mandatory for all marker types)

a. Cleaning:

- Sweep and remove loose dust.
- Scrub with neutral degreaser; remove oil/grease.
- Rinse if needed and allow to fully dry.

b. Repairs:

- Fill cracks/pits; grind high spots; ensure a smooth, sound surface.
- For new concrete, ensure adequate curing and dryness as per product requirements.

c. Final check:

- Surface must be dry, clean, and free of chalking for proper adhesion.

1.7.3 Layout marking (before applying tape/paint)

- Use an approved site layout / floor marking plan and identify reference points (columns, walls, dock doors, equipment lines).
- Snap chalk lines or use a laser line for straightness.
- Confirm widths and turning radii for trolleys/MHE and confirm dedicated footprints for movable equipment.
- Conduct a “walk-through” with operations, safety, and facility teams before final application.

1.7.4 Applying floor marking tape (Basic/Advanced)

a. Application steps:

1. Start from one end; peel backing gradually while pressing tape to the floor.
2. Use a hand roller or floor roller to apply uniform pressure and remove bubbles.
3. For corners, use pre-formed corners or mitre-cut at 45 degrees; avoid stretching tape.
4. Overlap tape ends by ~25 mm or butt-join as per manufacturer recommendation.
5. In high-traffic zones, apply edge-seal/primer (if available) to prevent edge lifting.
6. Keep the area barricaded for at least 30 minutes; avoid aggressive turning of wheels for 24 hours.

1.7.5 Applying paint/epoxy markings (Basic paint or Advanced epoxy)

a. Masking and mixing:

- Mask both sides to achieve sharp edges.
- Mix paint/epoxy exactly per manufacturer ratio; observe pot-life for 2K systems.
- Use primer if specified for concrete/porous floors.

b. Application:

- Apply first coat with roller; maintain consistent width.
- After recoat window, apply second coat.
- For anti-slip: broadcast aggregate into wet coat (or use anti-slip paint system) and seal as required.
- For reflective markings: broadcast reflective beads into wet coat or use reflective tape.

c. Curing and reopening:

- Touch-dry and recoat times vary by product and climate.
- Keep area barricaded until it can take foot traffic; restrict MHE traffic until full cure.
- Record curing times and reopen only after supervisor sign-off.

1.7.6 Applying symbols, text, and arrows

- Use standardized stencils/decals for “KEEP CLEAR”, “STOP/LOOK”, arrows, section names, and zone IDs.
- Letter height: ≥ 100 mm for main aisles and section names; ≥ 50 mm for secondary zones.
- Place arrows at decision points and at least every 10-15 m along long aisles.
- Use bilingual labels where practical.

1.7.7 Acceptance checklist (sign-off)

- Markings match the approved layout (zone names/IDs, dimensions, locations, and equipment footprints).
- No missing sections, bubbles, or uneven lines.
- Color code is consistent and legend is displayed.
- Slip resistance applied where required.
- Photographs taken and stored with the Floor Marking Plan record.

1.8 Maintenance, Inspection, and Rework

1.8.1 Inspection frequency

- Daily: Housekeeping checks for lifted tape, missing segments, or trip hazards.
- Weekly: Supervisor walk-through focusing on walkways, sorting sections, staging areas, docks, and restricted zones.
- Monthly: Safety audit and update of the Floor Marking Register.
- After any layout change: revalidation and update of plan/legend.

1.8.2 Cleaning guidelines

- Use neutral cleaners; avoid aggressive solvents on tapes.
- Avoid directing high-pressure water jets at tape edges.
- Keep floors dry where possible; fix leaks quickly to protect markings and prevent slips.

1.8.3 Replacement criteria (recommended)

Replace or repair markings when any of the following occur:

- >20% of a line segment is missing/faded in a critical area (walkway, hazard, dock).
- Tape edge lift >25 mm or repeated lifting in the same location.
- Paint contrast becomes poor or surface becomes slippery.
- Zone meaning is no longer correct due to process change.

1.9 Change Management (Re-layout / Re-zoning)

- a. Initiation: Raise a change request with justification (throughput, safety, seasonality, route mix, or dispatch pattern).
- b. Review and approval: Obtain written approval of the updated layout and legend before implementation.
- c. Removal of old markings: Use heat/approved adhesive remover for tapes; mechanical abrasion for paint, ensuring dust control.
- d. Re-application: Follow Section 1.8 and update records/photos.
- e. Communication: Conduct a toolbox talk and update the displayed legend within 24 hours of change.

1.10 Records and Formats (maintained at site)

The following records shall be maintained in physical or digital form at the site for audit and continuous improvement:

- Floor Marking Plan (latest approved drawing/sketch) with legend.
- Approved site zoning / area reference (Hub/TMO/NSH layout reference or DC Playbook reference, as applicable).
- Material and Batch Register (tape/paint batch, vendor, date of installation).
- Installation Checklist and Acceptance Sign-off.
- Inspection and Maintenance Log (daily/weekly/monthly).
- Change Requests and approvals (re-layout / re-zoning).

- Training attendance and communication records.

Appendix 1: Hub / TMO (NSH) Area Delineation and Floor Marking Reference

For Hubs, NSHs, and TMOs, detailed micro-area calculation may vary by building footprint, equipment mix, and dispatch volume. Instead of prescribing a single formula in this SOP, the floor shall first be divided into the eight standard operational areas listed below, as indicated in a typical NSH layout. Boundaries shall be clearly marked, section names stencilled, and every movable equipment item (roller container, cage, trolley, pallet, hand pallet truck, etc.) shall have a dedicated numbered footprint inside the relevant section. Detailed line quantities shall then be taken from the approved local layout.

Area	Boundary and dedicated spot guidance
1. Primary Sorting	Boundary: Blue solid double boundary with “PRIMARY SORTING” stencil at each entry and along long edges. Internal marking: Mark the operating face in front of sort frames/pigeonholes; keep any operator standing strip free from parked items. Equipment spots: Provide white, numbered feeder and takeaway footprints for roller containers/trolleys adjacent to the sort bank.
2. Secondary Sorting	Boundary: Purple solid boundary with “SECONDARY SORTING” stencil for quick differentiation from primary sorting. Internal marking: Use white sub-bays or labeled boxes for low-volume destination bags, segregation points, or detailed sorting pockets. Equipment spots: Provide dedicated white footprints for destination bags, cages, and supporting trolleys; do not allow spillover into aisles.
3. Priority Sorting	Boundary: Green solid boundary with “PRIORITY SORTING” labels at all approaches for fast visual identification. Internal marking: Keep the transfer path from priority sorting to dispatch/loading clear and separately identified. Equipment spots: Mark white, numbered footprints for priority cages/roller containers so priority mail is not mixed with regular flow.
4. Processing Area	Boundary: Orange solid boundary around the full work cell covering bag opening, facing, article scan, bag closing, and related workstations. Internal marking: Mark individual sub-zones / workstation boxes in white and mark “WAITING FOR PROCESSING” as a diagonally hatched box with text. Equipment spots: Provide dedicated inbound and outbound equipment footprints at each workstation while keeping the operator work envelope clear.
5. Loading and Unloading	Boundary: Mark bay or dock boxes in white and use black-yellow striping at dock edges, transfer edges, ramps, or other hazard interfaces. Use red hatched keep-clear markings at fire equipment, shutter travel, and restricted access points. Internal marking: Mark queue lanes, scan/manifest point, and door/bay identifiers. Equipment spots: Provide numbered slots by door/bay for inbound and outbound roller containers, cages, or pallets awaiting movement.
6. Post-sort Staging	Boundary: White solid boundary as the staging standard, with green “POST-SORT STAGING” title blocks or stencils at entry points for quick identification. Internal marking: Divide the area into route-wise / dispatch-wise slots and maintain a clear access aisle. Equipment spots: Mark each roller-container/trolley slot in white with a unique ID; where required, separate full and empty equipment locations.
7. Pre-sort Staging	Boundary: White solid boundary as the staging standard, with blue “PRE-SORT STAGING” title blocks or stencils at entry points for differentiation from post-sort staging. Internal marking: Divide the area into origin-wise / wave-wise / inbound-wise slots and keep loose bags inside the marked area only. Equipment spots: Mark each roller-container/trolley slot in white with a unique ID and provide separate footprints for empty equipment where needed.

Area	Boundary and dedicated spot guidance
8. Aisle	Boundary: Yellow double lines for pedestrian or shared movement aisles; at crossing points provide cross-walks and “STOP/LOOK” markings. Internal marking: Use directional arrows and keep turning radii at intersections free; where required, use hatched keep-clear boxes. Equipment spots: No parking of roller containers, trolleys, cages, or loose bags is permitted inside the aisle unless a specifically marked bay is provided outside the travel path.

Appendix 2: Delivery Center Area Calculation Reference

For Delivery Centers, section-wise area calculation, slot sizing, and quantity planning shall be as outlined in the latest DC Playbook. Each DC shall implement floor markings on its approved local layout and retain the relevant DC Playbook reference with its Floor Marking Plan and local records. In addition to the calculation guidance in the DC Playbook, the following standard DC sections shall be distinctly bounded, labelled, and provided with dedicated equipment footprints.

Area	Boundary and dedicated spot guidance
1. Pre-sort Staging	Boundary: White solid boundary with blue “PRE-SORT STAGING” title blocks or stencils at entry points for quick identification. Internal marking: Divide the area into origin-wise / inbound-wise / wave-wise slots and maintain a clear access strip to the sorting zones. Equipment spots: Mark each roller-container, trolley, cage, or bin footprint in white with a unique ID; separate full and empty equipment where needed.
2. Parcel Sorting	Boundary: Blue solid boundary with “PARCEL SORTING” stencil at entry points and along long edges for clear differentiation from mail sorting and staging. Internal marking: Mark sort lanes, destination racks, and handover/transfer points in white within the section and keep the operating face clear. Equipment spots: Provide white, numbered feeder and takeaway footprints for roller containers, cages, tubs, or trolleys adjacent to the parcel sort positions.
3. Mails Sorting	Boundary: Purple solid boundary with “MAILS SORTING” stencil for immediate visual differentiation from parcel operations. Internal marking: Mark sorting frames/cases, tray accumulation points, bundle bays, and bag handover boxes in white within the section. Equipment spots: Provide dedicated white footprints for mail cages, trays, bags, or supporting trolleys, and do not allow overflow into the aisle.
4. Large Parcel Sorting	Boundary: Orange solid boundary with “LARGE PARCEL SORTING” stencil for high-visibility identification of oversized-item handling space. Internal marking: Mark laydown rectangles, turning clearances, and temporary hold positions so bulky items do not project into movement paths. Equipment spots: Provide larger white footprints for roller containers, pallets, dollies, or cages used for bulky articles, with size variants marked where required.
5. Sequencing	Boundary: White solid boundary with green “SEQUENCING” title blocks or stencils at each approach for clear identification of the final sequencing zone. Internal marking: Mark each sequencing table / beat position and define inbound and outbound trolley parking beside, not in front of, the working edge. Equipment spots: Provide white, numbered footprints for beat-wise trolleys, trays, bags, and carts while maintaining a clear operator standing strip and access path.
6. Undelivered Storage	Boundary: White solid boundary with blue “UNDELIVERED STORAGE” title blocks; where access is controlled, mark the entry threshold or cage frontage with red-white restricted stripes. Internal marking: Mark rack, bin, or cage locations and identify hold areas for returns, customer pickup, or verification as per the local process. Equipment spots: Provide dedicated white footprints for undelivered bags, cages, trays, or return trolleys and keep the area segregated from active sorting and dispatch zones.

Area	Boundary and dedicated spot guidance
7. Post-sort Staging	Boundary: White solid boundary as the staging standard, with green “POST-SORT STAGING” title blocks or stencils at entry points for rapid identification. Internal marking: Divide the area into beat-wise / route-wise dispatch slots and maintain a clear access aisle to the dispatch or loading point. Equipment spots: Mark each roller-container, trolley, cage, or bag footprint in white with a unique ID and separate full, empty, and reserve equipment locations where required.

Appendix 3: Floor Marking Installation Checklist (sample)

Work area barricaded and signage displayed	Yes / No
Floor cleaned, degreased, and fully dry	Yes / No
Cracks/pits repaired; surface sound	Yes / No
Layout lines verified against approved plan	Yes / No
Correct colors and widths used as per legend	Yes / No
Tape rolled / paint edges sharp; no bubbles/bleed	Yes / No
Anti-slip/reflective applied where required	Yes / No
Curing time observed; area reopened after sign-off	Yes / No
Photos taken and records updated	Yes / No

Appendix 4: Inspection Log (sample)

Date	Area/Zone	Issue Observed	Corrective Action	Closed By/Date

Standard Operating Procedure (SOP) for Bulk pickup handheld scanners

1. Objective

To standardize and automate the deployment, usage, and management of Handheld Devices (HHDs) for scanning individual articles during bulk pickups at customer premises (e.g., Amazon warehouses).

This SOP ensures accurate article-level data capture, error-free reconciliation, transparency, and accountability in the bulk pickup process.

2. Scope

This SOP applies to:

1. **Bulk Shippers:** Starting with Amazon, extendable to other large e-commerce players (decathlon, etc.).
2. **Booking Offices:** Offices designated for processing bulk booking files (e.g., BPC Gurgaon).
3. **Pickup Agents:** Staff responsible for carrying HHDs and executing article-level scans.
4. **Supervisors/Managers:** Responsible for monitoring device performance, managing discrepancies, and reporting exceptions.
5. **IT/Tech Support Team:** Responsible for device health, app/software updates, and real-time error logging.

3. Roles & Access Control

- **Pickup Agent (India Post):**
 - Custodian of HHD during the pickup trip.
 - Executes article-level scans as per booking file.
 - Reports discrepancies and device issues.
- **Amazon Warehouse Staff:**
 - Facilitates article handover.
 - Confirms reconciliation and signs off on discrepancy reports.
- **Booking Office Supervisor (e.g., BPC Gurgaon):**
 - Assigns HHDs to pickup agents.
 - Monitors daily device logs, short/error reports.
 - Escalates unresolved discrepancies to Circle Office.

- **IT/Tech Team:**
 - Ensures device connectivity, sync, and integration with APT 2.0.
 - Provides troubleshooting and escalation support.

4. Process flow

Step 1 – Procurement & setup

1. Circles to allocate HHD devices for pickup agents.
2. Devices pre-loaded with pickup application integrated with APT 2.0.
3. Customer booking files automatically mapped to designated Booking Offices.
4. Conduct testing for Connectivity (5G/Wi-Fi).

Step 2 – Deployment & assignment

1. Supervisor assigns HHD to pickup agent before the trip.
2. Device checked for battery status, connectivity.
3. Pickup agent logs in with role-based credentials.
4. Booking file synced with HHD from APT 2.0.

Step 3 – Pickup execution at customer warehouse

1. Pickup agent reaches customer warehouse with HHD.
2. Each article handed over by customer is scanned:
 - Articles present in booking file: accepted.
 - Extra articles not in file: flagged as “Error.”
 - Missing articles: flagged as “Short.”
3. Real-time data transmitted to APT 2.0 backend.
4. Offline mode: HHD stores scans locally; auto-syncs once connectivity restored.

Step 4 – Reconciliation & discrepancy handling

1. At completion of pickup, HHD auto-generates a summary: Booked vs Picked and Errors
2. Discrepancy report transmitted to: Booking Office Supervisor.
3. If device failure:
 - Manual pickup sheet signed by customer supervisor.

- Data manually uploaded into APT 2.0 at Booking Office.

Step 5 – Article Movement to Booking Location

1. After reconciliation, articles are sealed and transported.
2. HHD data syncs with booking workflow in APT 2.0.
3. Booking Office accepts articles as per scanned manifest.

5. Exception Handling

1. **Device Failure:** Switch to manual pickup sheet- reconciliation uploaded later.
2. **Connectivity Issues:** Offline scanning enabled- auto-sync once network restored.
3. **Discrepancies (Short/Extra):** Reported in dashboard + exception log.
4. **Unauthorized Access:** Role-based login ensures accountability; device misuse escalated to Supervisor.

6. Maintenance

1. Supervisors to ensure HHDs are charged, updated, and functional before trips.
2. Faulty devices logged with IT helpdesk- replaced/repared.
3. For reassignment: Deregister device from existing agent- reassign via portal.
4. Vendor to provide technical support during pilot phase.

7. Handheld scanner Specification



Fig 1: Image for handheld scanner-Zebra TC 15

Physical Characteristics

Dimensions	6.92 in. L x 3.09 in. H x 0.56 in. D 175.8 mm L x 78.6 mm W x 14.2 mm D
------------	--

Weight	9.38 oz/266 g
Display	6.5 inch/16.51 cm HD+, 720 x 1600, 450 NITS
Touch Panel	Capacitive multi-touch
Power	Removable, rechargeable Li-Ion battery, 5,000 mAh; 19.35Wh
SIM	Dual nano SIM or One NANO one Micro SD
Network Connections	WLAN, WWAN, WPAN, Type C USB 2.0
Notifications	Audible tone; multi-color LEDs; vibration
Keypad	On-screen touch keypad
Voice and Audio	Speaker 1 Watt Two (2) microphones Audio headset supported from USB-C port or Bluetooth
Buttons	Scan button on each side; volume up/down button; power button; Programmable button

Data capture

Scanning	SE4100 1D/2D Scan Engine, SE4710 1D/2D Scan Engine ³
Camera	Rear camera: 13 MP auto-focus camera with user controllable LED flash Front camera: 5 MP
NFC	Reader/Writer: ISO 14443 Type A and B, MIFARE, FeliCa™, ISO 15693, NFC Forum Tag Types 1 to 5; Host Card Emulation, NFC Forum compliant

Standard Operating Procedure (SOP)

Subject: Revised Mail Conveyance and Delivery Models for Branch Offices (BOs)

Applicability: Account Offices (HO/SO), Branch Offices (BO), Branch Postmasters (BPM), Assistant Branch Postmasters (ABPM), and Gramin Dak Sevaks (GDS).

1. Objective

To streamline mail conveyance and delivery processes between Account Offices (AOs) and Branch Offices (BOs) by implementing standardized routing models based on distance and mail volume thresholds. This ensures optimal utilization of the 5-hour GDS shift, minimizes transit times, and guarantees timely doorstep delivery.

2. Scope

This SOP defines three distinct operational models for ABPMs and GDS staff. The assignment of a BO to a specific model is determined by mathematical thresholds calculating travel time and delivery volume.

3. Operational Guidelines and Mathematical Framework

All route and model assignments must strictly adhere to the maximum permissible working hours for an ABPM/GDS.

- **Maximum Shift Duration:** 300 minutes (5 hours)
- **Administrative/Buffer Time:** 30 minutes (reserved for bag opening/closing, DARPAN device syncing, cash handover)
- **Maximum Usable Field Time:** 270 minutes
- **Standardized Transit Rate:** 5 minutes per kilometer ($\text{km} \times 5$)
- **Standardized Delivery Rate:** 2 minutes per article ($N \times 2$)

Summary Decision Matrix

Model Assignment	One-Way Distance (AO to BO)	Daily Article Volume (N)	Primary ABPM Role
Case 1: Direct Delivery	≤ 8 km	≤ 80 articles	Transit + Doorstep Delivery
Case 2: Milk Run	N/A (Total Loop ≤ 45 km)	High (Local GDS delivers)	Pure Transit (Multiple BOs)
Case 3: Dedicated Transit	> 12 km	Any (Local GDS delivers)	Pure Transit (Single BO) + Wait

(Note: BOs falling in the 8 km to 12 km "grey zone" with low article counts may be evaluated for Case 1 on a case-by-case basis by the Divisional Head, provided the total calculated time strictly remains under 270 minutes).

4. Operational Models and Standard Procedures

Case 1: Direct Delivery Model (AO-Sequenced)

Application: Assigned to BOs within an 8 km radius of the AO with a daily delivery volume of 80 articles or fewer.

Constraint Check: $(\text{Total Round-Trip Distance} \times 5) + (\text{Total Articles} \times 2) \leq 270 \text{ minutes}$

Procedure:

1. Receipt at AO: The ABPM reports directly to the designated Account Office.
2. Sequencing: The ABPM receives all accountable and ordinary articles meant for their assigned BO. They scan and sequence these articles into their delivery device (DARPAN/smartphone app) at the AO.
3. Doorstep Delivery: The ABPM leaves the AO and proceeds directly to the BO's jurisdiction to perform doorstep delivery.
4. Arrival at BO: Upon completing the delivery beat, the ABPM arrives at the physical Branch Office.
5. Handover & Collection: The ABPM hands over any undelivered articles to the BPM. The ABPM then collects the sealed outbound BO bag (booked articles, cash remittances, BO Daily Account) from the BPM.
6. Return to AO: The ABPM transports the outbound BO bag back to the AO before the daily dispatch cutoff.

Case 2: Multi-BO "Milk Run" Transit Model

Application: Assigned to geographic clusters of 2 to 4 BOs where the total loop distance from the AO and back is 45 km or less. Local GDS staff are required for delivery.

Constraint Check: $(\text{Total Loop Distance} \times 5) + (\text{Number of BOs} \times 15 \text{ mins handover buffer}) \leq 270 \text{ minutes}$

Procedure:

1. Bag Collection: The ABPM reports to the AO and collects the sealed incoming BO bags for all Branch Offices on the designated route.
2. Outward Journey (Drop-off): The ABPM travels the pre-defined route, stopping at each BO to hand over the incoming BO bag to the local BPM/GDS.
3. Local BO Operations (Concurrent): The local BPM opens the bag and invoices the articles. The local GDS performs doorstep delivery within that BO's jurisdiction.
4. Return Journey (Pick-up): The ABPM loops back through the route to collect the sealed outbound BO bags (booked articles, accounts, remittances) from each BO.

5. Return to AO: The ABPM completes the route and deposits all collected outbound BO bags at the AO.

Case 3: Point-to-Point Dedicated Transit Model

Application: Assigned to isolated BOs located more than 12 km (one-way) from the AO.

Constraint Check: $(\text{Round-Trip Distance} \times 5) + (\text{Wait time at BO}) \leq 300 \text{ minutes}$

Procedure:

1. Bag Collection: The ABPM reports to the AO and collects the sealed incoming BO bag meant for the distant BO.
2. Transit: The ABPM travels directly from the AO to the distant BO.
3. Handover: The ABPM hands over the incoming BO bag to the BPM. (Doorstep delivery is subsequently managed by the local BO staff/GDS).
4. Standby/Collection: The ABPM remains at the BO until the close of the BO's working hours (or returns at a scheduled time) to collect the day's sealed outbound BO bag.
5. Return to AO: The ABPM travels back directly to the AO to hand over the outbound BO bag.

5. Exceptions and Route Re-evaluations

- **Volume Shifts:** If a Case 1 BO consistently exceeds 80 articles per day for a period of 30 days, the Divisional Head must review the route for conversion to Case 3 (assigning a dedicated local GDS for delivery).
- **Device/Network Failure:** In the event of DREAMS device failure during Case 1, the ABPM must utilize manual sequencing and physical signatures, updating the digital system upon returning to the AO or BO.
- **Route Disruptions:** For Cases 2 and 3, if severe weather or transport issues disrupt the route, the ABPM must notify the AO Postmaster immediately for alternative routing or authorization of delayed dispatch.

Standard Operating Procedure (SOP) for Storing Incoming Bags in Roller Containers

Purpose:

This SOP outlines the procedure for storing incoming bags in roller containers at TMO and hubs. The process ensures efficient organization and segregation of bags for multiple destinations using 3-ply corrugated polypropylene (PP) sheets as partitions where required.

1. Scope

This procedure applies to all staff involved in handling and storing incoming bags in roller containers at the facility.

2. Materials Required

- Roller containers
 - 3-ply corrugated polypropylene (PP) sheets
 - Zip ties or clips for securing partitions (if required)
 - Labels for destination identification
-

3. Procedure

3.1 Preparation of Roller Containers

1. Inspect the roller container for cleanliness and structural integrity.
2. Ensure the container is empty and free of any debris or previous materials.

3.2 Use of Dedicated and Partitioned Roller Containers

1. **Dedicated Roller Containers for high-volume destinations/ transfers:**
 - For destinations or transfers with high bag volumes, use a dedicated roller container without partitions.
 - Clearly label the roller container with the destination or transfer name.
2. **Partitioned Roller Containers for low-volume destinations/ transfers:**
 - For destinations or transfers with low bag volumes, use a roller container partitioned with 3-ply corrugated PP sheets.
 - Secure the partitions using zip ties or clips to create sections within the container.
 - Ensure the partitions are sturdy and do not collapse under the weight of the bags.
 - Label each section clearly with the destination name or code.

3.3 Sorting Incoming Bags

1. Primary Sorting:

- Upon receiving incoming bags, sort them into three primary categories:
 - a. **NSH (National Sorting Hub):** Bags destined for the National Sorting Hub.
 - b. **PH (Parcel Hub):** Bags destined for the Parcel Hub.
 - c. **Transfer:** Bags that need to be transferred to other destinations.

2. Detailed Sorting of Transfer Bags:

- Further sort the transfer bags destination-wise.
- For high-volume destinations, place the bags in dedicated roller containers.
- For low-volume destinations, place the bags in partitioned roller containers, ensuring each section is labeled with the destination name or code.

3.4 Storing Bags in Roller Containers

1. Place Bags in the Appropriate Containers:

- Carefully place the sorted bags in the designated roller containers or sections.
- Avoid overloading any container or section to prevent damage to the bags or partitions.

3.5 Final Inspection

1. Inspect the roller container to ensure:
 - All bags are stored in the correct containers or sections.
 - Partitions (if used) are intact and securely fastened.
 - Labels are visible and accurate.
2. Appropriately re-label sections and roller containers after bags are dispatched from the container/ section.

4. Quality Assurance

- Conduct random checks to ensure compliance with the SOP.
- Address any deviations immediately and provide additional training if required.
- Periodically check roller containers for any damages and replace parts wherever necessary

SOP: Replacing loose bag loads with DO-mapped collapsible totes for faster, accurate milk-run deliveries

1. **Objective:** To eliminate loose bag loading in trucks by shifting to DO-wise totes sorted at the hub, thereby preventing mixing and miscounts across Delivery Office loads, enabling faster and more accurate unloading at each stop, and supporting efficient milk-run distribution.
2. **Intervention:**
 - 2.1 From: Bags are kept loose in the truck, increasing the risk of mixing, miscounts between DO loads.
 - 2.2 To: Bins/totes for high volume delivery centers /offices: articles are sorted into Delivery Office-wise totes at hub, each tote is unloaded at the respective Delivery Office during milk run, improving speed and accuracy.
3. **Scope:** Applicable to hub to Delivery Office linehaul: milk-run routes covering multiple Delivery Offices.
4. **Equipment and system inputs:** Collapsible totes with unique tote ID (barcode/QR), route-wise tote plan, optional tote seals/zip ties for closure.
5. **Procedure:**
 - 5.1 Tote planning: Define milk-run route sequence: allocate tote quantity per Delivery Office based on historical volume. Assign empty totes to hub lanes before sorting starts.
 - 5.2 Create tote record: Generate tote ID in system, map tote ID to Delivery Office, route and trip ID.
 - 5.3 Sort into totes at hub: During sorting, directly place articles for each Delivery Office into its allocated tote.
 - 5.4 Scan build-up: Scan articles into tote ID where enabled, else capture tote-level count summary. System updates tote contents against DO and trip.
 - 5.5 Close tote: Close collapsible tote and apply lid/strap, record seal number against tote ID.
 - 5.6 Stage by route sequence: Move totes to DO-wise staging lanes arranged in milk-run stop order: verify tote count per DO against plan.
 - 5.7 Load vehicle: Load totes DO-wise in reverse drop order for easy access: scan tote IDs to vehicle trip ID. Confirm “Loaded: ready for dispatch”.
 - 5.8 Handover at each Delivery Office: At each stop; unload only the totes mapped to that DO, scan tote IDs as “Delivered to DO”
 - 5.9 Returnables handling: Collect empty collapsible totes from DO, scan as “Empty received”, load back onto vehicle, track return count to hub.
 - 5.10 Close trip: Reconcile delivered totes vs dispatched totes: reconcile empty returns vs issued, log variances and close trip record.

6. Exceptions and controls:

6.1 Tote delivered to wrong DO: Hold tote unopened, inform hub supervisor and arrange cross-transfer or return to hub, record misroute exception.

6.2 Tote ID not scannable: Reprint label at hub or attach emergency label with same ID.

6.3 Overflow volume: Use additional tote, do not mix DOs in same tote.

6.4 Seal broken or tote tampered: Quarantine tote, open under supervisor, count and reconcile, log incident.

6.5 Tote not returned: Create “missing returnable” entry: track accountability by DO, route and driver.

7. Totes specification

Feature	Specification
Tote type	Foldable plastic tote; returnable; stackable when full; collapsible when empty
Working load (WLL)	20–30 kg (rated); target 25 kg nominal for ergonomics and safety
Volume	40–65 L typical (select based on parcel mix); avoid oversizing to control weight
Footprint options	600 × 400 mm (preferred standard); 650 × 450 mm (if required); compatible with dollies and pallets
Height	300–350 mm typical; option 250 mm for heavy-density lanes; option 400 mm for bulky low-weight parcels
Material	PP copolymer or HDPE; impact-resistant; UV-stabilised grade recommended
Base design	Reinforced ribbed base; anti-slip feet; compatible with roller conveyors where used
Lid option	detachable lid with strap slots
Closure / security	Provision for zip tie / seal through lid/strap points; tamper-evident closure for transit where required
Stackability	Stack 4–6 high when loaded; stable interlocking corners
Identification	2–4 label holders; dedicated area for permanent tote ID; barcode/QR plate area on 2 sides minimum
Environmental	Suitable for heat; humidity; monsoon handling; resistant to dust; oils; and routine cleaning chemicals
Weight (tare)	≤ 2.5–3.5 kg preferred to keep gross handling weight manageable



Fig1: Sample image for collapsible tote

Standard Operating Procedure for Faster Customs Clearance

1. Introduction

The international mail process is moving from manual handling to digitisation for both inbound and outbound international articles. Booking data captured at Post Office counters, DNKs/ self-service portals and FPO counters, electronic data are being exchanged with foreign destinations and this data is used for customs clearance through system.

In many foreign destinations, customs clearance is conducted on the basis of electronic data before the physical arrival of the mail article. The data entered at the time of booking is exchanged with the destination, where electronic systems and customs authorities analyse the information and may complete clearance action even before the physical article arrives.

Therefore, data quality is paramount. Accurate address, article description, value, weight, country of origin, CN 22/CN 23 category and supporting documents help expedite customs clearance, reduce customer queries, avoid unnecessary holds, and improve the booking and delivery process.

Circles shall sensitise postal staff at all booking counters, DNKs, FPOs and International Business Centres, and shall also educate members of the public/customers regarding the importance of correct and complete data at the time of booking.

1.1 Applicability

This SOP applies to all offices under the Circle handling international mail articles, including Post Office booking counters, DNKs, FPO counters, International Business Centres, and operational staff responsible for customs presentation, scanning, bagging, dispatch and exception handling.

1.2 Objectives

- Improve data quality at the point of booking for faster customs clearance and customer communication.
- Ensure CN 22/CN 23 and supporting documents are complete, attached and uploaded wherever required.
- Standardise counter-level checks for address, content description, value, weight, country of origin and category selection.
- Improve scan quality at FPOs so that every bag and article has a clear operational trail from receipt to dispatch or hold resolution.

2. Data Formats for Expedited Customs Clearance

Data required for faster customs clearance is of two types: (i) shipment-related data and (ii) content-related data. Both types must be captured accurately at the time of booking and must be consistent with the CN form, invoice, declaration and physical article.

2.1 Shipment-related Fields

The following shipment-related fields shall be captured separately for both sender and receiver. The same sequence should be used in the booking system, CN form and parcel label wherever applicable.

Field	Data to be captured for sender and receiver
Name of sender/addressee	Complete name should be entered including any middle name and without any abbreviations
Address 1	Flat number / house number / shop number / building name
Address 2	Street / road name
Address 3	Locality / area / village
Address 4	City / town
Address 5	Province / state / region
Address 6	COUNTRY - to be written in BOLD CAPITAL LETTERS on the article and CN form. Avoid abbreviations.
Address 7	Pincode / ZIP code / postcode
Address 8	Mobile number with country code, wherever available
Address 9	Email ID, wherever available

Note: Address data should not be merged into one free-text line. Missing pincode, incomplete city/state, wrong country name, unavailable phone number or invalid email can delay destination handling and customer communication.

2.2 Content-related Fields

Content-related field	Required data quality standard
Specific description	Use a clear item description showing item name, material, use, quantity and model/brand where relevant. Do not use vague terms such as garments, goods, sample, parts, medicine, gift or personal items as the only description.
HS Code	Enter the correct Harmonized System code wherever required or available. For commercial shipments, the code should match the invoice/product details and any export declaration.
Value	Declare realistic item-wise value with currency. Gifts and samples also require fair value; nominal or zero values should not be used unless legally justified and supported by documents.

Weight	Enter correct weight and keep it consistent with booked weight, CN form, invoice, packing list and physical article.
Country of Origin	Enter the country where the goods were manufactured, produced or substantially transformed. Do not default to the country of booking unless it is the true origin.
CN 22 / CN 23 category	Select one of the prescribed six categories accurately: Gift, Documents, Commercial sample, Returned goods, Sale of goods, or Other. The category must match the actual nature of the transaction.

2.3 Examples of Acceptable Specific Descriptions

Avoid vague description	Prefer specific description	Why it is better
Garment / clothes	Men's half-sleeved cotton T-shirt - 2 pcs	Identifies item, material and quantity.
Gift	Plastic toy car - 1 pc - gift	Keeps the transaction category separate from the goods description.
Medicine	Paracetamol 500 mg tablets - 1 strip; prescription attached, if permitted	Identifies medicine and supporting document.
Parts	Stainless steel bicycle brake cable - 2 pcs	Identifies product type, material and use.
Household goods	Printed cotton bedsheet - double size - 1 pc	Gives commodity, material, size and quantity.

2.4 CN 22 / CN 23 Category Selection

Correct CN 22 / CN 23 categorisation assists destination customs in assessing admissibility, duty, tax, exemption eligibility and documentary requirements. The category must never be selected merely to reduce duty or avoid destination checks.

Category	When to use	Personal / commercial guidance
Gift	Unsolicited personal gift sent from one person to another, with fair value declared.	Personal/non-commercial only when it is genuinely a gift. Do not use for online sale, business order or paid transaction.
Documents	Paper documents with no merchandise value, subject to destination rules.	Generally personal or business correspondence/document dispatch, not goods.
Commercial sample	Sample sent for business promotion, testing or buyer evaluation, normally not for retail sale.	Commercial category. Supporting invoice/proforma or sample declaration may be required.

Returned goods	Goods being returned to seller/manufacturer/owner.	Can be personal or commercial. Include return authorisation, original invoice or repair/warranty papers where available.
Sale of goods	Any item sold, e-commerce order, business consignment or paid transaction.	Strictly commercial. Invoice, exporter details and other export data may be required.
Other	Use only when none of the above categories accurately describe the article.	Explain the exact nature in the description. Do not use Other to avoid a more precise category.

Note: For example, at destinations such as the United States, a genuine gift up to USD 100 may be treated as duty/tax free subject to prescribed conditions, while a sale of goods is assessed as a commercial consignment. Incorrectly marking commercial goods as Gift can lead to duty reassessment, hold, return or further action by destination authorities.

3. Document Requirements for Article

The following document requirements shall be checked before induction. Documents must be consistent with the physical article, the booking data, the CN form and any invoice/export declaration.

3.1 Mandatory Documents and Article Attachments

- CN 22 or CN 23, as applicable, shall be properly completed, signed where required and securely affixed on the article.
- The customer declaration shall be signed by the sender/customer before acceptance.
- Destination-specific documents shall be kept in a transparent cover or otherwise securely attached with the parcel so that they are available for examination and destination handling.
- Sender instructions must be indicated correctly in the CN 23 form, including whether the article is to be returned if not delivered or not cleared, or handled otherwise as per the option selected by the sender.

3.2 Commercial, Product-specific and Export Benefit Documents

- Commercial articles must have invoice/ product specific NOC or licences and export declaration data wherever applicable.
- For commercial export, IEC, GSTIN, AD Code and LUT wherever applicable shall be provided.

Product specific document viz FSSAI license, NOC from spice board /tea board etc. as applicable shall be uploaded on DNK portal/self service portal.

For export benefits , exporters should register port code ,AD code on ICEGATE Portal. For Duty Drawback, RoDTEP, RoSCTL , invoice or other supporting documents shall be uploaded on e-sanchit portal

- Licences, permits, NOC, test reports, certificates or other product-specific clearance documents shall be attached/uploaded wherever required by Indian export rules, destination import rules or airline/transit rules.

3.3 Importer and Destination-specific Clearance Documents

- The sender shall be advised to confirm that the importer/receiver has the required documents to import the goods at destination, such as import licence, tax identification, KYC, permit, authorisation or any destination-specific clearance document.
- For articles such as medicines for personal use , the required prescription of doctor shall be provided where applicable.
- For food, plant material, seeds, cosmetics or other regulated goods, destination-specific documents shall be ensured.

Currently, India post is sending shipments via air only. Therefore, the items prohibited for airlines should not be booked.

4. Compliance with Import, Export and Airline Rules

Data quality does not replace compliance. Correct data enables faster handling only when the article itself is legally admissible and supported by the required documents.

- Booking staff shall remind customers that articles must comply with Indian export rules, destination import rules, transit requirements and airline carriage rules.
- Prohibited or restricted articles shall not be accepted. If an article requires licence, NOC, prescription, certificate or permit, the relevant document must be obtained before booking.
- Customers should not be advised to misdescribe, undervalue or miscategorise goods to avoid duties, restrictions or documentation.
- Any mismatch between physical contents, CN form, invoice, HS code, value, weight or uploaded documents must be corrected before induction.
- Where required destination/importer documents are not available, the customer should be informed that the article may be held, returned, assessed for duty/tax or seized by the destination authority.

5. Booking Counter Data-quality Checklist

Circle offices shall ensure that every booking counter, DNK and FPO counter handling international articles follows a data-quality check before acceptance.

Checkpoint	Minimum action before acceptance
Sender and receiver details	Confirm full address, COUNTRY in capital letters, pincode/postcode, mobile number and email wherever available.
Goods description	Ensure specific description with item, material, use and quantity; avoid vague descriptions.
Value, weight and origin	Check that value, weight and country of origin are not blank and match supporting documents.
HS Code and commercial data	For commercial shipments, ensure HS code, invoice data and exporter details are captured wherever applicable.
CN 22 / CN 23	Check correct category, signed declaration, sender instructions and physical affixing on article.
Documents	Verify transparent cover/attachment of physical documents and PDF upload where required.
Compliance	Ask the customer to confirm that the goods are permitted under origin, destination, transit and airline rules.

5.1 Sensitisation of Staff and Public

- Circles shall sensitise counter staff that the data entered at booking should be correct.
- Sample posters or counter cards should explain acceptable descriptions, required address format, CN form categories and common document gaps.
- Customers should be informed that incomplete or inaccurate data can delay customs clearance, booking processing, customer updates and delivery.
- Supervisors shall periodically review booking errors and provide refresher guidance to counters with repeated data-quality issues.

6. Ensuring Scan Quality at FPOs

After data quality and document checks, FPO scan discipline is essential to maintain visibility of every bag and article. Each article entering the FPO must have a clear scan trail until dispatch, return or final disposal.

6.1 Bag Receipt in APT 2.0

- Each bag received at the FPO shall be scanned in APT 2.0 immediately on receipt so that the correct receipt date and time are captured.
- No bag should be processed for X-ray, customs presentation or dispatch unless the receipt scan has been completed.

6.2 Post X-ray and Customs Status Scan

- After X-ray, each article that is customs cleared shall be entered in an Excel list and the list/articles shall be custom stamped as per local procedure.
- Every article held shall be scanned as Customs Held. Accordingly, every article entering the FPO must have either a dispatch scan, implying customs cleared movement for dispatch, or a Customs Held scan.
- After a Customs held article is cleared, a Customs Cleared scan shall be made immediately so that the customer is informed that the article has been cleared.
- Held articles and cleared articles shall be segregated physically to avoid dispatch of uncleared articles or delay in dispatch of cleared articles.

6.3 Handling of DNK Articles at FPO

DNK Items not cleared shall be mapped into one of the following three statuses:

- With customer - pending customer document, clarification, declaration correction or other customer action.
- With Customs - pending customs decision, verification or clearance action.
- With Examiner - pending physical examination or examiner report.
- Articles marked With Examiner must be handed over to the physical examiner as soon as possible under proper receipt and shall not remain idle at the FPO.
- For articles marked With Customer or With Customs shall be kept in separate package trolley and shall be attempted for despatch scan twice in a day. System shall allow to despatch cleared items. while it will give pop-up message (item is with customs /customer) for the non-cleared or customs hold items. Such items should not be despatched.

6.4 CN38 Dispatch Integrity and Flight Loading

- All bags covered under one CN38 form shall be dispatched in the same MMS vehicle to maintain bag integrity and prevent reconciliation gaps.
- One staff member shall be dedicated for monitoring the status of bags and their loading onto flights for each CN38 code.
- The dedicated staff member shall track bag receipt, closure, vehicle loading, airport/airline handover, flight loading and any offloading or exception.

6.5 Offloaded Bags and Article-wise Verification in IPS

- In case any bag is offloaded, the IPS staff shall log in through their own user ID. Shared IDs shall not be used.
- The staff shall open the bag in IPS, perform article-wise scanning, and compare the articles with the CN38 details.
- The comparison shall identify any problematic article/category that is not permitted or is otherwise causing offloading for that route, destination, airline or dispatch category.
- Problematic articles shall be removed, recorded and processed as per applicable hold/return/rectification procedure.
- After removal and verification, the bag shall be closed again in IPS, and the revised bag/article status shall be updated in IPS.

7. Monitoring and Review by Circle/FPO

Circle and FPO supervisors shall monitor implementation through daily exception checks and periodic reviews.

- Daily review of bags received versus bags scanned in APT 2.0.
- Daily review of articles with Customs Held scan, Customs Cleared scan and dispatch scan.
- Twice-daily review of pending With customer and With Customs articles at DNKs.
- Review of With Examiner articles to ensure timely handover and timely return of examination findings.
- CN38-wise review to confirm that all bags in a CN38 moved in the same MMS vehicle and were monitored until flight loading.
- Exception log for offloaded bags, article-wise verification, problematic article removal and bag re-closure in IPS; monthly sensitisation/feedback to booking counters based on recurring errors in address, description, category, value, documents or scans.