SMSA Express Transportation Co., Ltd.
P.O. Box 63529 Riyadh 11526, K.S.A.

Sorting Machine

Standard Operating Procedure
Prepared by : Planning & Engineering

Purpose & Scope	This operating plan outlines the procedure for sorting shipments using the newly installed sorting machine at our SMSA RUH facility. The sorting process is designed to efficiently handle both large/heavy shipments and standard-sized shipments, ensuring smooth operation from unloading to final dispatch.
Detailed Procedure	**1. Unloading & Feeding process for Inbound shipments:** ○ The **feeding belts** are located in the LH docks area, where shipments will be unloaded directly from the trucks/vans onto the feeding telescopic conveyor. ○ Once the shipments are unloaded and fed onto the telescopic conveyor belt, large/Heavy Shipments which is **more than 30 kg** will be pushed/transferred to middle conveyor for manual sorting. ○ The rest of shipments will be conveyed to the **Singulator Machine**, which will ensure that the shipments are separated and moved one at a time, without overlapping so that each shipment can be processed individually. ○ The shipments will then be conveyed to the **six-side scanning machine** to be scanned and to capture detailed information from all six of its sides. ○ Then, the shipments will be directed either to the A**utomatic feeding machine** or the M**anual feeding machine**, depending on their size and weight. **2. Normal-sized Shipments process (approx. up to 5 KG):** **A. Feeding Process:** • **Automatic Feeding Machine**: ○ **For Normal-sized Shipments**: These shipments will be directed to the **3-automatic feeding machine**, which will sort them automatically based on predefined criteria such as (HUB-wise, STN-wise, door delivery, delivery to SSC, etc.). ○ After sorting, the shipments will then be conveyed to the **destination bag area** automatically where they will accumulate until the bags are full. **B. Sorting & Handling process:** ○ After being processed by the automatic feeding machine, normal-sized shipments will be sorted and collected into bags based on its destination. ○ Bag Handling: Once a bag is full, handlers will seal the bag and push it to the below conveyor, which will transport it to the collection bags storage area for further handling. ○ Loading: The full bags will be conveyed to the OB docks area for direct loading into trucks/vans.

3. Large/Heavy Shipments process Shipments (approx. more than 5-30 KG):

A. Feeding Process:

- **Manual Feeding Machine**:
  - **For Large/Heavy Shipments**: Larger and heavier shipments that cannot be sorted by the automatic feeding machine will be directed to the **manual feeding machine**.
  - These shipments will be manually fed into the 3-manual feeding machine by handlers and then it will be sorted automatically according to their destination and predefined criteria such as (HUB-wise, STN-wise, door delivery, delivery to SSC, etc.).
  - Once sorted, the shipments will be directed automatically to the appropriate **destination chute**.

B. Sorting & Handling process:

- After being fed into the manual feeding machine, the large/heavy shipments will be sorted and placed into the destination chutes.
- Chute Clearance and Palletization: Once the chute fills up, a handler must clear the chute by manually removing the shipments from the chute and placing them into pallet.
- Transport to Storage: once the pallet prepared, it will be transported to the OB staging area for further loading process.
- Loading: Pallets/bags will be placed onto the conveyor system for transport to the OB loading area. From there, the pallets/bags will be loaded directly into trucks/vans for dispatch.

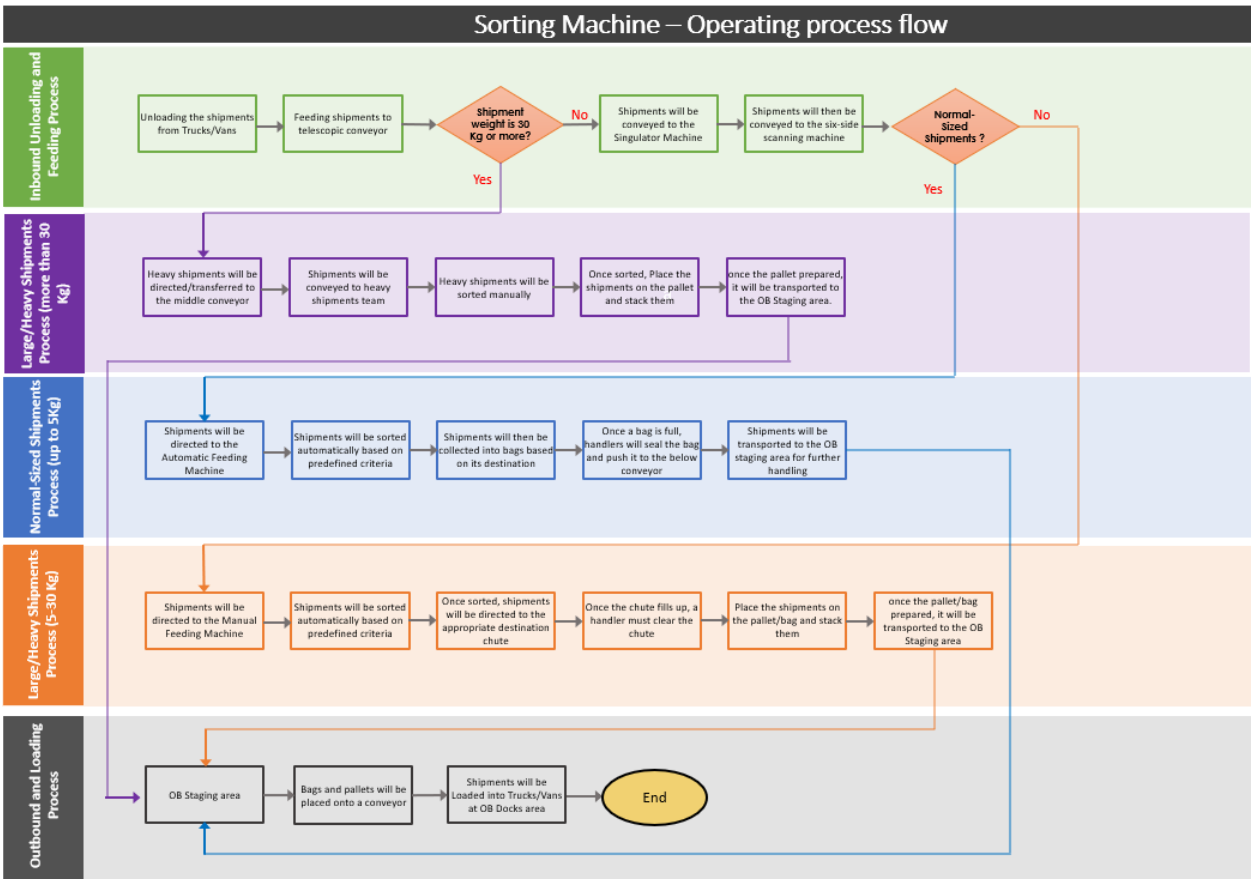
4. Outbound and Loading process.

- All sorted bags and pallets, whether containing large/heavy or normal-sized shipments, will be moved to the **OB staging area.**
- At the OB staging area, the bags and pallets will be placed onto a conveyor to be loaded directly onto trucks through the **docks loading area**.

Operator Responsibilities	• **Handler Duties**:
	  ○ Handle large/heavy shipments, ensuring proper feeding into the machine.
	  ○ Monitor chute fill levels and clear the chutes as needed by placing shipments in pallet/bag.
	  ○ Ensure that filled bags are sealed and promptly moved to the below conveyor for transport.
	  ○ Ensure the bags are moved to the collecting bags storage area in a timely manner for OB loading.
	  ○ Monitor the chutes and destination bag areas to ensure smooth operations and prevent jams.
	  ○ Inspect bags to ensure they are properly filled and sealed before transport to the storage area.

Key Points to Remember:	• The sorting machine will automatically handle the sorting of normal-sized shipments, while large/heavy shipments will require some manual handling. • Handlers are responsible for clearing chutes, sealing bags, and moving them to the conveyor system for transport to OB loading area. • The final destination for all sorted shipments will be the OB staging area, where they will be prepared for dispatch to the OB docks gate and loaded onto trucks. By following these steps, we ensure that shipments are efficiently sorted and handled, leading to timely dispatch and smooth operations at the facility.

Operating process flow



Overall layout of the sorting machine:

