# Guided Truck Loading (Technical Documentation)

By Deepak Bhatt

## Purpose

The purpose of this document is to describe the technical design of the Guided Pallet Locating Project.

## Changes in Database design

Change in EDI\_753\_754 table.

* Add a new column IS\_MANUAL\_EDI which tells whether the EDI being created will be handled manually.

### Data Model



## New UI components

### Create EDI 753

Prerequisites

* Before creating EDI make sure that weight and volumes are defined for the SKUs in the order.
* Web version of TMSMgr will be created initially focused on manual EDIs.
* Show a summary grid depicting all the outstanding POs
* Select customer. Show POs in available buckets. Warn about all other POs. Each EDI 753 can contain multiple Pick Waves.
* User selects as many buckets as desired.
* UI Shows PO level weight, volume info. Provides export to Excel.
* This EDI is fully editable or deletable until BOL is created. If appointment has been created, Editing displays warning. Carrier becomes unchangeable.
* EDI 753 Properties: Ask for ATS Date.

**Questions:**

* Will the EDI made using new screen be visible in TmsMgr??

No TmsMgr only shows those EDIs which have SPLH $EDI753 set. Manual EDIs will not be visible in TmsMgr screen.

* How to calculate the weight and volume for non-pitching buckets.

A backend function will calculate weight and volume of a given order/pickslip.

* Currently the EDI is made only for those buckets which are shipped from PITCHING mode???

We will allow creating manual EDI for all the modes. The weight and volume will be calculated directly from master\_sku.

* If the weight or volume is not set for a SKU, can I make EDI for it?

All SKUs in an order should have weight and volume defined otherwise an error is raised.

* Can I make an automatic EDI manual?

## User Interface

Screen 1: Shows the list of all POs which can be routed.

A grid displays: PO, DC Cancel, Cancel Date, Start Date, Total Weight, Total Volume, Total Boxes, Total Pieces, Store, PO status (If all the pickslips are not available or weight, volume is not defined show in red.

### Create EDI 754

* This will be a new UI.
* User selects an EDI 753.
* UI displays Carton Count/Weight/Volume per PO.
* This information is manually entered on customer website.
* Customer website display load information.

1. User selects EDI753 of desired customer.
2. List of POs displayed.
3. User selects one or more Pos.
4. Enters 754 info. DC, Carrier, Pickup Date, Ship Address, Load id.

### Create Appointment:

* This will be a new UI.
* User selects an EDI 753 and UI displays Carton Count/Weight/Volume per PO.
* This information is manually entered on customer website.
* Customer website display load information. This load information is used to create EDI manually.
* All EDI754s which are not associated with an appointment are displayed, grouped by carrier/pickup date/load id.
* Select one or more these and then choose to create appointment or select appointment. Selection list will show qualifying appointments only.
* The appointment is deletable/ editable until it is over.

### Move Pallet

1. Move Pallet will suggest moving to door locations after a door has been assigned to a load
2. New Report will list all pallets which should be moved from dock to door
3. Goal should be to have all pallets at the door before truck arrives. This minimizes loading time
4. They have 10 doors. May not have enough space to store all cartons at the door
5. Move Pallet will notice that there is an appointment for the pallet, and will display the door where the truck is expected
6. New report essentially lists pallets in FDK to which a door has been assigned

### Scan to Truck

1. When the truck arrives at the gate, all pallets should already be there
2. Scan to Truck UI (New) will be used to scan pallets to truck
3. After the truck has been loaded, BOLs can be created and handed over to the driver
4. UI asks for appointment number
5. Displays door where pallets are needed
6. Suggest a few pallets. Suggestions sorted by bol/location, we do not enforce suggestions
7. Scan Pallet. Load in truck. Scan door bar code. Repeat
8. Enter Gate Number
9. UI Displays loads to load
10. Select a load
11. UI Suggests pallets to move
12. Scan each pallet and load it on truck
13. UI displays truck loading progress

### Create BOL

1. Current ShipMgr program will be used
2. Boxes will show up in loaded status after they are loaded
3. Just like today, the user will have the option to cancel not-loaded boxes before finalizing the BOL

## Changes to existing UIs

TmsMgr: Looks at the flag IS\_MANUAL\_EDI and excludes showing manual EDIs.

## Implementation Details

### New backend functions

### New Tables

* Appointment master
* EDI master: Current EDI\_754\_753 will do.

**Impact of dropping ADR from DCMS system:** The goal was to get rid of ADR area from DCMS. In IACONFIG table $DOORAREA= ‘FDK’ was set. Following conclusions were made.

|  |  |  |
| --- | --- | --- |
| **Impacted module** | **Impact description** | **Resolution** |
| SelectPO | **TRG\_BKT\_SHIP\_BUR** does not allow ship\_ia\_id to be anything except ADR. | Trigger has been dropped. |
| BoxPick | No Impact | No change needed. |
| ShipMgr | Starts showing door area as **FDK**. No issue in behaviour. I was able to ship the pickslip. | No change needed. |

Change Needed: **SelectPO** will be changed to ask ship\_ia\_id from user. We will also provide an appropriate default.

### Populate Audit

Keep audit so that system can later show the carrier on which the box was shipped. Think about other fields which should be populated in audit.

### Changes to existing schema

De-normalized columns in PS

1. Pickup Date

De-normalized columns in EDI\_753\_754\_PS

1. SHIPPING\_ID
2. MF\_WAREHOUSE\_ID
3. REPRINT\_UCC
4. ORIGINAL\_SHIPPING\_ADDRESS and similar original columns.
5. CUSTOMER\_STORE\_ID
6. PICKSLIP\_PREFIX
7. SALES\_ORDER\_ID
8. SALES\_ORDER\_PREFIX

What we receive in EDI\_754

1. Customer\_dc\_id
2. Shipping\_address
3. Carrier
4. Load\_id

## FAQs

1. What happens if an order comes multiple times??

It does not matter to us if an order comes multiple times we club the information together and show it as one PO if it is still unshipped.