



USER MANUAL DRIVER

INDEX

1.	Getting started	3
1.1	General Precautions.....	3
2.	First Use	4
2.1	Check pre-requisites	4
2.2	Get familiar with the display.....	4
2.3	Check connection.....	4
2.4	Set Company name	6
2.5	Set User settings	7
2.6	Payload calibration	7
3.	Using DTS GUIDE: How to read the displayed information.....	9
3.1	Main Menu.....	9
3.2	Dashboard: Focus on your tipping operations	9
3.3	Statistics	13
3.4	Maintenance	13
3.5	Settings.....	14
4.	Update	15
5.	Frequently asked questions (FAQ)	16
5.1	When do I get a Sideload warning?	16
5.2	When do I get a Topple over warning?	16
5.3	When do I get a Buckling warning?	16
5.4	When do I get an Overload warning?	16
5.5	How does the DTS Guide calculate the recommended driving speed?	16
5.6	What is the DTS Guide payload accuracy?	16
5.7	How does the DTS Guide know I need to perform maintenance?	17
6.	Contact Hyva.....	18

1. Getting started

Hyva Digital Tipping Solution (DTS) Guide shows crucial information to the driver. Information like side angles and body load helps the driver to make informed decisions.

DTS Guide is connected to the OneEMS cloud platform to share data on truck utilization and fleet statistics for the fleet manager. Please, refer to **Hyva OneEMS User Manual** for more information.

This complete solution empowers drivers and fleet managers with actionable insights to boost safety and drive productivity.

1.1 General Precautions

This manual is intended for the driver using DTS Guide on a rigid tipper. Before using the system, please read this instruction carefully:

- The system is designed to provide measurements and warnings to assist with tipping actions. It is NOT a substitute for tipping with due care and attention.
- Always obey tipper operating instructions, local regulations, signs, and applicable laws.

Remember: Distracted tipping can be extremely dangerous.

2. First Use

This section describes how to get the DTS Guide running on your display.

2.1 Check pre-requisites

To use the DTS Guide functionalities on your tipper, you must ensure you have the right hardware components installed, such as a Gateway, a Display, various sensors, and a wiring harness.

Please refer to **DTS-0001-Mounting Instructions DTS Guide** on how to install the system.

2.2 Get familiar with the display

You can see the **Main Menu (green)** in Figure 1. It contains four tabs:

- Dashboard
- Statistics
- Maintenance
- Settings

Remarks: These Main menu items are described in

On the top, you can see the **Hyva header (blue)**. It contains the name of the company, the truck ID, the connection status, and a back button.

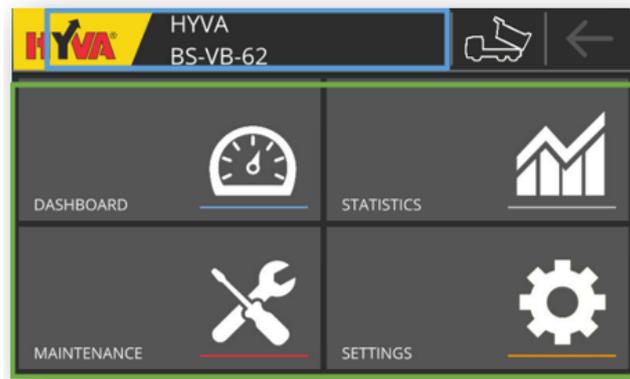


FIGURE 1: MAIN MENU

2.3 Check connection

You need to check the connection of the system on your rigid tipper. In normal conditions when the body is at rest, the dashboard screen should look like Figure 2. It means the display is receiving sensor data from the system.

When standing still, the display shows:

- White Truck icon
- White Back button
- Vehicle angle (if there is GPS reception)
- Side angle (if there is GPS reception)

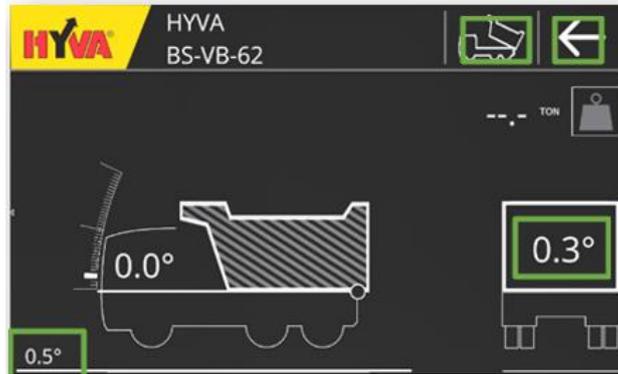


FIGURE 2: BODY AT REST

2.4 Set Company name

You need to enter the company name. Please use the following steps to set the company name:
From the main menu, select the **Settings** menu.

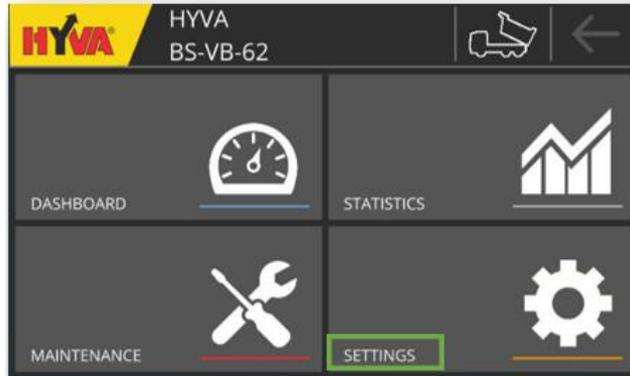


FIGURE 3: SETTINGS

From the Settings menu, select the **Company information** menu, see Figure 4.

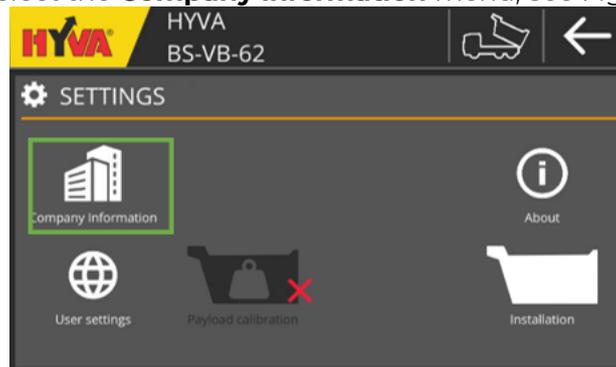


FIGURE 4: COMPANY INFORMATION MENU

Fill in the company name and press **Enter**.



FIGURE 5: COMPANY NAME

2.5 Set User settings

From the **Settings** menu, select **User settings**



FIGURE 6: USER SETTINGS

You can change the language of your display and select the measurement units.

2.6 Payload calibration

Pre-conditions

Before performing Payload calibration, please:

- Check if the body is totally empty.
- Measure the weight of the empty truck on a weighbridge. Write down the weight.
- Fill the body completely with load. Use same parameter as during operation of the truck; a realistic amount of the most common load and distributed as it would be during operation.
- Measure the weight of the loaded truck on a weighbridge. Write down this weight as well.
- Put the truck on even ground (± 1 degree), and in a place where a tipping cycle can be performed (precisely between 3° and 4°). **Do NOT unload the truck**

Payload calibration



- **Warning: do not unload the truck before or during the payload calibration**
- **Warning: be aware of overhead objects while tipping**

Ensure pre-conditions are done.

From the Main menu, click on **Settings**.

Figure 7: Select Payload calibration. Enter password **1339** → **OK**.

Follow the instructions on the screen. After each step, click the “arrow” to proceed to the next step.

Then follow the next steps for payload calibration:

Figure 8: Fill in the weight (weighbridge info) of the truck without payload.

Figure 9: Fill in the weight (weighbridge info) of the truck with payload.

Figure 10: Tip the filled body till the area stated in on the display [3° - 4°]. When calibration is done, then the next step appears automatically.

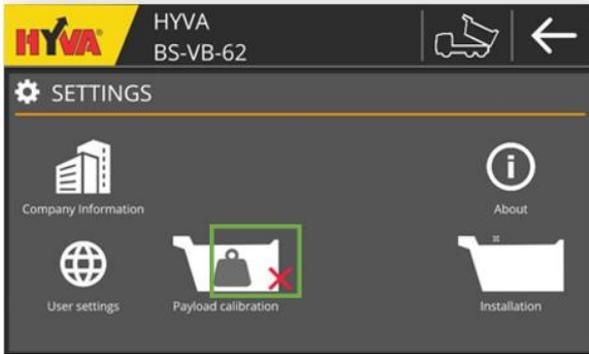


FIGURE 7: INSTALLATION MENU – SELECT 'PAYLOAD CALIBRATION'

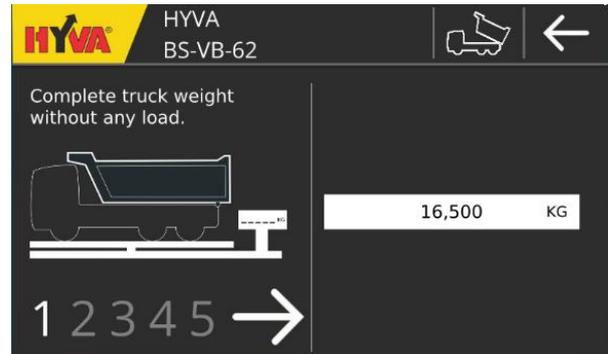


FIGURE 8: STEP 1 – FILL IN TRUCK WEIGHT WITHOUT PAYLOAD

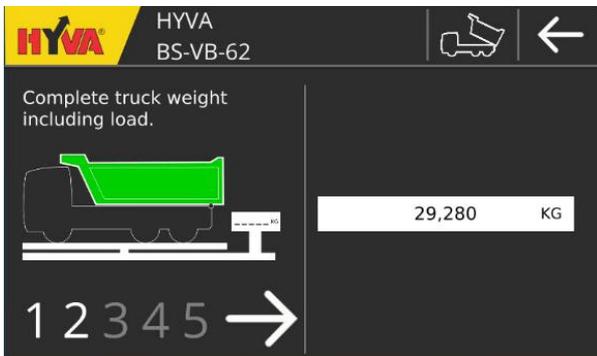


FIGURE 9: STEP 2 – FILL IN TRUCK WEIGHT WITH PAYLOAD

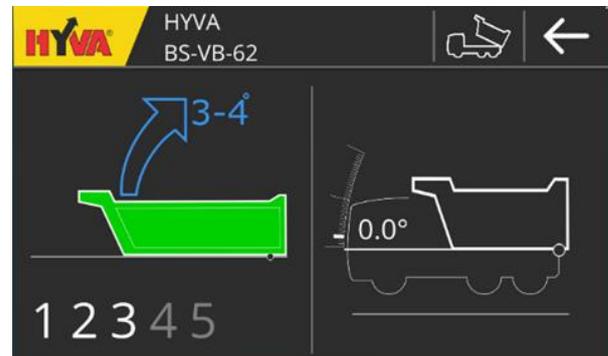


FIGURE 10: STEP 3 – TIP TILL AREA INDICATED

Figure 11: Lower the body back on the chassis.

Figure 12: Wait a moment, system is synchronizing, values are being saved on the devices.

Figure 13: In case payload calibration is successful, the green check-sign is shown.

Figure 14: In case payload calibration is unsuccessful, the red cross is shown. Perform the payload calibration again with increased tipping speed in step 4 by adding 200 RPM upon the stationary RPM.

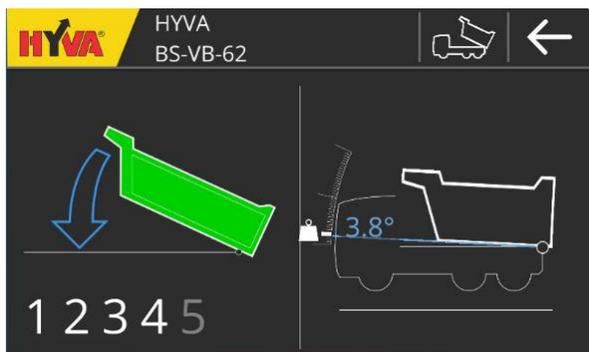


FIGURE 11: STEP 4 – LOWER BODY

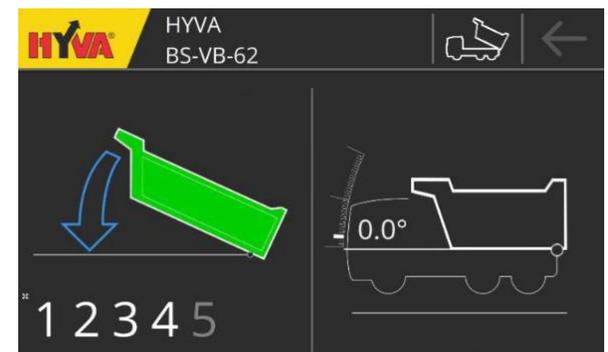


FIGURE 12: STEP 4 BIS - SYNCHRONIZING

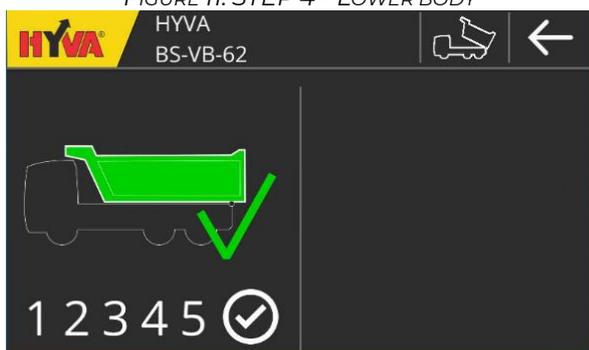


FIGURE 13: STEP 5 – PAYLOAD CALIBRATION IS FINISHED

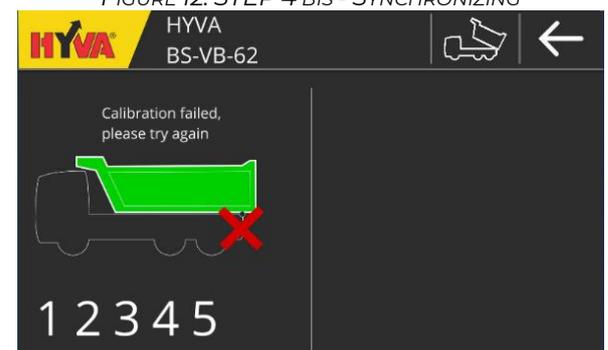


FIGURE 14: PAYLOAD CALIBRATION FAILED

3. Using DTS GUIDE: How to read the displayed information

After following the steps described in the first use section, the system is operational.

3.1 Main Menu

On the Hyva Header (top bar), you can see the following information:

- Company name
- License plate of the connected tipper
- Connection status (truck icon)
 - white means connected
 - grey means disconnected
- Back button

The main menu contains four tabs.

Dashboard: you will find the information and warning related to the tipping operations.

Statistics: you will get an overview of the number of tipplings of your vehicle and its total payload.

Maintenance: you can check the status of your sensors and cylinder parts.

Settings: you can modify your user settings and proceed to a new payload calibration.

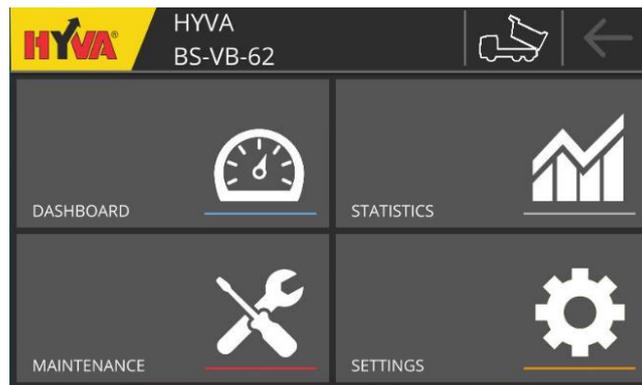


FIGURE 15: MAIN MENU

3.2 Dashboard: Focus on your tipping operations

3.2.1 Normal tipping: Body at rest

When your tipper body is at rest, you can see:

- Vehicle angle (0.5 degree)
- Side angle (0.3 degree)
- White Back button

The body is diagonally grey-striped because the weight is unknown.

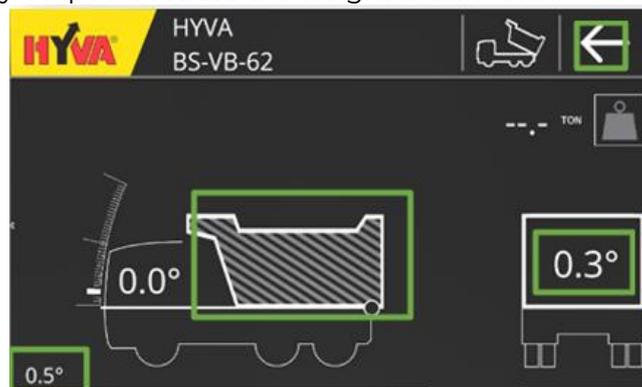


FIGURE 16: BODY AT REST

3.2.2 Normal tipping: Recommended driving speed

DTS calculates the recommended speed based on your body angle. The speed is given on the left top-corner, see green box of Figure 17.

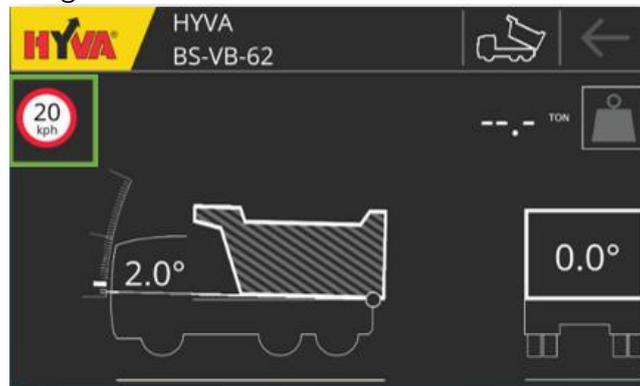


FIGURE 17: RECOMMENDED DRIVING SPEED

3.2.3 Normal tipping: Weighing zone

DTS calculates the payload in the body when the body angle is between 3 and 4 degrees. It is the weighing zone. This payload indication will stay in the dashboard until the body starts lowering close to the end of the stroke.

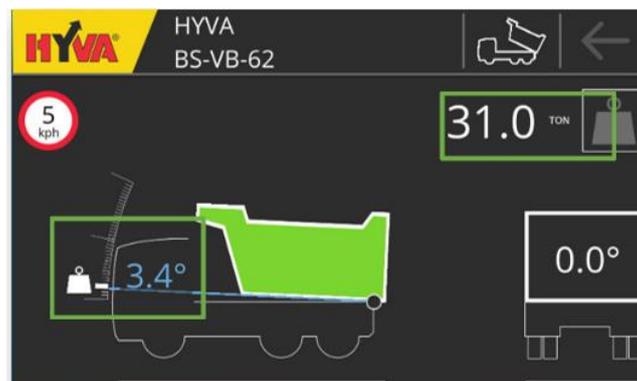


FIGURE 18: WEIGHING ZONE

3.2.4 Normal tipping: End of stroke

When the body reaches the end of the stroke, it reaches the maximum body angle. Tipping is impossible; only lowering is possible.

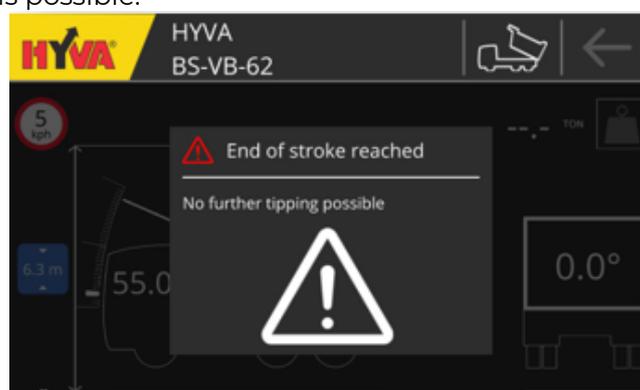


FIGURE 19: END OF STROKE

3.2.5 Normal tipping: Residual load

If there is residual load inside the body, you will see green stripes on the body. The system does not know the exact weight.

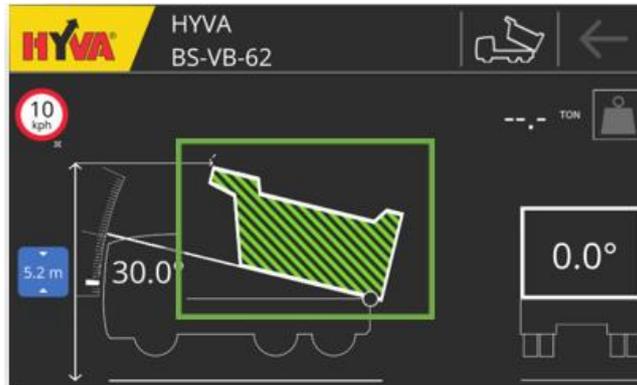


FIGURE 20: RESIDUAL LOAD

3.2.6 Normal tipping: Tipping summary

Once the tipping is completed (i.e. the body is back on the chassis), a tipping summary pops up. It includes:

- the total payload
- the unloaded mass
- the payload left over
- the tipping time.

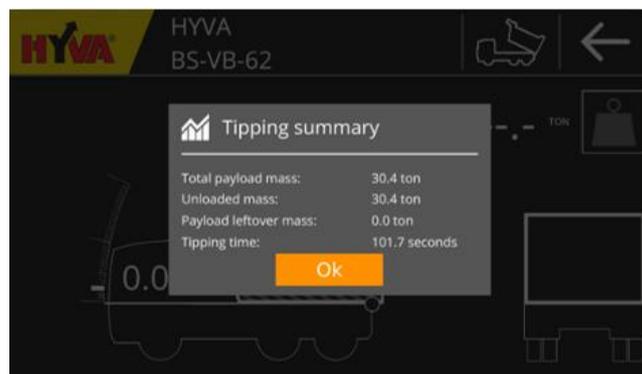


FIGURE 21: TIPPING SUMMARY

3.2.7 Normal tipping: Body height indication

On the left side of the display, you see a body height indication when the tipping starts. When the body angle increases, the body height indication also increases.

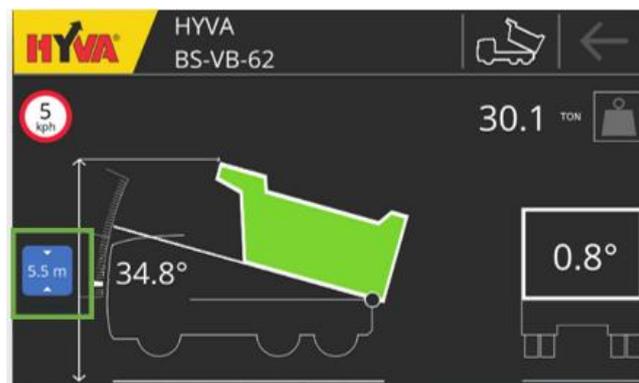


FIGURE 22: BODY HEIGHT INDICATION

3.2.8 Warnings: Overload

If the body is overloaded, it becomes red. You will hear an acoustic signal to warn you.

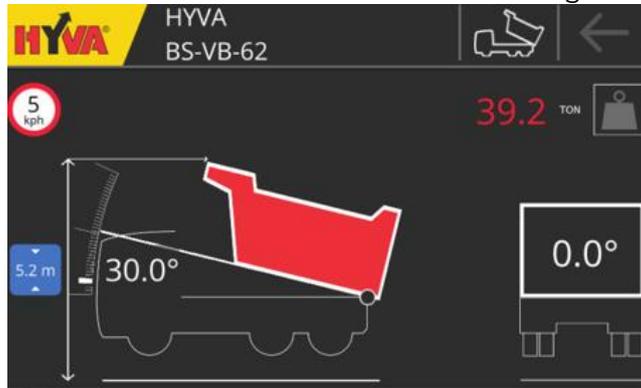


FIGURE 23: OVERLOAD WARNING

3.2.9 Warnings: Topple over

When there is a risk of toppling over, the rear view of your tipper becomes orange. If the risk increases, it becomes red. You need to stop your tipping operation, lower the body and relocate the truck before tipping again.

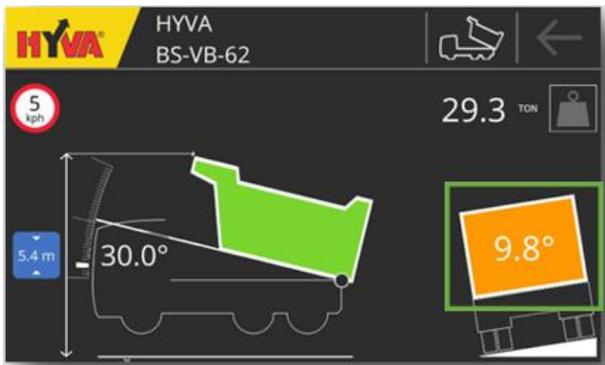


FIGURE 24: SIDE LOAD WARNING



FIGURE 25: TOPPLE OVER RISK WARNING

3.2.10 Warnings: Buckling

If the pressure exceeds the threshold for the cylinder, a buckling warning will appear. Please, lower the body of your tipper.



FIGURE 26: BUCKING WARNING

3.3 Statistics

You get an overview of the number of tippings and the total amount of payload measured. The left column shows the number of tippings. The right column shows the weight carried. You can use the arrow+0 (see Insert cross reference, green box) to reset all the counters.

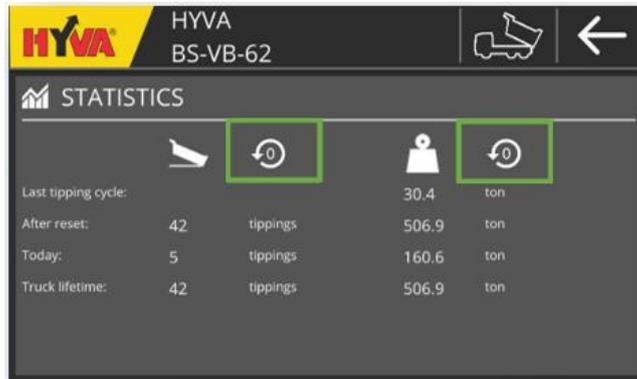


FIGURE 27: RESET BUTTONS

3.4 Maintenance

The maintenance screen indicates the status of the system and any required maintenance for the cylinder. An orange exclamation mark will be visible on the main menu page when a part needs to be maintained.

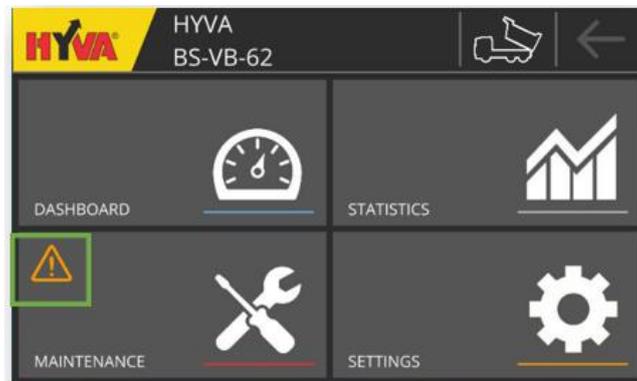


FIGURE 28: MAINTENANCE

Figure 29, the left column displays the status of the individual sensors. The right side of the screen shows the maintenance status of the cylinder and the Wetkit parts. It is visible which part needs to be checked or maintained. After checking the parts, you can reset the system by pressing the reset button.



FIGURE 29: MAINTENANCE ITEMS

3.5 Settings

You can customize your settings and recalibrate your system in case of load change via the **Settings** tab. It contains five tabs:

- **Company information**
- **User settings**
- **Payload calibration**
- **About**
- **Installation**
-

By selecting **Company information**, you can set the company name (refer to Figure 5, section 2.4).

By clicking on **User settings**, you can select the measurement units and the user language (refer to Figure 6, section 2.5)

By selecting **Payload calibration**, you can recalibrate the system in case of load change (described in section 2.6).

By clicking on **About**: The current software version is shown here.

The Installation menu is restricted to body-builder. A password protects it.



FIGURE 30: SETITNGS OVERVIEW

4. Update

The firmware can be updated over the air (FOTA). Once an update is available, a pop-up will be shown.

The pop-up will only be visible if the truck is not tipping.

The update can be postponed or installed. If the update is postponed, the pop-up will return later.

The update will take a maximum of 30 minutes.



FIGURE 31: UPDATE AVAILABLE

5. Frequently asked questions (FAQ)

5.1 When do I get a Sideload warning?

The side (lateral) angle of the vehicle is shown. The Side Angle Warning is activated when the side angle exceeds the maximum allowed side angle before the Sideload warning. This maximum side angle is calculated automatically by our system based on the set values of your tipper defined by the body builder. It is generally around 4 degrees.

The tipper becomes orange. See the Topple Over section.

5.2 When do I get a Topple over warning?

The side (lateral) angle of the vehicle is shown. The Side Load danger or Topple over warning is activated when the side angle is superior to the maximum allowed side angle before Sideload danger. This maximum side angle is calculated automatically by our system based on the set values of your tipper defined by the body builder. It is generally around 6 degrees.

The tipper becomes red. See the Topple Over section.

5.3 When do I get a Buckling warning?

A pop-up message appears when there is a risk of buckling. There is a risk of buckling when the pressure of the cylinder exceeds the maximum working pressure from your cylinder. This maximum is entered by the body-builder when configuring the DTS Guide. See the Buckling section.

5.4 When do I get an Overload warning?

The body of your tipper becomes red when your tipper is overloaded. The overload warning is activated when the load of your tipper exceeds the maximum allowed payload predefined by the body builder when configuring DTS Guide. See the section 3.2.

5.5 How does the DTS Guide calculate the recommended driving speed?

The recommended speed indication gives visual feedback to the driver by showing an icon with the recommended driving speed. It depends on the tipping angle and if the tipper body is empty.

5.6 What is the DTS Guide payload accuracy?

One of the features of DTS Guide is a payload indication. Real data from the field confirms the following accuracy:

- More than 10 tipping cycles → 3%
- Less than 10 tipping cycles → 5 %

Meeting the following conditions:

- The truck must be provided with a tipping kit supplied by Hyva;
- DTS Guide must only contain parts supplied by Hyva or a Hyva certified dealer;
- The system is installed according to the DTS Guide mounting instructions;
- The "Set value" menu must be filled in with accurate data provided from Body-Builder or accurate measurements;
- A sensor calibration must be performed with the truck parked on a flat surface (within 1 degree in lateral and longitudinal direction) for the system;
- A payload calibration must be performed (as described in chapter 2.6) with accurate weight filled in provided by a calibrated weighing bridge in order to reach accuracy targets;

- The load during operation has the same substance & distribution as during the payload calibration;
- The body is (fully) loaded during operation in the same way as during the payload calibration;
- The truck is on flat ground (within 1 degree in lat. and long. direction) during tipping;
- The payload is measured either static or dynamically within the weighing zone (3~4 degrees)

5.7 How does the DTS Guide know I need to perform maintenance?

Several features of DTS Guide are related to the maintenance of the cylinder. For these maintenance items, statistics are calculated by DTS Guide about days of usage, number of tippings, amount of payload unloaded, etc, which are compared to standard intervals and maintenance needs.

6. Contact Hyva

If you have any questions concerning the application, installation, warranty, operation, or repair of any Hyva product, please contact your nearest Hyva Service Partner and check the Hyva website (both for documentation and for service partner coordinates).

<https://www.hyva.com>