WHEEL ALIGNMENT
RWA1075

INSTALLATION AND ASSISTANCE MANUAL
FOR TESTING AND CALIBRATION

INSTALLATION INSTRUCTIONS

- For any further information please contact your local dealer. Contact info is on the last page.

IMPORTANT Any damage caused by failure to follow the instructions in this manual or improper machine use shall relieve the manufacturer of all liability.

CO12430

IN161000
REV.-06.06.24

0 INTRODUCTION

This manual is intended to provide the installer with complete instructions for the connections and calibration of the RWA1075 wheel alignment machine.
The instructions regarding use and maintenance, reserved for the end user, are collected in the specific manual supplied with the machine or downloadable from the manufacturer's website.

Attention!

The "CALIBRATION" procedure is reserved for specialist technical assistance personnel; for this reason, access to them is password-protected.
This password, which must not be communicated to other persons, please contact authorised technicians.

CONTENTS

1 INSTALLATION OF THE PROGRAM

1.0 Installation

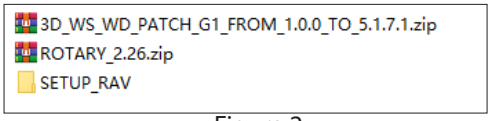
This process takes several minutes, it may require restarts.
You will install: Windows Power Shell; Microsoft SQL server; XVid Codec; .NET framework and finally the “AS9” series setup SW.
Note: If the PC not supplied by the manufacturer (supplied by the customer), must have the following minimum characteristics:

- 1.5 GHz clock CPU; 4 GB RAM;
- 120GB HD;
- 4 USB 2.0;
- Windows 10 Operating System;
- 1366x768 Pixels Video Output.

Turn on the PC and insert the USB key supplied with the equipment kit.
The USB Key in the file pocket see the figure 1.

- Figure 1

In the USB key, you will find 3 files see the figure 2.

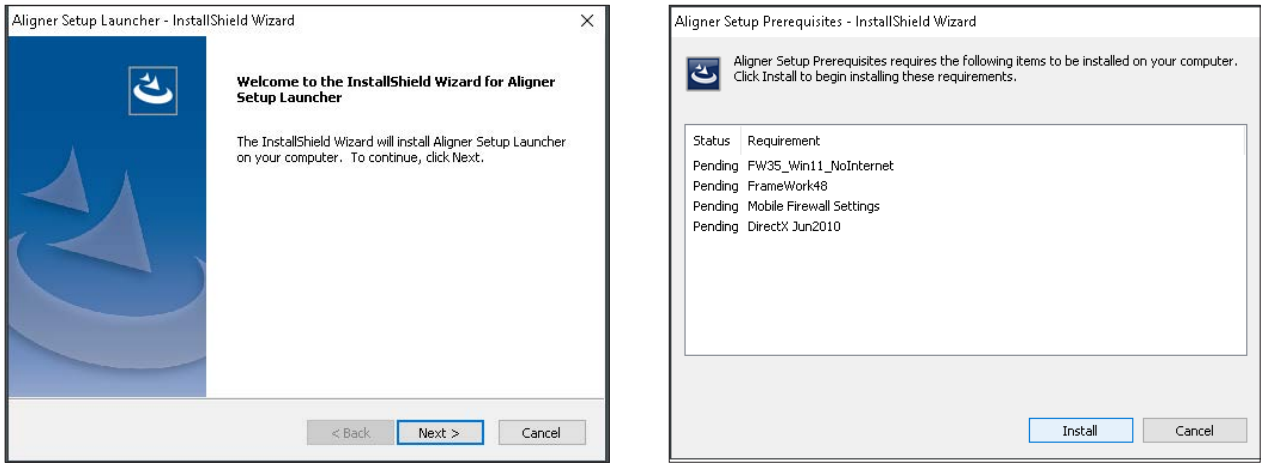


- Figure 2

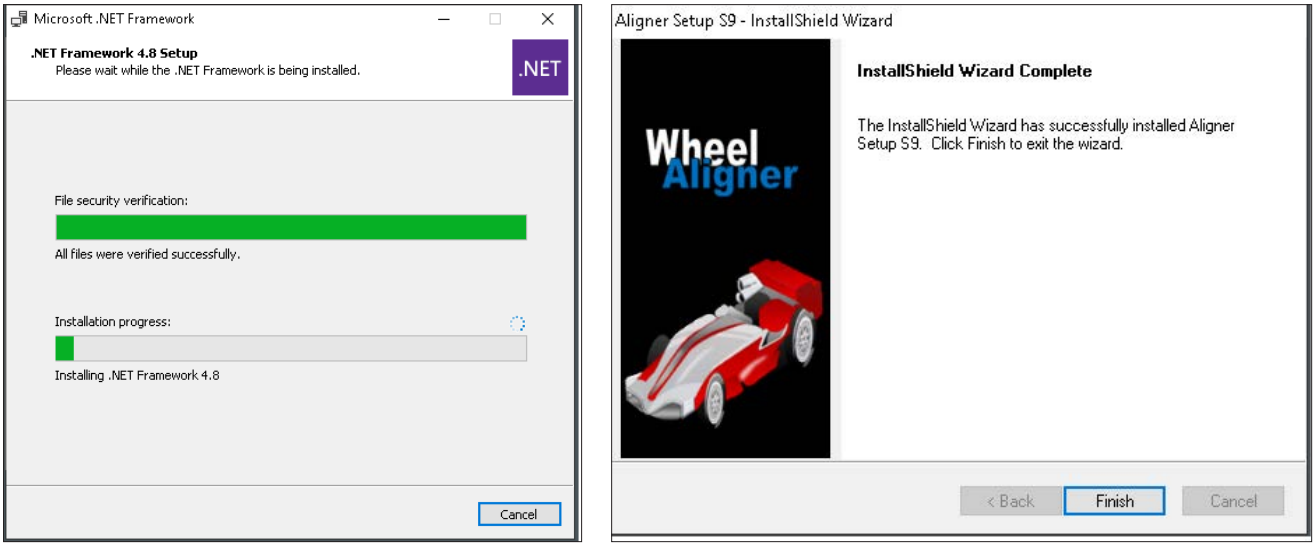
1.1 Start full installation

The installation consists of four parts:

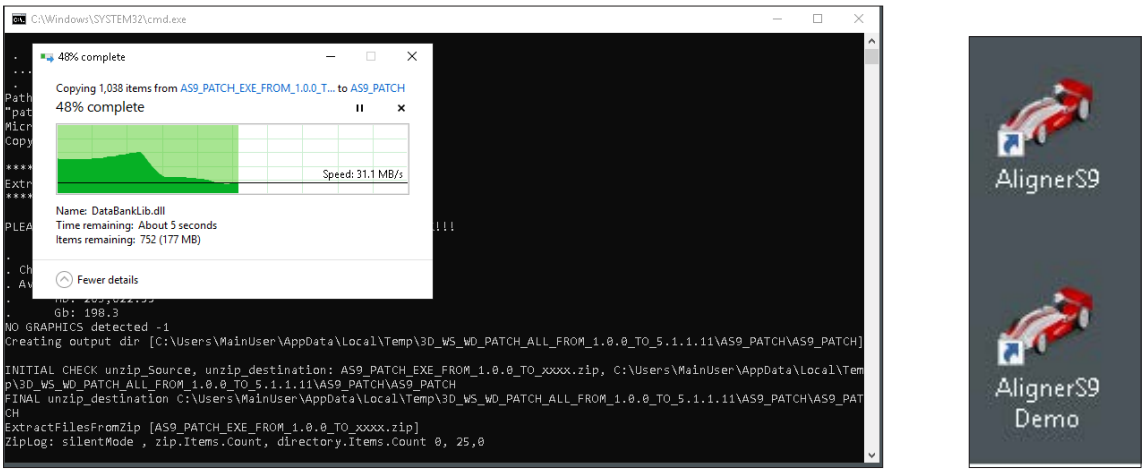
- Launcher (program that prepares and presides over the installation),
- Installing prerequisites,
- Main program,
- Upgrade.



- Figure 3

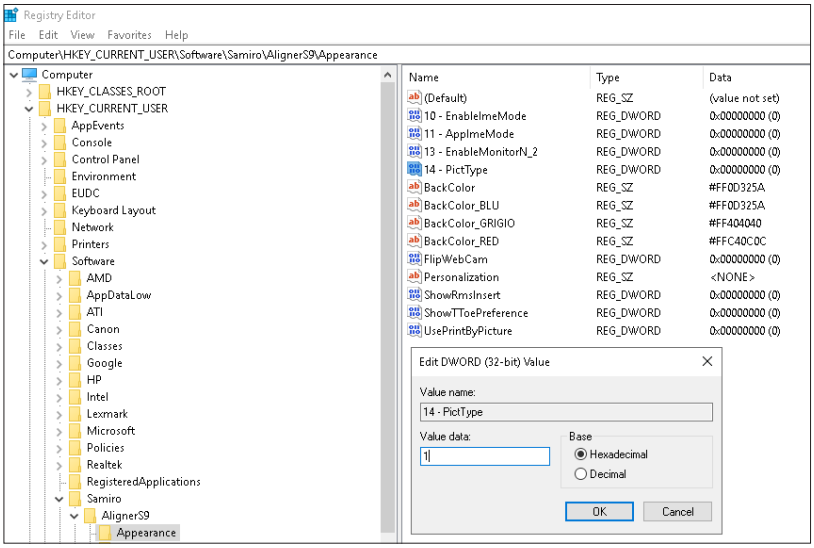


- Figure 4



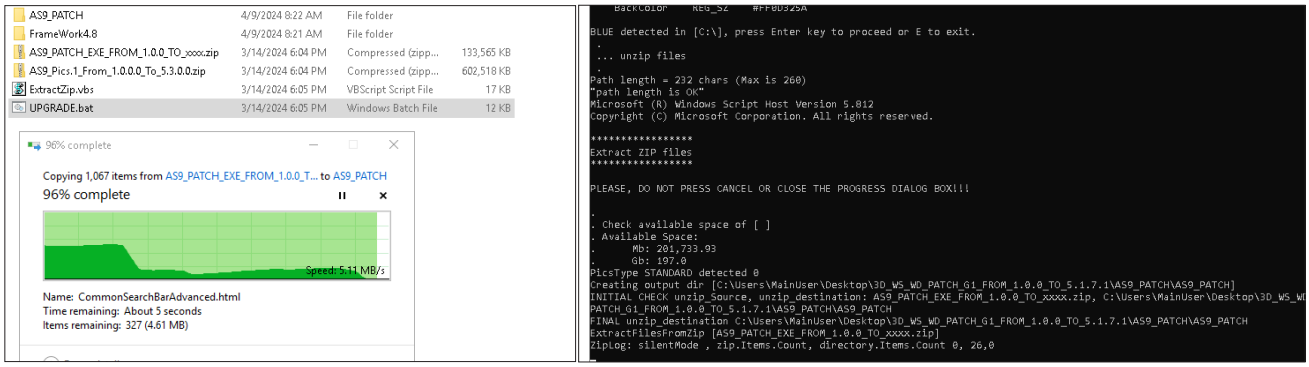
- Figure 5

1. Click into folder “SETUP_RAV” and then double clicking the “Setup.bat” to start the base software installation. Follow the software installation wizard step by step. See figure 3-5. The PC will auto reboot after finishing all steps, from there 2 icons (AlignerS9 / Aligner S9 Demo) will appear on the desktop. See figure 5.
2. Before next step, first check the Regkey: Computer\HKEY_CURRENT_USER\SOFTWARE\Samiro\AlignerS9\ Appearance ---- 14-PicType: If it is set to 0 - change to 1. See figure 6.



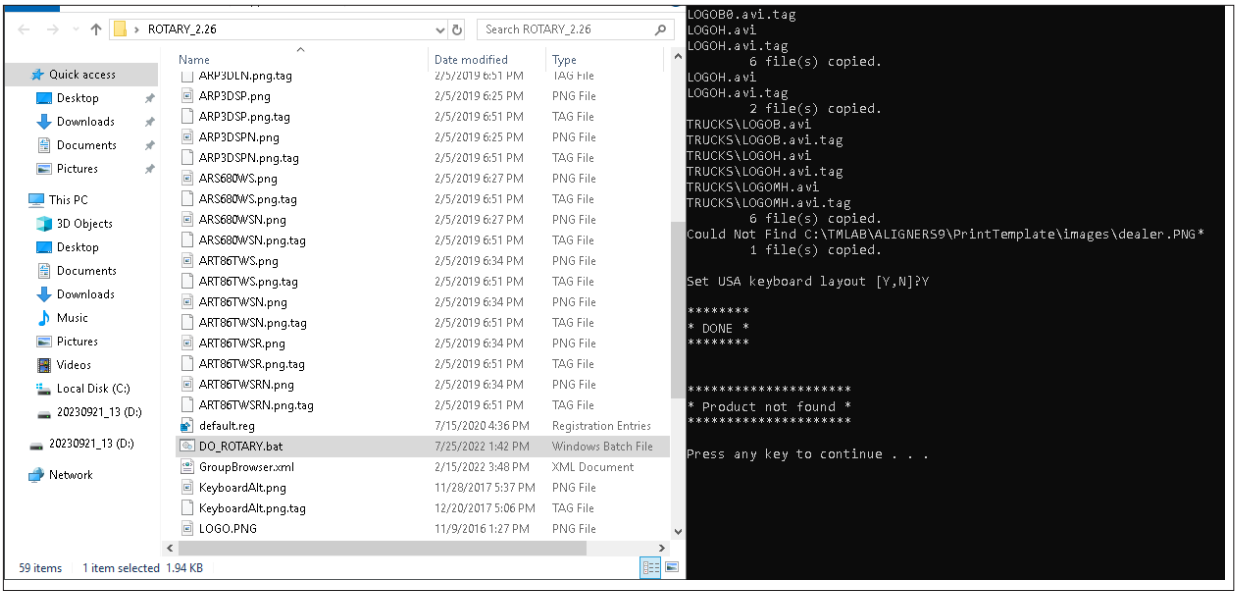
- Figure 6

3. The USB key supplied with the machine may have software that needs updating due to software differences between the time of manufacturer and time of install. Click the “UPGRADE.bat from compressed file”3D_WS_WD_PATCH_G1_FROM_1.0.0 TO_5.1.7.1.ZIP to start the process. (This will by copy the zip file to desktop and unzip the file). The latest SW update can also be downloaded from the “DATABANK” website or upgrade online. See figure 7.

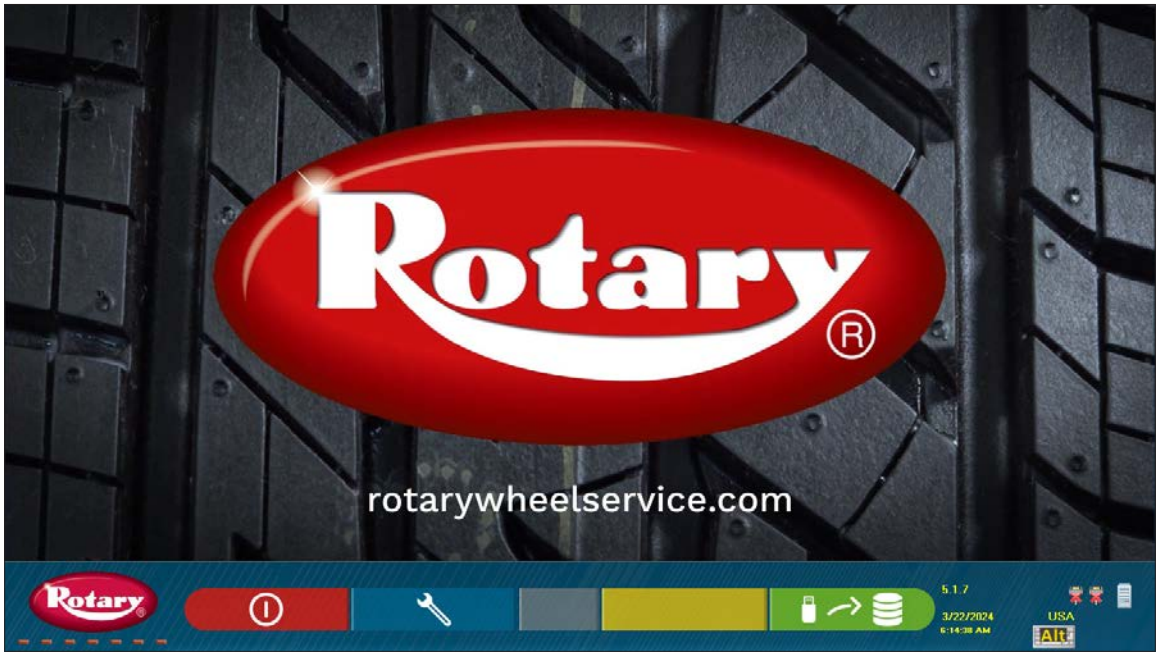


- Figure 7

4. Run personalization 2.26.click the “DO _ROTARY.bat”. See figure 8.



- Figure 8



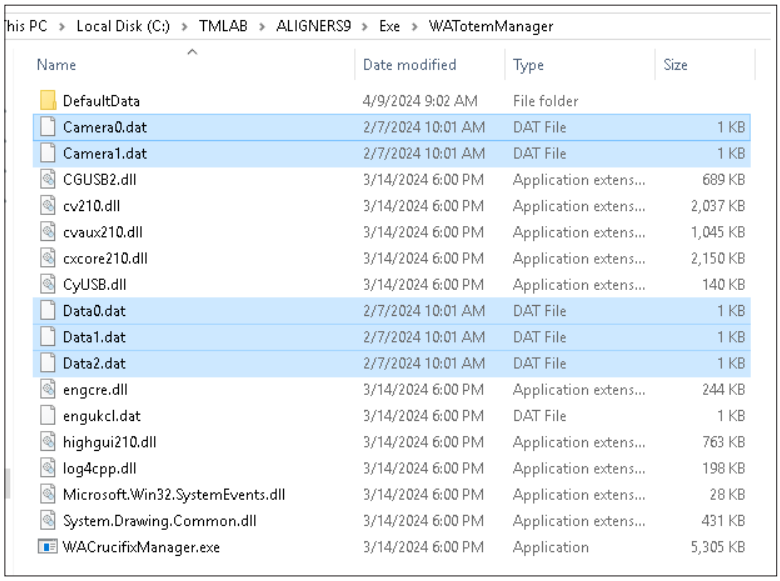
At this point, the AS9 software is ready, For license and database downlaod refer the operation manual.

1.2 Prepare for the camera connection

The installation consists of four parts:
• Camera data from factory. See figure 9.
• TID file from factory. See figure 9.
• Registry for camera connection. See figure 10.
• Drive for the motor and camera. See figure 11-15.

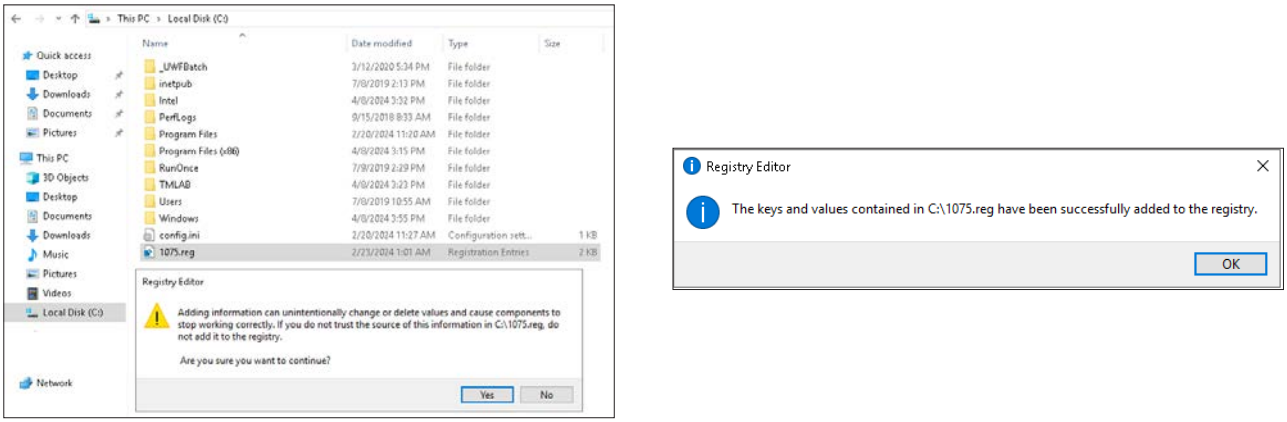
The USB key supplied with the machine, includes a folder name referencing the beam number. Within the folder there are 5 files. These files contain the camera data set in the factory together with the clamp / target Tid files. These files are necessary for the operation of the tower aligner. The absence of any file will cause the machine to not measure properly.

Copy these files from USB key to PC, the path is as follows: Local Disk(C:)/TMLAB/ALIGNERS9/Exe/WATotemManager.



- Figure 9

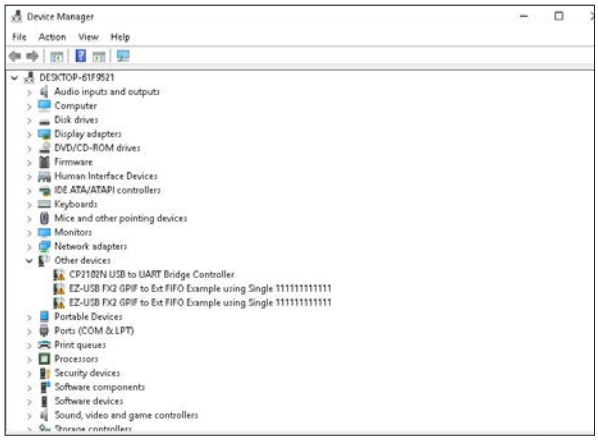
These files will be automatically covered when you do the calibration or TID in the field. For detailed information relating to calibration and TID, refer next section in this manual.



- Figure 10

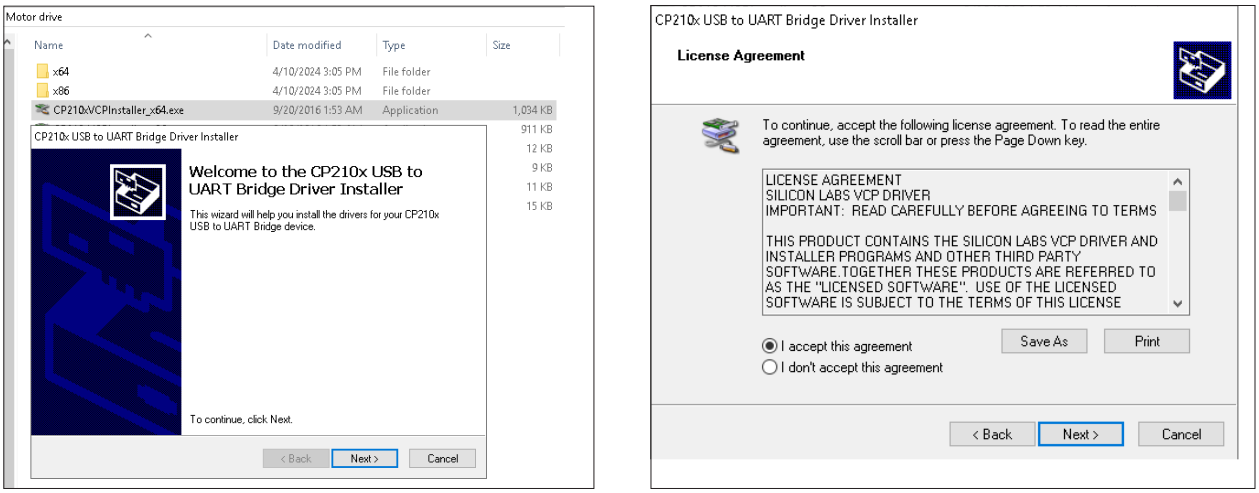
Double click the “1075.reg“ file in local Disk(C:) or from USB key. Choose yes for the next step, then the PC will add the data in the registry editor.

To install the drive for the cameras and motor, the cables from cross-beam must be connected to the aligner, with the main power switch turned on. After the aligner is connected and power turned on, you can open “Device Manager”. See figure 11.



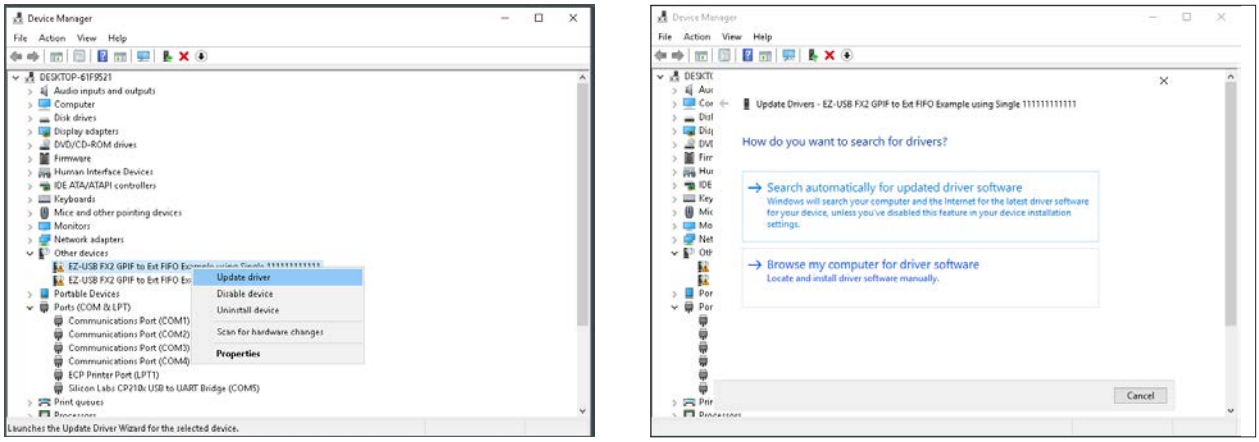
- Figure 11

Open the folder “Motor drive” from the USB key or aftersales, double click the “CP210xVCPInstaller_x64.exe” to start the process. See figure 12.

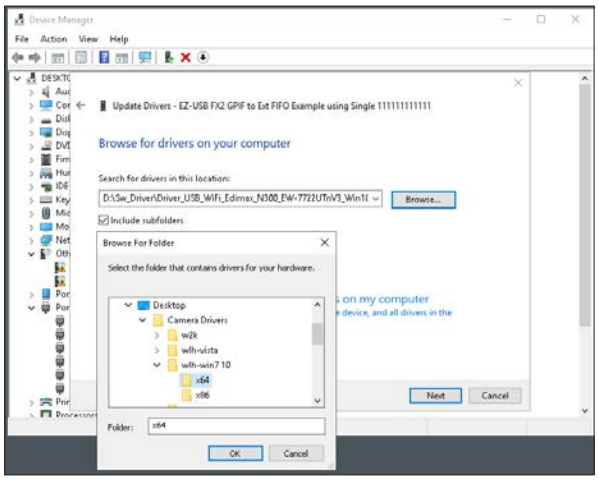


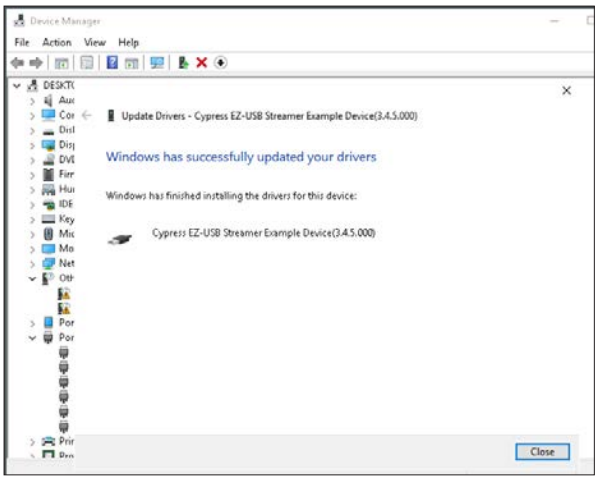
- Figure 12

Next, open “Device Manager”. In the other devices list, 2 unknown devices will be shown in the list. Click the first one shown, and click properties to update the driver. See figure 13. Browse “My Computer” for the driver software, the path is the folder of the camera driver (from USB key or from aftersale). See figure 14. Once complete, follow the same steps for the second unknown device. See figure 15.

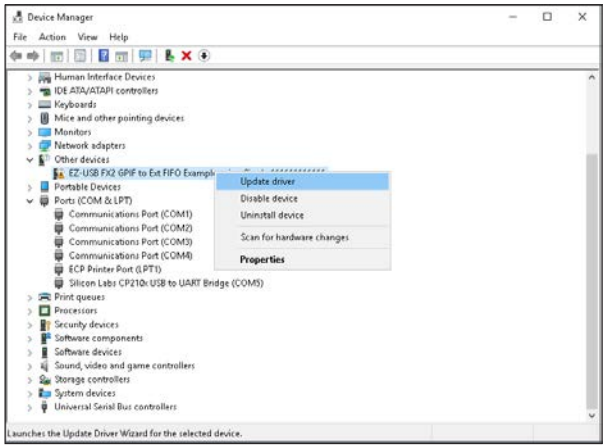


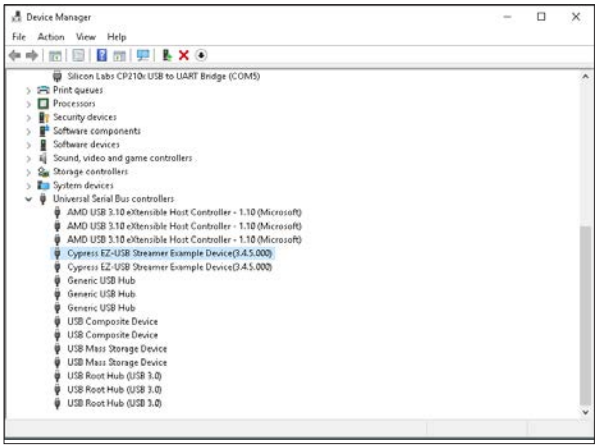
- Figure 13





- Figure 14





- Figure 15

At this point, the aligner is ready for operation.

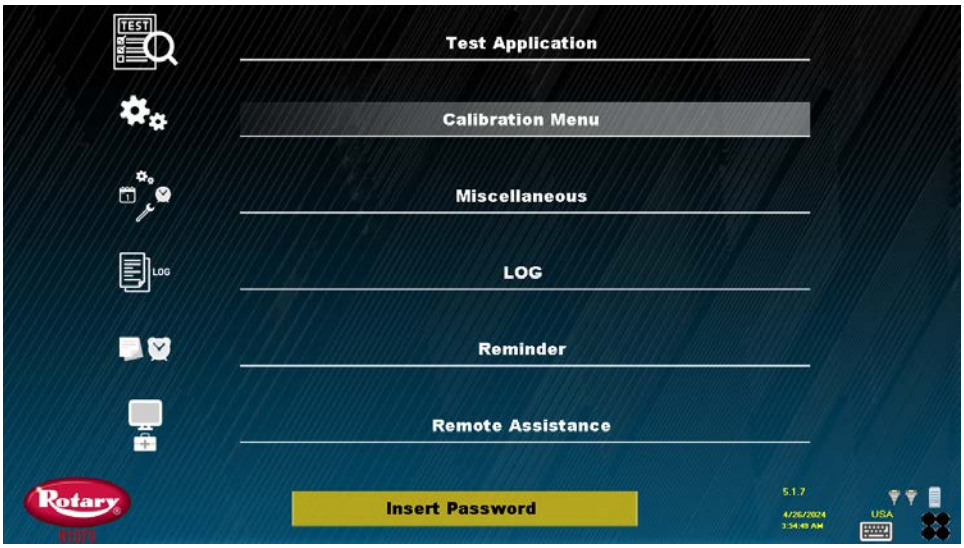
2 CALIBRATION

2.0 Aligner calibration

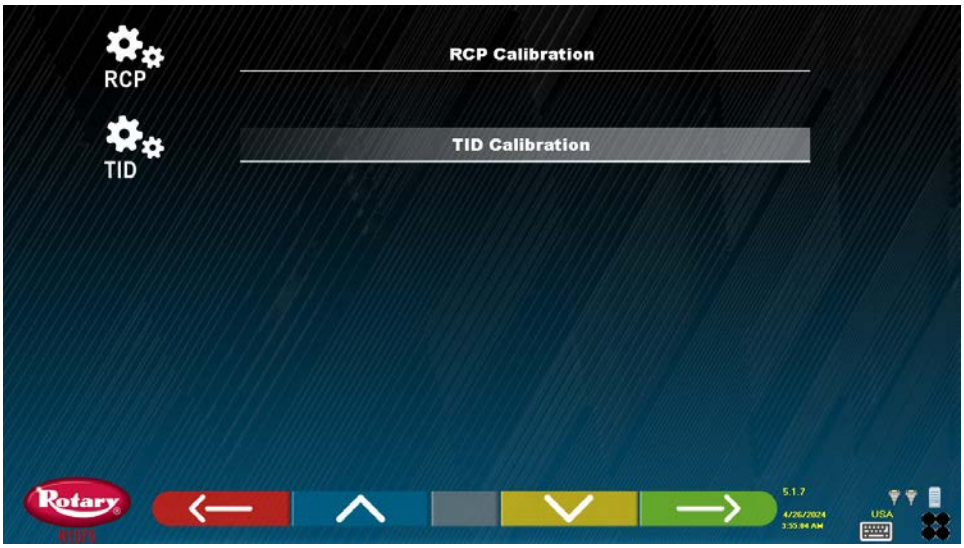
The RWA1075 wheel alignment machine is already calibrated at the factory; moreover, the calibration values are stored in the PC of the aligner itself. Therefore, when installing the new aligner, it is not necessary to calibrate or configure the equipment with calibration data.

The calibration contains 2 different programs: RCP and TID. The instructions below are abbreviated TID calibration and RCP calibration.

Starting from the home page, press F2 to enter the System Menu, then use keys F2 / F3 to select the “Additional Functionalities” and confirm with F4. Using keys F2 / F3, select the “Calibration Menu”, then confirm with F4.
You can log in using the following password: “F8; F7; F6; F8”



- Figure 16



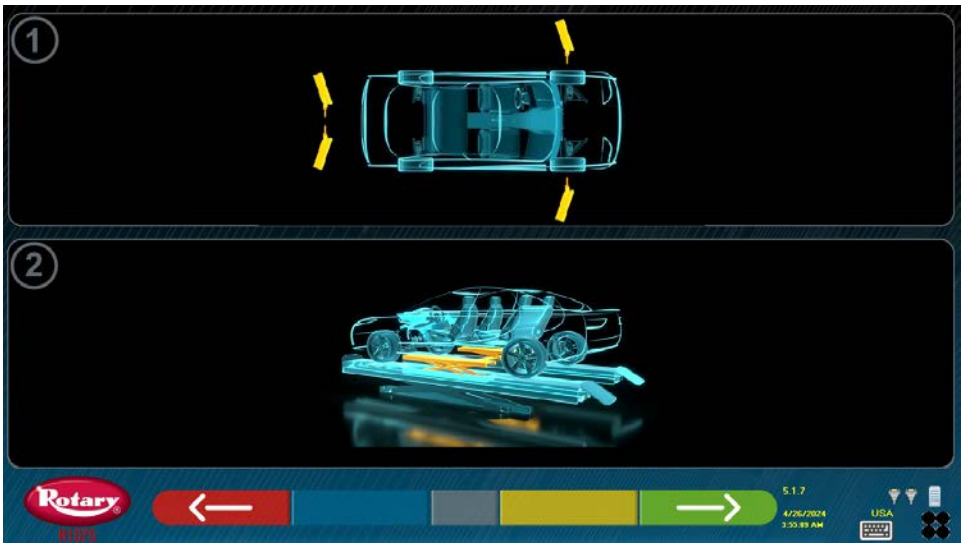
- Figure 17

2.1 TID calibration

The TID calibration is performed only in case of the failed connection between target and clamp or any movement of their connection.

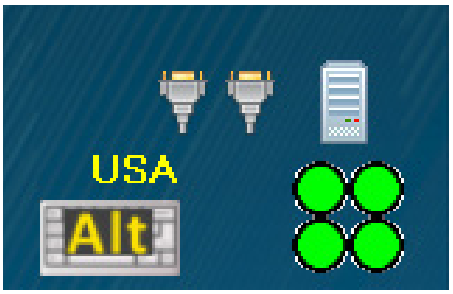
Attention! In the daily work, please do not disassemble or loose any screws on the connection of target and clamps.

To perform a TID calibration, a rolling jack on the lift is needed to allow the vehicle to be lifting for free movement of the front wheels. The TID calibration is performed only at the front wheels.



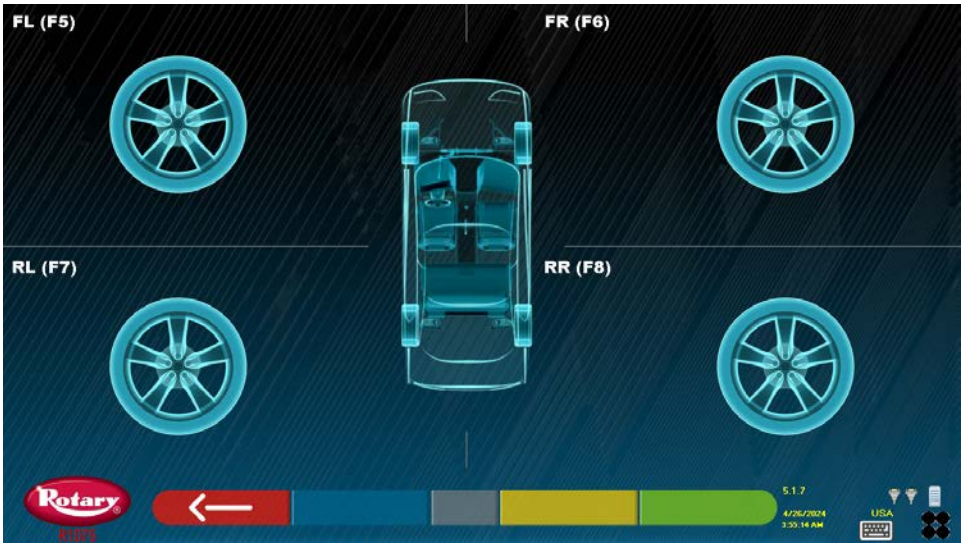
- Figure 18

Before proceeding, please ensure all targets are in clear field of view of the cameras. Please refer the green indicator targets at the bottom right of the screen (see circled) to confirm, See figure 19.



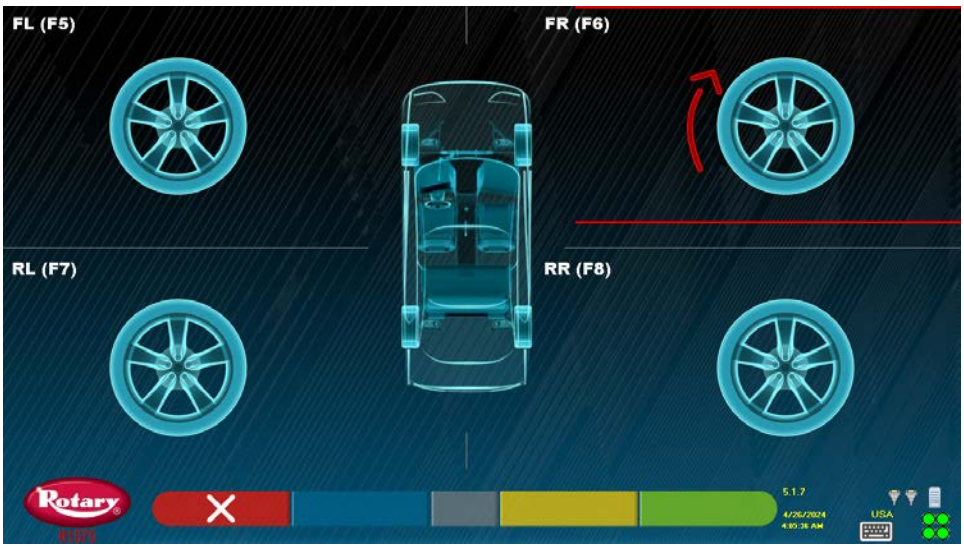
- Figure 19

Press the F4 key, The following screen appears:

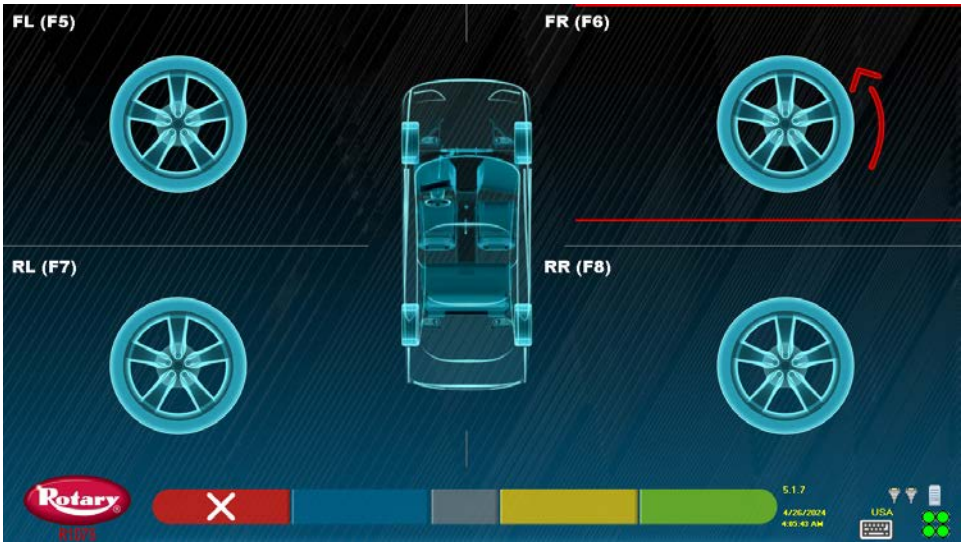


- Figure 20

Press the F6 key, the FR (front right) target and clamp will do the calibration. The following screen appears:

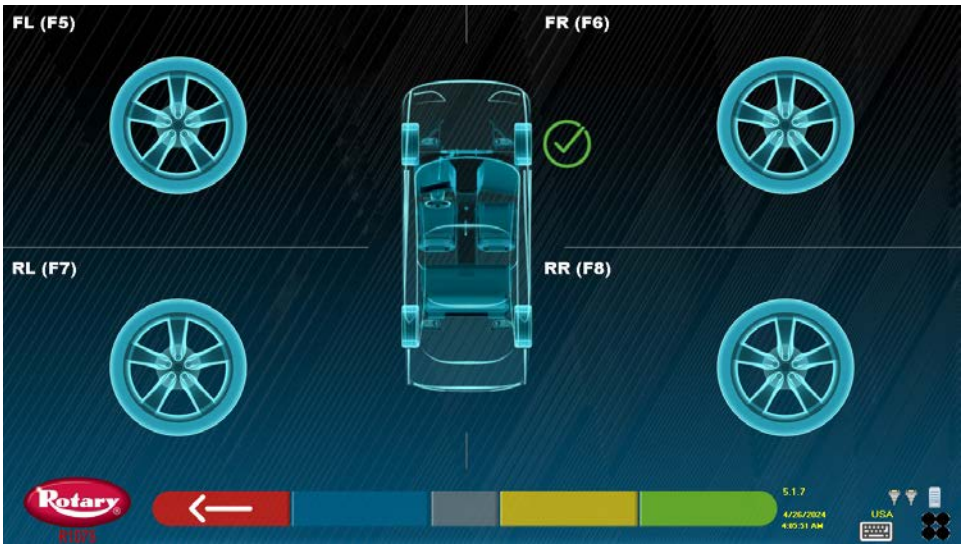


- Figure 21



- Figure 22

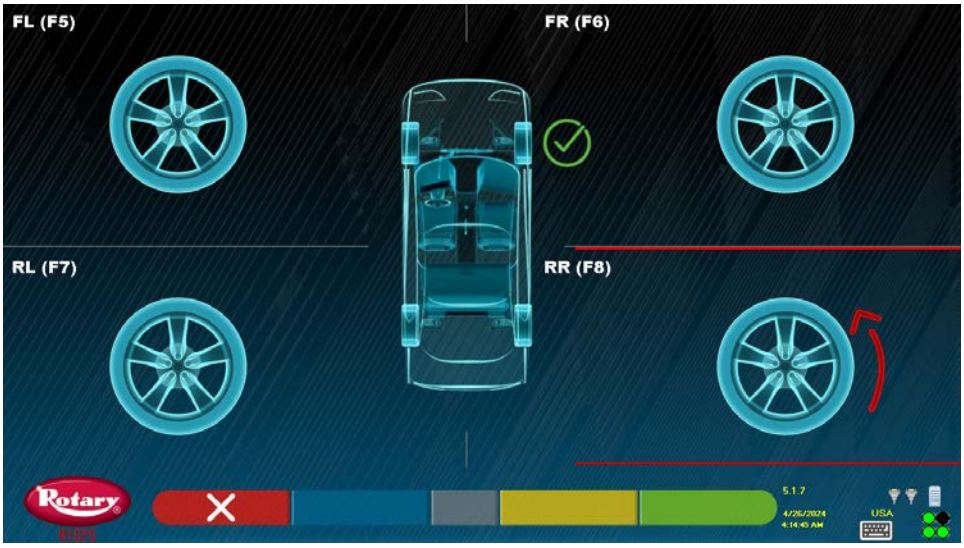
Rotate the front right wheel by the direction of arrow as indicated on screen.



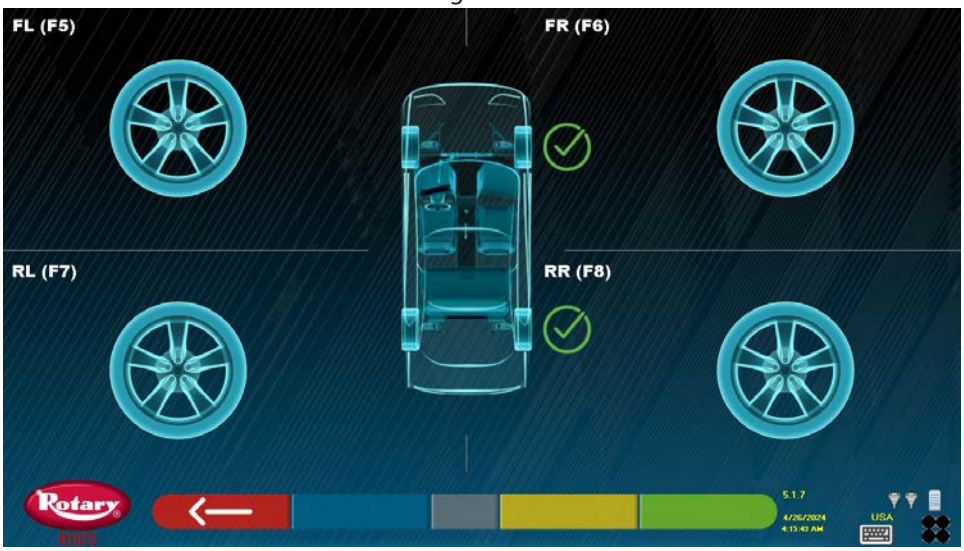
- Figure 23

The TID calibration for the front right clamp/target is finished.

Next step is to mount the assembly of rear right clamp and target to front right wheel and press F8. Rotate the front right wheel by the direction of arrow as indicated on screen.



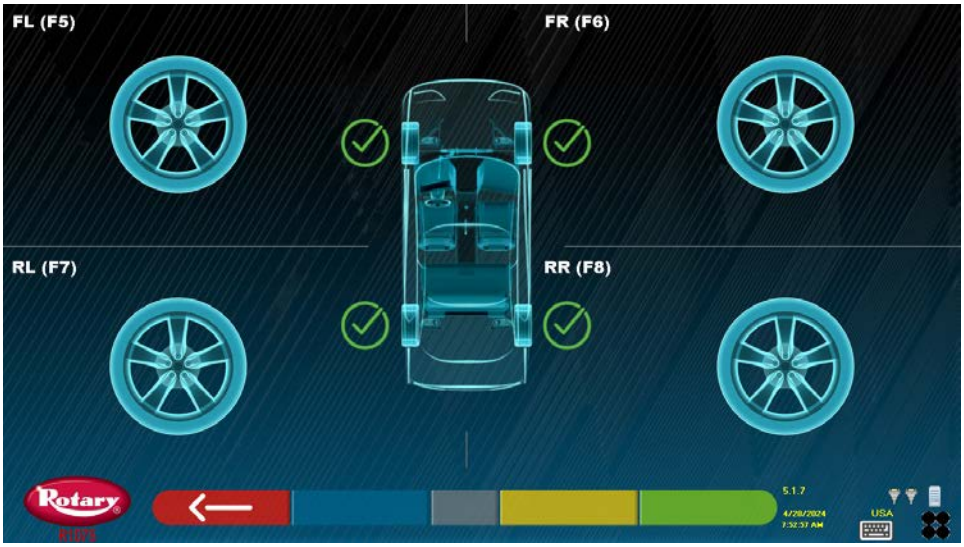
- Figure 24



- Figure 25

The TID calibration for the rear right clamp/target is finished. Complete same process on FL and RL .

The TID calibration for all clamp/target is finished. The following screen appears:



- Figure 26

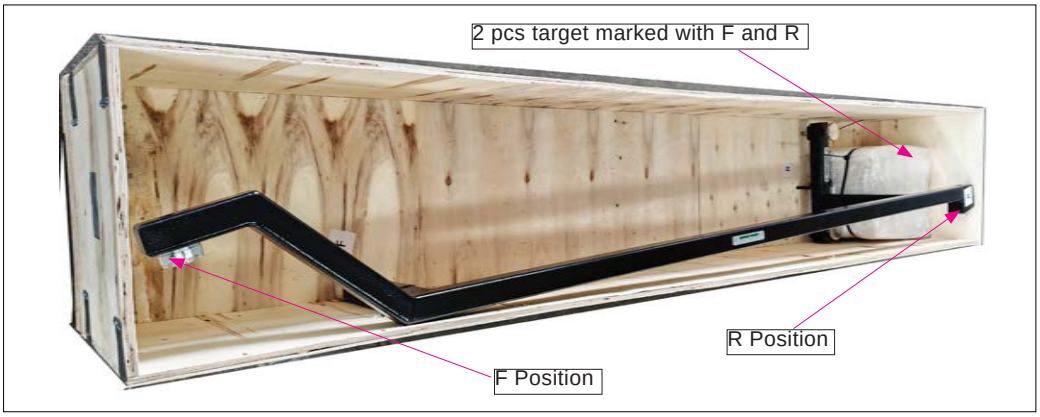
Press the F1 key, and then F4.

- Figure 27

Lower the front of the vehicle and then press the F1 key to return to the main calibration page.

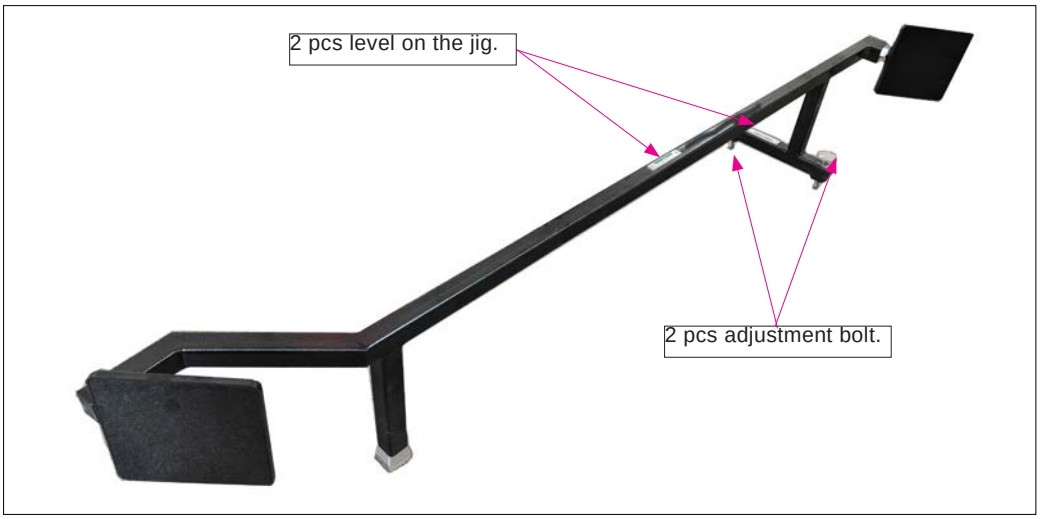
2.2 RCP calibration

The RCP calibration is performed only in case of replacement of cameras or following ascertained repetitive errors due to movements of transducers (consequently to falls, impacts etc.). Use the following calibration tool: CK-RWA1075

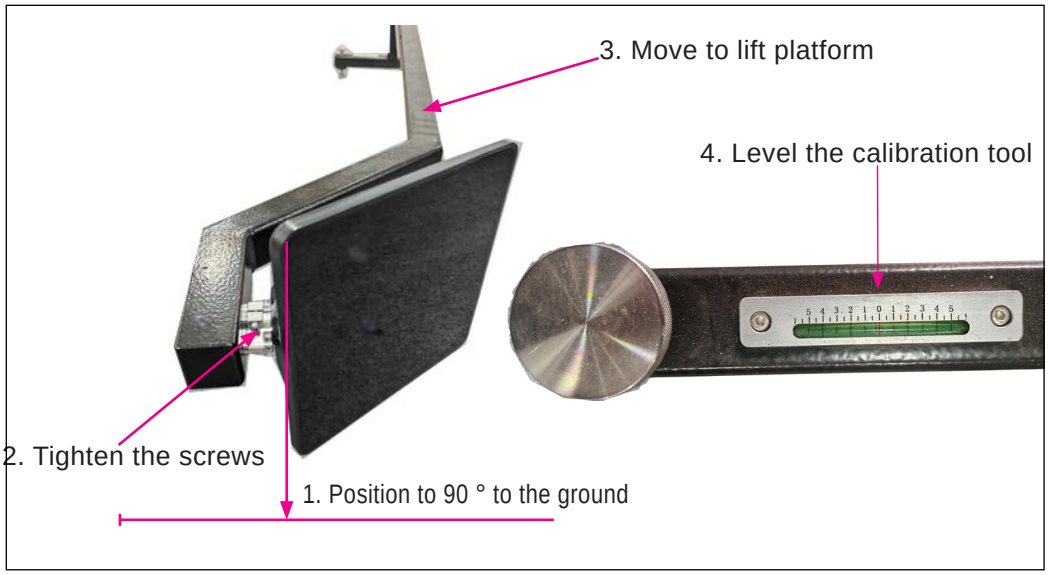


- Figure 28

To begin, assemble 2 targets to the calibration tool in F and R position, noting the CK-RWA1075 is supplied with the required targets. Do not use the target from the machine it self.



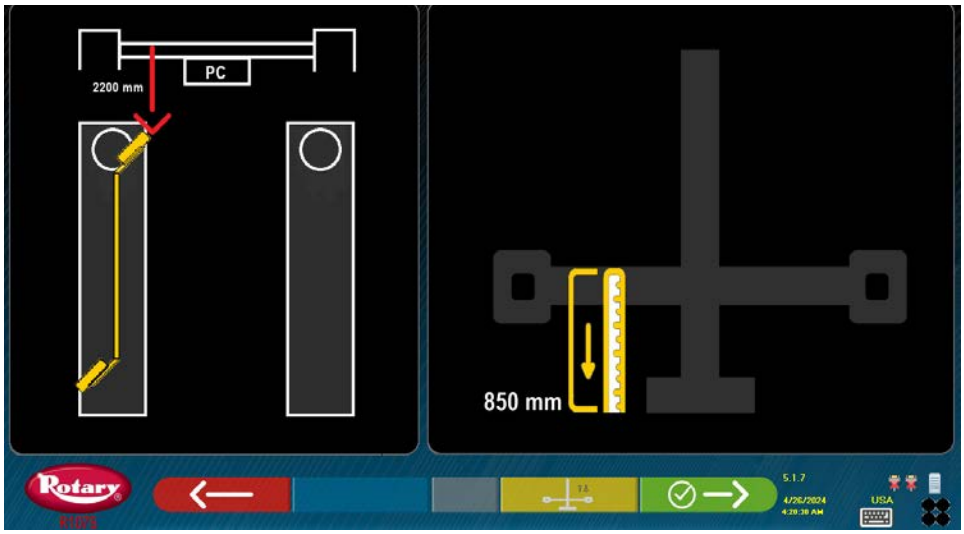
- Figure 29



- Figure 30

Once the targets are mounted to the calibration tool, enter the RCP calibration page, see figure 17.

The following screen appears for the commencment of step 1, see figure 32 for positioning of calibration tool

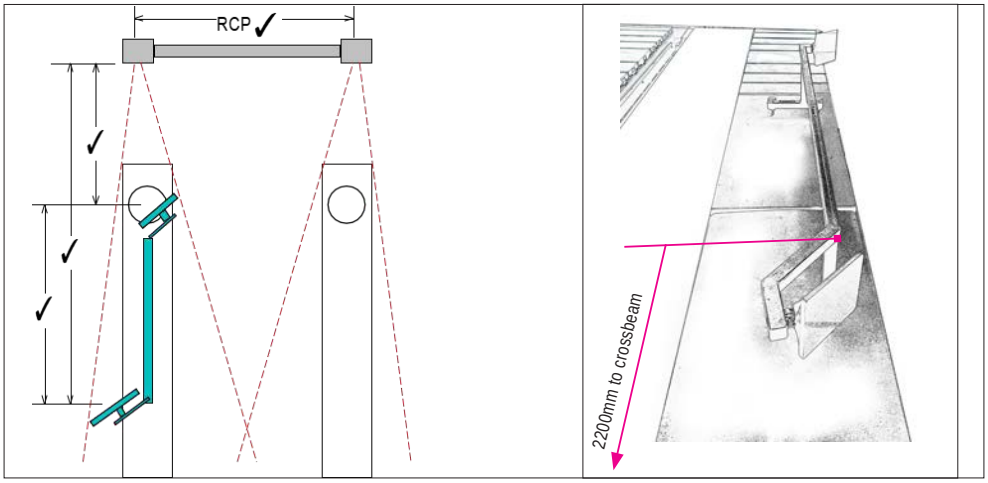


Attention!!

- When the calibration bar is position and ready for the below steps, allow 2-3 seonds for next step.
- Make sure the calibration bar and the targets are not moved or shaken on the runway during the below process.

- Figure 31

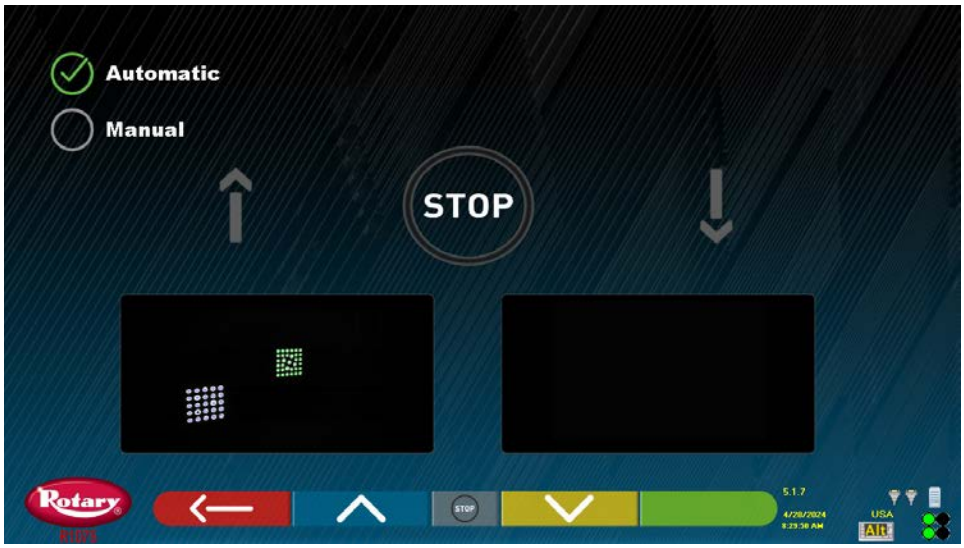
The beam height shown on the screen is 850mm, it is a suggested height but does not consider the height of the lift platform. When you perform the RCP calibration on the lift platform, first level the platform, then set the beam height at 850mm plus the height of lift platform.



- Figure 32

Place the calibration tool onto to the left side runway, see figure 31 and 32.

Press the F3 key, to check the target view and if necssory lift the beam up and down for better view.

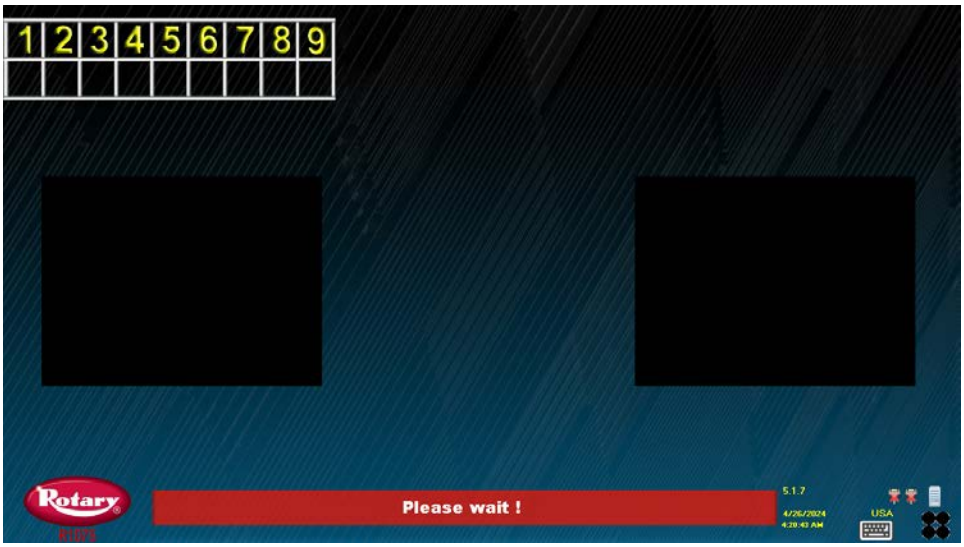


Attention!!

- Be carefull to ensure that the front targets do not shadow the rear targets during the procedure.

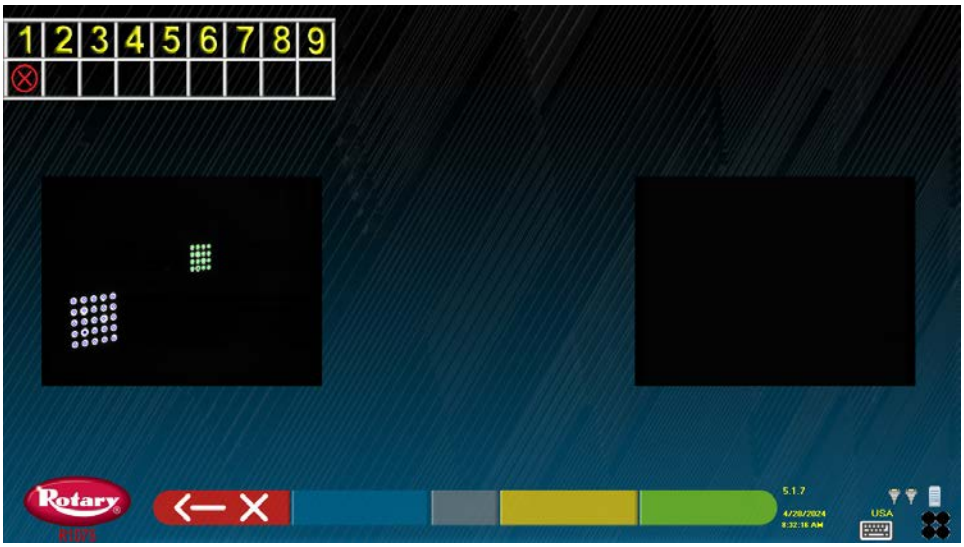
- Figure 33

Press the F1 key to return to the previous page, see figure 31, then press F4 to start the RCP process. The following screen appears:



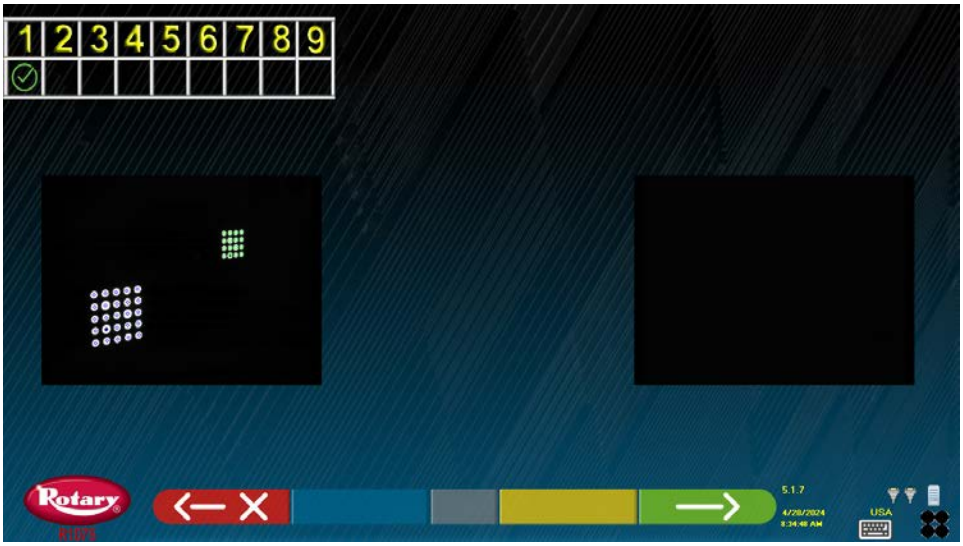
- Figure 34

After 30-50 seconds, the following screen appears:



- Figure 35

Move the calibration tool left and right, see figure 37, until  appears, see figure 36.

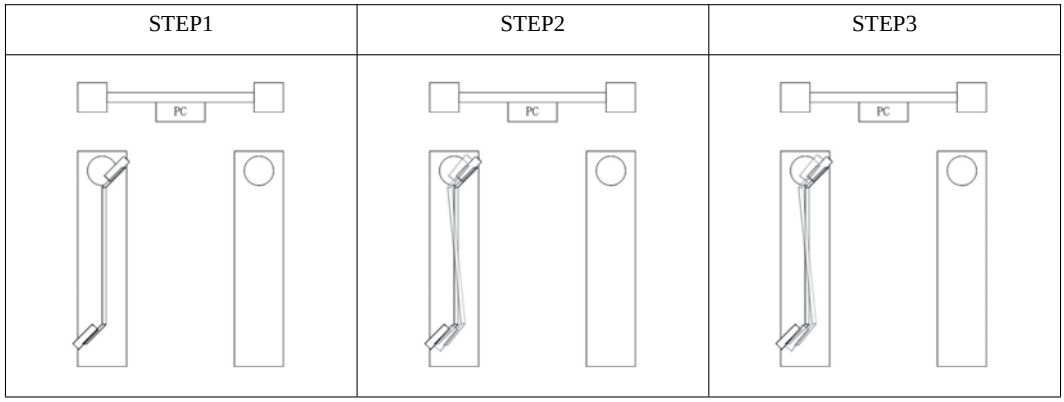


- Figure 36

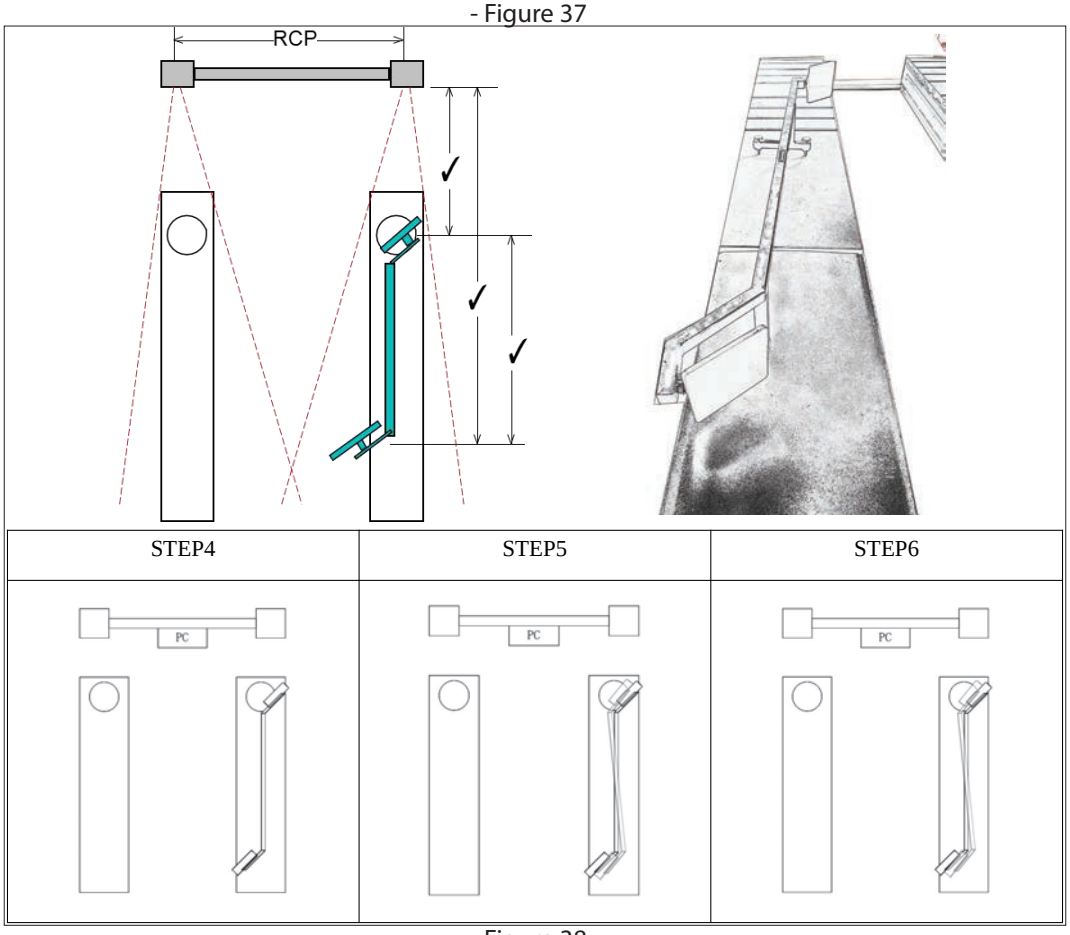
Attention!!

- Make the imaging position of the target within 3/4 of whole black windon.same for next steps.
- Move the calibration bar lightly on the runway.same for next steps.

Repeat this process for step 2 & 3, see figure 37 for positioning of calibration tool. The  appears once step 2 & 3 are complete..

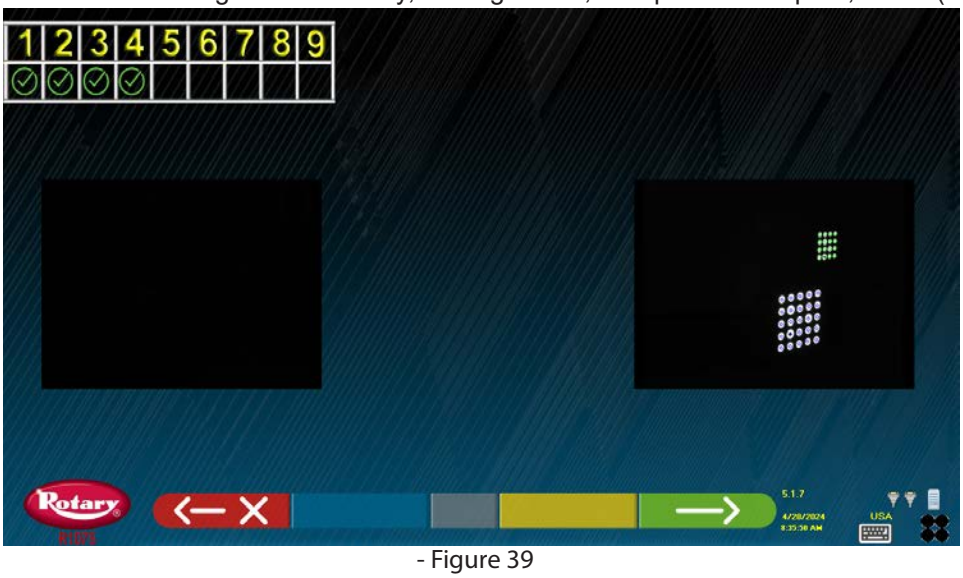


- Figure 37



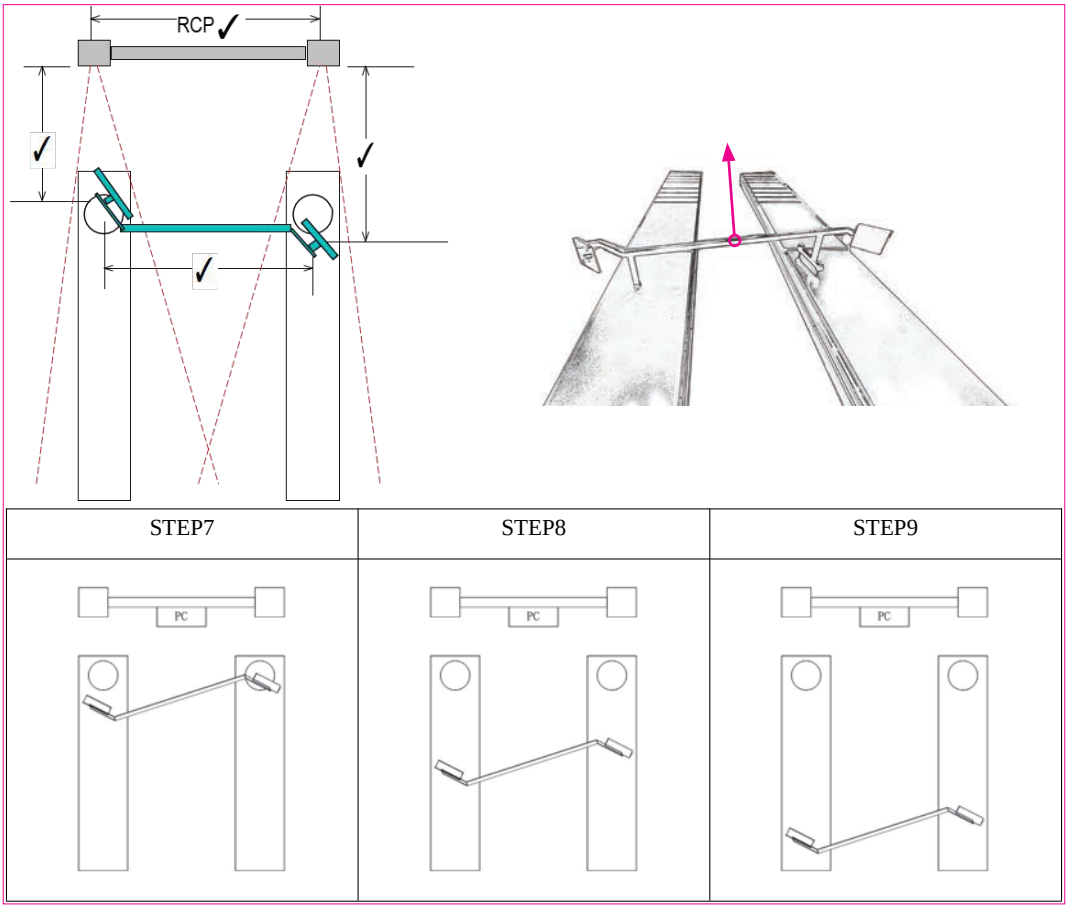
- Figure 38

Place the calibration bar onto to the right side runway, see figure 38, and perform steps 4, 5 & 6 (same as left side)

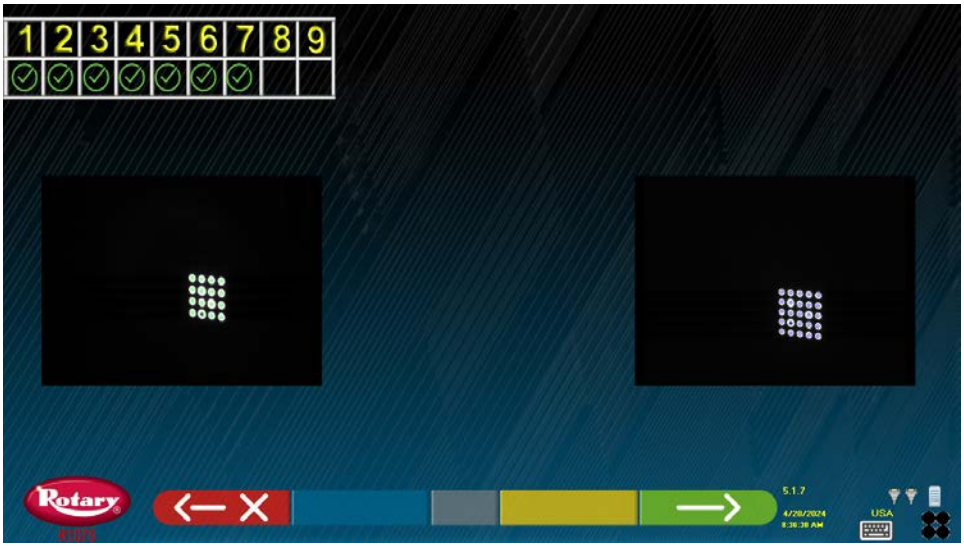


- Figure 39

Place the calibration tool across the lift (left to right), see figure 40, and perform steps 7, 8 & 9 using the same method used for left & right side runways. Position both targets as close to the center of view as possible. Adjust the position until all of the arrow LED lights on the cameras iilluminate. Once all LED's are illuminated this indicates that both targets' position is OK.



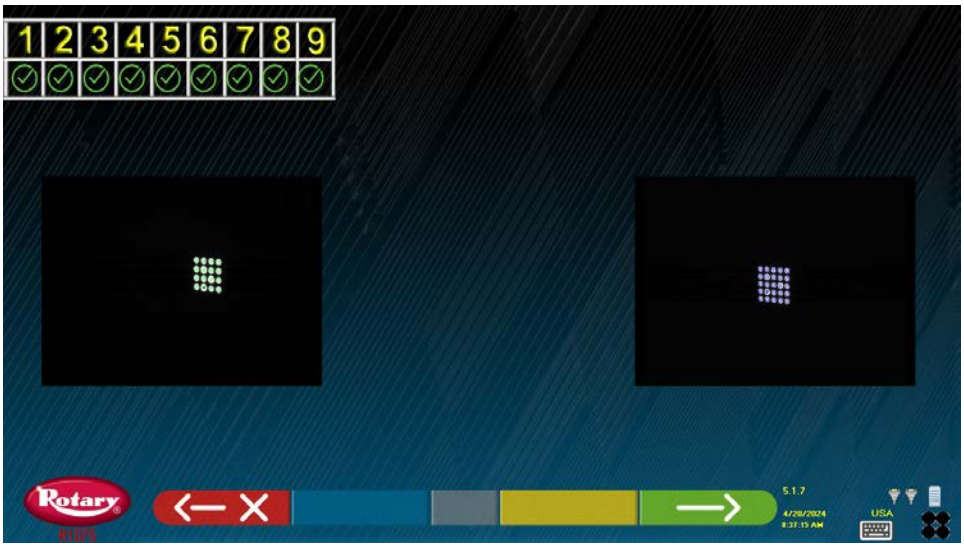
- Figure 40



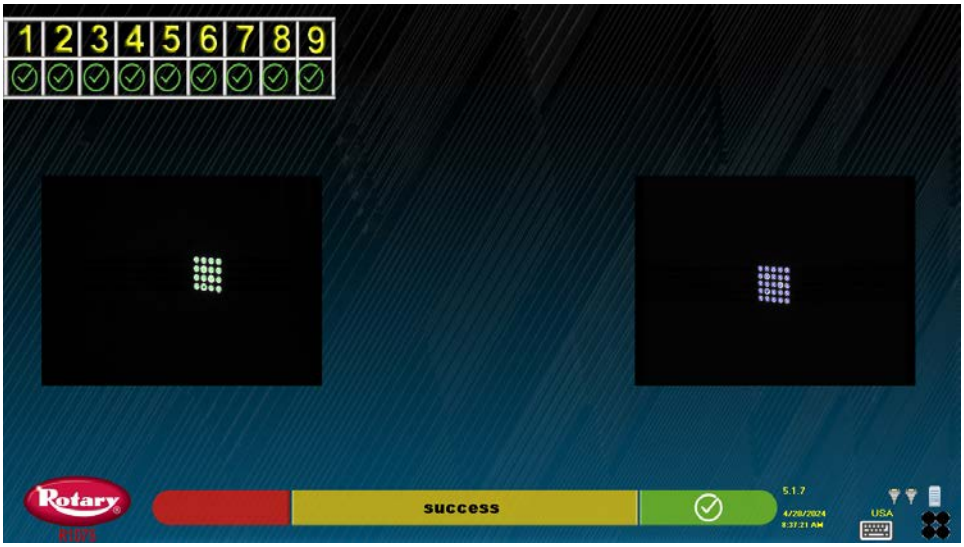
- Figure 41

When move back the calibration bar over the lift, the position you can check with camera LED arrow,see figure 44.

Once all 9 steps are succesful, see figure 43, press F4 to save the calibration data into the PC.



- Figure 42



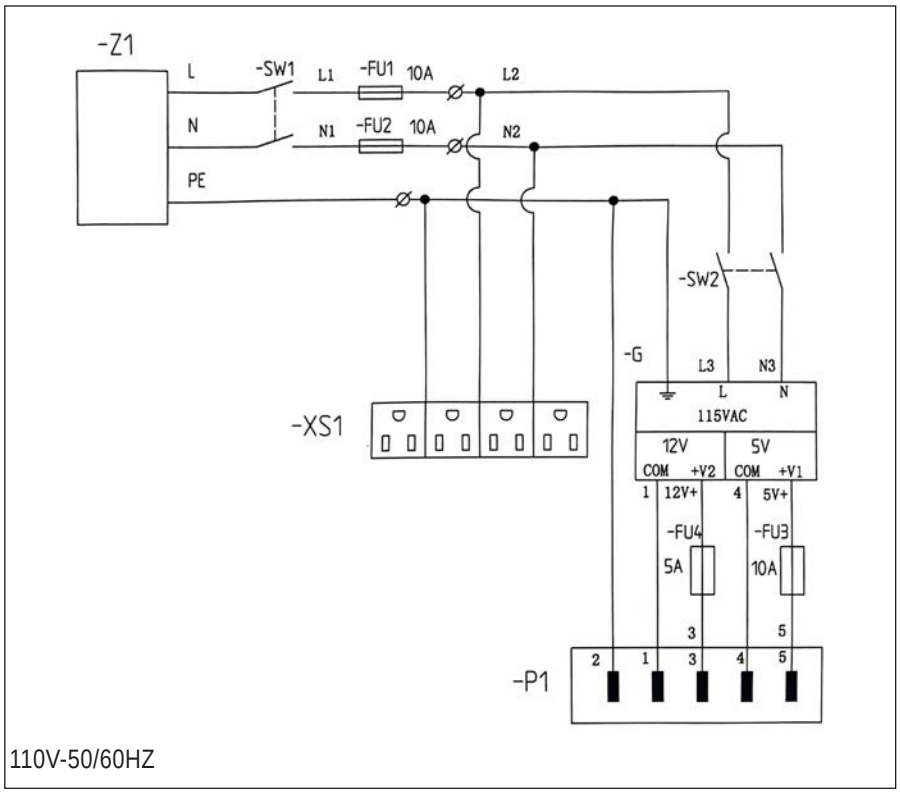
- Figure 43

- Figure 44

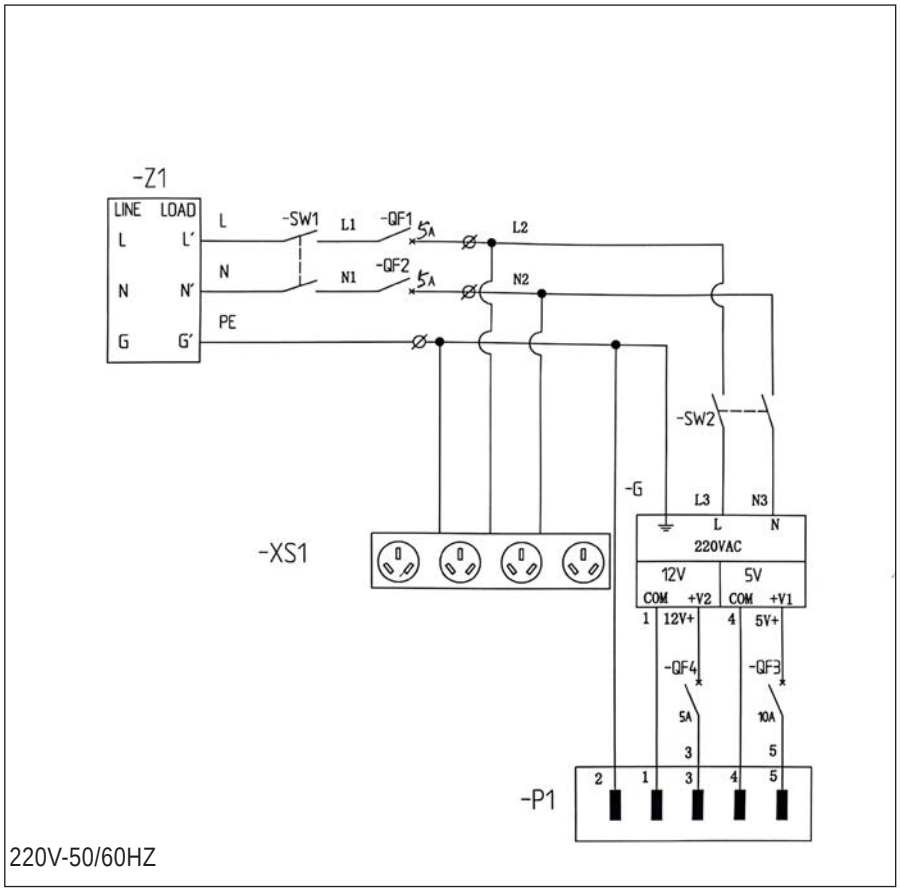
The camera LED arrow allows the technican to identify the calibration tool & target positioning and it is OK.
Up arrow in red means that the target is too far away and needs to be moved closer.
Down arrow in red means that the target is too close and needs to moved further away.
If all arrows are illuminated, this indicates that the target position is OK.

3. Annex

3.1 Electric wiring diagram



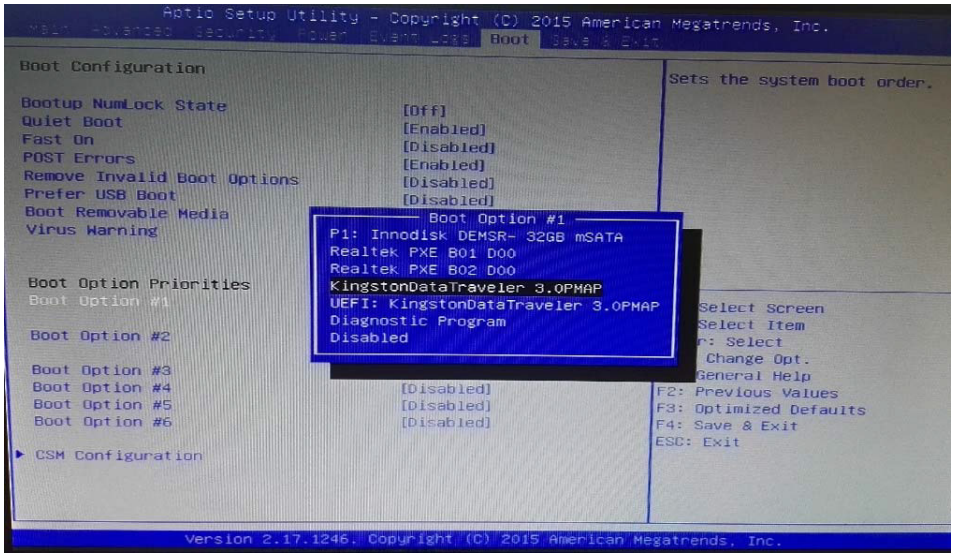
- Figure 45



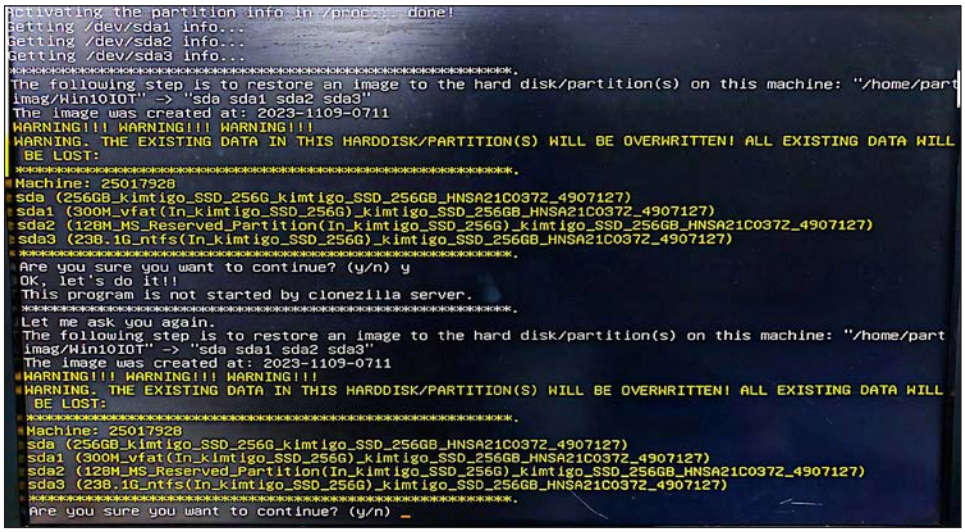
- Figure 46

3.2 Recovey PC by USB key

- Insert the USB Key when the PC is turned off.
- Access the BIOS setup menu, by turning on the machine and pressing F2 Key on the keyboard. The BIOS setup menu will appear.
- Select the Boot folder, select Boot Option #1, set the option: KingstonDataTraveler 3.0PMAP, select Save & Exit, then confirm the configuration is saved by selecting YES.

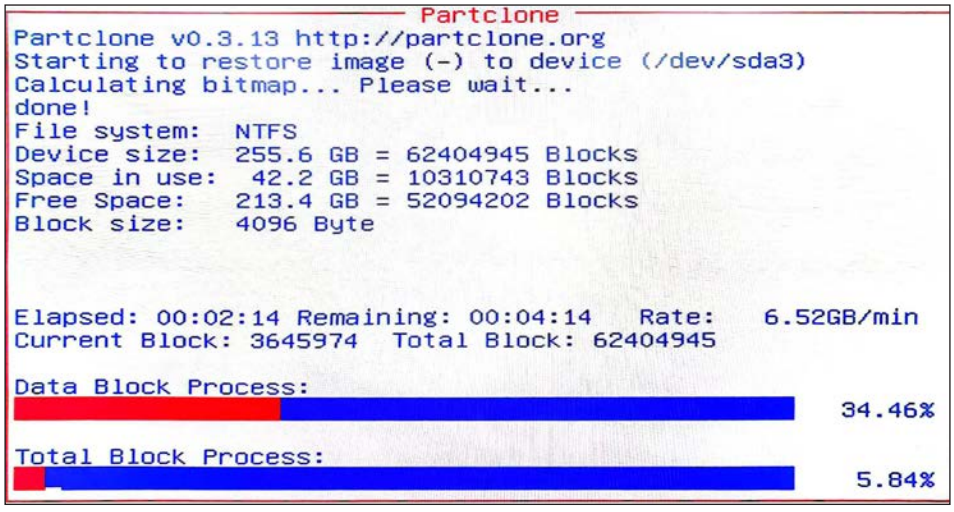


- Figure 47



- Figure 48

- Select yes to continue.



- Figure 49

- When the process is finished, restart the PC.

Installer: Please return this booklet to literature package, and give to lift owner/operator.

Thank You

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