GAUSIUM | SoftBank Robotics

Vacuum 40 Pro
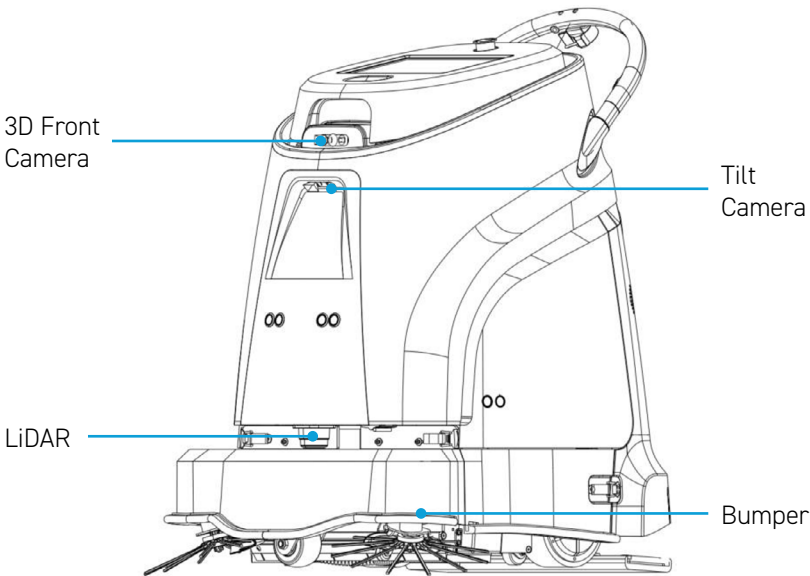## Quick Start Guide

Table of Contents

1. Machine Overview

Front View

3D Front Camera

Tilt Camera

LiDAR

Bumper

Rear View

Adjustable Handle

Charging Plate

*For use with charging dock

Rear Camera

Rear LiDAR

Foot Pedal

Charging Port

Top View

Emergency Stop Button

Touchscreen

Key Switch

Bottom View

Side Brush

Roller Brush

Hopper Tray

Driving Wheel

Dust Mop

Included With V40

Dust Bag x 2

HEPA Filter

Dust Mop Pad x 2

Charger

2. Charging Dock Overview

Front View

Power Supply Indicator

Charging Indicator

QR Code

Charging Electrodes

Cooling Vent

Manual Charging Port

Right Side View

Power Supply Socket

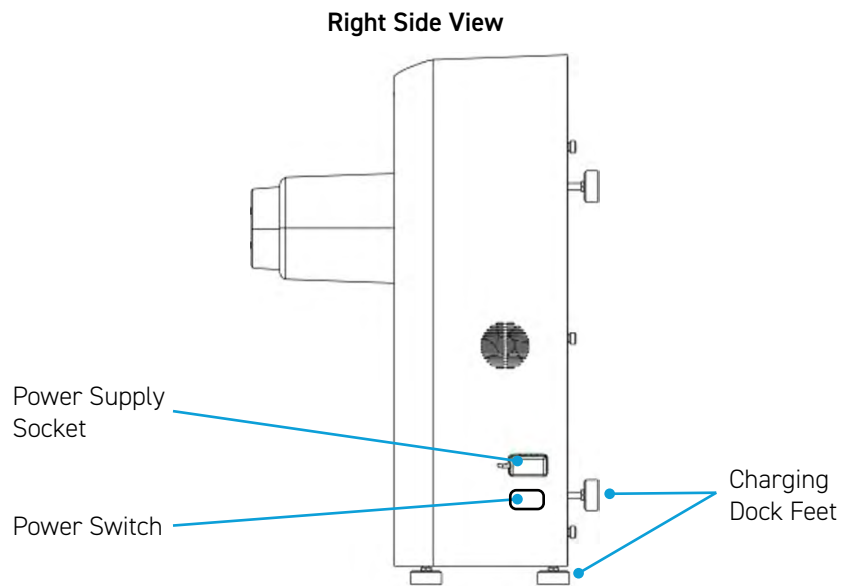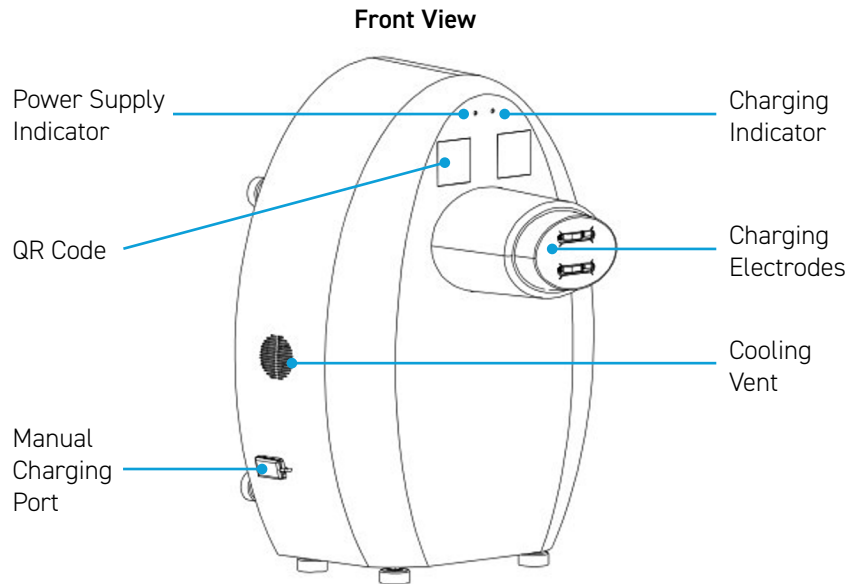Power Switch

Charging Dock Feet

3. Charging

Ensure V40 is fully charged before use:

V40 has a 3-4hour battery life under normal use conditions.

It takes approximately one-two hours to charge the battery to 100% charge.

You must only use the designated charger that came with V40.

The machine should be powered off before and throughout charging.

⚠️ Do not handle the V40 charger or charging port with wet or damp hands.

Charging the V40 should be done in strict accordance with the following instructions to reduce the risk of electrocution.
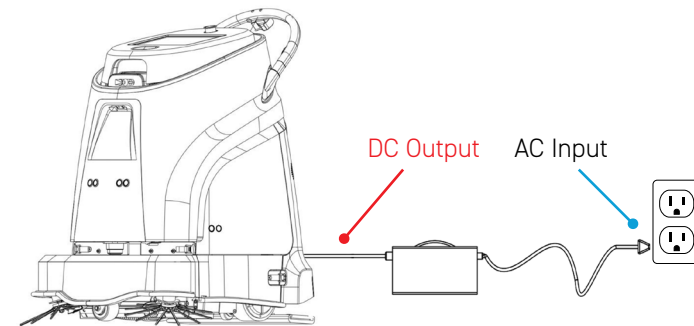
DC Output   AC Input

To begin charging:

1. Plug charger's **DC Output** into V40's charging port.
2. Plug charger's **AC Input** into wall outlet.

Battery is charging = flashing green

Battery is fully charged = solid green

When charging is complete:

1. Unplug charger's **AC Input** from wall outlet.
2. Unplug charger's **DC Output** from S50's charging port.

4. Charging Dock Setup (If applicable)

🎯 After charging dock is setup, continue to **mapping**.

1. Place against wall
2. Adjust feet
3. Plug into outlet
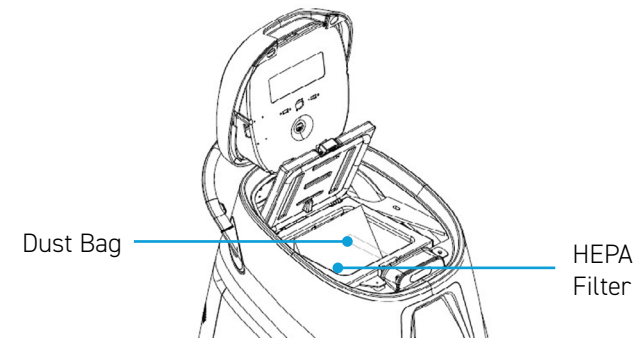4. Flip power switch to "On"

5. Machine Setup

Daily Operation

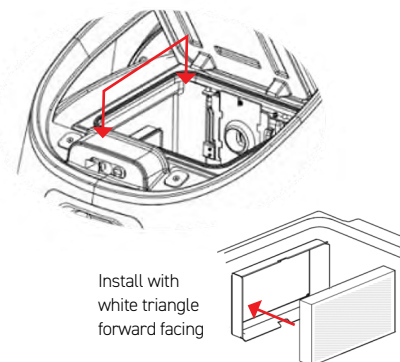Confirm that the following components are properly installed:

1. Dust Box

Dust Bag

HEPA Filter

1a. Installing HEPA Filter

Install with white triangle forward facing

2a. Installing Dust Bag

Slide Down
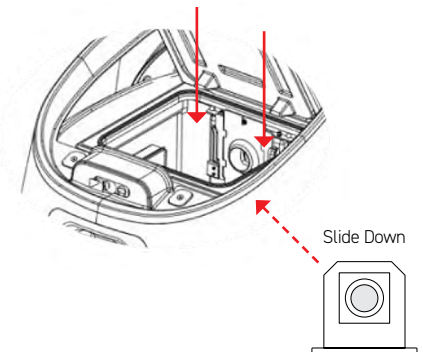
2. Brushes
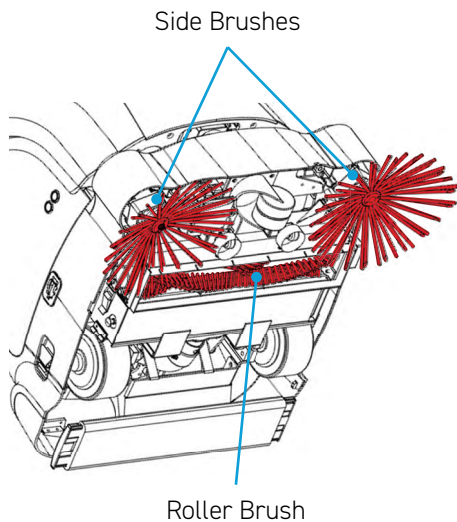
Side Brushes
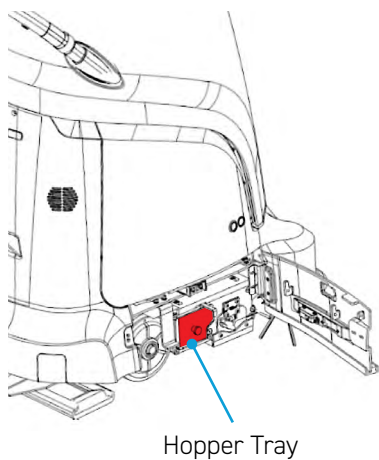
Roller Brush

2a. Installing Side Brushes

Align center with side brush component then push up
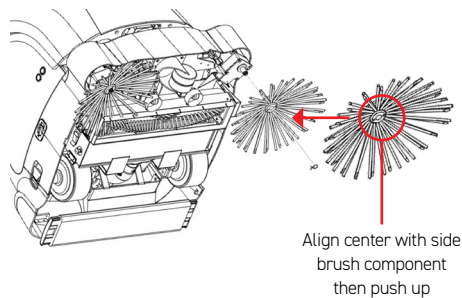
2b. Installing Roller Brush

Slide brush in with star shape facing inward
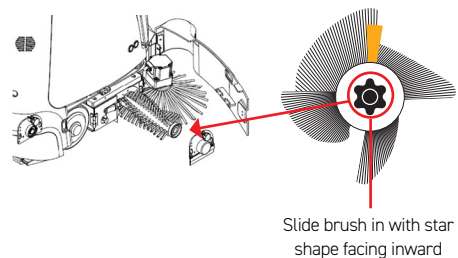
(i) It may take a few tries to get brush to latch.

3. Hopper Tray

Hopper Tray

3a. Installing Hopper Tray
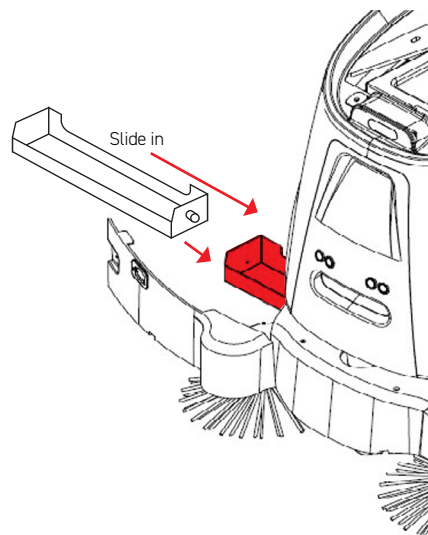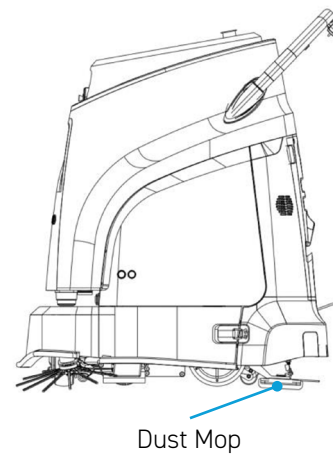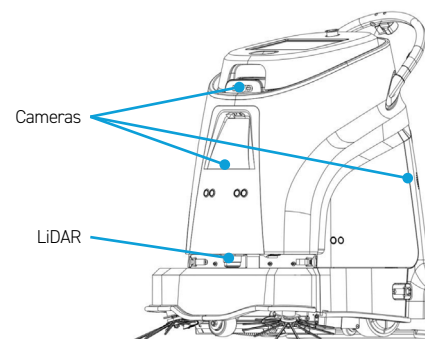
Slide in

4. Dust Mop

Dust Mop

4a. Installing Dust Mop

1. Align the plastic pieces with dust mop component

2. Slide inside grooves

5. Sensors

Cameras

LiDAR

5a. Wipe Sensors

Wipe with dry microfiber cloth or lens wipes

Wipe with dry microfiber cloth or lens wipes

Programming Process

Setup charging dock

If applicable

→

Create base map

Create combined task

←

Create paths and points

Edit map

→

Run tasks

Programming Process

Setup charging dock

If applicable

↓

Create base map

↓

Create tasks

↓

Setup charging dock

↓

Delete tasks

↓

Create combined task

↓

Edit map

↓

Validate tasks

↓

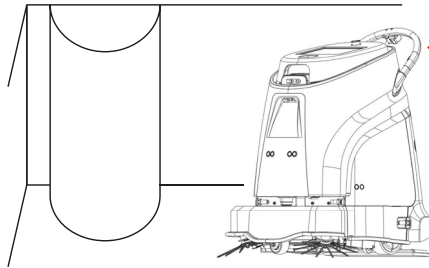# 6. Mapping

Creating Map (Admin Only)

Floor plan that is stored on the robot, indicating where walls and obstacles are.
Tasks will be created on top of the base map.

ⓘ Map creation, map editing, path creation, and task creation can **only** be performed under the "**admin**" login.

Push V40 to an area that has permanent, distinguishable features

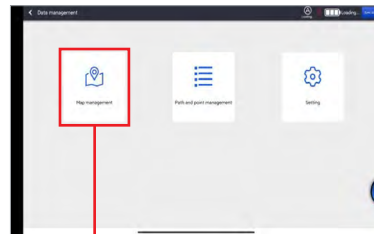ⓘ **This includes:** a pillar, a corner or hallway, and/or fixed furniture

⚠ **Avoid** areas with no distinguishable features, floor-to-ceiling glass walls, frequently rearranged furniture, or large amounts of sunlight

2

3
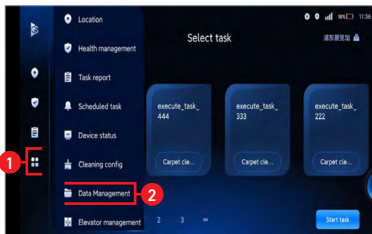
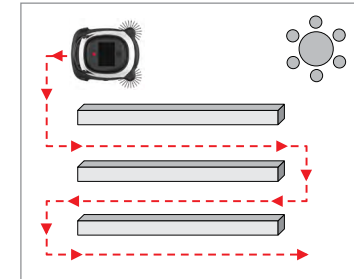1. Select menu icon
2. Data management

Select "Map management"

ⓘ **Note:** Max map size is 30,000 m^2 (322,917 ft^2)

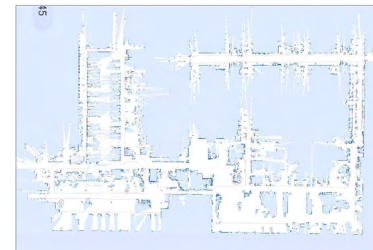## Best Practices For Mapping V40

Scanning Speed

Slowly walk the space and make slow 90° turns.

Do not exceed 20°/s when making turns

Ideal Map

Has fully scanned interior with obstacles and boundaries captured, and free of warping, ghosting, and folding. Note: always map perimeter first then fill in the rest.

Ideal map

Delete and remake

Warped

Do not add map extensions or tasks to bad maps
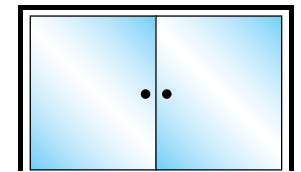
Unscannable Obstacles

Virtual walls must be placed around objects smaller than 2.5 cm in diameter, less than 6 in off the ground, or transparent.
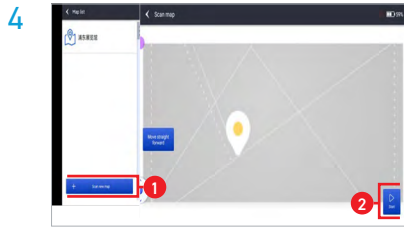
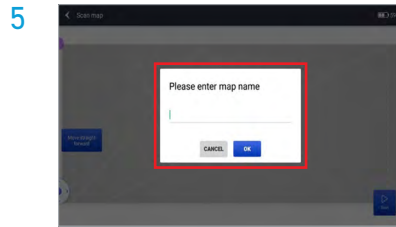

Table legs and chair legs   Coat racks   Glass doors or walls

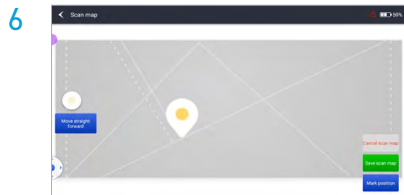**Do not** leave unscannable obstacles with no virtual walls

4

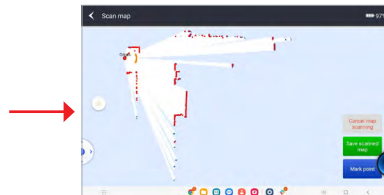1. Select " + Scan new map",
2. press "start"

5

Create map name, then select "OK". Do not include spaces in the map name.

Note: The map name should identify its location in the building i.e., "fourthfloor" or "commonarea"
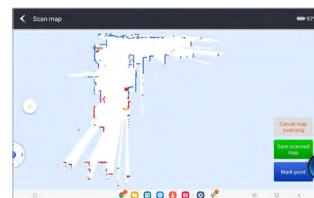
6
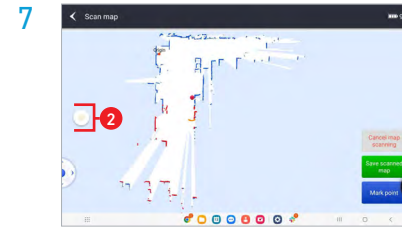

1. Select "+ Scan new map",
2. press "start"

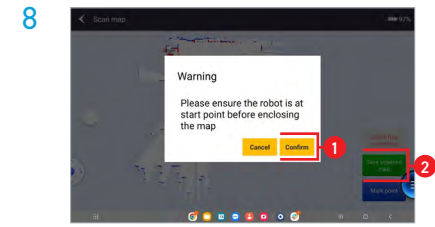(i) Push at a slow steady pace with precise 90° turns.

Sensors (shown in red), are scanning the environment

Map will continue to form as the robot is pushed around perimeter

7

1. End scanning where scanning began
2. Select ( ) icon

9

Review the map for quality and coverage

✓ Boundaries and permanent obstacles are outlined with solid, dark blue lines

✓ Map interior is fully scanned (indicated by lack of light blue)

✓ No visible skipping or rotating parts of map boundaries

11 Scan the remainder of the space using map extensions

8

1. Select "Confirm"
2. Select "Save scanned map"

10

Unscanned areas

Permanent obstacles not captured

(i) Push at a slow steady pace with precise 90° turns

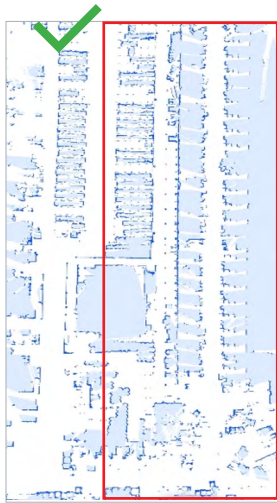Map smaller sections at a time if needed

Look Out For

Warping is the bending or twisting of any part of the map

- Happens when V40 is moved too fast during mapping
- Or when too much is mapped at one time

Avoid warping by:

- Moving at a slow steady pace while mapping
- Map small parts at a time using map extensions

Hallways are straight and parallel

Hallways are warped and leaning

Ghosting is when a single object incorrectly appears in multiple locations on a map

- Happens when V40 is pushed too quickly during mapping
- Or when an object or person is moving around

Avoid ghosting by:

- Moving at a slow steady pace while mapping
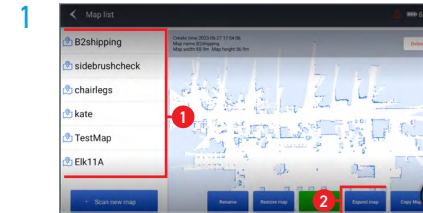- Map the entire space including behind accent walls, pillars, tables, etc.

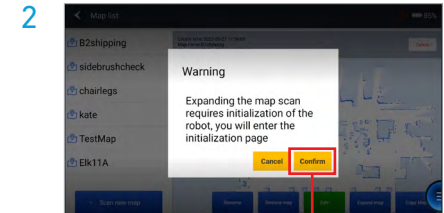Objects in map should be surrounded by a single, solid blue line

"Double vision" effect

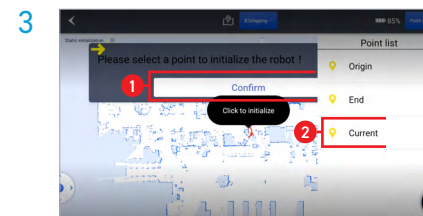**Map Extension** feature allows for additions to be added to maps.

When to use: dynamic environments(decorations, rearranged/ furniture removal, remodel, etc.) and for areas that are too big to scan in one map.
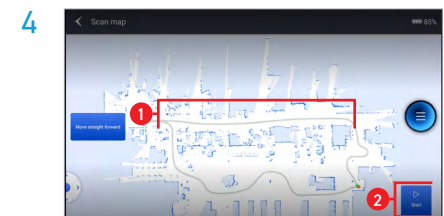
1

1. Select appropriate map
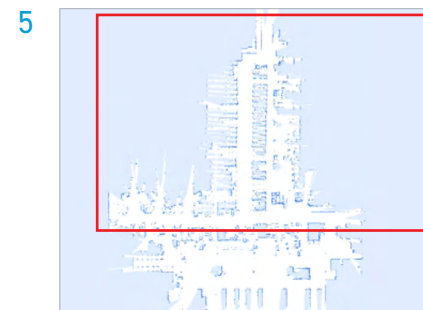2. Select "Expand map"

2

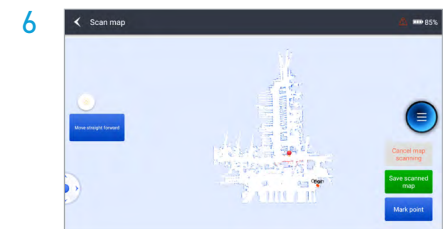

Localize if needed

3

1. Localize robot at current position
2. Select "Confirm"

4

1. Begin walking from the gray path
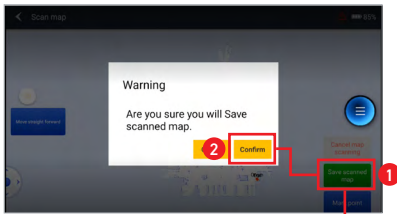2. Select "Start"

5

Scan around obstacles inside the perimeter

6
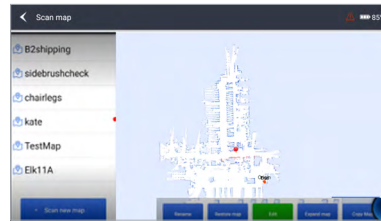

Inspect the map for quality and coverage

- ✗ No warping
- ✗ No ghosting
- ✗ No overlapping
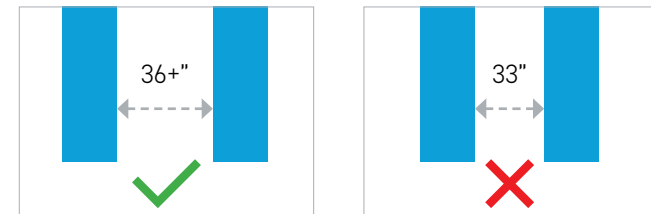
7

Save upon completion

8

Continue expanding the map until entire area is scanned

Best Practices For Creating Paths

(i) **Note:** Path sizes should not exceed 540 sq ft

When to use autonomous tasks

Operating Width is greater than 34 inches or 3 ft
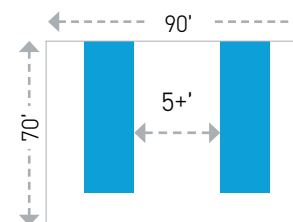

36+"   ✓   33"   ✗

(i) **Do not** use V40 in autonomous mode if the operating width is smaller than 34 inches

When to use Autocover & Realtime Autocover
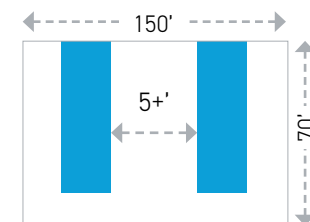
Operating width is 4 ft or greater	Operating width is 5 ft or greater
Use Autocover	**Use Realtime Autocover**

✓ Min operating width = 5ft

✓ Addressable cleaning area <10,000 sq ft

90'   70'   5+'

✓ Min operating width = 5ft

✓ Addressable cleaning area >10,000 sq ft

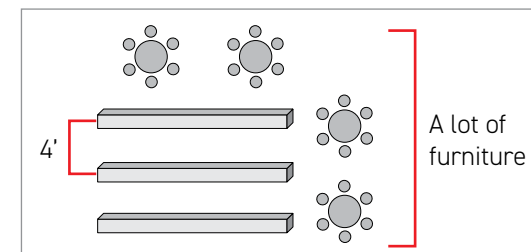150'   70'   5+'

(i) **Do not** use autocover or Realtime Autocover if operating space is smaller than 5 ft

When to use Teach Mode

Operating width between 5 ft and 3.2 ft, in irregularly shaped areas, or areas with a lot of furniture/ objects

Use Teach Mode

✓ Min operating width 5ft – 3.2 ft
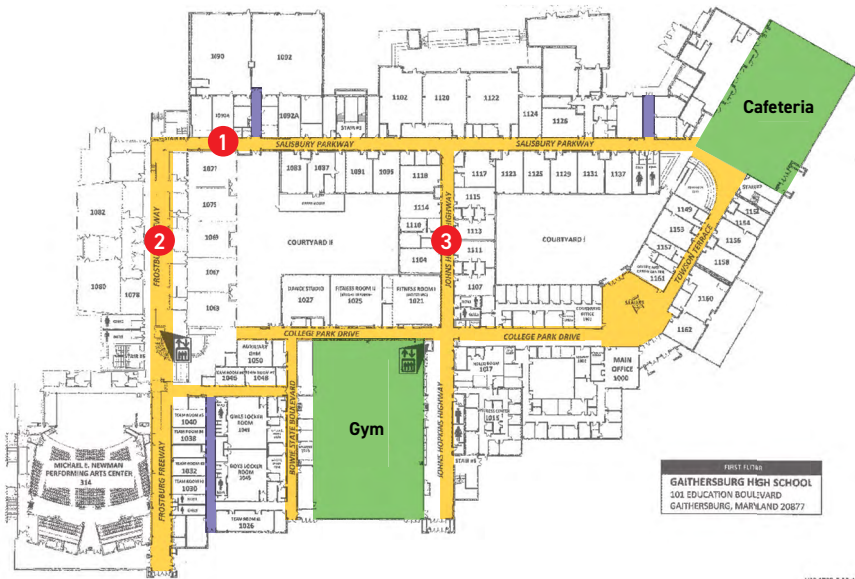

4'   A lot of furniture

(i) **Do not** use Teach Mode if operating space is larger than 5 ft

Paths In Practice – School Deployment

Example floor plan with appropriate / best pathing method for each section

Teach & Repeat used for narrow halls

Autocover used for wider halls

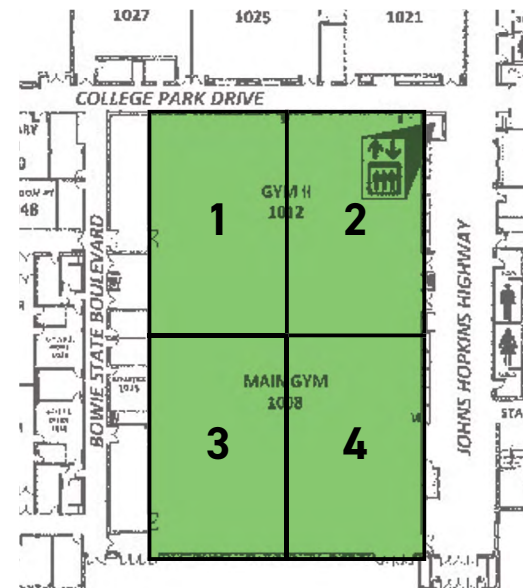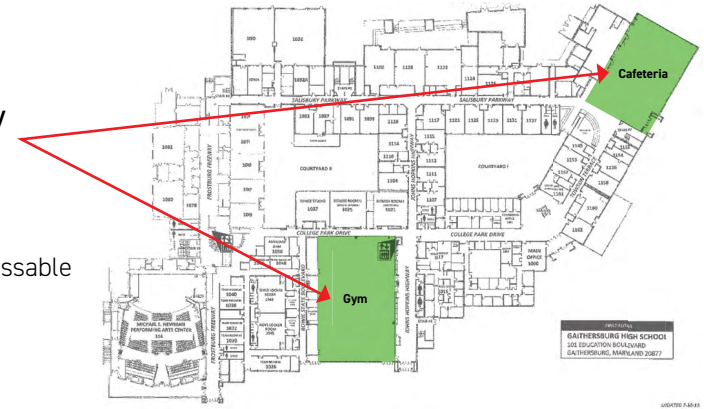**Realtime Autocover** used for large spaces

Paths In Practice – School Deployment

Where to use **Realtime Autocover**

- Gymnasium
- Cafeteria
- Great halls

Each individual hallway or space has

✓ Cleaning width greater than 5ft

✓ More than 10k addressable sq ft to be cleaned

Paths must be broken down into small sections.

Path names should identify location. Ex: gyml1, gym2, gym3, ect.

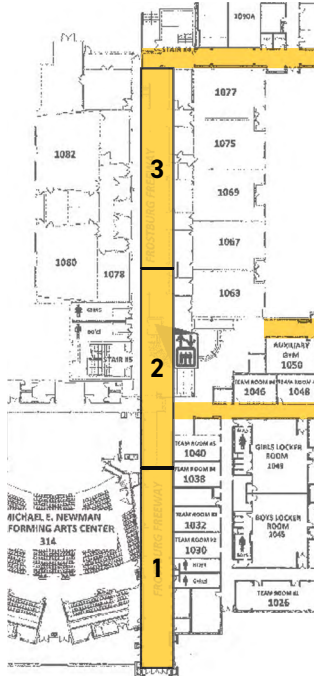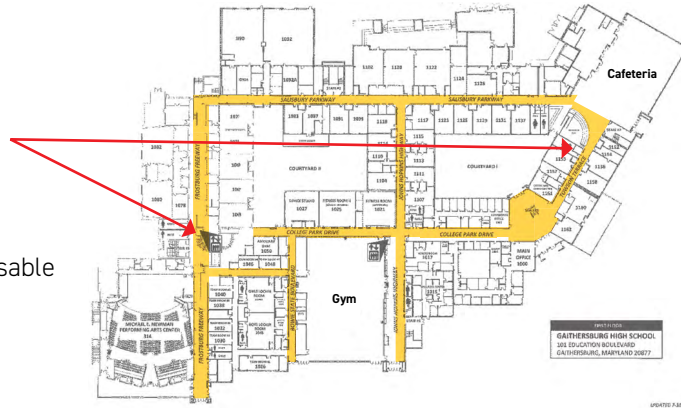All paths will be combined at the end

Paths In Practice – School Deployment

🟧 Where to use **Autocover**

- Large hallways
- Common areas
- Lobby
- Conference space

Each individual hallway or space has

✓ Cleaning width greater than 5ft

✓ Less than 10k addressable sq ft to be cleaned

Paths must be broken down into small sections.

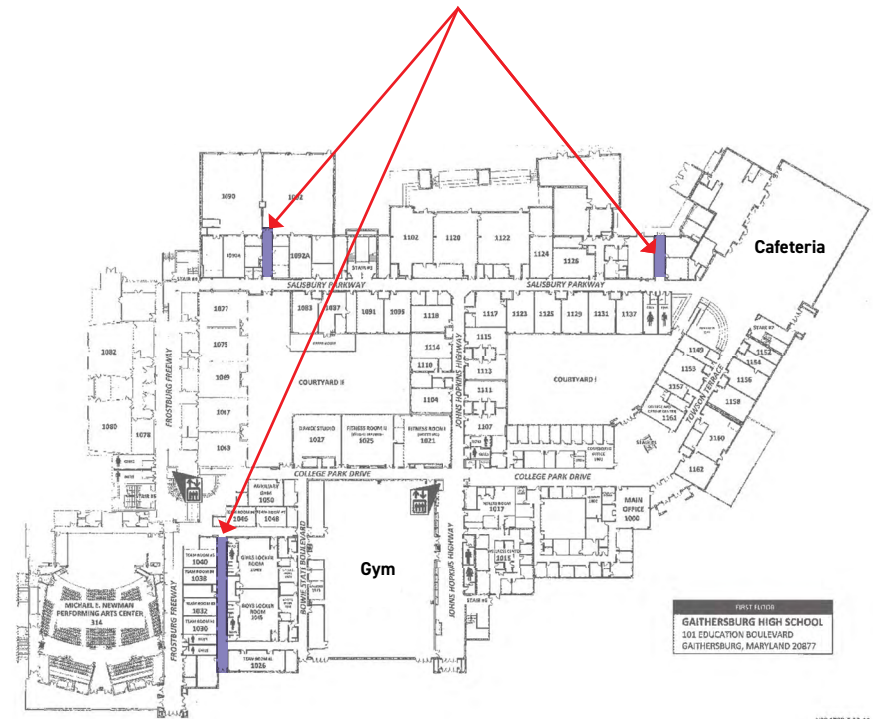💡 Path names should identify location. Ex: southhall1, southhall2, southhall3, ect.

🎯 All paths will be combined at the end

Paths In Practice – School Deployment

🟪 Where to use **Teach & Repeat**

- Narrow hallways
- Classrooms
- Auditoriums
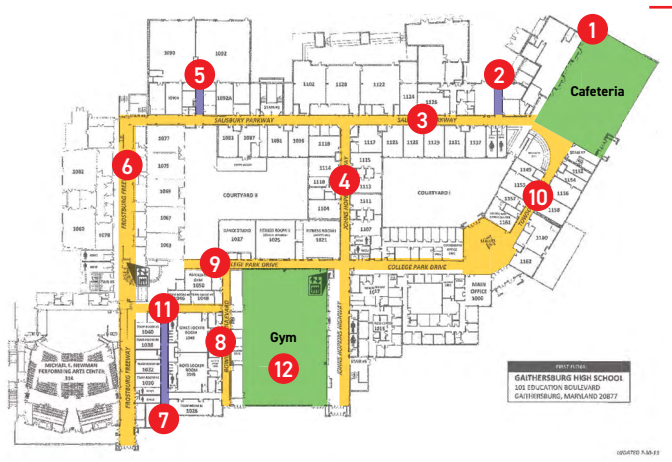- Libraries

Cleaning width < 3 ft

Paths In Practice – School Deployment
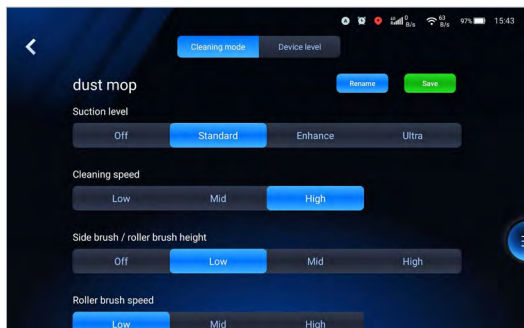
Combining Tasks

Tasks can be combined:

- In an order the customer wants
- In an order that begins with lowest traffic areas first
- In an order that starts and stops near charging dock

1. Start with cafeteria (closed to students after 3pm)

2-11. Traffick slows down (class ends, clubs end, etc.)

12. Last due to frequent use

Cleaning Settings

- ✔ Suction level: Standard
- ✔ Cleaning speed: High
- ✔ Side brush/roller brush: High
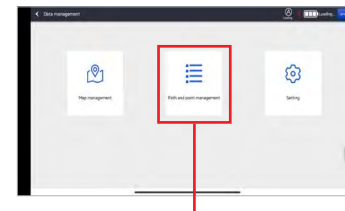- ✔ Roller brush speed: Low
- ✔ Dust mop: down

Creating Paths **(Admin Only)**

Paths are the routes V40 will take while executing tasks

> 💡 There are six ways to create cleaning paths but only 4 will be utilized: Autocover, Realtime autocover, Teach and repeat, and Combine new path

1

Select "Path and point management"

Teach Mode allows the user to teach the path V40 will take to clean, and the robot will repeat. Note: V40 will miss 100% of areas not covered during path creation
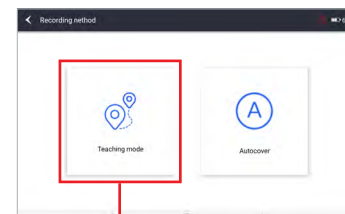
> 💡 **Best Practice**
> - ✔ Use Teach Mode when mapping less than 5,000 sq ft
> - ✔ Operating width between 40-36 inches
> - ✔ Where to use: small aisles, small hallways, small rooms with lots of furniture
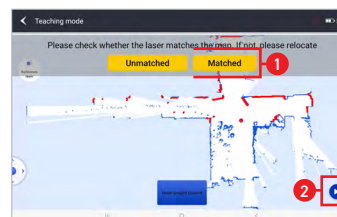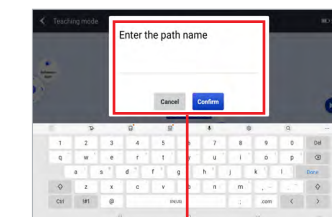
1

1. Select "+ New path or point"
2. Select "Record new path"

2
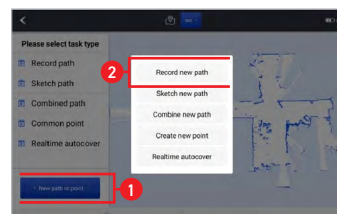
Select "Teaching Mode"

3

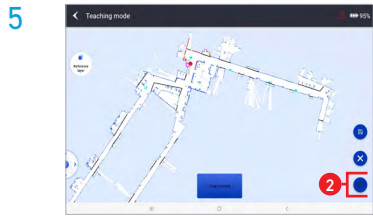1. Select "Match" if lasers are aligned
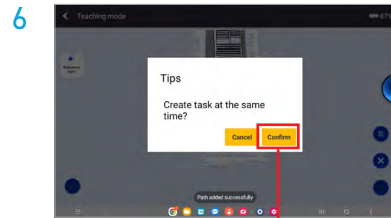2. Select ▶

4

Enter a path name then "Confirm"

Do not include spaces in the map name

> ℹ **Note:** The path name should identify where the path is programmed i.e., "southhallway" or "lobby"
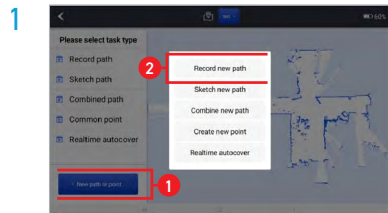
5

1. Walk the path to be cleaned

2. Select 🖫

Autocover feature allows V40 to generate cleaning tasks autonomously, through boundary mapping. V40 will clean the interior in a Zamboni pattern after it is taught the perimeter

💡 **Best Practice**

✓ Use Autocover when mapping less than 10,000 sq ft

✓ Operating width greater than 4 ft

✓ Where to use: medium sized aisles, medium sized hallways, medium sized rooms with limited furniture

1

1. Select "+ New path or point"

2. Select "Record new path"

3

1. Select "Match" if lasers are aligned

2. Select ▶

Note: The path name should identify where the path is programmed i.e., "southhallway" or "lobby"

6

Select "Confirm"

*There will be gaps in the map where noise is visible

2

Select "Autocover"

4

Enter a path name then "Confirm"

Do not include spaces in the map name

5

1. Walk the perimeter of the area being cleaned

2. Select 🖫

Autocover feature allows V40 to generate cleaning tasks autonomously, through boundary mapping. V40 will clean the interior in a Zamboni pattern after it is taught the perimeter
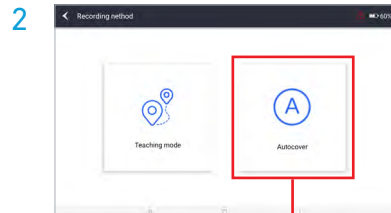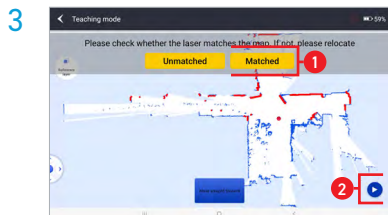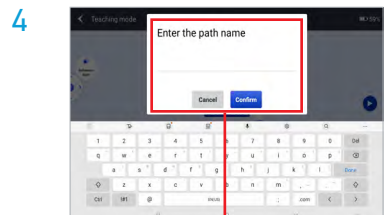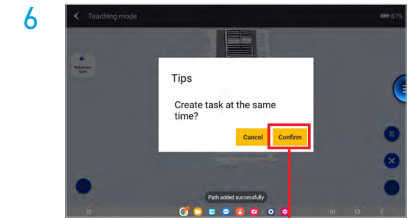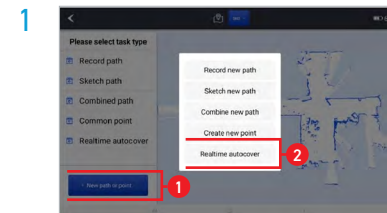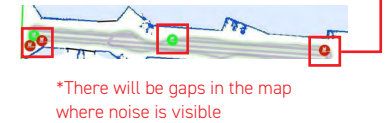
💡 **Best Practice**

✓ Use Autocover when mapping more than 10,000 sq ft

✓ Operating width greater than 5 ft

✓ Where to use: large aisles, large hallways, large rooms with limited furniture

1

1. Select "+ New path or point"

2. Select "Realtime Autocover"

3

1. Slide screen over so marker hovers over area

2. Select add point 📍

6

Select "Confirm"

⚠ Delete and remake path if multiple start and end points are populated

*There will be gaps in the map where noise is visible

2
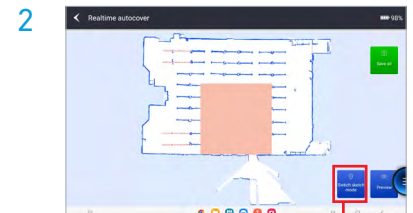
Select "Switch sketch mode"

4
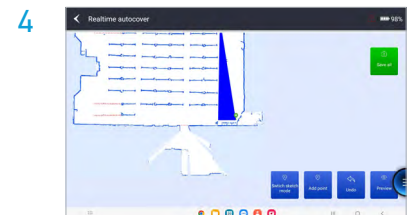
1. Slide screen over to expand box

2. Select 'Add point'

3. Continue until area is encased

5
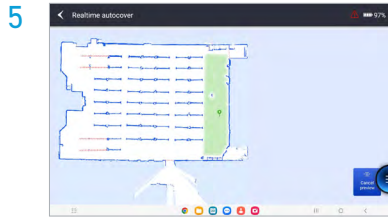
1. Preview the task before save to ensure it is to your liking

6
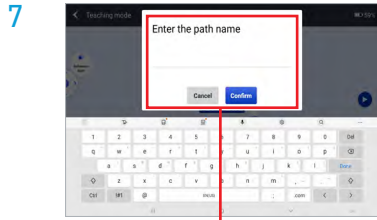
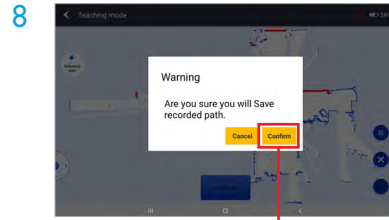Select "Save all" to save

ⓘ Reduce path size if paths aren't filled in correctly

7

Enter a path name then "Confirm"

Do not include spaces in the map name

8

Enter a path name then "Confirm"

*There will be gaps in the map where noise is visible

ⓘ **Note:** The path name should identify where the path is programmed i.e., "southhallway" or "lobby"

**New point** allows user to assign navigation, initialization, or charging points
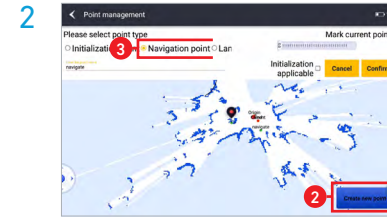
Navigation Point

🎯 When the time comes, add navigation point to combo task
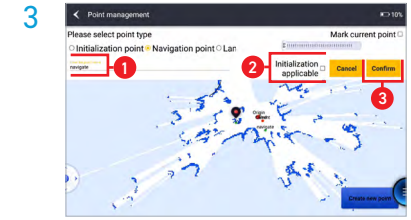
When to use:

- To drive over a section that shouldn't be cleaned to get to a section that should be cleaned
- Direct V40 to stop (upon task completion) at a different location

1

1. Select "+ New path or point"
2. Select "Create new point"

2
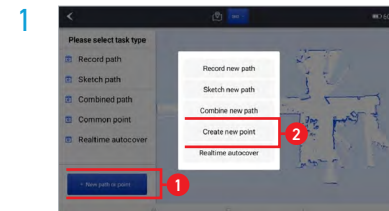
1. Rotate the screen or move V40 to the location V40 should navigate to
2. Select "Create new point"
3. Select "Navigation point"

3

1. Name the point
2. Uncheck "Initialization applicable"
3. Select "Confirm"

Initialization Point

Enables V40 to determine its location within a given map

1 Push to an area with permanent, distinguishable features
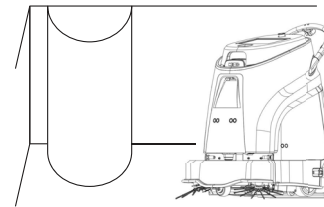
✓ Pillar

✓ Corner or hallway

✓ Fixed furniture

⚠️ **Avoid** areas with no distinguishable features, floor-to-ceiling glass walls, frequently rearranged furniture, or large amounts of sunlight

2

1. Select "+ New path or point"
2. Select "Create new point"

2
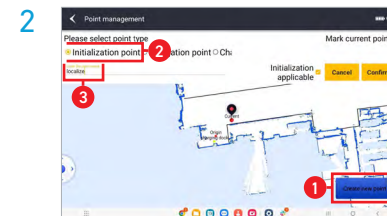
1. Select "Create new point"
2. Select "Initiation point"
3. Name the point

3
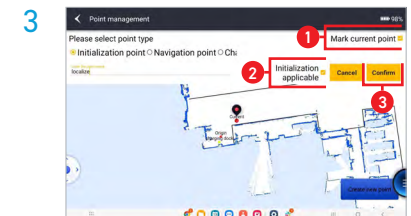
1. Check "Mark current point"
2. Ensure "Initialization applicable" is checked
3. Tap "Confirm"

Ramps

Validated only for use with:

- V40
- HW v3.7 and 3.7.3
  (units from initial POs x150)
- SW v3-22-4 DDP

Note: this is for **autonomous travel** up and down ramps **ONLY**. Autonomous vacuuming tasks should NOT include cleaning ramp areas (suction only is ok, we just want to avoid any slipping risk).

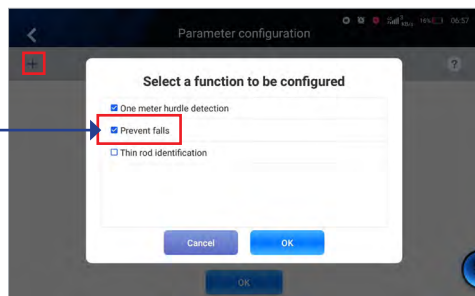## Two map edits required:

(they should be the same shape and size layered on top of each other)

1. Slope Mark
2. Custom Area

Only select "prevent falls"

 = actual ramp
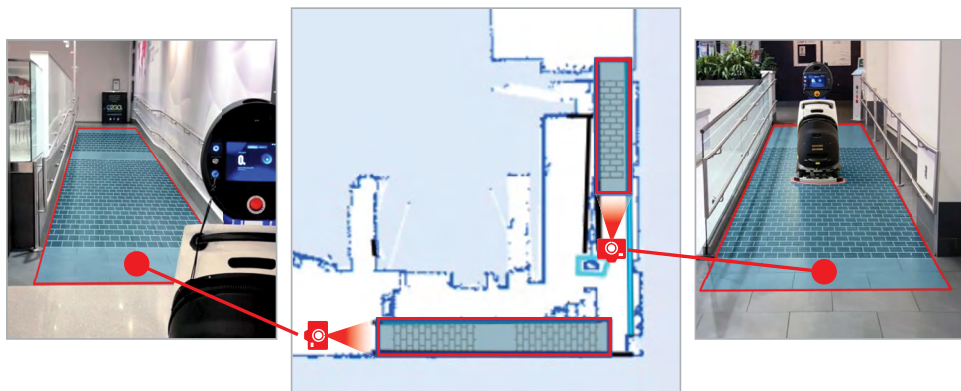
Must extend slope mark and custom area at least 2 feet beyond both ends of all ramps…

Task Validation

Goals

✔ Ensure V40 cleans desired area well

✔ Ensure V40 cleans entire addressable area

✔ Ensure V40 doesn't exhibit unusual behavior

Objectives

☐ Observe V40 executing task

☐ Note any issue

☐ Act accordingly

Clean Desired Area Well

V40 Should:

✔ Remove soil

Before   **After**

✔ Clean spills

Clean Desired Area Well

V40 Should Not:

✖ Leave soil after passing

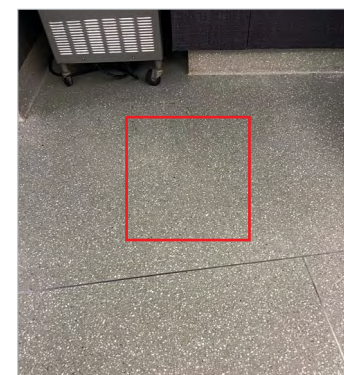✖ Leave streaks or puddles of water behind

Puddle left behind   **Before**   **After**

Remedies:

☐ Adjust cleaning settings

☐ Dust mop area

☐ Clean squeegee blades

☐ Program task with less turns

Task Validation

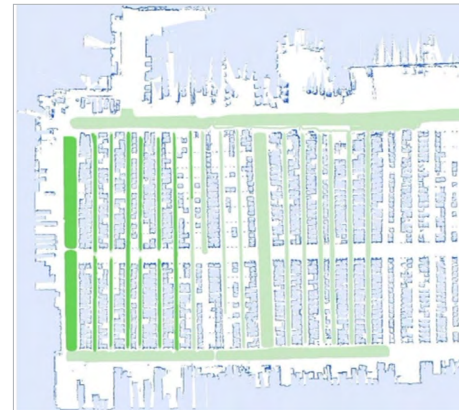## Entire Addressable Area Cleaned

V40 Should:

✔ Complete tasks at a 95% rate or better
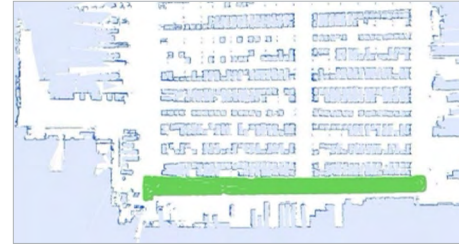
V40 Should Not:

✖ Have task completion rate below 90%

Remedies:

☐ Reprogram task using teach & repeat

☐ Remove obstacles

☐ Restart V40 (if S50 stopped mid task with no obstacles and ample space to clean)

Task Validation

Unusual Behavior

V40 Should:

✓ Clean with no interruptions

V40 Should Not:
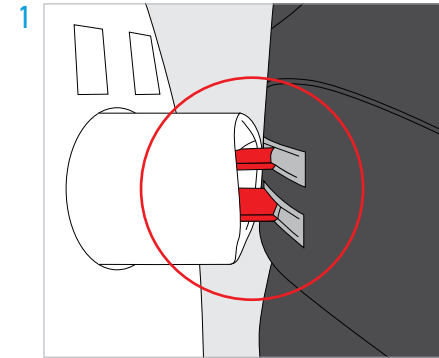
✗ Studder or stop for false obstacles

✗ Drive in circles around virtual walls

✗ Hit obstacle

✗ Complete a task without cleaning (except when programmed to do so)
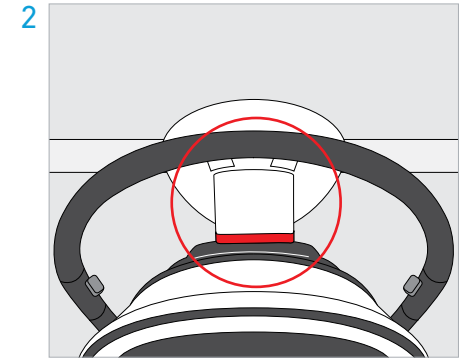
Remedies:

☐ Restart V40

☐ Reprogram task using teach & repeat

☐ Edit base map

Charging Dock Setup Continued (If applicable)
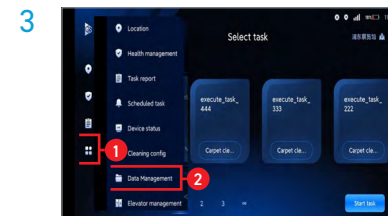
Enable charging dock to be localization point
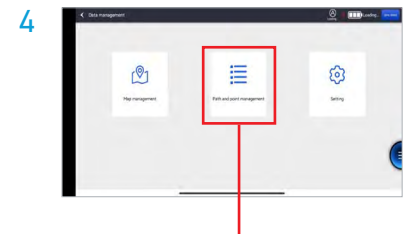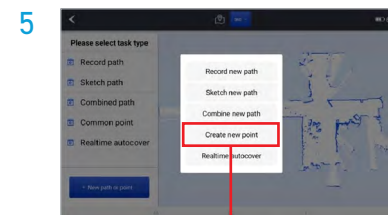

Align V40 with electrodes

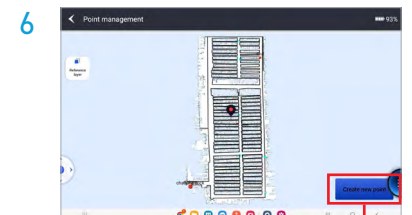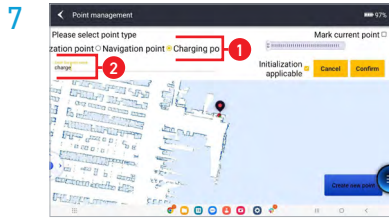Connect V40 with electrodes

1. Select menu icon
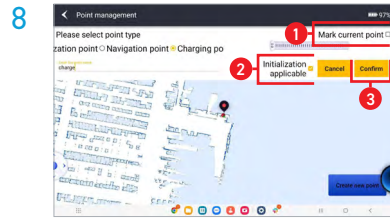2. Data management

Select "Path and point management"

Select "Create new point"
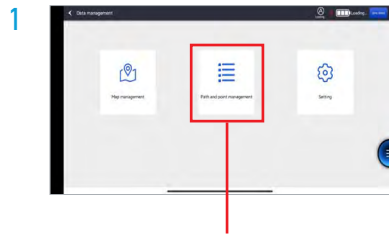

Select "Create new point"

7

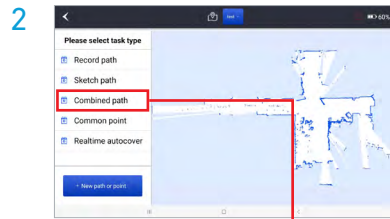1. Select "Charging point"
2. Name the point

8

1. Ensure "Initialization applicable" is checked
2. Check "Mark current point"
3. Tap "Confirm"

Upon validating every task, be sure to delete the tasks from the **Combined Path screen**. Doing so will declutter the task execution screen.

1

Select "Path and point management"

2

Select "Combined path"

3
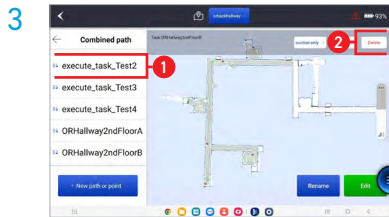
1. Only select tasks that begin with "execute_task_"
2. Select "Delete"
3. Repeat steps until all tasks have been deleted

Combined Path allows the user to combine tasks to be executed consecutively.

🎯 Continue editing map upon completing this step

1
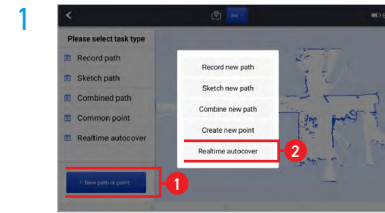
1. Select "+ New path or point"
2. Select "Realtime Autocover"
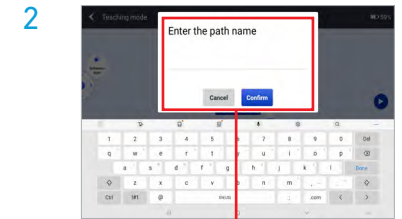
2

Enter a path name then "Confirm"

Do not include spaces in the map name

ℹ **Note:** The path name should identify where the path is programmed i.e., "southhallway" or "lobby"

3

Select "Add task"

4
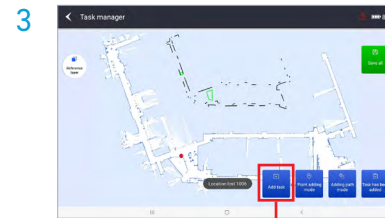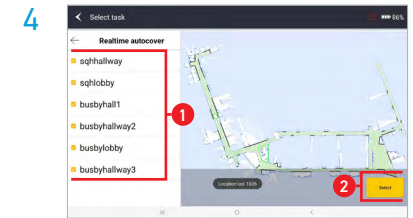
1. Select tasks
2. press "select"

ℹ Add different tasks by selecting back arrow next to "realtime autocover" and follow the steps listed above

5

Select "Save all"

6

Select "Confirm"

Map Editing (Admin Only)

The map editor has a total of 13 edit functions but not all are applicable to every location. The functions designated as "required in all maps" **must** be used where applicable to ensure the safety and proper functionality of the robot.

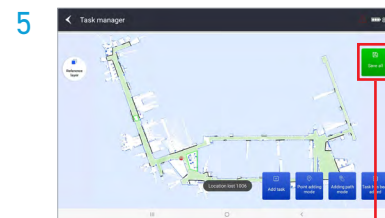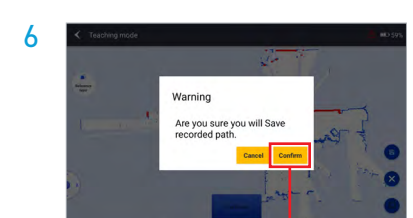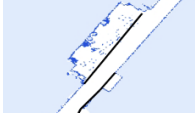| Required In All Maps			
Edit mode	**What does this feature do?**	**Where should it be used?**	
Virtual Wall Edit Required in all maps	Prohibits the robot from driving through or closely around undesired area; barriers for where the robot can drive. Virtual walls should be placed at least 3 feet away from fall-risk areas (stairwells, escalators, elevators, etc.)	• Stairs • Escalator entrance/exits • Elevator entrances • Doors (automatic) • Areas exposed to strong sunlight • Glass flooring • Restricted areas	
Highlighted area Required in all maps	Beacons for the robot to recognize while executing tasks. The highlighted area must be a permanent obstacle that doesn't change in appearance or have the space around it changed.	Pillars, fixed furniture (ex. help desk, bench screwed into floor), unique corner of a room Add highlighted areas every 50 sq ft.	
Original map Recommended in all maps	**Clear area:** an eraser used to remove unwanted or inaccurate obstacles from the base map.	Should be used when non-permanent obstacles or people are scanned into the site map	

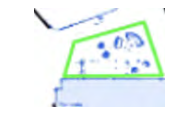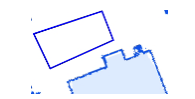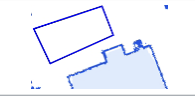| Edit mode	What does this feature do?	Where should it be used?	
Glass Wall	Filters the noise refracted from the sensors scanning through glass walls. Will reduce risk of accidents.	• Glass walls	
Temporary booth area	Allows the robot to maneuver around temporary obstacles in its path. The vacuum will clean that area once the obstacle is removed.	• Around displays, signage, or stands • AVOID USING – NOT TESTED	
Carpet area	The robot will avoid the area with carpet if there is room around itIf there is no room, the vacuum will pause cleaning to drive over area	• Any areas where there is carpet • VIRTUAL WALLS AROUND CARPETED AREA RECOMMENDED INSTEAD	
Slope mark	This effectively tells the vacuum that it should expect a change in horizontal orientation, and that it's safe to proceed. This will also cause the vacuum to reduce its speed while ascending and descending down slopes.	• Ramps or sloped floors	
Custom Area	Works in conjunction with slope mark and allows vacuum to safely ascend and descend ramps or slopes	• Ramps or slopes	

1

Select "Edit"

2
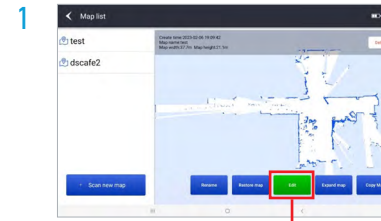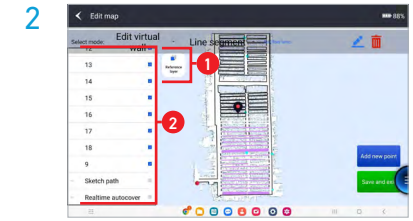
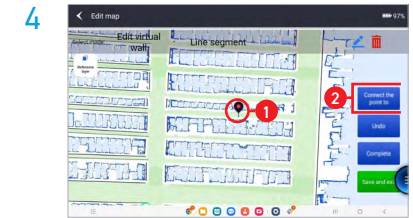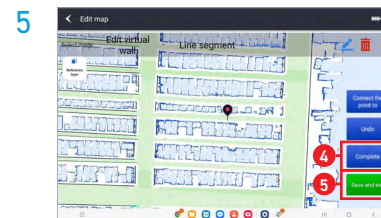1. Select "Reference layer"
2. Check all paths created

3
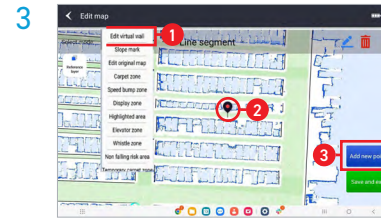
1. Select "Edit original map"
2. Slide screen so marker hovers over area
3. Select "Add new point"

4

1. Drag to other side of area being edited
2. Select "Connect the points"
3. Continue until entire area is encased

5

4. Select Complete to finish
5. Select "Save and exit"

6
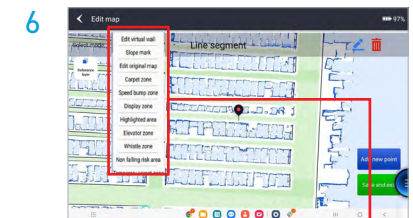
Repeat steps for all editing functions needed

Paths should populate where noise was erased
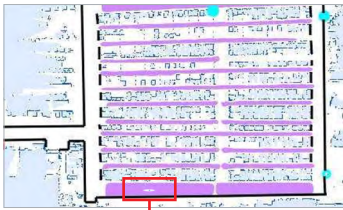
Before	**After**

Refresh the task if tasks aren't populated immediately

1

Select "Path and point management"

2
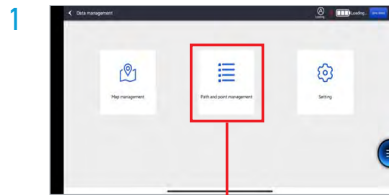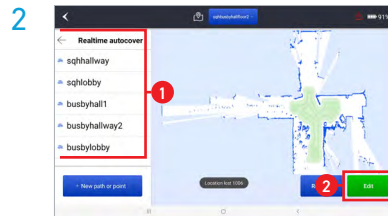
1. Select the task
2. Select edit

1

Preview the task

2
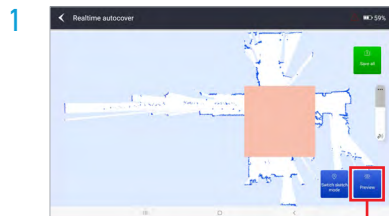
1. Paths should be populated
2. Cancel preview
3. Then save the task

7. Autonomous Operation

Tasks can be executed under "admin" or "user" login.

"User" Login

> ⓘ "User" can only access : task execution, task report, manual operation, health status, and network settings

1
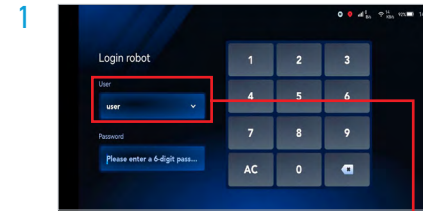
Login under "user" with password **123456**

2

Select "Complete"

3
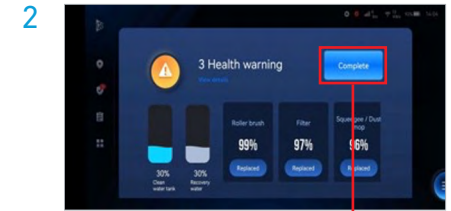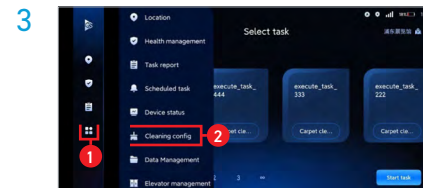
1. Select menu icon
2. Select "Cleaning config"

4
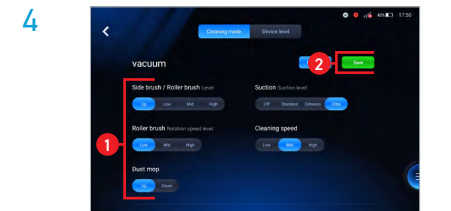
1. Adjust settings (Admin only)
2. Select "Save"

> ⓘ Adcleaningmin" can set default setting

5
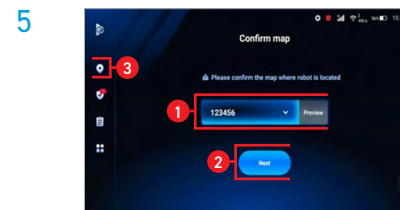
1. Select appropriate map
2. Select "Next"
3. Select location icon

6
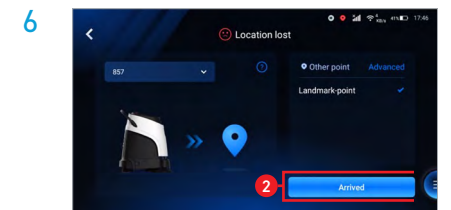
1. Move to the origin point
2. Select "Arrived"

7

1. Select task
2. Select mode
3. Select "Start task"

8

1. Pause cleaning
2. Cancel task
3. Adjust cleaning settings

8. Manual Operation

V40 can be used manually to clean tight spaces or spot vacuum

1

Push to location

2

Select semi-circle

3

Select manual operation

4

1. Select mode
2. Select

Emergency Stop Button

Press the emergency stop button to immediately stop the unit

ⓘ Should be used in case of emergencies or accident prevention

To move the unit after pressing the e-stop button

1. Twist clockwise

2. Pause task

3. Press the semi circle

Select manual operation

The wheels will unlock then the unit can safely be moved

ⓘ **Don't try to move the unit immediately after pressing the e-stop button to prevent harm to oneself or the robot**

Note: Owner should take reasonable steps to warn individuals of use of the machine on the premises as necessary or required by law.

Other Features
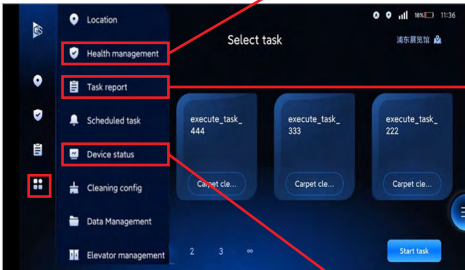
Health Status
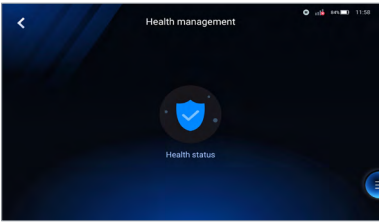
Errors or warnings notification log

Task Report
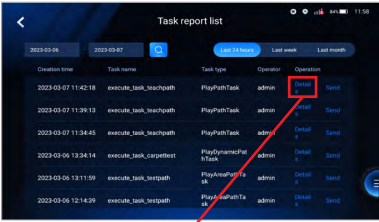
Daily use log: select "Details" to view
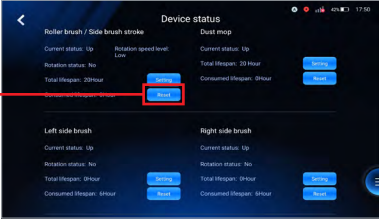
Select "Reset" once consumables have been changed

Device Status

Consumables check for brushes or pads, squeegee, and filters

Slide down

3 screen taps to pause task

Rotate display screen
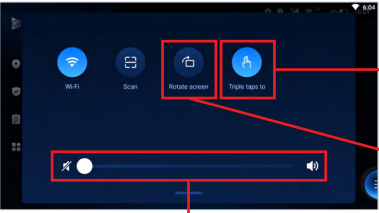
Increase/ decrease volume

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9. Maintenance & Best Practices

> **Best Practice**
> ✓ Ensure the V40 is OFF while performing maintenance tasks
> ✓ Perform these maintenance tasks after every use
> ✓ Ensure V40 is left on leveled ground when wheels are not locked

After Use

Wear gloves and a mask while performing these tasks

1.

1. Open top lid
2. Turn V40 off

2

1. Open dust cover
2. Slide Dust Bag out
3. Remove plastic clamp and dump contents
4. Slide clamp back on
5. Reinstall upon completion

3.

1. Open side door
2. Slide Hopper Tray out and dump
3. Slide Roller Brush out to check for lodged debris
4. Reinsert upon completion

4.

1. Push down then slide dust mop out
2. Detach pad from dust mop
3. Rinse pad with water
4. Allow to dry before reinstalling

5.

Wipe front and rear sensors with dry microfiber cloth

6.

Plug in to charge or

DC Output   AC Input

Send back to charging station:
1. Press the semi circle
2. Select "Back to charging dock"

Weekly

1.

1. Remove HEPA filte
2. Clean filter with soft bristled brush
3. Reinstall upon completion

2

1. **Snake suction house to dislodge debris**
2. **Wipe dust box with damp towel**

3.

1. Remove hopper tray
2. Rinse with warm water until dust is removed
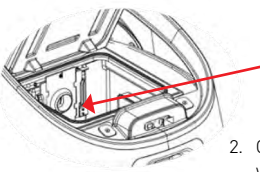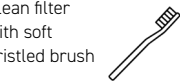3. Allow to dry before reinserting
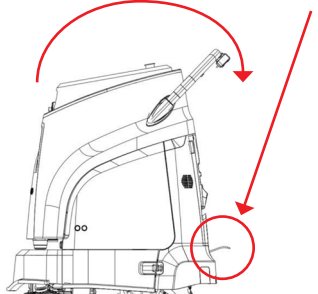
4.

ⓘ **With help from another person**

1. Extend the foot pedal
2. Tilt V40 backward
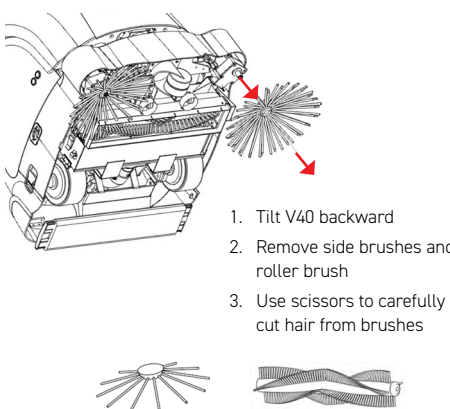
5.

1. Tilt V40 backward
2. Remove side brushes and roller brush
3. Use scissors to carefully cut hair from brushes

6.

Front Wheel
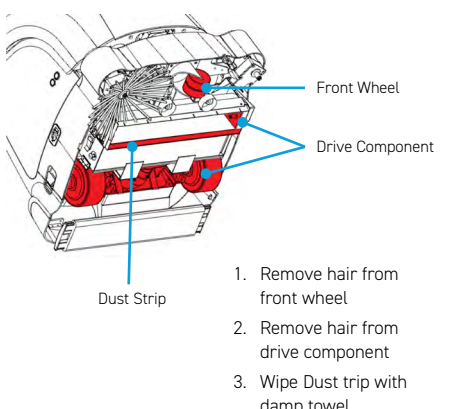
Drive Component

Dust Strip

1. Remove hair from front wheel
2. Remove hair from drive component
3. Wipe Dust trip with damp towel

Best Practices For Cleaning Settings

ⓘ Incorrect cleaning settings will impact cleaning effectiveness

High Pile Carpet

Suction Level	Standard
Cleaning Speed	High
Side brush/roller brush	High
Roller Brush Speed	Low
Dust Mop	Up

Low Pile Carpet

Suction Level	Standard
Cleaning Speed	High
Side brush/roller brush	High
Roller Brush Speed	Low
Dust Mop	Up

Do not use the dust mop on carpet

Hard Surfaces

Suction Level	Standard
Cleaning Speed	High
Side brush/roller brush	High
Roller Brush Speed	Low
Dust Mop	Down

Best Practices For Brush Height

Ideal Brush Height

Dust strip should be paralleled to the floor

Point where dust strip contacts floor
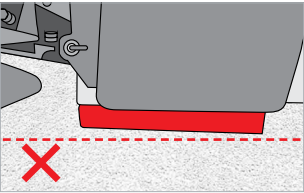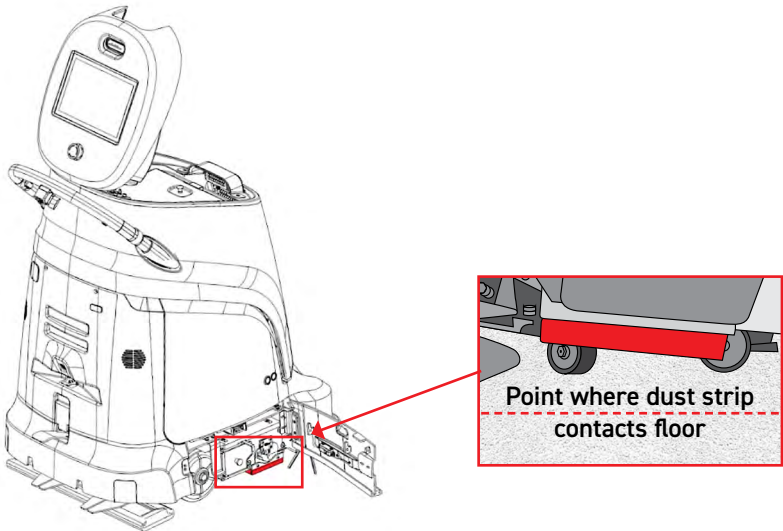
Gap between dust strip and floor

✗ Roller brush bristles unable to penetrate carpet fibers

✗ Dust/debris directed toward vacuum by side brushes not caught by dust strip
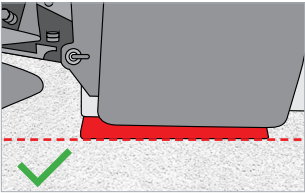
Just right
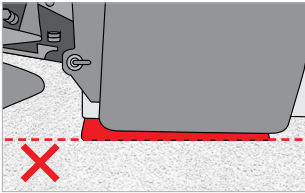
Too close to the floor

✗ Unnecessary pressure from roller brush may damage floor or machine

✗ Dragging dust strip may cause tearing

10. Troubleshooting

Contact Support once the following actions have been taken with no resolution.

Problem	Possible Cause	Solution

For questions or support, contact us-support@softbankrobotics.com

For questions or support, contact us-support@softbankrobotics.com

11. How To Order Consumables

Consumables can be ordered through https://us-store.softbankrobotics.com/

Annual replacements calculation: (weekly hourly use * 52)/ lifespan

(20 × 52)÷150=7

Biannual replacements calculation: ((weekly hourly use * 52)/2)/ lifespan

((20 × 52)÷2) ÷ 150 = 3.5

Usage Level	Consumable	Lifespan (Hours)	Biannual Replacements	Annual Replacements
Low 2-3x Weekly (4 Hours)	Side Brush	300	1	2
	Roller Brush	300	1	2
	Dust Bag	300	1	2
	HEPA Filter	500	1	1
	Dust Mop Pads	150	2	4
Medium 4-5x Weekly (4 Hours)	Side Brush	300	2	4
	Roller Brush	300	2	4
	Dust Bag	300	2	4
	HEPA Filter	500	1	2
	Dust Mop Pads	150	3.5	7
High Daily (6+ Hours)	Side Brush	300	3.5	7
	Roller Brush	300	3.5	7
	Dust Bag	300	3.5	7
	HEPA Filter	500	2	4
	Dust Mop Pads	150	7	15

* Lifespans vary based on location

Replacing Consumables

If a desired clean isn't being achieved, ensure the consumables are in good condition. Maximize performance by replacing consumables regularly

New   Time to Replace

Side Brushes

Lifespan: 300h*

Replace when bristles are frayed or missing

Roller Brush

Lifespan: 300h*

Replace when black or blue bristles are same height as orange bristle

Pad

Lifespan: 150h*

Replace when color has completely darkene

Dust Bag

Lifespan: 300h*

Replace when the bag is discolored or torn

HEPA Filter

Lifespan: 500h*

Replace when the filters have darkened in color

* Lifespans vary by site

GAUSIUM | **SoftBank** Robotics

SoftBank Robotics Support

Phone **1-844-737-7371**
Email **us-support@softbankrobotics.com**
Live support **7am - 9pm EST, Monday - Friday**