Symbot 1.0 Traveler

BOT REMOVAL/QUICK TURN (THIS PAGE - MUST BE COMPLETED)
MAINTENANCE NEEDED (REAR PAGE - IF REQ'D)

System Operator:

Bot Removal Data

BOT#		Pull Score		Location (which level and where - deck, aisle, charger, etc.)		Date/Time:	
# of Inductions (Last 2 Weeks)				# of Removals (Last 2 weeks)			

REASON FOR REMOVAL

From Qlik, copy/paste the Detailed Description of the Alarm(s) from the Pull Score or Out of Structure Pull Score sheet on the Bot Diagnostics report

IF APPLICABLE - NON PULL SCORE REASONS (System Flag, Disconnect, etc.)

Bot Lift Operator - Quick Turn/Bot Removal/PM:

SECTION 1 - BOT CLEANING

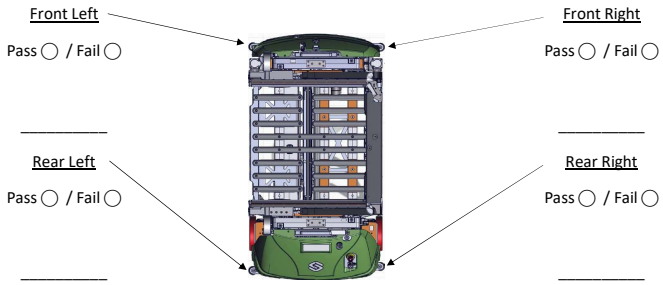
Remove case (if applicable)	Complete ◯	Cleaned all Sensors (Lens Wipe)	Complete ◯	Cleaned Charge Pad Plates (bot off)	Complete ◯
Cleaned BOT Covers	Complete ◯	Cleaned all Cameras (Lens Wipe)	Complete ◯	Compressed air to dislodge debris	Complete ◯
Cleaned Payload Bay	Complete ◯	Cleaned Pulleys and Rollers	Complete ◯	Cleaned Pick/Justification Arms	Complete ◯

SECTION 2 - PHYSICAL INSPECTION

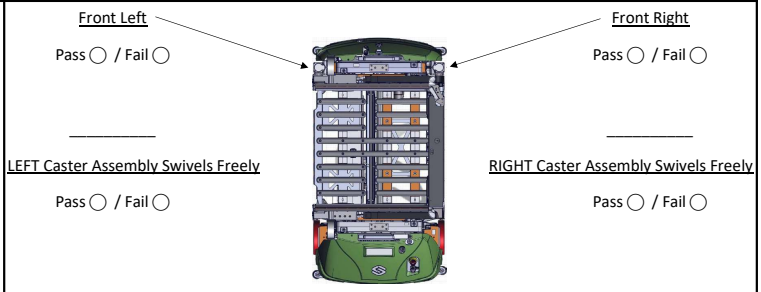
Verify Extension Home Alignment	Pass ◯ / Fail ◯	Verify E-stop button is functional	Pass ◯ / Fail ◯
Inspect Junction Box for damage or Wire Contact	Pass ◯ / Fail ◯	Inspect Rear and Front Bumper for damage and straightness	Pass ◯ / Fail ◯
Inspect covers for damage that interferes with bot operation	Pass ◯ / Fail ◯	Verify payload bay is level	Pass ◯ / Fail ◯
Inspect lift tower for nominal spacing, and verticality/parallelism	Pass ◯ / Fail ◯	Inspect pop-up trays and pop-up tray bolts for damage	Pass ◯ / Fail ◯
Inspect Guide Rollers for proper height from rail surface	Pass ◯ / Fail ◯	Inspect Justification Arms for damage	Pass ◯ / Fail ◯
Inspect Camera Brackets for damage and parallelism to deck	Pass ◯ / Fail ◯	Inspect Pick Arms for damage	Pass ◯ / Fail ◯

SECTION 3 - WHEEL/ SUSPENSION INSPECTION

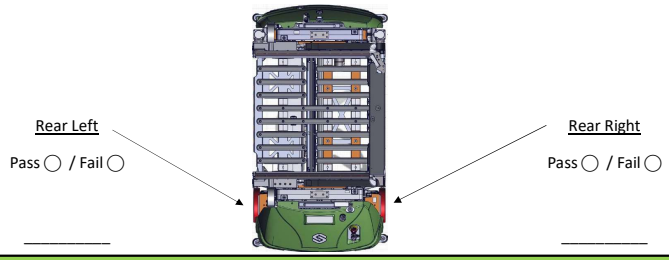
Guide Wheel Diameter ≥ 48mm



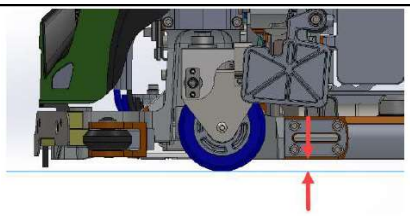
Caster Wheel Diameter ≥ 82mm (3.23")



Drive Wheel Diameter ≥ 195mm (7.67")



Ride Height Distance Check



Ride Height: 8mm ± 1.0mm
(12mm ± 1.0mm for new wheels)

Pass ◯ / Fail ◯

SECTION 4 - BELT/CHAIN INSPECTION

1. Checking a used belt in a bot (without loosening it), if it falls within the "Used Range", do not touch it. 2. Used belt that has been re-installed for some reason should be tensioned to "Used Re-Tension" 3. "New" refers to newly installed belts/cables, it does not refer to belts/cables on newly received bots onsite.

Axis + P/N	New	Used Range	Used Re-Tension	Measurement Readings & Condition				
Lift Tower Belt - 100-07350	55 ± 1Hz	44-55Hz	45Hz ± 1Hz	Front:		Rear:		Belt Damaged? Yes ◯ / No ◯
Front Lift Cables - 400-01361	80 ± 5Hz	75-85Hz	80 ± 5Hz	Left Side:		Right Side:		Cable Damaged? Yes ◯ / No ◯
Rear Lift Cables - 400-01361	80 ± 5Hz	75-85Hz	80 ± 5Hz	Left Side:		Right Side:		Cable Damaged? Yes ◯ / No ◯
Extension Belt - 906-00616	47 ± 1Hz	36-47Hz	37Hz ± 1Hz	Front:		Rear:		Belt Damaged? Yes ◯ / No ◯
Justification Belt- 906-00625	41 ± 1Hz	40-42Hz	41 ± 1Hz	Front:		Rear:		Belt Damaged? Yes ◯ / No ◯

If **any** failed tests occur, the bot must be red tagged and sent to Maintenance for further troubleshooting!

Maintenance Technician:				
RECENT SERVICE/ ACTION RECORD				
Tech: PRINTED NAME	**DATE**	**TIME**	**WORK ORDER**	**REMOVED / TRIAGED / CLEANED**

BOT TROUBLESHOOTING CHECKLIST					
1	Check for lift bearing damage and belt skip		22	Clean CED/CYD/COH sensors	
2	Raise payload bay		23	Put locking pins in	
3	Install fall protection pins		24	Connect to Symdart	
4	Inspect lower lift bearings and lift motor drive belt		25	Run baseline test to verify all case handling components work	
5	Inspect bump stops (903-00393) for wear, if there is wear on any replace all four		26	Adjust CED/CYD sensors to the middle of the square holes on the calibration jig	
6	Inspect holding bolt on lift cables, tighten if needed		27	Calibrate sensors	
7	Inspect lift tower guide rollers for wear, verify they aren't loose or missing		28	Run pick/place test	
8	Check for missing payload bolts		29	Take out locking pins	
9	Thoroughly wipe down everything under payload bay		30	Run Caster test and clean/inspect wheels	
10	Verify justification belt (906-00625) is at 40-42 Hz		31	Clean front bumpers/guide wheels and replace if worn	
11	Loosen and retighten coupling screw on cross shaft		32	Inspect and clean Front LFS (410-02562) with a clean dry cloth	
12	Remove fall protection pins		33	Ensure Traction can cables are tight	
13	Lower payload bay back down.		34	Run Traction Drive test and clean/inspect traction wheels (185-00652)	
14	Check tensions of all lift cables, ensure each cable is at 75-85 Hz		35	Clean rear bumpers (185-00488 & 185-00023)/guide wheels (185-00610) and replace if worn	
15	Check tensions of lift belts (100-07350), ensure belts are at 44-55 Hz on pick side		36	Inspect and clean rear LFS (410-02562) with a clean dry cloth	
16	Check for gap in extension axis and wear in extension assembly bearings		37	Clean slot sensor (310-00025) with a clean dry cloth, verify it is facing down	
17	Check tensions of extension belts, ensure belts are at 36-47 Hz		38	Clean charge pads	
18	Verify both J-arms reach the home position and have full range of motion		39	Run LFS test 3-5 times, replace LFS (410-02562) or ECU (410-02774) if necessary	
19	Turn on bot		40	Disconnect bot	
20	Thoroughly wipe down bot, blower can be used to get dust that is in hard-to-reach spots		41	Turn bot off	
21	Lubricate (908-00137) all Linear Rails		42	Verify stepper or 3-axis lights aren't on, this could indicate a bad PDU (410-02540)	

COMMONLY USED PART NUMBERS							
Traction Drive Wheel	185-00652	Ultracapacitor Module	365-00905	Floating Bumper (Non-Pick Side)	185-00488	PDU Assembly	410-02540
Guide Wheel	185-00610	Lower Rear Suspension Link	100-07106	Guide Roller Assembly Non-Pick Side	410-02702	Network Bridge	360-00051
ESD Caster Wheel Assy (Blue)	410-02864	Caster Assembly Non-Pick Side	410-02713	Guide Roller Assembly Pick Side	410-02703	Front Cover Assembly	410-02657
Caster Wheel Assy (Grey)	410-02534	Caster Assembly Pick Side	410-02712	Fixed Bumper (Pick Side)	185-00023	Rear Cover Assembly	410-02658
Front Bumper	195-04676	Left Traction Motor Assembly, AMA Drive	410-02704	Right Traction Motor Assembly, AMA Drive	410-02524	Front Lift Tower Assembly	410-02693
		Line Following Sensor Assembly	410-02562			Rear Lift Tower Assembly	410-02694