



# Symbot AlphaC Traveler

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



**System Operator:**

## Bot Removal Data

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

## 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 <input type="radio"/>	Cleaned all Sensors (Lens Wipe)	Complete <input type="radio"/>	Cleaned Charge Pad Plates (bot off)	Complete <input type="radio"/>
Cleaned BOT Covers	Complete <input type="radio"/>	Cleaned all Cameras (Lens Wipe)	Complete <input type="radio"/>	Compressed air to dislodge debris	Complete <input type="radio"/>
Cleaned Payload Bay	Complete <input type="radio"/>	Cleaned Pulleys and Rollers	Complete <input type="radio"/>	Cleaned Pick/Justification Arms	Complete <input type="radio"/>

## SECTION 2 - PHYSICAL INSPECTION

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

## SECTION 3 - WHEEL/ SUSPENSION INSPECTION

<b>Guide Wheel Diameter <math>\geq 48\text{mm}</math></b>		<b>Caster Wheel Diameter <math>\geq 82\text{mm}</math> (3.23")</b>	
<div>Front Left Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div> <div>Rear Left Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div>		<div>Front Right Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div> <div>LEFT Caster Assembly Swivels Freely Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div>	<div>Front Right Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div> <div>RIGHT Caster Assembly Swivels Freely Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div>
<b>Drive Wheel Diameter <math>\geq 195\text{mm}</math> (7.67")</b>		<b>Suspension Dampers <math>17\text{mm} \pm 0.5\text{mm}</math> (<math>0.125" \pm 0.019</math>)</b>	
<div>Rear Left Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div>		<div>Rear Left Pass <input type="radio"/> / Fail <input type="radio"/></div> <div>_____</div>	
		<div>Ride Height 8-7mm      Pass <input type="radio"/> / Fail <input type="radio"/></div>	

## 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 $\pm$ 1Hz	44-55Hz	45Hz $\pm$ 1Hz	Front:		Rear:	Belt Damaged? Yes <input type="radio"/> / No <input type="radio"/>
Front Lift Cables - 400-01361	80 $\pm$ 5Hz	75-85Hz	80 $\pm$ 5Hz	Left Side:		Right Side:	Cable Damaged? Yes <input type="radio"/> / No <input type="radio"/>
Rear Lift Cables - 400-01361	80 $\pm$ 5Hz	75-85Hz	80 $\pm$ 5Hz	Left Side:		Right Side:	Cable Damaged? Yes <input type="radio"/> / No <input type="radio"/>
Extension Belt - 906-00616	47 $\pm$ 1Hz	36-47Hz	37Hz $\pm$ 1Hz	Front:		Rear:	Belt Damaged? Yes <input type="radio"/> / No <input type="radio"/>
Justification Belt- 906-00625	41 $\pm$ 1Hz	40-42Hz	41 $\pm$ 1Hz	Front:		Rear:	Belt Damaged? Yes <input type="radio"/> / No <input type="radio"/>

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	365-00727	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	195-04416	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