

Replacing the Traction Wheel Assembly

Parts required for this service: AMR Traction Wheel Assembly P/N 500-00131-01. (Includes Drive Wheel Assembly and Steering Control Assembly)

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off the machine, and remove the key.

ATTENTION: DO NOT tip the machine onto its side to replace the drive wheel assembly. Sensitive robotic components could be damaged or bumped out of adjustment if the machine is tipped onto its side.

NOTE: This maintenance is best performed **at the service providers shop** and not at the Customer site. Obtain prior authorization to remove the scrubber from the site before scheduling the site visit.

NOTE: After the replacement, a **Steering Calibration** and a complete **sensor calibration** (LIDARs, Depth Cameras) will need to be performed by a Brain Field Service Engineer before the scrubber can be used in autonomous mode.

Procedure

- 1 - Completely drain the solution tank and the recovery tank.
- 2 - Turn the key to the OFF position.
- 3 - **FOR SAFETY:** When servicing the machine, disconnect the red battery connection and charger cord before working on the machine.
- 4 - The best jacking point is directly underneath the front bumper guard. You may have to raise the machine up to get a floor jack underneath this jacking point by placing the machine onto a 1" thick - or so - piece of wood.
- 5 - **FOR SAFETY:** When servicing the machine, chock the rear wheels before jacking the machine up. Use a hoist or jack that will support the weight of the machine. Jack the machine up at designated locations only. Support the machine with jack stands.

6 - Jack up the front end of the machine high enough to remove the drive wheel assembly from under the machine taking into account the length of the steering shaft. Place jack stands under the anti-roll bars on each side of the machine and lower the machine onto the jack stands.

7 - Remove the front perimeter guard from the front of the machine by removing the 8mm Hex bolt underneath the center of the bumper guard and the four 13mm bolts (two on each side) holding the front perimeter guard brackets.

8 - Remove the front bumper guard by removing the two 14mm bolts on the face of the bumper guard and the four 13mm bolts that are on the bottom of the bracket of the bumper guard

9 - Turn the steering wheel to the left to access the drive motor electrical connections under the gray access panel on the drive motor and remove them.

10 - Remove the encoder locking collar, the encoder, and the brake from the drive motor shaft and set them aside out of the way. Turn the steering wheel to the straight position.

NOTE: Use care when removing the drive wheel assembly from the machine. The drive wheel assembly weighs approximately 71 lbs (32 kg). If necessary, seek help to remove the drive wheel assembly from the machine.

11 - Remove the foot pan, the steering tower rear access panel, and front cover.

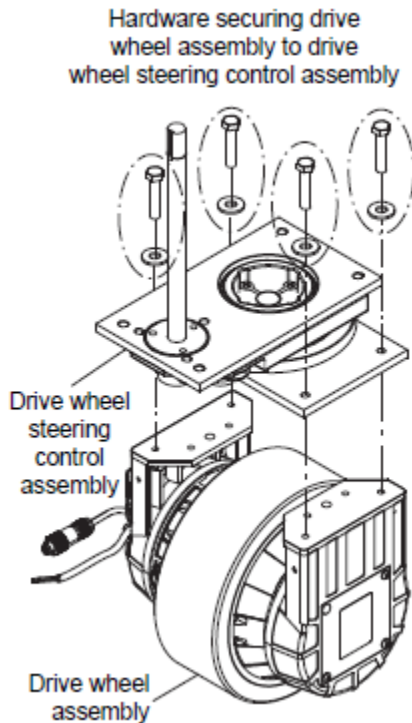
12 - Remove the lower Lidar power and data cables and then VERY CAREFULLY remove the lower Lidar mounting bracket with the Lidar attached (4 screws). PROTECT THE LIDAR AT ALL TIMES, WHEN REMOVING IT, SETTING IT DOWN, AND REINSTALLING IT.

13 - Inside the steering housing remove the two set screws on the bottom of the universal joint on the steering shaft. Be aware that there is a 3/16" key in the steering shaft and u-joint. Do not lose it during disassembly.

14 - Place the floor jack underneath the wheel and raise the jack up to the drive wheel assembly. Be careful not to raise the machine off of the jack stands. (This will help you lower the drive wheel assembly.)

15 - Remove the 2, 17mm hex bolts in the floorboard and the 2 other 17mm hex bolts inside and at the base of the steering tower. You may or may not have to loosen and move the accelerator/brake pedal assembly to access the bolt that is directly underneath them. Once these 4 bolt are removed use caution as the entire steering tower is now only balanced on the machine's frame no longer being secured to it

16 - Slowly lower the floor jack with the drive wheel assembly to the floor.



10. Installation of a new drive motor assembly is essentially a reverse order of disassembly.

11. reconnect the battery pack and key the machine on.

12. Test the scrubber by scrubbing in manual mode. Ensure the wheel turns smoothly in both directions to both stops, ensure the steering wheel is aligned with the traction wheel, and ensure there is no binding or issues with cabling.

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