

REPLACEMENT GUIDE | Sigyn^{MkI} Wheel Restoration

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Should the occurrence arise wherein the ground robot wheel experiences a state of non-functionality or detachment, it becomes imperative to address the situation with a systematic and well-defined approach. To this end, we furnish an exhaustive and meticulous delineation elucidating the step-by-step procedure for the replacement of said wheel, ensuring a seamless restoration of operational integrity to the robotic system.

REQUIRED ITEMS

Components



1x Sigyn MkI Rubber Wheel



1x Sigyn MkI Tactical sUGV

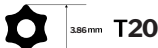
Tools



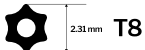
1x Instant Adhesive
Loctite 401



1x Isopropyl Alcohol



3.86mm T20



2.31mm T8



Torx T20



Torx T8

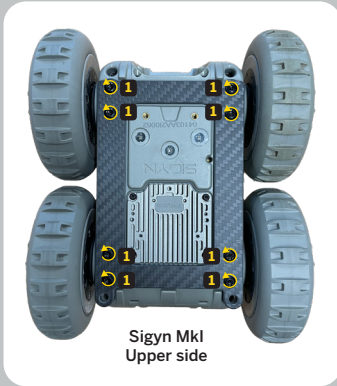
REPLACEMENT STEPS

Please refer to the explanations below and to the diagrams overleaf for details of the various steps that need to be followed:

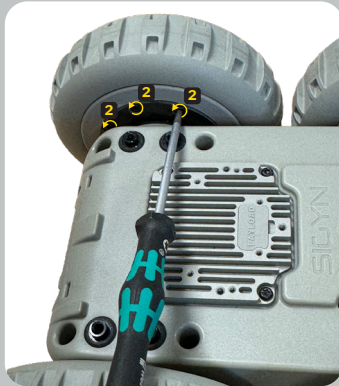
- STEP 1** Invert the orientation of Sigyn MkI to expose its upper side, subsequently disengage the top carbon plate by loosening the eight screws **1** (Round Head Screw / Torx T20) securing it in place. Put the carbon plate and screws aside for reinstallation.
- STEP 2** Extract the eight discernible screws **2** (Flat Head Screw / Torx T8) situated on the carbon ring of the wheel.
- STEP 3** Detach the wheel from the hub assemblies. When this operation has been carried out, you'll have the entire wheel **3** in your hands.
- STEP 4** Retrieve the rubber coupling **4** and the aluminum ring **5** from the interior of the tire **6**.
- STEP 5** Thoroughly cleanse the aluminum ring **5** ensuring the removal of any remnants of adhesive and/or rubber. Subsequently, employ isopropyl alcohol (IPA) to degrease all components, encompassing both the inner and aluminium ring, after the cleaning process has been completed.
- STEP 6** Employ the replacement Sigyn MkI Rubber wheel and begin by inserting, without adhesive, the rubber coupling **4**.
- STEP 7** Apply Loctite 401 instant adhesive onto the specified yellow area of the rubber component of the wheel, as outlined in the schematic, to facilitate the adhesion between the inner tire **6** and the aluminum ring **5**. Following this, insert the cleaned aluminum ring into the wheel and gently apply pressure to ensure a secure connection between the two components. Allow the adhesive to undergo curing for a duration spanning 15-20 minutes.
- STEP 8** The reassembly process for the wheel onto the Sigyn MkI ground robot body can now be undertaken by meticulously adhering to the inverse sequence of steps 1 through 3.

RESTORATION STEPS

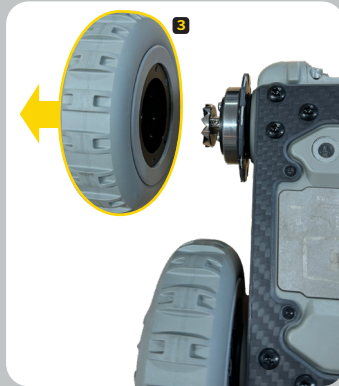
STEP 1



STEP 2



STEP 3



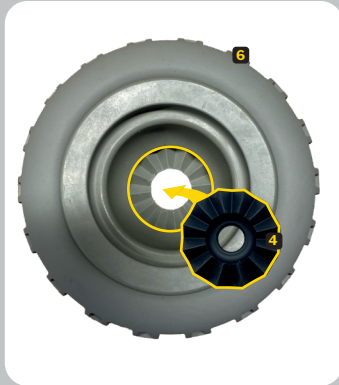
STEP 4



STEP 5



STEP 6



STEP 7

