**BBW V4 Spreadsheet**

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| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Photos** | **Functions** | **Solidworks**  **Model** | **Quantity** | **Need of**  **Manufacturing** | **Material** |
| **Side Chassis Frame** | Shape, arrow  Description automatically generated | original go-kart side chassis frame | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | No | Steel |
| **Chassis Mount** | Icon  Description automatically generated | original mounting hole for aluminum chassis | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | No | Steel |
| **Black Box Frame** | A picture containing text, electronics  Description automatically generated | original mount for the hydraulic brake part | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | No | Steel |
| **Small Plate** | Icon  Description automatically generated with medium confidence | connect the LA mount and chassis frame together | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | Yes | Plastic |
| **Original Clamp** | Diagram, engineering drawing  Description automatically generated | U-bolt clamp for holding the chassis frame | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | [Purchase](https://www.mcmaster.com/u-bolts/system-of-measurement~metric/id~30mm/) | Plastic |
| **Thick U bolt** | A picture containing metalware, microphone  Description automatically generated | clamp the whole design to the chassis frame | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | [Purchase](https://www.mcmaster.com/u-bolts/system-of-measurement~metric/id~30mm/) | metal |
| **Steel Frame New** | A picture containing text, metalware, hinge  Description automatically generated | mount the LA to the black box frame | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 2 | custom | aluminum plate 6061 |
| **Mid Link** | A picture containing text, electronics  Description automatically generated | position limit | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 2 | Yes | plastic |
| **Back Link** | A picture containing text, electronics  Description automatically generated | rear position limit | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | Yes | plastic |
| **Front Link** | A picture containing diagram  Description automatically generated | rear position limit | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | Yes | Plastic |
| **Sleeve 20mm** | Icon  Description automatically generated | position limit for the chassis mount screw | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | Yes | plastic |
| **PA-14P** | A picture containing text, printer, screenshot  Description automatically generated | linear actuator (LA) | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | [Purchase](https://www.amazon.com/PROGRESSIVE-AUTOMATIONS-Electric-Actuator-PA-14P-4-35/dp/B00Q74I8TI/ref=sr_1_2?keywords=PA-14P-4-35%2Blinear%2Bactuator&qid=1662603873&sr=8-2&ufe=app_do%3Aamzn1.fos.f5122f16-c3e8-4386-bf32-63e904010ad0&th=1) | - |
| **End Link**  **New Metal** | A picture containing logo  Description automatically generated | connect the moving end of LA and transmit the force and the motion to the brake link | [link](https://github.com/mlab-upenn/gokart-mechatronics/tree/main/BBW%20V4) | 1 | Custom | aluminum plate 6061 |
| **Hex Socket Head Machine Screws, (M8x120mm)** | A picture containing chime  Description automatically generated | horizontally fasten the LA steel frame | - | 8 | [Purchase](https://www.amazon.com/METALLIXITY-Socket-Machine-Screws-M8x120mm/dp/B09YNLHP5Q/ref=sr_1_1_sspa?crid=1Y5MZ0CQAXP77&keywords=m8x120mm%2Bscrews&qid=1664676687&qu=eyJxc2MiOiIxLjg1IiwicXNhIjoiMC4wMCIsInFzcCI6IjAuMDAifQ%3D%3D&sprefix=m8x100mm%2Bscrews%2Caps%2C55&sr=8-1-spons&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExNVpFRkJKTThZSzgmZW5jcnlwdGVkSWQ9QTA1MjAwMThNVjY3U0tSSDA4UDEmZW5jcnlwdGVkQWRJZD1BMDQ3MzYwODJEM01HVksxRk5WWFMmd2lkZ2V0TmFtZT1zcF9hdGYmYWN0aW9uPWNsaWNrUmVkaXJlY3QmZG9Ob3RMb2dDbGljaz10cnVl&th=1) | metal |
| **M6 x 70mm Threaded 1mm Pitch Hex Socket Head Cap Screws Bolts** | A picture containing metalware, screw  Description automatically generated | fasten the the stationary point of LA | - | 1 | [Purchase](https://www.amazon.com/uxcell-Threaded-Pitch-Socket-Screws/dp/B012THHR1G/ref=sr_1_5?crid=2S9ZIW0Q60Q2M&keywords=M6+*+70&qid=1668200774&sprefix=m6+70%2Caps%2C86&sr=8-5) | metal |
| **M6 washers & nuts** |  | assembling |  | n |  |  |
| **M8 washers & nuts** |  | assembling |  | n |  |  |

For earlier versions, please check the corresponding folders in dev branch for further details.