

British astronomers benefit from quick telescope set-up thanks to WDS components

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Moving a telescope takes time, a valuable commodity in Britain where the span between gaps in the clouds can be few and far between. To speed up telescope set-up for home and mobile use, astronomer Lee Richards along with MDP Custom Fabrications have developed the Astro Tuff Truk as a portable trolley. Stability and durability of assembly components are crucial, so MDP worked with standard parts specialist, WDS Components, to achieve the optimum specification.

Home-based and portable astronomy equipment is heavy, complex, and delicate. The optics involved to visualise the solar system and wider cosmos with clarity are also expensive. This equipment has to be securely stored inside but at night, it has to be moved to the open-sky environment. Carrying the equipment is cumbersome and time consuming, and for some, it's not possible without assistance. Furthermore, the expensive equipment has to be moved safely. For many telescope users, their options for moving their equipment were limited.

MDP Custom Fabrications designs and manufactures metalwork from gates and railings to high-end furniture for homes and commercial use,

as well as industrial projects. The company was approached by astronomy enthusiast Lee Richards to develop his plans for a telescope transportation system that would enable fast and easy movement of the device from indoors to their garden. As a result, the concept for the Astro Tuff Truk was developed and was launched at the Practical Astronomy Show earlier in 2022 and now has interest from all around the world.

The design was initially based on the ability to transport a fully motorised telescope with a 16" mirror, weighing around 80kg. Since, the Astro Tuff Truk has been developed to transport virtually all types of telescope, with a range that includes two sizes for Dobsonian mount telescopes, plus pier and tripod mounts. Each truck is customised to order and various modifications can be made on request, with various accessories also available.

"The Astro Tuff Truk has taken set-up time down from around 20 minutes to just two minutes. This is crucial to capture the necessary gaps in the cloud," says MDP's Managing Director, Matt Heap.

The design is based on a steel frame, with four wheels, and a handle that's used to pull the truck. Once the truck carrying the telescope is pulled into the desired position, the truck's levelling feet are lowered, and its handle is removed to ensure obstruction-free use. The Astro Tuff Truk can be used at home, or it can be loaded into larger cars to enable mobile astronomy in dark sky areas. Cushioned with pneumatic tyres which have an aggressive tread, the Astro Tuff Truk can be pulled across all types of terrain, including tough, off-road environments.

It was key that the components used to assemble the truck were highly durable and premium quality, sufficient for long-term use, transporting heavy, delicate equipment. Astro Tuff Truk's developer, Lee Richards, engaged with WDS Components as a result of the company's range of high-quality parts and the service assistance offered to aid design and development.

WDS levelling feet help establish the highly stable platform required for precision star gazing. Manufactured from high grade 316 stainless steel for corrosion free use, the feet have a polypropylene base that ensures grip and stability, mounted to a shaft that can pivot, providing security even on angled ground.

WDS detent pins are used to lock the handle into place. As the handle is detached when the telescope is in position, the pins are regularly used, so a 316 stainless steel design gives them the durability they need. Meanwhile, a swivel eye bolt lifting ring, attached to the middle of the tripod truck, is used as an additional secure anchor to attach the telescope to the truck with a ratchet strap. This part is also manufactured from 316 stainless steel.

As concept designer Lee Richards with MDP look to expand production of the Astro Tuff Truk, the partnership will engage with WDS' available design tools including CAD images and access to WDS' design engineers and technical support team. Production is ramping up for the winter months that provide optimum dark skies for astronomy.

“We wanted to design a premium product for lasting use, so we needed highly reliable components throughout,” says Matt. “WDS’ range are very well suited, manufacturing many components in high grade stainless steel for excellent presentation and rugged use. With a local design team, this also gives us the assistance we need.”

“WDS is delighted to be working on this project with Lee and Matt,” says Mark Moody, Sales and Marketing Director, WDS. “We are proud of the relationship we have built together to provide a great product. It’s another example of where we have worked with engineers from design right through to final production. Our engineers are always pleased to work closely with our customers, on exciting projects such as this.”

Image Captions:



Image 1: WDS levelling feet help establish the highly stable platform required for precision stargazing



Image 2: WDS levelling feet help establish the highly stable platform required for precision stargazing



Image 3: The Astro Tuff Truk portable trolley allows quick and easy transport of the telescope.



Image 4: WDS detent pins are used to lock the handle into place.

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About WDS Components Ltd

WDS Components is the home of standard parts and machine accessories. Established in 1952 'Woodside Die Sinking Company' made jig and die parts to speed up production in tool rooms, WDS Components has grown from humble beginnings to become a leading European manufacturer and global distributor of high quality durable parts at competitive prices. We supply components, standard parts and machine accessories to original equipment manufacturers, maintenance engineers, small businesses and individuals all over the world. Over 98% of our range is available from stock and can be shipped the same day from our global distribution centre in the UK, using best in class worldwide logistics companies.

We provide unrivalled choice and unequalled availability.

WDS Components are proud to support some of the most prestigious engineering companies and brands in the world, who all trust WDS Components to service their needs.

We are committed to engineering excellence and continuous improvement. Our team of in-house engineers has expertise spanning several decades and is a blend of highly experienced and new generation graduate engineers who focus on the latest developments in design and manufacturing technology.

Our entire range of products is available to purchase on our website [WDS COMPONENTS.COM](https://www.wds-components.com) where designers and manufacturers alike can download 3D models of all components in the widest range of formats available.

WDS Components provide solutions for customers who require a wide and growing range of high quality, competitively priced products, coupled with incredible product availability and same day despatch, backed up by easily accessible technical support.

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