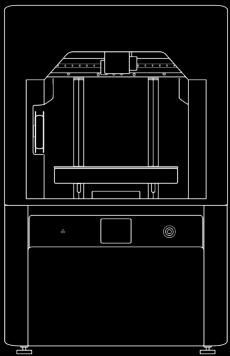


HydraTune



Industry

Application

Technology

Materials

Engineering / Mining

FlexAdjust Adaptor

FX10 Metal

Onyx®

FlexAdjust Adaptor

Western Australian company, HydraTune, has developed a digital platform for the safe and accurate maintenance of hydraulic equipment that has the potential to substantially reduce losses caused by hydraulic inefficiency on mine sites worldwide. SafeAdjust enables hydraulic equipment to be tuned remotely by one person operating from a safe location up to 100 metres for the system being adjusted. Conventional methods require up to three people, one of whom would be working in a potentially dangerous environment.

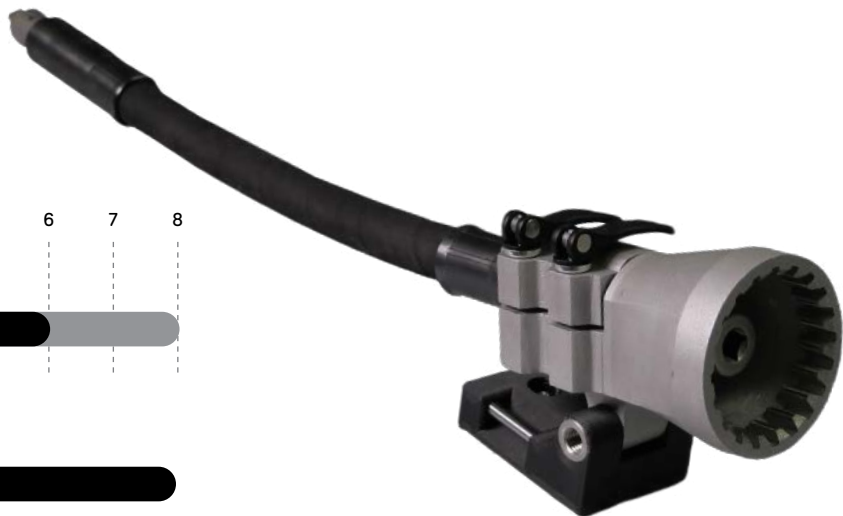
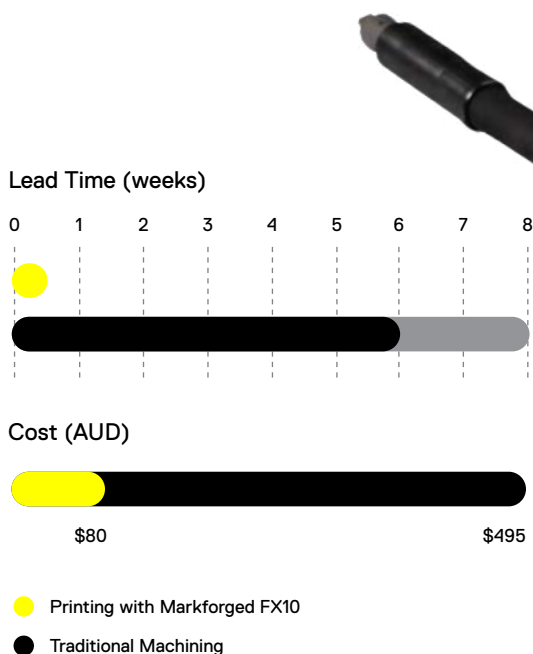
Managing director, Shane Lewis, originally worked on the assumption that units would need to be made on a one-off basis to suit the specific needs of each user, and saw a key role for 3D printing in his manufacturing process. He invested in two Markforged FX10 printers and a metal upgrade kit – the first such combination purchased anywhere in the world.

The subsequent development of the FlexAdjust adaptor means the basic unit can now be used in more than 85% of applications, and additive manufacturing is showing substantial benefits in the production of this unit.

The adaptor, previously outsourced at a cost of \$495 a unit, is now being printed in stainless steel on the FX10 for around \$80. Lead times have been cut from 6-8 weeks to 2-3 days, including post-processing.

“The adaptor, previously outsourced at a cost of \$495 a unit, is now being printed in stainless steel on the FX10 for around \$80.”

— Shane Lewis
Managing Director, HydraTune



Showcased here is HydraTune's 3D printed FlexAdjust adaptor installed on the SafeAdjust unit.

FlexAdjust Adaptor

The mounting bracket for the adaptor, originally an outsourced aluminium item, is now printed in Onyx, reinforced with continuous carbon strands to provide the required tolerances and strength. Unit cost has been slashed from \$300 to \$90, weight has been reduced and the brackets can be printed overnight, compared to outsourcing lead times of up to eight weeks.

“Unit cost of the bracket has been slashed from \$300 to \$90, weight has been reduced and the brackets can be printed overnight.”

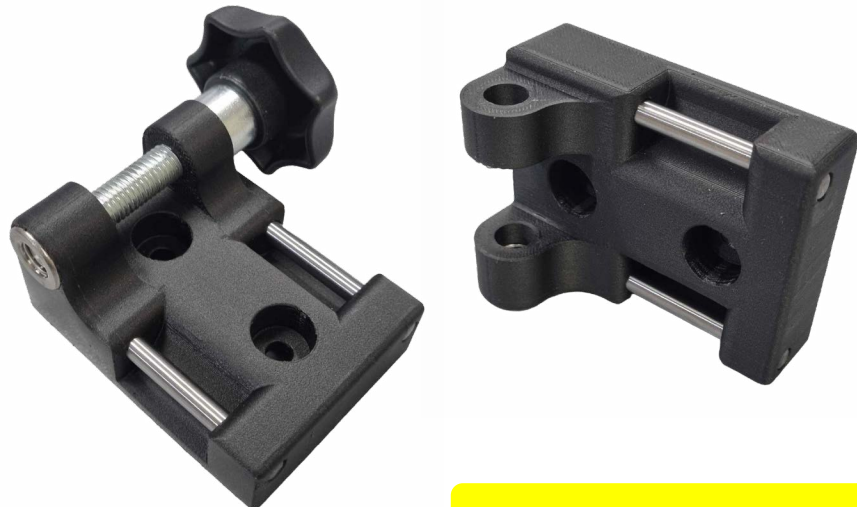
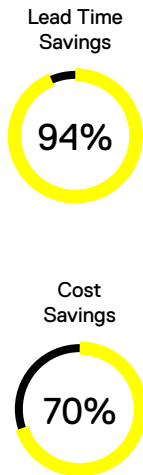
— Shane Lewis
Managing Director, HydraTune

“The flexibility of AM makes it easy and inexpensive to customise the product to meet unusual equipment configurations.”

— Shane Lewis
Managing Director, HydraTune

Shane says the flexibility of AM makes it easy and inexpensive to customise the product to meet unusual equipment configurations.

“We simply visit the site with 3D scanner to analyse the requirement. We can then design an adaptor specifically for that piece of equipment and print it in stainless steel overnight on the FX10. It’s such a cool thing to be able to do,” said Shane.



Showcased here is HydraTune’s 3D printed FlexAdjust adaptor printed in Onyx.

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