

PROJECT CASE STUDY

CNC Machined Components for Bespoke Wheel-Loading Equipment

Precision aluminium components manufactured for Youelline Engineering as part of a bespoke wheel-loading and handling system designed for an industrial assembly environment.

Customer

Youelline Engineering

Material

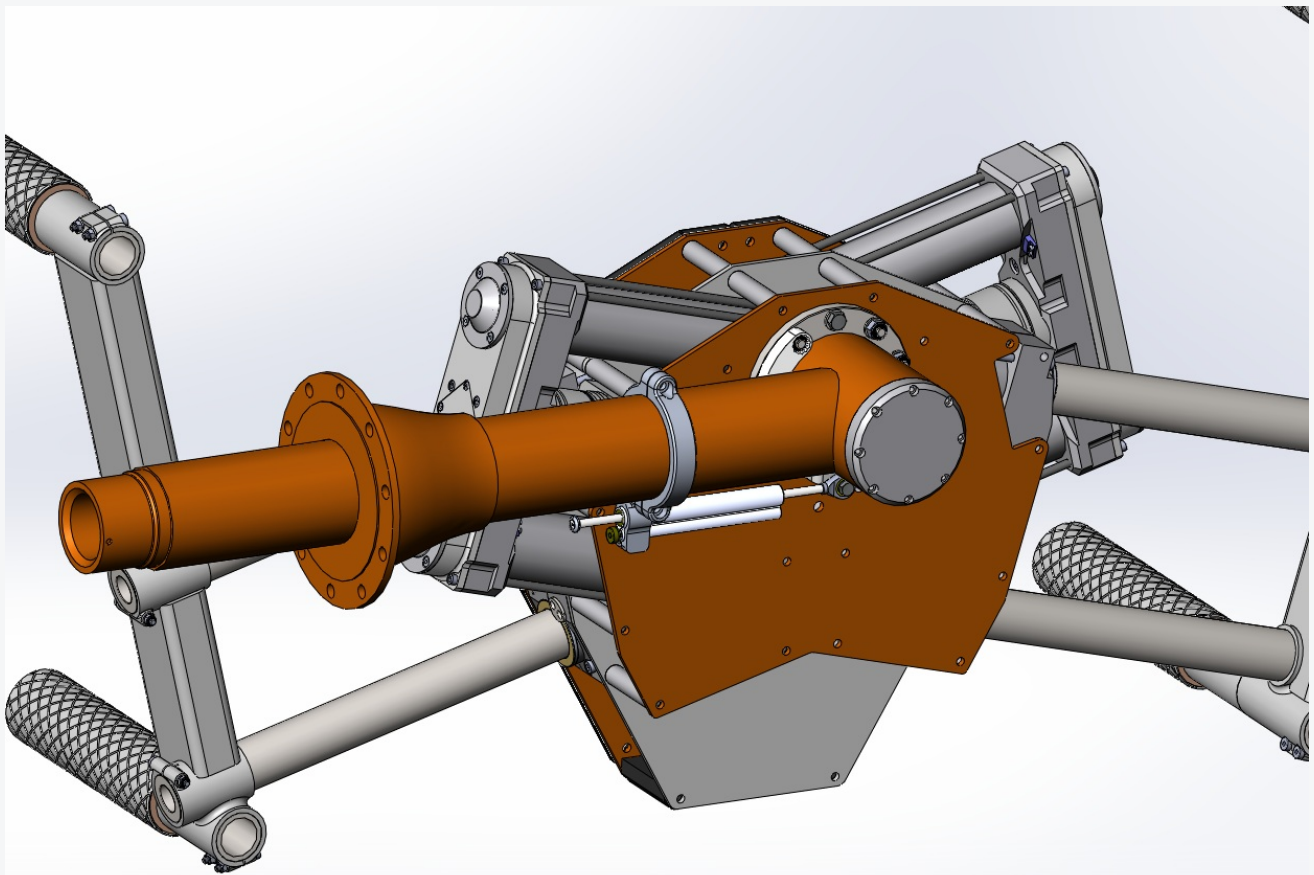
Aluminium

Processes

CNC milling & turning

Application

Bespoke handling equipment



Project overview

RL Engineering manufactured a range of complex aluminium components for a purpose-built wheel-loading system. The work combined CNC milling and turning to produce accurate bores, internal cavities, contoured surfaces, threaded holes and precision mounting features. The components formed part of a larger engineered assembly, so dimensional consistency and repeatable alignment between mating features were important throughout manufacture.

Precision machining across multiple complex parts



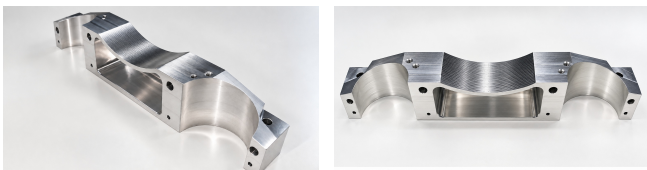
Aluminium Drive Adaptor

CNC turned and milled aluminium drive adaptor incorporating precision bores, threaded holes, milled flats and complex internal features.



Aluminium Gearbox Casing

Complex CNC milled casing with precision bores, internal cavities and mounting features manufactured for accurate and repeatable assembly.



Aluminium Clamp

Precision milled clamp with contoured clamping surfaces, deep internal pocketing and multiple mounting and threaded features.



CNC Milled Aluminium Component

Large multi-feature aluminium component requiring accurate bores, threaded details, machined profiles and consistent positional accuracy.

Manufacturing focus

Tight-tolerance bores, multi-face machining, complex pocketing, contoured profiles, accurate threaded features and repeatable assembly interfaces.

Machined parts within the complete handling system

The individual photographs show the components prior to final assembly. The system illustration provides the wider engineering context and demonstrates how precision-machined parts contribute to a complete bespoke handling solution.

Project contribution

RL Engineering supplied the precision-machined aluminium components required for the mechanical assembly. The end customer's identity is intentionally not identified in this public case study.

Key capabilities

CNC milling

CNC turning

Precision bores

Threaded features

Complex profiles

Bespoke components

Precision components. Real solutions.

RL Engineering provides CNC milling and turning for one-off components, prototypes and production work where accuracy, repeatability and practical manufacturing experience matter.

