

# *UNI***CLUTCH**





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# ***WELCOME TO UNICLUTCH***

***BY CLUTCH INDUSTRIES***

FUTURE

THINKING



Today's UniClutch was created for the enthusiast, the real driver in all of us. But this forward thinking technology is pivotal to keep the world moving tomorrow.

## WHY

In the next 10 years major vehicle manufacturers will either stop producing internal combustion engines (ICE) vehicles or will have a restricted range of ICE vehicles. This global industrial transformation presents a significant challenge for motorists, and related parts & service businesses, to find solutions to keep all cars moving, in every corner of the planet.

UniClutch is a world first, forward thinking technology, which deals with these challenges in a revolutionary way, to keep the world moving in the decades ahead, with a target to achieve net zero global emissions by 2030 and reduce waste by up to 80%.

Manual transmissions account for almost 50% of all vehicles in service today. Manuals retain their popularity for several reasons. Some drivers prefer the greater control that a manual transmission gives them over the car, especially in situations where precision is needed, such as driving on a steep hill or navigating through slippery roads. Manual transmission cars are generally less expensive to purchase and maintain than automatic transmission cars. They also tend to have better fuel efficiency. Driving a manual car can be more engaging and enjoyable for some people, as they feel more connected to the car and the road. Finally, learning to drive a manual car requires a higher level of skill and co-ordination, which some people enjoy as a challenge or a way to improve their driving abilities.

# WELCOME TO UNICLUTCH

Designed from the ground up, and over 5 years in the making, the UniClutch philosophy was both to redefine, and disrupt, the clutch paradigm.

Engineered to exacting standards, with a unique patented flex fit installation system, UniClutch

simplifies inventory management for distributors and allows workshops to replace a clutch in less time.

The vehicle owner experiences an OEM feel, up to 2x more torque capacity and 3x more strength compared with their factory clutch.

UniClutch is produced from billet and forged components. Every UniClutch is then assembled, tested and sealed in the Clutch Industries tech center, featuring a unique laser etched certification QR code, for guaranteed quality.

*"I would never have believed that a high-performance clutch could have such a light pedal and drive as nice as the original clutch."*

- Mick S



# OTHER CLUTCHES - COMPROMISES

## The challenge.

Vehicles require clutches as a critical component to transmit torque from the engine to the wheels. Typically a clutch design is determined by manufacturers for each vehicle model. However, replacing a worn-out clutch can be both costly and challenging. Finding the right parts, a skilled workshop and the necessary flywheel grinding service, is becoming increasingly difficult due to almost every new vehicle having a unique clutch system.

Adding to these challenges, many customers opt to upgrade their clutch to enhance durability, expand usage options (such as towing, racing, touring, or engine/transmission swaps), and obtain longer warranties. It's important to note that the clutch upgrades often involve trade-offs and compromises in various aspects.

## Pedal effort.

The easiest and most common clutch upgrade is to increase the pressure plate diaphragm spring stiffness (typically by using a thicker spring steel), therefore increasing the clamping force on the clutch disc. This compromises pedal feel making the clutch heavier to operate, placing higher stress on the vehicle's actuation system, and ultimately makes the vehicle less pleasurable to drive. This compromise can also lead to engagement issues, reduction in clutch operating life and in more extreme cases total failure of the clutch actuation system.

## Friction material.

Another relatively common clutch upgrade is to increase the co-efficient of friction of the clutch disc, by changing the factory style organic disc for an exotic material such as cerametallic, Kevlar or carbon fibre. The higher co-efficient of friction reduces the clutch slip, making

it more difficult to modulate the clutch pedal and ultimately makes the vehicles very difficult to drive in normal real world conditions. This compromise should only be made where the vehicle is used primarily for motorsport or track use where fine modulation isn't essential.

## Geometry.

A larger clutch will increase the mean effective radius on which the diaphragm clamping force acts, having a direct effect to improve torque capacity. As a vehicle's bell housing doesn't accommodate the space required to make the clutch wider, the most common solution is to arrange two or three smaller clutch discs in parallel axially. The compromise with this solution is that to fit the then taller clutch package, manufacturers remove noise dampening components. Also in most cases a unique non-standard actuation system and also a non-standard flywheel needs to be fitted, resulting in a very significant cost.



# UNICLUTCH - NO COMPROMISES

## UniClutch. It's Just Easier.

UniClutch's revolutionary Flex Fit system allows installation on virtually any vehicle. Even if the vehicles has a non-standard engine and / or transmission, UniClutch can be set up to suit in less than 3 minutes with only basic tools required.

UniClutch is sealed. So not only does the flywheel not need to be re-machined, if it's mechanically sound it doesn't even need to be removed from the car, saving money and time.

## Pedal effort.

UniClutch guarantees a pedal effort similar to, or lighter, than the factory clutch in over 90% of applications.

## Friction material.

UniClutch uses organic friction material, in a button over segmented array, for excellent modulation control to suit all types of driving. For motorsport use, UniClutch Track has exceptional heat dissipation properties by combining a heat resistant cerametallic friction compound in a layered button array with a grade chrome vanadium cover.

## Geometry.

The dual core twin disc design provides up to double the mean effective radius of the factory clutch, and increasing the clutch size by arranging multiple discs in parallel is a popular upgrade solution. This

usually comes with compromises of increased package height and noise. But UniClutch features several key technologies which eliminate these compromises.

## Unrivaled shift.

Silent Shift assists with immediate clutch release for faster silent gear changes. Radial Dampening Center technology, patented for the UniClutch, provides up to 70 degrees of torsional dampening over 4 distinct stages, in a compact form factor to ensure UniClutch doesn't exceed the height of the factory clutch package. All this results in up to 2x more torque capacity, 3x more strength and increased life compared with the factory clutch, with no compromise.



# STREET

Street-modified vehicles are a popular trend among car enthusiasts who want to enhance their vehicles for racing-level performance, even if they are primarily intended for street driving. These vehicle owners often customize their cars to improve their aesthetics, handling, and performance.

Race-style performance modifications can range from simple bolt-on additions like air intakes and exhaust systems, to more complex built engines, the addition of forced induction systems or complete engine or driveline swaps, all with the goal of taking the power level of the vehicle to new extremes. Performance modifications increase the power and torque output of the engine, but they can also put additional strain on the factory clutch and drivetrain components.



A high-performance clutch is essential to prepare the vehicle for occasional track use or add additional power.

UniClutch is a unique and ultimate solution for performance-minded vehicle applications that provides a significant torque capacity increase without the compromise of a typical performance clutch system. UniClutch is made from Australian billet steel and is three times stronger than other upgraded clutch systems. It uses dual core twin disc technology to increase the torque capacity of the clutch while offering a lighter pedal effort and longer life. UniClutch also has a lower moment of inertia, allowing freer engine revving and faster shifts.

The UniClutch system's modularity is ideal for those undertaking an engine or gearbox conversion. Using the Flex Fit system it can be configured to accommodate almost any type of engine or gearbox.

The UniClutch eliminates the flywheel as a friction surface, making it quicker to install and less costly, as it does not require the removal or machining of the flywheel. UniClutch offers all of the benefits of a high-performance clutch system without the compromises and the price tag.

## TECHNOLOGY TO EXCITE





# MUSCLE

Muscle cars have been a favourite among car enthusiasts for decades, and the muscle cars' popularity grew in the early 1960s as manufacturers competed for supremacy in the drag race scene, building special edition drag race-spec models that boosted sales of muscle car models.

Similarly, Australian branches of Ford Motor Company and General Motors (Holden) found success with factory race team vehicles helping sell muscle-car-focused models on motor dealer lots with the adage "Win on Sunday - sell on Monday." Muscle car enthusiasts wanted more from their factory performance, so they would modify their vehicles by adding performance enhancements.

Even modern-day muscle car enthusiasts are not content with the level of performance modern muscle cars have from the factory, despite in some cases producing well over 750 horsepower.



When selecting a clutch for a performance-based muscle car, a twin disc clutch provides superior torque capacity compared to a single disc clutch. The increase surface area of the twin disc clutch means it can handle more torque without slipping, making it ideal for muscle cars with high torque.

The UniClutch is the ultimate solution for muscle car enthusiasts as it provides the high-performance solution they require without compromising drivability. The UniClutch is up to three times stronger than standard clutch systems and is made from Australian billet steel.

It uses dual core twin disc technology to increase the clutch's torque capacity and has Silent Shift Technology to eliminate "rattle" while also offering a lighter pedal effort and longer life.

The modularity of the UniClutch system is perfect for anyone doing an engine or gearbox conversion as it can be set up to suit whatever gearbox or engine you're running. For example, as part of a conversion, you can change the UniClutch's spline to suit the gearbox you're using and the Flex Fit Flywheel Mount to suit the engine you have, giving massive flexibility which would ordinarily need a custom engineered solution.

## PERFORMANCE WITHOUT COMPROMISE





# 4WD

4WD enthusiasts have a passion for the great outdoors, and their 4WD vehicles allow them to explore nature and terrain that would otherwise be inaccessible. These enthusiasts take pride in individualising and upgrading their vehicles to improve their off-road capabilities. Upgrades commonly seen in the 4WD world include suspension lifts, larger tires, stronger wheels, and engine performance enhancements.

When driving off-road, a reliable and robust clutch is critical to safely navigating steep inclines, rough terrain, and unexpected obstacles. The clutch also provides better control over the vehicle's speed and acceleration, making the off-road experience more enjoyable. However, heavy-duty 4WD clutches can compromise on-road performance, as most 4x4 vehicles are used for daily commutes as well. Additionally, engine and gearbox conversions can add further complexities to the clutch system.

UniClutch offers a solution for 4WD enthusiasts using their vehicles for work and play. Made from Australian billet steel, the UniClutch is three times stronger than other upgraded clutch systems and uses dual core twin disc technology to increase torque capacity. It also includes Silent Shift Technology to eliminate rattling, offers a lighter pedal effort, and has a longer life. The patented Radial Center Dampening offers four stages of dampening for smooth torque management and noise suppression from idle to aggressive shifts.

The modular design of the UniClutch makes it a perfect fit for any engine or gearbox conversion. The UniClutch can be set up to suit whatever gearbox or engine is in use, and the Flex Fit Flywheel Mount can

be adjusted accordingly. UniClutch eliminates the flywheel as a friction surface - this offers quick and cost-effective installation as the flywheel no longer needs to be removed and machined.

UniClutch is a robust and reliable clutch system designed to meet the needs of 4WD enthusiasts who want to upgrade their vehicles' off-road capabilities while maintaining their daily drivability. The modular design of UniClutch makes it the perfect fit for any engine or gearbox conversion, while the patented Radial Center Dampening provides smooth torque management and noise suppression for an optimal driving experience.

## ***WORK HARD, PLAY HARDER***



# OVERLAND

Overlanding is a popular adventure travel style where people drive off-road and camp for an extended period using a four-wheel-drive vehicle equipped with gear and supplies for self-sustained travel. With camper trailers becoming more prevalent, it is now possible to bring most of the creature comforts from home and tow these campers to explore remote areas, making travellers more self-sufficient than ever before.

However, overlanding requires reliable and durable equipment to ensure a safe and comfortable journey, and one essential component of an overland touring vehicle is the clutch.



Having a good quality clutch is crucial for overlanding as it allows drivers to navigate challenging terrain safely and efficiently. Off-road driving often involves steep inclines, deep mud, and loose rocks, which can put much strain on the clutch. Additionally, when towing a caravan, boat, or any other necessary item during travel, the added weight puts more strain on the vehicle's driveline, and an OE clutch may not be able to handle it, resulting in slippage or premature failure. This can be dangerous, particularly when driving on steep inclines or rough terrain while towing a caravan or boat.

Traditional upgraded clutches often compromise pedal effort, smoothness of shifts, noise, and vibration, making them less than ideal for overlanding.

However, UniClutch offers superior torque capacity while maintaining light pedal effort, smooth gear changes, and quieter operation.

UniClutch is made from Australian billet steel and is three times stronger than other upgraded clutch systems. It uses dual core twin disc technology to increase the torque capacity of the clutch and has Silent Shift Technology to eliminate "rattle" while offering a lighter pedal effort and longer life. UniClutch's patented Radial Center Dampening offers four stages of dampening, each designed to manage smooth torque dampening and noise suppression from idle through to hard acceleration and aggressive shifts.

UniClutch eliminates the flywheel as a friction surface, which means it is quicker to install and less costly as it does not require the removal or machining of the flywheel. This feature offers excellent bang for the buck as it gives drivers all the benefits of a high-quality clutch system without the compromise and the high price tag.

## EXPLORE THE LONG WAY ROUND



# UNICLUTCH

Better than OE with no compromise

## Features & Benefits

Twin Disc, Dual Core, Clutch System  
UniClutch Flex Fit Installation  
Billet Steel Components  
Silent Shift Technology  
Integrated Flywheel Friction Surface  
Radial Dampening Technology  
Comfort Pedal Tune

UniClutch 195mm -  
UC0824100

Torque Capacity up to  
750 Nm/550 Ft Lb

UniClutch 240mm -  
UC1024100

Torque Capacity up to  
900 Nm/650 Ft Lb



# UNICLUTCH SPORT

For the enthusiast who still drives daily

## Features & Benefits

Twin Disc, Dual Core, Clutch System  
UniClutch Flex Fit Installation  
Billet Steel Components  
Silent Shift Technology  
Integrated Flywheel Friction Surface  
Radial Dampening Technology  
**High Clamp Billet Cover Assembly**  
**Dual Drive Forged Internals**  
**Sport Pedal Tune**

UniClutch Sport 195mm -  
UC082400

Torque Capacity up to  
875 Nm/650 Ft Lb

UniClutch Sport 240mm -  
UC102400

Torque Capacity up to  
1100 Nm/800 Ft Lb





# UNICLUTCH TRACK

Specifically designed for European and Japanese vehicles  
Track focused, with market leading technology

## Features & Benefits

Twin Disc, Dual Core, Clutch System  
UniClutch Flex Fit Installation  
Billet Steel Components  
Silent Shift Technology  
Integrated Flywheel Friction Surface  
Low MOI Cover Assembly  
Cerametallic Track Focused  $\mu F+$  Material  
Quad Drive Forged Internals  
Track Pedal Tune

UniClutch Track 195mm -  
UC0821200

Torque Capacity up to  
1320 Nm/980 Ft Lb

UniClutch Track 240mm -  
UC1024100

Torque Capacity up to  
1750 Nm/1300 Ft Lb



# UNICLUTCH TRACK

Specifically designed for Muscle Cars and Large Displacement Engines  
Track focused, with market leading technology

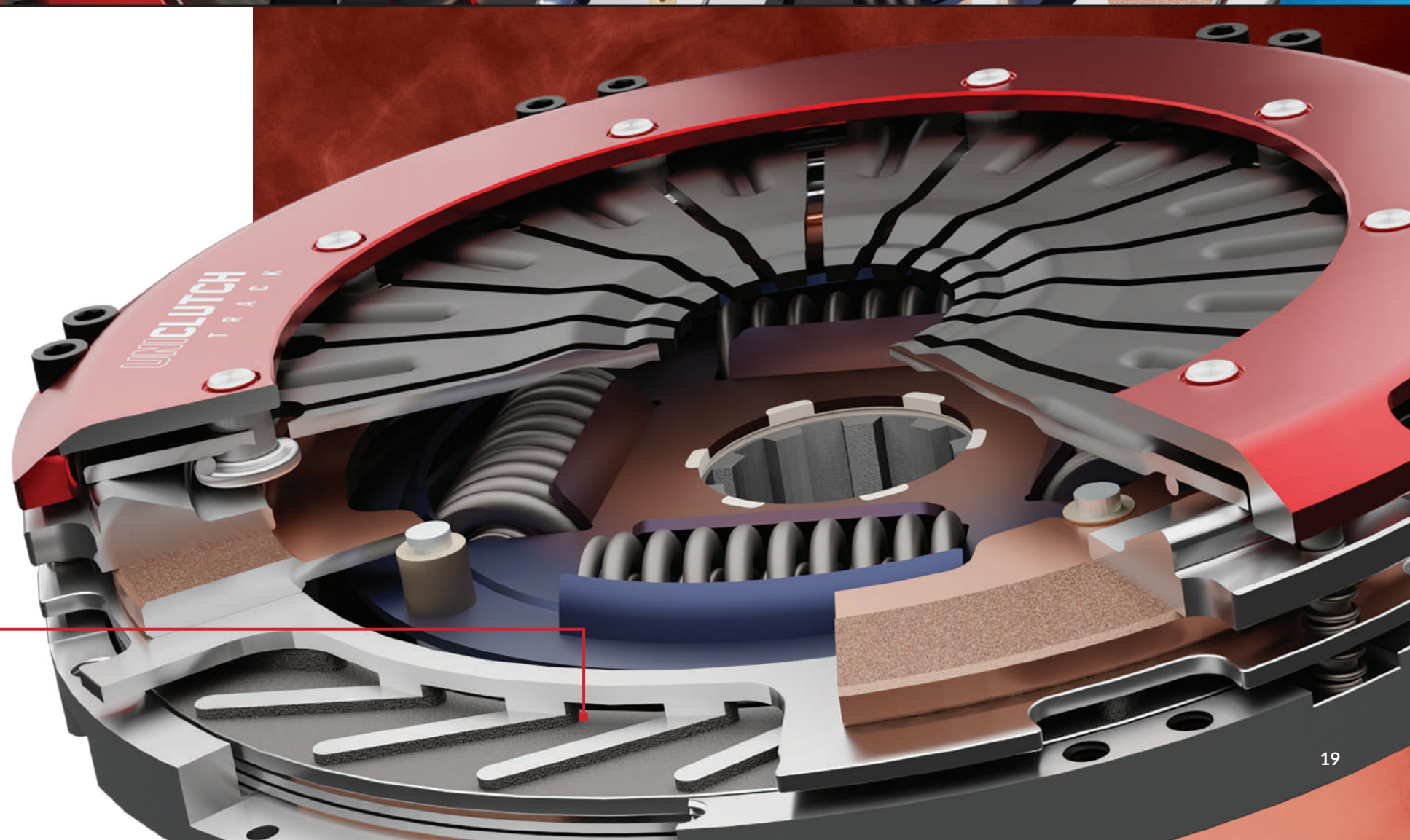
## Features & Benefits

Twin Disc, Dual Core, Clutch System  
UniClutch Flex Fit Installation  
Billet Steel Components  
Silent Shift Technology  
Integrated Flywheel Friction Surface  
Low MOI Chromoly Cover Assembly  
Cerametallic Track Focused  $\mu F+$  Material  
Quad Drive Forged Internals  
Track Pedal Tune  
Active Intercooler Technology (ICT)

Part Number: UC1021300

Torque Capacity up to  
2000 Nm/1450 Ft Lb

**Active Intercooler**  
Over 40% Increase in Heat  
Dissipation from SGI Vented  
Intermediate Plate





# UNICLUTCH 4TERRAIN

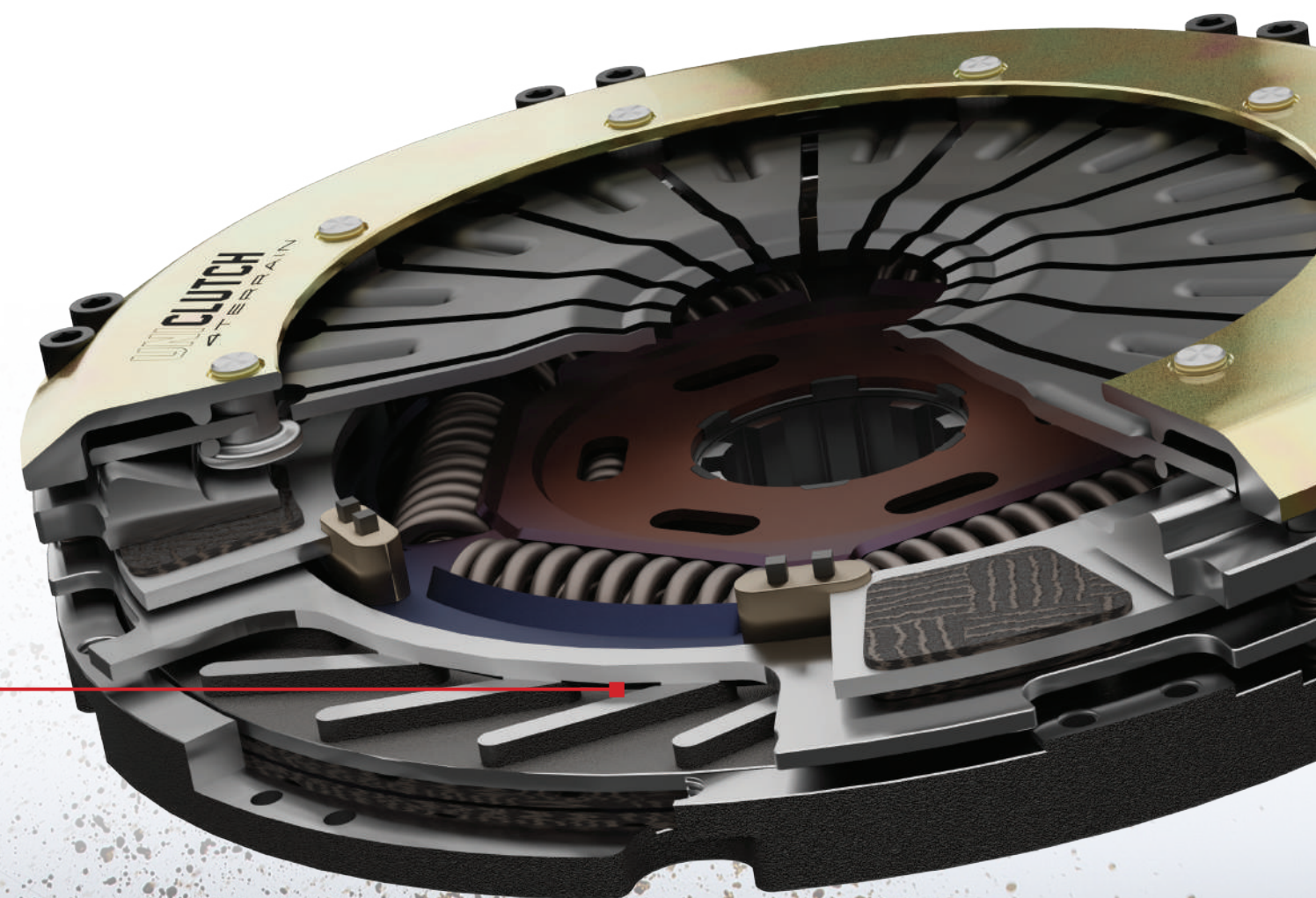
State of the art heat dissipation designed for 4x4's

## Features & Benefits

Twin Disc, Dual Core, Clutch System  
UniClutch Flex Fit Installation  
Silent Shift Technology  
Forged and Billet Internals  
Integrated Flywheel Friction Surface  
Anti-Corrosion Cover Assembly  
Dual Drive Forged Internals  
**Active Intercooler Technology (ICT)**  
4x4 Pedal Tune  
Ultra Wide Torsional Angularity

UniClutch 4Terrain 240mm -  
UC1024300  
Torque Capacity up to  
2000 Nm/1450 Ft Lb

**Active Intercooler**  
Over 40% Increase in Heat  
Dissipation from SGI Vented  
Intermediate Plate





# MONOCORE SOLUTIONS

Introducing the UniClutch MonoCore — a game-changing innovation tailored for vehicles equipped with compact engines. Our pursuit of excellence has led us to engineer a scaled-down version of the renowned UniClutch, designed to provide unparalleled performance enhancements at an incredibly affordable price point.

The UniClutch MonoCore embodies a new era of engineering, where compactness meets affordability without sacrificing performance. Crafted specifically for compact engines, this groundbreaking clutch system is a testament to

our commitment to innovation. By integrating cutting-edge design and manufacturing techniques, we have managed to create a clutch that not only meets the highest performance standards but also significantly reduces production costs.

We understand that drivers, regardless of their budget, deserve the change to experience enhanced acceleration, seamless gear shifts, and precise control. The UniClutch MonoCore empowers all driving enthusiasts to enjoy the benefits of advanced clutch technology without financial barriers.

With the UniClutch MonoCore, we are reshaping the landscape of performance upgrades. It's not just about a product; it's a representation of our dedication to making high-performance engineering accessible to all. By introducing this revolutionary solution, we're breaking down barriers and enabling every driver to harness the advantages of cutting-edge clutch technology, ushering in a new era of affordability and innovation.



# QUADCORE SOLUTIONS

Introducing the UniClutch QuadCore — a leap forward in performance engineering designed to meet the demands of heavily modified vehicles. By combining the power of four discs with UniClutch's proprietary Intercooler Technology (ICT), we have created the ultimate clutch system capable of withstanding up to a staggering 3500 Nm / 2600 Ft Lb of torque.

The UniClutch QuadCore redefines the limits of clutch technology. Engineered for those seeking extreme

performance, this innovative system retains Street drivability, making it ideal for both the racetrack and daily driving. The QuadCore's unique design optimizes torque transfer while the Intercooler Technology (ICT) ensures heat dissipation, safeguarding against overheating even under the most strenuous conditions. Motorsport enthusiasts and performance aficionados can now push their heavily modified vehicles to the limit without compromising on control or comfort. The QuadCore embodies our commitment to pushing

boundaries and revolutionizing the driving experience. It's a testament to our dedication to innovation and engineering excellence, enabling drivers to unleash unprecedented power without sacrificing the original driving experience that they love.





# TECHNOLOGY

**1** Featuring a **patented Interchangeable Spline** retention system so you can set up UniClutch to suit your factory transmission, or an aftermarket solution, in only seconds.

**2** The **patented Radial Dampening Center** technology provides up to 70 degrees of torsional dampening over four distinct stages, ensuring UniClutch does not exceed the height of the factory clutch package while providing increased torque capacity, strength, and lifespan, all without compromising performance.

**3** As UniClutch is a **sealed system**, it doesn't use the vehicle's flywheel as a friction surface. This eliminates the need for flywheel re-machining, and if the flywheel is in good mechanical condition, it doesn't even need to be removed from the car, which saves both time and money.

**4** UniClutch Vehicle Fitment Kits feature a **patented Flex Fit Flywheel Mount**, suiting thousands of vehicles. The setup process, which also features a **patented Height Adjustment System**, can be completed in under three minutes using basic tools, suiting factory and aftermarket conversions.



## Longevity

UniClutch's twin disc design increases the operating life of the clutch by distributing the torque load over multiple surfaces, reducing the wear and tear on individual components. In a traditional single disc clutch, the entire torque load is concentrated on a single friction surface, which can cause excessive heat and wear, leading to premature failure of the clutch system. In contrast, UniClutch divides the torque load between two discs, each with its own friction surface, resulting in less heat and wear on individual surfaces and prolonging the operating life of the clutch system.

## Torque

The mean effective radius in a clutch determines the torque capacity, along with the given clamping force and friction co-efficient. The mean effective radius is the mid point between the inner and outer radius of the clutch disc friction surface, and increasing this directly increases the amount of torque that the clutch can handle. UniClutch's twin disc clutch design increases the mean effective radius by using multiple discs arranged in parallel. This results in a clutch system that is capable of handling significantly more torque than a traditional single disc clutch.

## Feel

UniClutch has a larger surface area than the factory clutch, providing more contact area for the friction material to engage, which allows for smoother engagement and disengagement. By achieving increased torque capacity through the larger active surface area of the dual discs, UniClutch actually features a smaller diaphragm spring for a lighter pedal feel. Different pedal feel options are available in the range to suit your personal preference.



- 1 Unique Production QR Code
- 2 Patented Radial Center Dampening
- 3 Patented Flex Fit Installation System
- 4 Silent Shift Technology
- 5 Patented Interchangeable Spline Retention



# FEATURES + BENEFITS

Intermediate plate rattle noise is a specific type of noise that can occur in twin disc clutches. It is caused by the movement of intermediate plate, which is the plate located between the two clutch discs in a twin disc clutch system.

When the clutch is engaged, the intermediate plate is sandwiched between the two discs, delivering torque from the engine to the transmission. However, when the clutch is disengaged, the intermediate plate can move freely between the discs, causing it to rattle or vibrate.

Intermediate plate rattle noise can be exacerbated depending on the specific engine and transmission,

which will transmit varying levels of noise and vibrations. Additionally, the design and construction of the clutch can also affect the likelihood and severity of intermediate plate rattle noise.

UniClutch features Silent Shift Technology which isolates this noise by applying a pre-load to the integrated components with sufficient force to eliminate harmonics and vibration. This technology provides a further benefit of increasing clutch release speed, allowing for faster, smoother shifts and superior strength to traditional drive strap design.



# NOISE REDUCTION





UniClutch features a patented Radial Dampening Center (RDC) which can help reduce noise and vibration in a vehicle's drivetrain by isolating the engine's rotational energy from the transmission.

A traditional clutch has a linear compression spring array which is either torque limited, or angle limited, but not both. Especially in 4x4 and performance applications, the energy absorption of the springs must be increased, which is generally achieved by increasing the spring wire diameter. This then reduces the angle or free travel of the springs as the spring solid height increases with the wire diameter.

Therefore the engine rotational energy is transferred to the flywheel and then to the transmission with a decreased dampening angle. This can create a lot of noise and vibration in the drivetrain, especially at low speeds and during acceleration.

RDC, on the other hand, uses a combination of patented polyphenylene sulfide sleeves to arrange a series of staggered compression springs in stages. A urethane dampener stage assists with the transmission of energy between the spring stages.

The result is a gradual energy absorption, over a tremendously wide angle, with a very high ultimate torque capacity.

## ***RDC ANGULARITY***

UniClutch is manufactured to the strictest quality standards from the highest quality materials. Made from forged & billet internals and advanced polymer composites, UniClutch is up to 3x stronger than a factory clutch.

Tested in Clutch Industries' Australian laboratory, each design is subjected to millions of cycles of testing to ensure every component is robust, including a torturous 5,000 cycle back to back launch engagement test, and a 1.5 million cycle spring and diaphragm fatigue test.

Every component is 100% tested, assembled into a complete UniClutch, 100% tested again and laser etched with a unique production QR

code which when scanned shows the detailed manufacturing and performance specifications of each unit.

As the UniClutch is sealed, it uniquely prevents dirt, dust, and other contaminants from entering the clutch system. This can help reduce wear and tear on the clutch components, leading to a longer lifespan and lower risk of component failure or damage leading to fewer repairs and less downtime.

Furthermore, this approach improves performance by maintaining consistent friction and engagement characteristics over time. This leads to more precise shifting, smoother engagement and improved overall driving experience.



# ***QUALITY***



UniClutch is designed to work with a vehicle's factory fitted flywheel, and factory fitted bearings.

## Two Parts.

UniClutch is sold in two parts. Customers will need to purchase both parts for a functioning system.

## Part One.

Firstly, the UniClutch Core (2) which is a sealed clutch unit available in 2 sizes to suit a very wide range of vehicle applications.

## Part Two.

Secondly, the UniClutch Fitment Kit, which is essential to connect the Core to the vehicle's existing flywheel (5) and transmission. Several Fitment Kits are available, each suiting

hundreds of vehicles. The Flex Fit system includes a Flywheel Mount (3) which locates onto the existing vehicle flywheel dowels, and is bolted down with the vehicle's existing bolts. It also has a range of transmission input shaft splines (1). Peripheral hardware is also included such as Grade 12.9 Flywheel Mount to Core Bolts (4) and a circlip for retaining the transmission spline.

## Other.

If customers change their engine and / or transmission, they can select a different UniClutch Fitment Kit, or contact the UniClutch team for a custom solution.

Customers can retain or replace their flywheel as needed. Alternatively customers can fit virtually any aftermarket flywheel or seek to make their own, as UniClutch doesn't use the flywheel as a friction surface, only a mounting point.

Furthermore, customers can replace their spigot bearing / bush and release bearing / concentric slave cylinder as required. This is recommended if the outgoing clutch assembly is heavily worn out.



# HOW IT WORKS

Installing a typical clutch can be a complex process, and there are several pitfalls that can occur if it is not done correctly. Here are some of the common pitfalls when installing a typical clutch.

## Incorrect Alignment.<sup>1</sup>

One of the most common pitfalls when installing a clutch is incorrect alignment. This can result in premature wear and failure of the clutch components. It is important to use the manufacturer's recommended alignment tool and follow the installation instructions closely.

## Improper Pressure Plate Bolt Torque.<sup>1</sup>

Another common pitfall is improper tightening order of the cover

assembly bolts. If the cover bolts are not torqued gradually in a star pattern the drive straps can be damaged, causing clutch release issues.

## Contamination.<sup>1</sup>

Contamination of the clutch components can occur during installation, which can cause problems with the clutch's operation. This can be caused by dirt, oil, or other contaminants that get on the clutch plate or flywheel during installation.

## Flywheel Machining.<sup>1</sup>

This is an essential step in ensuring that the clutch operates smoothly and efficiently. It helps to improve clutch performance, extend clutch life, and reduce the risk of overheating and premature failure.

## Improper Lubrication.<sup>2</sup>

The clutch components need to be properly lubricated to operate correctly. If the wrong type of lubricant is used, or if the components are not lubricated enough, it can cause problems with the clutch's operation.

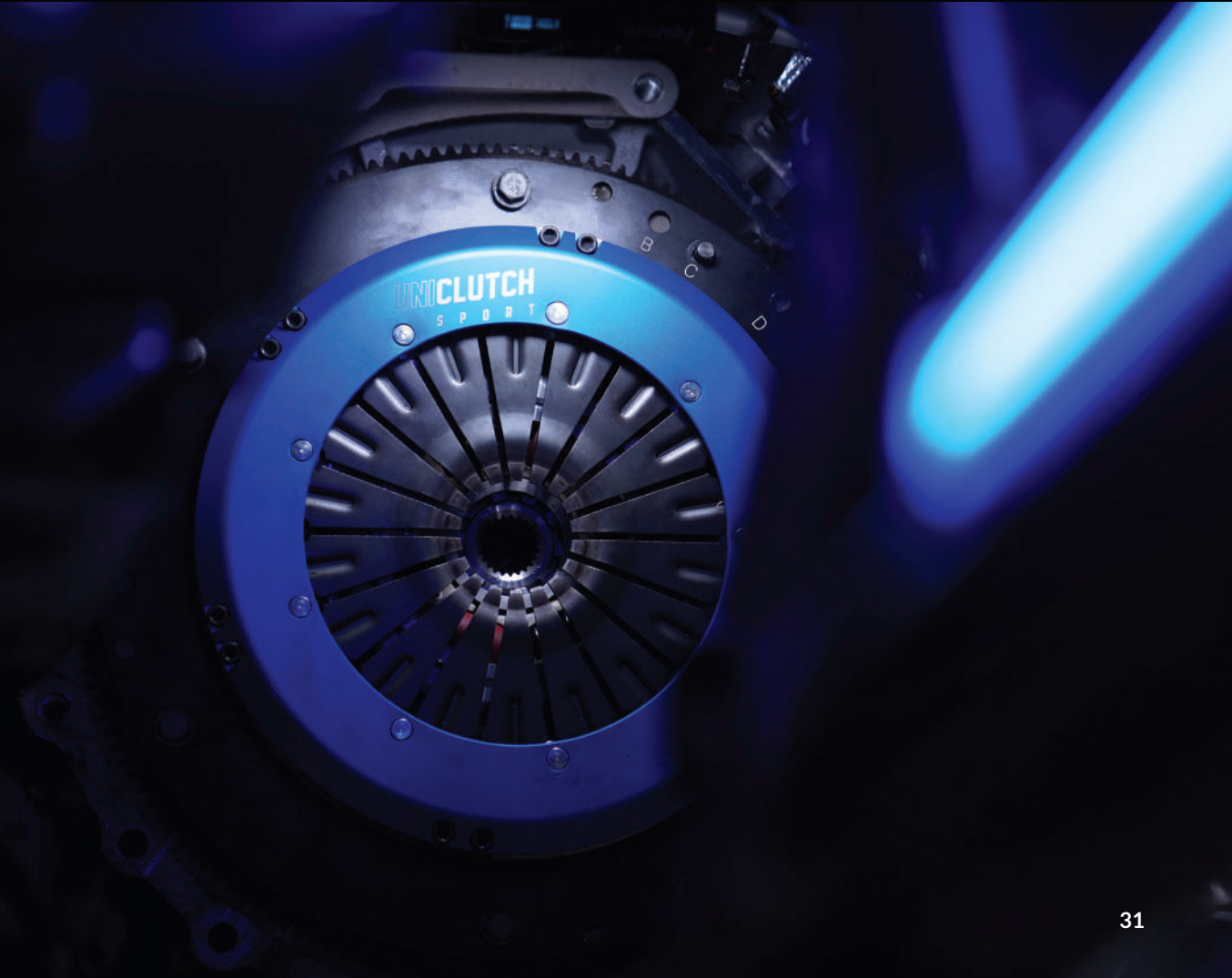
## Goodbye issues, hello UniClutch

UniClutch revolutionizes the installations process for mechanics and DIY'ers.

<sup>1</sup>UniClutch comes fully sealed and aligned, so there four issues are redundant.

<sup>2</sup>UniClutch comes with special grease for correct lubrication of the vehicle's transmission input shaft.

# EASE OF INSTALLATION





# TROUBLESHOOTING

## Difficulty Changing Gears

### Cause

- The transmission was forced into position, damaging the splines of the disc hub.

### Repair

- Install new clutch and carefully control the position and alignment during installation.
- Use a transmission jack and possibly install temporary guide pins to assist in aligning the transmission to the engine.

### Cause

- Faulty linkage or hydraulics.
- Damaged fork

### Repair

- Replace faulty component.

### Cause

- Incorrect spline selected for vehicle.

### Repair

- Reinstall correct spline for vehicle.

### Cause

- Incorrect height set (finger height too high / too low).

### Repair

- Reassemble spacers to achieve correct height.

### Cause

- Release bearing or concentric slave cylinder fitted to vehicle not compatible with UniClutch.

### Repair

- Contact UniClutch technical support.

### Cause

- Incorrect release travel. The clutch operating system is badly adjusted, defective or outside the operating range of the UniClutch.

### Repair

- Adjust the clutch operating system (pedal height, self adjusting system, clutch linkage, etc.) and check the pre-load on the release bearing.

### Action

- Contact UniClutch technical support.

## Noise

### Noise when bearing contacted

#### Cause

- Seal torn.
- Overheating during slippage.
- Leakage of the grease.
- Incorrect free travel adjustment.

#### Repair

- Check diaphragm for damage.
- Replace release bearing

### Rattle / Release Issue

#### Cause

- Retaining clip not correctly installed on fork.
- Fork not correctly seated on the pivot ball.

#### Repair

- Install new bearing ensuring bearing is secure to the fork.
- Ensure fork is correctly sealed on the pivot ball and greased.

### Noise when in neutral

#### Cause

- Lack of care during installation, splines have been damaged by the gearbox main shaft.

#### Repair

- Replace the main shaft.
- Replace the clutch spline.

#### Caution

- Make sure that the splines properly match up.
- Lubricate with a proper quantity of grease.

## Other

### Too much grease

#### Cause

- Excess of lubrication grease on the nose of the release bearing.

#### Repair

- Clean the release bearing.
- Apply the correct quantity of lubricant.

### Difficulty Shifting

#### Cause

- Incorrect release bearing travel.
- The clutch operating system is badly adjusted or defective.
- The level of pre-load on the release bearing is incorrect.

#### Repair

- Adjust the clutch operating system (pedal height, self adjusting system, clutch linkage, etc.) and check the pre-load on the release bearing.

### Clutch pedal binding

#### Cause

- The fork is out of shape.
- The release bearing guide tube is worn or the release arm/fork is bent/worn.

#### Repair

- Replace with a genuine release fork.

- Install new clutch and guide system components and repair or replace as needed.

### The contact point of the fork is worn out, the fork is off-center

#### Cause

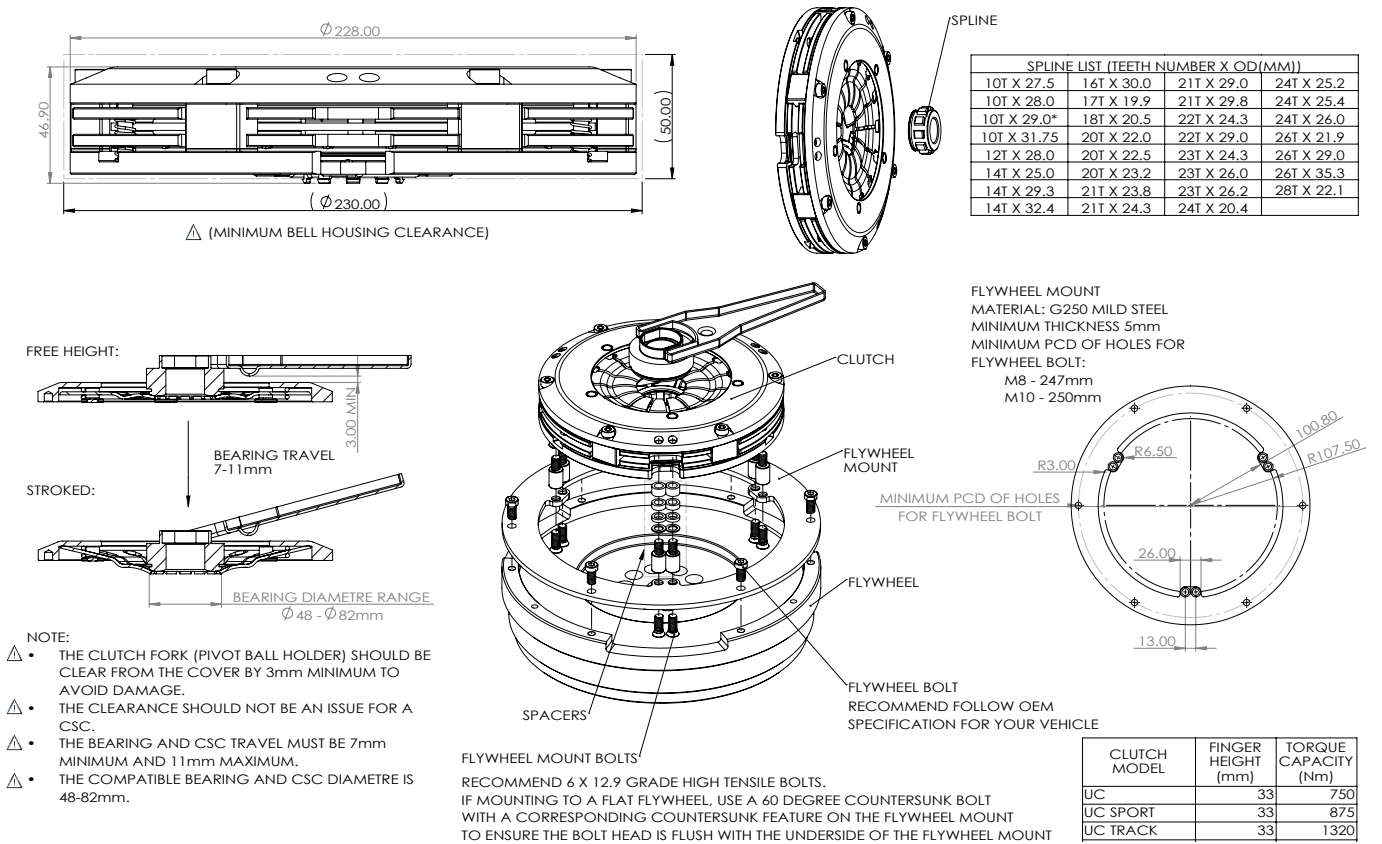
- The fork is out of shape.

#### Repair

- Replace with a genuine release fork.

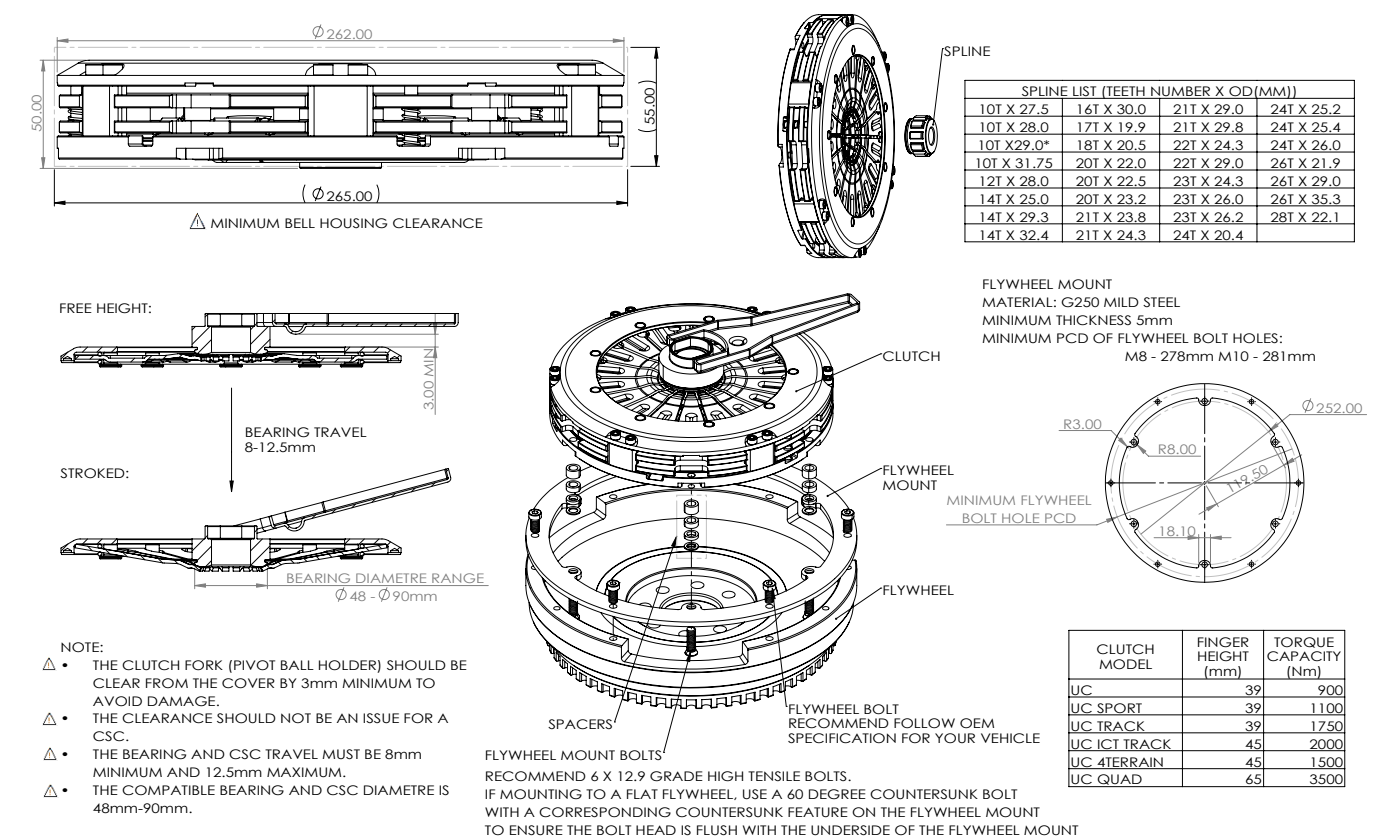
# CUSTOM INSTALLATION

## 195mm Custom Installation



# CUSTOM INSTALLATION

## 240mm Custom Installation





## Product Info

**What’s the difference between a single disc vs twin disc (dual-core) clutch?**

A traditional single disc clutch needs to be physically larger to achieve the required mean effective radius to hold enough torque for a particular vehicle, whereas a twin disc clutch can spread the torque over the two clutch discs. This can allow it to have a smaller diameter while still meeting or exceeding the torque required for that vehicle application.

**What is Radial Dampening Center Technology (RDC)?**

Noise reduction in a clutch is largely achieved by increasing the angular torsional dampening capacity. UniClutch has 35 degrees of angularity (70 degrees total), similar to a dual mass flywheel. The patented 4-stage Radial Dampening Center uses a combination of springs in series and parallel encased in patented sleeves, plus a urethane shock absorber stage. This allows the UniClutch to have up to twice the torque capacity of a traditional clutch with similar angularity to a dual mass flywheel. This design is unique and one of the key technologies, which means the UniClutch will perform extremely well on a wide range of engines.

**What is Silent Shift Technology?**

Traditional twin disc clutches are often noisy as the intermediate plate which separates the two frictional discs is floating when the clutch is disengaged. Users of these types of clutches will experience clutch plate rattle, and many aftermarket clutch manufacturers sell these products with a “buyer beware” bulletin or video as the noise can be onerous. Clutch Industries has long had a suite of proven technologies to eliminate this rattle, and the UniClutch is no exception to this.

After years of R&D and road/ track-proven testing, UniClutch utilizes a new noise suppressant system called Silent Shift Technology. Silent Shift Technology utilizes spring loaded intermediate plates to stop them from rattling during engagement and disengagement.

**How does UniClutch have lighter pedal effort while offering better performance than an OE clutch?**

Traditional heavy-duty/ performance clutches rely on the pressure plate to have more clamp load which requires a stiffer diaphragm and more pedal effort to actuate the pressure plate to release the clutch. After extensive R&D by the UniClutch engineering team, the UniClutch has been designed in a way that requires less effort to actuate the clutch diaphragm to release the clutch. Thanks to this unique design, 90% of vehicle applications that are covered by UniClutch will offer a lighter or OE-level pedal effort.

**I have modified my engine, and it is now making more power and torque than standard, is the UniClutch suitable for my application?**

No matter your application, the UniClutch will offer superior torque handling capacity compared to an OEM Clutch. When searching for your specific vehicle in the UniClutch catalog, it will give you an indication of the potential torque capacity over an OEM clutch and the torque capacity rating for each UniClutch option.

WARNING: DO NOT USE ANY UNICLUTCH PRODUCT IN VEHICLES THAT HAVE BEEN MODIFIED TO EXCEED THE MAXIMUM ENGINE RPM(S) BEYOND THAT WHICH WAS SPECIFIED BY THE ORIGINAL VEHICLE MANUFACTURER WITHOUT FIRST INSTALLING APPROPRIATE SAFETY EQUIPMENT, INCLUDING BUT NOT LIMITED TO TRANSMISSION GUARDS, AS SUCH USE MAY CAUSE THE PRODUCT TO EXPLODE UNEXPECTEDLY CAUSING SERIOUS INJURY AND/ OR DEATH.

**Which UniClutch should I purchase?**

There are four versions of the UniClutch. UniClutch, UniClutch Sport, UniClutch Track and UniClutch 4Terrain. Depending on your exact vehicle and usage requirements, one of these 4 will be best suited to your needs. Please refer to pages 16-21 for information outlining the UniClutch versions. If you need help with the best option for your application, contact our sales or tech support team to discuss what best suits your specific needs.

## Driving Experience

**Will my UniClutch operate like my OE Clutch?**

While the UniClutch replaces OE clutches, it will not feel exactly like an OE clutch. Most aftermarket twin disc clutches on the market will offer more compromises to the drivability and NVH (driveline vibration and noise) comparable to the OE clutch. The UniClutch will provide all the benefits of a twin disc clutch with fewer compromises. In a small percentage of UniClutch applications, there may be a compromise with increased pedal effort or levels of shudder compared to the OE clutch it is replacing.

**How heavy will my clutch pedal feel after the UniClutch is installed?**

UniClutch has been designed to feel like an OE clutch or lighter in most applications. When searching for your specific vehicle in the UniClutch catalog, it will give you an indication of the expected pedal effort after the UniClutch is installed.

**Will the release point of my clutch change after a UniClutch is installed?**

In most instances, the release point will be like OEM. When searching for your specific vehicle in the UniClutch catalog, it will give you an indication of the potential clutch release point.

**If I install a solid mass flywheel and a UniClutch, will I experience any more engine and driveline noise?**

Converting from a dual mass to a solid mass flywheel will usually mean that you will experience an increase in the NVH. While the UniClutch does have superior noise and vibration dampening thanks to the patented 4-stage Radial Dampening Center (RDC), we still expect that you may experience an increase in the NVH generated by the engine as a result of removing the dual mass flywheel.

## Installation Info

***Please follow all instructions for installation which can be found in your product box and by scanning the QR code on your product box.***

**Can I install UniClutch height spacers in any order?**

No, it is critical to the correct operation of the UniClutch that the height spacers are installed as outlined in the specific vehicle install instructions.

**Do I need to machine or replace my solid flywheel when installing a UniClutch?**

No flywheel machining is required as the UniClutch does not utilize the flywheel as a friction surface like a traditional clutch. As the UniClutch is totally sealed, the flywheel is only used as a bolt face so that the UniClutch can transmit the power from the engine to the gearbox. It is recommended that an installer carefully inspects the current flywheel to ensure it has no major defects that would prevent it from being reused when installing the UniClutch.

**Do I need to replace my dual mass flywheel when installing a UniClutch?**

If your dual mass flywheel is still within the recommended factory tolerance, then it can be retained and reused when installing the UniClutch. If it is not within the factory tolerance, then a new DMF should be used or a Clutch Industries solid mass flywheel (DMR) could be used in place of the DMF.

**Should I change the spigot bearing before installing a UniClutch?**

It is always recommended to renew the spigot bearing at the time of the old clutch removal. If the condition is unknown, best practice is to replace it with a new bearing.

**My old clutch completely disintegrated, do I need to clean out the bell housing and gearbox before installing my new clutch?**

It is best practice to ensure that the bell housing and gearbox case is completely cleaned and free of anything that could cause contamination to your new UniClutch. Any UniClutch found to have any external contamination will void its warranty.

**I can see a little oil leak from behind my flywheel, should I check the condition of the rear main seal?**

Yes, if the rear main seal is leaking, the engine oil could contaminate your UniClutch, which will affect operation of the clutch and its performance. Any UniClutch found to have any external contamination will void its warranty.



# FAQ CONTINUED

## Do I need to change anything else while installing a UniClutch?

It is good practice with any clutch replacement to look over the reason why the original clutch needed to be replaced and ensure that any components that could have caused an issue are reviewed. Look over the hydraulic system (master cylinder, slave cylinder or clutch dampener etc.) and any other components in the clutch system (fork, pivot ball etc.) to ensure they are in working and reusable condition. If there is any doubt about the condition of these components, it is recommended that they are replaced.

## What do I do with the leftover parts in the Fitment Kit after I have installed my UniClutch?

If you have used the correct components for the installation as outlined in your specific UniClutch installation guide, then you can responsibly dispose of the other components left in the Fitment Kit as they will not be required.

## QR Codes

### How do I scan them?

It's as simple as opening the camera function on your phone and holding it over the QR code, a box will surround the code on your phone screen which will bring up a link to the corresponding UniClutch website. No specific app or program is required to scan a QR code. If you do not have this functionality on your device you can navigate to [www.uniclutch.com/catalogue](http://www.uniclutch.com/catalogue) to find your specific installation guide.

### What is the QR code on my UniClutch box?

This QR code is used to go directly to our UniClutch website, where you can download the specific setup and installation instructions for your UniClutch application. When you scan the code, you will be taken to the UniClutch website where you will need to enter the details of your vehicle to bring up the specific installation instructions for your UniClutch.

## Why is there a QR code on my UniClutch?

Each UniClutch has a unique identifying QR code on the unit. This QR code is part of the rigorous quality control process which forms part of the UniClutch manufacturing and quality control system. The QR codes found on each UniClutch are individually laser engraved, recorded and checked off to ensure that every unit is made to the exact specifications required.

## What can I do with this QR code?

By scanning this QR code, you will see the exact build specifications of your UniClutch, including information such as the unit's release, lift, clamp load, finger height and evenness. While on this page, you can also register your UniClutch for warranty purposes.

## Do I need to scan this QR code and save a copy of the QR code on my UniClutch?

You should take a photo of the QR code on the UniClutch unit and keep it with your vehicle's records as it will be required, along with the warranty registration details, if any troubleshooting information is required.

## Part Spec Info:

I am completing an engine or gearbox conversion in my vehicle. Could I utilize a UniClutch with my conversion? We would recommend contacting the UniClutch technical team to run through your specific conversion so they can advise which specific UniClutch components will be required.

## My vehicle application is not listed in the catalog. can I still get a UniClutch?

We recommend contacting the UniClutch technical team to run through your specific vehicle details so they can advise if UniClutch is suitable and which UniClutch components are required.

## Can I purchase individual components to suit my custom application?

While initially, you will need to purchase the UniClutch and the most suitable Fitment Kit, if an additional hub or spacers are required to suit a custom application, these can be purchased via UniClutch directly or your chosen distributor. Contact the UniClutch technical team to review your requirements.

## There is no Fitment Kit part number for my flywheel, can I make my own?

See custom installation instructions regarding specifications required to make your own Flywheel Mount and any other notes required for a custom UniClutch installation.

## I want a UniClutch, what do I need to purchase?

You will need the following components:

- UniClutch, UniClutch Sport, UniClutch Track or UniClutch 4Terrain
- Vehicle Fitment Kit
- Thrust bearing or concentric slave cylinder
- Spigot bearing
- Flywheel (optional, only if required)

## Will my UniClutch Fitment Kit suit all vehicle applications?

Each Fitment Kit will suit various vehicle applications. To know exactly what Fitment Kit you require for your vehicle application you will need to go through the UniClutch catalog for the exact part number required.

## I have an aftermarket solid mass flywheel conversion installed in my vehicle. Can I use a UniClutch?

If you have a CI-branded solid mass flywheel, then the UniClutch can be fitted with the correct Fitment Kit. In the cases that another branded solid mass flywheel is fitted, UniClutch cannot be guaranteed to work if that manufacturer has designed their solid mass flywheel to

use a different pressure plate bolt pattern from OEM. It would be recommended to purchase a new CI SMF for compatibility.

## I have an aftermarket lightweight flywheel. Can I use a UniClutch?

If your aftermarket lightweight flywheel is a replacement for the OE flywheel, just lighter, then yes, you can. If your lightened flywheel has been made to suit a specific clutch pressure plate, then you may not be able to use UniClutch. Contact the UniClutch technical team for clarity.

## Spare Parts

## Can I purchase spare parts for my UniClutch or UniClutch Fitment Kit?

You can purchase any of the parts in the UniClutch Fitment Kit as individual spare parts. However, you cannot purchase any components in the assembled sealed UniClutch unit. You can contact the UniClutch sales or technical team for assistance with purchasing available spare parts.

## I want to replace the clutch plates in my UniClutch. can I purchase them as spare parts?

No, each UniClutch is individually built and tested as a matched set of components. Any of the internal components of the UniClutch cannot be purchased separately. A complete UniClutch unit would need to be purchased if it's required.

## I want to upgrade from a UniClutch to a UniClutch Sport, Track or 4Terrain. What do I need?

You can purchase a new UniClutch Sport, Track or 4Terrain and reuse your existing Fitment Kit. The Fitment Kit components installed on the flywheel must be reviewed before installing the new UniClutch. If there is any doubt about the condition of those components, it is better to replace them with a new Fitment Kit.



***UNICLUTCH***

