



KEEPS YOU GOING.

RUBBER **TRACKS**

GET A GRIP ON YOUR RUBBER TRACKS

Increase the lifespan of your rubber tracks and undercarriage parts through good maintenance

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■ LET'S GET STARTED

Maintaining your rubber tracks? It might seem a little pointless. Until you realise that the tracks are the most expensive component to replace on your machine. **Well-maintained tracks have longer lifespans**, so they save you money. And they reduce your fuel consumption. In fact, they increase site safety, slash machine downtime and optimise your productivity with your machine.

How do you maintain and service your tracks? This guide contains all the tips and tricks you need. Make the most of it!



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■ GET TO KNOW WHICH TYPES OF TRACKS EXIST

No two tracks are the same, even if they look alike. Each type has its own benefits and is suited for different work environments. Your machine was even designed with a specific track in mind. Let's discover the different possibilities of tracks.

There's a reason many machines in construction, earth moving equipment or mobile elevating work platforms operate on rubber tracks: better traction. Rubber tracks have better traction than tyres. The weight of your machine is distributed over a larger area. This means that no matter how wet or dirty a surface may be, tracks will give enough grip to get the job done.

You'll find **different tread patterns** on different rubber tracks for compact track loaders. Each pattern is suited to a **different application**. Will the rubber tracks run over concrete? You'll prefer rubber tracks with a robust tread pattern. Will you be driving your machine across a golf course? You'll want a smoother multibar pattern. But for a mini-excavator that works on a construction site, you'll want enough detail in the tread pattern to handle all kinds of ground conditions.

For dumpers, mini-excavators and mobile elevating work platforms, only one tread pattern is always available.

RUBBER TRACKS

Rubber tracks offer **superior floor protection** and ensure **optimal traction**, especially for smaller machines. Their flexible and durable design helps to minimise damage to surfaces, making them an excellent choice for indoor and delicate environments. Additionally, the enhanced grip on various terrains ensures smooth operation and reduced slippage, enhancing overall safety and efficiency.

SHORT PITCH VS. LONG PITCH TRACKS

In the realm of construction equipment, two primary categories exist: short pitch and long pitch tracks.

Short pitch tracks feature a shorter distance between the links, resulting in more track links within a given length. This design offers increased traction, smoother ride quality, and reduced wear on the undercarriage components. Short pitch tracks are well-suited for applications that demand higher speeds and improved manoeuvrability, making them ideal for skid steers and compact track loaders.

Long pitch tracks have a greater distance between the links, resulting in fewer links in the same length compared to short pitch tracks. Long pitch tracks are often preferred for larger, heavier machines like excavators. They provide better weight distribution and have higher resistance to wear, making them suitable for rugged terrains and heavy-duty operations.

STEEL TRACKS

TVH also has steel tracks in its range, enabling you to alternately **switch between rubber or steel tracks in certain conditions**.

We also have **rubber pads** to clip onto steel tracks of larger machines. You mount these rubber pads on your machine with steel tracks when you occasionally need to drive your machine on a piece of street or concrete. This way, you avoid damaging the surface.

There are 3 ways to mount rubber pads on steel tracks:

1. **Bolt-on:** mounting the rubber pad directly onto the steel track
2. **Chain-on:** remove the steel plates and then mount the rubber pads.
3. **Clip-on:** the rubber pad is slid along the side over the steel plate with a hook.

■ PRESERVING TRACK PERFORMANCE: THE INDISPENSABILITY OF HIGH-QUALITY UNDERCARRIAGE PARTS

The undercarriage of mini-excavators and compact track loaders is a complex system comprising sprockets, idlers, bottom rollers, and top rollers. Each component plays a critical role in ensuring the machine's efficiency and longevity. TVH offers a wide range of undercarriage solutions designed to maintain peak performance and provide optimal functionality for your equipment.

TRACK SPROCKETS - DRIVING PRECISION

TVH's specially designed track sprockets ensure **seamless operation of the chain links** of compact track loaders and mini-excavators. Constructed with durable metal, these sprockets feature unified gear rings and metal inner rings with either pressed hubs or bolt holes. Proper installation of sprockets is vital as they facilitate the connection between two chain links, driving the chain and ensuring smooth machine performance.

TRACK ROLLERS - ULTIMATE SUPPORT

TVH's track rollers are meticulously developed to meet stringent requirements, incorporating special seals and reinforced flanges. **Top rollers** provide crucial support for the tracks, while **bottom rollers** maintain clearance height and minimize stress on other components like sprockets and front wheels. Our various types of bottom rollers cater to specific applications, delivering enhanced stability, traction, and reliable operation.

TRACK IDLERS - MAINTAINING TENSION AND ALIGNMENT

Essential for small earth-moving equipment, track idlers play a critical role in maintaining **proper tension and alignment** of the tracks. They distribute the vehicle's weight evenly, reducing strain on individual components. TVH offers track idlers with various design features, ensuring exceptional quality, durability, and reliability for different machinery types.



■ EXPLORING VERSATILITY: COMPACT TRACK LOADERS VS. MINI-EXCAVATORS

Compact track loaders and mini-excavators are two types of versatile construction equipment commonly used in various industries. The primary difference between the two lies in their track systems.

1 TRACK SYSTEMS

Compact Track Loaders: These machines use rubber tracks that distribute weight more evenly, reducing ground pressure. They use rubber tracks that distribute weight more evenly, reducing ground pressure. This design enables them to operate efficiently on soft, muddy, or uneven terrains without causing significant damage to the ground. With enhanced traction and stability, compact track loaders excel in landscaping, forestry, and construction on delicate surfaces.

Mini-excavators: Mini-excavators commonly utilize steel or rubber tracks, which can concentrate weight and increase ground pressure. This may result in more surface damage on sensitive terrains. Some mini-excavators incorporate rubber tracks for better traction and less impact on delicate surfaces. Furthermore, their narrower tracks allow mini-excavators to excel in confined spaces, making them suitable for precise digging and trenching tasks.

2 VERSATILITY

Compact Track Loaders: Because of their track system, compact track loaders offer enhanced versatility, especially in challenging environments. They navigate muddy or uneven terrain with ease, proving useful in landscaping, farming, and construction projects that demand off-road capabilities. Compact track loaders can be equipped with various attachments, such as buckets, forks, and augers, allowing them to tackle a wide range of tasks, from lifting and hauling to grading and digging.

Mini-excavators: In contrast, mini-excavators are primarily designed for excavation and digging tasks. While they do offer attachment options, their scope of applications remains more limited compared to compact track loaders.

3 SURFACE DAMAGE

Compact Track Loaders: Due to their evenly distributed weight and rubber track systems, compact track loaders are gentler on surfaces. This makes them well-suited for tasks on lawns, pavement, and delicate landscapes. This reduces the risk of leaving visible marks or damaging the terrain, making them preferred for projects that demand minimal surface disturbance.

Mini-excavators: Conversely, mini-excavators, with their potential for higher ground pressure and narrower tracks, can cause more visible damage to surfaces, particularly softer or sensitive ones. This could lead to disruptions and necessitate extensive repairs.

In summary, compact track loaders excel in versatility and surface preservation due to their rubber track systems and even weight distribution. They are adaptable to various tasks while minimizing surface damage, making them well-suited for off-road applications and sensitive terrains. Meanwhile, mini-excavators are specialised for digging and excavation, but their potential for higher ground pressure and narrower tracks can lead to more significant surface disturbances. The choice between the two depends on the specific project requirements and the type of terrain they will operate on.

■ OPTIMISE THE LIFESPAN OF TRACKS WITH A LITTLE MAINTENANCE

You would expect that maintaining machines and their vital parts would be a standard, straightforward procedure. However, in some cases, maintenance is not performed adequately enough. And as you now know, the tracks are the biggest expense in the operational life of a machine. So you'll understand why it's worth putting the effort in to properly maintain the tracks.



1 OPERATE THE MACHINE PROPERLY

Provide anyone driving the machines with training. This way, they'll all know how to operate the machine to optimise its lifespan.

- Pay attention to the sidewall of the tracks. By stopping the sidewall of the tracks from rubbing against hard walls such as curbs, the lifespan of the tracks is extended.
- The tracks are not designed for sharp turns or turning too quickly. Avoid both and the tracks will survive longer.



2 BE CAREFUL WITH HAZARDOUS SURFACES

Tracks allow you to drive over sharp surfaces and surfaces with stones or rocks. But we still advise to steer clear of these situations as much as possible to avoid puncturing tracks or damaging them in other ways. If possible, drive around obstacles instead of over them.



3 PARK THE MACHINE IN A SAFE PLACE

What's a safe place? A parking spot where it's protected from sun and rain. Heat from the sun is known to cause cracks in tracks. The rain, on the other hand, corrodes metal parts.

And never park the machine in a place where there are (traces of) oil and grease. Oils and greases have an aging effect on the rubber.



4 REGULARLY INSPECT THE RUBBER TRACKS AND UNDERCARRIAGE PARTS FOR WEAR AND TEAR

Wear and tear on the undercarriage parts will affect the performance and productivity of the machine. The rollers, idlers and sprockets have to be checked regularly and replaced when necessary.

Important: when replacing the rubber tracks of a machine, replace certain parts of the undercarriage as well. These parts wear out together with the rubber tracks. This means that if the rubber tracks are worn out, the undercarriage parts will be too.



5 REGULARLY CHECK THE TENSION OF THE TRACKS

You'll find the correct tension for a particular machine in the manufacturer's manual. It's important to have enough tension on the tracks to avoid slipping. But you don't want too much tension, which will also cause damage.

What do you do if there is too little tension? Add grease to the tensioner grease cylinder. Is the tensioner fully extended? This means it's time to replace the rubber track.



6 CLEAN THE TRACKS REGULARLY

Waste and soil are an extra load for the undercarriage to deal with. Use water to wash them away and keep the tracks clean. And, as mentioned in the third tip about parking a machine, you want to keep the tracks free from oil and grease. Always inspect the tracks for these substances when cleaning them.

■ **AVOID DOWNTIME BY REPLACING THE TRACKS AT THE RIGHT MOMENT**

What happens when the rubber tracks break on your machine? Your machine will be sidelined.

The presence of the four signs below indicates that the rubber tracks are approaching the end of their lifespan. Knowing whether it's time to place an order or plan for some mechanical adjustments, will be beneficial. Discover below invaluable tips and tricks to extend the tracks' lifespan.

1 CONSTANT LOSS OF TENSION

It's normal for rubber tracks to stretch and lose tension over time. The reasons? Everything from ambient temperatures to your tension wheel deflecting too far, or the problem could be caused by a leak in the grease cylinder. With too little tension, the track may fall off the undercarriage. We recommend checking the tension of the tracks every day.

Extra tip: Are you constantly losing tension? Don't be tempted into over-tightening the tracks beyond the tension prescribed in the machine's manual. Too much tension on the rubber tracks may also damage them.

2 CRACKS IN THE RUBBER TRACKS

Anything made from rubber will start to crack and tear over time. This includes the rubber tracks. The cracks will appear more quickly when the machine is operating incorrectly or working on rough terrain. Drive around obstacles instead of over them.

3 THE RUBBER TRACK SLIPS ON THE SPROCKET WHEELS

You may notice the track slipping over the sprockets. This is often a sign that the rubber tracks are too loose. However, it may also be a sign the sprockets are worn out. Unchecked, the tracks may start running off the machine or the metal links could be pushed out of the rubber.

4 THE METAL LINKS COME OUT OF THE RUBBER

Dirt in the undercarriage can damage the rubber tracks and cause the metal links to be pushed out of the rubber. We recommend cleaning the tracks and the undercarriage every day. Worn sprockets are just as damaging to the metal links and the tracks.



■ SAVE TIME AND LEARN HOW TO REPLACE THE RUBBER TRACKS YOURSELF

If you're sure the tracks are about to break down, it's best not to waste time. Replace them. Either by arranging for them to be replaced, or by performing the replacement yourself. It's a relatively easy process if you have the right knowledge and tools to complete the job. Luckily for you, TVH offers you both. Success is guaranteed when you follow our step-by-step guide.

To perform this job you'll need:



- ▶ Personal protective equipment (PPE)



- ▶ The manual for your machine



- ▶ Sockets and torque wrench



- ▶ Grease (check your manual to find out which type)



- ▶ Replacement sprocket wheel, idler and rollers



- ▶ Replacement rubber track

1 GIVE YOURSELF ADEQUATE SPACE AND THE PROPER PROTECTION

A good start is half the battle. Make sure you have enough space. Move any obstacles away and clean up any debris, dirt and dust. Always wear personal protective equipment (PPE), including hand and eye protection. Finally, keep the manual for the machine close by. It will come in handy if you need to look up technical information such as the optimal track tension.

2 LIFT THE MACHINE

Lower the front blade of the machine until the front of the track lifts off the ground. Now, push the arm down on the opposite side until the entire track is off the floor. The rubber track will spin freely, and you'll be able to reach everything more easily.

3 EMPTY THE GREASE CYLINDER

The grease cylinder keeps the track under tension. Emptying it reduces the tension. The grease cylinder (and the grease nipple) are accessible via the inspection hatch on the undercarriage. Remove any sand, dirt or other grime inside the hatch. Squeeze the grease from the cylinder. Collect it with a piece of cloth or cardboard.

Tip: Trouble squeezing all the grease out of the cylinder? Try a different method: Place a wooden beam between the track and the sprocket. Start the engine. The wooden beam will turn with the sprocket and the grease cylinder will be emptied.

4 REMOVE THE OLD RUBBER TRACK

Lower the machine until the bottom of the track touches the ground. Remove the track from the idler first. It is best to tilt the track to remove it from the sprocket. A forklift is handy for lifting the tracks and moving them out of your way.

5 CHECK THE IDLER AND THE UPPER AND LOWER ROLLERS FOR WEAR AND TEAR. REPLACE THEM AS NECESSARY

Make sure the rollers and the idler are still in good condition. The manual will let you know how much wear and tear is acceptable. Replace them as necessary, but only when the undercarriage is dirt-free.

6 REPLACE THE SPROCKET

Replacing the track and sprocket wheel together is essential for maintaining the undercarriage's longevity and overall performance. The sprocket's teeth mesh with the track links, causing both components to wear out simultaneously. If one is worn, the other is likely to be as well. Neglecting to replace the sprocket wheel when replacing the track can result in premature track failure and additional strain on the new track, leading to reduced efficiency and longevity of the machine.

To ensure a smooth replacement process, start by loosening the bolts of the sprocket wheel. If you encounter difficulty removing the sprocket wheel, using a wooden beam can assist in the process. Before installing the new sprocket wheel, it's essential to clean the contact surfaces on the drive motor using sandpaper or a wire brush. This step is necessary to remove any build-up of rust and grease that may cause the old sprocket wheel to stick to the drive motor. By creating a clean contact surface, you improve the attachment of the new sprocket to the drive motor.

Once the contact surfaces are clean, put the new sprocket wheel into position and use a torque wrench to tighten it. Refer to the manual for your machine to find the correct torque setting for the sprocket wheel. Following these maintenance practices will optimise the performance and extend the lifespan of your track system.

7 INSTALL THE NEW TRACK

Ask a colleague to help you with this. First, place the new track on the sprocket wheel. Your colleague then needs to pull the other side of the track over the idler. Use a metal bar to help you lift the hanging rubber track over the beam of the undercarriage. Make sure the teeth of the sprocket wheel fit into the bushes of the track. Finally, raise the machine so the track no longer touches the ground.

8 REFILL THE GREASE CYLINDER

The grease cylinder provides tension in the rubber track by pushing the idler out and tightening the track. The manual will tell you the required tension of the track. You don't want it to be too loose and definitely not too tight.

Extra tip: Measure the tension by measuring the distance between the bottom of the beam and the inside of the track with a tape measure.

9 CLOSE AND TIGHTEN THE INSPECTION DOOR

Close the inspection door again and make sure it's tight. You've now replaced the track ...

10 REPLACE THE OTHER RUBBER TRACK IF NECESSARY

... Which means it's advisable to immediately replace the other one. This is definitely the case with skid steer loaders—they move about more than mini-excavators and put more pressure on the tracks.



