

## **Causes of Derail**

Rubber tracks de-rail due to any one of the following causes, but is mostly a combination:

1. Insufficient track adjuster tension or broken track spring
2. Leaking track adjusters
3. Worn undercarriage
4. Incorrect track fitment
5. Operator error
6. Operating conditions
7. Faulty tracks

### **Idler Wheel Issues**

The first question to ask when de-railing problems surface is – was the machine converted from steel tracks to rubber tracks?

The reason for this is the idler wheel flange. Steel Track Idler Flanges are not as deep seating in between the rail due to the stiffness of steel track chains. Rubber tracks, because of their flexibility, have a deeper idler wheel flange to prevent derail. If the idler wheel does not have a deep enough flange the more flexible rubber track can walk off the idler wheel.

Therefore, if the machine has been converted from steel to rubber tracks be sure to check the idler wheel flange depth and that it meets the needs of the depth of the rubber track link.

### **Leaking Track Adjusters**

Another common cause of de-rail is a leaking adjuster. If the hydraulic cylinder is leaking the track will loose tension, especially in reverse travel when the track is under the most tension. If the track becomes too loose the potential for derail increases.

## **Worn Undercarriage**

Worn undercarriages are one of the most common causes of derail, especially with track loaders. The bottom rollers are not the main cause of this. The idler and sprockets however are. Severely worn idlers, even with proper tension can lead to derail as there is not enough “meat” on the wheel to prevent the track from walking off.

Sprockets, when severely worn do not seat deeply enough inside the link voids to keep the track on the machine. Derail will usually occur when the machine is driving over undulating terrain with severe grade changes.

These issues can cause tracks to derail, although unless particularly bad are usually a contributing factor rather than the sole cause.

## **Incorrect Track Fitment**

Something that should never happen, putting the wrong track on the wrong machine. The make and model are imperative when order tracks for your machine. Simply giving a track size to a distributor without the make and model can lead to big issues.

Installing the wrong track on a machine can lead to many more issues than just derail. Damaged undercarriage parts as well as a damaged track that may not be allowed for return can lead to a big financial headache. Always provide make and model of your machine at the time of ordering to hopefully prevent this type of error.

## **Operator Error**

No operator likes to hear “You’re doing it wrong!” But that can be a stark reality in the world of “I needed this done yesterday.” Operators do what is necessary to get jobs done. Sometimes what can be missed is the cost associated with “getting the job done”.

Operators can sometimes use machines in manners they were not designed resulting to issues in operation and performance. For examples, when

changing grade in severe conditions the machine should meet the grade change head on and not at an angle.

Meeting severe grade changes at angles can bend the tracks too far resulting in improper alignment of the undercarriage to the track links. This can cause derailment. This is just one example of the many ways an operators use of the machine can result in derail.

### **Improper Conditions**

Sometimes the issue is not operator error but rather severe work environments. Harsh grades and jobsites with excessive debris that cannot be avoided all lend to derail hazards. In these situations operators are advised to use extra caution to protect against derail.

There is nothing worse than a machine being in an inaccessible area when a derailment occurs.

### **Faulty Tracks**

As much as rubber track manufacturers do not like to admit it, sometimes a track can be defective from the factory. While this is an extreme rarity due to the manufacturing processes of rubber tracks sometimes errors in production can happen. When this occurs having the right partner in manufacturing is a huge benefit.

We hope this “Causes of Derail” can be beneficial to your company in the daily running of your equipment.