Rubber tracks can de-track due to any, or mostly a combination of the following causes:

1. **Insufficient Track Tension (or broken track spring)**
2. **Leaking Track Adjusters**
3. **Worn Undercarriage**
4. **Incorrect Track Fitted**
5. **Operator Abuse**
6. **Operating Conditions**
7. **Faulty Tracks**
8. **Track Breakage**

These issues are explained in further detail below to help you determine the problem and find a solution.

## 1. Insufficient Track Tension (or broken track spring)

The first consideration when de-tracking problems happen is to check if the machine was converted from steel tracks to rubber tracks. Insufficient track tension is the most common cause of this problem.

Many manufacturers of mini-excavators including Komatsu, Hitachi, Kubota, Kobelco have track adjuster assemblies with two tension settings; tight for rubber tracks and loose for steel tracks. The reason for this is that there is no stretch in steel tracks, therefore the track adjuster needs to have enough give to relieve tension build up if any material is caught in the track.

Rubber tracks however, due to their design and construction have a certain amount of inherent flexibility and typically run a much tighter spring tension. Therefore, if a machine has been converted from steel to rubber tracks (without tightening the track adjuster), or if the track adjuster has broken; you are highly likely to experience de-tracking problems.

A simple but effective way to identify this as a problem is to perform the following test:
Lift the machine off the ground (using bucket and blade) and jump on the bottom edge of the track. While you are jumping, get someone to carefully watch the idler and measure the amount of retraction. If the idler is retracting more than 5mm under the weight of a person – imagine how much it will retract with the weight of the excavator. This retraction causes temporary track slackness which will often result in de-tracking. Particularly at the idler end.

## 2. Leaking Track Adjusters

Another common cause of de-tracking is leaking or bypassing track adjuster seals. This can be caused by a bent, scarred, rusted or contaminated (often by concrete set on the exposed rod) adjuster piston. This causes the track to slowly become loose over time, causing slackness and de-tracking.

The easiest way to check if this is the cause, is to tighten up the offending track first thing in the morning, then regularly monitor it during the day while working. If the tension has noticeably dropped off or the track has come off, then I would highly recommend pulling the track adjuster out for examination and repair.

# DE-TRACKING PROBLEMS & SOLUTIONS

### 3. Worn Undercarriage

Probably the first and easiest problem to the determine cause of de-tracking.

- Check if all the top & bottom rollers rotate smoothly and are not loose and wobbly.
- Check if the roller flanges are still distinct and upright, not rounded off.
- Check if the idler still has a prominent and straight sided centre guide flange and tight bushings without excess slop.

Worn sprockets is also another possible cause of de-tracking and often harder to diagnose. The sprocket teeth will look very sharp and shiny. Fitting a new track on worn sprockets will result in a pitch mismatch that shortens the track life, because the pitch of a sprocket changes as it wears out.

All of these can cause issues with keeping tracks on and unless they are badly worn, are usually a contributing factor, rather than the sole cause of de-tracking.

### 4. Incorrect Track Fitted

Indicators for a poorly fitting or incorrect track size or type can include;

- Banging or clunking on the sprocket when tracking - this can be the wrong track pitch or the track is fitted around the wrong way (this could also be sprocket wear)
- Track rollers are cutting grooves in the sides of the track.
- Tracks are not seating on the rollers correctly.
- Too much space either side of the sprocket and/or idler flange.

Track frame misalignment can also be a factor for de-tracking. If the track frame or idler mount has become twisted or damaged it can cause the track to run off centre.

### 5. Operator Abuse

This is not usually the sole reason for de-tracking, but a rough operator coupled with worn undercarriage, can cause some damage. At the end of the day a few basic operating rules can save a lot of problems:

- Don't drive over it – move it. You have a bucket, shift rocks and rubble out of your way rather than tracking straight over it.
- Don't turn on side slopes or when tracking over a pile or curbs.
- Track turn – don't skid turn. Turn a wider radius ensuring both tracks are moving, rather than just using one track to turn. This causes less build-up of rubble in your tracks.


## 6. Operating Conditions

The worst operating conditions for rubber tracks is heavy mud, heavy sand and or gravel. These conditions cause a build-up of soil/rubble inside the track which is then compacted by the rollers and sprockets. If you are not careful, the tension builds up until 'bang', the track is off or broken.

A couple of tips to avoid this include regularly lifting your machine up off the ground and tracking at high speed. This helps clear the tracks. Please remember that this compacted material in the track can cause a massive increase in track tension, resulting eventually in reduced track life. It also pays to back the track tension off substantially by letting grease out when in these conditions to avoid this build-up of pressure.

Side slopes are another condition which can cause de-tracking. Especially if the spring tension is a bit soft and/or the undercarriage is worn. It is always best to work up and down a slope rather than side-to-side.

## 7. Faulty Tracks

De-tracking is rarely a track fault – but it can and does happen sometimes. If the steel cables inside the track are broken, worn or fractured, then the track will tend to flex excessively and ride off the sprocket or idler.

Check if both tracks are coming off or just one. If it's just one track, we recommend swapping them left to right side. If the problem continues on the same side, it is definitely not the track at fault. Whereas if the same track continues to come off on the opposite side, then we have most likely identified the problem and the track is likely at fault.

## 8. Track Breakage

The possible causes of track breakage can include;

- Track tension too tight.
- Excessive track wear or damage.
- Cuts or cracks that go through the steel cords.
- Track being damaged or stretched from de-tracking issues.
- Excessive material packing, causing the track to over stretch.
- Moisture or chemical contact causing the steel cords to corrode.