The Art of the Compact Track Loader

From applications to proper track maintenance, CTLs present a whole different set of considerations for equipment owners compared to skid steers.
By Warren Anderson, brand marketing manager, CASE Construction Equipment

Compact Track Loaders (CTL) provides three significant advantages: lower ground pressure for operating over terrain where utilities and other systems may sit just below the surface, the ability to minimize impact on finished surfaces (less rutting) and the ability to provide greater stability/flotation. While CTLs and skid steer loaders are often discussed interchangeably, they are different machines with different strengths and different challenges. Using CTLs in the appropriate applications, with the most suitable attachments and a proper understanding of the undercarriage, will help owners and operators master the art of the CTL.

The Advantages of Tracks

Generally speaking: applications that require lifting and articulating of a load on a soft or uneven surface may be best performed with CTLs. While CTLs *can* be used on asphalt, concrete and other improved surfaces, it's not recommended. These surfaces shorten the overall lifespan of the tracks as they cause more abrasion and wear. CTLs are best suited for softer surfaces (grasses, dirt, gravel) and provide greater flotation and stability on uneven surfaces – a particular strength for slope work. The ability to operate on grass and other unpaved surfaces without creating ruts is important because it reduces cleanup time and site repair costs.

A CTL also provides a certain advantage over skid steer loaders in grading applications because CTLs are able to better maintain the position of the bucket or blade over varying terrain. These machines don't "porpoise" the way that skid steers might.

Lifting with forks is also a great application for CTLs because there is no front tire compression, creating a better platform for lifting. This allows the operator of the CTL to lift with greater confidence. Operating a CTL with a vertical lift arm design also offers additional lifting benefits, as this design will lift the load in a way that keeps it stable and more evenly distributes the weight of the load throughout the machine.

As it relates to specific applications: landscaping is ideal for CTLs as they provide excellent flotation over the ground and have minimal effect on existing finished surfaces. The same benefit can be applied to utility work where contractors are regularly working in and around homes and businesses.

Farm and ranch applications, where many of the surfaces are unpaved and lifting is regularly required, are also ideal for CTLs. These machines are also suitable for forestry and land clearing applications because of their power, tractive effort, stability on slopes and ability to handle heavy attachments.

Vertical or Radial?

The performance of vertical and radial lift designs on CTLs closely mirrors that of skid steers. In general, radial lift designs are better for working in the dirt: digging, grading, pushing, etc. Vertical lift designs typically provide better lifting and material handling capabilities, although both can be used interchangeably.

Attachments best suited for CTLs

The stability and weight distribution of CTLs provide an excellent platform for attachment use – except for those attachments specifically designed for work on asphalt and concrete. Attachments such as rock saws and cold planers are better suited for skid steers. Not only will the hard surface increase track wear, but the vibrations caused by these attachments also vibrate the tracks against the hard surface, creating friction and further increasing deterioration.

Trencher attachments are well suited for CTLs as they provide minimal rutting and low ground pressure along with the ability to move the trencher evenly and in a stable motion across the ground – ensuring an evenly dug trench. Tracks are also not as prone to spinning and twisting motions that cause tires to rip up grass.

Dozer blades (and other grading implements) are great for CTLs because it may not be practical for a landscaper or other contractor to own a small dozer (both in terms of owning/operating costs and transportation) – although the undercarriage is similar and provides excellent pushing power and stability. CTLs are better suited to work with these attachments as tires roll up and over obstacles, which creates up and down movement. Tracks bridge that movement to create a smoother ride.

Landscaping attachments such as lawn preparators and auto rakes are also excellent attachments for use with a CTL. No contractor wants to go back and fix new ruts right before the seeding process, and CTLs allow the final seed bed preparation to take place with minimal effect to the finished terrain.

What You Need to Know About the Undercarriage

The undercarriage represents a large portion of a CTL's owning and operating costs. The proper care of the undercarriage can help reduce costs, increase uptime and greatly improve the longevity of the machine.

Owners should do the following to get the most out of the undercarriage and the machine:

- Ensure proper track tension: rubber tracks that are too tight can stretch or break, and cause excessive roller and idler wear. A rubber track that is too loose can de-track and become damaged, leading to downtime. Proper tension also ensures that the machine puts all available power to best use. Check the operator's manual for specific track inspection and tensioning procedures.

- Keep the undercarriage clean: After each use of the machine, clean out any mud or debris from the undercarriage. This will prevent it from building up over time and causing wear on undercarriage components, or causing the tracks to stretch as it hardens, creating improper tension.
- Conduct daily inspections: Inspect the undercarriage for excessive or uneven wear, along with damaged or missing components.
- Rotate the tracks: Like rotating tires on a car, if you notice uneven wear based on your application/usage the tracks are reversible and interchangeable. Meaning you can turn the left one around on the left side, and/or you can move it to the right side.
- Follow the schedule: Always follow the manufacturer's recommended maintenance and service intervals. More frequent inspections should be performed if the machine is being used in conditions that are harsh or more demanding.
- Replace, don't repair: Once a CTL track pad is damaged, it is better off replaced than repaired. A repaired track pad only delays the inevitable, and can affect the overall operation of the track.

Optimal CTL Operation

Like other pieces of tracked equipment, operators must pay closer attention to how they operate the machine versus how they would generally operate a skid steer. Wider turns are encouraged as counter-rotating can cause increased track wear and lead to potential de-tracking if tracks are not properly adjusted. Working up and down on slopes is recommended to minimize wear on idlers and rollers. Operators should alternate turning direction so that one side does not wear out faster than the other. Avoid track spinning and excessive travel in reverse when possible, as these activities can increase wear. And be careful when encountering edges as harsh/steep edges can cause damage to tracks.

A Different Animal

While similar in appearance and use to skid steers, CTLs require different considerations for applications, maintenance and operation. Using a CTL as you might use a skid steer may have unproductive consequences, and a CTL may provide advantages to contractors who have traditionally purchased skid steers in the past. Contractors should take a close look at the specific tasks a machine performs day-to-day, make a decision about which machine is ideal for that application – and then use the machine properly when put into action.

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