NOVA UNDERCARRIAGE



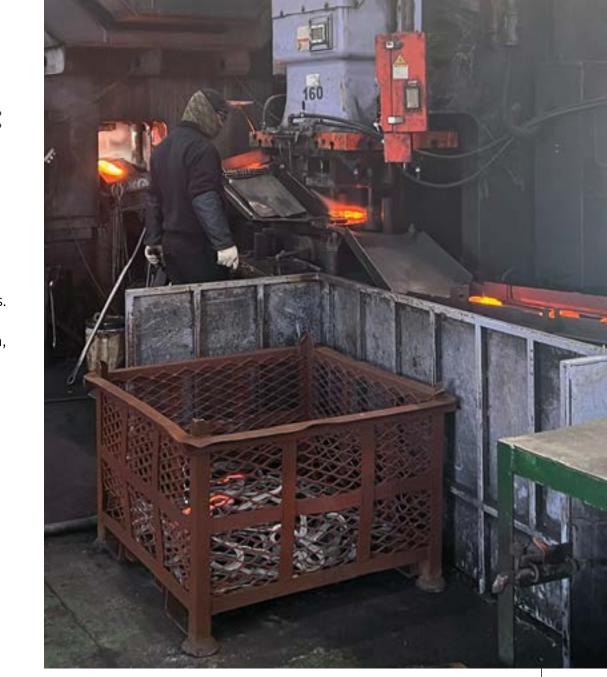




NOVA Undercarriage: OEM Quality with Aftermarket Pricing.

You may know the name: NOVA has 12 years of experience in the heavy-equipment aftermarket and is a credible competitive player in the supply of Ground Engaging Tools.

Following a similar path with our construction, forestry and mining products, all the undercarriage is manufactured and assembled using world-class practices and technology.





Committed to Build Better

NOVA Undercarriage is built in South Korea with incredible attention to detail, resulting in better performance, higher cost-per-hour savings, and lower maintenance costs. Machinery, iron and steel are strong exports from the South Korean industrial sector. Established in 1957, Hoe Leong is a leading global manufacturer and supplier of undercarriage components for heavy equipment,

including bulldozers and excavators. Located in the South Korean undercarriage power zone, the factory is one of the world's leading undercarriage manufacturers.

From the forests of British Columbia to the oil sands of Alberta and construction sites all over North America, NOVA Undercarriage is the only choice.

Excellence and Innovation Built into Every Design

Quality Raw Materials

Boron alloy steel is used for its exceptional hardenability, strength, and wear resistance. A material that responds well to heat treatment with relatively low tempering temperatures, the use of boron steel results in lower energy consumption and reduces our manufacturing carbon footprint.



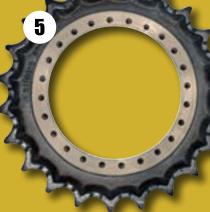


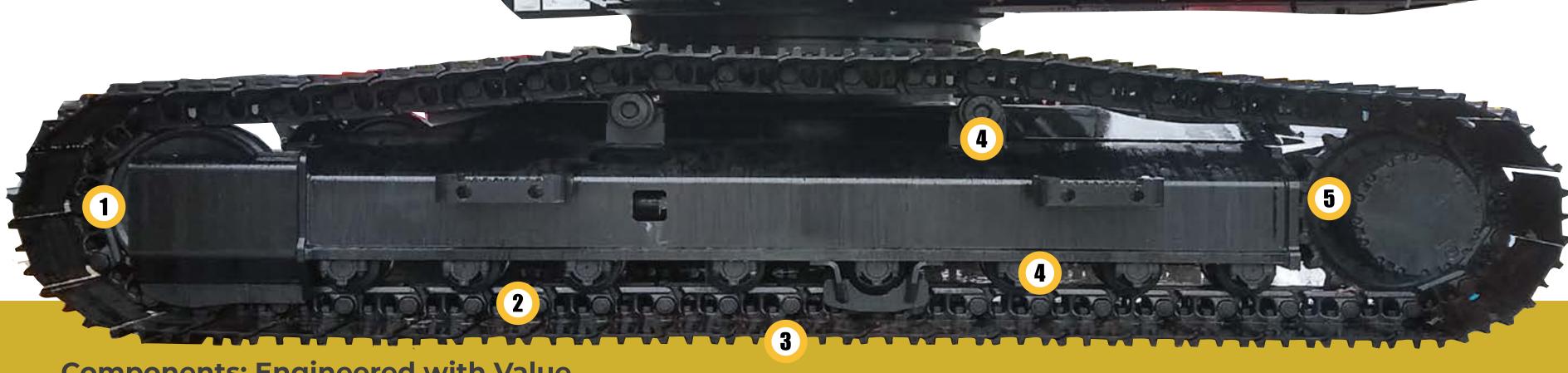
Heat Treatment

Our boron steel products go through deep induction heat treatment to achieve outstanding durability in extreme conditions and offer an extended lifespan. Our track links, pins and bushings all undergo this process of heat treatment.

This ensures that our products are

This ensures that our products are built for maximum strength, wear resistance and durability in the harshest terrains and environments.





Components: Engineered with Value



The idler carries the track chain around the front of the track frame.





installed onto the track



Bottom Roller: Single Flange



Bottom Roller: Double Flange

Rollers

Bottom rollers carry the weight of the machine, and can be either single flange, double flange or both. The carrier rollers support the track chain between the drive sprocket and idler. The rollers also help maintain alignment of the chain between the idler and drive sprocket.

Drive Sprocket The drive sprockets transmit engine power to the tracks.

Check for Signs of Wear

Regularly measure and monitor the wear areas of your undercarriage to determine any issues, especially in abrasive and high-impact conditions.

Idler

Flange Top side wear Flange Side wear Top Flange wear

Sprocket

Reverse drive wear Radial wear Forward drive side wear

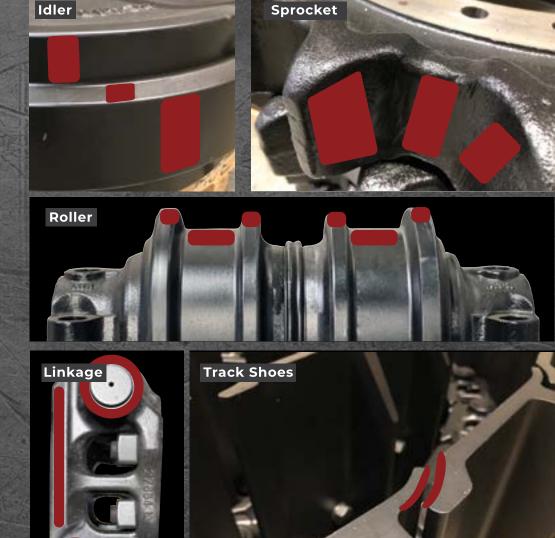
Roller

Side Flange wear
Top Flange deformation

Linkage

Pin boss wear
Excessively worn side rails
Excessive facial wear

Track Shoes
Height of the lug
Wear of overlapping surfaces
Holes for expanded bolts





NOVA UNDERCARRIAGE Limited Warranty

NOVA Undercarriage warranty covers only new parts sold by QCC that are correctly installed and used in normal operations. (As per the operational manual of the machine manufacturer)

Coverage is limited to the first 4500 hours of service, three years from purchase, or 100% worn, whichever comes first.

This coverage includes crawler skidders, forestry applications and other non-traditional use equipment.

Any NOVA components that are not sold in full quantity (IE: 3 roller replacement), will have the warranty reduced by 50%.

Adjustment is determined pro-rata based on the measurement of key components or the ratio of service life received. The pro-rata value is at NOVA's determination.

If any undercarriage components are replaced due to warranty coverage listed above, with the Customer paying more than 50% of new pricing, the undercarriage warranty will restart on the newly purchased components.

Adjustment for premature dry joints in oil-lubricated chains is limited to the failed parts replaced.

Excavator track link assemblies that are seized due to periods of inactivity in high moisture environments are not considered product defects and, therefore, not eligible for warranty.

Product coverage is for:

- Components and assemblies of rollers, idlers, sprockets, chains, shoes and fasteners.
- Seal leakage in SALT (Sealed And Lubricated Track) chains, rollers and idler groups.
- Abnormal breakage of components.

How to Measure Undercarriage



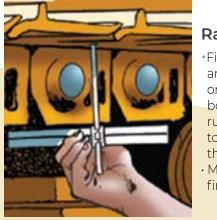
Track Shoes

- Measure the with of the shoes with a tape measure and the depth of the shoes with a depth gauge.
- Count mud holes, clipped corners and the number of grouser bars.
- Measure the pad bolt hole spacing



Carrier Rollers

Use the caliper tool to measure the diameter. Be sure to measure both sides of the rollers to average out the measurements.



Rail Heights

- •Find the underside of the track and insert the horizontal bar on the depth gauge across the bottom of a rail segment. Then run the depth indicator post up to the shoe's bottom to measure the wear on the rails.
- · Measure in multiple spots to find an average.



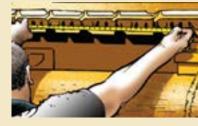
Front Idler

Use the depth gauge to measure the wear on the front idler.



Pin and Bushing

Use your pin and bushing calipers to measure the diameter of the bushing. Measure in multiple spots to find the average.



Pitch of the Rail

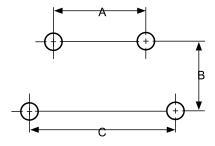
Determine the pitch of the rail (the length or amount of stretch) by determining the distance between five pins, center to center, using a tape measure.



Track Sag

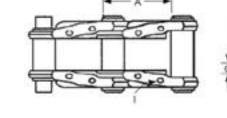
Pull a straight edge across the shoes from the back roller to the front roller. Measure how far down the track sags in the middle

Undercarriage Measurement Form



Track Shoes

Bolt Hole Spacing
(A) _____
(B) ____
(C) ____
Bolt Size ____
Track Shoe Part #



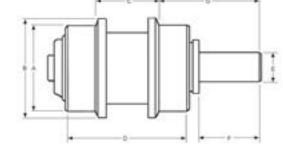
Pin and Bushings

Pitch (A) _____ Bushing Outside Dia. (B) ____ Rail Spread Inside (C) ____ Outside (D) ____ Link Height (E) ____



Rail to Bushing (H)

Bolt Size (I) _____ Ro



Carrier Rollers

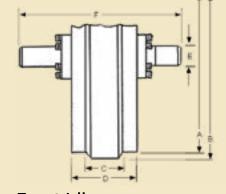
Tread Outside Dia. (A) _____ Flange Outside Dia (B)

Roller
Inside (C) _____
Outside (D) ____
Shaft Outside Dia (E)

Shaft Length (F)

Reference Dim. (G)

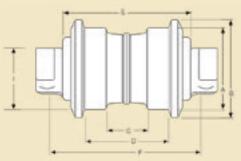
Bolt Size ____ Track Shoe Part #



Front Idlers

Flange Outside Diameter (B) ____ Idler Inside (C) ____ Outside (D) ___ Shaft Outside Diameter (E)___ Shaft Length (F) ___ Idler Assembly Part # ____

Tread Outside Diameter (A) ____



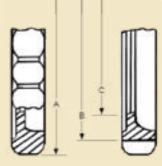
Bottom Rollers

Tread Outside Dia. (A) ____ Flange Outside Dia. (B) ___ Roller Inside (C) ___ Outside (D) ___ Roller Width (E) ___ Width Between Bolt Centers



Bolt Size (G) _____ Bolt Hole Spacing (H) ___ Roller Frame to Tread Surface

Roller Frame to Tread Surface
(I) _____
Single Flange Part # Qty: ____
Double Flange Part # Qty: ____



Sprockets

Tip Diameter (A) _____ Root Dia. (B) ____ Inner Dia. (C) ____ Sprocket Part # ____

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