

YOUR LES®**QUICK GUIDE****TO**

SNATCH BLOCKS



A snatch block is a side-opening pulley assembly designed to temporarily redirect or multiply the line pull of a winch, hoist, or mechanical rope system. The hinged side plate allows a wire rope or synthetic line to be inserted without threading through the end, minimizing downtime during rigging or recovery operations.

Snatch blocks are commonly deployed in lifting, towing, and recovery systems where load control and mechanical advantage are required.

PRINCIPLE OF OPERATION

When a line passes through the sheave of a snatch block and returns to the load or anchor point, the line tension is distributed across multiple legs of rope. This configuration effectively doubles (or increases, depending on the arrangement) the pulling capacity of the system while reducing line tension and winch load.

Additionally, a snatch block can alter the direction of pull, enabling straight-line tensioning even when the winch or anchor is offset.

“ Match WLL, sheave, and rope – and a snatch block will double capacity ”

KEY SPECIFICATION PARAMETERS

When selecting a snatch block for industrial or field applications, the following parameters must be considered:

Working Load Limit (WLL):

The maximum safe load a block can sustain. The WLL should exceed the maximum line pull of the winch or hoist. For general recovery use, a safety factor of 2:1 over the equipment's rated capacity is recommended.

Sheave Diameter and Groove Profile:

The sheave must match the rope or cable diameter to prevent crushing or slippage. As a rule, the sheave diameter should be at least 8–10 times the rope diameter for optimal bending radius and rope life.

Rope Compatibility:

Confirm compatibility with **wire rope** or **synthetic rope**. Wire-rope sheaves typically feature hardened steel grooves, while synthetic-compatible blocks use radiused or polymer-lined sheaves to prevent abrasion.

Construction and Materials:

- *Steel snatch blocks* provide maximum durability and resistance to deformation under load.
- *Aluminium or composite models* offer reduced weight and corrosion resistance, suitable for marine or outdoor applications.
- Corrosion protection such as galvanising or powder coating is recommended for extended field use.

Attachment Type:

Swivel hooks, shackles, and eye fittings provide flexibility for rigging configurations. Swivel mechanisms reduce torsional stress, especially during dynamic pulling operations.

“ A correctly specified snatch block multiplies pull, protects the line, and turns awkward angles into controlled power ”

INSTALLATION & OPERATION

1. **Inspect all components** (sheave, side plates, pin, and hook) for cracks, deformation, or wear before use.
2. **Open the side plate** and seat the line correctly within the sheave groove—ensure no crossovers or twists.
3. **Attach to a rated anchor point** such as a recovery shackle, lifting lug, or tree protector strap.
4. **Align the load path** to prevent side loading, which can compromise the sheave bearing and side plates.
5. **Apply load gradually** to prevent shock loading. Maintain smooth, controlled winch operation throughout the lift or pull.

INSPECTION & MAINTENANCE

- Clean the sheave and housing after exposure to mud, sand, or saltwater.
- Lubricate bearings or bushings periodically to maintain rotation efficiency.
- Inspect grooves for wear or galling; replace sheaves if the groove radius exceeds rope specifications.
- Replace bent or corroded pins immediately.
- Store in a dry, covered environment when not in service.

SAFETY CONSIDERATIONS

- Never exceed the **WLL** or use the block for personnel lifting unless specifically rated for it.
- Avoid angular or shock loading.
- Ensure all associated rigging hardware—shackles, straps, and hooks - meet or exceed the same load rating.
- Follow all relevant standards (e.g., ASME B30.26, OSHA 1910.184, or local equivalents) when operating or maintaining lifting hardware.

SUMMARY

Properly specified and maintained, a snatch block enhances both the efficiency and safety of lifting and recovery systems. Correct selection based on WLL, rope type, and sheave geometry ensures reliable mechanical performance, reduced wear, and extended service life.

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BLOCK**

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