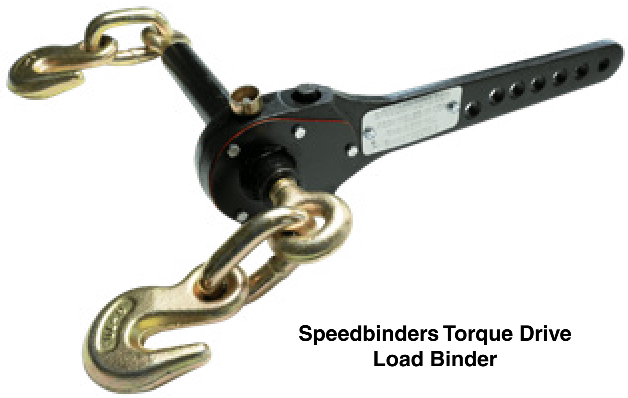
Speedbinders TORQUE DRIVE LOAD BINDER

Warnings and Application Instructions



Speedbinders Torque Drive Load Binder

Important Safety Information - Read & Follow

For maximum safety and efficiency, load securement systems must be properly designed, used and maintained. You must understand the use of load binders in a load securement system. These instructions provide this knowledge. Read them carefully and completely.

⚠ WARNING

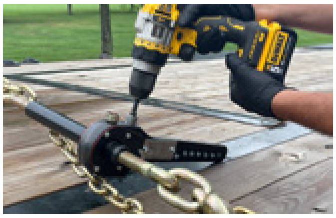
- **Failure to use this load binder properly may result in serious injury or even death to you or others.**
- **Do not operate load binder while standing on the load.**
- **You must be familiar with state and federal regulations regarding size and number of chain systems required for securing loads on trucks.**
- **Always consider the safety of nearby workers as well as yourself when using load binder.**
- **While under tension, the load binder must not be side loaded.**
- **Chain tension may decrease due to load shifting during transport.**
- **Do not throw these instructions away. Keep them close at hand and share them with any others who use this load binder.**
- **Care should be taken to reduce the speed of the drill as the chain becomes taut, to minimize the twist of the drill. It may be necessary to use both hands to secure the drill at high torque- even at slow speeds.**
- **Use only genuine Speedbinders parts as replacement.**

PRIOR TO USE

- Apply user preferred EP type grease to the gear set via the zerk fitting. Rotate the barrel 180° between applications for best results.
- Add preferred form of lubricant to the threaded posts. Add just enough to reduce the resistance, as overuse of lubricant can cause additional resistance during operation.

Instructions- Torque Drive Load Binder

- Position the Torque Drive load binder so it can be operated from the ground or a stable location. Be aware of ice, snow, rain, oil, etc. that can affect your footing. Make certain your footing is secure.
- Position the load binder with short portion of barrel close to the trailer attachment point, so the reaction bar rests against the floor of the trailer after tensioning. Alternately, position the reaction bar against the object being secured. **Reaction Bar must be positioned against a solid surface for proper retention.**



- Do not attempt to hold the reaction bar to prevent rotation while tensioning. Always hold the drill with two hands, one cradling the battery to prevent twist.
- Tension the Torque Drive binder using a rotation tool such as cordless drill equipped with a 14 mm socket. If the cordless drill is not available, a manual wrench or tool equipped with a 14 mm socket can be used to tighten or loosen.
- To tighten the load binder, the drill rotates the 14 mm hex head clockwise. Loosening is achieved by counterclockwise rotation of the 14 mm hex head.
- Cordless drills with approximately 800 Lb.- In. maximum torque output can be used and provide adequate tensioning for most load securement applications.
- For best results, first run down all binders in the drill's high-speed setting. Then return to each binder and finish tightening in the low-speed/high-torque setting on the drill.
- Never exceed the Working Load Limit of the load binder.
- **Do not use impact drivers,** as the torque of these devices can damage the gears and under-tension the load securement system.
- After tensioning, it should take about 15– 20 pounds of force to pull the reaction bar away from the floor or secured object. Reaction bar should return to surface immediately if pulled on.
- Chain tension may change due to load shifting during transport. Ensure the load binder remains in proper position, and retighten as required.
- When releasing the load, be aware that the load may have shifted, and may have become unstable.

Inspection / Maintenance

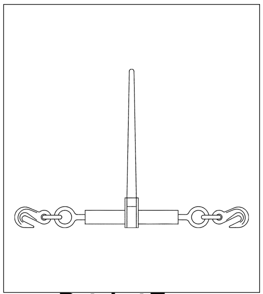
- Routinely check load binders for elongation, wear, bending, cracks, nicks, gouges or corrosion. **If bending or cracks are present – Do not use load binder.**
- Routinely (approximately every 30 cycles) grease the gear set through the grease fitting, using a medium consistency EP grease.
- Routinely clean and lubricate screw threads of load binder to extend product life and reduce friction wear.
- Inspect drive bolt head for any signs of wear.
- • After approximately 600 cycles, uninstall the end fittings, clean and re-lubricate the threads, and reinstall. Also, if desired, remove side plates and clear out old grease in gear set. Replace side plates and add enough grease to fill the cavity.

Crosby® Load Binder

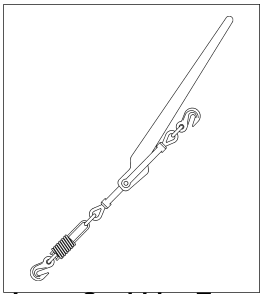
WARNINGS & APPLICATION INSTRUCTIONS

⚠ WARNING

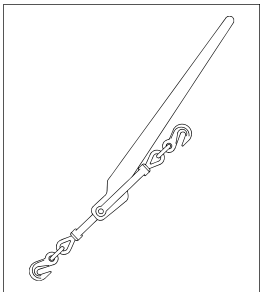
- **Failure to use this load binder properly may result in serious injury or even death to you or others.**
- **Do not operate load binder while standing on the load.**
- **Move handle with caution. It may whip – Keep body clear.**
- **Keep yourself out of the path of the moving handle and any loose chain laying on the handle.**
- **You must be familiar with state and federal regulations regarding size and number of chain systems required for securing loads on trucks.**
- **Always consider the safety of nearby workers as well as yourself when using load binder.**
- **While under tension, load binder must not bear against an object, as this will cause side load.**
- **Do not throw these instructions away. Keep them close at hand and share them with any others who use this load binder.**
- **Do not use handle extender – see instructions.**
- **Do not attempt to close or open the binder with more than one person.**



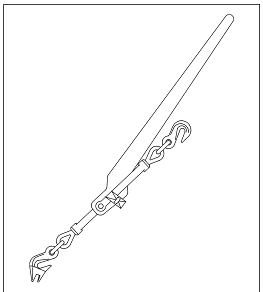
Ratchet Type



Lever Snubbing Type



Lever Type



Lever Walking Type

Mechanical Advantage

Lever Type Binder = 25 : 1
Ratchet Type Binder = 50 : 1

Example: 100 pounds of effort applied to the binder results in the following force on the binder.

Lever Type:
100 lb x 25 = 2500 lb of force

Ratchet Type:
100 lb x 50 = 5000 lb of force

Instructions – Lever Type Load Binders

- Hook load binder to chain so you can operate it while standing on the ground. Position load binder so its handle can be pulled downward to tighten chain (see photo). **Be aware of ice, snow, rain, oil, etc. that can affect your footing. Make certain your footing is secure.**
- The Crosby Group LLC specifically recommends AGAINST the use of a handle extender (cheater pipe). If sufficient leverage cannot be obtained using the lever type load binder by itself, a ratchet type binder should be used.

- If the above recommendation is disregarded and a cheater pipe is used, it must closely fit the handle and must slide down the handle until the handle projections are contacted. The pipe should be secured to the handle, for example, by a pin, so that the pipe cannot fly off the handle if you lose control and let go. The increased leverage, by using a cheater pipe, can cause deformation and failure of the chain and load binder.
- During and after tightening chain, check load binder handle position. **Be sure** it is in the locked position and that its bottom side touches the chain link.
- Chain tension may decrease due to load shifting during transport. To be sure the load binder remains in proper position: Secure handle to chain by wrapping the loose end of chain around the handle and the tight chain, or tie handle to chain with soft wire.
- When releasing load binder, remember there is a great deal of energy in the stretched chain. This will cause the load binder handle to move very quickly with great force when it is unlatched. **Move handle with caution. It may whip – Keep body clear.**
- **Never use a cheater pipe or handle extender to release handle.** Use a steel bar and pry under the handle and stay out of the path of handle as it moves upward.
- If you release the handle by hand, use an open hand under the handle and push upward. **Do not close your hand around the handle. Always keep yourself out of the path of the moving handle.**

Instructions - Ratchet Load Binders

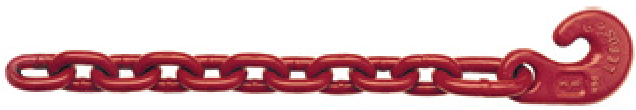
- Position ratchet binder so it can be operated from the ground.
- **Make sure your footing is secure.**

Maintenance of All Load Binders

- Routinely check load binders for wear, bending, cracks, nicks, or gouges. **If visual wear bending or cracks are present - Do not use load binder.**
- Routinely lubricate pivot and swivel points of Lever Binders, and pawl part and screw threads of Ratchet Binders to extend product life and reduce friction wear.

Crosby® L-180 WINCHLINE TAIL CHAIN

WARNING & APPLICATION INSTRUCTIONS



L-180

⚠ WARNING

- **Loads may disengage from winchline tail chain if proper procedures are not followed.**
- **A falling load or disengaged winchline tail chain may cause serious injury or death.**
- **Inspect winchline tail chain for damage before each use.**
- **Wire rope should not be terminated to tail chain by the use of a knot.**
- **Do not attach slings or other devices in hook for overhead lifting – see operating practices.**

Important Safety Information – Read & Follow

- Only winchline tail chains made from alloy chain, Grade 80 or Grade 100, should be used for overhead lifting applications.
- Working Load Limit (WLL) is the maximum load in pounds which should ever be applied to winchline tail chain.
- The Working Load Limit or Design Factor may be affected by wear, misuse, overloading, corrosion, deformation, intentional alterations, sharp corner cutting action and other use conditions.
- Never repair, alter, rework, or reshape a hook or chain by welding, heating, burning or bending.
- Recommended for IPS or XIP (EIP), RRL, FC or IWRC wire rope.
- Shock loading and extraordinary conditions must be taken into account when selecting winchline tail chains.

CAUSE FOR REMOVAL FROM SERVICE

A winchline tail chain shall be removed from service if any of the following are visible on chain or hook:

- Wear, nicks, cracks, breaks, gouges, stretch, bend, weld splatter and discoloration from excessive temperature. Minimum thickness on chain link shall not be below the values listed on Table 1.
- Chain links and hook that do not hinge freely to adjacent links.
- Excessive pitting or corrosion on chain, hook or termination fitting.
- Makeshift fasteners, hooks, or links formed from bolts, rods, etc.

Table 1

L-180 Stock No.	Wire Rope Diameter (in)	Nominal Chain Size (in)	Nominal Chain Size (mm)
1091482	1/2 - 5/8	5/8	16
1091511	3/4 - 7/8	7/8	22
1091516	1-1-1/8	1	26
1091525	1-1-1/8	1	26
1091532	1-1/4	1-1/4	32

- Mechanical coupling links in the body of the chain.
- Other damage that would cause a doubt as to the strength of the chain.
- Winchline tail chain should not be subjected to galvanizing or any plating process. If it is suspected the chain has been exposed to chemically active environment, remove from service.
- Termination end attachments that are cracked, deformed, or worn.
- For wire rope inspection procedures and removal from service criteria refer to manufacturer's recommendations.

OPERATING PRACTICES

- Know the winch lifting/pulling systems capacity rating.
- Know the applied load on tail chain. In dragging applications, the applied load may be greater or less than its weight due to friction.
- During lifting/dragging with or without the load, personnel should be alert for possible snagging.
- WORKING LOAD LIMIT (WLL) is the maximum load in pounds which should ever be applied to winchline tail chain when the chain is new or in "as-new" condition, and when the load is uniformly applied in direct tension to a straight length of chain.

Wire Rope Diameter (in)	L-180 Stock No.	Working Load Limit 3.5 to 1 Design Factor (lb)
1/2 - 5/8	1091482	13000
3/4 - 7/8	1091511	34200
1 - 1-1/8	1091516	47700
1 - 1-1/8	1091525	47700
1-1/4	1091532	73200

5/16 thru 5/8 made from Grade 40 High Test carbon steel.

3/4 thru 1-1/4 made from Grade 80 or Grade 100 alloy steel. Only alloy tail chain should be used for overhead lifting applications.

- Wire rope termination efficiency and tail chain Working Load Limit (WLL) must be considered when selecting termination fitting and tail chain.
- Efficiency of wire rope end termination is based on the catalog breaking strength of wire rope.

Typical Termination Method & Efficiency	
Termination	**Efficiency**
S-409 Swage Button	80%

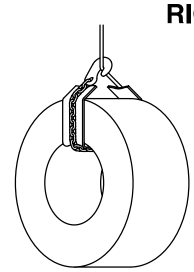
- The winchline tail chain hook is designed to fit the winchline diameter when hooked or connected back to winchline (See Figure 1).
- When used to pull or drag a load, the winchline tail chain may be wrapped around the load and the hook connected to the winchline. Also, when used to pull or drag a load over the tail board roller, the tail chain hook may be attached directly to the load at a connection point authorized by a competent rigger (See Figure 5). In either case, a visual verification of proper hook engagement is required during the entire operation.
- When used in overhead lifting applications, the winchline tail chain may be wrapped around the load and the hook connected to the winchline (See Figure 1). Used in this manner, this connection provides the same load control advantages and limitations as a single leg wire rope sling basket or choker hitch. The winchline tail chain should contain and support the load from the sides, above center of gravity, so load remains under control.

- The winchline tail chain hook is designed to fit the winchline diameter when hooked or connected back to winchline (See Figure 1).
- When used to pull or drag a load, the winchline tail chain may be wrapped around the load and the hook connected to the winchline. Also, when used to pull or drag a load over the tail board roller, the tail chain hook may be attached directly to the load at a connection point authorized by a competent rigger (See Figure 5). In either case, a visual verification of proper hook engagement is required during the entire operation.
- When used in overhead lifting applications, the winchline tail chain may be wrapped around the load and the hook connected to the winchline (See Figure 1). Used in this manner, this connection provides the same load control advantages and limitations as a single leg wire rope sling basket or choker hitch. The winchline tail chain should contain and support the load from the sides, above center of gravity, so load remains under control.
  A visual verification of proper hook engagement is required during the entire operation.
- The tail chain hook has no provision for a latch; therefore, The Crosby Group, LLC. specifically recommends AGAINST placing the load, slings or other devices directly into the tail chain hook for the purpose of overhead lifting. A latch may be mandatory by regulations or safety codes: e.g. OSHA, MSHA, ASME B30, insurance, etc (See Figure 2).

If the above Crosby recommendation is disregarded and slings or other devices are placed directly into the tail chain hook, as a minimum ensure:

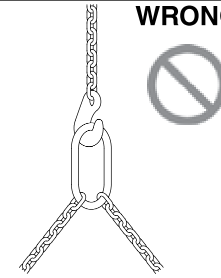
  - Personnel shall stand clear of the suspended load.
  - Visual verification of proper hook engagement is required in all cases.
  - The sling or device should be centered in the base (bowl/saddle) of the hook.
  - The user must assure connection to the hook is secure throughout the movement of the load.
  - A designated competent rigger must verify that all appropriate rigging practices are followed for attachment and control of load.
- The winchline and tail chain links should always be protected from being damaged by sharp corners (See Figure 3).
- Chain links should not be twisted or kinked.
- Winchline or tail chain should not be pulled from under loads if the load is resting on winchline or tail chain.
- Winchline or tail chain that appears to be damaged should not be used unless inspected and accepted by a designated person.
- Never side load, back load, or tip load hook (See Figura 4).
- All portions of the human body should be kept from between the winchline / tail chain and load.
- Personnel shall stand clear of the suspended load.
- Shock loading should be avoided.
- Extreme Temperatura will reduce the performance of winchline tailchain.
- Normal operating Temperatura is -40°F to 400°F (-40°C to 204°C).

RIGHT



LIFTING OR PULLILNG
Figure 1

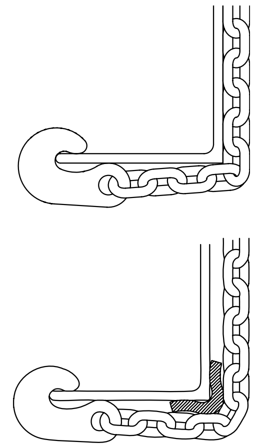
WRONG



LIFTING
Figure 2

TAIL CHAIN OR Winchline MUST NOT PASS OVER SHARP CORNERS OR EDGES. USE PADDING TO PROTECT THE SLING.

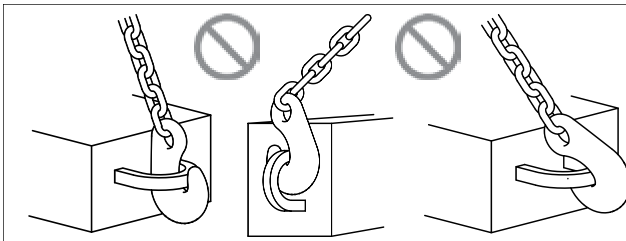
WRONG



RIGHT

PAD SHARP CORNERS

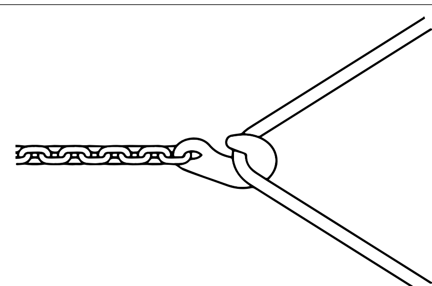
Figure 3



Back Load WRONG	Side Load WRONG	Tip Load WRONG

Figure 4

RIGHT



PULLING
Figure 5