

## D-L Quality Features

### Winches

Heat Treated Gears – This feature is not visible, but substantially toughens the gears and greatly extends their life. Gears are hardened to Rockwell ‘C’ 35-40.

Welded Reel Gears – Reel gear laminates in DL winches are joined by welding instead of rivets used in all competitive winches. Welding makes them more rigid and eliminates movement between laminates when load is applied to gears. This means gear laminates more equally share the load and thereby last longer. This also minimizes the spreading apart of laminates that is common in competitive winches as the teeth begin to wear.

Welded Reel Construction – Winch reels (with the exception of the smallest DL600A and DL900A models) are welded on the inside and outside of each side plate. This makes these joints stronger and avoids pushing the side plates apart when the winch line creates outward forces. This is especially important when using steel cable.

Solid Reel Hubs – The hubs in the reels (with the exception of the DL600A and DL900A) are machined from solid steel bar rather than made from rolled tubing. This makes the hubs stronger and more rigid to avoid bending and crushing at high loads.

Rating Method – All of above features allow DL winches to be rated on the third layer of cable on the drum. All competitors rate their winches on the first layer. This means that DL winches retain more of their pulling power as line builds up on the drum and means that a smaller rated DL winch will do the same job as a larger rated competitive winch. It also means that a DL winch will last longer and have more safety margin than a competitive winch of the same rating doing the same job.

Two Speed Models – Two speed DL winches us a quick attach removable handle to change from one speed to the other. Competitive winches us a sliding drive shaft gear shifting mechanism. The shifting mechanism is more cumbersome to operate and runs the risk of accidental disengagement during use.

Reversible Ratchet – Larger winch models have traditionally provided the ability to wind line onto the top side or the bottom side of the winch drum. Competitive winches do this with a two way ratchet that engages the gear teeth in both directions. DL winches us a patented one way “reversible” ratchet. This works like the simple one way ratchets in smaller winches, but is reversible to allow line to be wound on the winch either way. This ratchet avoids any operator confusion and any false sense that the ratchet is doing something that it is not. This design is safer and has reduced accidents.

Tuffplate Finish – DL winches and other plated products use an extra thick layer of zinc, trivalent chrome conversion coating and a thick coat organic sealer to get a plated finish that lasts substantially longer than conventional zinc plating.

## **Jacks**

Enclosed Tubes – DL jack tubes are more enclosed to minimize the potential for dirt and gravel entering the gear and screw mechanisms.

Swivel Pin – DL swivel jacks use slotted holes in the plate and a sharp corner on the swivel pin to make engagement more positive.

Rating Method – DL jacks are rated based upon the tongue load they are actually expected to handle. There is no distinction between static and dynamic capacity.

Mounting Versatility – DL swivel jacks use a 2 ½" diameter mounting hole that interchanges with many other manufacturer's mounts and fits many welded-on jack brackets.

## **Couplers**

Full Width Ball Clamp – The ball clamp is the full width of the coupler putting more metal in contact with the back of the ball reducing wear on the clamp and ball.

Safety Lever Engagement – The safety lock lever engages directly into the top of the coupler housing. Many customers perceive this as more secure.

Fingertip Adjustment – DL couplers use a nut locking channel and free running nut so that the coupler can be adjusted without tools. Simply push the locking channel up and turn the nut with fingers. This greatly increases the likelihood that a user will take the time to adjust the coupler to the best possible fit when it is connected to the ball.

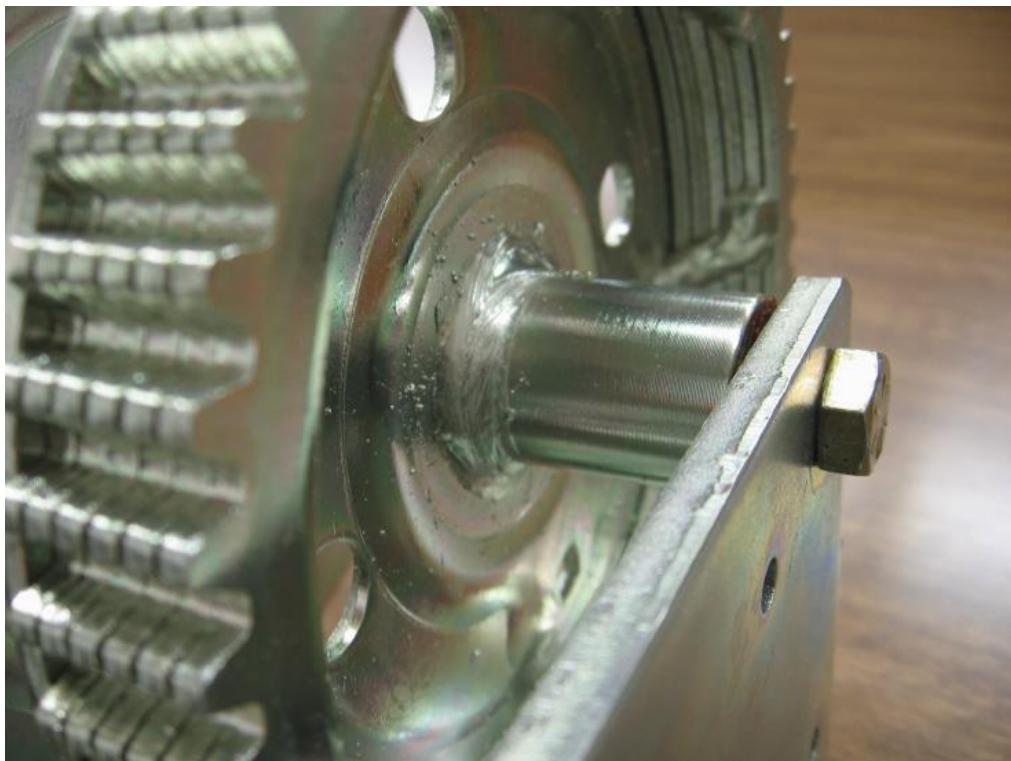
Patented Ball Clamp – The patented ball clamp in class 2, 3 & 4 couplers causes the coupler to sit much higher on the ball if miss-coupled. This makes a miss-coupled condition much more obvious to the user and makes it virtually impossible to tow the trailer in this condition.

See attached photos of various features.

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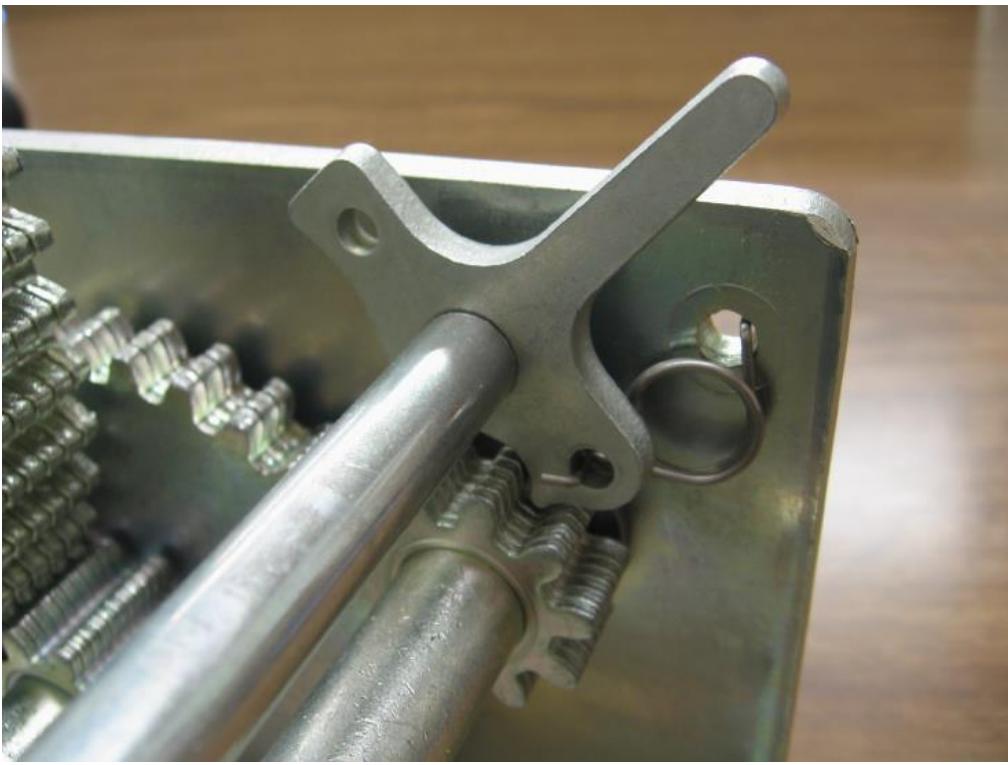
Welded gear laminates are stronger and more rigid than rivets.



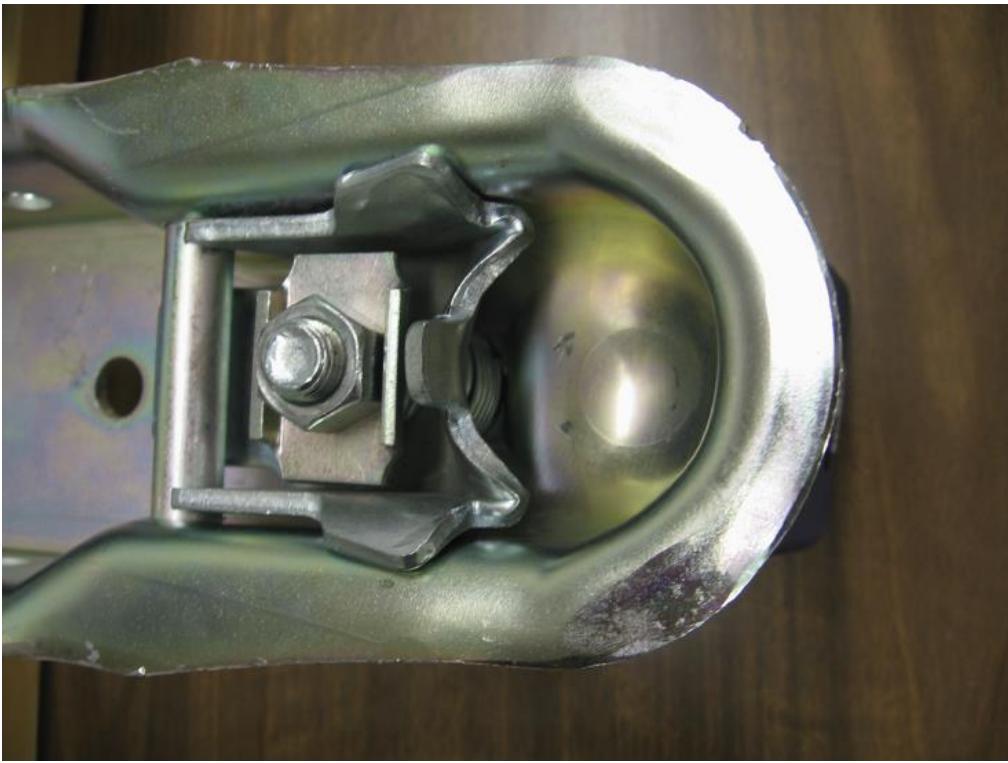
Side plates welded inside and out onto hubs machined from solid bar.



Two speed models use quick attach handle with spring loaded retaining clip.



Reversible ratchet in larger winches is simple and less confusing to operate.



Patented ball clamp in DL couplers and fingertip adjustable nut.



Smaller clamp in competitive couplers and locknut requiring tools.



Left - Patented clamp in DL couplers prevents ball entry when miss-coupled.

Right - Ball enters competitive coupler half way when miss-coupled. Easily towed.