

Trucker's Hitch, THE most awesome knot on the planet!

by [schneidp20](#) on October 12, 2008

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intro: Trucker's Hitch, THE most awesome knot on the planet!

Yes I know that there are plenty of other cool knots out there ... many of which I literally couldn't live w/o ... I rock climb. However, this I unlike any other. Plus I needed a grabber for my Instructable. :-) (BTW: this ISN'T a climbing knot!) And in truth, it isn't a knot by itself, but rather a system of common knots.

Have you ever tried to tie something down for transporting, but just couldn't get the lines tight and/or during transport the lines would continually loosen? Then this is the knot for you! I learned this knot back in the 70s when specialty car racks and ratchet straps were rare or unheard of. I initially used it to tie a canoe on a car rack, both attaching to the rack as well as the lines to the bow and stern of the canoe. Even with all the new gizmos available today, this knot still shines because all you need is a rope and ropes don't hum in the wind like straps.

The unique aspect of this knot is that it gives you a 2-1 mechanical advantage when tightening the rope. Be careful though. You can actually damage some things because of the mechanical advantage. This knot holds fast and is easy to untie, hallmark traits of any good knot.

Below you see the finished knot system ... we'll break it apart in the steps that follow

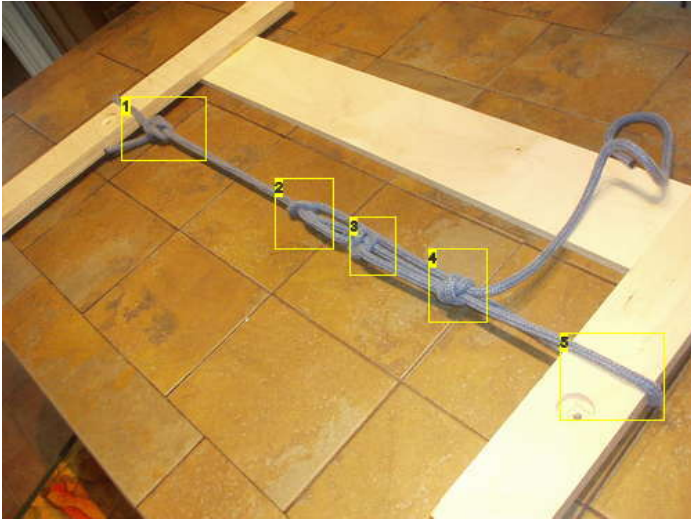


Image Notes

1. 1st anchor point, a bowline
2. loop
3. securing knots, 2 half hitches
4. securing loose end with a fisherman's knot
5. 2nd anchor point (should be round)







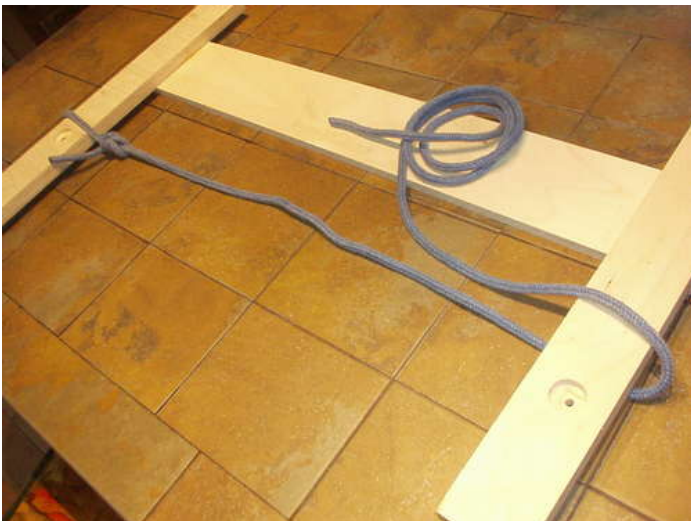
Image Notes
1. X marks the spot

step 1: Initial setup

The first step is to anchor one end of the rope and then loop the rope around a 2nd anchor point.

For attaching to the 1st anchor point I chose bowline ... a close #2 on my list :-). There are other instructables on that one so I won't bore you here.

The 2nd anchor really should be round because it serves as a pulley in this block and tackle type knot. I've used it on sharp anchor points and it doesn't work as well.



step 2: Creating a slip knot

Tie a slip knot somewhere between the two anchor points. Correct placement of the slip knot takes some experience to judge it correctly. Typically I place it too close to the 2nd anchor point and end up with not enough room to work with. If the knot ends up too far from 2nd anchor point, you can extend the knot by enlarging the loop.

Be sure you tie the slip knot as shown. You may not be able to untie other knots.

In this small example, the slip knot is uncharacteristically close to the 1st anchor point.



step 3: tightening and securing

The loose end of the rope that went around the 2nd anchor point goes through the slip knot loop. Pull the loose end to the desired tension and secure with two half hitches.

Note: To allow better view of the knots, the rope isn't really tightened in this example.



step 4: Securing loose end

The final knot is just to secure the loose end somehow. I chose a fisherman's knot to do this.

To tie a fisherman's knot, the rope goes around twice and goes under the "X" created by the loops. Pull the loose end to tighten. Finally slide the knot to put tension on the half hitches.



Image Notes
1. X marks the spot



step 5: Finished

There you have it. I guarantee that the first time you really use this knot (not just practice), you will be amazed at how well it works and you'll wish you knew this knot a long time ago. You may even come over to my side and declare that is THE most awesome knot on the planet! :-)

Enjoy and happy hauling,
Dave



Related Instructables



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Surfboard Hammock by Gerny



Basic Knots Guide by zorro3355



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Modify your bike rack to carry a sunfish or other boat by ewilhelm



Tying a Munter hitch and belay tips. by F1X0R



Paracord Bracelet with Monkey Fist Button by Tommi Potx



How to pull a van uphill (with only a rope) - updated 3/08/07 by sam noyoun



Comments

20 comments [Add Comment](#)



fritsie123 says:

I like the look of this knot, but I'm not very good at tying knots. With you step-by-step instruction I can do it, but I need to peek frequently! :-)

Oct 15, 2008. 11:36 AM [REPLY](#)

Well, I'm off to practice this one, thanks!



dchall8 says:

I was hoping this Instructable would be a great one; however, it is just very hard to make a really good Instructable about knots. Kudos for trying, though. I've tried and never came up with anything presentable. Thus I should apologize in advance for my explanation below, because it will make no sense unless you already know exactly what I'm talking about.

Oct 12, 2008. 9:14 PM [REPLY](#)

The trucker hitch is an excellent system of knots. When used properly you get a 3:1 mechanical advantage on tension. It is almost as if you were using pulleys. That means you can get 100 pounds of tension into the system by pulling 33 pounds on the bitter end of the line. Then when you tie it properly the entire system of knots will completely collapse with a light tug on a slipped half hitch. I use it on my boat to create 700 pounds of tension to bend the mast in a certain way. It's a great knot (system of knots).

The trucking company I worked for gave me about 30 seconds to study the knots and become proficient, so it really isn't that tough a thing to tie. Instead of the slip knot in the middle we used a clove hitch formed with a couple of overlapping twist loops. You pull another loop through and tighten the clove. Then you pull on the bitter end to tighten. Next you pinch the bend with one hand and tie a slipped half hitch at the pinch to cinch the tension. This is the technical end of the trucker's hitch; however, it will vibrate apart and collapse if you don't do something else. We tied one more half hitch around the loose loop formed by the slipped half hitch. There was virtually no tension on that final hitch so it remained fast under the tension we gave it. Then to untie you push the half hitch out and it collapses. Then you tug on the slipped half hitch underneath to release the tension. Once the tension is off, the entire system collapses with no knots to untie. Depending on your rope, the slip knot shown in this Instructable can slip itself and create a mess to untie.

This system of knots goes together so quickly that a real-time video would not work to demonstrate it. There are several important twists and turns that make it go together easily. My suggestion would be to find a trucker and ask him/her to show you how to do it.

Once you get good at tying this, you have to be careful because that tension can build up very easily. If you are using it in the wrong application something might break. One place I use it is to tighten volleyball nets for the local YMCA. The Y never gets the crank tools from the school to use with the poles so I tie the nets with the trucker's hitch. When I do it the 5-inch steel poles bend which gives a nice bounce back from the nets.



keng says:

the instructable is actually one of the best where knots are concerned and more than adequately explains and illustrates the technique.

Oct 13, 2008. 10:28 AM [REPLY](#)

i think the 'clove hitch' you are describing seems like an Artillery Loop or Man-Harness knot (Ashley's 153 for you knotters out there). but i'll leave that final designation to you.

i'm not so sure about your supposition about the slip-knot capsizing and jamming as the one shown is a stopper knot (again for the knotters Ashley's 44) and you are putting the tension on with the bitter not with the main body of the line that is wrapped over the truck load thus the more tension put on the less (i'd say here exponentially less) likely for capsizing of the knot to occur.



dchall8 says:

Oct 13, 2008. 4:38 PM **REPLY**

The slip knot, which you are calling Ashley's stopper knot, is illustrated in Step 2. It would be Ashley's stopper if the end passed through the loop, which it doesn't. Or at least it does not in the photos. If you tied either knot and pulled on the end, the loop shrinks. If the original knot was a slip knot, the loop falls through and the knot slips away. If it was Ashley's stopper, the knot jams on itself. In either case, when you finish the system and put tension on the bitter end, that tension is reduced by still passes directly to that loop and will try to pull the loop out; however, the loop has the end passing through it and prevents the loop from pulling all the way through. When that slip knot gets jammed like that, it makes it hard to untie.

The images below show the knot as I tie it. The first two pictures show the clove hitch holding a loop which forms the other loop that you tied in Step 2. As you can see it is not a slip knot nor Artillery loop - it is a clove hitch. The third image shows the system tied off with a slipped half hitch. Unfortunately you can't really see the loop from the left side very well. If you pull on the bitter end as this is, the slipped half hitch falls out to release the tension. Then system falls apart. If you had a lot of tension on it, the clove could be pretty tight but otherwise it will fall apart, too. The next to last image shows the slipped half hitch with another half hitch to keep the loop from vibrating out. The final picture shows the entire system. This picture shows how the loop is formed from the clove on the left to where the slipped half hitch secures it (ala your Step 2).

Well now that I've gone to all the trouble to take the pictures, I found the knot as we tied it at [Wikipedia](#). Their picture on the left clearly shows the clove hitch holding the loop in place. It does not show the knot finished.

As I said earlier, this system of knots goes together very quickly once you see the twists and turns in action. The first time you watch someone with experience, it looks more like a magic trick than anything else. Certainly it takes less than 5 seconds. Seeing it already tied makes it look more complicated than it is.



keng says:

Oct 13, 2008. 8:07 PM **REPLY**

"The slip knot, which you are calling Ashley's stopper knot, is illustrated in..."

I think you miss understand me, I'm not saying it's an Ashley's Stopper (which I believe is labeled Oysterman's Stopper #526). I'm calling it a slip knot (#44 and also #529).

"When that slip knot gets jammed like that, it makes it hard to untie. "

I don't believe it could jam with any reasonable sized loop cuz the tension itself forces the loop further and further open. Even if, when letting the tension off, the load keeps pulling on the main line and you keep having to feed the 'slack' into the loop, eventually you get down to just a handful's width of the bitter end and you can grab hold above the entire hitch and hold while letting the BE fall through the loop and then an easyish tug will spill the slip knot and your back to a straight rope without a jam.

ahhhh...i thought you were using the loop in the clove hitch as the 'pulley' but now i see where i went wrong in my thinking. you're right it does seem more like magic even looking at the wp article. ;0)

the locking system you come to the point where you only have a hands width of slack



dchall8 says:

Oct 13, 2008. 9:59 PM **REPLY**

If you use a slip knot to make the loop in a slippery line (polypropylene, for example), the loop will slip back until it jams. The physics of that is beyond most beginning studies of pulleys. The lack of friction is important in allowing it to happen. If the system was completely frictionless for all rope, it would happen for you, too.

For the volleyball nets, the YMCA uses polypropylene line. I had to tie a permanent bowline to use as a loop because the slip knot in the trucker's hitch jammed and clove hitch could not hold the loop. For our practice nets I replace the braided polyprop line with braided polyester (Dacron). Then the tension on the net was limited by the strength of the poles.



keng says:

Oct 14, 2008. 5:10 AM **REPLY**

when you say 'jam' are you talking about the loop getting pulled back up inside with the bitter end in it or the overhand knot part getting so tight you can't pull the loop back out that makes the slip-knot?



dchall8 says:
Both.

Oct 14, 2008. 6:59 AM [REPLY](#)

I worked for a moving company and was paid by the hour (of course). If we could not tie and untie our knots fast, the boss was looking at us funny. We had to make them fast and break them apart fast without damaging anything and without using tools. And we did not always untie our own knots so they had to tie them pretty close to the same. The clove hitch approach was the most reliable for us using the ropes we used. We never used braided polyprop rope. Back then we used twisted sisal but even a heavy, twisted polypropylene is better than braided polyprop.



keng says:
"Both. "

Oct 14, 2008. 7:45 AM [REPLY](#)

ohhhh.....well, I guess i can see that on the ovrhnd-knt (maybe not on it pulling the BE through it given the precautions i lined out) but that clove-hitch method would prevent that (in much the same way a water bowline does).
I'll have to start getting to work on this version!



schneidp20 says:

Oct 13, 2008. 4:58 AM [REPLY](#)

I'm open to suggestions to make it better. I found out real quick how difficult it was documenting a knot, plus this is my first Instructable. I think a video on a practical application would help.



titetie says:
(removed by community request)

Oct 13, 2008. 2:00 AM



CaseyCase says:

Oct 13, 2008. 4:18 PM [REPLY](#)

Be the hit of the party! Amaze your friends! Learn to tie a knot!



keng says:
booo....learn to tie!

Oct 13, 2008. 10:01 AM [REPLY](#)

;o)

IGKT 4 EVA!!!

;o)))



titetie says:

Oct 13, 2008. 10:51 PM [REPLY](#)

I can tie the trucker's knot 9 different ways, and all 9 ways fail to be better than the TiteTie.

The TiteTie is like the trucker's knot on steroids! You can get loads more tension and use only 8 inches of rope - and the best thing is it doesn't need to be tied off.

Its nice to tie knots and makes for an interesting hobby, but when you need to secure loads everyday, tying knots is a time waster, TiteTie takes only seconds and grips tight every time.



keng says:

Oct 14, 2008. 7:55 AM [REPLY](#)

LUDDITES UNITE!!!!

Ban the import of heretic rope devices!!!

;o)



jdege says:

Oct 12, 2008. 4:14 PM [REPLY](#)

I've used this forever, and it works wonderfully. Only difference - I use a taughtline hitch, instead of two half-hitches, as the sliding adjuster. And if it's something I need to make sure doesn't loosen up, I'll throw a couple of half-hitches around all the lines together, to tie everything together.



schneidp20 says:

Oct 12, 2008. 5:47 PM [REPLY](#)

Can you post a picture on how your taughtline hitch works with this knot? I'm always open to ideas! I'd gladly add your alternate securing method.

Thanks!



cannibal_hect0r says:

Oct 12, 2008. 4:49 PM [REPLY](#)

so how do u tighten it once it's done?



schneidp20 says:

Oct 12, 2008. 5:44 PM [REPLY](#)

It's not an adjustable knot, but maybe Jdege's taughtline hitch does that. Basically you pull on the rope that goes through the loop to get the desired tension and then secure that tension with the half hitches. Keeping the tension while securing it with the half hitches is a little tricky, but not tough due to the mechanical advantage of the knot.



Hoopajoo says:

Oct 12, 2008. 4:55 PM [REPLY](#)

I have used this knot series to secure my airplane to the tarmac when high wind conditions are expected or I'll not be around for an extended period. Works like a charm every time.
