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Winch Fairleads – Controversies and Considerations



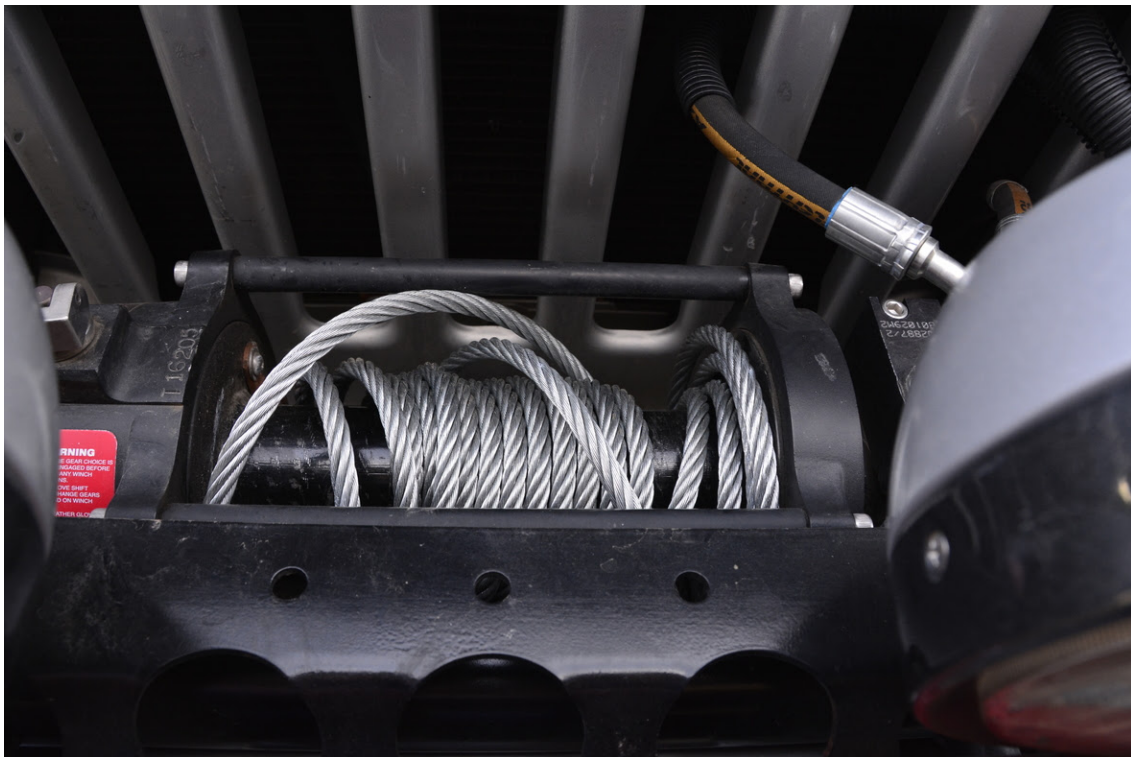
Fairleads. I know, hot topic, eh? I can almost hear you snoring from my home office. Snoring or not, if you have a winch on your adventure vehicle, then you also have either a roller or hawse style fairlead guiding the winch line out of and into the winch drum.

There's more to fairleads than you might imagine. Over the last couple of years there has been some interesting discussions about fairleads, plus new designs appear regularly. Don't fall asleep just yet. Read on.

Before I delve into the topic of winching fairleads, please allow me to visit the topic of steel cable versus synthetic rope winch line. I only discuss this topic because I care about safety in the field. If you've taken one of my 4WD courses, attended one of my winching clinics at off-road expos, or read my book on recovery you know my opinion on this topic.

Using a bit of comedy, allow me to express my opinion on the topic this way:

**If you still have steel cable on your winch the 1970's are calling
and they want their winch line returned.**



Please get rid of your steel cable winch line. Upgrade and modernize your winch by making it safer. Purchase a lighter, stronger, and safer synthetic rope winch line replacement from a quality manufacturer such as MasterPull, Safe-Xtract, WARN,

and Bubba Rope.

I acknowledge that users of steel cable winch line will that want to argue that synthetic rope is too fragile when it comes to abrasion wear over rocks and rough terrain. It's my opinion that these folks just haven't learned how easy it is to protect synthetic rope in the field. Steel cable winch line may be best for some applications, but not for recreational winching. My opinion.

Years ago, steel cable winch line was the norm. We simply lived with the downsides of steel cable because it's all we had. Disadvantages such as:

- 1) Steel cable is heavy to carry to an anchor point and adds weight to an already overloaded winch bumper and vehicle.
- 2) The cable bird nests on the winch drum when tension is slack making it difficult to respool.
- 3) Broken strands on a cable produce sharp wires that can penetrate thick gloves.
- 4) Should the cable break or a rigging connection fail under tension there is huge danger from the mass of the steel. Also, when the strands untwist after sudden breakage the cable jumps from side-to-side.

Today, recreational off-roaders don't have to put up with these disadvantages, we have synthetic rope winch line. Here endeth the lesson on winch line.

Let's talk fairleads.

Traditional Roller Fairleads



As far back as I can remember, roller fairleads came standard on recreational self-recovery winches sold with steel cable winch line. The rollers on these fairleads were, and still are today, made of metal and can handle the abrasive and abusive use of steel cable under tension – especially when the cable was pulled from an angle left-to-right, up-and-down, or it had sand and mud on it.



Traditional roller fairleads also work well with synthetic rope winch line. In fact, some winching experts prefer using a roller fairlead with synthetic rope rather than a hawse fairlead.

There is a caution however, regarding their use with synthetic rope. When a roller fairlead is used with synthetic rope, the rollers on the fairlead must be smooth, sans any sharp scarring burrs and gouges. (See photo below.) So, if you switch from steel cable to synthetic rope winch line you need to do one of these three things:

- 1) Remove the old, scarred metal rollers on the fairlead and replace them with new rollers (metal or polyurethane).
- 2) Purchase an entirely new roller fairlead.
- 3) Purchase a hawse fairlead (next topic).



This new roller fairlead may be used with synthetic rope winch line.



Rollers Used With Steel Cable

After a single tensioned pull of steel cable over a new fairlead roller, that roller will be “scarred” for life. The metal on the roller will now have some number of sharp burrs and gouges on its face. See photos. This scarring is okay if you continued to use steel cable on that roller fairlead, but abused roller fairleads should never be used with synthetic rope winch line. The sharp burrs on rollers will degrade synthetic rope winch line when pulled under tension.

If you swap out the degraded metal rollers on your traditional roller fairlead, you have the option of purchasing Daystar’s polyurethane rollers made specifically for synthetic rope (see [HERE](#)). I’ve used the Daystar fairlead rollers on one of my winches with synthetic rope for several years. The rollers have worn and held up very well.



Fairlead metal roller with sharp scars capable of degrading synthetic rope winch line.

One last comment about traditional roller fairleads – they stick out further than most lower profile hawse fairleads. This fact does make traditional roller fairleads more vulnerable to terrain impact while driving over challenging trails - especially when rock crawling. There is such a thing as the “approach angle.” Years ago, I damaged my CJ-7’s roller fairlead beyond use and repair when navigating the John Bull trail in the San Bernardino mountains. On that trip, I’m glad I didn’t need to winch over an obstacle after I damaged my roller fairlead. Winching would have been impossible. If I would have had a hawse fairlead on my jeep it would have sustained some amount of damage, but I still could have winched.

Hawse Fairleads



Hawse fairleads used on recreational winches are mostly made of aluminum, and they have no rollers. Here's a fact that I believe is lost on some advocating that you only use roller fairleads with synthetic rope winch line:

Not all hawse fairleads are designed and manufactured equally.



There are some badly manufactured and designed hawse fairleads that I would never use, and some great ones I've used for years without degrading my synthetic rope winch line. Some hawse fairleads are machined from a solid chunk of aluminum, others are cast by pouring molten metal in a form. From my experience with both types, machined hawse fairleads are typically better than those that are cast. Even still, there are some machined hawse fairleads that are designed very poorly and will degrade synthetic rope winch line.

I want to share something else I've noticed over the years:

Winch manufacturers generally make the worse hawse fairleads.

This means that if you are using a hawse fairlead that was sold with your winch,

you should probably examine it carefully. You may find that it has many shortcomings and is in fact degrading your synthetic rope winch line. Why do you think there are so many aftermarket fairleads allowing you to replace the poorly designed unit that came with your winch?

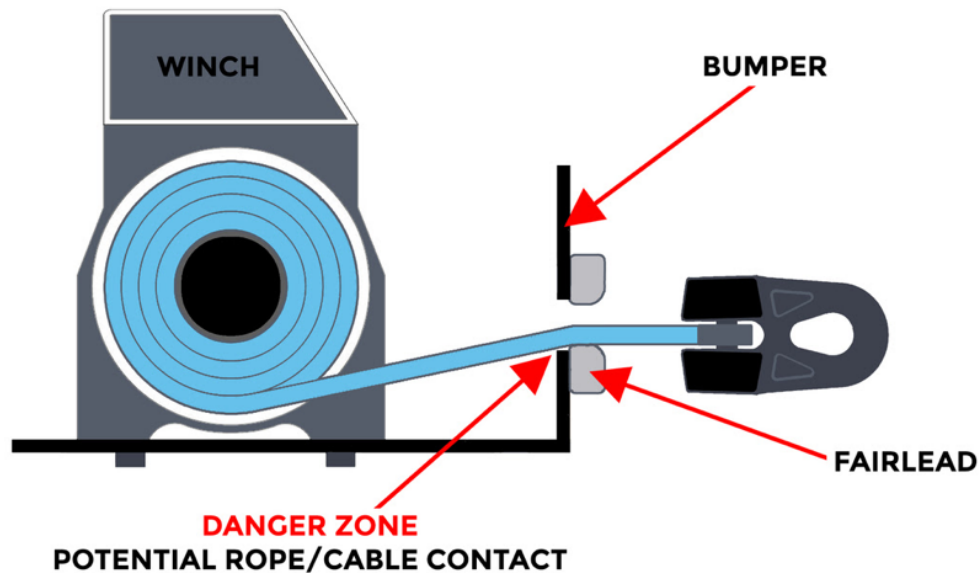


A poorly designed fairlead included with my Keeper winch.

Before I define what I believe are the important attributes of a well designed and manufactured hawse fairlead, let me provide some other important considerations I've discovered over the years while using hawse fairleads and teaching winching classes:

Even the very best hawse fairlead can degrade synthetic rope winch line through poor attention to detail.

Here's what I mean by "poor attention to detail." First, you need to examine behind your fairlead – roller or hawse. If you purchase an aftermarket front bumper on which to mount your winch, make sure the manufacturer provides a large enough opening behind the fairlead. (See the illustration.)



You don't want your rope to rub against the sharp metal back side of the fairlead when the rope angles change with terrain or when the drum fills or pays out rope during a tensioned pull. Angled winch line rubbing against this sharp metal will cause more damage to a line than a poorly designed hawse fairlead. The below photo shows where you need to look to make sure your winch line doesn't rub up against the sharp bumper or mounting plate behind the fairlead. In this case, the rollers keep the line off the backing plate regardless of the angle of the pull or how full or empty the drum is with line.



Second, even the smoothest surface on a hawse fairlead can be damaged by a shopping cart, a vehicle's bumper, muddy rope pulled with tension into the winch, or pulling a winch hook clevis in towards the winch drum with tension. I see this all the time and it's shameful. See photo below. These post-manufacturing burrs and gouges on a hawse's smooth surface can repetitively damage synthetic

rope pulled into the drum with tension. Note that this type of damage can also occur on a roller fairlead, but it's common on hawse fairleads.



Let me also add four other important considerations from my personal winch recovery experience:

1. How Much do You Winch? For those of us that winch a lot (especially those of us that teach winching), perhaps a roller fairlead is best with synthetic rope winch line. For those that rarely winch, then heck, a well-made and designed hawse fairlead will not damage the rope fibers in short order. Just stick with your hawse fairlead knowing you need to audit your winch line after each use to make sure the fairlead is not degrading your line. I believe that those advocating ONLY the use of roller fairleads with synthetic rope winch line are winching a lot. So, it makes sense that they caution against the use of hawse fairleads. But let's live in the real world. In my opinion, be honest about each of these two situations:

Winching A Lot = Consider using a roller fairlead with synthetic rope.

Rarely Winching = Use of a well manufactured and designed hawse fairlead is more than acceptable.

2. A Synthetic Rope Winch Line is a Consumable Item. Regardless of the fairlead used, I believe that everyone using synthetic rope winch line should think of their rope as a “consumable” item. Overtime, regardless of what fairlead you use and how careful you are about not dragging synthetic rope over abrasive terrain, you should inspect your rope and replace it when it shows signs of wear.

3. Not all Synthetic Rope Winch Lines Wear Equally. Some types of synthetic ropes are more heat and abrasion resistant than others. Heat resistance is important since friction can build on high tensioned pulls where the rope contacts the hawse fairlead surface. Some rope fibers are tougher than others. The way rope is manufactured also speaks to its longevity. Some manufacturers use coatings or place a cover over their rope cores for protection. Safe-Xtract makes their ropes from tough plasma fibers and then coats their ropes for added protection. MasterPull covers their Superline XD Winch Line. Like many brands, Superline XD rope’s core is made from Dyneema® SK75. However, MasterPull goes one step further by putting a tight Dyneema cover over the core. This cover indisputably protects the inner core rope. Even if your fairlead has some sharp burrs and gouges on it, Safe-Xtract’s and MasterPull’s ropes will perform longer than synthetic rope winch line that isn’t specially coated or covered. These ropes are pricey, but I believe they are worth the money. I have Superline XD rope on two of my three off-road vehicles – the two I winch the most with.

4. Fairlead Weight. Total vehicle weight is a problem for most off-roaders, especially overlanders. Roller fairleads are generally twice as heavy as even the heaviest hawse fairlead.

The Well Designed Hawse Fairlead

Now, let’s return to the attributes of what I believe defines a well designed and manufactured hawse fairlead. In my opinion, a hawse fairlead that minimizes rope wear when winching has these attributes:

1. Is machined from a solid block of aluminum, not cast.
2. Has a very smooth surface for the rope to drag over when on a tensioned and angled pull.
3. Designed with a large bend, or radius, over which the rope drags. A larger radius opening reduces rope friction on the fairlead, providing longer rope service life.
4. Includes a smooth polished or tough anodized finish over the entire fairlead.



Best & Worse

The best radius I've ever seen on a machined aluminum hawse fairlead is one that's not made any longer – the X-Line hawse fairlead (center in photo). X-Line winching products were made and sold by Off-Road Only, but unfortunately no more. This fairlead is 2" wide on top and has an out-facing radius of about $\frac{3}{4}$ ". I have used this fairlead for years and never had synthetic rope degradation due to heavy use.

Compare the X-Line to the WARN fairlead at the top of the photo. This fairlead is 1.5" on top, with an out-facing radius of about $\frac{1}{2}$ ". The bottom fairlead shipped with Keeper winches is even thinner with a very small radius.



In my opinion, one of the worse hawse fairleads I blindly used for a very short time was the cheap WARN cast fairlead that came with my expensive WARN Zeon Platinum 10-S winch. See photo. (Shame on me for not examining this fairlead more closely prior to use.)

I can't say if WARN still packages these poorly designed hawse fairleads with their premium winches, but it came with mine. After only a couple of uses, my winch line severely degraded – so much in fact I retired the line. In the photo of this cast hawse fairlead, you can see the sharp “ridge” in the middle of the opening. The ridge is easily identified by the melted rope and scuffs around the ends and in the center of the hawse opening. I suspect this ridge is a product of the casting process and was ignored before being shipped with the winch. A bit of final sanding or grinding of the ridge would have at least mitigated rope destruction. If you have a WARN fairlead or any fairlead that looks like the one in the photo after a few pulls, get rid of it. I would personally avoid hawse fairleads with any amount of rough finish on them.



Yankum Rope's Fairlead

Yankum Rope's Hawse Fairlead

For more than a few years, there's been a movement to eliminate hooks and winch line shackle mounts from the working end of a synthetic rope winch line. What's left on the end of the winch line is a well spliced loop that may even have a protective coating or fabric cover over the line.

When the loop is connected to rigging accessories with a soft shackle, two things occur: 1) A closed-loop system is formed, and 2) Mass in the rigging is reduced since there's no metal hook, thimble, or shackle mount. I've winched using this set up and found it to work fine. The practice is sound.

One concern for some is "where to store the looped end when not winching." There are simple solutions for this and it isn't a big problem.

To help store the looped end, Yankum Rope company has come up with their "Groove Fairlead." See photo above and explanation of the product [HERE](#). I've not used nor own this fairlead so I've no comment other than the feedback I've received from others that own one. I concede that I need to purchase one of these fairleads so I can personally evaluate the product.

You can see in the above photo that the loop isn't that well protected against hard terrain collisions when stored around the fairlead. Yankum's website says: "This is the only fairlead that completely protects your winch line from getting smashed against trees or rocks without the aid of a hook or other attachment." I don't know

about "completely" protects, but the storage method built into the fairlead is better than dangling some amount of line out the front of the fairlead to a connection point. I'm trying to be fair here, but personally I don't like having any line exposed in front of a fairlead.



Only Using a Loop at the End of Your Winch Line?

Factor 55 has a clean way of protecting your loop from physical damage and UV rays - The Loop Guard. This handy accessory comes off the loop in a split second with a quick release pin. No tools necessary. It's easy to grasp with a gloved hand and is machined from solid aluminum so it's tough.

Together, the Loop Guard (\$74) and fairlead (\$110) are cheaper than the Yankum Groove Fairlead (\$199.99). Plus, it's my opinion that the rope is more protected with the Loop Guard than just the Grooved Fairlead alone.





Factor 55 Hawse Fairlead

I have used a Factor 55 1.5" hawse fairlead on my PowerWagon for several years with no notable synthetic rope degradation. This vehicle is my primary touring and teaching vehicle so it sees a lot of wear and tear. I winch a lot with this vehicle.

I also like using a Factor 55 Winch Line Shackle Mount with a rubber bumper on its back and rope guard in the front. This set up protects the smooth face of the fairlead, plus keeps my rope out of the sun and protects it from terrain. Yes, the total components seen in this photo are more expensive than the Yankum fairlead alone, but I believe my synthetic rope is more protected. You can see their fairlead [HERE](#).

The Original HawsePro™



I believe that the free market, invention, innovation, and entrepreneurship all help the world become a better place. In off-roading, we are lucky to have some wonderful “thinkers” that combine these domains. Most are individuals that want to make something better. Okay, they also want (and need) to make money with their inventions, but we as consumers are often rewarded abundantly by their efforts.

Over the years, the Gremillion family has invented or been involved in distributing several products I take with me on most of my personal adventures and when I lead tours. Those of you that have taken my Recovery Course or read my book “The Total Approach to Getting Unstuck Off Road” know about a product invented by this family – The Pull Pal. The family also sold the Premier Power Welder before selling this item to Ace Alternator. See these products [HERE](#) and [HERE](#).

Added to these two fine products is The Original HawsePro invented and sold by Max Gremillion. Max’s grandfather invented the original Pull Pal . The HawsePro is another fine product. I mounted the HawsePro fairlead on my Jeep TJ about 8 months ago and have been punishing it in the field ever sense. The fairlead works

well.

What is the HawsePro? Forget its name and appearance for a quick minute, this invention is really a roller-style fairlead. It is not a hawse fairlead. Perhaps we need a new fairlead category? For now, I'll place the HawsePro in the "low-profile roller fairlead" category since that's where it belongs.

In my opinion, the thoughtful design makes the HawsePro a great product. This fairlead's rollers will treat your synthetic rope winch line with respect. As can occur with traditional roller fairleads, I've found that my rope doesn't bind between the HawsePro rollers when line is pulled at extreme angles. The low profile of the HawsePro minimizes potential front end damage that wider traditional roller fairleads can experience. Additionally, if one seats a Factor 55 winch line shackle mount against the HawsePro, a good deal of the fairlead is impact protected. See photo below. This is the set up I'm currently running on my Jeep TJ.



In this photo notice that the Factor 55 UltraHook protects the majority of the expensive HawsePro.

For some there is a bit of not so great news about the HawsePro – the price:

\$389.69. Compare that price to the most expensive Factor 55 hawse fairlead at \$110.

If you winch a lot and want a really great fairlead, then price shouldn't be an issue. Please don't criticize HawsePro regarding the price. We don't know the engineering time it took to design the fairlead, plus each fairlead's cost of goods and assembly. For more information and to purchase a HawsePro, see [HERE](#).



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Mon, Sep 25, 2023 at 12:34 PM

