



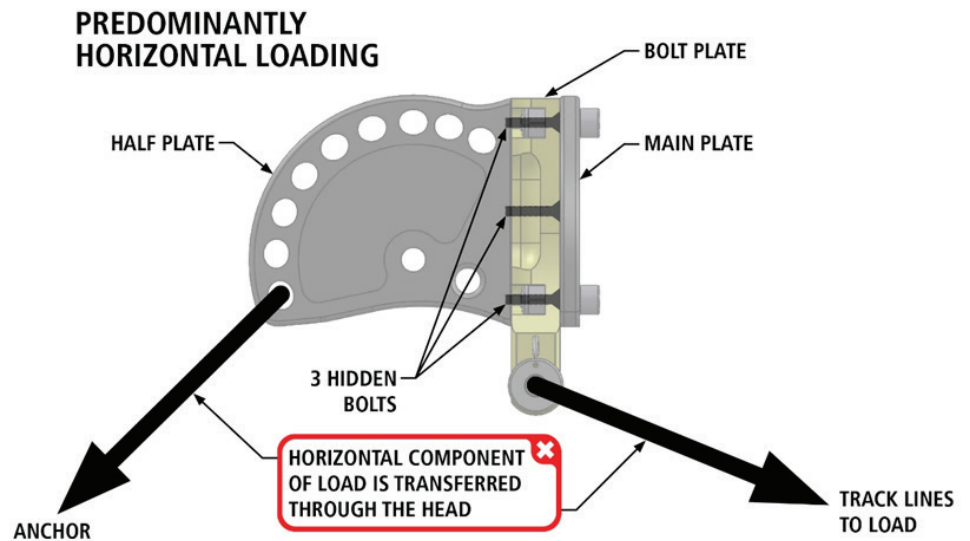
TERRADAPTOR
TECH TIP



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TERRADAPTOR Tech Tip

Here's a tech tip from an incident where a component of the TerrAdaptor was critically damaged during a training exercise involving an improperly rigged highline. The track line ropes were terminated at the main load attachment pin and the TerrAdaptor was connected to the anchor via a head angle adjustment hole in the half plate as shown in the diagram below.

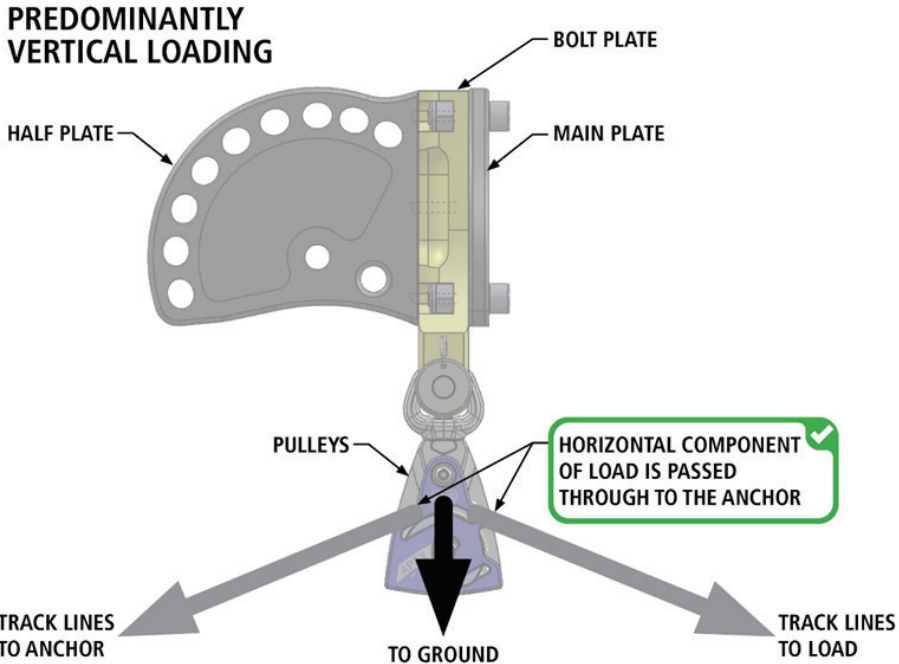


When the litter reached mid-span, 3 hidden bolts that connect the half plate to the bolt plate broke which caused the half plate to separate from the bolt plate. The load dropped 3 feet to the ground, fortunately resulting in no injuries. We subsequently recreated this loading scenario on a new head assembly in our test lab and found that during the operation of the highline, the load on the TerrAdaptor head would have had to exceed 26kN (5845 lbf). This demonstrates how the magnitude of loads that can be generated by highline systems can be considerably higher than vertically oriented rope systems.

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TIP #1:

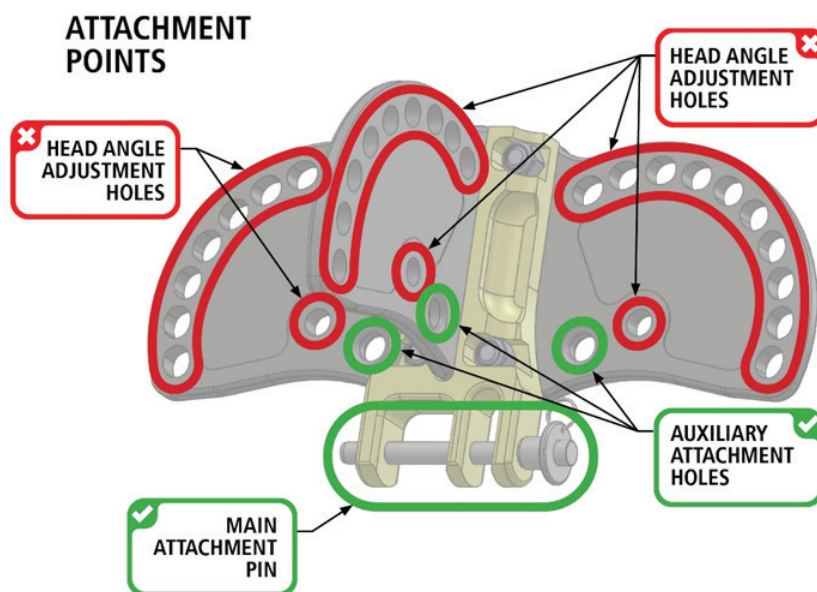
The TerrAdaptor was designed to support loads in excess of 36kN in the vertical axis. Proper highline setups take advantage of its capability by using the TerrAdaptor to elevate the track line ropes off the ground and terminate the ropes at a separate inline anchor that is capable of resolving the large horizontal loads of a highline as indicated in the diagram below. By rigging the track lines through pulleys, any horizontal loading from the track line is passed through the pulley to the anchor leaving a smaller vertical load that the TerrAdaptor transfers to the ground.



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TIP #2:

Note that in the misuse incident, the half plate was connected to the anchor using one of the head angle adjustment holes. Page 20 of the TerraAdaptor manual clearly warns against clipping into these holes. They are designed to retain the Load Locking Head Pins—carabiners could damage them and the intentionally square edges of the holes could damage ropes or webbing tied through them. The only approved connection points on the TerraAdaptor head are the Main Attachment Pin and the three Auxiliary Attachment Points.



This incident was a clear misuse of the TerraAdaptor, but it did illuminate an area that could be improved. Recently, we conducted engineering analysis and extensive testing which resulted in an increase in the size of the bolts that connect the half plate to the bolt plate. Testing indicated a breaking strength comfortably in excess of 36kN (8093lbf). This will significantly lower the risk of damage to the TerraAdaptor due to misuse as outlined above.

For current TerraAdaptor owners who have units with the original bolt size, you can continue to use your TerraAdaptor with complete confidence. The take-away from this incident was the need to reiterate and reinforce to users that the TerraAdaptor was principally designed to transfer vertical loads from a rope system to the ground. Improper rigging techniques that result in misuse should be avoided. This is the message that you should communicate to your crew and we will push out to our network of trainers and power users in the coming months.

If you have any question, please contact us at customerservice@smcgear.com or call 1.800.426.6251