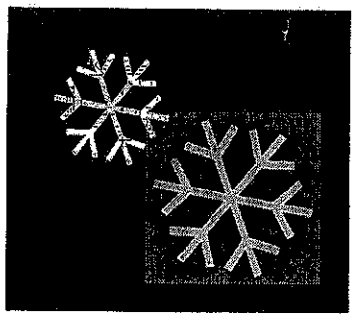

INSTRUCTIONS FOR MOUNTING THE SPIKES-SPIDER HUB PLATES ON VEHICLES USING REPLACEMENT LUG NUTS

As an alternative to fix clips described in the materials describedin the instructions included with your set of Spikes-Spiders, for some vehicles we have replacement lug nuts available. Replacement lug nuts are specially manufactured lugs to duplicate the original equipment lug nuts, except the replacement lugs have a hole drilled in the top and threads added. You then are able to screw in extensions or bolts used to mount the steel hubs.

TIP 1A-There is never a need to lift the vehicle when installing or using the Spikes-Spider winter traction system.

TIP 1B-For all wheel drive (AWD) and four wheel drive (4WD) you do not need two sets of Spikes-Spiders to outfit all tires. You only need one set that you mount on the two primary drive wheels that have the highest % of drive or highest torque rating.

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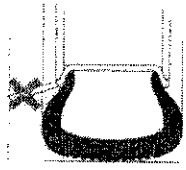
The first thing to determine in mounting the steel hubs, is which wheels to mount the steel hubs provided with other hardware with your new Spikes-Spider pair:

Front wheel drive vehicles (FWD), you mount them on the front wheels.
Rear wheel drive vehicles (RWD), you mount them on the rear wheels.
All wheel drive (AWD) or four wheel drive (4WD), you mount them on the two wheels with the highest torque rating or highest % of drive.

Next, you MUST remove any hub caps and any decorative covers that are on some lugs on some vehicles.

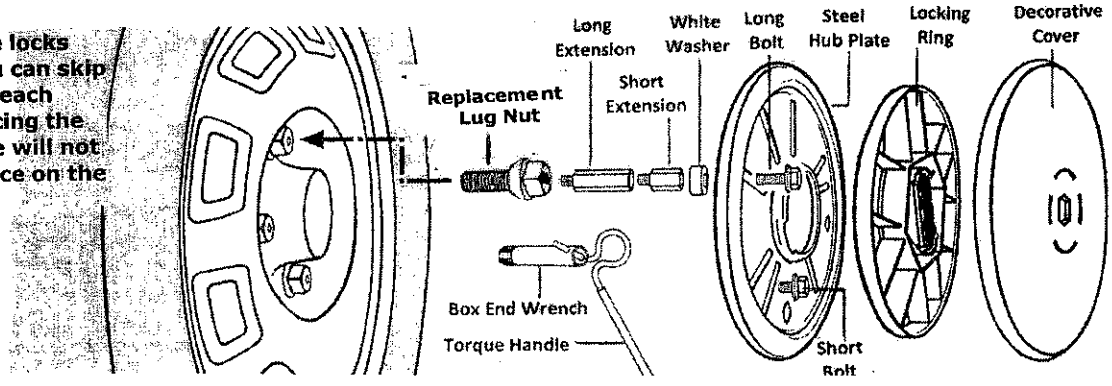
On some vehicles, long valve extensions have been added to the original stock valve stems that extend beyond the sidewall of the tire. Those MUST be removed or they will be cut off by the traction device.



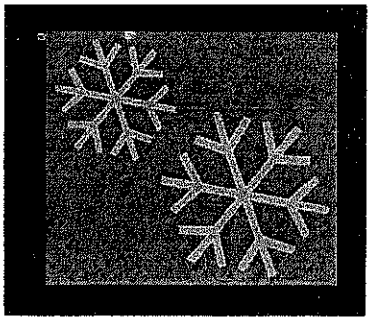
With your Spikes-Spider package you have received a set of steel extensions (with male and female threads) and two different lengths of bolts, along with white washers. The idea is to mount the steel hubs using the appropriate mix of extensions and bolts provided.

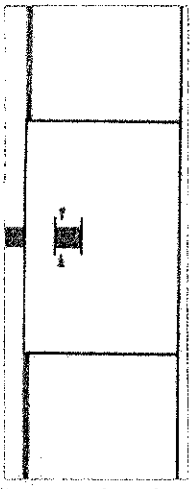
Shown below is a line drawing of the parts you have received with your Spikes-Spider package:

TIP 1C-If you have locks on the wheels, you can skip the locking lug on each wheel when replacing the lugs. Skipping one will not change your balance on the wheels.



You would replace the original equipment lugs with the replacement lugs on the two primary drive wheels, on which you are going to mount the steel hub plates. You can replace the lugs one at a time, so you do not have to actually remove the vehicle wheels. You should torque the replacement lugs to the torque levels specified by your vehicle manufacturer. You can, of course, have the lugs replaced by your professional vehicle servicing facility rather than switching them out yourself.





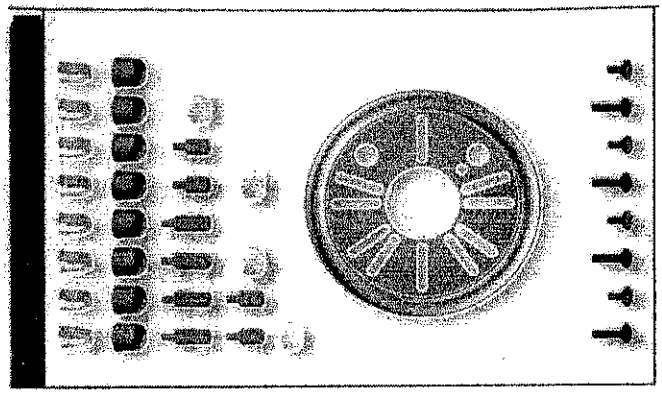
(Distance Gage)

The next step is to determine an estimate of the spacing hardware needed to mount the steel hub on each of the two appropriate wheels. In order for the Spikes-Spider traction devices to fit the tire correctly, the hub assembly the traction devices are attached to must be mounted in the same plane as the outer sidewall of the tire or slightly out from the tire outer sidewall

I order to estimate which hardware is required to bring the steel hub, out into the same plane as the sidewall or slightly out from the sidewall, you would use the distance gage. The distance gage is a card provided with your Spikes-Spider package which is a fold out card with a " red slide".

Unfold the distance gauge card its' full length and pull out the "red slide" out as far as possible. Place the folded out gauge across the face of the tire red edges of the gauge touch the outer tire face, with the "red slide" touching the top of one of the replacement lugs previously installed. Take your measurement by placing the black tip of the "red slide" on the replaced lug. Note the number the red arrow points to on the "red slide"is on a line between numbers. Chose the HIGHER number above where the red arrow points.

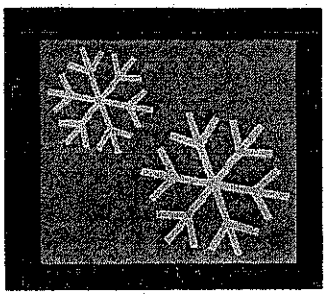
Compare this number with the drawing shown on the figure below, which is on the card:



The series of extensions and the particular bolt shown in the above figure adjacent to the number you determined on the "red slide" card, would be the set of hardware you will try out to mount one of the hubs. **We say "try out on one hub attachment" is because the measurement is not to be considered to be an absolute requirement. The "red slide" measurement is only an estimate of the spacing as a starting point, since in order to find the correct spacing you may have to experiment. The measurement depends on tire pressure and is an estimate only. Go ahead and mount one hub using the initial spacing you determined. Then you need to try the actual traction device on that hub to see if the fit is proper and the locking ring "clicks" in relatively easy.**

For example, if the number reading you received on the "red slide" is a "3", this means you would screw the short extension into the replacement lug using the box end wrench provided with the torque handle or another wrench. The extension only needs to be slightly tight. Do this on each lug, then add the hub with the short bolt into the end of the short extension. Repat on each lug on the wheel.

As another example, if the number reading you received on the "red slide" is a "8", this means you would screw in the long extension and slightly tighten it with the box end wrench provided or another wrench. Dothis on each lug. Then screw in the short extension into the end of the long extension,then add the long bolt which goes thru the hub plate, thru the white washer and screwed into the end of the short extension. Do this on each replacement lug you have in the wheel.



The flat steel hub plate, fits all 4, 5 and 6 lug wheels with bolt circle diameters between 3.75 inches (95mm) and 6.75 inches (170mm). The hub has 10 oblong holes or slots that make it possible to fit all vehicles with 4, 5 and 6 hole rims. The oblong slots are marked for the various lug patterns.

Slots marked 4 are used for installing the hub on wheels with 4 lugs.
Slots marked 5 are used for installing the hub on wheels with 5 lugs.
Slots marked 3 are used for installing the hub on wheels with 6 lugs. This is because if the vehicle has 6 lugs per wheel, you attach the hub in a triangle pattern to every other lug, using the slots marked with a 3.

When mounting the hub plate, always start wit the oblong slot marked 3/4/5/. Please note the two round holes in the hub plate are made for technical reasons and should not be used for mounting the hub.

You should try on the actual traction element on the one wheel on which you have installed the hub. **Trying the traction element on the tire is the only way you have to verify that you have the right spacing of the hub out from the center of the wheel.**
The locking ring is the black disk with the red pull out tab, which is a release.. You should be able to center the locking ring in the center traction element, lining up with the steel hub you installed and get the locking ring to "click' in indicating that the traction device is locked on. You should be able to get the locking ring in relatively easy without having to use excessive pressure on the actual traction device. To release the black locking ring, you pull out on the red tab and rotate the locking ring to release it.

Installing the Compact Style Traction Device -After assembling the traction device unit as shown on the instruction sheet found in the box of traction arms, to put the complete traction element on, just spread two of the black arms apart at the bottom area of the traction device in the area where the tire is sitting on the ground. The arms can be moved to miss the ground the tire is sitting on. You then work the other arms around the sides if the tire. You might have to pull the flexible arms outward slightly to work the traction element onto the tire. Add the locking ring by turning it until it locks in with an audible "click". There is a video on the web site that demonstrates adding the Compact traction element. You should not have to use excessive pressure to get the locking ring to "click into place. **If that occurs or you cannot get the locking ring to lock in, that means you must use the next increment of the extensions or the white washer if you have not already used it.**

Installing the Sport Traction Device -With the Sport version of Spikes-Spider, place the mounting zone, which is the area where the X-Chain connects to the black traction bars, placed so it is at the bottom of the tire sitting on the ground. The reason for the "X-Chain" is that it provides an inset that assists in mounting the traction element. Drape the portion of the traction element, opposite the X-Chain, over the top and fit the interconnected black traction pads which are linked together, on the sides of the tire tread. We try to size the traction element as close as we can to the size of the tire. but in some cases the traction element sizing must be adjusted. In any event, try the traction element on by centering center hole in line with the steel hub previously installed and pressing in slightly while turning the locking ring to "click in, indicating it is locked.

Installing the Alpine Pro Traction Device -With the Alpine Pro version of Spikes-Spider, place the traction element so that one of the insets that for an X centered at the bottom and fit to the sides and top of the tire. The X inset will give you some slack at the bottom of the tire, when you lock in the black locking ring. We try to size the traction element as close as we can to the size of the tire. but in some cases the traction element sizing must be adjusted. In any event, try the traction element on by centering traction element center hole in line with the steel hub previously installed and pressing in slightly while turning the locking ring to "click in, indicating it is locked.

Tip 3A-The Sport version can be adjusted by moving the steel links to different holes in the black traction bars. Each black traction bar has 4 holes at each end. With the traction element off of the tire, you can move links to adjacent holes to shorten or expand the diameter of the traction element. To take a link out of the hole it is in, rotate the selected link, so it is parallel with the inside edge of the particular black traction bar. The sharp "v" area of the traction bar, allows movement of the end of the link. You can take the link out of the hole it is in and insert it in an adjacent hole. You, of course, repeat the move on the other end of the same traction bar to keep the trac even. Each adjustment is approximately 1/4 inch in the trac.

Do not over tighten the trac or the traction element will not self mount on the tread and will ride on the sidewall of the tire.

When properly adjusted and has self-mounted on a tire, a Sport traction element should just be loose enough that you can put the flat of your fingers between the trac and the tire at the top of the tire.

Call if there are questions on adjustment when you have one of the Sport Traction element by the phone: 1 800 581-2060