ODYSSEY® OPTIS™ TIPS & PROCEDURES FOR INSTALLATION

OPTIS (Odyssey Pneumatic Tire Insert System) is a lightweight, highly tunable, high-efficiency, tubeless tire insert. Tire assemblies are one of the most important performance factors for any bike. They provide all the grip to the ground, they serve as a critical first element of the bike's suspension and they provide essential support to the cornering forces that the bike encounters. Pressure choice is always a compromise to balance these requirements.

OPTIS separates the function of the bike's grip from its suspension and stability by turning the tire into a two-stage system. As a result, some important advantages are achieved.

OPTIS prevents tire burping. - By pressing the tire against the rim and preventing gaps from opening, burping becomes almost impossible.

OPTIS allows for lower tire pressures. - The insert is inflated to a higher pressure than the tire, keeping the tire supported while allowing the main volume to be at a lower pressure that provides optimum grip.

OPTIS protects the rim and tire against impacts. - The insert's higher pressure provides protection against impacts, reducing the chances of tire pinching and rim damage.

OPTIS locks the tire bead and provides a temporary run-flat period if the tire is damaged. - OPTIS will securely hold the tire to the rim for a short period of time if the tire is ever critically damaged and loses its air. This can allow for a brief run-flat period that gives the rider more control than they would otherwise have, providing the time needed to stop the bicycle.

OPTIS is lightweight. - Wheel assemblies using OPTIS are significantly lighter than most of the alternative tubeless insert set-ups, while also providing greater protection. The OPTIS insert's bead locking feature and tire support can also allow for lighter than typical tire and rim choices, resulting in overall weight savings.

OPTIS installation is easy and helps to seat tires. - Unlike foam inserts, OPTIS installs as easily as a traditional inner tube, and inflation starts the process of pushing the tire beads outward to ease tire inflation.

OPTIS allows for low rolling resistance. - By facilitating the use of lower pressures and lighter tires, rolling efficiency on rough surfaces is greatly improved.

WARNING!

Like all pressurized tires, there is stored energy in an inflated OPTIS insert that is potentially dangerous.

Do not inflate OPTIS inserts above 20 PSI except when mounted to a rim and inside a tire.

Once fully assembled, do not inflate OPTIS above the maximum rating listed on the insert.

Stop use of the bike immediately if the OPTIS insert is damaged. Adjust tire pressures as necessary to maintain safety.

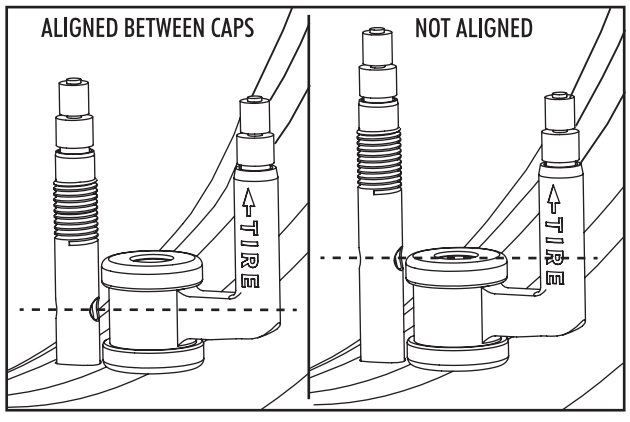
PRE-CHECK & INSTALLATION:

1. Remove the OPTIS insert's lock nut, black Tire Valve and spacers and add just enough air to the insert so that it begins to take its shape.

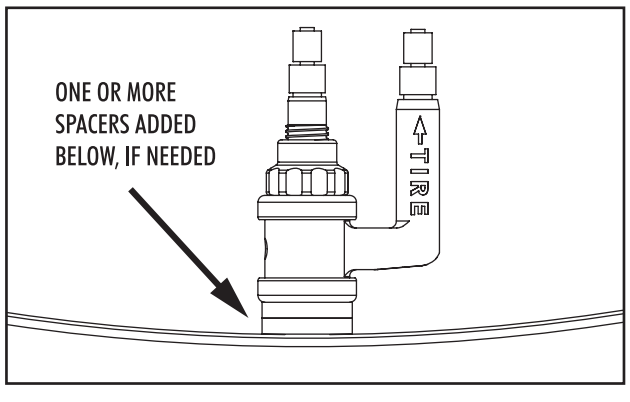
If the rim has a flat area around the valve hole then the supplied O-ring seal will work as needed. If the rim bed is an unusual shape, the rubber seal provided by the rim manufacturer can be used instead of the O-ring.

Mount the OPTIS insert to the rim and check that the outer panel is centered and straight.

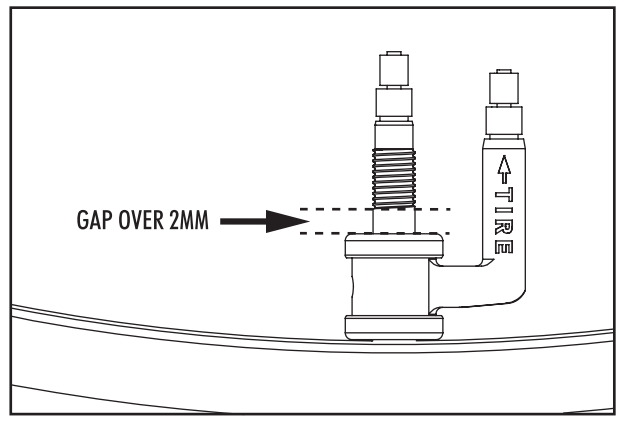
The rim's height will determine if/where spacers are needed. While pressing the valve down hard against the rim, put the black Tire valve next to the gold OPTIS valve and check that the side holes are aligned between the two plastic caps on the ends of the black Tire valve.



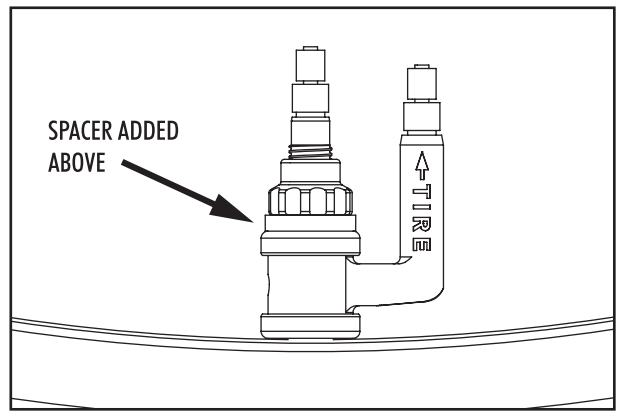
If the rim is shallow and the side hole is not below the top cap, then add spacers to the gold OPTIS valve as necessary. Note that the black Tire valve will move closer to the rim as the seal is compressed.



2. Slide the black Tire Valve onto the gold OPTIS Valve and squeeze the assembly tight. On most rims there will be a gap between the top cap of the black Tire valve and the threads of the gold OPTIS valve.



A small gap of 1-2mm is acceptable, otherwise one or more plastic spacer washers will need to be installed on top of the black Tire Valve. Make sure that the lock nut can be tightened properly so that the valve will seal to the rim.



3. With a functional seal configuration established, loosen the locknut and the black Tire Valve. This will allow the gold OPTIS Valve to be free to move, which will assist with mounting the tire.

4. Put the wheel inside the tire and begin to mount the tire starting opposite the valve and working around the rim. Add a normal amount of regular sealant directly to the tire before mounting the final part of the tire's second bead. It is possible to add sealant through the black Tire Valve but adding it directly to the tire is preferable. If it is added through the valve, be sure to clean the airway by blowing air through it before refitting the Presta core.

5. Tighten the OPTIS Valve's lock nut. Do not overtighten. Note that the OPTIS Valve lock nut uses a unique thread spec. Only ever use the supplied gold OPTIS Valve lock nut. The system's Presta valves and valve caps use standard threading.

INFLATION / TIRE SEATING:

1. Add some pressure (15-30 PSI) to the OPTIS insert using the central gold OPTIS valve, this will begin to push the tire beads towards their seats.

2. Add air to the tire using the black Tire Valve. This is best done with the Presta core removed. The tire should seat easily to the rim in most situations. If the tire and rim combination is unusually difficult, then the normal procedures for seating a stubborn tubeless tire still apply - soapy water and encouraging the bead outwards.

3. When the tire is fully seated, raise the OPTIS insert's pressure to 30-40 PSI and inflate the tire to a pressure that is slightly higher than what is used when riding. This will stretch the tire onto the rim and allow it to obtain its full size.

WARNING!

Never bounce the wheel before checking that the OPTIS is at a higher pressure than the tire itself.

Never ride without checking that the OPTIS is at a higher pressure than the tire itself.

Never inflate the tire to a pressure that is higher than the maximum limit listed by the manufacturer.

TUNING PRESSURE:

As a starting point, the OPTIS insert pressure should be 33-50% higher than the tire's.

Since OPTIS allows the tire's inflation to be lower than it would be in a normal tubeless set-up, it is recommended to start off with the tire's pressure 10% lower than normal.

For example, if the previous tire pressure was 25 PSI, then it should be lowered to 22.5 PSI. In this case, setting the OPTIS insert's inflation so it is 33-50% higher would mean that it needs to be inflated to 30-33.75 PSI.

Different tire types and riding styles allow for both pressures to be fine-tuned by the rider for the optimal balance between grip and stability.

If OPTIS is replacing a conventional foam insert, using the same tire pressure to start is recommended.

Optimum tire and OPTIS pressure will come down to riding style. Many riders find that experimentation has allowed them to find the sweet spot where grip and stability feels best.

10% is a conservative start and most riders will find that a reduction of 15% yields great results. Experiment with small reductions.

Be sure to always keep the OPTIS insert at least 5 PSI higher than the tire's pressure, and do not exceed the maximum inflation listed on the insert.

RUN-FLAT SCENARIO:

The OPTIS insert's bead locking feature offers a limited amount of run-flat protection when the tire is damaged or punctured. If this occurs, then proceed carefully, come to a stop as soon as possible, and repair or replace the tire as needed before continuing. When the tire loses pressure the risk of damaging OPTIS increases. If OPTIS is damaged, then its ability to hold the bead to the rim will cease. Using the bike under these conditions could result in a crash. Stop use of the bicycle until it is repaired.

TROUBLESHOOTING:

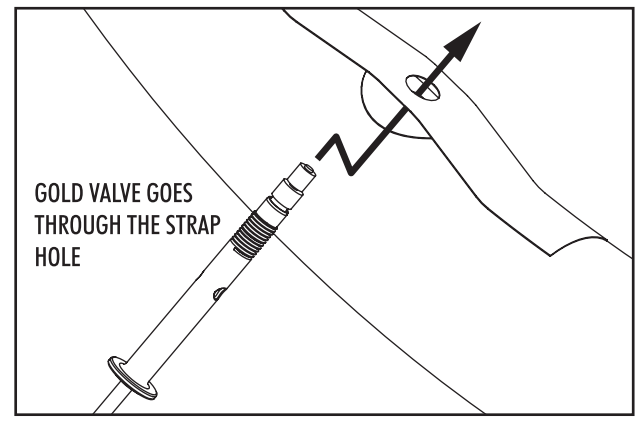
As with all tire systems, check the pressures before every ride.

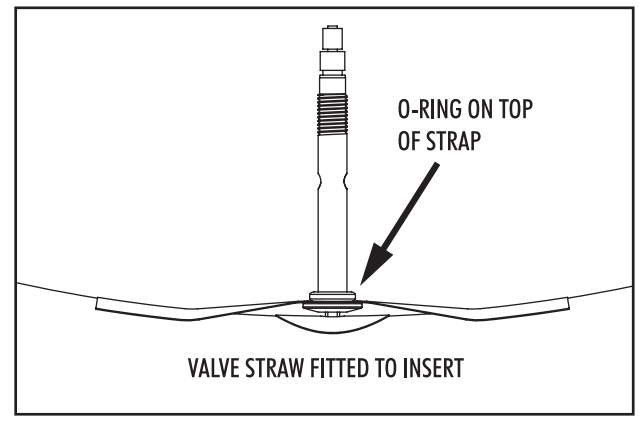
OPTIS INFLATED, TIRE LOSES PRESSURE - On a new install, as with most tubeless set-ups, tire pressure loss is usually down to a poor seal between the valve and rim. Be sure not to overtighten the gold valve nut. A small cup of water can be used to submerge the valves to check for leaks. The tire itself should also be checked for leaks. If a tubeless plug is required to fix the tire, then fully deflate the OPTIS insert and be careful not to puncture the insert when doing the repair.

OPTIS AND TIRE HAVE THE SAME PRESSURE - OPTIS will begin to collapse if the pressure in the tire is greater than the insert's. In this case both the tire and the insert will read as having the same pressure. Deflate the tire, inflate OPTIS and check for differentiation in pressure. If they both have the same pressure, then it is possible that the OPTIS insert has separated from the valve assembly. Remove the tire and reattach the valve to the OPTIS insert.

PATCHING AND REPAIRING OPTIS - The OPTIS insert is incredibly tough, but if a puncture occurs it can usually be repaired with a TPU bicycle inner tube patch kit. Follow the instructions from the TPU patch kit provider.

RE-ATTACHING THE OPTIS VALVE TO THE INSERT - Guide the gold OPTIS valve through the bottom of the insert's retaining strap and feed the valve's inflation straw back into the OPTIS insert. The O-ring seal should be on top of the insert's strap, as illustrated. Replacement OPTIS inserts are available in a variety of sizes.





RECYCLING:

OPTIS valves are re-usable across inserts. The valve bodies are aluminum and can be recycled as needed. The OPTIS insert is Nylon and TPU (thermoplastic polyurethane) and it can be recycled with "mixed plastics" where possible. Never discard waste on the trails or road.

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AUSTIN, TX

U.S. PATENTS: 8,875,761 & 11,772,435

Designed in Sheffield, UK / Manufactured in Taiwan

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TUBELESS OPTIMIZED

ODYSSEY® OPTIS™

TUNING PRESSURE SUGGESTIONS FOR 27.5 AND 29″ MTB TIRES

REGULAR TUBELESS PSI	FIRM INFLATION		MEDIUM INFLATION		SOFT INFLATION	
	TIRE PSI	OPTIS PSI	TIRE PSI	OPTIS PSI	TIRE PSI	OPTIS PSI
20	18	23.9	17.5	23.3	17	22.6
21	18.9	25.1	18.4	24.4	17.9	23.7
22	19.8	26.3	19.3	25.6	18.7	24.9
23	20.7	27.5	20.1	26.8	19.6	26
24	21.6	28.7	21	27.9	20.4	27.1
25	22.5	29.9	21.9	29.1	21.3	28.3
26	23.4	31.1	22.8	30.3	22.1	29.4
27	24.3	32.3	23.7	31.4	23	30.5
28	25.2	33.5	24.5	32.6	23.8	31.7
29	26.1	34.7	25.4	33.7	24.7	32.8
30	27	35.9	26.3	34.9	25.5	33.9
	REGULAR PSI -10%	TIRE PSI +33%	REGULAR PSI -12.5%	TIRE PSI +33%	REGULAR PSI -15%	TIRE PSI +33%