

Mauch® Knee - FAQ

Q: What is the Mauch® Knee?

A: The Mauch Knee is the latest knee development of hydraulic knee systems from OSSUR. The Mauch® Knee utilizes the proven Mauch Cylinder SNS technology and is composed of a new aluminum frame with built in new and enhanced features improving the durability, providing more security as well as being well suited for high active user profiles.

Q: What is the main difference between the new Mauch® Knee and the current Mauch® XG™?

A: The main difference lies in the frame, both in terms of material and design, and the increased weight bearing of the Mauch® Knee. The frame of the Mauch Knee is made out of aluminum instead of carbon fiber making it more durable. The Frame also has built in features, like the extension stop protecting the cylinder from hyperextension and thus increasing its lifetime. The frame has a smooth profile and a slim design making it easier to cosmetically finish. The Mauch Knee is built for patients weighing up to 136 kg / 300 lbs increasing the user range that could benefit from this knee.

Q: Is the new Mauch Knee retrofittable with previous Mauch frames such as the XG?

A: Yes, however the new Mauch frame has the adapter located 6 mm anterior to the pivot axis. The alignment reference line must still fall 0-5mm posterior to the pivot axis. Direct replacement with the new Mauch Knee without accommodating for the new position of the pivot axis may result in positioning the knee in an excessively stable position which could result in excessive hyperextension moments and can deactivate stance resistance.

Q: Will there still be possibility to choose from different types of cylinders?

A: As with the Mauch XG there will be the option of choosing between 3 different types of cylinders with different resistances: *regular resistance SNS, low resistance SNS and swing only.*

Q: What is an extension stop and how does it work?

A: The extension stop is a bumper which allows a certain degree hyperextension of the knee. The extension stop relieves the cylinder from hyperextension forces, increasing the lifetime of the cylinder.

Q: What is the difference between the hard and soft extension stop

A: Typically a soft stop will be selected as this allows easier release from stance however with more highly active walkers, heavier patients or those that increased safety against accidental release of stance may choose the hard extension stop.

Q: What are the benefits in the new Mauch® Knee over the previous Mauch products?

- Increased durability, engineered to endure the toughest use.
- Increased weight limit to 136kg's (300 lbs)
- New state of the art, patent pending connection method of the cylinder to the frame and bracket. Spherical Bearings protect the cylinder from damaging torsional forces, reducing the chance of failure.
- Side play is minimized by specially designed bushings of all moving parts in the knee
- New state of the art bearings provide exceptionally smooth action of the knee
- Slim design provides for easier cosmetic finishing
- Plastic covers provide:
 - appealing looks when the knee is not cosmetically finished,
 - a method of holding cosmetics away from moving parts of the knee during usage
- Offset of the proximal attachment point by 6 mm towards the anterior provides an easier method of alignment of the knee to the rest of the prosthesis

Accessories Q/A's

Q: Is it possible to exchange the cylinder at my facility?

A: The knee is not field-serviceable except for exchanging the following items.

Kit No:	Description:
MAK01361	KNEE BALL, SCREW, BTN HEAD
MAK01362	COVER, FRONT
MAK01363	COVER, REAR
MAK01364	PLUG, SIDE
MAK01365	EXTENSION STOP, SOFT
MAK01366	EXTENSION STOP, HARD

This means that it is not possible to exchange the cylinder in the field, nor exchange any of its structural components. Covers and knee ball are not considered structural components.

Q: How do I exchange MAK01361 KNEE BALL, SCREW, BTN HEAD

A:

1. Attach a tube clamp to the distal part of the knee.
2. Fasten the tube in a workbench vice. (Alternative is to have a fixture attached to a workbench.)
3. Flex the knee fully.
4. Unscrew the two retaining bolts holding the Knee Ball, using a 2mm hex key.
5. Remove the damaged Knee Ball.
6. Place new bolts fully into the new Knee Ball.
7. Place the Knee Ball on the knee bracket, having the screws flush to the end of the upper part of the ball.
8. Replace the new Knee Ball in the frame and tighten the bolts.
9. Extend the knee and check if the Knee Ball is correctly installed and is not touching the frame anywhere.
10. The knee is ready for use.

Q: How do I exchange MAK01362 COVER, FRONT?

A: Before proceeding, the following precautions should be taken. Be sure not to scratch the knee with tools. Handle all items with care and be sure to use approved materials. Any harming of any components of the knee during assembly or disassembly will void the warranty.

1. Hold both sides of the cover and pull the cover from the frame, this may require some force.
2. Apply a small amount of grease to the plug holes in the frame as this will facilitate easier assembly.
3. Replace cover by pressing in the two circular plugs at the proximal end continuing with the circular clips below until all plugs are in place. (No tool is required.)
4. Use a plastic tool to press all remaining plugs in place.
5. The knee is now ready for use.
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Q: How do I exchange MAK01362 COVER, REAR?

A: NOTE: A blunt tool is required for removal of the cover. Be sure not to harm the knee by scratching the cylinder. Induced harm to any other part of the knee will void the warranty.

1. Attach a tube clamp to the distal part of the knee.
2. Fasten the tube in a workbench vice. (Alternative is to have a fixture attached to a workbench.)
3. There are five plugs on each side of the cover holding it in place. Each one of them needs to be pressed out.
4. Start on one side, working from top to bottom, applying pressure to each plug with a blunt tool, pressing the finger out of the hole in the frame. Pull on the cover until all plugs on the side have been disconnected. Repeat for the other side.
5. Apply a small amount of grease around the edges of the frame.
6. No tool should be used during the assembly of the cover, press the cover in place working on replacing the plugs in their associated holes on the frame. Placing the cover at the top first and work your way down both sides.
7. The knee is now ready for use.

Q: How do I exchange the side plugs? (MAK01364 PLUG, SIDE)

A:

NOTE: Blunt tool such as a thin flat head screwdriver is required for removal of the Side Plugs. Be sure not to harm the knee by scratching the cylinder.

1. Pry out the side plugs with a thin flat head screwdriver.
2. Apply a small amount of grease on the new side plug.
3. Align the side plug to the frame ensuring the correct rotation.
4. Press the side plug using a blunt plastic object.
5. The knee is now ready for use.

Q: How do I exchange or replace extension stops?

A: Firstly, remove the Knee Ball with the actions described for the Knee Ball.

NOTE: There might be a couple of shims underneath the extension stop. Be sure that these shims don't fall off as they are small and may be lost

1. Use an adjustable wrench tool and remove the soft extension stop. (Be sure that the wrench has full contact with at least two sides.)
2. Carefully remove shims from beneath the extension stop (if there are any) and place them on the new extension stop.
3. Screw the new extension stop in and tighten until snug. Be sure not to use excessive force during this action.
4. Re-assemble the Knee Ball as described in the Knee Ball exchange section above.
5. The knee is now ready for use.