

Instructions for 1312S Mechanical 4 Bar Knee



Description and purpose

Prosthetist instructions.

- 1312S knee is for lower limb prosthesis.
- Recommended for K1, K2.
- Designed for low to moderate impact activity patient.
- Weight limit for a user is up to 1312S 125kg/275lbs
- Ability to get knee in full extension as part of rehabilitation process.
- High need for safety.

Contra-indications

- Residual muscular weakness, contractures or proprioceptive dysfunction including poor balance.
- Contra lateral joint instabilities or pathology
- Complicated conditions involving multiple disabilities
- Lack ability to adequately clear prosthetic side during swing

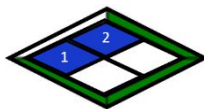


Ensure the end user has understood any Instructions for use, especially to the safety information.

Product Code

1312S

Mechanical 4 Bar Knee

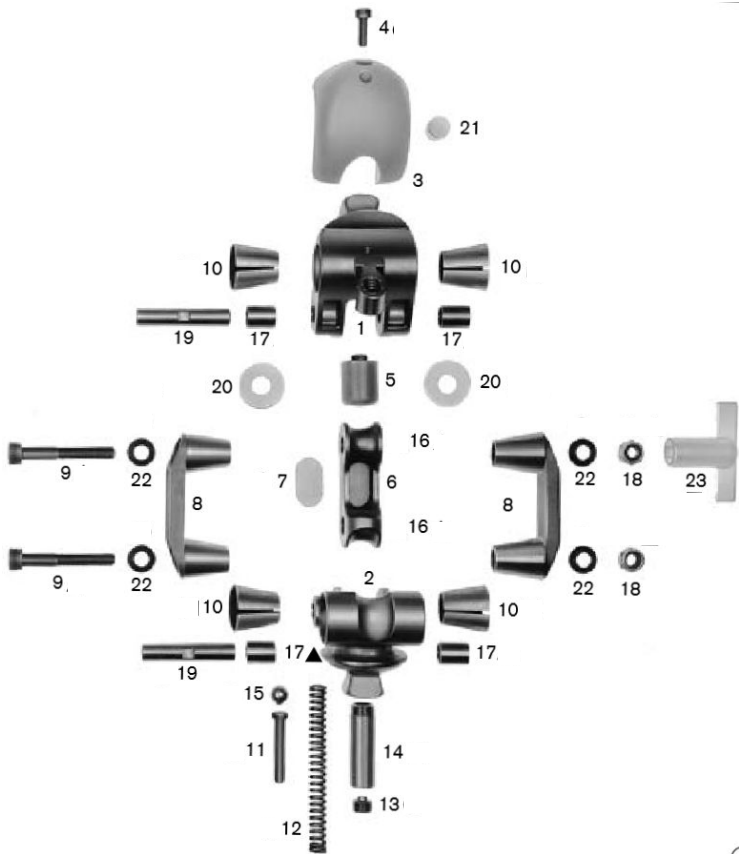


125kg/275lbs

Construction

Principal Parts 1312S

Frame Stainless Steel, Steel, Brass, Plastic



Components for 1312T/S

No.	P/N	Description	No.	P/N	Description
1	1312-RP001	Upper Joint Section	13	1312-RP013	Adjustment Screw
2	1312-RP002	Lower Joint Section	14	1312-RP014	Spring Housing
3	1312-RP003	Plastic Knee Cap	15	1312-RP015	Bearing Ball, Stainless Steel
4	1312-RP004	M4x12 Cap Screw with Hexagon Socket	16	1312-RP016	M6x6 Set Screw with Hexagon Socket
5	1312-RP005	Extension Stop, Complete	17	1312-RP017	Bushing
6	1312-RP006	Posterior Linkage Bar	18	1312-RP018	M6 Lock Nut
7	1312-RP007	Stop Bumper	19	1312-RP019	Posterior Axis Pin
8	1312-RP008	Anterior Linkage Bar	20	1312-RP020	Brass Washer
9	1312-RP009	M6x40 Cap Screw with Hexagon Socket	21	1312-RP021	Friction Stop Bumper
10	1312-RP010	Knee Axis Bushing	22	1312-RP022	Washer
11	1312-RP011	Pin for Extension Assist	23	1312-RP023	Wrench
12	1312-RP012	Spring for Extension Assist			

Function

- The 1312S is a mechanical 4 Bar knee
- Pyramid mounting option
- Adjustable Spring Extension Assist
- Adjustable Friction

Safety Information



The Caution symbol highlights safety information which must be followed carefully.



Be aware of finger trap hazard at all times



Any changes in performance of the knee e.g. any change in how the knee functions should be immediately reported to the Clinician / Practitioner



Any excessive changes in heel height may adversely affect the ability to lock the knee, and the stability of the prosthesis



The user should be advised to contact their Clinician / Practitioner if their condition changes.



Clinician / Practitioner is responsible for assessing that patient is appropriate for this device.



Clinician / Practitioner is responsible for instructing patient of relevant content related to operation and safety of this device.



ST&G products are manufactured and tested for a particular weight and activity impact level. Use by another user for whom it was not originally manufactured may cause injury and voids any written or implied warranty or liability. The liability shall fall upon those that resale/provide the product to anyone other than the original user the foot was delivered to. Not to be resold by private party.



Never use Red Loctite on any fasteners related to alignment or mounting of prosthetic components as this may result in damage, and can void the warranty.

Maintenance

- Maintenance must be carried out by qualified personnel.
- Bi-Annual inspection to be sure knee function is satisfactory.
- Check for visual defects that may affect proper function.
- A loaner system is available should servicing be required.

The wearer should be advised:

Any changes in performance of this device must be reported to the Clinician / Practitioner.

Changes in performance may include:

- Inability to fully extend during weight activation
- Inability to smoothly flex during swing
- Any unusual noises

Cleaning:

- Use a damp cloth and mild soap to clean the outside surfaces.
- DO NOT use aggressive cleaning agents.
- DO NOT use any petroleum lubrication on pivots or friction mechanism as this will void the warranty and render the friction mechanism non-functional, and could attract excessive dust or aggregate which can accelerate wear and tear on the component.
- If the limb/knee comes into contact with salt or chlorinated water, it should be rinsed with fresh water and dried.

Limitations on use

Intended Life:

- Service life of the product is covered by the warranty period (1 year)
- This product is recommended for use with other ST&G Products.

Lifting Loads:

Amputee weight and activity is governed by the stated limits.

Combined amputee, and carrying load, should not be at, or exceed stated weight limit. Always provide at least a 9Kg / 20lb. Buffer to account for any spiking activities, such as stepping down obstacles.

Environment:

Store at room temperature, and avoid extremely hot, cold, or moist storage environments Storage Temperature Range: between temperatures of -10°C to 50°C [14°F and 122°F]

Do not store in wet or very hot environment.



Allowable environmental conditions

Use – relative humidity: 0 % to 90 %, non-condensing

Storage/transportation – relative humidity: 20 % to 90 %, non-condensing

Splash - Fresh water, rain, salt water, urine, dust, sand, particles of foam cosmetics

cleaning required after contact with salt-laden air, salt water, chlorinated water, urine, sand

Unallowable environmental conditions

Storage/transportation: high vibrations, impacts

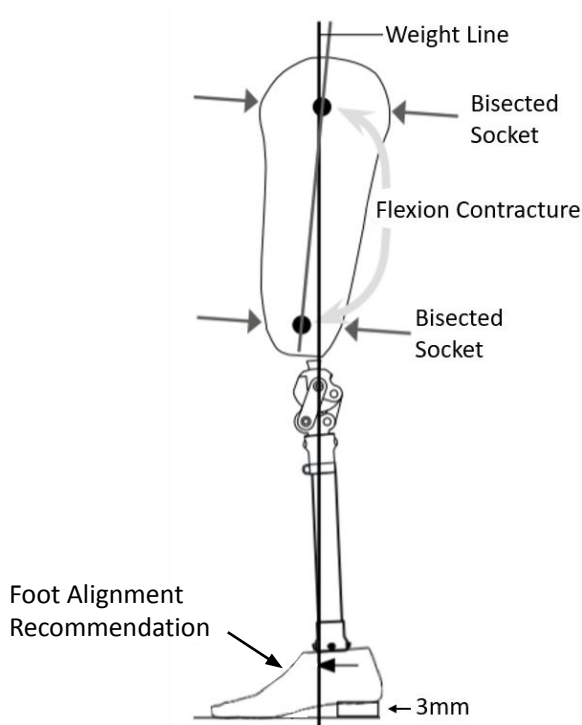
Cleaning agents containing solvents



Alignment and Set-Up



Users be aware of potential finger trap hazard



Note: The 1312S is a mechanical 4 bar knee. 4 bar knees are inherently stable, but care needs to be taken to properly bench align the knee with the prosthesis.

BENCH ALIGNMENT:

- With prosthesis assembled, taking into account hip flexion contractures, abduction, Line Of Progression, and toe out, the TKA plumb line should pass through the knee center at the proximal/anterior pivot. Take into account shoe heel height, and add 3mm safety factor.
- Foot placement versus the knee will be determined by the foot alignment requirements. The knee should not tilt excessively more than 4 degrees anterior. It is advised to follow up in 1-2 weeks to reassess the alignment.
- The weight line should pass through the centerline of the knee in the Coronal or M/L plane. Excessive outset or inset will put undue stress on the knee joint.



Set the bench alignment taking into account the heel height of associated footwear plus 3mm safety factor!

Knee Adjustments

Swing Phase Control:

⚠ NOTE: It is advisable to adjust the extension spring then the friction.

Spring Extension Assist:

The 1312S have an adjustable Spring Extension Assist located through the distal pyramid. The knee should be disconnected from the female pyramid receiver prior to adjustment.

Spring Extension Assist



Use a 4mm driver to turn the spring extension assist screw:
clockwise for faster extension;
anti-clockwise for slower extension;

4mm adjustment screw

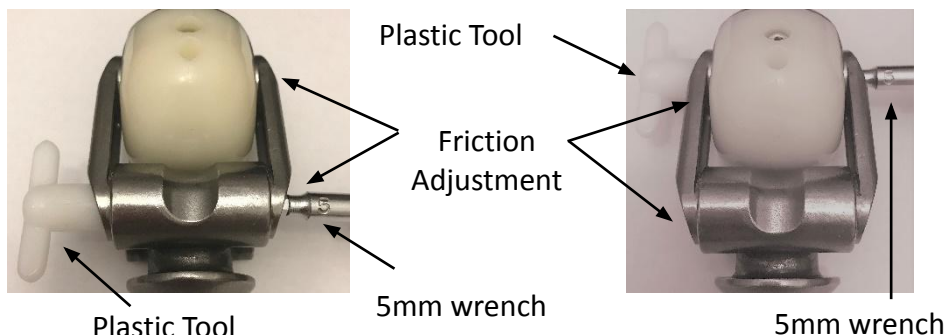


Swing Phase Control:

! NOTE: It is advisable to adjust the extension spring then the friction.

Friction Adjustment:

The 1312S have the friction adjustment located at both anterior pivot axis locations.



For friction adjustment:

Turn hex head cap screw using 5mm wrench while holding the nut on the opposite using the enclosed plastic tool.

Turn the screw:

clockwise to increase friction

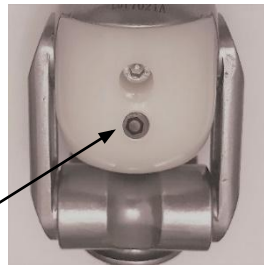
anti-clockwise to decrease friction.

! NOTE: Adjustments of as little as 5 to 10 degrees provide a perceptible change.

Pyramid Head Tilt Adjustment:

It may become necessary in some circumstances to vary the position of the Instant Knee Center (IKC) more anterior or posterior according to individual needs.

Turn the adjustment screw using 4mm hex head wrench.



Adjusting the Pyramid Head Tilt feature can induce knee instability. This should typically be done only in very small increments, and to a very small final amount of adjustment. Typically, a head tilt adjustment with an anterior tilt is more stable than an adjustment with a posterior head tile which is more unstable.



Pyramid Head Tilt Adjustment:



Adjusting the Head Tilt will move the IKC. If the IKC is set too anterior (less stable) and the socket weight line too far posterior, the knee will be very unstable and could lead to fall or injury. Head Tilt is to “Fine Tune” the knee and will not substitute for inadequate socket placement!

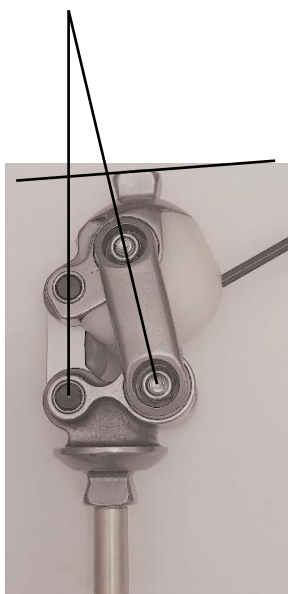
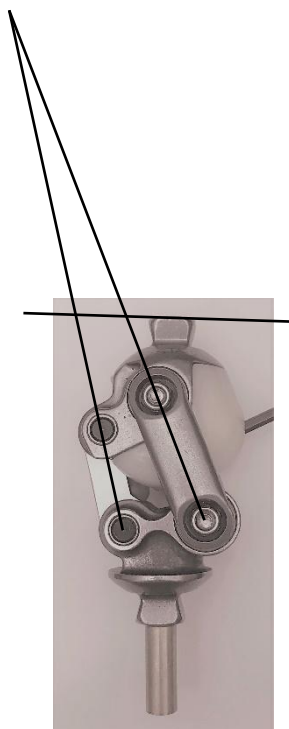
Counter-clockwise rotation will tilt the pyramid anteriorly which increases stability by adding extension into the socket and moving the weight line anteriorly versus the ICR. (ICR is more posterior of socket making flexion initiation harder)

Clockwise rotation will tilt the pyramid posteriorly which decreases stability by adding flexion into the socket and moving the weight line posteriorly versus the ICR. (ICR is more anterior of socket making flexion initiation easier)

IKC

IKC

IKC



Very Stable

Stable

Less Stable

Harder to initiate swing

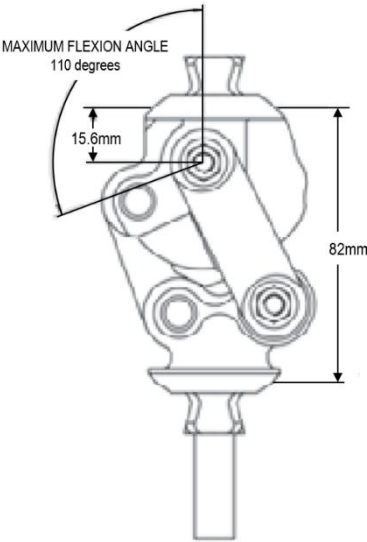
Neutral Function

Easier to initiate swing

Technical Specification 1312S

- Operating & Storage Temperature Range: -10°C to 50°C (14°F to 122°F)
 - Weight: 719g
 - Recommended Activity: K2
 - Maximum User Weight: 125kg/275lbs
 - Maximum flexion angle: 110 degrees
 - Proximal Alignment attachment: Male Pyramid
 - Distal Alignment attachment: Male Pyramid
 - Extension Assist: Adjustable Spring Extension Assist
 - Build Height: 83mm
- Materials: Stainless Steel, Steel, Brass, Plastic

Key Dimensions:



Warranty

Warranted for 1 year from the date of invoice by ST&G.

The user should be aware that changes or modifications not approved will void the warranty.

ST&G products are manufactured and tested for a particular weight and activity impact level. Use by another user for whom it was not originally manufactured may cause injury and shall void any written or implied warranty or liability. The liability shall fall upon those that resale/provide the product to anyone other than the original user the foot was delivered to. Not to be resold by private party.



Liability

The manufacturer recommends using the device only under the specified conditions and for the intended purposes. The device must be maintained according to the instructions for use supplied with the device. The manufacturer is not liable for damage caused by the component combinations that were not authorized by the manufacturer.



CE Conformity

This product meets the requirements Council EU 2017/745 (MDR) for medical products. This product has been classified as a class I product according to the classification criteria outlined in appendix IX of the guidelines. Please keep this manual in safe place for future use.

Useful Life

Service life of the product is covered by the warranty period.

Disposal

The device and its packaging must be disposed of in accordance with respective national/local environmental regulations.

1312 IFU REV. H (07-10-26)

Specifications subject to change