



# GUARDIAN™

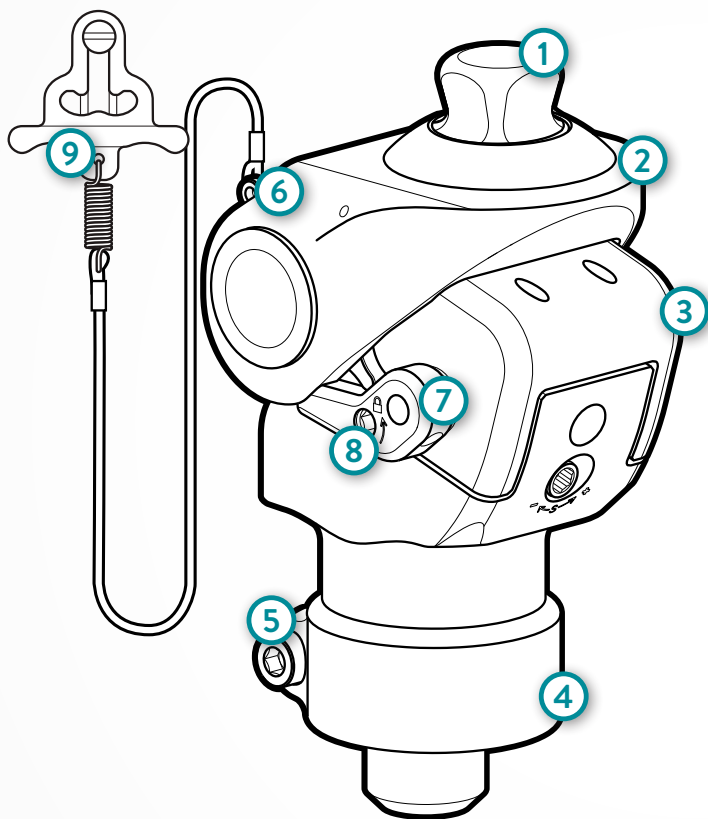
*mechanical knee*



**college park**

TECHNOLOGY for the HUMAN RACE

*technical  
instructions*



## KEY COMPONENTS

1. Pyramid
2. Upper Assembly
3. Lower Assembly
4. 30mm Pylon Receiver
5. 4mm Clamp Screw (Torque 10 N-m)
6. Release Lever
7. Locking Arm
8. Release Screw
9. External Lock Kit

## PACKAGE CONTENTS

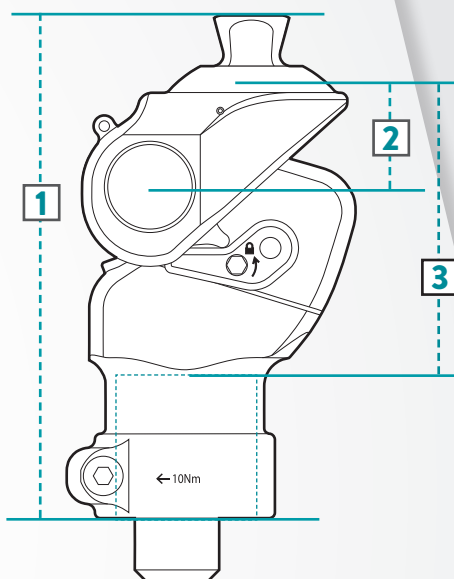
- (1) Guardian Knee
- (1) Knee External Lock Kit

## TOOLS RECOMMENDED

- (1) 4mm Hex Key

## CLEARANCE

<b>1</b>	Overall height	5.0 in (12.8 cm)
<b>2</b>	Dome to knee center	0.9 in (2.3 cm)
<b>3</b>	Dome to tube end contact	2.5 in (6.3 cm)



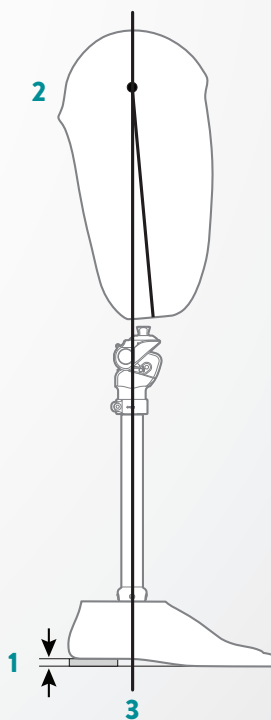
## BENCH ALIGNMENT

1. Determine the heel height
2. Determine the socket flexion
3. The load line bisects through the pylon

### *Knee Alignment*

More Stable = slide the knee posterior

More Dynamic = slide the knee anterior



## ADJUSTMENTS

All adjustments can be made using a 4mm Allen wrench.

*Note: Patient must be sitting when adjustments are made.*

### STANCE PHASE

#### ***Load Dependence***

Controls the brake sensitivity. When load is applied, the knee will not bend until the load is displaced. Turning the load adjustment clockwise will increase the amount of load required to initiate braking.

Factory setting = screw is at minimum (most brake sensitivity)

*Note: The factory setting for load dependence should generally not require adjustment. However, it may be necessary in cases such as patients with higher body weights.*



#### ***Stance Adjustment***

Controls the amount of stance flexion. Adjustments can be made to alter the amount of stance flexion before the brake is activated.

Factory setting = screw is at minimum

*Note: Stance adjustment works together with load dependence to control the brake function. If decreasing the stance adjustment, it may be necessary to also increase the load dependence adjustment.*



**⚠ Caution:** Do not over tighten. May lead to brake sticking which can cause unstable gait.

### SWING PHASE

#### ***Extension Assist***

Controls the rate of extension assist.

Factory setting = screw is tightened 1 turn from minimum

*Note: Knee must be fully flexed to access extension adjustment.*



# DYNAMIC ADJUSTMENTS

Note: The effect of a dynamic adjustment can be felt with as little as 1/8 - 1/4 turn.



**Caution:** Flexion and extension must be possible at all settings.

## STANCE PHASE

### Load Dependence

SYMPTOM	DESIRED RESULT	SCREW ADJUSTMENT	
Brake function too strong; Swing too difficult to initiate	<b>Increase Load Dependence</b> (brake less sensitive)	Turn <b>L</b> clockwise	
Brake function not sufficient; Knee too unstable during stance	<b>Decrease Load Dependence</b> (brake more sensitive)	Turn <b>L</b> counterclockwise	

### Stance Adjustment

SYMPTOM	DESIRED RESULT	SCREW ADJUSTMENT	
Not enough flexion	<b>Increase Stance Flexion</b>	Turn <b>S</b> counterclockwise	
Too much flexion	<b>Decrease Stance Flexion</b>	Turn <b>S</b> clockwise	

## SWING PHASE

### Extension Assist

SYMPTOM	DESIRED RESULT	SCREW ADJUSTMENT	
Extension too slow or Excessive heel rise	<b>Increase Extension Assist</b>	Turn <b>E</b> clockwise	
Extension too fast or Heel rise not sufficient	<b>Decrease Extension Assist</b>	Turn <b>E</b> counterclockwise	

# EXTERNAL LOCKING OPTION

The Guardian can be converted to a locking knee joint, allowing the patient to control when the knee is locked or unlocked. To achieve this, the lock must be enabled and the external lock kit must be installed. Refer to External Lock Kit Fabrication Instructions for detailed information and mounting instructions.

<b>Stance Control Mode</b>	Lock is disabled; Knee utilizes the brake mechanism during stance
<b>Locking Mode</b>	Lock is enabled; Allows for manual locking and unlocking of knee

Factory Setting = Stance Control Mode

## Enabling Locking Mode

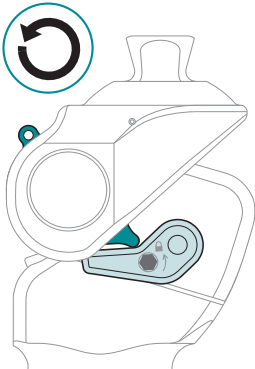
*Note: Do not remove the release screw or apply Loctite*

1. Extend the knee joint.
2. Turn the release screw counterclockwise until resistance is felt. The locking arm will raise slightly.
3. Apply load to the toe of the prosthesis (slight compression of the knee is required to engage the lock).



**Caution:** Test the knee to ensure it does not flex, prior to patient fitting.

4. Continue with installation of the External Lock Kit.



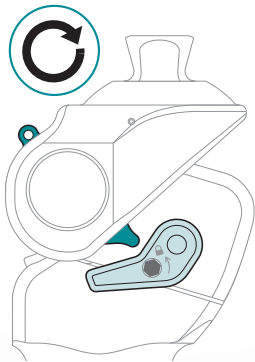
*Raised position*

## Disabling Locking Mode

1. Unlock the knee by pulling upward on the manual lever, while simultaneously applying a load to the toe of the prosthesis. Then, flex the knee slightly (about 5 degrees).
2. Turn the release screw clockwise until resistance is felt (do not overtighten). The locking arm will lower slightly and the knee will now be in stance control mode.




**Caution:** Test the knee to ensure it swings freely without weight applied, prior to patient fitting.


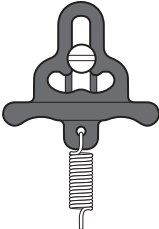

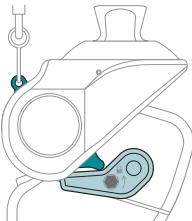
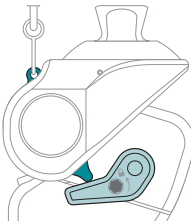
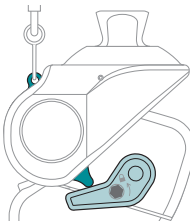


*Lowered position*

# USING THE MANUAL LOCK FEATURE

 **Caution:** Test the manual lever after installation and all adjustments to ensure proper function.

*Note: Instruct the patient on proper use of the manual lever. Make sure they understand the operating positions. Visit [www.college-park.com](http://www.college-park.com) to find fabrication instructions.*

		
		
<p><b>Locked Position</b></p> <p>Standing/Walking: The knee will not flex</p>	<p><b>Lock Release</b></p> <p>To Sit Down: Patient should pull upward on the manual lever while shifting their weight forward slightly. This allows the knee to flex.</p> <p>Releasing the lever will return it to the locked position.</p>	<p><b>Temporary Unlock</b></p> <p>Deactivates the lock function temporarily:</p> <p>To allow Temporary Unlock, remove the tabs from the manual lever slot. The knee will remain unlocked when the lever is in this position and will operate in stance control mode.</p>

## WARRANTY INSPECTION AND MAINTENANCE INFORMATION

College Park recommends that you schedule your patients for check-ups per the warranty inspection schedule below.

High patient weight may require more frequent inspections. We recommend you visually inspect the following applicable parts for excessive wear and fatigue at each warranty inspection.

- Knee Assembly
- External Lock

### Warranty inspection schedule for Guardian:

Six months, then annually.

## WARNINGS

- Flexion and extension must be possible at all settings.
- Avoid pinching hazards! Do not place fingers near the flexing area of the knee.
- Patient concerns about the function should be reported to the prosthetist immediately, including but not limited to: noise, sudden loss of function, brake release sticking, etc.
- Do not disassemble the knee. Contact College Park to arrange a repair or replacement.
- Do not expose this product to moisture, i.e. fresh water, corrosive materials, salt water or pH extremes. If the knee encounters moisture, wipe it dry using a lint-free cloth.
- Contaminants such as dirt and the use of lubricants or powder may affect the function of the knee brake and lead to failure.
- Do not use compressed air to clean the knee as it can push dirt inside of the knee.
- If the locking function is utilized, verify that the manual lever and nylon lanyard are not obstructed by the cosmesis.
- If modifying the prosthesis, ensure that the nylon lanyard is secure to prevent damage from grinding tools.

*Failure to follow these technical instructions or use of this product outside the scope of its Limited Warranty may result in injury to the patient or damage to the product.*

## TECHNICAL ASSISTANCE / EMERGENCY SERVICE 24/7/365

College Park's regular office hours are Monday through Friday, 8:30 am – 5:30 pm (EST). After hours, an emergency Technical Service number is available by calling the main line.



**college park**

800.728.7950 | 586.294.7950 | college-park.com



**COLLEGE PARK INDUSTRIES, INC**

27955 College Park Dr.  
Warren, MI 48088 USA



**EMERGO EUROPE**

Prinsessegracht 20, 2514 AP  
The Hague, Netherlands

**CE**  
**MADE IN THE USA**  
692 INS GFBK 171006

**Australian Sponsor**  
**EMERGO AUSTRALIA**  
Level 20, Tower II  
Darling Park  
201 Sussex Street  
Sydney, NSW 2000  
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