PRACTITIONER'S MANUAL

DAW Industries

5PS10™ KD

True-KD™ Biomechanics, Stance Flexion, & Custom-ICR™ Stability

Stock #: TGK-5PS10

IMPORTANT:
Adjusting alignment beyond recommended limits described within will adversely affect patient's gait, and could cause premature wear.

HEADQUARTERS:
6610 Nancy Ridge Road
San Diego, CA 92121-2252
Orders: (800) 252-2828 • (858) 622-4962
Fax: (800) 856-8563
www.daw-usa.com

Technical Support
(800) 242-8669

CENTRAL/EASTERN DISTRIBUTION CENTER:
5579-B Chamblee Dunwoody Road
Suite 227
Atlanta, GA 30338-4154
Orders: (800) 824-7192
Fax: (800) 865-8563

Sitting Position

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5PS10™ KD

True-KD™ Biomechanics, Stance Flexion, & Custom-ICR™ Stability

Stock #: TGK-5PS10

True-KD™ Biomechanics:
not only serves your KD Amputee's unique cosmetic needs, True-KD Knees are also engineered to maximize stability & efficiency by exploiting your Patient's distinct biomechanical advantages!
Learn more @ daw-usa.com/true-kd-biomechanics

Benefits:

- ✔ 5-Bar Custom-ICR adjustable geometric stability
- ✔ Precise Stance Flexion adjustment (0° to 15°)
- ✔ Proven durability & reliability
- ✔ Trouble-free, zero maintenance
- ✔ Separate extension & flexion adjustments
- ✔ Forever-smooth stainless ball bearing axes

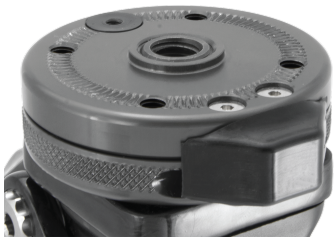
Includes: Adjustment Wrench & Lock Washer

IMPORTANT:
Read technical information thoroughly before using knee.

DAW® Industries

Popular Proximal Options

KD-Adapter, 3-Prong
Stainless Steel (#: TSC-KDL)
Provides Rotational Adjustment



Lo-Pro Rotator™
(#: TKR-01)
Provides Rotational Adjustment
Attach any 4-Hole connector

Suggested **L-Codes*:** L5984

Browse our complete selection of Unique Components at
daw-usa.com/all-connectors

Recommended K3 Foot

K3 Pro-Action™ Foot
Engineered for the low to moderately active K3 Individual

Provides 3 Dynamic Energy Returning Carbon Keel Options & Multi-Axial Ankle Motion with Rotation.

Suggested **L-Codes*:** L5981 L5986

*Please refer to the complete reimbursement disclaimer at www.daw-usa.com

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Specifications

Patient profile:

Body weight	Under 275lb (125kg)
Functional level	K3/ K4
Amputation level	Knee Disarticulation

Knee Specifications:

Stock number	TGK-5PS10
Max weight limit	275lb (125kg)
Knee weight	2.21 lb (997g)
Proximal connection	M6 threaded 4-hole or, Unthreaded single hole
Swing Controls	Separate Pneumatic Extension / Flexion Adjustments, Extension Assist Adjustment & Adjustable Swing Phase Trigger
Stability Controls	Custom-ICR™ Stability Adjustment, Stance Flexion Stability & Adjustable Extension Stop Bumper
Distal connection	30mm tube clamp
Warranty	2 years, upgrade for additional 3 years

Contents

Page #

Recommended Order of Adjustments . . . . . 1 (Below)

KD Adapter Lamination / Connection Procedure 2-3

Build Height 4

Torque Settings 4

Alignment 5

ADJUSTABLE FUNCTIONS

Custom-ICR™ Stability Adjustment 6-7

Stance Flexion Stability Adjustment 8

Swing Phase Adjustments (Flexion & Extension Dampening) 9

Returning Flexion & Extension to Factory Setting 10

Extension Assist Adjustment 11

Replacing or Trimming the Extension Assist Spring 12

Extension Stop Adjustment (Swing Phase Trigger Point) 13

Cleaning Pneumatic Components 14

DAW Prosthetic Knee Limited Warranty 15

Specifications 16

Popular Proximal Options . . . . . (inside back cover)

Recommended Order of Adjustments

1. Static Custom-ICR Stability adjustment
   -adjust to residual limb length
2. Stance Flexion Stability
3. Dynamic Custom-ICR Stability adjustment
   -fine tune to Patient's capability
4. Flexion Dampening
5. Extension Dampening
6. Extension Assist
7. Extension Stop

DAW® Industries
For Technical Support call (800)242-8669

True-KD™ Series
Knee Connection to KD Adapter (TSC-KDL)

The instructions below apply to True-KD™ Series Knees, when using the KD Adapter (TSC-KDL):

After lamination of the KD Adapter (TSC-KDL) is complete,

A. Use the included 7/16 Bolt to remove the black Spacer from the center of the top of the knee.

Spacer 7/16 Bolt

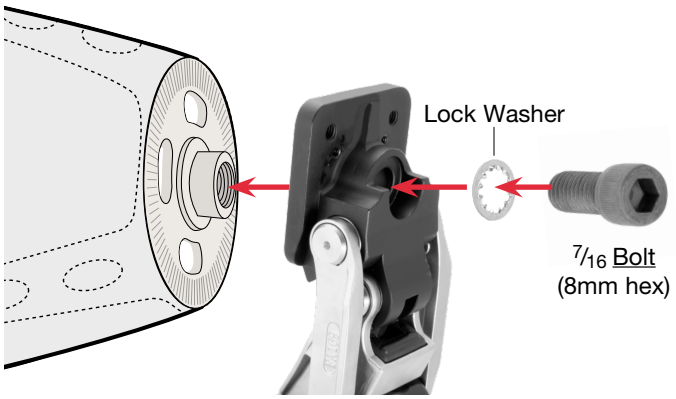
Spacer 7/16 Bolt

B. Remove the Kneecap.

C. Flex the 5PS10 KD™ True-KD Knee approx. 90-degrees.

D. Select your desired degree of external knee rotation. Each notch of the KD Adapter and knee top is an adjustment of 2 degrees.

E. Secure the knee to the KD Adapter using the included 7/16 Bolt (8mm hex). **Torque the bolt to 9ft-lb (12.2Nm).**



DAW Prosthetic Knee Limited Warranty

The knee comes with a Limited Warranty for 2-years. It covers manufacturer defects (excluding wear & tear). An additional 3 years of warranty coverage can be purchased for +15% of the original cost of the knee. See full warranty statement at: www.daw-usa.com/practitioner-resources/

Weight limit of this knee is 275lb (125kg)

Bumpers are not under warranty.

Tight screws and a straight cut of the tubing are a must. Not following recommended use of components, including weight limit and alignment, will void the warranty. Make sure to read all instructions enclosed with the knee unit.

All repairs on the knee module must be done by a factory-trained DAW technician. Any disassembly done on the knee during the warranty period(s) will void the warranty (excluding dissasembly of the extension spring housing).

Service Under Warranty

For all component repairs call DAW Industries right away. We will ship a replacement knee the same day, which will become your patient's new knee. The replacement component is under warranty for the time remaining on the original component.

The overnight shipping charge will be credited upon receipt of the failed knee component.

Service Outside of Warranty

Knees not under warranty may be repaired by DAW. While any unwarranted knee is being serviced, DAW will provide a rental knee subject to availability. The DAW rental fee is listed in the price list under each knee. The rental fee covers the period DAW takes to complete the repair with ten (10) days allowed for shipping in both directions. The same rental fee will be charged every 30 days passed the initial rental fee period.

For any repair you must first contact our Technical Services at 1(800)242-8669. This will allow DAW to best understand the issue. Our Technical Support will immediately asses if the repair qualifies as a "minor" or "substantial" repair. A "minor" repair will be completed, as a courtesy, free of charge (you will just pay for return shipping). A "substantial" repair will be billed at a flat rate according to knee model. Upon return of your repaired knee, you will be invoiced for the repair charge, if any. When DAW receives the rental knee, your account will be credited for the value of the returned knee (Gold Preferred+ = FREE rental; Preferred = 33% off).

In the event your knee is unrepairable, you will be notified immediately. The rental must then be returned to DAW, 2nd day, within five (5) working days. The rental fee may be applied toward the purchase of a new DAW knee.

DAW® Industries
For Technical Support call (800)242-8669

Cleaning Pneumatic Components

A. Using the Swing Adjustment Wrench (or 9mm wrench), completely remove the Extension Knob. Turn the Knob ***counter-clockwise*** until it no longer appears to be unthreading. The Knob pulls out of its chamber with a small amount of force.

B. With the Knob removed, flex the Knee quickly & repeatedly to clear out any debris from the air passage. Air should flow smoothly with no restriction.

C. Using a Q-Tip, clean the chamber from which the Knob was removed. The entire chamber should be dry.

D. Remove the Flexion Screw (3mm Hex) from the Knob. Remove the Needle and clean it of any debris or lubricant.

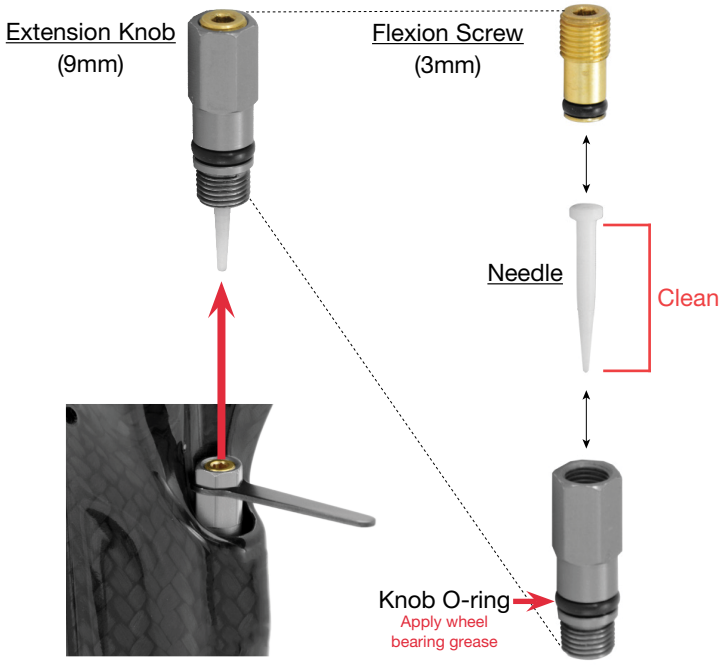
E. Apply a very light coat of wheel-bearing grease to the Knob O-ring. Be sure the Needle remains dry.

F. Return the Needle to the Knob. Do not yet return the Screw to the Knob. Press the Knob and Needle back into the chamber of the knee. You will hear a “click” as the Knob seats back into the chamber.

G. Turn the Extension Knob ***clockwise***. Initially, apply a small amount of downward force while you turn to ensure the threads catch. Gently screw it in until it stops. Do not tighten.

H. Turn the Knob ***counter-clockwise*** 1 rotation (the factory setting for Extension).

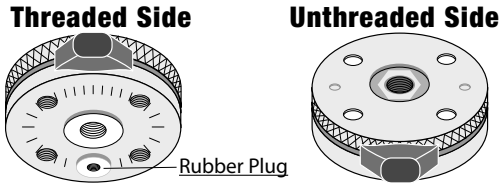
I. While holding the Knob stationary with the Swing Adjustment Wrench (or 9mm wrench), screw the Flexion Screw back into the Knob until it is flush with the Knob (the factory setting for Flexion).



True-KD™ Series Knee Connection to Wire Basket Adapter (TSC-BX) with Lo-Pro Rotator™

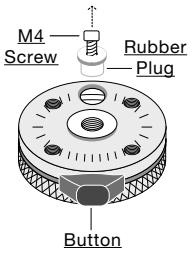
The Lo-Pro Rotator attaches directly to the top of any DAW True-KD™ Series knee. It’s low build height allows KD Amputees the convenience of knee rotation while still maintaining cosmetic appearance in the sitting position.

The Lo-Pro Rotator features an **Unthreaded Side** (with an unthreaded 4-Hole pattern) and a **Threaded Side** (with a threaded 4-Hole pattern*Rubber Plug).



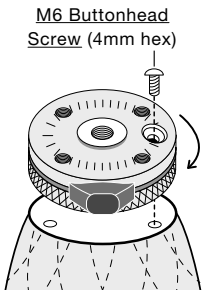
Connection of the Lo-Pro Rotator to the 5PS10 KD™:
After lamination of the Wire Basket Adapter (TSC-BX) is complete,

A. First, screw in the included M4 Screw (by hand) partially into the Rubber Plug and pull up to remove it.



B. Push and hold down the Button and rotate until the Plug’s Hole lines up with one of the unthreaded holes on the rotator’s other side. If it is difficult to rotate, screw in 2 M6 Button Head Screws partially into the **Threaded Side** to use as leverage.

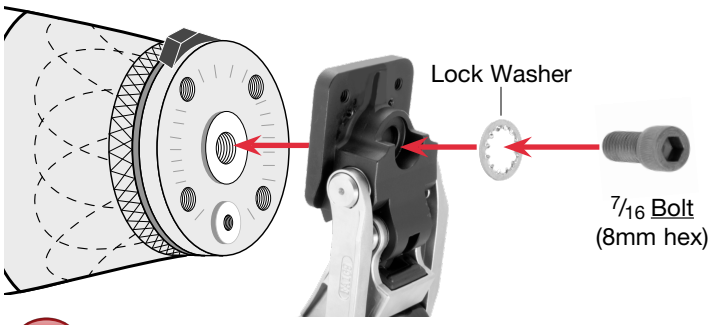
C. With the **Unthreaded Side** against the adapter, insert one of the included M6 Button Head Screws (4mm hex) through the 2 holes into a threaded hole of the Wire Basket. Screw in, but do not tighten. It’s recommended the button be positioned facing forward.



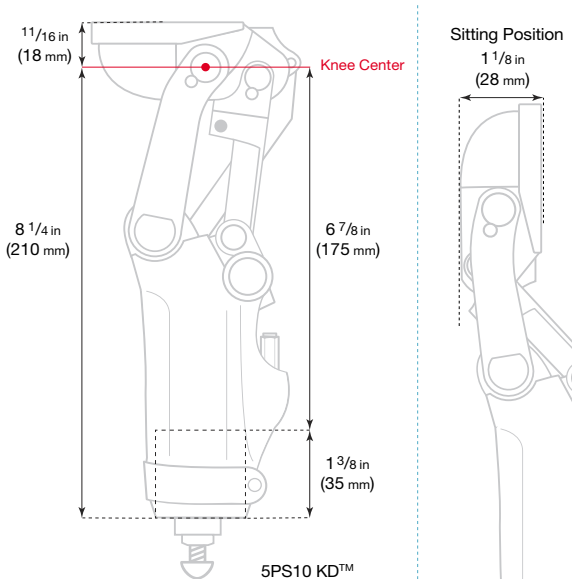
D. Repeat steps B. & C. until all 4 M6 Button Head Screws are screwed in. **Torque each screw to 7.4ft-lb (9.9Nm)**.

E. Return the Rubber Plug to its hole.

F. Now you may secure the knee to the bottom of the Lo-Pro Rotator using the included $^{7}/_{16}$ Bolt (8mm hex). **Torque the bolt to 9ft-lb (12.2Nm)**.



BUILD HEIGHT

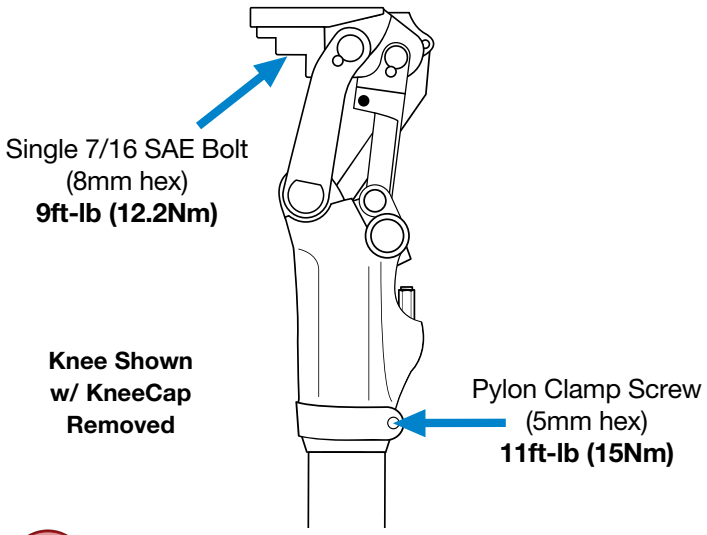


TORQUE SETTINGS

Important:

Use blue Loctite™ 242 on all screws referenced here.
It is not recommended to use Ottobock Titanium Pylon.
Do not use a spacer for height adjustment.
Ensure pylon is cut straight.

It is recommended these torques be checked within 30 days and then 6 months after your delivery of this prothesis.



Adjusting the Extension Stop Bumper
(Stability & Swing Phase Trigger Point)

To customize the “trigger point” of swing-phase, adjust the Extension Stop Screw. Max adjustment is 2°.

Note: This adjustment will affect socket flexion slightly.

Turn the Extension Stop Screw (2.5mm hex):

Clockwise for earlier swing-phase initiation
(& less stance phase stability)

Counter-clockwise for later swing-phase initiation
(& more stance phase stability)

Extension Stop Screw
(2.5mm hex)

Replacing or Trimming the Extension Assist Spring

To replace the Extension Assist Spring:

A. Completely remove the Pylon Clamp Screw (5mm hex).

B. Remove the pylon.

C. Flex the knee to full flexion.

D. Using a 12mm wrench, or crescent wrench, twist the Lock Nut ① ***clockwise***, the Spring Housing ② will extend out of the knee as you twist the Lock Nut.

E. You can now pull the Spring ③ out of the Housing ②.

F. Insert your new Spring ③ into the Housing ②.

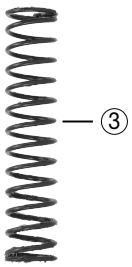
G. Unflex the knee to full extension and return the housing to the knee making sure the groove for the Pylon Clamp Screw lines up properly.

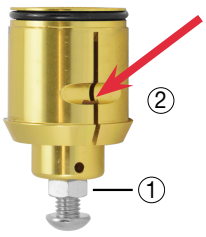
After returning the Pylon. Retighten Pylon Clamp Screw (5mm hex) to **11ft-lb (15Nm)**

To trim the Extension Assist spring:

Complete steps A. through E. above

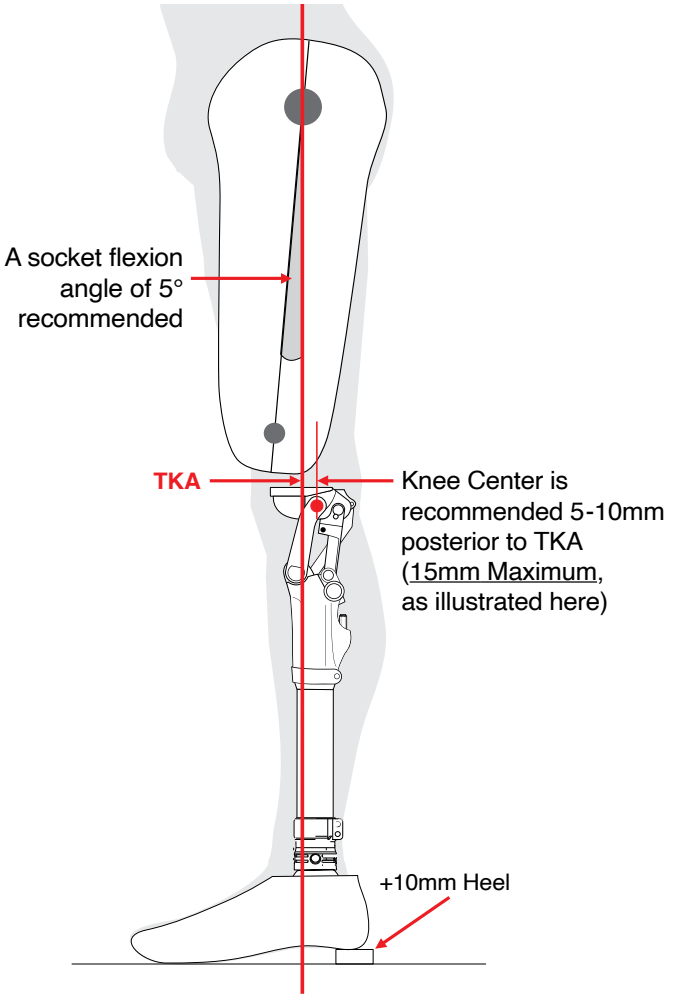
Using a grinding wheel, trim one or two coils (maximum) off one end of the Spring. Smooth the trimmed end. Return the Spring to the housing, **trimmed end down**. Continue with step G. above.





RECOMMENDED BENCH & STATIC ALIGNMENT

Standard alignment procedure must be observed to obtain the maximum benefits offered by this knee. All alignment references should be taken from the center of the anterior superior knee axis (commonly referred to as the Knee Center).



Why is Custom-ICR™ Better?

Improve Stability without Altering Alignment

Without affecting your alignment, the Custom-ICR™ Stability Adjustment optimizes the location of this knee's ICR to improve stability and minimize energy consumption (see next page to optimize your Patient's Custom-ICR setting).

Watch the "Custom-ICR Setting" video at daw-usa.com/videos

What is a 4-Bar Knee's ICR? And why is its location important?

A Polycentric knee's Instantaneous Center of Rotation or ICR is a theoretical point located at the intersection of 2 lines which pass through the axes and continue proximally (see fig. below).

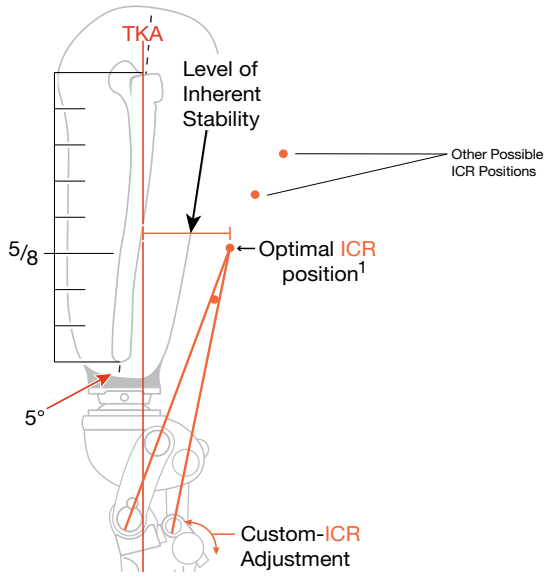
The ICR location of different polycentric knees determine 2 important aspects of your patient's gait:

A. The Level of Inherent Stability the knee provides (measured by the ICR's distance from TKA or Force Vector)
B. Your Patient's energy consumption.

Why is an Adjustable ICR Position advantageous?

A traditional 4-Bar knee's ICR location is not adjustable. If it is located too far posterior for your Patient's individual biomechanics, your Patient will consume excessive energy.

DAW 5-Bar Knee's let you optimize Inherent Stability to your patient's needs while also minimizing their energy consumption.

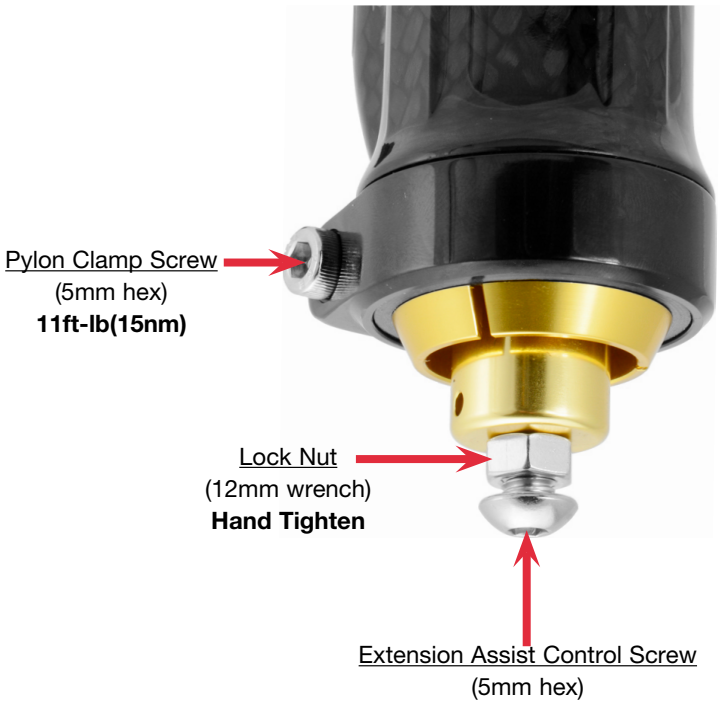


[1] The optimal location of the ICR is the area where the Amputee applies force to their socket wall during stance phase. It is most commonly, 5/8 down the length of the femur.

Adjusting Extension Assist

To Adjust Extension Assist:

A. Loosen the Pylon Clamp Screw (5mm hex) and remove the Pylon
B. Loosen the Lock Nut (12mm wrench)
C. Turn the Extension Assist Control Screw (5mm hex):
Clockwise to increase extension assist
Counter-clockwise to decrease extension assist
D. Re-tighten the Lock Nut, **Hand Tighten** (12mm wrench)
After returning the pylon, re-tighten Pylon Clamp Screw to **11ft-lb (15Nm).**



Returning Flexion & Extension Adjustments to Factory Settings

A. Unscrew the brass Flexion Screw (3mm hex) until it unthreads and spins in the Extension Knob (**fig. 1**).
You do not need to remove the Flexion Screw.

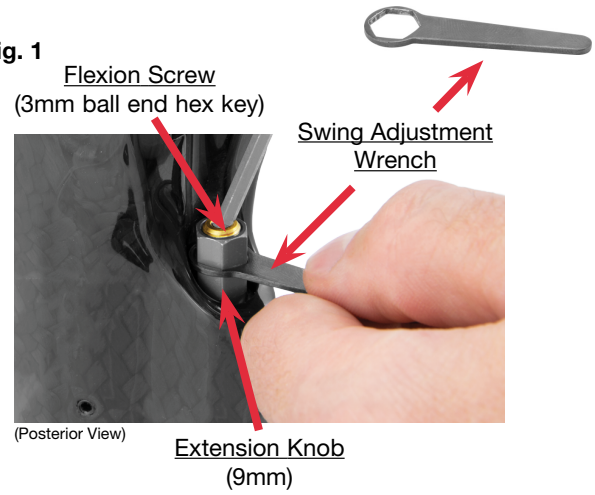
B. Using the included Swing Adjustment Wrench (or a 9mm wrench), gently screw the Extension Knob ***clockwise*** until it stops. Do not tighten.

C. Now turn the Knob ***counter-clockwise*** **1 full rotation**.

D. While holding the Knob stationary, screw the Flexion Screw back into the Knob (**fig. 1**) until the top of the Screw is flush with the top of the Knob.

The knee's Flexion & Extension Controls are now at their factory settings.

Fig. 1



Adjusting Custom-ICR™ Stability

Your Patient's optimal Custom-ICR Stability setting considers 2 important biomechanical traits:

1. Femoral length and
2. Hip extensors strength

During Bench or Static Alignment:
Adjust the setting to your patient's residual femoral length.

A. Loosen the Set Screw (2mm)

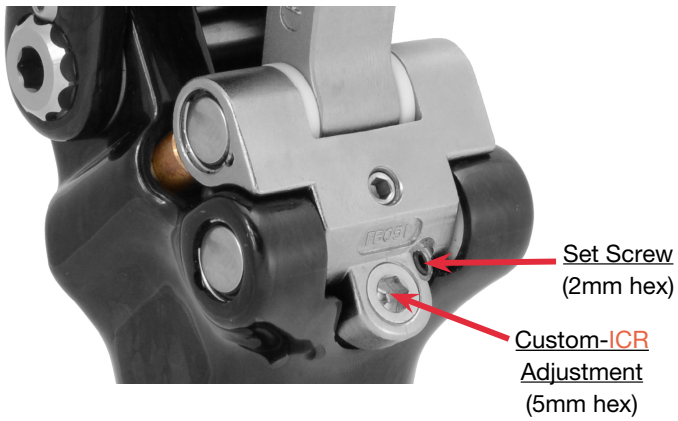
B. Turn the Custom-ICR Adjustment (5mm hex):

¼ turn ***clockwise*** for every inch of femur shorter than 8.
or…
¼ turn ***counter-clockwise*** for every inch of femur longer than 8.

*The factory Custom-ICR setting is set for an Amputee with an 8-inch residual femur.

Watch the "Custom-ICR Setting" video at daw-usa.com/videos

C. Re-tighten the Set Screw before dynamic alignment.



During Dynamic Alignment:
Adjust the setting to your Patient's weak or strong hip extensor strength.

*Turn **clockwise** to provide more stability to compensate for weaker hip extensors*

or… If patient is hanging up in swing phase,

*Turn **counter-clockwise** to provide more efficiency to a Patient with stronger hip extensors.*

Return to Factory Setting:
Adjust the Custom-ICR Adjustment Screw (5mm Hex) until it rests flush with its surrounding material

Adjusting Stance Flexion

DAW 5-Bar Stance Flexion Design is engineered to not only smooth the transition from heel strike to mid stance but increase stability at this phase of gait as well[1]. Stability increases as more Stance Flexion angle is provided (up to 8°).

NOTE: It is recommended you make this adjustment after making your Custom-ICR™ Stability adjustment.

Adjusting Stance Flexion Cushion and Stability

Equally turn the Stance Flexion Adjustment Screws:

Counter-Clockwise *for less resistance, a higher max angle and increased stability at heel strike.*

Clockwise *for more resistance and a lower max angle.*

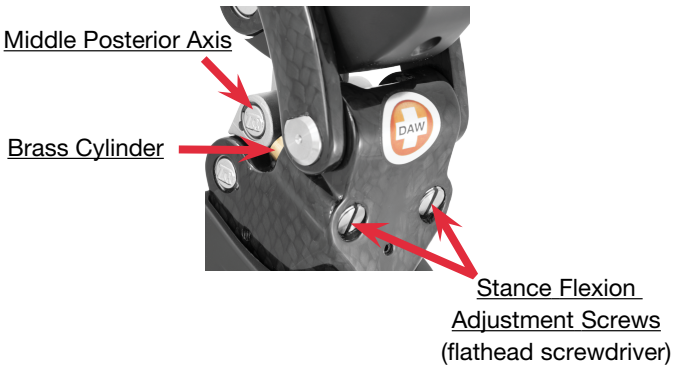
To Provide Maximum Stance Flexion:

One at a time, turn the Stance Flexion Adjustment Screws

A. ***Counter-clockwise*** until the Red Tabs pull out easily.

B. Now turn each ***clockwise*** ¾ of a turn. Adjust equally.

C. Verify each Brass Cylinder remains in full contact with the Middle Posterior Axis and the Stance Flexion Adjustment Screws are adjusted equally.



NOTE: After setting Stance Flexion, any change to your previous Custom-ICR setting requires re-adjusting Stance Flexion setting.

[1] During stance flexion load at heel strike, the Instantaneous Center of Rotation (ICR) shifts further posterior in relation to the Ground Reaction Force Vector. This posterior shift of the ICR produces an increase in geometric stability through heel strike and midstance.

Adjusting Swing Phase Controls
(Flexion & Extension Dampening)

It is recommended your Patient take their first steps slowly!

This knee is engineered to conserve your Patient's energy & strength throughout the day. Very little energy is required to initiate gate.

The DAW Pneumatics™ Knob-and-Screw-Adjustment provides exceptionally precise control of heel rise and extension dampening. **Perform these adjustments in $^1/_8$-turn increments.**

Needed for This Adjustment:

- ✔ 3mm hex key
- ✔ Swing Adjustment Wrench (included) or a 9mm wrench

NOTE: Excessive clockwise adjustment of Flexion Screw can jam needle pin, eliminating full range of resistance adjustment.

It is recommended to make your Flexion Adjustment first, *then* your Extension Adjustment. Repeat adjusting Flexion *then* Extension as needed.

Adjusting Flexion Dampening:

In $^1/_8$-turn increments, turn the brass Flexion Screw:
Clockwise *to increase resistance*
Counter-Clockwise *to decrease resistance*

Adjusting Extension Dampening:

While holding the Flexion Screw stationary with a 3mm Hex Key, in $^1/_8$-turn increments turn the Extension Knob:
Clockwise *to increase resistance*
Counter-Clockwise *to decrease resistance*