

GRAPH-LITE™ SINGLE-AXIS HIP JOINT MANUAL LOCK

TGH-01

Single-Axis Hip Joint

Flexion Loaded with optional Manual Lock

For the active to extremely active individual

Claim to fame

- Ultra-light graphite construction
- Flexion Loaded
- Smooth ball-bearing action
- Excellent cosmesis
- Optional Manual Lock
- Adjustable Internal Extension
- Comfortable sitting without interference
- Ultimate in strength and dependability



INDEX

	Page #
Alignment Procedure	3
Swing Phase Adjustment	4
Extension Assist Adjustment	5
Swing Clearance Adjustment	6
Lock Adjustment	7
Socket Attachment Procedure	8-9
SelectorChart™	10-11
DYNASStepM.A.™ & DYNASStep™ Foot	12
Multi-Axis Ankle	13
Cosmetic Covers	14-15
DAWSkin™	16
Schematic	17
Helpful Hints	18
Warranty	19
Torque Chart	20



**DAW®
INDUSTRIES** ///

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



**DAW®
INDUSTRIES** ///

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

ALIGNMENT PROCEDURE

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

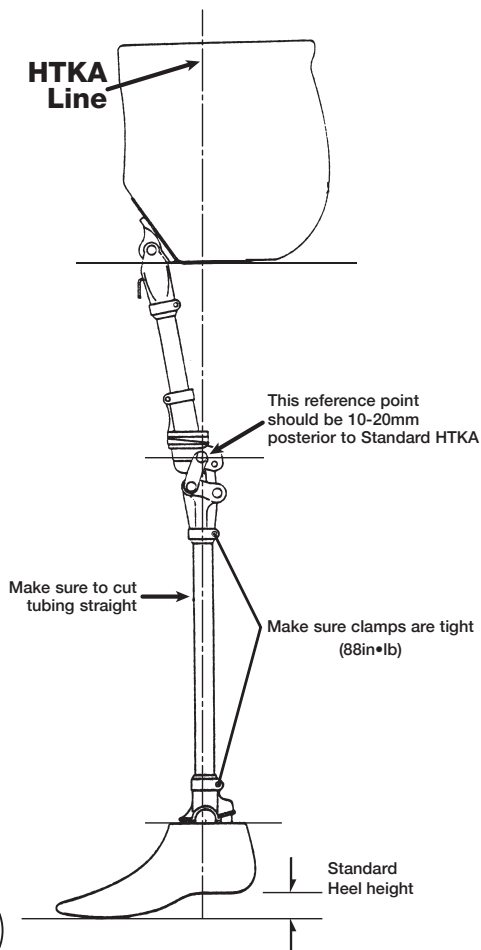
GRAPH-LITE™ GUPG-PYLON-16 Cutting and Securing

Cut the Graph-Lite pylon with a sharp hack saw or band saw (metal blade). It is important the cut be straight. **DO NOT USE A PIPE CUTTER**, this will damage the pylon. **REMOVE SHARP EDGE OF PYLON WITH 180 GRIT SANDPAPER.**

Secure all Graph-Lite pylons to the pylon connector to a torque of 88in•lb.

Important:

Do not use Otto-Bock Titanium pylon.
Do Not use a spacer for height adjustment.



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

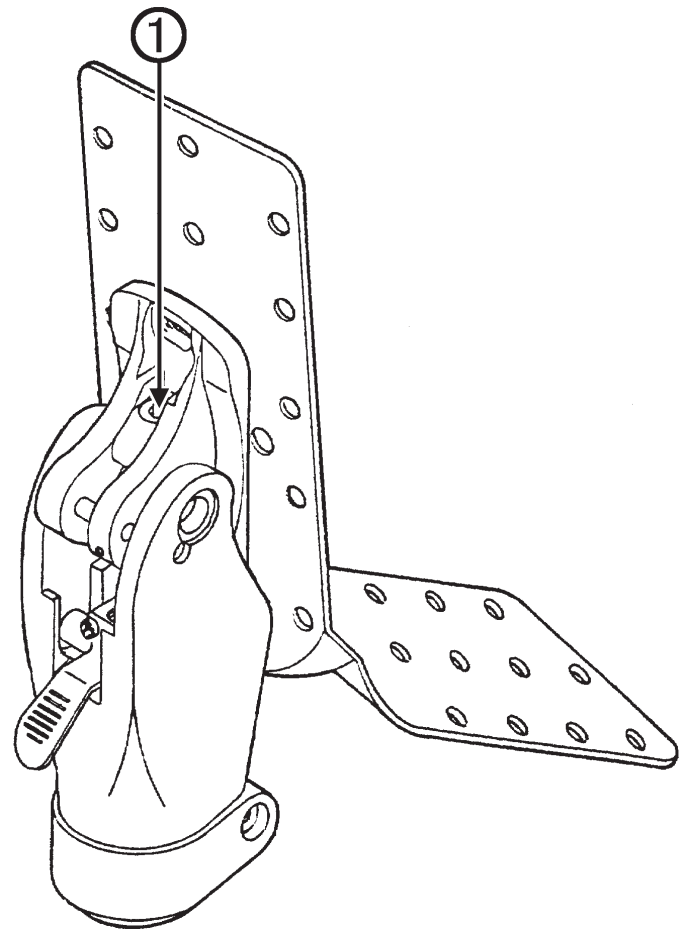
© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

SWING PHASE ADJUSTMENT

Friction Adjust

Friction control is accomplished by turning the friction adjustment screw (1 below). This screw applies pressure to a special friction plate against the proximal hip axis.

- **CLOCKWISE** adjustment increases friction.
- **COUNTERCLOCKWISE** adjustment decreases friction.



**DAW®
INDUSTRIES**

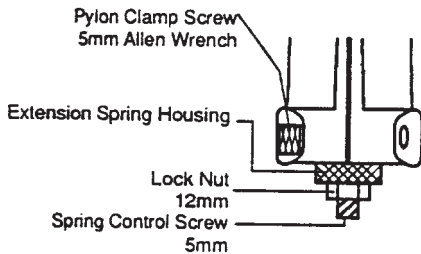
Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

EXTENSION ASSIST ADJUSTMENT

Increased or reduced extension assist is accomplished by adjusting the extension spring control screw located on the bottom of the hip unit.

- A) Remove pylon.
- B) Loosen distal lock nut.
- C) Adjust Spring Control Screw, with a 5mm allen key.
 - CLOCKWISE turn increases extension assist.
 - COUNTERCLOCKWISE turn decreases extension assist.
- D) Tighten lock nut.



SWING CLEARANCE ADJUSTMENT

Flexion Allowance

A unique spring-loaded mechanism allows up to 15° of hip flexion providing a smooth uninhabited gait while ambulating with a locked hip.

The swing clearance of this joint is decided by the position of the bumper.

To adjust:

Loosen the lock screw which is located on the lock lever.

- CLOCKWISE adjustment will increase swing clearance during lock situation.
- COUNTERCLOCKWISE adjustment will decrease swing clearance during lock situation.

Note: Always tighten the lock screw after adjustments have been made.



DAW[®]
INDUSTRIES

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



DAW[®]
INDUSTRIES

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

ADJUSTING THE LOCK FOR THE TGH-01 & TH-01

For the more active individual, the manual lock can be disengaged. The resulting freedom of hip movement, enhanced by the ball-bearing axis and internal extension assist, produces a smoother, more natural and more comfortable gait. You can permanently or temporarily disengage by following these steps:

- 1) Push the lock lever down into the unlocked position and hold in place.
- 2) Tighten the lever locking screw (#15) with a 3mm allen key.
- 3) The lock can easily be re-engaged by loosening the lever locking screw.

SOCKET ATTACHMENT PROCEDURE

In order to obtain the maximum adjustability for alignment, it is our recommendation that this procedure be done in a two-stage lamination.

STAGE ONE

- 1) Apply a PVA bag or pull a thermoplastic socket over entire model, pull one-half of required layers of carbon braid (DGEL-TB) over the model. Apply a PVA sleeve and laminate with DGEL™ Rigid Resin II (DGEL-RR2).
- 2) Once cured, cut off of the model and trim to desired trim lines.
- 3) Mark desired alignment lines on socket in regards to flexion/extension and adduction/abduction.
- 4) Shape L-bracket to conform to the socket. Secure to socket with DGEL gunk (mix 3 parts Resin to 1 part Promoter) ensuring there are NO VOIDS OR GAPS BETWEEN THE L-BRACKET AND SOCKET.
- 5) Apply 3-4 layers of fiberglass cloth saturated with DGEL Rigid Resin II over each end of the L-bracket to reinforce for walking and checking the alignment.

Once alignment has been established, the socket is ready for final lamination and finishing.

STAGE TWO

- 1) Fill the socket with plaster and invert the model laminating. Install a set of dummy socket attachment screws into the L-bracket.
- 2) Apply remaining appropriate layers of DGEL™ Tubular Braid (DGEL-TB) over the model. Apply a PVA sleeve and laminate with DGEL Rigid Resin II (DGEL-RR2).



**DAW®
INDUSTRIES** ///

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



**DAW®
INDUSTRIES** ///

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



**THE
ULTRA
PYRAMID
SYSTEM**

The ULTRA PYRAMID SYSTEM allows you to achieve any attachment configuration you need. The four hole pattern choices are European standard (6mm screws to a torque setting of 88in•lb). There are also many adapters for laminating or thermoplastic. The adapters are available in titanium, aluminum and stainless steel. Please refer to ULTRA PYRAMID SYSTEM Selector Chart™ fold out to select your best option.

IMPORTANT:

When attaching connector (4-hole pattern) to knee unit be sure that the 6mm screws are not too long (exceeding threads in knee top). Failure to do so will result in damage to knee.

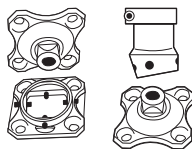
PYRAMID SOCKET INSERTS:

- Lamination Socket Inserts
- Shuttle-Lock Inserts
- Thermoplastic Inserts

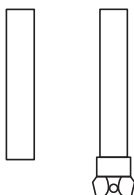


TOP OF KNEE CONNECTORS:

- Connectors with Euro 4-Hole Pattern
- Connectors with Pylon Clamp

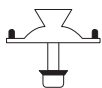


PYLONS (30mm/Adults)



PYRAMID ANKLES:

SACH Ankle Adult



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

**ENERGIZER FOOT/
ANKLE SYSTEM**

RFDYNAPLUyyR/L

yy = foot size

The
Energizer™
Foot /Ankle System



Claim to fame

- Light weight, very durable
- High energy restitution
- Proven energy saver
- Qualifies for Level 2 patients (as well as Level 3)
- Well designed for light sport activities (hiking...)
- Perfect transition from slow to fast walking

The ENERGIZER uses the innovative shape of its carbon core to reproduce the two successive physiological phases of energy absorption at heel strike and energy return on toe push-off. Very neat cosmetic effect (skin finish, molded toes). For constructing an exoskeletal prosthesis with the ENERGIZER Foot, we have specially designed a wooden compensation block that is included into the foot to adapt with a wooden leg base.



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

**CALL TODAY FOR
MORE DETAILS
800-252-2828**



GRAPH-LITE™ MULTI-AXIS ANKLE

TGA-ØM

The Graph-Lite Multi-Axis Ankle (TGA-ØM) is used with the **Single-Axis Foot** (TFF-Ø1xxR/L) and **Single-Axis Bumpers** (TFB-N1).

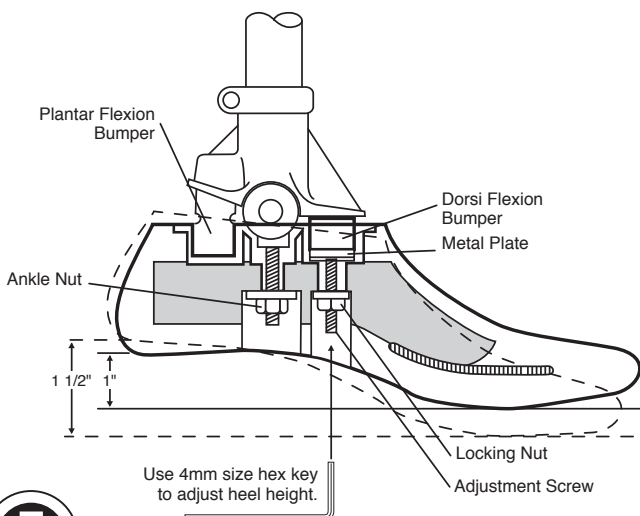
xx = size

ASSEMBLY

- 1) Insert the Foot Bumpers (TFB-N1) into the Single Axis Foot (TFF-Ø1xxR/L). Ensure the small metal plate is securely positioned under the dorsiflexion bumper.
- 2) Insert the Multi-Axis Ankle into the foot and tighten the ankle nut with a 7/16" nut driver to a torque of 108in•lb.
- 3) Insert a 30mm pylon into the pylon clamp and tighten to a torque of 88in•lb.

HEEL HEIGHT ADJUSTMENT

- 1) Place a 4mm Allen Key into the anterior hole on the bottom of the foot.
- 2) Turn the key 1/2 turn counter clockwise to loosen the Locking Nut.
- 3) Using your finger, unscrew the Locking Nut to the end of the adjusting screw in the foot.
- 4) Using the 4mm screw, turn the adjusting screw until the desired heel height is obtained:
 - Clockwise** = increases heel height.
 - Counter Clockwise** = decreases heel height.
- 5) Finger-tighten the Locking Nut on the adjustment screw and then secure with a final 1/2 turn with the 4mm screw.



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

DAWFLEX™

FUNCTIONAL

- Patented design – Maximum flexion without interference

DURABLE

- Extremely resilient

COSMETIC

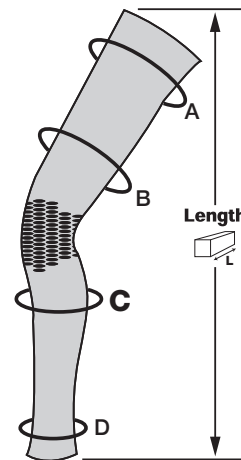
- 4 Sizes – easily shaped and modified

VERSATILE

- Adapts to any AK modular system

COST-EFFECTIVE

- Superior cosmesis in a fraction of the time

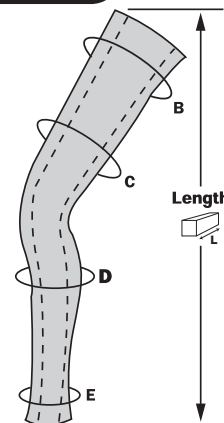


Size	X SMALL	SMALL	MEDIUM	LARGE
RIGHT	TFC-DFXSR	TFC-DFSR	TFC-DFMR	TFC-DFLR
LEFT	TFC-DFXSL	TFC-DFSL	TFC-DFML	TFC-DFLL
A	16 in (41cm)	19 in (48cm)	20 1/2 in (52cm)	21 1/2 in (55cm)
B	12 1/2 in (32cm)	15 in (38cm)	16 1/2 in (42cm)	17 1/2 in (44cm)
C	11 3/4 in (30cm)	13 in (33cm)	14 1/2 in (37cm)	15 1/2 in (39cm)
D	7 1/2 in (19cm)	8 in (20cm)	9 in (23cm)	10 in (25cm)
Length	29 in (74cm)	33 in (84cm)	35 in (89cm)	37 1/2 in (95cm)

PRE-SHAPED FOAM COVER

TFC-ØAxR/L

- Natural shape.
- Saves time in fabrication.
- Can be modified for exact shape.
- Stretch without stress reduces any interference with knee functions.
- Inside is pre-cut for knee and socket.



x = Size	2	3	4	5	6
D	13 in (33cm)	14 in (36cm)	15 in (38 cm)	16 in (41cm)	18 in (46cm)
E	8 in (20cm)	9 in (23cm)	8 1/2 in (22 cm)	10 in (25cm)	11 in (28cm)
B	14 1/2 in (37cm)	15 in (38cm)	16 in (41 cm)	17 in (43cm)	19 in (48cm)
C	14 in (36cm)	13 1/2 in (34cm)	14 1/2 in (37cm)	16 in (41cm)	17 1/2 in (44cm)
Length	33 in (84cm)	35 in (89cm)	35 in (89 cm)	39 in (99cm)	41 in (104cm)



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

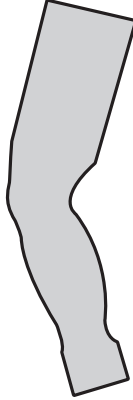
© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



UN-SHAPED FOAM COVER

RFC-AKL/Sx

- Allows for the ultimate in custom shaping.
- Extremely easy to shape.
- Very durable.
- Excellent stretch capability.
- Two AK sizes, left and right.



HOW TO ORDER

Stock # RFC-AKLx 40cm calf	Stock # RFC-AKSx 36cm calf
---	---

x = (L) left or (R) right

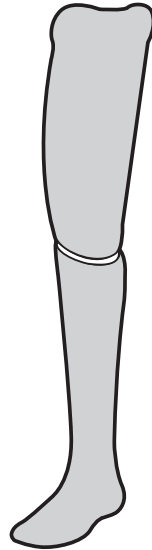
Helpful Hint:

Use Shaping Cone (TFC-SC), that will fit onto a Trautman™ Carver, to assist you in shaping.

TWO-PART DISCONTINUOUS FOAM COVER

TFC-EG4P00R (right)
TFC-EG4P00L (left)

- Exoskeletal durability and cosmesis with endoskeletal light weight modularity.
- No interference with knee function.
- Excellent for knee disarticulation.
- Allows for kneeling without damage to cover.
- Inside is pre-cut for knee.



Each Cover Includes:

- Custom hard foam rubber knee cap.
- Pre-shaped plastazote tibial form.
- Inner soft form "filler" to protect the knee and prevent play between the knee and cover.



DAW® INDUSTRIES

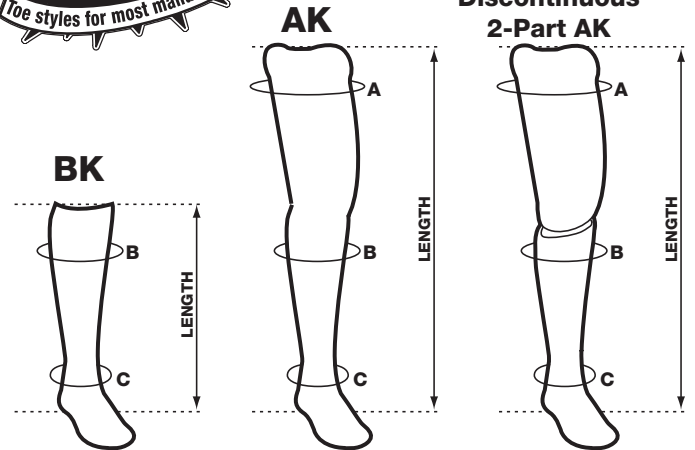
Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

DAWSKIN™ PROTECTIVE COVER SYSTEM

Claim to fame

- Off the Shelf.
- BK, AK and Discontinuous 2-Part AK to choose from.
- Slips on and off easily.
- Soft, flexible and durable.
- Skin-like texture and feel.
- Does not interfere with function of knee.
- Seven skin tones + 1 Graphite Black (*Blush, Fair, Caucasian, Suntan, Dark Suntan, Light Black, Black*)



AK Foot Size	ADOLESCENT 14 to 19 cm	PETITE 20 to 25 cm	SMALL 21 to 24 cm	MEDIUM 25 to 27 cm	LARGE 28 to 30 cm
A	14 1/4 to 16 1/4 in (35 to 41 cm)	17 to 19 in (42 to 48 cm)	17 to 19 in (42 to 48 cm)	19 to 21 in (48 to 53 cm)	21 to 24 in (52 to 60 cm)
B	9 1/8 to 10 1/8 in (23 to 26 cm)	12 to 13 1/2 in (30 to 34 cm)	12 3/4 to 14 1/4 in (32 to 36 cm)	14 to 16 1/4 in (35 to 44 cm)	16 1/2 to 18 3/4 in (40 to 47 cm)
C	5 1/2 to 7 in (13 to 18 cm)	7 1/4 to 8 1/2 in (18 to 21 cm)	8 1/2 to 9 1/2 in (21 to 24 cm)	9 to 10 1/2 in (22 to 26 cm)	9 3/4 to 11 1/2 in (24 to 29 cm)
LENGTH	27 in (68 cm)	29 in (73 cm)	29 in (73 cm)	31 in (78 cm)	34 in (85 cm)

BK Foot Size	ADOLESCENT 14 to 19 cm	PETITE 20 to 25 cm	SMALL 21 to 24 cm	MEDIUM 25 to 27 cm	LARGE 28 to 30 cm
B	9 1/8 to 10 1/4 in (23 to 26 cm)	11 3/4 to 13 in (29 to 33 cm)	12 3/4 to 14 1/4 in (32 to 36 cm)	14 to 16 1/4 in (35 to 41 cm)	16 1/2 to 18 3/4 in (41 to 47 cm)
C	5 1/4 to 7 in (13 to 18 cm)	7 1/4 to 8 1/2 in (18 to 21 cm)	8 1/2 to 9 1/2 in (21 to 24 cm)	9 to 10 1/4 in (22 to 26 cm)	9 3/4 to 11 1/2 in (24 to 29 cm)
LENGTH	20 in (50 cm)	20 in (50 cm)	21 in (53 cm)	23 in (58 cm)	24 in (60 cm)



MEDICARE L-CODES

BK: L 5962 – Addition, Endoskeletal System, Below Knee Flexible Protective Outer Surface Covering System.

AK: L 5964 – Addition, Endoskeletal System, Above Knee Flexible Protective Outer Surface Covering System.

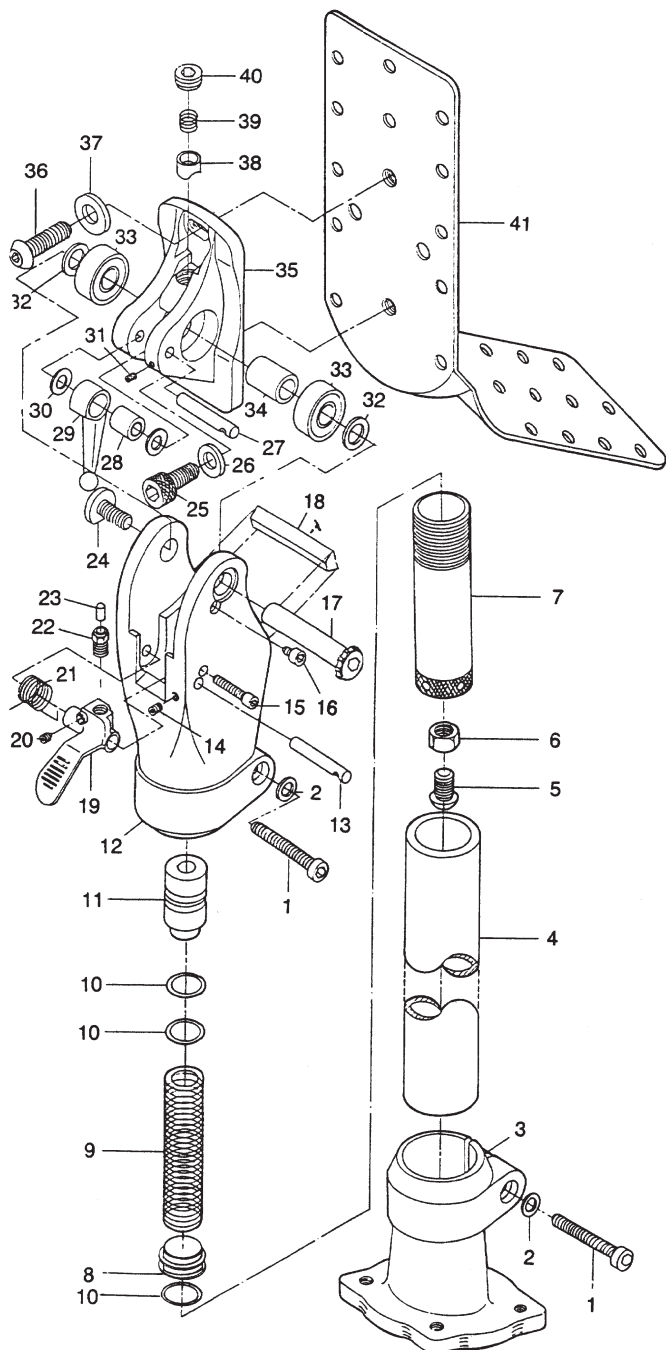


DAW® INDUSTRIES

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

SCHEMATIC



HELPFUL HINTS

DO

- Use 242 Loc-tite™ on all screws that can come loose.
- Use a torque wrench when tightening all screws to the recommended torque setting.
- Use only the knee connector bolt supplied with the knee unit.
- Refer to the technical manual at all times.
- Contact DAW at (800) 242-8669 with any question.

DO NOT

- Force or “jimmy” any parts together, all components should fit together properly, contact DAW for assistance.
- Integrate with other manufacturers components without first reviewing with DAW Industries.
- Fit on patients in excess of 220 lbs.
- Do any maintenance on this knee without first reviewing with DAW Industries.
- Disassemble any portion of this knee component (unless expressly described in this manual) as it will void the warranty.
- Use excessive powder inside of foam cover.



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved



**DAW®
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

WARRANTY

- All components have a limited warranty for a period of 12 months after date of fitting. However, DAW will replace any factory defect.
- Weight limit of the patient is 220 lbs. (100 kg).
- 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 hip unit.
- All repairs on the hip module must be done by a factory-trained DAW technician. Any disassembly done on the hip during the first 12 months will void the warranty (excluding disassembly of the extension spring housing).

Service Under Warranty

- For all component repairs call DAW Industries right away. We will ship a replacement unit the same day, which will become your patient's new component. The replacement component is under warranty for the time remaining on the original component.
- The overnight shipping charge will be credited upon receipt of failed hip component.

Service Outside of Warranty

Hips not under warranty may be repaired by DAW. While any unwarranted hip is being serviced, DAW can provide a rental hip subject to availability. The DAW rental fee is listed under each hip. The rental fee covers the period DAW takes to complete the repair with ten (10) days allowed for shipping in both directions. DAW reserves the right to charge an additional rental fee if the rental hip is not returned in a timely manner upon completion of the repair. The full price of a new unit as well as the rental fee will be charged when the rental is shipped to you. Upon receipt of your hip, DAW will assess the repair and contact you with an estimate. Allow $\pm 10\%$ of estimate. Upon return of your repaired hip, you will be invoiced for the repair charges. When DAW receives the rental hip, your account will be credited for the value of the hip returned.

In the event your hip 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 hip.



**DAW[®]
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

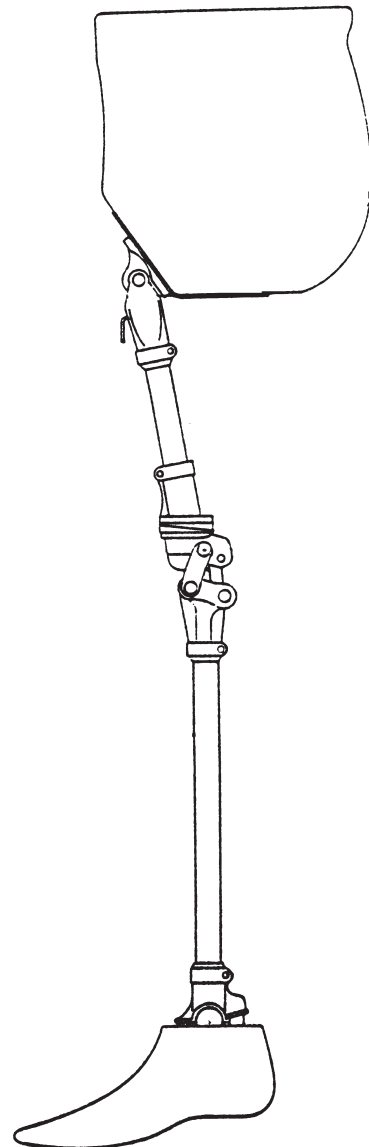
© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

GRAPH-LITE 4-BAR SINGLE-AXIS HIP JOINT MANUAL LOCK

Torque Setting and Inspection

Bolt	Torque Setting in in-lbs	Loc-tite™ Required?	Date Completed	Initials
Pylon Clamping Screws	88in•lb (9.9Nm)	YES		
Foot Bolt	108in•lb (12.2Nm)	YES		

It is recommended that all torques be inspected within 30 days and then again six months after initial fitting.



**DAW[®]
INDUSTRIES**

Orders (800) 252-2828 • Technical Hotline (877) 242-2423 • www.daw-usa.com

© Copyright 2015, DAW Industries, San Diego, CA. All Rights Reserved

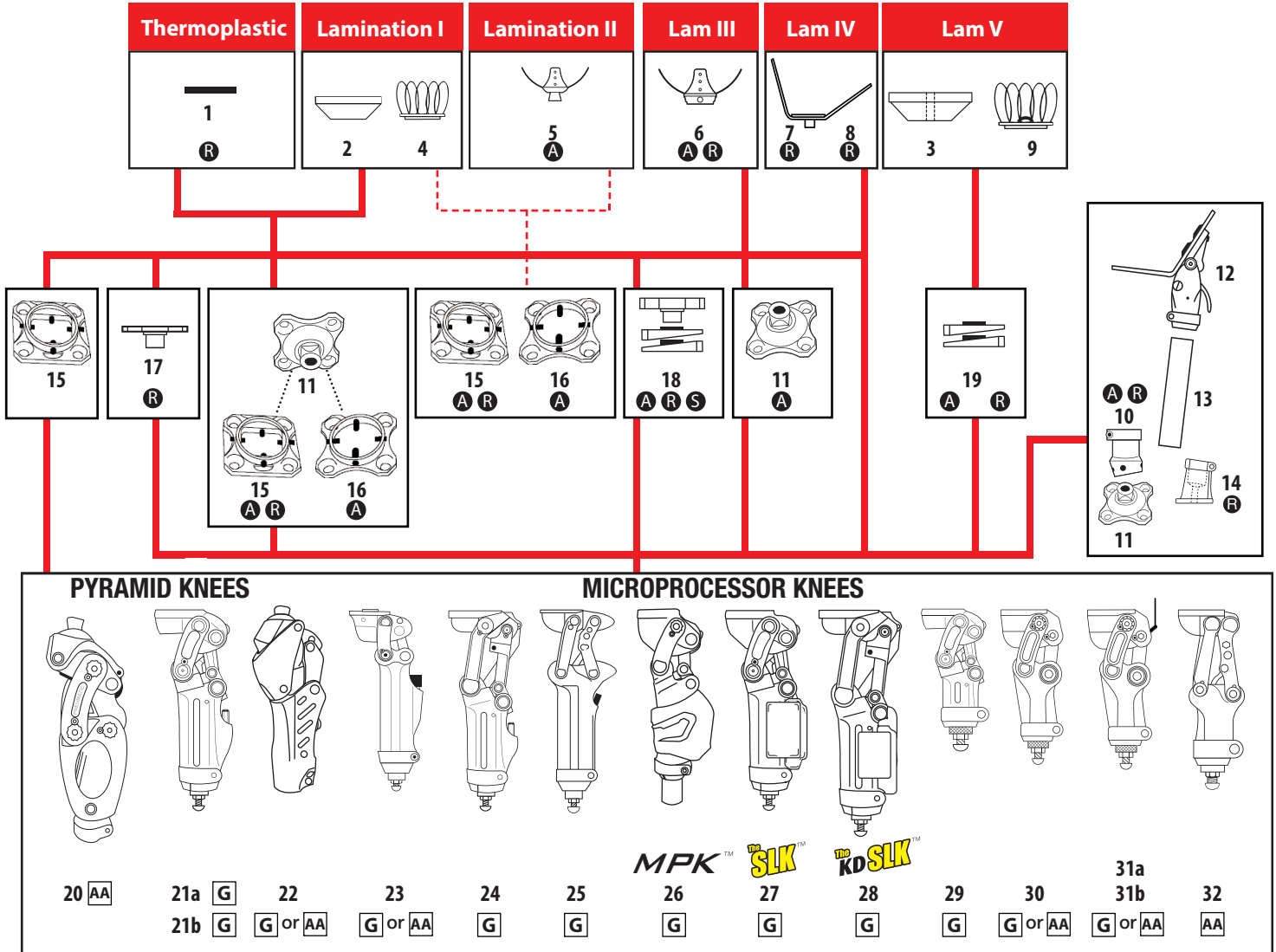
AK

SELECTOR CHART™

SELECTOR CHART FOR ADULT TYPE "T" KNEES

Knee Connectors and Alignment Systems for all Type "T" Knees*

* Type "T" Knees = DAW Adult Knees which stock # starts with a "T" (except TK-40C & TK-1C1)



- A** = Angular Adjust
- R** = Rotation
- S** = Slide Adjust
- A** = Aluminum Alloy
- AA** = Aerospace Aluminum
- F** = Foam
- G** = Graph-Lite™
- P** = Plastic
- S** = Stainless
- T** = Titanium
- W** = Wood

STOCK NUMBERS

- | | | |
|--------------------------|---------------------------|-------------------------|
| 1. TSC-T AA | 10. GUPT-FCLAMP-ANG ... T | 15. GUPT-F4HROT T |
| 2. RSC-FB F | 11. GUPT-M4H T | GUPS-F4HROT S |
| RWB-0 W | GUPA-M4H A | 16. GUPT-F4H T |
| 3. TWB-04 W | GUPS-M4H S | GUPS-F4H S |
| 4. TSC-BX AA | 12. TGH-01 G | 17. TSC-PSD AA |
| 5. GUPS-MLAM3PR S | 13. GUPG-PYLON-8..... G | TSC-PSDS S |
| 6. GUPS-FLAM3PRROT ... S | GUPG-PYLON-16 G | 18. TKC-SA AA |
| 7. TSC-KDA-L AA | TTT-17 AA | 19. TWP-A2A AA |
| 8. TSC-KDL S | 14. TGC-0A G | TWP-A2 P |
| 9. TSC-A AA | TKC-0A AA | |

KNEES

	Graph-lite™	Aerospace Alum
20	N/A	THK-4PSC
21a	TGK-5PS0	N/A
21b	TGK-5PS0HA	N/A
22	THK-RP1HW	N/A
23	TGK-4P00P	TGK-4P00P
24	TGK-5PS10	N/A
25	TGK-4P10	N/A
26	THK-5PS0 MPK	N/A
27	TGK-5PS0 SLK	N/A
28	TGK-5PS10 SLK	N/A
29	TGK-5050	N/A
30	TGK-4000	TK-4000
31a	TGK-4001	TK-4001
31b	TGK-4002	N/A
32	N/A	TK-4010



DAW INDUSTRIES

Orders: (800) 252-2828 • Technical Hotline: (877)242-2423 • www.daw-usa.com