Do not use instant adhesives.

6. Apply a very small amount of adhesive to both sides of the tip of the metal tang and slide the thumb sleeve on completely. Let the adhesive cure fully before using the unit aggressively.

7. Check the hub area between the thumb sleeve and the unit to make sure there is no adhesive residue.

NOTE: Remember to call TRS for any questions or concerns regarding these instructions.

Voluntary Closing Function

Optimizing with Trans-Humeral Prosthesis

GRIP, ADEPT, and LITE TOUCH products operate with a voluntary closing system. This system uses leverage generated around joints to create cable excursion to operate the terminal device.

The trans-humeral patient is a candidate. Because no functional anatomical elbow exists, the user will be required to rely on motions other than elbow flexion to operate the prehensors. Focus should be placed on a highly efficient cable system, which allows for humeral flexion and abduction and bilateral scapular abduction to generate the cable excursion necessary to operate the prehensors. The higher the level of the limb absence, the more difficult it will be for the user to generate the excursion necessary to use a voluntary closing system.

Attention to cable friction is important. Minimize cable friction. A single cable (dual control) design has proved functional with the cable providing both forearm "lift" and prehensor operation. Note however that in full forearm flexion, an acute angle is created in the cable housing at the lift tab. The tight angle creates friction, which may impair the device's ability to operate easily.

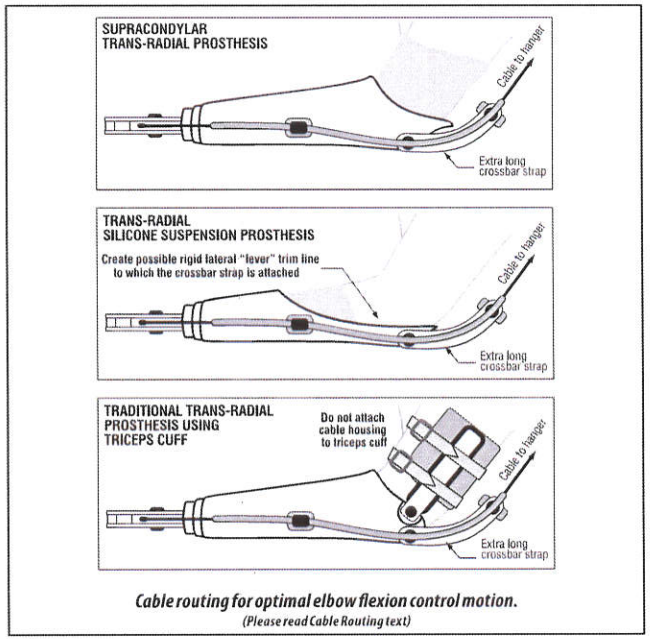
TRS recommends using TRS Python standard stainless steel cable (1/16 inch diameter) or SPECTRA cable operating in an oversized (heavy duty) cable housing with a Teflon liner. Heavy duty cable is not recommended.

Cable Routing to Capture "Elbow Flexion" Control Motion

Important! Please read carefully and see illustration.

Optimal operation of all TRS voluntary closing prehensors and hands can be achieved by insuring that "Elbow-flexion" prosthetic motion control generates cable excursion pulling the thumb closed.

Typically, the prosthesis relies on humeral flexion and abduction and bilateral scapular abduction to generate cable excursion. Adding elbow flexion control via an extended crossbar strap, properly placed, will provide the user with another motion to generate cable excursion. This is especially important for prehensor operation at body midline, and eliminates the need for excess scapular abduction.



Cable routing for optimal elbow flexion control motion.
(Please read Cable Routing text)

PROSTHETICS RESEARCH ■ DESIGN ■ MANUFACTURING ■ CONSULTING

3090 STERLING CIRCLE, STUDIO A, BOULDER, CO, USA 80301-2338
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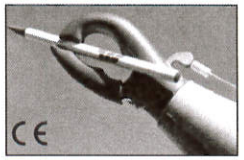
ON THE WEB: www.oandp.com/trs

OCTOBER 2012

ADEPT PREHENSORS
Models B, C & E

Limited Warranty



Products manufactured by TRS, Inc. are covered by a written Limited Warranty for a period of one year from the date of purchase.

This Limited Warranty covers any defects in workmanship or materials by TRS, Inc. for the period stated, provided the product is used in a reasonable manner. The Limited Warranty is not applicable to normal wear and not applicable to spring or spring-like components. The Limited Warranty applies only to the end user/purchaser.

Any implied warranties, including merchantability, are also limited to one year from the date of the original TRS Invoice and any action must be commenced within that period. This Limited Warranty is void if the product is misused or abused, if unauthorized alterations are made, or if maintenance is neglected.

TRS, Inc. shall not be liable for any incidental or consequential damages, unless otherwise required by law. Some states do not allow the exclusion or limitation of incidental or consequential damages or the limitation on the period the implied warranty lasts so that the above limitation or exclusion may or may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Product Serial #: _____

Training/Education Information

Voluntary Closing Prehensors and Hands

Comprehensive training with any prosthetic device is important to ensure your proper function and safety. Professional therapists can provide you with prosthetic training. Locate a Registered Occupational Therapist (OTR) or Registered Physical Therapist (RPT) **with specific experience in upper extremity prosthetic training** to assist you in learning how to operate and excel with your prosthesis.

Responsibility and intelligent use are required to prevent injury to one's self or others using any prosthesis. Voluntary closing devices are pulled closed under cable tension. Activities which involve suspension, hanging or swinging by the arms automatically will cause the prehensor

to close. The user must be strong enough to "lift or pull themselves up" to release tension on the cable and release the prehensor during such activities. This technique needs to be completely understood, practiced and mastered prior to unsupervised activities. High performance or more extreme physical activities, such as waterskiing, are never recommended with a body powered prosthesis if the user cannot "let go" or release spontaneously.

TRS has produced a training DVD Video designed to familiarize you with our technology. We encourage you to view ***The Voluntary Closing Option.*** The DVD Video illustrates efficient harness and cable system designs, as well as demonstrating the specifics of the arm and body prosthetic control motions required to successfully and safely operate TRS voluntary closing prehensors and hands.

TRS Product Restoration Services

TRS products require minimal maintenance. Certain moving parts and springs or spring-like parts will wear out and occasionally require replacement. TRS provides a very quick "turn-around" time on repairs. (24-72 hours max.) TRS Product Restoration Services are readily available, should you wish to have the factory maintain or repair your prosthetic device. Contact us for more information regarding these Restoration Services. 1-800-279-1865

General Maintenance Suggestions

Lubrication

Moving parts needing lubrication should be treated with a "light" spray oil like WD-40® or Tri-Flow®.

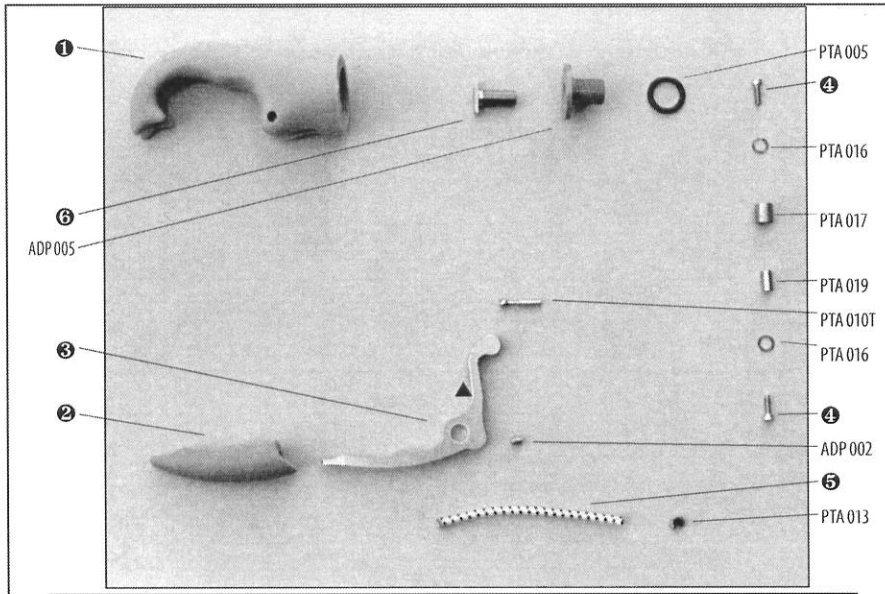
⚠ Do not use thick or viscous oils for lubrication. Wash with soap and water after lubrication to remove excess lubricants.

Cleaning

TRS products should be cleaned regularly. GRIP and ADEPT Prehensors and Life-Touch Bio-mechanical Hands, Super Sports and Free Flex Hands can and should be washed often. Daily cleansing with dish detergent is highly recommended. Steel wool soap pads are very useful for cleaning the rubber surfaces and removing grime and stains. Chlorine powdered cleansers applied with a sponge or brush are also useful for this type of cleaning. Certain dyes, such as permanent marker, must be removed immediately from the rubber surfaces. Use a cleanser, soap pad or appropriate solvent. If left untouched, the dye will penetrate into the material permanently.

Elastic Cord Replacement and Tension Adjustment

These products use a special elastic cord to keep the thumb "open." To replace a worn elastic cord or to adjust the opening tension, first remove the device from the prosthesis.



ADEPT B, C & E Prehensor Parts

Ref.	Part Name	Quantity	Part Number by Unit Reference		
			B	C	E
❶	Index Body	1	ADB 001	ADC 013	ADE 001
❷	Polymer Thumb Sleeve	1	ADB 008	ADC 008	ADE 002
❸	Aluminum Thumb	1	ADB 004	ADC 004	ADE 004
❹	#4 Fasteners	2	PTAB03	PTACO 03	PTA 020
❺	Elastic Cord	1	PTA B01	PTA C01	PTA C01
❻	Component A	1	ADP 004S	ADP 004	ADP 004
	Brass Bushing	1	PTA 017	Same	Same
	Wear Washers	2	PTA 016	Same	Same
	Axle	1	PTA 019	Same	Same
	Set Screw	1	ADP 002	Same	ADP003
	Crimp Nock	1	PTA 013	Same	Same
	ADEPT Cable Adaptor	1	PTA 010T	Same	Same
	"O" Ring	1	PTA 005	Same	Same
	Component B	1	ADP 005	Same	Same

▲Product serial number can be found here.

NOTE: Cable Cleat System (not shown) is included with all ADEPT units, except the ADEPT F. Accessory Pack (not shown) is included with product.

Tension adjustment:

Loosen the brass fitting from cord while grasping the cord end. Pull the cord slightly tighter by stretching it and crimp the brass fitting back into position with pliers. If the elastic cord is frayed/worn or stretched out, replace it.

Replacement:

Cut the brass fitting off the end of the cord and remove the entire cord from the unit. A small set screw holds the cord into a hole in the "thumb," near it's hub. Pull thumb to full closed position to gain access to bungee set screw. Loosen the set screw by unscrewing it counterclockwise and remove the cord. Remove any residue in the hole. Clean with acetone or MEK.

Cut off a 3" piece of elastic cord cleanly. Singe it with a flame to seal the ends. *Do not* oil the elastic cord. Insert the end of the elastic cord into the hole in the thumb, near it's hub. Inserting the cord with a twisting motion may aid the installation. Tighten the set screw but *do not* over tighten it. Now, thread the other end of the cord up into the unit and out through the hole in the threaded stud.

Tension the cord by pulling on the end which is protruding from the threaded stud. Slip on a brass fitting* and crimp it in place so that the cord cannot pull back into the hole. Do not over tension the cord or the thumb will not close easily. Tightening the cord too much will cause premature cord wear and failure. Proper tension will allow the thumb to snap open quickly yet not inhibit closing.

** TRS nocks are actually standard archery components used on bowstrings to position an arrow. They are available from TRS or a local archery retailer. An extra nock and elastic cord are included in your accessory package supplied with the product. Special Nock Crimping Pliers can also be found at archery retail outlets.*

Thumb Sleeve Replacement

1. Cut off old thumb sleeve with a razor knife. Make slits down both sides of the thumb sleeve and then pry the rubber sleeve off the metal tang.

2. Clean the metal tang by scraping/sanding/using steel wool on any glue residue and wiping with a solvent (Acetone or MEK). *Do not get these solvents on any other rubber components.*

3. Place the new thumb sleeve in boiling water for one minute. Make sure that no water gets inside the thumb sleeve. If it does, blow it out with compressed air or dry the inside thoroughly.

4. This thumb sleeve should not need to be trial fit, as they are difficult to remove once installed.

5. Prepare a small amount of urethane adhesive.