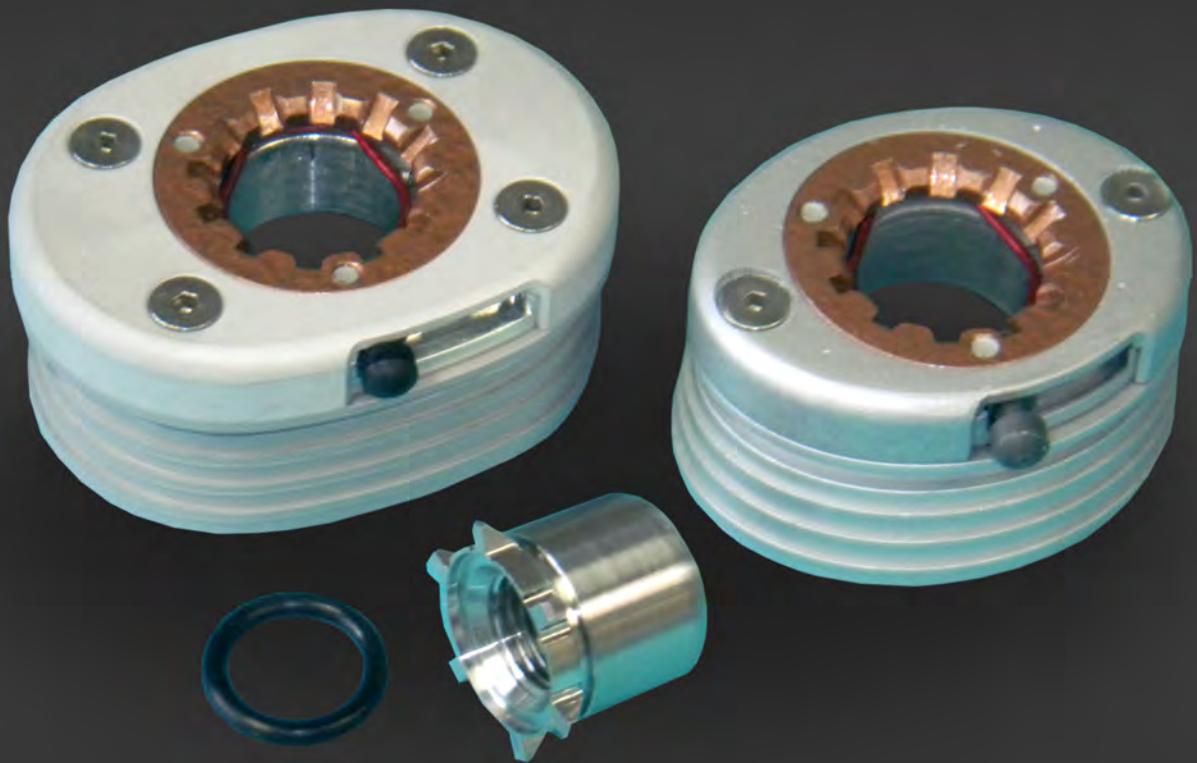


# **Ω MEGA**

**WRIST SYSTEMS**



**PRODUCT MANUAL**

**TRP**  
PROSTHETICS

## PRODUCT MANUAL

TRS OMEGA WRIST® TECHNOLOGY  
"Better Body-Power"



### OMEGA Friction-Disconnect Wrist® Technology

"Perfect or ALL Body Powered and High Performance Sports (Activity specific) Prostheses"

TRS's new, OMEGA Wrists come in large and medium oval models and sport unique "bullet-proof", capture and disconnect insert technology that has tested stronger and more stable than any competitor's "bayonet-style" disconnect, wrist systems. Precise engineering fit and adjustment are standard! The easy to install OMEGA disconnect insert and capture mechanism, locks in and locks out-OPEN! The rotational frictional adjustment design REQUIRES NO TOOLS! The OMEGA Wrists are CNC machined from surgical quality stainless steel and aircraft aluminum. ALL THE PARTS ARE MACHINED.... No castings. Laminating rings have extra, aggressive surfaces for robust construction, providing a secure terminal device and laminating foundation. OMEGA Wrists are designed, manufactured and priced to eliminate the competition.

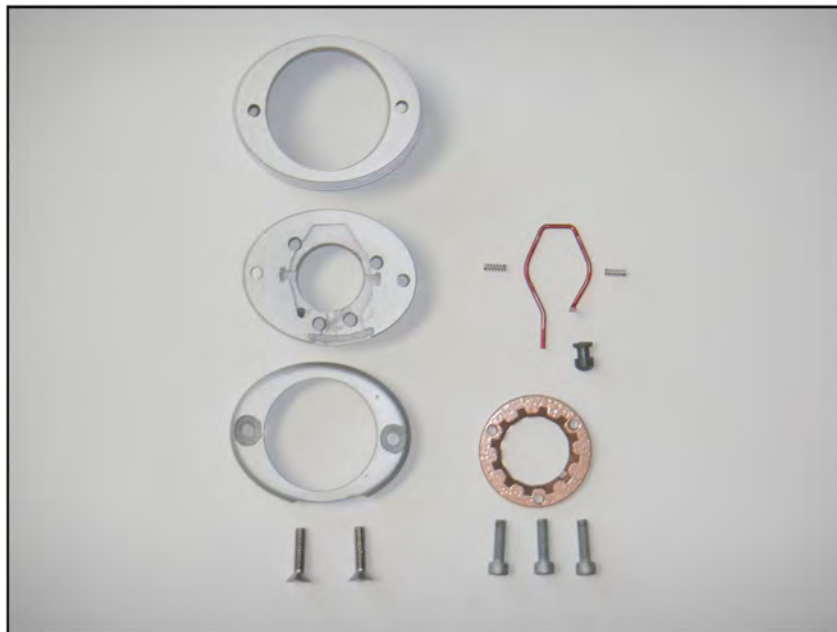
OMEGA wrists come in two models. A Large Oval and a Medium Oval (pictured above) size. The wrists are "oval" in shape, rather than round to more closely replicate the actual anatomy of a human wrist and forearm.

### Exploded views of wrists:

Exploded view of OMEGA Wrist Oval - Large



Exploded view of OMEGA Wrist Oval - Medium





OMEGA wrists provide two primary functions, both "tool-less", rotational adjustable friction and a simple, reliable, quick, disconnect function. Multiple prosthetic devices can be coupled-connected to the Omega wrist, when they are equipped with our Omega Disconnect Insert (pictured above) that fits and screws down onto all USA Standard

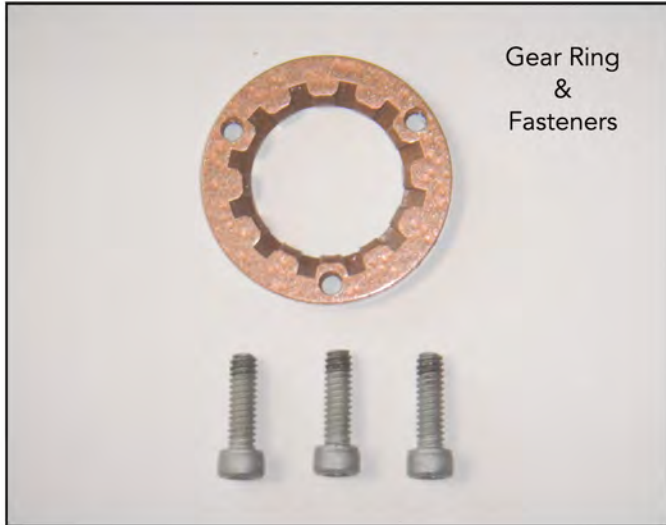
# ΩMEGA

WRIST SYSTEMS

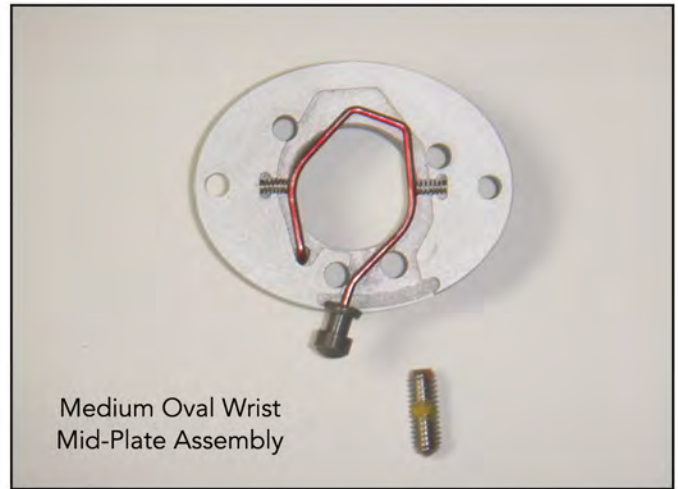
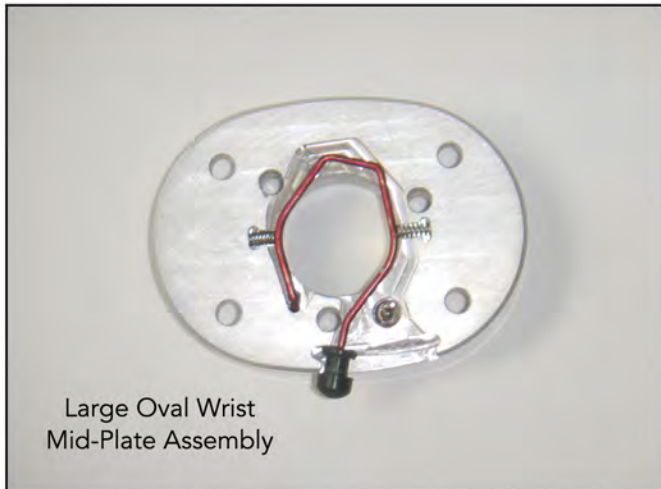
OMEGA wrists use an advanced "disconnect insert" capture mechanism, that is reliable, stable and proven in the laboratory to be much stronger "in tension load", than any competitive wrist system available. OMEGA WRISTS are compatible to ALL Voluntary Opening and Voluntary Closing technologies AND the high performance answer for ALL SPORTS ACTIVITY SPECIFIC PROSTHESES!



The OMEGA wrist is engineered and constructed into three major platforms: The Laminating Ring, which is permanently embedded into the prosthesis, a Mid-Plate and a Face Plate (pictured above).



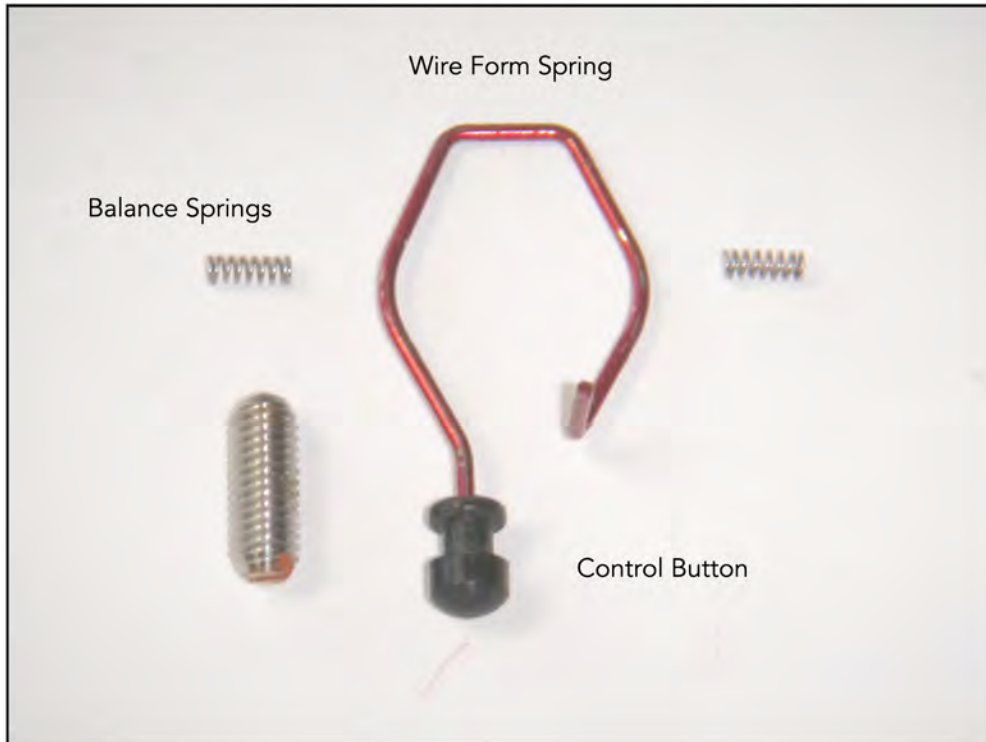
A Gear Ring is bolted to the Face Plate from underneath, using three high strength fasteners (pictured left).



Contained under the Face Plate, at the Mid-Plate level are OMEGA's unique, disconnect insert, capture mechanics (pictured above).

At this level exist the Disconnect Insert “Spring-Wire-Capture-Mechanism” with Control Button, two, small Balance Springs and a Ball Spring Plunger (pictured below).

### Disconnect Insert Capture Components



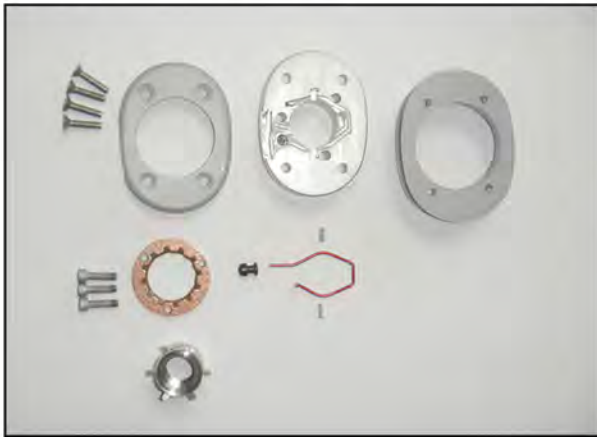
Additional components are the OMEGA Disconnect Insert and an integral “O” Ring (pictured right), which is an essential part in the system.



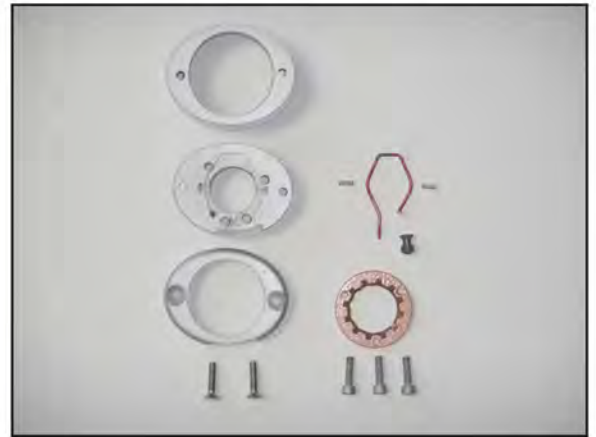


Finally, we have engineered a new special adapter called "OMEGA HOOK ADAPTER" (pictured left) that is a required component for use with ALL Split Hook TD technology and any other TDs that have a narrow base. The Omega Hook Adapter permanently fits onto a split hook over the threaded stud and provides a broader platform necessary for Omega Disconnect Insert frictional adjust function. This Hook Adapter can be left on the TD and will not interfere with its function, except on a flexion style wrist. TRS is making this Hook Adapter available at very low cost and it must be ordered as an extra component, when a split hook is used with the OMEGA wrist systems.

Exploded view of OMEGA Wrist Oval - Large



Exploded view of OMEGA Wrist Oval - Medium



Between two and four stainless steel fasteners (pictured above) secure the Face Plate and Mid Plate to the Laminating Ring on the prosthesis. When re-assembling the OMEGA wrist TRS always recommends using "Blue" Lock-Tite® or an equivalent fastener adhesive on the threads.



## PROSTHETIC DEVICE INSTALLATION & REMOVAL

Any, non-electric, prosthetic device, equipped with an OMEGA Disconnect Insert can be installed into the OMEGA wrist in two ways.

**1.** Simply "PUSH" the Disconnect Insert into the Face Plate. The Spring-Wire-Capture-Mechanics are compliant and will spread apart then snap closed into the precision groove of the Insert, securing the device to the wrist.



**2.** Alternatively you can first "Lock-Open" the wrist by manually, sliding the Control Button to the "Lock -Out" position. The Ball Spring Plunger mechanism holds the system un-locked, where it will remain un-locked until the Control Button is manually "re-leased" back into its locking mode.



**3.** To release and remove a prosthetic device from the wrist simply slide the Control Button into the "unlock" position first.

## PROSTHETIC DEVICE ROTATIONAL FRICTION ADJUSTMENT

The OMEGA wrist is unique in that it allows the user to change the amount of friction that is required to rotate a prosthetic device on the wrist without the use of any tools! Rotating a prosthetic device either slightly 10-20 degrees or to a greater offset angle may be convenient when manipulating objects, tools, etc. Frictional adjustable rotation is a valuable feature!

**\*Note:** The friction can be adjusted to be very loose... "freewheel" or increased to a point where the prosthetic device does not rotate at all.... essentially almost locked in place.

1. The six (6) gear teeth that live on the underside of the Disconnect Insert that is installed onto the prosthetic device perfectly mesh with the twelve (12) gear teeth of the Gear Ring on the Face Plate.
2. The rubber "O" Ring is contained and "sandwiched" between the OMEGA Disconnect Insert and the prosthetic device. As the Disconnect Insert is screwed down onto the prosthetic device it creates and becomes a simple, compressible "Friction" adjustment. The tighter the Insert is screwed down the more the "O" ring is compressed increasing the friction and energy that it takes to loosen the Disconnect Insert.
3. So with the OMEGA Wrist and Button in the "un-locked" mode simply slide the Disconnect Insert end of the device into the wrist and allow the teeth to engage. Clock-wise rotation tightens and compresses the "O" Ring increasing the friction, while Counter-Clockwise" rotation decompresses the "O" Ring and decreases the friction (pictured below).



### SIMPLY ADJUST THE OMEGA WRIST TO WHATEVER FRICTIONAL LEVEL YOU WANT THEN RE-LOCK THE WRIST

The friction will remain the same until you manually re-adjust it.

**\*Note:** It is possible to permanently lock the OMEGA Disconnect Insert to a prosthetics device using permanent thread locking adhesive but doing this will limit the OMEGA WRIST and the prosthetic device to operate in only twelve (12) locking positions, not the un-limited number of positions that using the friction-adjust mechanism provides.



### **MAINTENANCE & CARE**

The OMEGA WRIST technology can be completely immersed in water. It will not corrode or rust under any normal circumstances. If it is used in salt water it should be thoroughly flushed and washed with soap and fresh water after use to eliminate salt-mineral deposit build up.

The OMEGA WRIST **Does not require lubrication. It has been engineered to reliably operate "dry".**

### **BALL SPRING PLUNGER ADJUSTMENT**

The tension in the Ball Spring Plunger mechanism is set at the factory and should not be tampered with. If for any reason the mechanism appears not to be operating optimally then contact TRS for aid in adjusting it and or replacing this component. The mechanism should reliably hold the Control Button in the "Locked-Open" position without slipping back into the "Locked" mode. That is the ONLY function of this small part.

**PLEASE CONTACT TRS FOR ALL QUESTIONS AND CONCERNS**

**(800) 279-1865**

**Customer Support: [cs@trsprosthetics.com](mailto:cs@trsprosthetics.com)**





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