

GENERAL INFO

BEFORE YOU GET STARTED

Rail FINISH

If your **Rail** is to be painted, powder coated or otherwise finished in any way, we strongly recommend that you apply the finish after all holes are drilled and prior to stringing the **Cable**.

MATERIALS REQUIRED

Some parts require screws to mount them to your **Railing**. If they were not ordered from **Wagner**, you will need one of the following screws for each of these items:

TECHNICAL INFO

Part #	Cable Diameter	Screw Required	Screw Part #
Adjust-A-Jaw® Tensioners			
CRAJ62	1/8" or 3/16"	1/4-28 x 1/2"	CRSC6
CRAJ82	1/4", 5/16" or 3/8"	3/8-24 x 3/4"	CRSC8
CRAJ122	1/4", 5/16" or 3/8"	3/8-24 x 3/4"	CRSC8
Adjust-A-Body® with Threaded Eye Tensioners			
CRAJTE6	1/8" or 3/16"	1/4-28 x 1/2"	CRSC6
CRAJTE8	1/4"	3/8-24 x 3/4"	CRSC8
Push-Lock™ with Threaded Eye Fittings			
CRPLTE4	1/8"	1/4-28 x 1/2"	CRSC6
CRPLTE6	3/16"	1/4-28 x 1/2"	CRSC6

BUILDING CODES

In areas prone to tampering, a permanent setting thread sealant is recommended for use with screws.

GUIDE SPECS

TOOLS REQUIRED

The tools listed here assume you will be swaging at least one end of the **Cable** in the field using an **Invisiware® Field Swager**. If no field swaging is required, only those tools indicated with * may be required. Most tools are available for purchase or rental.



INSTALLATION GUIDES

***Cable Cutters**: **CRC9** for **Cables** up to 3/16"; **CRC12** for **Cables** larger than 3/16".

Air Compressor: Minimum 5.8 cfm at 90 psi – not to exceed 140 psi – and a minimum 20 gallon tank. Air pressure should be regulated not to exceed 140 psi.

Ultra-Tec® Portable Pneumatic/Hydraulic Swager: If you are renting one from **Wagner**, be sure to specify the uncoated diameter of the **Cable** you are swaging so the correct **Swager** will be supplied. Rented **Swagers** generally come with most other special tools required to field swage and install **Cable**, including hose fittings, **Cable grip locking pliers**, **Cable Cutter**, and **Go Gauge** for measuring the swaged diameter of **Invisiware® Radius Ferrules**. A pre-**Tensioner** can also be furnished upon request.

***Ultra-Tec® Pre-tensioning Tool** (optional): Since some **Invisiware®** hardware has a minimum of take-up on longer runs (over 30 feet) you may want to use a **Pre-Tensioning Tool**. In ordering, be sure to specify the **Cable** diameter you will be using it with.

***Cable Grip Locking Pliers**: To grip the **Cable** while tensioning the end fittings without damaging the **Cable** – available from **Wagner**.

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Push-Lock Tool Kit: Includes **Cable Grip Pliers** and **Cable Cutter**.

***Wrenches**: If installing **Invisiware® Receivers** (including when they are used with **Push-Lock™ Studs**), an Allen wrench to tension the **Cable**. See chart for size.

Cable Diameter	Receiver Used	Hex Hole Size
1/8"	CRR6	3/16"
3/16"	CRR6	3/16"
1/4"	CRR8	7/32"
5/16"	CRR12	5/16"
3/8"	CRR12	5/16"

If installing **Adjust-A-Jaw®**, **Adjust-A-Body®**, or **Push-Lock™ Studs Tensioners**, an open-end wrench to tension **Cables**. See chart below.

Part #	Cable Diameter	Open-End Wrench Size
Adjust-A-Jaw® Tensioners		
CRAJ62	1/8" or 3/16"	7/16"
CRAJ82	1/4", 5/16" or 3/8"	9/16"
CRAJ122	1/4", 5/16" or 3/8"	9/16"
Adjust-A-Body® Tensioners		
ANY	1/8" or 3/16"	7/16"
ANY	1/4"	9/16"
Push-Lock™ Stud Tensioners		
CRPLST4	1/8"	3/8"
CRPLST6	3/16"	3/8"

If installing **Adjust-A-Body®** with **Hanger Bolt Tensioners**, use an open-end wrench to install the **Hanger Bolts** into the **Wood Post**. See chart below.

Part #	Cable Diameter	Open-End Wrench Size
CRAJB6	1/8" or 3/16"	1/4"
CRAJB8	1/4"	3/8"

Calipers: If you are swaging and installing **Invisiware® Radius Ferrules**, you will need a means to measure the diameter of the swaged fitting. (**Go Gauge** for this purpose are normally included with **Ultra-Tec® Portable Swagers** when rented from **Wagner**.)

Grommet Installation Tool and Hammer if you will be installing **Grommets**.

***Drills and Drill Bits** as required, if installing in a **Wood Railing** – see **Wood Railings** under "Measuring and Installing **Cable** – **Horizontal Railings**."

***Cut-off Kit**, if using **Pull-Lock™** Fittings.

INSTALLING GROMMETS

IMPORTANT NOTE: If **Grommets** are being used on **Intermediate Posts**, **Cable Braces**, or in the **Cable** exit hole of **End Posts**, then **Grommets** should be installed before **Cable** is run.

To install **Grommets**, see figure below. Place the larger diameter of the grommet onto the grommet installation tool and the smaller diameter at the hole in the **Post**. Tap the tool *lightly* with a hammer.

