

## String Replacement Guide for NS Violin, Viola, Cello, and Double Bass

NS instruments are designed to fit standard acoustic strings. Five and six string sets may be hard to find, but the extra strings are available from NS Design. Suitable string substitutions are listed below.

### Violin:

#### 4 String

We use and recommend Helicore strings

#### 5 String

Use a standard violin 4 string set with a viola C string.

(see instructions for the self clamping tuner at the end of this memo)

### Viola:

#### 4 String

We use and recommend Helicore strings

(see instructions for the self clamping tuner at the end of this memo)

### Cello:

#### 4 String

We use and recommend Helicore strings

#### 5 or 6 String

Use a standard 4 string set for the A, D, G, and C strings

For the high E string, use a plain unwound guitar high E or B string.

The ideal gauge is .012 to .016 inch diameter.

Helicore F strings are available directly from NS. The low cello F string is not commonly available. However, a flat wound heavy gage electric bass A string should work as a substitute.



### Double Bass:

Flat and round wound NS Double Bass strings, specially made for us by D'Addario, are available as listed below. The instrument comes equipped with these special strings sized to fit the shorter body of an electric instrument. **Flatwound Lights**, standard on most models, are a solid core flatwound string, with full, sustained tone and responsive, easy to play string tension. The **Roundwound Lights** are very bright, with remarkable articulation of the full harmonic spectrum. Many upright players prefer the smooth **Helicore** acoustic style strings, with their warm tone, percussive attack, and relatively high tension.

#### NS Double Bass Strings

NS 4 FL	4-string Flatwound Light
NS 4 RL	4-string Roundwound Light
NS 4 Helicore	4-string Flatwound Acoustic Style Medium

NS 5 FL	5-string Flatwound Light (Low B)
NS 5 RL	5-string Roundwound Light (Low B)
NS 5 Helicore	5-string Flatwound Acoustic Style Medium

(low B)

NS 6 FL	6-string Flatwound Light
NS 6 RL	6-string Roundwound Light
NS Helicore	6-string Flatwound Acoustic Style Medium

Individual Strings are also available

#### Instructions for Attaching Standard Acoustic Double Bass Strings:

Conventional double bass strings extend far beyond the bridge. To avoid adding this extra length to the body of the NS Double Bass, the strings wrap around the end of the body and fit into slots in the back.

To install standard acoustic strings, thread the strings through the holes in the body, then wrap the strings around the back of the instrument and secure the ball ends in the slots in the back plate. See photo to the right.



### Violin and Viola Tuning and String Change:

Tune stings with knobs located behind the bridge, like conventional fine tuners.

To remove strings, loosen knob all the way until the string pulls out of the tuner. Then pull the string out through the hole in the end of the neck.

To install stings, first remove small cover off as shown at right. Thread the string through the hole in the end of the neck and pull it through the nut. Insert the free end of the string into the appropriate slot located just behind each tuning lever. (Be sure knob is rotated all the way in the counter-clockwise direction to open tuner fully so sting can enter easily.) Pull string through the tuner from the back, making sure the string is in the slot that rides up over the tuning lever, as shown above. Tune the string to pitch (the string will clamp automatically when tuned). Cut excess string if desired, and snap cover into place.

Note: Any standard violin strings will fit. However, nylon (Perlon) core strings have a great deal of stretch, and must be pulled firmly through tuner to pre-tension the string before tuning.

