



## STAYS

Details required for replacement **ash** stays are the **L** length and cross-section, shown as **T** Thickness and **W** width. It is best to drill the two stay holes **14mm diameter** in situ as they are not all perfectly aligned. Some existing stays have tapers but these are not necessary. All old bolts have been replaced by **12mm** diameter zinc-coated hex head steel ones so that **all** of them can be removed using two **19mm** (or  $\frac{3}{4}$ " **spanners**, one ring and one ratchet. For the back bells particularly an extension to the socket on the ratchet spanner is needed as the stocks are deep.

### FOUR FRONT BELLS (1, 2, 3, 2#)

These stays are bolted to the outside of the stock, on the **non-pulley** side. The **L measures could be re-expressed** (min & max?) so that the stay always lines up with the bottom of the stock for easier fitting.

	Bolt mm	T x W mm	L mm	Notes	Spares
<b>1</b>	160	55 x 55	950	Sep 2018	Old slotted one 51 x 51 L 890 (1996)
<b>2</b>	160	55 x 55	950	Sep 2018 – Length is CRITICAL, stay has to engage with slider but avoid south end of frame.	TWO - Old slotted one 53 x 50 L 900 AND another one
<b>3</b>	160	55 x 55	950	Sep 2018	old slotted one 52 x 50 L 854 (2010)
<b>2#</b>	??	55 x 55	980	New in Feb 2018 when bell installed. <b>This is tapered - the thin end needs to be measured to work out a size for a straight stay</b>	July 2019 <b>straight design – check dimensions</b>

## OTHER TWELVE BELLS (4-12 plus 5#, 6b, 9#)

These stays all slot into the socket on top of the headstock.

	Bolt mm	T x W mm	L mm	Notes	Spare
<b>4</b>	110	69 x 56	860	Sep 2018. This is quite thick for size of bell A small section needs to be taken off the bell-side end inside the headstock	THREE – July 2018, July 2019 Sep 2019 - undrilled
<b>5</b>	110	65 x 54	910	Jun 2019 Ensure upright as stay may rub sliderway otherwise	Jul 2019
<b>5#</b>	120	69 x 57	863	Jun 2019 As per 4 <sup>th</sup> stay but different hole spacing - has to be trimmed inside stock	TWO - July 2019 Sep 2019 - undrilled
<b>6</b>	110	63 x 54	956	Sep 2018	No spare
<b>6b</b>	110	71 x 55	960	Old stay fitted Oct 2020 after rehang of bell in new framework. Length critical for frame clearance. Stay has to be trimmed inside stock	No spare
<b>7</b>	120	69 x 54	940	July 2019	Only spare is short, has to be put in with top bolt only
<b>8</b>	120	75 x 60	1000	Existing	July 2019
<b>9#</b>	140	78 x 65	980	July 2019	Old one
<b>9</b>	140	85 x 78	1070	Bolts better at 130mm Ordered from JW	Sep 2019
<b>10</b>	140	90 x 80	1090		Sep 2019
<b>11</b>	140 210	80 x 78	1160	Bottom bolt needs to be 150mm Ordered from JW	Sep 2019
<b>12</b>	160 210	100 x 85	1290	Bottom bolt better at 180mm Ordered from JW	Sep 2019

As at Sep 2019 we had created, drilled and fitted a spare stay for all the bells except **6** and **6b**, though the **7<sup>th</sup>** spare isn't quite satisfactory. Somehow we have ended up with too many for **4<sup>th</sup>** and **5#** as some usable wood has been trimmed but is short – these two bells have the shortest stays.

The back bells are rather awkward because the inside of the stocks contain lips which prevent a simple rectangular piece of wood fitting in. Some of the **bolts** are too long and could be replaced.

## SLIDERS & SLIDER-WAYS

**Sliders** – these are about a decade old but some are quite worn on their underside. Their ability to move on the slider-way (or ‘runner board’) depends on a low level of friction. All the slider-ways have been cleaned and then **dry-lubricated with a silicone polish** (as used for the rope chutes). The effect on the front bells was quite remarkable – clearly a significant amount of energy is lost by the bell moving the slider across. As the front eight are rung to the balance in 12-bell ringing it is important that these sliders are monitored regularly. **The tenor slider pivot was moved to a better position Feb 2020.**

**Slider-ways** - **Front bells (1, 2, 3, 2#) all have new slider-ways (2018-19), the 5<sup>th</sup> was replaced in Jan 2020, 5# was improved during its rehang Aug 2020 and the 6b was built from old wood in Oct 2020.**

The rest are probably 1928 or earlier. The front bell slider-ways are now positioned off-centre to the bearings to compensate for the outside mounting of the stays. The treble and 2<sup>nd</sup> still have the original slider pivot points as moving them in line with centre of slider-way is quite difficult and has a very modest benefit. Those of the 2# and 3<sup>rd</sup> are in the correct position.

**The slider-ways of 3, 4, 6, 7 and 8 would benefit from a review.**

*Bernard Taylor, Nov 2020*