

Some grand regulating problems solved by Grandwork Tools and Protocols:

Problem	Solution	Grandwork Tool / Protocol
Hard to bed bass and treble ends of keyframe.	Remove return spring.	Bedding Protocol
Hard to be sure that balancerail bedding is balanced and stable.	Remove return spring, bed cheekblocks, and use BT .	WNG Bedding Tool / Bedding Protocol
Dip samples not accurate enough to reproduce bedding.	KS memorize in-piano bedding and make playback simple.	Keysteps / Keystep Protocol
String height measurement numbers produce errors.	DT -weighted kissing samples perfectly reproduce strike.	WNG Dip Tool / Keystep Protocol
Hard to fix position on bench and shim rails to be exactly the same as in the piano.	CK provides tracks, stops, and bedding tools to make it easy and stable.	Custom Keybed / Bedding, Keystep, and Regulation Protocols
Letoff, blow, and dip samples annoying to take and have to be retaken during regulation.	Letoff, blow, and dip samples not needed in Grandwork sampling and setup.	Bedding Tool, Keysteps, Dip Tool, Regulating Rack / Regulation Protocol
Key leveling in the piano is physically hard and annoying.	Key leveling on a bench has better light, height, and access.	Keysteps / Bedding, Keystep, and Regulation Protocols
Real hammer spacing lost during traveling and squaring.	Record complete scale at strike on templates of RR .	Regulating Rack / Keystep and Regulation Protocol.
Not enough referencing to precisely square hammers to be vertical at strike – shapes too complicated not to fool the eye.	RR provides strike, SP supports hammers at strike and provides horizontal surface, ST and HS provide vertical referencing.	Regulating Rack, Squaring Platform, Shank Traveler, Hammer Square / Alignment Protocol
Regulating section-by-section slow and requires repeated setups.	RR changes from strike to letoff or hammerline for the entire action in less than 20 seconds.	Regulating Rack, Gauge Keys / Regulation Protocol
Backchecking on bench checks differently in piano.	Play hammers off RR into check and validate with GK .	Regulating Rack, Gauge Keys / Regulation Protocol
General regulation needs re-adjustment back in the piano.	Grandwork bedding, sampling, and setup means regulation fits.	Bedding and Sampling Tools and Protocols
Bubble gauge can't reach strike on all strings and hammers need micro-filing to mate.	Strings fit to well-filed vertical-at-strike hammers accomplish level and mating in one step.	Hammer Filing Jig, Regulating Rack, Alignment Tools and Protocol.