

Grandwork™ Regulation Protocol

A Best Route to the Right Place

- 1 **P** Pre-lift wire, tighten screws, solve excessive friction, and raise hammerline off rest cushions.
P Rough in level and other steps (items listed here in blue may not be needed/included).
- 2 **P** Remove return spring and bed keyframe (see Grandwork™ Bedding Protocol). **BT**
- 3 **P** Choose sample keys and remove their front punchings to machine screws (keep in order).
- 4 **P** Set leveling and bedding samples with **Keysteps** (see Grandwork™ Keystep Protocol). **KS LS**
- 5 **P** Set strike sample hammers to “let off” against strings with weight of **WNG Dip Tool** on key. **DT**
- 6 **B** Fix action position and shim backrail and frontrail to be stable (apply frontrail crown). **CK**
- 7 **B** Set balancerail to **KS** with glider studs (or bedding platforms if RS Deluxe). **CK KS LS**
- 8 **B (S)** Set **Regulating Rack** to strike height samples with weight of **DT** on key. **CK RR DT**
- 9 **B (S)** Record **RR** template (strike) heights with **String Height Gauge**. **CK RR SHG**
- 10 **B (S)** Record hammer spacing scale on **RR** template edges from wearmarks or pre-spacing. **CK RR**
B (S) Record hammer center-to-strike distances with digital calipers for custom bore. **CK RR**
- 11 **B (S)** Fully regulate natural and sharp to validate parts, materials, and specs. **CK RR GK**
B (S) Replace/restore/prep materials and parts (except hammer heads).
B (S) Correct, modify, lubricate, and repair as needed.
- 12 **B (S)** File flared hammers (remove to **Action Tray** to use **Hammer Filing Jig**). **AT HF**
- 13 **B (S)** Space hammers to scale (if removed), then square and space whippens. **CK RR LR**
- 14 **B (S)** Travel shanks to vertical with **Shank Traveler** on **Squaring Platform**. **CK SP ST**
B (S) Hang new hammers at strike height with **Hammer Hanging Jig** on **SP**. **CK SP HH RR**
- 15 **B (S)** Square hammers vertical at strike with **Hammer Square** on **SP** (space to scale). **CK SP RR HS LR**
- 16 **B (S)** Gang file straight-bored hammers on **SP** and rough in hammerline. **CK SP RR GK**
- 17 **B (S)** Rough regulate letoff and drop as needed (for regulating dip and backchecks). **CK RR GK**
- 18 **B** Use **WNG Level Stick** to level keys (key leveling weights waste time – use topstack). **CK KS LS**
- 19 **B** Square, space, and fine level keys – key pins should average vertical when done. **CK KS LR**
- 20 **B** Regulate dip as validated in Step 11. **CK DT**
- 21 **B (S)** Regulate backchecks – play hammers off **RR** into check and use **Gauge Key**. **CK RR GK**

- 22 **B (S)** Regulate repetition springs (correct repetition lever pinning if too loose). **CK RR**
- 23 **B (S)** Regulate jack position (set samples and use straightedge). **CK RR LR**
- 24 **B (S)** Regulate repetition lever height (use **RR** at hammerline as winking reference). **CK RR**
- 25 **B (S)** Regulate hammerline (hammers must touch but not press against **RR** templates). **CK RR**
- B** Remove lead, plug holes, weighoff, install leads, paint sharps, and size balance holes overnight.
- B** Use **WNG Portable Piano Pounder** and refine key level and hammerline. **CK KS RR LS PP**
- 26 **B (S)** Regulate letoff and drop. **CK RR**
- 27 **B (S)** Regulate aftertouch (refine dip). **CK RR**
- 28 **B (S)** Refine backchecks, springs, and hammerline. **CK RR GK**
- 29 **P** Square/install return spring and place action in piano – check backrail and frontrail. **HS**
- 30 **P** Use **WNG Bedding Tool** to re-bed/validate balancerail. **BT**
- 31 **P** Wedge keyframe to fine align bass side of each hammer to bass-side unison string. **LR**
- P** Restore, assemble, and install back action, dampers, trapwork, and pedal lyre.
- 32 **P** Regulate dampers to sustain pedal and set liberty rail. **LR**
- 33 **P** Regulate sostenuto. **LR**
- 34 **P** Regulate soft pedal. **LR**
- 35 **P** Settle wire, pitch raise, and tune.
- 36 **P** Fit strings to hammers.
- 37 **P** Refine pitch, string-to-hammer fit, and tuning.
- P** Voice.

P	In the piano	ST	Grandwork™ Shank Traveler
B	On the bench	HS	Grandwork™ Hammer Square
RR	Grandwork™ Regulating Rack	HF	Grandwork™ Hammer Filing Jig
SHG	Grandwork™ String Height Gauge	HH	Grandwork™ Hammer Hanging Jig
SP	Grandwork™ Squaring Platform	KS	Grandwork™ Keysteps
GK	Grandwork™ Gauge Keys	AT	Grandwork™ Action Tray
LR	Grandwork™ Lighting Rail	CK	Grandwork™ Custom Keybed (RS Deluxe)
BT	WNG Bedding Tool	DT	WNG Key Dip Tool
LS	WNG Key Leveling Stick	PP	WNG Portable Piano Pounder
(S)	With sectional tools, perform steps 8-17 and 21-28 one section-at-a-time.		