



PROFESSIONAL GOLF EQUIPMENT AT DOWN TO EARTH PRICES

Principles of Soft and Hard Stepping Golf Shafts

with Jeff Summitt
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Principals of Soft and Hard Stepping Golf Shafts

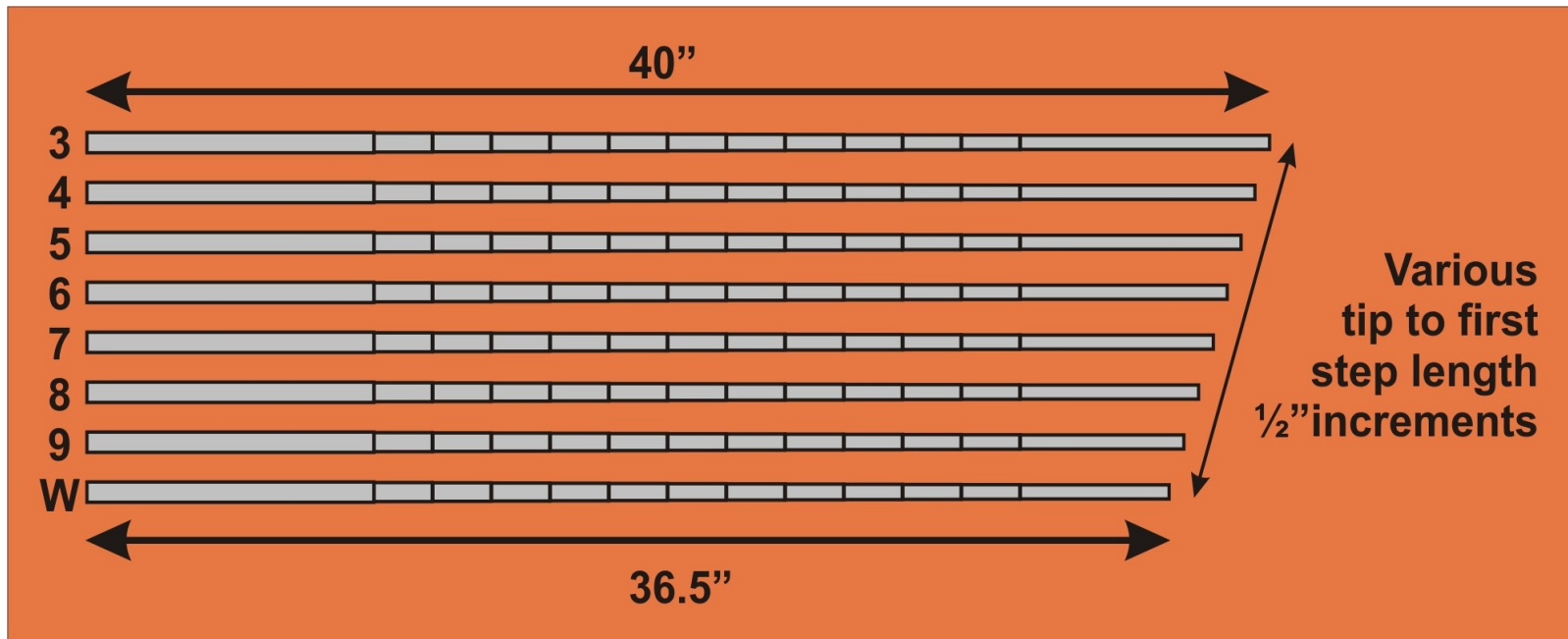
- Explain the principals of taper tip shafts
- Explain the concept of soft and hard stepping
- What ramifications occur?
- Explain how it translates into parallel tip shafts

Taper Tip Shaft Lengths

Raw Taper Tip Raw Shaft Length by Shaft Pattern											
Club#	TT Lite XL	Dynamic Gold	Dynamic Gold SL	Dynalite Gold XP	Dynalite Gold SL	GS85 & GS95	Project X Flighted	Project X	Rifle	KBS Tour	KBS Tour 90
1-iron	40.0"	41.0"	41.0"	41.0"	42.0"	-	42.0"	41.5"	varies	41.5"	-
2-iron	39.5"	40.5"	40.5"	40.5"	41.5"	-	41.5"	41.0"	varies	41.0"	40.5"
3-iron	39.0"	40.0"	40.0"	40.0"	41.0"	40.0"	41.0"	40.5"	varies	40.5"	40.0"
4-iron	38.5"	39.5"	39.5"	39.5"	40.5"	39.5"	40.5"	40.0"	varies	40.0"	39.5"
5-iron	38.0"	39.0"	39.0"	39.0"	40.0"	39.0"	40.0"	39.5"	varies	39.5"	39.0"
6-iron	37.5"	38.5"	38.5"	38.5"	39.5"	38.5"	39.5"	39.0"	varies	39.0"	38.5"
7-iron	37.0"	38.0"	38.0"	38.0"	39.0"	38.0"	39.0"	38.5"	varies	38.5"	38.0"
8-iron	36.5"	37.5"	37.5"	37.5"	38.5"	37.5"	38.5"	38.0"	varies	38.0"	37.5"
9-iron	36.0"	37.0"	37.0"	37.0"	38.0"	37.0"	38.0"	37.5"	varies	37.5"	37"
PW	36.0"	37.0"	37.0"	37.0"	37.5"	36.5"	37.5"	37"	varies	37"	36.5"
SW	36.0"	37.0"	37.0"	37.0"	37.0"	36.5"	37.5"	37"	varies	37"	36.5"

- ✧ Each shaft pattern has a suggested raw length for each club to achieve the flex designed by the manufacturer
- ✧ There is not a universal length for each shaft pattern
- ✧ Rifle shafts are purchased by club number and not length

Tip to First Step Lengths



- ✧ Example of a set of taper tip shaft
- ✧ Each shaft is a different raw length
- ✧ Each shaft has a unique tip to first step length which attributes to the stiffness

Definitions

Soft stepping - Soft stepping refers to the assembly practice of choosing a longer than normal raw length taper tip shaft for the clubhead than suggested by the manufacturer for the purpose of achieving a stiffness that is more flexible than what the shaft has been designed to be. Also a term describing the practice of trimming less from the tip than is required in the shaft installation process for the purpose of achieving a stiffness that is more flexible than what the shaft has been designed to be.

Hard stepping - Hard stepping also refers to the assembly practice of choosing a shorter than normal raw length taper tip shaft for the clubhead than suggested by the manufacturer, again for the purpose of achieving a stiffness that is stiffer than what the shaft has been designed to be. It can also be a term describing the practice of trimming more from the tip than is required in the shaft installation process for the purpose of achieving a stiffness that is stiffer than what the shaft has been designed to be.

Reasons for Soft or Hard-stepping

- ✦ A customer is caught in-between two flexes
- ✦ A clubmaker is trying to achieve a flex that doesn't exist
- ✦ A clubmaker is trying to duplicate the flex or frequency from one shaft pattern to another

Soft-stepping

Club#	Dynamic Gold		
	Recommended Length	Soft-stepped once	Soft-stepped twice
1-iron	41.0"		
2-iron	40.5"	41.0"	
3-iron	40.0"	40.5"	41.0"
4-iron	39.5"	40.0"	40.5"
5-iron	39.0"	39.5"	40.0"
6-iron	38.5"	39.0"	39.5"
7-iron	38.0"	38.5"	39.0"
8-iron	37.5"	38.0"	38.5"
9-iron	37.0"	37.5"	38.0"
PW	37.0"	37.0"	37.5"
SW	37.0"	37.0"	37.0"

➤ Example of soft-stepping

- Soft stepping once yields a decrease of 3 to perhaps 4 cpm
- Soft stepping twice yields a decrease of 6 to perhaps 8 cpm

Hard-stepping

Club#	Dynamic Gold		
	Recommended Length	S300 Hard-stepped once	X100 Soft-stepped twice
1-iron	41.0"	40.5"	
2-iron	40.5"	40.0"	
3-iron	40.0"	39.5"	
4-iron	39.5"	39.0"	
5-iron	39.0"	38.5"	
6-iron	38.5"	38.0"	
7-iron	38.0"	37.5"	
8-iron	37.5"	37.0"	
9-iron	37.0"	37.0"	38.0"
PW	37.0"	37.0"	38.0"
SW	37.0"	37.0"	38.0"

- Example of hard-stepping
- Soft stepping once yields an increase of 3 to perhaps 4 cpm
 - You will run out of raw lengths at the end

Parallel Tip and Unitized Shafts

Apollo Phantom										
Flex	1 iron	2 iron	3 iron	4 iron	5 iron	6 iron	7 iron	8 iron	9 iron	Wedges
Soft R				0"	0.5"	1"	1.5"	2"	2.5"	2.5"
R	0"	0"	0.5"	1"	1.5"	2"	2.5"	3"	3.5"	3.5"
Firm	0.5"	1"	1.5"	2"	2.5"	3"	3.5"	4"	4.5"	4.5"
S	1.5"	2"	2.5"	3"	3.5"	4"	4.5"	5"	5.5"	5.5"
Tour S	2.5"	3"	3.5"	4"	4.5"	5"	5.5"	6"	6.5"	6.5"
X	tip trim to length									

Example of soft and hard stepping to achieve additional flexes

Apollo Phantom										
Flex	1 iron	2 iron	3 iron	4 iron	5 iron	6 iron	7 iron	8 iron	9 iron	Wedges
Soft R				276	280	284	289	293	297	302
R	268	272	276	281	285	289	294	298	302	307
Firm	273	277	281	286	290	294	299	303	307	312
S	278	282	286	291	295	299	304	308	312	317
Tour S	283	287	291	296	300	304	309	313	317	322

Example of the results of soft and hard stepping on final frequency





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A taped copy of the webinar will be available on
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