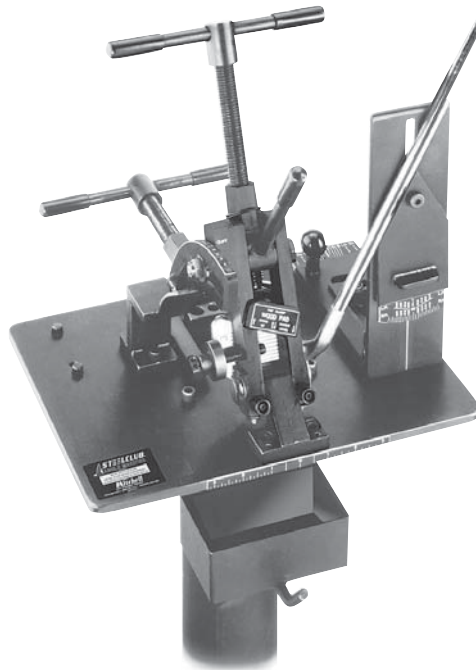




**&
PUTTER KIT**

Operating & Maintenance
MANUAL





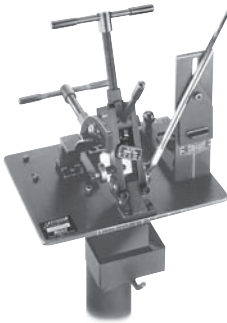
U.S. Patent No. 4,620,431



“Thank You for purchasing the golf industry’s state-of-the-art **STEELCLUB® Plus Angle Machine**. You should find it simple to operate. Please follow the instructions in this manual. Be sure to mount the stand into the floor and attach the machine before attempting to use it. If you have any questions, please call 1.800.437.1314.”

– Ed Mitchell

IMPORTANT NOTICE



Your **STEELCLUB® Plus Angle Machine** is a precision gauge.

When measuring a particular golf club in your **STEELCLUB® Plus Angle Machine**, the angle readings are correct. When these angle readings are compared to the published standards for that club and are found to be different, then that particular club does not meet those standards.

If you compare the loft/lie angles of a particular iron measured in other machines to a **STEELCLUB® Plus Angle Machine**, there may be a difference. That is because some machines do not adjust for offset, progressive offset, non-offset, or face progression hosel positions and therefore give inaccurate and inconsistent readings. You can measure any iron in a **STEELCLUB® Plus Angle Machine** accurately.

Metal wood face and lie angles are measured accurately in the **STEELCLUB® Plus Angle Machine**. Other measuring devices give inaccurate and inconsistent face angle measurements because they clamp the shaft instead of registering the club head. This allows the club head to be rotated to any face angle position by the operator when attempting to measure. The **STEELCLUB® Plus Angle Machine** properly registers the club head in a centered square horizontal face plane, and then measures the shaft plane to the square face. The results are accurate and consistent face angle readings.

“THE INDUSTRY STANDARD FOR ACCURACY™”

GUARANTEE

All products manufactured by Mitchell Golf Equipment Company are guaranteed against defects and workmanship. Replacement or repair will be at the discretion of Mitchell Golf Equipment Company.

©2003 Mitchell Golf Equipment Company

This **STEELCLUB® Plus Angle Machine**
Was Manufactured For:

Purchased by: _____ Date: _____

Serial Number # _____



PATENTED

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MAINTENANCE

STEELCLUB® Plus Angle Machine

1. Clean occasionally with WD-40 to prevent corrosive build up.
2. Face Tape: As needed, clean off old tape on backside of **Face Fixture** (#3) and replace with two new pieces of tape, cut approximately 2 1/2" long from the roll. Peel the back off the tape and place on the backside of **Face Fixture** (#3), directly above the **Iron Sole Clamps** (#13). Make sure tape is pressed on evenly by rubbing with a hard object, such as a coin.
3. Keep a small amount of Vaseline or grease on the bottom end of the **Top Worm Screw** (#1).

TECHNICAL ASSISTANCE

Call 1-800-437-1314 Monday – Friday 8:00 a.m.- 5:00 p.m. Eastern Time
 EMAIL: info@mitchellgolf.com

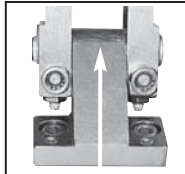
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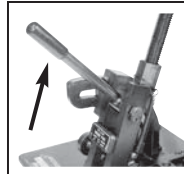
Top Worm Screw (#1)



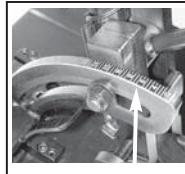
Face Fixture (#3)



Round Pivot Bracket (#4)



Locking Arm (#5)



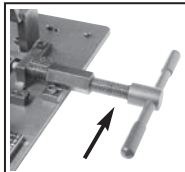
Loft Gauge (#6)



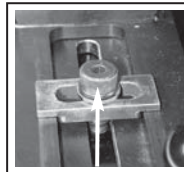
Lie/Face Gauge Angle Assembly (#7)



Lie Angle Gauge (#8)



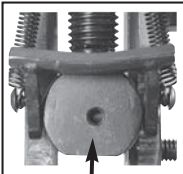
Back Worm Screw (#10)



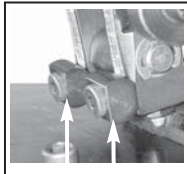
Tension Bolt (#18)



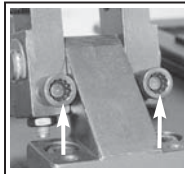
Vertical Plate (#20)



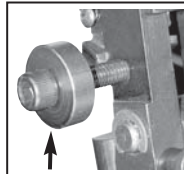
Top Clamp (#2)



Iron SoleClamps (#13)



Allen Nuts (#14)



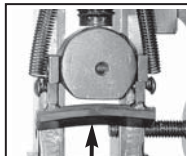
Toe Stop (#17)



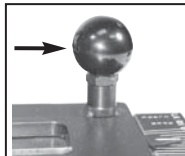
Back Iron Clamp (#19)



Back Wood Clamp (#9)



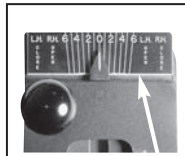
Top Clamp Wood Pad (#11)



Locking Pin (#12) for Wood Face Angle Gauge



Wood Sole Fixture w/ Wood Sole Clamps (#15)



Wood Face Angle Gauge (#16)

OPERATING INSTRUCTIONS - IRONS



Illustration 1 –



Illustration 2 –

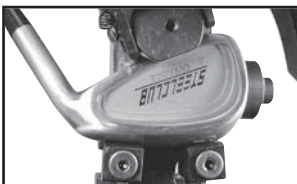


Illustration 3 –



Illustration 4 –

Club Head Registration & Clamping

STEP 1 Loosen the **Top Worm Screw** (#1) that adjusts **Top Clamp** (#2) that holds the iron head.

NOTE: Make sure the **Top Clamp Wood Pad** (#11) is up when clamping irons.

STEP 2 Insert club head into back of **Face Fixture** (#3), setting the club sole on the two **Iron Sole Clamps** (#13) and the toe of the club touching the **Toe Stop** (#17). Adjust club head so the score lines are parallel to the leading edge of the **Round Pivot Bracket** (#4) that is in between the **Face Fixture** (#3) by adjusting the **Toe Stop** (#17) inward or outward. Then tighten the **Top Worm Screw** (#1). See Illustrations 1 thru 3.

STEP 3 **WHEN NECESSARY**, place the **Back Iron Clamp** (#19) in the center hole on the **Back Worm Screw** (#10) slidable clamp fixture. Preset desired loft of iron, then register club head & lightly tighten the **Top Worm Screw** (#1). Tighten **Back Worm Screw** (#10) until **Back Iron Clamp** (#19) is snug against iron head. Make sure club head is flush against the back of the **Face Fixture** (#3) then fully tighten the **Top Worm Screw** (#1). See Illustration 4.

NOTE: Use the **Back Iron Clamp** (#19) only when the club face does not clamp flush against the **Face Fixture** (#3) or when the club head slips when bending. These conditions are caused by the sole design on only a few models of clubs.

Do not use the Back Iron Clamp (#19) on every iron. It will slow down your bending time and is not necessary to use on every club.

OPERATING INSTRUCTIONS - IRONS



Illustration 5 –

Measuring Loft/Lie Angles

STEP 1 Pull down **Locking Arm** (#5) and both the club and the **Face Fixture** (#3) will swing forward and backwards in the **Loft Gauge Swing Arm** (#6).

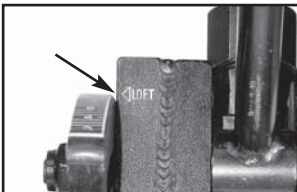


Illustration 6 –

STEP 2 Pull club forward, then slide the **Lie/Face Angle Gauge Assembly** (#7) forward. Push club backwards until the shaft is flush against the **Vertical Plate** (#20). The **Lie/Face Angle Gauge Assembly** (#7) will slide back as you push the club shaft against it. Lock the **Face Fixture** (#3) against the **Loft Gauge Swing Arm** (#6) by pushing up the **Locking Arm** (#5). See Illustration 5.

STEP 3 Read loft directly off the front left hand side of **Face Fixture** (#3), where it is locked against the **Loft Gauge Swing Arm** (#6). Note the “LOFT” stamped into the **Face Fixture** (#3). See Illustration 6.

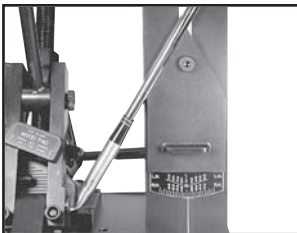


Illustration 7 –

STEP 4 To measure lie angle slide the **Lie Angle Gauge** (#8) up against the shaft to read the lie angle. See Illustration 7.

OPERATING INSTRUCTIONS - IRONS

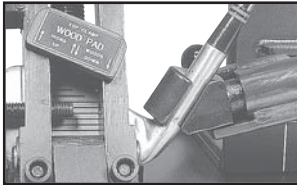


Illustration 8 –

Adjusting Loft/Lie Angles

STEP 1 Slide **Lie/Face Angle Gauge Assembly (#7)** to back of machine. Place bending bar on hosel as low as possible. Adjust bar to snug fit (finger tight) by turning knurled knob at end of bar. See Illustration 8.

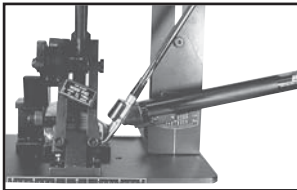


Illustration 9 –

STEP 2 To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Remeasure club and rebend if necessary to desired angles.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration 9.

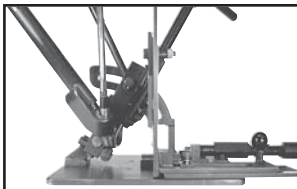


Illustration 10 –

STEP 4 To adjust the loft angle preset the **Face Fixture (#3)** in the **Loft Gauge Swing Arm (#6)** at the desired loft. Bend back (up) to deloft the club and bend forward (down) to add loft to the club. When the shaft rests flush against the **Vertical Plate (#20)**, the club is then set at the desired loft. The shaft should move in a plane parallel to the side of the machine. See Illustration 10.

OPERATING INSTRUCTIONS - IRONS

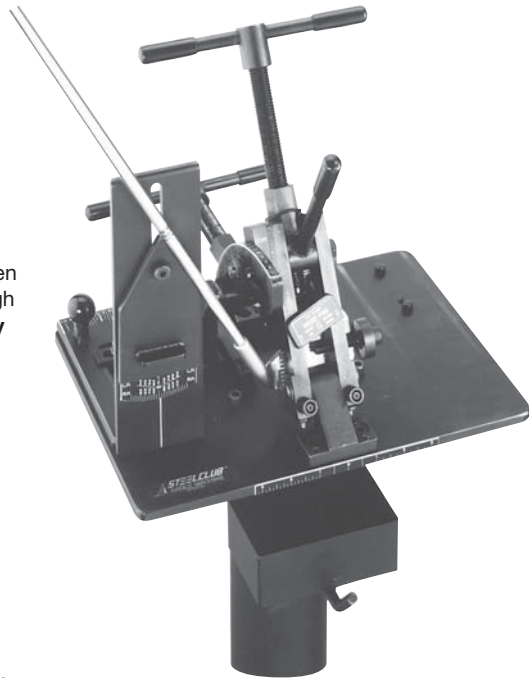
Convert To Left Hand

STEP 1 Remove the **Tension Bolt** (#18) from **Lie/Face Angle Gauge Assembly** (#7). Place entire assembly on left hand side of machine over the two dowel pins exactly like it was on the right hand side.

STEP 2 Replace the **Tension Bolt** (#18) by threading into the hole between the two dowel pins. Make sure it is loose enough to permit the **Lie/Face Angle Gauge Assembly** (#7) to slide back and forth.

STEP 3 Remove the **Toe Stop** (#17) from the left hand side of the **Face Fixture** (#3) and screw it into the hole on the right hand side.

STEP 4 To measure and bend, repeat the same steps per instructions on pages 3,4 and 5. Read the lie for left hand, denoted by "L.H." on the **Lie Angle Gauge** (#8). Read the loft on the **Loft Gauge Swing Arm** (#6).



GUIDE: IRONS LOFT/LIE/LENGTH SPECIFICATIONS

CLUB	OLD STANDARD			MODERN STANDARD			NEW MODERN STANDARD		
	LOFT	LIE	LENGTH	LOFT	LIE	LENGTH	LOFT	LIE	LENGTH
1 IRON	17	56	39	16	56	39.5	15	58.5	40
2 IRON	20	57	38.5	18	57	39	17	59	39.5
3 IRON	23	58	38	21	58	38.5	20	60	39
4 IRON	26	59	37.5	24	59	38	23	60.5	38.5
5 IRON	30	60	37	28	60	37.5	26	61	38
6 IRON	34	61	36.5	32	61	37	30	61.5	37.5
7 IRON	38	62	36	36	62	36.5	34	62	37
8 IRON	42	63	35.5	40	63	36	38	62.5	36.5
9 IRON	46	64	35	44	64	35.5	42	63	36
P.W.	50	64	35	48	64	35.5	46	63.5	35.5
S.W.	56	64	35	56	64	35.5	56	64	35

This is only a guide and does not represent a "standard" for all brands of golf clubs. When clubs are "custom fitted", the specifications can vary.

OPERATING INSTRUCTIONS-METAL WOODS

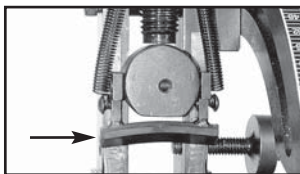


Illustration 11 –

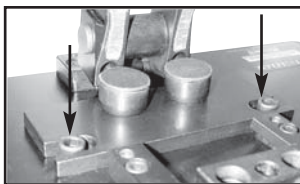


Illustration 12 –

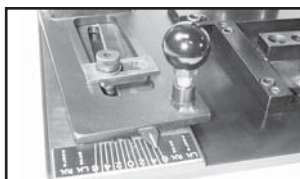


Illustration 13 –

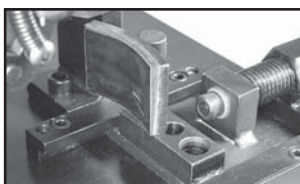


Illustration 14 –

Convert To Metal Woods

STEP 1 Remove the two **Iron Sole Clamps** (#13) by removing the two **Allen Nuts** (#14). Slide both **Iron Sole Clamps** (#13) out the backside of the **Face Fixture** (#3). Replace the **Allen Nuts** (#14) on the bolts to prevent loss. **NOTE:** *When replacing **Iron Sole Clamps** (#13), they **MUST** be positioned horizontally.*

STEP 2 Convert the **Top Clamp** (#2) to use on metal woods by flipping the **Top Clamp Wood Pad** (#11) down. See Illustration 11. **NOTE:** *Remember to flip the **Top Clamp Wood Pad** (#11) up when clamping irons.*

STEP 3 Set the **Face Fixture** (#3) at about 10 degrees in the **Loft Gauge Swing Arm** (#6). Position the **Wood Sole Fixture** (#15) on the base of the machine directly behind the **Face Fixture** (#3). The two **Allen Bolt Heads** on the machine base fit directly into the two slots in the plate of the **Wood Sole Fixture** (#15). See Illustration 12.

There are two (2) different size rotatable Wood Sole Clamps. {See Wood Sole Fixture with Wood Sole Clamps (#15), pg. 2.} Insert the taller clamps into the countersunk holes on Wood Sole Fixture Plate for Small Wood Heads, Fairway Woods & Stainless Steel Drivers. Use the shorter wood Sole Clamps for Large Titanium Drivers. *Both sizes are magnetized & fit into the countersunk holes.* **NOTE:** *The **Iron Sole Clamps** (#13) must be removed first.*

STEP 4 Loosen the **Locking Pin** (#12) for the **Wood Face Angle Gauge** (#16) on the **Lie/Face Angle Gauge Assembly** (#7). It is the knob on the back left side. See Illustration 13. **NOTE:** *By loosening this locking pin, you are now able to move the face angle pointer left and right. Remember to lock it back at "0" when measuring irons.*

STEP 5 Remove the **Toe Stop** (#17) and store in box on stand.

STEP 6 Place the **Back Wood Clamp** (#9) in the left hand hole for a right hand club (or the right hand hole for left hand club) on the **Back Worm Screw** (#10) slidable clamp fixture. See Illustration 14. **NOTE:** *The pad material faces forward.*

OPERATING INSTRUCTIONS-METAL WOODS

Club Head Registration & Clamping

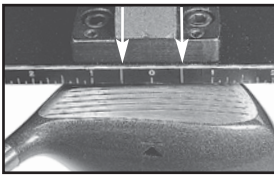


Illustration 15 -

STEP 1 Pull down to loosen the **Locking Arm** (#5), and set the **Face Fixture** (#3) at the loft of the wood on the **Loft Gauge Swing Arm** (#6) and lock in position by pushing up **Locking Arm** (#5). **NOTE:** Set the loft to coincide with the loft number on the metal wood. Remember to reset this for every wood placed in the machine.

STEP 2 Example: 8.5 degree driver, set loft at 8.5 degrees; #3 wood at 16 degrees, set loft on 16 degrees.

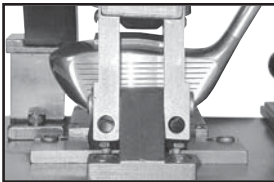


Illustration 16 -

STEP 3 Use the progressive scale on front of machine and measure the center score line on face of club. Mark the two centering lines (blank lines) onto the club's face with a pen. See Illustration 15.

STEP 4 Loosen both **Worm Screws** (#1 and #10). Position club head on the **Wood Sole Fixture** (#15) with face flush against the **Face Fixture** (#3).

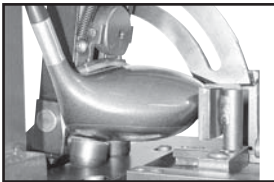


Illustration 17 -

STEP 5 Adjust club head so the score lines are parallel to the leading edge of the **Round Pivot Bracket** (#4). With the score lines parallel, slide the club head and **Wood Sole Fixture** (#15) together (left or right) until the centering marks on the club face are on the inside edge of the two vertical bars of the **Face Fixture** (#3). See Illustration 16.

NOTE: The **Back Worm Screw** (#10) needs to be loose enough so you can adjust score lines. The **Toe Stop** (#17) is not used on metal woods.

Tighten the **Back Worm Screw** (#10) until the **Back Wood Clamp** (#9) is lightly holding the club head. Next, tighten the **Top Worm Screw** (#1) to lightly hold club with **Top Clamp Wood Pad** (#11). Then alternate tightening both back and top worm screws until club is clamped tight. See Illustration 17. **NOTE:** After tightening, check to make sure club head is centered and score lines are horizontal.

OPERATING INSTRUCTIONS-METAL WOODS

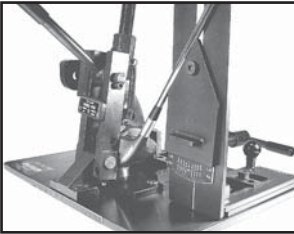


Illustration 18 -

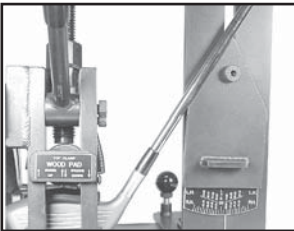


Illustration 19 -

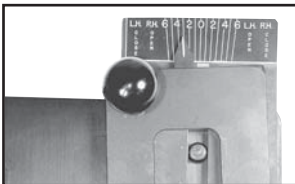


Illustration 20 -

Measuring Face Angle & Lie Angle

STEP 1 To measure lie angle and face angle, slide the **Lie/Face Angle Gauge Assembly** (#7) forward and rotate it until shaft is flush against the **Vertical Plate** (#20). See Illustration 18.

STEP 2 To measure lie angle, slide the **Lie Angle Gauge** (#8) up against the shaft to read the lie angle. See Illustration 19.

STEP 3 To measure face angle read the open or closed degrees on the **Wood Face Angle Gauge** (#16) at back of assembly. See Illustration 20.

NOTE: Remember to loosen the **Locking Pin** (#12) for the **Wood Face Angle Gauge** (#16).

OPERATING INSTRUCTIONS-METAL WOODS

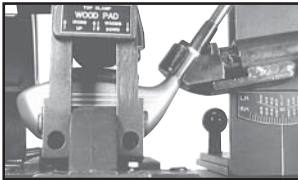


Illustration 21 -

Adjusting Face Angle & Lie Angle

STEP 1 Slide Lie/Face Angle Gauge Assembly (#7) to back of machine. Place bending bar on hosel as high as possible. Adjust bar to snug fit (finger tight) by turning knurled knob at end of bar. See Illustration 21.

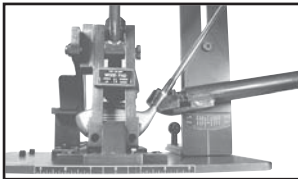


Illustration 22 -

STEP 2 To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Remeasure club and rebend if necessary to desired angles.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration 22.

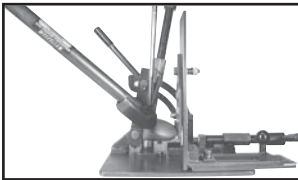


Illustration 23 -

STEP 4 To adjust the face angle bend up (back) to open the club face and bend down (forward) to close to the club face. The shaft should move in a plane parallel to the side of the machine. See Illustration 23.

OPERATING INSTRUCTIONS-METAL WOODS

Convert To Left Hand

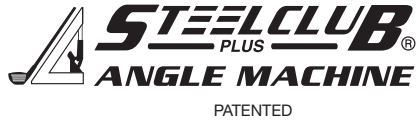
STEP 1 Remove the **Tension Bolt** (#18) from **Lie/Face Angle Gauge Assembly** (#7). Place entire assembly on left hand side of machine over the two dowel pins exactly like it was on the right hand side.

STEP 2 Replace the **Tension Bolt** (#18) by threading into the hole between the two dowel pins. Make sure it is loose enough to permit the **Lie/Face Angle Gauge Assembly** (#7) to slide back and forth.

STEP 3 Remove the **Toe Stop** (#17) from the **Face Fixture** (#3) and store in box on stand.

STEP 4 To measure and bend, repeat the same steps per instructions on pages 9, 10 and 11. Read the face angle for left hand, denoted by "L.H." on the **Wood Face Angle Gauge** (#16). Read the lie angle denoted by "L.H." on the **Lie Angle Gauge** (#8).

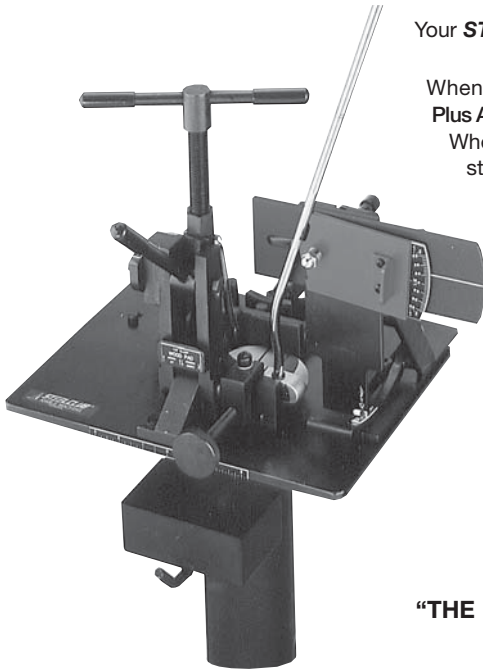




PUTTER KIT

The Putter Kit is optional for the **STEELCLUB**® Plus Angle Machine.

IMPORTANT NOTICE



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When measuring a particular putter in your **STEELCLUB**® Plus Angle Machine Putter Kit, the angle readings are correct.

When these angle readings are compared to the published standards for that putter and are found to be different, then that particular putter does not meet those standards.

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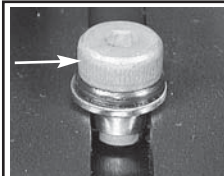
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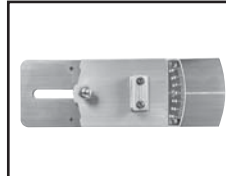
PARTS



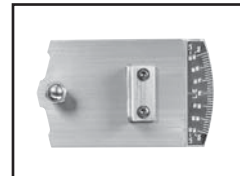
Putter Loft/Lie Angle Gauge Assembly (#21)



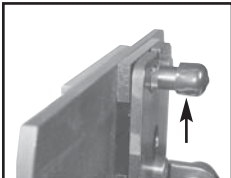
Tension Bolt (#22)



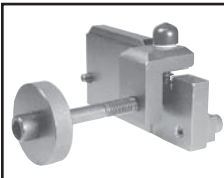
Putter Lie Angle Gauge Plate (#23)



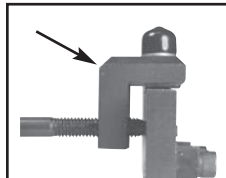
Putter Lie Angle Gauge (#37)



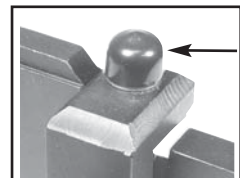
Lock Bolt (#24)



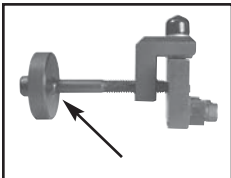
Putter Head Clamp Fixture (#25)



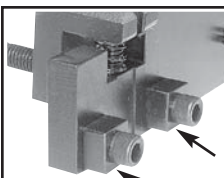
Putter Top Clamp (#26)



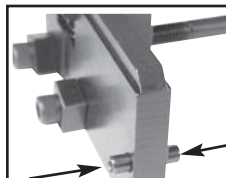
Putter Top Clamp Screw (#27)



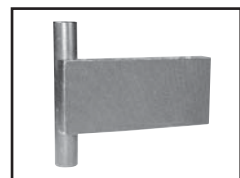
Putter Top Clamp Tightening Bolt (#28)



Putter Sole Clamps (#29)



Roll Pin Stop (#30)



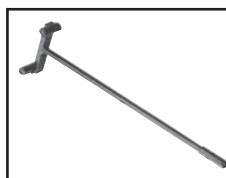
Putter Back Clamp (#31)



Putter Fitting Gauge (#33)



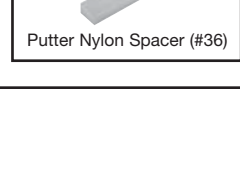
Putter Adjustable Bending Bar (#34)



Putter Shaft Bending Bar (#35)



Putter Nylon Block (#32)



Putter Nylon Spacer (#36)

OPERATING INSTRUCTIONS-PUTTERS

Putter Kit Conversion

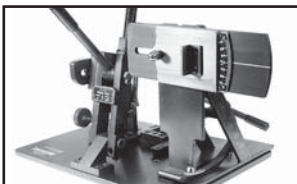


Illustration A –

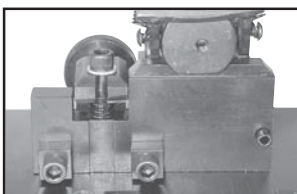


Illustration B –

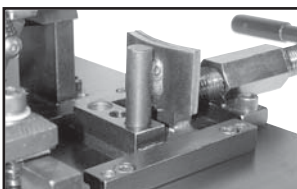


Illustration C –

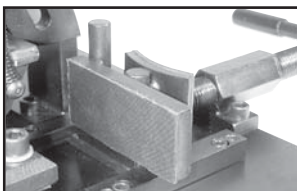


Illustration D –

STEP 1 Remove the following parts from your **STEELCLUB[®] Plus Angle Machine**: **Iron Sole Clamps (#13)**, **Toe Stop (#17)**, **Lie/Face Angle Gauge Assembly (#7)**.

STEP 2 Install Putter Kit parts. Place **Putter Loft/Lie Angle Gauge Assembly (#21)** on machine with two dowel pins positioned in slot of the bottom plate. Thread **Tension Bolt (#22)** into base to secure **Putter Loft/Lie Angle Gauge Assembly (#21)**. Make sure **Tension Bolt (#22)** is loose enough to permit the **Putter Loft/Lie Angle Gauge Assembly (#21)** to slide back and forth. See Illustration A.

STEP 3 Loosen **Locking Arm (#5)** and lock **Face Fixture (#3)** at 0 degrees in the **Loft Gauge Swing Arm (#6)**. Place the **Putter Head Clamp Fixture (#25)** vertically behind the **Face Fixture (#3)** with the **Role Pin Stop (#30)** against the outside left edge for a right hand putter. Turn the **Top Worm Screw (#1)** down until the **Top Clamp (#2)** secures the **Putter Head Clamp Fixture (#25)** to machine. See Illustration B.

STEP 4 Place the **Back Wood Clamp (#9)** in the right hand hole of the **Back Worm Screw (#10)** slidable clamp fixture for right hand putters (opposite for left hand). See Illustration C.
NOTE: Turn the **Back Wood Clamp (#9)** so the pad is facing to the back of the machine.

STEP 5 Place the **Putter Back Clamp (#31)** into the left hand hole of the **Back Worm Screw (#10)** slidable clamp fixture for a right hand putter (opposite for left hand). See Illustration D.
NOTE: The flat side with the pad material faces forward. The **Back Wood Clamp (#9)** acts as a brace for the **Putter Back Clamp (#31)**.

OPERATING INSTRUCTIONS-PUTTERS

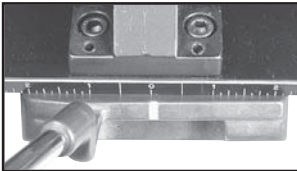


Illustration E -

Putter Head Registration & Clamping

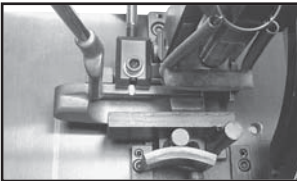


Illustration F -

STEP 1 To measure the center of a putter head use the progressive scale on the front edge of machine. Position putter head so it measures equally to the right and left of "0". Mark the top line of the putter at "0" with a marking pen. Or use the existing center mark on putter, if available. See Illustration E.

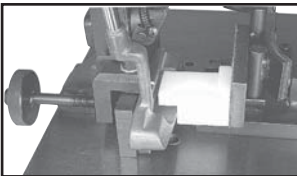


Illustration G -

STEP 2 To clamp putter head in machine, position center line or mark left by marking pen, so it is visible through notch in **Putter Top Clamp** (#26). Tighten down **Putter Top Clamp Screw** (#27) using fingers only. Then turn the **Putter Top Clamp Tightening Bolt** (#28) (knurled knob) just enough to hold putter head. Turn **Back Worm Screw** (#10) to tighten **Putter Back Clamp** (#31) against back of putter. See Illustration F.

NOTE:

A. The **Putter Back Clamp** (#31) will hold many putter models. If necessary, use the **Putter Nylon Block** (#32). It has 3 different cuts allowing for use with different putter shapes, i.e. cavity back, flange back, etc. See Illustration G.

B. The **Putter Nylon Spacer** (#36) can be used to fill space between **Putter Top Clamp** (#26) and putter. See Illustration H.

C. The **Putter Nylon Spacer** (#36) can also be used under sole of putter to raise putter head if necessary.

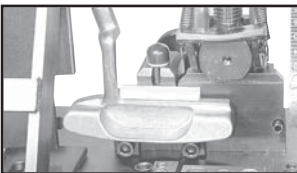


Illustration H -

OPERATING INSTRUCTIONS-PUTTERS

Measuring Loft/Lie Angles

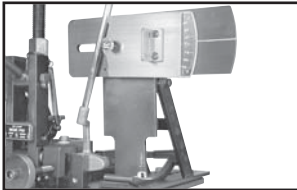


Illustration I –

STEP 1 To read the loft and lie angles, slide the **Putter Loft/Lie Angle Gauge Assembly** (#21) forward and allow it to tilt on its vertical axis until the horizontal **Putter Lie Angle Gauge Plate** (#23) is flush against the shaft. See Illustration I.

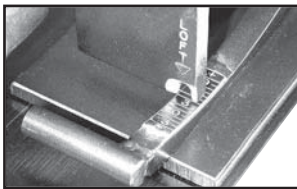


Illustration J –

STEP 2 Read the loft on the loft scale at the front edge of the vertical plate below where the word “LOFT” is stamped in the plate. See Illustration J.



Illustration K –

STEP 3 Slide the **Putter Lie Angle Gauge** (#37) horizontally and allow it to pivot until the top and center points touch the shaft. Read the lie angle on the lie scale. See Illustration K.

OPERATING INSTRUCTIONS-PUTTERS

Adjusting Loft/Lie Angles Putter With Hosel

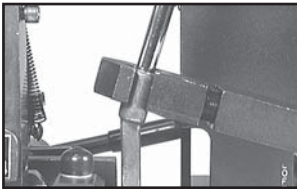


Illustration L -

STEP 1 Slide **Putter Loft/Lie Angle Gauge Assembly** (#21) to back of machine. Place the **Putter Adjustable Bending Bar** (#34) on hosel as high as possible. Adjust bar to snug fit (finger tight) by turning handle of bar. See Illustration L.

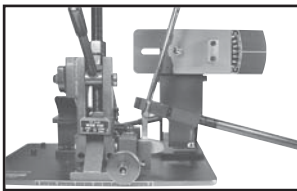


Illustration M -

STEP 2 To bend hosel apply light pressure to bending bar in the direction of desired bend until it is seated firmly against hosel. Apply short, quick jolts of bending pressure to bend hosel. Remeasure club and rebend if necessary to desired angles.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration M.

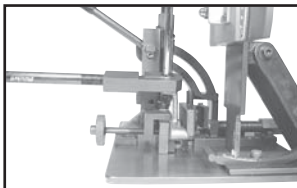


Illustration N -

STEP 4 To adjust the loft angle bend back (up) to deloft the putter and bend forward (down) to add loft to the putter. The shaft should move in a plane parallel to the side of the machine. See Illustration N.

NOTE: *Investment cast, forged, and machined putters made from steel, bronze alloy, brass or aluminum can be adjusted. It is not recommended to bend zinc or sand cast putters, as they will usually break.*

OPERATING INSTRUCTIONS-PUTTERS

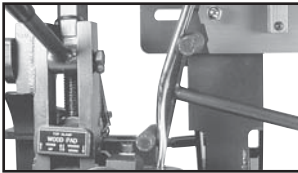


Illustration O –

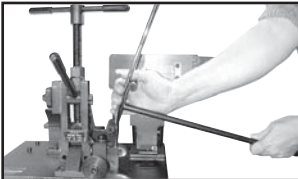


Illustration P –

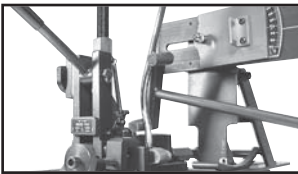


Illustration Q –



Illustration R –

Adjusting Loft/Lie Angles No Hosel Putter

STEP 1 Slide **Putter Loft/Lie Angle Gauge Assembly (#21)** to back of machine. Place **Putter Shaft Bending Bar (#35)** on shaft at the double or single bend. Position the top shaft post of bending bar on one side of the shaft and the bottom shaft post on the opposite side of shaft. The shaft bend should be between the two shaft post of the **Putter Shaft Bending Bar (#35)** See Illustration O.

NOTE: *The top shaft post of the **Putter Shaft Bending Bar (#35)** should be positioned on the side of the shaft in which the bending pressure will be applied.*

STEP 2 To bend shaft, hold the end of the **Putter Shaft Bending Bar (#35)** with one hand and place the other hand around the two shaft posts and shaft. This will secure the **Putter Shaft Bending Bar (#35)** on the shaft and will concentrate the bending pressure between the two shaft posts. Apply light pressure to bending bar in the direction of desired bend. Then apply short quick jolts of bending pressure to bend the shaft. Remeasure putter and rebend if necessary to desired angles. See Illustration P.

STEP 3 To adjust lie angle bend up to make more upright and down to make flatter. The shaft should move in a plane parallel to the front of the machine. See Illustration Q.

STEP 4 To adjust the loft angle bend back (up) to deloft the putter and bend forward (down) to add loft to the putter. The shaft should move in a plane parallel to the side of the machine. See Illustration R.

OPERATING INSTRUCTIONS-PUTTERS

Convert To Left Hand

STEP 1 Remove **Tension Bolt (#22)** from **Putter Loft/Lie Angle Gauge Assembly (#21)**. Place entire assembly on left side of machine, over the two dowel pins exactly like it was on the right hand side.

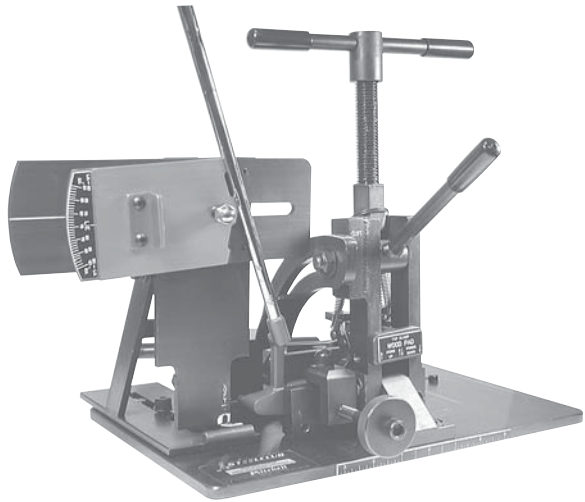
STEP 2 Remove the **Putter Lie Angle Gauge Plate (#23)** by loosening the **Lock Bolt (#24)** on back. Turn **Putter Lie Angle Gauge Plate (#23)** 180 degrees and replace it exactly the way it came off. The lie scale should be on the left side of the plate. Retighten the **Lock Bolt (#24)** on the **Putter Lie Angle Gauge Plate (#23)**.

STEP 3 Remove the **Putter Sole Clamps (#29)** and the **Putter Top Clamp (#26)** and place on the opposite side of the **Putter Head Clamp Fixture (#25)** exactly like it was.

STEP 4 Place the **Putter Head Clamp Fixture (#25)** vertically behind the **Face Fixture (#3)** with the **Roll Pin Stop (#30)** against the outside right edge and tighten **Top Clamp (#2)** by turning **Top Worm Screw (#1)**.

STEP 5 Place the **Back Wood Clamp (#9)** with the pad material facing back in the left hand hole of the **Back Worm Screw (#10)** slidable clamp fixture. Place the **Putter Back Clamp (#31)** into the right hand hole with the pad material facing forward.

STEP 6 To measure and bend, repeat the same steps per instructions on pages 16, 17, 18 and 19. Read the lie angle denoted by the "L.H." on the **Putter Lie Angle Gauge (#37)**. Read the loft on the loft gauge.



OPERATING INSTRUCTIONS

Putter Fitting Gauge

STEP 1 Attach **Putter Fitting Gauge** (#33) to putter shaft just below the grip.

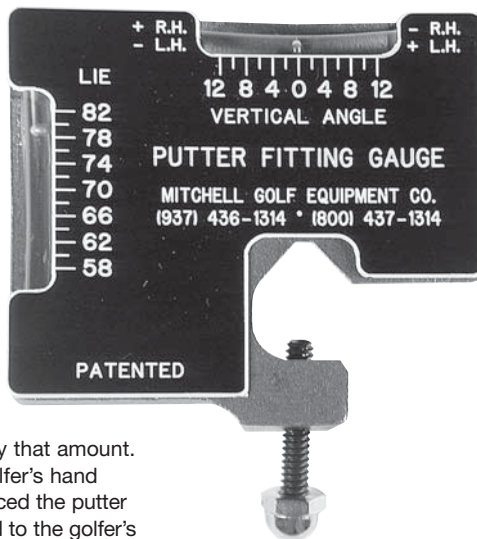
STEP 2 Align **Putter Fitting Gauge** (#33) so that the top edge (vertical angle) is perpendicular to the putter face. Finger tighten to shaft.

STEP 3 Have player address a golf ball in desired position.

STEP 4 Read the golfer's ideal lie angle from the lie scale.

STEP 5 Read the golfer's vertical hand position from the vertical angle scale.

If the gauge reads "0" degrees, then the golfer's hand position is not influencing the actual putter loft. If the golfer's hand position is forward or behind "0" degrees, then the putter loft is reduced or increased by that amount. Example: If the putter has 5 degrees of loft and the golfer's hand position is 2 degrees forward, then the golfer has reduced the putter loft to 3 degrees. The putter loft should then be adjusted to the golfer's ideal loft. See recommended putter lofts for putter styles and putting green conditions.



Recommended Putter Lofts

PUTTER DESCRIPTION	SLOW TO MEDIUM SPEED GREENS	FAST GREENS
NO OFFSET	3° – 4°	2° – 3°
SLIGHT OFFSET	4° – 5°	3° – 4°
OFFSET	5° – 6°	4° – 5°

GENERAL GUIDELINES

1. The more offset in the putter the more loft needed.
2. The slower the greens the more loft needed.

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