

# Operating & Maintenance MANUAL







"Thank You for purchasing the golf industry's state-of-the-art **DigiFlex™ Frequency Meter**. You should find it simple to operate. Please follow the instructions in this manual. If you have any questions, please call 1-800-437-1314."

-Ed Mitchell



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## DIGI**f**LEX<sup>™</sup>



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#### MAINTENANCE

- 1. The *DigiFlex*<sup>™</sup> Meter (#11) should be kept in a dust free area and covered when not in use.
- 2. Keep the **Clamp Fixture** (#2) clean and occasionally oil the **Push Rod** (#5) with 3-in-1 type oil. **DO NOT** oil the two **Slide Rods** (#6).

#### **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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#### PARTS



## $\text{DIGI} \boldsymbol{f} \text{LEX}^{\text{T}}$



#### FREQUENCY FACTS

- Frequency is the best measure of flex.
- Deflection method is a measure of a shaft's beam strength.
- Rigid objects have a natural frequency.
- Rate of frequency is not dependent on the amount of force required to create oscillation.
- Frequency is the number of times a shaft oscillates in a unit of time.
- CPM (cycles per minute) is the measurement of the number of times a shaft oscillates in one minute.
- Frequency Gradient/Slope is the progression of cycles per minute between each club in a set.
- Flat Line/Single Frequency is the same cycles per minute for each club in a set.
- · Flex is the designation of a shaft's resistance to bending.
- Shaft Beam Length is the distance from the edge of the clamp to the center of mass of the club head or shaft weight.
- Face Plane Oscillation is measuring cycles per minute of a shaft in the same plane that the clubs face is aimed.
- Dampening is the effect on CPM readings caused by grips or a variation in clamping pressure.
- Oval Oscillation is when the shaft oscillates in a pattern that is not straight.
- When comparing shafts of equal length, the higher the CPM reading, the stiffer the flex.
- Each swing weight increase in a club will equal one (1) CPM decrease in frequency.
- Each swing weight decrease in a club will equal one (1) CPM increase in frequency.
- Each 2 gram club head weight change is equal to one (1) CPM change in frequency.

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Illustration 1 -



Illustration 2 -



Illustration 3 -

#### Installation

Bolt the Vise Assembly (#1) to your work bench, STEP 1 Frequency Board (#17) or DigiFlex™ Workbench (#18) with the two Mounting Bolts (#4) provided, making sure clamp lever (#3) is facing forward. See Illustration 1.

When bolted to your workbench, allow enough work area to the right for up to a 48" driver.



Place the **DigiFlex™ Meter** (#11) to the right of the Vise Assembly (#1). See Illustration 2.



Club Length Measure Scale (#19) requires assembly to Frequency Board (#17) and DigiFlex™

Workbench (#18). Place wood block with two holes on the two roll pins with the scale reading left to right. Push wood block down until flush with top of Frequency Board (#17) or DigiFlex<sup>™</sup> Workbench (#18) . See Illustration 3.



You need an electrical outlet nearby to plug in the A/C Transformer (#15). Insert the transformer cord into the plug in the back of the DigiFlex<sup>™</sup> Meter (#11). NOTE: Optional Battery Pack (#16) is available.

CAUTION: An interference with the frequency reading will occur if the DigiFlex<sup>™</sup> Meter (#11) has a shelf or other object above the sensor.

NOTE: See page 9 for DigiFlex<sup>™</sup> Workbench assembly instructions.

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Illustration 4 -



Illustration 5



Illustration 6 -



Illustration 7 -

#### **Measuring Frequency of** Assembled Clubs with Grips

Place the grip of club into the Grip Clamps (#9) on STEP 1 the Vise Assembly (#1) flush with the end of the clamps. Position the toe of the club up. See Illustrations 4.



Engage the **Clamp Lever** (#3) to close the clamps firmly against the grip. To adjust clamping pressure, turn the Knurled Thumb Screw (#7) at the end of the Push Rod (#5) in or out to decrease or add pressure to firmly clamp grip or shaft. See Illustration 5.



Place the DigiFlex<sup>™</sup> Meter (#11) with the Sensor (#12) directly underneath the shaft near the club head. You will get the same CPM reading when placing the meter at any point along the lower 1/3 of the shaft. See Illustration 6.



Turn on the DigiFlex<sup>™</sup> Meter (#11).

With the thumb and forefinger near the hosel of the golf club, pull the shaft HORIZONTALLY toward you approximately 3" inches. Release the club so it oscillates HORIZON-TALLY over the DigiFlex™ Meter (#11). Press and release the Reset Button (#14) with the other hand. Do not oscillate the shaft vertically. The result will be an incorrect CPM reading. See Illustration 7.



STEP 7

The CPM frequency will be displayed in the Digital Readout (#13).

Repeat STEP 5 to confirm your CPM frequency reading.







Illustration 8 -



Illustration 9 -



Illustration 10 -



Illustration 11 -

#### **Comparing Frequency of Raw Shafts**



Change the two Grip Clamps (#9) to the two Shaft Clamps (#10). Following the instructions for changing the clamps on page 7.



Place the butt of raw shaft into the Shaft Clamps (#10) flush with the end of the clamp or adjust shaft position to other clamping lengths that may be desired. See Illustration 8.



Install the Shaft Weight (#8) onto the tip end of the shaft and tighten the thumb screw to hold the Shaft Weight (#8) in place. Be sure tip end of shaft is inserted into the bottom of the Shaft Weight (#8). See Illustration 9.

STEP 4

Place The **DigiFlex™ Meter** (#11) with the **Sensor** (#12) directly underneath the shaft, near the weight. You will get the same correct CPM reading when placing the meter at any point along the lower 1/3 of the shaft. See Illustration 10.



**STEP 5** Turn on the **DigiFlex™ Meter** (#11).



With thumb and forefinger near the weight, pull the shaft HORIZONTALLY toward you approximately 3 inches. Release the club so it oscillates HORIZONTALLY over the DigiFlex<sup>™</sup> Meter (#11). Press and release the Reset Button (#14) with the other hand. Do not oscillate the shaft vertically. The result will

be an incorrect CPM reading. See Illustration 11.



The CPM frequency will be displayed in the Digital Readout (#13).



Repeat STEP 6 to confirm CPM frequency reading.

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### **Changing Clamps**



Illustration 12 -



To change the Grip Clamps (#9) and Shaft Clamps (#10), loosen the two thumb screws that hold each clamp piece to the Vise Assembly (#1) approximately 1/2 turn. See Illustration 12.



Lift each clamp up and replace with other clamps.



Retighten the two thumb screws on each clamp.



Be sure to align the Grip Clamps (#9) in the same direction, with large opening on the left side of the Vise Assembly (#1), away from the meter.

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#### **FREQUENCY CHARTS**



### DIGI**f**LEX"

### DIGI*f*LEX<sup>™</sup> Workbench

### **ASSEMBLY INSTRUCTIONS**

#### WORKBENCH PARTS LIST



## DIGI**f**LEX<sup>\*\*</sup>

#### The Industry Standard for Shaft Frequency Measurement



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