

“Applying Biomechanics to Achieve Peak Performance!”

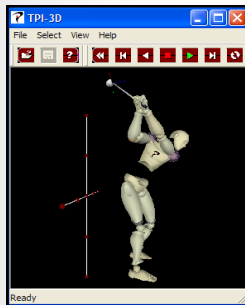
AMM 3D-GOLF™ systems are used at leading golf institutions and sports-related medical facilities around the world.

- TPI - Titleist Performance Institute
- Mayo Clinic
- Golf Performance Center
- Butch Harmon School of Golf
Dubai City, UAE
- Squire Creek Country Club
- Golf Medical Clinics, MD
- Southern Golf Fitness Academy
- Golf Health & Performance Center
- DSG Golf Pty. Ltd. Australia
- Golf Biodynamics, Australia
- Quintic Consultancy, UK
- Golf Academies of America
- The Madison Club
- The Vintage club
- Baylor Univ. Golf Team
- Zurich Golf & Country Club

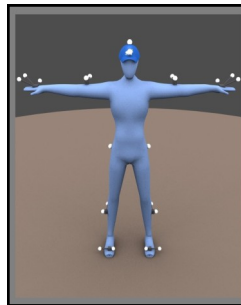
“The knowledge of motion analysis and biomechanics by AMM makes their solution the best ... by far.”

Dr. Greg Rose,
Titleist Performance Institute.

The **AMM3D OPTICAL 3D-GOLF™** analysis systems measure, analyze and provide data that sports, fitness and medical professionals use to study, understand and improve human motion. TPI 3D swing analysis reporting software provides various types of reports to display and document a golfer's swing.



A complete TPI 3D graphic model using a 6-camera high-speed system



3D graphic model showing typical reflective marker set and placement



Golfer with a set of reflective markers attached

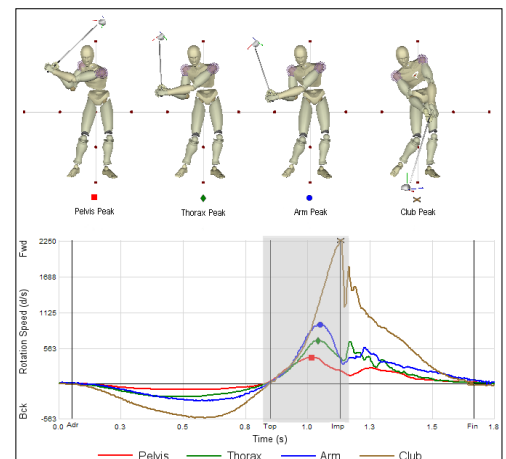
“Besides being the best tool to measure, understand and improve the golf swing, **AMM 3D-GOLF™** has supplied our golf professionals with an additional revenue stream that is becoming increasingly important”

Marc Wahl,

PT, MS, OCS. Physical Therapist. Board Certified Orthopedic Clinical Specialist and Titleist Performance Institute Certified.

AMM3D OPTICAL 3D-GOLF™ uses a 4 or 6-camera configuration with reflective markers placed on the body to capture, measure and display the 3D motion of the golf swing. **AMMCORE™** and **Captor™** software calculate the biomechanical parameters from the captured motion data and then present the user with tables, graphs and animated 3D motion sequences. Using TPI 3D software with the TPI Tour Pro database, swings can be compared and differences highlighted in the comprehensive biomechanics reports. You can also compile a database for any group or create a baseline database for any individual's own selection of best swings.

AMM3D OPTICAL 3D-GOLF™ systems are easy-to-use! They have been designed for indoor use. Systems can be configured with 4 and 6-cameras, sampling at 100 and 200Hz/camera.



The Kinematic Sequence

By analyzing the **Kinematic Sequence** in 3D, we can measure the ‘efficiency’ of the swing! This provides essential information such as, sequencing, coordination and energy transfer up through the major segments of the body. Identify physical limitations and instabilities so you know where to concentrate your efforts! This knowledge will help elevate biomechanical performance, improve accuracy, increase club head speed, and assist in preventing future injuries.

AMM3D OPTICAL 3D-GOLF



Phillip Cheetham

President and Chief Technology Officer
Olympian and "The 3D Guy"

Phil is a pioneer in the motion analysis industry. He is the principal author and developer of AMM 3D-GOLF and TPI 3D software. His vision, knowledge of biomechanics and skills in software development have resulted in the creation of the most advanced motion capture, measurement and analysis system in the industry. Phil is an Olympian and former Australian national gymnastics champion.

"Phil Cheetham of AMM and I co-developed TPI 3D with input from our biomechanics advisory board. It's the easiest way to get true six-degrees-of-freedom for every body segment."

Dr. Greg Rose
Titleist Performance Institute



Comparison Table - Examples of Rotation Angles and Body Positions

Parameter	Units	Adi	HB	Top	HD	Imp	HF	Fin
Pelvis Rotation	deg	8.2 O	36.3 C	40.0 C	28.6 O	67.3 O	69.6 O	111.6 O
Pelvis Bend	deg	15.5 F	15.3 F	15.0 F	9.3 F	6.0 B	6.8 B	0.7 B
Pelvis Side Bend	deg	1.0 T	5.6 L	8.1 L	7.0 T	8.1 T	6.4 T	3.8 L
Thorax Rotation	deg	17.1 O	79.5 C	98.8 C	30.1 C	36.4 O	42.8 O	157.1 O
Thorax Bend	deg	33.9 F	7.7 F	4.4 B	31.8 F	19.9 F	16.9 F	31.3 B
Thorax Side Bend	deg	8.9 T	30.8 L	34.8 L	13.7 L	23.1 T	26.0 T	0.1 L
Pelvis Sway	in	0.0	0.7 T	1.9 T	5.5 T	6.5 T	6.6 T	7.0 T
Pelvis Thrust	in	0.0	1.4 F	1.2 F	0.4 F	1.2 F	1.4 F	2.7 F
Pelvis Lift	in	0.0	0.4 D	0.5 D	0.1 D	0.5 U	0.5 U	0.6 U
Thorax Sway	in	0.0	0.2 T	1.0 T	4.1 T	0.6 T	0.1 T	0.6 T
Thorax Thrust	in	0.0	2.3 F	3.2 F	1.0 F	1.2 B	1.3 B	2.1 F
Thorax Lift	in	0.0	1.0 D	1.8 D	1.1 D	0.7 U	0.7 U	1.0 U
Spine Rotation	deg	9.8 O	45.4 C	61.1 C	57.6 C	32.4 C	28.8 C	35.8 O
Spine FE	deg	19.6 F	12.0 F	12.7 F	19.7 F	10.5 F	9.4 F	24.4 E
Spine Side Bnd	deg	2.8 T	10.9 L	13.7 L	13.3 T	23.0 T	25.3 T	23.7 T
Head Rotation	deg	0.8 C	16.5 C	25.9 C	15.3 C	8.4 C	5.4 C	88.6 O
Head Bend	deg	40.5 F	39.0 F	36.7 F	43.6 F	52.3 F	52.8 F	0.2 F
Head Side Bend	deg	5.6 L	16.9 L	22.8 L	11.6 L	8.4 L	6.5 L	26.2 T
Head Sway	in	0.0	2.9 A	2.7 A	0.1 T	0.7 A	0.7 A	5.0 T
Head Thrust	in	0.0	1.1 F	1.6 F	0.9 F	0.4 B	0.4 B	5.1 B
Head Lift	in	0.0	0.7 D	1.2 D	1.6 D	1.8 D	1.8 D	6.0 U

Fig: Pro34 Pg: Full Body 12R TPI 7-14-04

C = Closed O = Open F = Forward B = Backward T = Trailing L = Leading U = Up D = Down

- Quantify swing efficiency using the 'Kinematic Sequence'
- Create reports for tracking student swing development
- Review dynamic graphs, tables and real-time numbers alongside synchronized animations to detect technique faults
- View the swing in 3D from any position in space
- Customize your screen layouts to your personal preferences
- Use AMM3D OPTICAL 3D-GOLF system to better position your business
- Create additional revenue streams that support your growth

TPI3D - Edition 2009

TPI 3D calculates all motion parameters of the swing: kinematic sequence parameters, head movement, hip/shoulder (pelvis/thorax), rotations, sway, lift and thrust, motion of the club, spine angle, forward bend, and more! And then compares them to a selected database. Red and green high-lights show which parameter is in or out of range.

"I truly believe that AMM 3D-GOLF is the most influential purchase one can make when getting into the business of training and coaching golfers."

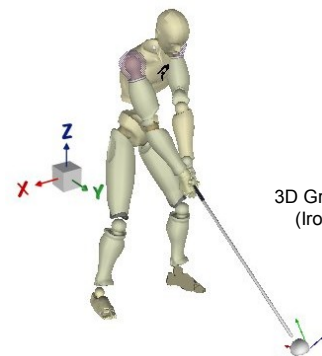
Lance Gill
Head Trainer - Titleist Performance Institute



Typical camera setup with IR LED illumination. Wall, ceiling mounts or tripods may be used to position cameras. Easy placement of calibration rod is shown.



VGA Camera



3D Graphic Model with driver
(Irons can also be used)

1202 E. Maryland Ave. Ste. 1J Phoenix, Arizona 85014 U.S.A.
Tel: (602) 263-8657 Email: info@amm3d.com Web: www.amm3d.com

Copyright © 2006-2009 Advanced Motion Measurement, Inc. All Rights Reserved.