

# Speed Development Methods

New concepts from the USA

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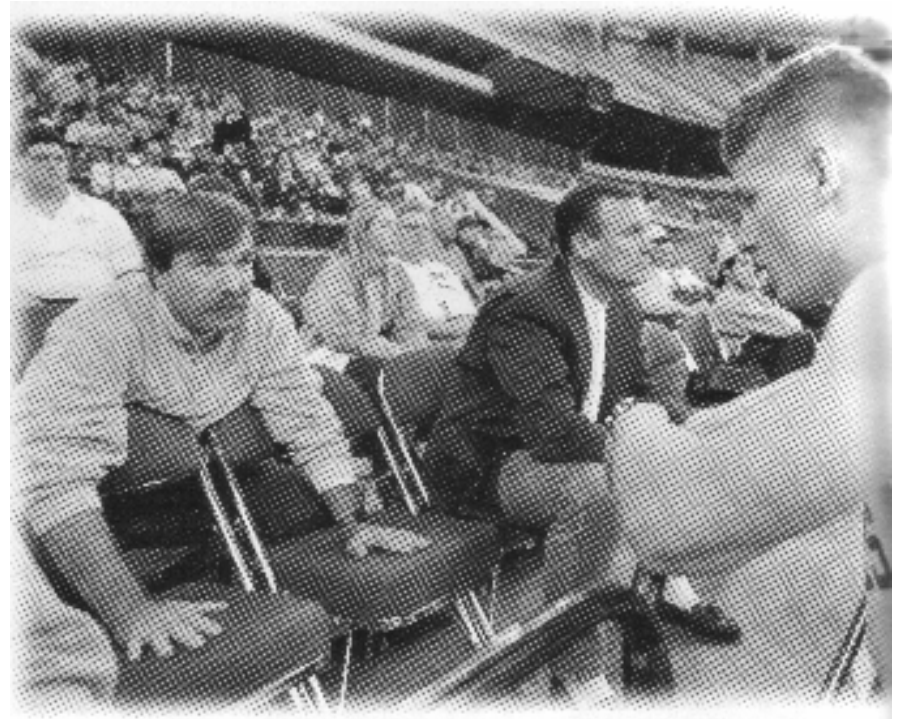
Speed & Conditioning Consultant

# US Coaches Observed

## ◆ Dan Pfaff

### ■ Coach of

- Donovan Bailey (9.84)
- Bruny Surin (9.84)
- Obadele Thompson (9.87)
- Kareem Street Thompson (9.95)
- Donovan Powell (9.96)
- Rowan Griffith (19.94)
- 14 athletes at the 1999 World Athletics Championships



# Donovan Bailey

- ◆ 1995 World Champion
- ◆ 1996 Olympic Champion
- ◆ 1997 2<sup>nd</sup> World Championships
- ◆ 1998-1999 Achilles rupture
- ◆ 2000 10.00w & 10.03w (May 2000)



# US Coaches Observed

## ◆ John Smith

### ■ Coach of

- Maurice Greene (9.79)
- Ato Boldon (9.86)
- Jon Drummond (9.92)
- Brian Howard (9.94)
- Inger Miller (10.79/21.77)

### ■ Previously

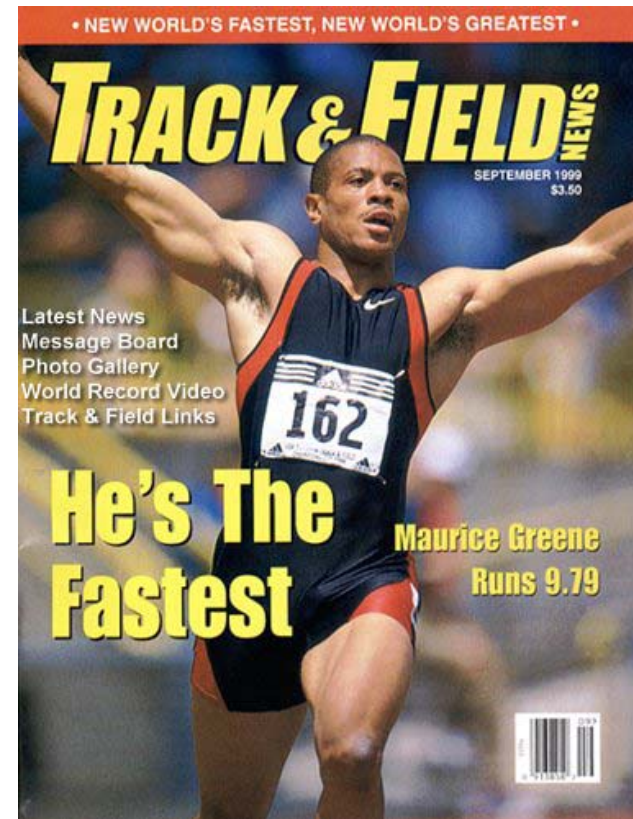
- Steve Lewis (1988 400m Olympic Champion)
- Quincy Watts (1992 400m Olympic Champion)
- Kevin Young (1992 400mH Olympic Champion)



# Maurice Greene

- ◆ 1997 World Champion
- ◆ 1999 World Champion
- ◆ 1999 World Record Holder (9.79).
- ◆ 2000 9.91 (-0.2w)
- ◆ GOAL for 2000

9.69e



# US Coaches Observed

## ◆ Bob Kersee

### ■ Coach of

- Gail Devers (10.82 – Dual Olympic 100m Champion)
- Kenny Harrison (18.29 Triple Jump –Olympic Champion)

### ■ Previously

- Flo Jo (Current 100m & 200m World Record Holder)
- Jackie Joyner-Kersee (Heptathlon World Record Holder)

# Flo-Jo

- ◆ 1987
  - 100m 10.99
  - 200m 21.97
- ◆ 1988
  - 100m 10.49
  - 200m 21.34
  - 400m Relay 48.1
- ◆ 150kg Lunge!!



# Sprint Technique

- ◆ Rhythm & technique is what allows an athlete to improve their maximal running velocity and overall sprint times.
- ◆ Conditioning is closely linked to technique
- ◆ Strength Application (Most Important)



# Female Sprint Technique



# Female Sprint Technique

- ◆ Lack of knee lift & horizontal force production are the two major faults in female sprinting.
- ◆ The best female sprinters (Devers, Miller, Jones) all have well developed Front-side Mechanics & Vertical force production



# Female Sprint Technique

- ◆ Lack of strength results in horizontal force production rather than vertical force production
- ◆ Typical lower limb positions with female sprinters are either obtuse or acute tibia angles with the ground.

# Technique to make you Fly



# Starting Technique

- ◆ Very active arm action
  - First 5-8 strides
- ◆ Drive knees to chest
- ◆ Head stays down for as long as possible
- ◆ Piston action with legs
  - (Pfaff)
- ◆ Cycle action with legs
  - (Smith)



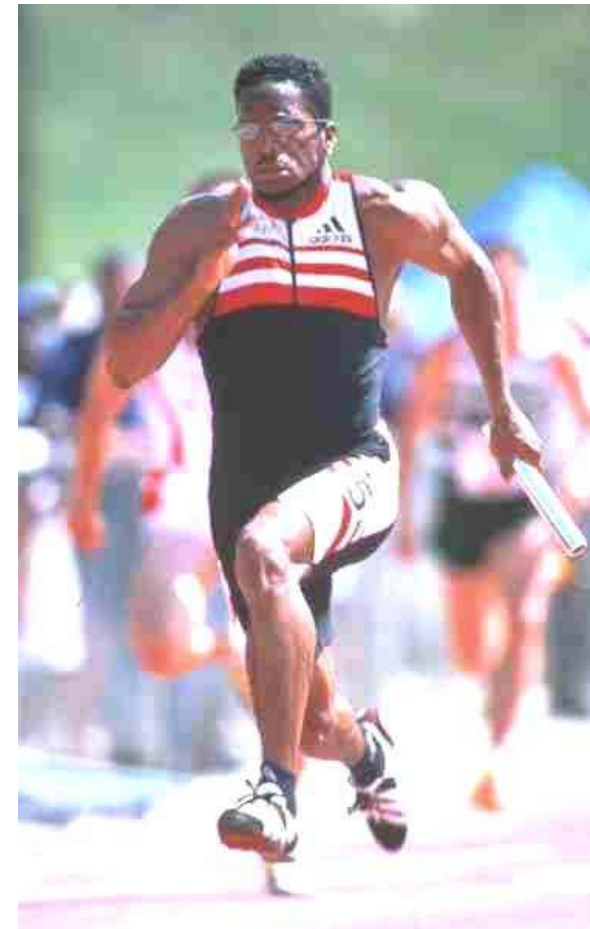
# Sprint Technique 1

- ◆ Elbows in front of body
  - If not in front, limits full knee lift position, increases rear side mechanics
- ◆ Slight forward body lean
- ◆ Chin down



# Sprint Technique 2

- ◆ Lower leg mechanics cues
  - “Riding the Bike”,
  - “Running over Mini Hurdles”,
  - “Stepping over the long grass”
- ◆ Powerful Vertical Force Production into track
  - Only after knee lift motor pattern has been established.



# Sprint Technique 3

- ◆ Maximal Dorsi-Flexion at ground contact
- ◆ Do not try to fully extend thigh with each ground contact
  - Thigh passes only 20° past alignment with upper body)



# Periodization – General Preparation Phase

## ◆ Dan Pfaff

- Mon  
Accelerations/Rud/Weights
- Tue  
Technique/Mobility/Cond
- Wed  
Special endurance /Weights
- Thu  
Technique/Gen Strength (GS)
- Fri  
Blocks to 40m/Rud/Weights
- Sat  
Spec End/Mob/GS
- Sun  
REST

## ◆ John Smith

- Mon  
Upper Weights/Spec End
- Tue  
Low Weights/Tempo runs
- Wed  
Drills/medball-sprints
- Thu  
Upper Weights/Spec End
- Fri  
Low Weights/Accelerations
- Sat  
REST
- Sun  
REST

# Periodization – Competition Phase

## ◆ Dan Pfaff

- 3 Day rotation.
- Day 1.
  - Acceleration – Power
- Day 2
  - Top-End Speed
- Day 3
  - Speed Endurance

## ◆ Rotates these sessions.

## ◆ John Smith

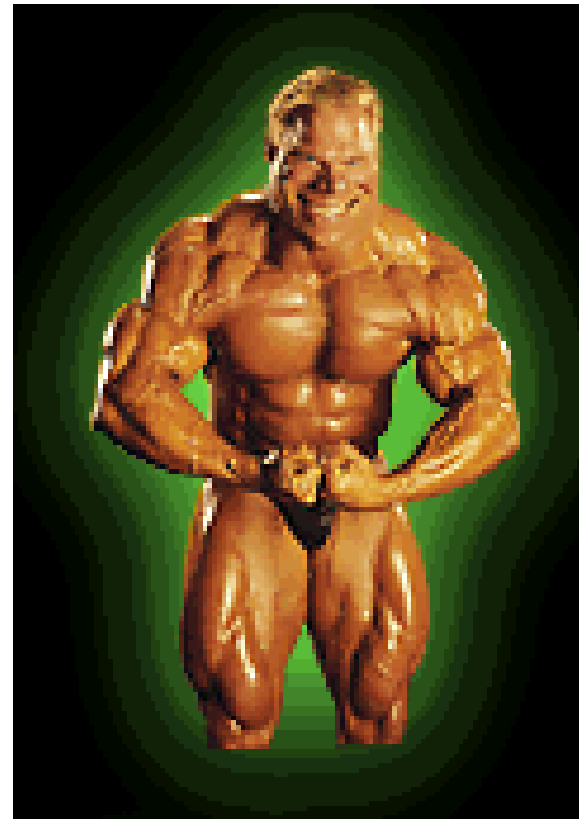
- Mon
  - 400m 300m 200m(49,36,23)
- Tue
  - Blocks 10-50m
- Wed
  - Accelerations to 80m
- Thu
  - Starts over 20-30m.
- Fri
  - Rest (warmup)
- Sat
  - Competition
- Sun  
REST

# Recovery/Peaking Cycles

- ◆ During any lightening off week, only modify one of the following factors:
  - Volume
  - Intensity
  - Density
- ◆ Speed/power athletes only need 7-10 days to “Peak” for top performance.

# Strength Training

- ◆ Maximal Strength is not a priority for either camps.
- ◆ Speed Strength (power) emphasis.
  - Combo Squats,
  - Power Cleans,
  - Jump Squats,
  - Split Jumps
  - Eccentric Calves (Pfaff)



# Rudiment

- ◆ Pfaff believes in What he calls Rudiment 2-3 times per week all year round.
- ◆ Consists of:
  - low intensity plyometrics
  - Medball work
  - Sandpit jumps
  - Muscular Endurance

