KIT 5
THROWS

Instructions for KIT ~~3~~ 5

SET-UP AND OPERATION OF EDM

(Electromagnetic Distance Measurement)

Throws

Preliminaries: Ensure all batteries are put on charge well before the meeting.

1. **For Long Throws**

   a) **Location:** Must give a clear view of the landing sector, circle centre and rim (or 8m point and arc for javelin).

   b) **Assembly and Levelling:**

   i. Ensure tripod is set firmly into the ground at a convenient working height for all users with top plate as level as possible (use spirit level).

   ii. Fit tribrach, making sure securing screw is tight and base cannot move.

   iii. Level Tribrach, use two foot screws to centre bubble between them then adjust remaining screw to centre bubble in bubble-level.

   iv. Fit geodimeter on tribrach (power socket goes in recess), lock tribrach in place.

   v. Adjust for parallax - hand in front of telescope and check hairlines are sharp, adjust lens as necessary.

   vi. Connect external batteries or mains power source (if used).
   TO POWER SOCKET ON TRIBRACH, NOT KEYPAD.

   c) **Setting up the Instrument:**

   i. Turn power on.

   ii. Either press **YES (enter)** to continue if already set up or **NO (←)** for machine to go to set up.

   IF NECESSARY →

   iii. Check level on display - if necessary carefully adjust on tribrach foot screws to centre both index marks *[Prolonged adjustment will force return to c) i.]*, and press **ENTER (Yes)**.

   iv. Machine will perform self checks and rotate around then rotate back again.

   ~~**Note:**~~

   v. Enter approx. temperature, press **ENTER (Yes)** (*it may be necessary to ~~press~~ 'ENTER' twice*).

   vi. Enter approx. atmospheric pressure, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

   vii. Enter prism constant **Offset = 0.00**, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

   viii. Enter **HA ref = 00.00.00**, press **ENTER (Yes)**.

   SHOWS:

   FSTD Po XX : XX

   HA XX : XX : XX

   VA XX : XX : XX

ix. Press **PRG 60** — Job No = 1 Press 'Yes'

IF NECESSARY

x. Instrument reads: **IMEM**
EXMEM
SERIAL

xi. Ignore, press **ENTER (Yes)**.

xii. Prism in centre of circle (or 8m point), focus on prism, press **A/M**.

xiii. Wait for measurement (approx. 3 sec.), press **REG**.

xiv. User ='0', press back space '←', enter circle radius (**1.25** for discus, **1.0675** for hammer/shot, **8.0** for javelin), press **ENTER (Yes)**.

xv. User = (blank), enter **'1'**, press **ENTER (Yes)**. (this is round number)

xvi. User = (blank), enter User No. **'1'**, press **ENTER (Yes)**. (this is entrant number)

xvii. Place prism on inner edge of circle or arc, focus on prism, press **A/M**.

xviii. Wait for measurement (approx. 3 sec.), press **REG**. Record this measurement (should read **'0'**).

xix. To get back to next measurement press **No** to store.

xx. Take two initial check measurements at different locations in, or adjacent to, throwing area. Checks should be marked and measured using a steel tape. Record all readings and measurements. Repeat checks and edge of circle or arc at end of competition.

d) Taking Measurements:

i. Enter Round No. **'1'**, press **ENTER (Yes)**.

ii. Enter User No.' **1**', press **ENTER (Yes)**.

iii. Aim telescope at landing point, focus on target prism when positioned. When cross hairs locked on prism, press **A/M**.

iv. Wait for measurement (approx. 6 sec.), press **REG**.

v. Record distance measured and signal clearly to prism handler to remove prism (*this may be done as soon as you are sure reading is correct*).

vi. Display shows ' Store?', press **'NO'**.

vii. Return to d) i. and repeat for all further trials.

GENERIC EDM VERTICAL JUMPS

SET-UP AND OPERATION OF EDM

(Electromagnetic Distance Measurement)

Vertical Jumps

i. **Preliminaries:** Ensure all batteries are put on charge well before the meeting.

2. For High Jump and Pole Vault

a) Location: Must give a clear and complete view of the bar. For Pole Vault centre of runway is best, and high jump centre behind fan.

b) Assembly and Levelling:

i. Ensure tripod is set firmly into the ground at a convenient working height for all users with top plate as level as possible (use spirit level).

ii. Fit tribrach, making sure securing screw is tight and base cannot move.

iii. Level Tribrach, use two foot screws to centre bubble between them then adjust remaining screw to centre bubble in bubble-level.

iv. Fit geodimeter on tribrach (power socket goes in recess), lock tribrach in place.

v. Disinfect eyepiece and surrounds to minimise possibility of eye infections.

vi. Adjust for parallax - hand in front of telescope and check hairlines are sharp, adjust lens as necessary.

vii. Connect external batteries or mains power source (if used).

c) Setting up the Instrument:

i. Turn power on.

ii. Either press **YES (enter)** to continue or **NO (←)** for machine to go straight to next step.

iii. Check level on display - if necessary carefully adjust on tribrach foot screws to centre both index marks *[Prolonged adjustment will force return to c) i.]*, and press **ENTER (Yes)**.

iv. Screen will instruct to turn instrument through 200 grads (180°), do so and when display shows 'A/M', press **A/M**.

v. Wait for completion of internal check and rotate instrument through 200grads (180°) again.

Note: servo assisted instrument will perform items iv. & v itself automatically.

vi. Enter approx. temperature, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

vii. Enter approx. atmospheric pressure, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

viii. Enter prism constant (Zero for our prisms), press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

Note: some instruments may skip from item v. to ix. Missing out vi., vii. & viii..

ix. Enter horizontal component (00.00.00), press **ENTER (Yes)**.

x. Press **PRG 0**, then enter.

xi. Enter approx. temperature, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

xii. Enter approx. atmospheric pressure, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

xiii. Enter prism constant (Zero for our prisms), press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).

xiv. **Note:** some instruments may skip from item v. to ix. Missing out x., xi. & xii..

xv. Enter horizontal component (00.00.00), press **ENTER (Yes)**.

xvi. Set prism at the back of the box for pole vault, or on the ground under the centre of the bar for high jump.

xvii. Sight on the prism, take the measurement by pressing **A/M.**

xviii. Leave the instrument locked in position and only vertical direction from now on.

xix. Press Enter key until screen shows HA:,HD:,VD:.

xx. Sight on the ground, back of the box or under the middle of the high jump to set the zero height.

xxi. Press MNU key, Then Press 1 SET, Then Press 2 PRESET, Then Press 2 ROE.

xxii. Enter ROE of 0.000 and press ENTER.

xxiii. To check the height sight on the top of the bar vertically above the point on the ground. Do not attempt any adjustments of the instrument in a horizontal direction and do not attempt to take any measurements.

xxiv. Use the VD reading as height measurement.

GENERIC EDM HORIZ JUMPS

SET-UP AND OPERATION OF EDM

(Electromagnetic Distance Measurement)

Horizontal Jumps

Preliminaries: Ensure all batteries are put on charge well before the meeting.

2. **For Long and Triple Jump**

a) **Location:** Must give a clear and complete view of the landing sand pit and take off board.

b) **Assembly and Levelling:**

i. Ensure tripod is set firmly into the ground at a convenient working height for all users with top plate as level as possible (use spirit level).

ii. Fit tribrach, making sure securing screw is tight and base cannot move.

iii. Level Tribrach, use two foot screws to centre bubble between them then adjust remaining screw to centre bubble in bubble-level.

iv. Fit geodimeter on tribrach (power socket goes in recess), lock tribrach in place.

v. Disinfect eyepiece and surrounds to minimise possibility of eye infections.

vi. Adjust for parallax - hand in front of telescope and check hairlines are sharp, adjust lens as necessary.

vii. Connect external batteries or mains power source (if used).

c) **Setting up the Instrument:**

i. Turn power on.

ii. Either press **YES (enter)** to continue or **NO (←)** for machine to go straight to next step.

iii. Check level on display - if necessary carefully adjust on tribrach foot screws to centre both index marks *[Prolonged adjustment will force return to c) i.]*, and press **ENTER(Yes).**

iv. Screen will instruct to turn instrument through 200 grads (180°), do so and when display shows 'A/M', press **A/M.**

v. Wait for completion of internal check and rotate instrument through 200grads (180°) again.

Note: servo assisted instrument will perform items iv. & v itself automatically.

vi. Enter approx. temperature, press **ENTER(Yes)** (*it may be necessary to press 'ENTER' twice*).

vii. Enter approx. atmospheric pressure, press **ENTER(Yes)** (*it may be necessary to press 'ENTER' twice*).

viii. Enter prism constant (Zero for our prisms), press **ENTER(Yes)** (*it may be necessary to press 'ENTER' twice*).

Note: some instruments may skip from item v. to ix. Missing out vi., vii. & viii..

ix. Enter horizontal component (00.00.00), press **ENTER(Yes).**

x. Press the program button **PRG**

xi. Enter **'24'**, press **ENTER(Yes)** (*this is the horizontal jumps program, throws program is '60', vertical jumps is '0' menu 1.2.2*).

xii. Enter Job No. **'1'**, press **ENTER(Yes).** Instrument reads: **IMEM**
EXMEM
SERIAL

xiii. Ignore, press **ENTER(Yes).**

xiv. Screen shows : **1 Known Line**
2. Unknown Line

xv. **Select 2**

xvi. Screen shows **STN = 1** - **press YES**

xvii. Screen shows **HT measure?** - **press YES**

xviii. Screen shows **Ih = 0** - **press YES**

xix. Screen shows Ref. line point A
Pno = 1 - **press YES**

xx. Screen shows **SH = 0.000** - **press YES**

xxi. Screen shows **STD**
HA
VA

xxii. Focus on prism on one end of take off board - **Press A/M**

xxiii. Instrument shows "measuring", when finished - **Press Reg**

xxiv. Screen shows Ref. line point B
Pno = 2 - **press YES**

xxv. Screen shows **SH = 0.000** - **press YES**

xxvii. Screen shows **STD**
HA
VA

xxviii. Focus on prism on other end of take off board - **Press A/M**

xxix. Instrument shows "measuring", when finished - **Press Reg**

xxx. Screen shows **1. Measure**
2. Setout
3. [.....] - **Select 1**

xxxi. Screen shows **Slope** = xx.xxxx - **Press YES**

xxxii. Screen shows **SH = 0.000** - **Press YES**

xxxiii. Screen shows **STD**
HA
VA

Set-up is finished.

d) Taking Measurements.

i. For a measurement, focus on the prism.

ii. **Press A/M**

iii. Screen shows ??????????? = ...
??????????? = ...
RT of s = ...
??????????? = ...

iv. **Read RT of s** - This is the distance and may show as negative.

iv. For the next jump just focus on the prism and press A/M again and so on.

v. Immediately before and after the competition, confirm the instrument accuracy on two pre-measured check marks at either end of the pit and at the centre of the take-off board (this last one should of course read zero)

vi. Helpful hint:- Refocus on the centre of the pit between jumps to minimise change when measuring.