EO M322.05 – SET A MAP DATUM ON A GLOBAL POSITIONING SYSTEM RECEIVER

1. **Performance.** Set a Map Datum on a Global Positioning System Receiver.

2. **Conditions**

   a. Given:

      (1) GPS receiver,

      (2) Topographical map,

      (3) Supervision, and

      (4) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Field setting, during daylight hours.

3. **Standard.** The cadet shall identify the map datum from a topographical map and set it on a GPS receiver.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain map datum, to include: a. model projection of the earth, b. North American Datum 1927 (NAD-27), c. North American Datum 1983 (NAD-83), and d. World Geodetic System 1984 (WGS-84).	Interactive Lecture	10 min	C2-143 (p. 72, p. 73)
TP2	Discuss the Universal Transverse Mercator (UTM) grid system, to include: a. UTM grid, to include: (1) map projection, (2) UTM zone, and (3) UTM projection; b. grid reference systems, to include: (1) eastings, and (2) northings; and c. military grid reference system.	Interactive Lecture	10 min	A2-036 (pp. 5-14 to 5-17)

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TP	Description	Method	Time	Ref
TP3	Discuss using a GPS receiver in conjunction with a topographical map, to include: a. identifying UTM grid system on a GPS receiver; and b. process for confirming correct MGRS coordinates, to include: (1) identifying MGRS grid system on a topographical map; (2) locating the grid zone designator; and (3) confirming the 100 000 m square identifier.	Interactive Lecture	15 min	
TP4	Explain, demonstrate and have the cadets practice setting the map datum on the GPS receiver, to include: a. identifying the map datum from a topographical map; and b. setting one of the following datums on a GPS: (1) NAD-27, (2) NAD-83, or (3) GDS-84.	Demonstration and Performance	15 min	C2-143 (pp. 70–72)

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	35 min
c.	Demonstration and Performance:	15 min
d.	Total:	60 min

6. **Substantiation**

a. An interactive lecture was chosen for TP 1–3 to orient the cadets to map datums.

b. Demonstration and performance was chosen for TP 2 as it allows the instructor to explain and demonstrate how to set a map datum while providing an opportunity for the cadets to practice under supervision.

7. **References**

a. A2-036 A-CR-CCP-121/PT-001 Director Cadets 3. (2003). *Royal Canadian Army Cadet Reference Book*. Ottawa, ON: Department of National Defence.

b. C2-143 (ISBN 1-58923-145-7) Featherstone, S. (2004). *Outdoor Guide to Using Your GPS*. Chanhassen, MN: Creative Publishing International, Inc.

8. **Training Aids**

a. GPS receiver,

b. Topographical map,

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c. Simulated map datum,

d. Grid overlay,

e. Canadian UTM zones handout.

9. **Learning Aids**

a. GPS receiver,

b. Topographical map, and

c. Canadian UTM zones handout.

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B, Appendix 6 (322 PC).

11. **Remarks.** N/A.

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