

MISSOURI DEPARTMENT OF AGRICULTURE DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION LAND SURVEY PROGRAM

EDM CALIBRATION REPORT – PERRYVILLE EDM BASELINE (HORIZONTAL)

DATE	COMPANY	REFLECTOR S	FTUP		
			with tribrach	Prism pole	Bipod pole
INSTRUMENT TYPE, MODEL AND	SERIAL NUMBER				
E.D.M. AT 0m	S SUBINITIED SHALL BE HORI.	ZUNTAL.			
	H03	. 1			
	HU2				
H01]	
0m	150m	400m	1400m		
H01 =	H02 =	H03 =		TEMP	
H01 = (149.9601m)	H02 = (399.9830m)	H03 = (1399.9828m)		♦ PRESS	
E.D.M. AT 150m					
	H05	>			
│					
0m	150m	400m	1400m	J	
H04 -	H05 -		140011	TEMP	
104-	100 -				
H04 = (149.9601m)	H05 = (250.0229m)	H06 = (1250.0227m)		♦ PRESS	
E.D.M. AT 400m				1	
┥	H07				
	≺ H08				
		H09-	>		
0m	150m	400m	1400m	1	
H07 =	H08 =	H09 =		TEMP	
H07 = (399.9830m)	H08 = (250.0229m)	H09 = (999.9999m)		* PRESS	
FDM AT 1400m					
~	H10	H10H10			
	*	H11			
		H12]	
0m	150m	400m	1400m		
H10 =	H11 =	H12 =		TEMP	
H10 = (1399.9828m)	H11 = (1250.0227m)	H12 = (999.9999m)		◆ PRESS	
		1			
 Barometric press 	sure for EDM calibration must be	station pressure. Do not us	e barometric	pressure reduced	to sea level.



MISSOURI DEPARTMENT OF AGRICULTURE DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION LAND SURVEY PROGRAM EDM CALIBRATION REPORT – PERRYVILLE EDM BASELINE (SLOPE)

DATE	COMPA	ANY							
INCTRU				I ripod with tribrach					
INSTRUMENT TTPE, MODEL AND SERIAL NUMBER									
NOTE	E: ALL DISTANCES SUB	MITTED SHALL BE SLOPE.							
E.D.N	M. AT 0m								
		\$03							
	c		1						
	C01								
	501	-			HIAT 0 METER MARK				
0m		150m	400m	1400m					
S01 =		S02 =	S03 =		TEMP				
H0 =		H0 =	H0 =		♦ PRESS				
E.D.N	M. AT 150m								
		SC)6						
		S05→							
_	\$04								
Ľ	504				HI AT 150 METER MARK				
0m		150m	400m	1400m					
S04 =		S05 =	S06 =		ТЕМР				
H0 =		H0 =	H0 =		* PRESS				
FD	M AT 400m								
◄	SC								
		← \$08							
				\$09→					
0m		150m	400m	 1400m	HI AT 400 METER MARK				
0.07			000						
S07 =		S08 =	S09 =		TEMP				
H0 =		H0 =	H0 =		◆ PRESS				
E.D.N	M. AT 1400m								
		S10							
		<sii< td=""><td></td></sii<>							
			512	HI AT 1400 METER MARK					
0m		150m	400m	1400m					
S10 =		S11 =	S12 =		ТЕМР				
H0 =		H0 =	H0 =		♦ PRESS				
	Heights or delta elevations between monuments (elevations 0m scaled from topo map).								
UM = 112.78M 150M = 112.60M 400M = 112.63M 1400M = 113.03M									
••		Len ounoration must be station							

Perryville Baseline



DATE OF SKETCH 2003

PERRYVILLE BASELINE

Electronic Distance Measurement (EDM) Calibration Baseline Perry County, Missouri

Established by the Missouri Department of Agriculture Division of Weights, Measures & Consumer Protection Land Survey Program

1990

The baseline is located at the Perryville Memorial Airport near Perryville, Mo. in Perry County. The baseline runs parallel to the main runway approximately 50 feet west of the westerly edge of the concrete paving of the runway.

To reach the baseline from Perryville, take state Route 51 North approximately 9.3 miles to Perry County Route H. Turn left on Route H and proceed west approximately two miles to the public entrance of the airport.

The baseline consists of four points monumented with Missouri Department of Natural Resources aluminum monuments set in concrete flush with the ground surface. The mark at each station is a center-punched hole in the center of the monument. The 0 meter station is located approximately 50 feet west of the west edge of the concrete paving of the main runway and approximately 25 feet north of the north edge of the south taxiway. The 150 meter, 400 meter and 1,400 meter stations progress north, parallel to the main runway, all being approximately 50 feet west of the west edge of the concrete paving of the main runway. A removable plastic pipe guide pole is set next to each monument.

Users of the baseline must notify flight office personnel before occupying the baseline monuments. For safety reasons, users should not drive on the main runway itself, but along the shoulder or on the grass between the shoulder and the baseline monuments. Users are urged to exercise caution when driving along taxiways and near the runway, keeping a constant watch for aircraft.

The baseline station elevations are as follows:

0 meter – 112.78 meters 150 meter – 112.60 meters 400 meter – 112.63 meters 1,400 meter – 113.03 meters

ELECTRONIC DISTANCE MEASURMENT (EDM) CALIBRATION BASELINES IN MISSOURI

The Missouri Department of Agriculture has established 12 Electronic Distance Measurement (EDM) calibration baselines in Missouri. Modern equipment provides the user a multitude of options in the art of measurement. Inability, inexperience and incompetence using these systems can cause serious blunders. The EDM baseline will allow the operator to verify the instrument is in calibration, affirm the instrument is being operated properly and substantiate all the equipment utilized in measurement is properly adjusted and used correctly.

Each EDM baseline consists of four monumented stations. The monuments are nominally spaced at 0 meters, 150 meters, 400 meters and 1,400 meters. Each station will be occupied by the EDM instrument and a measurement made to the other three stations for a total of 12 measurements. The results will determine the scale factor, the system constant and the standard deviation of the measurement in parts per million.

The EDM should be tested using the same procedures as in every day fieldwork. This will not only confirm the EDM is in good working order, but will ensure the entire system is properly adjusted. The measuring system includes, but is not limited to, the instrument, the tripods, bipods, tribrachs, prisms, prism poles, thermometers and barometers/altimeters.

WHEN TO CALIBRATE YOUR INSTRUMENT?

- After taking delivery of a new or used instrument
- Immediately after service
- Anytime the operator feels the instrument is not working properly
- Before and after the Missouri Department of Natural Resources or other government agency contracts

BEFORE RUNNING THE BASELINE, PERFORM THE FOLLOWING:

- Check and adjust optical plummets, bull's-eye bubbles and plumbing poles
- Check thermometers and barometers/altimeters
- Make sure all tripods are rigid and stable
- Clean prisms
- Fully charge all batteries
- Have an EDM Calibration Report form for the baseline you are running

When filling out the EDM Calibration Report form, fill in all lines that apply and add additional information if needed.

<u>IMPORTANT NOTE</u>: Before each measurement, enter the temperature and station pressure or absolute <u>pressure</u> into the instrument. The barometric pressure given over the radio and at airports has been reduced to sea level. DO NOT ENTER SEA LEVEL PRESSURE INTO THE EDM. One method used to find station pressure or absolute pressure is by elevation. The barometric pressure is reduced 0.1 inches of mercury for every 90 feet of elevation. So, to correct the sea level pressure obtained from the radio or airport, pick an average elevation for your area and divide by 90. Example: if the elevation is 1,000 feet, dividing 1,000 by 90 equals 11.11. Therefore, subtract 1.11 inches from the sea level pressure to obtain station pressure or absolute pressure.