

# MICHIGAN STATE POLICE SCORING AND BID ADJUSTMENT METHODOLOGY\*

## STEP I: RAW SCORES

Raw scores are developed, through testing, for each vehicle in each of six evaluation categories. The raw scores are expressed in terms of seconds, feet per second<sup>2</sup>, miles-per-hour, points, and miles-per-gallon.

VEHICLE DYNAM. (seconds)	BRAKING RATE (ft/sec <sup>2</sup> )	ACCEL. (seconds)	TOP SPEED (mph)	ERGONOMICS & COMMUN. (points)	FUEL ECONOMY (mpg)
92.210	26.380	45.790	115.000	173.900	14.300

## STEP II: DEVIATION FACTOR

In each evaluation category, the best scoring vehicle's score is used as the benchmark against which each of the other vehicles' scores are compared. (In the Vehicle Dynamics and Acceleration categories the lowest score is best, while in the remainder of the categories the highest score is best.) The best scoring vehicle in a given category received a deviation factor of "0." The "deviation factor" is then calculated by determining the absolute difference between each vehicle's raw score and the best score in that category. The absolute difference is then divided by the best score, with the result being the "deviation factor."

CAR MAKE MODEL	TOP SPEED
CAR "A"	115.000 .042
CAR "B"	118.800 .010
CAR "C"	117.900 .018
CAR "D"	120.000 0

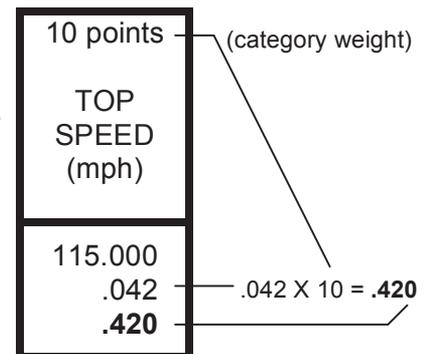
### EXAMPLE:

$$\begin{array}{rclclcl}
 \text{Best Score} & & \text{Other Vehicle} & & \text{Absolute} & & \text{Best} & & \text{Deviation Factor} \\
 \text{(Car "D")} & & \text{Score (Car "A")} & & \text{Difference} & & \text{Score} & & \text{(Car "A")} \\
 120.000 & - & 115.000 & = & 5 & / & 120.000 & = & .042
 \end{array}$$

## STEP III: WEIGHTED CATEGORY SCORE

Each vehicle's weighted category score is determined by multiplying the deviation factor (as determined in Step II) by the category weight.

$$\begin{array}{l}
 \text{RAW SCORE} \\
 \text{DEVIATION FACTOR} \\
 \hline
 \text{WEIGHTED CATEGORY SCORE}
 \end{array}$$



\*All mathematical computations are to be rounded to the third decimal place.

## STEP IV: TOTAL WEIGHTED SCORE

Adding together the six (6) weighted category scores for that vehicle derives the total weighted score for each vehicle.

### EXAMPLE:

CAR	30 pts. VEH. DYN. (seconds)	25 pts. BRAKE DECEL. (ft/sec <sup>2</sup> )	20 pts. ACCEL. (seconds)	10 pts. TOP SPEED (mph)	10 pts. ERGO/ COMM. (points)	5 pts. FULE ECON. (mpg)	TOTAL WEIGHTED SCORE
Car "A"	92.210 .018 .540	45.790 .163 4.075	26.380 0 0	115.000 .042 .420	173.900 .184 1.840	14.300 0 0	<b>6.875</b>

## STEP V: BID ADJUSTMENT FIGURE

The bid adjustment figure that we have chosen to use is one percent (1%) of the lowest bid price received. As an example, in this and the following two steps, the lowest bid price received was \$15,238.00, which results in a bid adjustment figure of **\$152.38**.

## STEP VI: ACTUAL DOLLAR ADJUSTMENT

The actual dollar adjustment for a vehicle is determined by multiplying that vehicle's total weighted score by the bid adjustment figure as shown at right.

TOTAL WTD. SCORE	BID ADJ. FIGURE	ACTUAL DOLLAR ADJ.
X		=
6.875	\$152.38	<b>\$1,047.61</b>

## STEP VII: ADJUSTED BID PRICE

The actual dollar adjustment amount arrived at for each vehicle is added to that vehicle's bid price. Provided other necessary approvals are received, the vehicle with the lowest adjusted bid price will be the vehicle purchased. (The amount paid for the purchased vehicles will be the actual bid price.)

ACTUAL DOLLAR ADJ.	ACTUAL BID PRICE	ADJ. BID PRICE
+		=
\$955.42	\$15,473.00	<b>\$16,520.61</b>