DCC Speed Steps By Robert Frey *Clinic Handout* Revised: April 2010

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A 30 mph Speed Trap, when a distance is run in 6.0 Sec.

Scale **N**:(1to160)= 19.8" **HO**:(1to87)= 36.4" **S**:(1to64)= 49.5" **O**:(1to48)= 66.0"

Sec.	mph	Sec.	mph	Sec.	mph	Sec.	mph
1.5	120	2.6	69	4.2	43	8.0	23
-	116	2.7	67	4.4	41	8.3	22
1.6	113	2.8	64	4.6	39	8.7	21
-	109	2.9	62	4.8	38	9.0	20
1.7	106	3.0	60	5.0	36	9.5	19
-	103	3.1	58	5.2	35	10	18
1.8	100	3.2	56	5.4	33	11	16
-	97	3.3	55	5.7	31	12	15
1.9	95	3.4	53	*6.0*	*30*	13	14
-	92	3.5	51	6.3	28	14	13
2.0	90	3.6	50	6.7	27	15	12
2.1	86	3.7	49	7.0	26	18	10
2.2	82	3.8	47	7.3	25	20	9
2.3	78	3.9	46	7.7	24	24	8
2.4	75	4.0	45	8.0	23	30	6

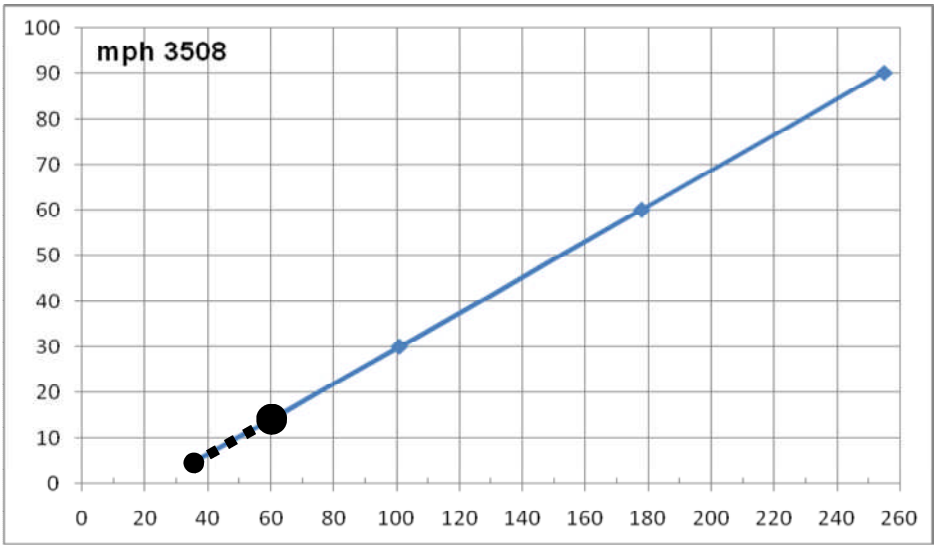
A 3 mph Speed Trap, when a distance is run in 6.0 Sec.

Scale **N**:(1to160) = 2" **HO**:(1to87) = 3.6" **S**:(1to64) = 5" **O**:(1to48) = 6.6"

Sec.	mph	Sec.	mph	Sec.	mph	Sec.	mph
1.5	12	2.6	7.0	4.5	4.0	9	2.0
1.6	11	3.0	6.0	5.0	3.5	10	1.8
1.8	10	3.2	5.5	*6.0*	*3.0*	12	1.5
2.0	9	3.6	5.0	7.3	2.5	18	1.0
2.2	8	4.0	4.5	7.0	2.3	24	0.8

The following is the **mph** *plotting procedure using graph paper.*

First, determine the **mph** speed at 100% full throttle using the 30 mph speed trap table shown above. *Second*, program CV2=60. This is a high start number, and should start running in the first speed step. Next, plot the highest point (**mph** at 255) and the high starting point (**mph** when CV2= 60) on some graph paper. Draw a straight line from the highest through the high starting point, and project to 5 **mph**. Read your estimated values for the CV2, CV6, & CV5 at the 5-30-60 **mph** on this straight line.



Diesel No. 3508

	Dec.	mph
Full Throttle	**255**	**90**
High Starting	**60**	**14**
Projected Start	**36**	**5**
Est. Mid. CV6	**101**	**30**
Est. Max.CV5	**178**	**60**

Note:
The estimate for CV6 was 101, but on the second try, **106** actually produced 30 mph.

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Diesel 3508 top speed was 90 **mph**. With CV2 = 60, Start measured 14 **mph**. By projecting the slope of the line you will find Dec. 36 is at 5 **mph**. Then the estimated Dec. 101 should produce 30 **mph** and the extimated Dec. 178 should produce 60 **mph**. Any CV value for **mph** is on the 5-30-60 speed line.

Add.=	CV1	**Dec.**	**mph**	NCE Decoder			File No. =	**D1234**		
Full	99%	**255**	**140**	CV7 =	35		14 April 2010			
Max.	CV5 =	**120**	**60**	Decoder Version			Start **->** Mid. **->** Stop in seconds			
Mid.	CV6 =	**60**	**25**	CV8 =	11	Accel.	CV3 =	0	0.8s	
Start	CV2 =	**25**	**4**	Manufacturer ID.		Decel.	CV4 =	0	0.4s