

J.A.T.
5-16-90**MATHEWS MECHANICAL CONTRACTORS, INC.**50 Sager Lane, Elizabethtown, PA 17022
Phone 717-367-5060

God Is Our Source

FAX: 717-367-1374

01-22-N11B-3652

FAX TRANSMISSION SHEET

ORIGINAL

7pg

B 7/16/90 pdg

30 JUL 24

P 4:34

RECEIVED
HITS AND CREDIT

TO: Mr Rutland - VIN Coordinator - NRM 11 DATE 2/16/90
RM 6307
NIHTSA - 400 Seventh Avenue SW ZIP 20590
WASH D.C.
FAX. NO. 206-366-4329 TELEPHONE _____

This transmission contains # 7 pages including this page.
Should any portion of the transmission be illegible or missing please
call our main office.

COMMENTS:

Cover, letter & VIN schemesTRANSMISSION FROM: DW Mathews

February 16, 1990

ADMINISTRATOR
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
400 SEVENTH ST. S. W.
WASHINGTON, D. C. 20590
ATTN: VIN CORRINATOR, NRM-11 Rm. 5307
MR. RUTLAND

Dear Mr. Rutland:

Enclosed is our 17 digit VIN scheme and the necessary information to decipher the characters.

49YH02032LE000001	(Heavy Equipment Trailers)
49YL01212LE000001	(Light Utility Trailers 3,000lb 12' long)
49YL01019LE000001	(Light Utility Trailers 3,000lbs 10' long)
49YL00811LE000001	(Light Utility Trailers 3,000lbs 8' long)
49YC01624LE000001	(Car Varrier Heavy Utility 7,000 LB)

1-3 Assigned by WMI
4 Type of trailer (H-Heavy eqt. ttrailer, L-Light Utility trailer- C-Car carrier)
5 Blank
6-7 Length of trailer
8 # of axles
9 check digit
10 year of mfg.
11 Elizabethtown - city of origin
12-17 sequential production number

Thank you very much for your cooperation. Please call our office at (717) 367-5080 should you require additional information.

Sincerely

Donnie W. Mathews
DONNIE W. MATHEWS
50 Sager Lane, Elizabethtown, Pa.
FAX: (717) 367-5080

Since the check digit calculation for ABC Trailers resulted in a decimal value of .45, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17 digit VIN requirements.

6-90 FRI 16:55 MA
light utility - 5,000 lb
12' lg.

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	4	9	U	L	0	1	2	1	2	L	9	0	0	0	0	0	1
CONVERTED VALUES from TABLE A (below)	4	9	8	3	0	1	2	1	0	3	5	0	0	0	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	32	63	48	15	0	3	4	10	0	27	40	0	0	0	0	0	2

SUM OF PRODUCTS = 244

SUM OF PRODUCTS = 244 WHOLE NUMBER 22 DECIMAL 19
 DIVIDED BY 11

A-1	G-7	N-8	V-8
B-2	H-6	P-7	W-6
C-3	J-1	R-9	X-7
D-4	K-2	S-2	Y-6
E-5	L-3	T-3	Z-9
F-6	M-4	U-6	

TABLE A

NOTE: Numerical characters from actual VIN are used in check digit calculation. Alphabetical characters are converted to numerical, according to TABLE A values.

# DECIMAL IS	CHECK SUM IS	# DECIMAL IS	CHECK SUM IS
00	= 1	50	= 6
10	= 2	60	= 7
20	= 3	70	= 8
30	= 4	80	= 9
40	= 5	90	= X
		00	= 0

TABLE 1

EXAMPLE

EXAMPLE
ABC Trailers, Inc. builds a flat bed standard series trailer with a 16 foot bed length on two axles at a plant in Cleveland, Ohio. What is the VIN coding for the trailer?

Since ABC manufactures less than 500 units per year, SAE assigned ABC a six digit number as follows: 1A9347 (1A9 goes in columns 1-3 and 347 goes in columns 12-14). ABC has elected to code body type in column 4, series in column 5, length in columns 6 and 7 and number of axles in column 8. (The characters utilized and their placement are determined by the manufacturer, but must include all required attributes for vehicle type.) ABC's coding for vehicle attributes are: Type—F=flatbed, U=utility, Series/body type—S=standard, P=special, Length—actual overall bed length in feet (09, 12, 16, etc.) and number of axles—1=single, 2=tandem etc. The letter F designates the 1985 model year and ABC uses the letter C for the location of their only plant, in Cleveland.

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	1	A	9	F	S	1	6	2	5	F	C	3	4	7	0	0	1
CONVERTED VALUES FROM TABLE A	1	1	9	6	2	1	6	2	0	6	3	3	4	7	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	8	7	54	30	8	3	12	20	0	54	24	21	24	35	0	0	2

SUM OF PRODUCTS = **302**

302
 DIVIDED BY 11

SUM OF PRODUCTS =

27
 WHOLE NUMBER

.

48
 DECIMAL

Since the check digit calculation for ABC Trailers resulted in a decimal value of 45, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17 digit VIN requirements.

49qt utility - 3,000 lb
10' long

CHECK DIGIT CALCULATIONS

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	U	9	U	L	0	1	0	1	9	L	E	0	0	0	0	0	1
CONVERTED VALUES from TABLE A (below)	4	9	8	3	0	1	0	1	0	3	5	0	0	0	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	32	63	48	15	0	3	0	10	0	27	40	0	0	0	0	0	2

SUM OF PRODUCTS: **240**

SUM OF PRODUCTS: **240**
DIVIDED BY 11 = **21** WHOLE NUMBER, **82** DECIMAL

ALPHABETIC TO NUMERIC CONVERSION VALUES

A=1	G=7	M=5	V=6
B=2	H=8	P=7	W=8
C=3	J=1	R=9	X=7
D=4	K=2	S=2	Y=8
E=5	L=3	T=3	Z=8
F=6	N=4	U=4	

TABLE A

NOTE: Numerical characters from actual VIN are used in check digit calculation. Alphabetical characters are converted to numerical, according to TABLE A values

IF DECIMAL IS	CHECK DIGIT	IF DECIMAL IS	CHECK DIGIT
00	= 1	50	= 6
01	= 2	51	= 7
02	= 3	52	= 8
03	= 4	53	= 9
04	= 5	54	= X
		55	= 0

TABLE B

EXAMPLE

ABC Trailers, Inc. builds a flat bed standard series trailer with a 16 foot bed length on two axles at a plant in Cleveland, Ohio. What is the VIN coding for this trailer?

Since ABC manufactures less than 500 units per year, SAE assigned ABC a six digit number as follows 1A9347 (1A9 goes in columns 1-3 and 347 goes in columns 12-14). ABC has elected to code body type in column 4, series in column 5, length in columns 6 and 7 and number of axles in column 8. (The characters utilized and their placement are determined by the manufacturer, but must include all required attributes for vehicle type). ABC's coding for vehicle attributes are: Type—F=flatbed, U=utility. Series/body type—S=standard, P=special. Length—actual overall bed length in feet (06, 12, 16, etc.) and number of axles—1=single, 2=tandem etc. The letter F designates the 1985 model year and ABC uses the letter C for the location of their only plant, in Cleveland.

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	1	A	9	F	S	1	6	2	5	F	C	3	4	7	0	0	1
CONVERTED VALUES from TABLE A	1	1	9	6	2	1	6	2	0	6	3	3	4	7	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	8	7	54	30	8	3	12	20	0	54	24	21	24	35	0	0	2

SUM OF PRODUCTS: **302**

SUM OF PRODUCTS: **302**
DIVIDED BY 11 = **27** WHOLE NUMBER, **45** DECIMAL

Since the check digit calculation for ABC Trailers resulted in a decimal value of 45, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17 digit VIN requirements.

4

Light Utilities - 3,000 lb
8'19.

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	4	9	4	2	0	0	8	1	1	L	E	0	0	0	0	0	1
CONVERTED VALUES FROM TABLE A (below)	4	9	8	3	0	0	8	1	0	3	5	0	0	0	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	32	63	48	15	0	0	16	10	0	27	40	0	0	0	0	0	2

SUM OF PRODUCTS = **253**

$$\frac{\boxed{253}}{\text{DIVIDED BY } 11} = \frac{\text{SUM OF PRODUCTS}}{\text{WHOLE NUMBER}} = \frac{\boxed{23}}{\text{DECIMAL}} = \boxed{00} \quad \langle \Rightarrow \rangle$$

ALPHABETIC TO NUMERIC CONVERSION VALUES

A-1	G-7	H-8	V-8
J-2	M-8	P-7	W-6
C-3	J-1	R-8	X-7
D-4	K-2	S-2	Y-8
E-5	L-3	T-3	Z-9
F-6	M-4	U-4	

TABLE A

IF DECIMAL IS	CHECK SHOT	IF DECIMAL IS	CHECK SHOT
.05	= 1	.65	= 6
.10	= 2	.75	= 7
.27	= 3	.72	= 8
.30	= 4	.81	= 9
.45	= 5	.90	= X
		.90	= 0

TABLE 2

NOTE: Numerical characters from actual VIN are used in check digit calculation. Alphabetical characters are converted to numerical, according to TABLE A values.

EXAMPLE

EXAMPLE
ABC Trailers Inc. builds a flat bed standard series trailer with a 16 foot bed length on two axles at a plant in Cleveland, Ohio. What is the VIN coding for this trailer?

Since ABC manufactures less than 300 units per year, SAE assigned ABC a six digit number as follows: 1A9347 (1A9 goes in columns 1-3 and 347 goes in columns 12-14). ABC has elected to code body type in column 4, series in column 5, length in columns 6 and 7 and number of axles in column 8. (The characters utilized and their placement are determined by the manufacturer, but must include all required attributes for vehicle type). ABC's coding for vehicle attributes are: Type—F = flatbed, U = utility, Series/body type—S = standard, P = special, Length—actual overall bed length in feet (08, 12, 16, etc.) and number of axles—1 = single, 2 = tandem etc. The letter F designates the 1985 model year and ABC uses the letter C for the location of their only plant, in Cleveland.

- CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	1	A	9	F	S	1	6	2	5	F	C	3	4	7	0	0	1
CONVERTED VALUES FROM TABLE A	1	1	9	6	2	1	6	2	0	6	3	3	4	7	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	8	7	54	30	8	3	12	20	0	54	24	21	24	35	0	0	2

SUM OF PRODUCTS = 302

SUM OF PRODUCTS = 302

WHOLE NUMBER 27

DECIMAL 49

302 DIVIDED BY 11

Since the check digit calculation for ABC Trailers resulted in a decimal value of 48, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17-digit VIN requirements.

1. Carriers/heavy duty 1,000 lb.

CHECK DIGIT CALCULATIONS

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	4	9	U	C	0	1	6	2	4	L	E	0	0	0	0	0	1
CONVERTED VALUES from TABLE A (below)	4	9	8	3	0	1	6	2	0	3	5	0	0	0	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	32	63	48	15	0	3	12	20	0	27	13	0	0	0	0	0	2

SUM
OF
PRODUCTS

$$\frac{235}{11} = 21 \text{ WHOLE NUMBER } 37 \text{ DECIMAL}$$

ALPHABETIC TO NUMERIC CONVERSION VALUES

A=1	G=7	M=9	V=6
B=2	H=8	N=0	W=5
C=3	J=1	R=3	X=7
D=4	K=2	S=2	Y=8
E=5	L=3	T=3	Z=9
F=6	M=4	U=4	

TABLE A

NOTE: Numerical characters from actual VIN are used in check digit calculation. Alphabetical characters are converted to numerical, according to TABLE A values

DECIMAL DIGIT	CHECK DIGIT	DECIMAL DIGIT	CHECK DIGIT
00	= 1	50	= 6
10	= 2	60	= 7
20	= 3	70	= 8
30	= 4	80	= 9
40	= 5	90	= X
		00	= 0

TABLE B

EXAMPLE

ABC Trailers Inc. builds a flat bed standard series trailer with a 16 foot bed length on two axles at a plant in Cleveland, Ohio. What is the VIN coding for this trailer?

Since ABC manufactures less than 500 units per year, SAE assigned ABC a six digit number as follows 1AB347 (1AB goes in columns 1-3 and 347 goes in columns 12-14) ABC has elected to code body type in column 4, series in column 5, length in columns 6 and 7 and number of axles in column 8 (The characters utilized and their placement are determined by the manufacturer, but must include all required attributes for vehicle type) ABC's coding for vehicle attributes are Type—F=flatbed, U=utility, Series/body type—S=standard, P=special Length—actual overall bed length in feet (00, 12, 16, etc.) and number of axles—1=single, 2=tandem etc. The letter F designates the 1985 model year and ABC uses the letter C for the location of their only plant, in Cleveland

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	1	A	9	F	S	1	6	2	5	F	C	3	4	7	0	0	1
CONVERTED VALUES from TABLE A	1	1	9	6	2	1	6	2	0	6	3	3	4	7	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	8	7	54	30	8	3	12	20	0	54	24	21	24	35	0	0	2

SUM
OF
PRODUCTS

$$\frac{302}{11} = 27 \text{ WHOLE NUMBER } 45 \text{ DECIMAL}$$

Since the check digit calculation for ABC Trailers resulted in a decimal value of 45, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17 digit VIN requirements

6

CHECK DIGIT CALCULATIONS

-CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	4	9	Y	H	0	2	0	3	2	L	E	0	0	0	0	0	1
CONVERTED VALUES FROM TABLE A (PAGE 1)	4	9	8	8	0	2	0	3	0	3	5	0	0	0	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2
PRODUCT (Value x Multiplier)	32	63	48	40	0	6	0	30	0	27	40	0	0	0	0	0	2

SUM OF PRODUCTS = 288

$$\frac{\boxed{288}}{\text{DIVIDED BY } 11} = \frac{\text{SUM OF PRODUCTS}}{\text{WHOLE NUMBER}} = \boxed{26} \text{ . } \boxed{19} \text{ DECIMAL}$$

ALPHABETIC TO NUMERIC CONVERSION VALUES

A-1	G-7	H-8	V-8
H-2	M-8	P-7	W-4
C-3	J-1	R-9	X-7
D-4	K-2	S-2	Y-0
E-5	L-3	T-3	Z-9
F-6	M-4	U-6	

TABLE A

NOTE. Numerical characters from actual VIN are used in check digit calculation. Alphabetical characters are converted to numerical, according to TABLE A values.

IF DECIMAL IS	CHECK SIGHT	IF DECIMAL IS	CHECK SIGHT
00	= 1	60	= 6
10	= 2	70	= 7
20	= 3	80	= 8
30	= 4	90	= 9
40	= 5	00	= X
		00	= 0

TABLE 10

EXAMPLE

ABC Trailers Inc. builds a flat bed standard series trailer with a 18 foot bed length on two axles at a plant in Cleveland. One What is the VIN coding for this trailer?

Since ABC manufactures less than 500 units per year, SAE assigned ABC a six digit number as follows: 1A8347 (1A8 goes in columns 1-3 and 347 goes in columns 12-14). ABC has elected to code body type in column 4, series in column 5, length in columns 6 and 7 and number of axles in column 8. (The characters utilized and their placement are determined by the manufacturer, but must include all required attributes for vehicle type.) ABC's coding for vehicle attributes are: Type—F = Ketchup, U = Utility, Series/body type—S = standard, P = special, Length—actual overall body length in feet (08, 12, 16, etc.) and number of axles—1 = single, 2 = tandem etc. The letter F designates the 1985 model year and ABC uses the letter C for the location of their only plant, in Cleveland.

CHECK DIGIT

CHARACTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ACTUAL VIN	1	A	9	F	S	1	6	2	5	F	C	3	4	7	0	0	1
CONVERTED VALUES FROM TABLE A	1	1	9	6	2	1	6	2	0	5	3	3	4	7	0	0	1
MULTIPLIER (X)	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
PRODUCT (VALUE X MULTIPLIER)	8	7	54	30	8	3	12	20	0	54	24	21	24	35	0	0	2

SUM
OF
PRODUCTS = 302

$$\frac{302}{11} = \frac{\text{SUM OF PRODUCTS}}{\text{DIVIDED BY}} = \frac{\text{WHOLE NUMBER } 27}{\text{DECIMAL } 45}$$

Since the check digit calculation for ABC Trailers resulted in a decimal value of 48, Table B shows that the check digit is 5. The value 5, placed in position 9 of the actual VIN, completes the 17 digit VIN requirements.