

## 11 CSR 50-2.404 Test Record Specifications

(1) The test record shall document all of the vehicle identification, inspection data information gathered during the inspection and emissions test. The table in section (5) identifies the meaning of the characters that inspector mechanics are allowed to enter.

(2) Section (6) contains the format of the test record. It is critical that manufacturers structure the test record file exactly as indicated in the table so that data can be easily analyzed at the state. The column titled, Mech/Comp Entry, indicates if the inspector mechanic will be entering the data for that field or if the analyzer will do it (based on internal file information or information derived from testing). Data entered by the inspector mechanic may be entered through the keyboard or the bar code scanner.

(3) The calibration data shall be stored in a separate file from the vehicle inspection and test data. The calibration file shall be named, CAL.DAT, and the file shall be stored in the C:\MASDATA directory. Section (7) contains the list of calibration test data.

(4) The state audit data file shall be stored in a separate file. The state audit file shall be named AUDIT.DAT and shall be stored in the C:\MASDATA directory. Section (8) contains the list of state audit data.

(5) Table: Field Code Identification.

Field Code Identification

<u>Field</u>	<u>Codes</u>	<u>Definition</u>
Date of Inspection	MMDDYY	M))month D))day Y))year
Inspection Start Time	HHMM	H))hours M))minutes
Vehicle Type	A,B,C,H,S,E,T,M	A))passenger car B))light-duty truck C))heavy-duty truck H))specially constructed vehicle S))school bus E))special education school bus T))trailer M))motorcycle

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Fuel Type	G,P,D,S,V	G))gasoline P))liquid/compressed propane gas (LPG/CPG) D))dual fuel (gasoline and liquid/compressed propane gas) S))diesel V))electric
Odometer	0))999,999 or NONE	NOTE))If the mechanic enters None, none or NONE, the analyzer shall translate this to NONE for the test record.
Safety Inspection Results	P,F,R,N,X,Y	P))pass on initial inspection F))fail R))pass on reinspection N))not applicable X))pass on referee authorization after an initial inspection failure Y))pass on referee authorization after a reinspection failure
Safety Inspection Disposition	P,F	P))pass all safety items F))fail on at least one safety item
Standards Category	1,2	1))passenger car or light-duty truck 2))specially constructed vehicle
Preconditioning	1,2,9	1))preconditioning sequence 1 2))preconditioning sequence 2 9))no preconditioning
Emission Inspection Results	P,F,X	P))pass F))fail X))pass on referee authorization

### (6) Test Data Format.

(A) The periods in the decimal point/colon position shall go on the data file, and the data shall be oriented as shown in this column. No entry to the left of the decimal point/colon shall be replaced by ASCII spaces except for the month on the date item where zeros shall be used, that is, February shall be 02. No entry to the right of the decimal point shall be replaced by zeros.

1. Positive values do not require a sign. Negative values require a sign in the leftmost (first) position. Example, as all numeric-only field are right justified and padded with zeros, a five character field containing the value -2.1 would be written to the test record file as "-02.1". An extra byte has been provided in the test record where a negative value might occur.

2. For the date: M = month, D = day, Y = year (use last two digits of the year), that is, February 3, 1988 shall be 020388.

3. Missouri Analyzer System (MAS) Number: The first character shall be alphas denoting the manufacturer's name. The initials chosen shall be subject to approval by the state to prevent duplication. The right most four (4) numeric characters shall be right justified, with zeros for unused spaces on the left, that is, serial number 23 shall be X023 for manufacturer XX.

(B) The results of the leak check shall go to the CAL.DAT file. The results will take eleven (11) bytes; six (6) for the date, four (4) for the time and one (1) for the results. A P shall be entered in the results for a Pass and F for a Fail. If a leak check is performed without a gas calibration, all gas span items shall be filled with blank spaces.

(C) The HC span gas shall be entered in terms of propane. HC zero and span readings shall be in terms of hexane.

(D) Analyzers shall store the current test record in field number 1 of the test record. The field shall be six (6) numeric characters in length and entry into the field shall be done by the computer software. The test record number shall be a consecutive number from the first vehicle inspection performed on the analyzer through the maximum number possible before automatic reset. For example, the first test record would be 000001, the last test record before reset would be 999999. The unused test record numbers shall be stored in a protected file for access only by the analyzer software, and shall require controlled access available only to the manufacturer's service technician.

(E) Table: Missouri MAS Test Record Format Field.

Missouri MAS Test Record Format Field

<u>Field No.</u>	<u>Field Description</u>	<u>Field Length</u>	<u>Field Contents</u>	<u>Meth/Comp Entry</u>	<u>Field Justification</u>
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INSPECTION AND STATION INFORMATION

1.	Test Record No.	6	numeric	C	R
2.	Station Number	7	alphanumeric	C	R
3.	MAS Number	4	alphanumeric	C	
4.	Updated Software Version #	4	numeric	C	R
5.	Software Ver. #	4	numeric	C	R
6.	Loaner Unit	1	alpha (Y,N)	M	

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7.	Inspection Selected	1	numeric	M	
8.	Init. Ins. Inspector)) Mechanic Number	9	numeric	M	L
9.	Reinsp. Inspector)) Mechanic Number	9	numeric	M	L
10.	LET Inspector)) Mechanic Number	9	numeric	M	L
11.	Waiver Inspector)) Mechanic Number	9	numeric	M	L
12.	Init. Insp. Date	6	numeric (MMDDYY)	C	L
13.	Reinsp. Date	6	numeric (MMDDYY)	C	L
14.	LET Date	6	numeric (MMDDYY)	C	L
15.	Waiver Date	6	numeric (MMDDYY)	C	L
16.	Ref. Init. Ins. Inspector Mechanic Number	9	numeric	M	L
17.	Ref. Reinsp. Inspector Mechanic Number	9	numeric	M	L
18.	Ref. Init. Ins. Date	6	numeric (MMDDYY)	C	L
19.	Ref. Reinsp. Date	6	numeric (MMDDYY)	C	L
20.	Ref. Init. Ins. Time	4	numeric (HHMM)	C	L
21.	Ref. Reinsp. Time	4	numeric (HHMM)	C	L
		<u>4</u>			
		125 bytes			

### VEHICLE INFORMATION

22.	VIN bar code read	1	alpha (Y,N)	C	
23.	VIN number	17	alphanumeric	M	L
24.	Vehicle Type	1	alpha (A,B,C,H,S,E,T,M)		
25.	GVWR	1	alpha (Y,N)	M	
26.	GVW	1	alpha (Y,N)	M	
27.	Vehicle Model Year	2	numeric	M	R
28.	Vehicle Make	20	alphanumeric	M	L
29.	Fuel Type	1	alpha (G,P,D,S,V)	M	
30.	Odometer Reading	6	numeric (or NONE)	M	R
31.	Idle RPM target	4	numeric	M	R
		<u>4</u>			
		54 bytes			

### OWNER INFORMATION

32.	Last Name	15	alphanumeric	M	L
33.	First Name	8	alphanumeric	M	L
34.	Street	20	alphanumeric	M	L
35.	City	15	alphanumeric	M	L
36.	County	1	numeric	M	
37.	Zip Code	5	numeric	M	R
		<u>5</u>			
		64 bytes			

136.	O41 Exhst: Leaks	1	alpha (P,F,R,N,X,Y)	M	
137.	O42 Exhst: Mounting	1	alpha (P,F,R,N,X,Y)	M	
138.	O43 Exhst: Other	1	alpha (P,F,R,N,X,Y)	M	
139.	O51 Fuel Leakage	1	alpha (P,F,R,N,X,Y)	M	

### EMISSIONS TEST

242.	Standards Category	1	numeric	C	
243.	Preconditioning 1	1	numeric	M,C	
244.	Idle RPM Mode 1	4	numeric	C,R	
245.	HC Mode 1	4	numeric PPM (XXXX)	C	R
246.	CO Mode 1	5	numeric % (XX.XX)	C	R
247.	CO <sub>2</sub> Mode 1	4	numeric % (XX.X)	C	R
248.	O <sub>2</sub> Mode 1	4	numeric % (XX.X)	C	R
249.	Emis. Result Mode 1	1	alpha (P,F,X)	C	

250.	Preconditioning 2	1	numeric	M,C	
251.	Idle RPM Mode 2	4	numeric	C	R
252.	HC Mode 2	4	numeric PPM (XXXX)	C	R
253.	CO Mode 2	5	Numeric % (XX.XX)	C	R
254.	CO <sub>2</sub> Mode 2	4	numeric % (XX.X)	C	R
255.	O <sub>2</sub> Mode 2	4	numeric % (XX.X)	C	R
256.	Emis. Result Mode 2	1	alpha (P,F,X)	C	
257.	Preconditioning 3	1	numeric	M,C	
258.	Idle RPM Mode 3	4	numeric	C	R
259.	HC Mode 3	4	numeric PPM (XXXX)	C	R
260.	CO Mode 3	5	Numeric % (XX.XX)	C	R
261.	CO <sub>2</sub> Mode 3	4	numeric % (XX.X)	C	R
262.	O <sub>2</sub> Mode 3	4	numeric % (XX.X)	C	
263.	Emis. Result Mode 3	<u>1</u>	alpha (P,F,X)	C	
		70 bytes			

INSPECTION/REINSPECTION REPAIR COSTS:

264.	Repair code 1	3	alphanumeric	C	L
265.	Repair cost 1	3	numeric	M	L
266.	Repair code 2	3	alphanumeric	C	L
267.	Repair cost 2	3	numeric	M	L
268.	Repair code 3	3	alphanumeric	C	L
269.	Repair cost 3	3	numeric	M	L
270.	Repair code 4	3	alphanumeric	C	L
271.	Repair cost 4	3	numeric	M	L
272.	Repair code 5	3	alphanumeric	C	L
273.	Repair cost 5	3	numeric	M	L
274.	Repair code 6	3	alphanumeric	C	L
275.	Repair cost 6	3	numeric	M	L
276.	Repair code 7	3	alphanumeric	C	L
277.	Repair cost 7	3	numeric	M	L
278.	Repair code 8	3	alphanumeric	C	L
279.	Repair cost 8	3	numeric	M	L
280.	Repair code 9	3	alphanumeric	C	L
281.	Repair cost 9	3	numeric	M	L
282.	Repair code 10	3	alphanumeric	C	L
283.	Repair cost 10	3	numeric	M	L
284.	Repair code 11	3	alphanumeric	C	L
285.	Repair cost 11	3	numeric	M	L
286.	Repair code 12	3	alphanumeric	C	L
287.	Repair cost 12	3	numeric	M	L
288.	Repair code 13	3	alphanumeric	C	L
289.	Repair cost 13	3	numeric	M	L
290.	Repair code 14	3	alphanumeric	C	L
291.	Repair cost 14	3	numeric	M	L
292.	Repair code 15	3	alphanumeric	C	L
293.	Repair cost 15	3	numeric	M	L
294.	Repair code 16	3	alphanumeric	C	L
295.	Repair cost 16	3	numeric	M	L
296.	Repair code 17	3	alphanumeric	C	L
297.	Repair cost 17	3	numeric	M	L
298.	Repair code 18	3	alphanumeric	C	L
299.	Repair cost 18	3	numeric	M	L
300.	Repair code 19	3	alphanumeric	C	L
301.	Repair cost 19	3	numeric	M	L
302.	Repair code 20	3	alphanumeric	C	L
303.	Repair cost 20	3	numeric	M	L
304.	Repair code 21	3	alphanumeric	C	L
305.	Repair cost 21	3	numeric	M	L
306.	Repair code 22	3	alphanumeric	C	L
307.	Repair cost 22	3	numeric	M	L

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308.	Repair code 23	3	alphanumeric	C	L
309.	Repair cost 23	3	numeric	M	L
310.	Repair code 24	3	alphanumeric	C	L
311.	Repair cost 24	3	numeric	M	L
312.	Repair code 25	3	alphanumeric	C	L
313.	Repair cost 25	3	numeric	M	L
314.	Repair code 26	3	alphanumeric	C	L
315.	Repair cost 26	3	numeric	M	L
316.	Repair code 27	3	alphanumeric	C	L
317.	Repair cost 27	3	numeric	M	L
318.	Repair code 28	3	alphanumeric	C	L
319.	Repair cost 28	3	numeric	M	L
320.	Repair code 29	3	alphanumeric	C	L
321.	Repair cost 29	<u>3</u>	numeric	M	L

174 bytes

### LOW EMISSION TUNE-UP (LET)

322.	LET performed	1	alpha (Y,N)	M	
323.	LET repair cost	<u>3</u>	numeric	M	R

4 bytes

### INSPECTION RESULTS

324.	Start Insp. Time 1	4	numeric (HHMM)	C	L
325.	End Safety Time 2	4	numeric (HHMM)	C	L
326.	Start Emis. Time 3	4	numeric (HHMM)	C	L
327.	End Emis. Time 4	4	numeric (HHMM)	C	L
328.	Start Re-Ins. Time 5	4	numeric (HHMM)	C	L
329.	End Re-Saf. Time 6	4	numeric (HHMM)	C	L
330.	Start Re-Emis. Time 7	4	numeric (HHMM)	C	L
331.	End Re-Ins. Time 8	4	numeric (HHMM)	C	L
332.	Start LET Time 9	4	numeric (HHMM)	C	L
333.	End LET Time 10	4	numeric (HHMM)	C	L
334.	Multiple Certif. Count: Initial	2	numeric	C	R
335.	Multiple Certif. Count: Reinsp.	2	numeric	C	R
336.	Multiple Certif. Count: LET	2	numeric	C	R
337.	Multiple Certif. Count: Waiver	2	numeric	C	R
338.	Ref. Init. Ins. Authorization	1	alpha (0 or blank)	M	
339.	Ref. Init. Ins. Author. Number	13	alphanumeric	M	L
340.	Ref. Reinsp. Authorization	1	alpha (0 or blank)	M	
341.	Ref. Reinsp. Author. Number	13	alphanumeric	M	L
342.	Init. Cert Number	13	alphanumeric	C	L
343.	Reinsp. Cert Number	13	alphanumeric	C	L
344.	LET Cert Number	13	alphanumeric	C	L
345.	Waiver Cert Number	13	alphanumeric	C	L
346.	Sticker/Decal #	10	alphanumeric	M	L
347.	Inspection Disp.	1	alpha	C	
348.	Abort code	1	alphanumeric	M,C	
349.	Future Expansion	<u>55</u>	alphanumeric		

195 bytes

TOTAL 900 bytes

(7) Table: Calibration Test Data

<u>Information</u>	<u>Computer</u>	<u>Field Length</u>	<u>Field Length</u>	<u>Field Justification</u>
1.	Span Test Indicator [The Span Test Indicator shall always be a -(minus) sign.]	1		
2.	Station Number	7		L
3.	MAS Number	4		L
4.	Date	6	MMDDYY	
5.	Start Time	4	XX:XX	
6.	Hexane/Propane Ratio	4	.XXX	
7.	HC Calib. Upper Limit	4		R
8.	HC Calib. Lower Limit	4		R
9.	CO Calib. Upper Limit	5	XX.XX	
10.	CO Calib. Lower Limit	5	XX.XX	
11.	CO <sub>2</sub> Calib. Upper Limit	4	XX.X	
12.	CO <sub>2</sub> Calib. Lower Limit	4	XX.X	
13.	O <sub>2</sub> Upper Calib. Limit	4	XX.X	
14.	O <sub>2</sub> Lower Calib. Limit	4	XX.X	
15.	HC Span Gas	4	XXXX	R
16.	HC Zero Reading	5	XXXXX	R
17.	HC Span Reading	5	XXXXX	R
18.	CO Span Gas	5	XX.XX	
19.	CO Zero Reading	6	XXX.XX	
20.	CO Span Reading	5	XX.XX	
21.	CO <sub>2</sub> Span Gas	4	XX.X	
22.	CO <sub>2</sub> Zero Reading	5	XXX.X	
23.	CO <sub>2</sub> Span Reading	5	XXX.X	
24.	O <sub>2</sub> Span Gas (Air)	4	XX.X	
25.	O <sub>2</sub> Zero Reading	4	XX.X	
26.	O <sub>2</sub> Span Reading	4	XX.X	
27.	HC Mid Span Gas	4	XXXX	R
28.	HC Mid Span Reading	5	XXXXX	R
29.	CO Mid Span Gas	5	XX.XX	
30.	CO Mid Span Reading	6	XXX.XX	
31.	CO <sub>2</sub> Mid Span Gas	5	XXX.X	
32.	CO <sub>2</sub> Mid Span Reading	5	XXX.X	
33.	End Time	4	XXXX	R
34.	Leak Check Start Time	4	XXXX	R
35.	Leak Check Pass/Fail	<u>1</u>	X	
Total bytes		155		

(8) Table: State Audit File.

<u>Field Description</u>	<u>Field Length</u>	<u>Field Contents</u>	<u>Meth/Comp Entry</u>	<u>Field Justification</u>
Practical/Demo Test Data				
1. Inspect Mechanic SSN	9	numeric	M	L
2. Inspector Mechanic Name	30	alphanumeric	M	L
3. MVI Inspector Number	9	numeric	M	L
4. Score	3	numeric	M	R
5. Pass/Fail Indicator	1	alpha (P,F)	M	

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### Station Performance Report Data

6.	Time Arrived	4	numeric (HHMM)	M	L
7.	Time MVI Started	4	numeric (HHMM)	M	L
8.	Time MVI Ended	4	numeric (HHMM)	C	L
9.	MVI Inspector SSN	9	numeric	M	L
10.	Badge Number	4	alphanumeric	M	R
11.	Future Expansion	9	alphanumeric	N/A	N/A
12.	Station Number	7	alphanumeric	C	L
13.	Analyzer Number	4	alphanumeric	C	L
14.	Name Contacted))Last	17	alphanumeric	M	L
15.	Name Contacted))First	10	alphanumeric	M	L
16.	Date of Last Report	6	numeric (MMDDYY)	C	L
17.	Today's Date	6	numeric (MMDDYY)	C	L
18.	Last Date Gas Calibration	6	numeric (MMDDYY)	C	L
19.	Number of Practical Tests Performed	2	numeric	M	R
20.	Number of Demo Tests Performed	2	numeric	M	R
21.	Official Sign	1	alpha (P,F)	M	
22.	Station Permit	1	alpha (P,F)	M	
23.	Inspector Mechanic Permit	1	alpha (P,F)	M	
24.	MVI-6 Poster	1	alpha (P,F)	M	
25.	Bonded Brake Gauge	1	alpha (P,F)	M	
26.	Riveted Brake Gauge	1	alpha (P,F)	M	
27.	Disc Pad Gauge	1	alpha (P,F)	M	
28.	Ball Joint Gauge	1	alpha (P,F)	M	
29.	Lift/Jack	1	alpha (P,F)	M	
30.	Sticker/Decal Punch	1	alpha (P,F)	M	
31.	Scraper	1	alpha (P,F)	M	
32.	Measuring Tape	1	alpha (P,F)	M	
33.	Fuel Inlet Restrictor	1	alpha (P,F)	M	
34.	Sticker/Decal Supply	1	alpha (P,F)	M	
35.	Inspector Available	1	alpha (P,F)	M	
36.	Inspection Area Clean	1	alpha (P,F)	M	
37.	Inspection Observed	1	alpha (P,F)	M	
38.	Security (Station Records)	1	alpha (P,F)	M	
39.	Authorization for Repairs	1	alpha (P,F)	M	
40.	Signatures on Forms	1	alpha (P,F)	M	
41.	Telephone as per Regulation	1	alpha (P,F)	M	
42.	Remarks	150	alphanumeric	M	L
43.	Inspector Warned	1	alpha (X or Blank)	M	
44.	Owner/Manager Warned	1	alpha (X or Blank)	M	
45.	Lockout Issued	1	alpha (X or Blank)	M	

### Station and Inspector Mechanic Data

46.	Station Number	7	alphanumeric	C	R
47.	Inspector Mechanic Name	30	alphanumeric	M	L
48.	Inspector Mechanic SSN	9	numeric	M	L
49.	Maintenance Indicator	<u>1</u>	alpha (A,M,D)	M	
	Total Bytes	367			



