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REPORT NO. 124-KAR-03-05

HS#
636782

**SAFETY COMPLIANCE TESTING
FOR FMVSS 124**

ACCELERATOR CONTROL SYSTEMS

2003 TOYOTA COROLLA
4 DOOR SEDAN

NHTSA NO. C35104

PREPARED BY:
KARCO ENGINEERING
9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301



July 18, 2003

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
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Prepared by: Matthew A. Ivory Date: July 18, 2003
Mr. Matthew A. Ivory, Project Engineer
KARCO Engineering

Reviewed by: Jerry L. Kratzke Date: July 18, 2003
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Approved by: Frank D. Richardson Date: July 18, 2003
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

FINAL REPORT ACCEPTED BY:

Accepted By: H. J. Fine

Acceptance Date: 9/10/03

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TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1	Purpose of Compliance Test	1
2	Compliance Test Procedure and Data Summary	2
3	Test Data	5
<u>Appendix</u>		
A	Photographs	A
B	Data Plots	B
C	Test Equipment List and Calibration Information	C

LIST OF PHOTOGRAPHS

<u>Figure</u>		<u>Page</u>
A-1	Front View of Vehicle	A-1
A-2	Left Side View of Vehicle	A-2
A-3	Right Side View of Vehicle	A-3
A-4	Vehicle Certification Label	A-4
A-5	Vehicle's Tire Information Label	A-5
A-6	Vehicle's Engine Compartment	A-6
A-7	Vehicle's Accelerator Pedal Assembly	A-7
A-8	Spring 1 and 2 Located on Vehicle's Accelerator Control System	A-8
A-9	Spring 3 Located on Vehicle's Accelerator Control System	A-9
A-10	Throttle Plate Sensor Located on Vehicle's Accelerator Control System	A-10
A-11	Overall View of Vehicle's Test Setup	A-11
A-12	Close-Up View of Vehicle's Test Setup	A-12
A-13	Instrumentation	A-13
A-14	Severance on Throttle Body	A-14

LIST OF DATA PLOTS

<u>Figure</u>		<u>Page</u>
B-1	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, Normal Operation)	B-1
B-2	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, Normal Operation)	B-2
B-3	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, Normal Operation)	B-3
B-4	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, Normal Operation)	B-4
B-5	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, Normal Operation, Engine Off)	B-5
B-6	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, Normal Operation, Engine Off)	B-6
B-7	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, Normal Operation, Engine Off)	B-7
B-8	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, Normal Operation, Engine Off)	B-8
B-9	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, #1 Spring Disconnected)	B-9
B-10	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, #1 Spring Disconnected)	B-10
B-11	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, #1 Spring Disconnected)	B-11
B-12	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, #1 Spring Disconnected)	B-12
B-13	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, #1 Spring Disconnected, Engine Off)	B-13
B-14	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, #1 Spring Disconnected, Engine Off)	B-14
B-15	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, #1 Spring Disconnected, Engine Off)	B-15

LIST OF DATA PLOTS (continued)

<u>Figure</u>		<u>Page</u>
B-16	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, #1 Spring Disconnected, Engine Off)	B-16
B-17	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, #2 Spring Disconnected)	B-17
B-18	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, #2 Spring Disconnected)	B-18
B-19	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, #2 Spring Disconnected)	B-19
B-20	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, #2 Spring Disconnected)	B-20
B-21	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, #2 Spring Disconnected, Engine Off)	B-21
B-22	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, #2 Spring Disconnected, Engine Off)	B-22
B-23	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, #2 Spring Disconnected, Engine Off)	B-23
B-24	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, #2 Spring Disconnected, Engine Off)	B-24
B-25	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, Severance of Throttle Cable)	B-25
B-26	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, Severance of Throttle Cable)	B-26
B-27	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, Severance of Throttle Cable)	B-27
B-28	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, Severance of Throttle Cable)	B-28
B-29	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, #3 Spring Disconnected, Engine Off)	B-29
B-30	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, #3 Spring Disconnected, Engine Off)	B-30

LIST OF DATA PLOTS (continued)

<u>Figure</u>		<u>Page</u>
B-31	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, #3 Spring Disconnected, Engine Off)	B-31
B-32	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, #3 Spring Disconnected, Engine Off)	B-32
B-33	Throttle Position vs. Time/Engine RPM vs. Time (25% of WOT, Severance of Throttle Cable)	B-33
B-34	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, Severance of Throttle Cable)	B-34
B-35	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, Severance of Throttle Cable)	B-35
B-36	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, Severance of Throttle Cable)	B-36
B-37	Throttle Position vs. Time/Engine RPM vs. Time ((25% of WOT, Severance of Throttle Cable, Engine Off)	B-37
B-38	Throttle Position vs. Time/Engine RPM vs. Time (50% of WOT, Severance of Throttle Cable, Engine Off)	B-38
B-39	Throttle Position vs. Time/Engine RPM vs. Time (75% of WOT, Severance of Throttle Cable, Engine Off)	B-39
B-40	Throttle Position vs. Time/Engine RPM vs. Time (100% of WOT, Severance of Throttle Cable, Engine Off)	B-40

SECTION 1
PURPOSE OF COMPLIANCE TEST

1. PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2003 Toyota Corolla, manufactured by Toyota of New United Motor (MTF), to determine compliance with FMVSS 124, "Accelerator Control Systems". FMVSS 124 establishes requirements for the return of a vehicle's throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a severance or disconnection in the accelerator control system. The purpose of this standard is to reduce the number of deaths and injuries resulting from engine over-speed caused by malfunctions in the accelerator control system.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-124V-06, dated April 20, 2000, and corresponding KARCO Engineering test procedure KTP-124, dated June 13, 2003, except for engine off testing which was authorized by the OVSC to provide additional data. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

This report is organized in sections containing pertinent test information and data tables as follows:

Section 2	-	Compliance Test Procedure and Data Summary
Section 3	-	Test Results
Appendix A	-	Photographs
Appendix B	-	Data Plots
Appendix C	-	Test Equipment List and Calibration Information

SECTION 2
COMPLIANCE TEST PROCEDURE and DATA SUMMARY

2. COMPLIANCE TEST PROCEDURE AND DATA SUMMARY

A 2003 Toyota Corolla was subjected to FMVSS 124 compliance testing. The tests were conducted at KARCO Engineering in Adelanto, California on July 18, 2003. The following tests were performed:

- Inspection
- Time to Return to Idle Position (Complete Normal Operation)
- Time to Return to Idle Position (1st Energy Source Removed)
- Time to Return to Idle Position (2nd Energy Source Removed)
- Time to Return to Idle Position (3rd Energy Source Removed)
- Time to Return to Idle Position (Severance)

The tests were conducted per the FMVSS 124 test procedure. The significant aspects of the test procedure are described in the following paragraphs.

A. INSPECTION

The operation of all adjustable accelerator control systems shall be checked to ascertain that the systems operate correctly. The accelerator control systems shall have at least two sources of energy capable of returning the throttle to the idle.

B. COMPLIANCE TEST EXECUTION (STATIC TESTING OF ACCELERATOR CONTROL SYSTEMS)

B.1 FULLY OPERATIONAL SYSTEM

Continuously record ambient temperature, engine coolant temperature, throttle position versus time and engine RPM versus time for the duration of each test. The accelerator may be depressed by hand or foot pressure or by any other mechanical means. Conduct the tests for 25% WOT, 50% WOT, 75% WOT and 100% WOT. Conduct the test a second time with the engine off.

B.2 DISCONNECTION OF THE FIRST SOURCE OF THROTTLE RETURN ENERGY

Remove one of the throttle return springs. Continuously record ambient temperature, engine coolant temperature, throttle position versus time, and engine RPM versus time for the duration of each test. The accelerator may be depressed by hand or foot pressure or by any other mechanical means. Conduct the tests for 25% WOT, 50% WOT, 75% WOT and 100% WOT. Conduct the test a second time with the engine off. Return the system to original condition.

B.3 DISCONNECTION OF THE SECOND SOURCE OF THROTTLE RETURN ENERGY

Remove the second throttle return spring. Continuously record ambient temperature, engine coolant temperature, throttle position versus time, and engine RPM versus time for the duration of each test. The accelerator may be depressed by hand or foot pressure or by any other mechanical means. Conduct the tests for 25% WOT, 50% WOT, 75% WOT and 100% WOT. Conduct the test a second time with the engine off. Return the system to original condition.

B.4 THIRD SOURCE OF THROTTLE RETURN ENERGY

Remove the second throttle return spring. Continuously record ambient temperature, engine coolant temperature, throttle position versus time, and engine RPM versus time for the duration of each test. The accelerator may be depressed by hand or foot pressure or by any other mechanical means. Conduct the tests for 25% WOT, 50% WOT, 75% WOT and 100% WOT. Conduct the test a second time with the engine off. Return the system to original condition.

B.5 SEVERANCE

Identify the points determined in Section 11.3.4 of the test procedure to be the most critical in the accelerator control system. Induce severance or disconnection in the throttle return linkage. Continuously record ambient temperature, engine coolant temperature, throttle position versus time engine RPM versus time for the duration of each test. The accelerator may be depressed by hand or foot pressure or by any other mechanical means. Conduct the tests for 25% WOT, 50% WOT, 75% WOT and 100% WOT. Conduct the test a second time with the engine off. Return the system to original condition.

B.6 TEST SET-UP

Each series of tests were conducted in the same manner. Throttle plate position was determined by measuring voltage output directly from the throttle position sensor. Engine RPM was obtained with an optical fifth wheel recording speed on an engine belt. The Toyota Corolla was rpm limited and the RPM of the engine remained relatively constant for throttle plate positions beyond a certain point. On data traces, time of release of accelerator pedal and time of severance is time zero (0). % on data trace is percent of throttle maximum rotation where zero is the idle state position. On data traces, RPM time is for RPM to return to approximate steady state idle. Worst case severance was accomplished by disconnecting the accelerator cable from the throttle body and actuating the throttle position with a piece of string. Time zero on the data plots equates to release of string simulating failure.

SECTION 3
TEST DATA

3. TEST DATA

The results of FMVSS 124 compliance tests that were conducted on the 2003 Toyota Corolla on July 18, 2003, to determine compliance with FMVSS 124, "Accelerator Control Systems" are presented in this section.

DATA SHEET NO. 1**VEHICLE INSPECTION AND IDENTIFICATION**

TEST VEHICLE INFORMATION			
Manufacturer	New United Motor MTF	VIN	1NXBR32E93Z115536
Manufacturing Date	11/02	Delivery Date	03/19/03
Dealer	Soutars Toyota	NHTSA No.	C35104
Odometer Reading (mi.)	162	Fuel Type	Gas
Engine Displacement	1.8	Cylinders	4
Transmission	Automatic	Final Drive	Front
Engine Placement	Transverse	Color	Gold
Tire Press./Max. Cap. Front	30 psi	Cold Tire Press. Front	30 psi
Tire Press./Max. Cap. Rear	30 psi	Cold Tire Press. Rear	30 psi
Recommend Tire Size	P185/65R15	Type of Spare	T125/70R16
Tire Size on Vehicle	P155/70R14	Manufacturer	Uniroyal
GVWR	3585	Cargo Capacity	860
GAWR Front	1885	GAWR Rear	1720
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	NO	Tilt Steering	YES
Anti-lock Brakes (ABS)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	YES

DATA SHEET NO. 2

VEHICLE THROTTLE CONTROL INSPECTION

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 – door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	N/A

Determine how many forms of energy are present on the vehicle to return throttle to idle. If more than two, describe the third in the comments below.	3
Describe the first energy source.	Torsion spring mounted on throttle shaft.
Describe the second energy source.	Torsion spring mounted on throttle shaft.
Describe the third energy source.	No
Does vehicle have a return spring on the accelerator pedal?	Additional row torsion spring on accelerator pedal
Describe point of severance.	Throttle cable was disconnected from the throttle shaft.

Comments:

TEST STATUS:	PASSED — x	FAILED —
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RECORDED BY: JESSE FUENTES DATE: 07/18/03

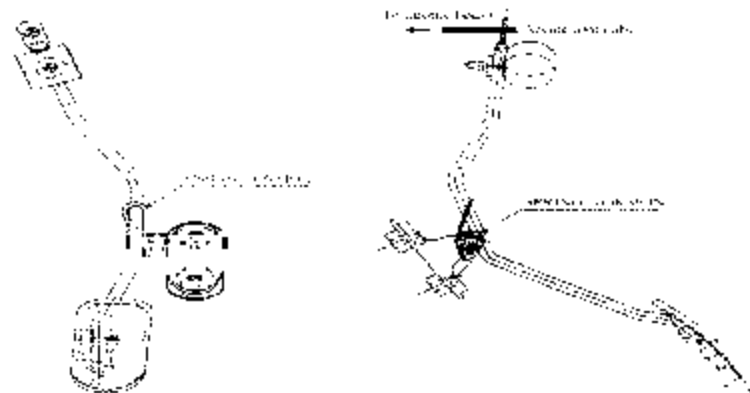
APPROVED BY: MATTHEW A. IVORY DATE: 07/18/03

DATA SHEET NO. 3
MANUFACTURER'S DRAWINGS

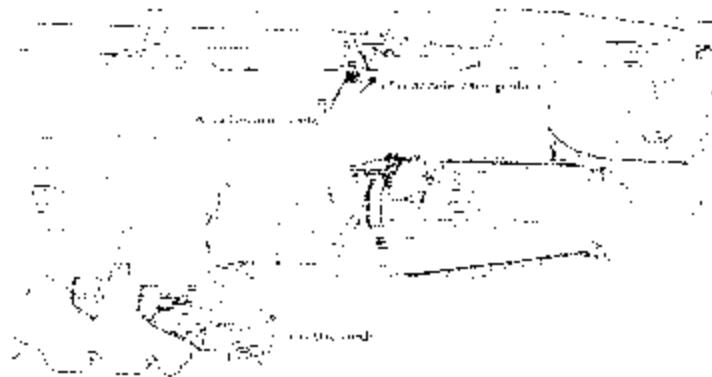
VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	N/A

Accelerator control system without cruise control

(Accelerator pedal)



(Engine mount)

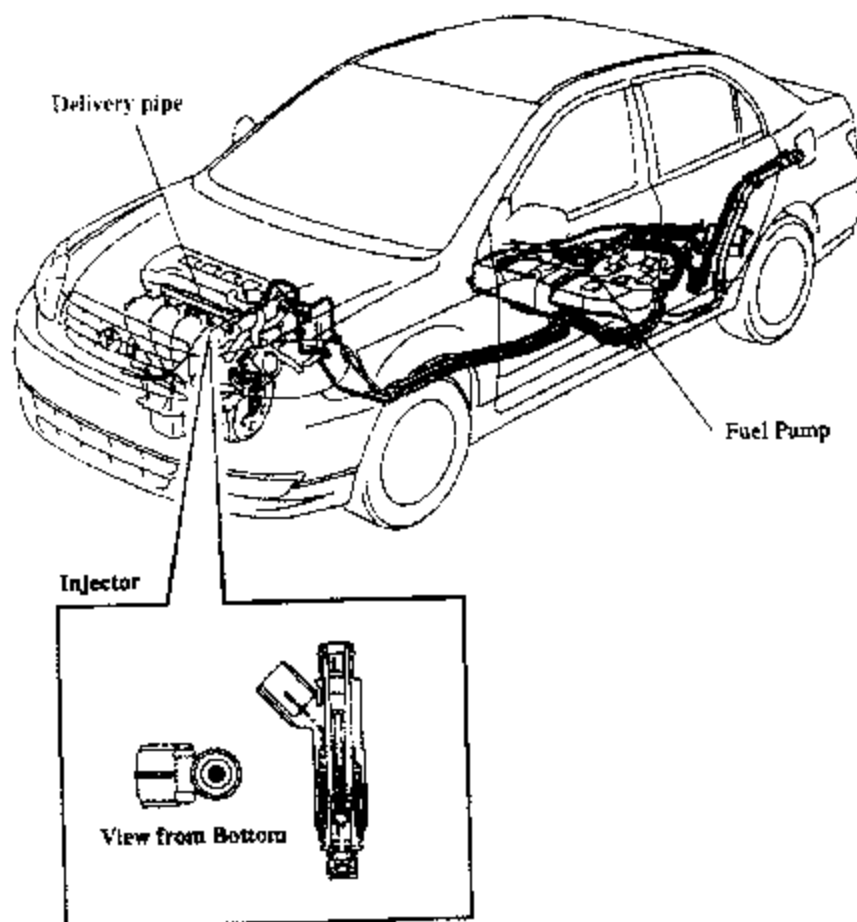


DATA SHEET NO. 3 (continued)

MANUFACTURER'S DRAWINGS

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	N/A

Fuel system for the 2003 Toyota Corolla

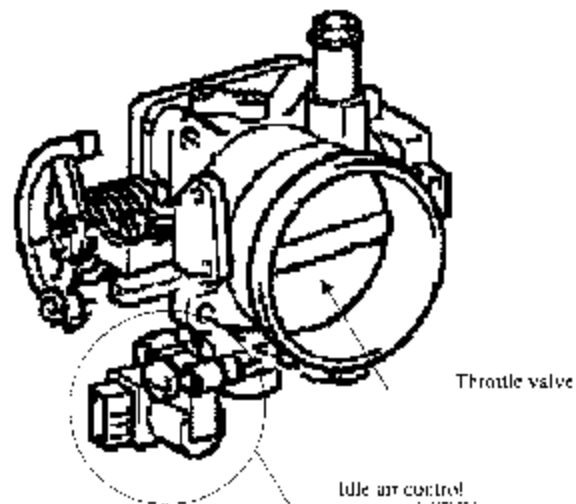


DATA SHEET NO. 3 (continued)

MANUFACTURER'S DRAWINGS

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	N/A

Throttle Body Assy



DATA SHEET NO. 4

TEST EXECUTION

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	35°C

THROTTLE CONTROL SYSTEM CONDITION:				ACCELERATOR CONTROL SYSTEM INTACT, AMBIENT TEMPERATURE, ENGINE ON			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	25.8%	3323.6	92°C	0.0%	55 msec	Pass
2	50%	51.3%	5600.2	92°C	0.0%	120 msec	Pass
3	75%	75.1%	5616.9	92°C	0.0%	130 msec	Pass
4	100%	100.8%	5707.5	92°C	0.0%	160 msec	Pass

THROTTLE CONTROL SYSTEM CONDITION:				ACCELERATOR CONTROL SYSTEM INTACT, AMBIENT TEMPERATURE, ENGINE OFF			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	24.9%	N/A	N/A	0.0%	80 msec	Pass
2	50%	52.6%	N/A	N/A	0.0%	110 msec	Pass
3	75%	75.6%	N/A	N/A	0.0%	140 msec	Pass
4	100%	100.8%	N/A	N/A	0.0%	150 msec	Pass

RETURN TIME REQUIREMENTS:

1 second (1000 msec) for vehicles less than 4536 kg.

2 seconds (2000 msec) for vehicles more than 4536 kg.

3 seconds (3000 msec) for vehicle exposed to -18°C or less.

TEST STATUS:	PASSED —	x	FAILED —
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RECORDED BY: JESSE FUENTES

DATE: 07/18/03

APPROVED BY: MATTHEW A. IVORY

DATE: 07/18/03

DATA SHEET NO. 4...(CONTINUED)

TEST EXECUTION

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	35°C

THROTTLE CONTROL SYSTEM CONDITION:				1 ST RETURN SPRING REMOVED, AMBIENT TEMPERATURE, ENGINE ON			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	25.7%	0.0	92°C	0.0%	90 msec	Pass
2	50%	50.7%	5124.8	92°C	0.0%	110 msec	Pass
3	75%	77.4%	5582.5	92°C	0.0%	130 msec	Pass
4	100%	98.7%	5897.3	92°C	0.0%	140 msec	Pass

THROTTLE CONTROL SYSTEM CONDITION:				1 ST RETURN SPRING REMOVED, AMBIENT TEMPERATURE, ENGINE OFF			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	25.9%	N/A	N/A	0.0%	120 msec	Pass
2	50%	49.1%	N/A	N/A	0.0%	140 msec	Pass
3	75%	72.9%	N/A	N/A	0.0%	150 msec	Pass
4	100%	100.3%	N/A	N/A	0.0%	170 msec	Pass

RETURN TIME REQUIREMENTS:

1 second (1000 msec) for vehicles less than 4536 kg.

2 seconds (2000 msec) for vehicles more than 4536 kg.

3 seconds (3000 msec) for vehicle exposed to -18°C or less.

TEST STATUS:	PASSED —	x	FAILED —	
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RECORDED BY: JESSE FUENTES DATE: 07/18/03

APPROVED BY: MATTHEW A. IVORY DATE: 07/18/03

DATA SHEET NO. 4...(CONTINUED)

TEST EXECUTION

VEHICLE			
YEAR	2003	MAKE	Toyota
MODEL	Corolla	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	35°C

THROTTLE CONTROL SYSTEM CONDITION:				2 ND RETURN SPRING REMOVED, AMBIENT TEMPERATURE, ENGINE ON			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	28.2%	3765.9	92°C	0.0%	110 msec	Pass
2	50%	51.0%	5982.7	92°C	0.0%	150 msec	Pass
3	75%	76.6%	5823.8	92°C	0.0%	130 msec	Pass
4	100%	98.3%	5770.2	92°C	0.0%	110 msec	Pass

THROTTLE CONTROL SYSTEM CONDITION:				2 ND RETURN SPRING REMOVED, AMBIENT TEMPERATURE, ENGINE OFF			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	26.3%	N/A	N/A	0.0%	120 msec	Pass
2	50%	53.3%	N/A	N/A	0.0%	130 msec	Pass
3	75%	74.8%	N/A	N/A	0.0%	150 msec	Pass
4	100%	101.1%	N/A	N/A	0.0%	190 msec	Pass

RETURN TIME REQUIREMENTS:

1 second (1000 msec) for vehicles less than 4536 kg.

2 seconds (2000 msec) for vehicles more than 4536 kg.

3 seconds (3000 msec) for vehicle exposed to -18°C or less.

TEST STATUS:	PASSED —	x	FAILED —	
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RECORDED BY: JESSE FUENTES DATE: 07/18/03

APPROVED BY: MATTHEW A. IVORY DATE: 07/18/03

DATA SHEET NO. 4...(CONTINUED)

TEST EXECUTION

VEHICLE			
YEAR	2003	MAKE	TOYOTA
MODEL	TOYOTA COROLLA	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	34°C

THROTTLE CONTROL SYSTEM CONDITION:				3 RD ENERGY SOURCE REMOVED			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	24.7%	3938.4	92°C	0.0%	120 msec	Pass
2	50%	50.2%	5870.7	92°C	0.0%	140 msec	Pass
3	75%	77.6%	5824.0	92°C	0.0%	190 msec	Pass
4	100%	99.4%	5829.9	92°C	0.0%	170 msec	Pass

THROTTLE CONTROL SYSTEM CONDITION:				3 RD ENERGY SOURCE REMOVED			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	24.9%	N/A	N/A	0.0%	110 msec	Pass
2	50%	54.1%	N/A	N/A	0.0%	120 msec	Pass
3	75%	80.3%	N/A	N/A	0.0%	130 msec	Pass
4	100%	102.3 %	N/A	N/A	0.0%	150 msec	Pass

RETURN TIME REQUIREMENTS:

1 second (1000 msec) for vehicles less than 4536 kg.

2 seconds (2000 msec) for vehicles more than 4536 kg.

3 seconds (3000 msec) for vehicle exposed to -18°C or less.

TEST STATUS:	PASSED —	x	FAILED —	
--------------	----------	---	----------	--

RECORDED BY: JESSE FUENTES

DATE: 07/18/03

APPROVED BY: MATTHEW A. IVORY

DATE: 07/18/03

DATA SHEET NO. 4...(CONTINUED)

TEST EXECUTION

VEHICLE			
YEAR	2003	MAKE	TOYOTA
MODEL	TOYOTA COROLLA	BODY STYLE	4 door
NHTSA NO.	C35104	VIN	1NXBR32E93Z115536
TEST DATE:	07/18/03	TEMPERATURE:	36°C

THROTTLE CONTROL SYSTEM CONDITION:				SEVERANCE, AMBIENT TEMPERATURE, ENGINE ON			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	28.9%	3103.3	92°C	0.0%	120 msec	Pass
2	50%	53.7%	5714.1	92°C	0.0%	100 msec	Pass
3	75%	76.7%	5765.7	92°C	0.0%	130 msec	Pass
4	100%	97.4%	5749.6	92°C	0.0%	180 msec	Pass

THROTTLE CONTROL SYSTEM CONDITION:				SEVERANCE, AMBIENT TEMPERATURE, ENGINE OFF			
TEST NO.	NOMINAL THROTTLE POSITION	ACTUAL THROTTLE POSITION	ENGINE RPM	ENGINE COOLANT TEMPERATURE	THROTTLE POSITION SENSOR READING AT IDLE	TIME TO RETURN TO IDLE	PASS /FAIL
1	25%	24.6%	N/A	N/A	0.0%	110 msec	Pass
2	50%	49.8%	N/A	N/A	0.0%	140 msec	Pass
3	75%	77.8%	N/A	N/A	0.0%	200 msec	Pass
4	100%	99.9 %	N/A	N/A	0.0%	130 msec	Pass

RETURN TIME REQUIREMENTS:

1 second (1000 msec) for vehicles less than 4536 kg.

2 seconds (2000 msec) for vehicles more than 4536 kg.

3 seconds (3000 msec) for vehicle exposed to -18°C or less.

TEST STATUS:	PASSED —	x	FAILED —	
--------------	----------	----------	----------	--

RECORDED BY: JESSE FUENTES DATE: 07/18/03

APPROVED BY: MATTHEW A. IVORY DATE: 07/18/03

APPENDIX A
PHOTOGRAPHS

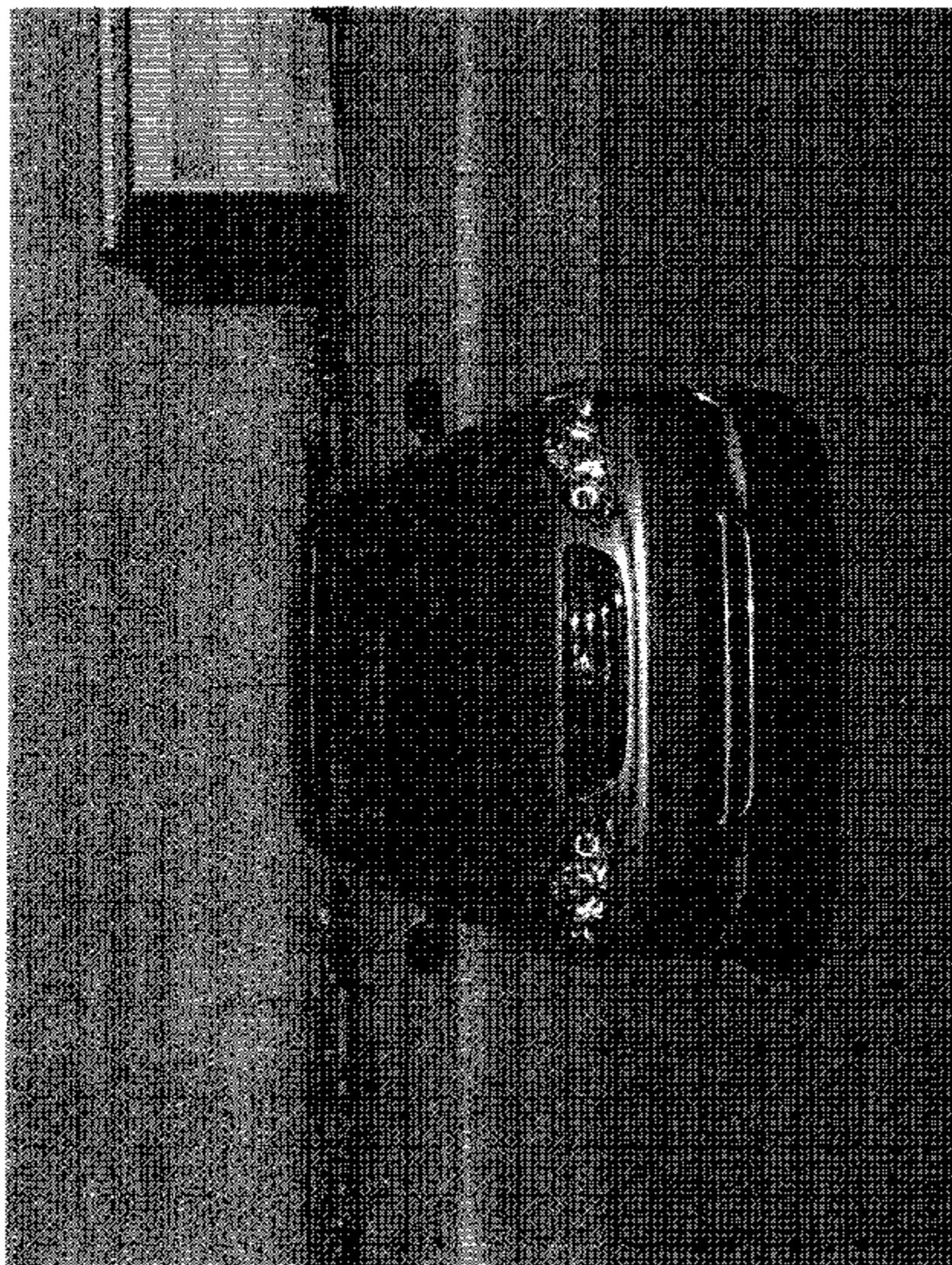


Figure A-1: Front View of Vehicle

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

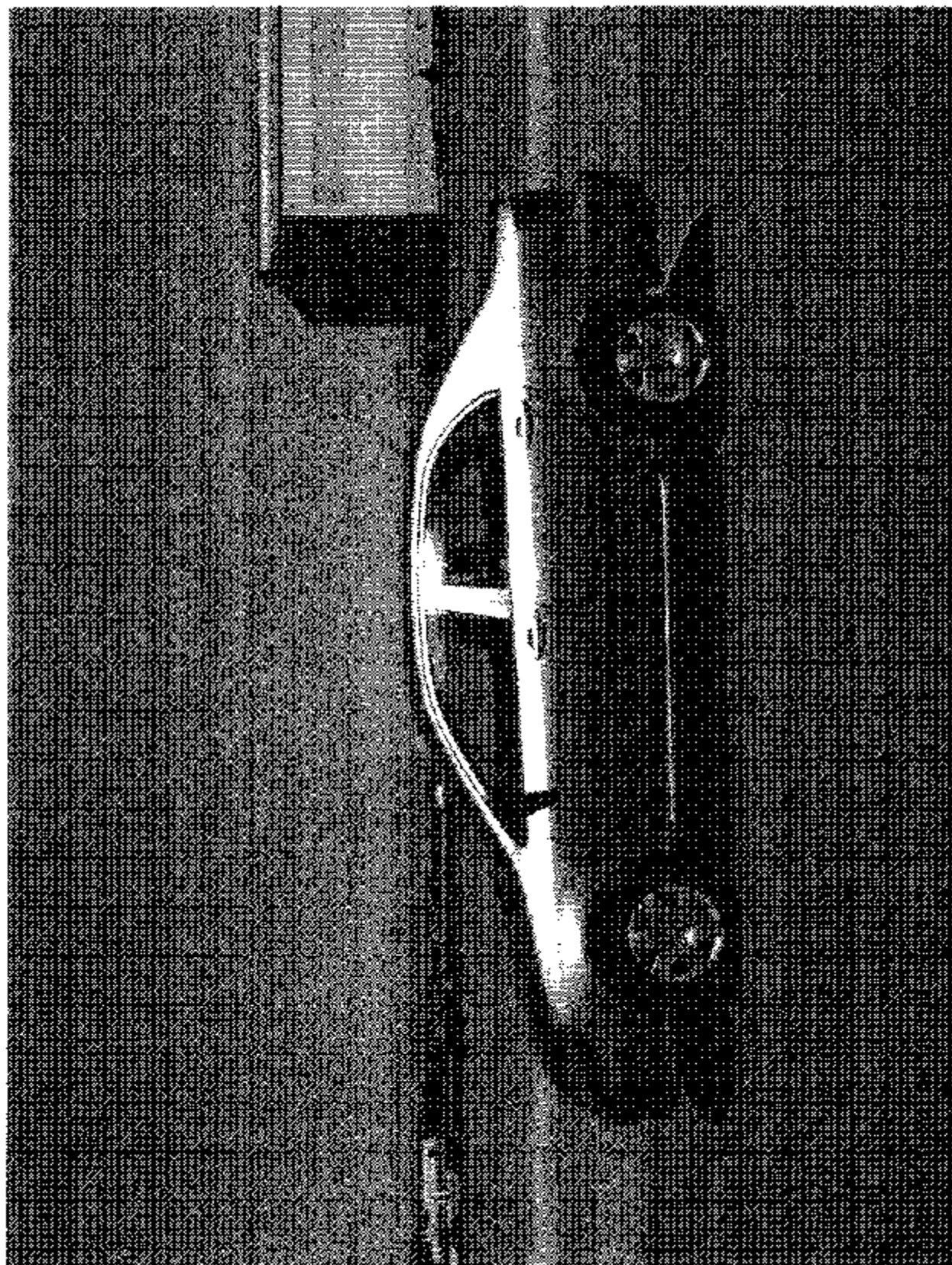


Figure A-2: Left Side View of Vehicle

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

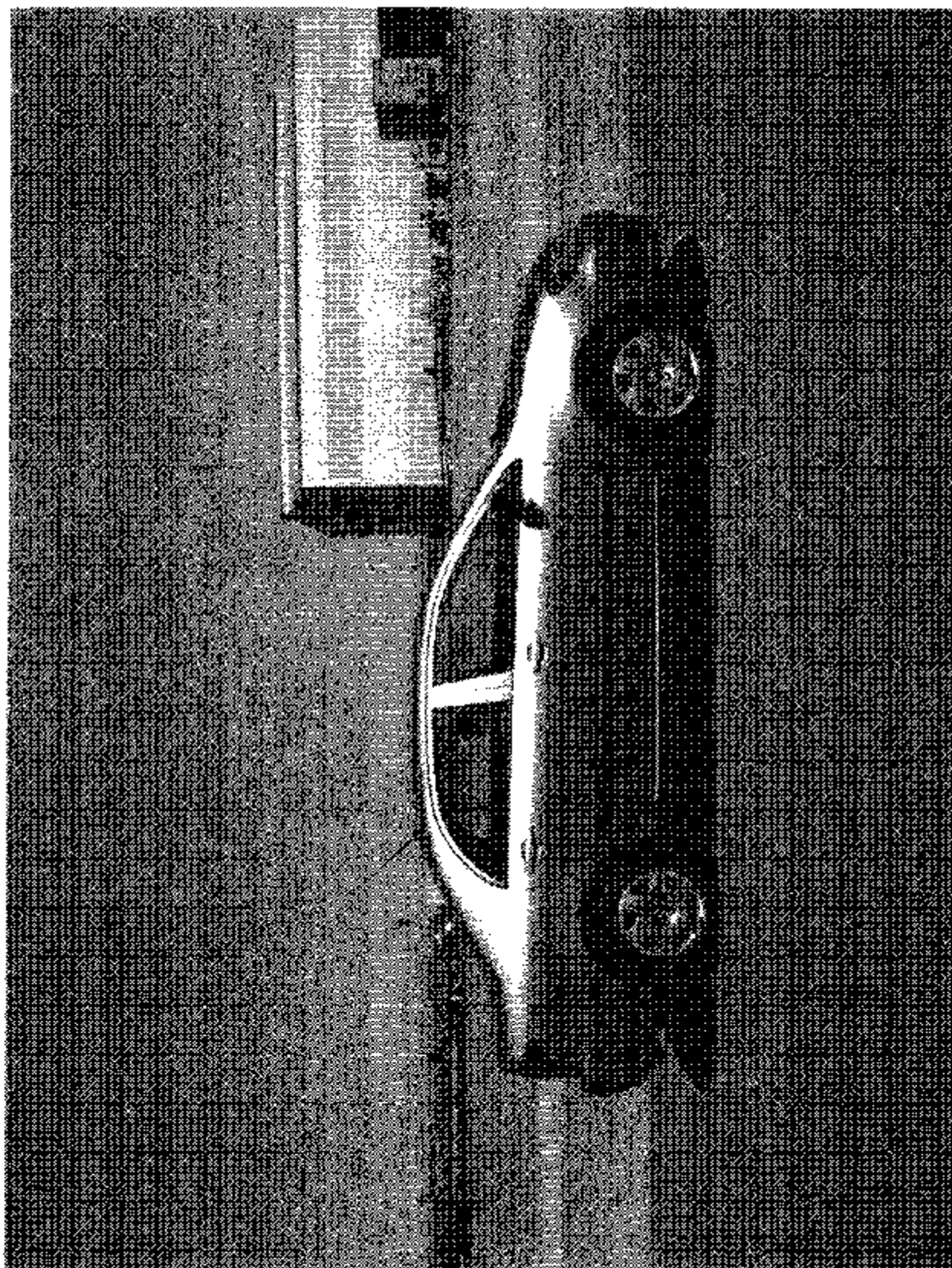


Figure A-3: Right Side View of Vehicle

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

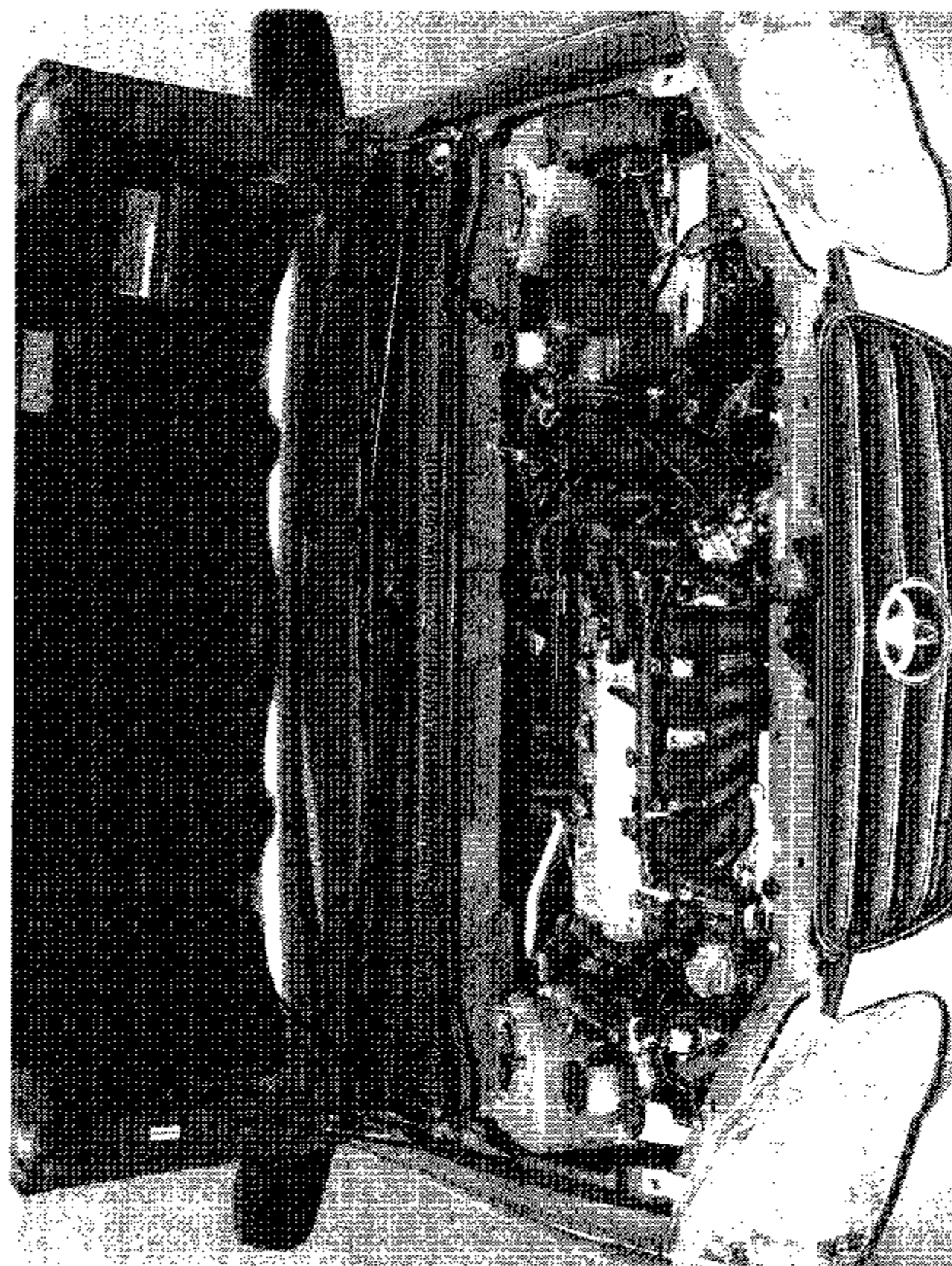


Figure A-6: Vehicle's Engine Compartment

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

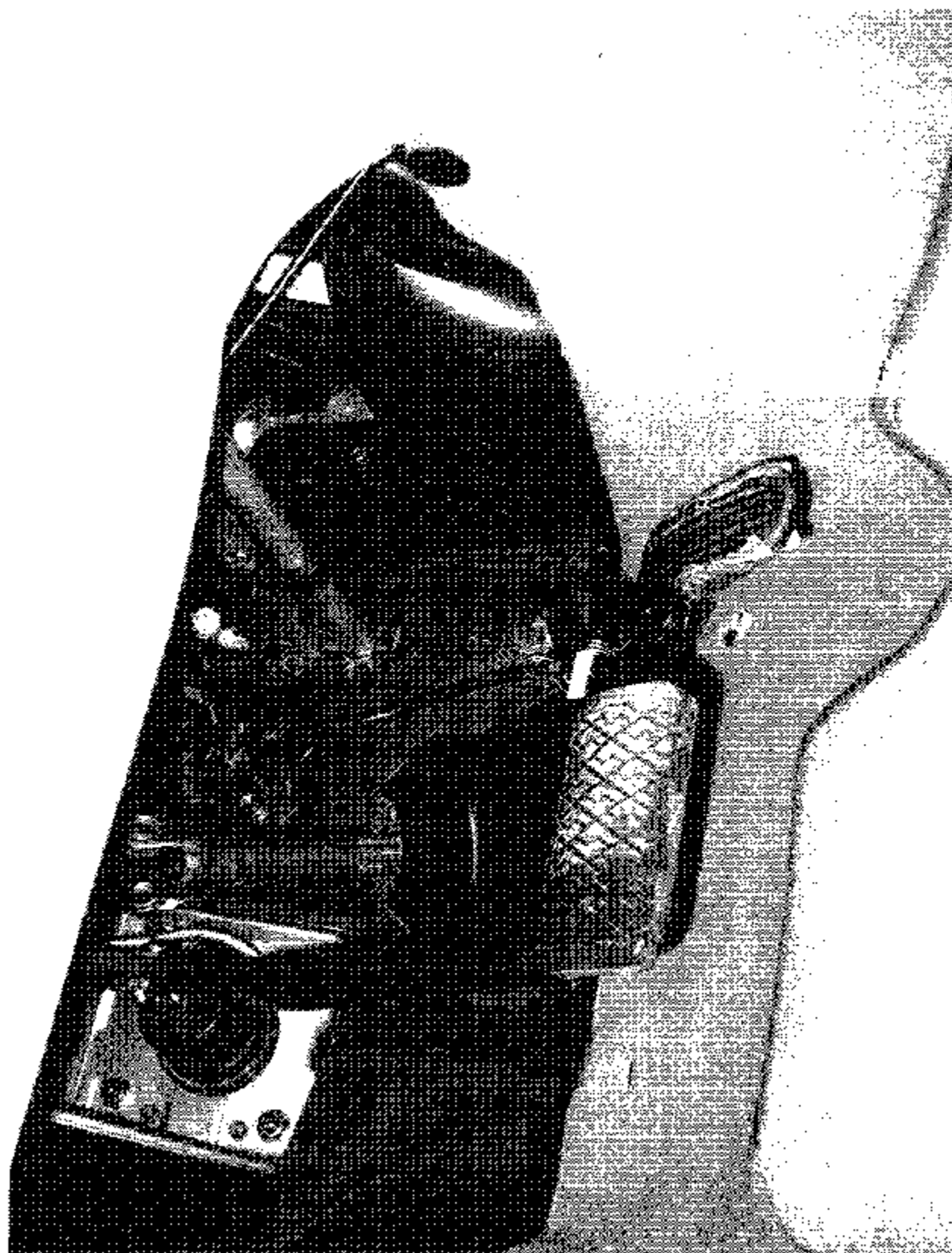


Figure A-7: Vehicle's Accelerator Pedal Assembly

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

Spring No.1 →

Spring No.2 →

Figure A-8: Spring's 1 and 2 Located on Vehicle's Accelerator Control System

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124



2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124
Figure A-8: Spring 3 Located on Vehicle's Accelerator Control System



2003 TOYOTA COROLLA Figure A-10: Throttle Plate Sensor Located on Vehicle's Accelerator Control System
NHTSA NO. C38104
FMVSS NO. 124

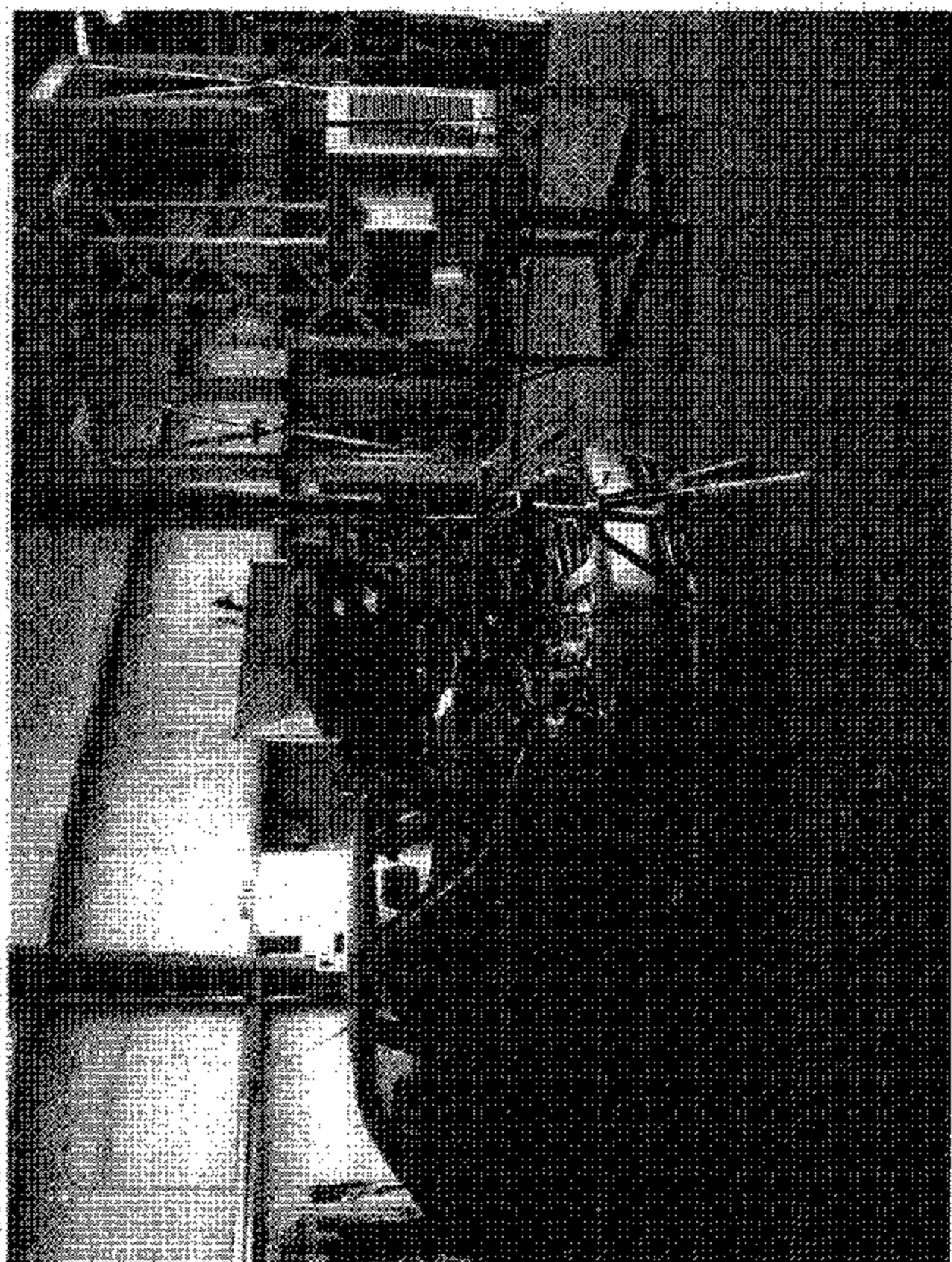


Figure A-11: Overall View of Vehicle's Test Setup

2003 TOYOTA COROLLA
NHTSA NO. 035104
FMVSS NO. 124

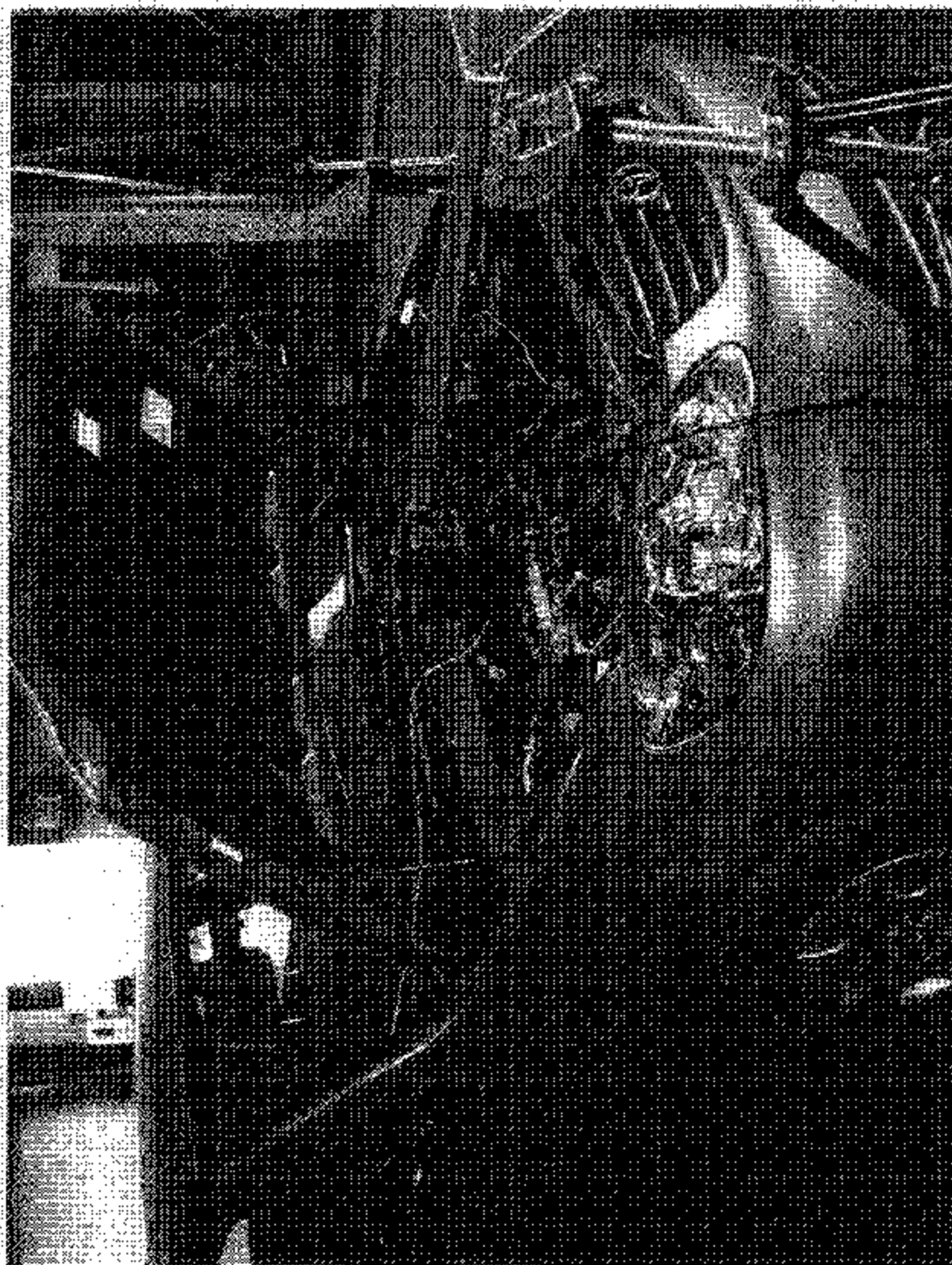


Figure A-12: Close-Up View of Vehicle's Test Setup

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

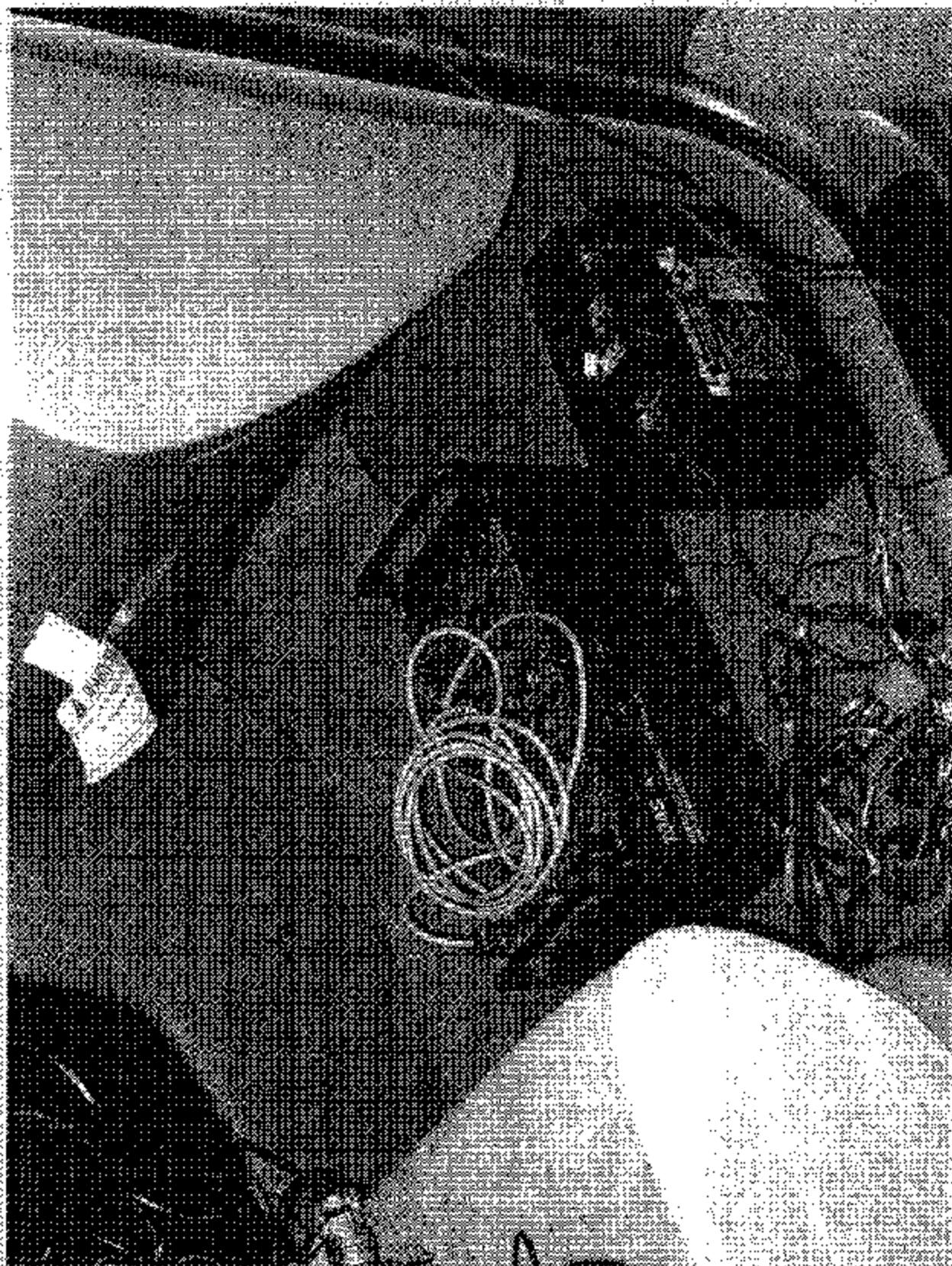


Figure A-13: Instrumentation

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

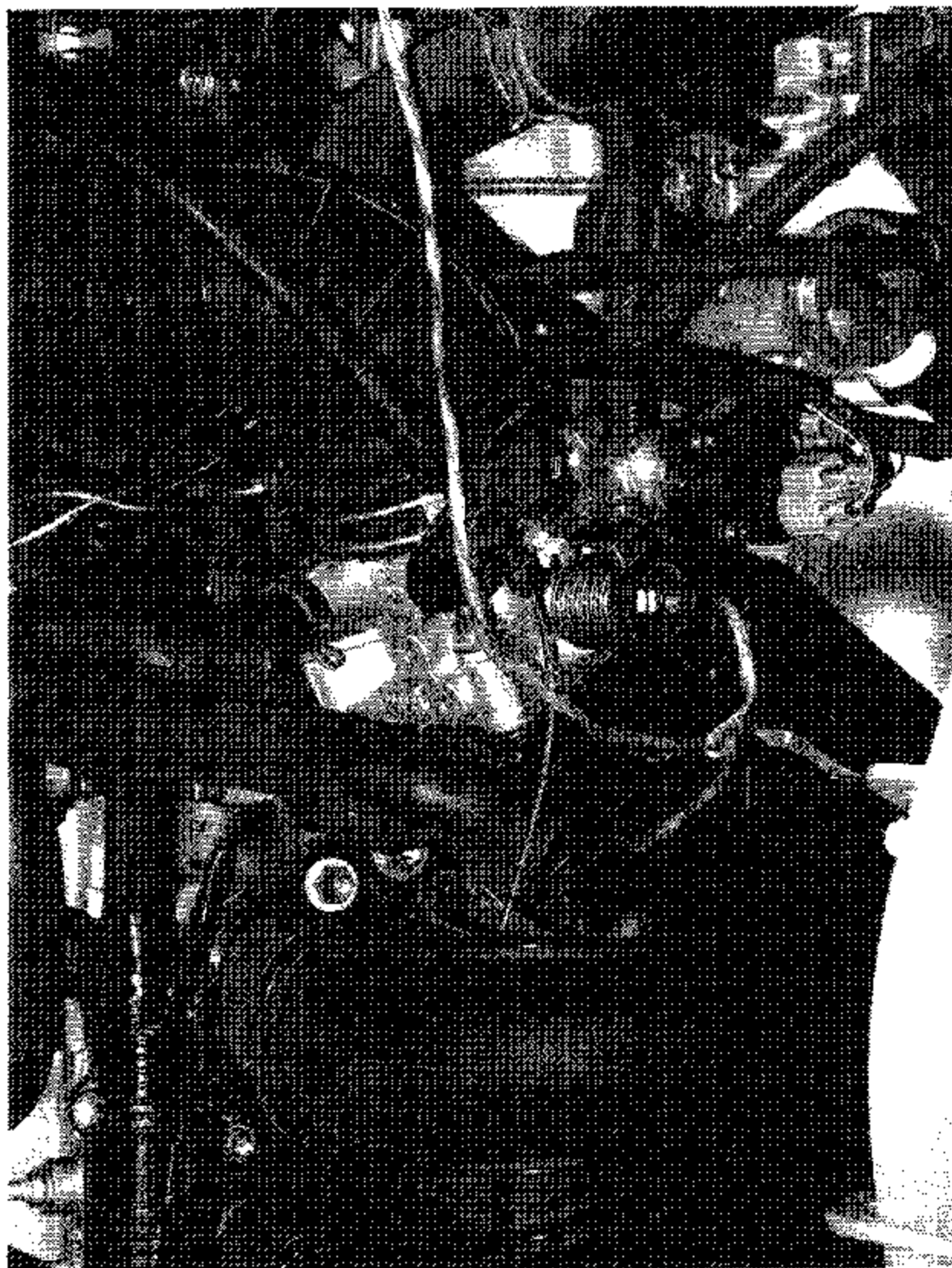
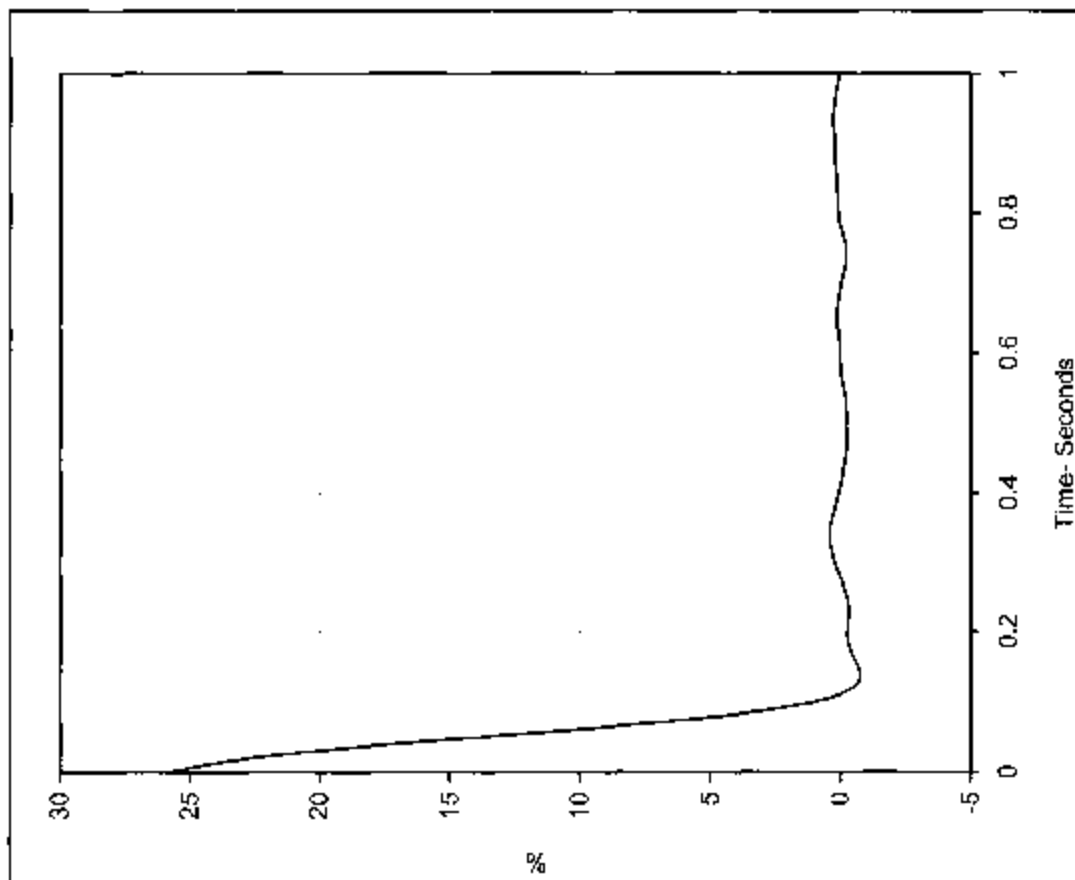


Figure A-14: Severance on Throttle Body

2003 TOYOTA COROLLA
NHTSA NO. C35104
FMVSS NO. 124

APPENDIX B DATA PLOTS



Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

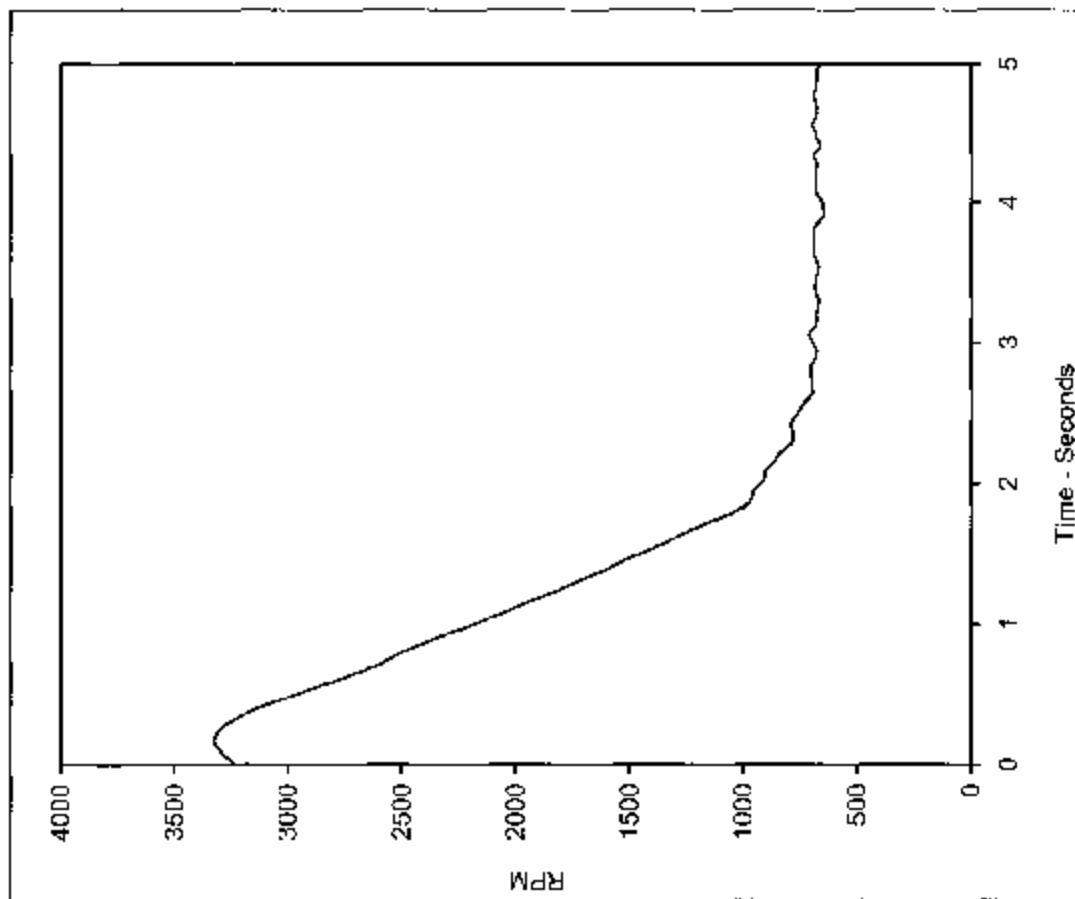
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	25.8	0.0	110.0	5

Test Program:

FMVSS 124 (Normal Operation)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	3323.6	0.2	647.3	3.9	5

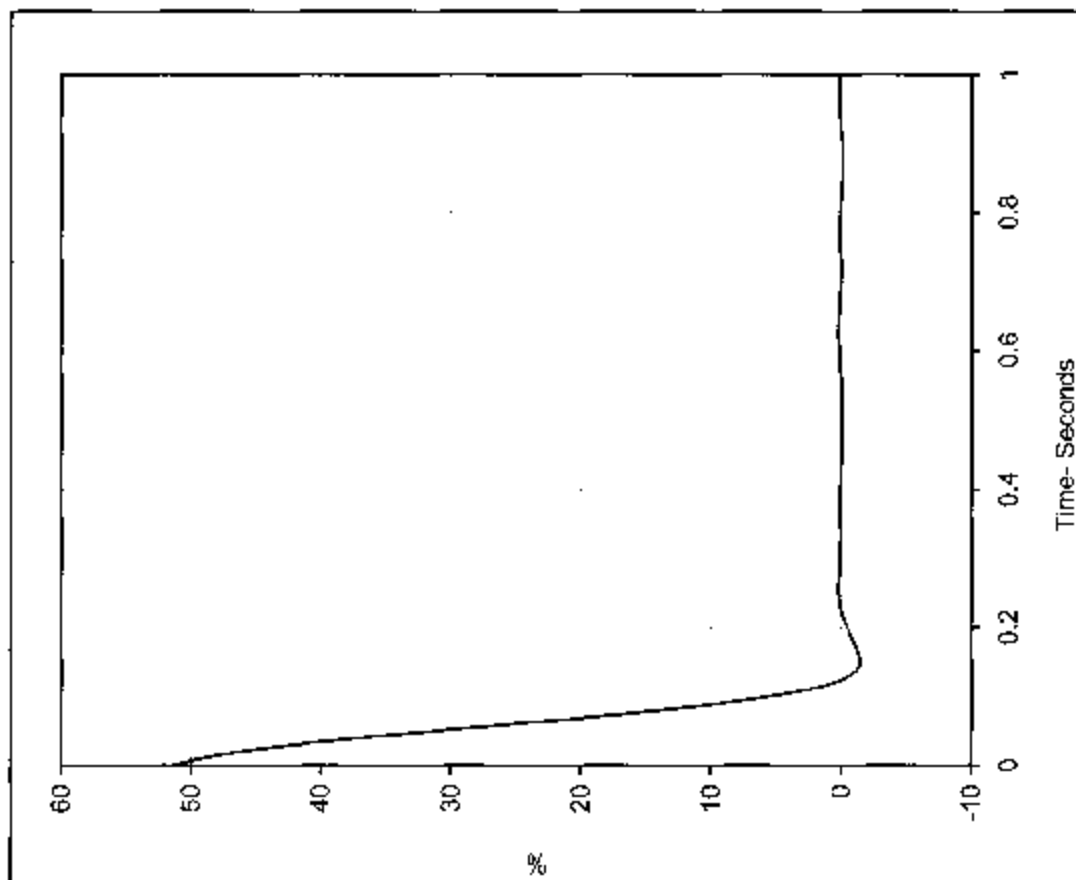
Test Date:

7/18/03

NHTSA No.:

C35104

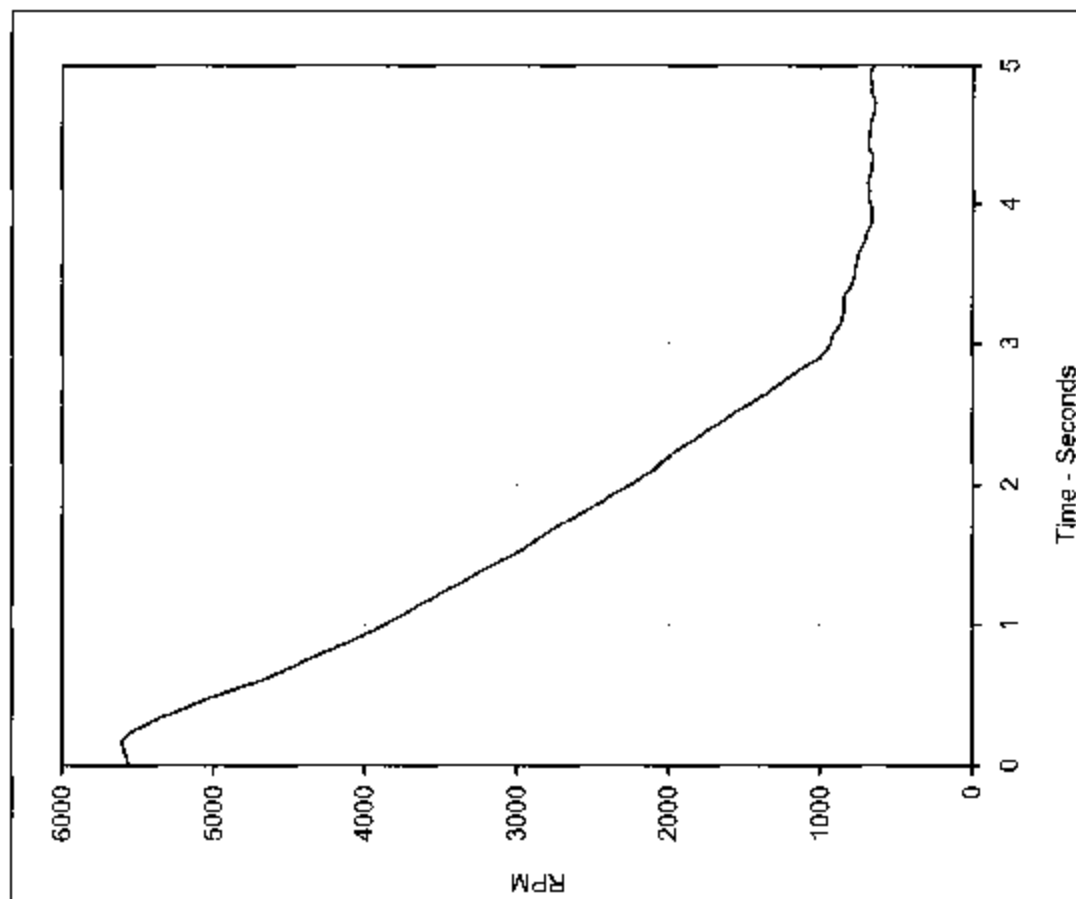




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	51.3	0.0	120.0	5

Test Program: FMVSS 124 (Normal Operation)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

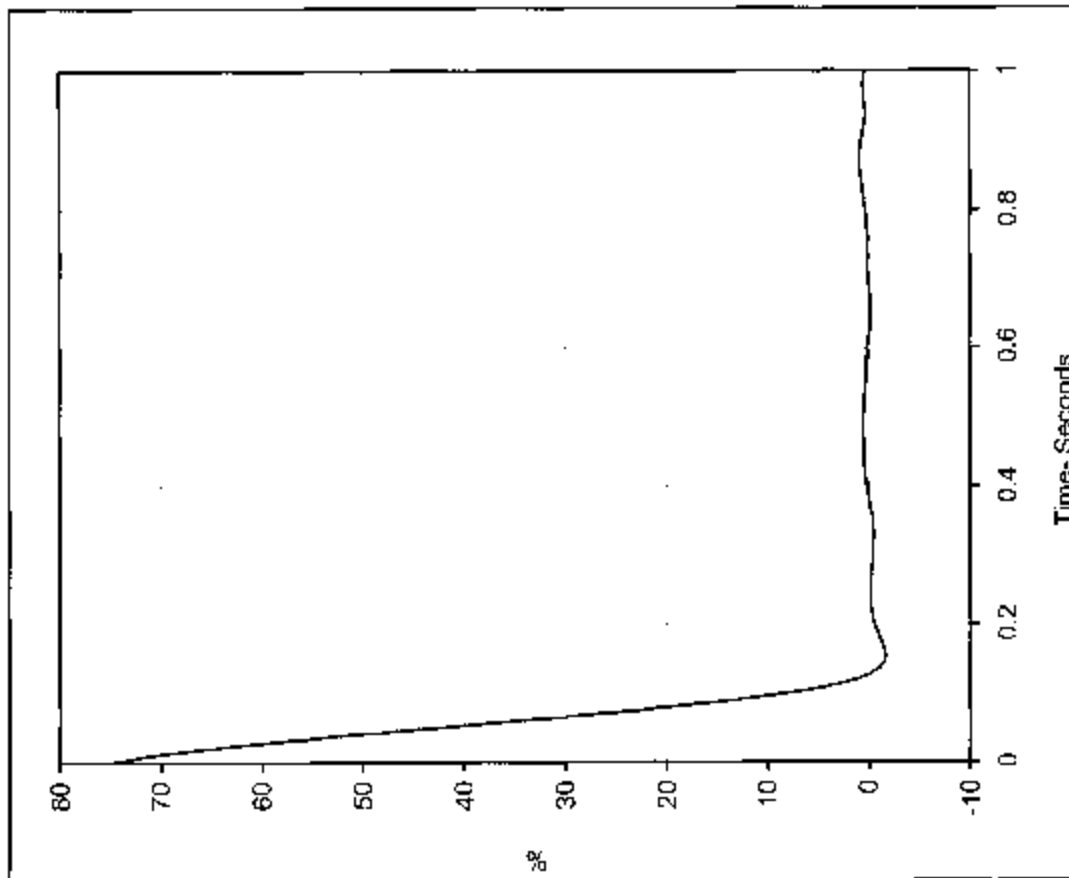


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5600.2	0.2	641.9	4.7	5

Test Date: 7/18/03
 NHTSA No.: C35104

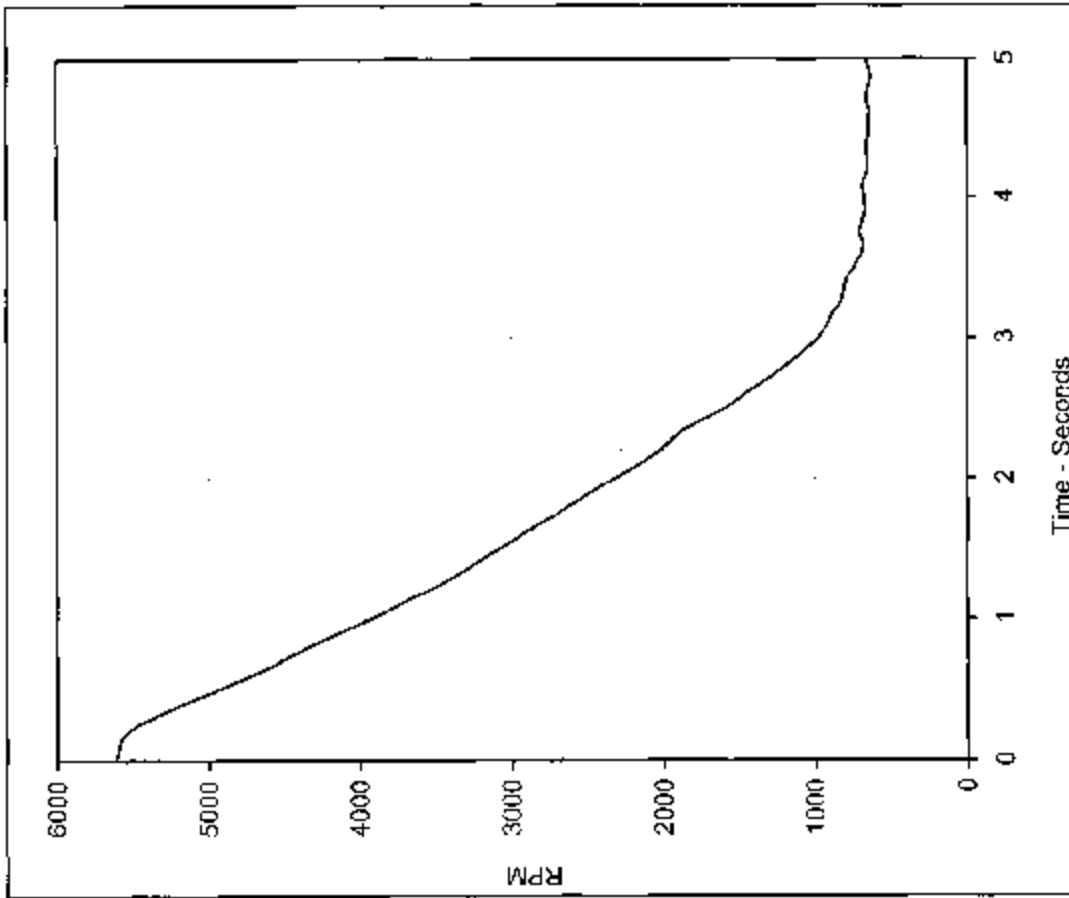




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	75.1	0.0	130.0	5

Test Program: FMVSS 124 (Normal Operation)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

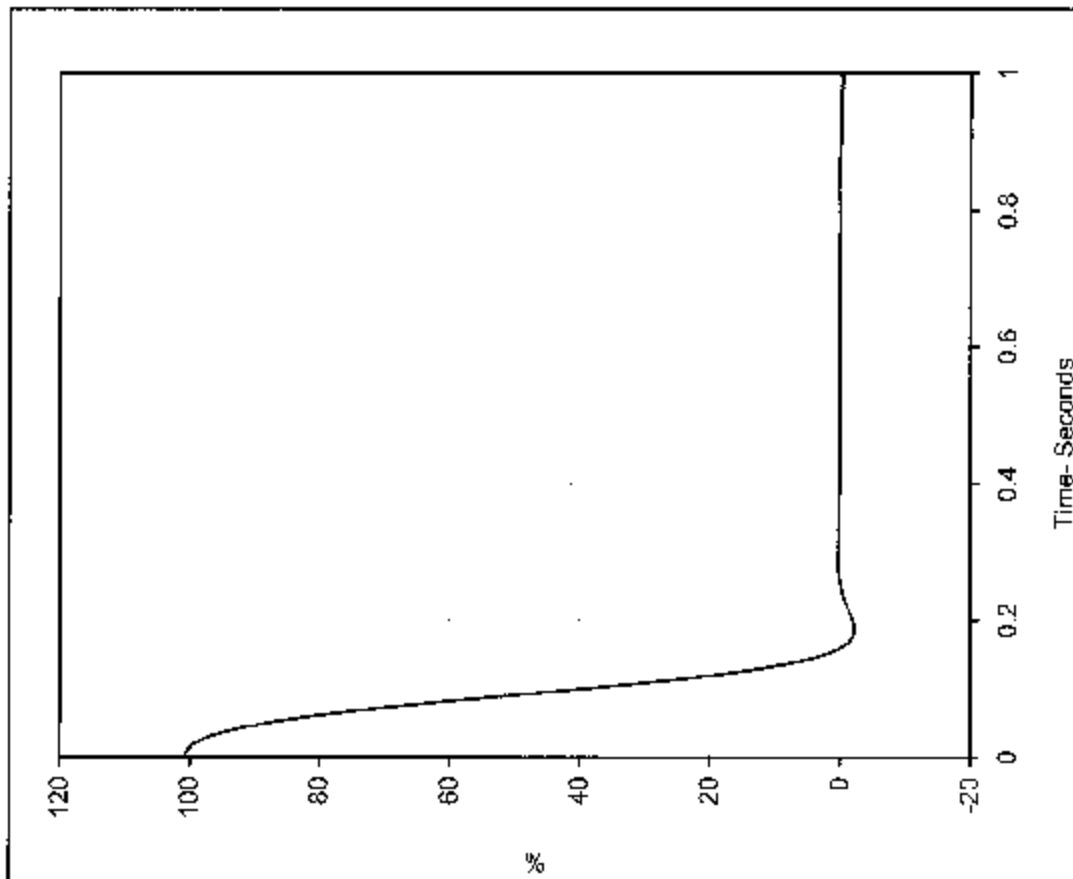


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5615.9	0.0	636.2	5

Test Date: 7/18/03
 NHTSA No.: C35104

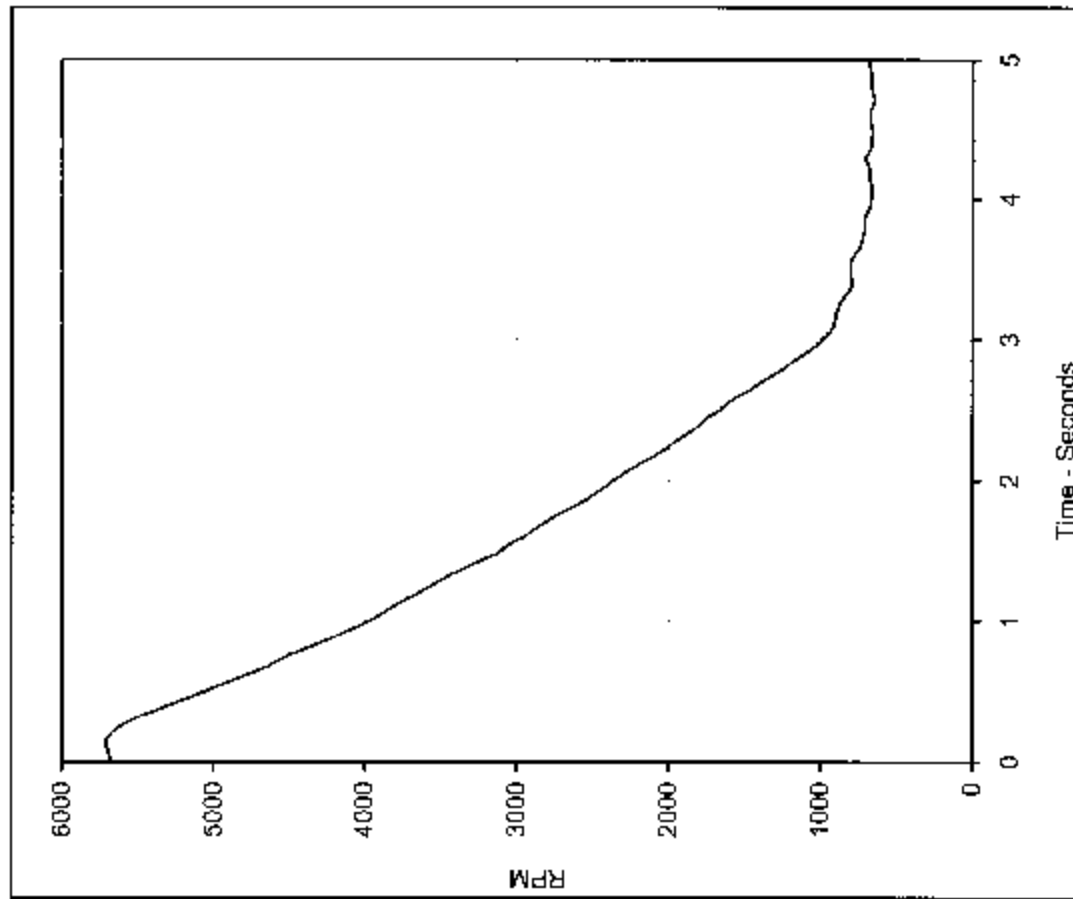




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	100.8	0.0	160.0	5

Test Program: FMVSS 124 (Normal Operation)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

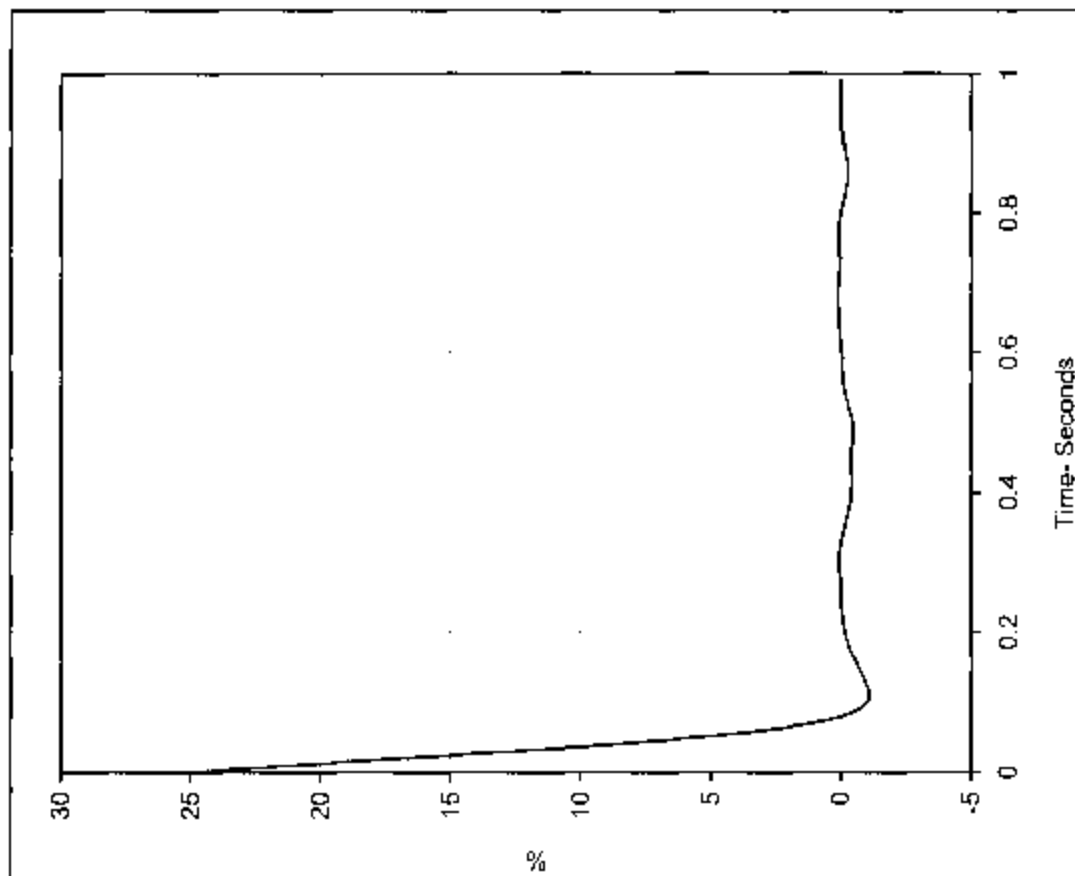


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5707.5	0.1	646.2	5

Test Date: 7/18/03
 NHTSA No.: C35104



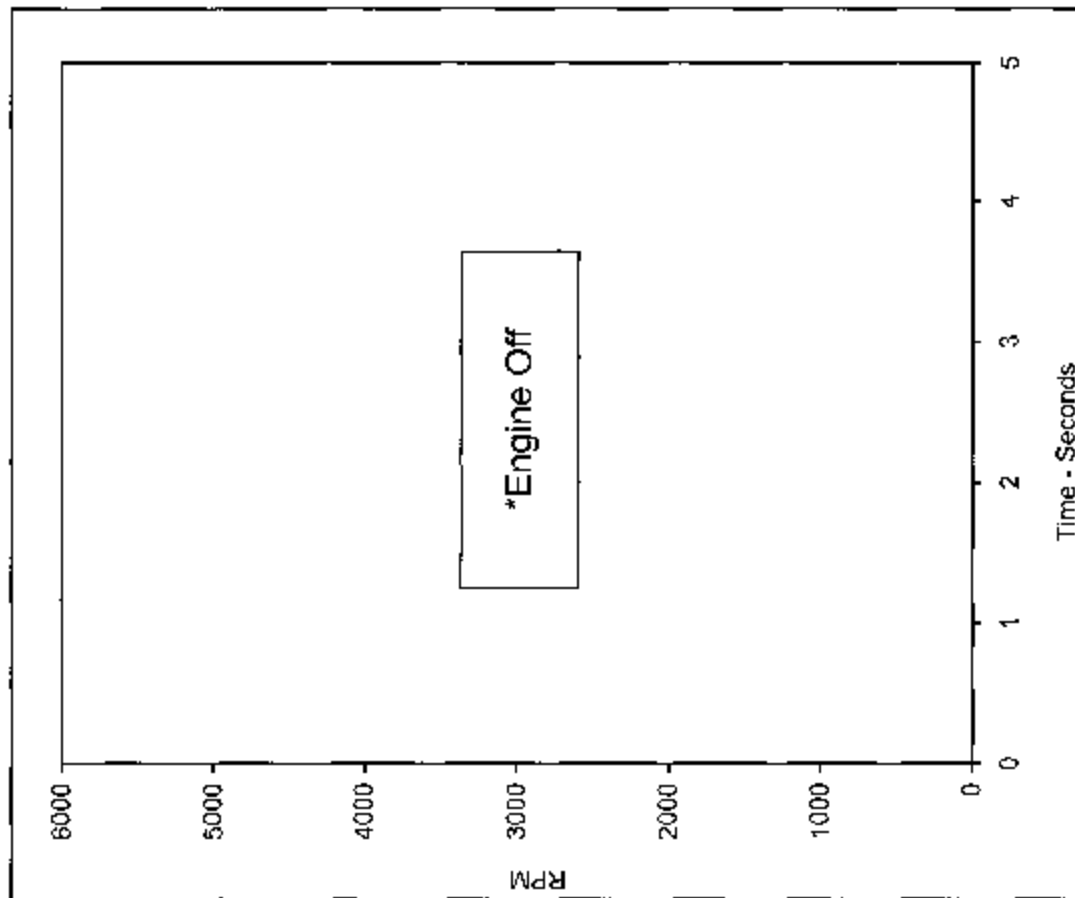


Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	24.9	0.0	80.0	5

Test Program: FMVSS 124 (Normal Operation)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

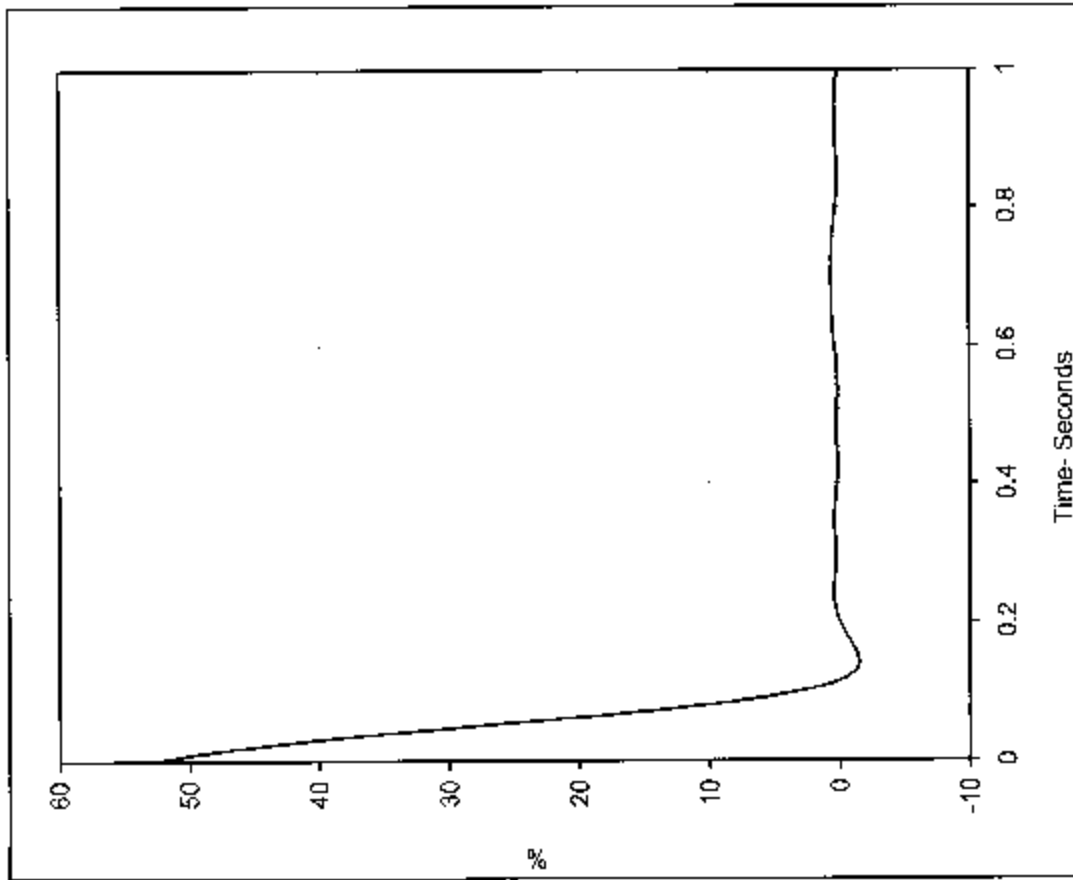
Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35101





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

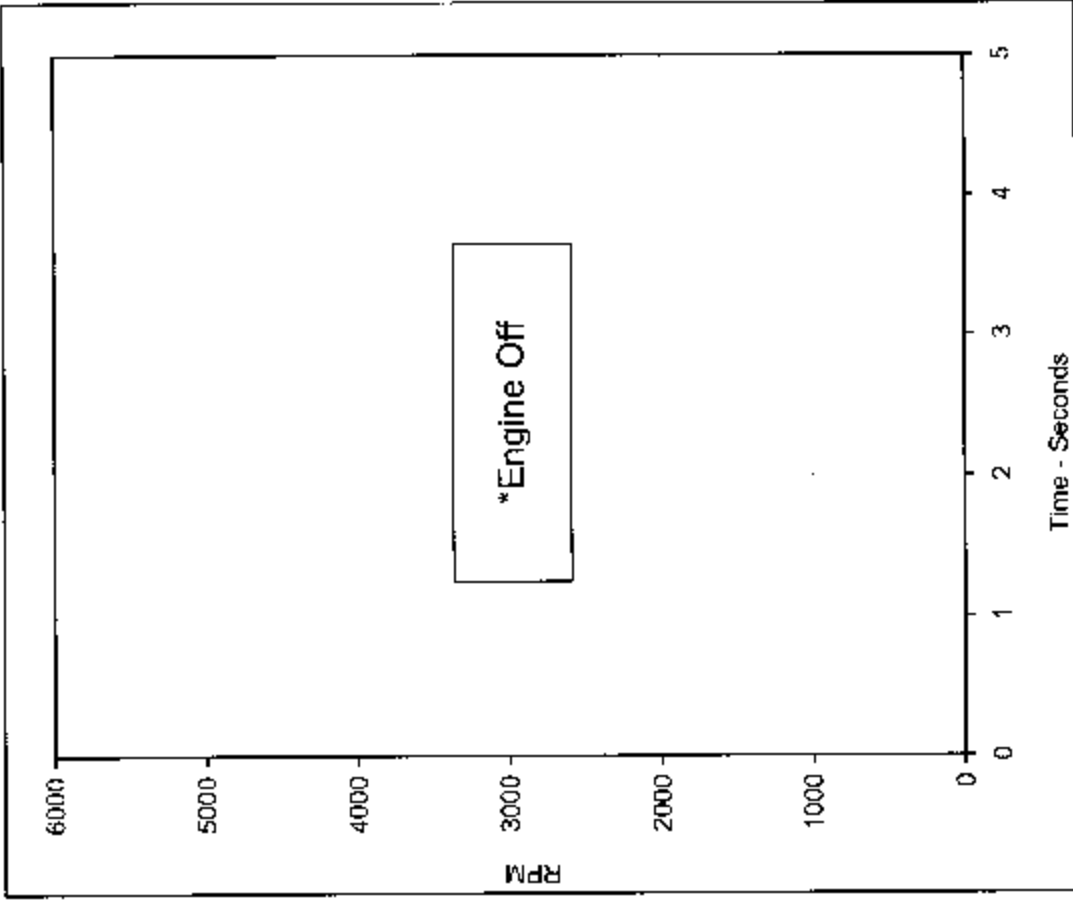
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	52.6	0.0	110.0	5

Test Program:

FMVSS 124 (Normal Operation)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

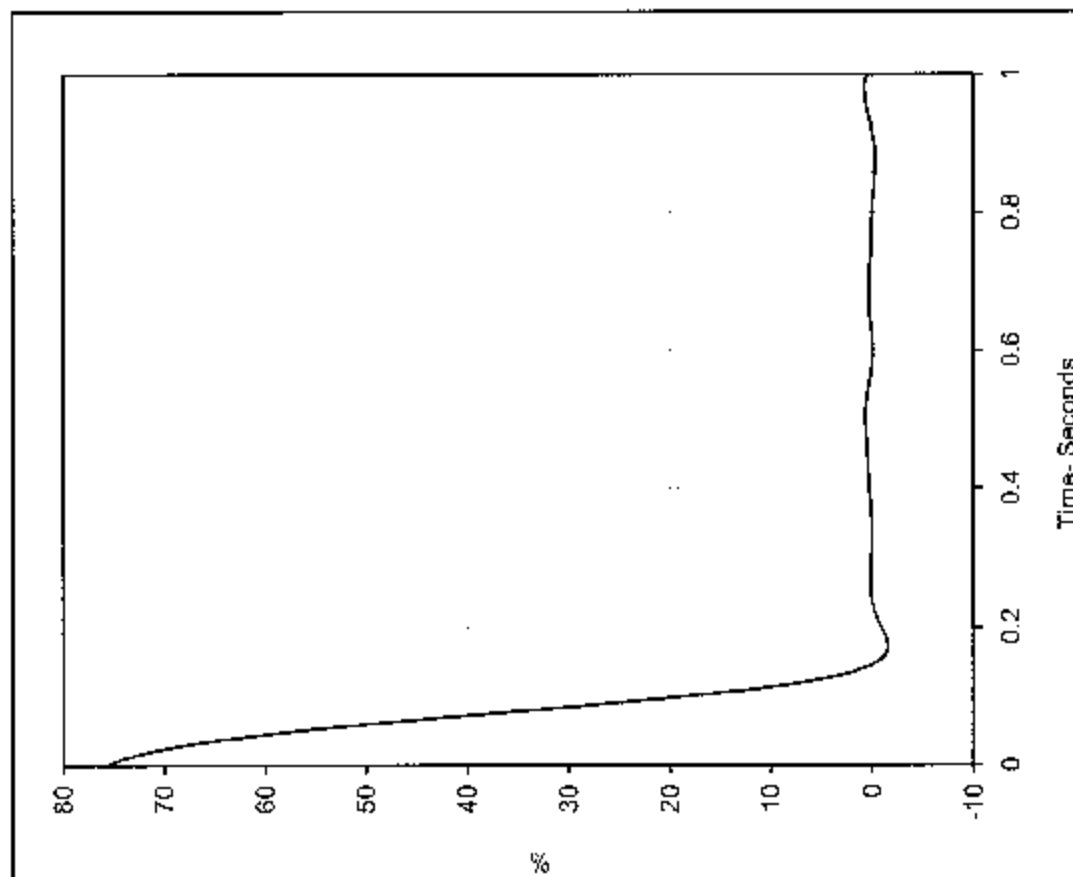
Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

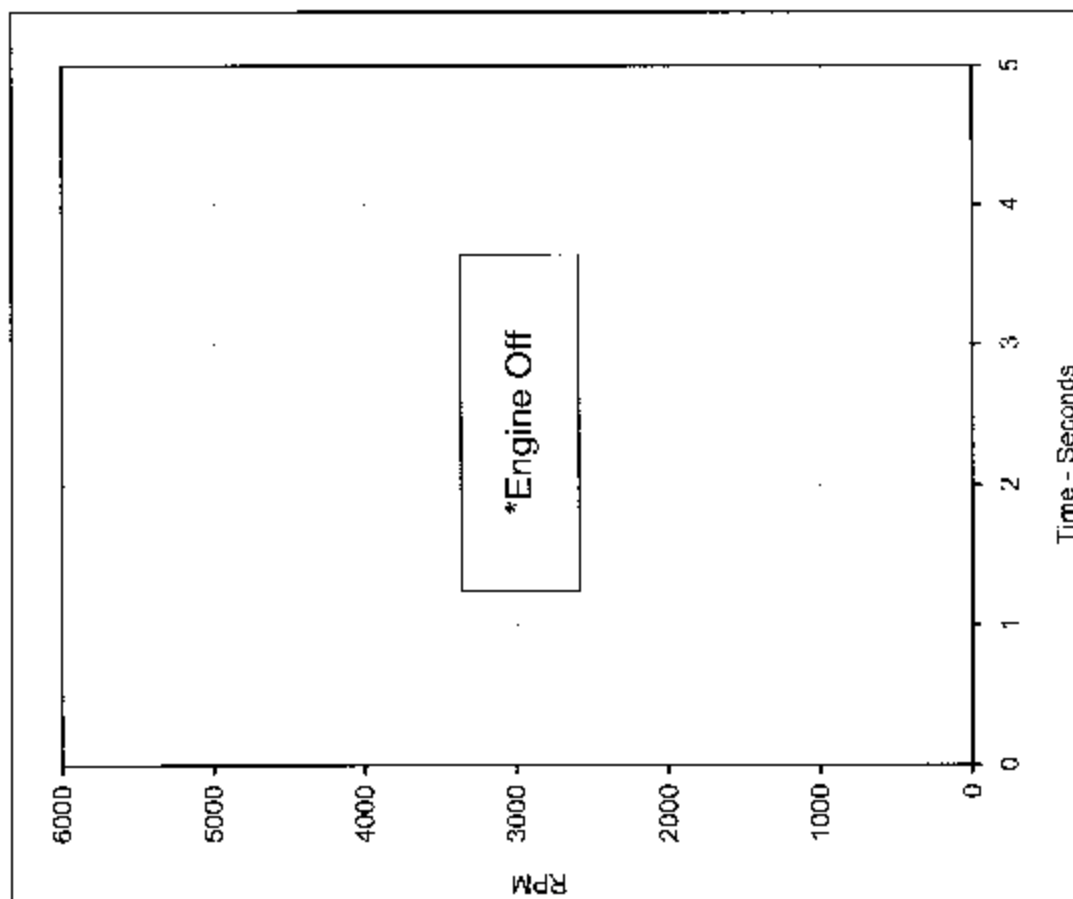
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	75.6	0.0	140.0	5

Test Program:

FMVSS 124 (Normal Operation)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

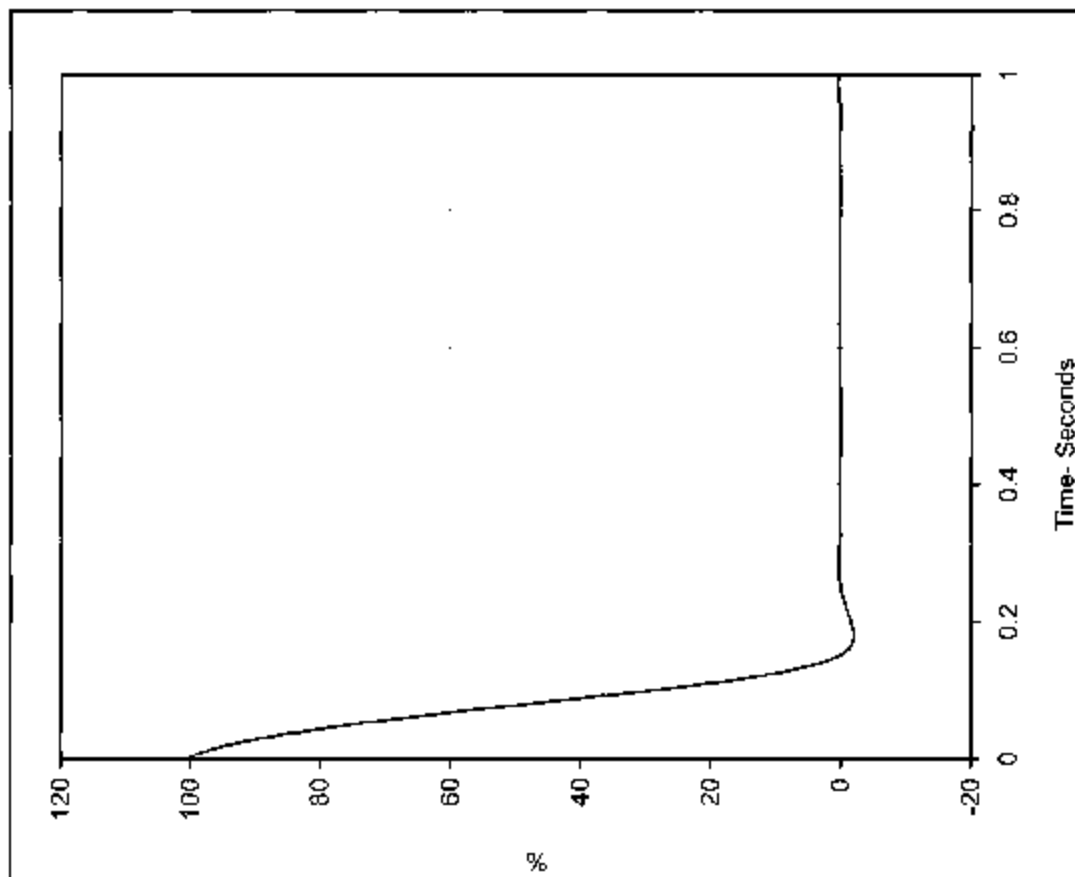
Test Date:

7/18/03

NHTSA No.:

C35104



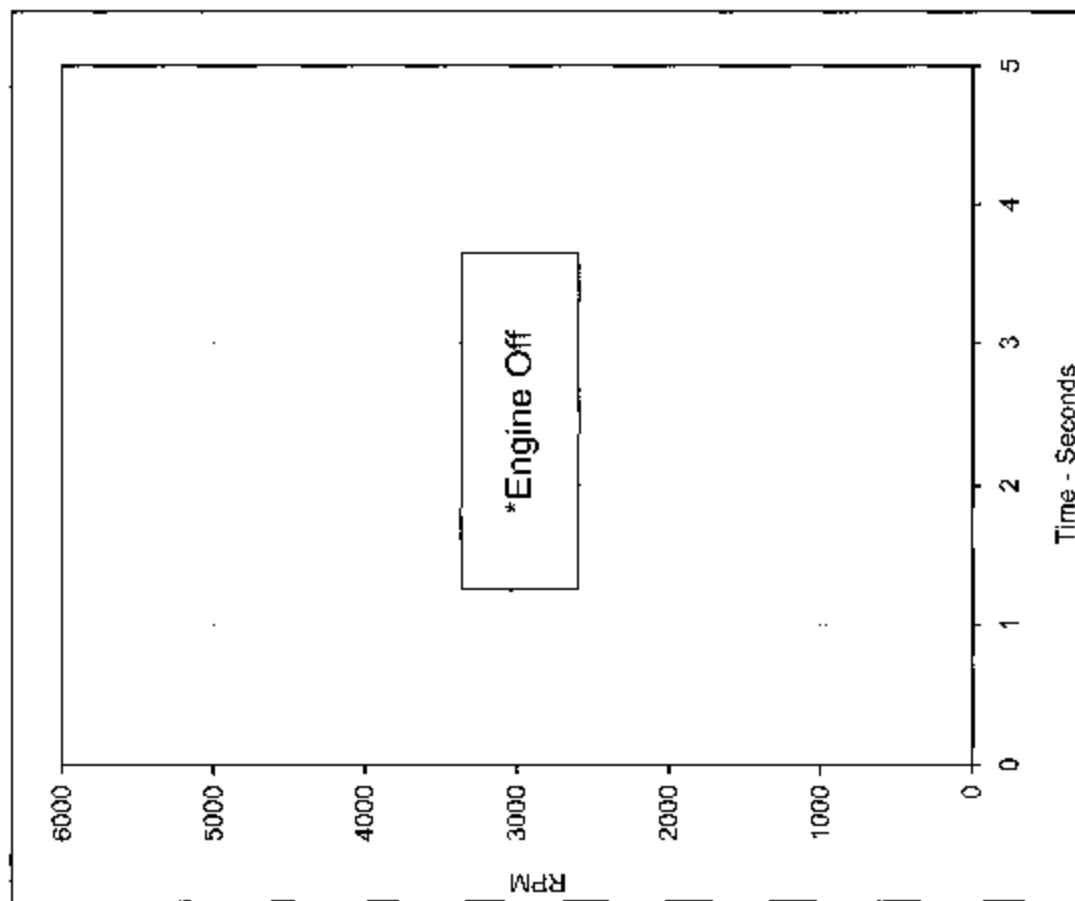


Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	100.8	0.0	150.0	5

Test Program: FMVSS 124 (Normal Operation)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

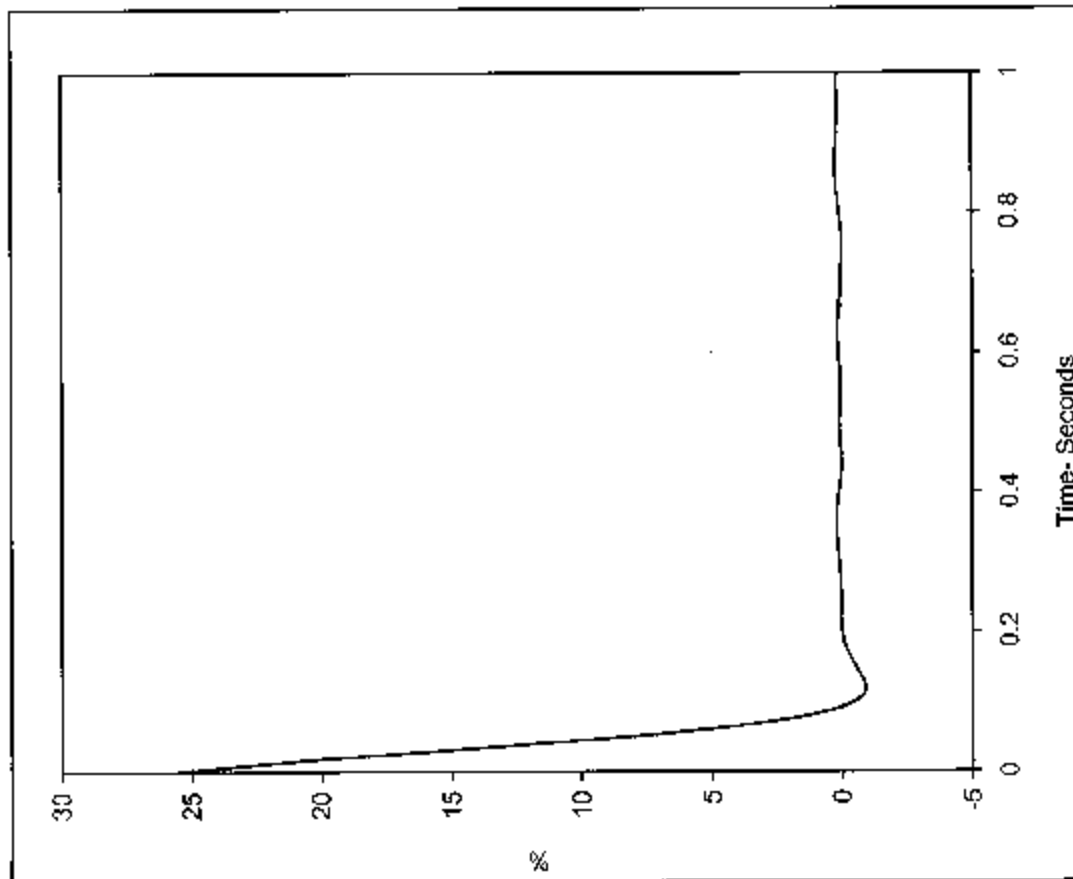
Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104

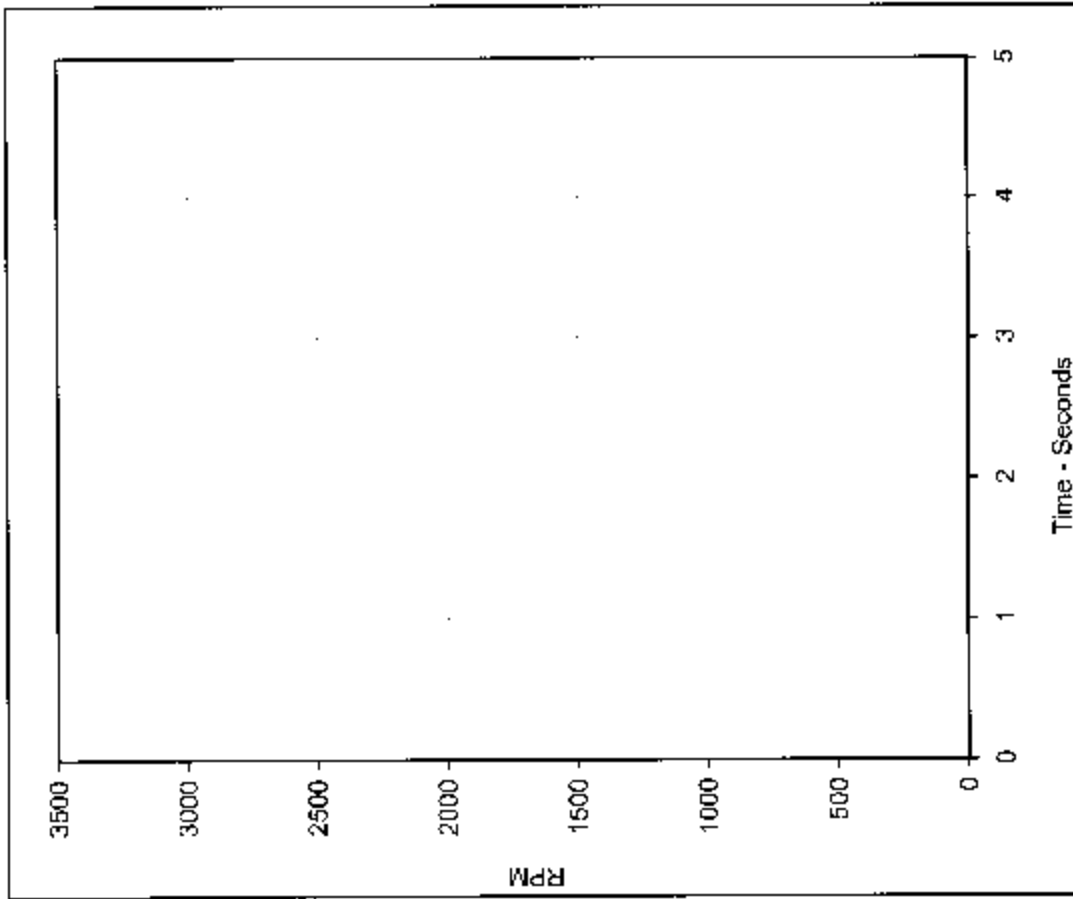




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	25.7	0.0	90.0	5

Test Program: FMVSS 124 (#1 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



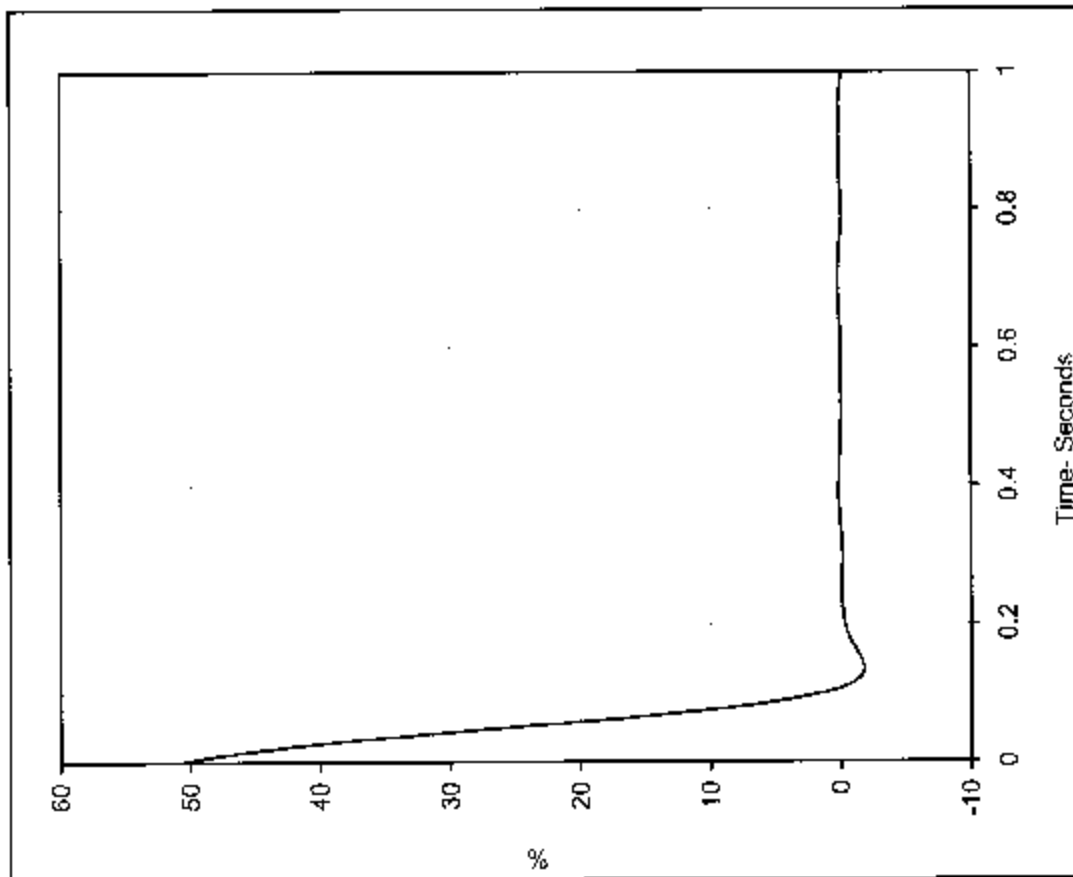
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

* No Data

Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

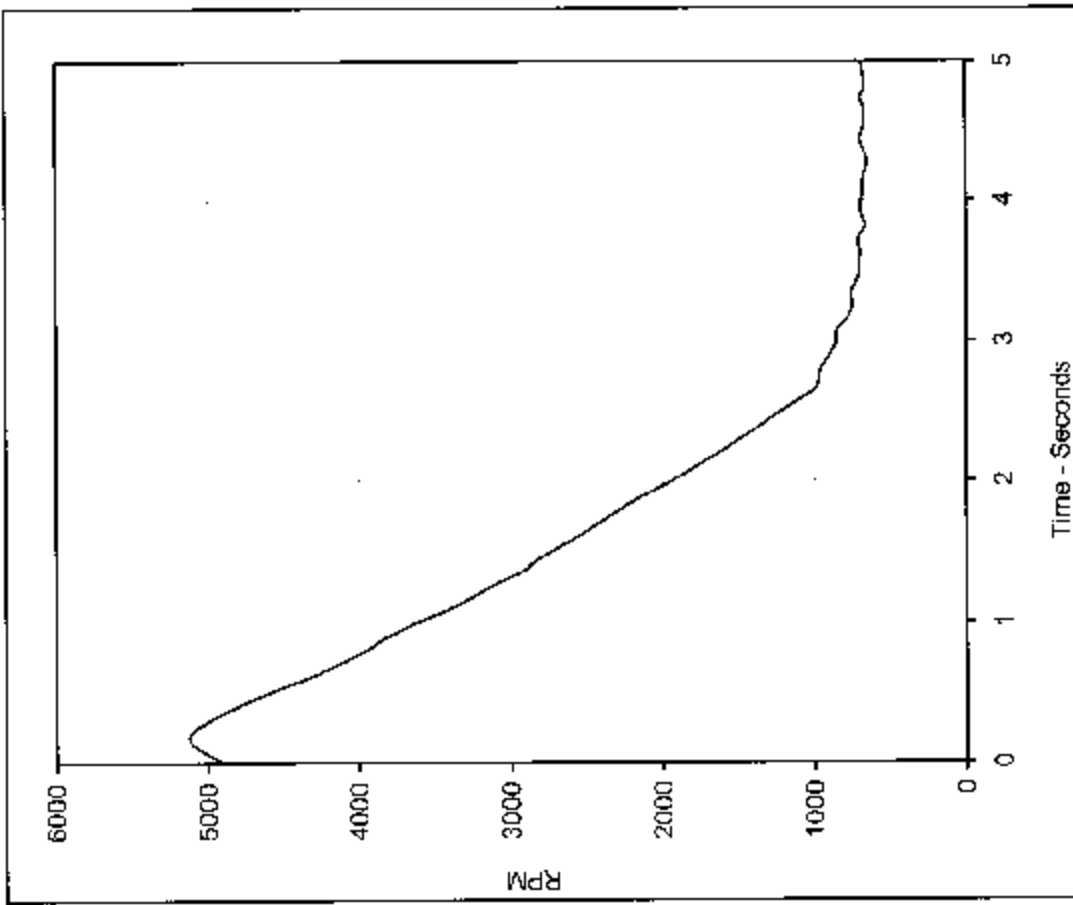
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	50.7	0.0	110.0	5

Test Program:

FMVSS 124 (#1 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5124.8	0.2	647.1	4.3	5

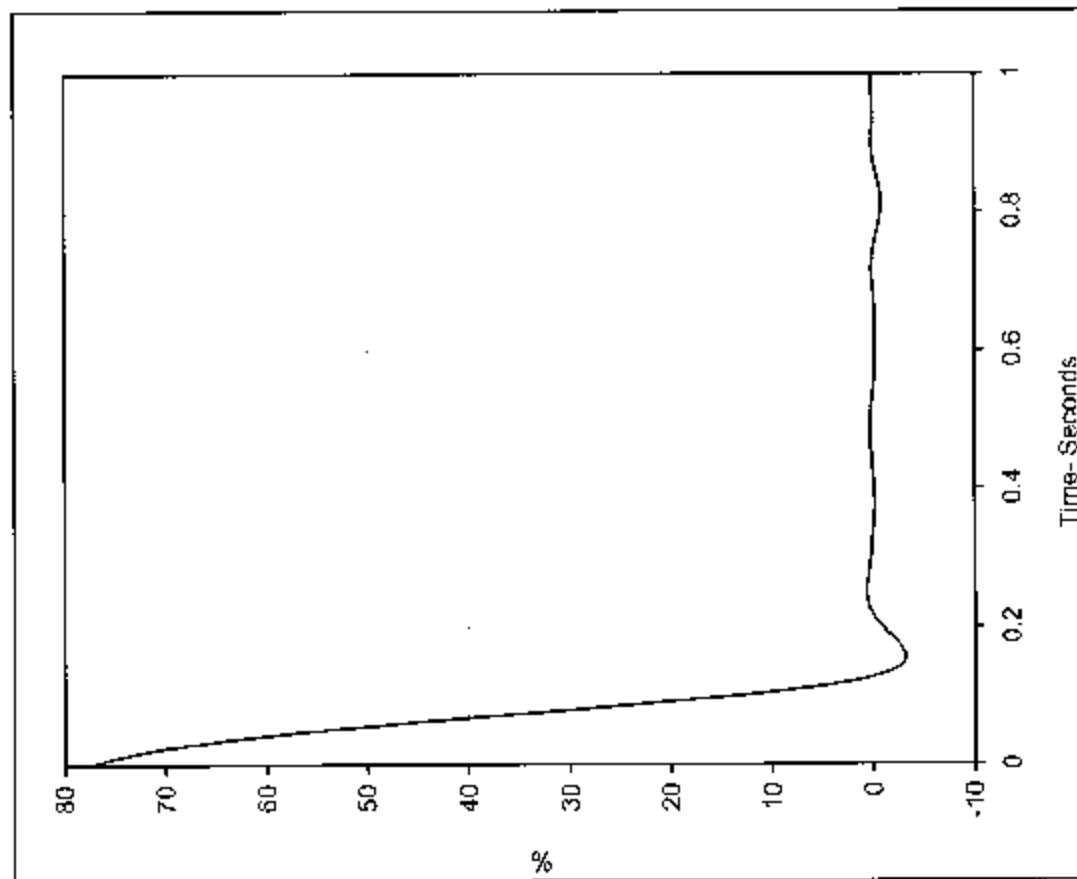
Test Date:

7/18/03

NHTSA No.:

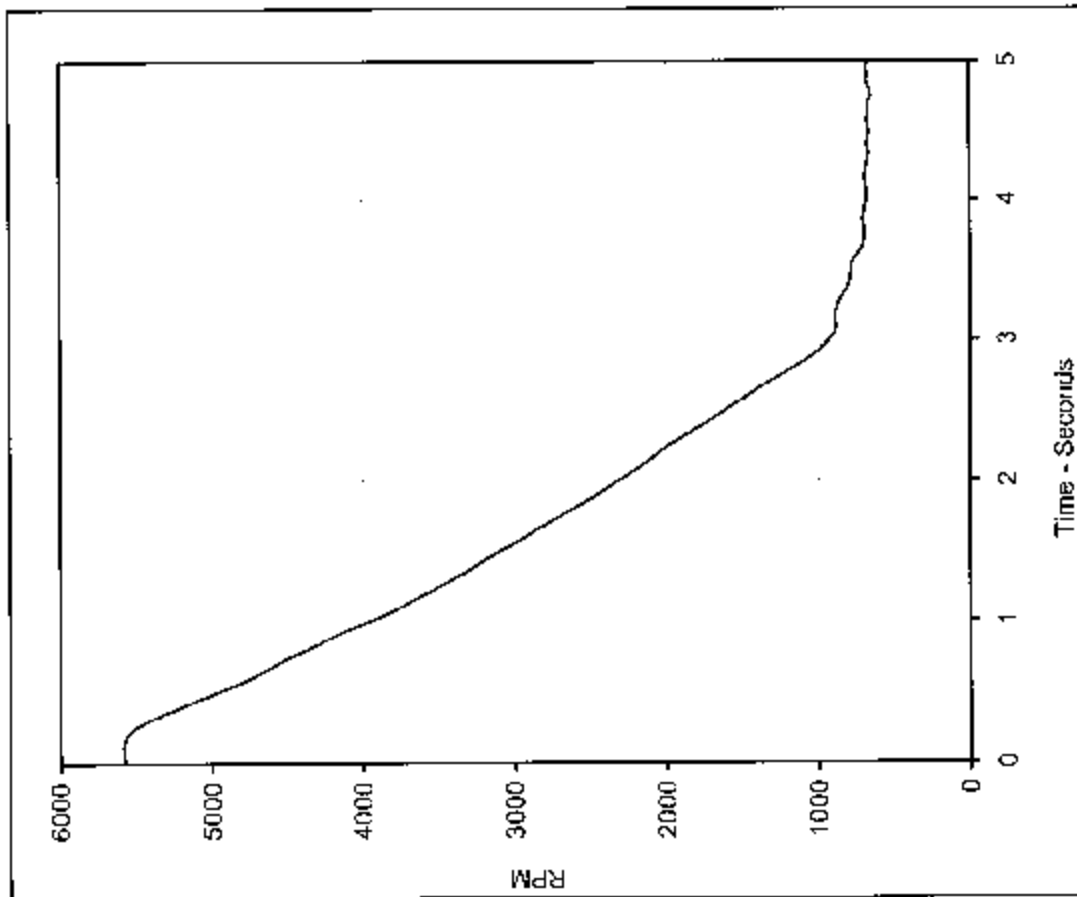
C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	77.4	0.0	130.0	5



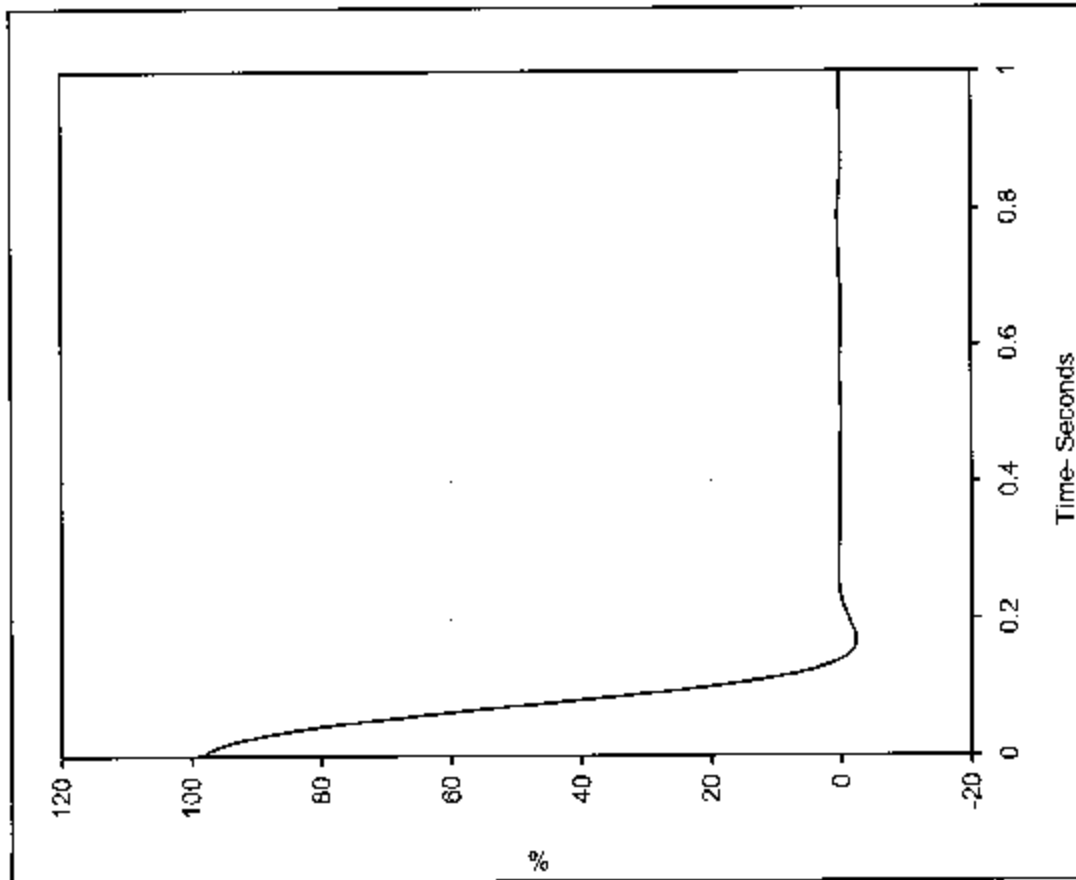
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5582.5	0.1	649.0	5



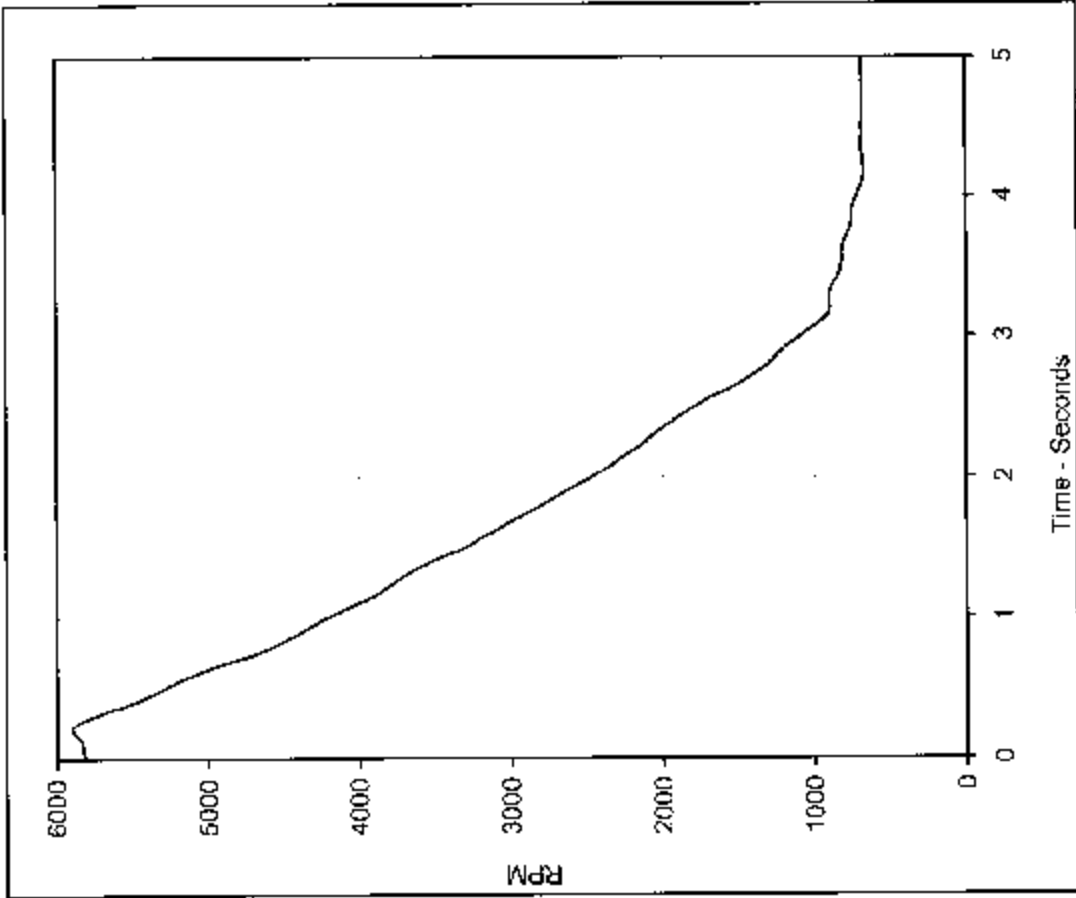
Test Date: 7/18/03
NHTSA No.: C35104

Test Program: FMVSS 124 (#1 Spring Disconnected)
Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	98.7	0.0	140.0	5



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5897.3	0.2	671.5	4.2	5

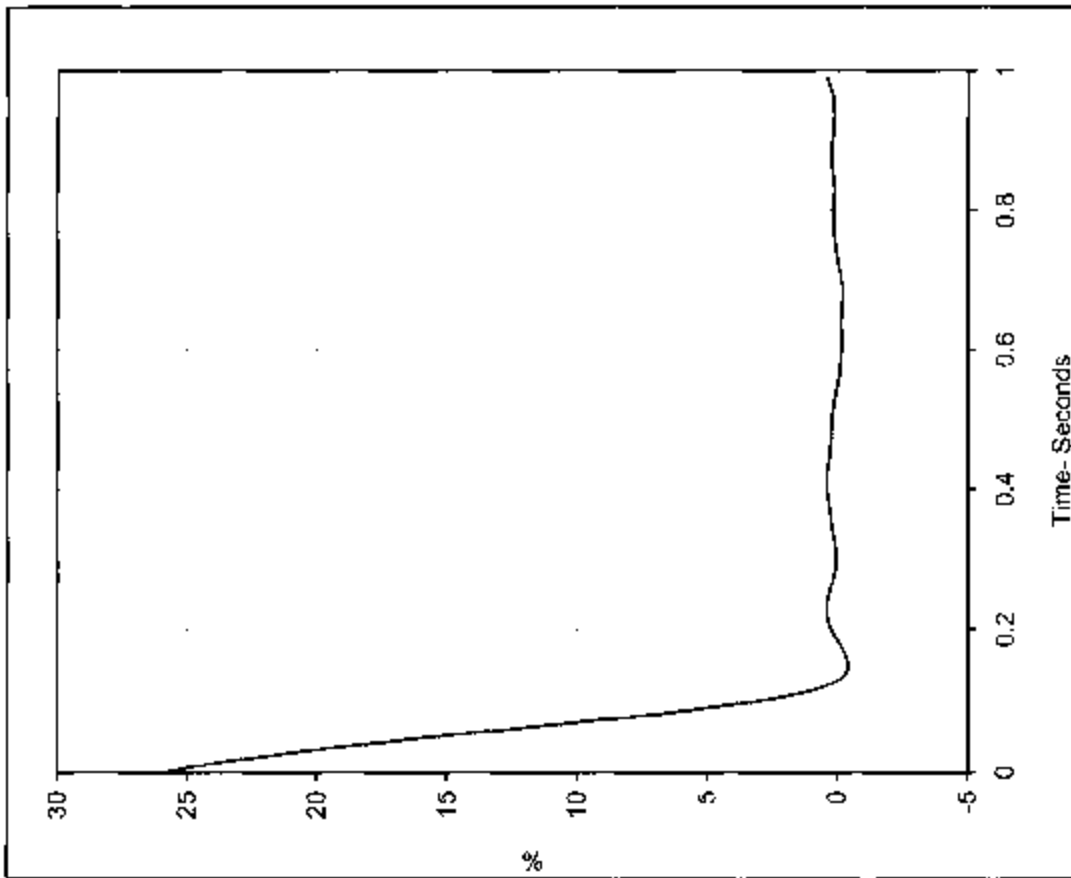


Test Date: 7/18/03

NHTSA No.: C35104

Test Program: FMVSS 124 (#1 Spring Disconnected)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

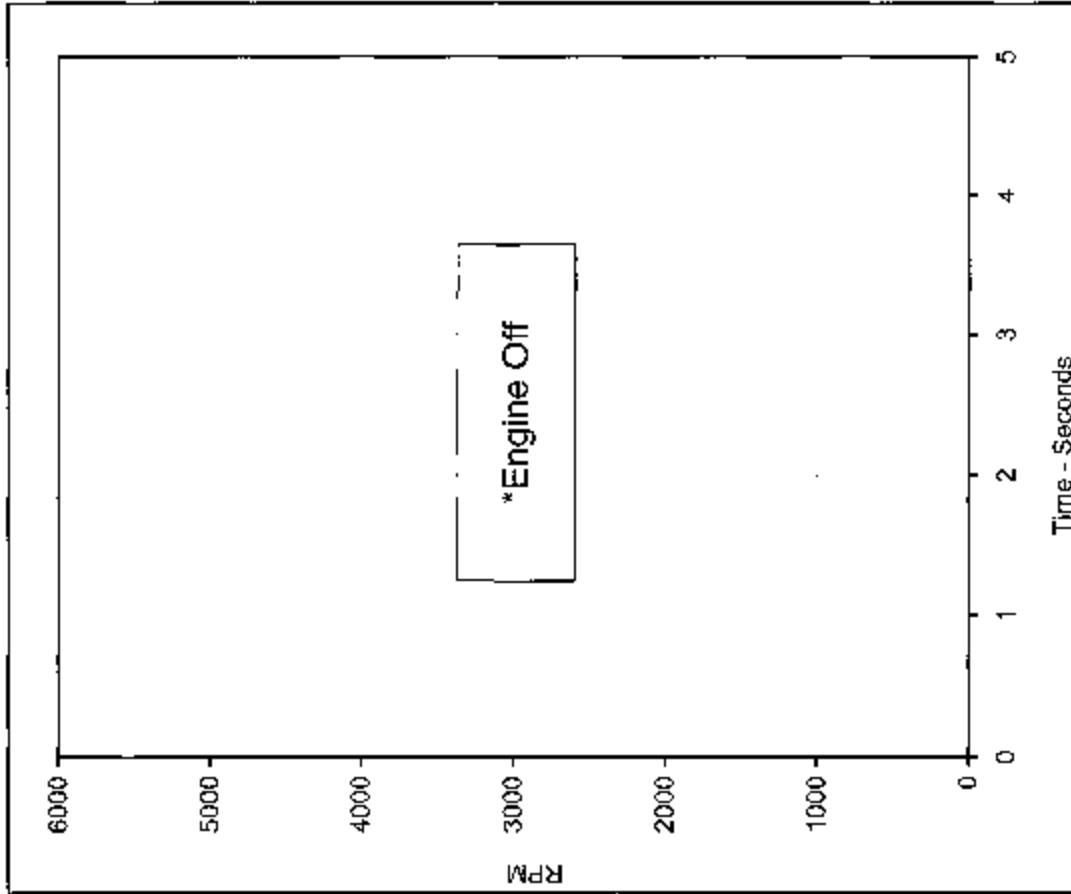


Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	25.9	0.0	120.0	5

Test Program: FMVSS 124 (#1 Spring Disconnected)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

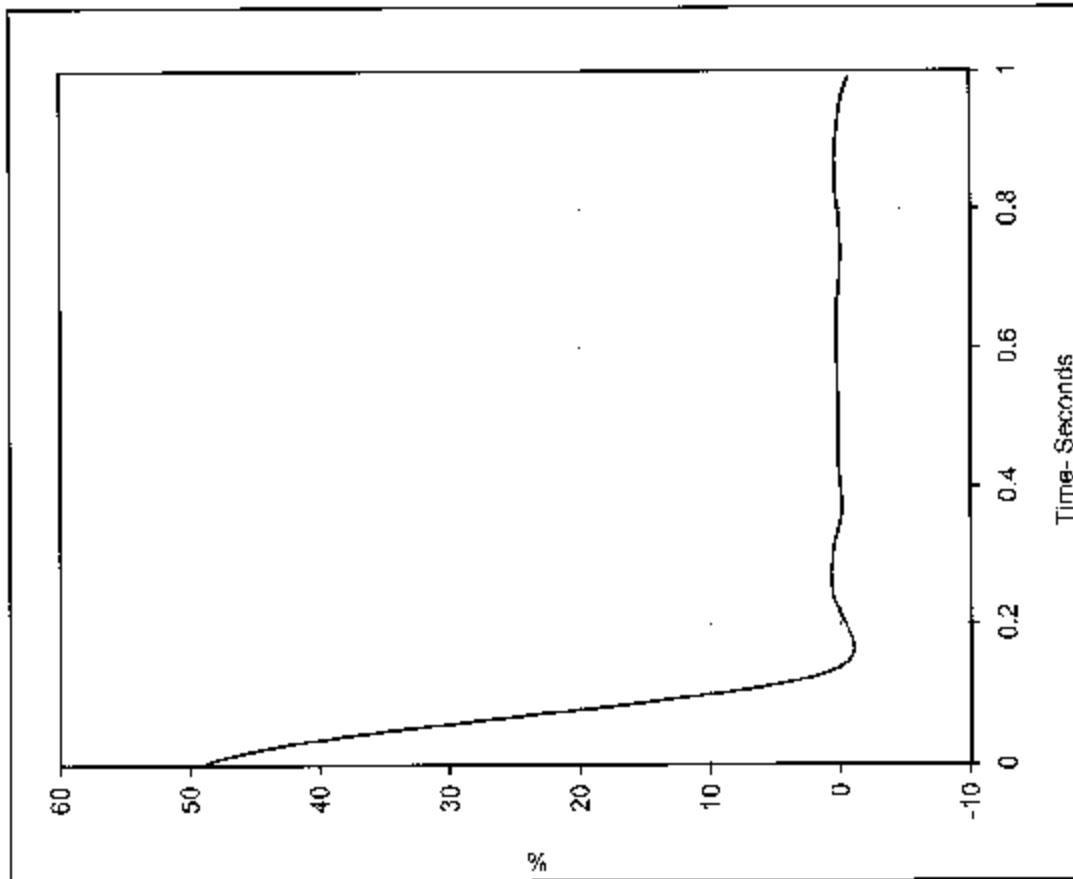
Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

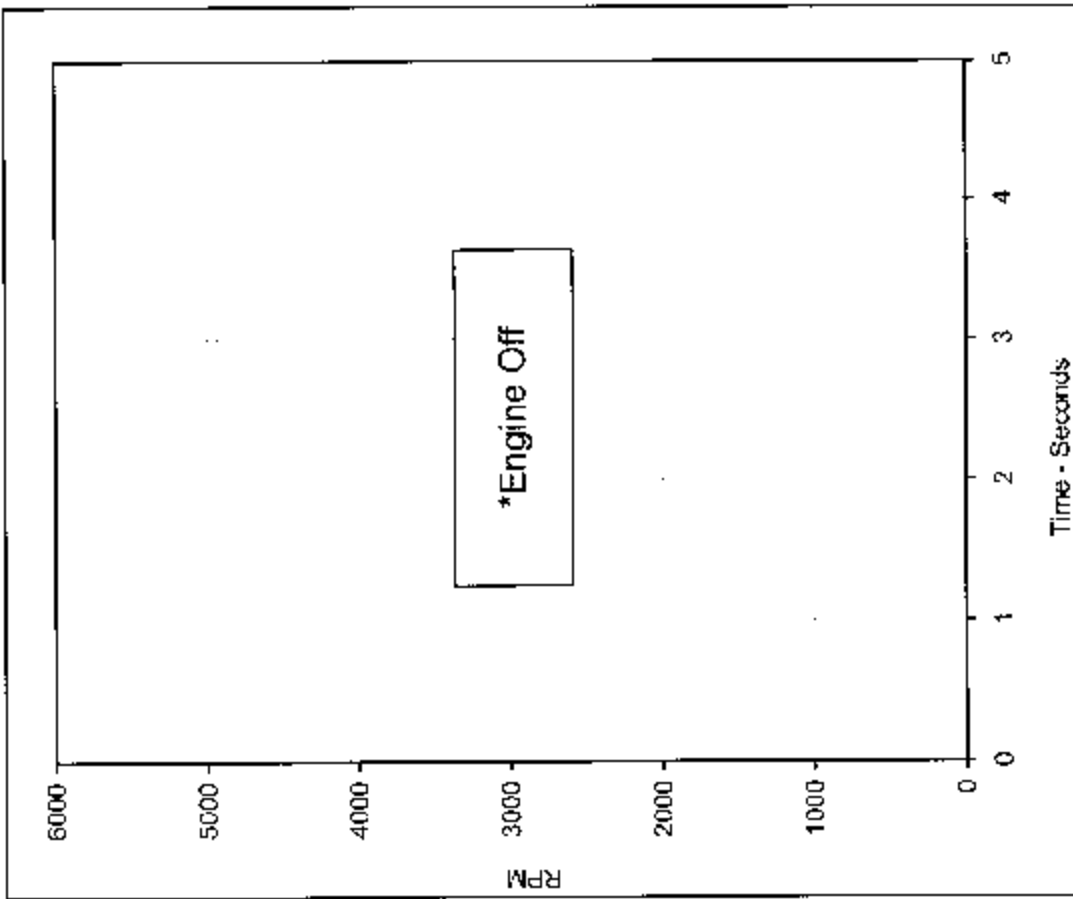
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	49.1	0.0	140.0	5

Test Program:

FMVSS 124 (#1 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

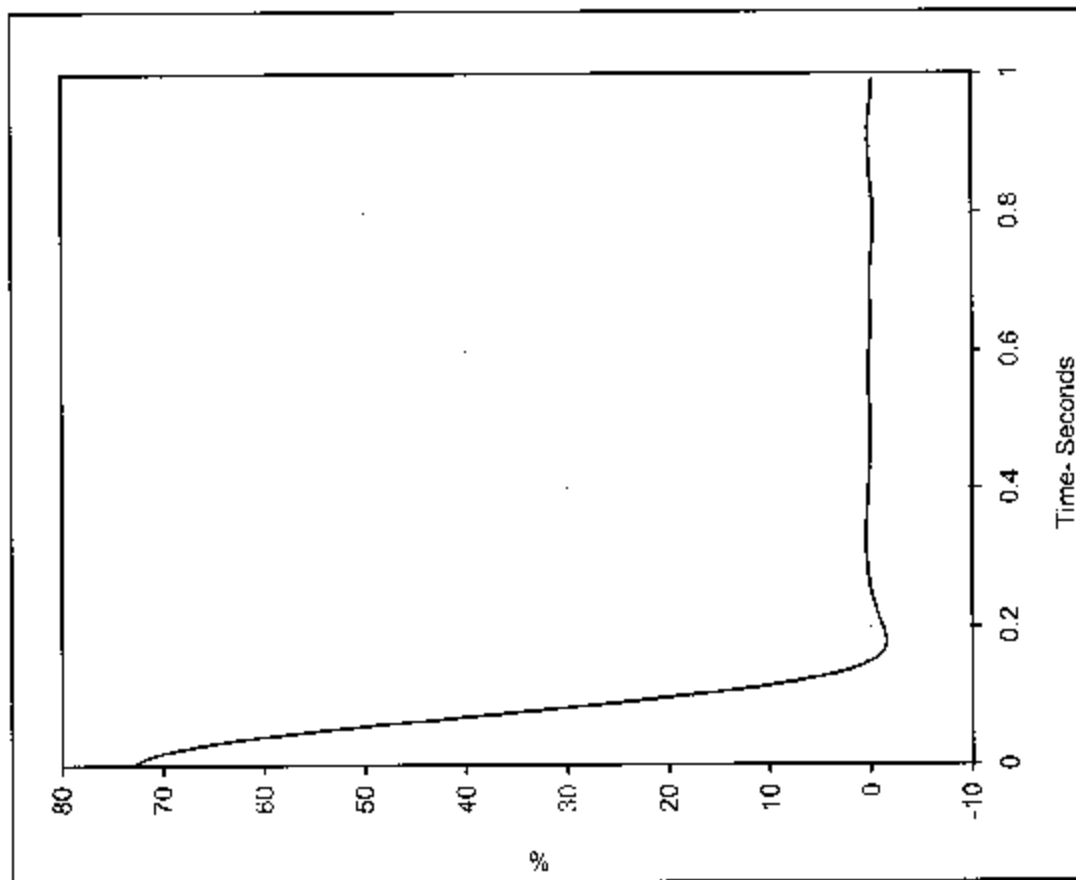
Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104



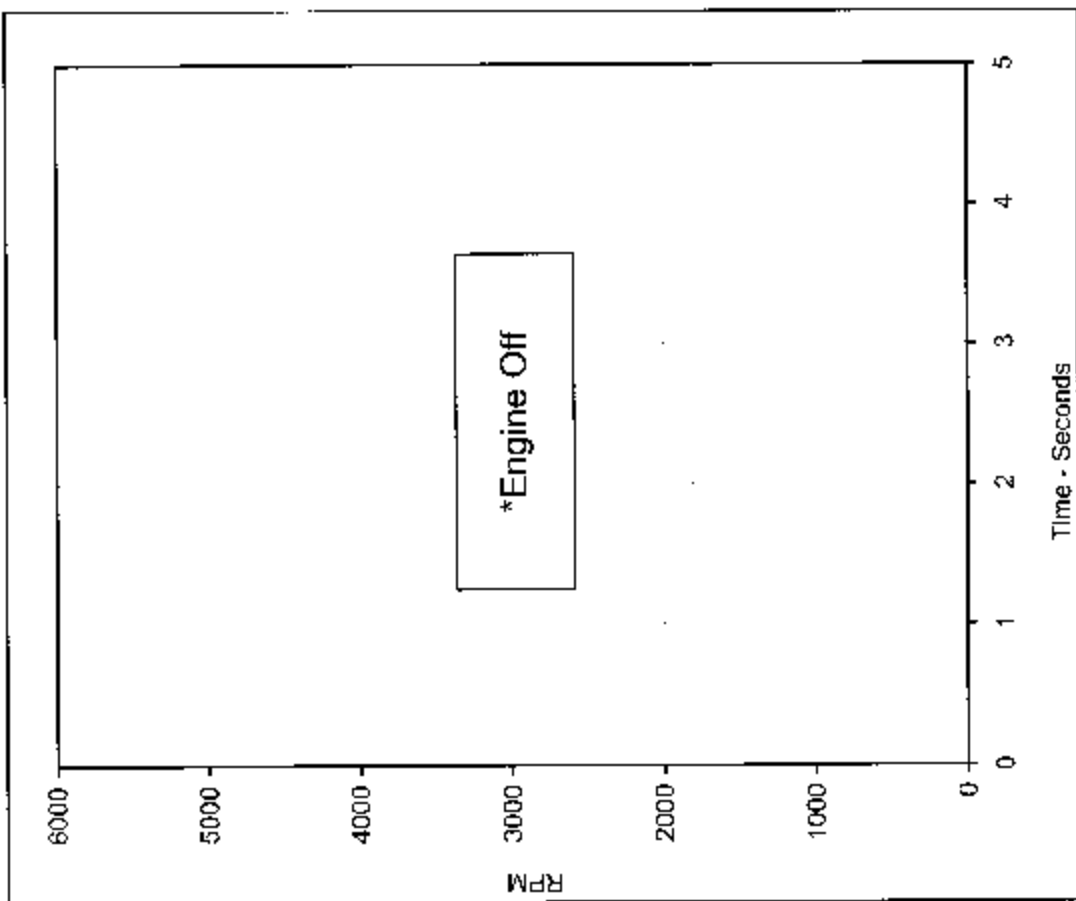


Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	72.9	0.0	150.0	5

Test Program: FMVSS 124 (#1 Spring Disconnected)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

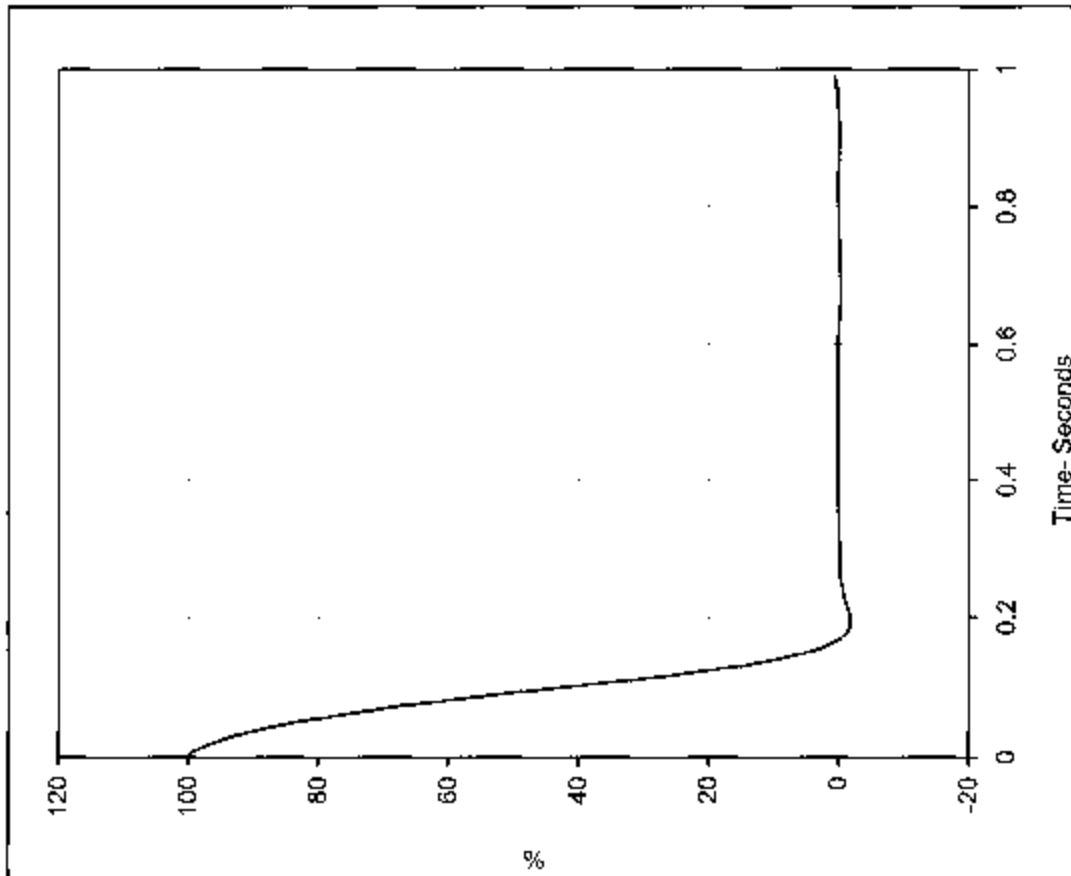
Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104

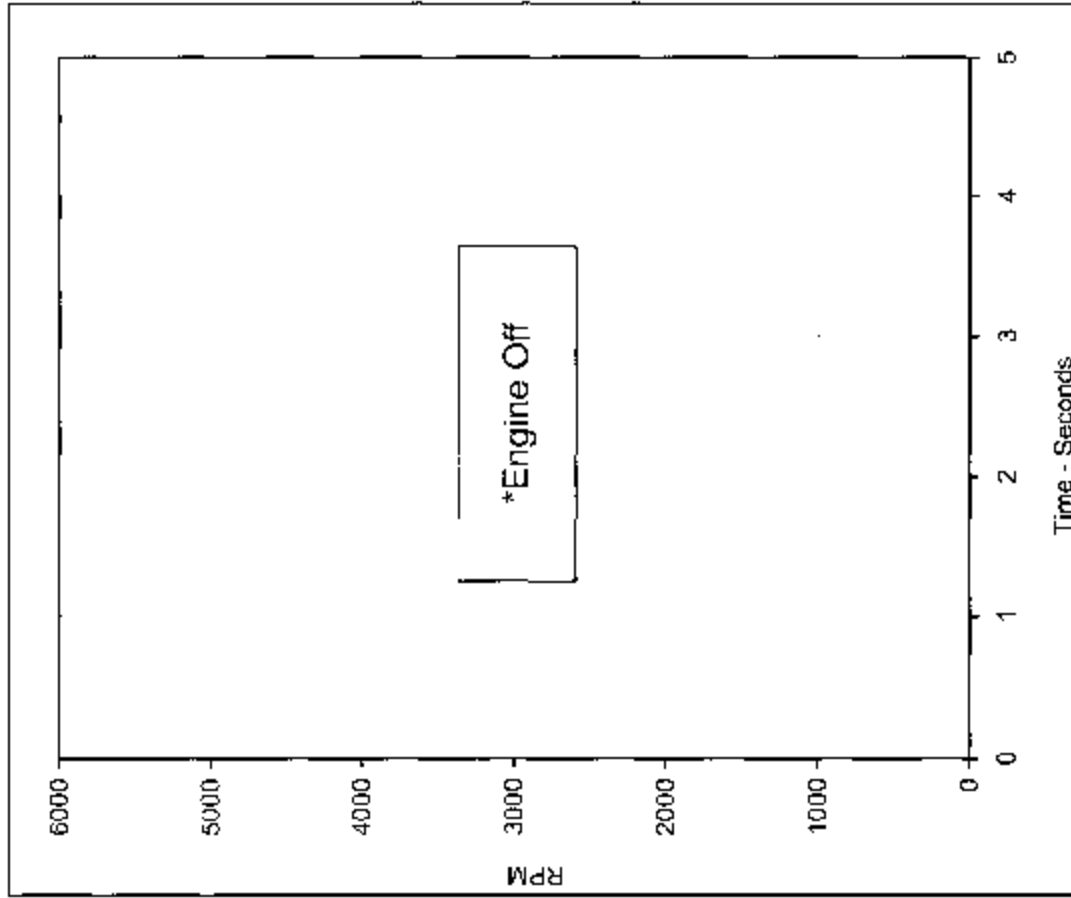




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	100.3	0.0	170.0	5

Test Program: FMVSS 124 (#1 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



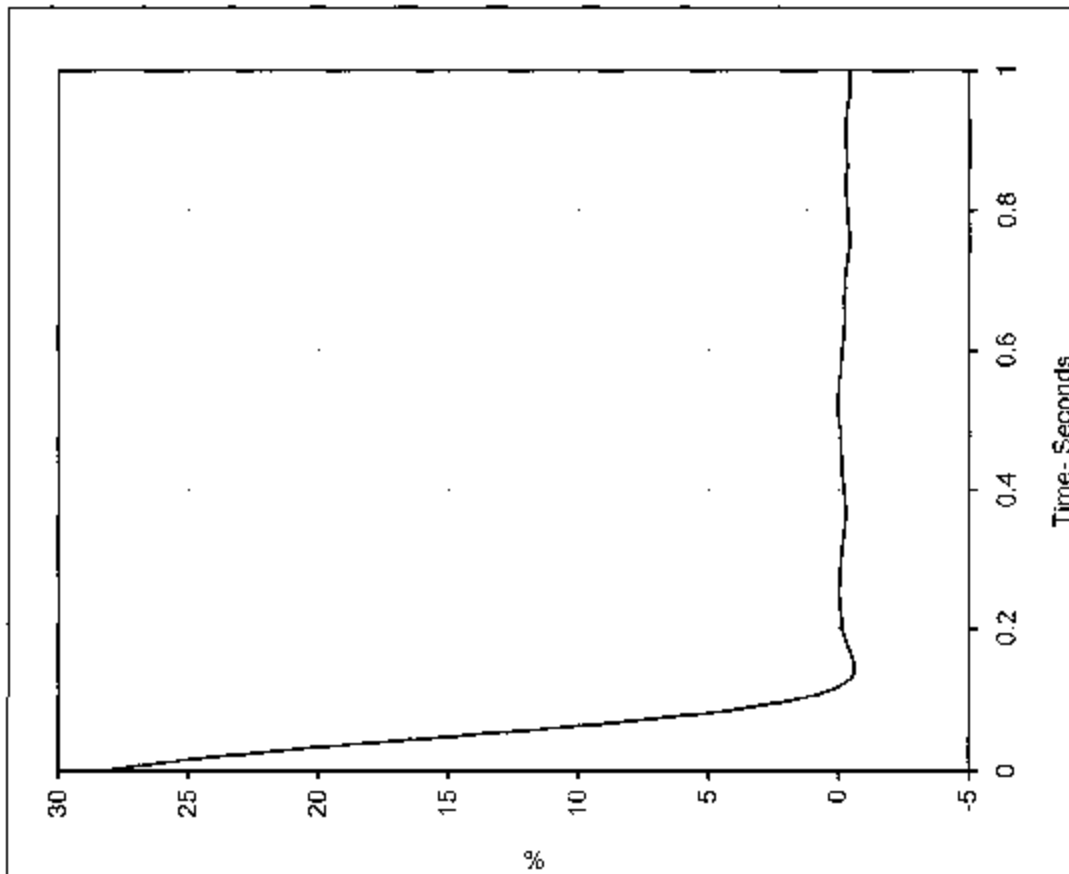
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

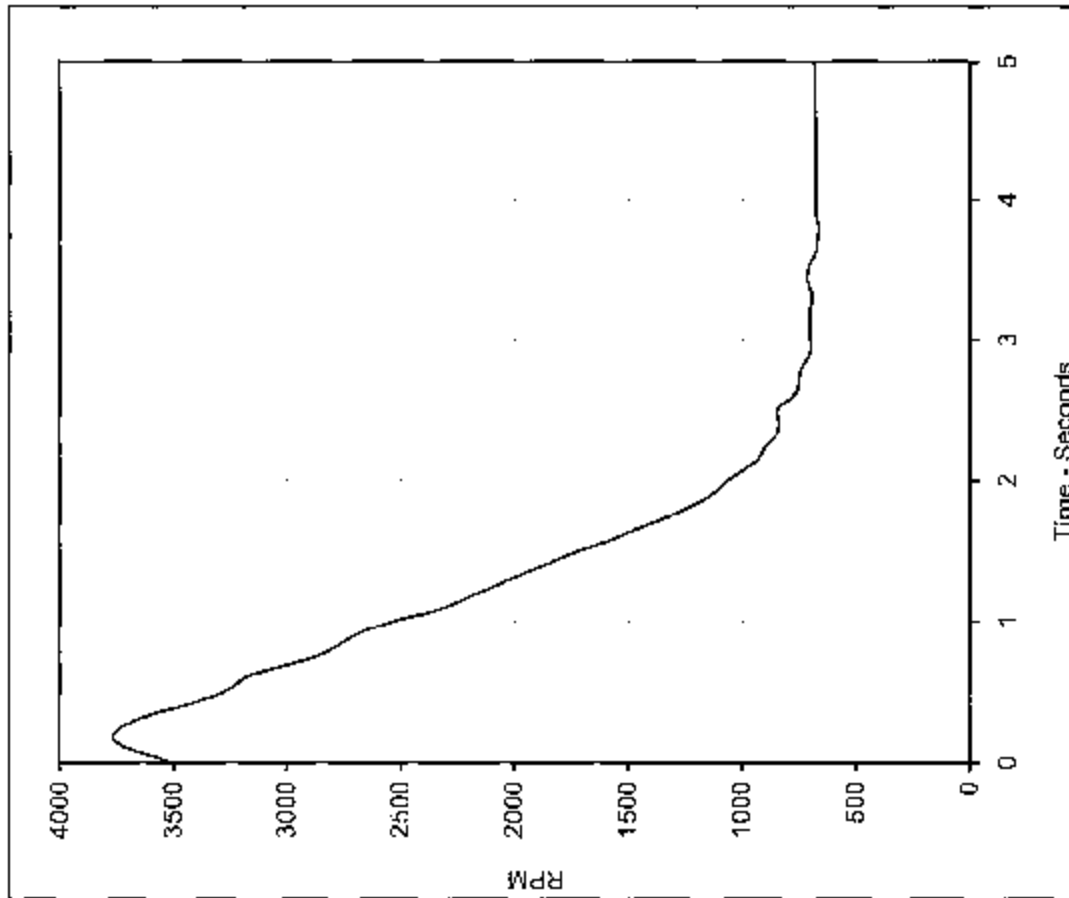
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	28.2	0.0	110.0	5

Test Program:

FMVSS 124 (#2 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	3765.9	0.2	864.2	3.8	5

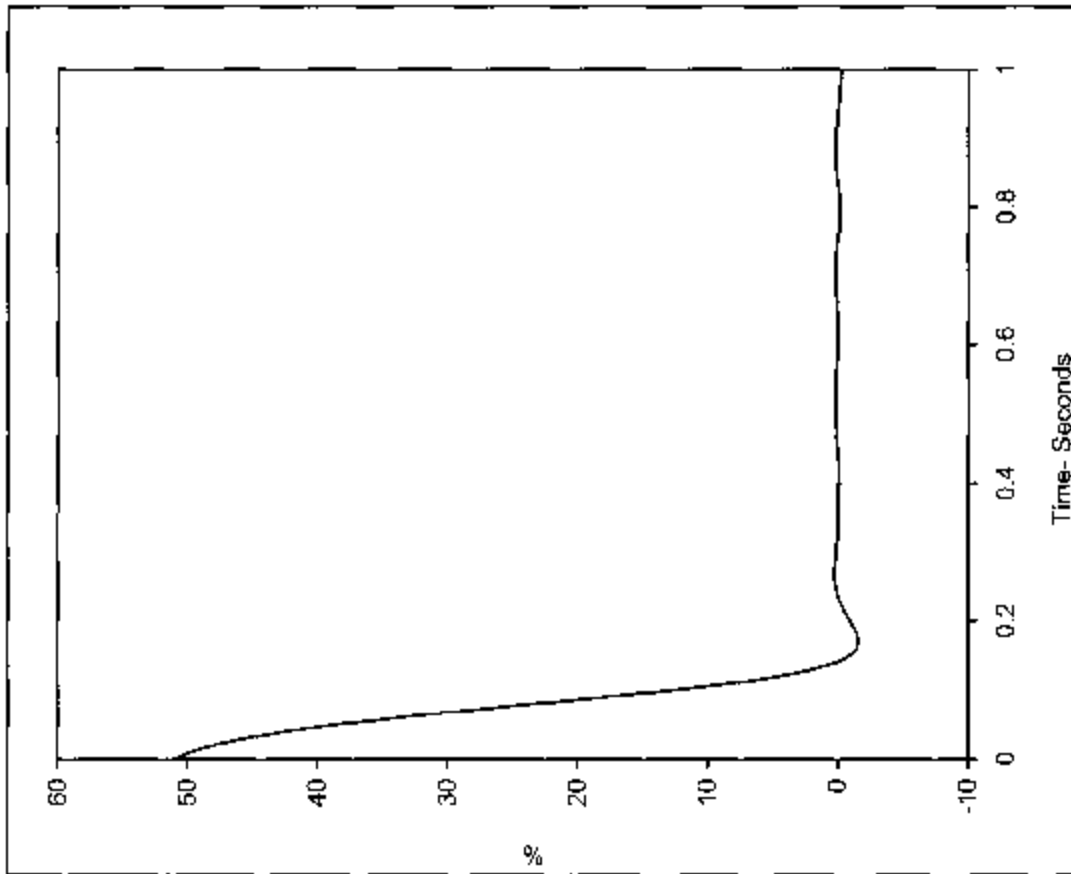
Test Date:

7/18/03

NHTSA No.:

C35104

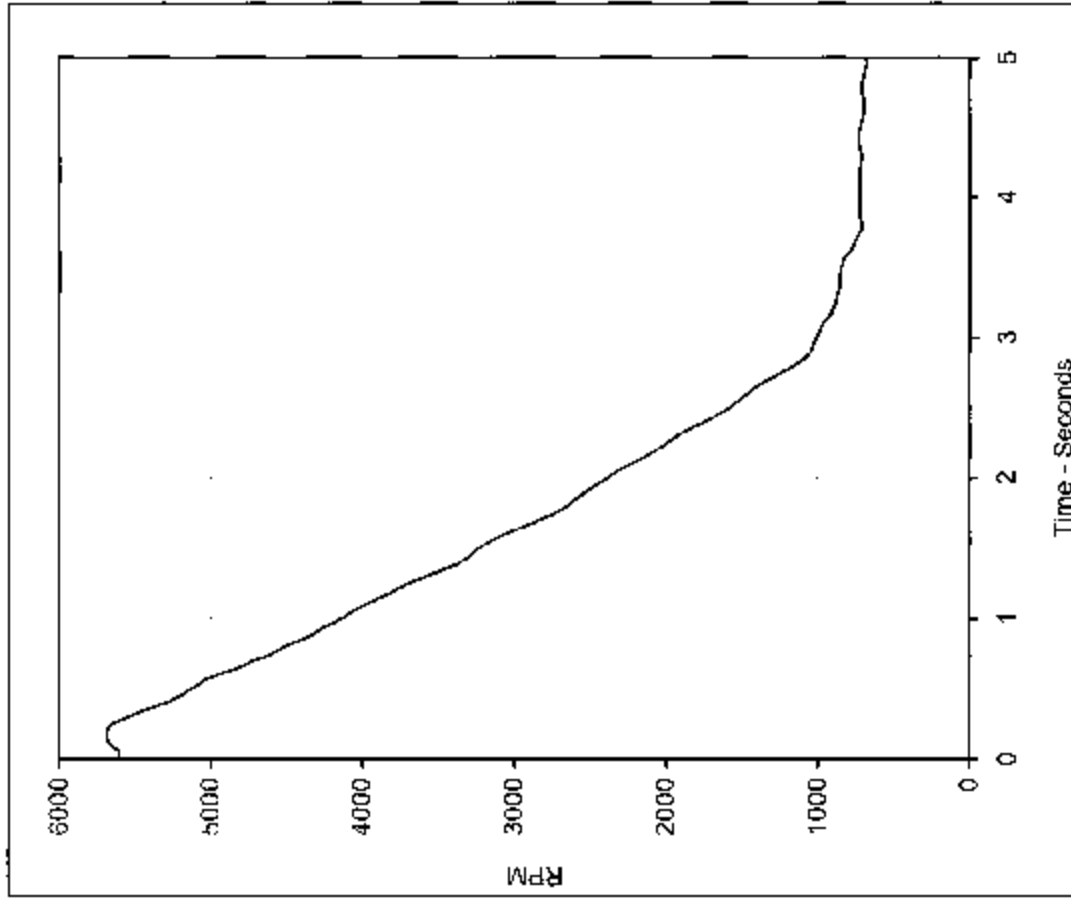




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	51.0	0.0	150.0	5

Test Program: FMVSS 124 (#2 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

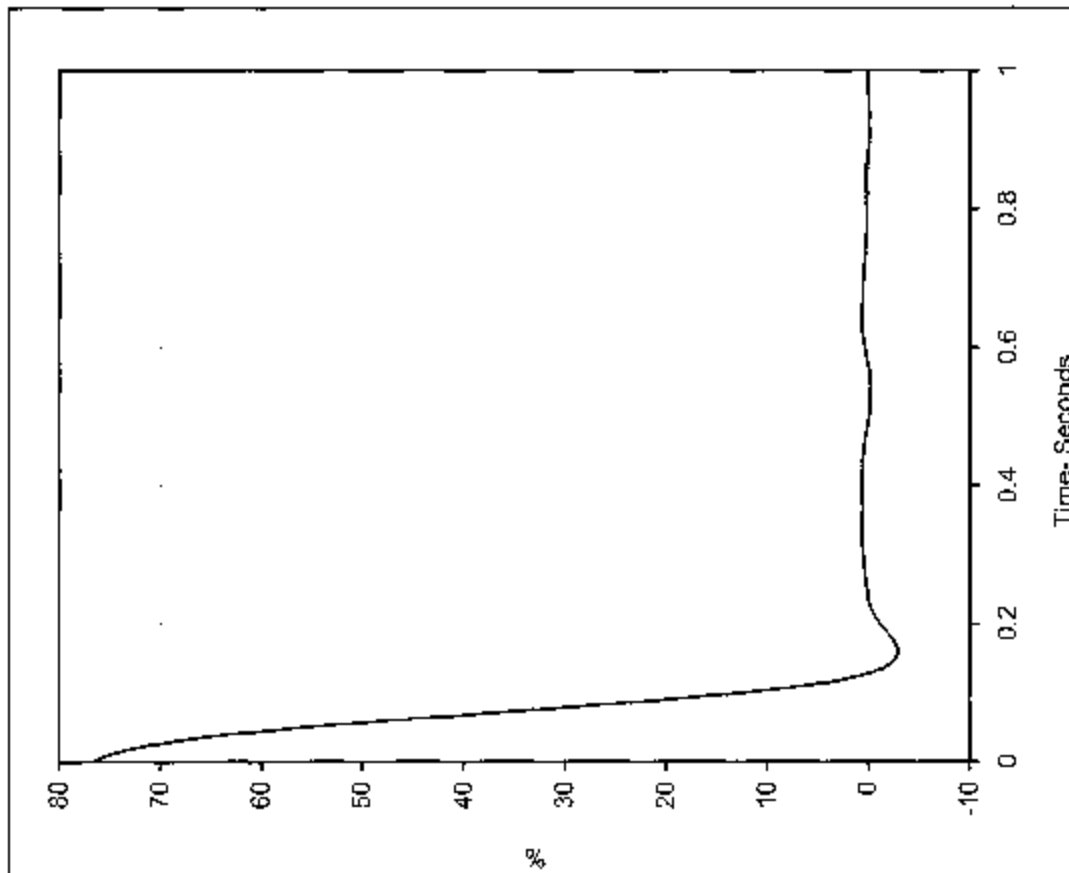


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5682.7	0.2	878.1	5

Test Date: 7/18/03
 NHTSA No.: C35104



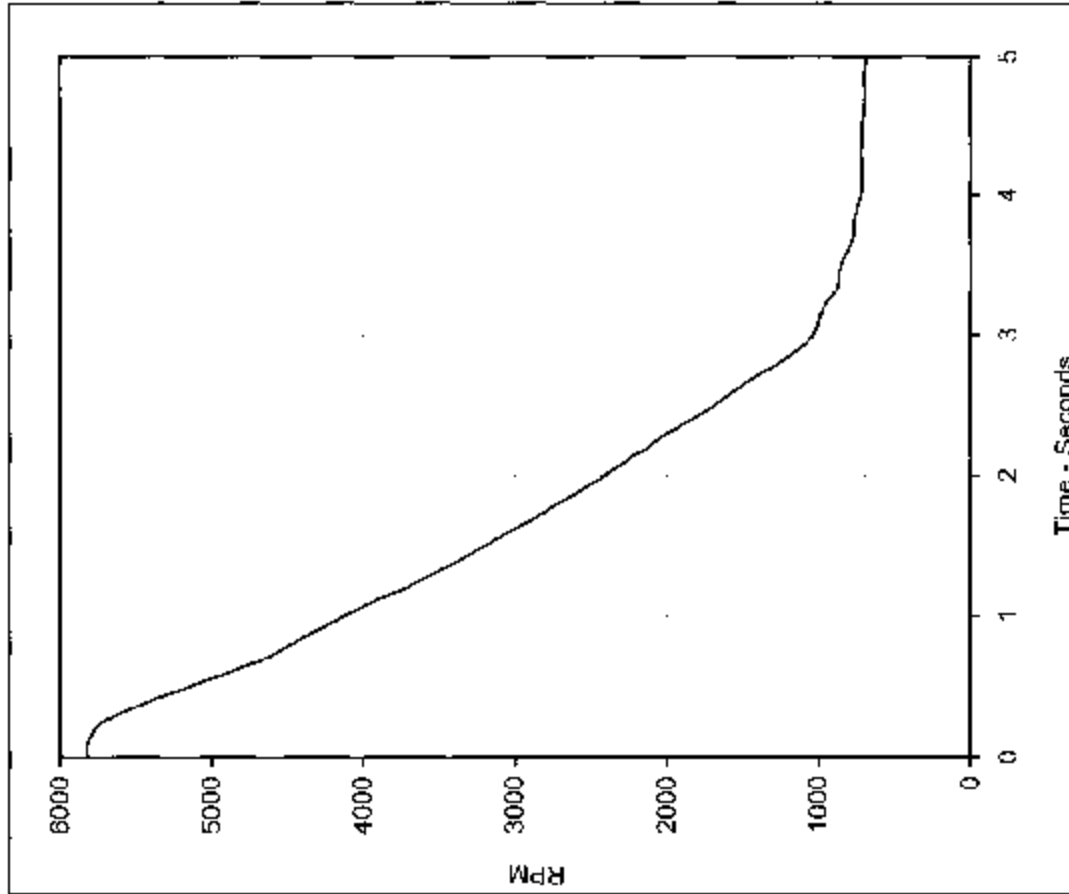


Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	76.6	0.0	130.0	5

Test Program: FMVSS 124 (#2 Spring Disconnected)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



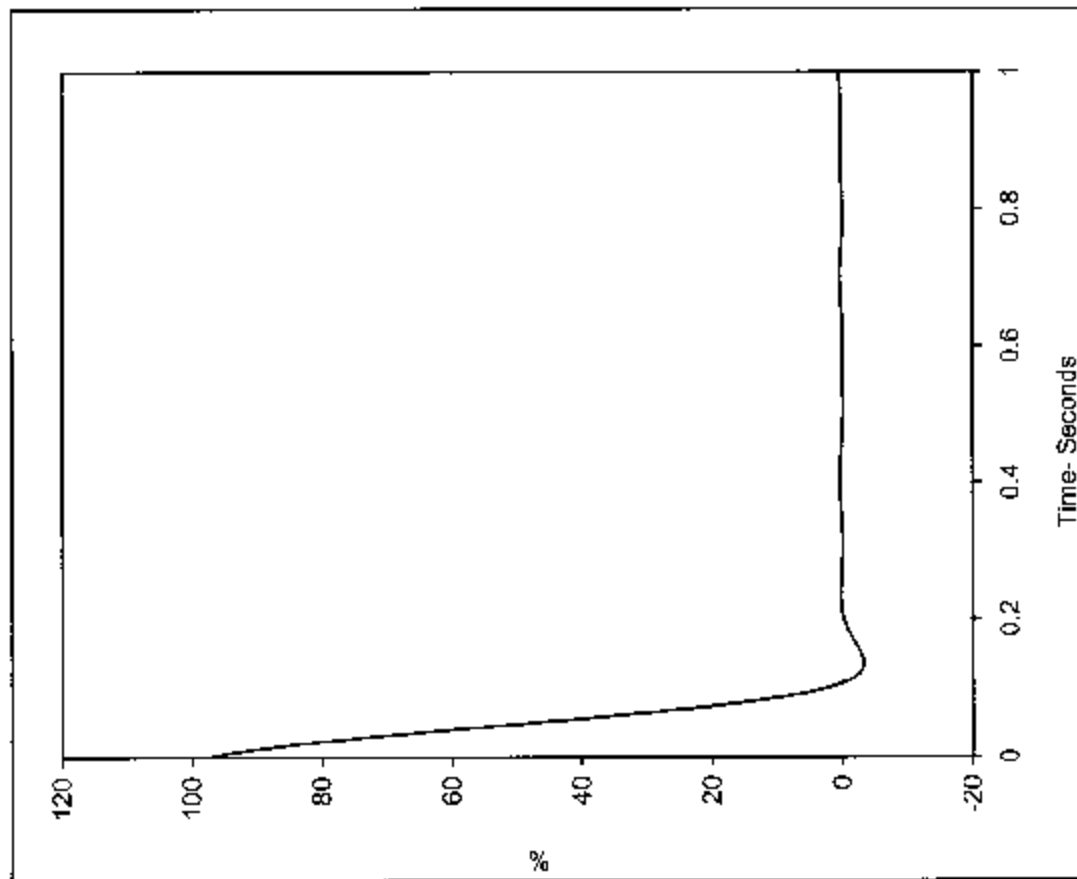
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5823.8	0.1	687.4	5

Test Date: 7/18/03

NHTSA No.: C35104

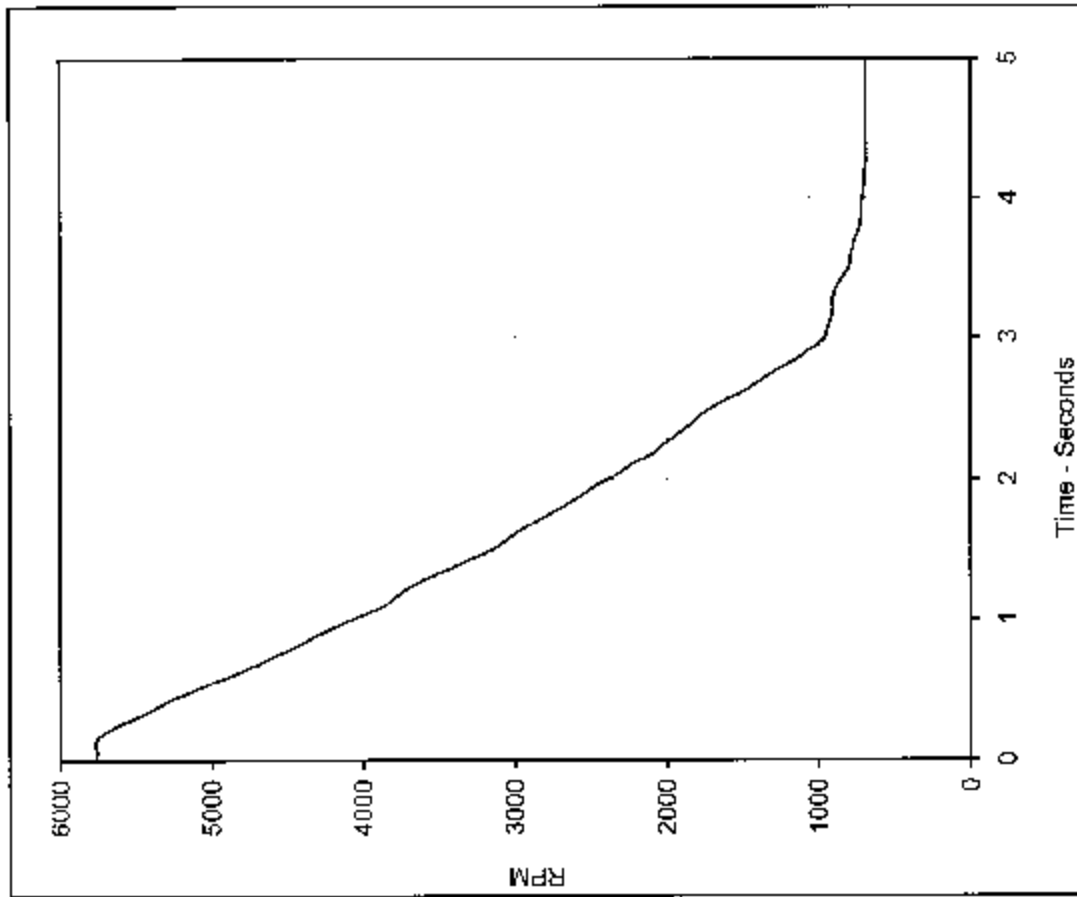




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	98.3	0.0	110.0	5

Test Program: FMVSS 124 (#2 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

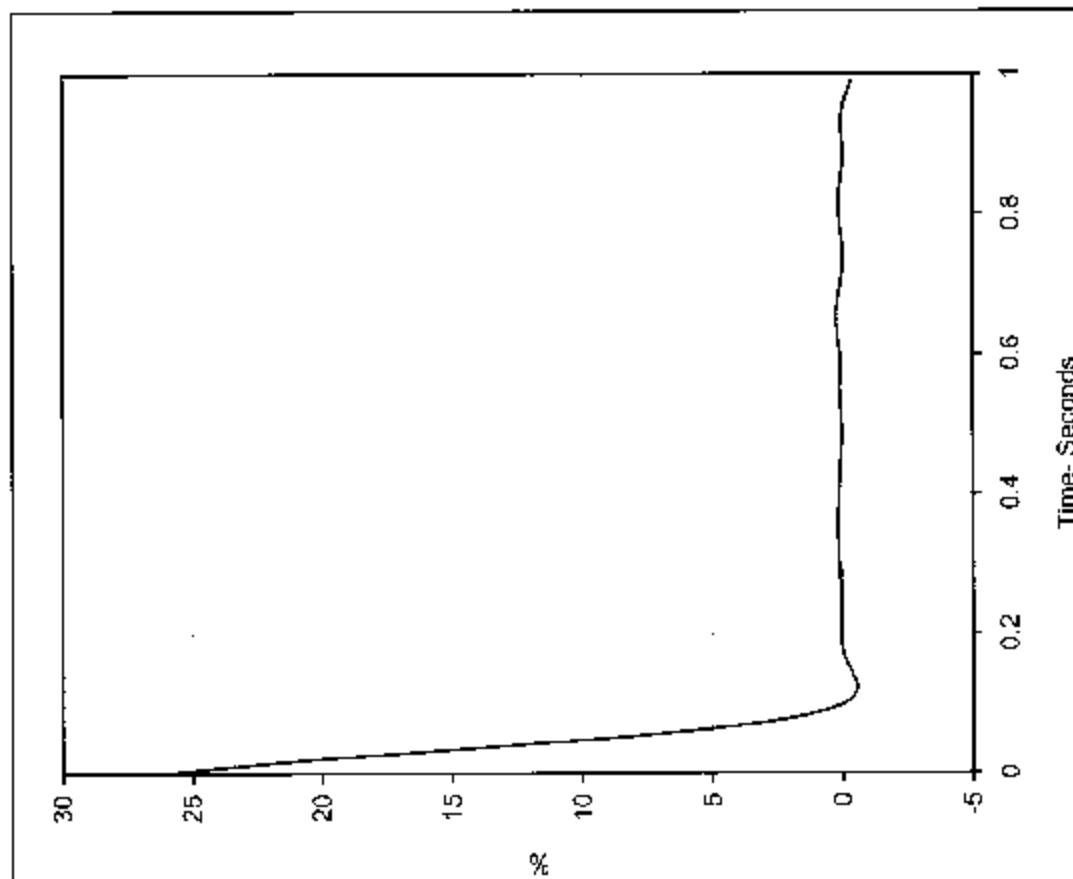


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5770.2	0.1	688.2	5.0	5

Test Date: 7/18/03
 NHTSA No.: C35104

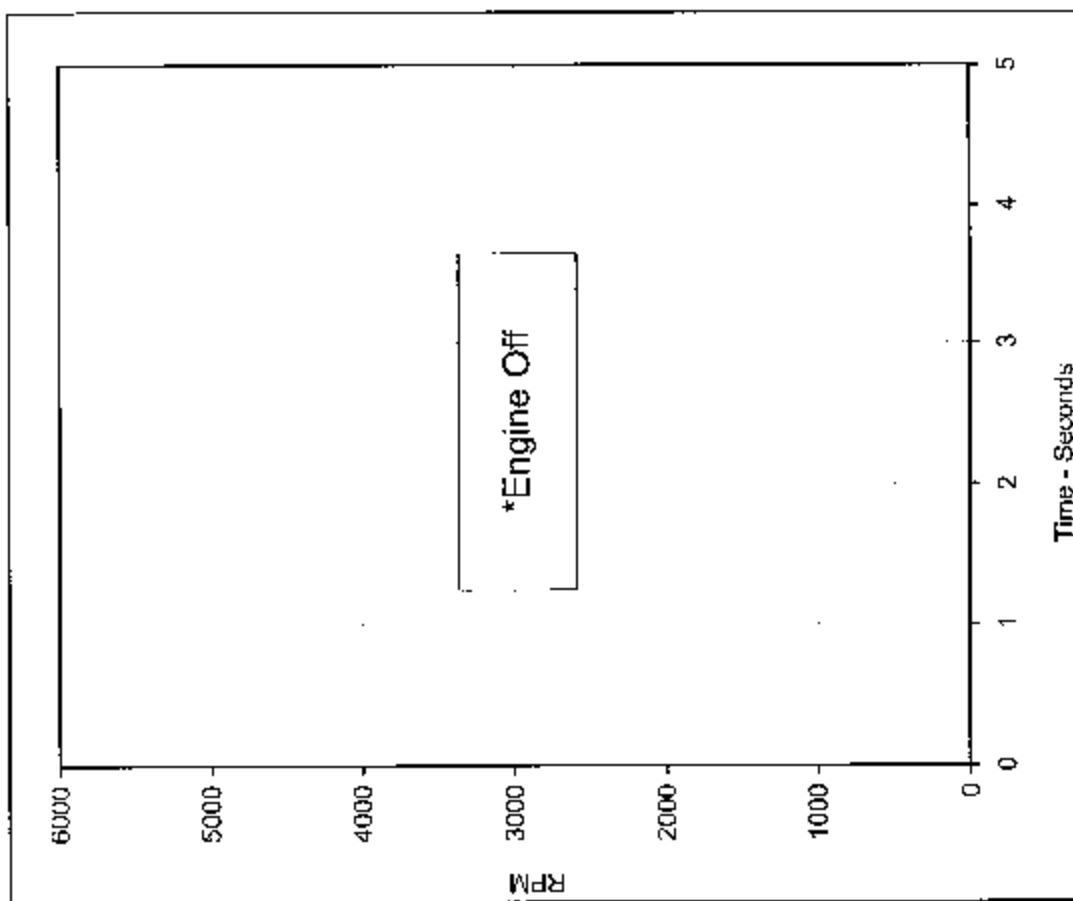




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	26.3	0.0	120.0	5

Test Program: FMVSS 124 (#2 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

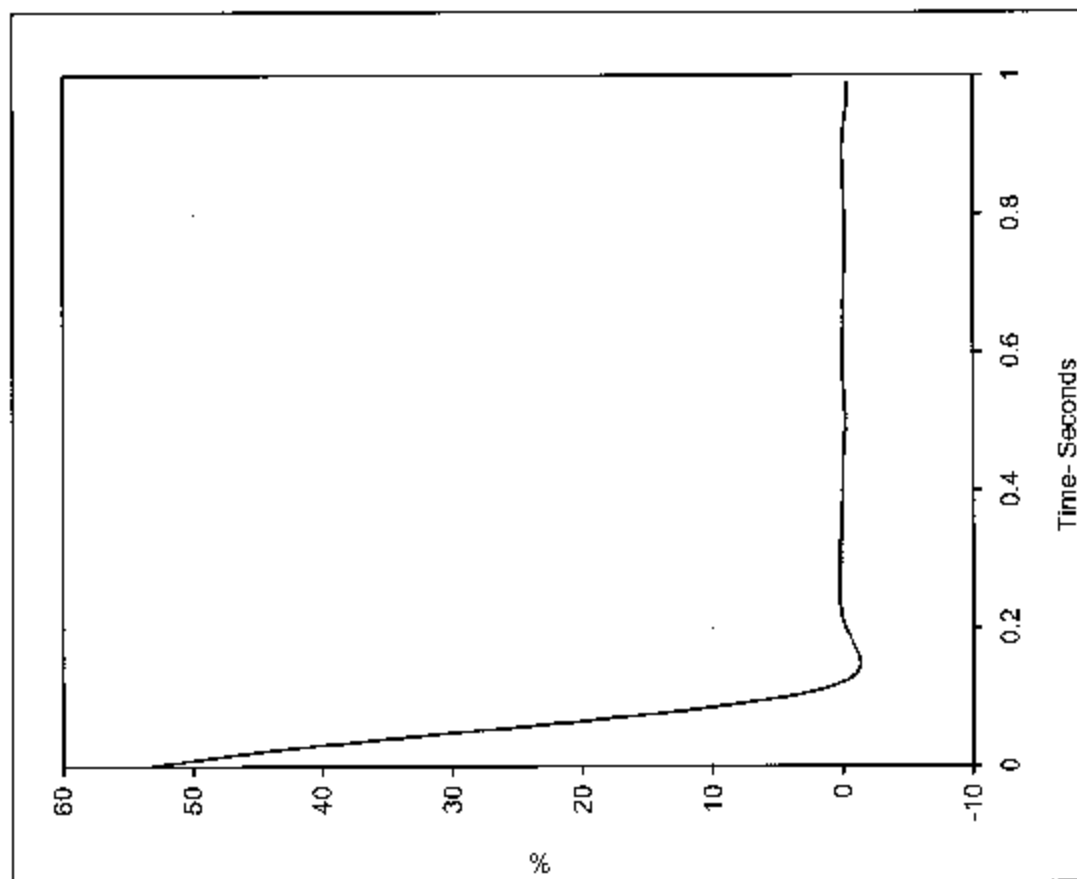


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off
 Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

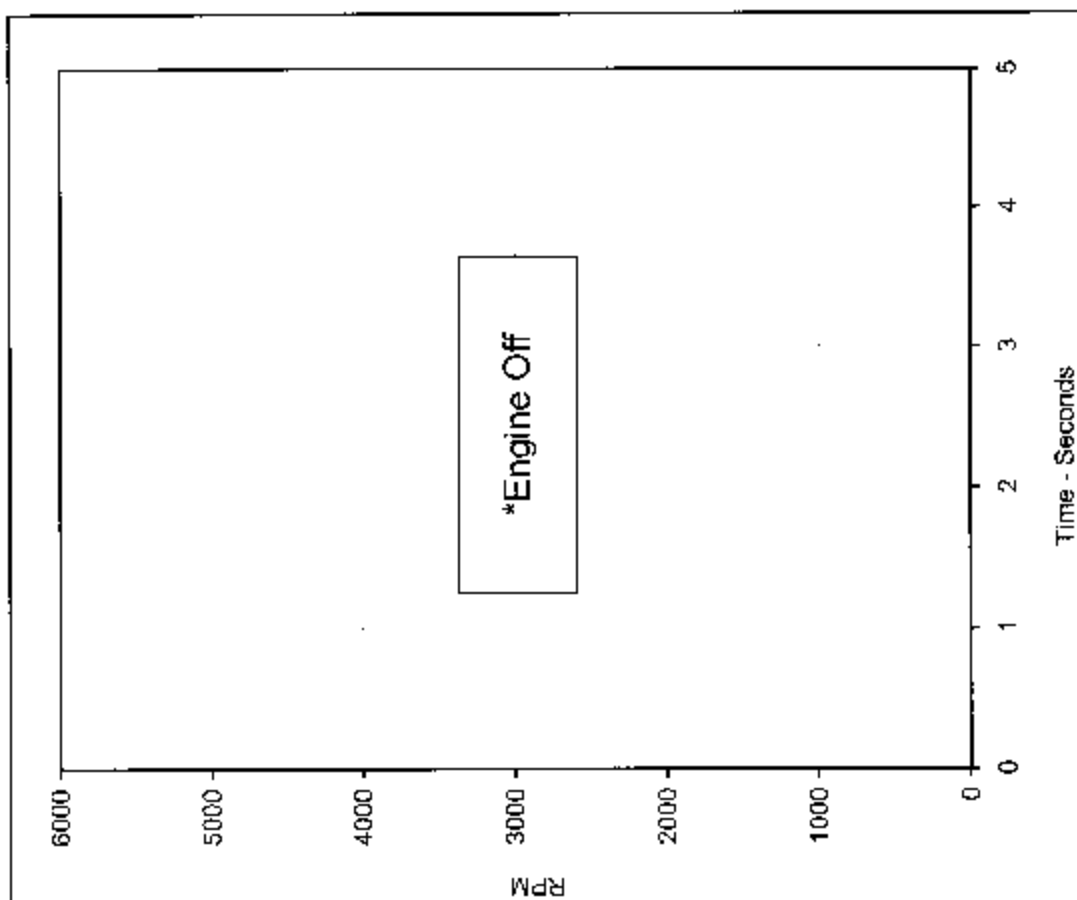
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	53.3	0.0	130.0	5

Test Program:

FMVSS 124 (#2 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

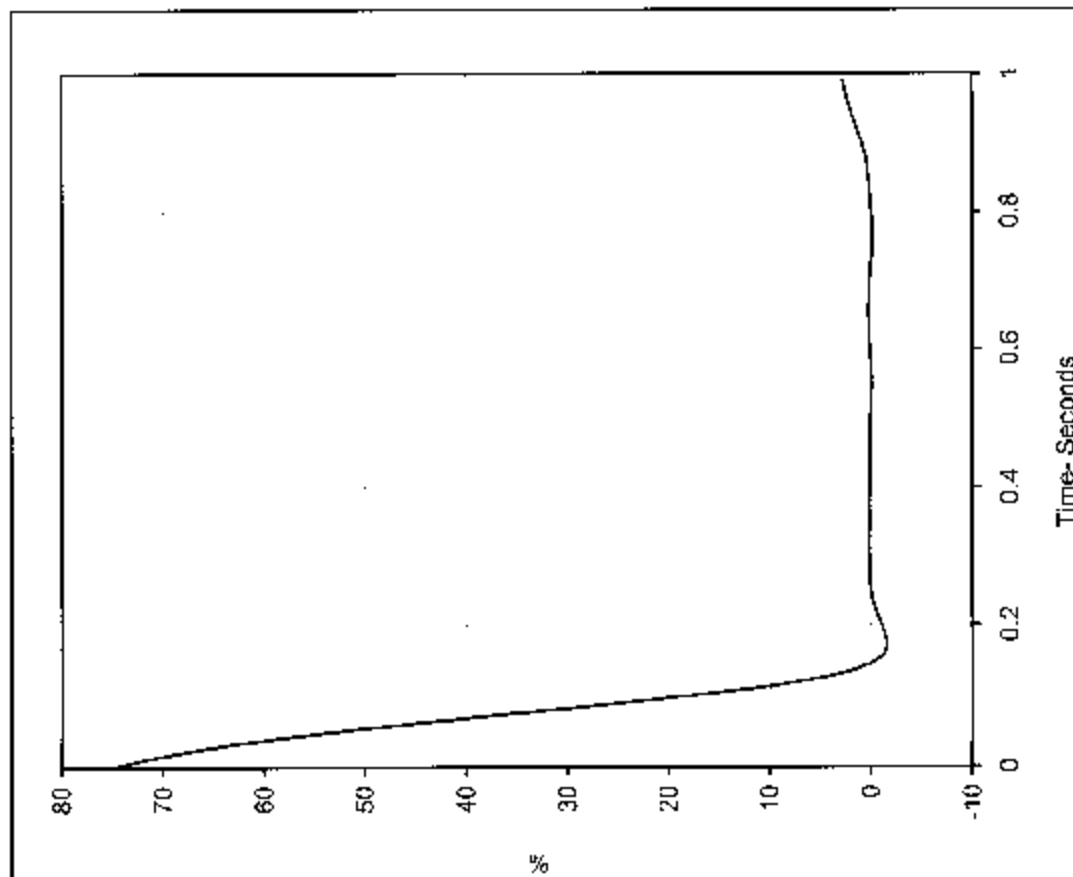
Test Date:

7/18/03

NHTSA No.:

C35104

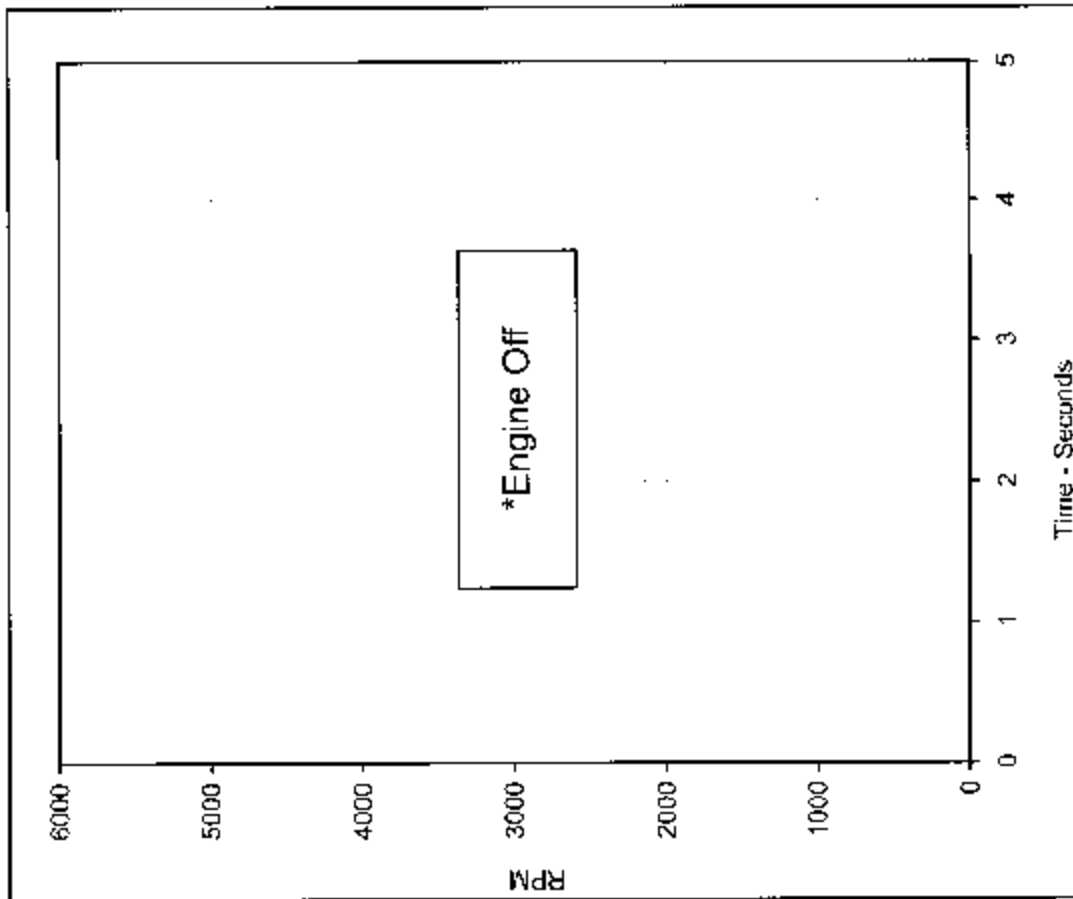




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	74.8	0.0	150.0	5

Test Program: FMVSS 124 (#2 Spring Disconnected)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



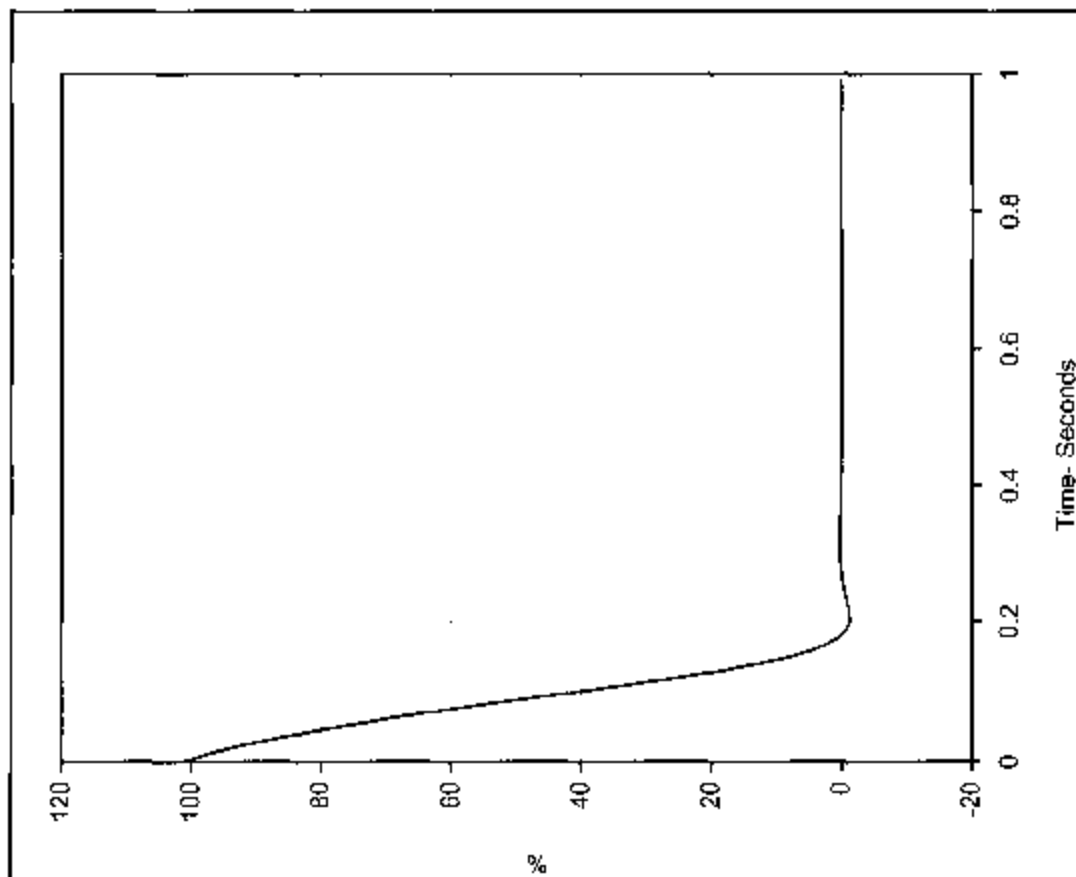
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

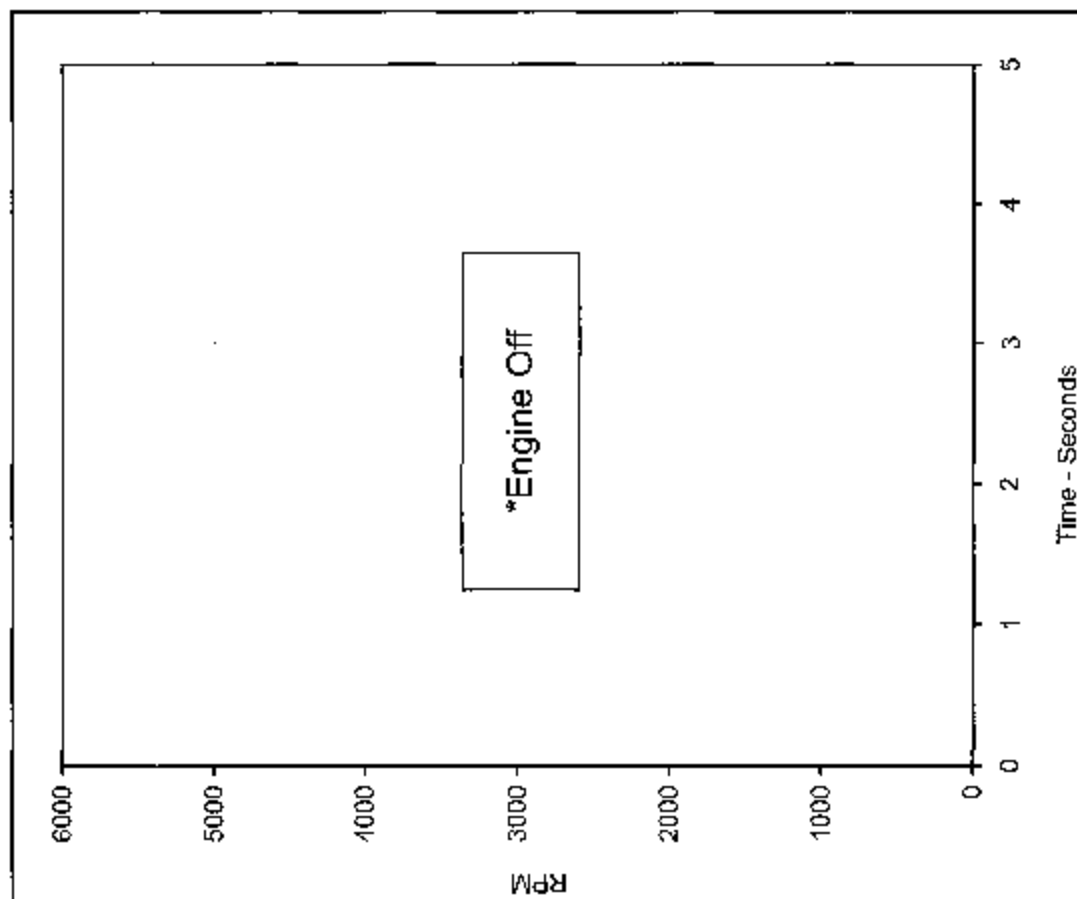
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	101.1	0.0	190.0	5

Test Program:

FMVSS 124 (#2 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

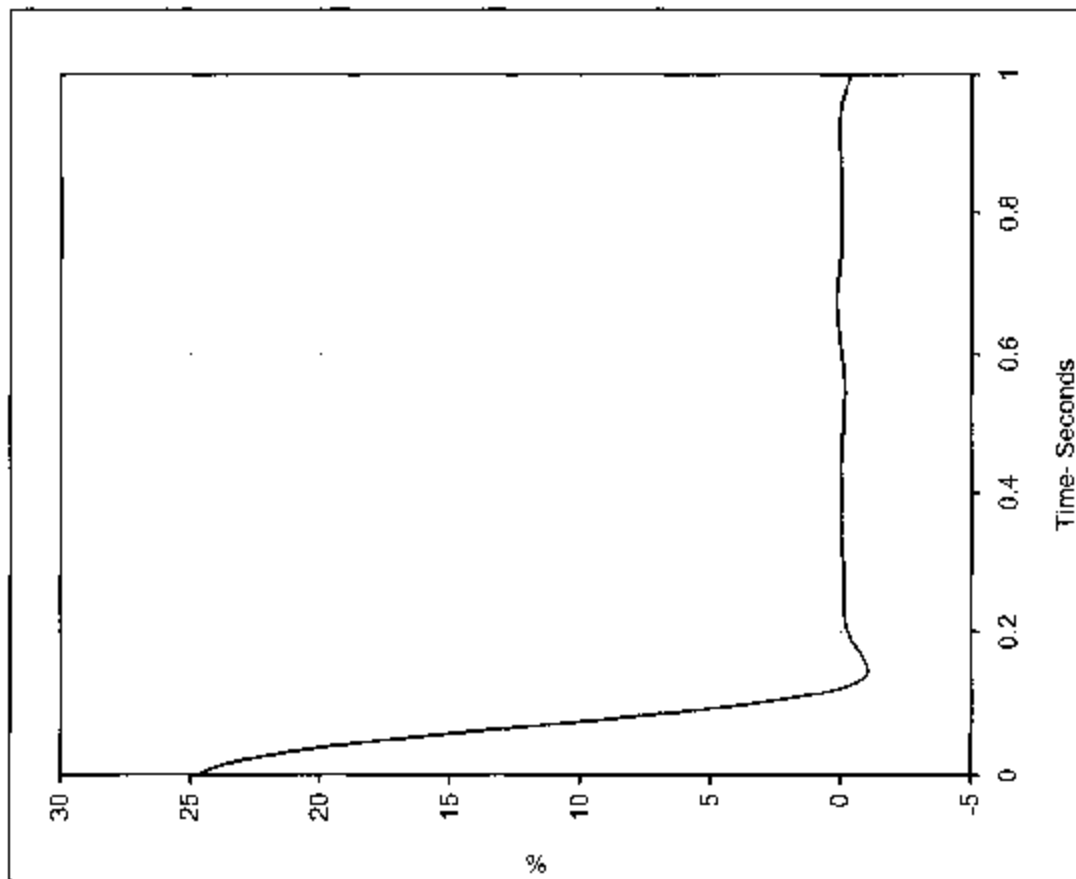
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

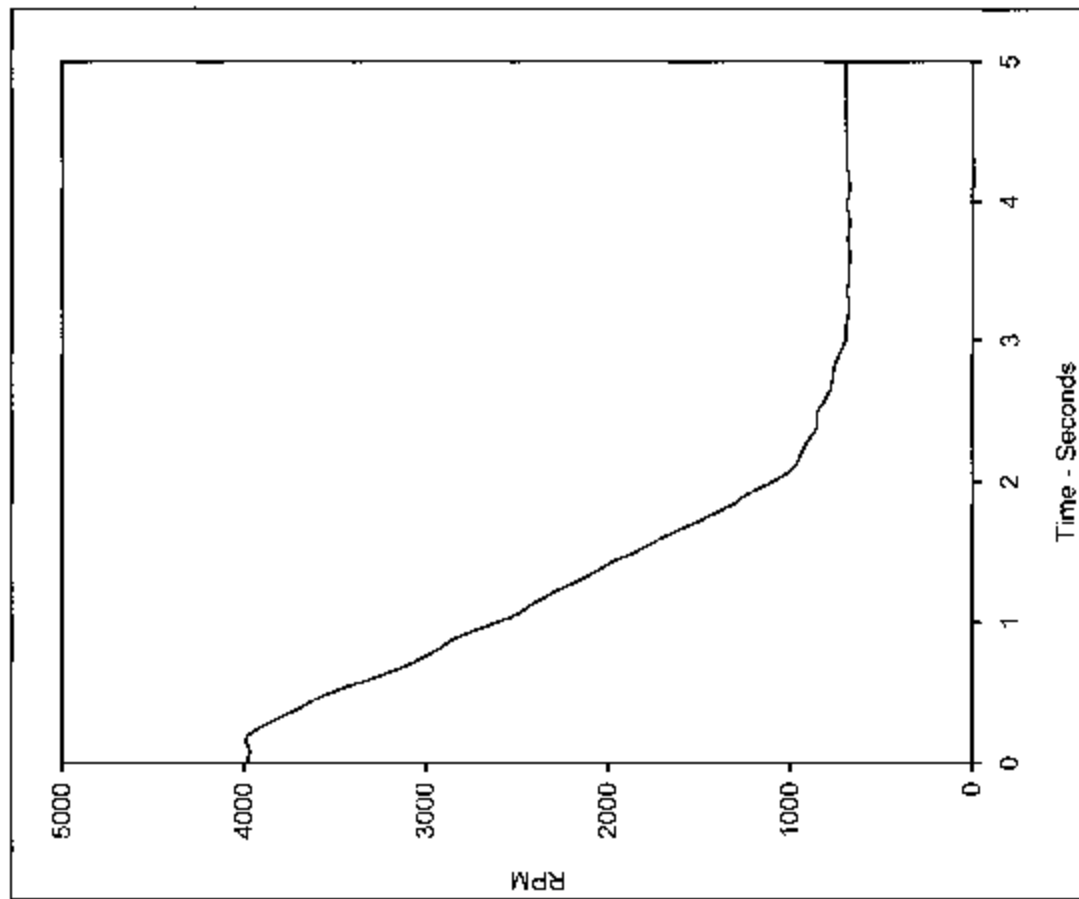
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	24.7	0.0	120.0	5

Test Program:

FMVSS 124 (#3 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	3989.4	0.2	671.0	5

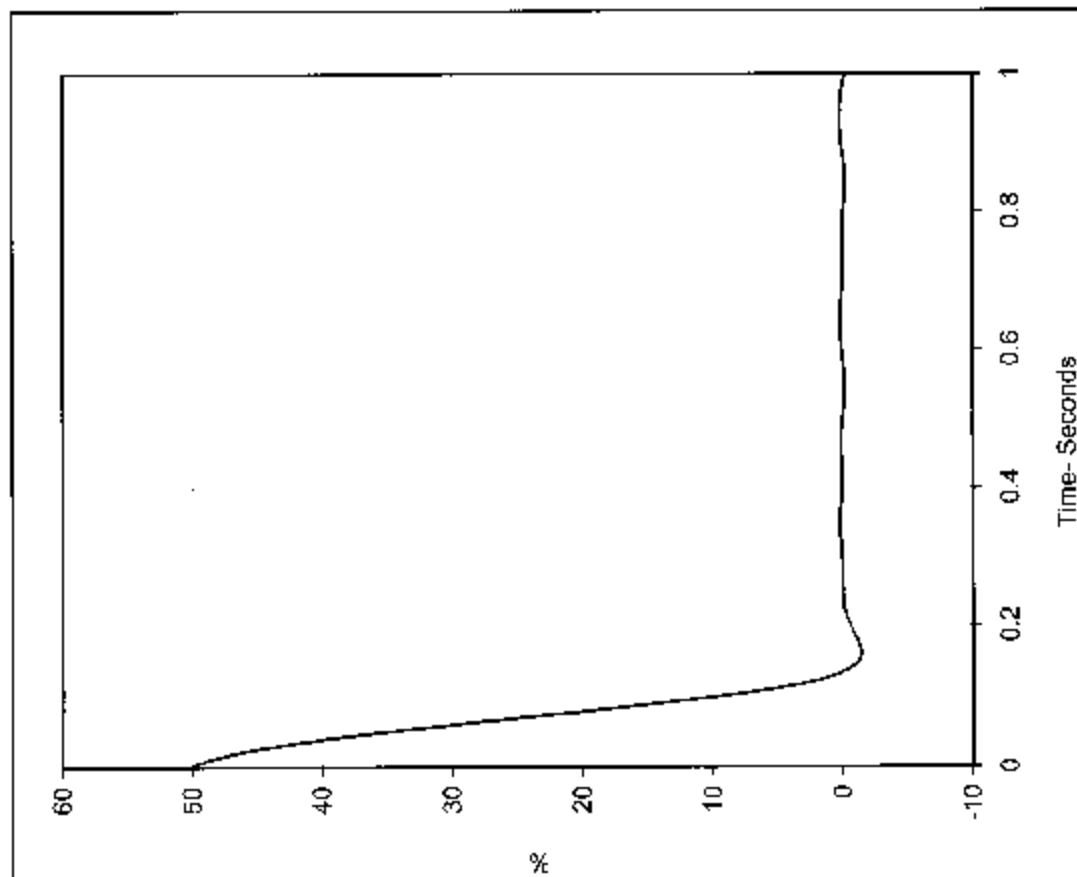
Test Date:

7/18/03

NHTSA No.:

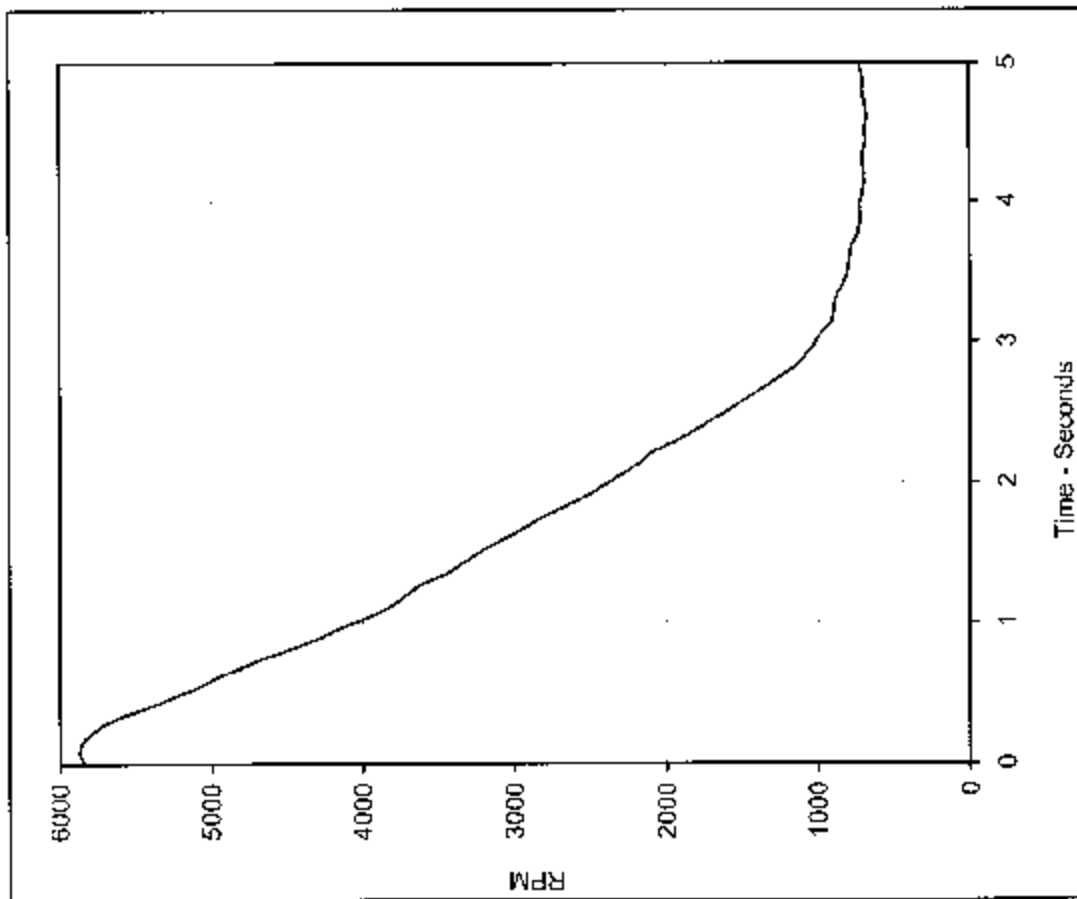
C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	50.2	0.0	140.0	5



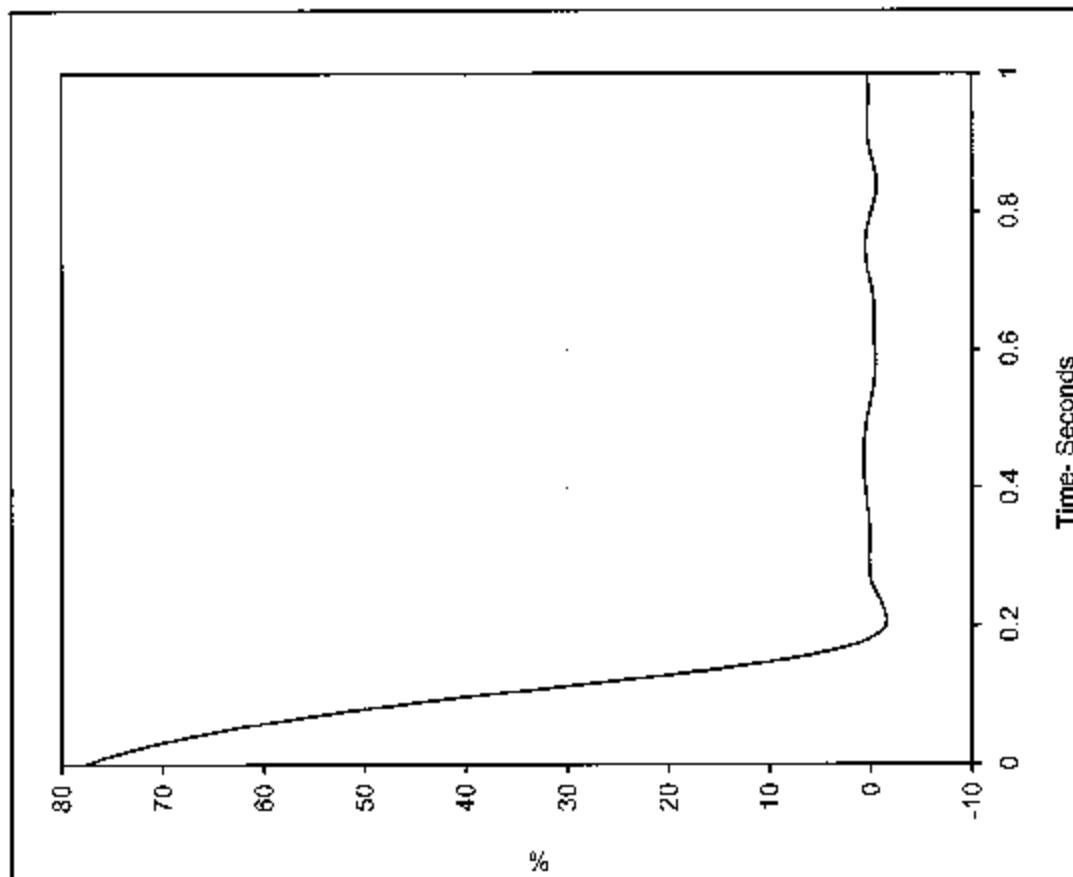
Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5870.7	0.1	680.3	4.6	5



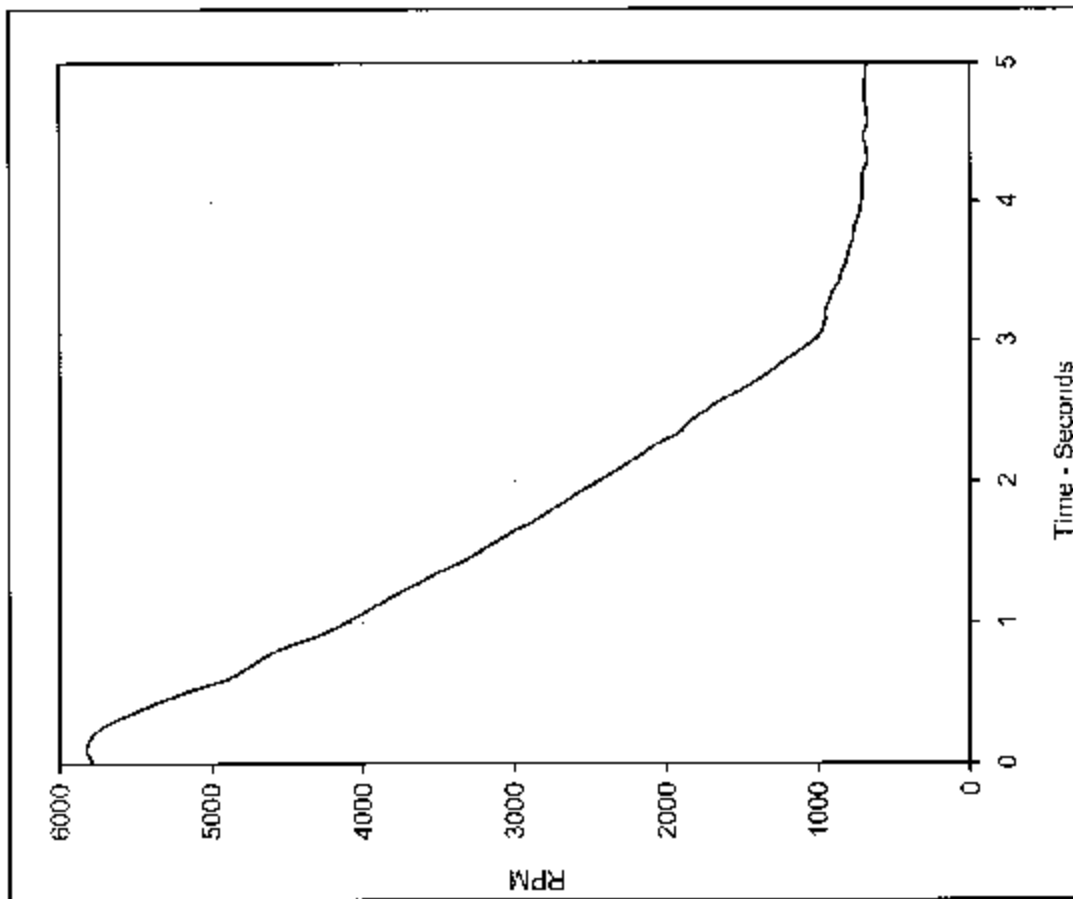
Test Date: 7/18/03
NHTSA No.: C35104

Test Program: FMVSS 124 (#3 Spring Disconnected)
Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	77.6	0.0	190.0	5



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

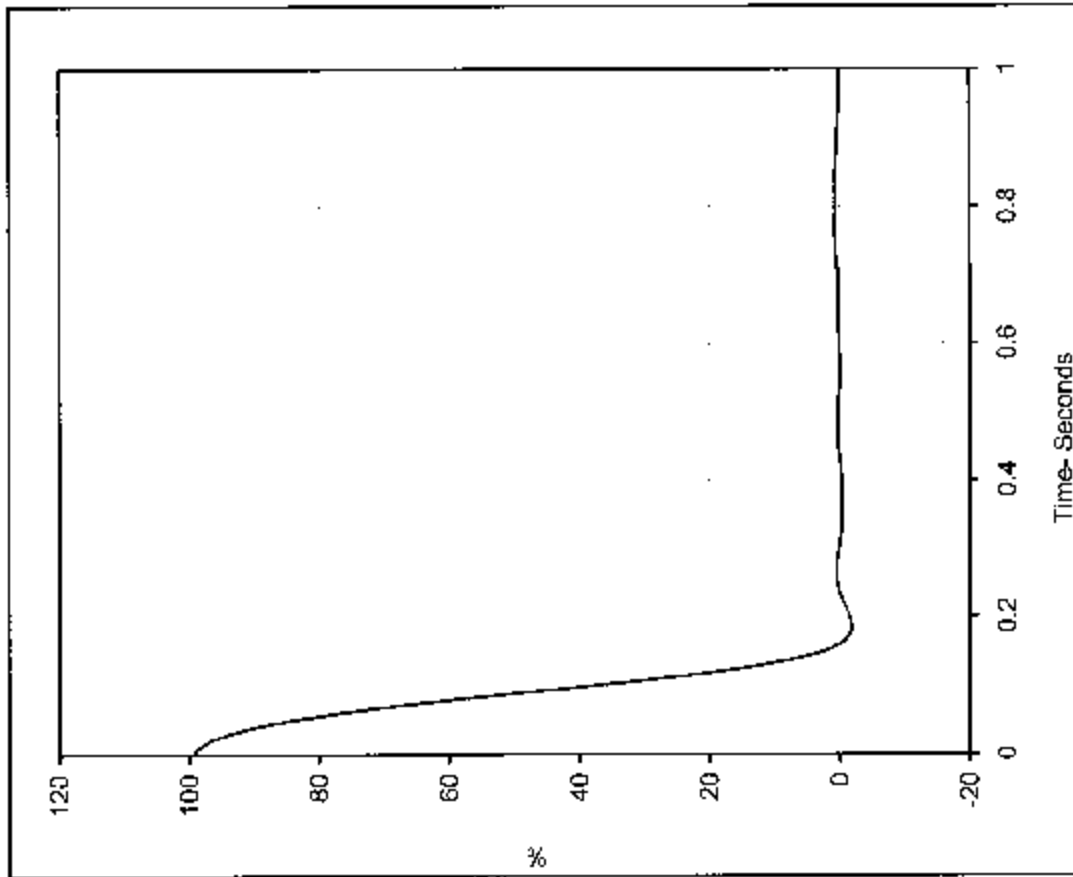
Units	Max	Time	Min	Filter (Hz)
RPM	5824.0	0.1	672.2	5

Test Program:
Test Vehicle:

FMVSS 124 (#3 Spring Disconnected)
2003 Toyota Corolla 4 Door Sedan

Test Date: 7/18/03
NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

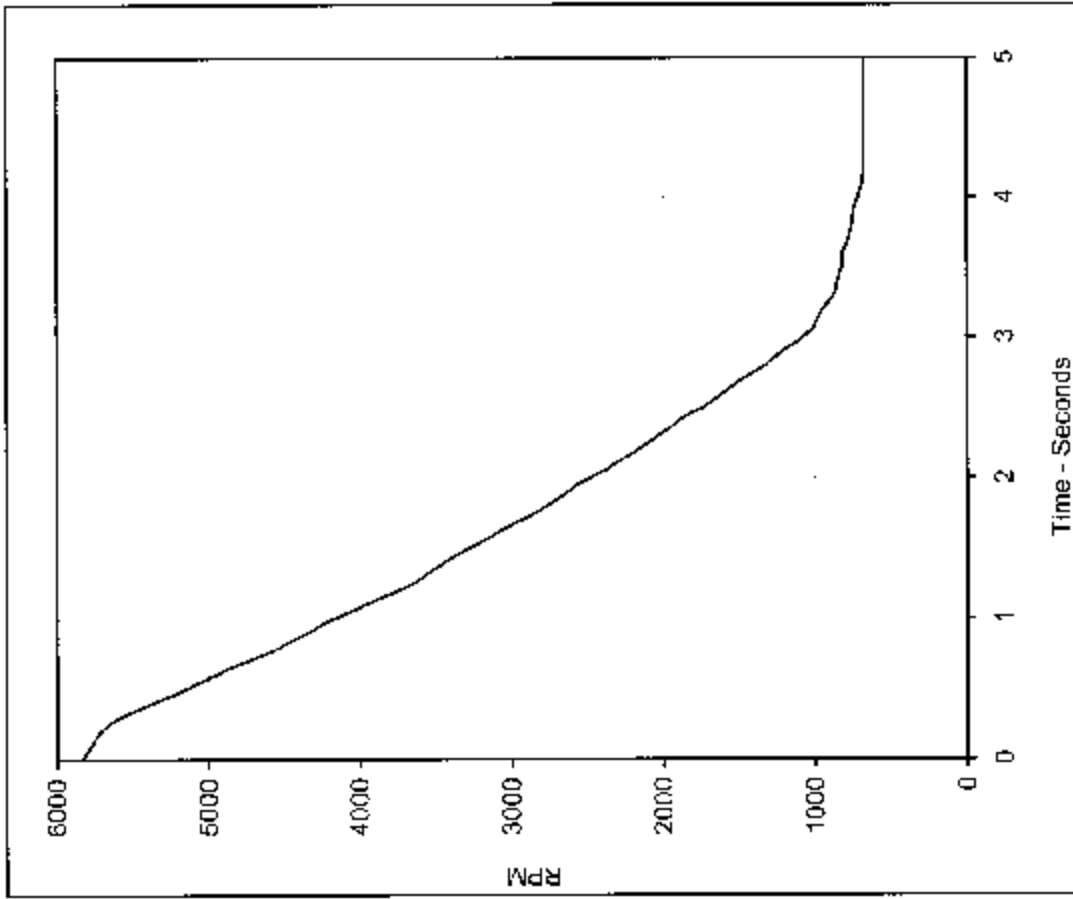
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	99.4	0.0	170.0	5

Test Program:

FMVSS 124 (#3 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5829.9	0.0	678.6	5

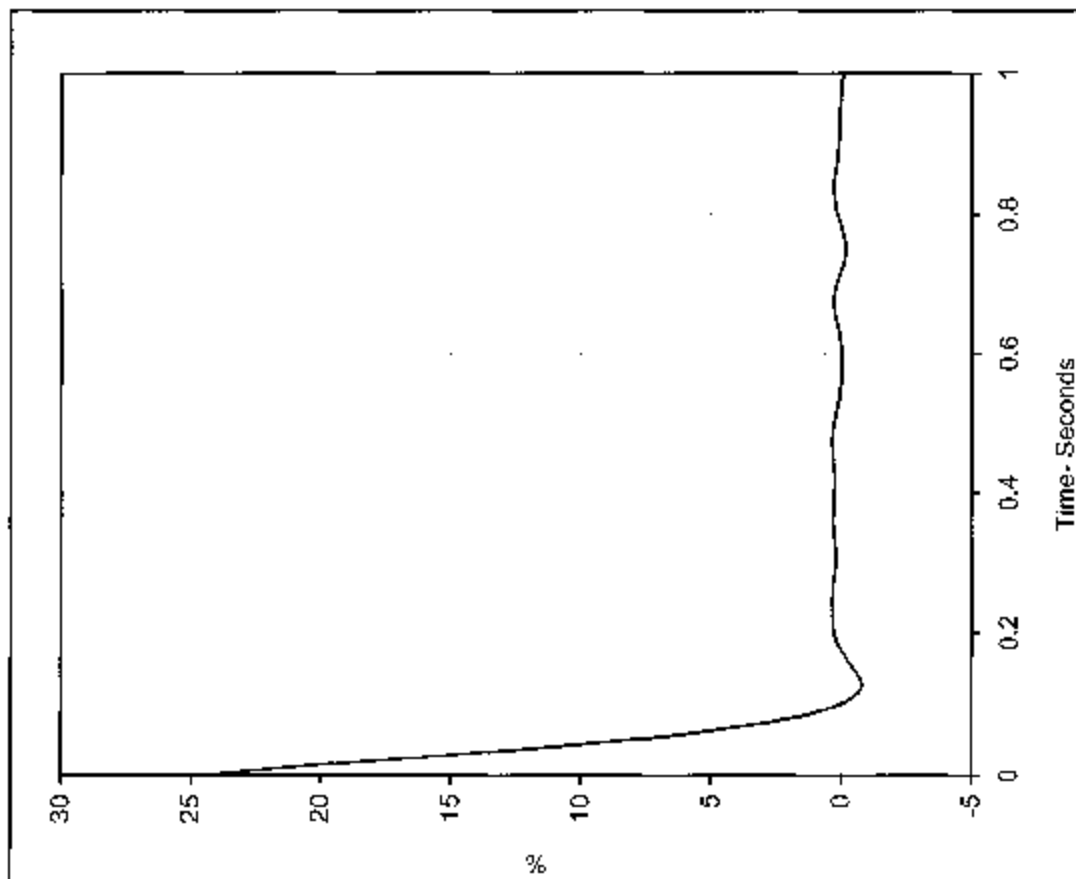
Test Date:

7/18/03

NHTSA No.:

C35104



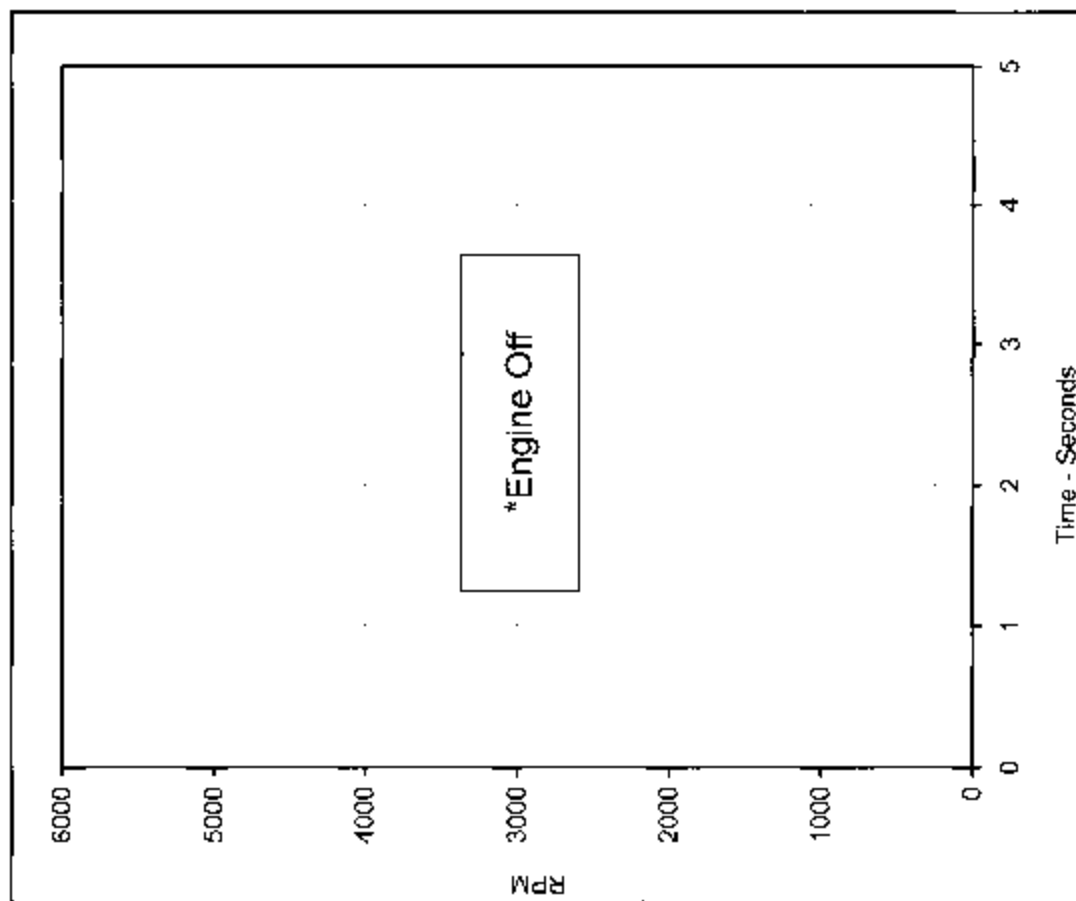


Curve Description	CURNO	Type
Throttle Position vs. Time	001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	24.9	0.0	110.0	5

Test Program: FMVSS 124 (#3 Spring Disconnected)

Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description	CURNO	Type
Engine RPM vs. Time	002	FIL

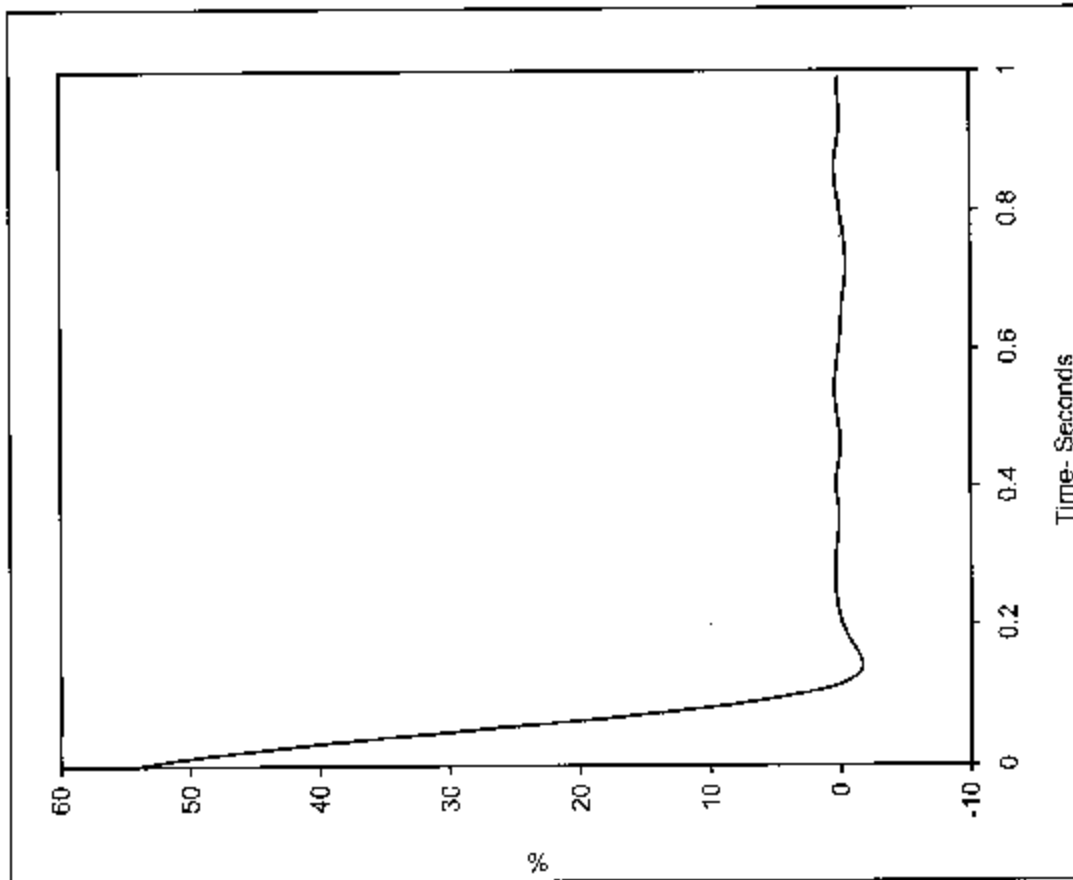
Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03

NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

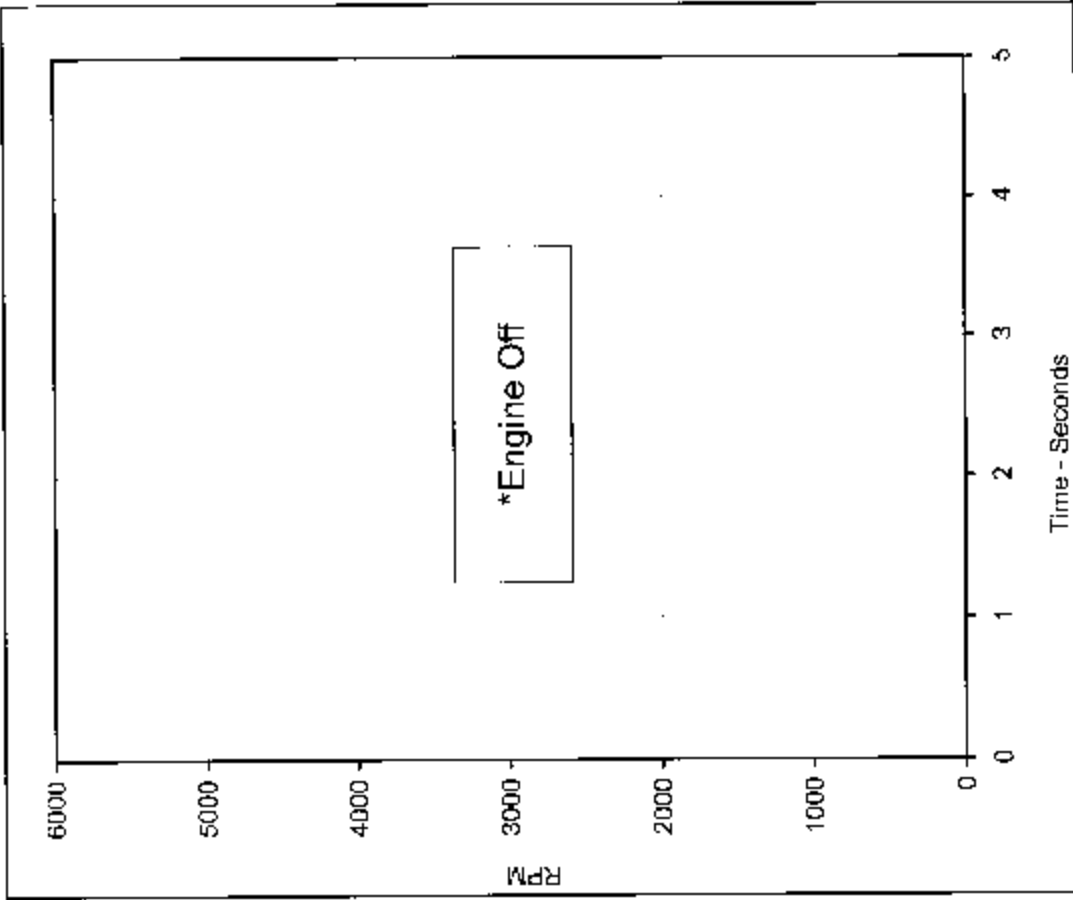
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	54.1	0.0	120.0	5

Test Program:

FMVSS 124 (#3 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

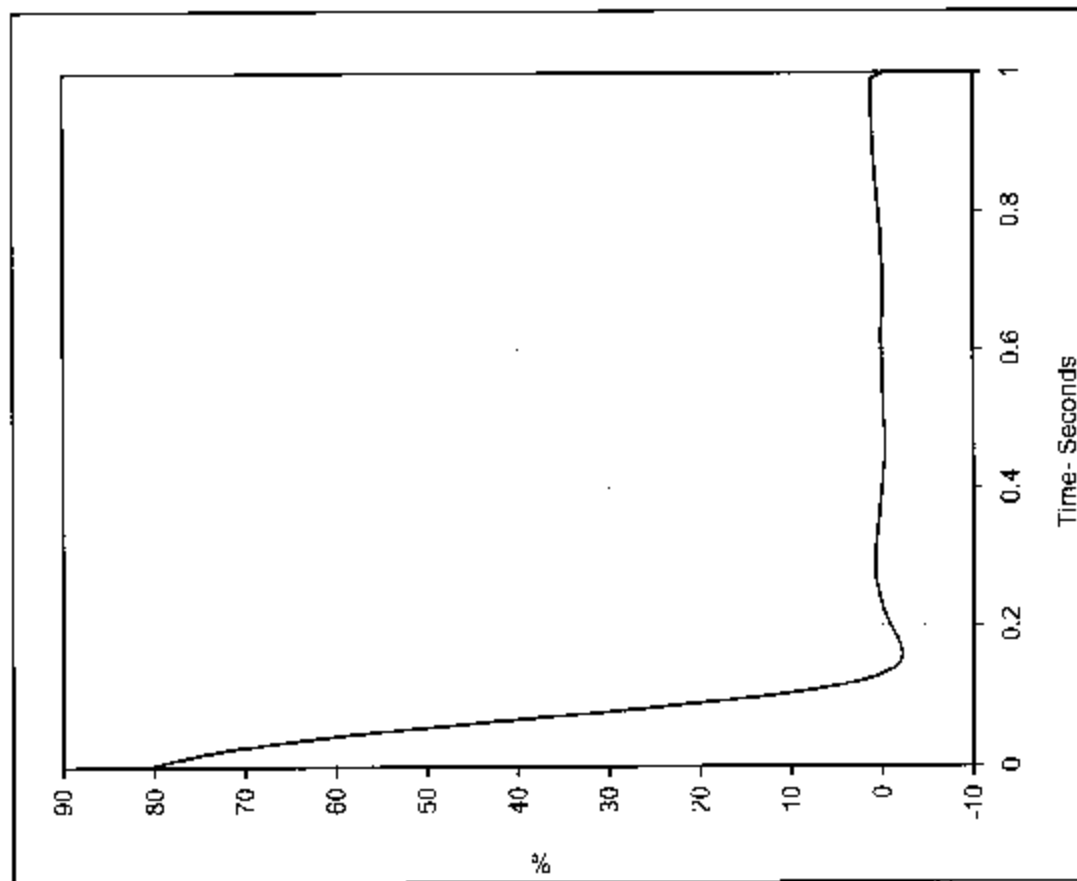
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

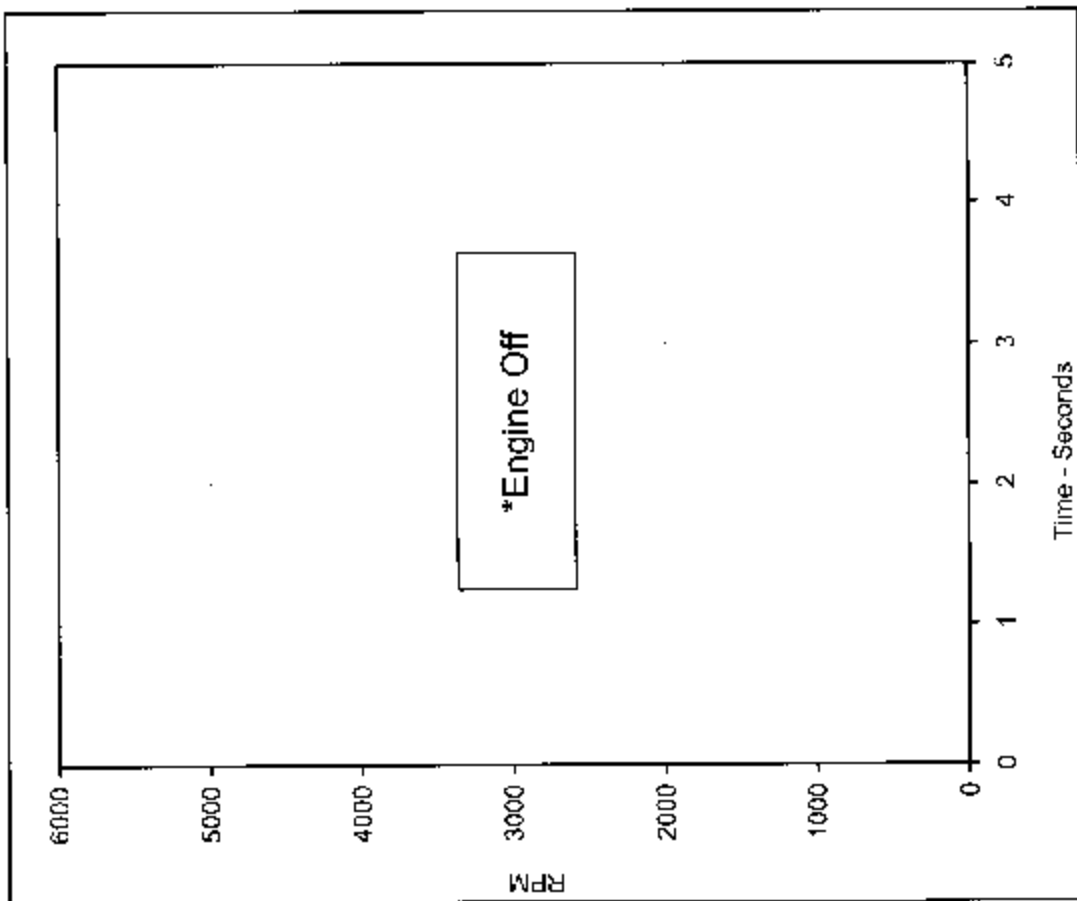
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	80.3	0.0	130.0	5

Test Program:

FMVSS 124 (#3 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	0.0	0.0	0.0	5

*Engine Off

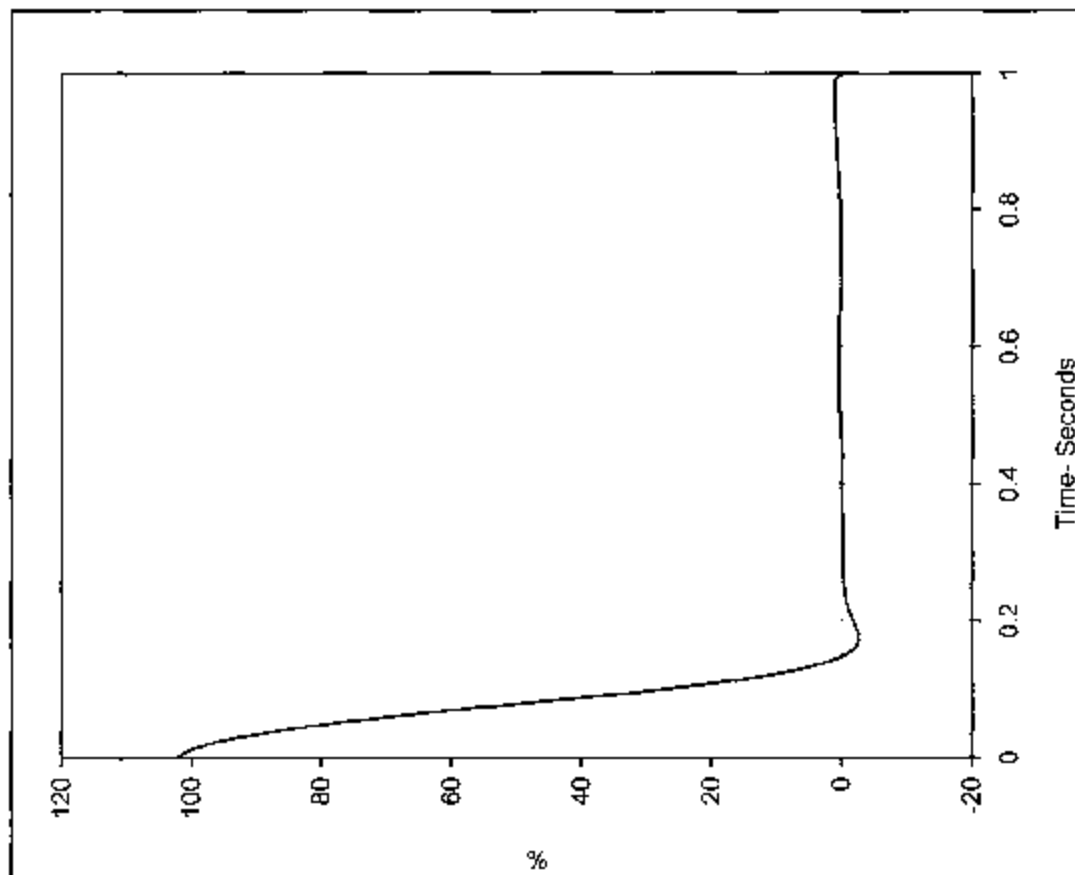
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

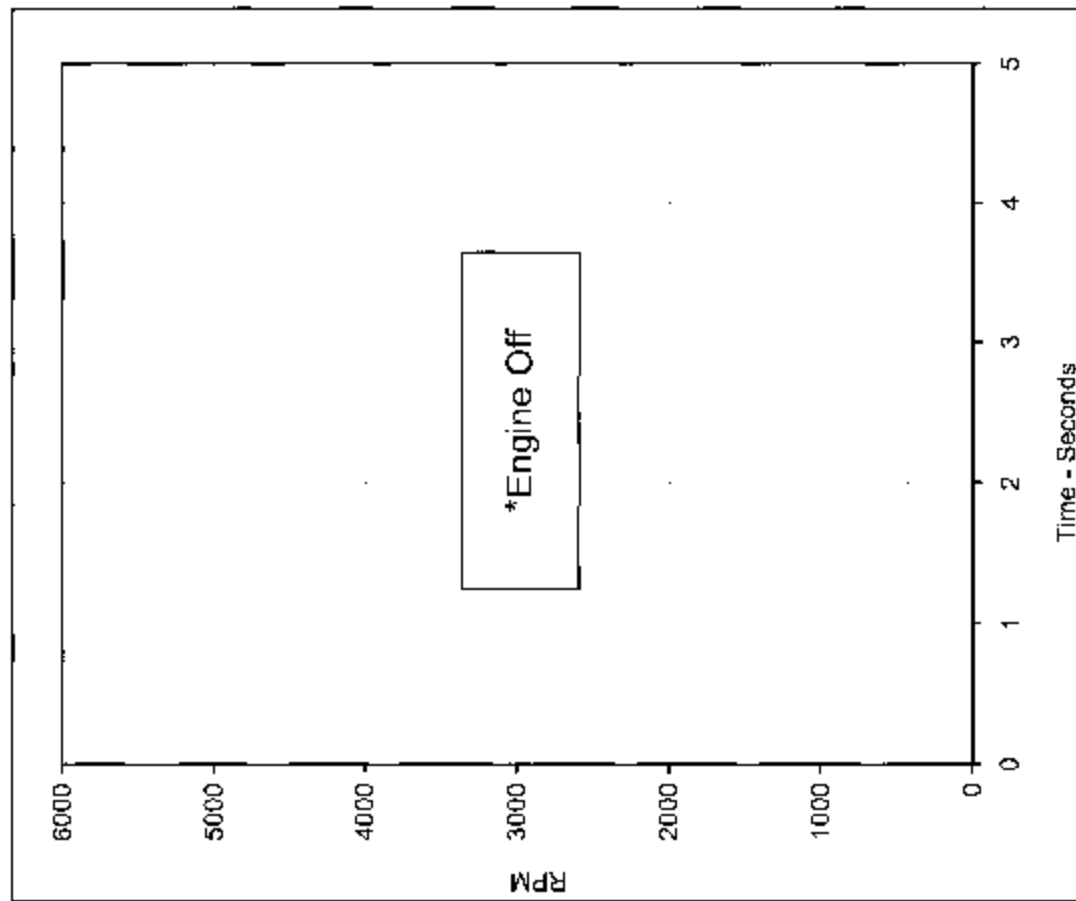
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	102.3	0.0	150.0	5

Test Program:

FMVSS 124 (#3 Spring Disconnected)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

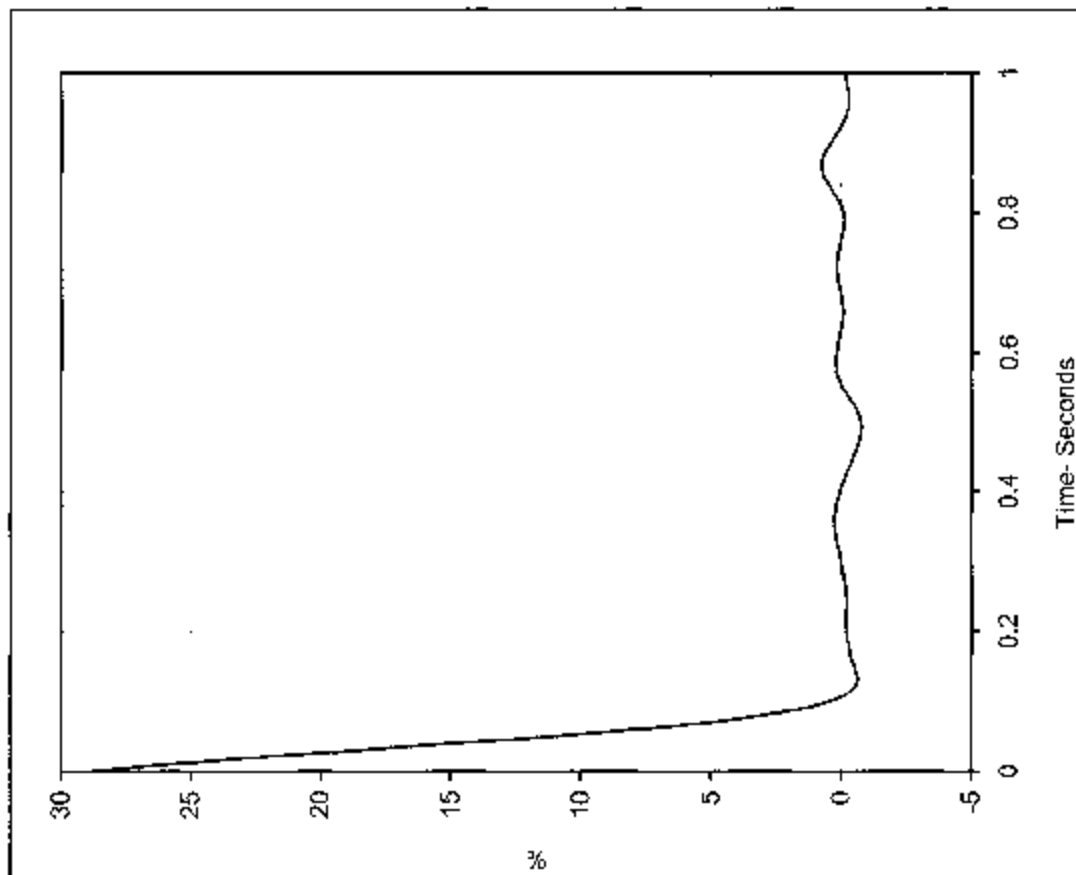
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

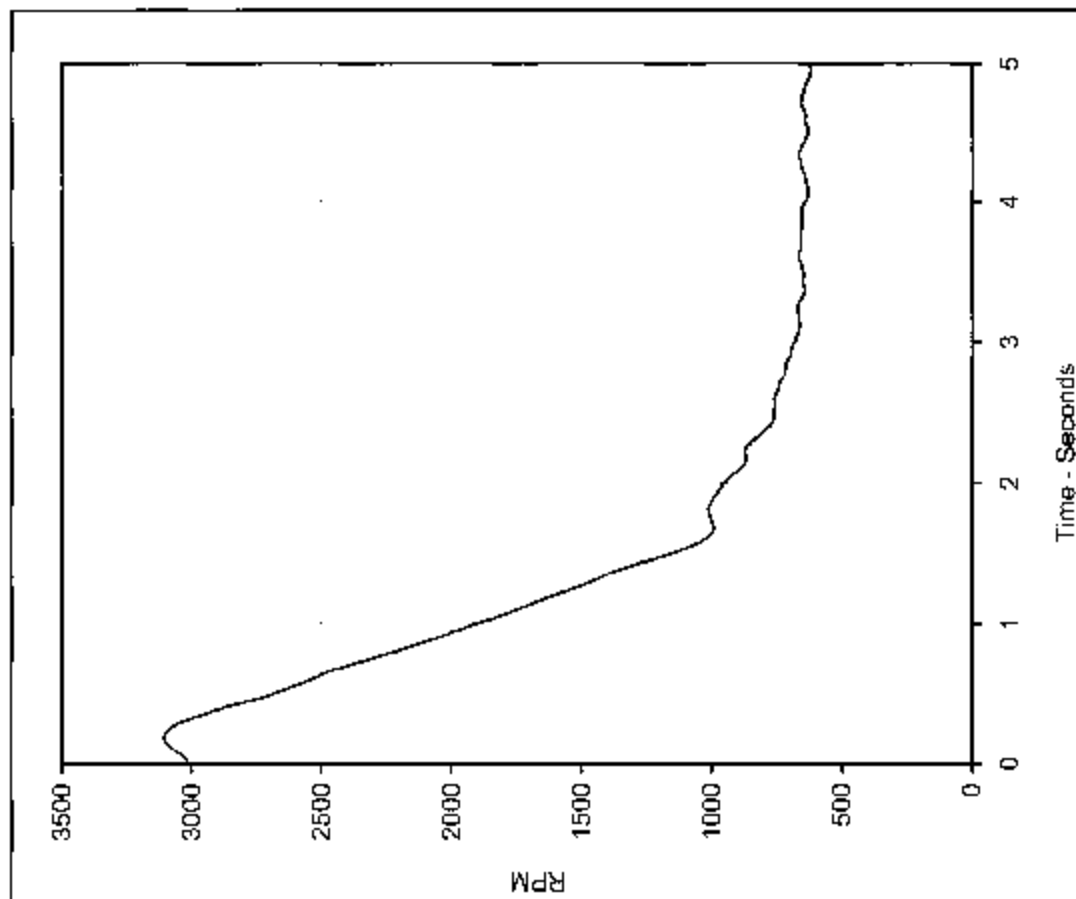
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	28.9	0.0	120.0	5

Test Program:

FMVSS 124 (Severance Of Throttle Cable)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	3103.3	0.2	620.1	5.0	5

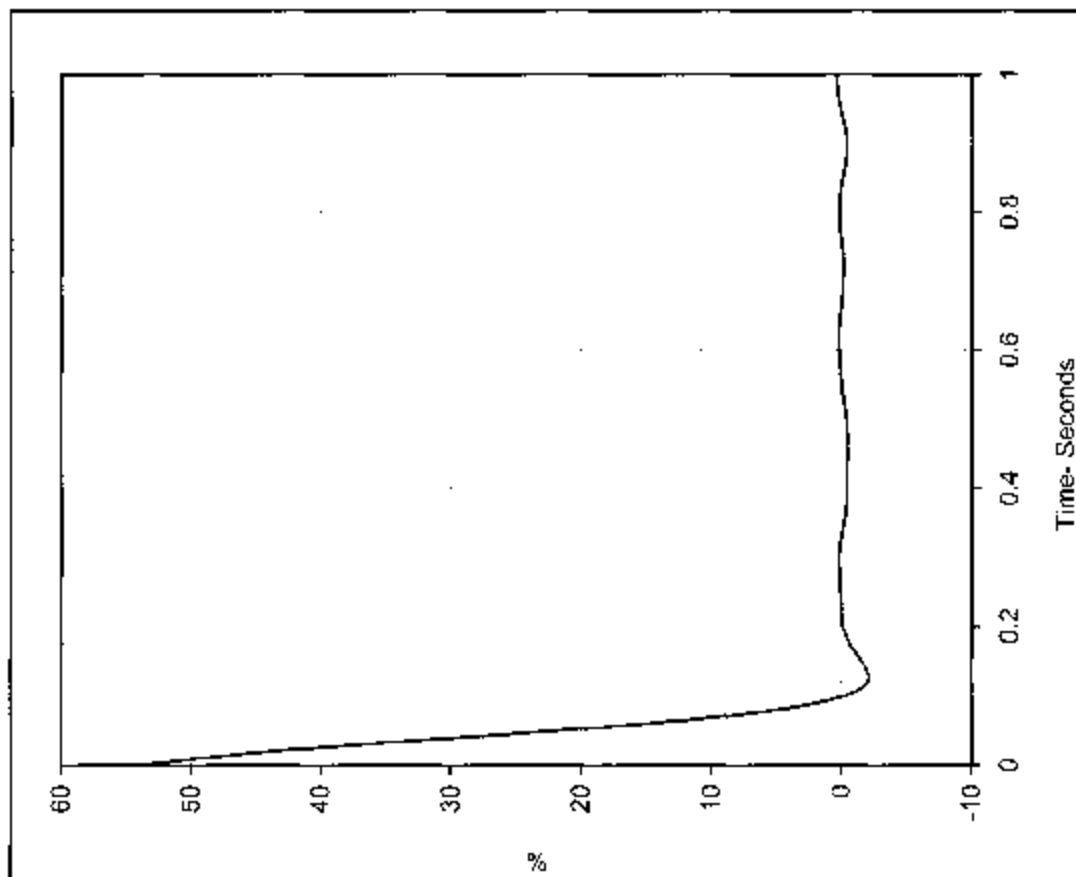
Test Date:

7/18/03

NHTSA No.:

C35104

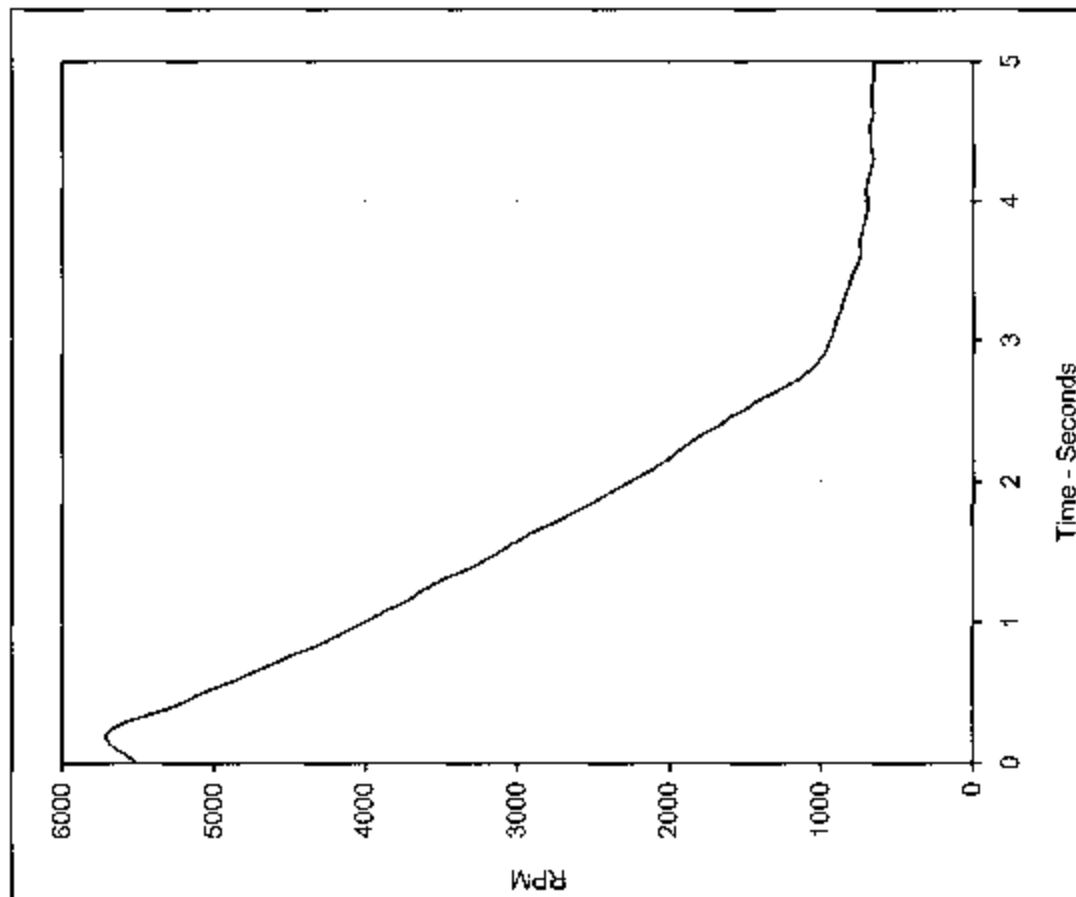




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	53.7	0.0	100.0	5

Test Program: FMVSS 124 (Severance Of Throttle Cable)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

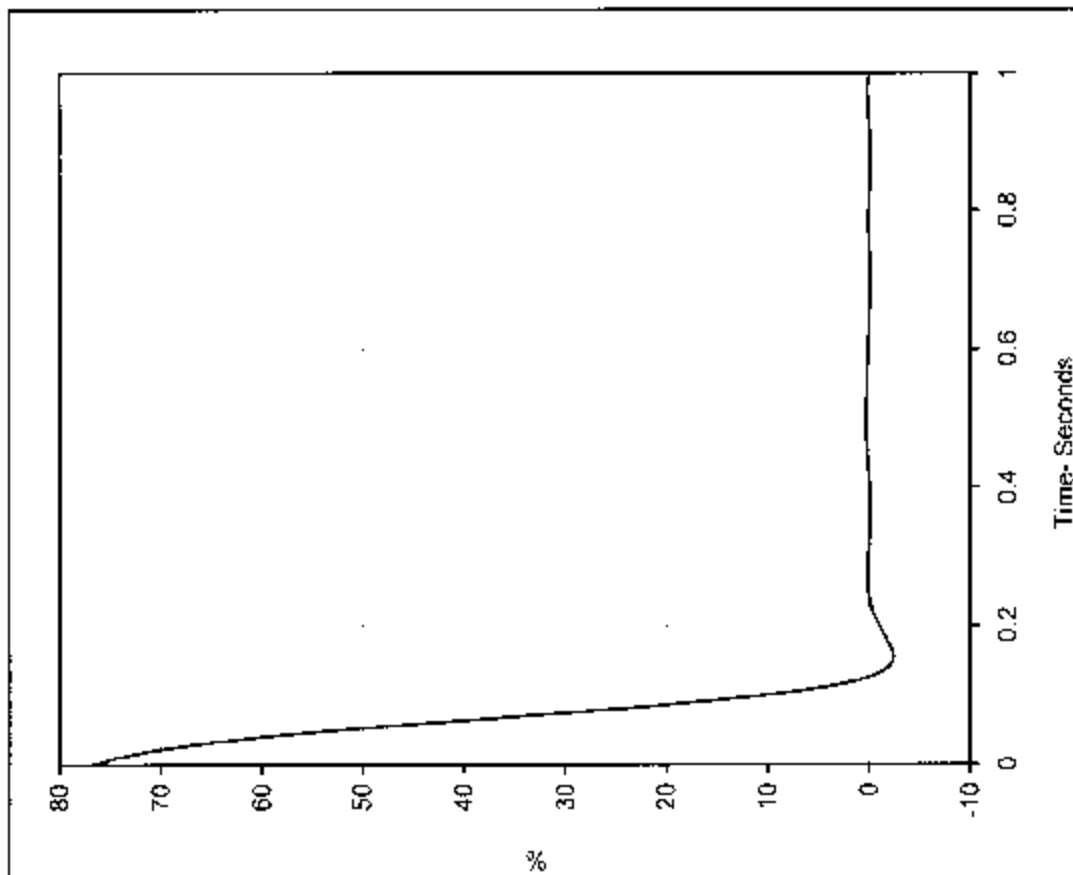


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5714.1	0.2	644.4	4.9	5

Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

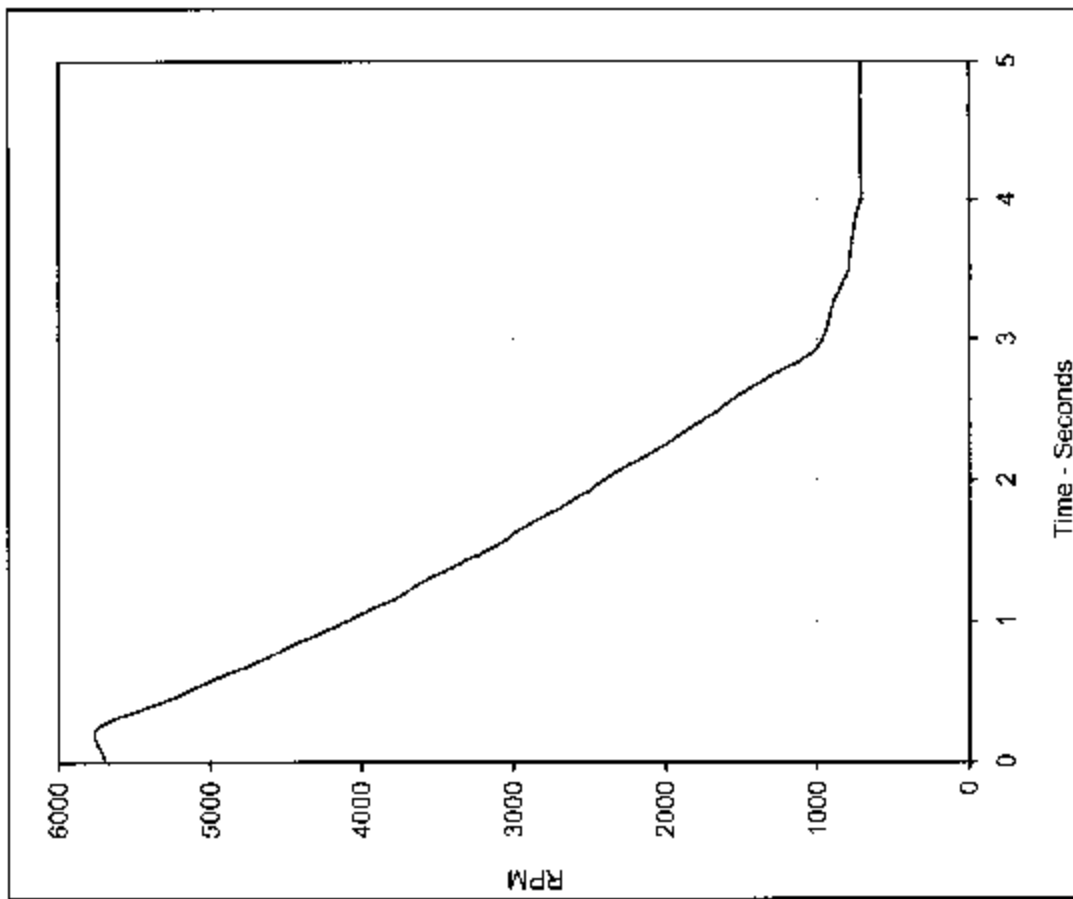
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	76.7	0.0	130.0	5

Test Program:

FMVSS 124 (Severance Of Throttle Cable)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Filter (Hz)
RPM	5765.7	0.2	708.6	5

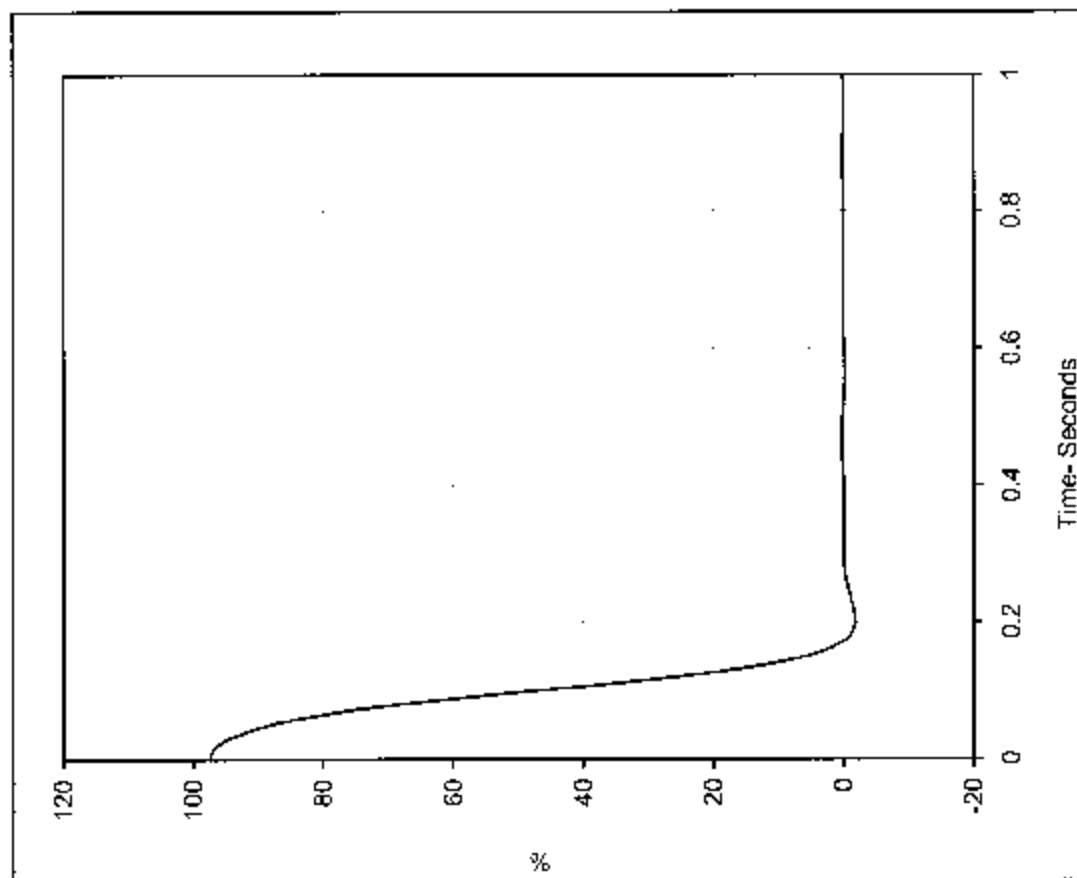
Test Date:

7/18/03

NHTSA No.:

C35104

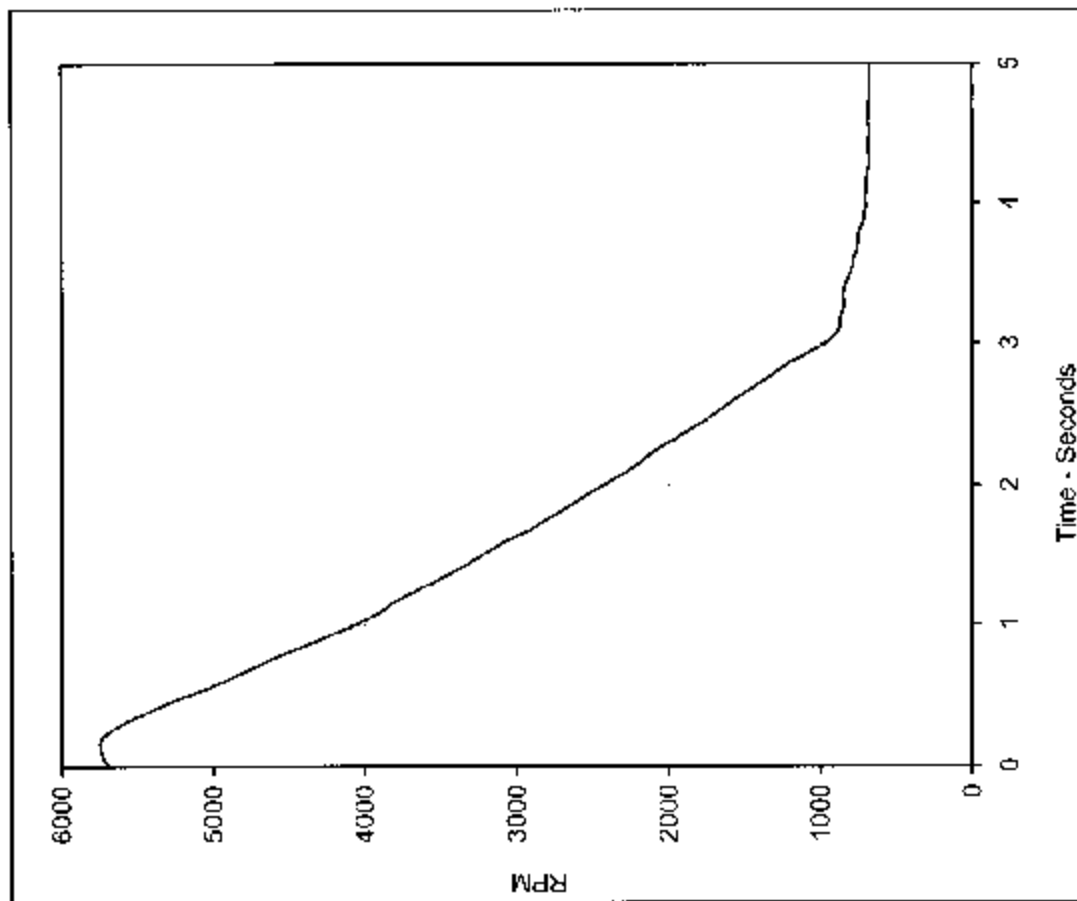




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	97.4	0.0	180.0	5

Test Program: FMVSS 124 (Severance Of Throttle Cable)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan

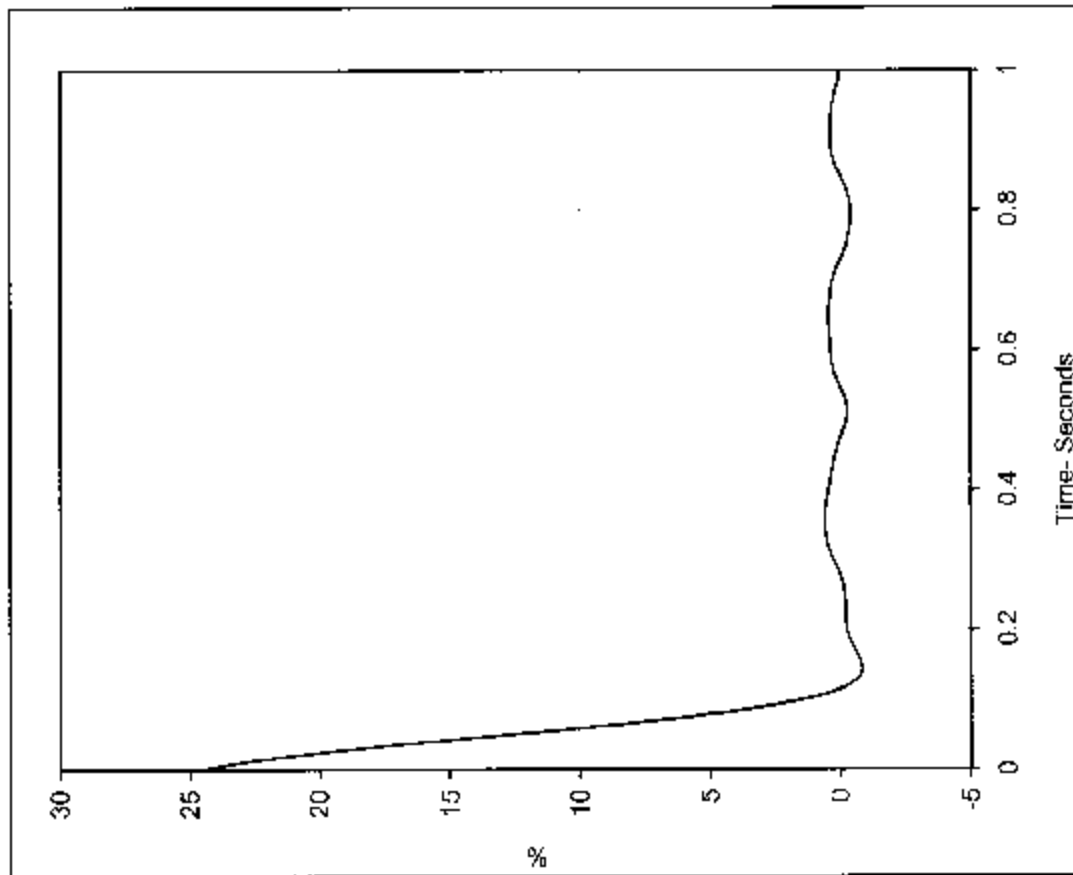


Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	5749.6	0.2	669.8	4.8	5

Test Date: 7/18/03
 NHTSA No.: C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

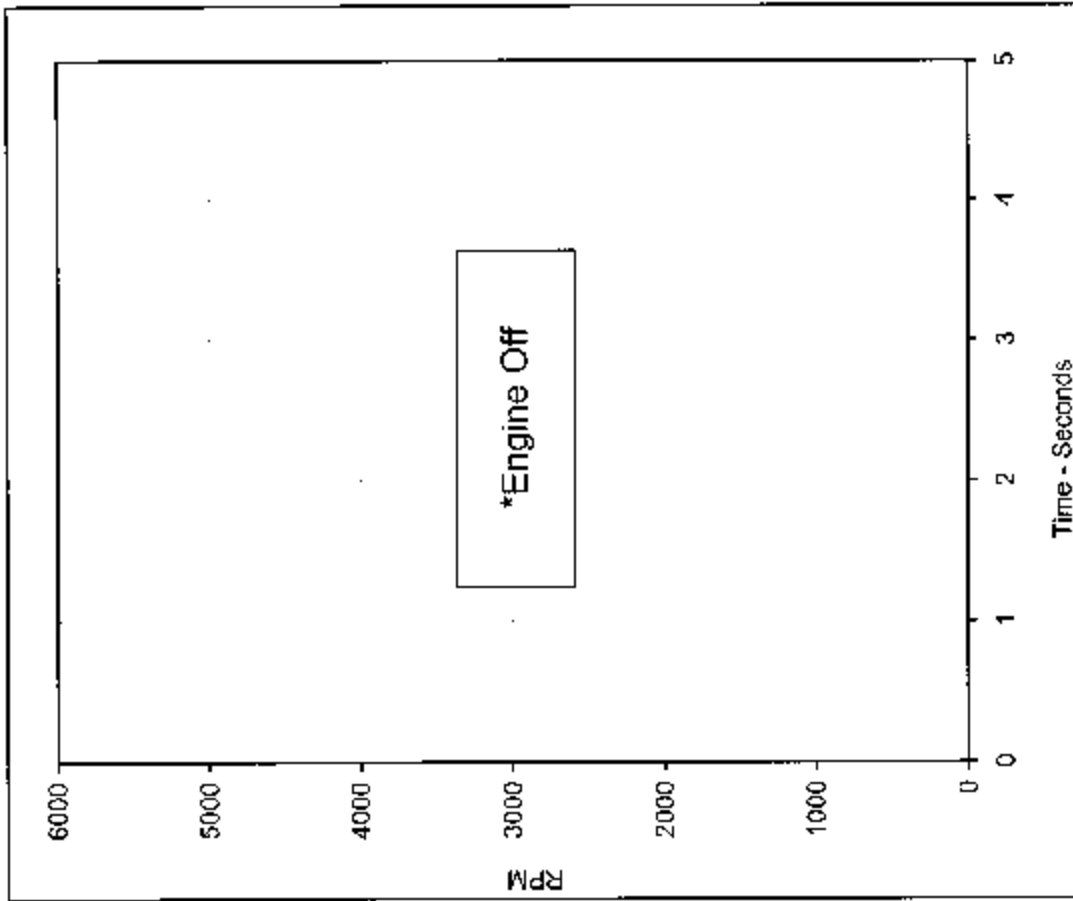
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	24.6	0.0	110.0	5

Test Program:

FMVSS 124 (Severance Of Throttle Cable)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

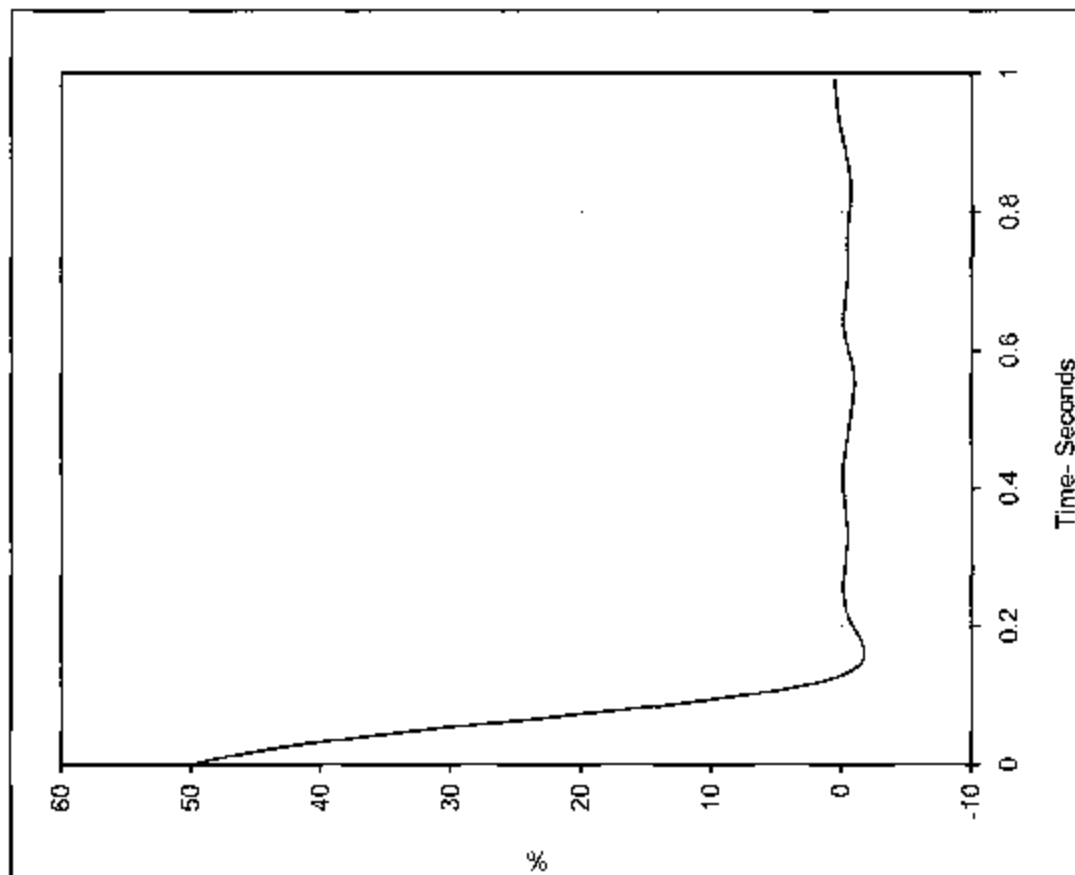
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

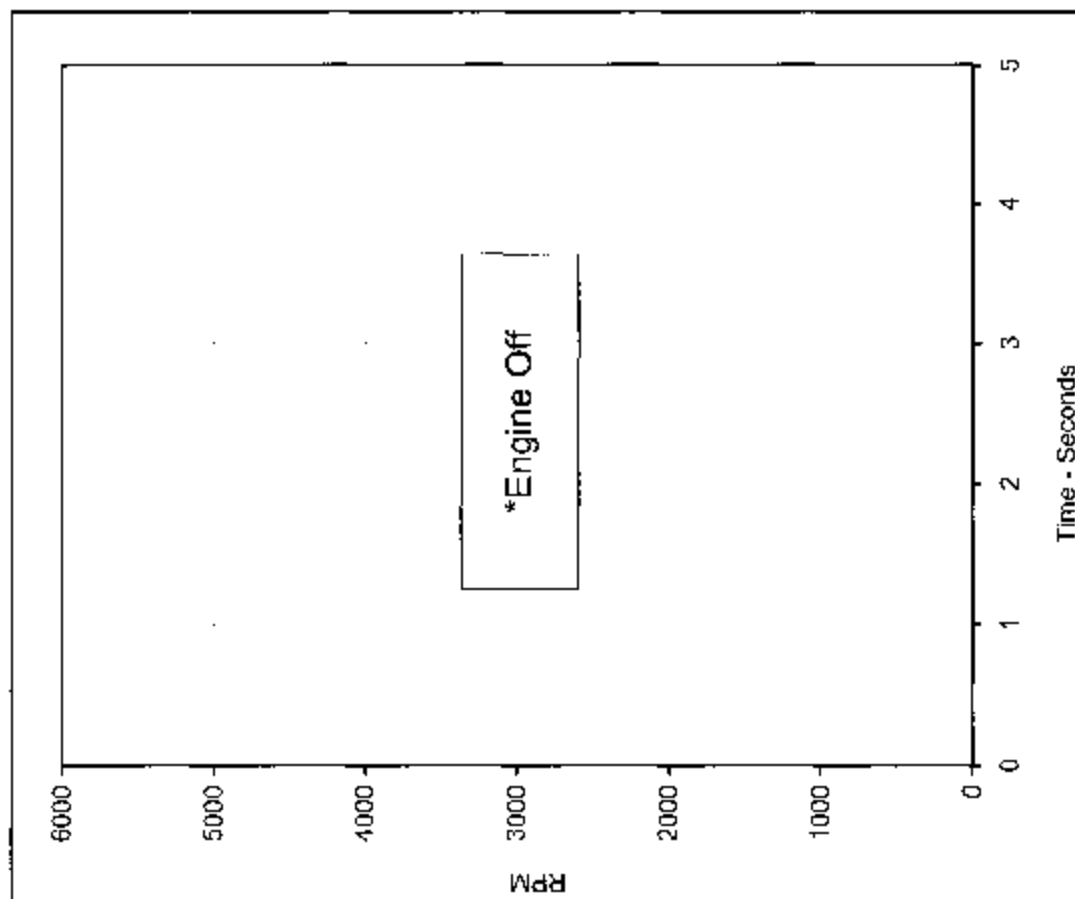
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	49.8	0.0	140.0	5

Test Program:

FMVSS 124 (Severance Of Throttle Cable)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

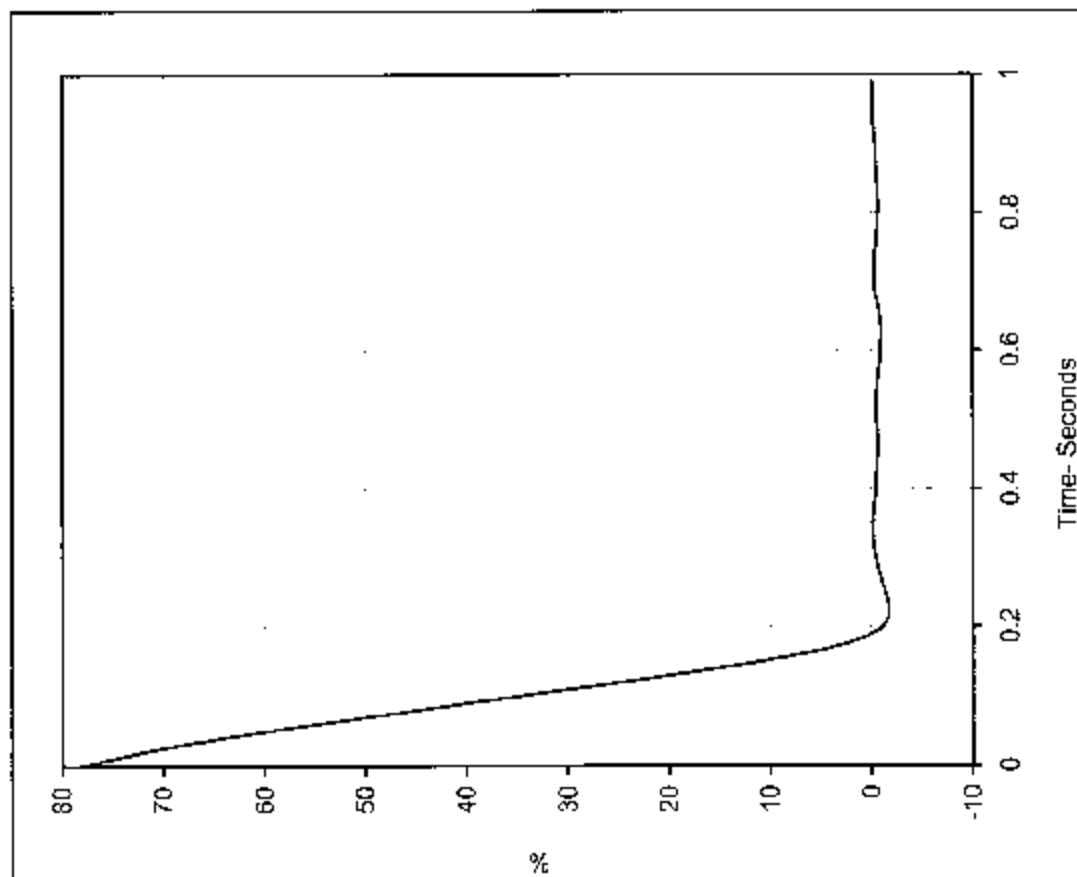
Test Date:

7/18/03

NHTSA No.:

C35104





Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

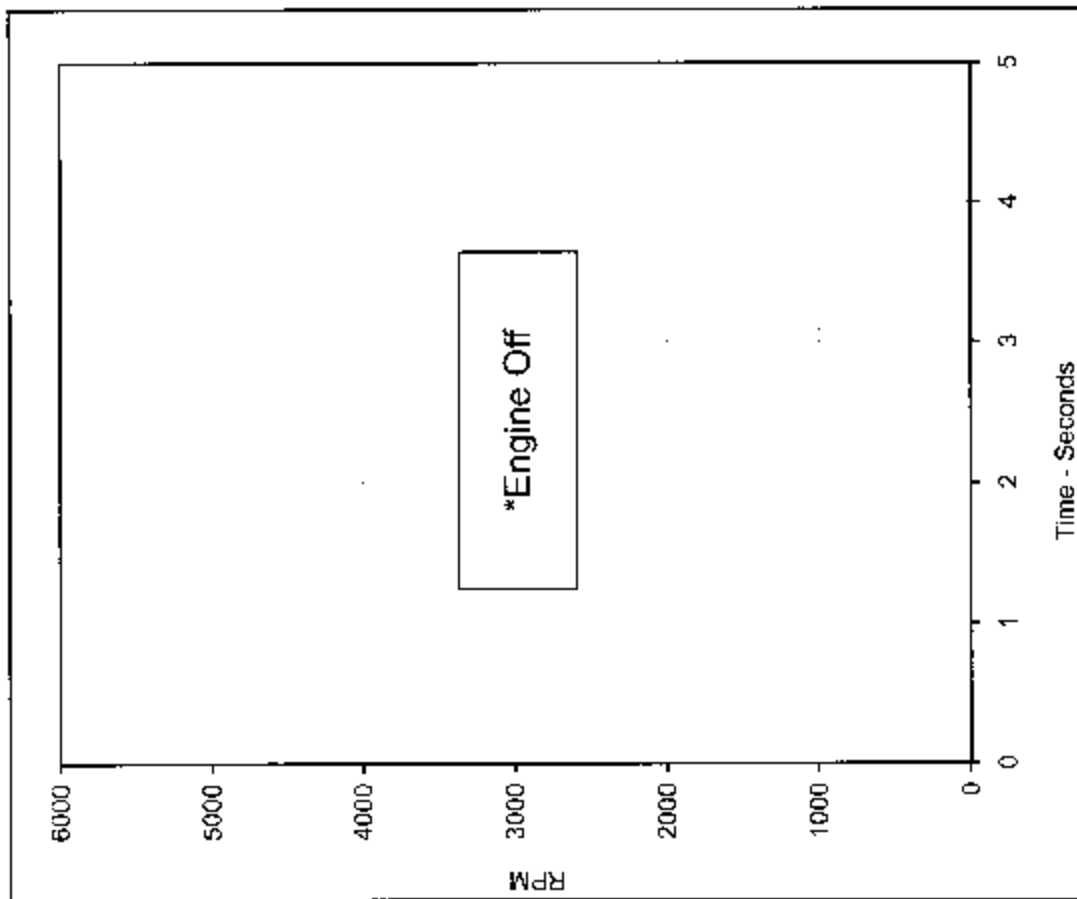
Units	Max	Time	Return Time (msec)	Filter (Hz)
%	77.8	0.0	200.0	5

Test Program:

FMVSS 124 (Severance Of Throttle Cable)

Test Vehicle:

2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

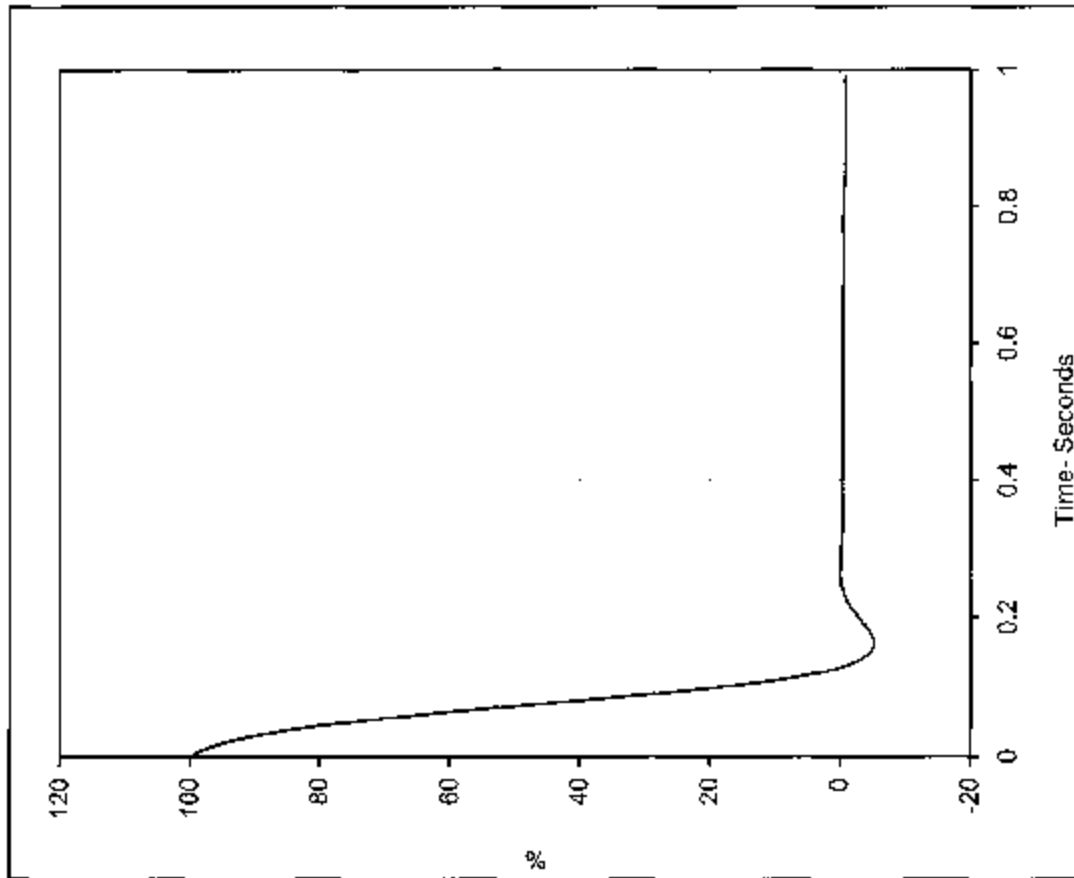
Test Date:

7/18/03

NHTSA No.:

C35104

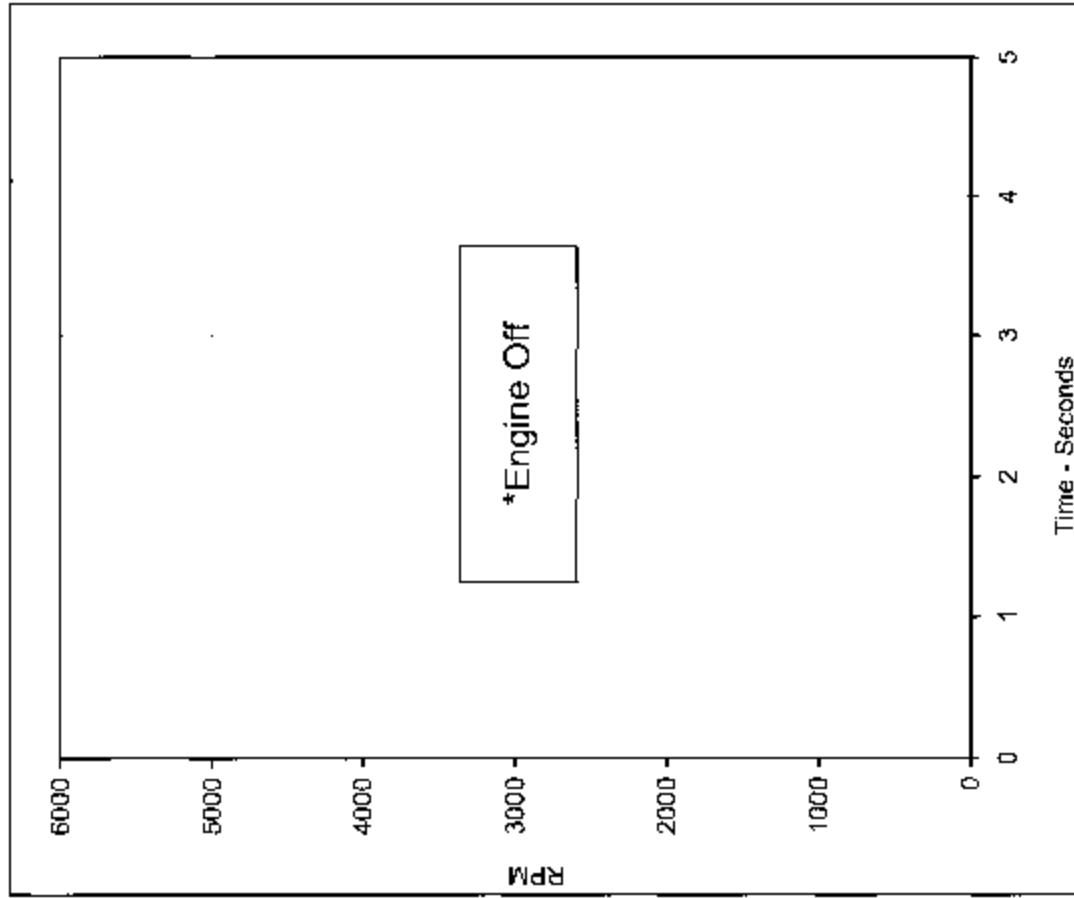




Curve Description		CURNO	Type
Throttle Position vs. Time		001	FIL

Units	Max	Time	Return Time (msec)	Filter (Hz)
%	99.9	0.0	130.0	5

Test Program: FMVSS 124 (Severance Of Throttle Cable)
 Test Vehicle: 2003 Toyota Corolla 4 Door Sedan



Curve Description		CURNO	Type
Engine RPM vs. Time		002	FIL

Units	Max	Time	Min	Time	Filter (Hz)
RPM	0.0	0.0	0.0	0.0	5

*Engine Off

Test Date: 7/18/03
 NHTSA No.: C35104



APPENDIX C
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

FMVSS 124 Accelerator Control Systems

Test Equipment List

7/18/03

2003 Toyota Corolla 4 Door Sedan

Description	Manufacturer	Model No.	Serial No.	Limit	Accuracy	Cal. Date	Due Cal.
TDAS	DTS	TDAS	DM0101	N/A	SAE J211	11/28/02	11/28/03
Computer	Panasonic	CF-71	81MAA01852	N/A	N/A	N/A	N/A
Optical 5th Wheel	Datron	DLS-2	06-262	150 MPH	± 1.0%	4/9/03	4/8/04

