

REPORT NUMBER 225-GTL-04-002

**SAFETY COMPLIANCE TESTING FOR
FMVSS NO. 225
CHILD RESTRAINT ANCHORAGE SYSTEMS
LOWER AND TETHER ANCHORAGES**

**FORD MOTOR CO. IN U.S.A.
2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40201**

**GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443**



JULY 23, 2004

FINAL REPORT

PREPARED FOR

**U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
ROOM 6111 (NVS-220)
WASHINGTON, D.C. 20590**

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SECTION 1

PURPOSE OF COMPLIANCE TEST

1.0 PURPOSE OF COMPLIANCE TEST

A 2004 Ford F-150 Pickup Truck was subjected to Federal Motor Vehicle Safety Standard (FMVSS) No. 225 testing to determine if the vehicle was in compliance with the requirements of the standard. The purpose of this standard is to establish requirements for child restraint anchorage systems to ensure their proper location and strength for the effective securing of child restraints, to reduce the likelihood of the anchorage systems' failure and to increase the likelihood that child restraints are properly secured and thus more fully achieve their potential effectiveness in motor vehicles.

1.1 The test vehicle was a 2004 Ford F-150 Pickup Truck. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 1FTRF12WX4NA32153

B. NHTSA No.: C40201

C. Manufacturer: FORD MOTOR CO. IN U.S.A.

D. Manufacture Date: 08/03

1.2 TEST DATE

The test vehicle was subjected to FMVSS No. 225 testing on June 17, 2004.

SECTION 2

COMPLIANCE TEST RESULTS SUMMARY

2.0 TEST RESULTS

All tests were conducted in accordance with NHTSA, Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-225T dated 3 May 2001 and TP-225L dated 11, June, 2001.

Based on the test performed, the 2004 Ford F-150 Pickup Truck appears to meet the requirements of FMVSS 225 testing. Strength and displacement summary data are provided below.

Table 1. Summary Data for Strength and Displacement

GTL Test #	Fixture Type	Seating Position	Max. Load (N)	Displacement (mm)
5224	SFAD I Tether Strap	Front Center	9923	114
5225	Lower Anchor	Front Right	4968	51.4

Table 2. General Test and Vehicle Parameter Data

VEH. MOD YR/MAKE/MODEL BODY	2004 Ford F-150
VEH. NHTSA NO.	C40201
VIN	1FTRF12WX4NA32153
VEH. BUILD DATE	09/02
TEST DATE	06/17/04
TEST LABORATORY	GTL
OBSERVERS	Grant Farrand, Jimmy Latane

GENERAL INFORMATION:

Date Received: 10/08/03 Odometer Reading: 68

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: FORD MOTOR CO. IN U.S.A.

Date of Manufacture: 09/02 VIN: 1FTRF12WX4NA32153

GVWR: 3016 kg GAWR FRONT: 1564 kg
GAWR REAR: 1542 kg

SECTION 3**COMPLIANCE TEST DATA****3.0 TEST RESULTS**

The following data sheets document the results of testing on the 2004 Ford F-150 Pickup Truck.

DATA SHEET 1
CHILD RESTRAINT TETHER ANCHORAGE CONFIGURATION

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

TEST LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: GRANT FARRAND, JIMMY LATANE

Number of DSP's in Test Vehicle As Stated on Tire Label using Figures for Maximum Vehicle Loading:

Front Seat= 3
 Rear Seat= N/A
 Third Seat= N/A
 Total= 3

SEATING POSITION		OBSERVED CONFIGURATION			
		Permit the attachment of a tether hook	Accessible without the need for any tool other than a screwdriver or coin	Ready for use without the need for any tools	Sealed to prevent the entry of exhaust fumes
Front	Left	N/A	N/A	N/A	N/A
	Center	YES	YES	YES	YES
	Right	YES	YES	YES	YES
Second	Left	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A
Third	Left	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A

REMARKS:

RECORDED BY: 

DATE: 06/17/04

APPROVED BY: 

DATA SHEET 2
CHILD RESTRAINT LOWER ANCHORAGES CONFIGURATION

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

TEST LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: GRANT FARRAND, JIMMY LATANE

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION			
		FRONT	REAR LEFT RIGHT	THIRD
Above anchorage permanently marked with a circle not less than 13 mm in Dia.; and whose color contrasts with its background; and its center is not less than 50 mm and not more than 75 mm above the bar, and in the vertical longitudinal plane that passes through the center of the bar.	Left	N/A	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A
Each of the bars is visible, without the compression of the seat cushion or seat back, when the bar is viewed, in a vertical longitudinal plane passing through the center of the bar, along a line marking an upward 30 degree angle with a horizontal plane.	Left	N/A	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES 15 MM	N/A	N/A
Diameter of the bar (mm)	Left	N/A	N/A	N/A
	Center	N/A	N/A	N/A
	Right	5.99	N/A	N/A
Inspect if the bars are straight, horizontal and transverse	Left	N/A	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A

DATA SHEET 2 CONTINUED
CHILD RESTRAINT LOWER ANCHORAGES CONFIGURATION

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

TEST LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: GRANT FARRAND, JIMMY LATANE

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION			
		FRONT	REAR	THIRD
Inspect if the centroidal longitudinal axes are collinear within 5 degrees.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A
Inspect the inside surface of the bar that is straight and horizontal section of the bars, and determine they are not less than 25 mm, but not more than 40 mm in length.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	26 MM	N/A	N/A
Inspect if the bars can be connected to, over their entire inside length by the connectors of child restraint system.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A
Measure the distance between the center of the length of one bar to the center of the length of the other bar. The requirement is 280 mm $\pm$ 1 mm.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	280	N/A	N/A
Inspect if the bars are an integral and permanent part of the vehicle.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A
Inspect if the bars are rigidly attached to the vehicle. If feasible, hold the bar firmly with two fingers and gently pull.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	YES	N/A	N/A

* DRIVER'S SEAT

RECORDED BY: [Signature]

APPROVED BY: [Signature]

DATE: 08/17/04

DATA SHEET 2 CONTINUED
CHILD RESTRAINT LOWER ANCHORAGES CONFIGURATION

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

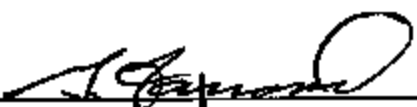
VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

TEST LABORATORY: GENERAL TESTING LABORATORIES

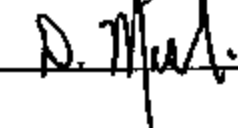
OBSERVERS: GRANT FARRAND, JIMMY LATANE

OBSERVED LOWER ANCHORAGE CONFIGURATION	SEAT POSITION			
		FRONT	REAR	THIRD
Optional Marking: At least one anchorage bar (when deployed for use, if storable anchorages), one guidance fixture, or one seat marking is visible	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	N/A	N/A	N/A
Optional Marking: If guidance fixtures are used, the fixture(s) must be installed.	Left	N/A*	N/A	N/A
	Center	N/A	N/A	N/A
	Right	N/A	N/A	N/A

* DRIVER'S SEAT

RECORDED BY: 

DATE: 06/17/04

APPROVED BY: 

DATA SHEET 3
LOCATION AND DIMENSIONAL MEASUREMENTS

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

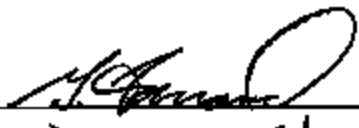
TEST LABORATORY: GENERAL TESTING LABORATORIES

OBSERVERS: GRANT FARRAND, JIMMY LATANE

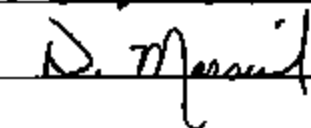
Number of DSP's In Test Vehicle As Stated on Tire Label using Figures for Maximum Vehicle Loading:

Front Seat=	<u>3</u>
Rear Seat=	<u>N/A</u>
Third Seat=	<u>N/A</u>
Total=	<u>3</u>

SEAT POSITION FOR TETHER		LOCATION OF DSPs	TETHER ANCHORAGE LOCATION	
		OBSERVED	REQUIRED	MEASURED Is it in the required zone?
FRONT	Left	NO	NO	N/A
	Center	YES	NO	YES
	Right	YES	YES	YES
SECOND	Left	N/A	N/A	N/A
	Center	N/A	N/A	N/A
	Right	N/A	N/A	N/A

RECORDED BY: 

DATE: 06/17/04

APPROVED BY: 

DATA SHEET 3 CONTINUED **LOCATION AND DIMENSIONAL MEASUREMENTS**

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK

VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153

VEH. BUILD DATE: 08/03; TEST DATE: JUNE 17, 2004

TEST LABORATORY: GENERAL TESTING LABORATORIES

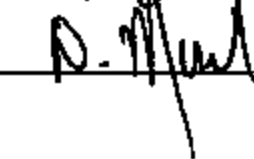
OBSERVERS: GRANT FARRAND, JIMMY LATANE

Number of DSP's In Test Vehicle As Stated on Tire Label using Figures for Maximum Vehicle Loading: Front Seat= 3 Rear Seat N/A Third Seat= N/A Total= 3

SEAT POSITION FOR LOWER ANCHORAGE		PRESENCE OF ANCHORAGES				COMMENTS		
		REQUIRED		OBSERVED				
FRONT		1		1		RIGHT		
REAR		N/A		N/A		N/A		
THIRD		N/A		N/A		N/A		
SEAT POSITIONS FOR LOWER ANCHORAGES		LOCATION OF ANCHORAGE				COMMENTS		
		MEASURED FROM "Z" (mm)		MEASURED FROM "SRP" (mm)				
		Left	Right	Left	Right	PITCH	ROLL	YAW
FRONT	Left	N/A		N/A		N/A		
	Center	N/A		N/A		N/A		
	Right	58	58	180	180	17°	0°	0°
REAR	Left	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A	N/A

RECORDED BY: 

DATE: 06/17/04

APPROVED BY: 

DATA SHEET 4
ANCHORAGE STATIC LOADING

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK
 VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153
 VEH. BUILD DATE: 08/03; TEST DATE: SEPTEMBER 3, 2003
 TEST LABORATORY: GENERAL TESTING LABORATORIES
 OBSERVERS: GRANT FARRAND, JIMMY LATANE
 TEST # 5224

TETHER ANCHORAGE- WITH SFAD:

SEATING POSITION	Seat, Seat Back & Head Restraint positions			Type of SFAD used	Angle	Initial location	Onset rate	Force Applied	Final location	Horizontal Displacement
	Seat	Seat Back	Head Restraint							
Front	Driver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	FIXED	25°	N/A	0°	0.0	385 N/SEC	9823 N	139	114
	Right	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Second	Left	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Third	Left	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REMARKS: TESTED TO S6.3.4. AT 125 mm DISPLACEMENT AND 9600 NEWTONS FORCE, THE DASH MEMBER TO WHICH THE DISPLACEMENT TRANSDUCER WAS MOUNTED TO, STARTED TO DEFORM AND CONTRIBUTED APPROXIMATELY 25 mm TO THE TOTAL DISPLACEMENT.

RECORDED BY: 
 APPROVED BY: 

DATE: 06/17/04

DATA SHEET 5
ANCHORAGE STATIC LOADING

VEH. MOD YR/MAKE/MODEL/BODY: 2004 FORD F-150 TRUCK
 VEH. NHTSA NO: C40201; VIN: 1FTRF12WX4NA32153
 VEH. BUILD DATE: 08/03; TEST DATE: SEPTEMBER 3, 2003
 TEST LABORATORY: GENERAL TESTING LABORATORIES
 OBSERVERS: GRANT FARRAND, JIMMY LATANE

TEST # 5225

LOWER ANCHORAGE- LATERAL FORCE APPLICATION:

SEATING POSITION	Seat, Seat Back & Head Restraint positions			Measured Angles		Initial location	Onset rate	Force Applied	Final location	Displacement
	Seat	Seat Back	Head Restraint	Vertical	Horizontal					
Front	Driver	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right	REAR	21°	UP	0°	75°	2500 N/SEC	4988	51.4	51.4
Rear	Left	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right (if any)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Third	Left	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REMARKS:

RECORDED BY: *Grant Farrand* DATE: 06/17/04

APPROVED BY: *D. H. Pearson*

SECTION 4
INSTRUMENTATION AND EQUIPMENT LIST

TABLE 1 - INSTRUMENTATION & EQUIPMENT LIST

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO.	CAL. DATE	NEXT CAL. DATE
COMPUTER	AT&T	486DX266	BEFORE USE	BEFORE USE
LOAD CELL	INTERFACE	496	06/03	06/04
LINEAR TRANSDUCER	CELESCO	69	BEFORE USE	BEFORE USE
LINEAR TRANSDUCER	CELESCO	70	BEFORE USE	BEFORE USE
LINEAR TRANSDUCER	CELESCO	72	BEFORE USE	BEFORE USE
LEVEL	STANLEY	42-449	02/04	02/05
FORCE GAUGE	CHATILLON	8761	BEFORE USE	BEFORE USE
CALIPER	N/A	Q9322365	BEFORE USE	BEFORE USE

SECTION 5
PHOTOGRAPHS

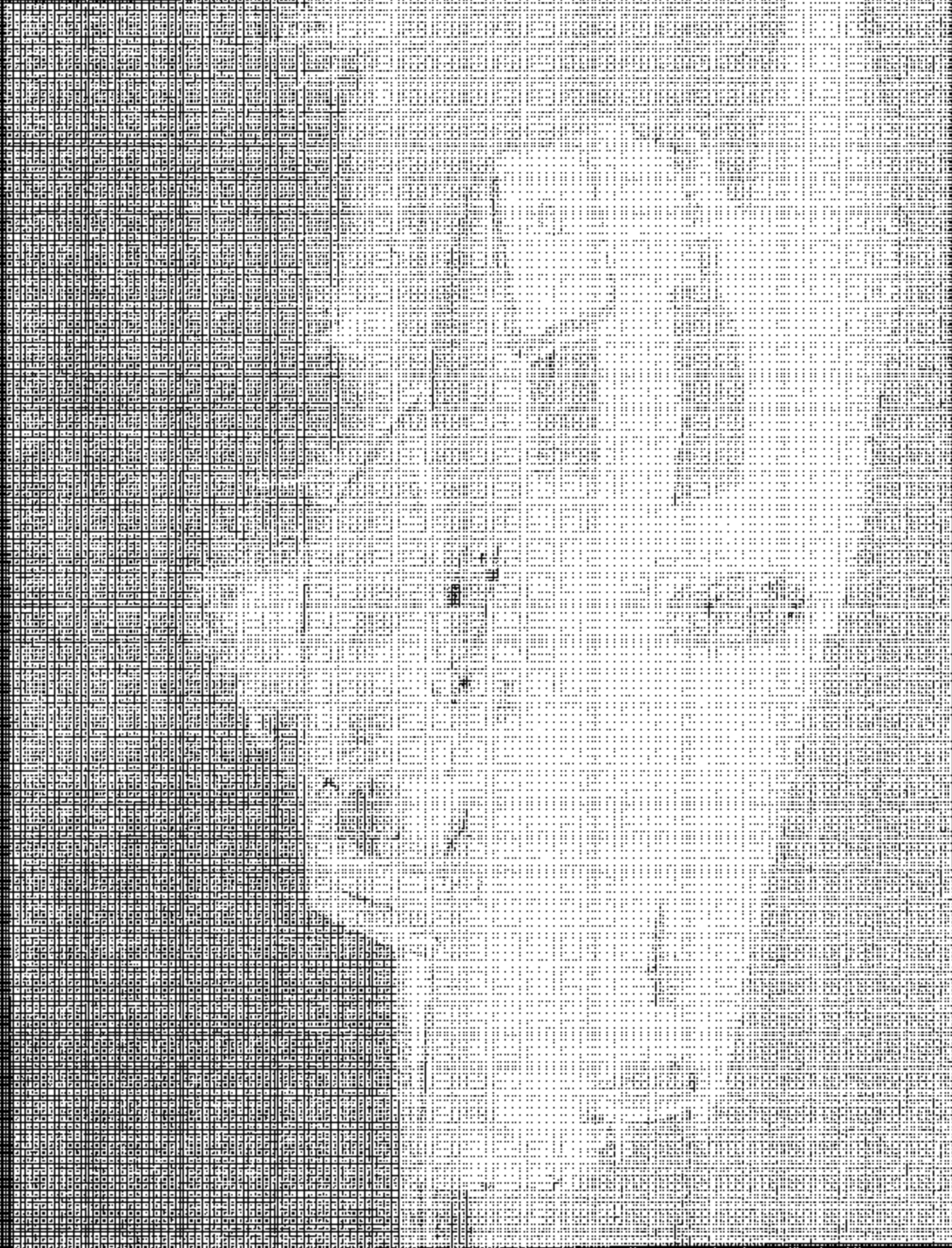
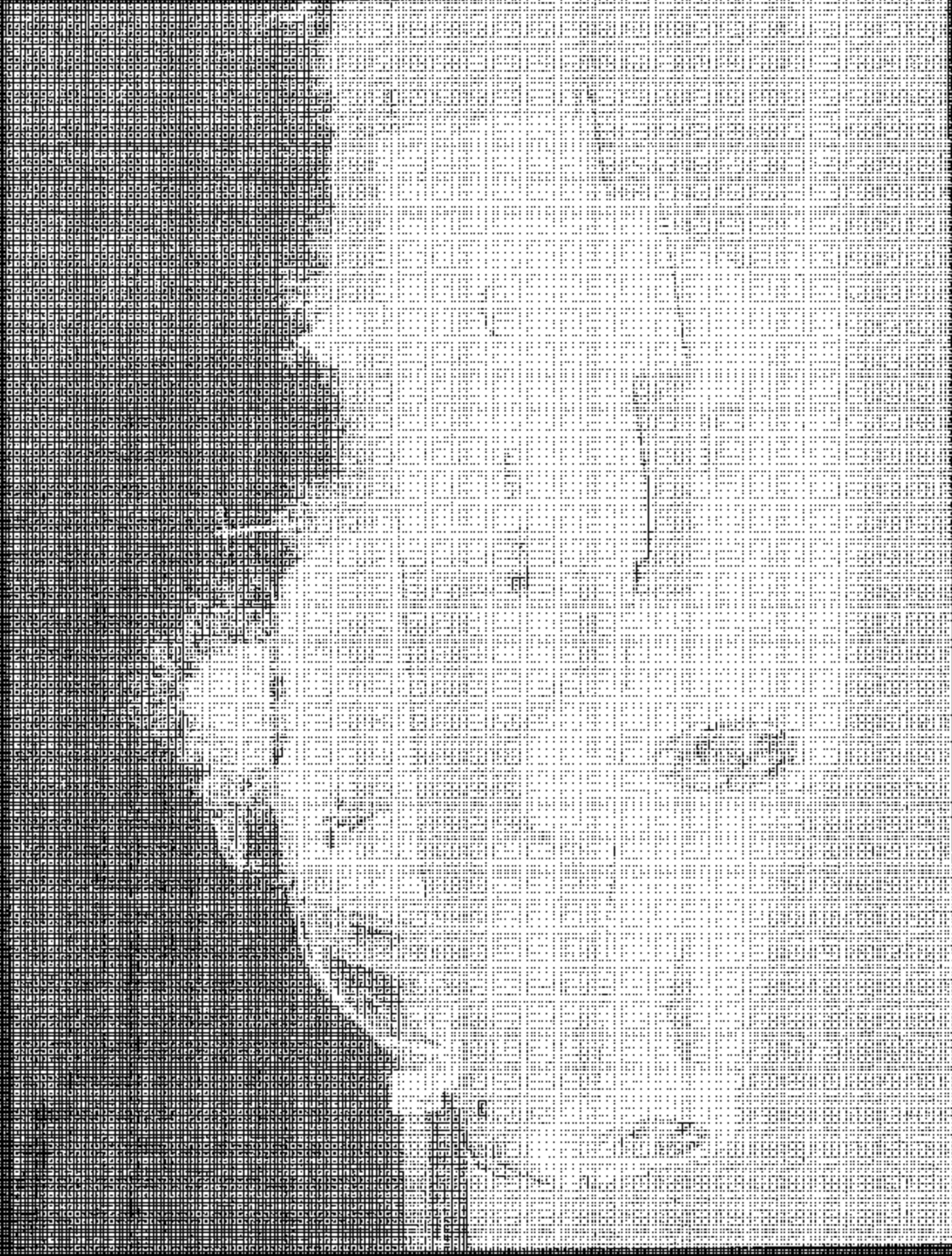


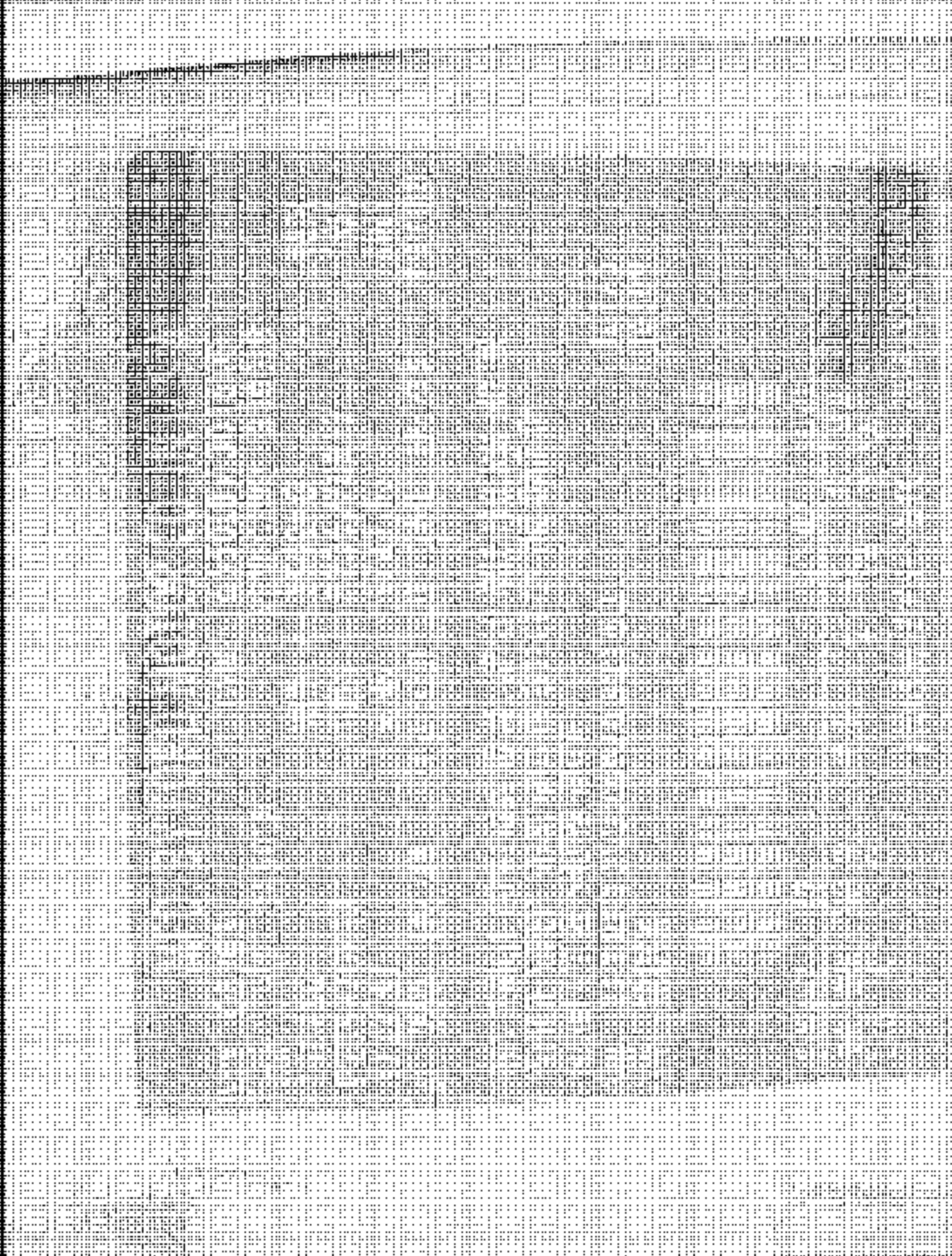
FIGURE 5-1
FRONTAL RIGHT SIDE VIEW OF VEHICLE

2004 FORD F-150 PICK-UP TRUCK
WATS NO. C40201
JHAYS NO. 228



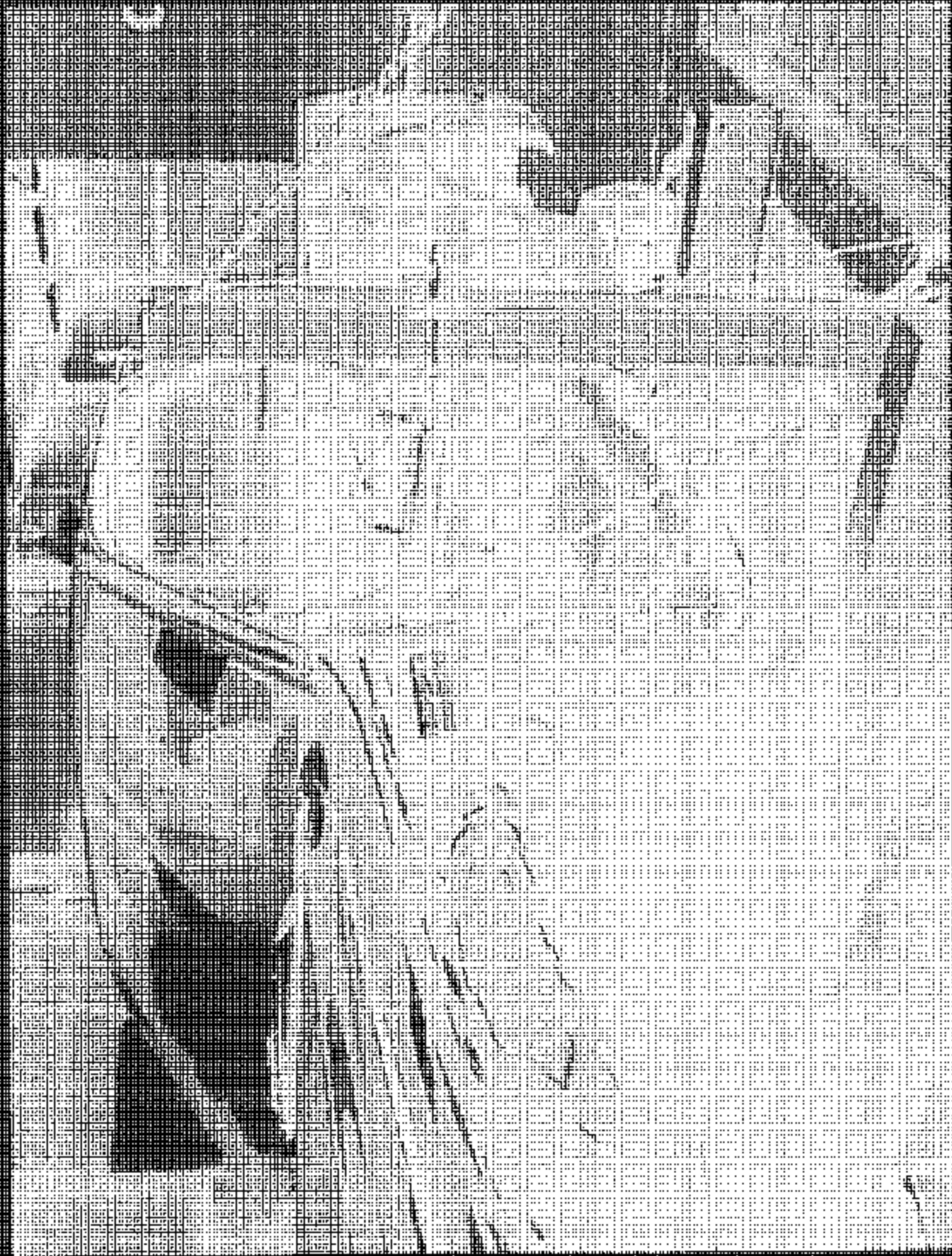
2004 FORD F-150 PICK-UP TRUCK
NH TSA NO. C44201
FMASS NO. 725

FIGURE 5.2
¾ REARWARD LEFT SIDE VIEW OF VEHICLE



2004 FORD F-150 PICKUP TRUCK
ARTSA NO. C40201
EPA NO. 226

FIGURE 1-3
CLOSE-UP VIEW OF VEHICLE CERTIFICATION
AND TIRE INFORMATION LABEL



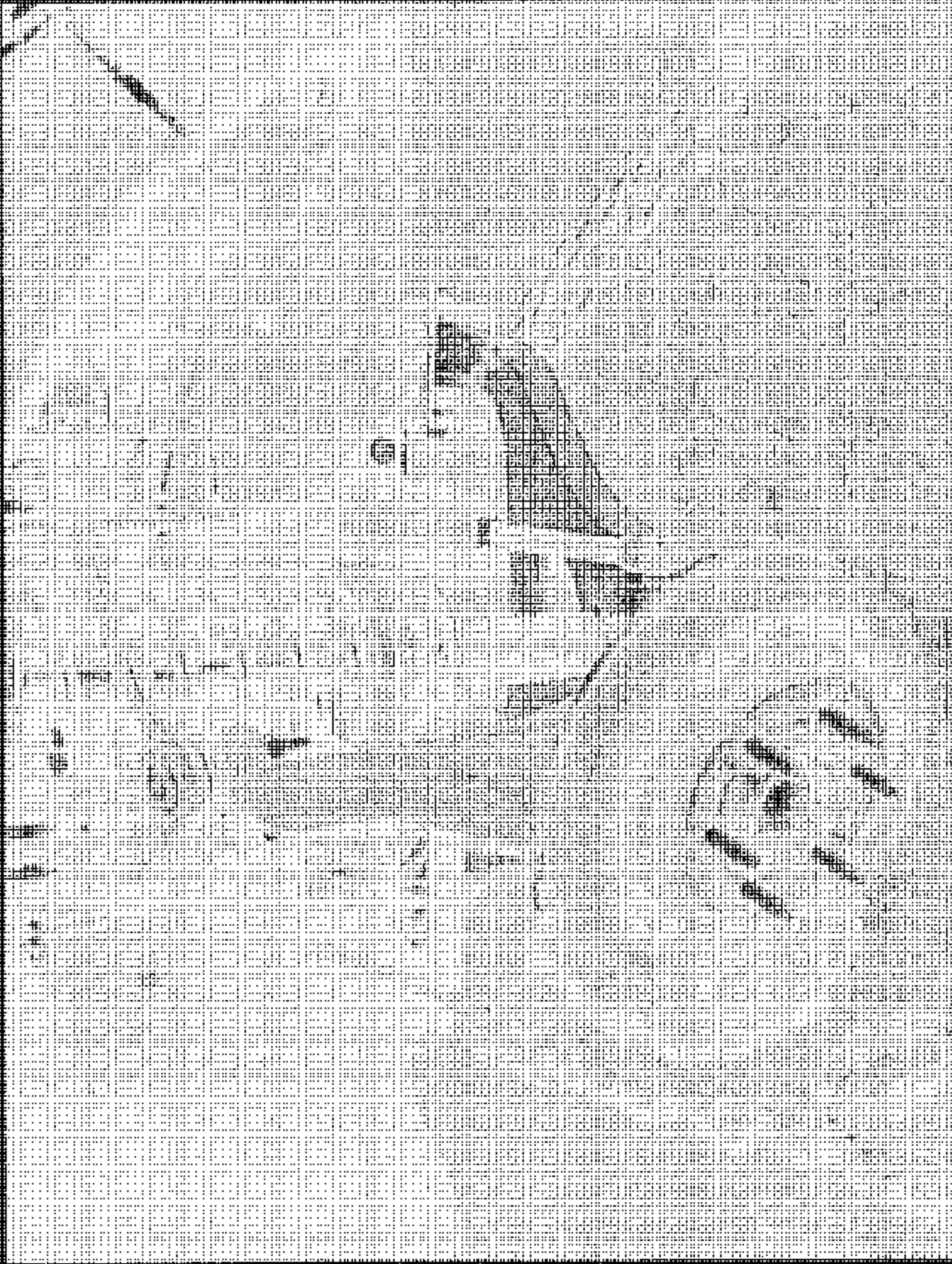
2004 FORD F-150 PICK-UP TRUCK
AHTSA NO. 040201
FVASS NO. 226

FIGURE 4.4
3/4 LEFT FRONT VIEW OF VEHICLE IN TEST FIG



2004 FORD F-150 PICKUP TRUCK
NHISA NO. C402201
FMVSS NO. 225

FIGURE 55
X RIGHT FRONT VIEW OF VEHICLE IN TEST RIG



2004 FORD F-150 PICK-UP TRUCK
NHTSA NO. C40201
EPA NO. 225

FIGURE 56
RIGHT FRONT VEHICLE TIE DOWN

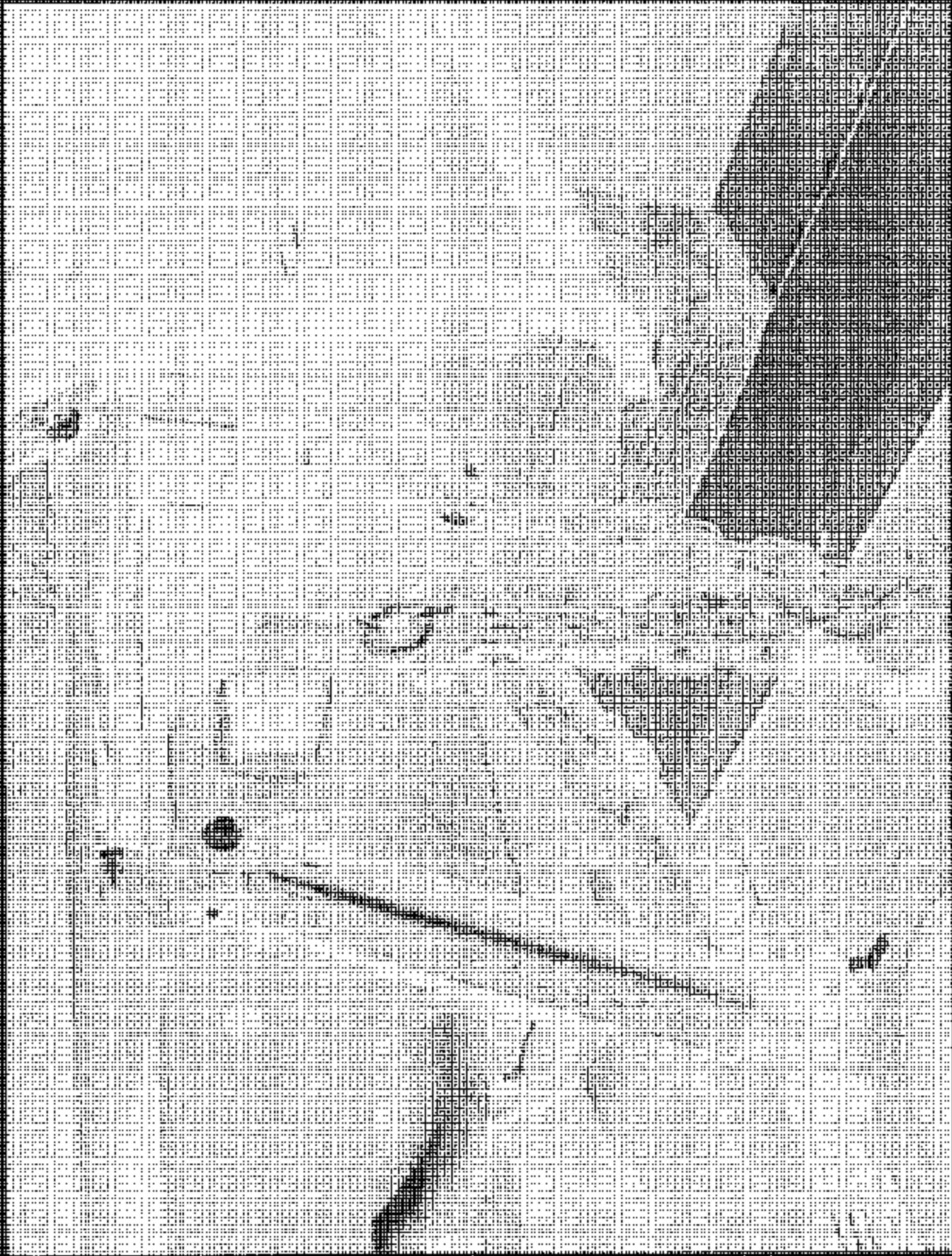


FIGURE 57
RIGHT REAR VEHICLE TIEDOWN

2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40201
FBI/ISS NO. 285

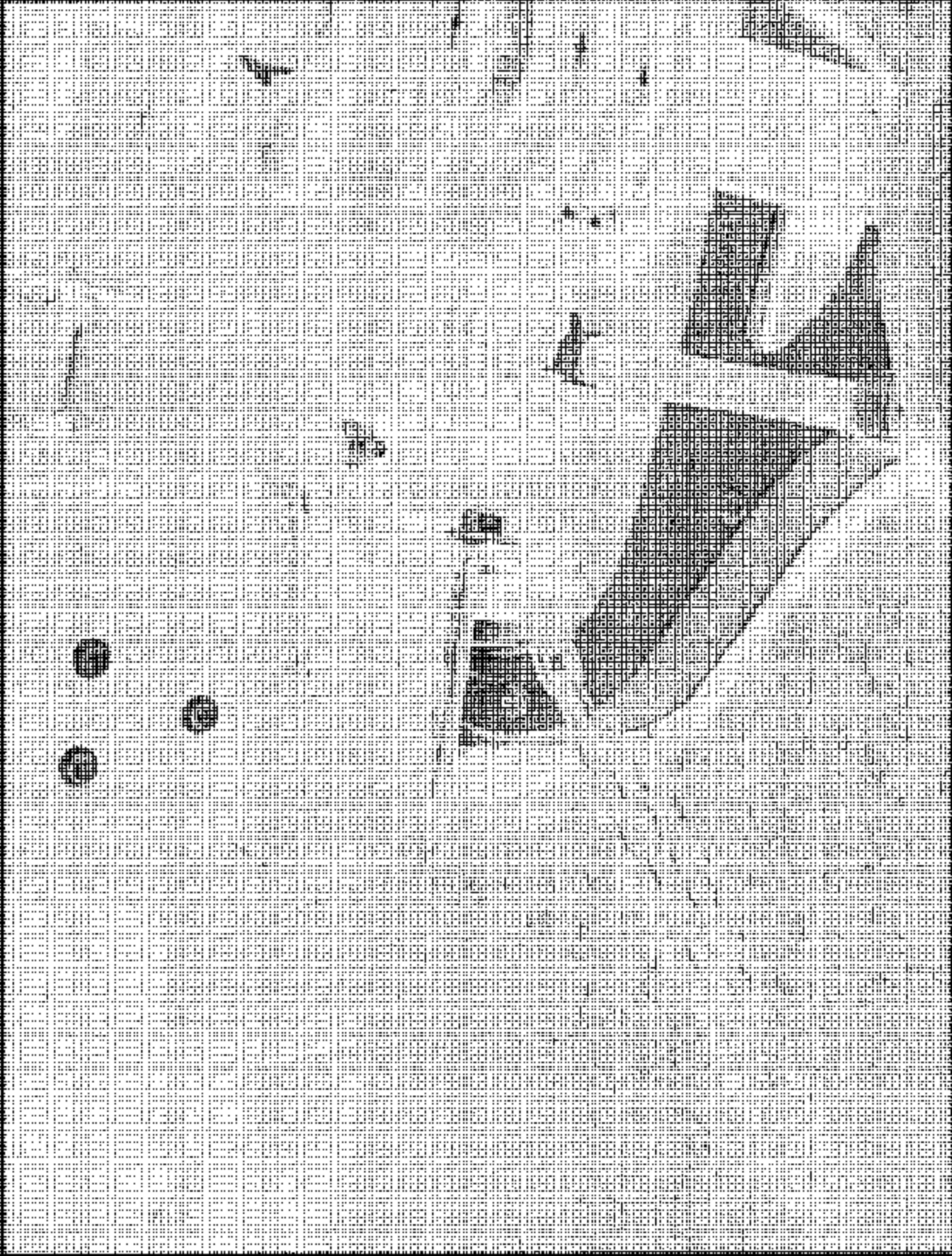


FIGURE 52
LEFT FRONT VEHICLE TIE DOWN

2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40001
FMVSS NO. 225

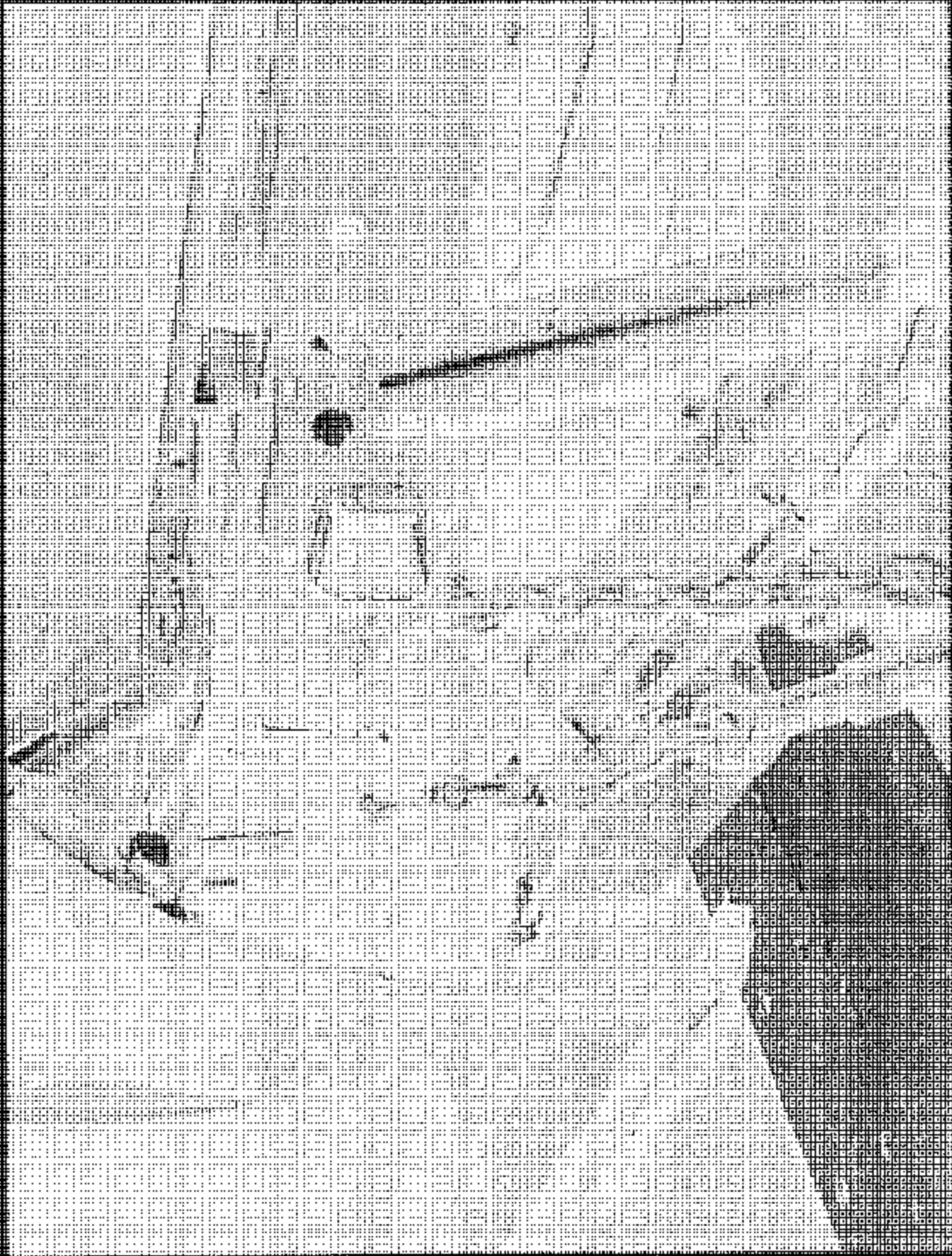
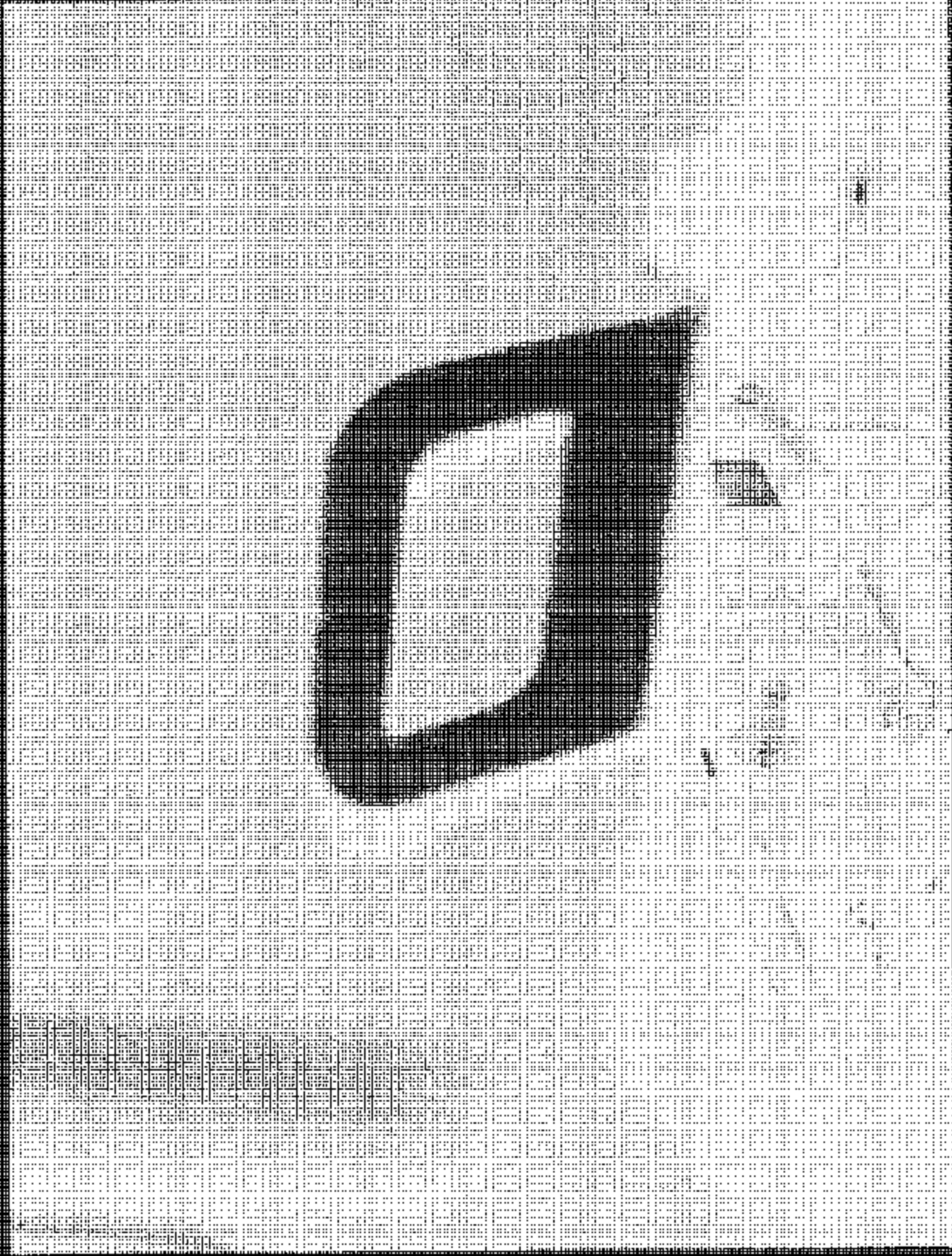


FIGURE 19
LEFT REAR VEHICLE TIE DOWN

2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40201
FBI/ISS NO. 225



2004 FORD F-150 PICKUP TRUCK
NHISA NO. C40204
FNUSS NO. 225

FIGURE 5-10
PRE-VEST RIGHT TOP TETHER ANCHOR

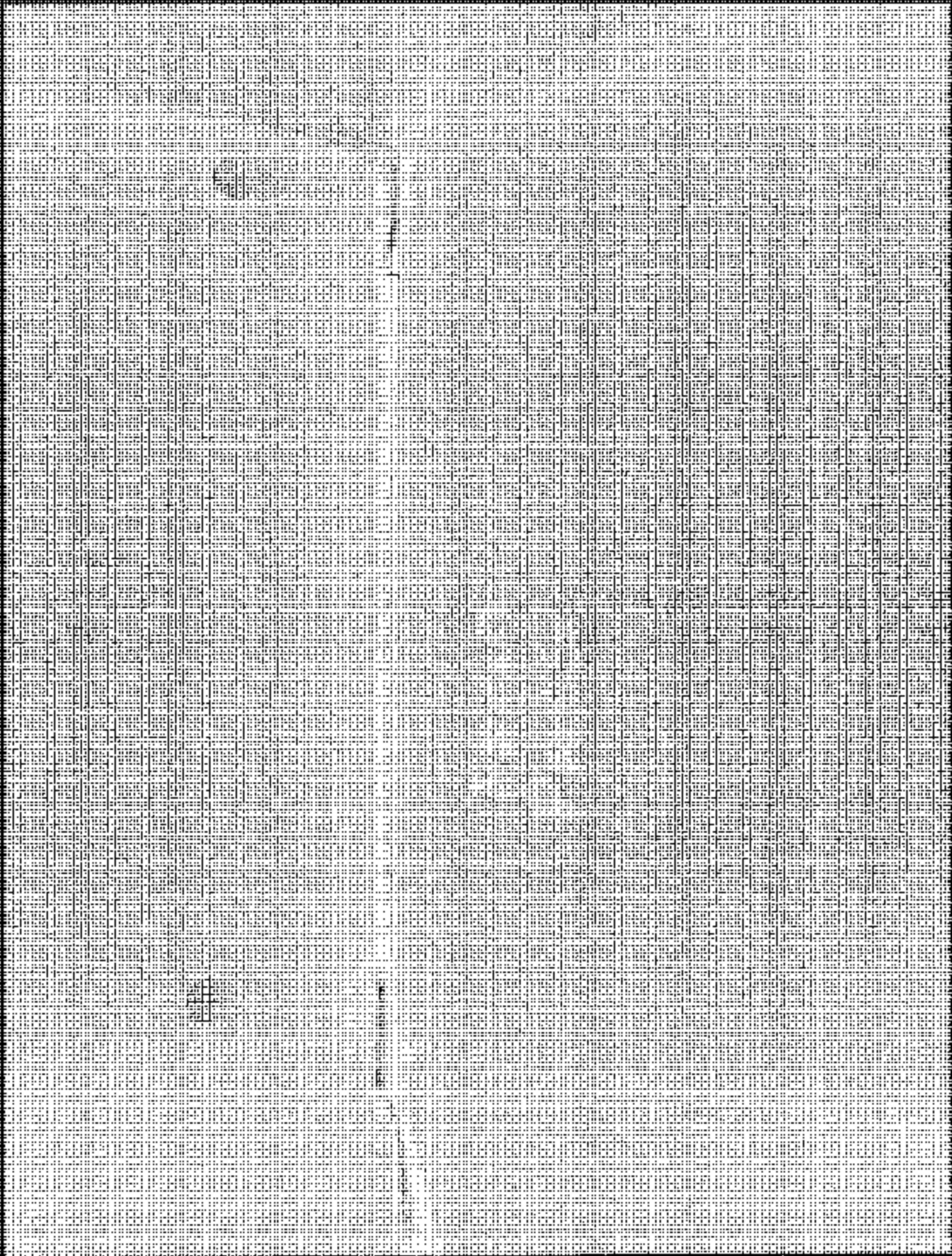


FIGURE 5-11
PRE-TEST RIGHT LOWER ANCHORS FRONT
VIEW

2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40001
FMAES NO. 228

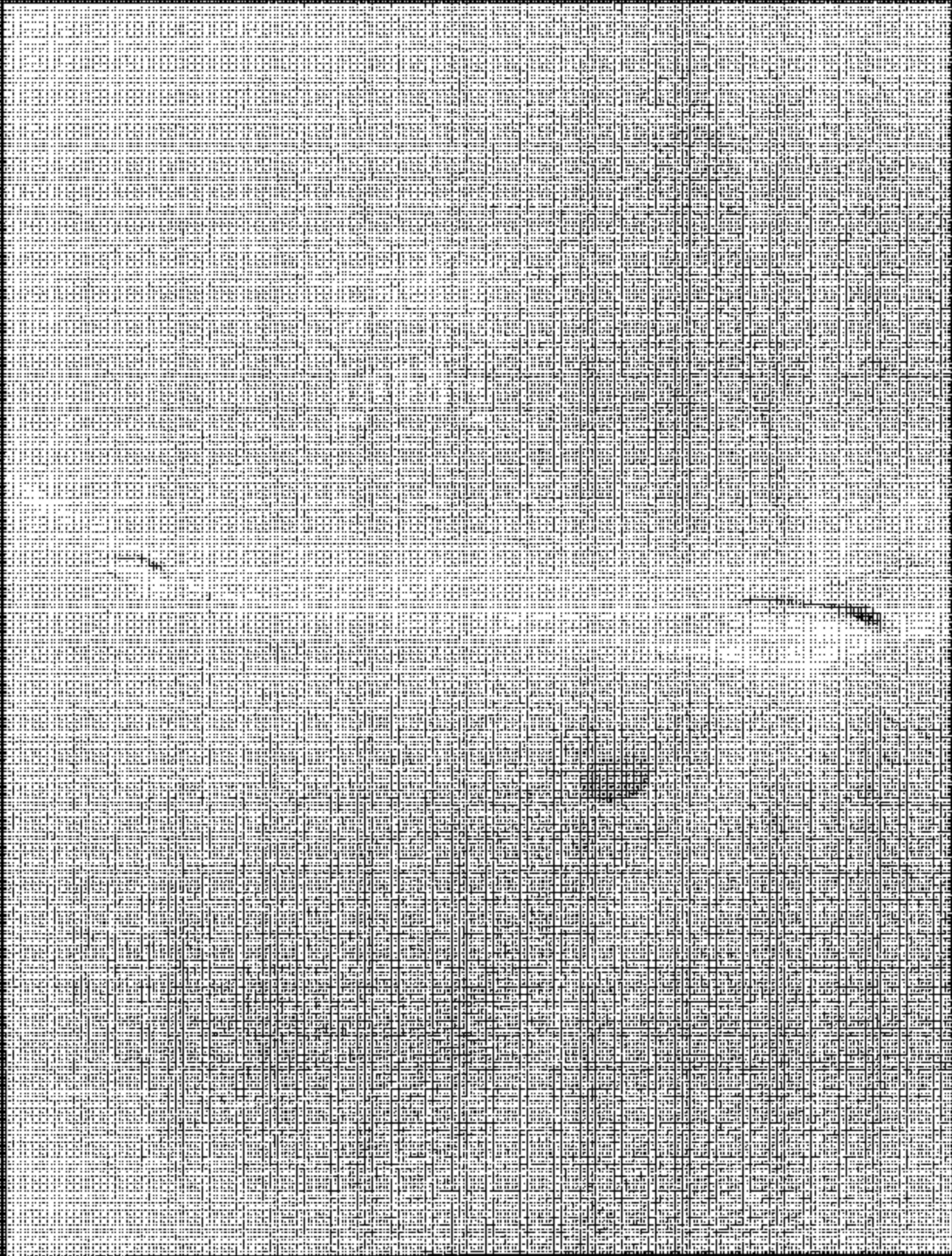
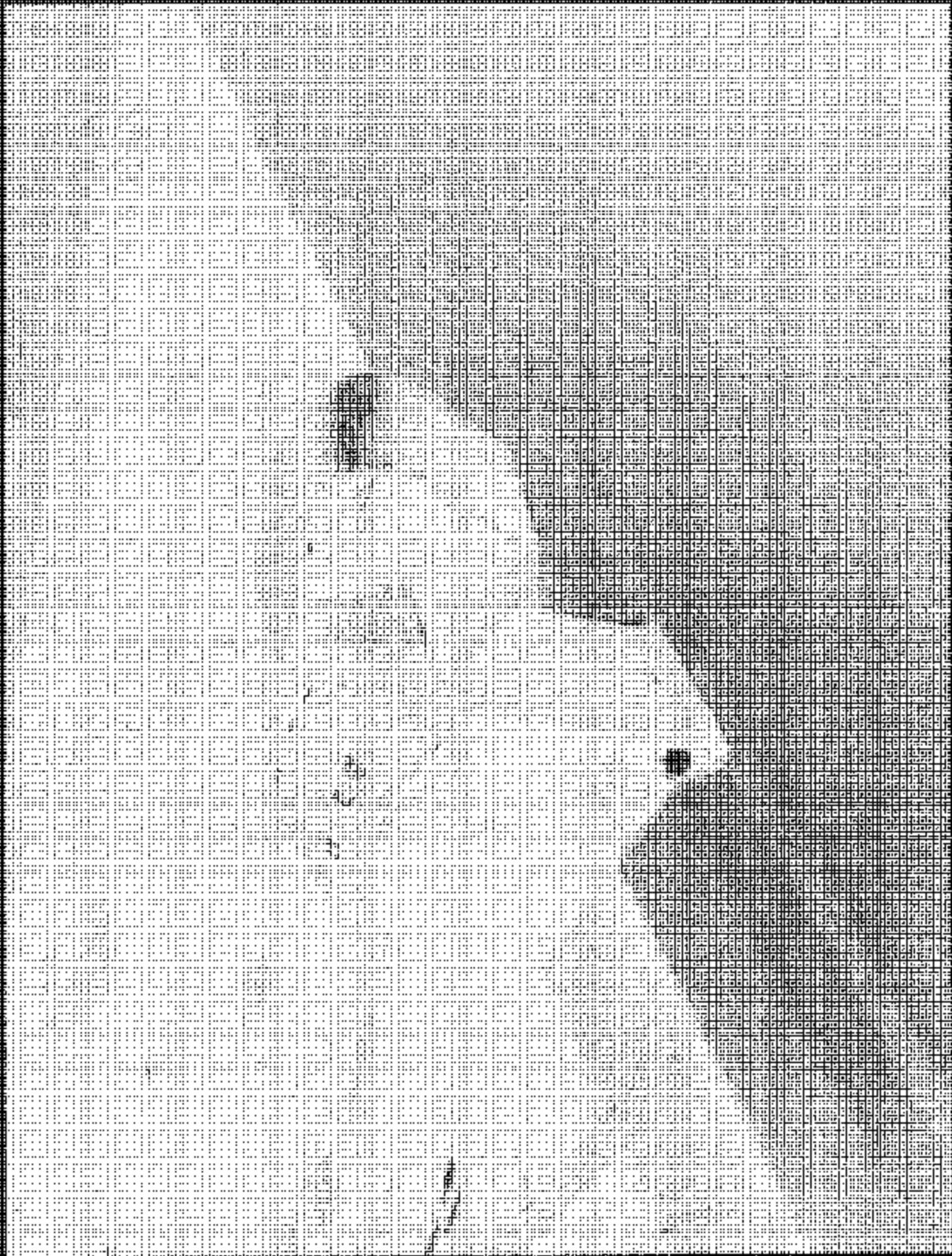


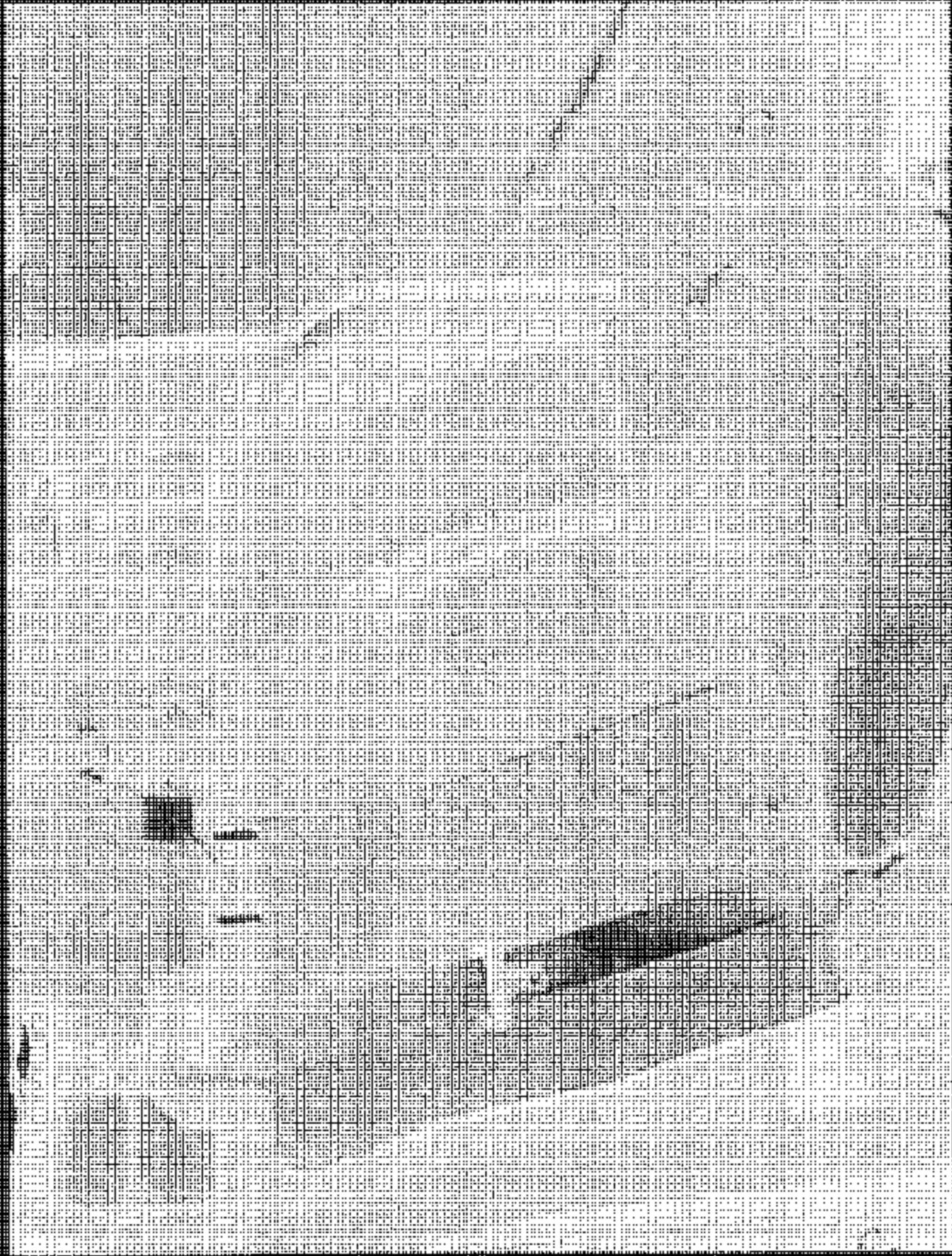
FIGURE 5-12
PRE-TEST RIGHT LOWER ANCHORS SIDE
VIEW

2006 FORD F-150 PICK-UP TRUCK
NHTSA NO. C40201
FNU38 NO. 225



201 FORD F-150 PICK-UP TRUCK
NETEAS NO. C40201
FIVES NO. 235

FIGURE 613
PRE-TEST CENTER TOP TETHER ANCHOR



2004 FORD F-150 PICKUP TRUCK
NHTSA NC. C40201
FRASS NO. 225

FIGURE B-14
VIEW OF 2D TEMPLATE IN RIGHT SEAT



FIGURE 5-15
VIEW OF 20 TEMPLATE IN CENTER SEAT

2006 FORD F-150 PICK-UP TRUCK
RENTS NO C40201
FHVSS NO 225

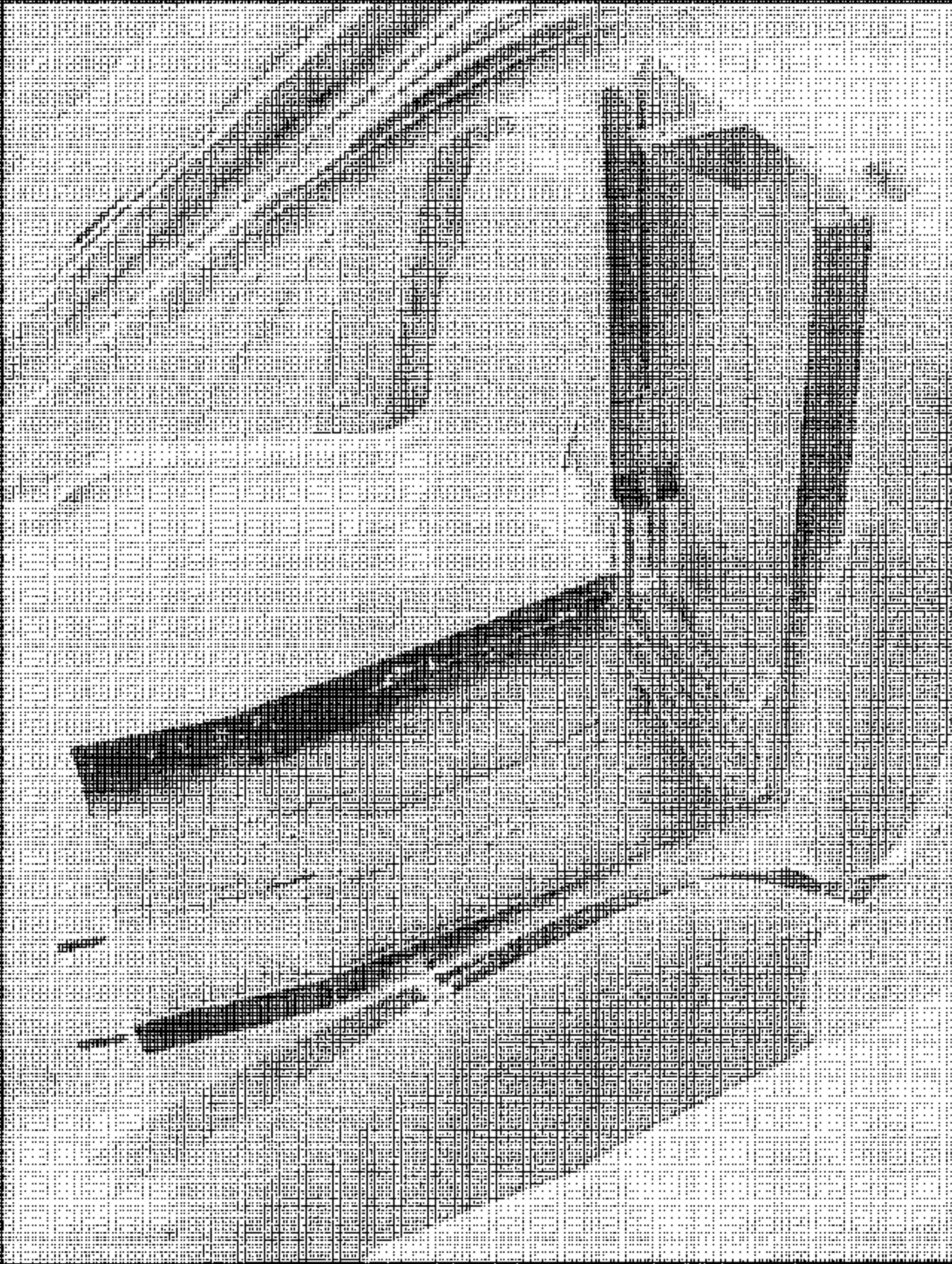
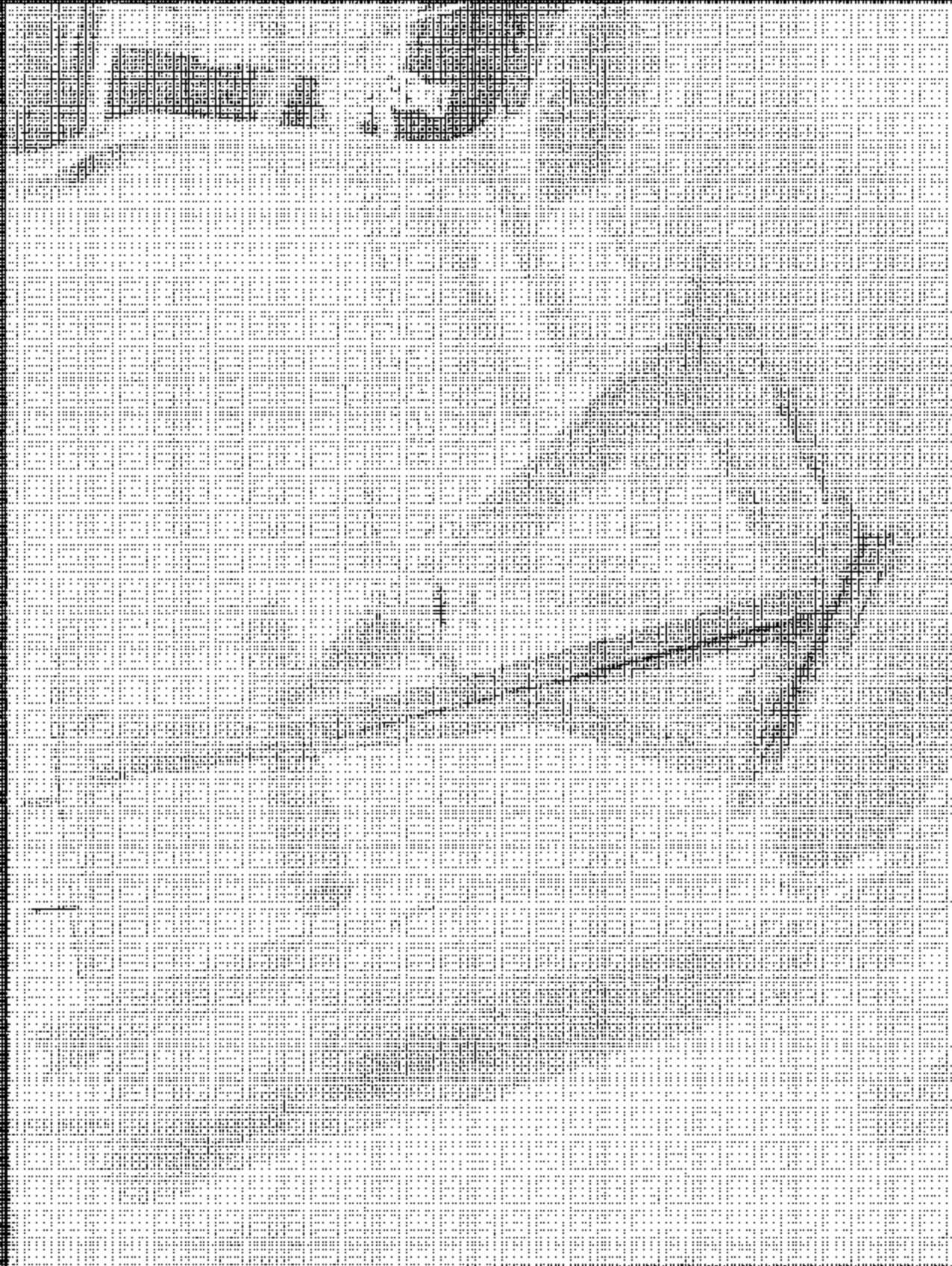


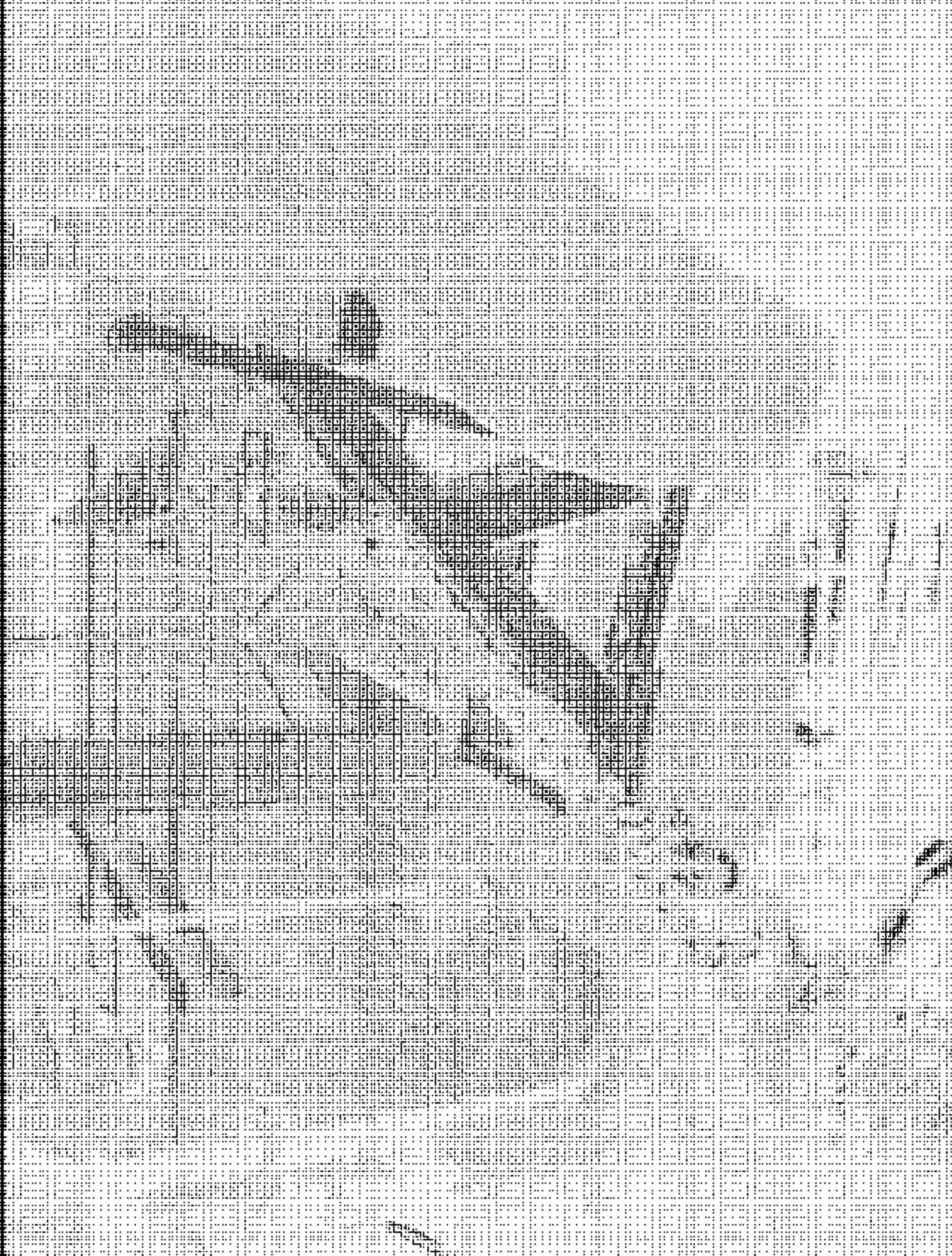
FIGURE 5-16
VIEW OF CREW IN RIGHT SEAT

2604 FORD F-150 PICK UP TRUCK
NHTSA NO. C-40201
FNVSS NO. 226



2004 FORD F-150 PICKUP TRUCK
MITSUBISHI NO. C40201
FMS NO. 225

FIGURE 5-17
PRE-TEST SETUP RIGHT POSITION X-VIEW



2014 FORD F-150 PICK-UP TRUCK
NHTSA NO. C40201
EPA NO. 225

FIGURE 18
PRE-TEST SET-UP RIGHT POSITION SIDE VIEW

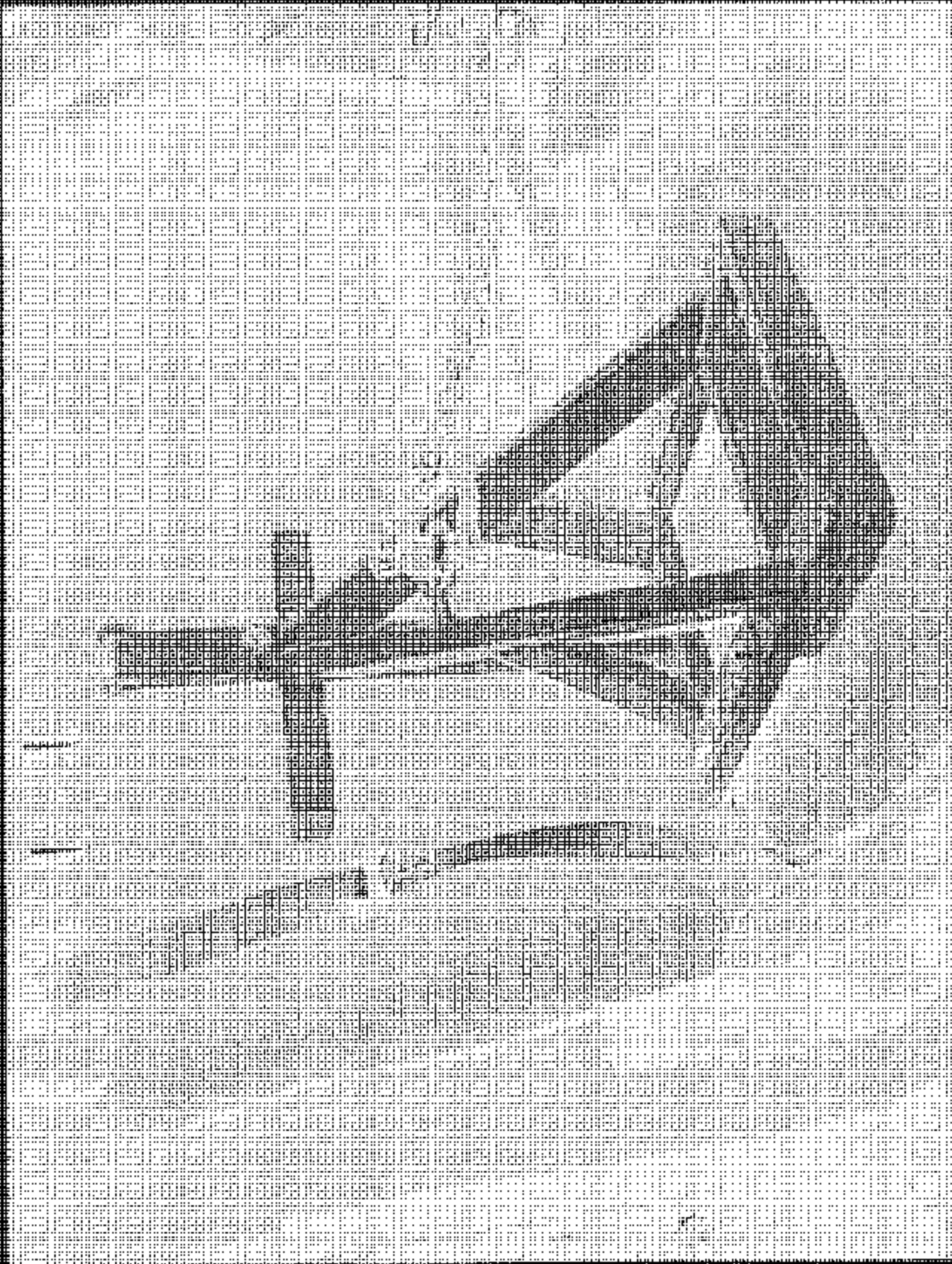
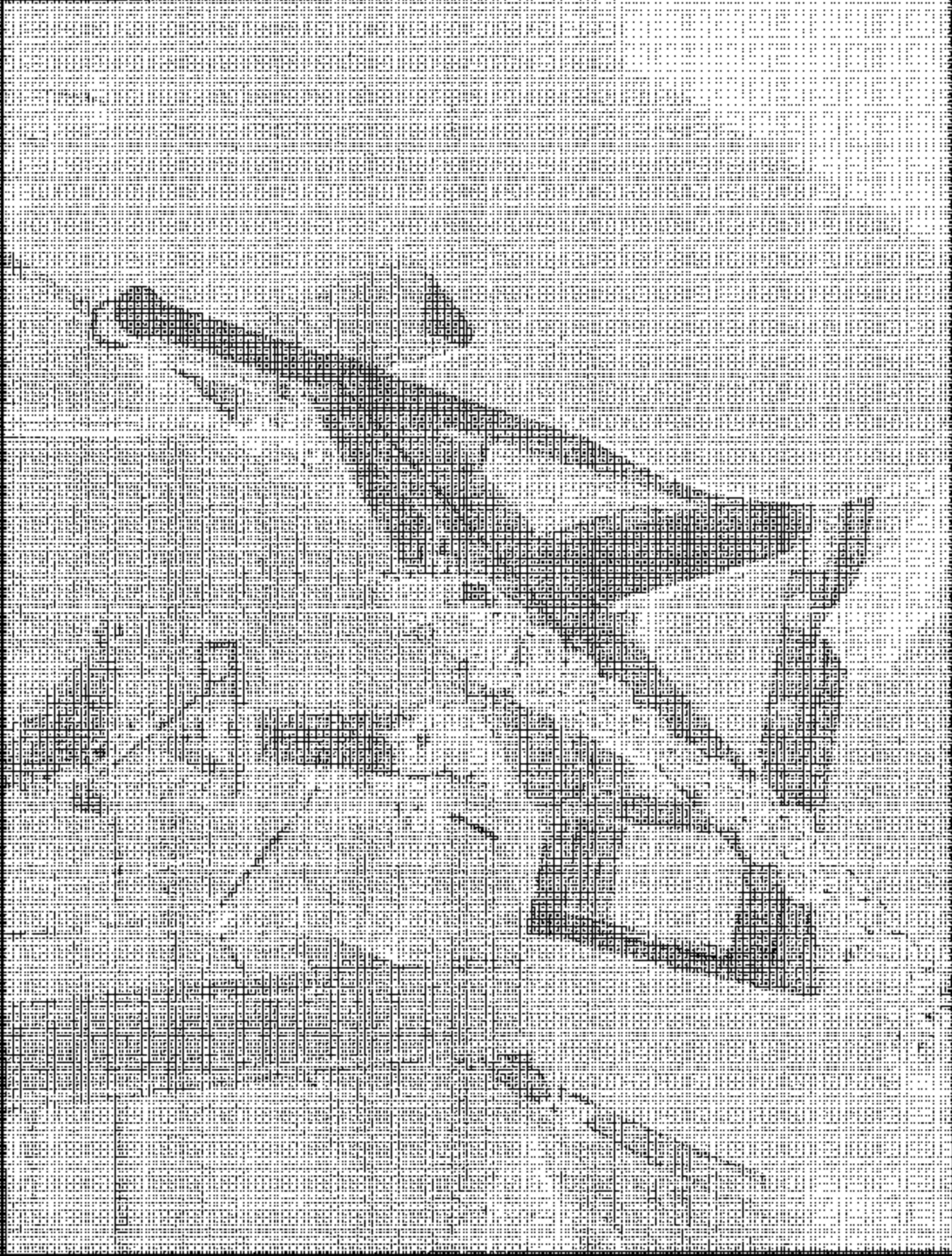


FIGURE 5.19
POSTTEST RIGHT POSITION % VIEW

2004 FORD F-150 PICK-UP TRUCK
NHTSA NO. C40001
FAASS NO. 215



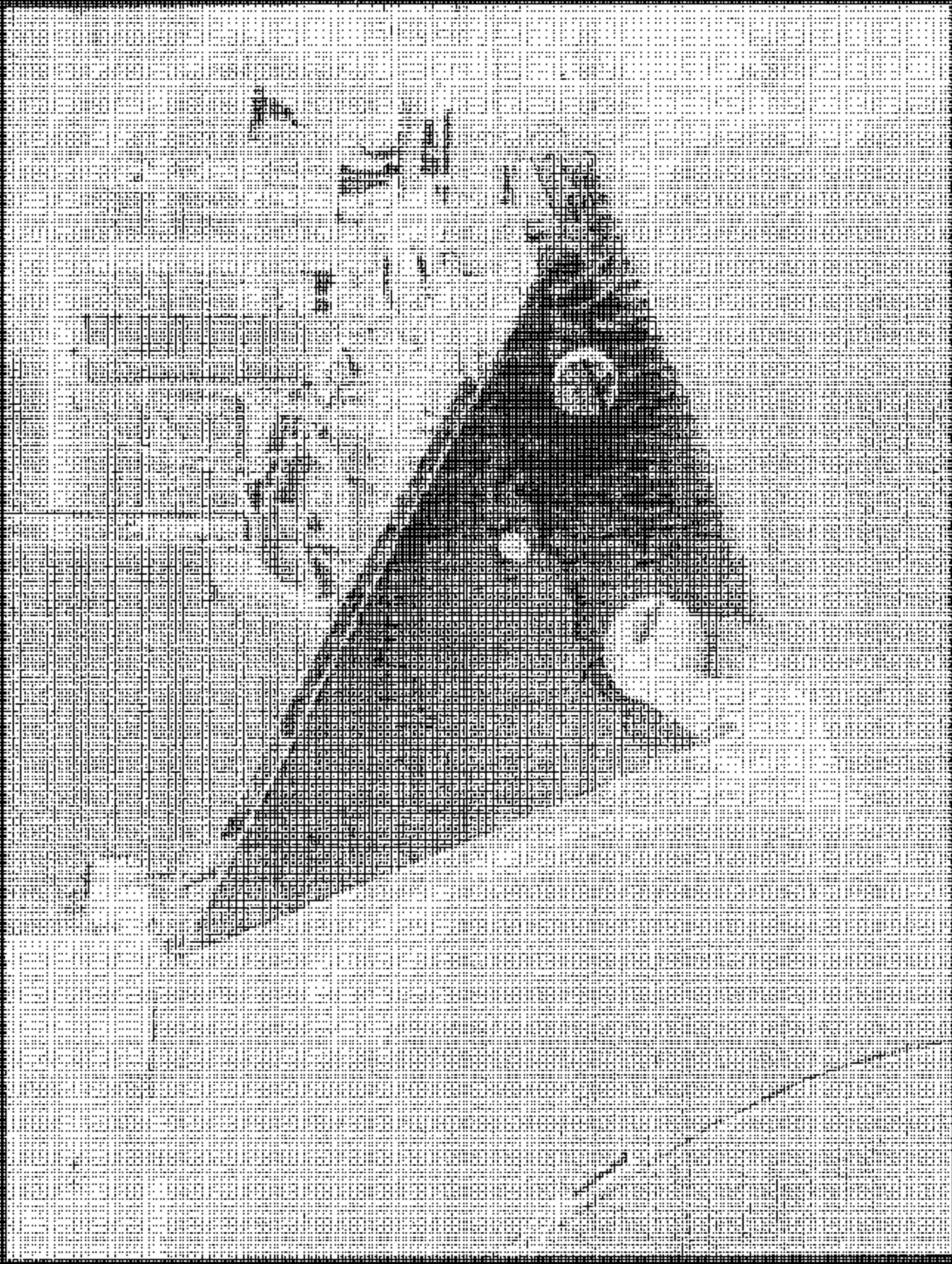
2004 FORD F-150 PICK-UP TRUCK
NHTSA NC C40201
PIA55 ND 215

FIGURE 5-20
POST TEST RIGHT POSITION SIDE VIEW



2004 FORD F-150 PICKUP TRUCK
NHTSA NO C40204
FMVSS NO 225

FIGURE 4-21
PRE-TEST SETUP CENTER POSITION X-VIEW



2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40204
FMVSS NO. 225

FIGURE 8.22
PRE-TEST SET-UP CENTER POSITION SIDE
VIEW



FIGURE 5-23
POST TEST CENTER POSITION & VIEW

2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C40201
FMVSS NO. 226

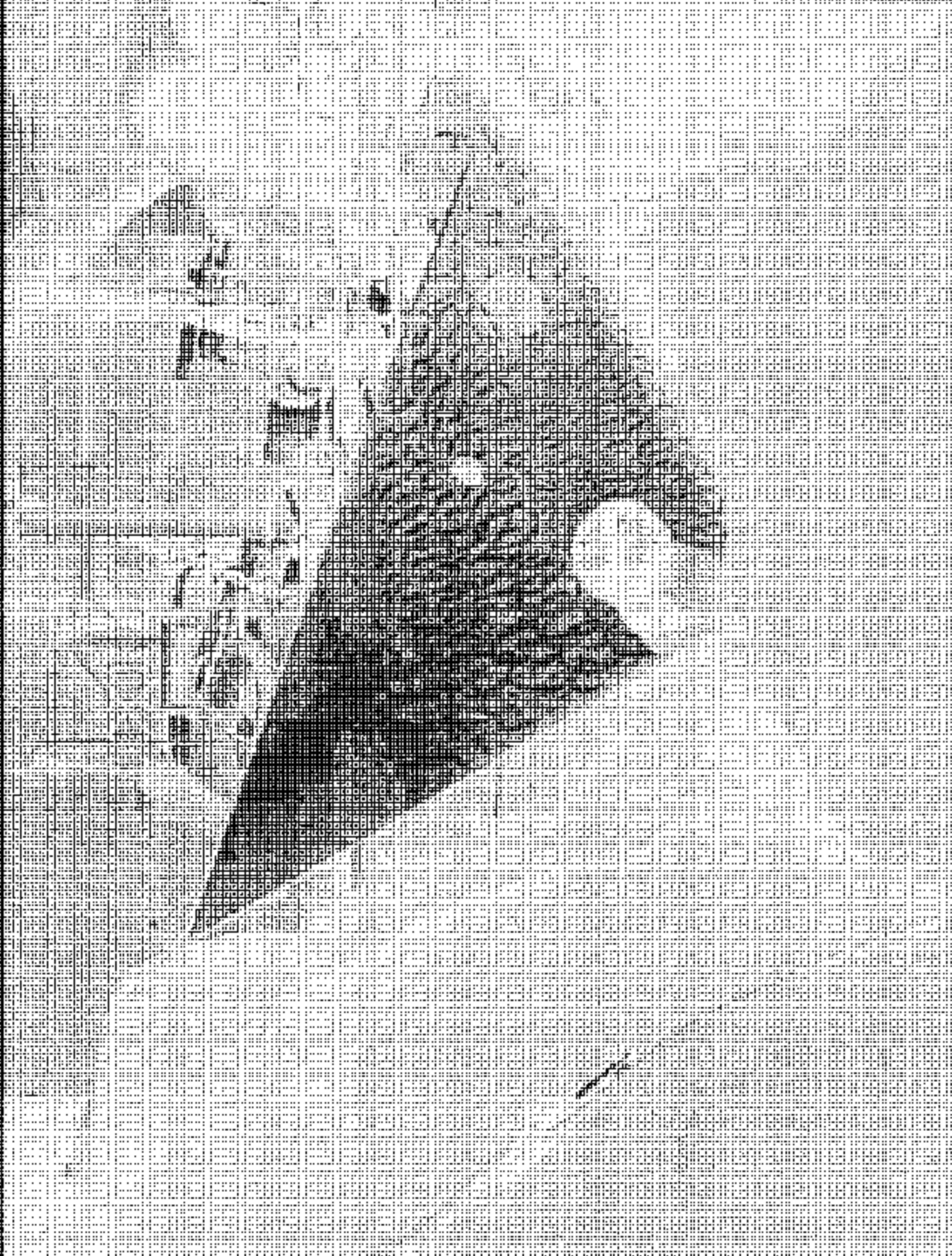
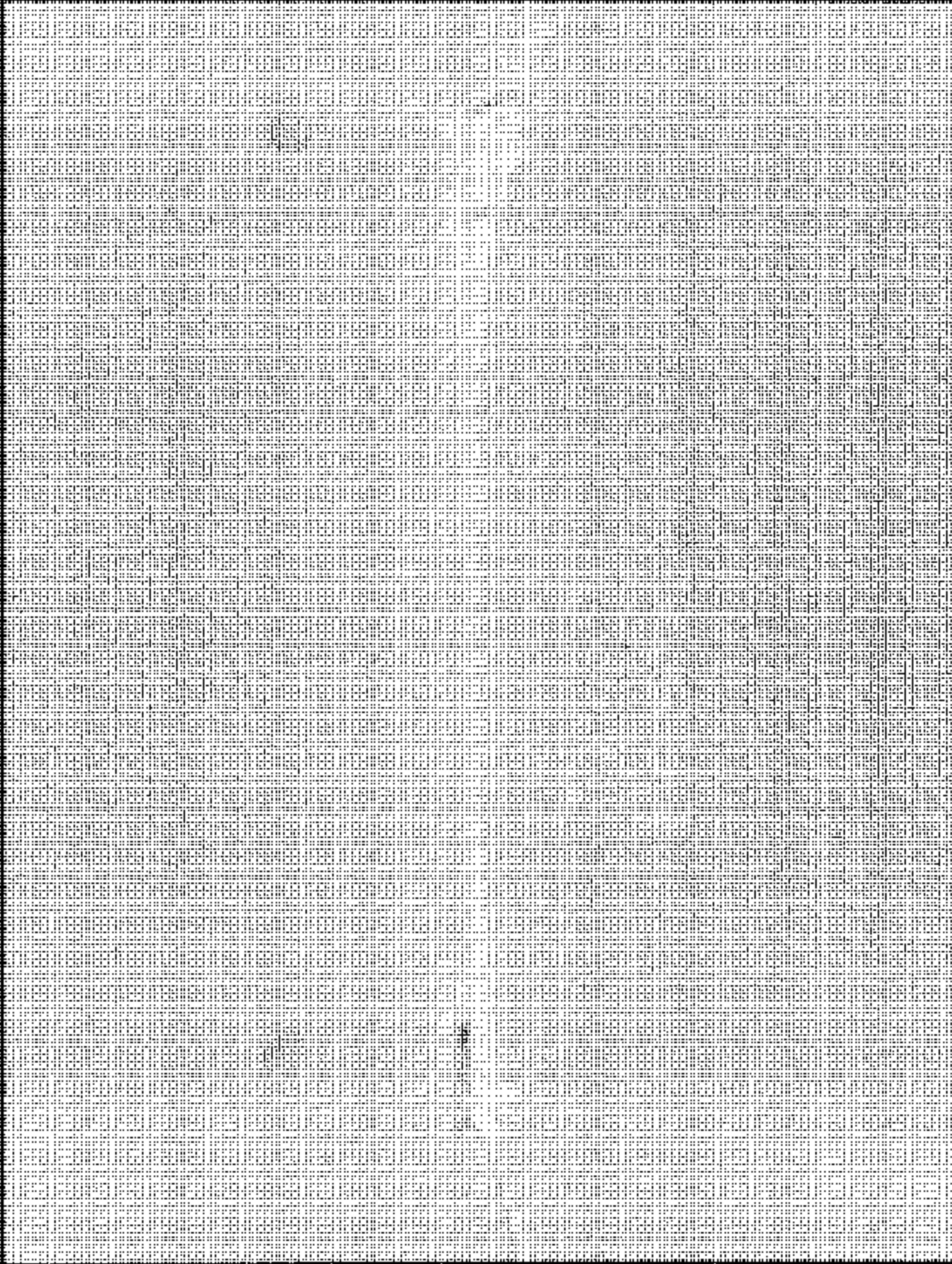


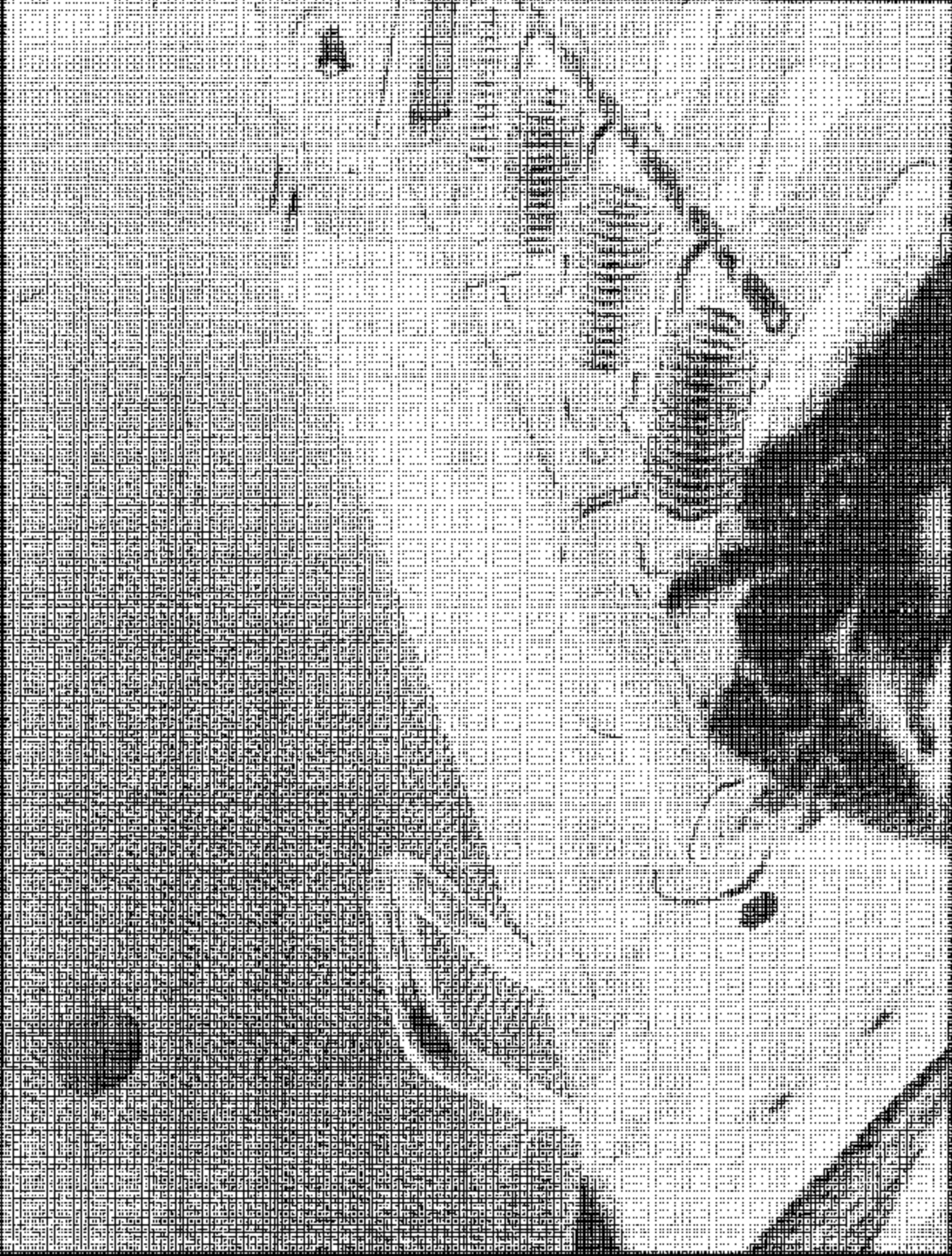
FIGURE 5.24
POST TEST CENTER POSITION SIDE VIEW

2014 FORD F-150 PICKUP TRUCK
NHTSA NO. C40201
FMVSS NO. 228



2004 FORD F-150 PICKUP TRUCK
NHTSA NO C40201
FMVSS NO 225

FIGURE 5-26
POST TEST RIGHT LOWER ANCHORS FRONT
VIEW



2004 FORD F-150 PICKUP TRUCK
NHTSA NO. C-40201
FV-SS NO. 238

FIGURE 5-26
POST TEST RIGHT LOWER ANCHORS SIDE
VIEW



2011 FORD F-150 PICK-UP TRUCK
NHTSA NO. 040201
FAVSS NO. 225

FIGURE 1.27
POST TEST CENTER TOP TETHER ANCHOR

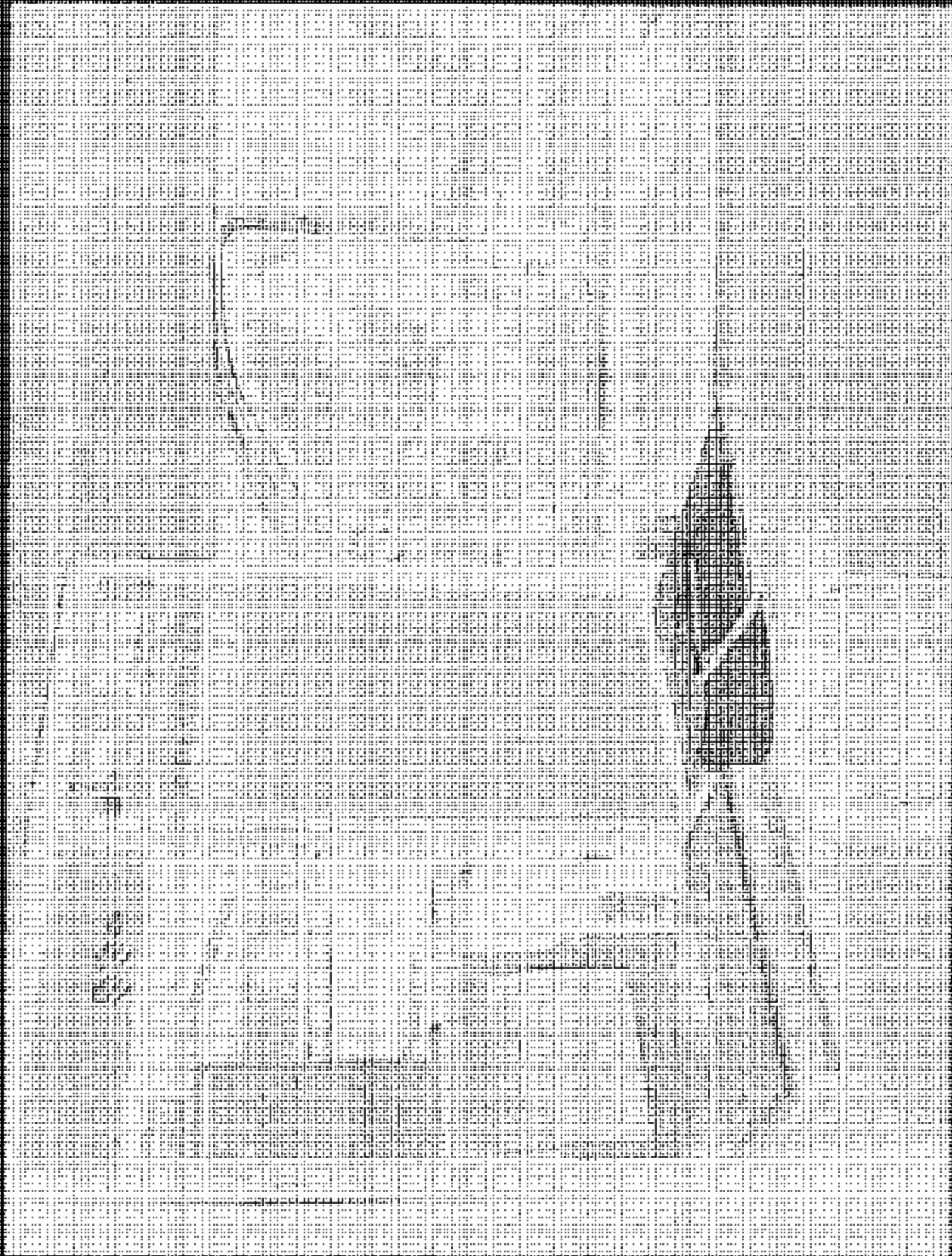


FIGURE 5.23
LOAD SYSTEM CONTROL AND DATA
RECORDING DEVICE IN POSITION

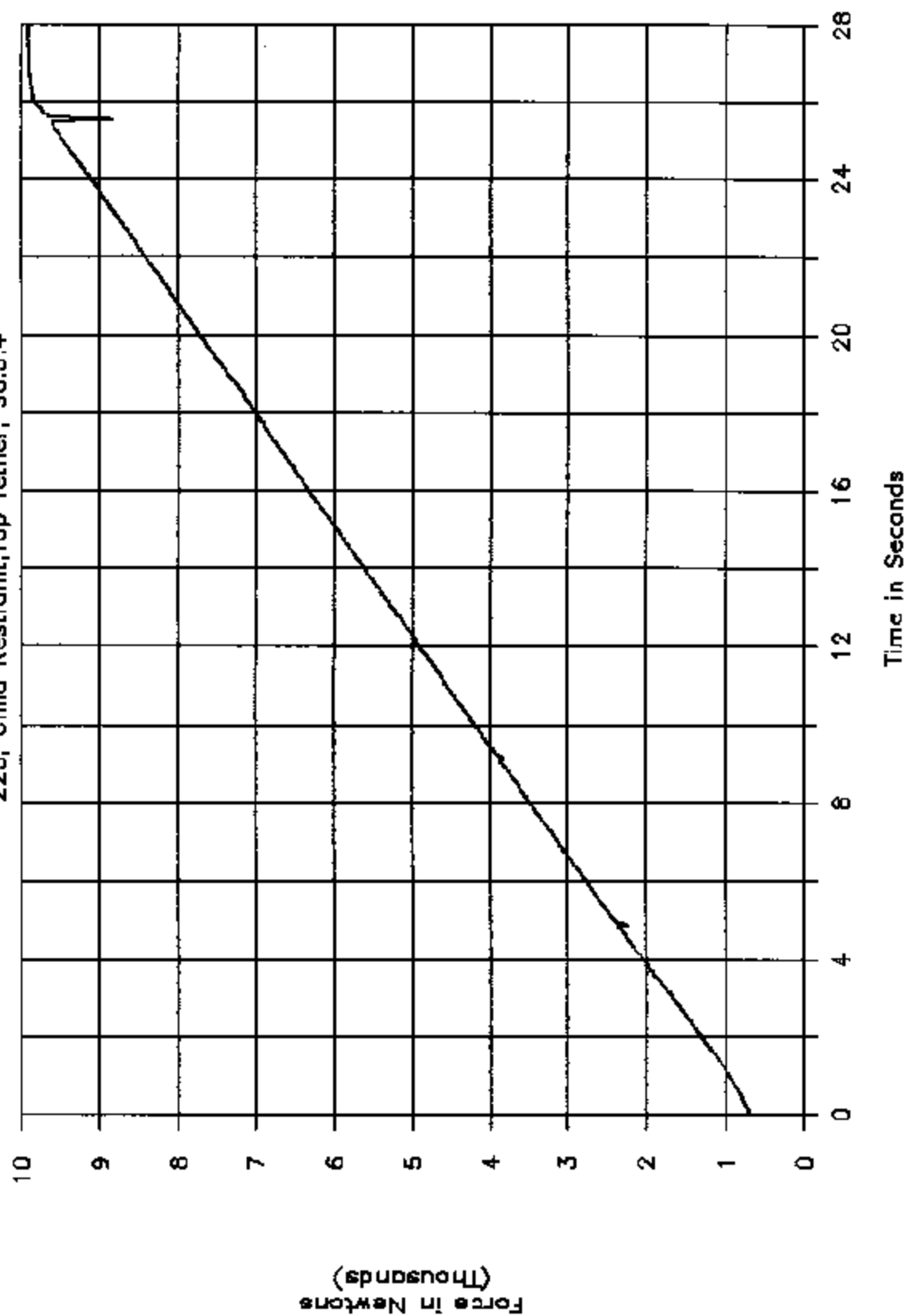
2014 FORD F-150 PICK-UP TRUCK
NHTSA NO. C40091
MASS NO. 326

SECTION 6

PLOTS

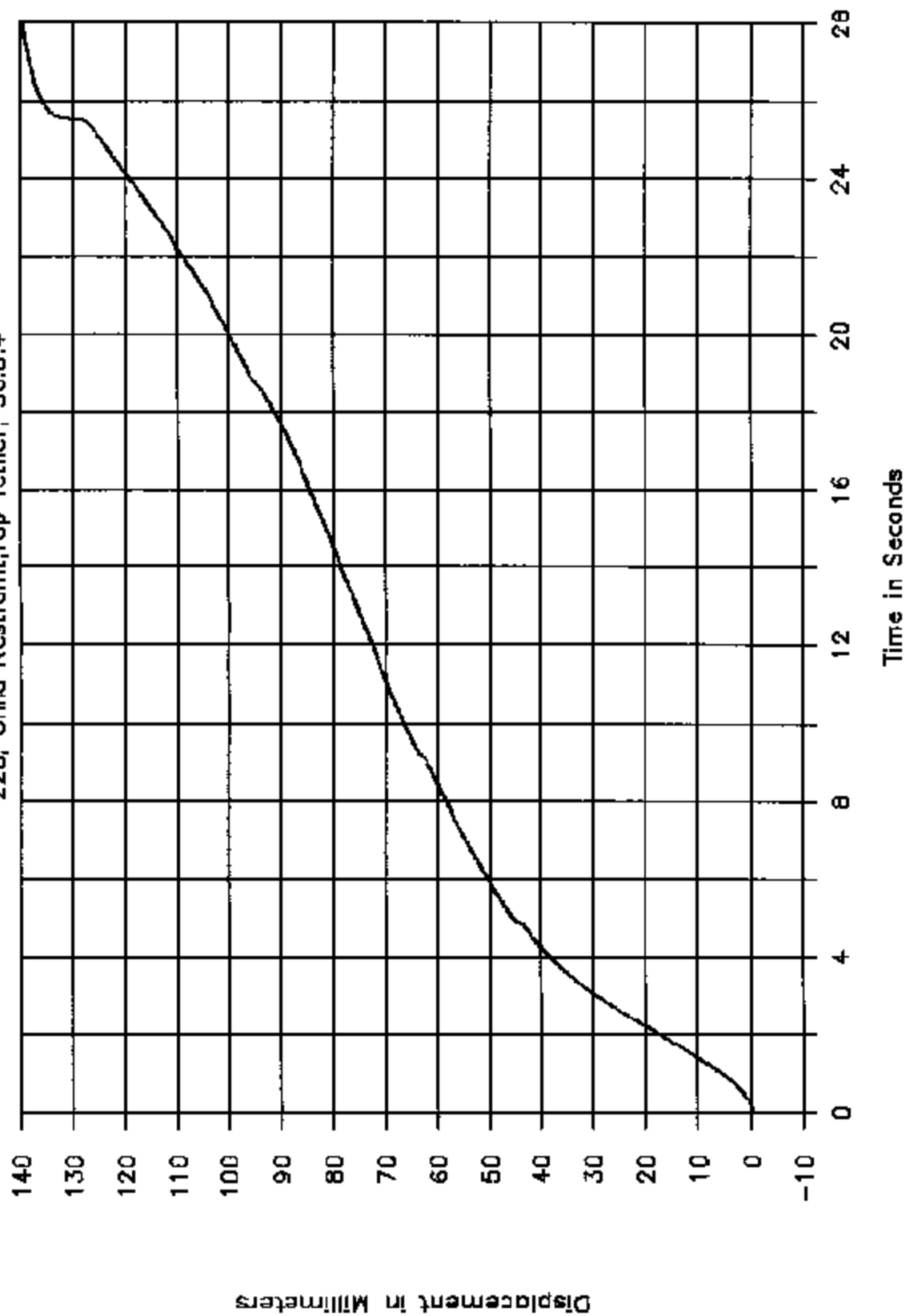
GTL 5224, NHTSA C40201

225, Child Restraint, Top Tether, S6.3.4



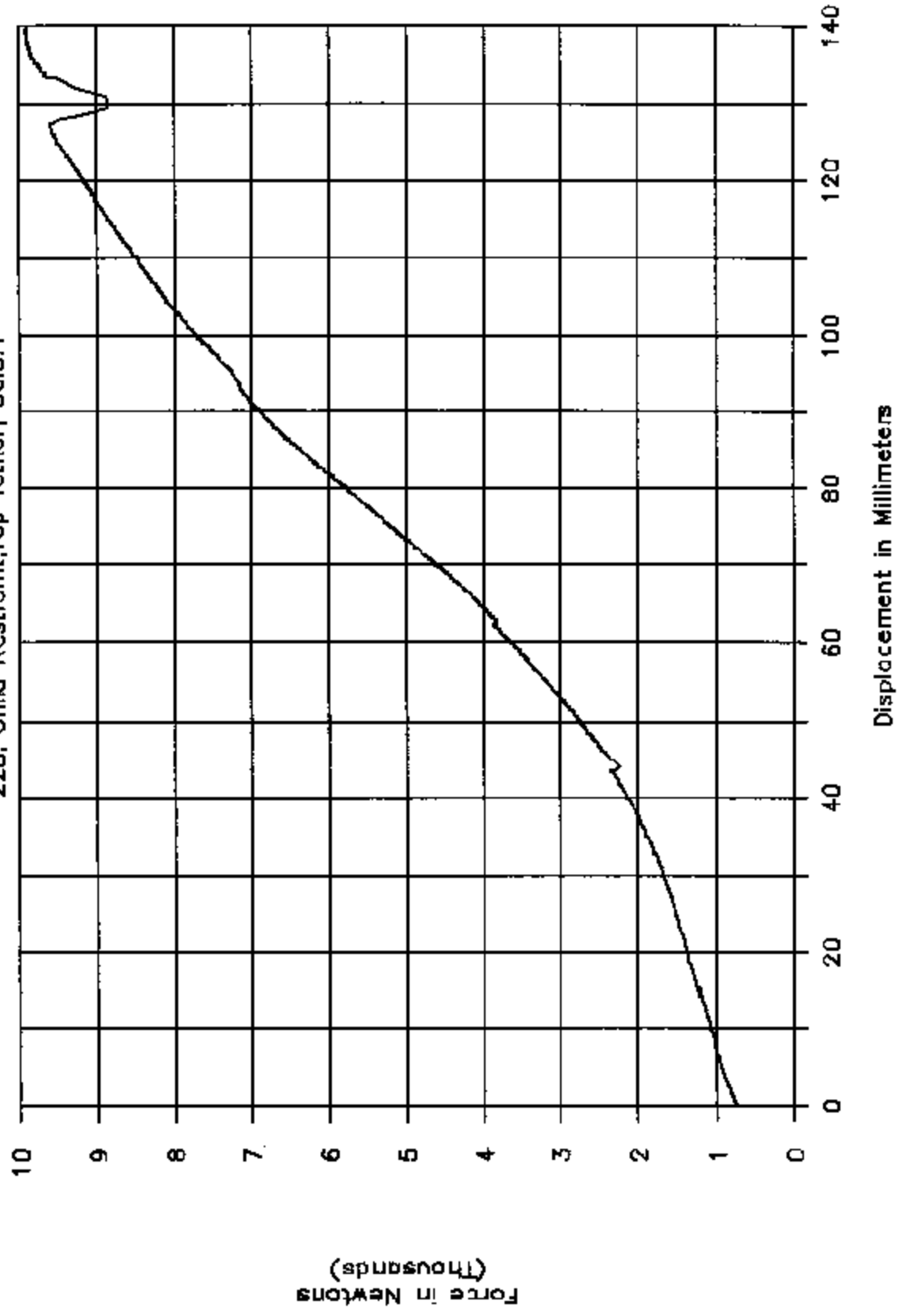
GTL 5224, NHTSA C40201

225, Child Restraint, Top Tether, S6.3.4



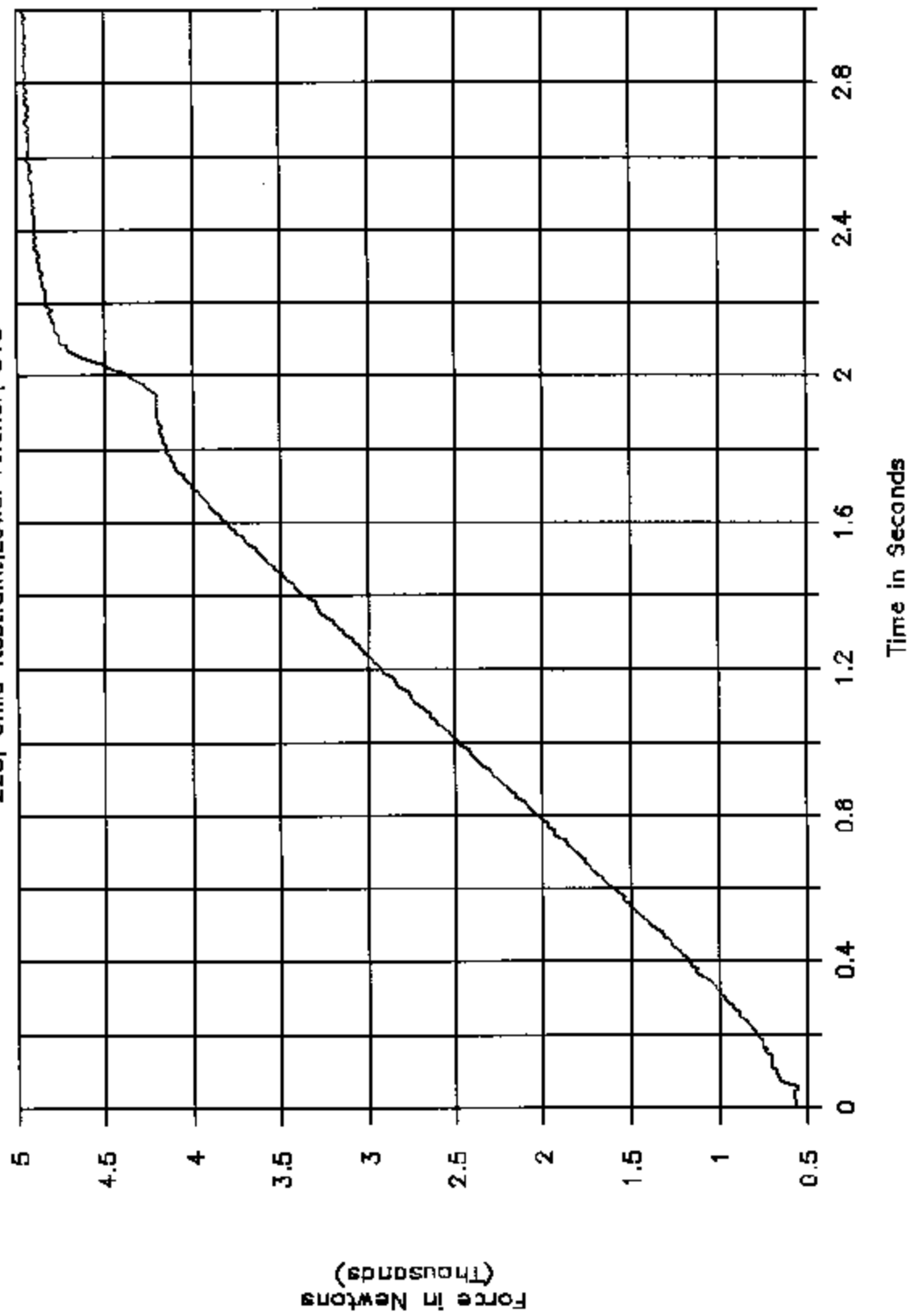
GTL 5224, NHTSA C40201

225, Child Restraint, Top Tether, S6.3.4



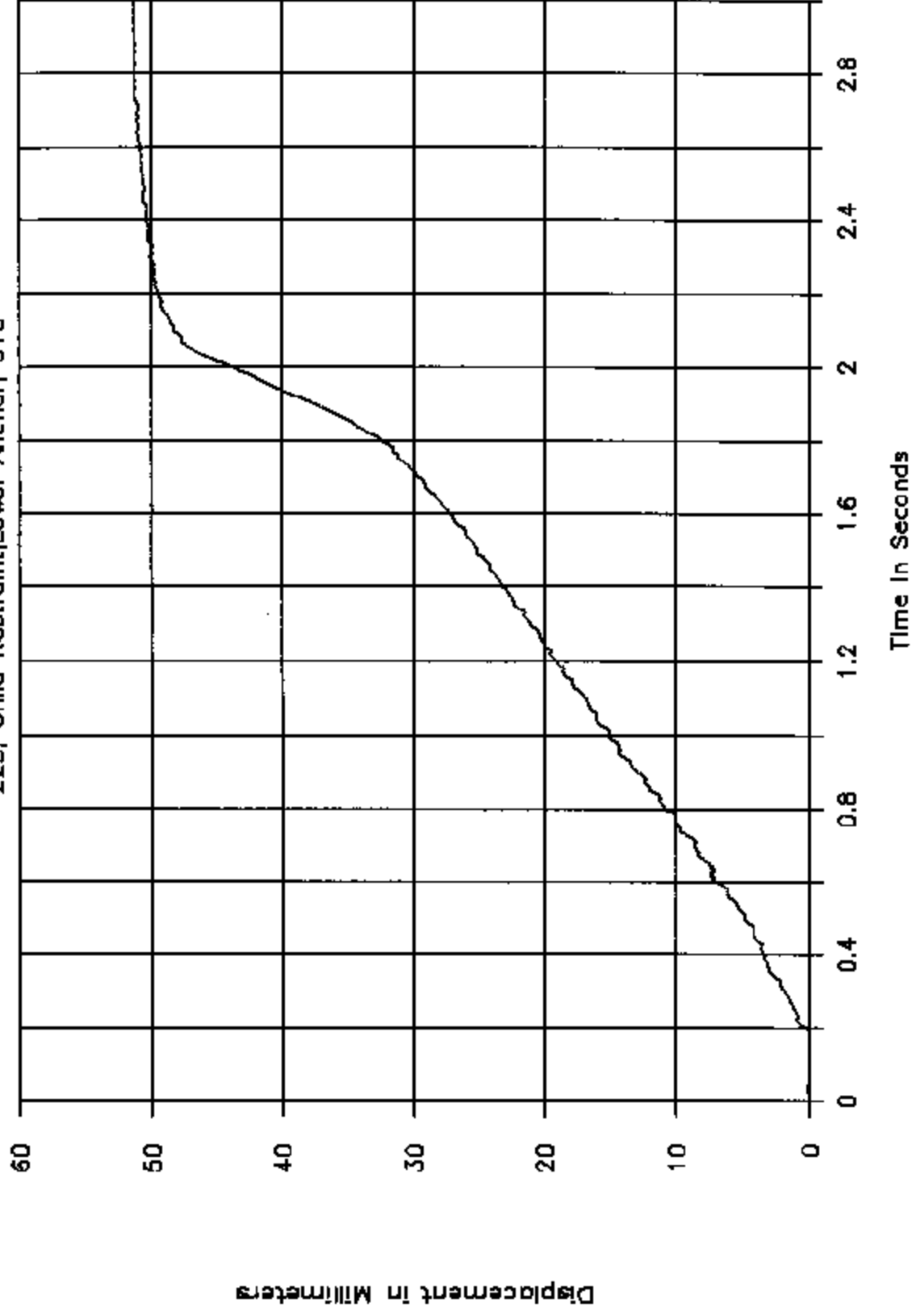
GTL 5225, NHTSA C40201

225, Child Restraint, Lower Anchor, S15



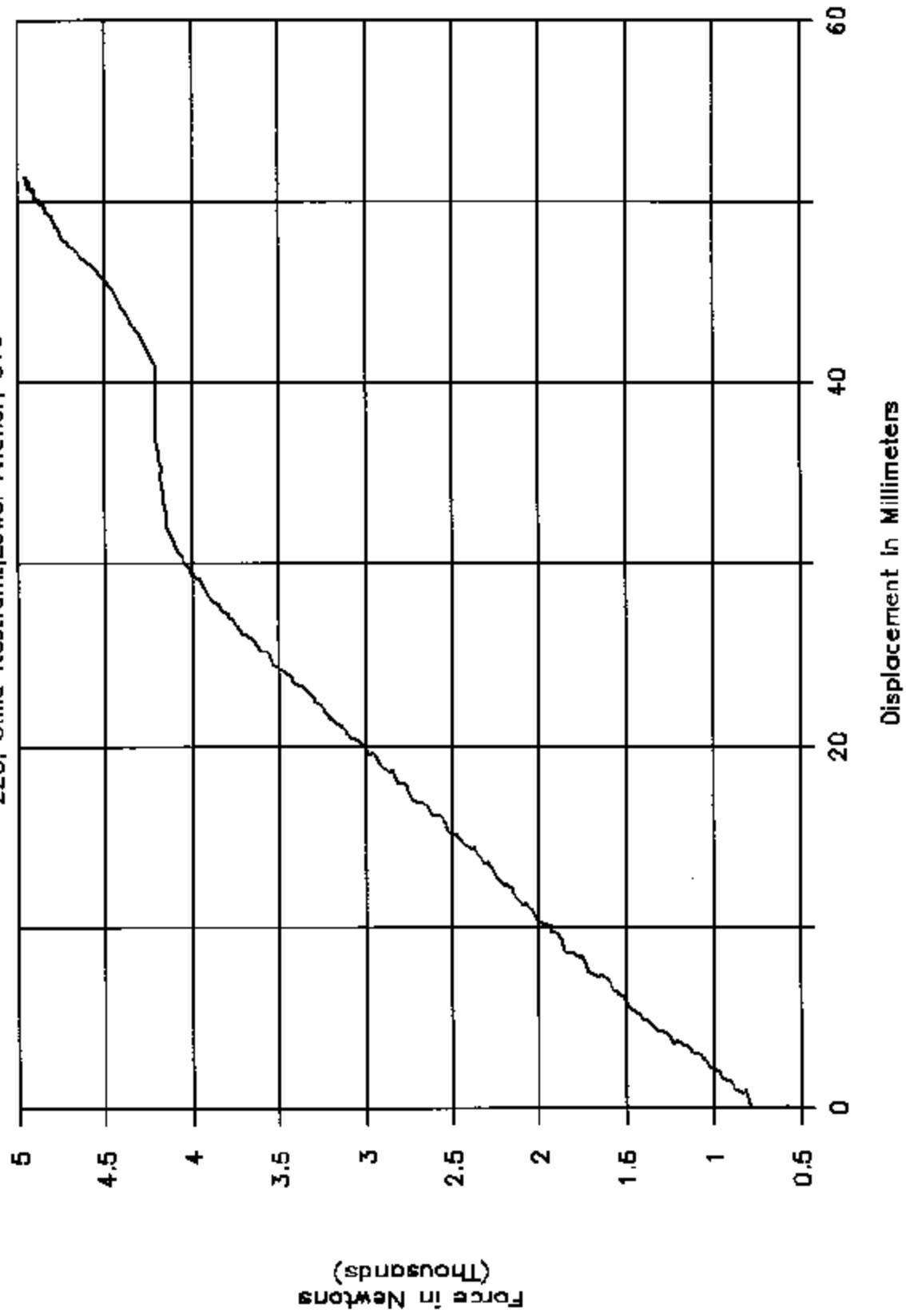
GTL 5225, NHTSA C40201

225, Child Restraint, Lower Anchor, S15



GTL 5225, NHTSA C40201

225, Child Restraint, Lower Anchor, S15



APPENDIX A

OWNER'S MANUAL CHILD RESTRAINT INFORMATION



Never put the shoulder belt under a child's arm or behind the back because it eliminates the protection for the upper part of the body and may increase the risk of injury or death in a collision.



Never let children buckles on toys or use a child's car seat as a toy. Buckles are designed to hold a child in a seat in a collision.

SAFETY SEATS FOR CHILDREN

Child and Infant or child safety seats

Use a safety seat that is recommended for the size and weight of the child. Carefully follow all of the manufacturer's instructions with the safety seat you put in your vehicle. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

When installing a child safety seat:

- Review and follow the information presented in the *Air Bag Supplemental Restraint System* section in this chapter.
- Use the correct safety belt buckle for that seating position (the buckle closest to the direction the tongue is coming from).
- Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.
- Keep the buckle release button pointing up and away from the safety seat, with the tongue between the child seat and the release button, to prevent accidental unbuckling.

• Place seat back in upright position.

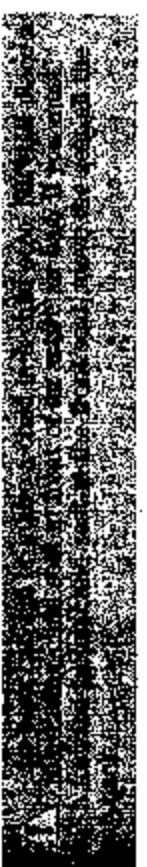
• Put the safety belt in the automatic locking mode. Refer to *Automatic locking mode* (passenger side front seating position-Regular Cab) (passenger side front and rear seating positions-SuperCrew and SuperCab) (if equipped).

• LATCH lower anchors are recommended for use by children up to 22 kg (48 pounds) in a child restraint. Top tether anchors can be used for children up to 27 kg (60 pounds) in a child restraint, and to provide upper torso restraint for children up to 36 kg (80 pounds) using an upper torso harness and a belt-positioning booster.

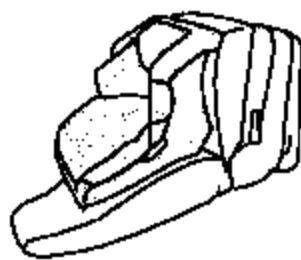
Ford recommends the use of a child safety seat having a top tether strap. Install the child safety seat in a seating position with LATCH and tether anchors. For more information on top tether straps and anchors, refer to *Attaching safety seats with tether straps* in this chapter. For more information of LATCH anchors refer to *Attaching safety seats with LATCH (Lower Anchors and Tethers for Children) attachments* in this chapter.



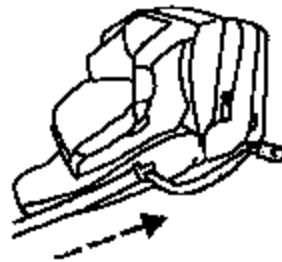
Installing child safety seats with combination lap and shoulder belts



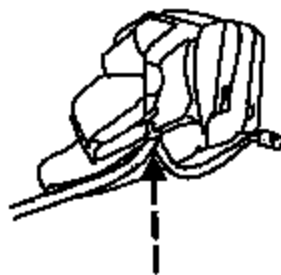
1. Position the child safety seat in a seat with a combination lap and shoulder belt.



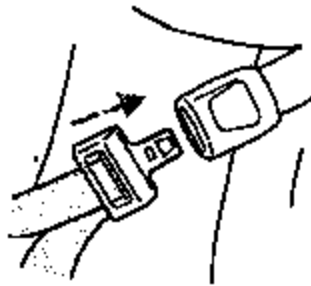
2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.



3. While holding the shoulder and lap belt portions together, route the tongue through the child seat according to the child seat manufacturer's instructions. Be sure the belt webbing is not twisted.



4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure the tongue is latched securely by pulling on it.

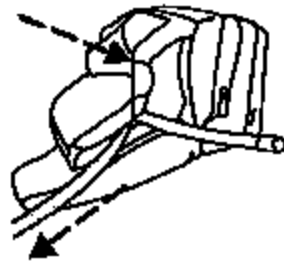


5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until all of the belt is pulled out and a click is heard.



6. Allow the belt to retract. The belt will click as it retracts to indicate it is in the automatic locking mode.

7. Pull the lap belt portion across the child seat toward the buckle and pull up on the shoulder belt while pushing down with your knee on the child seat.



Seating and Safety Restraints

8. Allow the safety belt to retract to remove any slack in the belt.

9. Before placing the child in the seat, forcibly move the seat forward and back to make sure the seat is securely held in place. To check this, grab the seat at the belt path and attempt to move it side to side and forward. There should be no more than one inch of movement for proper installation.

10. Try to pull the belt out of the retractor to make sure the retractor is in the automatic locking mode (you should not be able to pull more belt out). If the retractor is not locked, unbuckle the belt and repeat steps two through nine.

Check to make sure the child seat is properly secured before each use.

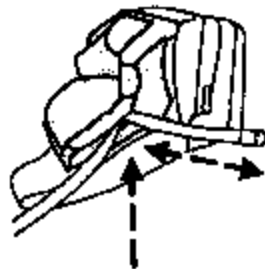
Installing child safety seats in the front row lap belt seating positions

Note: Installing a child safety seat in the front row lap seating position should be avoided if at all possible. The passenger sensing system does not recognize child seats in the front center seating position.



Never place a rear-facing infant seat in the front center seating position.

1. Lengthen the lap belt. To lengthen the belt, hold the tongue so that its bottom is perpendicular to the direction of webbing while sliding the tongue up the webbing.
2. Place the child safety seat in the center seating position.
3. Route the tongue and webbing through the child seat according to the child seat manufacturer's instructions.
4. Insert the belt tongue into the proper buckle for the center seating position until you hear a snap and feel it latch. Make sure the tongue is securely fastened to the buckle by pulling on tongue.
5. Push down on the child seat while pulling on the loose end of the lap belt webbing to tighten the belt.
6. If you are installing a forward facing child seat, attach and tighten any top tether strap.



Seating and Safety Restraints

7. Before placing the child into the child seat, forcibly tilt the child seat from side to side and in forward direction to make sure that the seat is held securely in place. If the child seat moves excessively, repeat steps 5 through 7, try a different child safety seat, or properly install the child seat in a different position.

Attaching child safety seats with tether straps

Most new forward-facing child safety seats include a tether strap which goes over the back of the seat and hooks to an anchoring point. Tether straps are available as an accessory for many older safety seats. Contact the manufacturer of your child seat for information about ordering a tether strap.

The passenger seats of your vehicle are equipped with built-in tether strap anchors located behind the seats as described below.

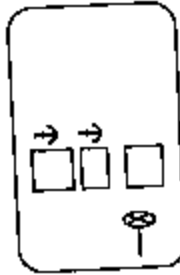
The tether anchors in your vehicle may be loops of webbing above the seatback or an anchor bracket behind the seat on the rear edge of the seat cushion.

The rear seat in the SuperCab and SuperCrew has three straps along the top of the seatback that function as both routing loops for the tether straps and anchor loops.

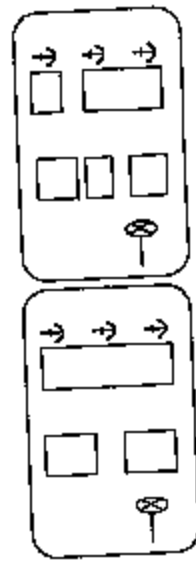
The tether strap anchors in your vehicle are in the following positions (shown from top view):



Attach the tether strap only to the appropriate tether anchor as shown. The tether strap may not work properly if attached somewhere other than the correct tether anchor.



• F150 Regular Cab

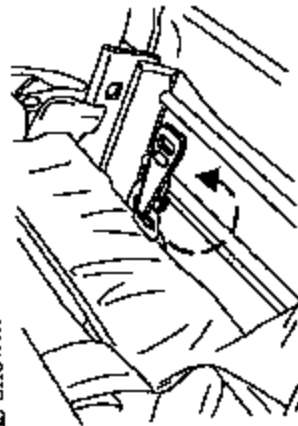


• F150 SuperCrew and SuperCab

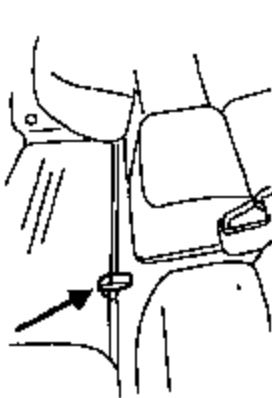
Front seat tether strap attachment

1. Position the child safety seat on the seat cushion.
2. Route the child safety seat tether strap over the back of the seat and under the head restraint.
3. Locate the correct anchor for the selected seating position.
 - You may need to pull the seatback forward to access the tether anchors. Make sure the seatback is locked in the upright position before installing the child seat.
4. Clip the tether strap to the anchor as shown.

- Front seat Regular Cab passenger side



- Front seat Regular Cab center (located on back panel)

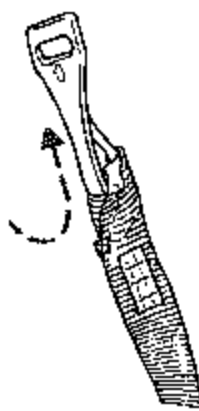
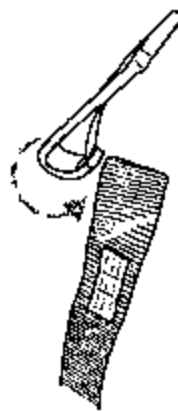


⚠ If the tether strap is clipped incorrectly, the child safety seat may not be retained properly in the event of a collision.

5. Install the child safety seat tightly using the LATCH anchors or safety belts. Follow the instructions in this chapter.

6. Tighten the child safety seat tether strap according to the manufacturer's instructions.

⚠ If the safety seat is not anchored properly, the risk of a child being injured in a collision greatly increases.



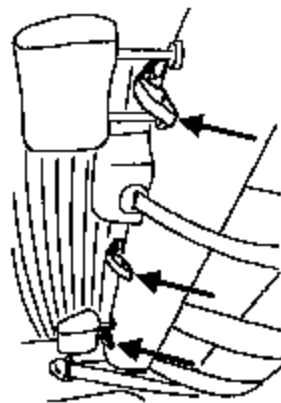
Seating and Safety Restraints

Rear seat tether strap attachment

There are three loops of webbing just above the back of the rear seat (along the bottom edge of the rear window) in the SuperCab and SuperCrew. These loops are to be used as both routing loops and anchor loops for up to three child safety seat tether straps. For example, the center loop can be used as a routing loop for a child safety seat in the center rear seat and as an anchoring loop for child seats installed in the outboard rear seats.

Many tether straps cannot be tightened if the tether strap is hooked to the loop directly behind the child seat. To provide a tight tether strap:

1. Route the tether strap under the head restraint and through the loop directly behind the child seat.



2. Route the tether strap behind the head restraint supports to a loop behind an adjacent seating position, and hook the strap hook onto the loop. If using the driver's side, pass the strap behind the shoulder belt mounting for the center seat.

- Always put the tether strap through the routing loop. The head restraint support post will hold the child seat tightly, but the head restraint post is not strong enough to hold the child seat during a collision.

Seating and Safety Restraints

3. Install the child safety seat tightly using the LATCH anchors or safety belts. Follow the instructions in this chapter.

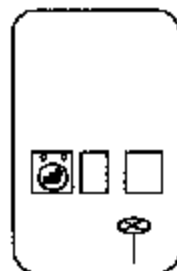
4. Tighten the tether strap according to the child seat manufacturer's instructions.



Attaching safety seats with LATCH (Lower Anchors and Tethers for Children) attachments for child seat anchors

Some child safety seats have two rigid or webbing mounted attachments that connect to two anchors at certain seating positions in your vehicle. This type of child seat eliminates the need to use seat belts to attach the child seat. For forward-facing child seats, the tether strap must also be attached to the proper tether anchor. See *Attaching safety seats with tether straps* in this chapter.

Your vehicle is equipped with LATCH anchors for child seat installation at the following seating positions:



- F150 Regular Cab



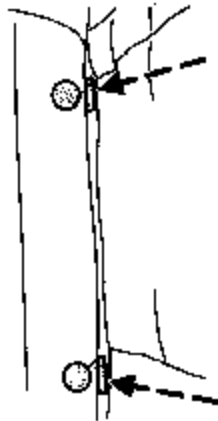
- F150 SuperCab and SuperCrew

Connectors on the LATCH child seat and the child seat instructions may use the symbol shown here. Your vehicle seat may have plain buttons, instead of this symbol, to indicate the location of the LATCH lower anchors.



⚠ Never attach two LATCH child safety seats to the same anchor. In a crash, one anchor may not be strong enough to hold two child safety seat attachments and may break, causing serious injury or death.

The lower anchors for child seat installation are located at the rear section of the seat between the cushion and seat back. The LATCH anchors are below the locator buttons (if provided) on the seat back.



Follow the child seat manufacturer's instructions to properly install a child seat with LATCH attachments.

⚠ Attach LATCH lower attachments of the child seat only to the anchors shown.

If you install a child seat with rigid LATCH attachments, do not tighten the tether strap enough to lift the child seat off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child seat. Keeping the child seat just touching the vehicle seat gives the best protection in a severe crash.

Each time you use the safety seat, check that the seat is properly attached to the lower anchors and tether anchor. Try to tilt the child seat from side to side. Also try to tug the seat forward. Check to see if the anchors hold the seat in place.

⚠ If the safety seat is tilted forward, properly the seat of a child

Installing LATCH seats (Regular Cab)

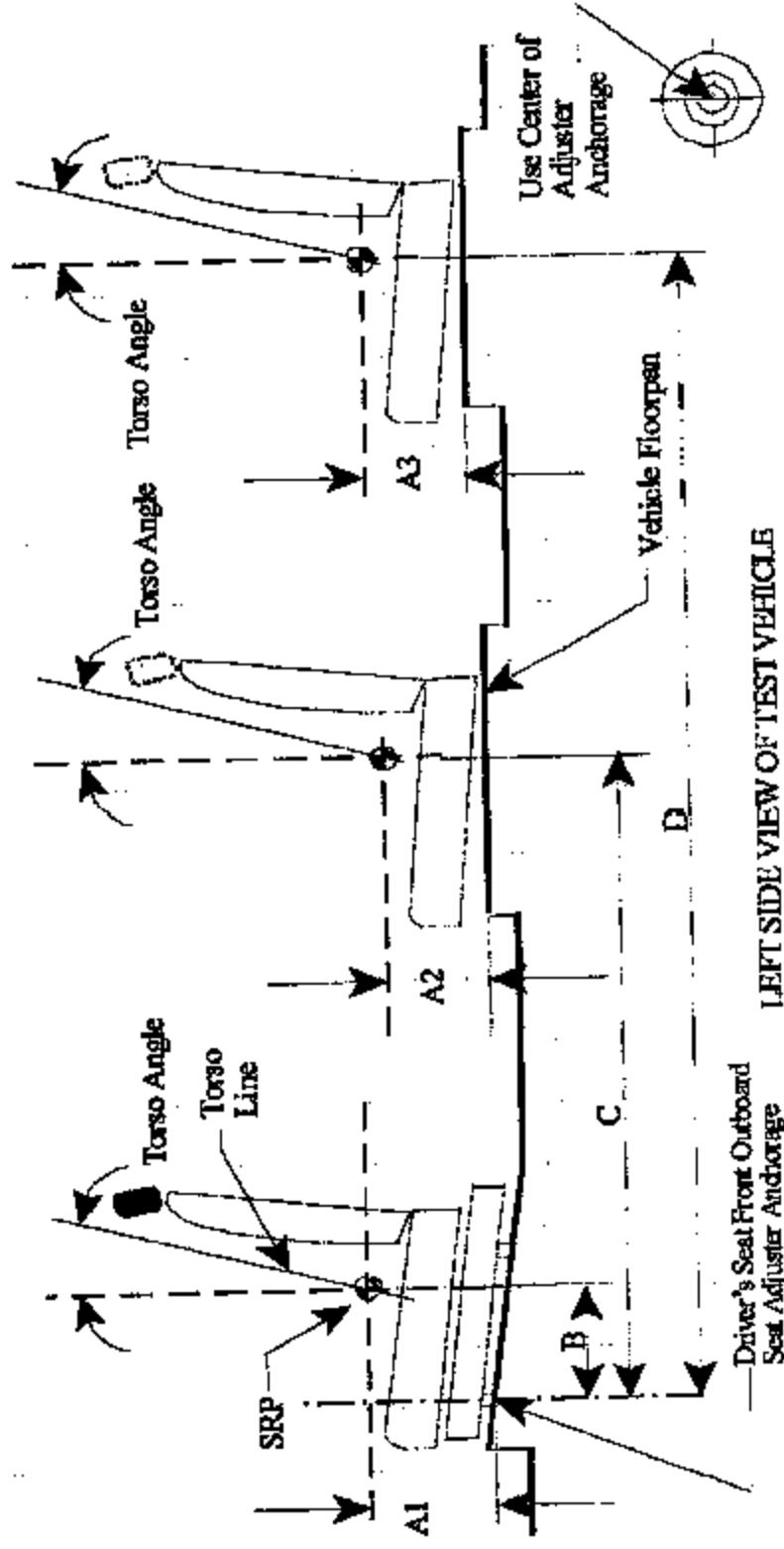
⚠ When you install a child seat on the front passenger seat of a Regular Cab, turn the Passenger Airbag On/Off switch to OFF.

If you tightly install a LATCH infant or child safety seat with its own webbing-mounted attachments to the LATCH anchors on the front passenger seat of the Regular Cab, the front passenger sensing system may not automatically turn the airbag off. The vehicle safety belts at the right front seat include a sensor that adjusts the weight on the seat cushion. This adjustment does not work when the child seat is installed using the LATCH attachment belts instead of the vehicle safety belts. Therefore, turn the airbag OFF with the manual Airbag On/Off switch.

APPENDIX B
MANUFACTURER'S DATA

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 225(All dimensions in mm¹)

Model Year: 2004; Make: Ford; Model: F150; Body Style: Regular Cab
 Seat Style: Front row: 40/20/40; Second row: N/A; Third row: N/A



LEFT SIDE VIEW OF TEST VEHICLE

Table 1. Seating Positions¹ and Torso Angles

	Left (Driver Side)	Center (if any)	Right
A1	271.5	331	277.5
A2	N/A	N/A	N/A
A3	N/A	N/A	N/A
B	295.6	247.4	293.6
C	N/A		
D	N/A		
Torso Angle (degree)	Front Row	25°	21°
	Second Row		
	Third Row		

Note: 1. All dimensions are in mm. If not, provide the unit used.

SEATING REFERENCE POINT
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2004; Make: Ford; Model: F150; Body Style: Regular Cab
Seat Style: Front row: 40/20/40; Second row: N/A; Third row: N/A

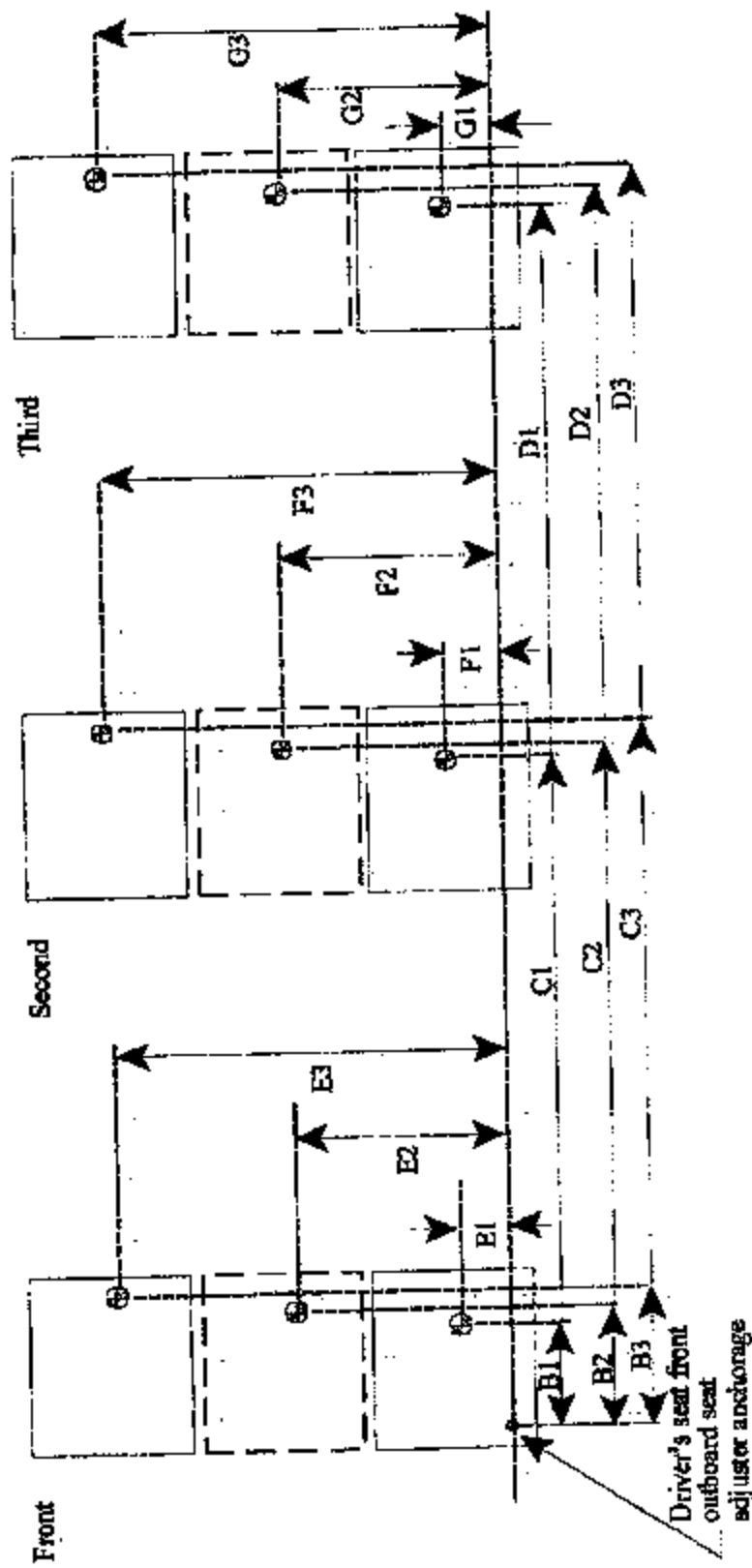


Table 2: Seating Reference Point and Tether Anchorage Locations

Seating Reference Point (SRP)		Distance from Driver's front outboard seat adjuster anchorage ¹
Front Row	B1	295.6
	E1	149.9
	B2	331
	E2	589.9
	B3	277.5
	E3	1029.9
Second Row	C1	N/A
	F1	N/A
	C2	N/A
	F2	N/A
	C3	N/A
	F3	N/A
Third Row	D1	N/A
	G1	N/A
	D2	N/A
	G2	N/A
	D3	N/A
	G3	N/A

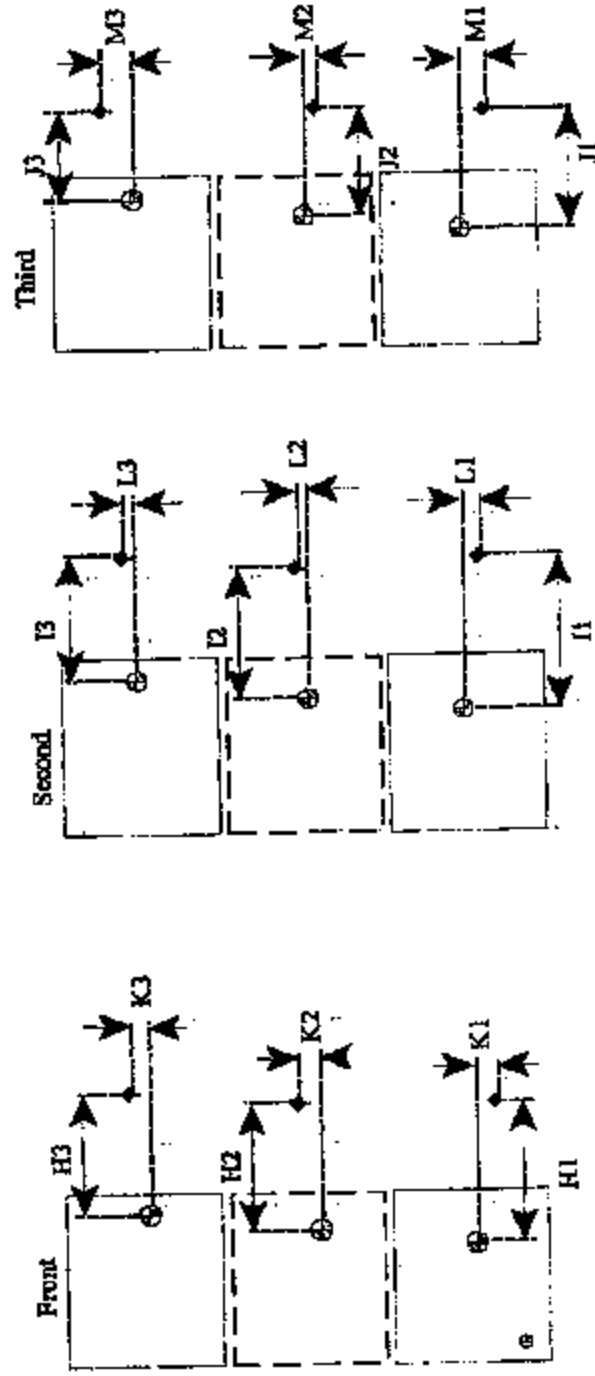
Note: 1. Use the center of anchorage.

TETHER ANCHORAGE LOCATIONS

FOR FMVSS 225

(All dimensions in mm)

Model Year: 2004; Make: Ford; Model: F150; Body Style: Regular Cab
 Seat Style: Front row: 40/20/40; Second row: N/A; Third row: N/A



⊙: SRP

◆: Tether anchorage

Note: 1. The location shall be measured at the center of the bar.

Table 3. Seating Reference Point and Tether Anchorage Locations

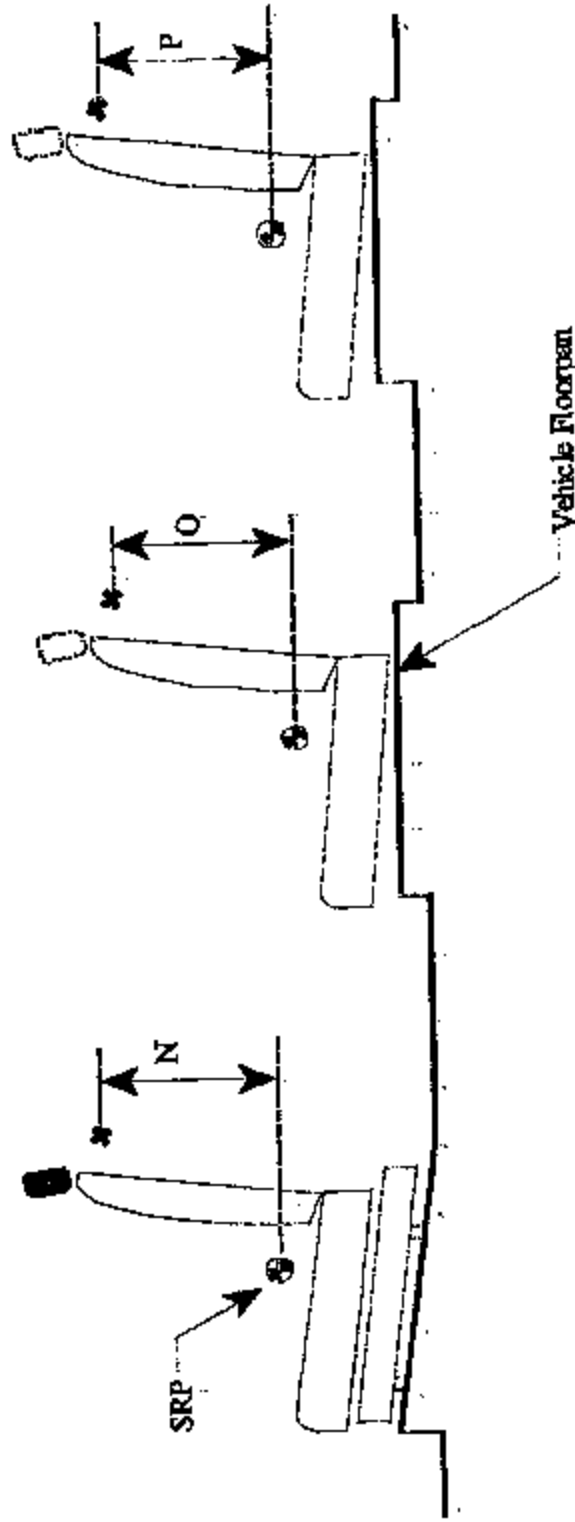
Seating Reference Point (SRP)	Distance from SRP	
Front Row	H1	N/A
	K1	N/A
	H2	594.7 (see note 2)
	K2	0 (see note 2)
	H3	193.8
	K3	0
Second Row	I1	N/A
	L1	N/A
	I2	N/A
	L2	N/A
	I3	N/A
	L3	N/A
Third Row	J1	N/A
	M1	N/A
	J2	N/A
	M2	N/A
	J3	N/A
	M3	N/A

Note: 1. Use the center of anchorage.

2. The center upper anchorage is a flexible strap, not a bar. The dimensions are to the strap centerline.

TETHER ANCHORAGE LOCATIONS - VERTICAL
FOR FMVSS 225
(All dimensions in mm)

Model Year: 2004; Make: Ford; Model: F150; Body Style: Regular Cab
Seat Style: Front row: 40/20/40; Second row: N/A; Third row: N/A



LEFT SIDE VIEW OF TEST VEHICLE

Table 4. Vertical Dimension For The Tether Anchorage

Seating Row	Vertical Distance from Seating Reference Point
Front Row	N1 (Driver) N/A
	N2 (Center) 476
	N3 (Right) 159.5
Second Row	O1 (Left) N/A
	O2 (Center) N/A
	O3 (Right) N/A
Third Row	P1 (Left) N/A
	P2 (Center) N/A
	P3 (Right) N/A

Note: 1. All dimensions are in mm. If not, provide the unit used.
2. The center upper anchorage is a flexible strap, not a bar. The dimensions are to the strap centerline

Test Procedures Used for Compliance Tests

Tether Anchorages

Seating Location	FMVSS Section(s) - Req.
Front	
Driver	N/A
Center (if any)	FMVSS 225 S6.3.4
Right (if any)	FMVSS 225 S6.3.4
Left	N/A
Second	
Center	N/A
Right (if any)	N/A
Left	N/A
Third	
Center	N/A
Right	N/A
Left	N/A
Fourth	
Center	N/A
Right	N/A

Lower Anchorages

Seating Location	FMVSS Section(s) - Req.
Front	
Driver	N/A
Center (if any)	N/A
Right (if any)	FMVSS 225 S15
Left	N/A
Second	
Center	N/A
Right	N/A
Left	N/A
Third	
Center	N/A
Right	N/A
Left	N/A
Fourth	
Center	N/A
Right	N/A

For each anchorage system, provide the following information:

1. **Lower Anchorage Dimensions:** Whether the anchorages are certified with S15.1.2.1 of FMVSS No. 225.

Yes. By design (drawing requirements) this vehicle is certified to the requirements of section S 15.2.1 of FMVSS 225.

2. **Lower Anchorage Location:** Whether the anchorages are certified with S15.1.2.2 of FMVSS No. 225. If the anchorages are certified with S15.1.2.2, provide the pitch, roll and yaw angles.

Yes. This vehicle is certified to the requirements of section S15.1.2.2 of FMVSS 225. The roll angle is 1°, yaw angle is 0 and pitch angle is 14°.

3. **Lower Anchorage Marking and Conspicuity:** Whether the anchorages are certified with S15.4 of FMVSS No. 225. If guidance fixtures are used, provide the location of the seating systems that are equipped with the guidance fixture.

Yes. By design (drawing requirements) this vehicle is certified to the requirements of section S15.4 of FMVSS 225. No guidance fixtures were used.

4. **Location of Tether Anchorage:** Applicable section of FMVSS No. 225 for the option used for its certification.

The location of tether anchorages was certified to S6.2.1 of FMVSS 225.

5. **Number of Tether Anchorage:** Applicable section of FMVSS No. 225 for the option used for its certification

The number of tether anchorages was certified to S4.4(c) of FMVSS 225.