

REPORT DOT-HS-4-00865
DATA FROM FABRICATION OF A
STANDARD BENCH VEHICLE SEAT
(APPENDIX C)

Prepared For:

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National Highway Traffic Safety Administration
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16. Abstract This report has the data that was used in the design of the DOT Standard Seat. Full details of the test conditions and the use of this data is given in "Fabrication of a Standard Bench Vehicle Seat," Final Report (UM-HSRI-BI-74-5-1).					
17. Key Words dynamic performance child restraint systems impact testing automotive crash research bench seat test platforms			18. Distribution Statement		
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Test Data Summary

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Summary Data Head Accelerations

Summary Data Chest Accelerations

TEST NO.	RESTRAINT DESCRIPTION OR TEST DESCRIPTION	DUMMY	SLED ACC. AVG. g's	IMPACT DIRECTION	DUMMY ATTITUDE
A-721	Tot Guard	Sierra 3 yr.	20.5	F	PS
A-733	30 lb wt. into seat bottom	-	16.0	-	-
A-734	"	-	16.0	-	-
A-735	Check out of GM Impala seat	-	18.4	F	-
A-736	Rearward with 30# wt. on seat back	-	16.0	-	-
A-743	Check out of DOT standard seat	Sierra 3 yr.	21.2	F	-
A-744	Tot Guard	"	20.8	F	PS
A-745	Century Motor-Toter	"	21.6	F	PS
A-746	Tot-Guard	"	20.0	F	PS
A-747	GM Love Seat	"	16.6	S	PS
A-748	"	"	17.0	S	PS
A-749	Chrysler Mopar	"	17.2	R	CS
A-750	"	"	16.8	R	CS
A-751	Check out of GM Impala seat	-	16.2	R	-
A-752	Tot Guard	Sierra 3 yr.	20.4	F	PS
A-753	Strollee (Model 594)	"	20.4	F	PS
A-754	Chrysler Mopar	"	17.2	F	PS
A-755	Check Out of GM Impala seat	-	21.0	F	-
A-756	GM Love Seat	Sierra 3 yr.	21.6	F	PS
A-758	Check out of DOT Std. seat	-	21.6	F	-

F - Forward, S - Side, R - Rearward

PS - Passenger Seat, CS.- Center Seat, DS - Driver Seat

TEST NO.	RESTRAINT DESCRIPTION OR TEST DESCRIPTION	DUMMY	SLED ACC. AVG. g's	IMPACT DIRECTION	DUMMY ATTITUDE
A-759	Tot Guard	Sierra 3 yr.	21.0	F	PS
A-760	Chrysler Mopar	"	22.0	F	PS
A-761	GM Love Seat	"	20.8	F	PS
A-762	GM Love Seat	"	21.2	F	PS
A-763	Strollee (Model 594)	"	21.2	F	PS
A-764	GM Love Seat	"	16.0	S	PS
A-765	"	"	"	"	"
A-766	Chrysler Mopar	"	"	R	DS
A-767	"	"	"	"	CS
A-768	"	"	"	"	"
A-769	Calib. of DOT seat back deflection	-	16.0	R	-
A-770	30# weight on DOT seat back	-	16.0	R	-
A-771	30# weight on DOT seat bottom	-	16.0	-	-
A-772	Calib. of DOT seat back deflection	-	20.8	F	-

HSRI CHILD SEAT DATA SUMMARY

Test Number: 721

Test Date: 10/April/74

Restraint Description: Tot-Guard

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 44.02

Sled Acceleration (avg. g's) 20.5

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger Seat

Test Observations: GM Impala seat performance with a Tot-Guard child seat.
(Run 1).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

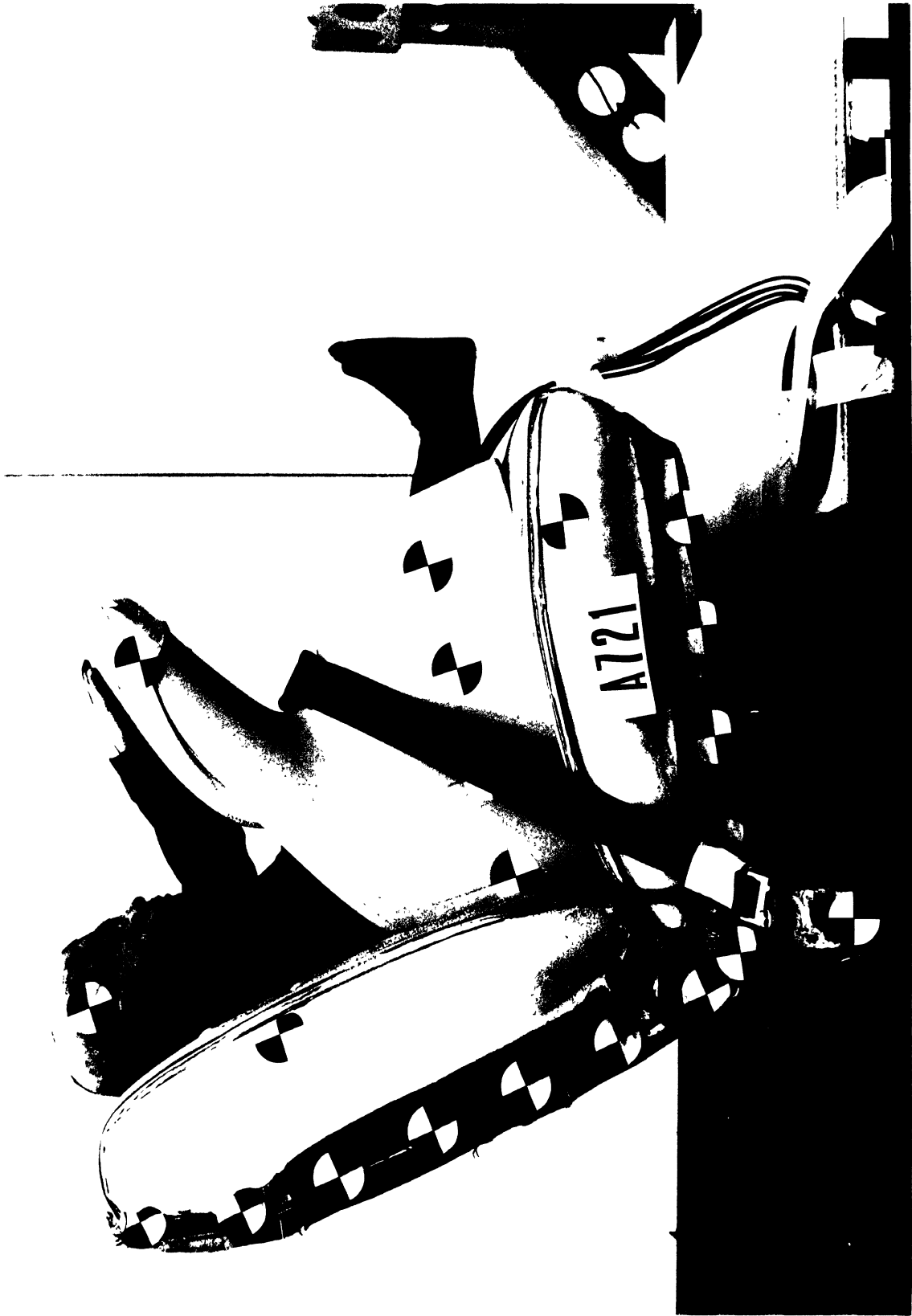


Figure C-1 Test Setup for A-721



TEST NO. A- 721

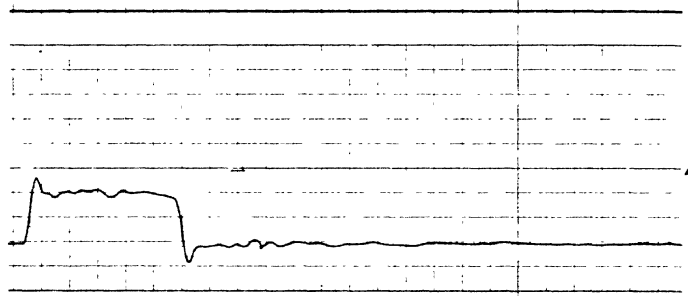
Figure C-2 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

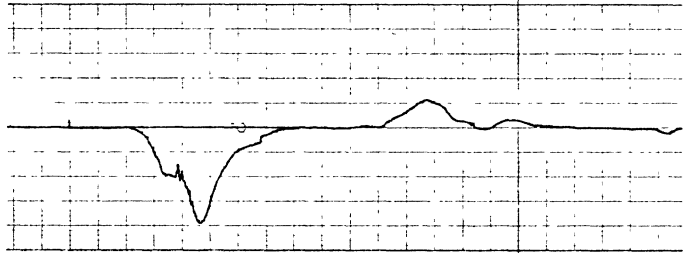
Test Number A 721
Dummy SIERRA 3 YEAR
Sled Velocity 44.02 ft/sec

Test Type FORWARD
TOT GUARD ON PASSENGER SIDE
IMPALA SEAT

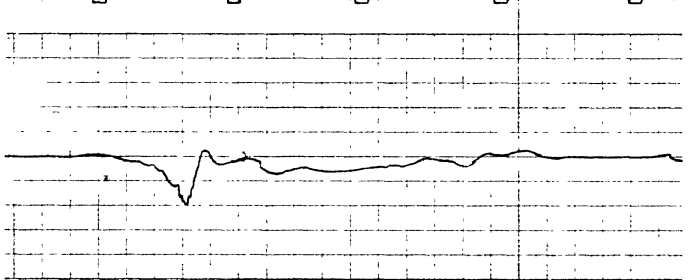
Sled Pulse
10g's/Division
Filtered
Class 60



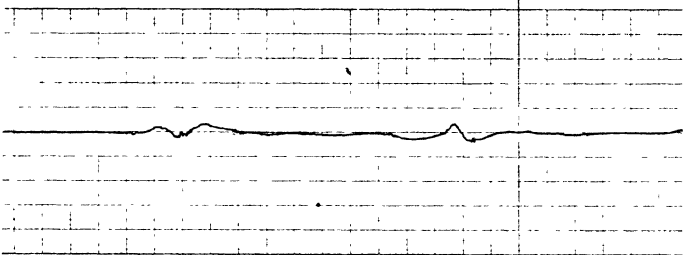
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



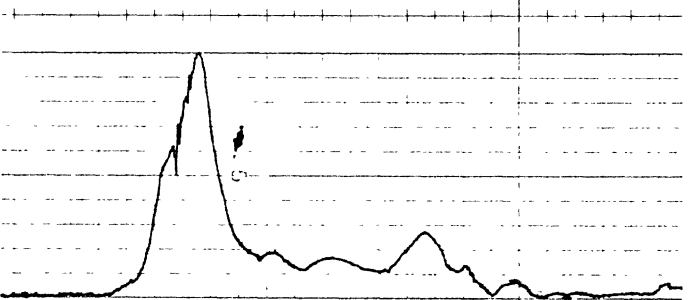
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-721

Test Type FORWARD

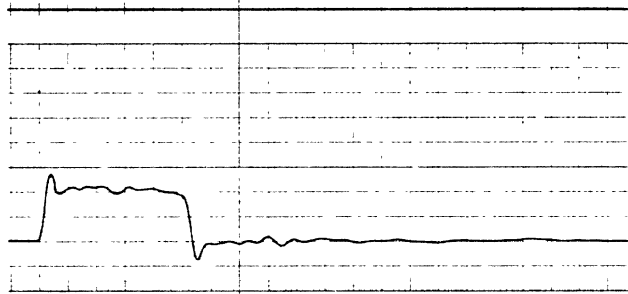
Dummy SIERRA 3 YEAR

TOT GUARD (PASSENGER SIDE)

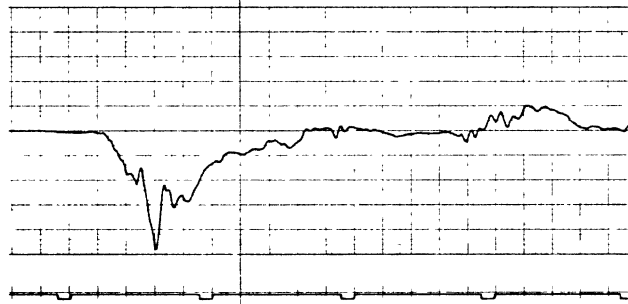
Sled Velocity 44.02 ft/sec

IMPALA SEAT

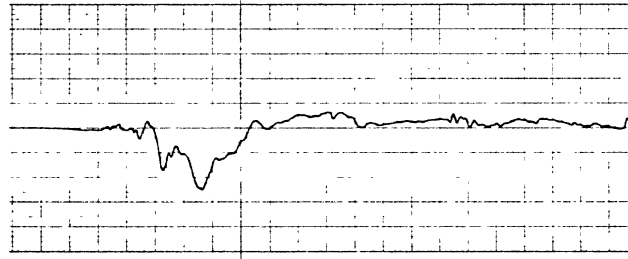
Sled Pulse
10 g's/Division
Filtered
Class 60



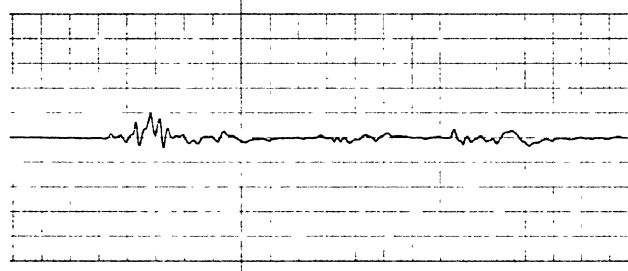
Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



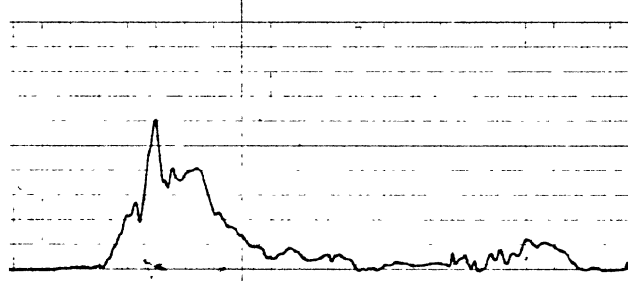
Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-733

Test Date: 13/June/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 26.48

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: 30# wt. into seat bottom

Dummy Attitude -

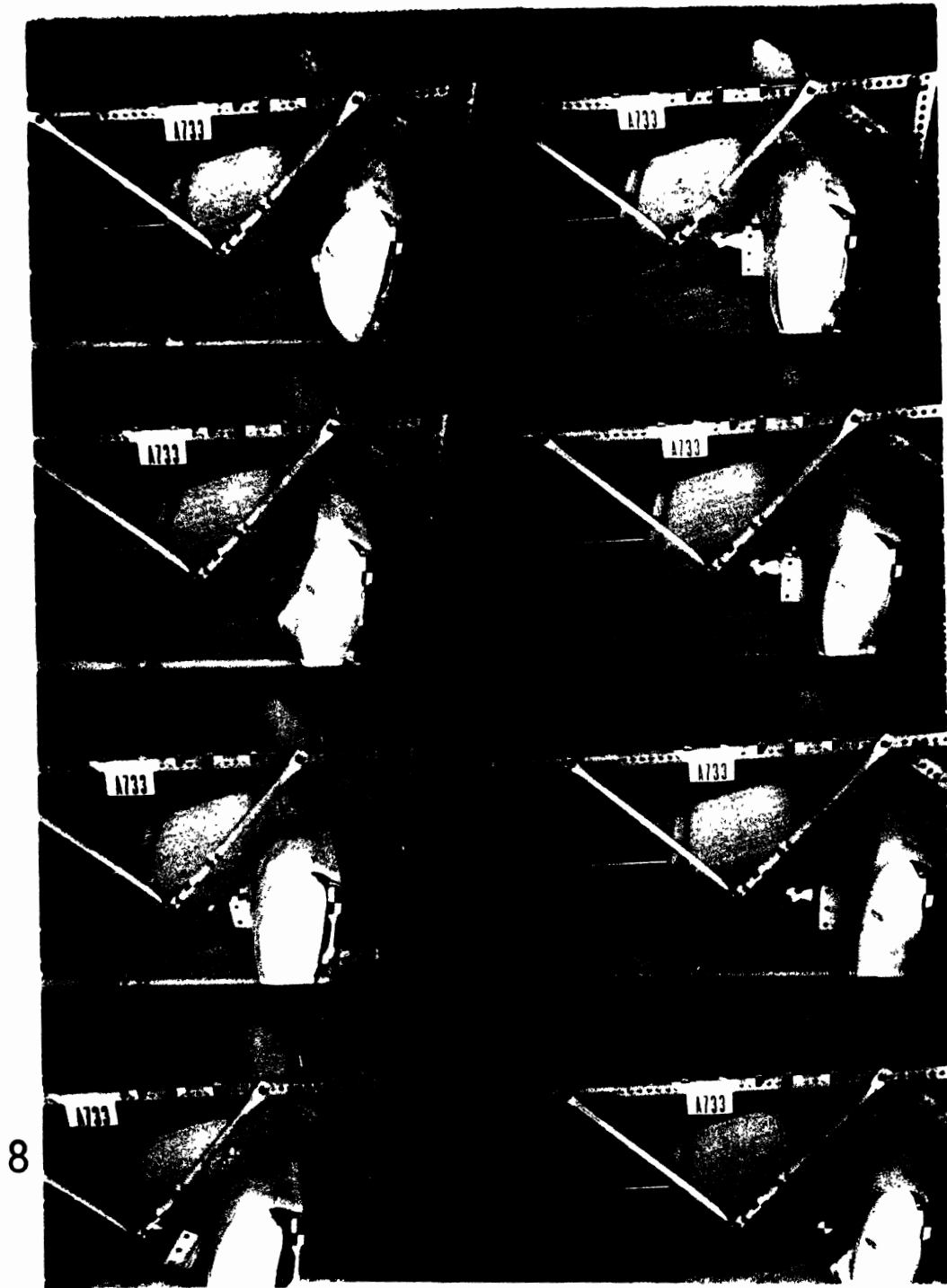
Test Observations: Dynamic Load Deflection Test of G.M. Impala seat bottom
 and cushion.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



A733

Figure C-3 Test Setup for A-733



TEST NO. A-733

Figure C-4 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-733

Test Type DYNAMIC TEST

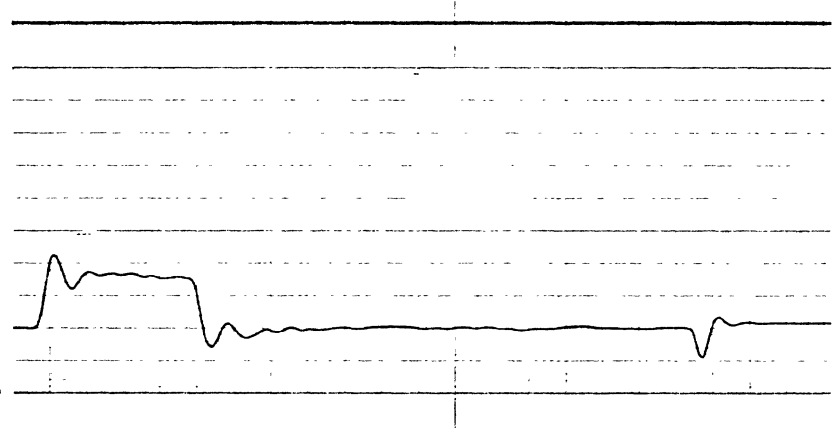
Dummy NONE

OF IMPALA SEAT

Sled Velocity 26.48 ft/sec

CUSHION FOAM

Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-734

Test Date: 13/June/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 27.81

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: 30# wt. into seat bottom

Dummy Attitude -

Test Observations: Dynamic load deflection test of G.M. Impala Seat Cushion and bottom. Same setup photo as A-733.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-734

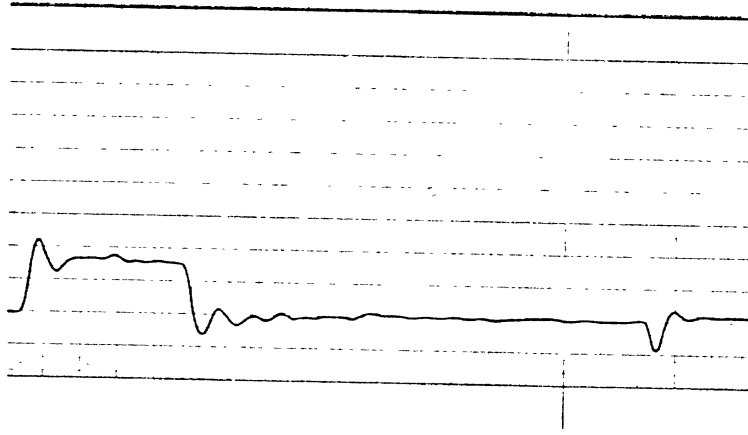
Figure C-5 Graph-Check Camera Sequence

Test Number A-734
Dummy NONE
Sled Velocity 27.81 ft/sec

SUMMARY DATA HEAD ACCELERATIONS

Test Type DYNAMIC TEST
OF IMPALA SEAT
CUSHION FOAM

Sled Pulse
/0g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-735

Test Date: 14/June/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 43.4

Sled Acceleration (avg. g's) 18.4

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations: Check-out of GM Impala Seat. Seat back angle was
measured. Side camera was lost.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-6 Test Setup for A-735



TEST NO. A-735

Figure C-7 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-735

Test Type IMPALA

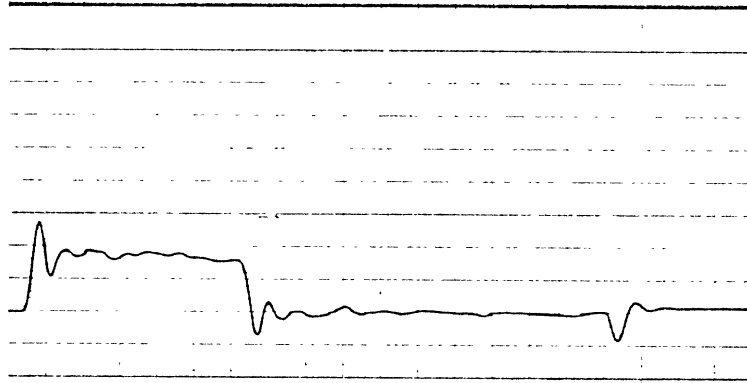
Dummy NONE

SEATBACK REFLECTION

Sled Velocity 43.4 ft/sec

TEST (FORWARD)

Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-736

Test Date: 14/June/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 29.60

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward with 30# weight on seat back

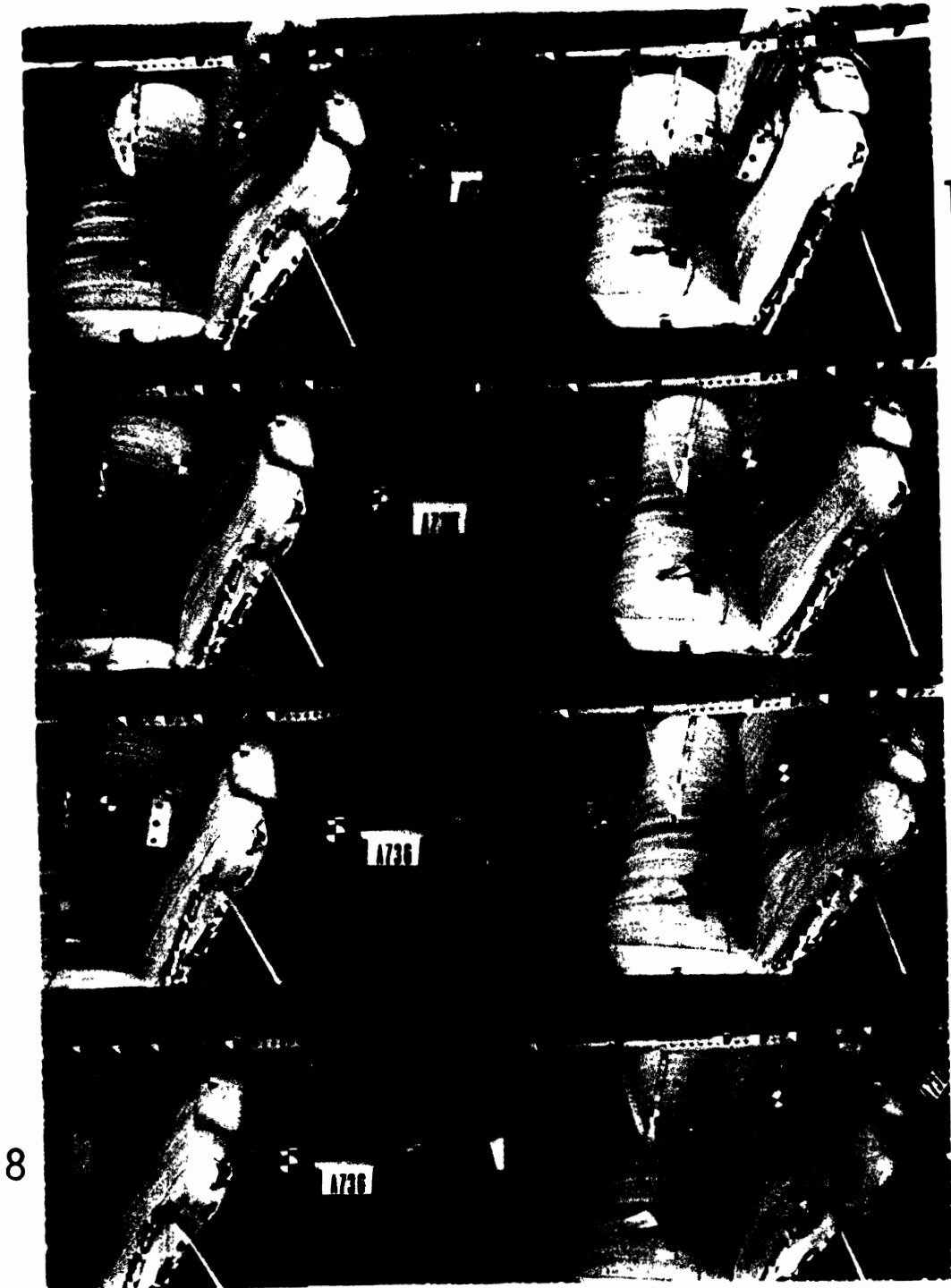
Dummy Attitude -

Test Observations: Dynamic load deflection test of GM Impala seatback and foam

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-8 Test Setup for A-736



TEST NO. A-736

Figure C-9 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-736

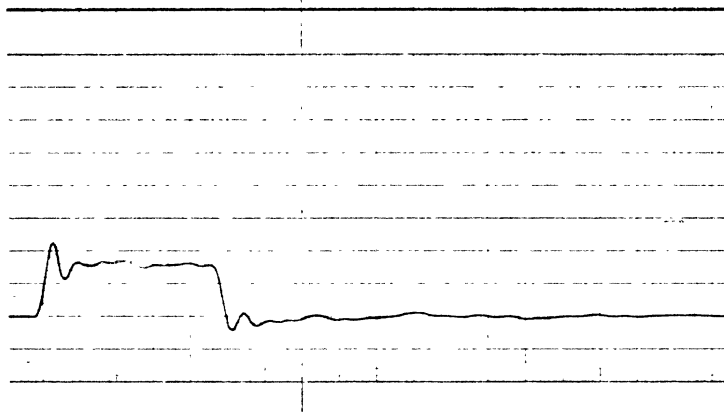
Test Type DYNAMIC TEST
OF IMPALA SEATBACK

Dummy NONE

FOAM

Sled Velocity 29.60 ft/sec

Sled Pulse
/0 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-743

Test Date: 19/June/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 48.91

Sled Acceleration (avg. g's) 21.2

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

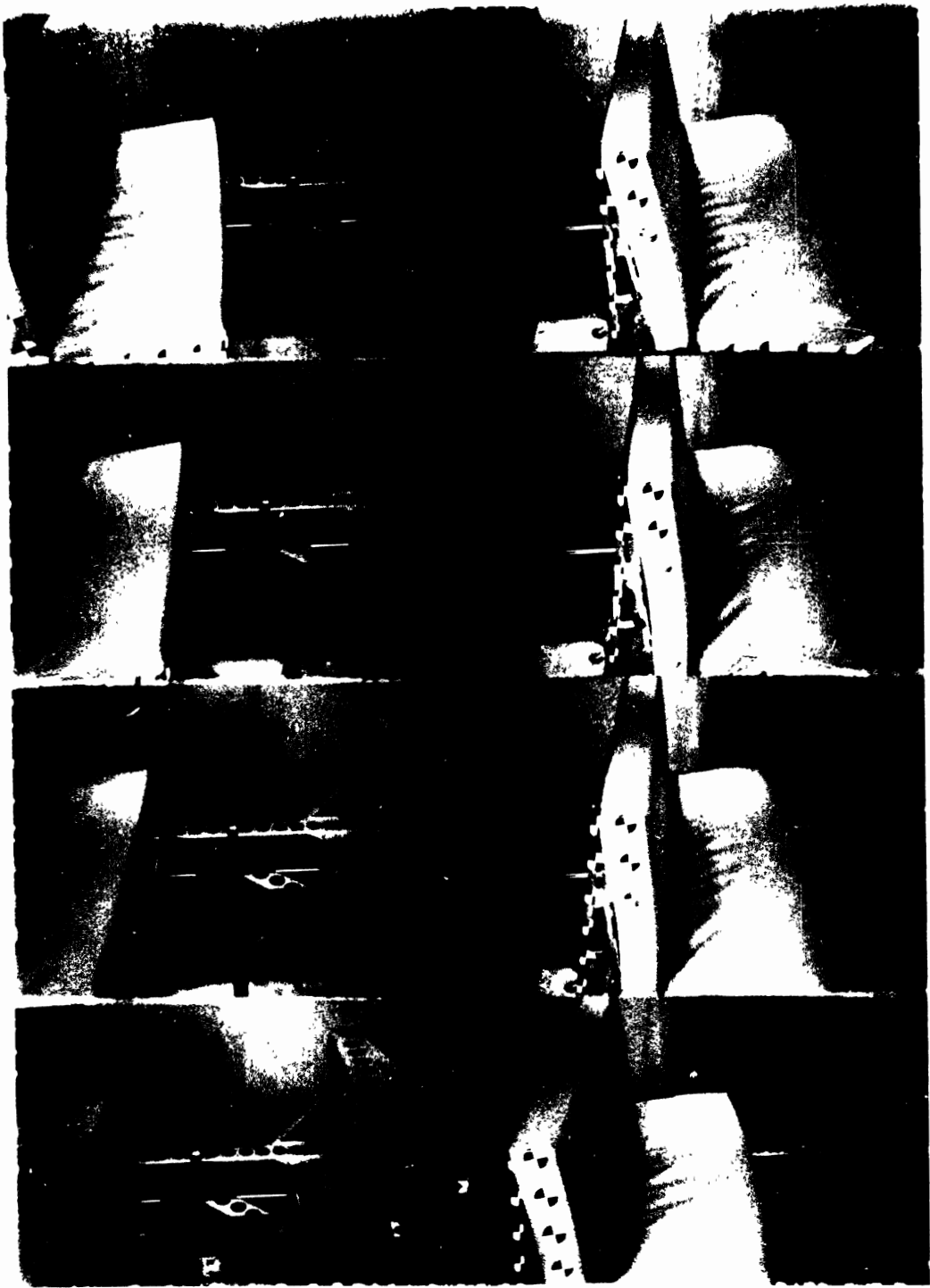
Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations: Early check-out of the DOT Standard Seat. Seat back
angle was measured. No set-up photo taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST No. A-743

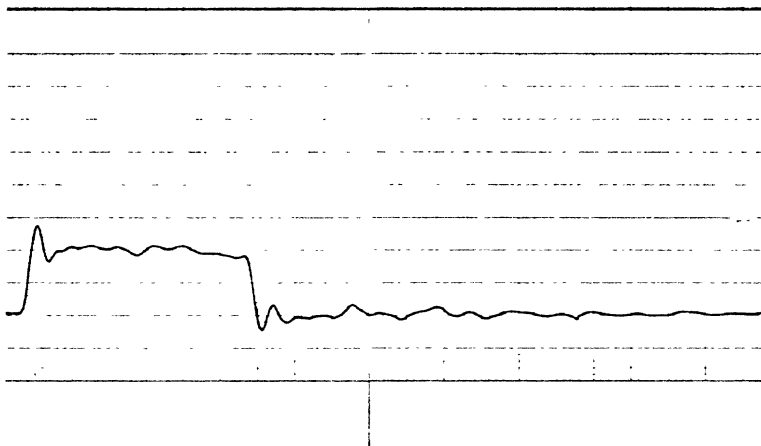
Figure C-10 Graph-Check Camera Sequence

Test Number A-743
Dummy NONE
Sled Velocity 45.91 ft/sec

SUMMARY DATA HEAD ACCELERATIONS

Test Type STANDARD
SEATBACK DEFLECTION
TEST (FORWARD)

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-744

Test Date: 19/June/74

Restraint Description: Tot-Guard

Harness Configurations: Type 1

Dummy Sierra 3 yr

Sled Velocity (avg., ft/sec) 46.19

Sled Acceleration (avg. g's) 20.8

Belt Loads (avg. pounds):
 Lap Inboard -
 Lap Outboard -
 Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger Seat

Test Observations: Early check-out of Tot-Guard child seat on DOT
 standard seat. Dummy not instrumented. No setup photo taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-744

Figure C-11 Graph-Cneck Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-744

Test Type FORWARD

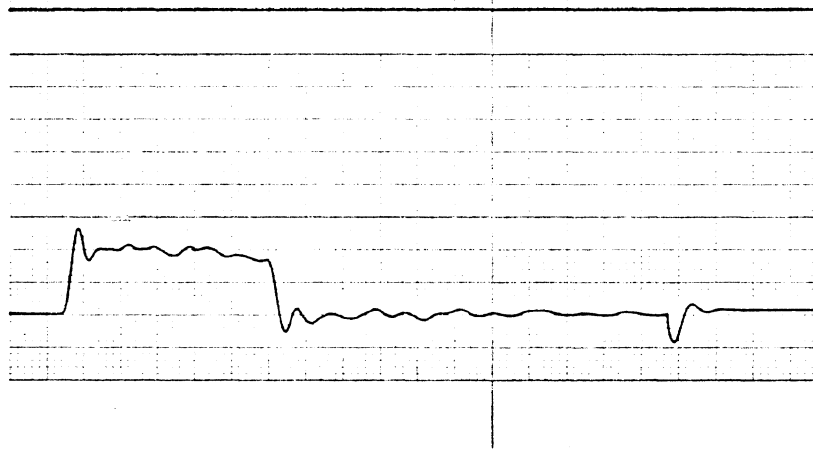
Dummy SIERRA 3 YEAR

TCT GUARD ON PASSENGER SIDE

Sled Velocity 46.19 ft/sec

STANDARD SEAT

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-745

Test Date: 19/June/74

Restraint Description: Century Motor-Totor

Harness Configurations: Type 1

Dummy Sierra 3 yr

Sled Velocity (avg., ft/sec) 46.19

Sled Acceleration (avg. g's) 21.6

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: Check-out run of the DOT standard seat with a used
Motor-Toter (Century). Back strap pulled through because it was
weakened by previous runs. Dummy not instrumented. No set-up
photo taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-745

Figure C-12 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-745

Test Type FORWARD

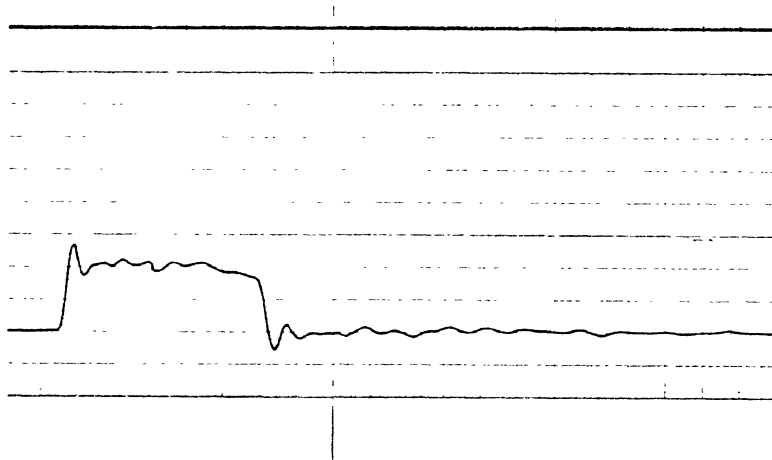
Dummy SIERRA 3 YEAR

MOTOR-TOOR (PASSENGER SIDE)

Sled Velocity 46.19 ft/sec

STANDARD SEAT

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-746

Test Date: 23/July/74

Restraint Description: Tot-Guard

Harness Configurations: Type 1

Dummy Sierra 3 yr

Sled Velocity (avg., ft/sec) 46.07

Sled Acceleration (avg. g's) 20.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: Check-out run with the DOT standard seat with a Tot-Guard. Dummy not instrumented. Graph-check data was lost.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

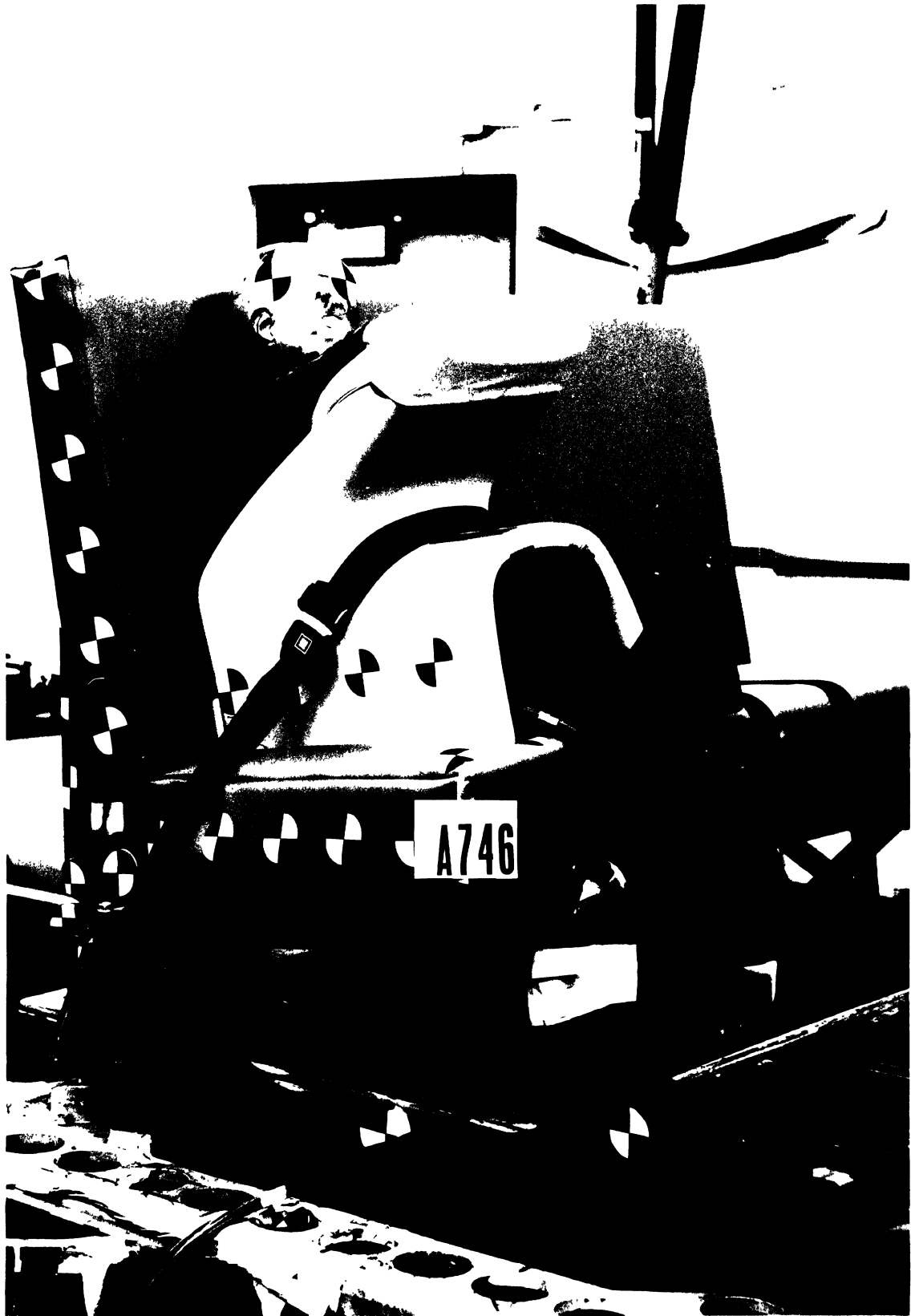


Figure C-13 Test Setup for A-746

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-746

Test Type FORWARD

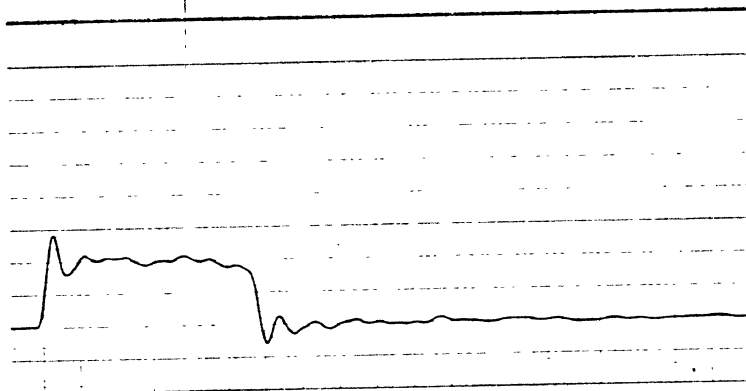
Dummy SIERRA 3 YEAR

TOT GUARD (PASSENGER SIDE)

Sled Velocity 46.07 ft/sec

STANDARD SEAT

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-747

Test Date: 31/July/74

Restraint Description: GM Love Seat

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.43

Sled Acceleration (avg. g's) 16.6

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Side

Dummy Attitude Passenger Seat

Test Observations: GM Impala Seat performance with a GM Love Seat

(Run 1)

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-14 Test Setup for A-747



TEST NO. A-747

Figure C-15 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 747

Test Type SIDE

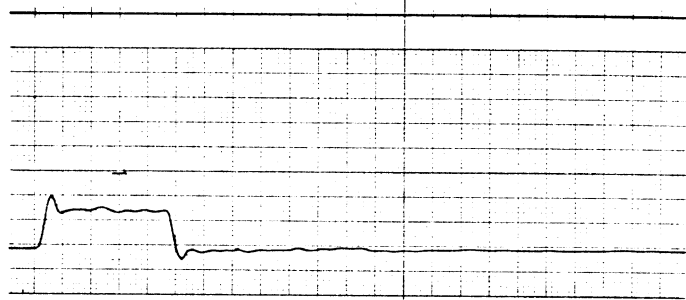
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

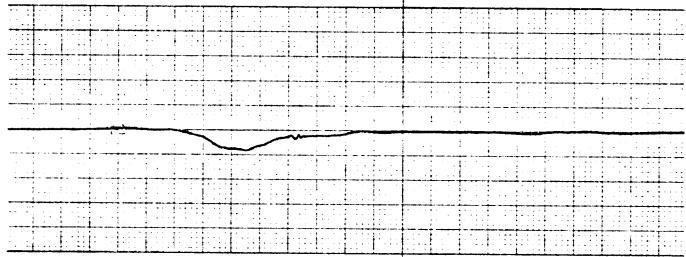
Sled Velocity 29.43ft/sec

IMPALA SEAT

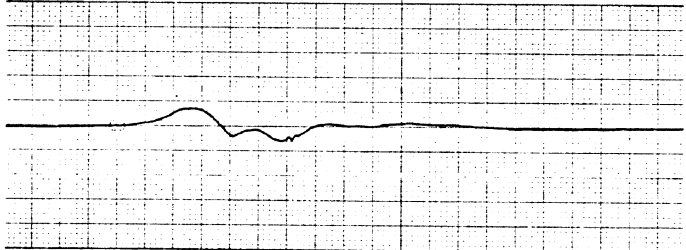
Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000

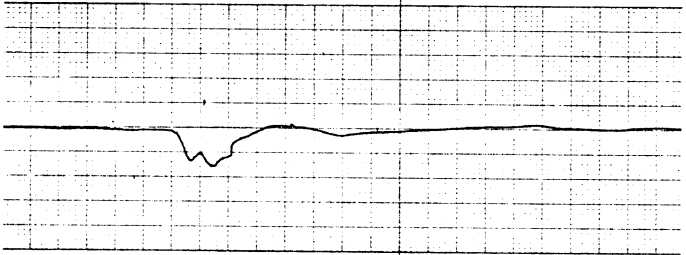


BRUSH ACCUCHART

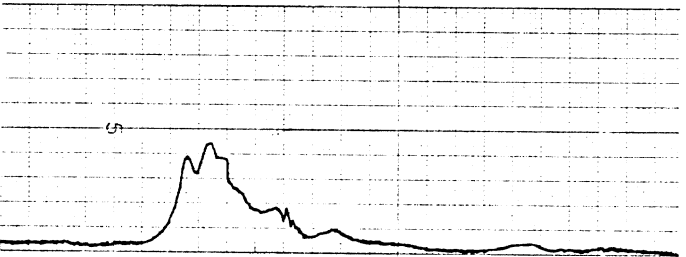
Gould Inc., Instrume

Cleveland, Ohio

Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-747

Test Type SIDE

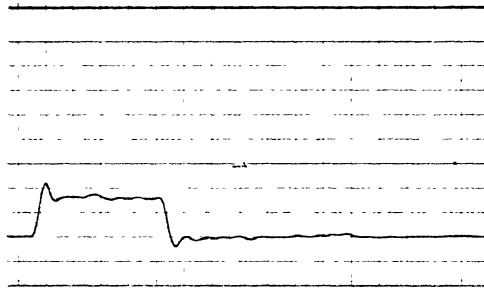
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSNGER SIDE)

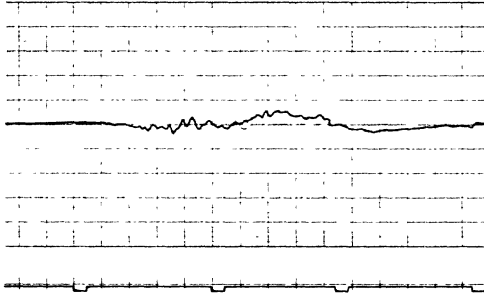
Sled Velocity 29.43 ft/sec

IMPALA SEAT

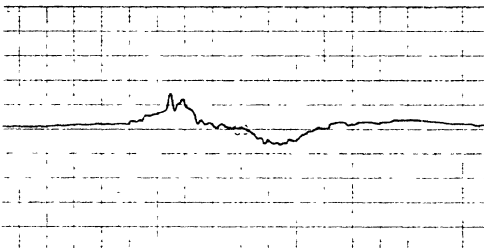
Sled Pulse
10 g's/Division
Filtered
Class 60



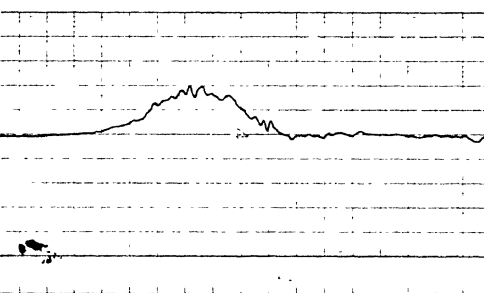
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



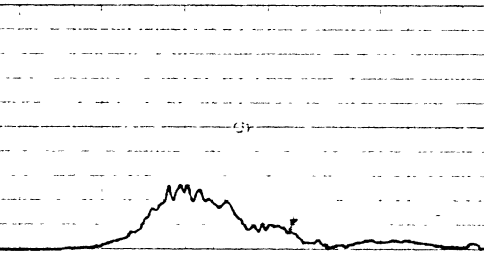
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-748

Test Date: 31/July/74

Restraint Description: GM Love Seat

Harness Configurations: Type 1

Dummy Sierra 3 year

Sled Velocity (avg., ft/sec) 29.87

Sled Acceleration (avg. g's) 17.0

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Side

Dummy Attitude Passenger seat

Test Observations: GM Impala seat performance with a GM Love Seat
 (Run 2).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-16 Test Setup for A-748



TEST NO. A-748

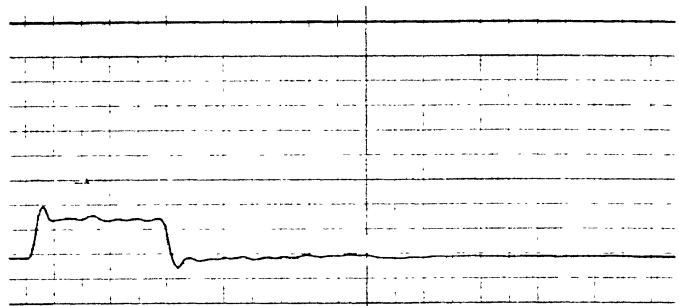
Figure C-17 Graph-Check Camera Sequence

Test Number A 748
Dummy SIERRA 3 YEAR
Sled Velocity 29.87ft/sec

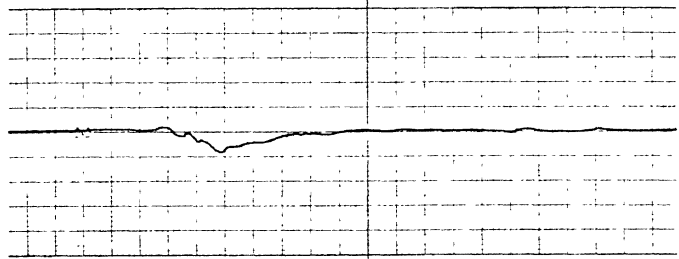
SUMMARY DATA HEAD ACCELERATIONS

Test Type SIDE
LOVE SEAT (PASSENGER SIDE)
IMPALA SEAT

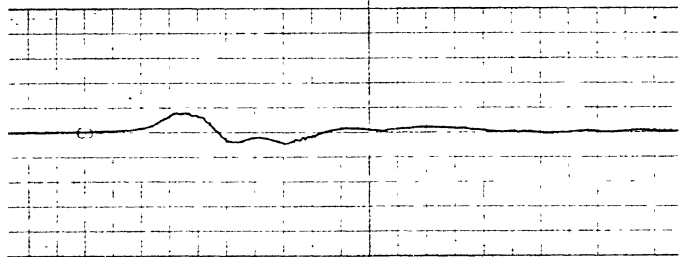
Sled Pulse
10 g's/Division
Filtered
Class 60



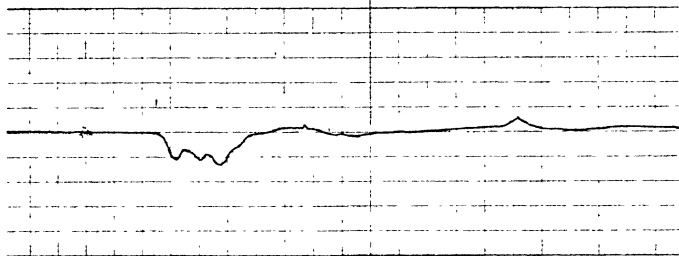
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



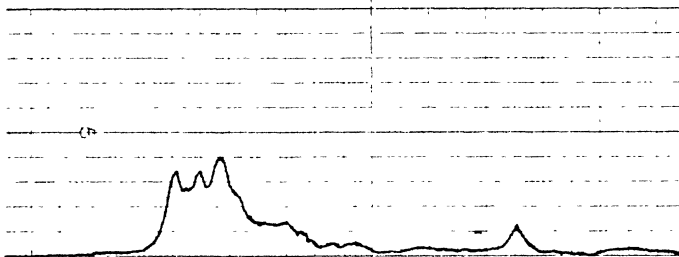
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-74E

Test Type SIDE

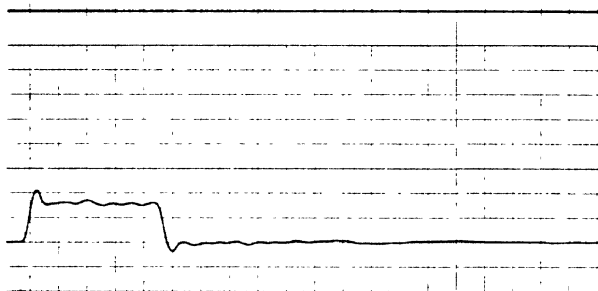
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SEAT)

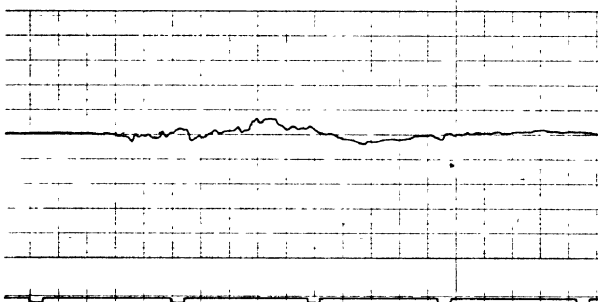
Sled Velocity 29.87 ft/sec

IMPALA SEAT

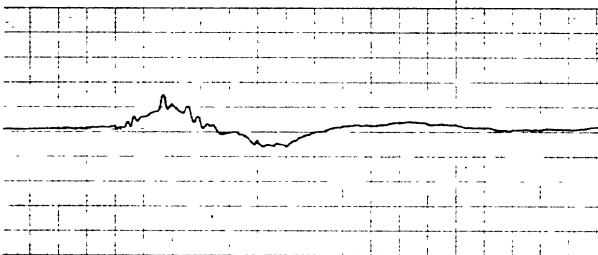
Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



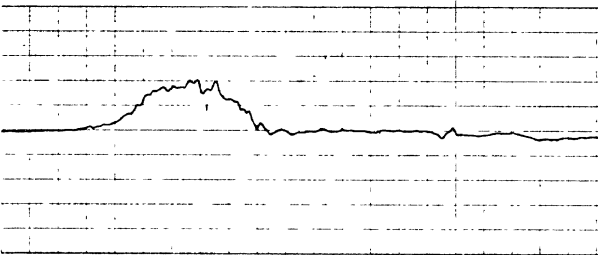
Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



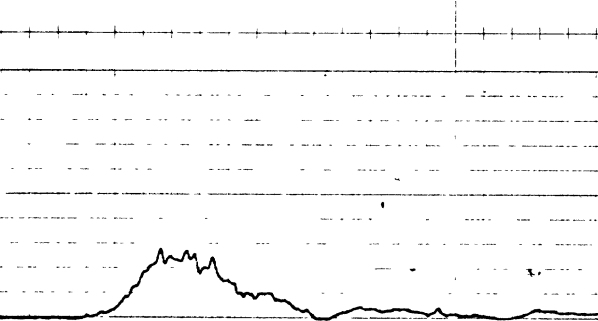
Gould Inc., Instrument Systems Division

Cleveland Ohio Printed in USA

Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10g's/Division
Filtered
Class 180



1 | -12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-749

Test Date: 31/July/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 30.01

Sled Acceleration (avg. g's) 17.2

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward

Dummy Attitude Center Seat

Test Observations: GM Impala seat performance with a Mopar child seat (Run 1).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-18 Test Setup for A-749



TEST NO. A-749

Figure C-19 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 749

Test Type REARWARD

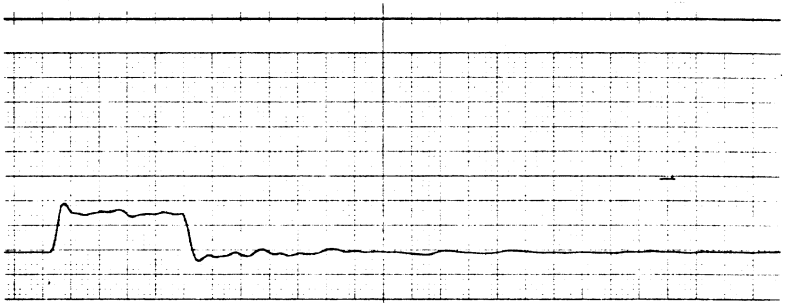
Dummy SIERRA 3 YEAR

MOPAR IN CENTER POSITION

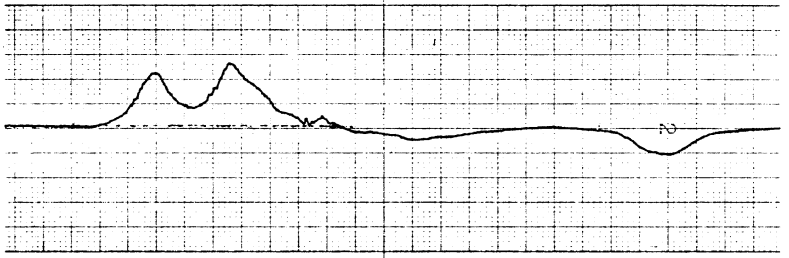
Sled Velocity 30.01 ft/sec

IMPALA SEAT

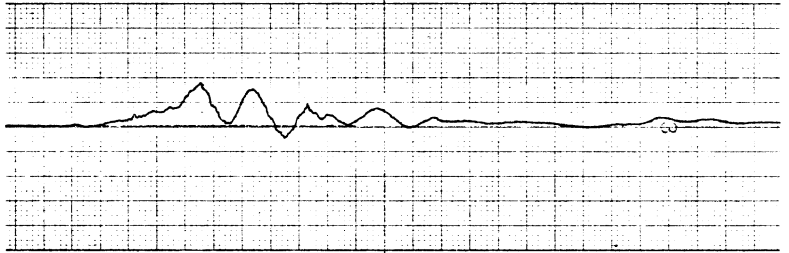
Sled Pulse
/0g's/Division
Filtered
Class 60



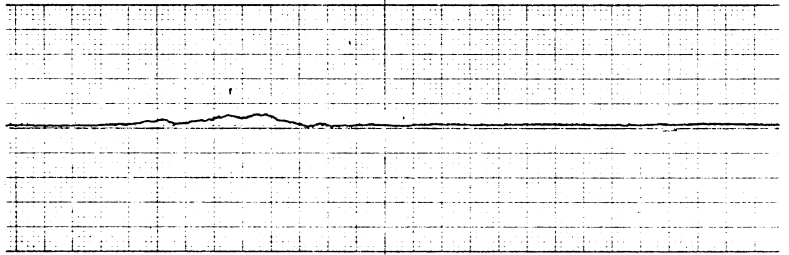
Anterior-Posterior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



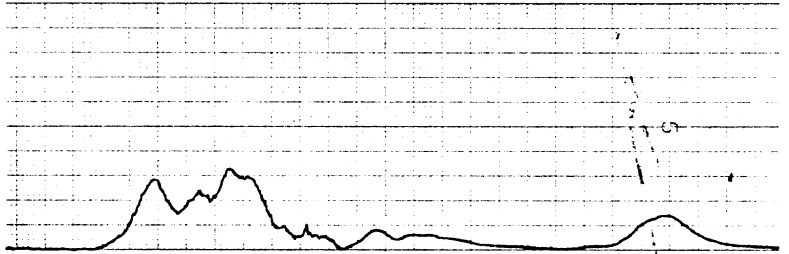
Superior-Inferior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/1.0g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-799

Test Type REARWARD

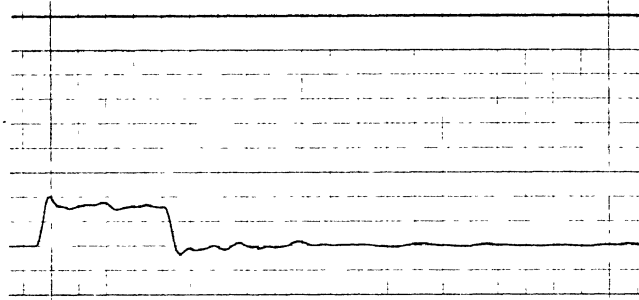
Dummy SIERRA 3 YEAR

MDPAR (CENTER POSITION)

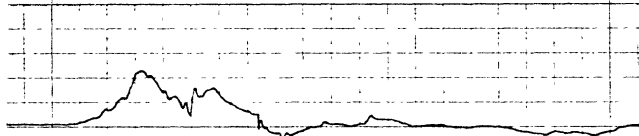
Sled Velocity 30.01 ft/sec

IMPALA SEAT

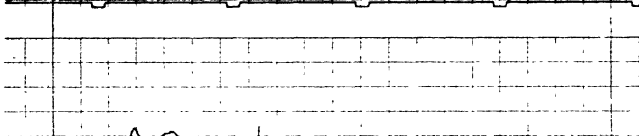
Sled Pulse
10g's/Division
Filtered
Class 60



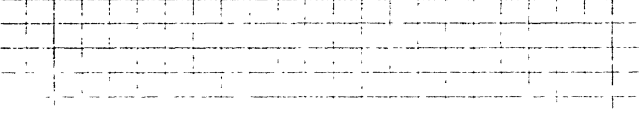
Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



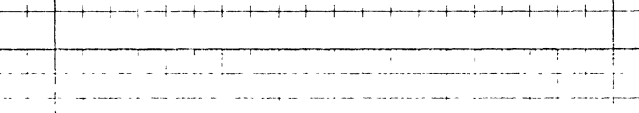
Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-750

Test Date: 31/July/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 30.33

Sled Acceleration (avg. g's) 16.8

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward

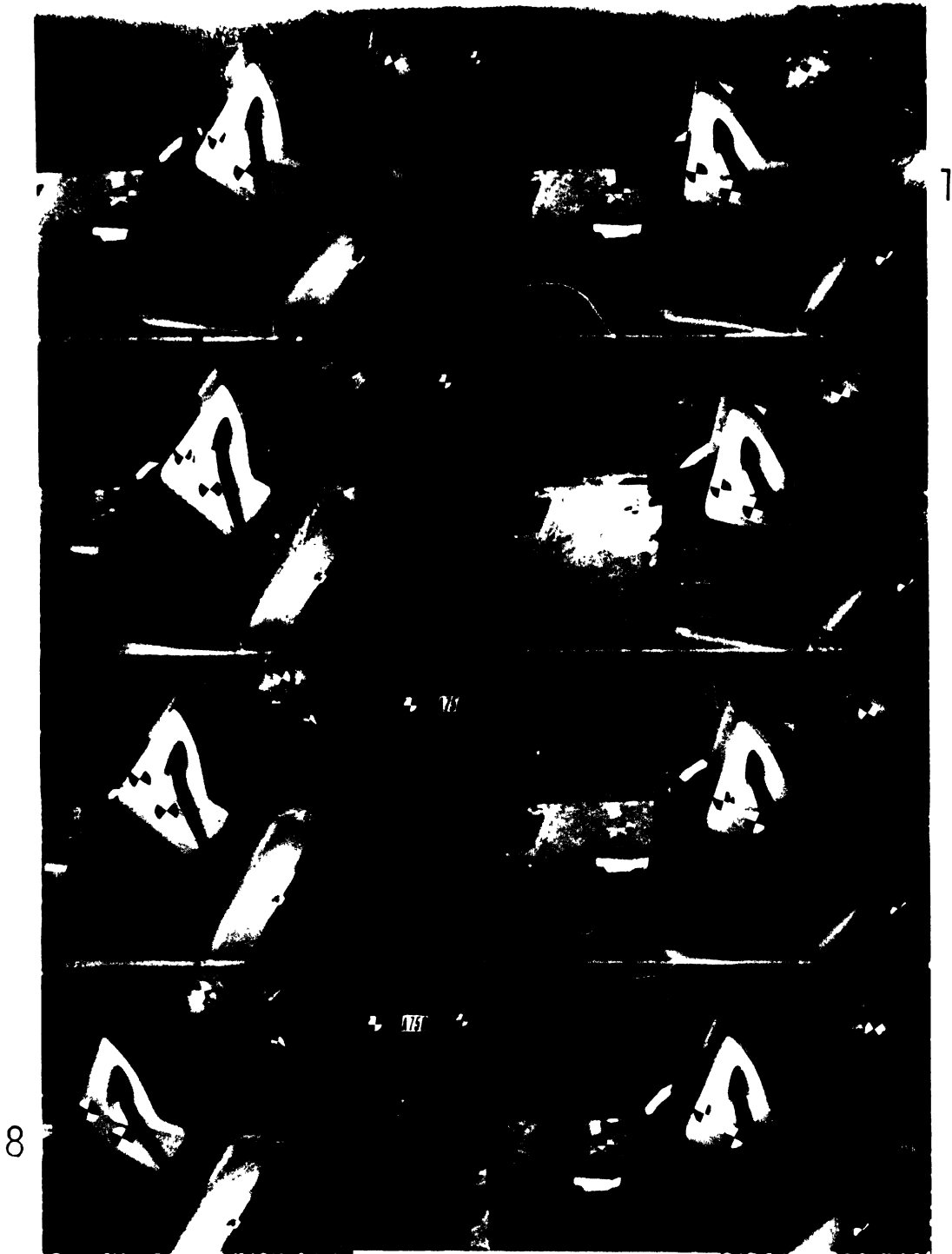
Dummy Attitude Center seat

Test Observations: GM Impala seat performance with a Mopar Child seat (Run 2).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-20 Test Setup for A-750



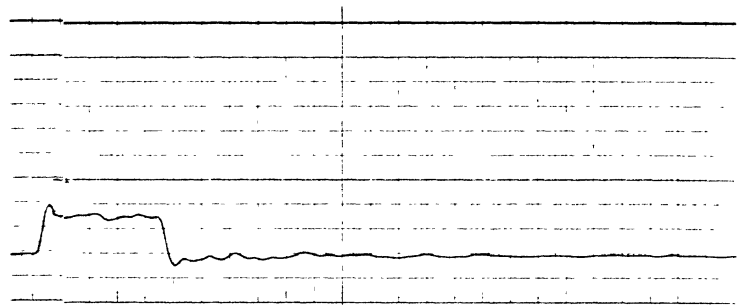
TEST NO. A-750

Figure C-21 Graph-Check Camera Sequence

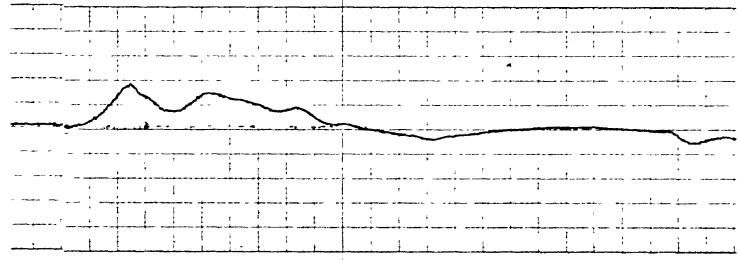
Test Number A 750
Dummy SIERRA 3 YEAR
Sled Velocity 30.33 ft/sec

SUMMARY DATA HEAD ACCELERATIONS
Test Type REARWARD
MOPAR (CENTER POSITION)
IMPALA SEAT

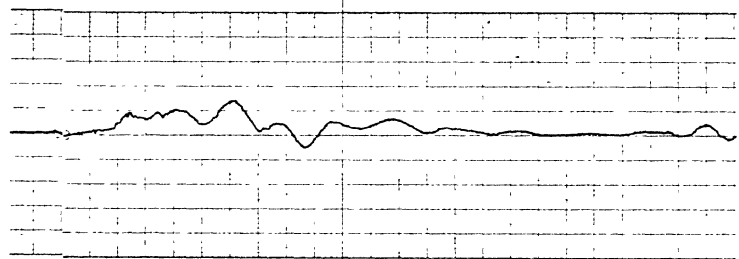
Sled Pulse
/0g's/Division
Filtered
Class 60



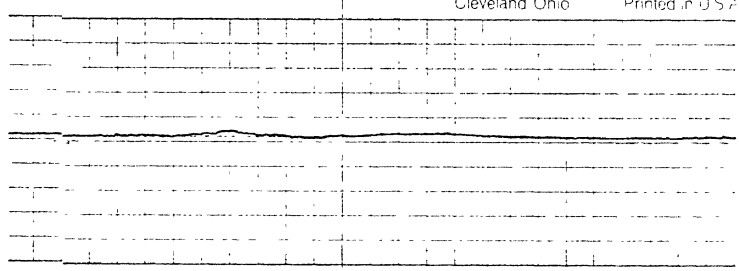
Anterior-Posterior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



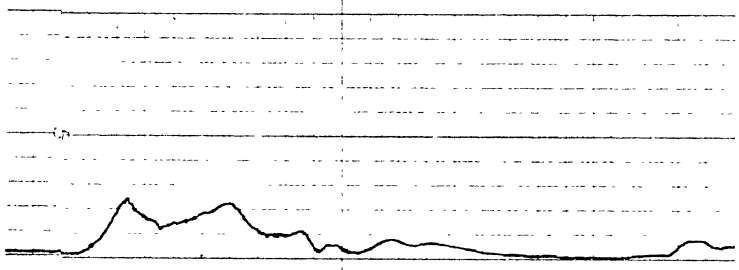
Superior-Inferior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/10 g's/Division
Filtered
Class 1000



ISH ACCUCHART

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SUMMARY DATA CHEST ACCELERATIONS

Test Number A-750

Test Type REARWARD

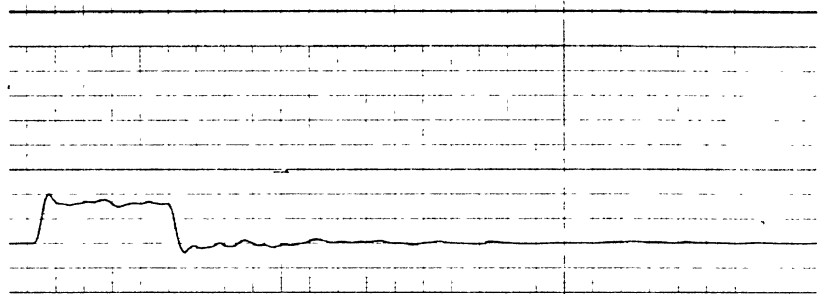
Dummy SIERRA 3 YEAR

MOPAR (CENTER POSITION)

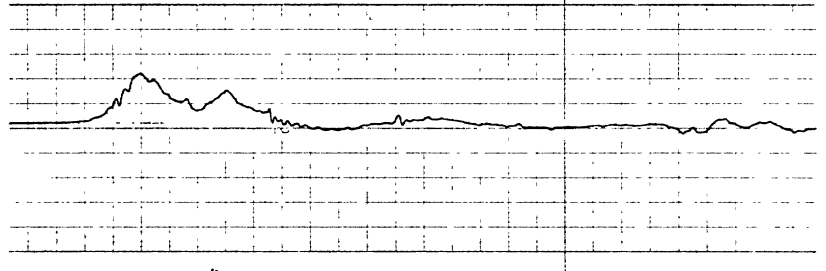
Sled Velocity 30.33 ft/sec

IMPALA SEAT

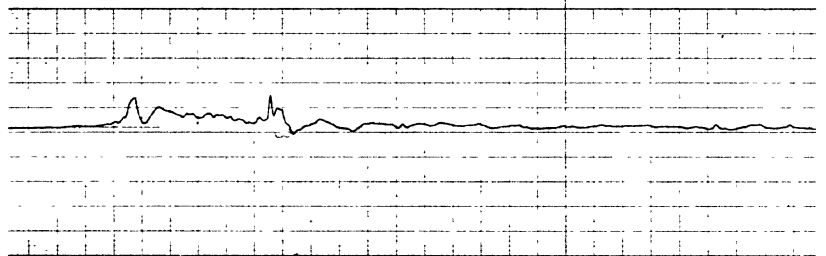
Sled Pulse
10g's/Division
Filtered
Class 60



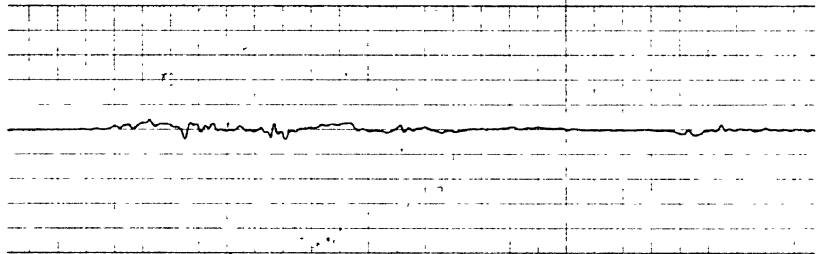
Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



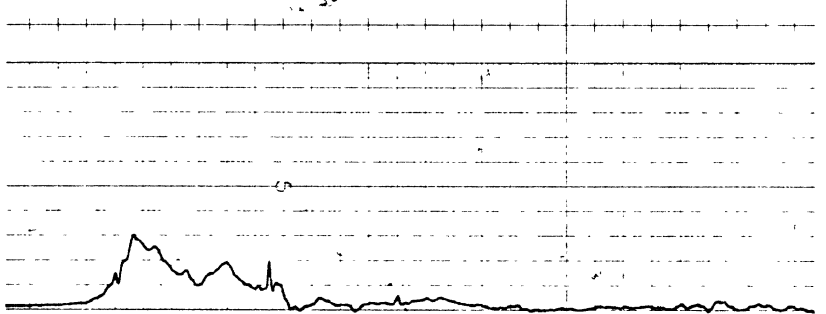
Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10g's/Division
Filtered
Class 180



| | -12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-751

Test Date: 31/July/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 30.22

Sled Acceleration (avg. g's) 16.2

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward

Dummy Attitude -

Test Observations: Check out of GM Impala seat. Seat back angle was measured.

Set-up photo was not taken. Graph-Check camera did not work.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-751

Test Type IMPALA

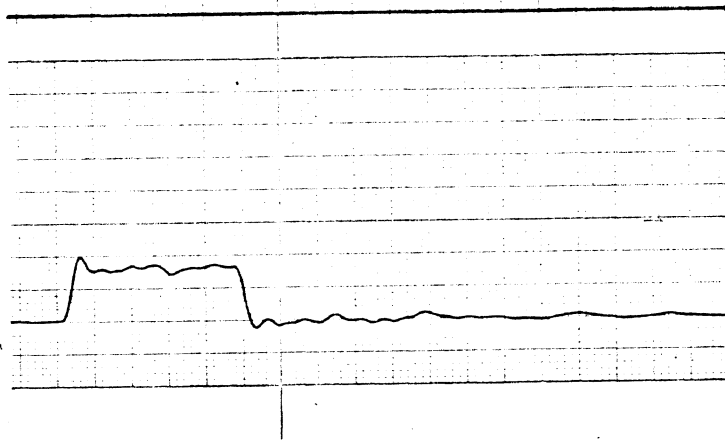
Dummy NONE

SEATBACK DEFLECTION

Sled Velocity 30.22 ft/sec

TEST (REARWARD)

Sled Pulse
/0g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-752

Test Date: 1/August/74

Restraint Description: Tot Guard

Harness Configurations: Type 1

Dummy: Sierra 3 yr.

Sled Velocity (avg., ft/sec) 42.87

Sled Acceleration (avg. g's) 20.4

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: GM Impala seat performance with a Tot-Guard child seat (Run 2). High rebound spike on head acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-22 Test Setup for A-752



TEST NO. A-752

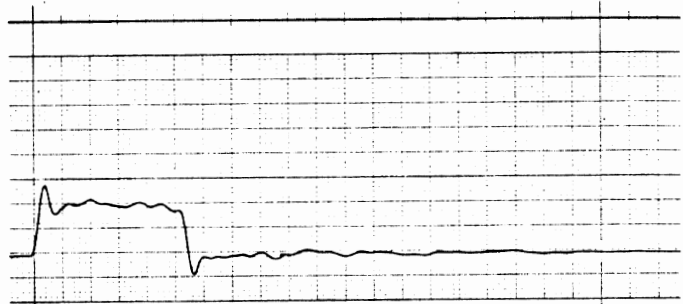
Figure C-23 Graph-Check Camera Sequence

Test Number A 752
Dummy SIERRA 3 YEAR
Sled Velocity 42.87 ft/sec

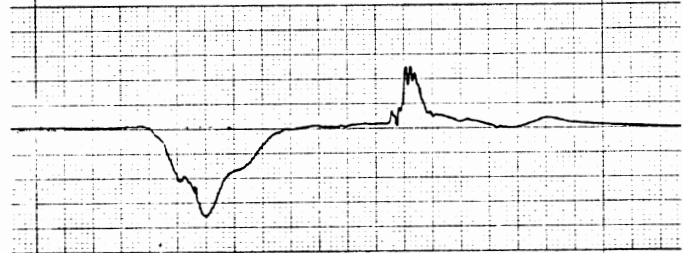
SUMMARY DATA HEAD ACCELERATIONS

Test Type FORWARD
TOT GUARD (PASSENGER SIDE)
IMPALA SEAT

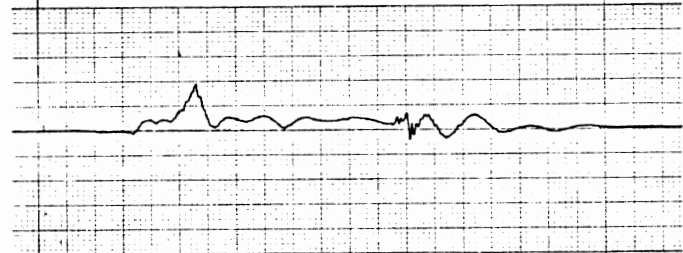
Sled Pulse
/0g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
25g's/Division
Filtered
Class 1000

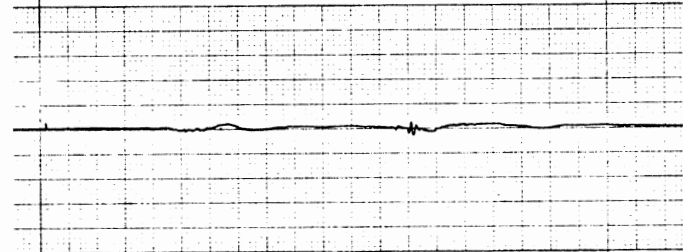


Superior-Inferior
Head Accelerations
25g's/Division
Filtered
Class 1000



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Cleveland, Ohio Printed in USA

Left-Right
Head Accelerations
25g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/0g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-752

Test Type FORWARD

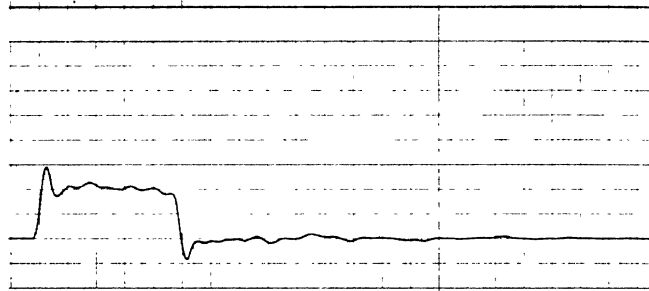
Dummy SIERRA 3 YEAR

TOT GUARD (PASSENGER SIDE)

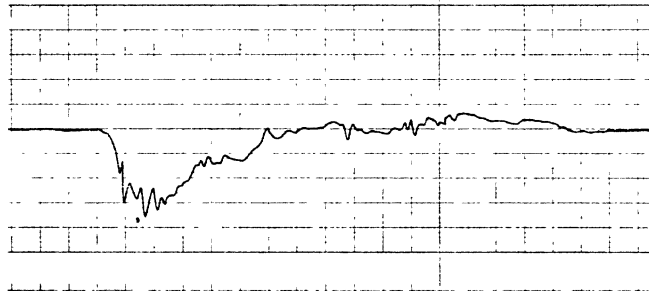
Sled Velocity 42.87 ft/sec

IMPALA SEAT

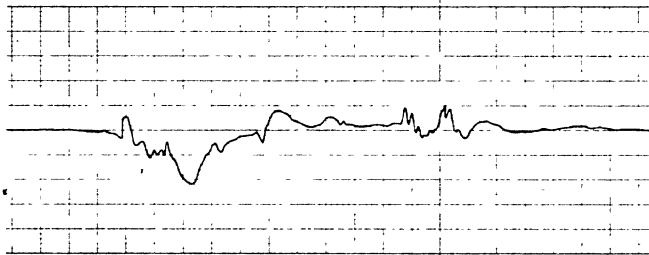
Sled Pulse
10g's/Division
Filtered
Class 60



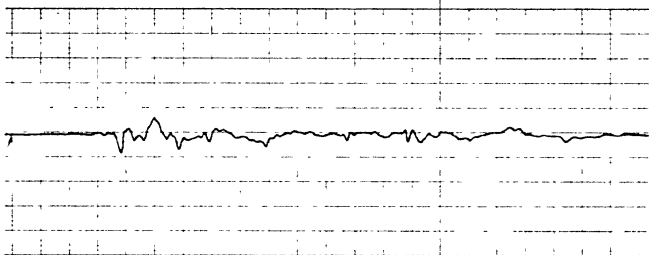
Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180

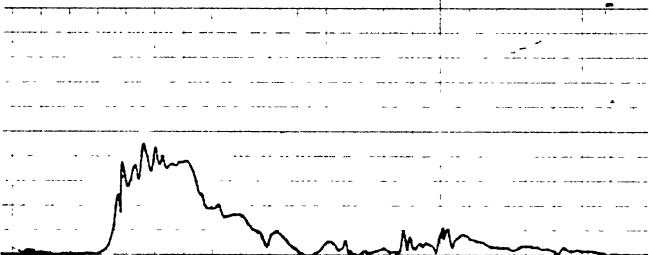




Figure C-24 Test Setup for A-753



TEST NO. A-753

Figure C-25 Graph Check Camera Sequence

Test Number A 753

Dummy SIERRA 3 YEAR

Sled Velocity 44.02 ft/sec

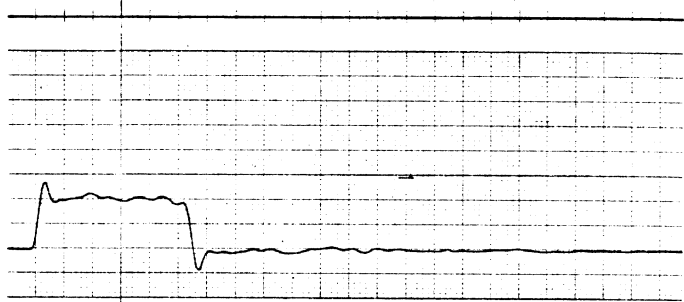
SUMMARY DATA HEAD ACCELERATIONS

Test Type FORWARD

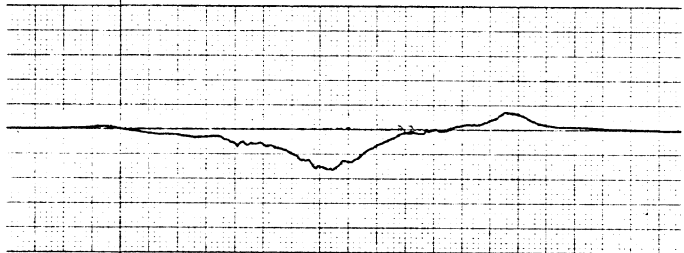
STROLEE (PASSENGER SIDE)

IMPALA SEAT

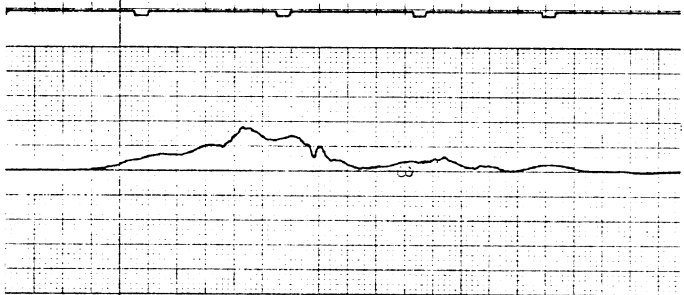
Sled Pulse
10 g's/Division
Filtered
Class 60



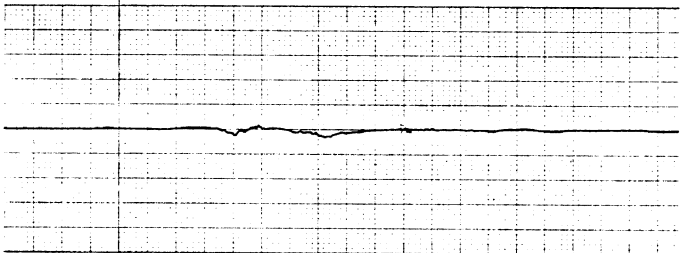
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



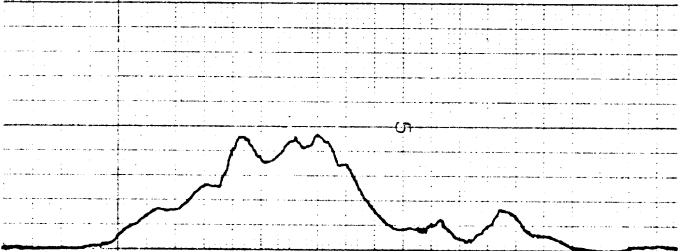
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-753

Test Type FORWARD

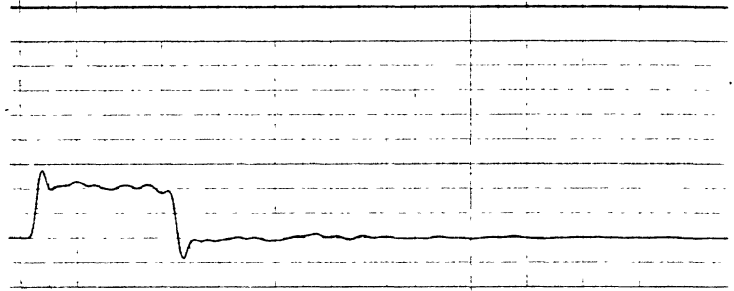
Dummy SIERRA 3 YEAR

STROLEE (PASSENGER SIDE)

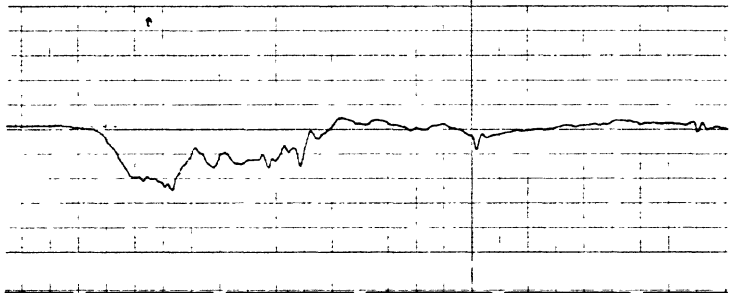
Sled Velocity 44.02 ft/sec

IMPALA SEAT

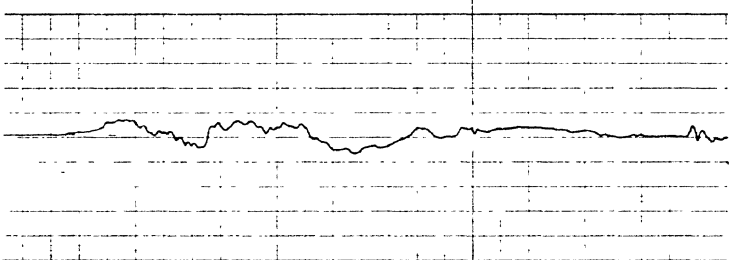
Sled Pulse
10 g's/Division
Filtered
Class 60



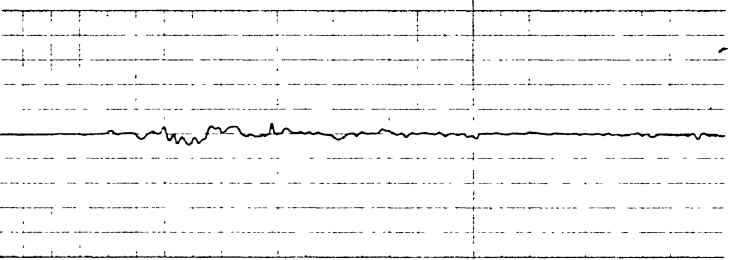
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



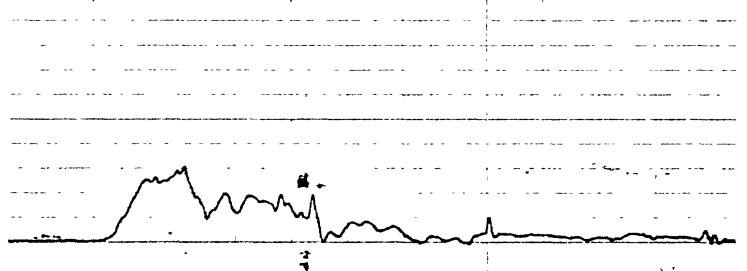
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-754

Test Date: 1/August/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 44.31

Sled Acceleration (avg. g's) 17.2

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: GM Impala seat performance with a Mopar child seat (one only). Auto seat was weakened from previous testing.

High rebound spike on head acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-26 Test Setup for A-754



8

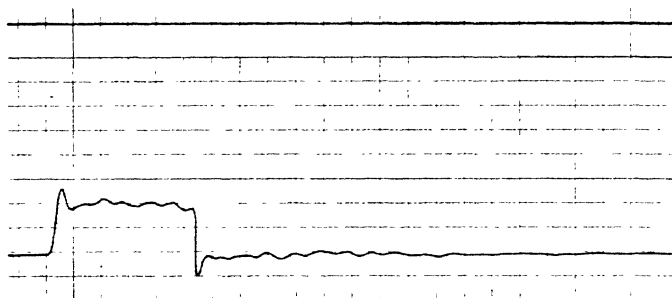
TEST NO. A-754

Figure C-27 Graph-Check Camera Sequence

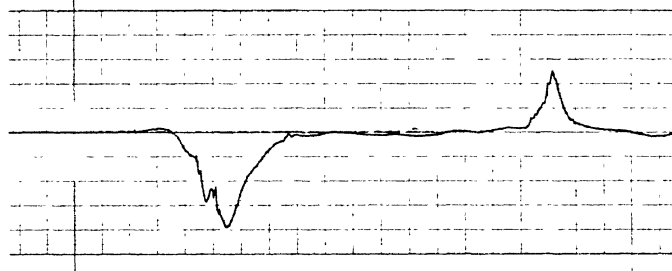
Test Number A 754
Dummy SIERRA 3 YEAR
Sled Velocity 44.31 ft/sec

SUMMARY DATA HEAD ACCELERATIONS
Test Type FORWARD
MOPAR (PASSENGER SIDE)
IMPALA SEAT

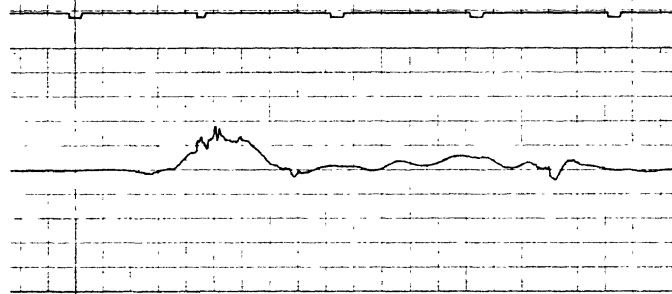
Sled Pulse
10 g's/Division
Filtered
Class 60



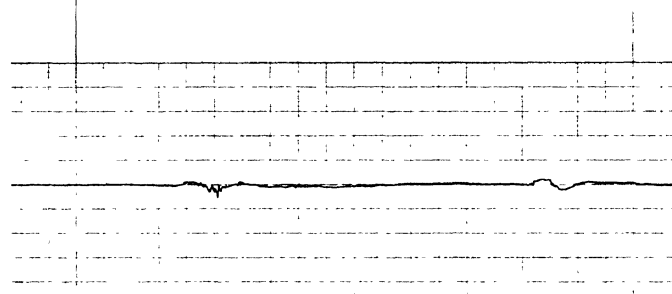
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



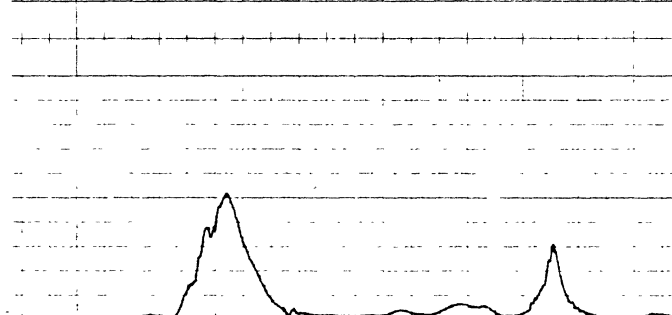
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-75A

Test Type FORWARD

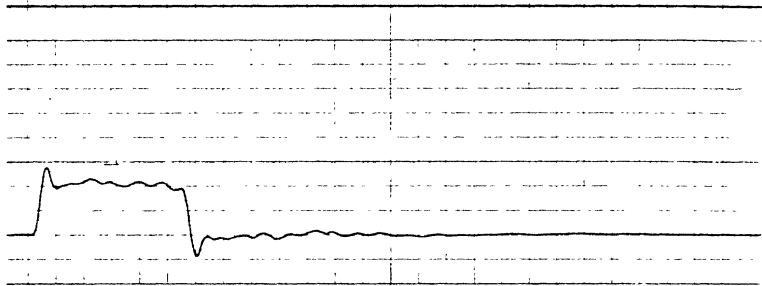
Dummy SIERRA 3 YEAR

MOPAR (PASSENGER SIDE)

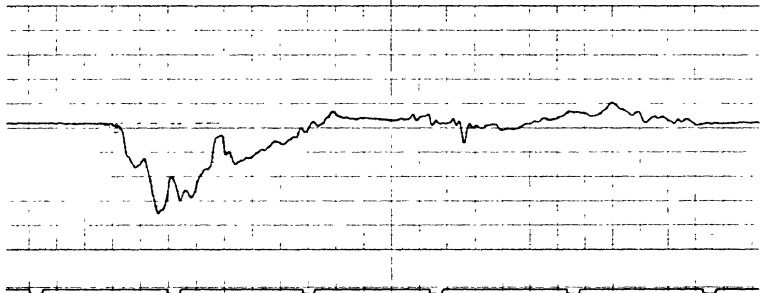
Sled Velocity 44.31 ft/sec

IMPALA SEAT

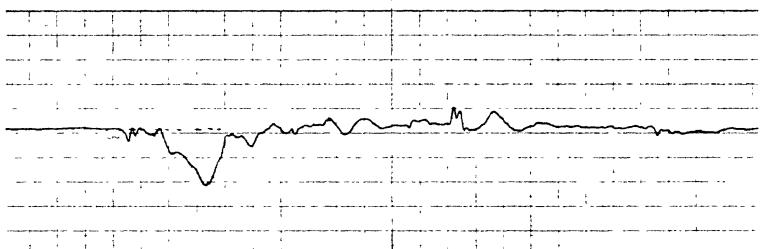
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

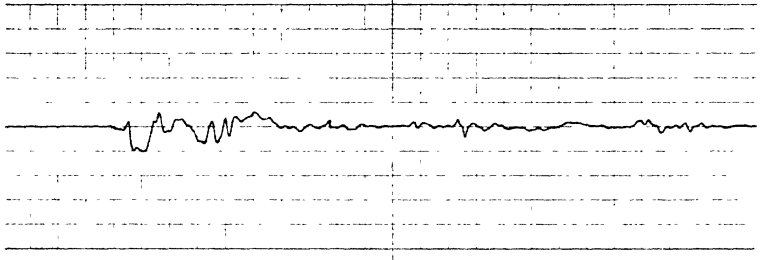


BRUSH ACCUCHART

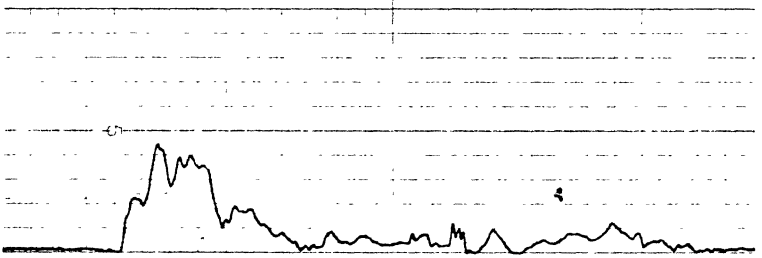
Gould Inc., Instrument Systems

Cleveland, Ohio Printed in U.S.A.

Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-755

Test Date: 1/ August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 45.91

Sled Acceleration (avg. g's) 21.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations: Check-out of GM Impala seat. Seat back angle was measured.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

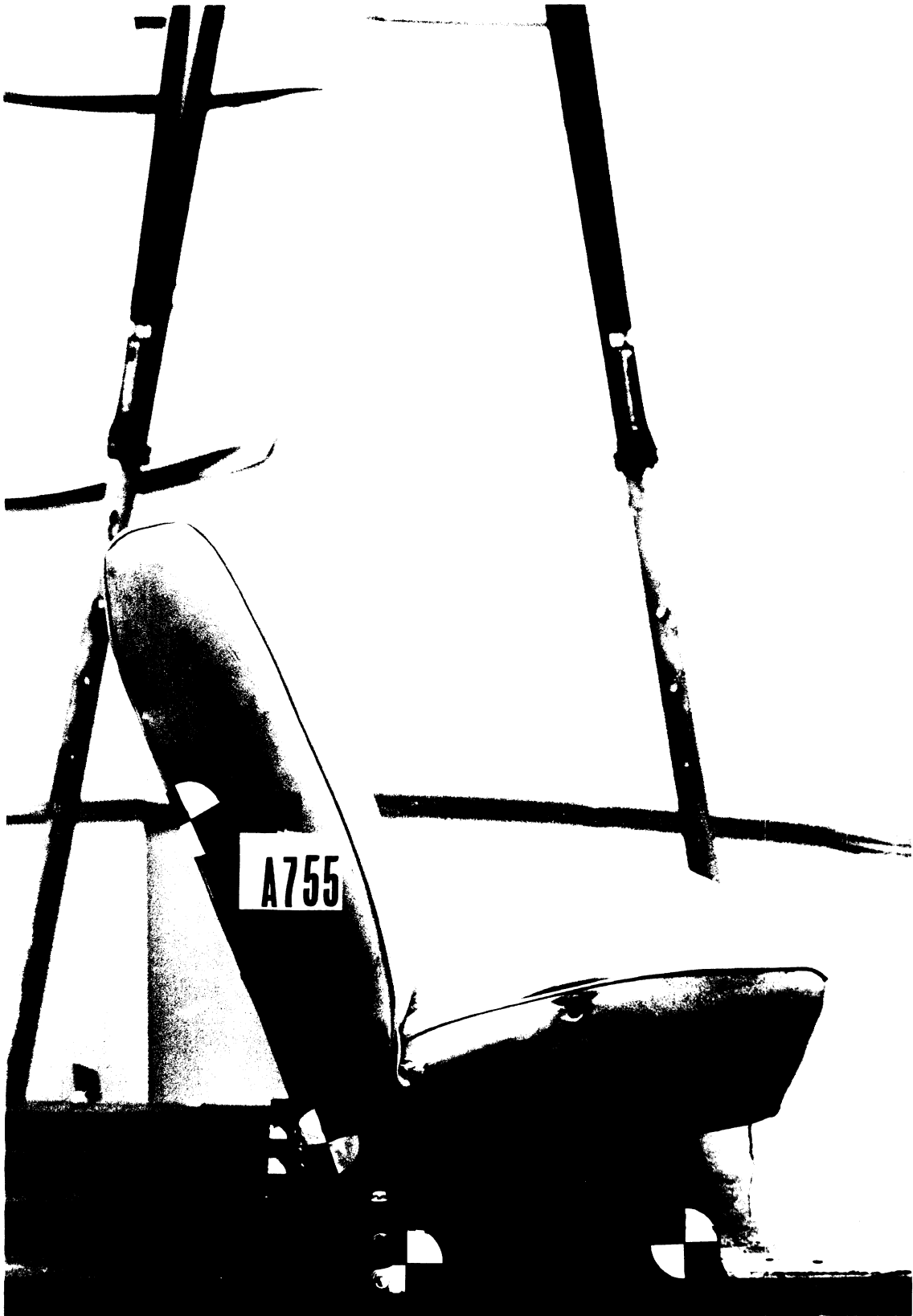
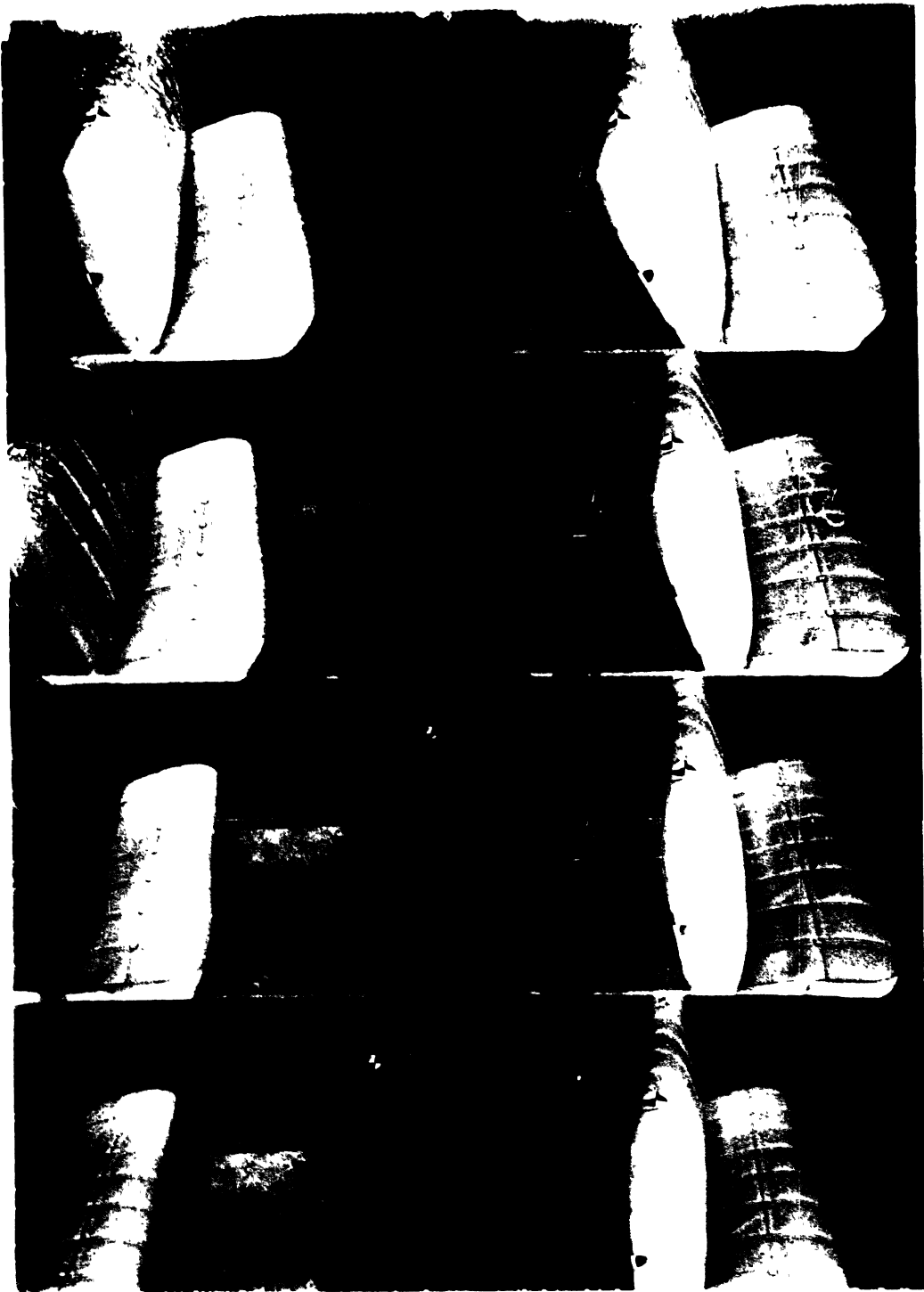


Figure C-28

Test Setup for A-755



TEST NO. A-755

Figure C-29 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-755

Test Type IMPALA

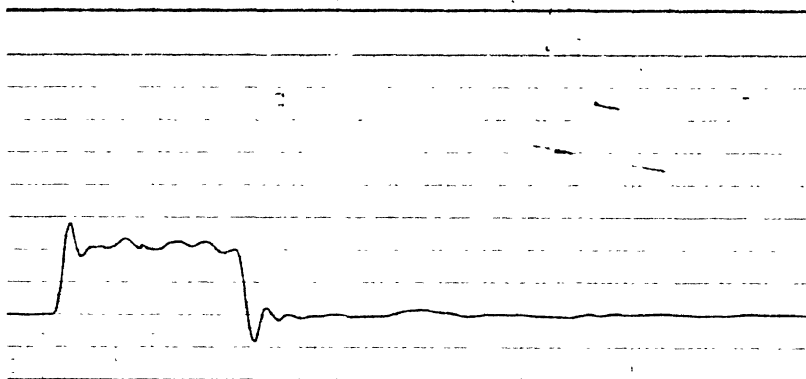
Dummy NONE

SEATBACK DEFLECTION

Sled Velocity 45.91 ft/sec

TEST (FORWARD)

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-756

Test Date: 2/August/74

Restraint Description: GM Love Seat

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 43.53

Sled Acceleration (avg. g's) 21.6

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: GM Love seat tested on GM Impala seat (one
 only). Auto seat back angle is low because of over back strap. High
 rebound spike on head acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-30 Test Setup for A-756



TEST NO. A-756

Figure C-31 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 756

Test Type FORWARD

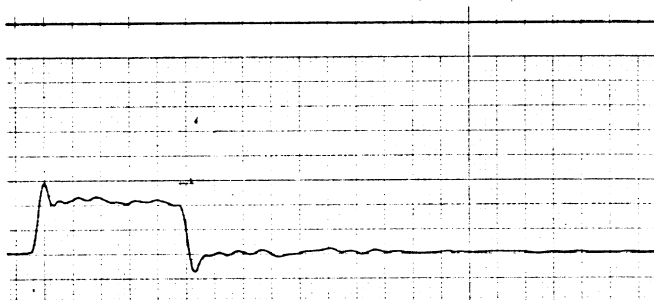
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

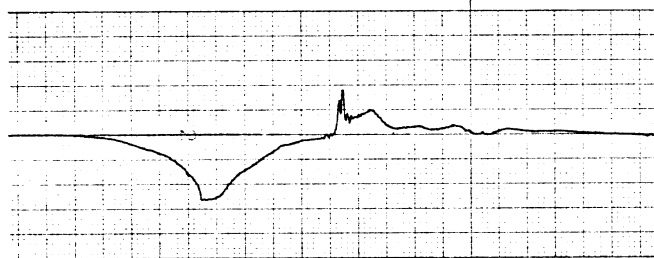
Sled Velocity 43.53 ft/sec

IMPALA SEAT

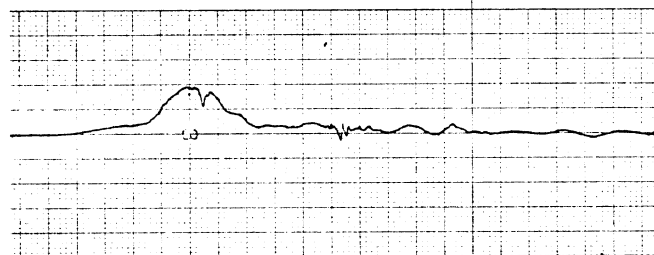
Sled Pulse
10 g's/Division
Filtered
Class 60



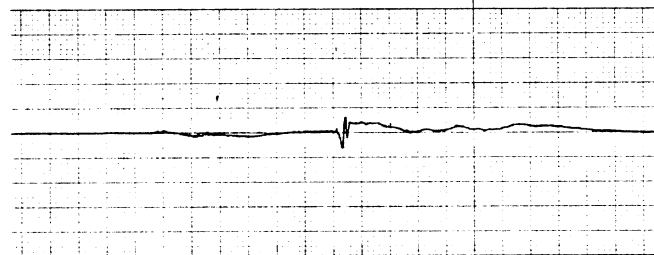
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



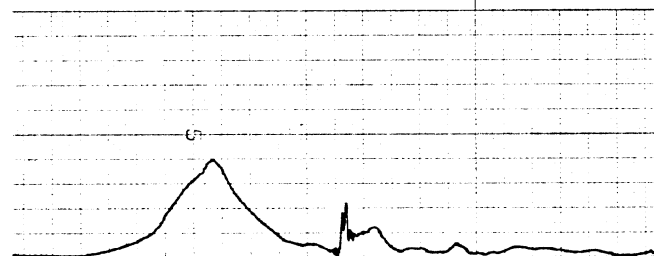
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-756

Test Type FORWARD

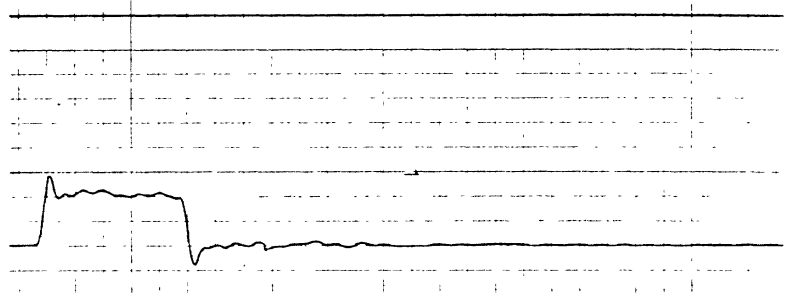
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

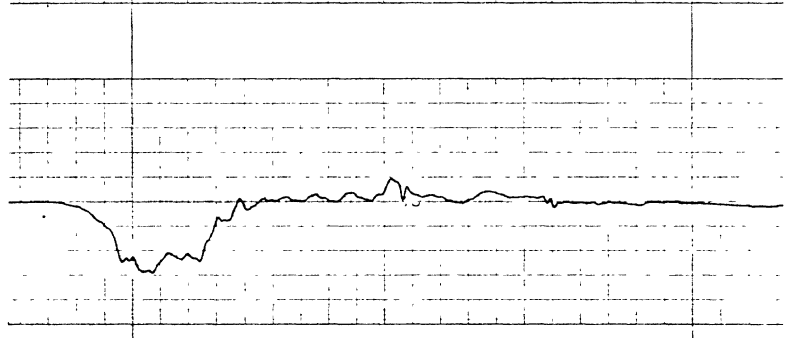
Sled Velocity 43.53 ft/sec

IMPALA SEAT

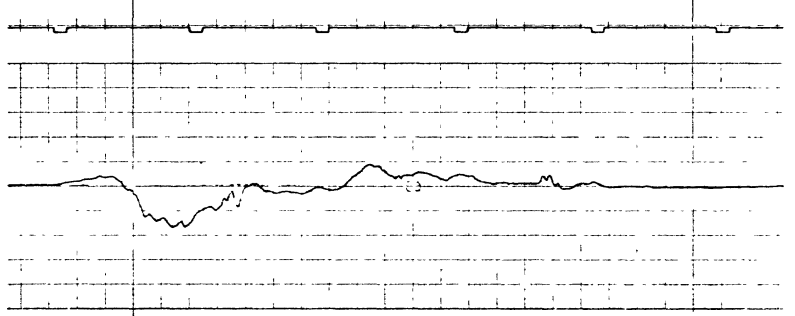
Sled Pulse
10 g's/Division
Filtered
Class 60



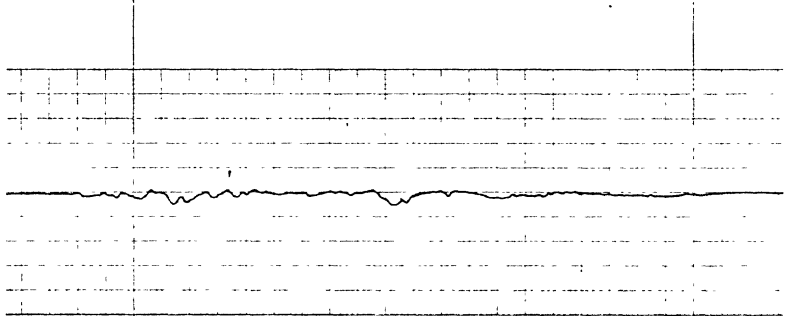
Anterior-Posterior
Chest Accelerations
17.5 g's/Division
Filtered
Class 180



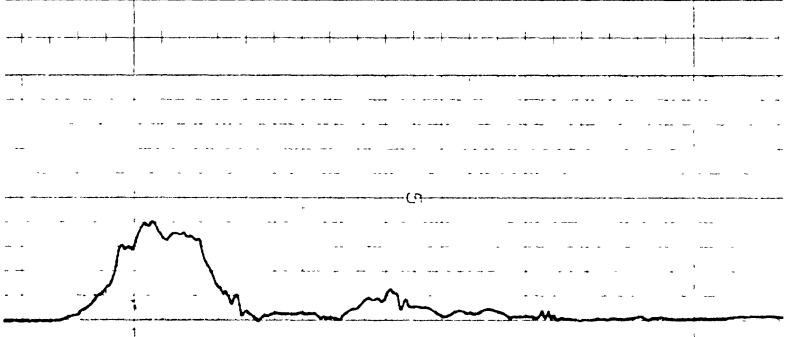
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-758

Test Date: 21/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 46.70

Sled Acceleration (avg. g's) 21.6

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations: Early check-out of the DOT Standard seat. Seat back angle was measured and strap was used to prevent seat bottom from moving forward on impact. Seatback had earlier design 2-piece plywood backing and no straps.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

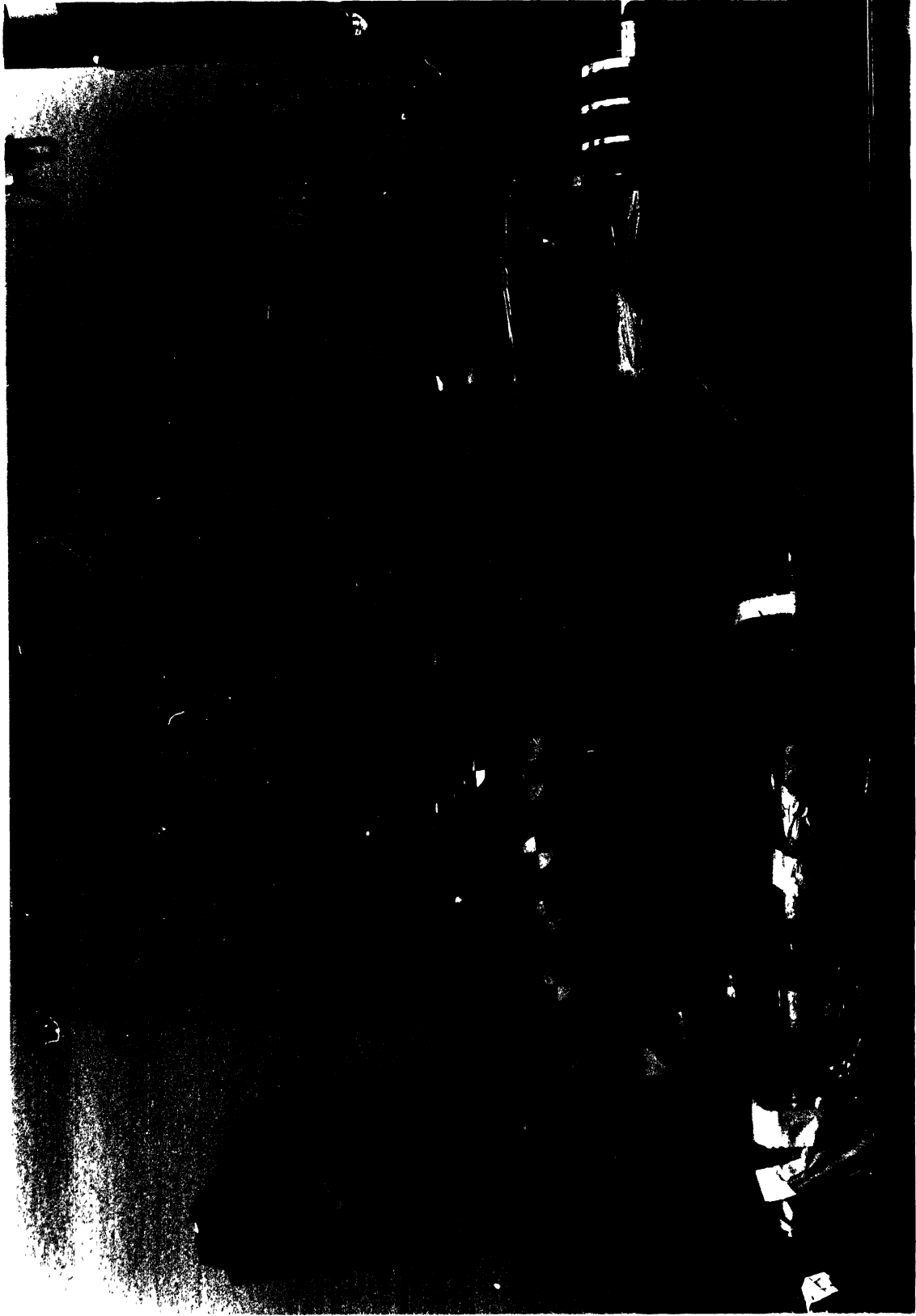


Figure C-32 Test Setup for A-758



TEST NO. A-758

Figure C-33 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-758

Test Type STANDARD

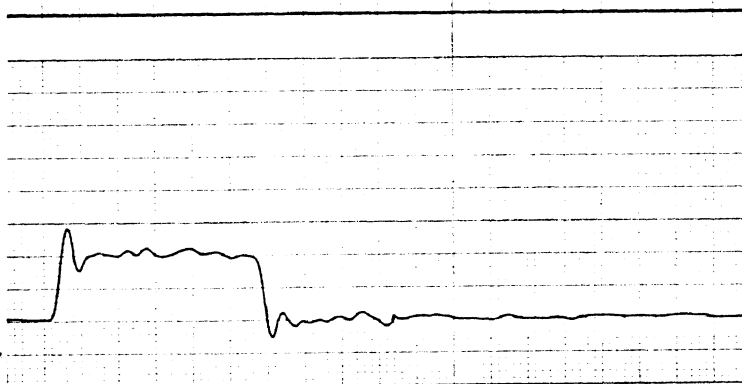
Dummy NONE

SEATBACK DEFLECTION

Sled Velocity 46.70 ft/sec

TEST (FORWARD)

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-759
Test Date: 22/August/74
Restraint Description: Tot-Guard
Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 44.31

Sled Acceleration (avg. g's) 21.0

Belt Loads (avg. pounds):
 Lap Inboard -
 Lap Outboard -
 Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a Tot-Guard
 child seat. High rebound spike on head acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-34 Test Setup for A-759



8

TEST NO. A-759

Figure C-35 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 759

Test Type FORWARD

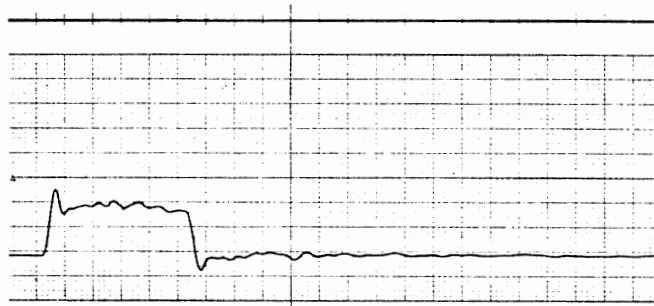
Dummy SIERRA 3 YEAR

TOT GUARD (PASSENGER SIDE)

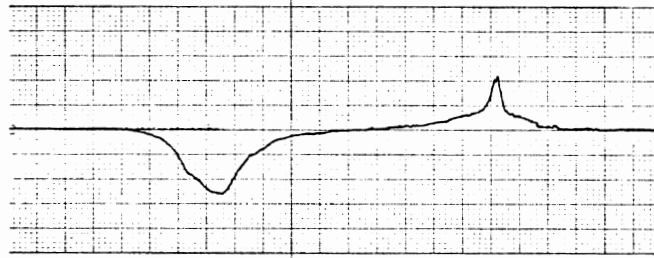
Sled Velocity 44.31 ft/sec

STANDARD SEAT

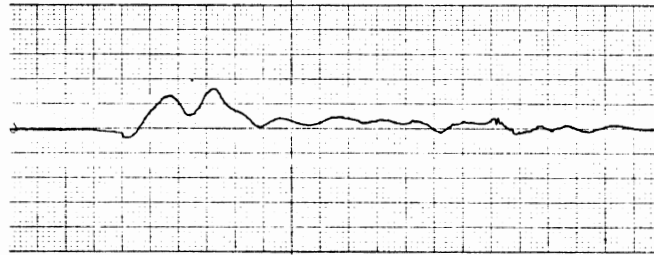
Sled Pulse
10g's/Division
Filtered
Class 60



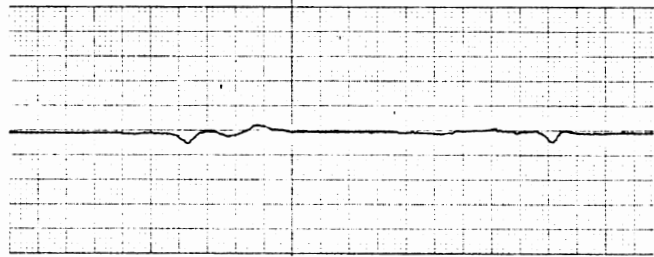
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



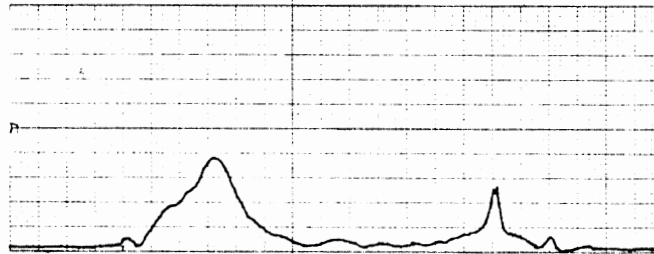
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-754

Test Type FORWARD

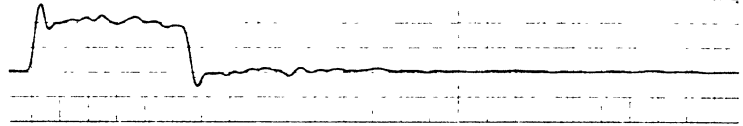
Dummy SIERRA 3 YEAR

TOT GUARD (PASSENGER SIDE)

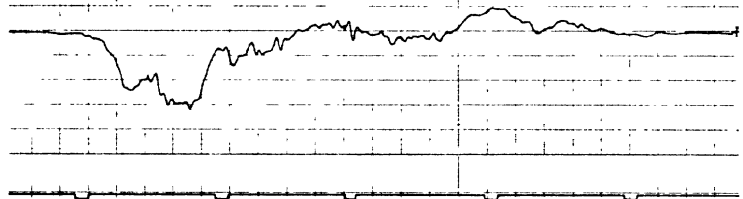
Sled Velocity 44.31 ft/sec

STANDARD SEAT

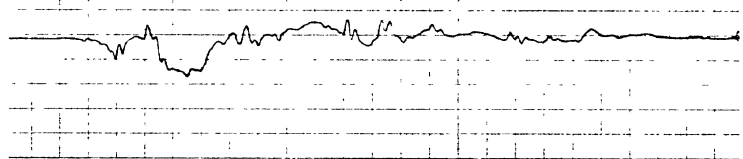
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



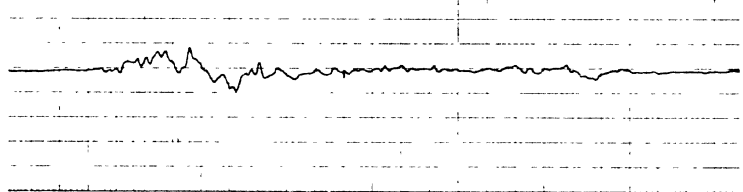
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



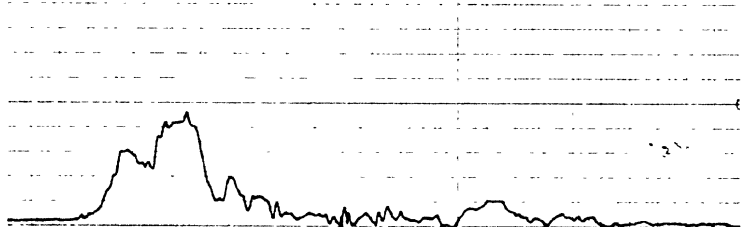
Gould Inc., Instrument Systems Division

Cleveland Ohio Printed in U.S.A.

Left-Right
Chest Accelerations
2.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



1 | 12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-760

Test Date: 22/August/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 43.71

Sled Acceleration (avg. g's) 22.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a Mopar child seat (one run only).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

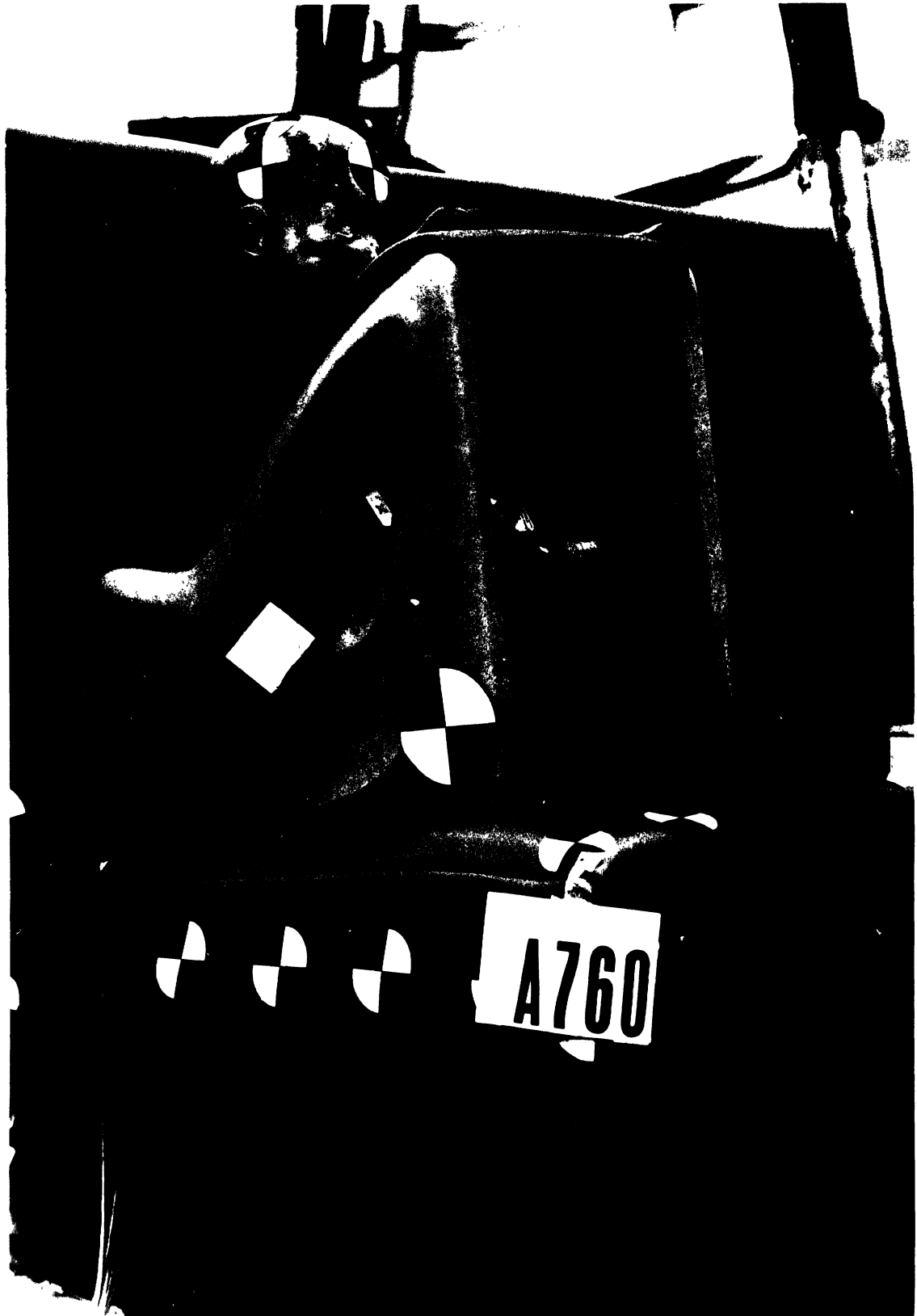


Figure C-36 Test Setup for A-760



8

7

TEST NO. A-760

Figure A-37 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 760

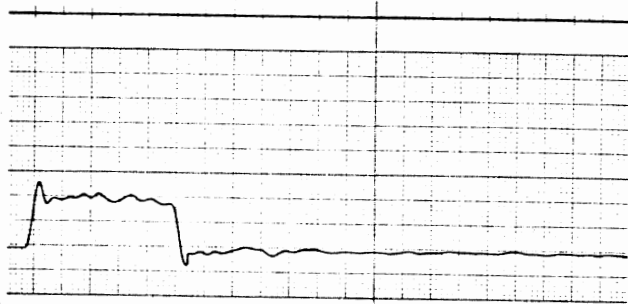
Test Type FORWARD
MOPAR (PASSENGER SIDE)

Dummy SIERRA 3 YEAR

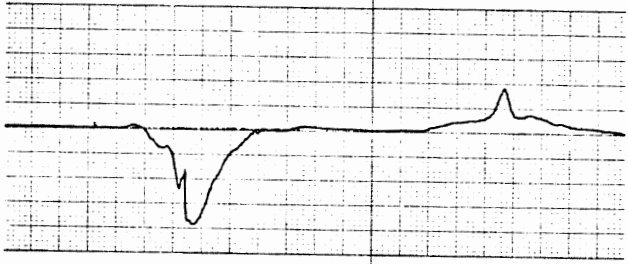
STANDARD SEAT

Sled Velocity 43.71 ft/sec

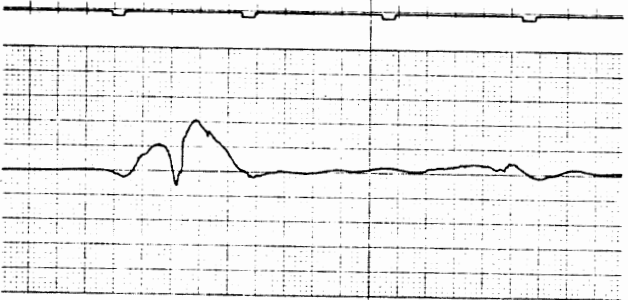
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



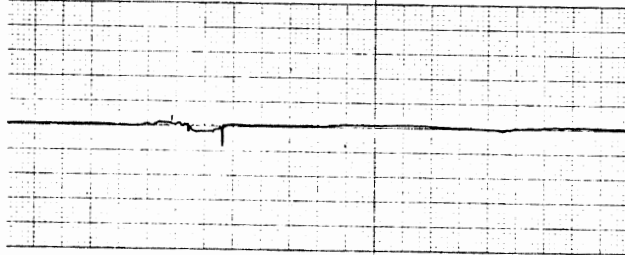
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



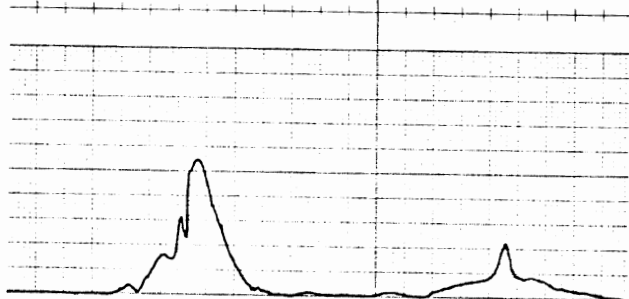
Instrument Systems Division

Dhio Printed in U.S.A.

Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-760

Test Type FORWARD

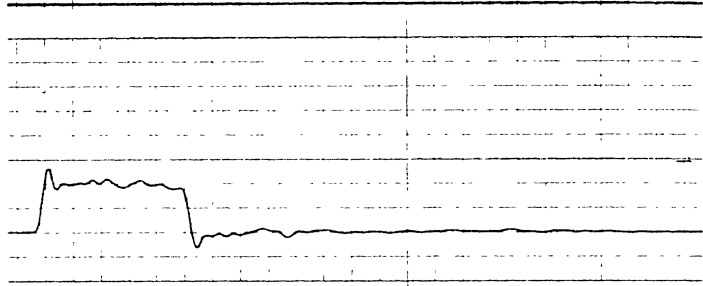
Dummy SIERRA 3 YEAR

MOPAR (PASSENGER SIDE)

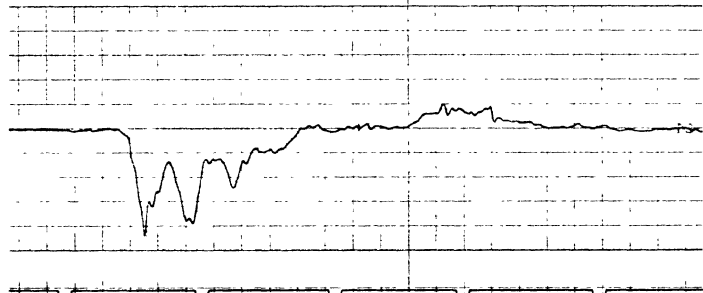
Sled Velocity 43.71 ft/sec

STANDARD SEAT

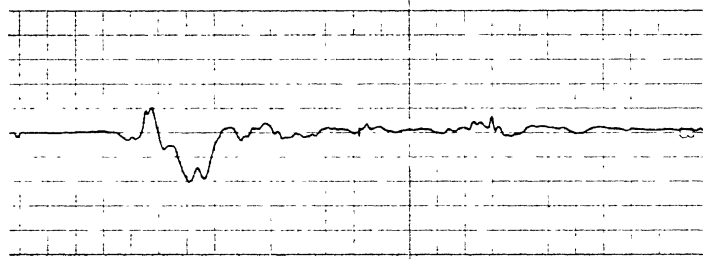
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

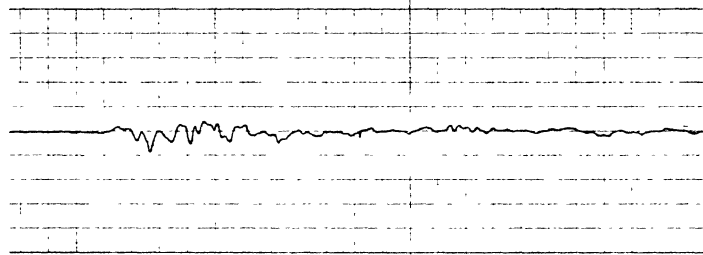


Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

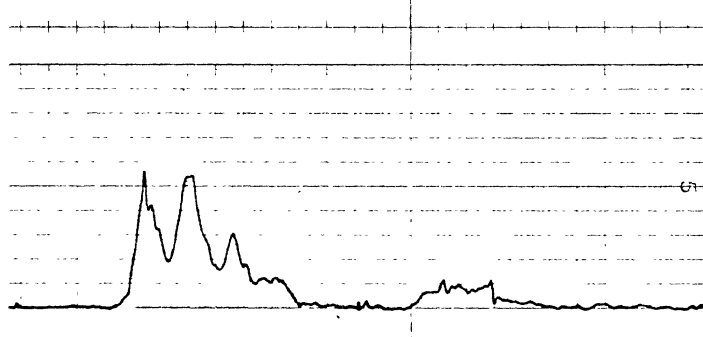


BRUSH ACCI

Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



1 | 12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-761

Test Date: 22/August/74

Restraint Description: GM Love Seat

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 42.81

Sled Acceleration (avg. g's) 20.8

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a GM Love Seat

(Run 1). Lost side camera data. Very high rebound spike on head

acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-38 Test Setup for A-761



TEST NO. A-761

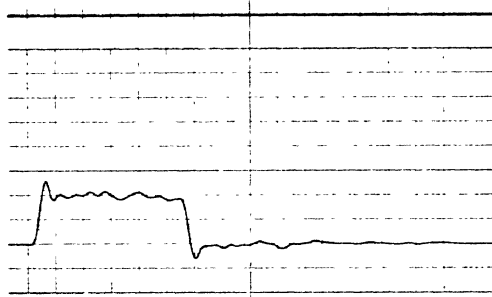
Figure C-39 Graph-Check Camera Sequence

Test Number 761
Dummy SIERRA 3 YEAR
Sled Velocity 42.81 ft/sec

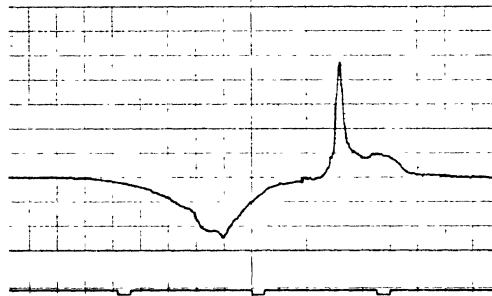
SUMMARY DATA HEAD ACCELERATIONS

Test Type FORWARD
LOVE SEAT (PASSENGER SIDE)
STANDARD SEAT

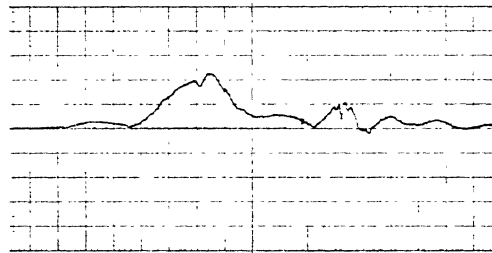
Sled Pulse
10 g's/Division
Filtered
Class 60



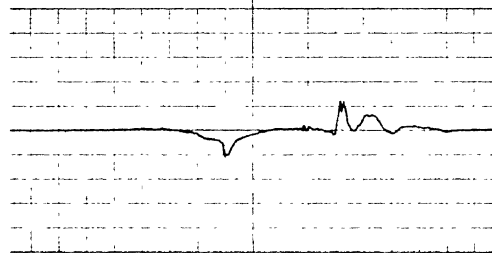
Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000



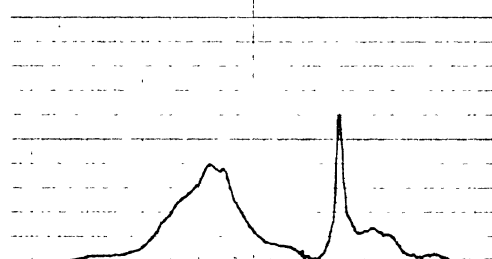
Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-761

Test Type FORWARD

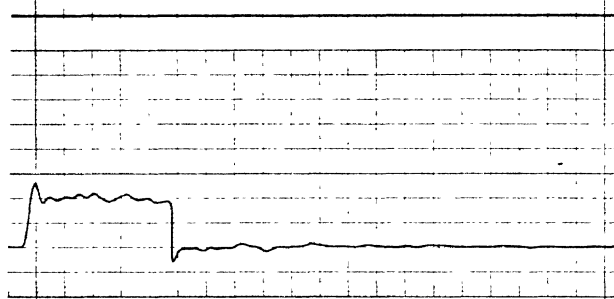
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

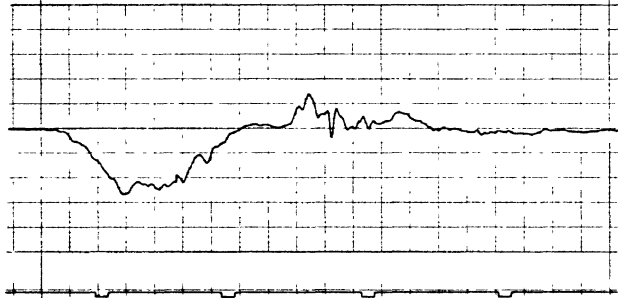
Sled Velocity 42.81 ft/sec

STANDARD SEAT

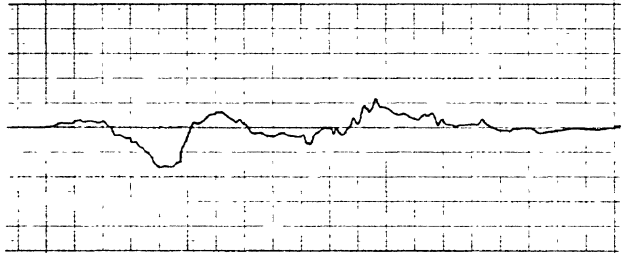
Sled Pulse
10 g's/Division
Filtered
Class 60



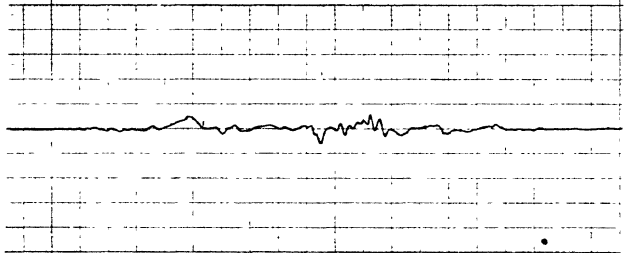
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



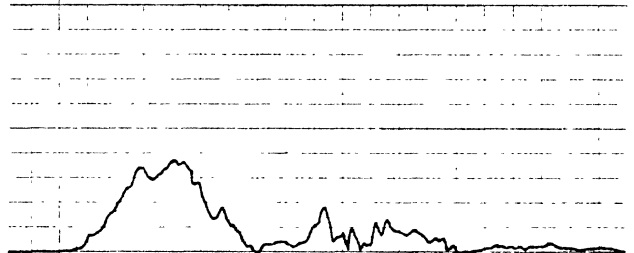
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



1-12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-762

Test Date: 22/August/74

Restraint Description: GM Love Seat

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 42.42

Sled Acceleration (avg. g's) 21.2

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a GM Love seat

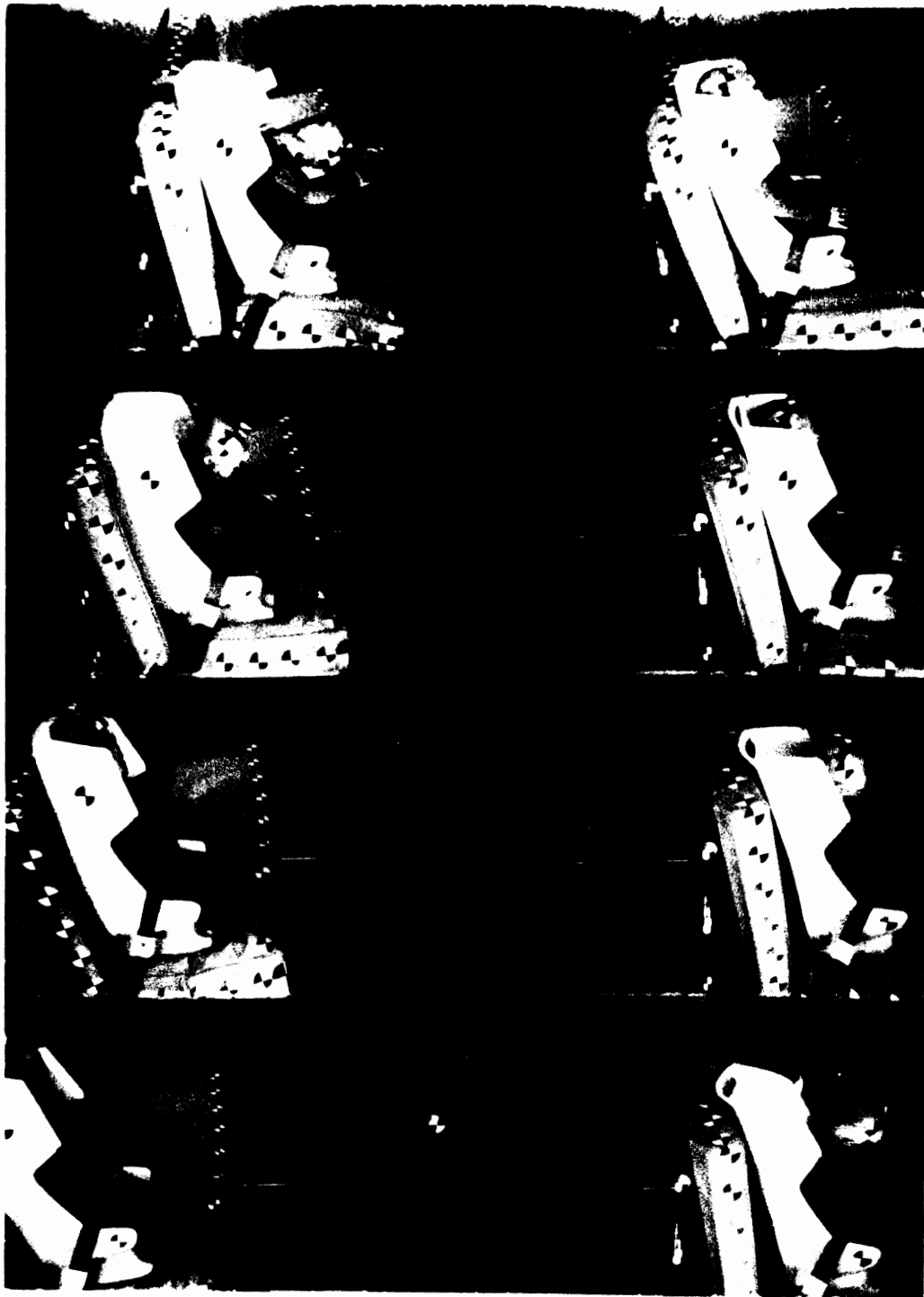
(Run 2). Auto seat back angle is low because of over-the-back-strap.

Very high rebound spike on head acceleration data.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-40 Test Setup for A-762



TEST NO. A-762

Figure C-41 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 762

Test Type FORWARD

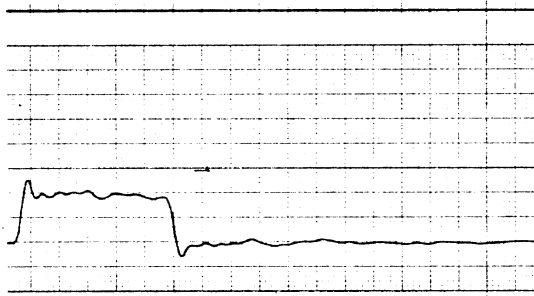
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

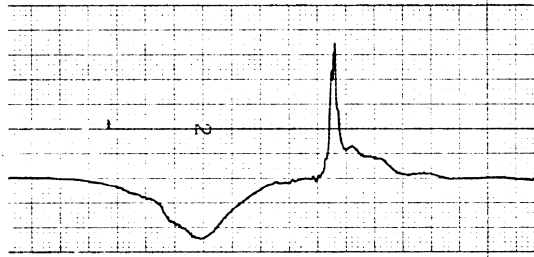
Sled Velocity 42.42 ft/sec

STANDARD SEAT

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
25 g's/Division
Filtered
Class 1000

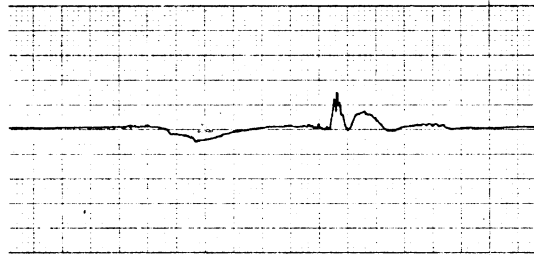


Superior-Inferior
Head Accelerations
25 g's/Division
Filtered
Class 1000

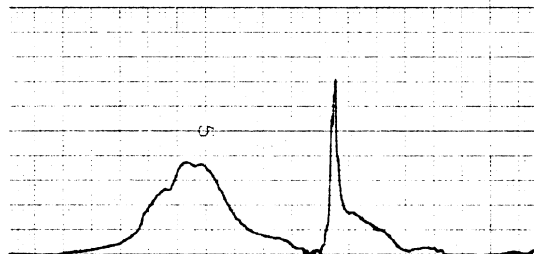


BRUSH ACCUCHART

Left-Right
Head Accelerations
25 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
20 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-762

Test Type FORWARD

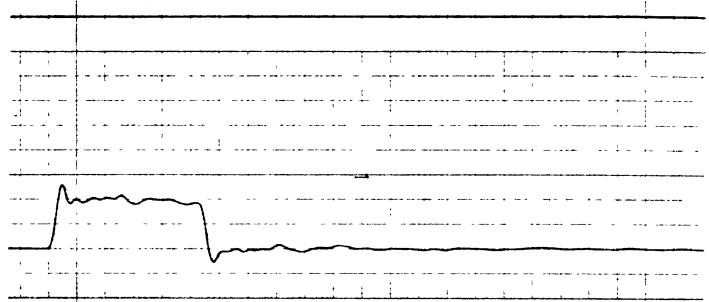
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

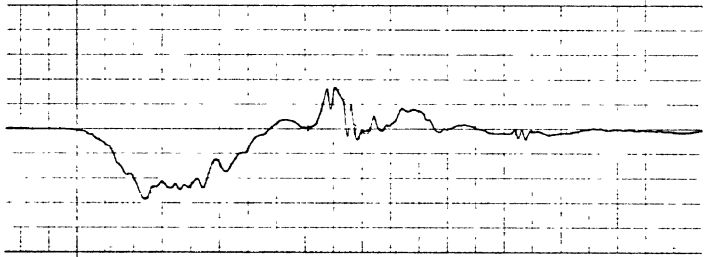
Sled Velocity 42.42 ft/sec

STANDARD SEAT

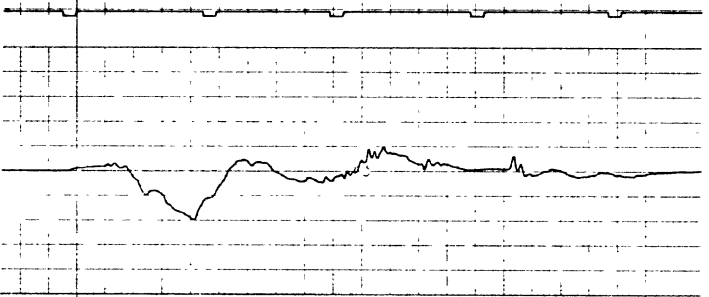
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

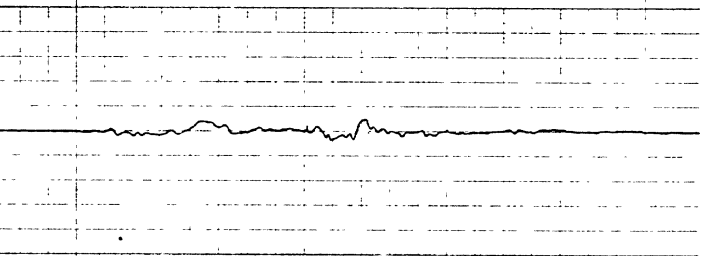


Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

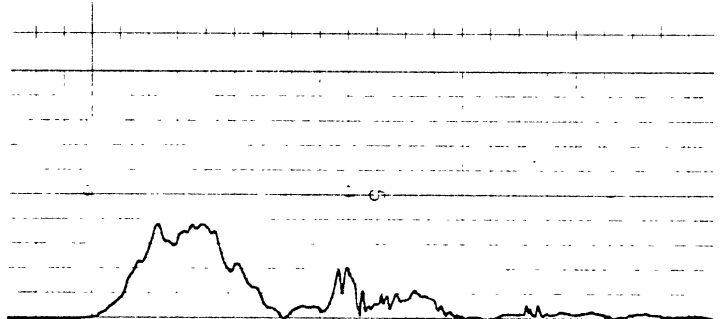


BRUSH ACCUCHART

Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



1 | 12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-763
Test Date: 22/August/74
Restraint Description: Strollee (Model 594)
Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 43.81

Sled Acceleration (avg. g's) 21.2

Belt Loads (avg. pounds):
 Lap Inboard -
 Lap Outboard -
 Shoulder* -

Impact Direction: Forward

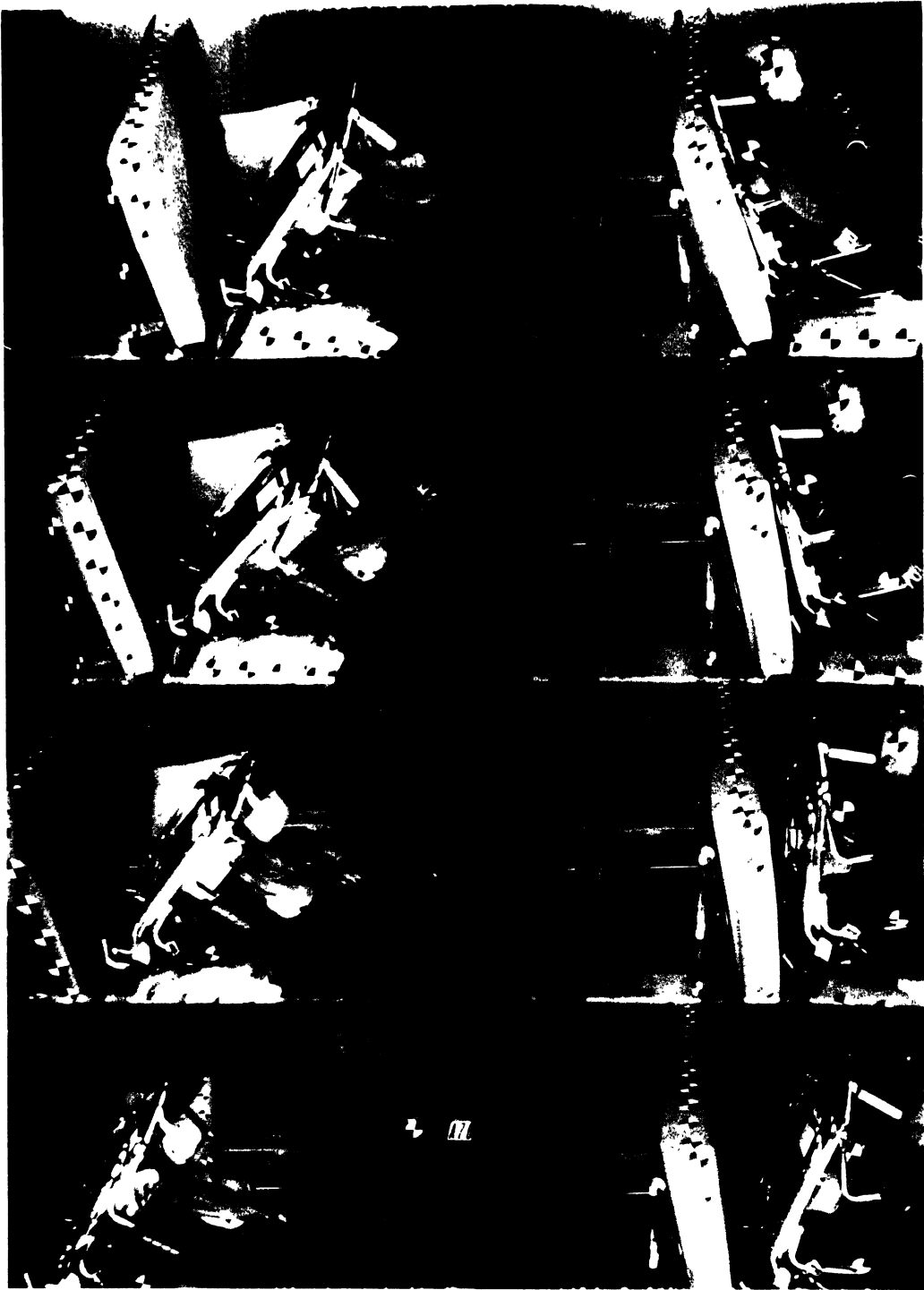
Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a Strollee
 child seat (one run only).

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-42 Test Setup for A-763



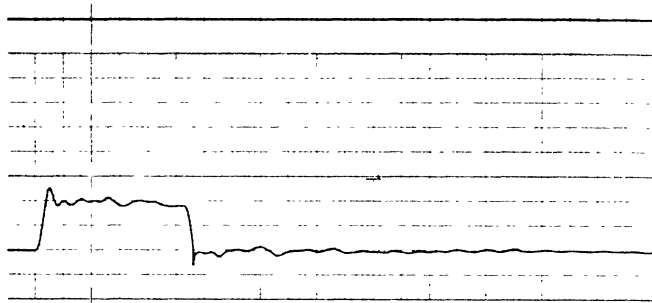
TEST NO. A-763

Figure C-43 Graph-Check Camera Sequence

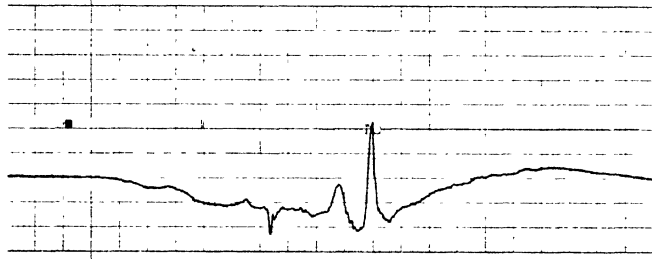
Test Number A 763
Dummy SIERRA 3 YEAR
Sled Velocity 43.81 ft/sec

SUMMARY DATA HEAD ACCELERATIONS
Test Type FORWARD
STROLEE (PASSENGER SIDE)
STANDARD SEAT

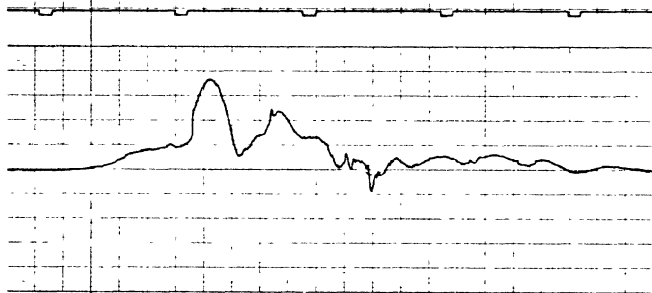
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
12.5 g's/Division
Filtered
Class 1000

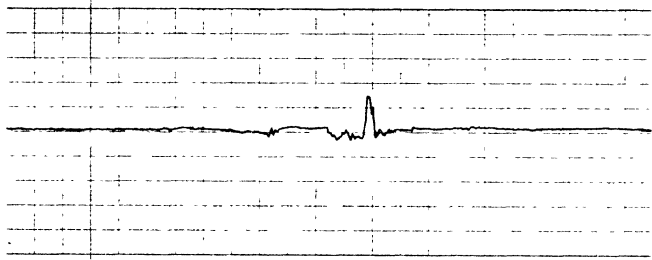


Superior-Inferior
Head Accelerations
12.5 g's/Division
Filtered
Class 1000

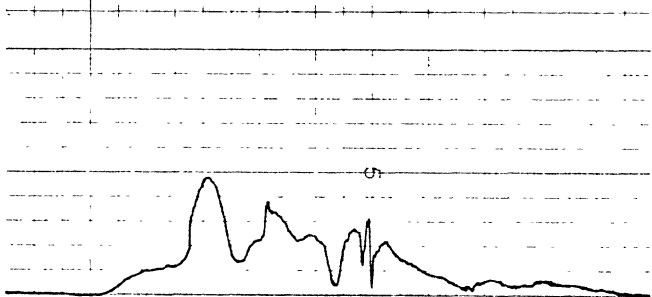


BRUSH ACCUCHART

Left-Right
Head Accelerations
12.5 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-763

Test Type FORWARD

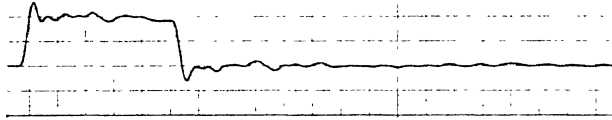
Dummy SIERRA 3 YEAR

STROLEE (PASSENGER SIDE)

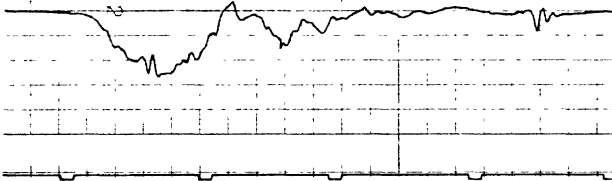
Sled Velocity 43.81 ft/sec

STANDARD SEAT

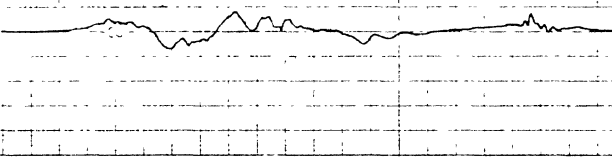
Sled Pulse
10g's/Division
Filtered
Class 60



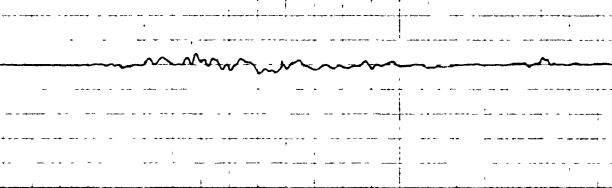
Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



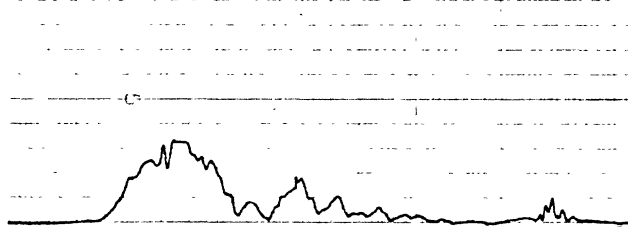
Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
12.5g's/Division
Filtered
Class 180



| | -12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-764
Test Date: 22/August/74
Restraint Description: GM Love Seat
Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.43

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds):
Lap Inboard -
Lap Outboard -
Shoulder* -

Impact Direction: Side

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a GM Love seat
(Run 1). Chest A-P channel was lost.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



Figure C-44 Test Setup for A-764



TEST NO. A-764

Figure C-45 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 764

Test Type SIDE

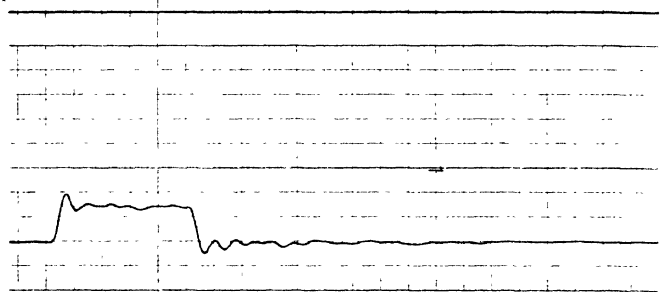
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

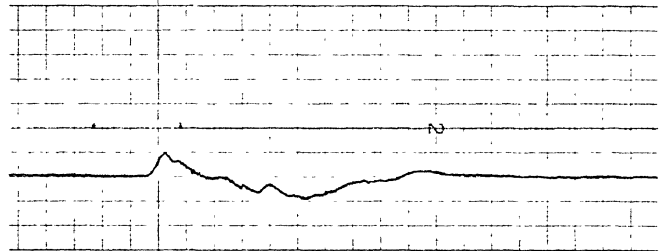
Sled Velocity 29.43 ft/sec

STANDARD SEAT

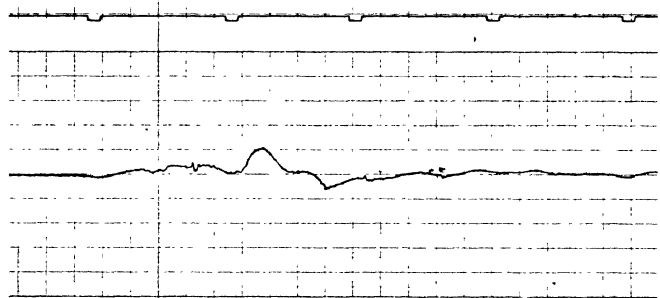
Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
12.5g's/Division
Filtered
Class 1000

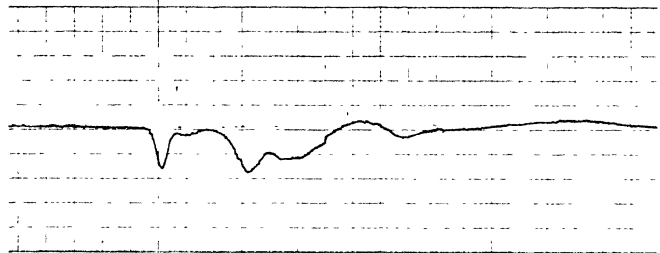


Superior-Inferior
Head Accelerations
12.5g's/Division
Filtered
Class 1000

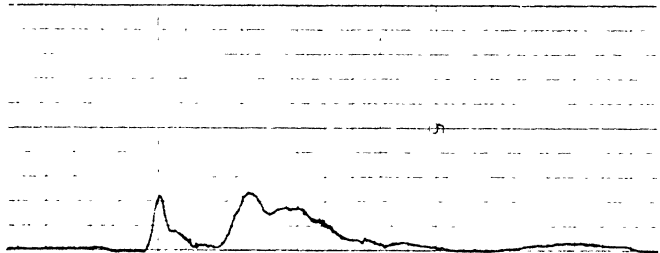


BRUSH ACCUCHART

Left-Right
Head Accelerations
12.5g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-704

Test Type SIDE

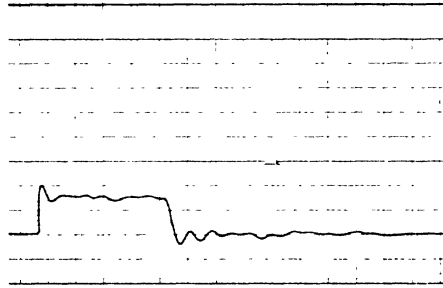
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

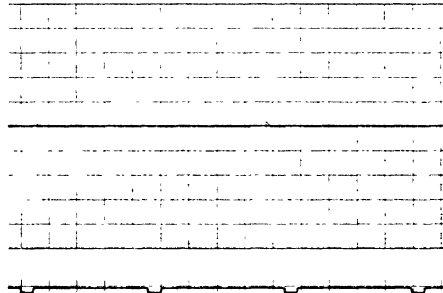
Sled Velocity 29.43 ft/sec

STANDARD SEAT

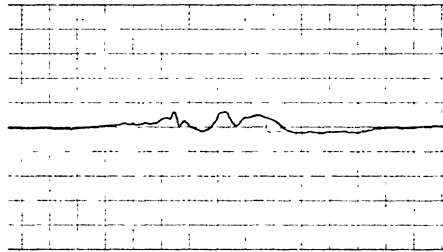
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

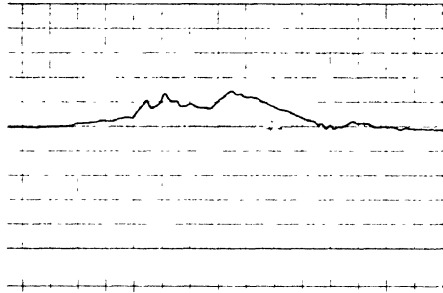


Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180

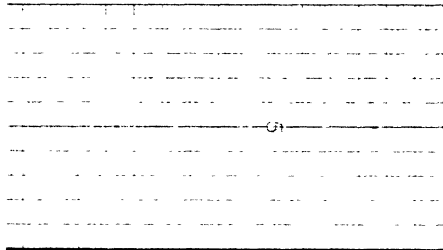


BRUSH ACCUCHART

Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-765

Test Date: 22/August/74

Restraint Description: GM Love seat

Harness Configurations: Type 1

Dummy: Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.18

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Side

Dummy Attitude Passenger seat

Test Observations: DOT standard seat performance with a GM Love seat
(Run 2). No set-up photo was taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-765

Figure C-46 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A 765

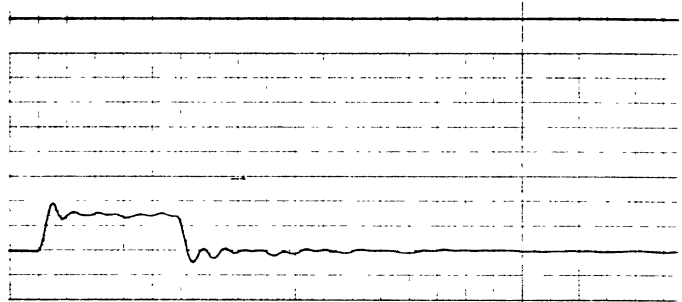
Test Type SIDE
LOVE SEAT (PASSENGER SIDE)

Dummy SIERRA 3 YEAR

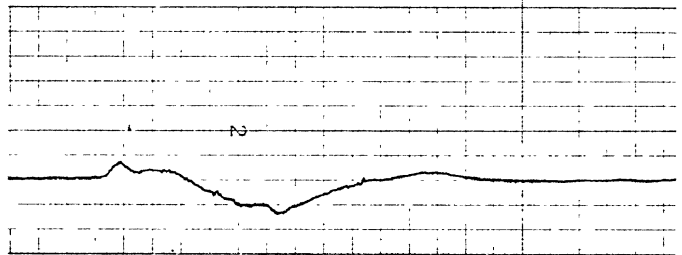
STANDARD SEAT

Sled Velocity 29.18 ft/sec

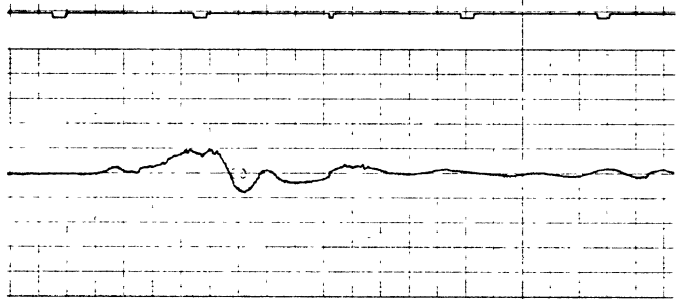
Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
12.5 g's/Division
Filtered
Class 1000



Superior-Inferior
Head Accelerations
12.5 g's/Division
Filtered
Class 1000

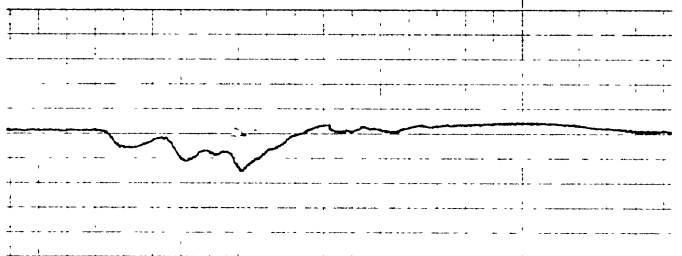


BRUSH ACCUCHART

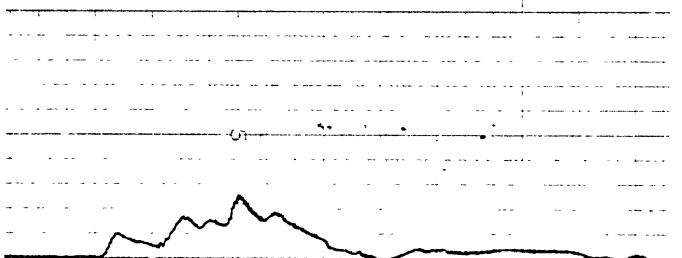
Go

Clevt

Left-Right
Head Accelerations
12.5 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
10 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-765

Test Type SIDE

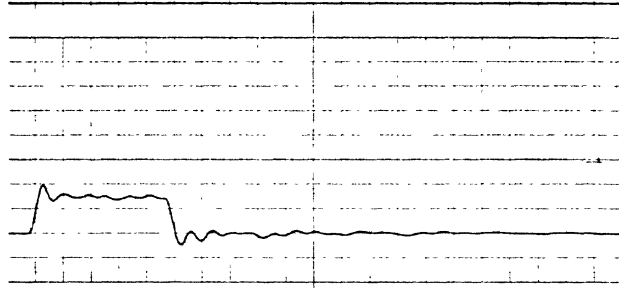
Dummy SIERRA 3 YEAR

LOVE SEAT (PASSENGER SIDE)

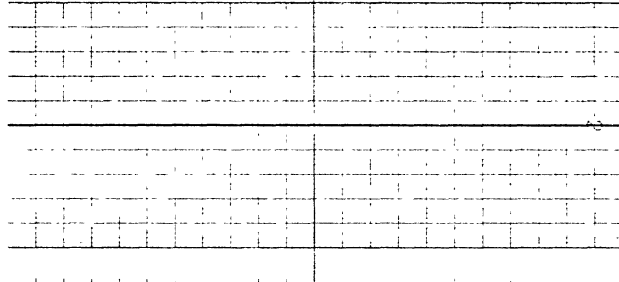
Sled Velocity 29.18 ft/sec

STANDARD SEAT

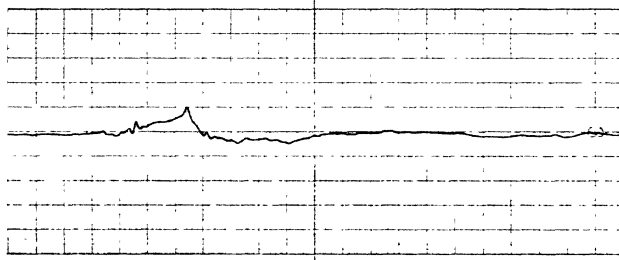
Sled Pulse
10 g's/Division
Filtered
Class 60



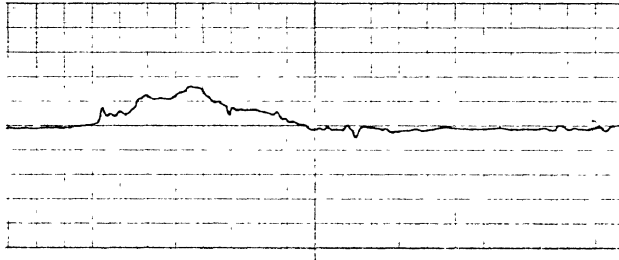
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



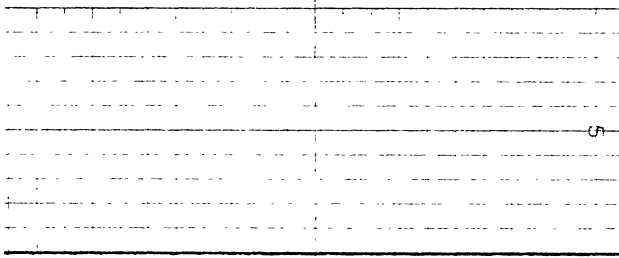
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



HSRI CHILD SEAT DATA SUMMARY

Test Number: A-766

Test Date: 22/August/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.04

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Rearward

Dummy Attitude Driver's seat

Test Observations: DOT standard seat performance with a Mopar
 child seat.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

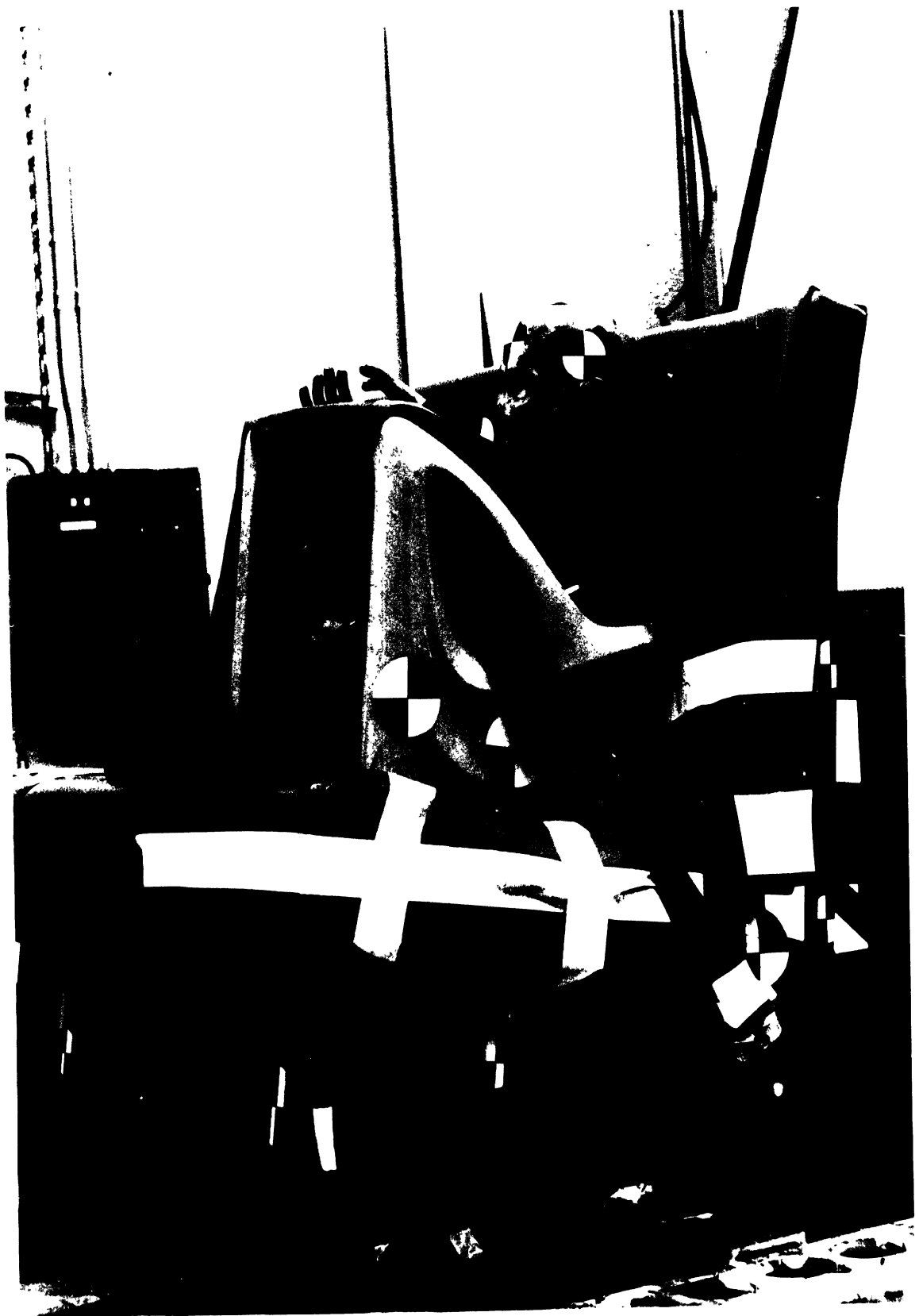


Figure C-47 Test Setup for A-766



7

8

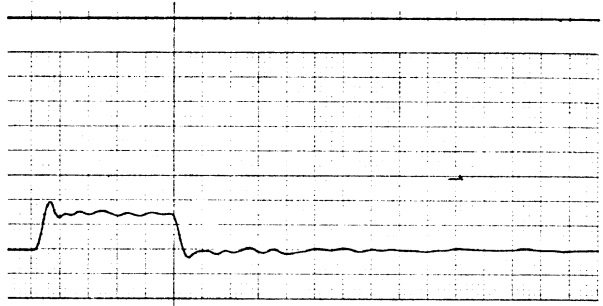
TEST NO. A-766

Figure C-48 Graph-Check Camera Sequence

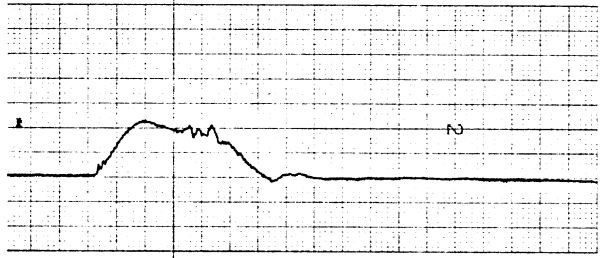
Test Number A 766
Dummy SIERRA 3 YEAR
Sled Velocity 29.04 ft/sec

SUMMARY DATA HEAD ACCELERATIONS
Test Type REAR
MOPAR (DRIVER SIDE)
STANDARD SEAT

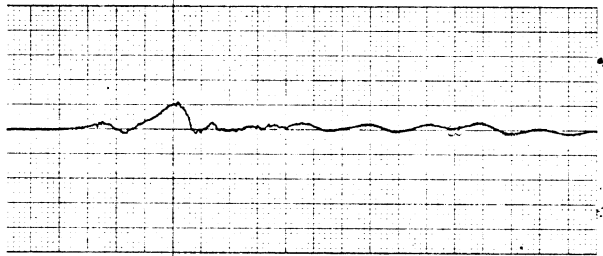
Sled Pulse
/0g's/Division
Filtered
Class 60



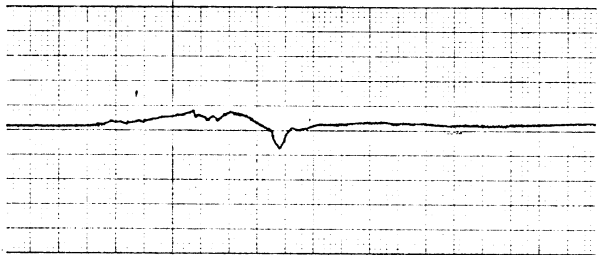
Anterior-Posterior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



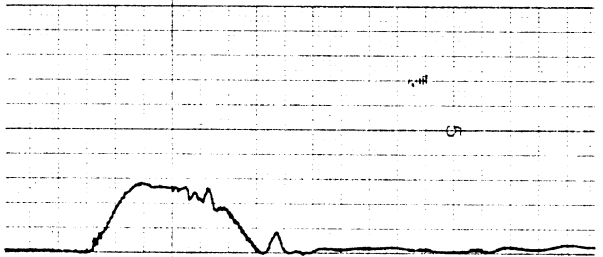
Superior-Inferior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Left-Right
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/0g's/Division
Filtered
Class 1000



BRUSH ACCUCHART

SUMMARY DATA CHEST ACCELERATIONS

Test Number A-766

Test Type REAR

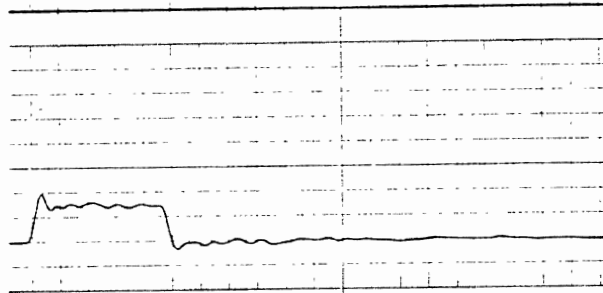
Dummy SIERRA 3 YEAR

MOPAR (DRIVER SIDE)

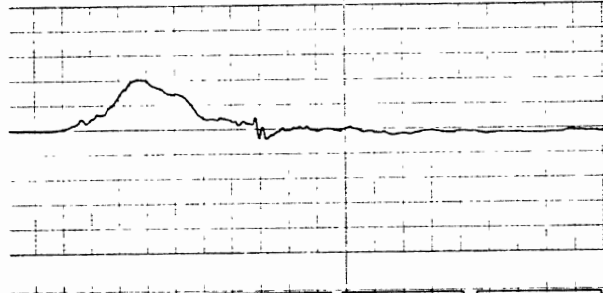
Sled Velocity 29.04 ft/sec

STANDARD SEAT

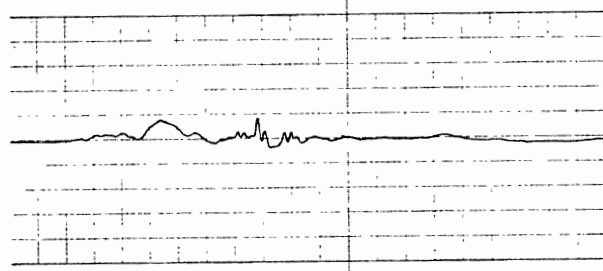
Sled Pulse
10 g's/Division
Filtered
Class 60



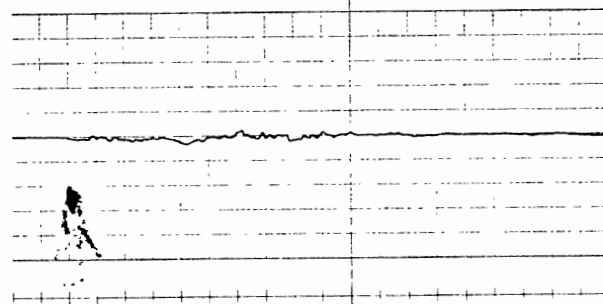
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



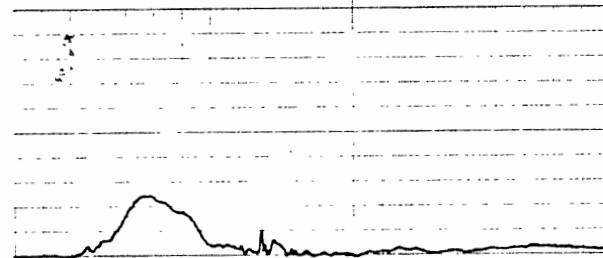
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



1 | 1-12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-767

Test Date: 23/August/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.6

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward

Dummy Attitude Center Seating Position

Test Observations: DOT standard seat performance with a Mopar
child seat (Run 1). No setup photo was taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-767

Figure C-49

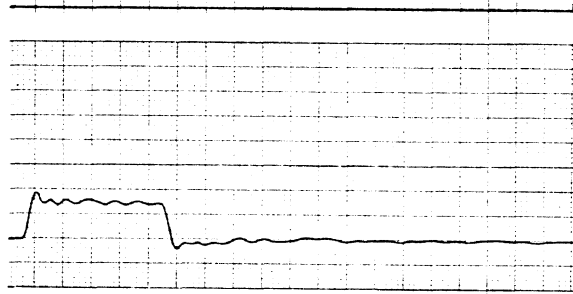
Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

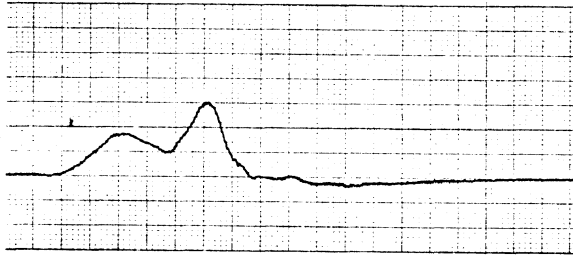
Test Number A 767
Dummy SIERRA 3 YEAR
Sled Velocity 29.6 ft/sec

Test Type REAR
MOPAR (CENTER POSITION)
STANDARD SEAT

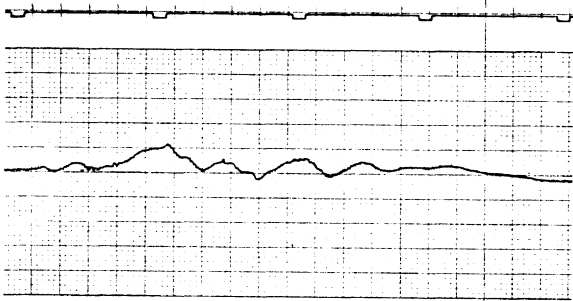
Sled Pulse
/0 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
/2.5 g's/Division
Filtered
Class 1000



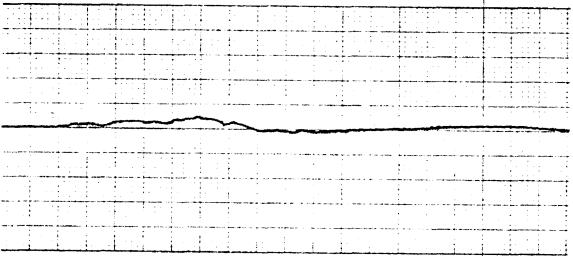
Superior-Inferior
Head Accelerations
/2.5 g's/Division
Filtered
Class 1000



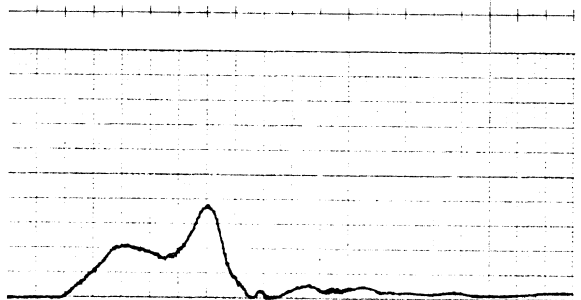
Gould Inc., Instrument Systems Division

Cleveland Ohio Printed in USA

Left-Right
Head Accelerations
/2.5 g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/0 g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-767

Test Type REAR

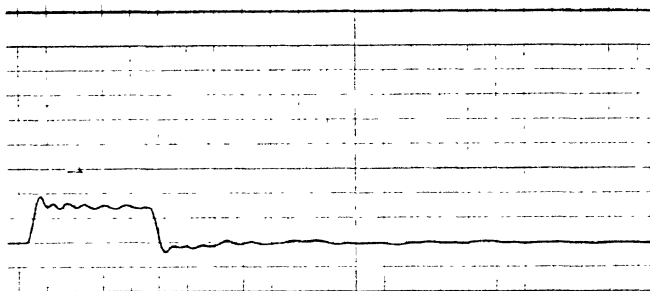
Dummy SIERRA 3 YEAR

MOPAR (CENTER POSITION)

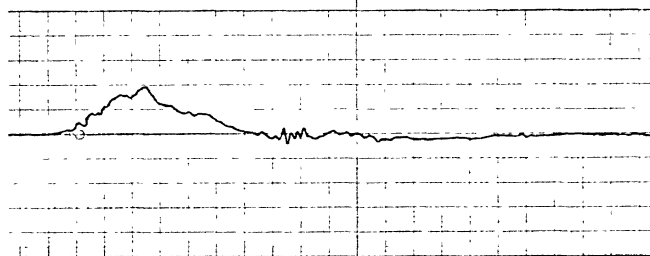
Sled Velocity 29.6 ft/sec

STANDARD SEAT

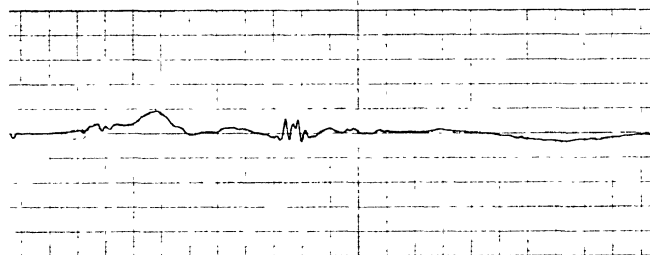
Sled Pulse
10 g's/Division
Filtered
Class 60



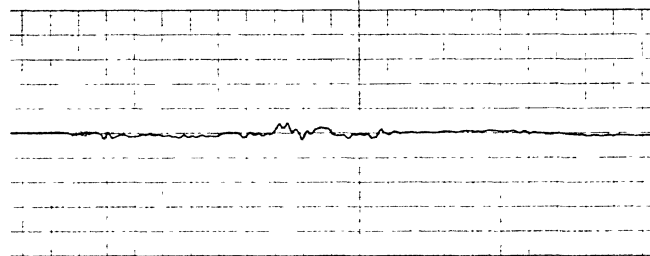
Anterior-Posterior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



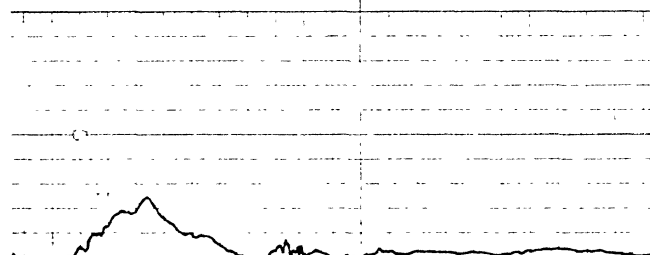
Superior-Inferior
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Left-Right
Chest Accelerations
12.5 g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10 g's/Division
Filtered
Class 180



| | -12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-768

Test Date: 23/August/74

Restraint Description: Chrysler Mopar

Harness Configurations: Type 1

Dummy Sierra 3 yr.

Sled Velocity (avg., ft/sec) 29.69

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward

Dummy Attitude Center seating position

Test Observations: DOT standard seat performance with a Mopar child seat (Run 2). No setup photo was taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-768

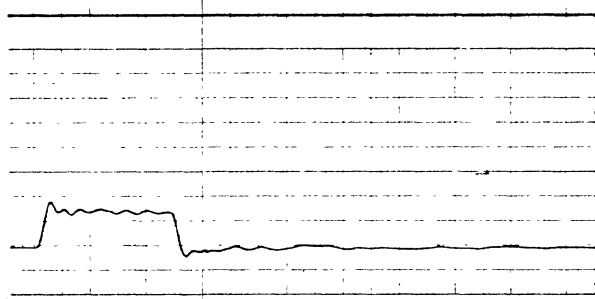
Figure C-50 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

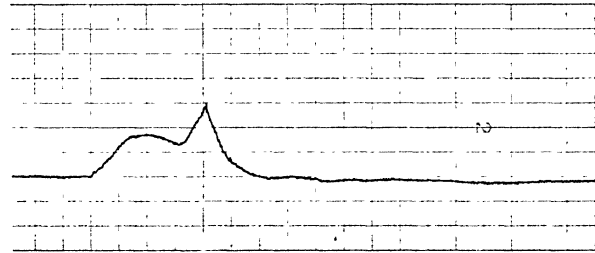
Test Number A 769
Dummy SIERRA 3 YEAR
Sled Velocity 29.69 ft/sec

Test Type REAR
MOPAK (CENTER POSITION)
STANDARD SEAT

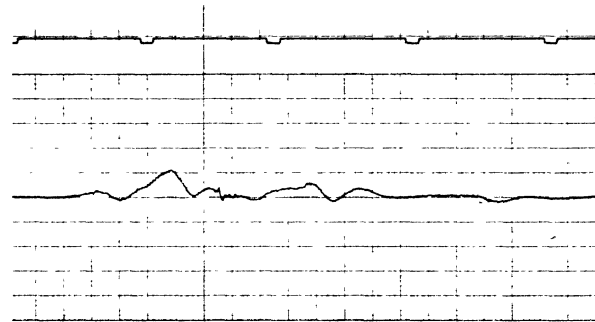
Sled Pulse
/0g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



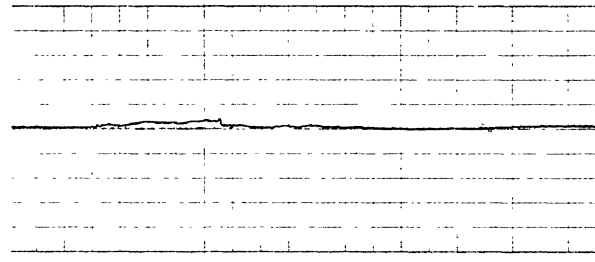
Superior-Inferior
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



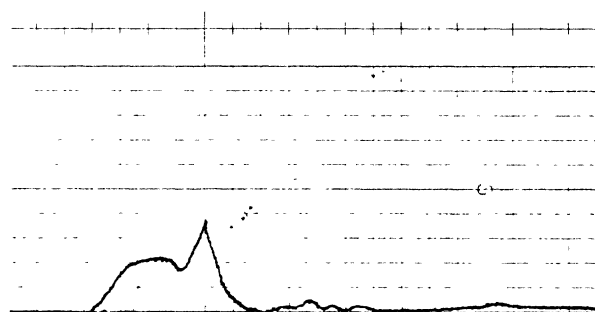
Division

SA

Left-Right
Head Accelerations
/2.5g's/Division
Filtered
Class 1000



Resultant Head
Accelerations
/0g's/Division
Filtered
Class 1000



SUMMARY DATA CHEST ACCELERATIONS

Test Number A-763

Test Type REAR

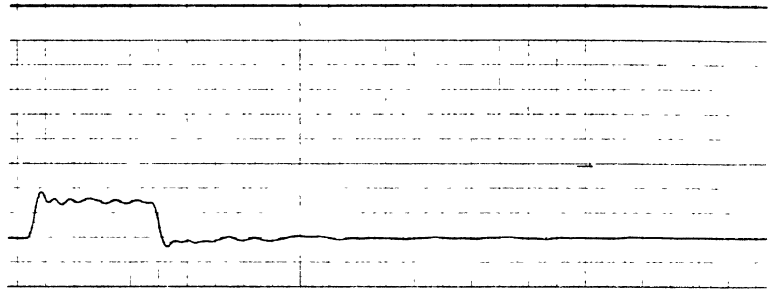
Dummy SIERRA 3 YEAR

MOPAR (CENTER POSITION)

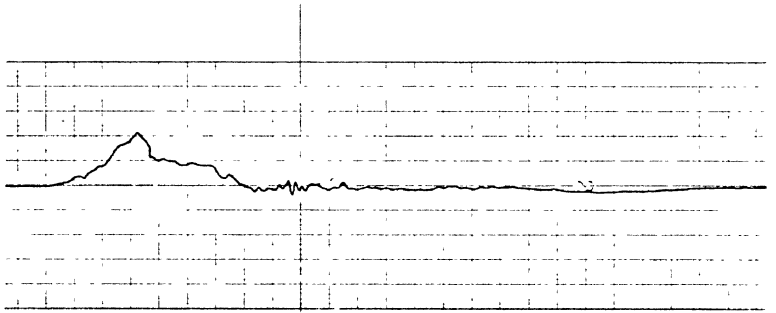
Sled Velocity 29.69 ft/sec

STANDARD SEAT

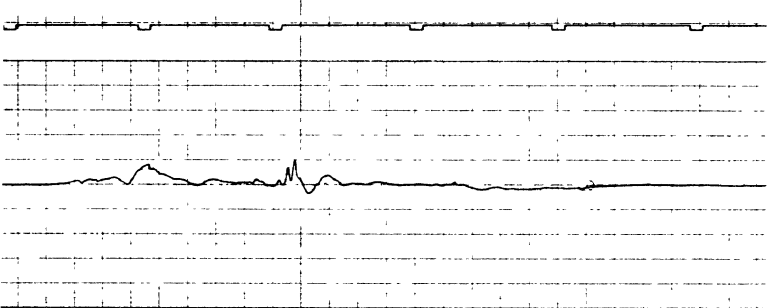
Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Chest Accelerations
12.5g's/Division
Filtered
Class 180

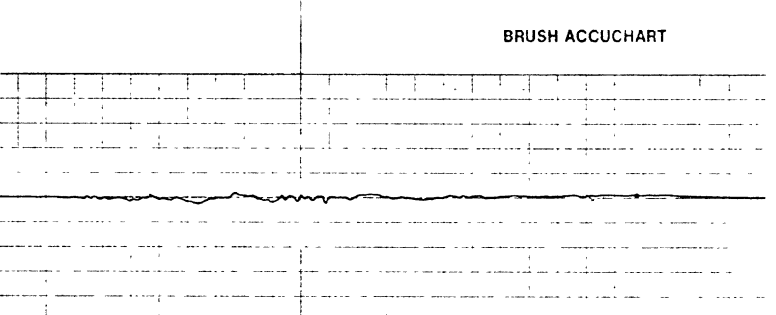


Superior-Inferior
Chest Accelerations
12.5g's/Division
Filtered
Class 180

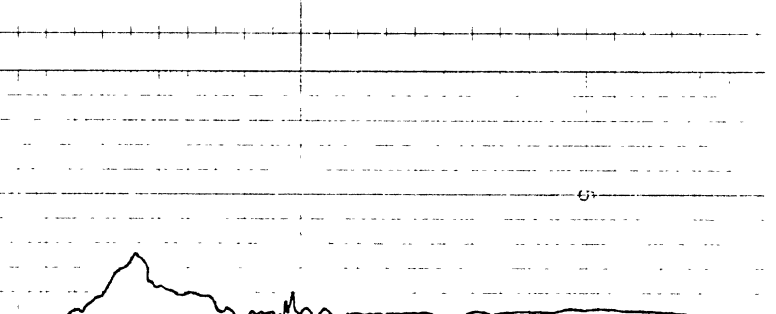


BRUSH ACCUCHART

Left-Right
Chest Accelerations
12.5g's/Division
Filtered
Class 180



Resultant Chest
Accelerations
10g's/Division
Filtered
Class 180



| 1-12.5 MSEC

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-769

Test Date: 23/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 29.60

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Rearward

Dummy Attitude -

Test Observations: Calibration tests of DOT standard seat back deflection.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

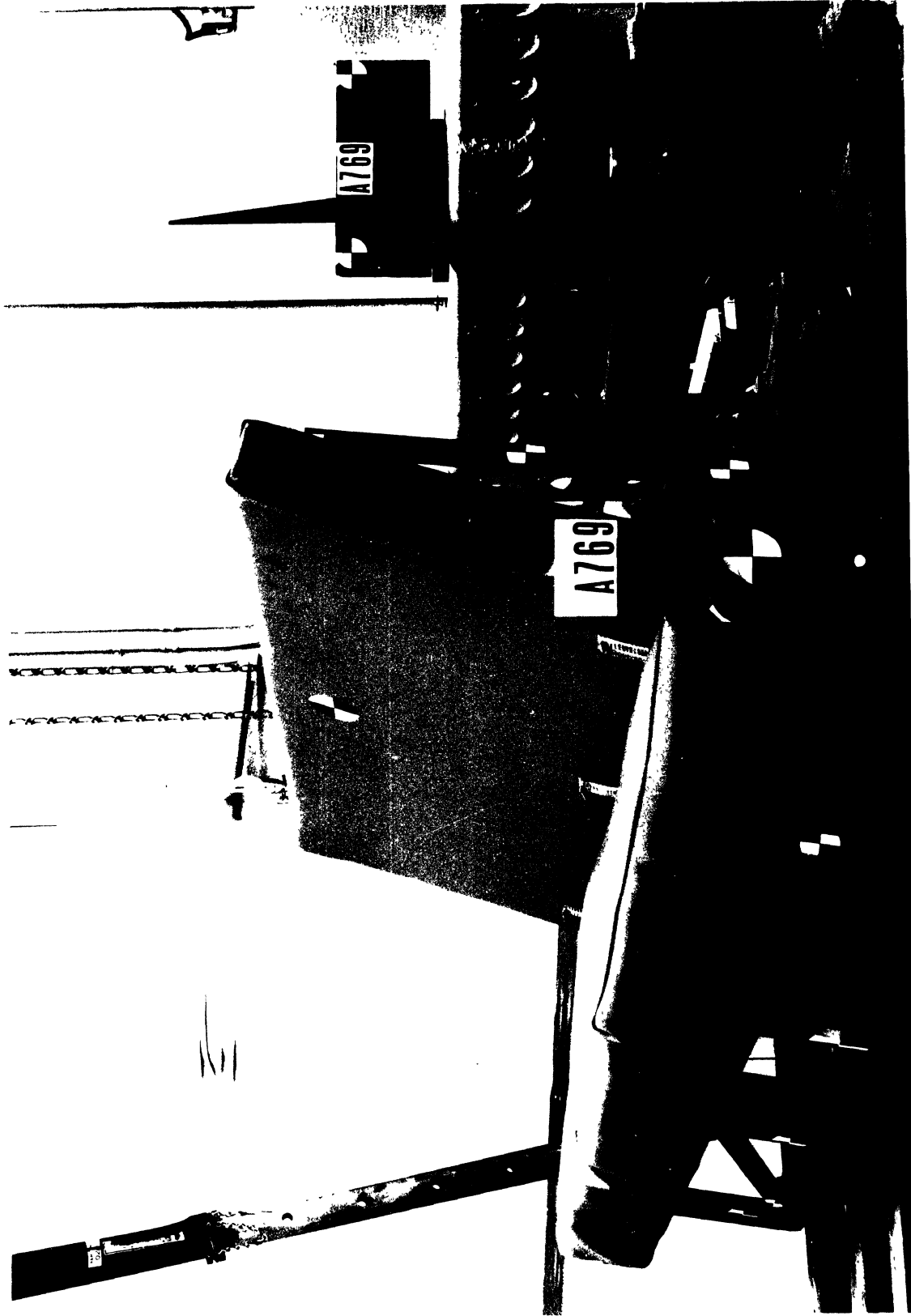


Figure C-51 Test Setup for A-769



TEST NO. A-769

Figure C-52 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-769

Test Type STANDARD

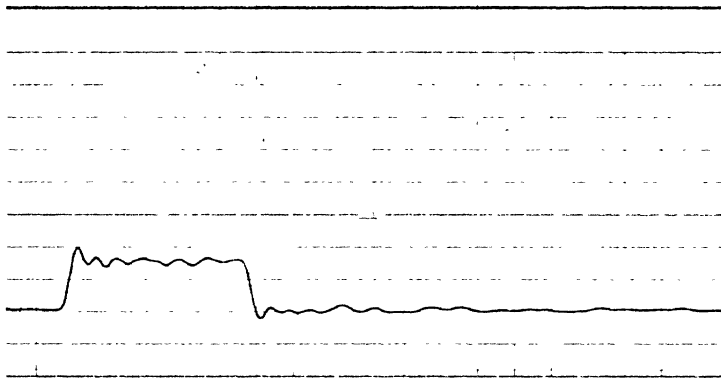
Dummy NONE

SEATEXICK DEFLECTION

Sled Velocity 29.60 ft/sec

TEST (REARWARD)

Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-770

Test Date: 23/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 30.20

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Rearward with 30# weight on seat back

Dummy Attitude -

Test Observations: Dynamic load deflection test of DOT standard seatback
and foam.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

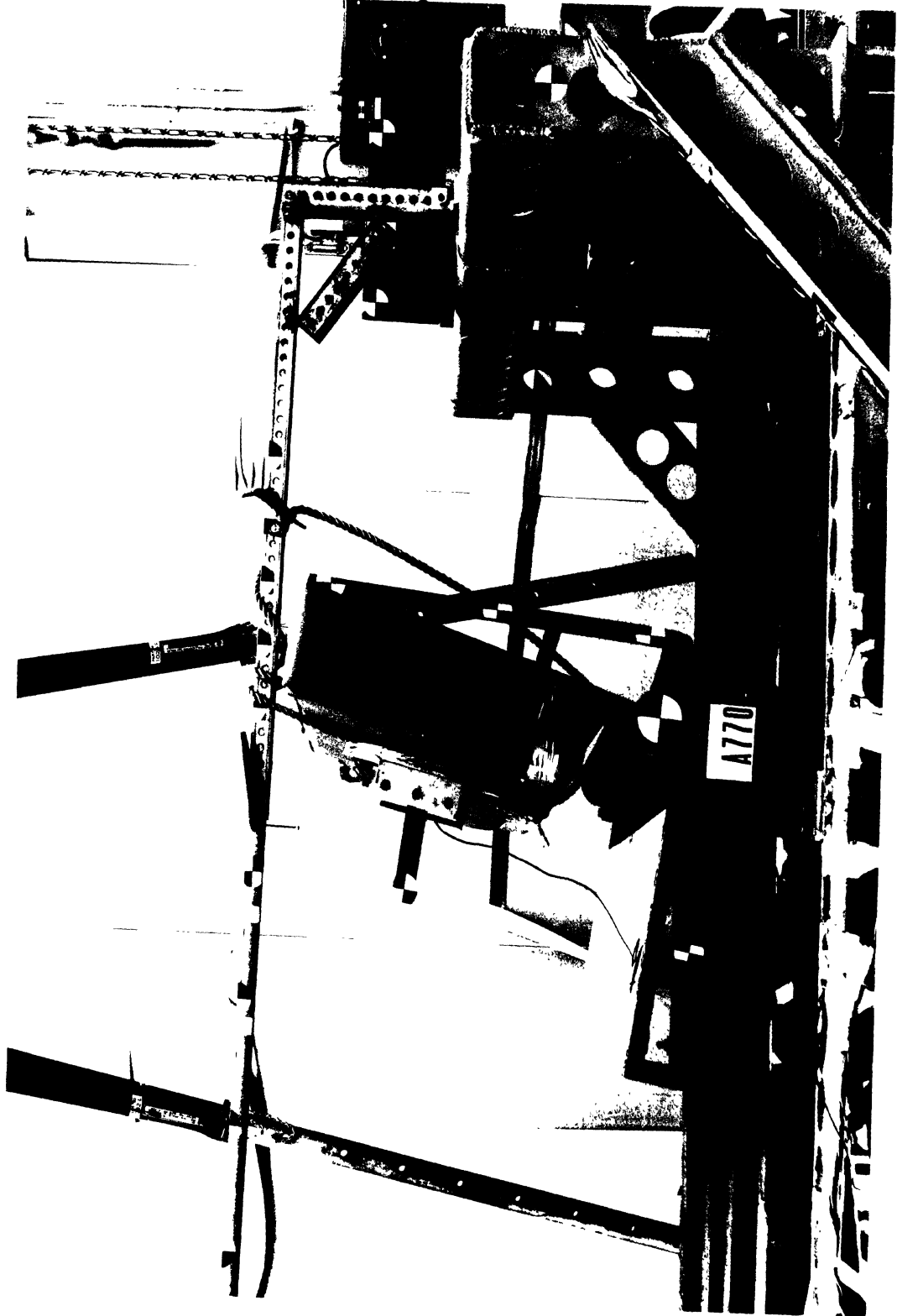


Figure C-53 Test Setup for A-770



TEST NO. A-770

Figure C-54 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-770

Test Type STANDARD

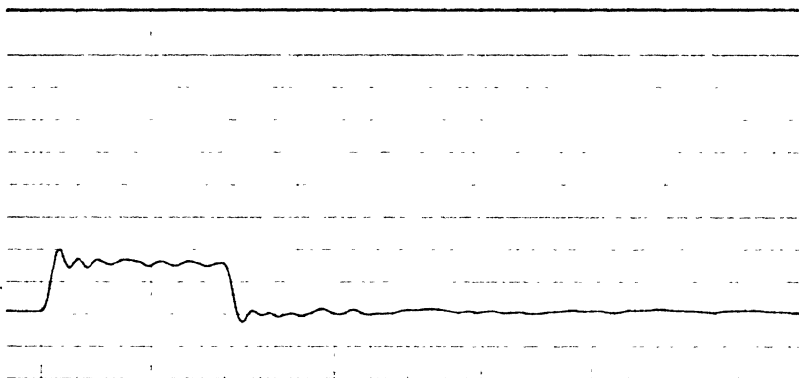
Dummy NONE

SEATBACK DYNAMIC

Sled Velocity 30,20 ft/sec

FOAM TEST

Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-771

Test Date: 23/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 30.29

Sled Acceleration (avg. g's) 16.0

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: 30# wt. into seat bottom

Dummy Attitude -

Test Observations: Dynamic load deflection test of DOT standard seat
cushion and bottom frame. Side high-speed camera was lost.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)

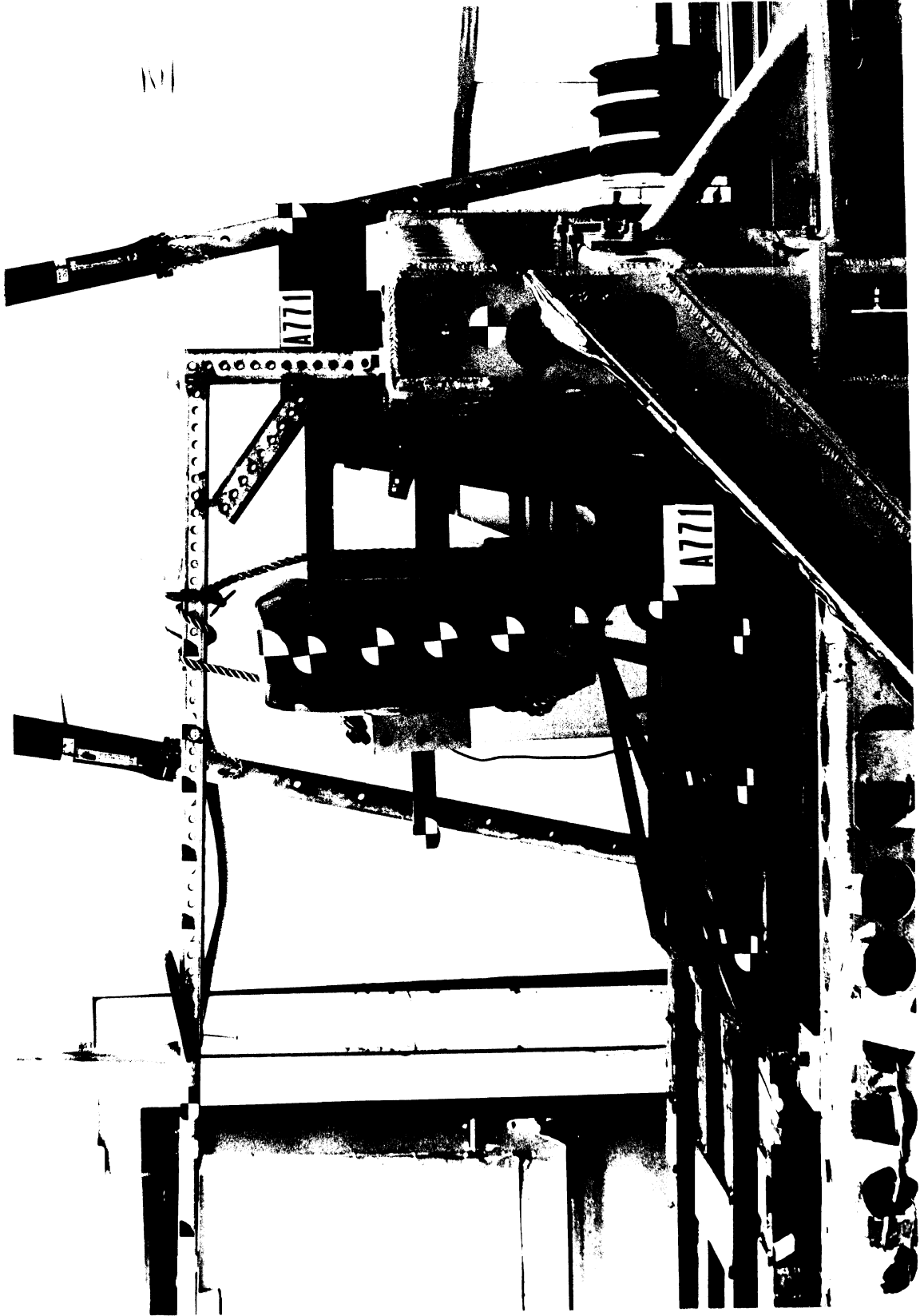
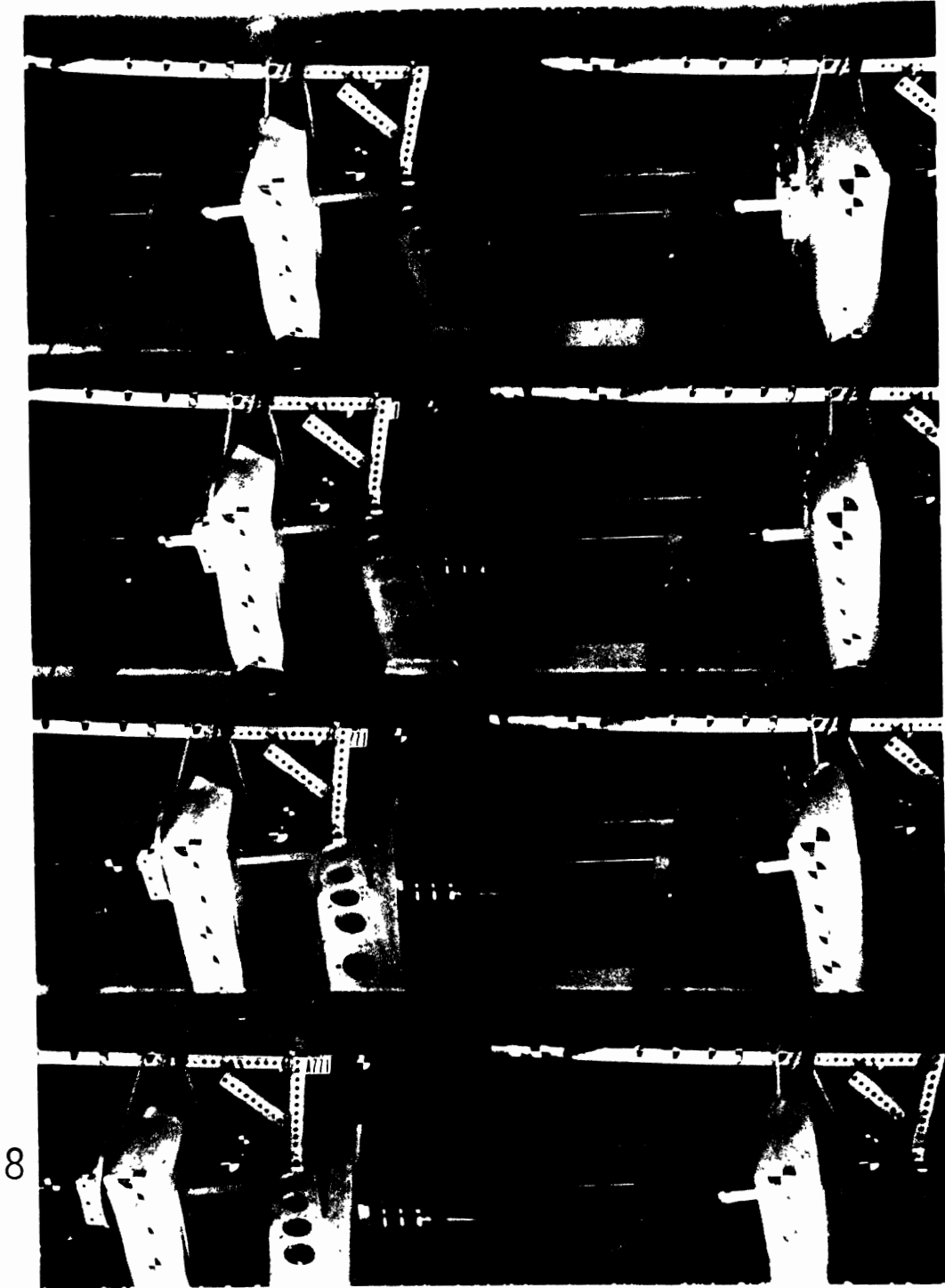


Figure C-55 Test Setup for A-771



TEST NO. A-771

Figure C-56 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-771

Dummy NONE

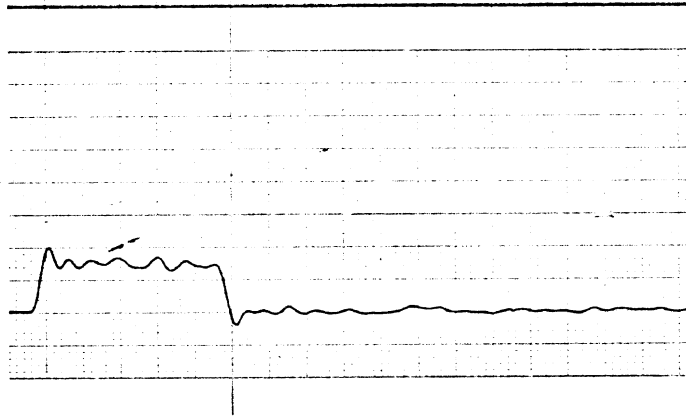
Sled Velocity 30.29 ft/sec

Test Type STANDARD

SEAT CUSHION DYNAMIC

FOAM TEST

Sled Pulse
10 g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-772

Test Date: 27/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 44.37

Sled Acceleration (avg. g's) 20.8

Belt Loads (avg. pounds): Lap Inboard -

 Lap Outboard -

 Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations Calibration test of DTO standard seat back deflection.

 12# dynamic tuning weight on seat back. No setup photo taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-772

Figure C-57 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-772

Test Type DYNAMIC

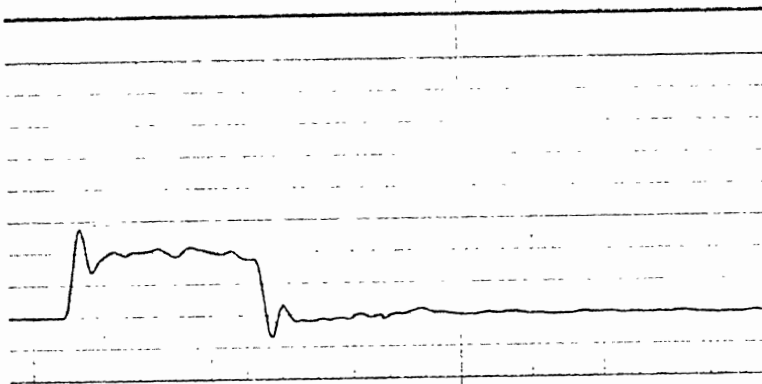
Dummy NONE

TUNING OF STANDARD

Sled Velocity 44.37 ft/sec

SEATBACK DEFLECTION

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000

HSRI CHILD SEAT DATA SUMMARY

Test Number: A-773

Test Date: 27/August/74

Restraint Description: -

Harness Configurations: -

Dummy -

Sled Velocity (avg., ft/sec) 41.71

Sled Acceleration (avg. g's) 21.6

Belt Loads (avg. pounds): Lap Inboard -

Lap Outboard -

Shoulder* -

Impact Direction: Forward

Dummy Attitude -

Test Observations: Calibration test of DOT standard seat back deflection.

6# dynamic tuning weight on seat back. No setup photo taken.

*(asterisk on belt load value indicates load was other than for standard shoulder belt)



TEST NO. A-773

Figure C-58 Graph-Check Camera Sequence

SUMMARY DATA HEAD ACCELERATIONS

Test Number A-773

Test Type DYNAMIC

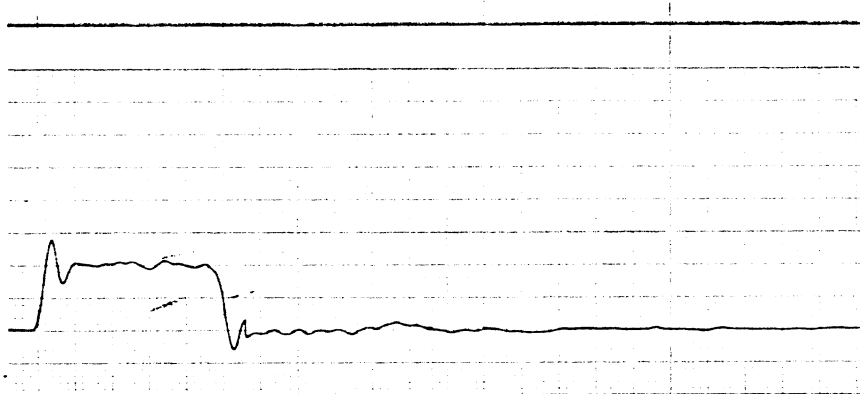
Dummy NONE

TUNING OF STANDARD

Sled Velocity 41.71 ft/sec

SEATBACK DEFLECTION

Sled Pulse
10g's/Division
Filtered
Class 60



Anterior-Posterior
Head Accelerations
g's/Division
Filtered
Class 1000

Superior-Inferior
Head Accelerations
g's/Division
Filtered
Class 1000

Left-Right
Head Accelerations
g's/Division
Filtered
Class 1000

Resultant Head
Accelerations
g's/Division
Filtered
Class 1000