

V3077

RAPPORT D'ESSAI - TEST REPORT

**COLLISION FRONTALE DÉCALÉE DE RECHERCHE
RESEARCH OFFSET FRONTAL IMPACT**

**VEHICULE D'ESSAI / TEST VEHICLE
FORD CROWN VICTORIA 1999 TC # 99-204**

**FACE DÉFORMABLE / DEFORMABLE FACE
ÉTUDE DE BLESSURES AVEC COUSSINS GONFLABLES
AIR BAG AGGRESSIVENESS STUDY
PHASE II**

Préparé par :
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CENTRE D'ESSAIS ET DE RECHERCHE
100, rue du Landais
Blainville (Québec) J7C 5C9

N° de contrat : **99-5001**
Rapport N°: **RR 99-147**

Pour :
TRANSPORTS CANADA
SÉCURITÉ ET SÛRETÉ
Programmes de sécurité routière
Recherche et essais de véhicules
Ottawa (Ontario)

Prepared by :
PMG TECHNOLOGIES
TEST AND RESEARCH CENTRE
100, rue du Landais
Blainville (Quebec) J7C 5C9

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For :
TRANSPORT CANADA
SAFETY AND SECURITY
Research Engineering and
Vehicle Testing
Ottawa (Ontario)

Les résultats des essais figurant dans ce compte-rendu ne représentent pas une décision officielle du Ministère des Transports quant à l'acceptation de la performance sécuritaire, de la consommation de carburant ou de la conformité d'un véhicule ou des composantes d'un véhicule aux normes de sécurité et d'antipollution. Le Ministère des Transports ne certifie, n'approuve ou n'endosse aucun produit de véhicule automobile.

The test results presented herein do not, in themselves, represent an official determination by the Department of Transport with fuel consumption or compliance with safety and emission standards of any motor vehicle or motor vehicle component. The Department of Transport does not certify, approve or endorse any motor vehicle product.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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VÉHICULE D'ESSAI - TEST VEHICLE

Année du modèle - Model Year 1999	Fabricant - Manufacturer FORD MOTOR CO. CANADA	Modèle - Model Crown Victoria LX
Type de carrosserie - Body Style Berline 4P / 4D Sedan	Boîte de vitesse - Transmission Type Automatique / Automatic	Moteur - Engine 4.6 I
Date de fabrication - Date of Manufacture 08/98	Cylindres - Cylinders 8 cyl.	N° d'ident. du véhicule - Vehicle Ident. No 2FAFP74W7XX112258
Lecture de l'odomètre - Odometer Reading 44 km	Nombre de places assises désignées Number of Designated Seating Positions 6	Numéro d'ident. PMG - PMG Ident. Number UN9-641
PNBV - GVWR 2375 kg	PNBE (Avant) - GAWR (Front) 1172 kg	PNBE (Arrière) - GAWR (Rear) 1214 kg

CONFIGURATION D'ESSAI - TEST CONFIGURATION

Type d'essai - Test type Véh. vs barrière - Veh. vs barrier	Vitesse d'impact** Impact velocity** 39.5 km/h	Angle d'impact Impact angle 0 °	Masse du véhicule d'essai Test vehicle mass 1995.7 kg	Pourcentage d'impact sur véhicule d'essai Impact percentage on test vehicle 40.0 %
Coussins gonflables (Frontaux) - Air bags (Frontal) Activés-Activated <input checked="" type="checkbox"/> Désactivés-Deactivated <input type="checkbox"/> Normal <input type="checkbox"/> Puiss. réduite-Depowered <input type="checkbox"/> Second or New Generation - Seconde ou Nouvelle Génération <input type="checkbox"/> Autre (spécifier) - Other (specify) _____ <input type="checkbox"/>		Coussins gonflables (Latéraux) - Air bags (Lateral) Activés-Activated <input type="checkbox"/> Désactivés-Deactivated <input type="checkbox"/> Normal <input type="checkbox"/> Puiss. réduite-Depowered <input type="checkbox"/> Second or New Generation - Seconde ou Nouvelle Génération <input type="checkbox"/> Autre (spécifier) - Other (specify) N/A <input checked="" type="checkbox"/>		
Description et position du mannequin (Conducteur) Dummy description and position (Driver) DESCRIPTION POSITION <input type="checkbox"/> 50% <input checked="" type="checkbox"/> avancée / near <input checked="" type="checkbox"/> 5% <input type="checkbox"/> mi-course / mid-travel <input type="checkbox"/> autre / other <input type="checkbox"/> autre / other		Description et position du mannequin (Passager avant) Dummy description and position (Front Passenger) DESCRIPTION POSITION <input type="checkbox"/> 50% <input checked="" type="checkbox"/> avancée / near <input checked="" type="checkbox"/> 5% <input type="checkbox"/> mi-course / mid-travel <input type="checkbox"/> autre / other <input type="checkbox"/> autre / other		
Description du mannequin (Passager arrière gauche) Dummy description (Left Rear Passenger) <input type="checkbox"/> 50% <input checked="" type="checkbox"/> 18 mois <input type="checkbox"/> 5% <input type="checkbox"/> 3 ans <input type="checkbox"/> 9 mois <input type="checkbox"/> 6 ans		Description du mannequin (Passager arrière droit) Dummy description (Right Rear Passenger) <input type="checkbox"/> 50% <input type="checkbox"/> 18 mois <input type="checkbox"/> 5% <input checked="" type="checkbox"/> 3 ans <input type="checkbox"/> 9 mois <input type="checkbox"/> 6 ans		

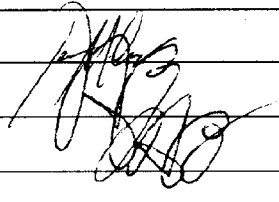
** Tel que mesuré durant les derniers 3.7 mètres de trajet. / ** As measured over final 3.7 meters of travel.

DONNÉES DU VÉHICULE D'ESSAI / TEST VEHICLE DATA

Capacité du véhicule - Vehicle Capacity 499 kg	Masse des bagages - Cargo Load 79 kg	Type de sièges - Type of seats		Types de dossiers - Type of seat back			
			Avt - Frt	Arr - Rr		Avt - Frt	Arr - Rr
Nombre d'occupants (places assises désignées) Number of Occupants (Designated Seating Positions) Avant - Front 3 Arrière - Rear 3 Total 6		Banquette Bench	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dossier ajustable Adjustable Seat Back	<input type="checkbox"/>	<input type="checkbox"/>
		Siège divisé Split seat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dossier non-ajustable Non-adjustable Seat Back	<input type="checkbox"/>	<input type="checkbox"/>
Pression à froid - Cold Tire Pressure Avant - Front 220 kPa Arrière - Rear 220 kPa Secours - Spare 415 kPa					Dimension - Size P225/60R16 97S		

Essai réalisé selon la procédure PMG: Collision frontale décalée de recherche, version 2, révision 21 décembre 1998.

Test performed according to PMG procedure: Research offset frontal impact, version 2, revised December 21st, 1998.

Préparé par : Prepared by : Jean Melançon		Date : 25/02/99
Vérifié par : Verified by : Alain Bussièrès		Date : 25/2/99
Rapport approuvé par : Report approved by : Alain Bussièrès		Date : 25/2/99
Rapport accepté par le client : Report accepted by the client :		Date :

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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PREMIÈRE PESÉE : VÉHICULE TEL QUE LIVRÉ (AVEC LIQUIDES AU MAXIMUM)
FIRST WEIGHT : VEHICLE AS RECEIVED (WITH MAXIMUM FLUIDS)

Avant gauche - Left front 511.0 kg	Avant droit - Right front 514.3 kg	Masse avant totale - Total front weight 1025.3 kg
Arrière gauche - Left rear 386.4 kg	Arrière droit - Right rear 392.0 kg	Masse arrière totale - Total rear weight 778.4 kg
Masse totale côté gauche - Total left side weight 897.4 kg	Masse totale côté droit - Total right side weight 906.3 kg	Masse totale - Total weight 1803.7 kg

TROISIÈME PESÉE : VÉHICULE PRÊT POUR L'ESSAI
THIRD WEIGHT : VEHICLE READY FOR TEST

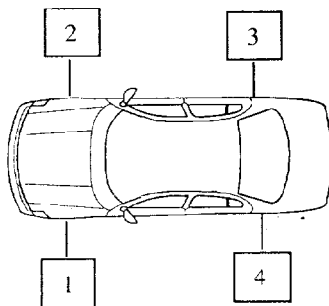
Avant gauche - Left front 546.7 kg	Avant droit - Right front 525.8 kg	Masse avant totale - Total front weight 1072.5 kg
Arrière gauche - Left rear 468.7 kg	Arrière droit - Right rear 454.5 kg	Masse arrière totale - Total rear weight 923.2 kg
Masse totale côté gauche - Total left side weight 1015.4 kg	Masse totale côté droit - Total right side weight 980.3 kg	Masse totale - Total weight 1995.7 kg

ATTITUDE DU VÉHICULE / VEHICLE ATTITUDE

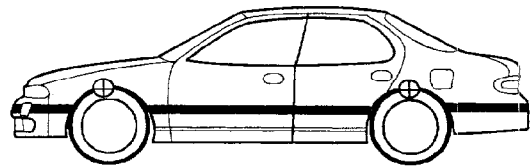
		Attitude tel que livré Attitude on delivery	Attitude chargé Attitude loaded	Attitude tel que testé Attitude as tested
1	Roue avant gauche* Left front wheel*	730 mm	716 mm	722 mm
2	Roue avant droite* Front right wheel*	723 mm	712 mm	729 mm
3	Roue arrière droite* Rear right wheel*	730 mm	694 mm	704 mm
4	Roue arrière gauche* Rear left wheel*	721 mm	685 mm	683 mm

* Mesures prises aux puits de roues. // *Measurements taken at wheel openings.

Vue de plan / Plan view



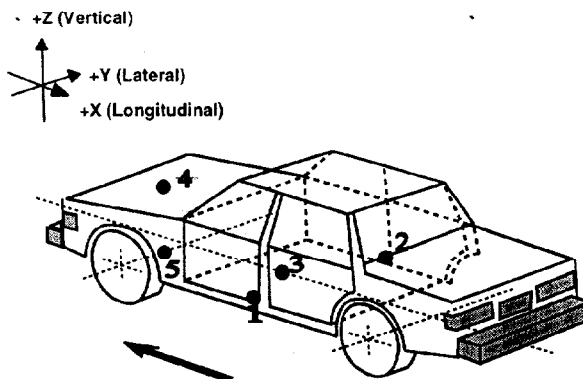
Vue de côté / Side view



⊕ Points de mesure / Mesure points

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**EMPLACEMENT DES ACCÉLÉROMÈTRES
ACCELEROMETER LOCATIONS**



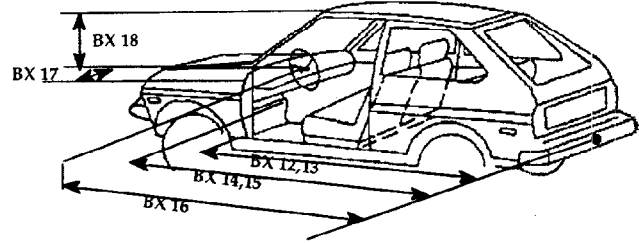
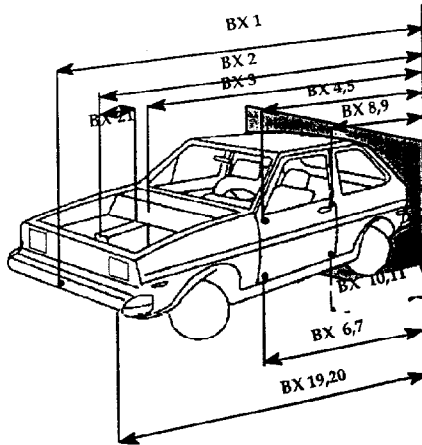
Direction de l'impact du véhicule d'essai
Test Vehicle Impact Direction

Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.
Reference point : Transversal center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

EMPLACEMENT LOCATION	DESCRIPTIONS	COORDONNÉES / COORDINATES		
		X	Y	Z
#1	Seuil de la porte gauche @ pilier "B" Left door sill @ pillar "B"	2843	-562	279
#2	Seuil de la porte droite @ pilier "B" Right door sill @ pillar "B"	2844	582	290
#3	Centre de gravité Centre of gravity	2417	15	459
#4	Le dessus du moteur Top of engine	1153	-68	899
#5	Le dessous du moteur Bottom of engine	909	35	271

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MESURES NHTSA / NHTSA MEASUREMENTS



- 1 - Longueur totale du véhicule
Total length of vehicle
- 2 - Surface arrière à l'avant du bloc moteur
Rear surface at front of engine block
- 3 - Surface arrière à la cloison pare-feu
Rear surface at fire-wall
- 4 - Surface arrière à la partie supérieur avant porte avant droite
Rear surface of front superior part of right front door
- 5 - Surface arrière à la partie supérieur avant porte avant gauche
Rear surface of front superior part of left front door
- 6 - Surface arrière à la partie inférieur avant porte avant droite
Rear surface of front inferior part of right front door
- 7 - Surface arrière à la partie inférieur avant porte avant gauche
Rear surface of front inferior part of left front door
- 8 - Surface arrière à la partie supérieur arrière porte avant droite
Rear surface of rear superior part of right rear door
- 9 - Surface arrière à la partie supérieur arrière porte avant gauche
Rear surface of rear superior part of left rear door
- 10 - Surface arrière à la partie inférieur arrière porte avant droite
Rear surface of rear inferior part of right rear door
- 11 - Surface arrière à la partie inférieur arrière porte avant gauche
Rear surface of rear inferior part of left rear door
- 12 - Surface arrière à la partie inférieur du pilier "A" droit
Rear surface of rear inferior part of right pillar "A"
- 13 - Surface arrière à la partie inférieur du pilier "A" gauche
Rear surface of rear inferior part of left pillar "A"
- 14 - Surface arrière à la cloison pare-feu côté droit
Rear surface of right side of fire-wall
- 15 - Surface arrière à la cloison pare-feu côté gauche
Rear surface of left side of fire-wall
- 16 - Surface arrière à la colonne de direction
Rear surface of steering column
- 17 - Centre de la colonne de direction au pilier "A"
Centre of steering column to pillar "A"
- 18 - Centre de la colonne de direction au toit
Centre of steering column to roof
- 19 - Surface arrière du véhicule au coin droit du pare-choc avant
Rear surface of vehicle to right corner of front bumper
- 20 - Surface arrière du véhicule au coin gauche du pare-choc avant
Rear surface of vehicle to left corner of front bumper
- 21 - Longueur du bloc moteur
Length of engine block

	BX*	AX**		BX*	AX**
1	5374	5228	12	3570	3568
2	4452	4370	13	3556	3552
3	3873	3867	14	3799	3755
4	3620	3616	15	3858	3859
5	3621	3619	16	3113	3104
6	3617	3609	17	426	433
7	3622	3620	18	473	468
8	2564	2562	19	5276	4974
9	2579	2563	20	5266	5277
10	2566	2562	21	275	278
11	2576	2560			

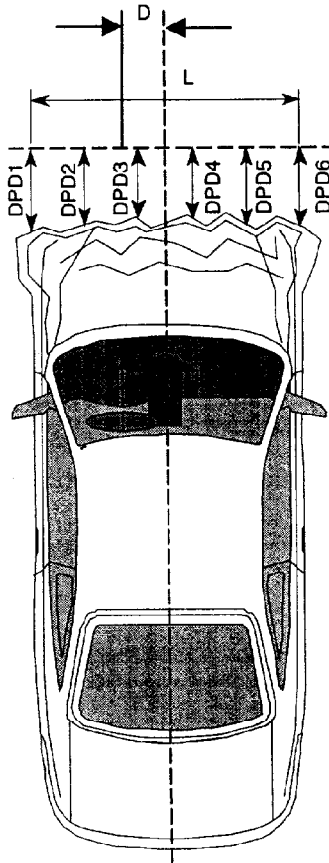
* BX : Mesures du véhicule avant-essai. / Pre-test vehicle measurements data.

* AX : Mesures du véhicule après-essai. / Post-test vehicle measurements data.

REMARQUES / COMMENTS :

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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MESURES DES DPD / DPP'S MEASUREMENTS



	AVANT ESSAI PRE-TEST	APRÈS ESSAI POST-TEST
DPD 1:	141	384
DPD 2:	32	82
DPD 3:	5	202
DPD 4:	6	342
DPD 5:	37	642
DPD 6:	143	857
MESURE L:		1501
MESURE D:		0

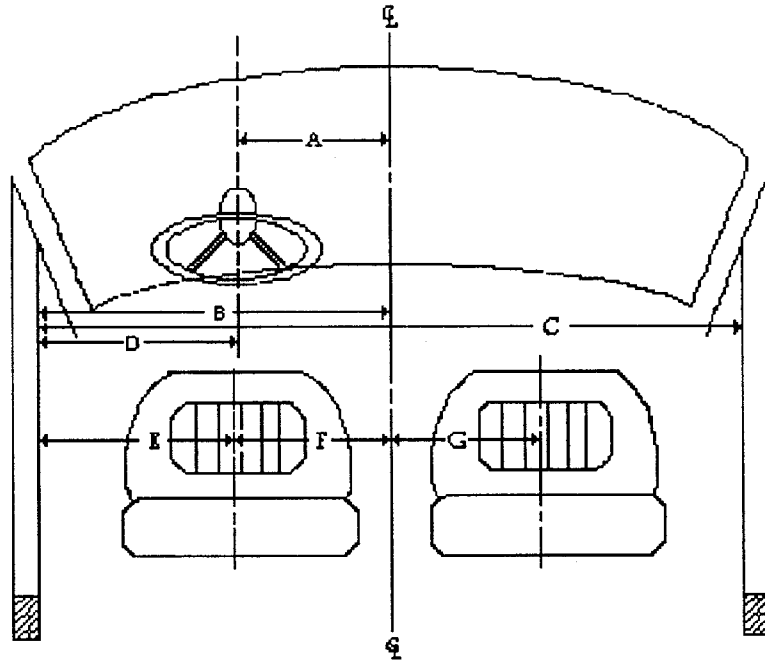
L : Longueur de la région endommagée
Length of damaged region

D : Distance du centre de déformation à la ligne de centre du véhicule
Midpoint of damage to Vehicle Longitudinal Centerline

REMARQUES / COMMENTS :

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**POSITION DES SIÈGES AVANT
FRONT SEAT POSITION**



Code	Description	mm	Code	Description	mm
A	Centre du volant à la ligne de centre du véhicule Steering wheel center to center line of car	406	E	Seuil de la fenêtre au centre du siège (conducteur) Window edge to seat midline (driver)	500
B	Seuil de fenêtre à la ligne de centre du véhicule Window edge to center line of the vehicle	890	F	Centre du siège à la ligne de centre du véhicule (conducteur) Seat midline to center line of vehicle (driver)	390
C	Fenêtre à fenêtre Window to window	1771	G	Centre du siège à la ligne de centre du véhicule (passager) Seat midline to center line of vehicle (passenger)	388
D	Centre du volant au seuil de la fenêtre Steering wheel center to window edge	484			

Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.

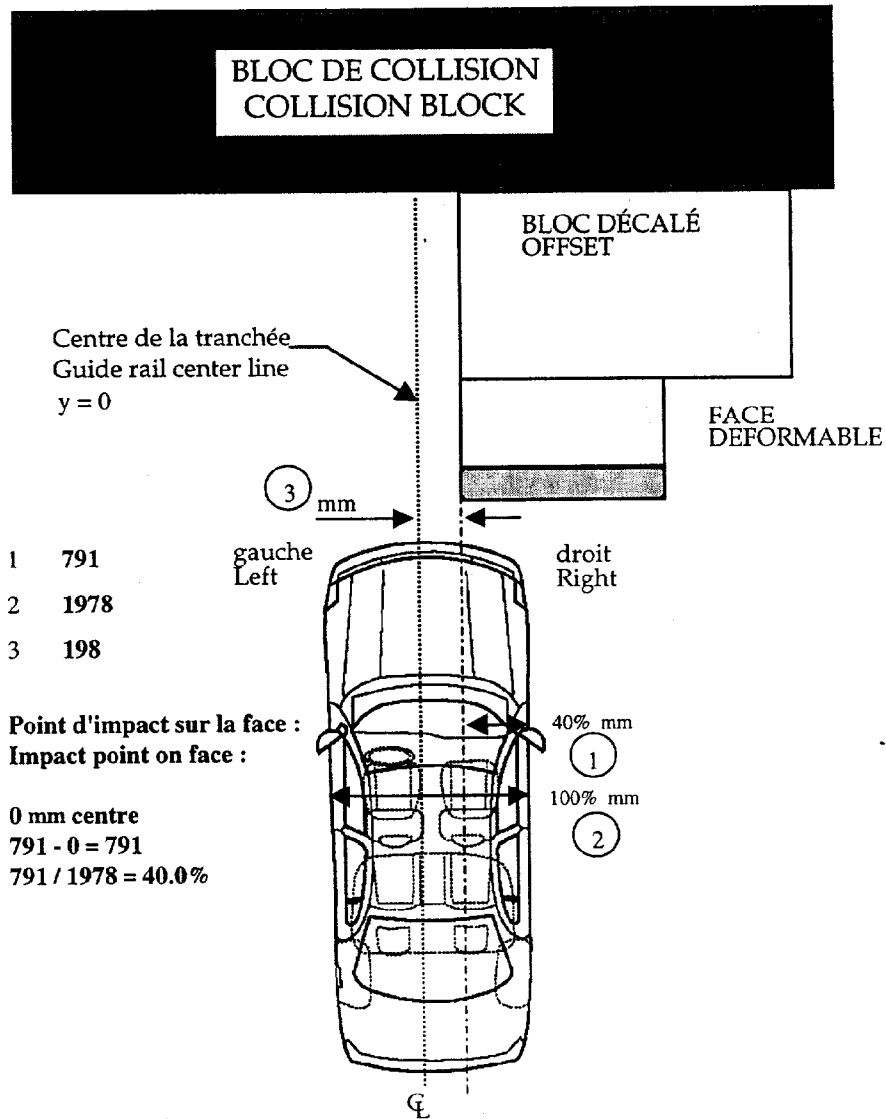
Reference point : Transversal center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

Remarques - Comments: Sièges avec ajustement avant/arrière conventionnel (élect. cond. seul.). Dossier ajustable (élect. cond. seul.). Ceinture baudrier ajustable. Volant ajustable. Coussin du siège cond. ajustable en hauteur (élect.). Ajustement lombaire (cond.seul.). Appuie-tête ajustable.

Seats with conventionnal fore/aft adjustment (Elect. driver only). Adjustable seat back (Elect. driver only). Upper torso belt adjustable. Steering Adjustable. Adjustable driver seat cushion height (Elect). Adjustable driver lumbar (Elect). Adjustable headrest.

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POSITION INITIALE VÉHICULE/FACE DÉFORMABLE - VEHICLE INITIAL POSITION/DEFORMABLE FACE

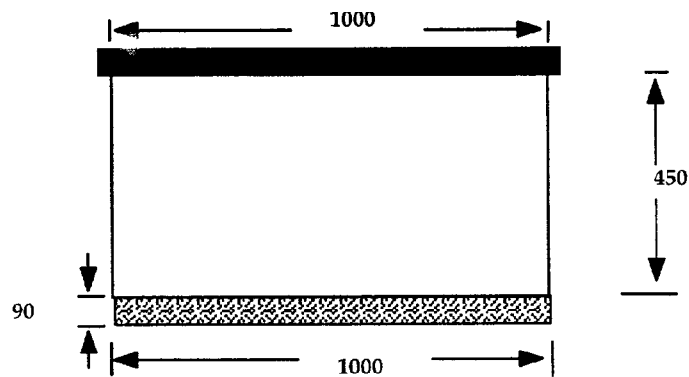
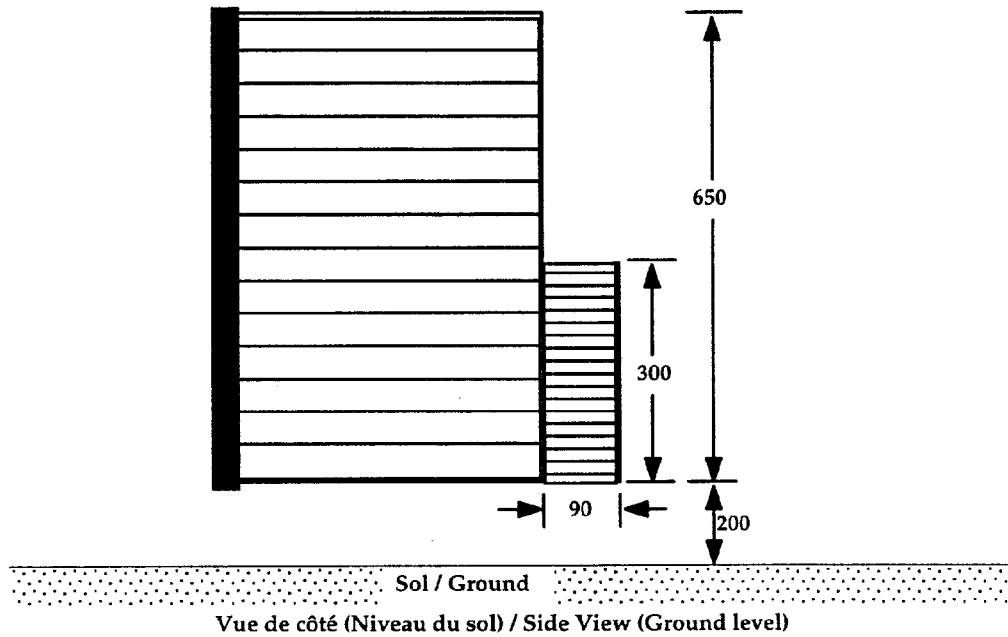


NOTE: La largeur maximale du véhicule est mesurée au pilier "B".
NOTE: The maximum width of the vehicle is measured at the "B" pillar.

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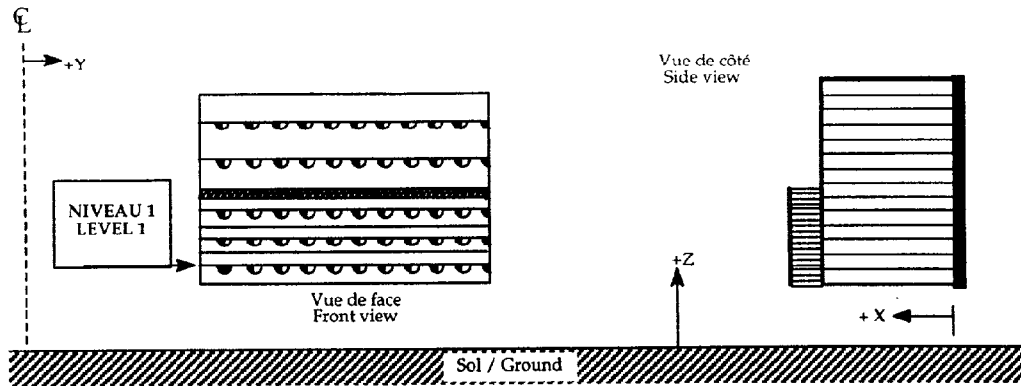
DIMENSIONS DE LA FACE DÉFORMABLE - DEFORMABLE FACE DIMENSIONS

(Toutes les mesures sont en mm / All measurements are in mm)



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MESURES DE LA FACE DÉFORMABLE
DEFORMABLE FACE MEASUREMENTS

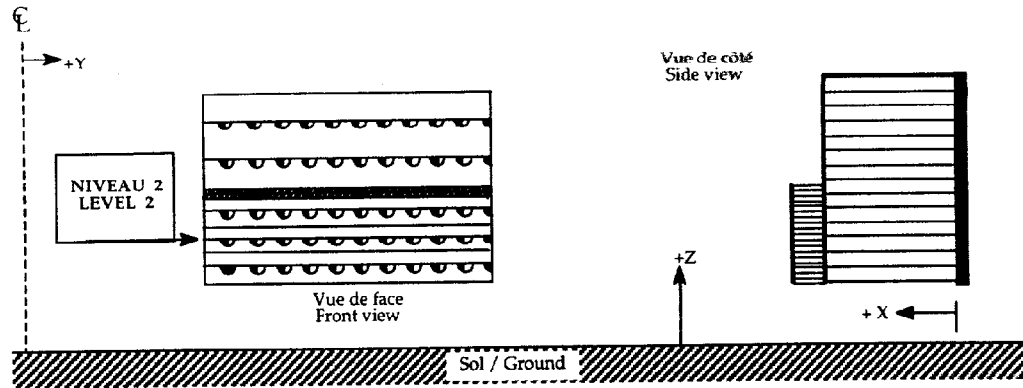


PRE-TEST			POST-TEST			Δ DIFFERENCE		
X	Y	Z	X	Y	Z	X	Y	Z
546	204	250	204	205	249	342	-1	1
546	304	251	240	304	250	306	0	1
547	405	251	264	405	250	283	0	1
547	504	250	284	503	249	263	1	1
547	604	250	298	706	252	249	-102	-2
548	704	251	297	706	250	251	-2	1
549	804	250	278	805	249	271	-1	1
550	905	250	270	907	251	280	-2	-1
550	1005	249	229	1004	249	321	1	0
550	1105	250	219	1102	251	331	3	-1

Point (0,0,0): Plan vertical avant du support de face en X, centre latéral du système de guidage ou centre du véhicule en Y et niveau du sol en Z.
Front vertical plane of face holder in X axis, lateral center of the guiding system or vehicle longitudinal centreline in the Y axis and ground level in the Z axis.

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MESURES DE LA FACE DÉFORMABLE
DEFORMABLE FACE MEASUREMENTS

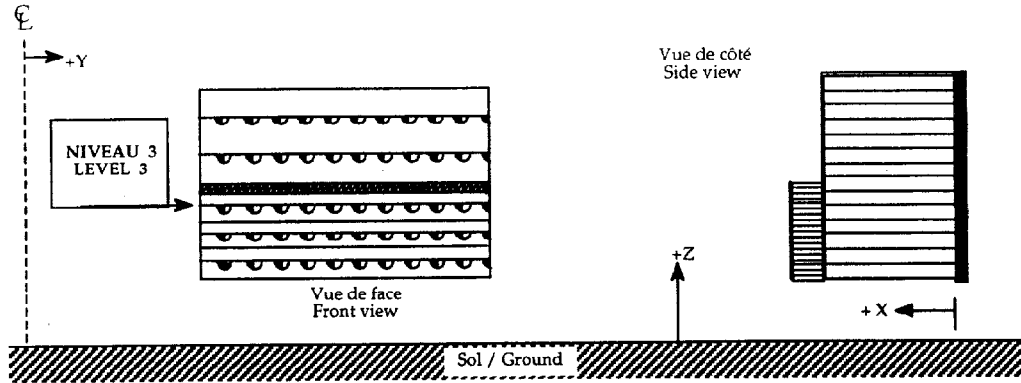


PRE-TEST			POST-TEST			Δ DIFFERENCE		
X	Y	Z	X	Y	Z	X	Y	Z
546	205	360	203	206	359	343	-1	1
547	303	360	410	303	358	137	0	2
547	404	360	425	402	358	122	2	2
546	504	360	414	505	358	132	-1	2
548	604	360	427	602	360	121	2	0
548	704	360	447	703	362	101	1	-2
549	805	360	472	805	360	77	0	0
550	904	360	525	905	360	25	-1	0
550	1004	360	563	1004	359	-13	0	1
551	1104	360	580	1105	359	-29	-1	1

Point (0,0,0): Plan vertical avant du support de face en X, centre latéral du système de guidage ou centre du véhicule en Y et niveau du sol en Z.
Front vertical plane of face holder in X axis, lateral center of the guiding system or vehicle longitudinal centreline in the Y axis and ground level in the Z axis.

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MESURES DE LA FACE DÉFORMABLE
DEFORMABLE FACE MEASUREMENTS

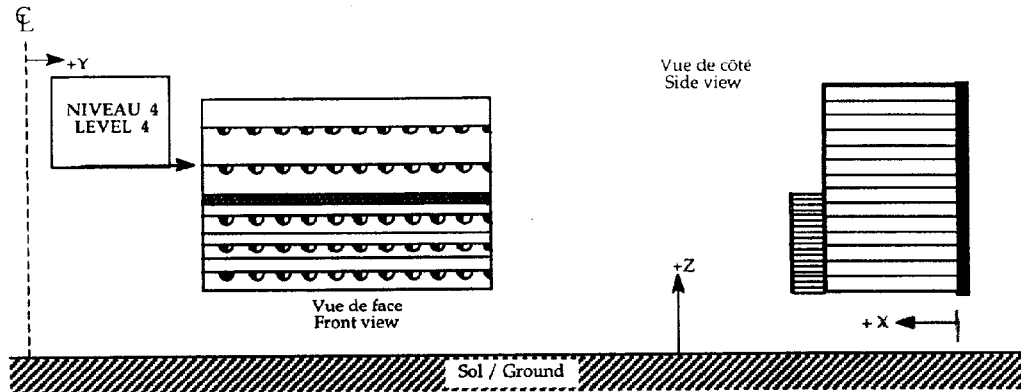


PRE-TEST			POST-TEST			Δ DIFFERENCE		
X	Y	Z	X	Y	Z	X	Y	Z
546	204	472	7	207	472	539	-3	0
546	304	472	38	305	470	508	-1	2
546	405	472	92	405	472	454	0	0
547	505	471	124	505	471	423	0	0
547	604	472	136	604	473	411	0	-1
548	705	472	226	704	472	322	1	0
549	805	471	405	807	472	144	-2	-1
549	905	472	532	902	474	17	3	-2
550	1005	471	543	1003	471	7	2	0
551	1105	471	550	1105	471	1	0	0

Point (0,0,0): Plan vertical avant du support de face en X, centre latéral du système de guidage ou centre du véhicule en Y et niveau du sol en Z.
Front vertical plane of face holder in X axis, lateral center of the guiding system or vehicle longitudinal centreline in the Y axis and ground level in the Z axis.

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MESURES DE LA FACE DÉFORMABLE
DEFORMABLE FACE MEASUREMENTS

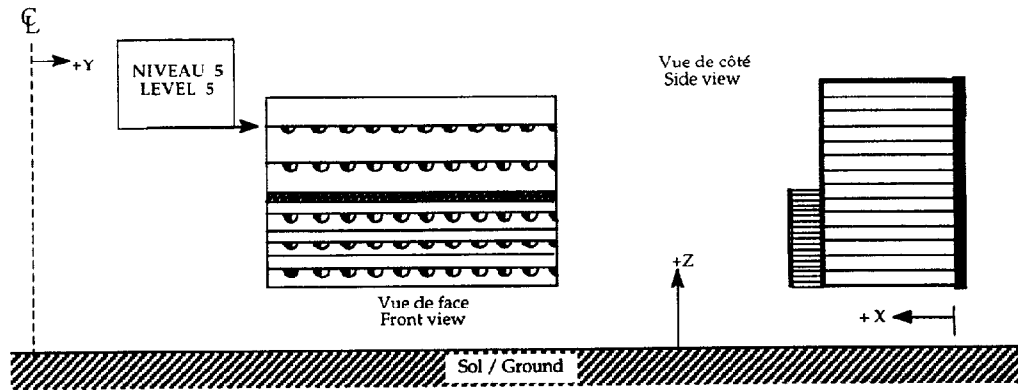


PRE-TEST			POST-TEST			Δ DIFFERENCE		
X	Y	Z	X	Y	Z	X	Y	Z
456	201	633	13	202	632	443	-1	1
456	300	633	73	299	632	383	1	1
457	401	633	78	400	632	379	1	1
457	501	634	64	501	633	393	0	1
457	601	633	54	601	634	403	0	-1
458	702	634	60	701	635	398	1	-1
458	802	634	119	803	634	339	-1	0
460	901	634	249	900	636	211	1	-2
460	1001	634	469	1001	632	-9	0	2
460	1102	634	544	1101	634	-84	1	0

Point (0,0,0): Plan vertical avant du support de face en X, centre latéral du système de guidage ou centre du véhicule en Y et niveau du sol en Z.
Front vertical plane of face holder in X axis, lateral center of the guiding system or vehicle longitudinal centreline in the Y axis and ground level in the Z axis.

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MESURES DE LA FACE DÉFORMABLE
DEFORMABLE FACE MEASUREMENTS



PRE-TEST			POST-TEST			Δ DIFFERENCE		
X	Y	Z	X	Y	Z	X	Y	Z
455	200	742	72	201	741	383	-1	1
456	300	741	252	301	740	204	-1	1
456	401	740	269	403	740	187	-2	0
457	502	741	204	503	740	253	-1	1
457	602	741	167	600	740	290	2	1
457	701	742	138	701	740	319	0	2
458	802	742	151	802	742	307	0	0
459	901	741	230	900	742	229	1	-1
460	1001	741	364	1002	741	96	-1	0
460	1101	741	463	1101	741	-3	0	0

Point (0,0,0): Plan vertical avant du support de face en X, centre latéral du système de guidage ou centre du véhicule en Y et niveau du sol en Z.
Front vertical plane of face holder in X axis, lateral center of the guiding system or vehicle longitudinal centreline in the Y axis and ground level in the Z axis.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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**POINTS DE MESURES DES CEINTURES DE SÉCURITÉ EN UTILISANT L'APPAREIL (BTD)
PASSENGER CAR BELT FIT MEASUREMENTS USING THE BELT DEPLOYMENT TEST DEVICE (BTD)**

Type de siège baquet / bucket banquette / bench banquette 60-40 / bench 60-40
 Seat type

Type de ceinture 3 points passive active automatique / automatic motorisée / motorised
 Belt system

Localisation du siège Av-G / F-L Av-D / F-R Arr-G / R-L Arr-D / R-R
 Seat location

Espacement du genou gauche 102 mm Espacement du genou droit 102 mm
 Left knee spacing 102 mm Right knee spacing 102 mm

Essai no: / Trial no:	1	2	3
Angle du dossier BTD Back pan angle	24.8 deg.	24.5 deg.	24.7 deg.
Angle de la cuvette BTD Seat pan angle	16.2 deg.	17.1 deg.	18.1 deg.
Angle du pied gauche / left Foot angle droit / right	121 deg. 137 deg.	126 deg. 137 deg.	127 deg. 139 deg.
Angle du genou gauche / left Knee angle droit / right	125 deg. 127 deg.	126 deg. 127 deg.	123 deg. 125 deg.
Mesure sous-abdominale gauche / left Lap belt score droit / right	36 mm / 0 mm 29 mm / 0 mm	33 mm / 0 mm 29 mm / 0 mm	30 mm / 0 mm 29 mm / 0 mm
Ceinture en contact gauche / left Belt in contact droit / right	oui/yes oui/yes	oui/yes oui/yes	oui/yes oui/yes
Mesure ceinture baudrier Sternum Upper torso belt score Clavicule	168 mm / - * 112 mm / 0 mm	174 mm / - * 114 mm / 0 mm	174 mm / - * 114 mm / 0 mm
Ceinture en contact Clavicule Belt in contact	oui/yes	oui/yes	oui/yes

Mesure Score	/	Jeu Slack
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* Mesure ceinture baudrier (jeu sternum) : (-) signifie un jeu causé par l'appareil BTD. Impossible à éliminer.
 * Upper torso belt score (sternum slack) : (-) means a slack impossible to eliminate due to BTD machine.

Remarques – Comments : Selon le manuel d'opérations pour mesures géométriques des ceintures de sécurité, ébauche, Transports Canada, janvier 1993.
 As per the operational manual for the belt deployment test device, draft, Transport Canada, January 1993.

Siège à la position mi-course. Coussin du siège à la mi-hauteur. Ceinture baudrier à la mi-hauteur.
 Seat at mid-travel position. Seat cushion at mid-height position. Upper torso belt at mid-height.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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**POINTS DE MESURES DES CEINTURES DE SÉCURITÉ EN UTILISANT L'APPAREIL (BTD)
PASSENGER CAR BELT FIT MEASUREMENTS USING THE BELT DEPLOYMENT TEST DEVICE (BTD)**

Type de siège / Seat type: baquet / bucket banquette / bench banquette 60-40 / bench 60-40

Type de ceinture / Belt system: 3 points passive active automatique / automatic motorisée / motorised

Localisation du siège / Seat location: Av-G / F-L Av-D / F-R Arr-G / R-L Arr-D / R-R

Espacement du genou gauche / Left knee spacing: 107 mm

Espacement du genou droit / Right knee spacing: 103 mm

Essai no. / Trial no:	1	2	3
Angle du dossier BTD Back pan angle	24.5 deg.	25.0 deg.	25.0 deg.
Angle de la cuvette BTD Seat pan angle	16.2 deg.	17.8 deg.	18.0 deg.
Angle du pied Foot angle	gauche / left: 120 deg.	122 deg.	122 deg.
	droit / right: 120 deg.	124 deg.	125 deg.
Angle du genou Knee angle	gauche / left: 129 deg.	127 deg.	126 deg.
	droit / right: 129 deg.	127 deg.	126 deg.
Mesure sous-abdominale Lap belt score	gauche / left: 32 mm / 0 mm	30 mm / 0 mm	29 mm / 0 mm
	droit / right: 30 mm / 0 mm	25 mm / 0 mm	25 mm / 0 mm
Ceinture en contact Belt in contact	gauche / left: oui/yes	oui/yes	oui/yes
	droit / right: oui/yes	oui/yes	oui/yes
Mesure ceinture baudrier Upper torso belt score	Sternum: 168 mm / - *	169 mm / - *	168 mm / - *
	Clavicule: 101 mm / 2 mm	100 mm / 3 mm	99 mm / 3 mm
Ceinture en contact Belt in contact	Clavicule: oui/yes	oui/yes	oui/yes

Mesure / Score	Jeu / Slack
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* Mesure ceinture baudrier (jeu sternum) : (-) signifie un jeu causé par l'appareil BTD. Impossible à éliminer.
* Upper torso belt score (sternum slack) : (-) means a slack impossible to eliminate due to BTD machine.

Remarques - Comments :

Selon le manuel d'opérations pour mesures géométriques des ceintures de sécurité, ébauche, Transports Canada, janvier 1993.
As per the operational manual for the belt deployment test device, draft, Transport Canada, January 1993.

Siège à la position mi-course. Ceinture baudrier à la mi-hauteur.
Seat at mid-travel position. Upper torso belt at mid-height position.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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DÉTERMINATION DU POINT "H" AVEC LE MANNEQUIN "3-D", MESURES PROVENANT DU BRAS ARTICULÉ MÉCANIQUE
SEAT "H" POINT DETERMINED WITH THE H-POINT MACHINE, MEASURES FROM AN ARTICULATED MECHANICAL ARM

DESCRIPTION / DESCRIPTION	CONDUCTEUR / DRIVER			PASSAGER / PASSENGER			PASSAGER ARRIÈRE REAR PASSENGER		
	X	Y	Z	X	Y	Z	X	Y	Z
Type de siège / Seat type	BANQU./BENCH 60/40			BANQU./BENCH 60/40					
Nombre de crans d'ajustement du siège * Number of notches for adjustable seat *	Électrique / Electrical			21 de/of 21 crans/notches			de/of crans/notches		
Nombre de crans d'ajustement du dossier * Number of notches for adjustable seat back *	Électrique / Electrical			5ème/5th crans/notches			N/A crans/notches		
Loquet de porte / Door latch	2732	-851	666	2739	850	679			
Point-H / H-Point	2628	-464	556	2665	484	557			
Rotule / Knee joint	2183	-618	658	2218	614	665			
PRS / SRP	2628	-464	556	2665	484	556			

* La position la plus avancée est au 1^{er} cran / * The foremost position is at the 1st notch.

Ajustement du 3D / 3D adjustment

MESURES DE RÉFÉRENCE DU MANNEQUIN "3-D"
REFERENCE MEASUREMENTS OF "3-D" MACHINE

95 %

95 %

DESCRIPTION / DESCRIPTION	CONDUCTEUR / DRIVER	PASSAGER / PASSENGER	PASSAGER ARRIÈRE REAR PASSENGER
Espacement du genou gauche Left knee spacing	210 mm	102 mm	
Espacement du genou droit Right knee spacing	141 mm	205 mm	
Cheville à cheville (c-c) Ankle to ankle (a-a)	326 mm	304 mm	
Angle du dossier du "3-D" Back pan angle	24.4 deg	23.8 deg	
Angle de la cuvette de siège du "3-D" Seat pan angle	13.8 deg	13.8 deg	
Angle du genou gauche Left knee angle	141 deg	140 deg	
Angle du genou droit Right knee angle	142 deg	140 deg	
Angle de la cheville gauche Left ankle angle	119 deg	123 deg	
Angle de la cheville droite Right ankle angle	102 deg	129 deg	

Remarques – Comments : Sièges du conducteur et du passager à la position la plus reculée.
Driver and passenger seats at the rearmost position.

Le mannequin 3D a été installé selon la procédure suivante :
"Anthropomorphic test dummy seating procedure for frontal impact test"
version 3, 10/23/85.
The 3D machine was installed as per the following procedure :
"Anthropomorphic test dummy seating procedure for frontal impact test"
version 3, 10/23/85.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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POSITIONNEMENT DES MANNEQUINS / MEASUREMENTS OF DUMMY POSITIONS

Conducteur/Driver :		MESURES / MEASUREMENTS :																																																											
Hybrid III 5% Femelle / Female		Toutes les mesures sont en mm / All measurements are in mm																																																											
Angle du pelvis - Pelvic angle : 20.9°		Conducteur / Driver			Passager / Passenger																																																								
Angle transversal - Transversal angle : 0.2°		Ajustement du siège : Seat adjustment :			Ajustement du siège : Seat adjustment :																																																								
Angle de la tête - Head angle : 0°		Électrique / Electrical			1 de 21 crans/notches																																																								
Seuil de porte - Door sill : 0.6°		Ajustement du dossier : Seat back adjustment :			Ajustement du dossier : Seat back adjustment :																																																								
Angle du coussin - Skew angle : 0.5°		Électrique / Electrical			- crans/notches																																																								
Passager avant/Front Passenger:		<table border="1"> <thead> <tr> <th>X</th> <th>Y</th> <th>Z</th> <th>X</th> <th>Y</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td></td> <td>1771</td> <td></td> <td></td> <td>1771</td> <td></td> </tr> <tr> <td></td> <td>0</td> <td></td> <td></td> <td>0</td> <td></td> </tr> <tr> <td></td> <td></td> <td>339</td> <td></td> <td></td> <td>351</td> </tr> <tr> <td>2261</td> <td>-406</td> <td>931</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1.2</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>2489</td> <td>-458</td> <td>1143</td> <td>2512</td> <td>456</td> <td>1143</td> </tr> <tr> <td>2394</td> <td>-537</td> <td>578</td> <td>2411</td> <td>533</td> <td>580</td> </tr> <tr> <td>2061</td> <td>-509</td> <td>638</td> <td>2079</td> <td>494</td> <td>636</td> </tr> </tbody> </table>						X	Y	Z	X	Y	Z		1771			1771			0			0				339			351	2261	-406	931				1.2			2			2489	-458	1143	2512	456	1143	2394	-537	578	2411	533	580	2061	-509	638	2079	494	636
X	Y	Z	X	Y	Z																																																								
	1771			1771																																																									
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Angle du pelvis - Pelvic angle : 18.5°																																																													
Angle transversal - Transversal angle : 0.2°																																																													
Angle de la tête - Head angle : -0.2°																																																													
Seuil de porte - Door sill : 0.5°																																																													
Angle du coussin - Skew angle : 0.8°																																																													
Fenêtre à fenêtre / Window to window :																																																													
Centre du véhicule / Vehicle center :																																																													
Seuil de la portière au centre du loquet / Door sill to latch center :																																																													
Centre du volant / Steering wheel center :																																																													
Mouvement du lacet / Yaw movement :																																																													
Cible de tête / Head target :																																																													
Point-H / H-Point :																																																													
Rotule / Knee joint :																																																													

Remarques – Comments : Les sièges du conducteur et du passager sont à la position la plus avancée.
The driver and the passenger seats are at the foremost position.

Selon la procédure de positionnement de mannequin 5^e percentile Hybrid III côté conducteur, Biokinetics, 29/11/98, rapport n° D98-15 et côté passager, Biokinetics, 20/11/98, rapport n°D98-17.

As per procedure for placement of a 5th percentile Hybrid III ATD driver's side, Biokinetics, 29/11/98, report no D98-15 and passenger's side, Biokinetics, 20/11/98, report no D98-17.

Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.
Reference point : Transversal-center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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POSITIONNEMENT DES MANNEQUINS / MEASUREMENTS OF DUMMY POSITIONS

		MESURES / MEASUREMENTS :					
Passager arrière gauche : Rear left passenger :		Toutes les mesures sont en mm / All measurements are in mm					
Angle du pelvis - Pelvic angle : N/A° Angle transversal - Transversal angle : N/A° Angle de la tête - Head angle : N/A° Angle du coussin - Skew angle : N/A°		Passager arrière gauche Rear left passenger			Passager arrière droit Rear right passenger		
Passager arrière droit : Rear right passenger :		Ajustement du siège : Seat adjustment : N/A crans/notches			Ajustement du siège : Seat adjustment : N/A crans/notches		
Angle du pelvis - Pelvic angle : N/A° Angle transversal - Transversal angle : N/A° Angle de la tête - Head angle : N/A° Angle du coussin - Skew angle : N/A°		Ajustement du dossier : Seat back adjustment : N/A crans/notches			Ajustement du dossier : Seat back adjustment : N/A crans/notches		
Mouvement du lacet / Yaw movement :		X	Y	Z	X	Y	Z
Cible de tête / Head target :		3612	-458	1059	3658	471	1053
Point-H / H-Point :							
Rotule / Knee joint :							

Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.

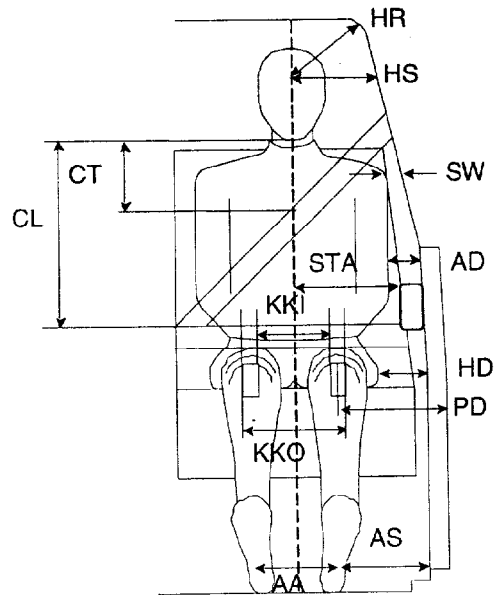
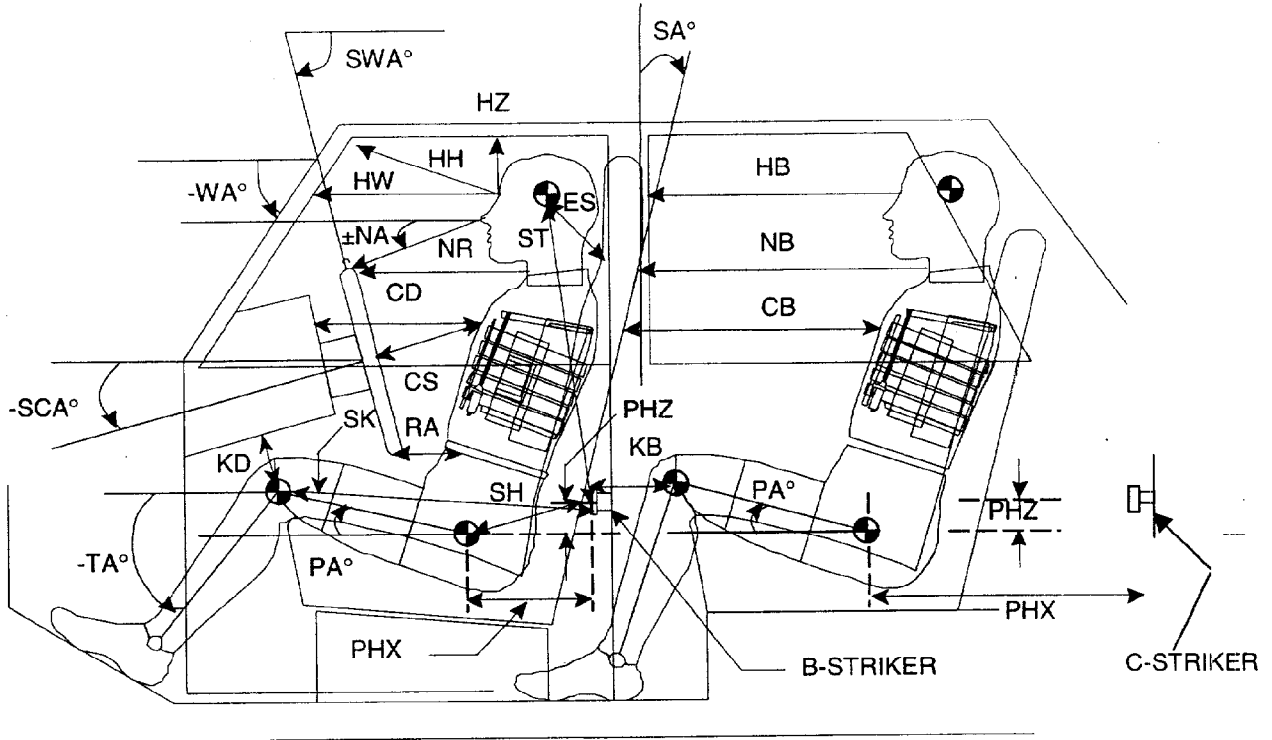
Reference point : Transversal center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

Passager arrière gauche : Rear left passenger :	Hybrid III 18 mois, assis dans un siège pour enfant faisant face vers l'avant. Hybrid III 18 month, seated in a child's car seat facing front.	
	Manufacturier du siège : Seat manufacturer :	Evenflo
	Modèle du siège : Seat model :	Ultara Premier
	No. de série du siège : Seat serial number :	234179C P1
	Date de fabrication du siège : Seat fabrication date :	98-06-23

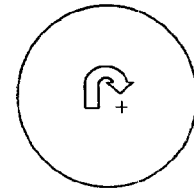
Passager arrière droit : Rear right passenger :	Hybrid III 3 ans, assis dans un siège pour enfant faisant face vers l'avant. Hybrid III 3 years, seated in a child's car seat facing front.	
	Manufacturier du siège : Seat manufacturer :	Cosco Inc.
	Modèle du siège : Seat model :	Touriva 5 pts
	No. de série du siège : Seat serial number :	02C48PR1
	Date de fabrication du siège : Seat fabrication date :	98-07-12

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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COTES DE LOCALISATION DES MANNEQUINS
DUMMY LOCATION DATA



référence :



Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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COTES DE LOCALISATION DES MANNEQUINS (suite)
DUMMY LOCATION DATA (continued)

(Mesures prises en mm / Measurements taken in mm)

DESCRIPTION	CODE	CONDUCTEUR DRIVER	PASSAGER Av. F. PASSENGER	PASSAGER Arr.G. L.R. PASSENGER	PASSAGER Arr.D. R.R. PASSENGER
De cheville à cheville (boulon extérieur) Ankle to ankle (exterior bolt)	AA	240	190		
Genou à genou (plaque) Intérieur / Interior Knee to knee (plate) Extérieur / Exterior	KKI	115	90		
	KKO	255	230		
De la cheville jusqu'au seuil de porte (horizontalement) Ankle to door sill (horizontal)	AS	230	239		
Centre du genou au tableau de bord ou siège horizontalement (minimum) Knees centre to dash or seat back horizontal (minimum)	KDL	15	45		
	KDR	12	40		
Sternum au tableau de bord (horizontalement) Chest to dash (horizontal)	CD		321		
Milieu du sternum au centre du moyeu du volant ou siège avant Mid sternum to steering hub center or front seat	CS/CB	100			
Milieu du front jusqu'au pare-brise (horizontalement) Mid forehead to windshield (horizontal)	HW	475	490		
Milieu du front jusqu'au haut du pare-brise Mid forehead to windshield header	HH	290	290		
Nez à la jante du volant de direction (haut) ou siège avant Nose to steering wheel rim (top) or front seat	NR/HB	200			
Milieu du front jusqu'au début du toit Mid forehead to edge roof	HR	277	265		
Haut de l'oreille au haut du siège avant Ear top to front seat top	ES	250	235		
Menton au haut de la ceinture sous-abdominale (verticalement) Chin to lap belt upper edge (vertical)	CL	335	330		
Menton au haut de la ceinture baudrier (verticalement) Chin to thorax belt upper edge (vertical)	CT	135	135		
Milieu du front à la fenêtre latérale (horizontalement) Mid forehead to side window (horizontal)	HS	393	365		
La rotule à la porte (horizontalement) Patella to door (horizontal)	PD	275	262		
Du point-H à la porte (horizontalement) H-point to door (horizontal)	HD	200	198		
Du milieu du bras à la porte (horizontalement) Mid upper arm to door (horizontal)	AD	170	180		
Cou jusqu'au volant ou tableau de bord (horizontalement) ou siège avant Neck to steering wheel or dash board (horizontal) or front seat	NB	395	450		
Épaule à la fenêtre de côté Shoulder to side window	SW	200	194		
Abdomen à l'appui-bras Abdomen to armrest	STA	175	188		
Milieu du front au toit (verticalement) Mid forehead to roof (vertical)	HZ	210	218		
Tête au loquet (plan (x,z)) Striker to head ((x,z) plan)	ST	525	517		
Abdomen à la jante du volant de direction (bas) Steering wheel rim to abdomen (bottom)	RA	82			
Genou au loquet (plan (x,z)) Striker to knee ((x,z) plan)	SK	672	661		
Point-H au loquet (plan (x,z)) Striker to H-Point ((x,z) plan)	SH	349	343		
Point-H au loquet en X (horizontalement) Striker to H-Point in X (horizontal)	PHX	338	328		
Point-H au loquet en Z (verticalement) Striker to H-Point in Z (vertical)	PHZ	87	99		

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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COTES DE LOCALISATION DES MANNEQUINS (suite)
DUMMY LOCATION DATA (continued)
(Mesures prises en deg. / Measurements taken in deg.)

DESCRIPTION	CODE	CONDUCTEUR DRIVER	PASSAGER Av. F. PASSENGER	PASSAGER Arr.G. L.R. PASSENGER	PASSAGER Arr.D. R.R. PASSENGER
Angle du volant Steering wheel angle	+SWA	67.0°			
Angle du pare-brise Windshield angle	-WA	-32.5°			
Angle de la colonne de direction Steering column angle	-SCA	-22.0°			
Angle du tibia gauche Left tibial angle	-TA	-51.0°	-53.6°		
Angle du tibia droit Right tibial angle	-TA	-51.0	-53.6		
Angle pelvis Pelvic angle	+PA	20.9°	18.5°		
Angle du nez à la jante de direction (haut) Nose to steering wheel rim (top) angle	±NA	2.0°			
Angle du dossier Seat back angle	+SA	26.4°	19.8°		
Angle ST (horizontalement) ST angle (horizontal)	+ST-A	63.0°	63.9°		
Angle SK (horizontalement) SK angle (horizontal)	±SK-A	-2.4°	-3.7°		
Angle SH (horizontalement) SH angle (horizontal)	-SH-A	-14.6°	-16.8°		

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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MESURES DU VÉHICULE, POINT "H" (MANNEQUIN 3D) ET MANNEQUIN DAE
VEHICLE, H-POINT MANIKIN AND TEST DUMMY MEASUREMENTS

Mannequin 3D Point "H" - H-Point Manikin

Conducteur / Driver 95%

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Point "H" extérieur mesure initiale - H-Point, outboard initial measurement	2628	-464	556
Point "H" extérieur mesure finale - H-Point, outboard final measurement	2628	-464	556
Rotule, extérieure - Knee pivot, outboard	2183	-618	658
Cheville, extérieure - Ankle pivot, outboard	1770	-600	460
Talon du pied en contact avec sol - Accomodation heel point (AHP)	1758	-590	326
Plante du pied en contact avec sol - Accomodation ball of foot point (ABFP)	1599	-631	467
Ligne médiane du véhicule - Vehicle centreline		0	
Centre du moyeu latéral - Lateral hub centre location (W20)		406	
Support poids du sternum, extérieur - Torso weigh hanger, outboard	2774	-551	882
PRS / SRP	2628	-464	556
Ligne médiane du coussin du siège (avant/milieu/arr.) - Seat cushion centreline (front/mid/rear)		-393 / -390 / -389	
Ligne médiane du dossier du siège (avant/milieu/arr.) - Seat back centreline (front/mid/rear)		-388 / -389 / -387	
Hauteur Point "H" - H-Point height ($H_{30} = Z_{H-POINT} - Z_{AHP}$)		230	
Position du siège vs sa position la plus reculée - Seat position vs its rearmost position		0	
Angle dossier du siège - Seat back angle (deg) (L40)		24°	
Angle du coussin du siège - Skew angle		0.6°	
Diamètre extérieur du volant - Steering wheel dia., outside (W9)		379	

Véhicule et Mannequin - Vehicle and Dummy

Femelle 5^e percentile conducteur / 5th percentile female driver

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Boulon siège avant, extérieur - Front seat bolt, outboard	2238	-591	361
Jante du volant, centre haut - Steering wheel rim, top centre	2175	-406	1108
Jante du volant, centre bas - Steering wheel rim, bottom centre	2318	-406	754
Jante du volant, centre gauche - Steering wheel rim, left centre	2247	-596	912
Jante du volant, centre droit - Steering wheel rim, right centre	2255	-217	937
Moyeu du volant, centre haut - Steering wheel hub, top centre	2203	-409	975
Moyeu du volant, centre - Steering wheel hub, centre	2281	-406	911
Moyeu du volant, centre bas - Steering wheel hub, bottom centre	2297	-407	846
Position du siège vs sa position la plus reculée - Seat position vs its rearmost position		255	
Angle de dossier du siège - Seat back angle (deg)		26.4°	
Genou au tableau de bord, minimum - Knee to dash, minimum		G/L : 15	D/R : 12
Menton au haut du moyeu du volant - Chin to steering wheel hub top		185	

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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**MESURES DU VÉHICULE, POINT "H" (MANNEQUIN 3D) ET MANNEQUIN DAE (suite)
VEHICLE, H-POINT MANIKIN AND TEST DUMMY MEASUREMENTS (cont'd)**

Description et emplacement du Mannequin
ATD description and location :

Femelle 5^e percentile conducteur / 5th percentile female driver

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Centre de gravité de la tête, extérieur - Head CG, outboard	2489	-458	1143
Base du nez - Glabella (root of nose)	2412	-384	1145
Menton - Chin (bottom)	2409	-387	1041
Jonction menton et cou - Chin / neck junction	2478	-392	1045
Thorax au niveau des côtes supérieures - Chest at upper rib level	2405	-394	880
Thorax au niveau des côtes inférieures - Chest at lower rib level	2383	-399	769
Boulon supérieur avant de l'épaule, ext. - Shoulder bolt, top front outboard	2535	-553	916
Boulon supérieur avant de l'épaule, int. - Shoulder bolt, top front inboard	2543	-241	906
Boulon du coude, extérieur - Elbow bolt, outboard	2448	-600	718
Boulon du coude, intérieur - Elbow bolt, inboard	2438	-176	723
Boulon du poignet, extérieur - Wrist bolt, outboard	2296	-624	870
Boulon du poignet, intérieur - Wrist bolt, inboard	2307	-190	899
Point d'articulation de la hanche, extérieur - Hip point, outboard	2480	-521	618
Boulon du genou gauche, côté gauche - Knee bolt, left leg, left side	2061	-511	638
Boulon de la cheville gauche, côté gauche - Ankle bolt, left leg, left side	1835	-470	507
Point du talon gauche - Heel point, left leg	1822	-477	322
Plante du pied gauche vs plancher - Ball of foot at toeboard contact, left leg	1697	-514	387
Boulon du genou droit, côté gauche - Knee bolt, right leg, left side	2061	-322	645
Boulon de la cheville droite, côté gauche - Ankle bolt, right leg, left side	1833	-292	510
Point du talon droit - Heel point, right leg	1776	-287	335
Plante du pied droit vs plancher - Ball of foot at toeboard contact, right leg	1682	-303	446
Espacement de genoux (centre) - Knee spacing (centre)		185	
Ajustement du support de cou - Neck bracket adjustment (deg.)			

Remarques - Comments :

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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MESURES DU VÉHICULE, POINT "H" (MANNEQUIN 3D) ET MANNEQUIN DAE
VEHICLE, H-POINT MANIKIN AND TEST DUMMY MEASUREMENTS

Mannequin 3D Point "H" - H-Point

Passager avant /Front passenger 95%

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Point "H" extérieur mesure initiale - H-Point, outboard initial measurement	2665	484	556
Point "H" extérieur mesure finale - H-Point, outboard final measurement	2665	484	557
Rotule, extérieure - Knee pivot, outboard	2218	614	665
Cheville, extérieure - Ankle pivot, outboard	1812	602	451
Talon du pied en contact avec sol - Accomodation heel point (AHP)	1824	600	319
Plante du pied en contact avec sol - Accomodation ball of foot point (ABFP)	1641	639	431
Ligne médiane du véhicule - Vehicle centreline		0	
Support poids du sternum, extérieur - Torso weigh hanger, outboard	2809	566	883
PRS / SRP	2665	484	556
Ligne médiane du coussin du siège (avant/milieu/arr.) - Seat cushion centreline (front/mid/rear)		388 / 388 / 393	
Ligne médiane du dossier du siège (avant/milieu/arr.) - Seat back centreline (front/mid/rear)		399 / 400 / 401	
Hauteur Point "H" - H-Point height ($H_{30} = Z_{H-POINT} - Z_{AHP}$)		238	
Position du siège vs sa position la plus reculée - Seat position vs its rearmost position		0	
Angle dossier du siège - Seat back angle (deg) (L40)		23.8°	
Angle du coussin du siège - Skew angle		0.77°	

Véhicule et Mannequin - Vehicle and Dummy

Femelle 5e percentile passager avant / 5th percentile female front passenger

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Boulon siège avant, extérieur - Front seat bolt, outboard	4755	820	571
Position du siège vs sa position la plus reculée - Seat position vs its rearmost position		255	
Angle dossier du siège - Seat back angle		19.8°	
Genou au tableau de bord, minimum - Knee to dash, minimum		G/L : 45	D/R : 40
Menton au tableau de bord - Chin to dash		386	

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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MESURES DU VÉHICULE, POINT "H" (MANNEQUIN 3D) ET MANNEQUIN DAE (suite)
VEHICLE, H-POINT MANIKIN AND TEST DUMMY MEASUREMENTS (cont'd)

Description et emplacement du Mannequin
ATD description and location:

Femelle 5^e percentile passager avant / 5th percentile female front passenger

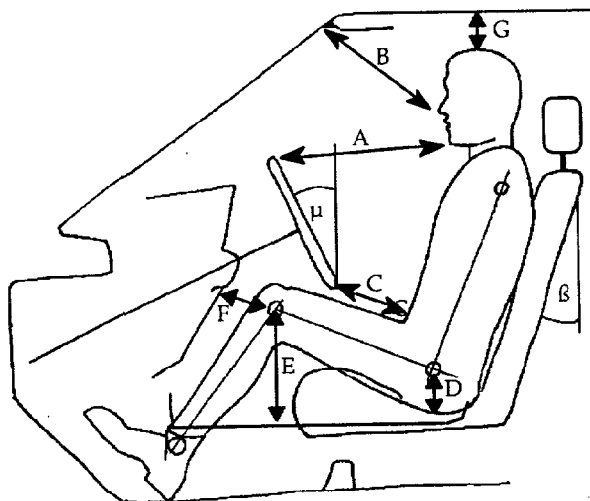
DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Centre de gravité de la tête, extérieur - Head CG, outboard	2512	456	1143
Base du nez - Glabella (root of nose)	2426	389	1149
Menton - Chin (bottom)	2421	385	1040
Jonction menton et cou - Chin / neck junction	2489	391	1045
Thorax au niveau des côtes supérieures - Chest at upper rib level	2418	387	875
Thorax au niveau des côtes inférieures - Chest at lower rib level	2397	386	767
Boulon supérieur avant de l'épaule, ext. - Shoulder bolt, top front outboard	2544	546	912
Boulon supérieur avant de l'épaule, int. - Shoulder bolt, top front inboard	2541	234	914
Boulon du coude, extérieur - Elbow bolt, outboard	2434	601	725
Boulon du coude, intérieur - Elbow bolt, inboard	2438	199	723
Boulon du poignet, extérieur - Wrist bolt, outboard	2231	534	673
Boulon du poignet, intérieur - Wrist bolt, inboard	2229	232	672
Point d'articulation de la hanche, extérieur - Hip point, outboard	2499	514	617
Boulon du genou gauche, intérieur - Knee bolt, left leg, right side	2078	496	637
Boulon de la cheville gauche, intérieur - Ankle bolt, left leg, right side	1852	450	517
Point du talon gauche - Heel point, left leg	1822	466	326
Plante du pied gauche vs plancher - Ball of foot at toeboard contact, left leg	1702	498	407
Boulon du genou droit, intérieur - Knee bolt, right leg, right side	2080	343	647
Boulon de la cheville droite, intérieur - Ankle bolt, right leg, right side	1857	317	512
Point du talon droit - Heel point, right leg	1831	340	330
Plante du pied droit vs plancher - Ball of foot at toeboard contact, right leg	1701	368	401
Espacement de genoux (centre) - Knee spacing (centre)		160	
Ajustement du support de cou - Neck bracket ajustement (deg.)			

Remarques - Comments :

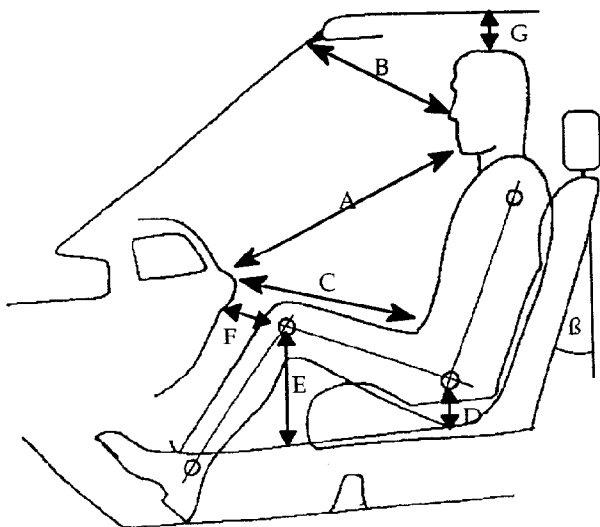
Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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EUROPEAN EXPERIMENTAL VEHICLES COMMITTEE:

MESURES DE POSITIONNEMENT DES MANNEQUINS /
DUMMY POSITIONING MEASUREMENTS



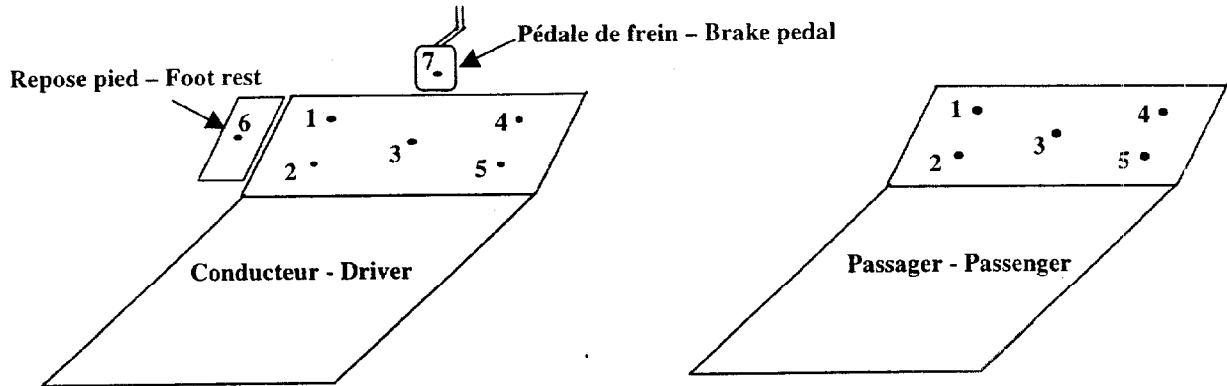
CONDUCTEUR DRIVER	mm
A	225
B	305
C	160
D	239
E	299
F	14
G	155
β	-2.0°
μ	23.0°



PASSAGER PASSENGER	mm
A	386
B	304
C	339
D	229
E	285
F	42
G	158
β	4.0°

Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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MESURES PLANCHER / FOOTWELL MEASUREMENTS

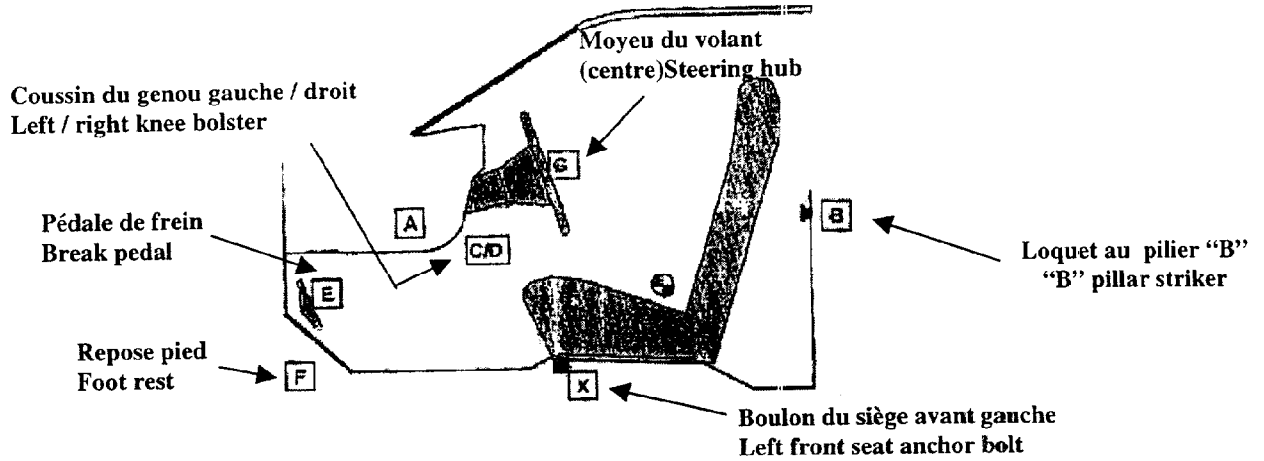


N° Cible		AVANT ESSAI	APRÈS ESSAI	
Target No.		PRE-TEST	POST-TEST	Δ mm
1	x	1538	1537	1
	y	-593	-594	1
	z	440	440	0
2	x	1666	1664	2
	y	-583	-583	0
	z	338	337	1
3	x	1599	1598	1
	y	-445	-447	2
	z	395	395	0
4	x	1531	1531	0
	y	-263	-263	0
	z	423	424	-1
5	x	1641	1639	2
	y	-269	-270	1
	z	332	332	0
6	x	1575	1574	1
	y	-692	-691	-1
	z	412	411	1
7	x	1699	1694	5
	y	-422	-424	2
	z	544	541	3

N° Cible		AVANT ESSAI	APRÈS ESSAI	
Target No.		PRE-TEST	POST-TEST	Δ mm
1	x	1587	1603	-16
	y	271	279	-8
	z	473	479	-6
2	x	1690	1694	-4
	y	263	267	-4
	z	364	360	4
3	x	1616	1661	-45
	y	428	428	0
	z	407	422	-15
4	x	1559	1596	-37
	y	551	539	12
	z	477	487	-10
5	x	1671	1693	-22
	y	584	584	0
	z	346	350	-4

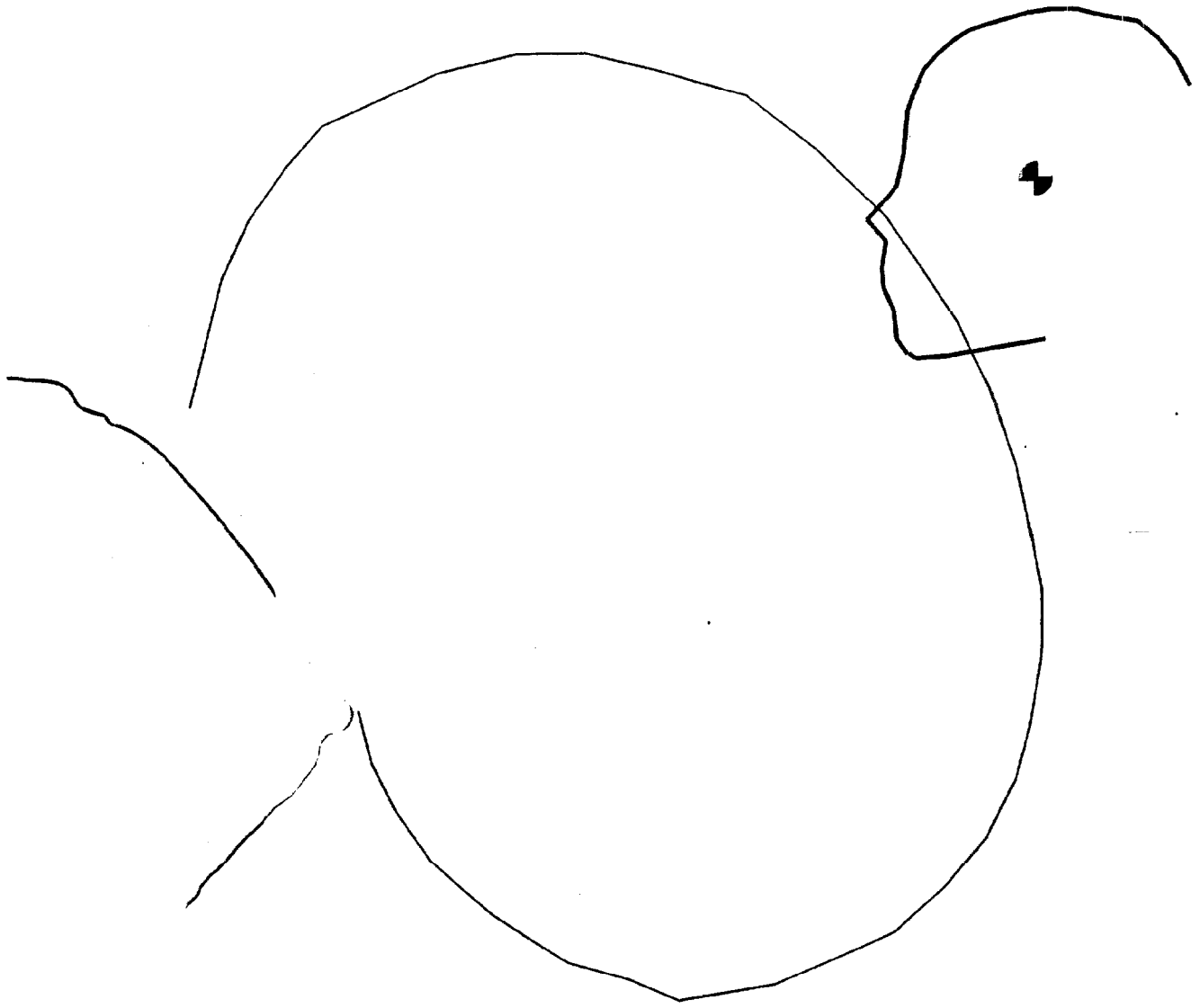
Date de collision Crash date	1998-01-22	Véhicule Vehicle	FORD CROWN VICTORIA 1999	T.C. N° T.C.No	99-204
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PÉNÉTRATION DE L'HABITACLE DU CONDUCTEUR (Distances en mm)
DRIVER COMPARTMENT INTRUSION (Distances in mm)



Habitacle du conducteur
Driver's compartment

	DESCRIPTION	Avant essai / Pre-test			Après essai / Post-test		
		X	Y	Z	X	Y	Z
A	Ouverture de porte Door opening	2015	-867	975	2031	-887	992
B	Loquet au pilier "B" "B" pillar striker	2732	-851	666	2747	-866	684
C	Coussin du genou gauche Left knee bolster	1993	-471	687	1992	-469	685
D	Coussin du genou droit Right knee bolster	2003	-292	702	2000	-290	702
E	Pédale de frein Break pedal	1699	-422	544	1694	-424	541
F	Repose pied Foot rest	1575	-692	412	1574	-691	411
G	Moyeu du volant (centre) Steering hub (centre)	2281	-406	911	2286	-400	915
X	Boulon du siège avant gauche Left front seat anchor bolt	2238	-591	361	2254	-612	370



DASHBOARD / TABLEAU DE BORD
MODULE
STEERING WHEEL / VOLANT
AIRBAG / COUSSIN GONFLABLE

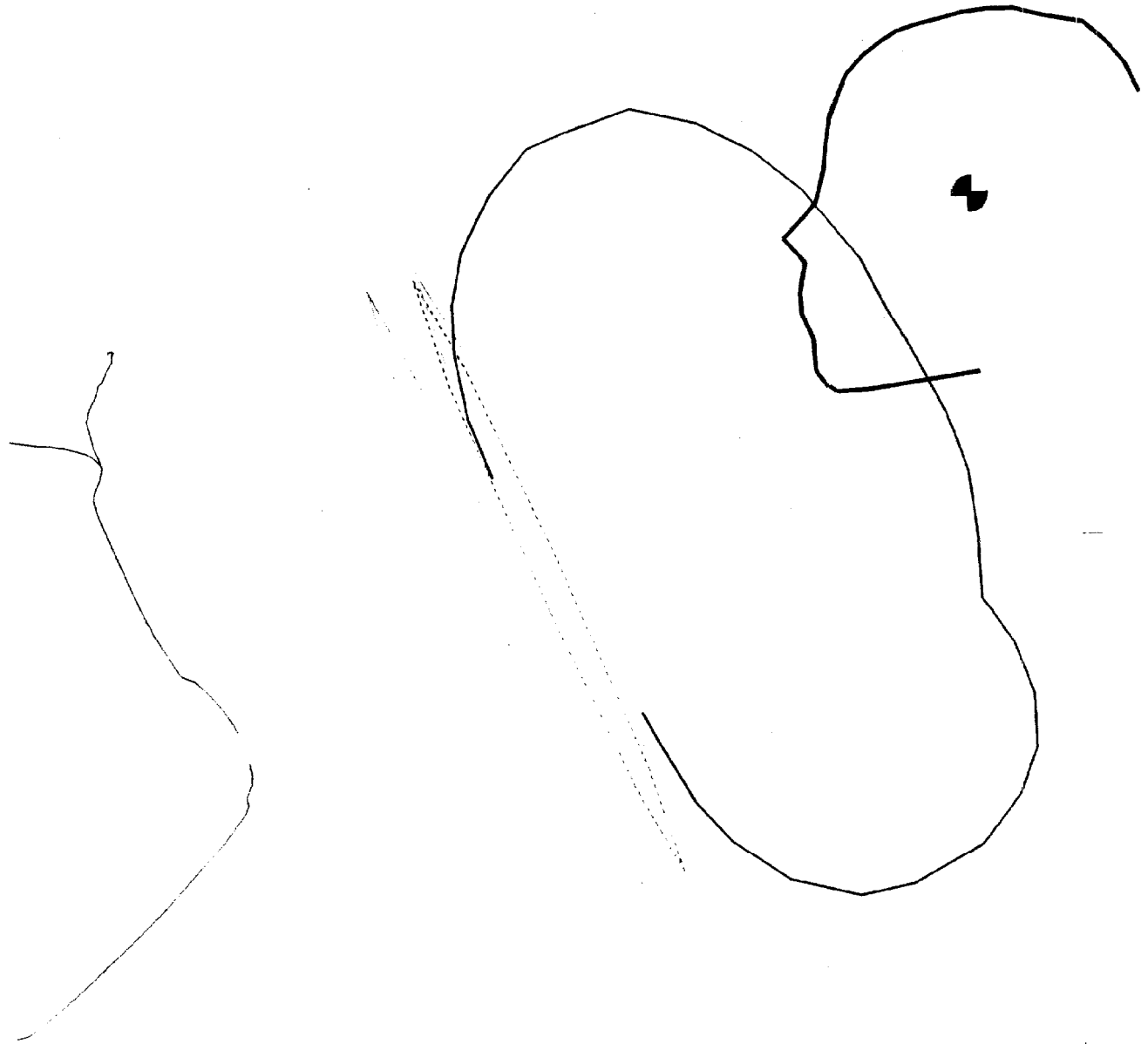
PRE-TEST	POST-TEST
_____	_____
_____	_____
_____	_____
_____	_____

No. TC : 99-204

Crown Victoria

PASSENGER'S SIDE / COTÉ PASSAGER

Project / Projet : 99-5001



DASHBOARD / TABLEAU DE BORD
MODULE
STEERING WHEEL / VOLANT
AIRBAG / COUSSIN GONFLABLE

PRE-TEST POST-TEST

No. TC.: 99-204

Crown Victoria

DRIVER'S SIDE / COTÉ CONDUCTEUR

Project / Projet : 99-5001

APPENDICE / APPENDIX A

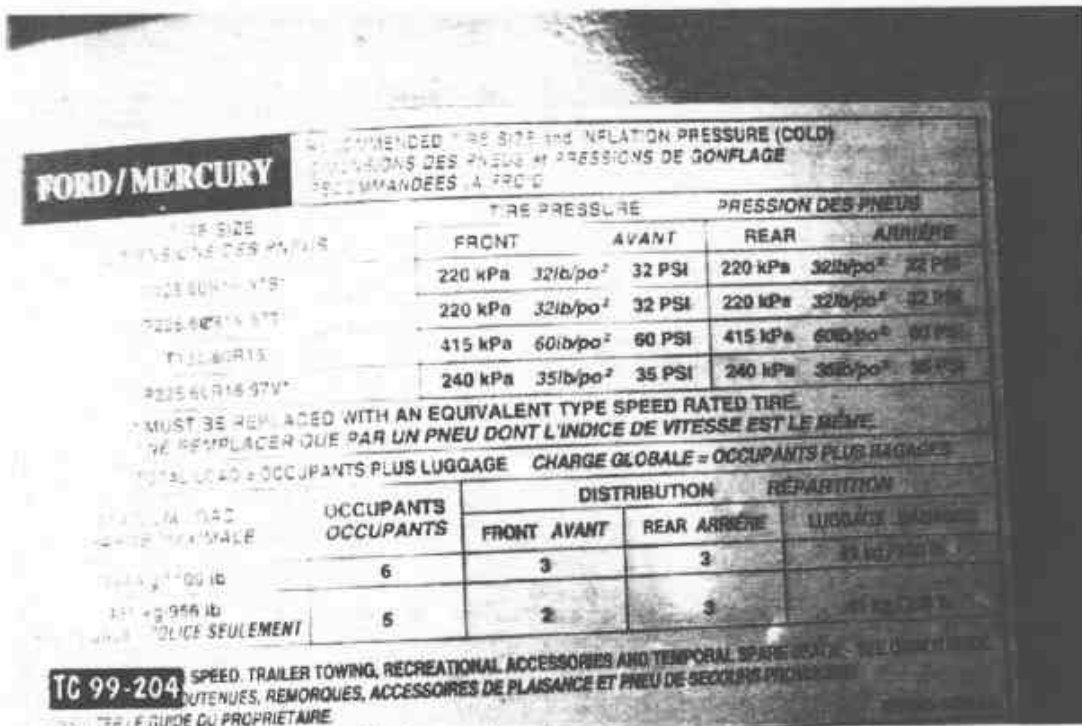
**PHOTOGRAPHIES DE L'ESSAI
TEST PHOTOGRAPHS**

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C. No	99-204
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TC 99-204

- Étiquette de déclaration de conformité du véhicule d'essai.
Statement of compliance label of the test vehicle.



TC 99-204

- Étiquette d'information des pneus.
Tire information label.

Date de collision Crash date:	1999-01-22	Véhicule Vehicle:	CROWN VICTORIA	T.C. N° T.C.No:	99-204
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TC 99-204

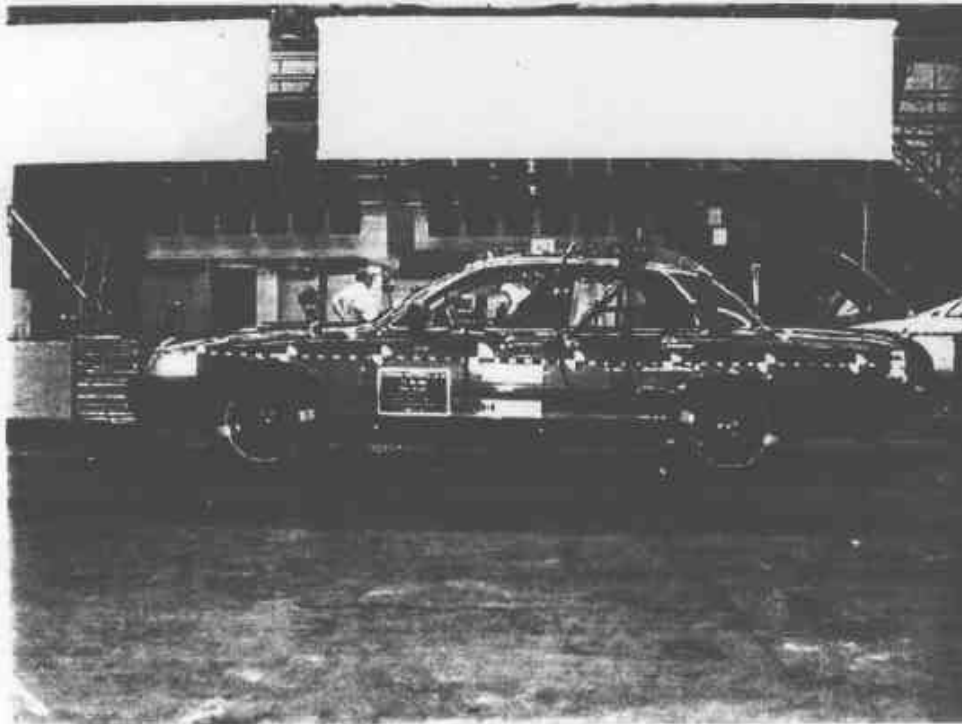
3. Vue $\frac{3}{4}$ avant du véhicule d'essai.
 $\frac{3}{4}$ front view of the test vehicle.



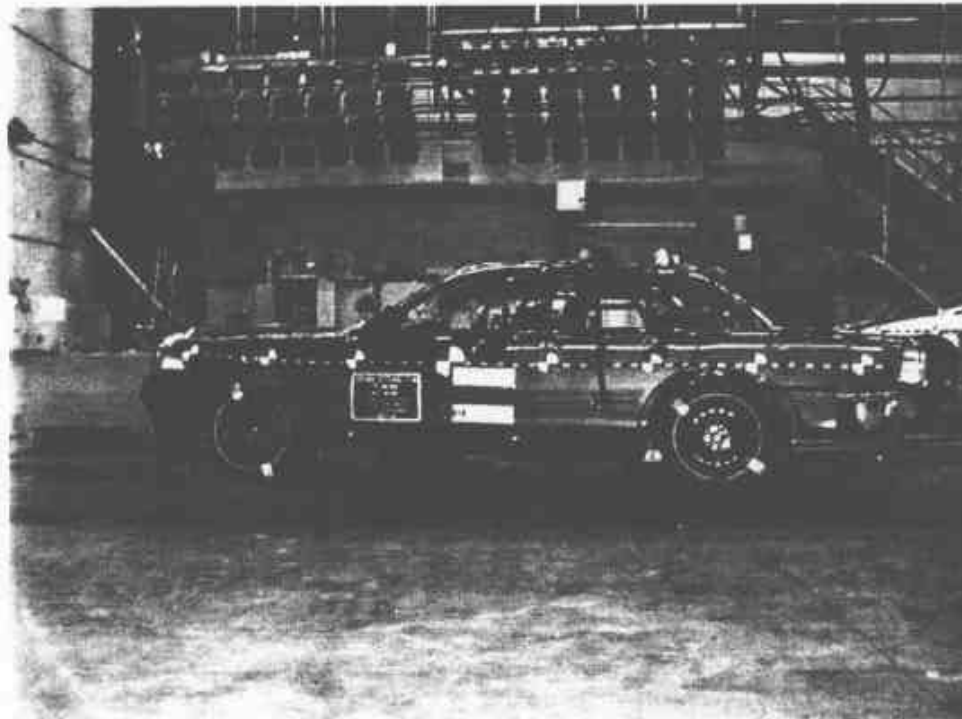
TC 99-204

4. Vue $\frac{3}{4}$ arrière du véhicule d'essai.
 $\frac{3}{4}$ rear view of the test vehicle.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C.N. T.C.No	99-204
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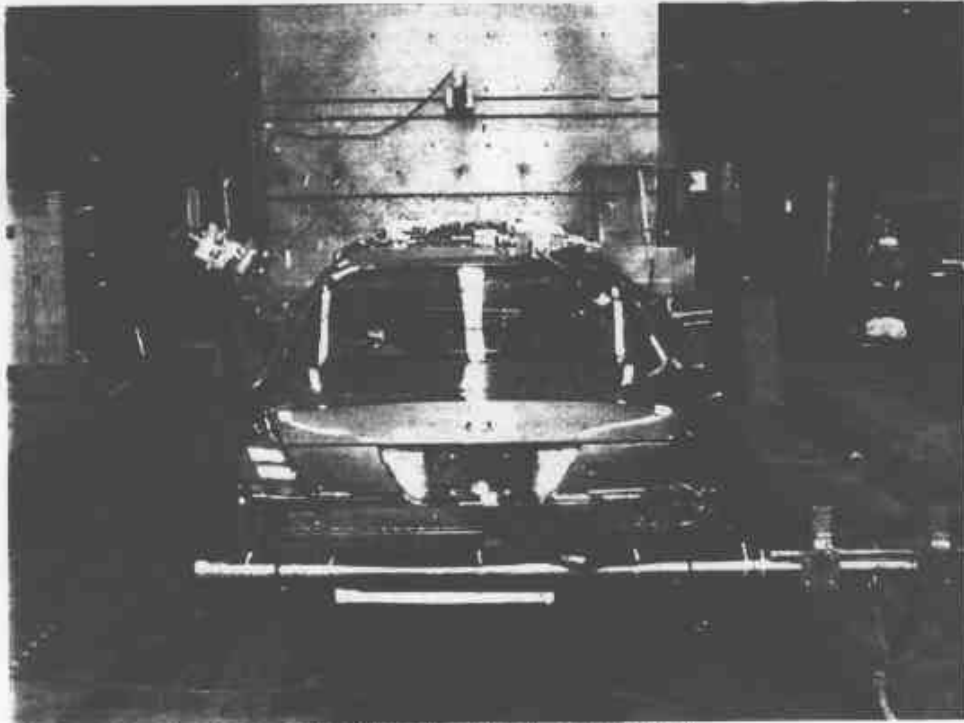


5. Vue générale côté gauche du véhicule d'essai, avant essai.
Left side view of the test vehicle, pre-test.



6. Vue générale côté gauche du véhicule d'essai, après essai.
Left side view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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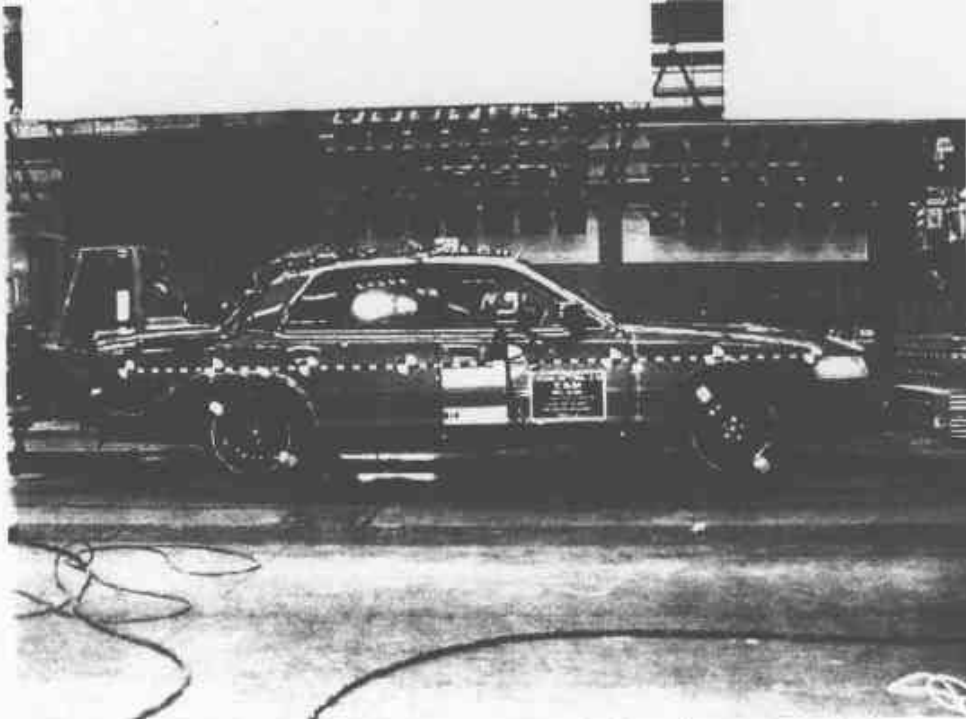


7. Vue arrière du véhicule d'essai, avant essai.
Rear view of the test vehicle, pre-test.



8. Vue arrière du véhicule d'essai, après essai.
Rear view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C. No.	99-204
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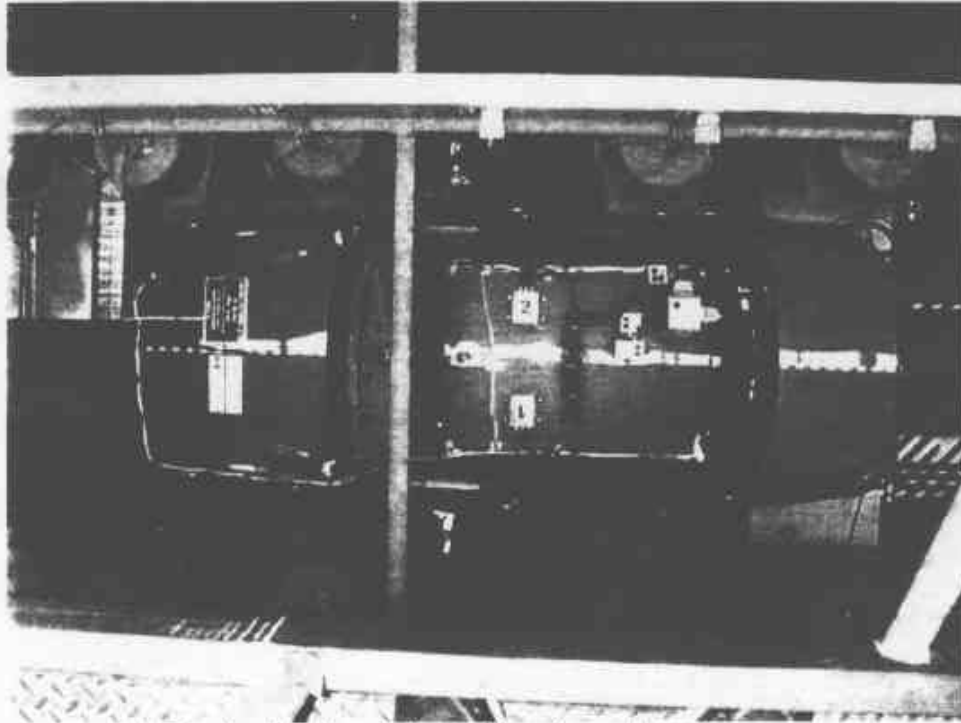


9. Vue générale côté droit du véhicule d'essai, avant essai.
General right side view of the test vehicle, pre-test.

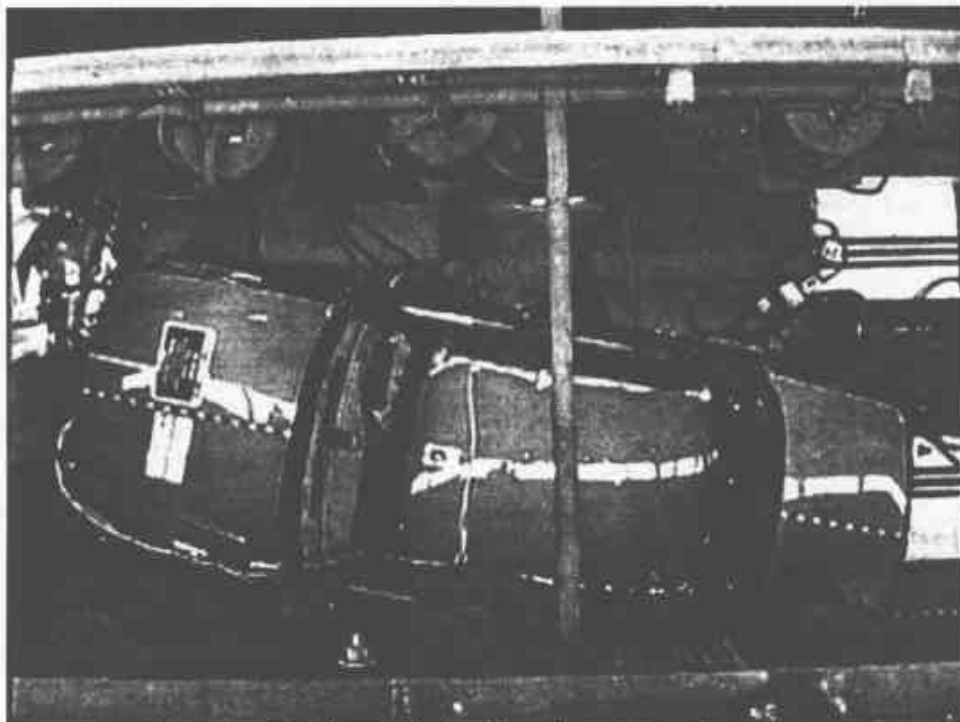


10. Vue générale côté droit du véhicule d'essai, après essai.
General right side view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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11. Vue de plan du véhicule d'essai, avant essai.
Over view of the test vehicle, pre-test.

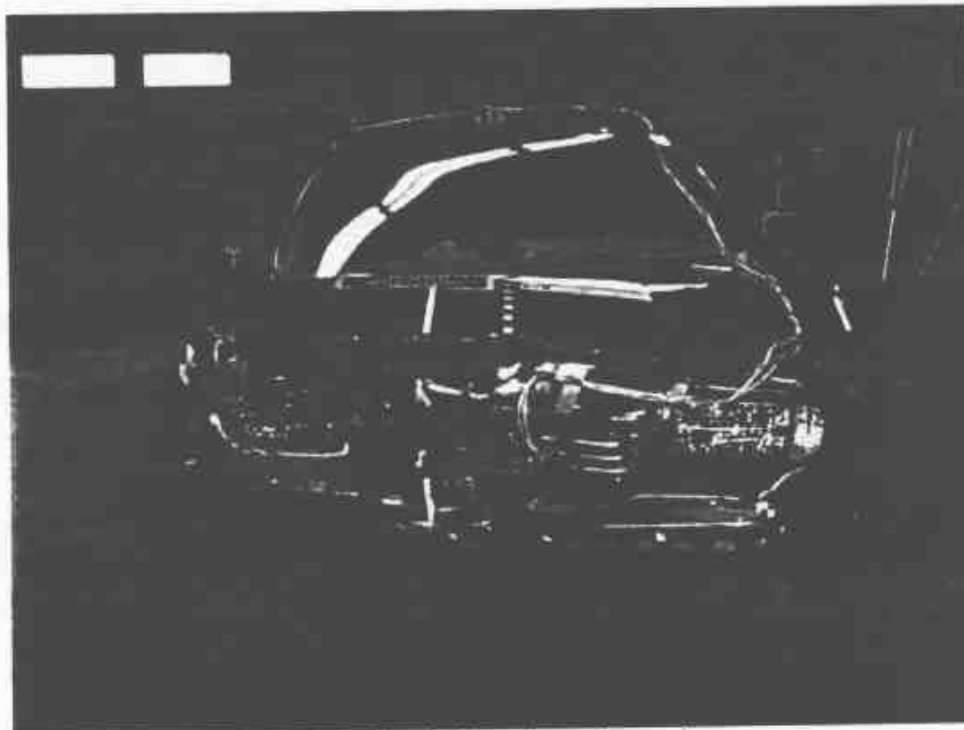


12. Vue de plan du véhicule d'essai, après essai.
Over view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C.N. T.C.No	99-204
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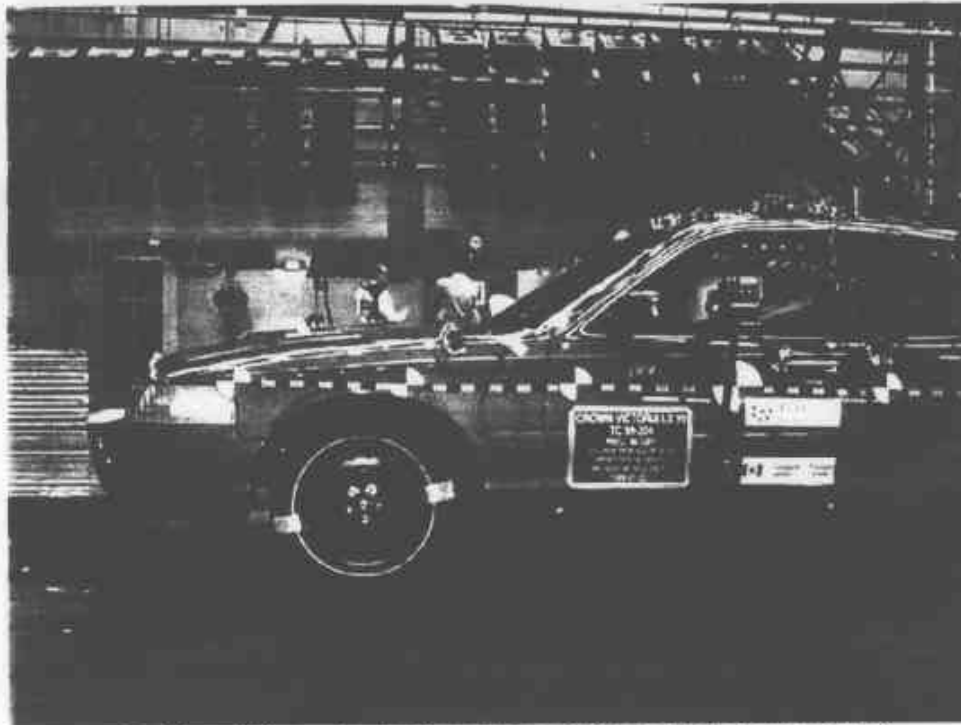


13. Vue avant du véhicule d'essai, avant essai.
Front view of the test vehicle, pre-test.



14. Vue avant du véhicule d'essai, après essai.
Front view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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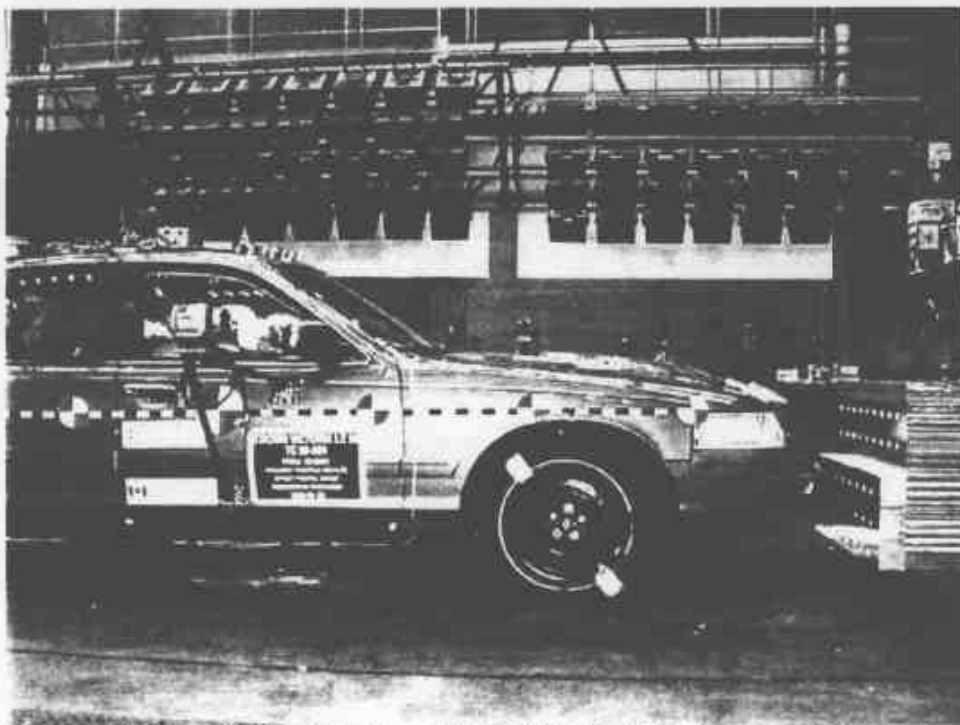
15. Vue côté gauche de l'avant du véhicule d'essai, avant essai.
Left side view of front of test vehicle, pre-test.



16. Vue côté gauche de l'avant du véhicule d'essai, après essai.
Left side view of front of test vehicle, post-test.

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Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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17. Vue côté droit de l'avant du véhicule d'essai, avant essai.
 Right side view of front of test vehicle, pre-test.



18. Vue côté droit de l'avant du véhicule d'essai, après essai.
 Right side view of front of test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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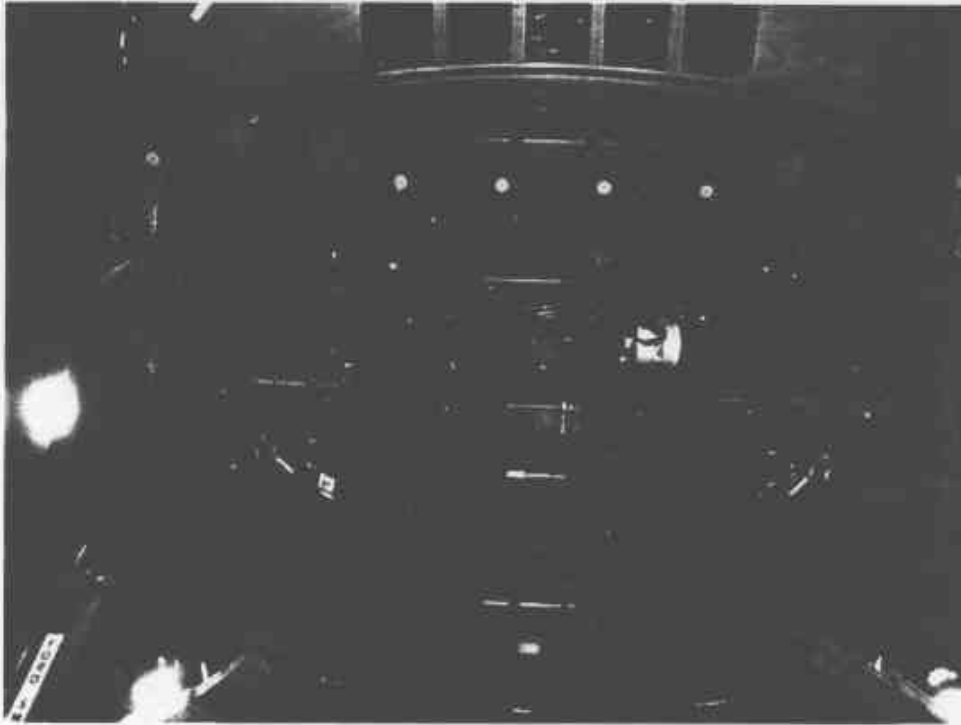


19. Vue du compartiment moteur du véhicule d'essai, avant essai.
Engine compartment view of the test vehicle, pre-test.

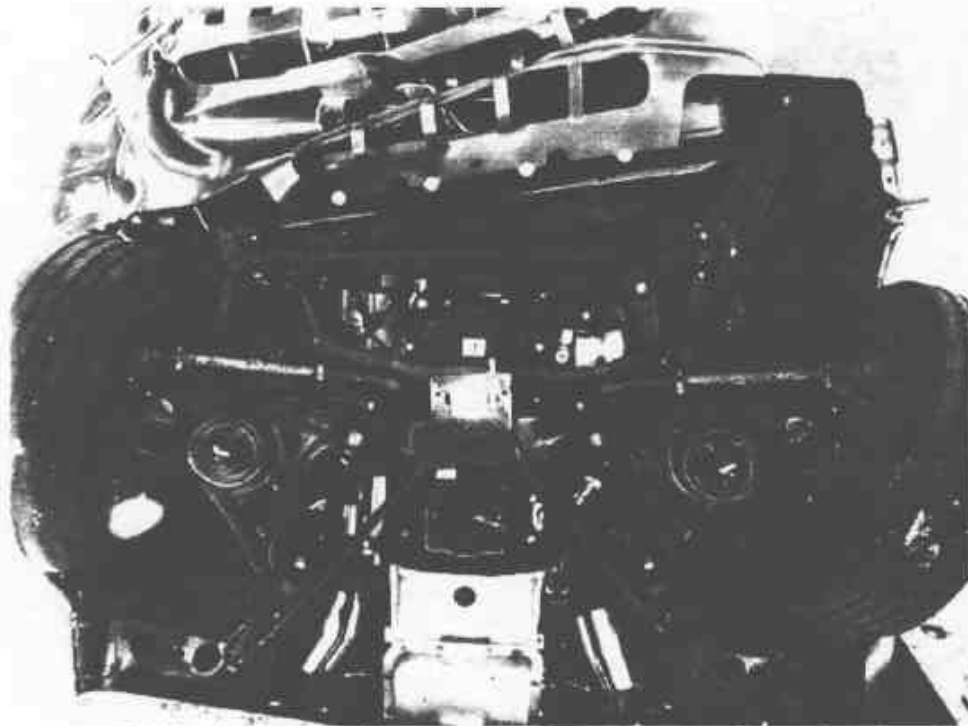


20. Vue du compartiment moteur du véhicule d'essai, après essai.
Engine compartment view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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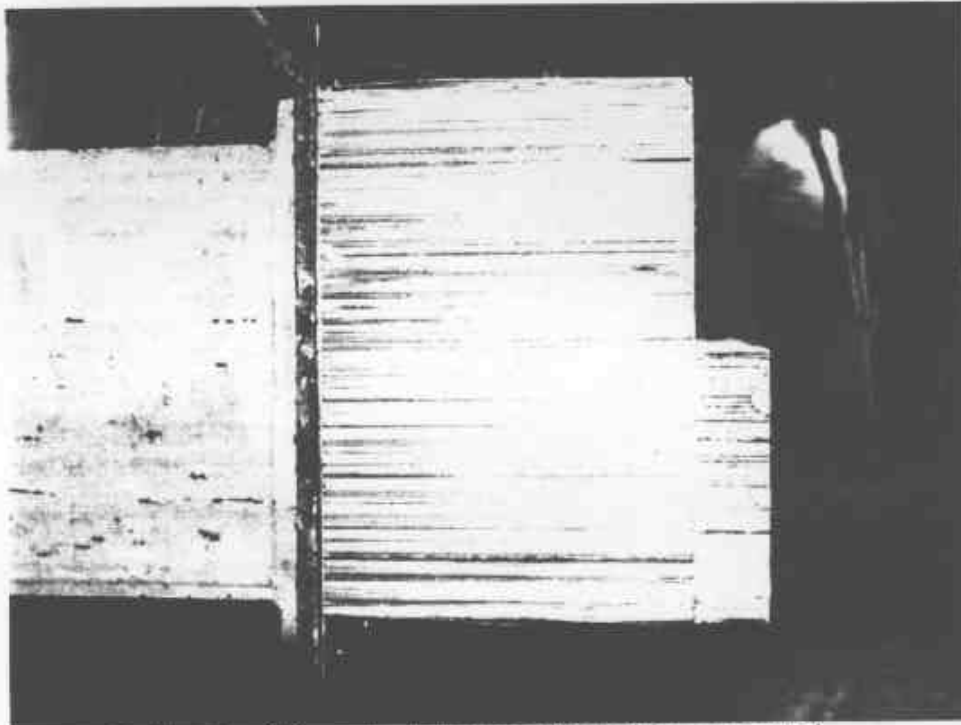


21. Vue du dessous du compartiment moteur, avant essai.
Front underbody view of the test vehicle, pre-test.

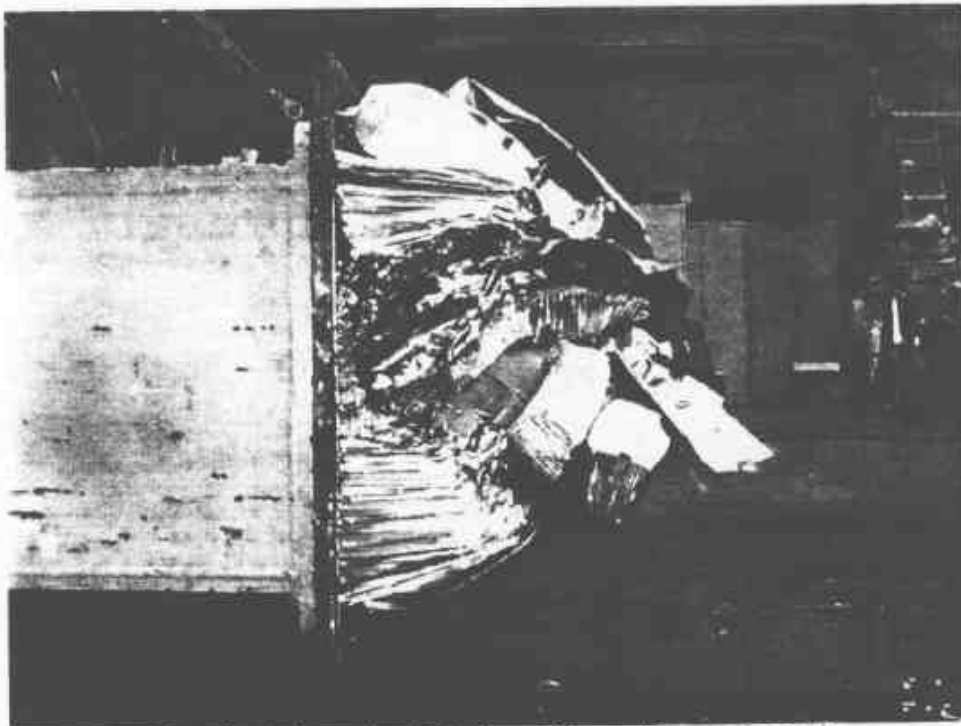


22. Vue du dessous du compartiment moteur, après essai.
Front underbody view of the test vehicle, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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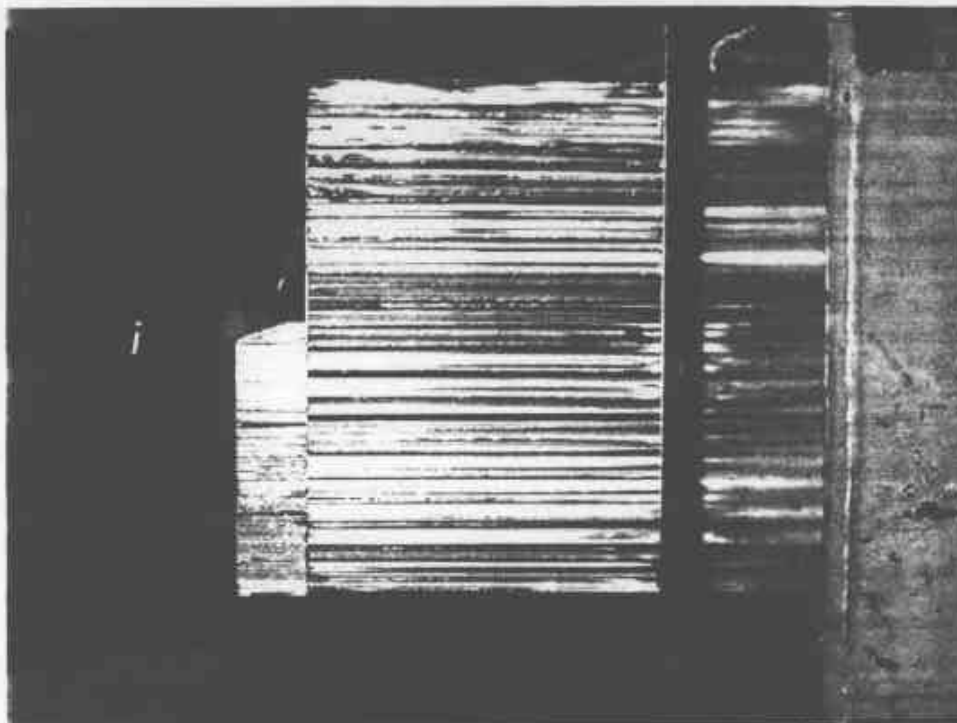


23. Vue du côté gauche de la face déformable, avant essai.
Left side view of the deformable face, pre-test.



24. Vue du côté gauche de la face déformable, après essai.
Left side view of the deformable face, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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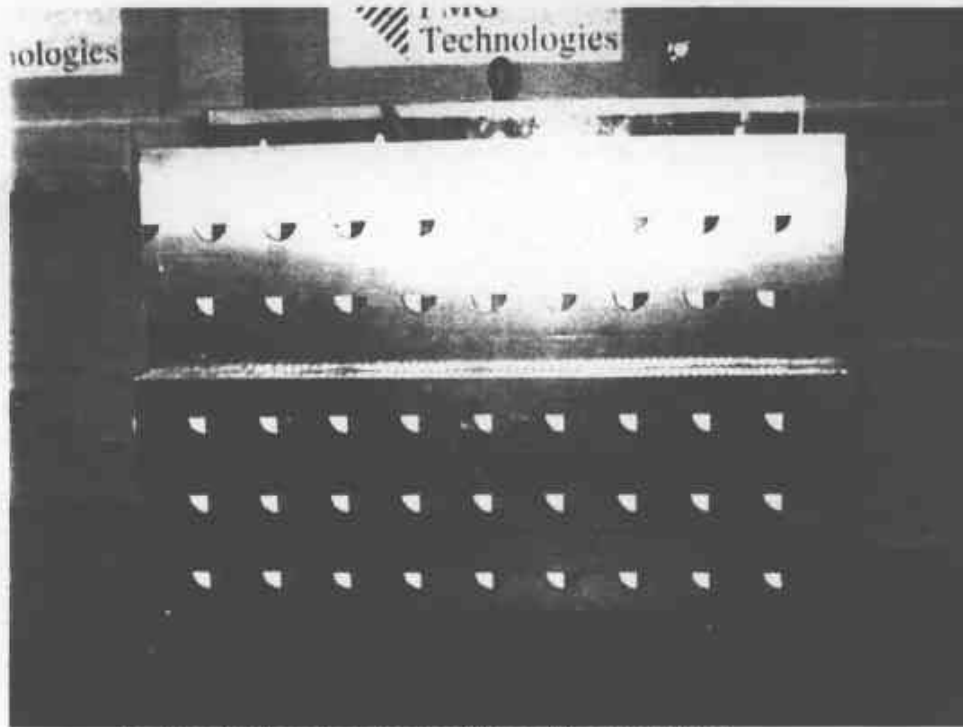


25. Vue du côté droit de la face déformable, avant essai.
 Right side view of the deformable face, pre-test.

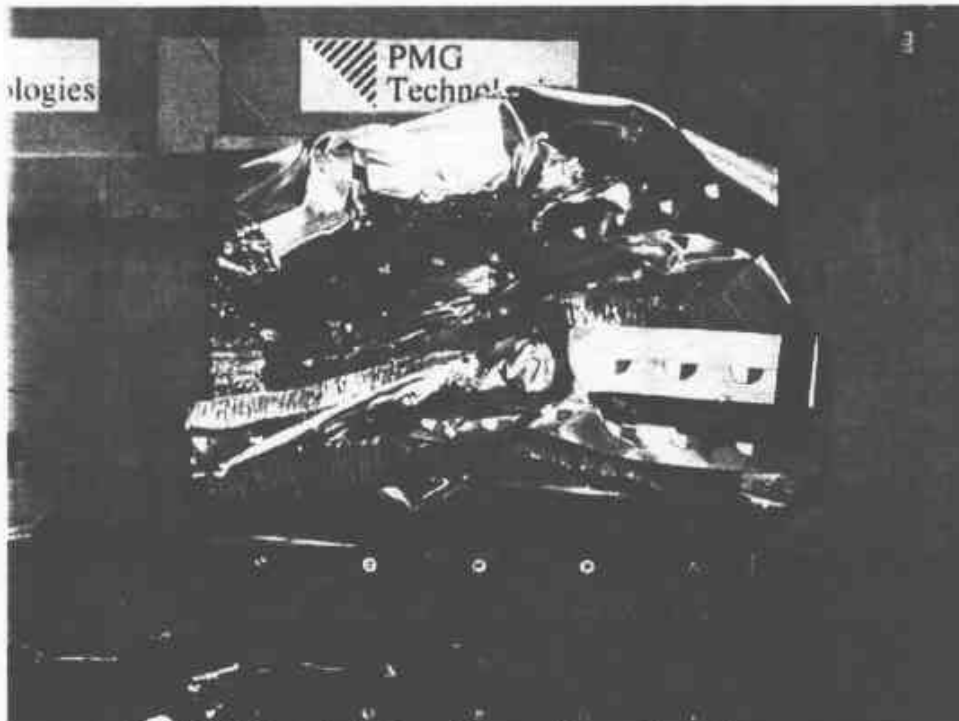


26. Vue du côté droit de la face déformable, après essai.
 Right side view of the deformable face, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C.N. T.C.No	99-204
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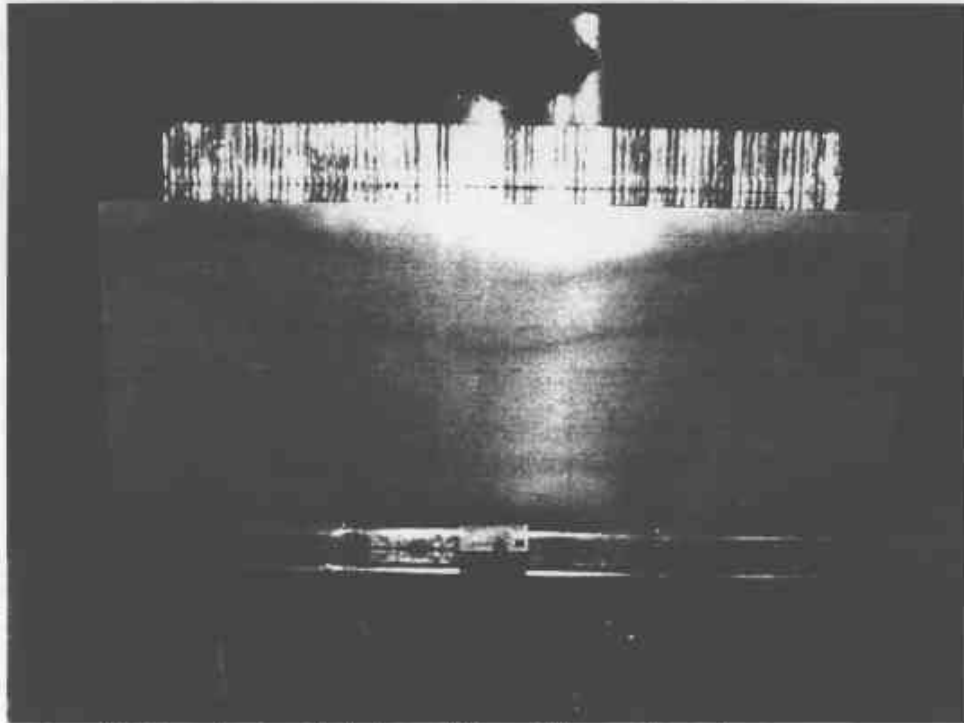


27. Vue de face de la face déformable, avant essai.
Front view of the deformable face, pre-test.



28. Vue de face de la face déformable, après essai.
Front view of the deformable face, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C. No	99-204
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29. Vue de plan de la face déformable, avant essai.
Plan view of the deformable face, pre-test.



30. Vue de plan de la face déformable, après essai.
Plan view of the deformable face, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C.N. T.C.No.	99-204
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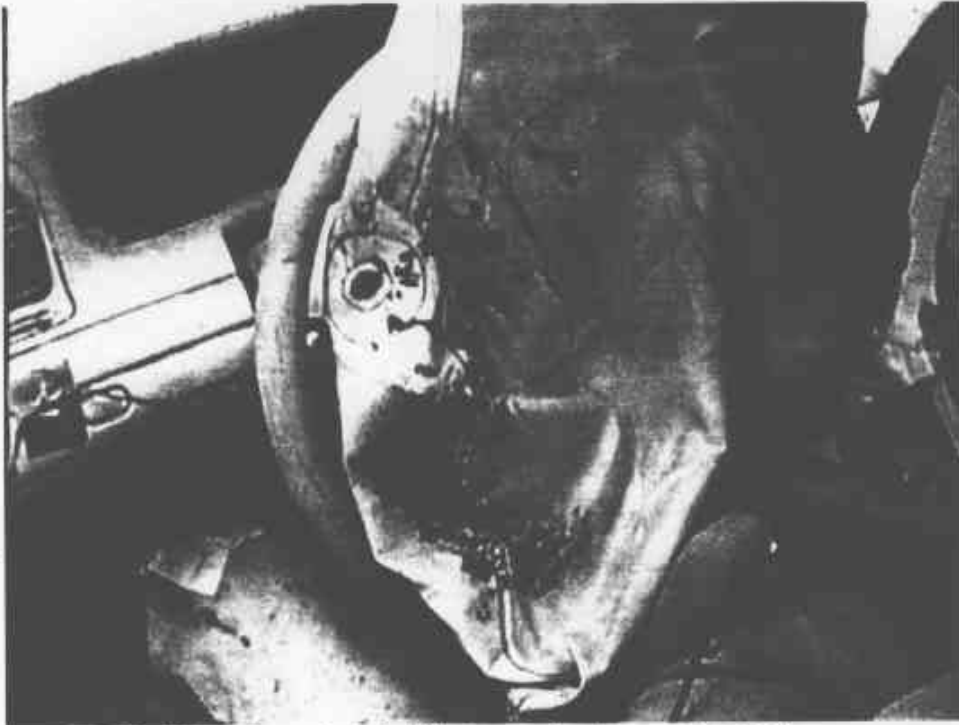


31. Position du conducteur, avant essai.
Driver's position, pre-test.

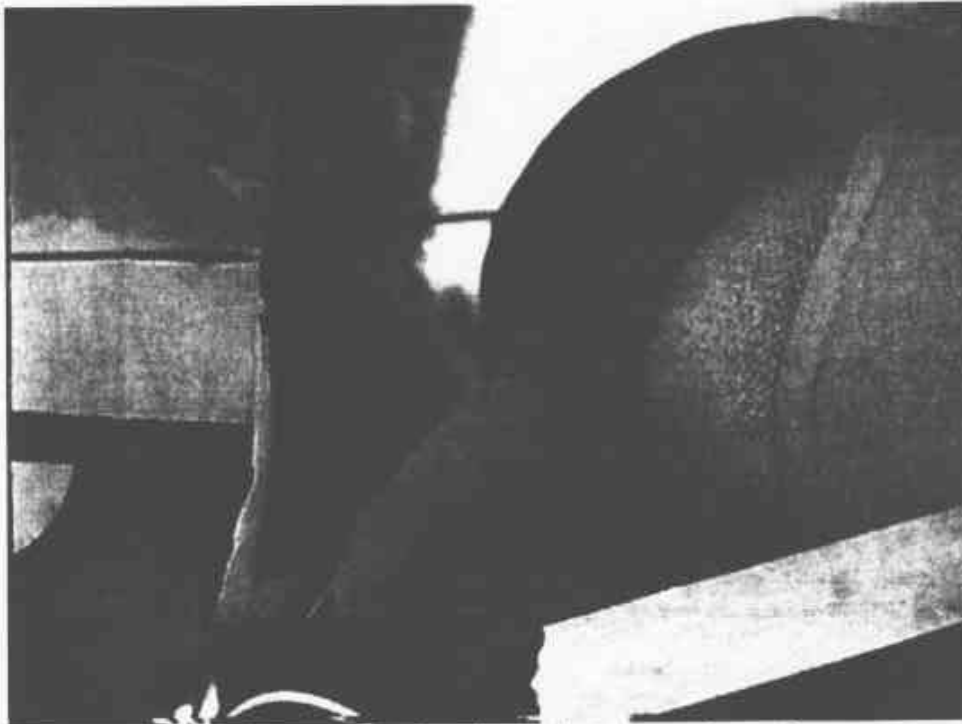


32. Position du conducteur, après essai.
Driver's position, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C. No	99-204
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33. Point de contact de tête du conducteur, après essai.
Driver's head contact point, post-test.



34. Point de contact de tête du conducteur, après essai.
Driver's head contact point, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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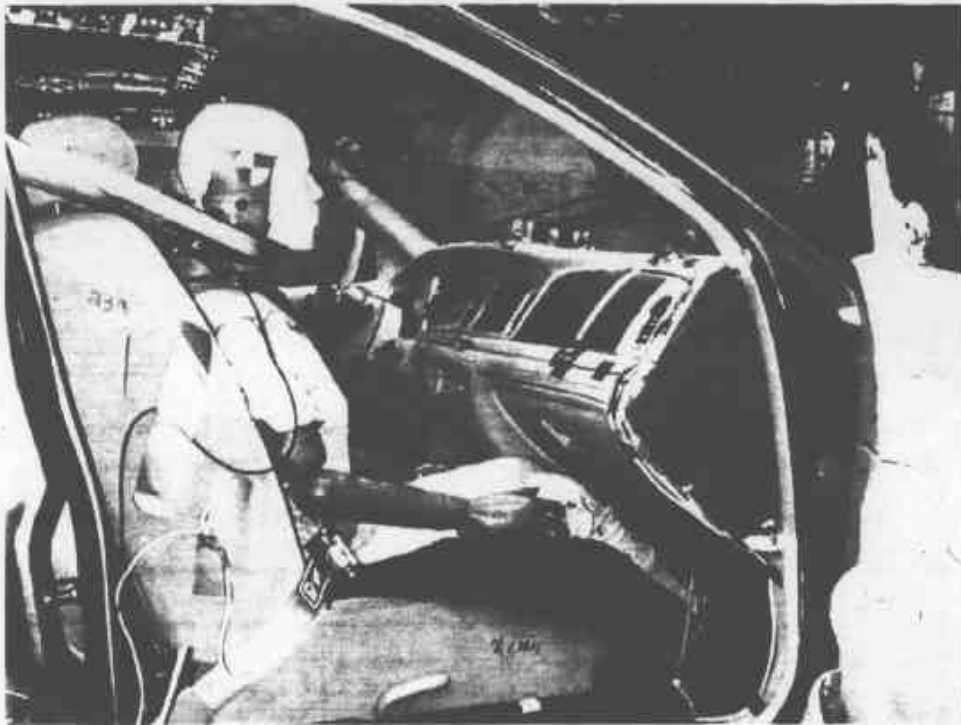


35. Point de contact du genou gauche du conducteur, après essai.
Driver's left knee contact point, post-test.



36. Point de contact du genou droit du conducteur, après essai.
Driver's right knee contact point, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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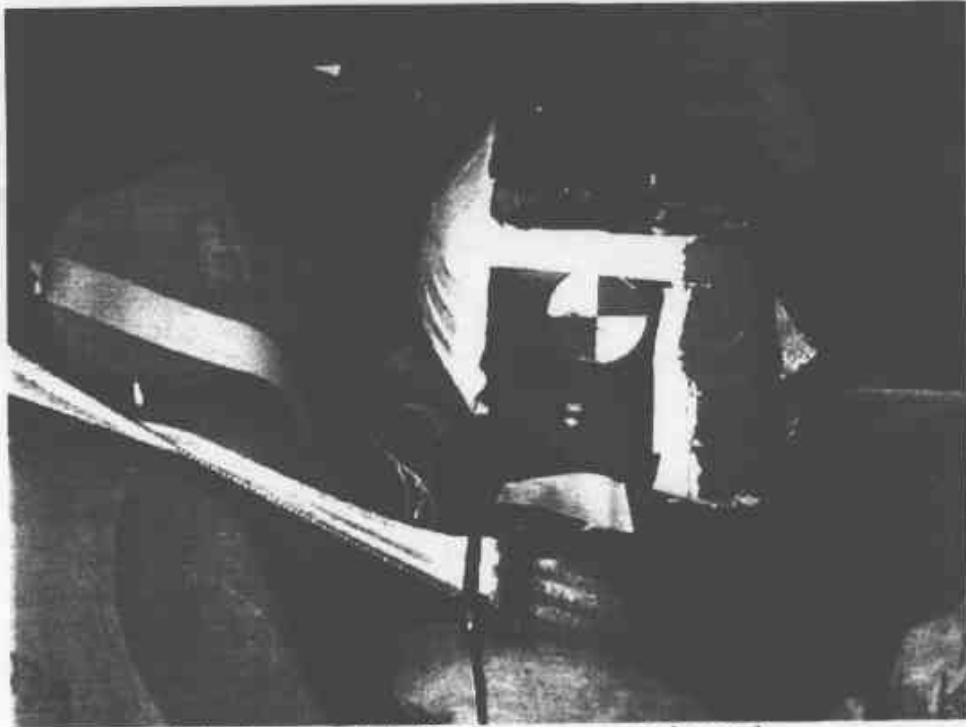


37. Position du passager, avant essai.
Passenger's position, pre-test.

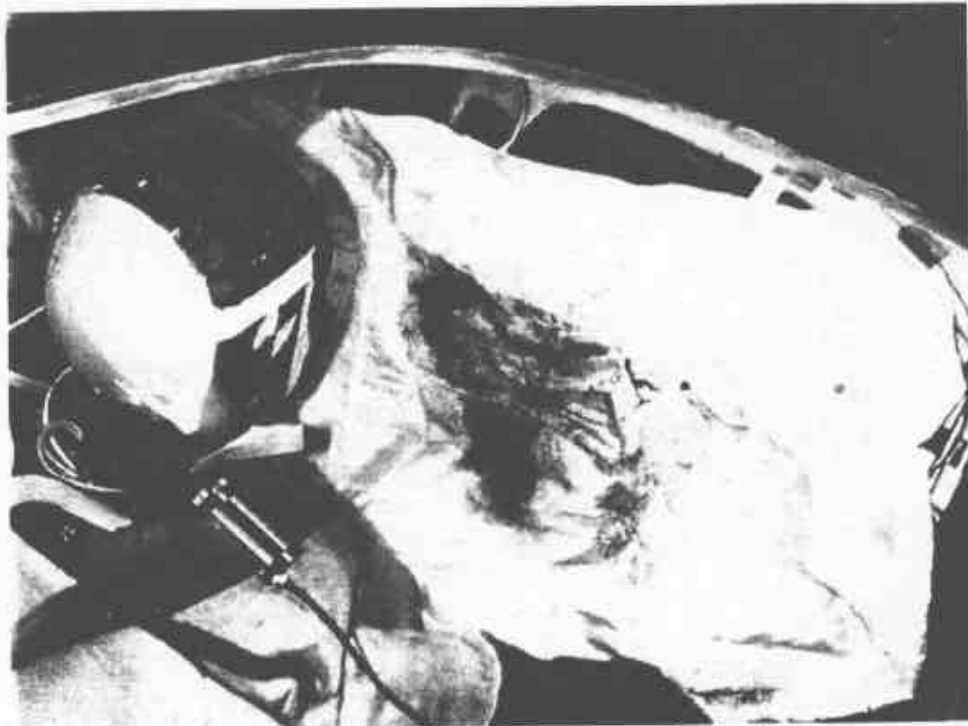


38. Position du passager, après essai.
Passenger's position, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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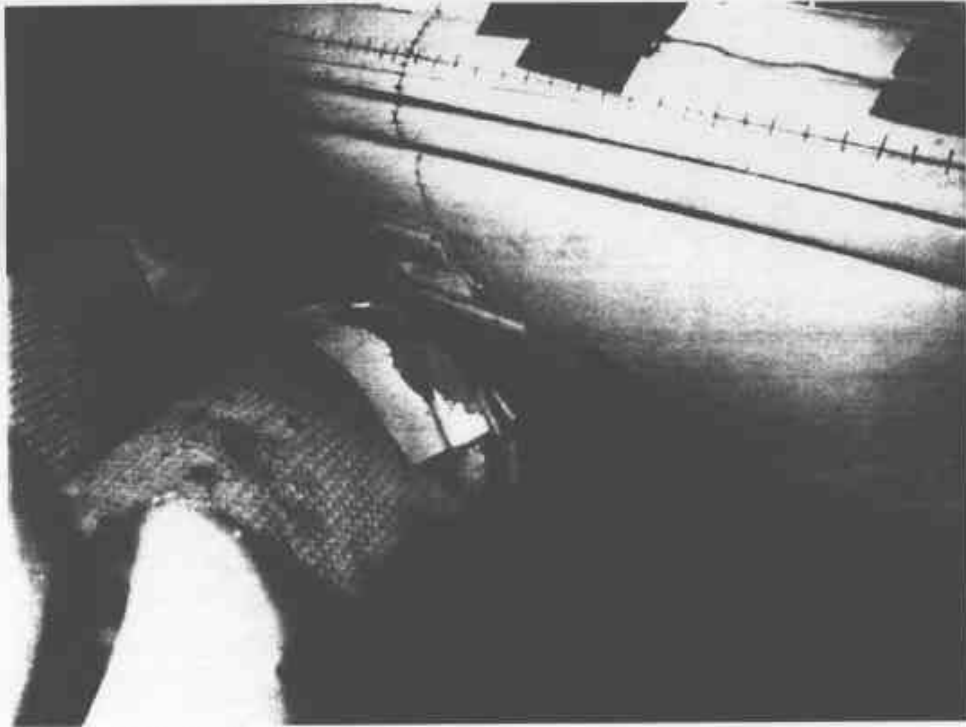


39. Point de contact de tête du passager, après essai.
Passenger's head contact point, post-test.



40. Point de contact de tête du passager, après essai.
Passenger's head contact point, post-test.

Date de collision Crash date	1999-01-22	Vehicule Vehicle	CROWN VICTORIA	T.C.N° T.C.No	99-204
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41. Point de contact du genou gauche du passager, après essai.
Passenger's left knee contact point, post-test.



42. Point de contact du genou droit du passager, après essai.
Passenger's right knee contact point, post-test.

Date de collision Crash date:	1999-01-22	Véhicule Vehicle:	CROWN VICTORIA	T.C.N. T.C.No.:	99-204
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43. Position du passager arrière gauche, avant essai.
Left rear passenger's position, pre-test.



44. Position du passager arrière gauche, après essai.
Left rear passenger's position, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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45. Position du passager arrière droit, avant essai.
 Right rear passenger's position, pre-test.



46. Position du passager arrière droit, après essai.
 Right rear passenger's position, post-test.

Date de collision Crash date	1999-01-22	Véhicule Vehicle	CROWN VICTORIA	T.C. N° T.C.No	99-204
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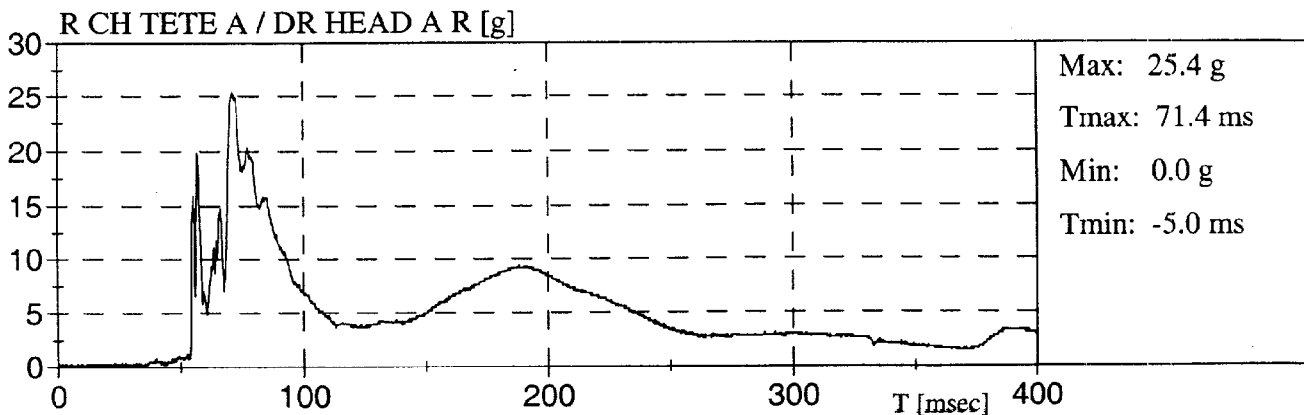
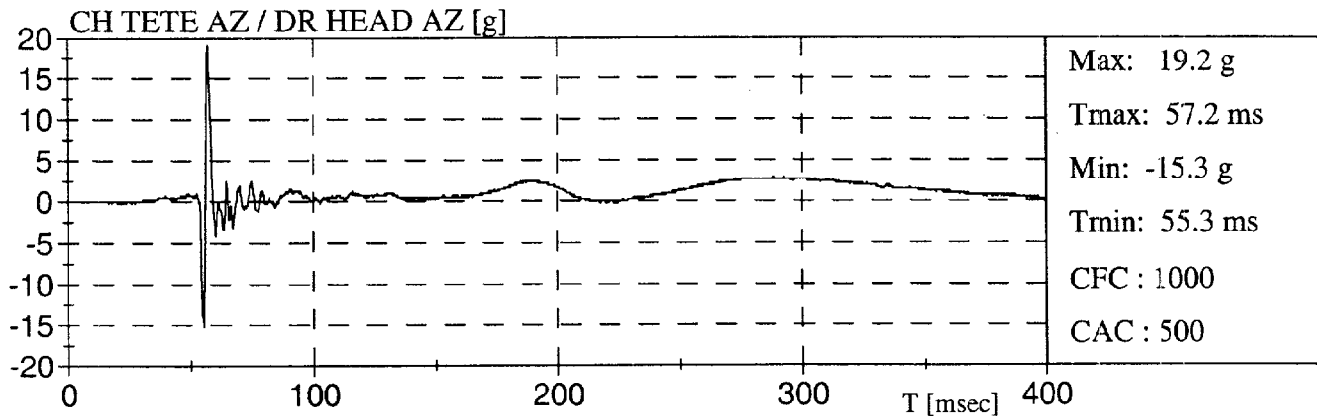
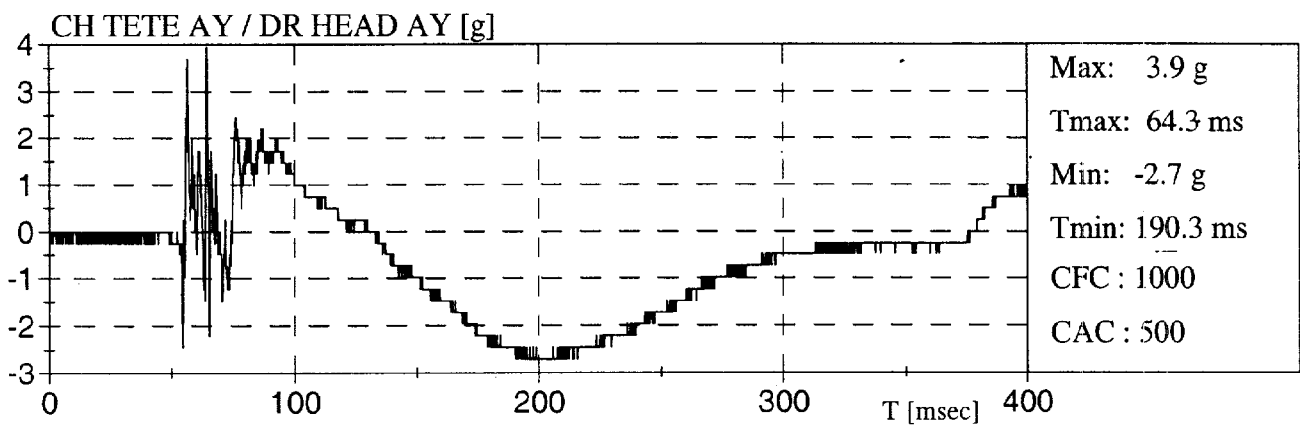
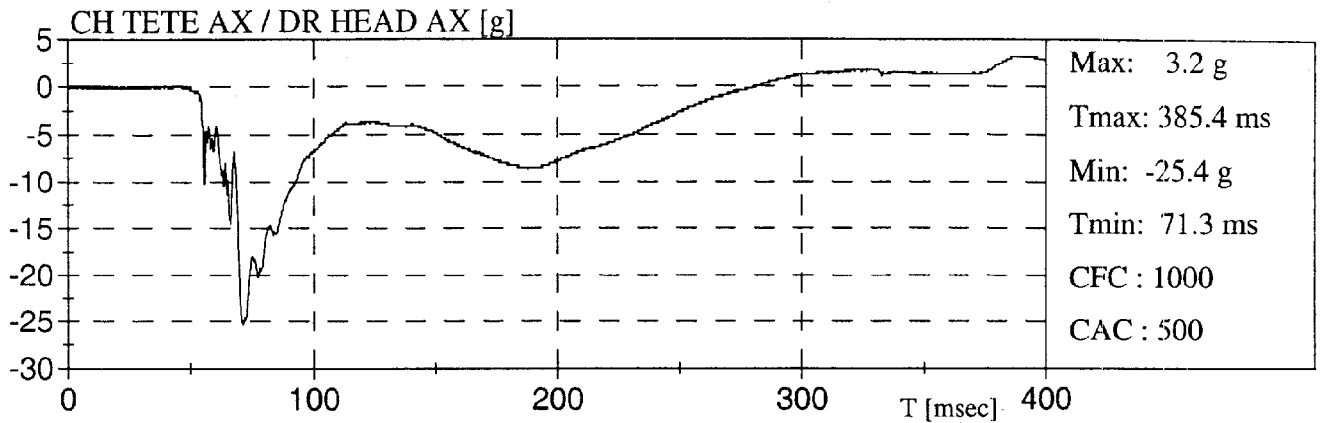


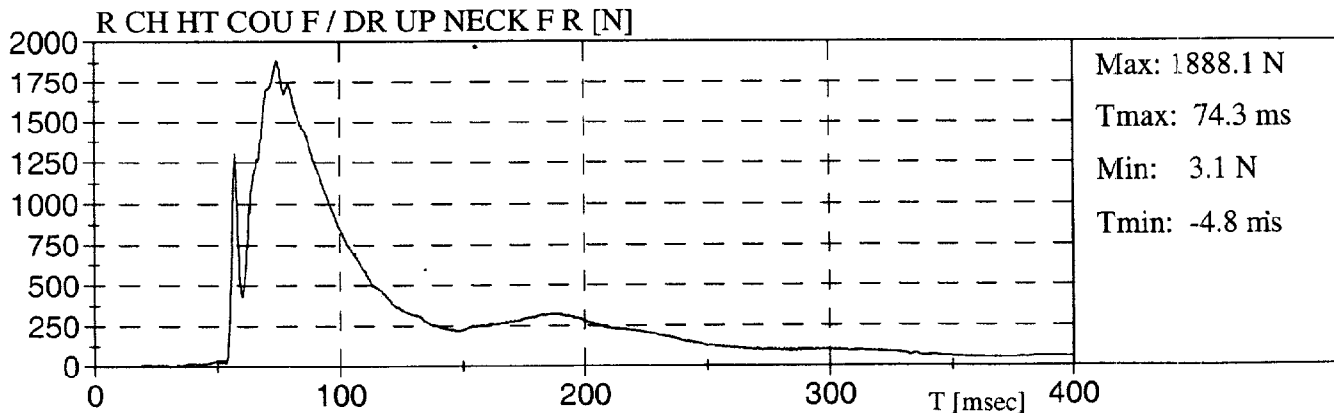
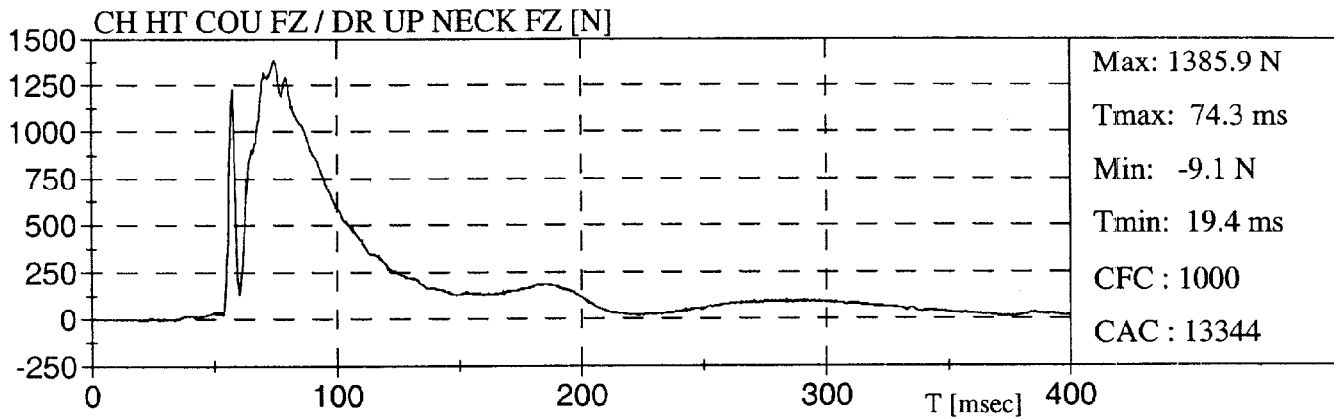
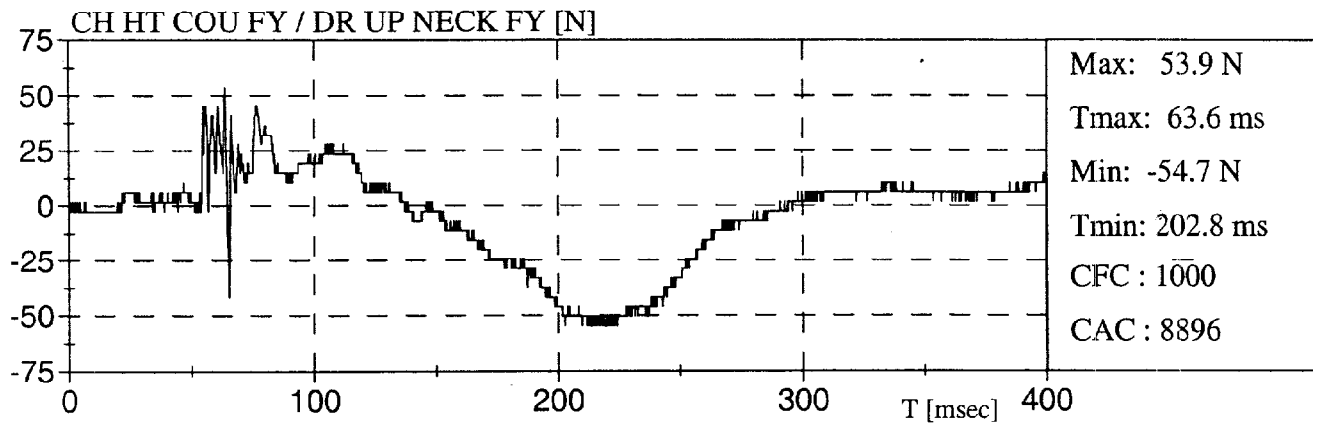
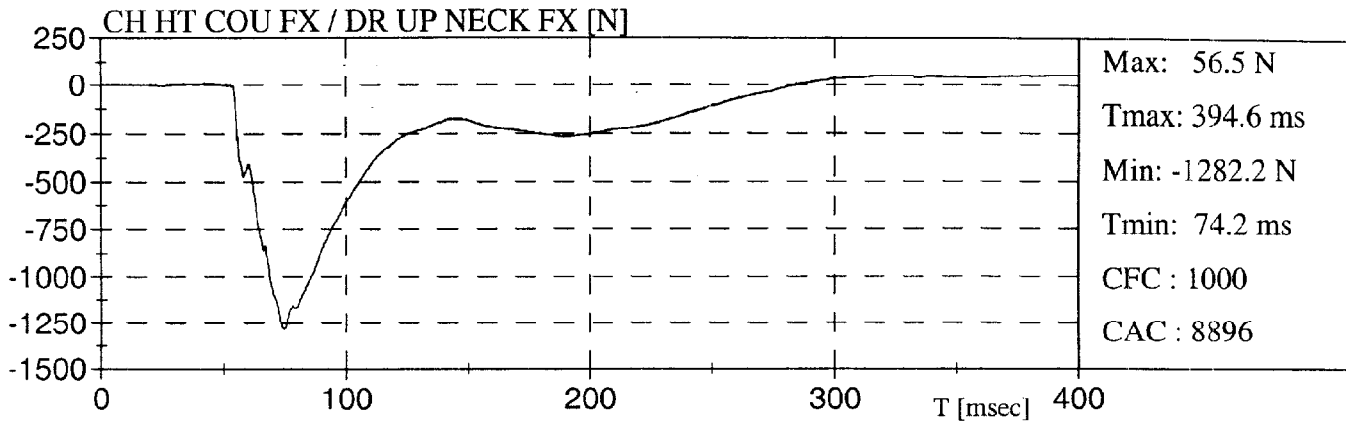
47. Affichage du lecteur de vitesse.
Speed trap reading.

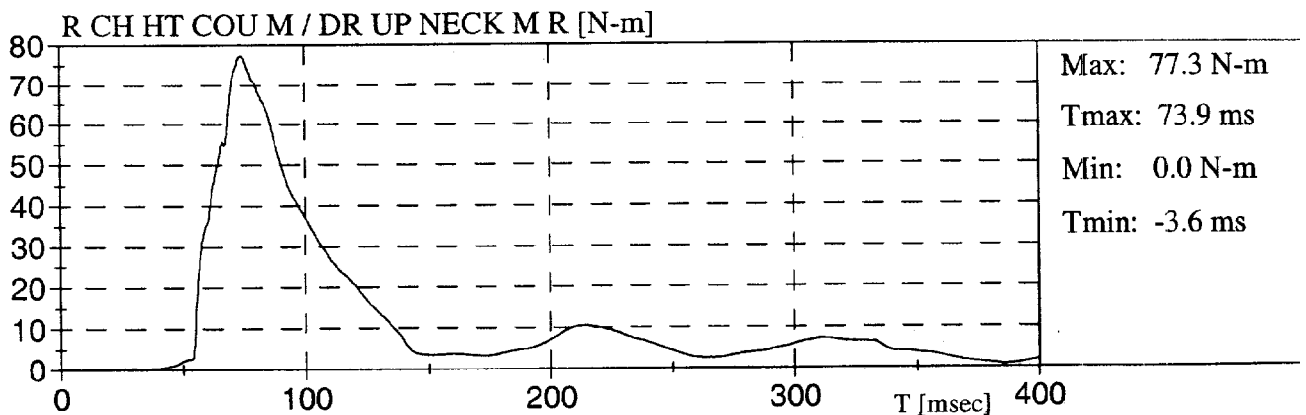
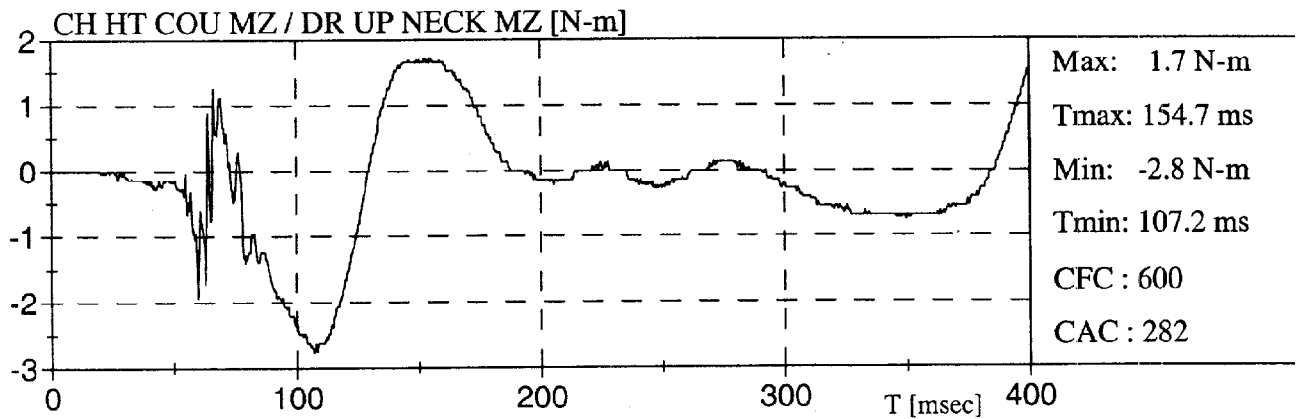
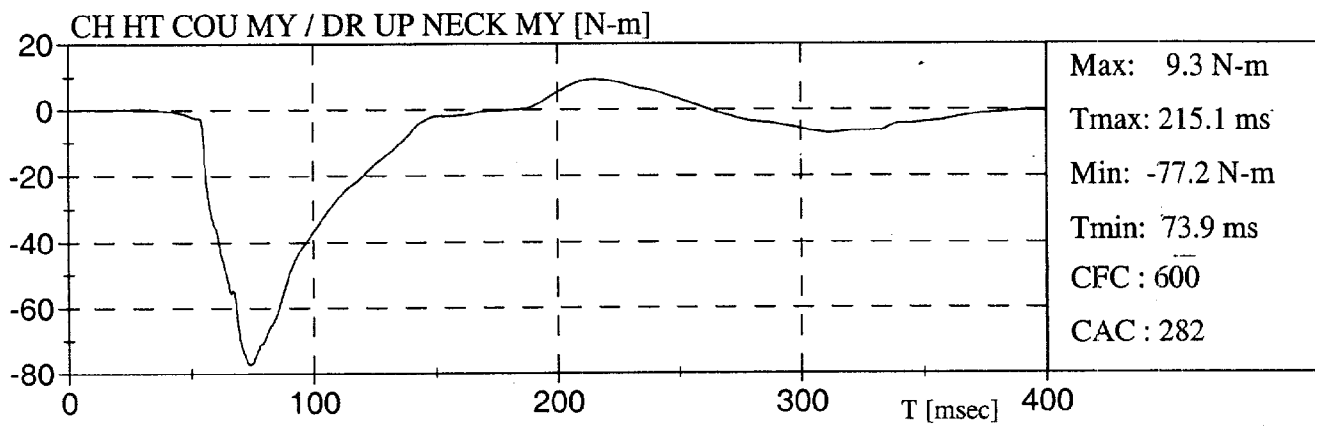
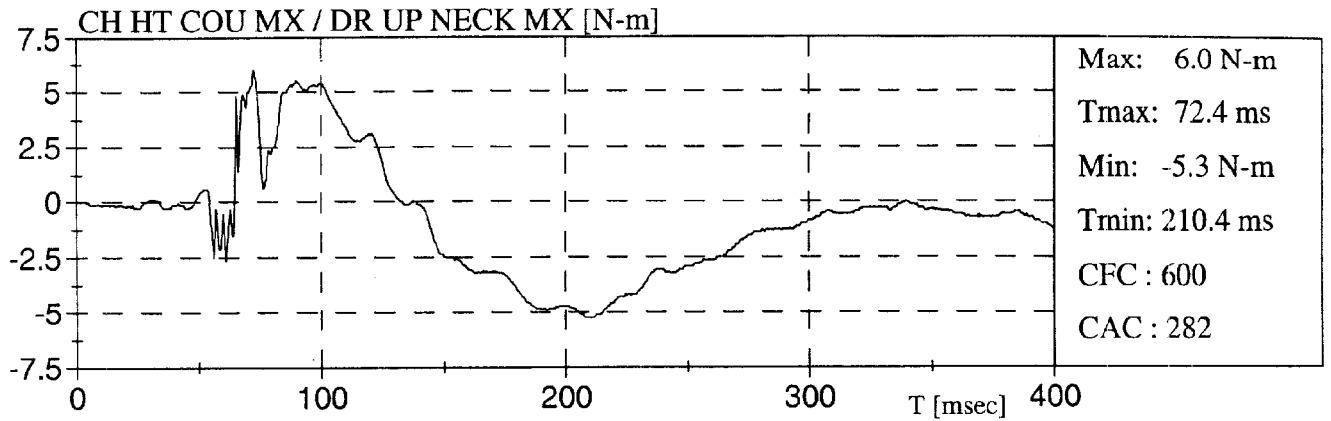
APPENDICE / APPENDIX B

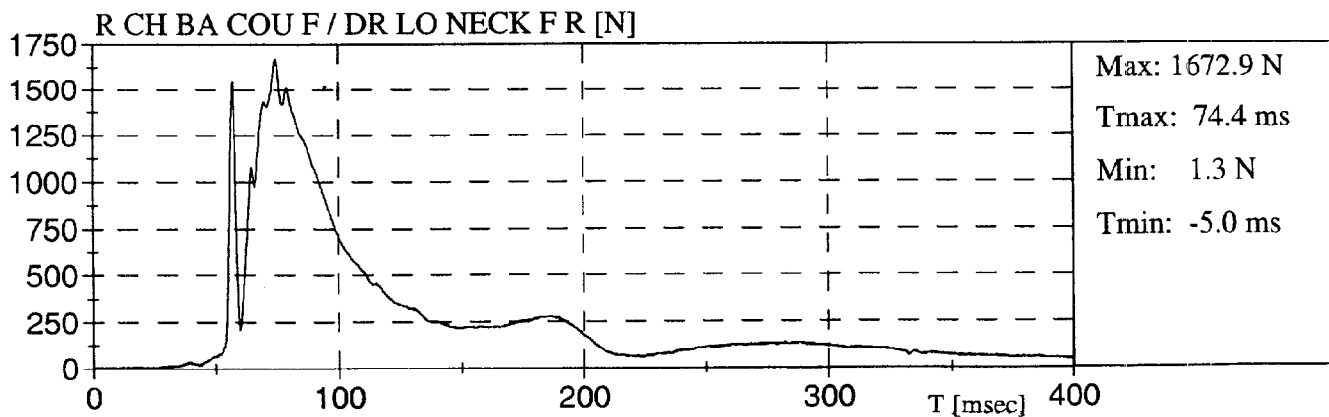
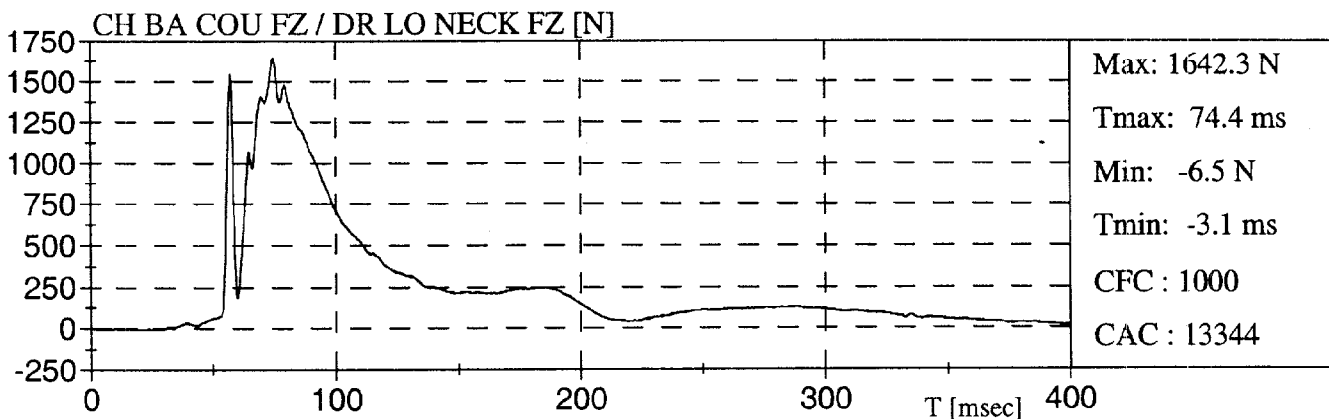
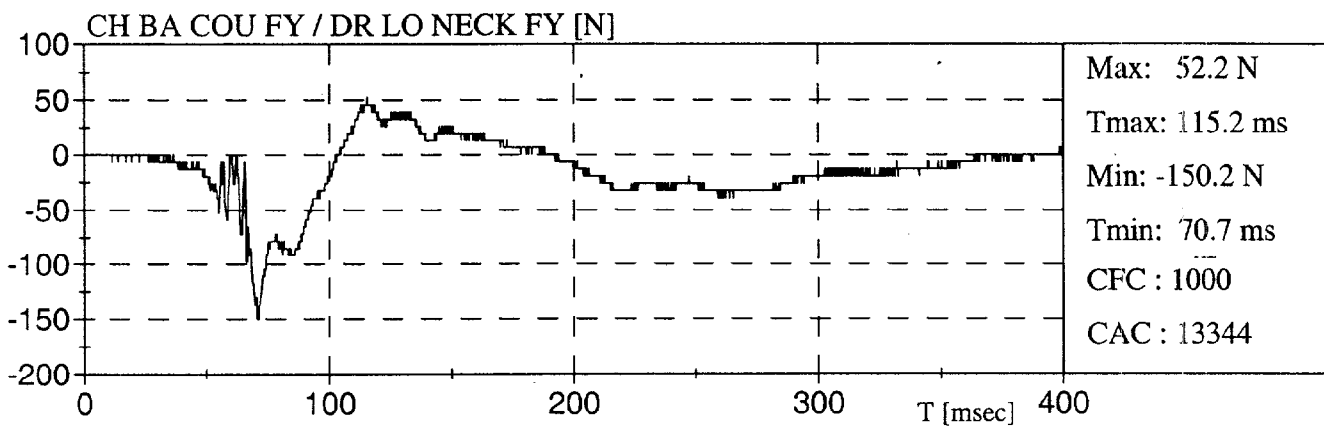
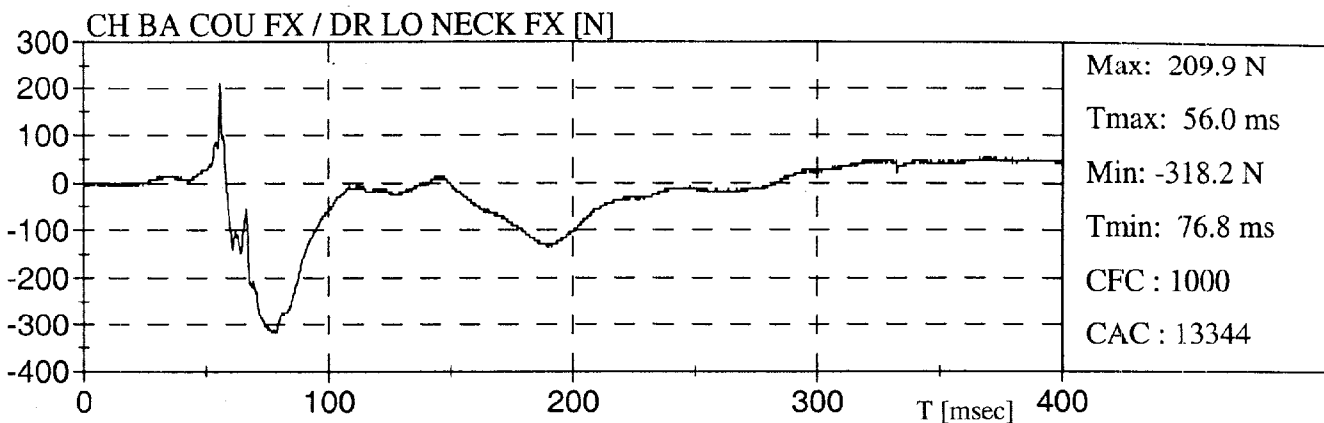
**DONNÉES GRAPHIQUES
GRAPHICAL DATA**

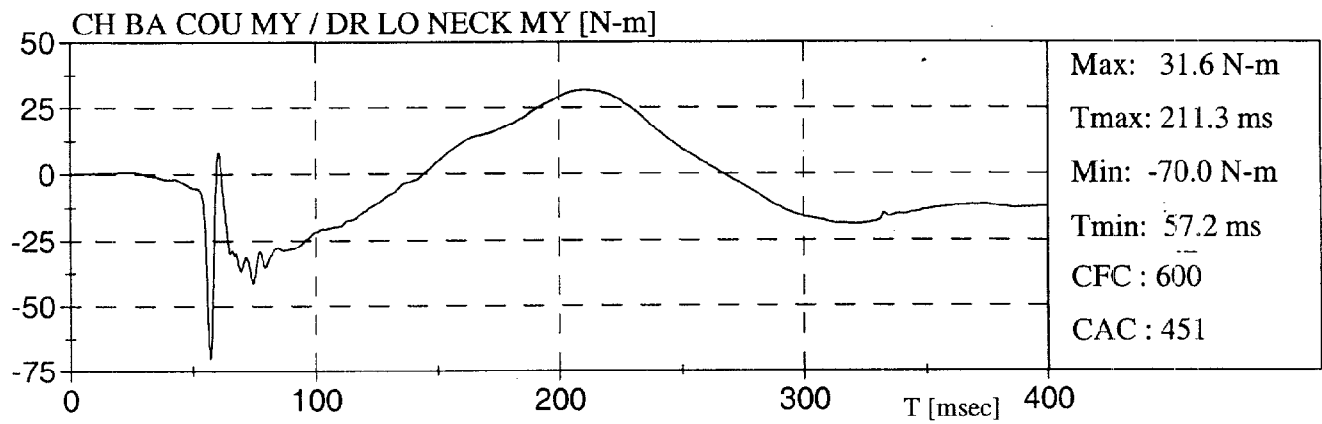
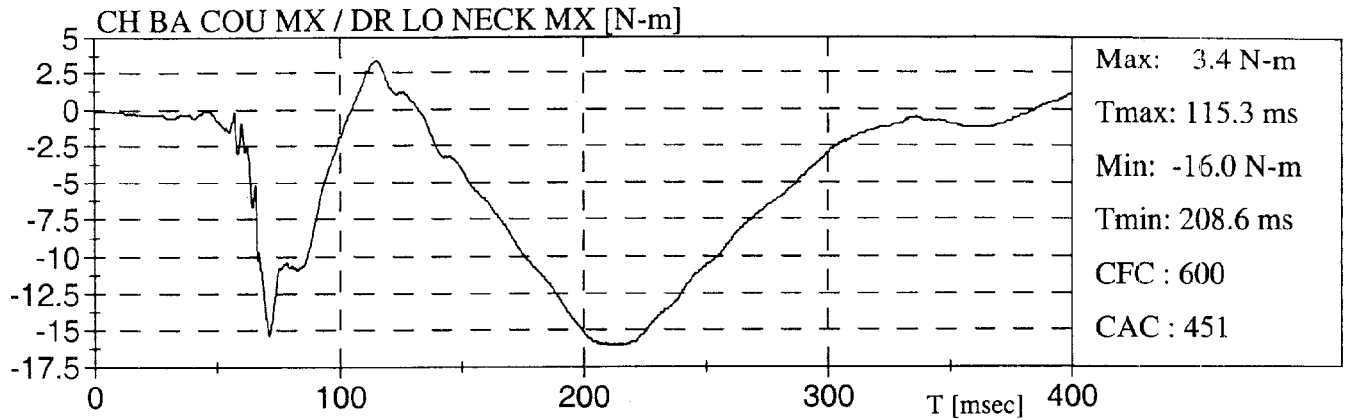
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Type de véhicule Type of Vehicle	CROWN VIC 99
Numéro de TC Tc Number	TC99-204
Numéro de contrat Contract No	99-5001
Acquisition de données selon Data Acquisition according to	SAE J211/1 MAR 95
Date de l'essai Test date	1999-01-22
Titre du projet Project Title	COLLISIONS DE RECHERCHE CONJOINTE TC/NHTSA 98/99 FRONTALE DÉCALÉE 40 KM/H - 40% DROIT 98/99 TC/NHTSA JOINT RESEARCH COLLISION TESTS OFFSET FRONTAL 40 KM/H - 40% RIGHT
MANNEQUIN / DUMMY	
Chauffeur Driver	HYBRID III 5% Femelle / Female
Passager Passenger	HYBRID III 5% Femelle / Female
Passager 1 (arrière gauche) Passenger 1 (rear left)	HYBRID III 18M
Passager 2 (arrière droit) Passenger 2 (rear right)	HYBRID III 3Y

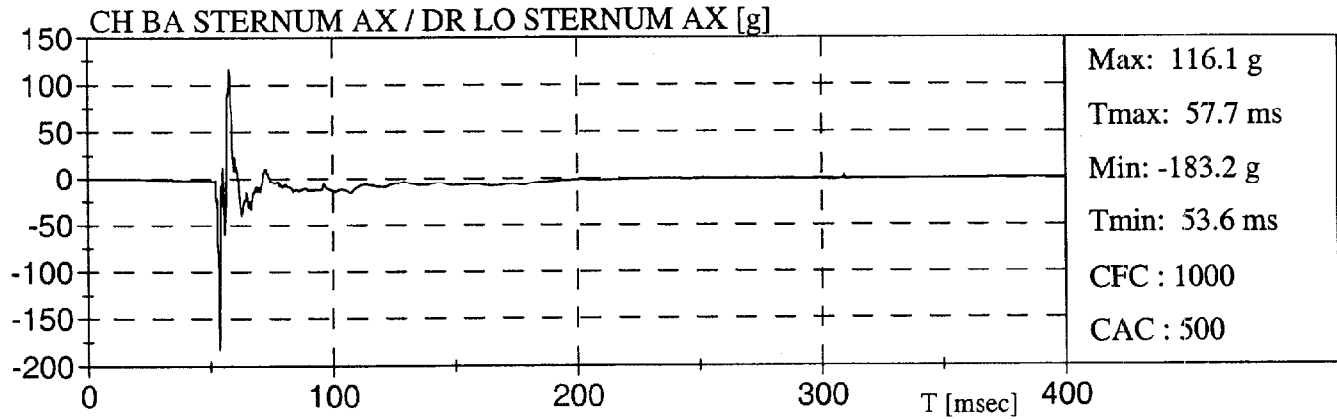
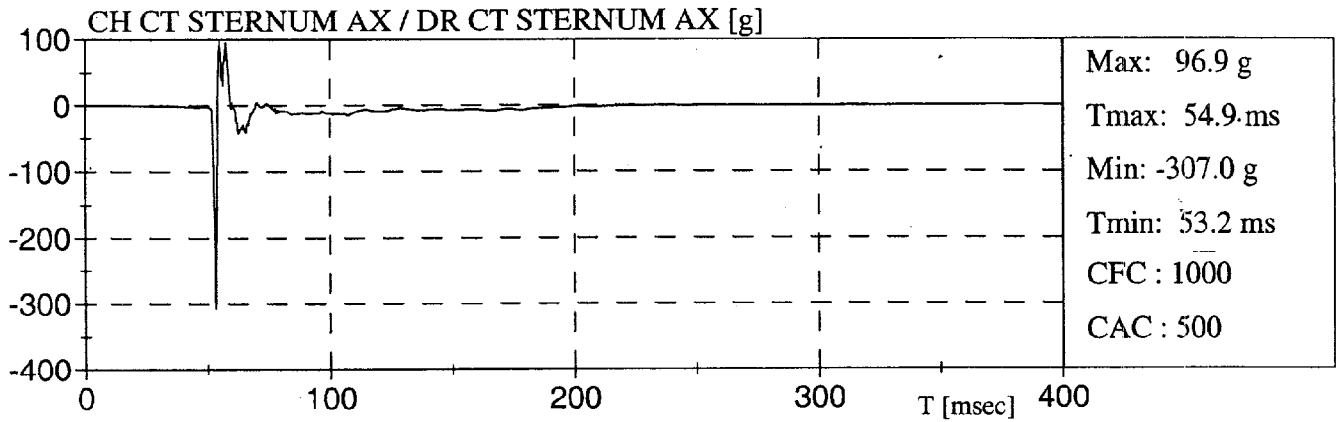
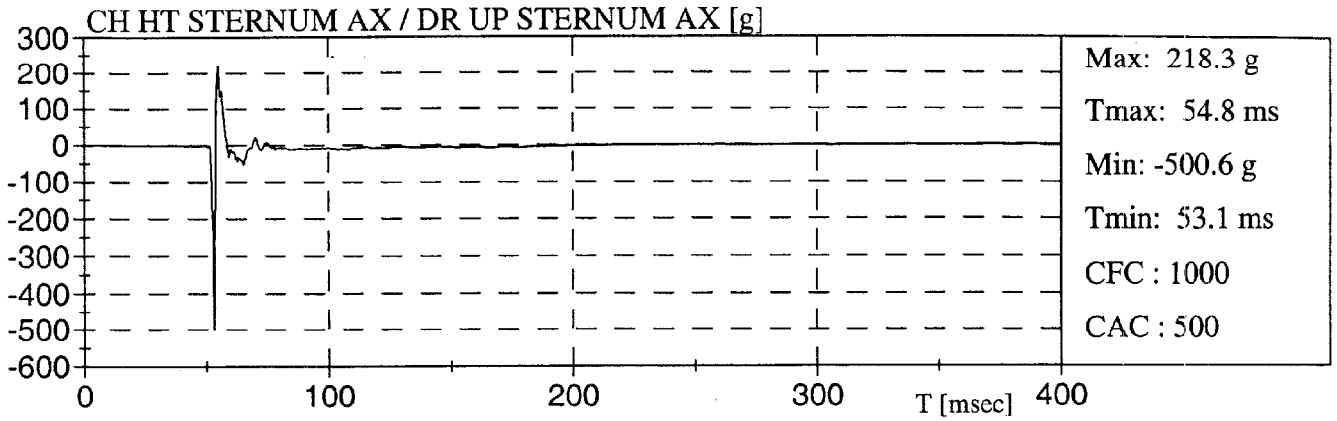


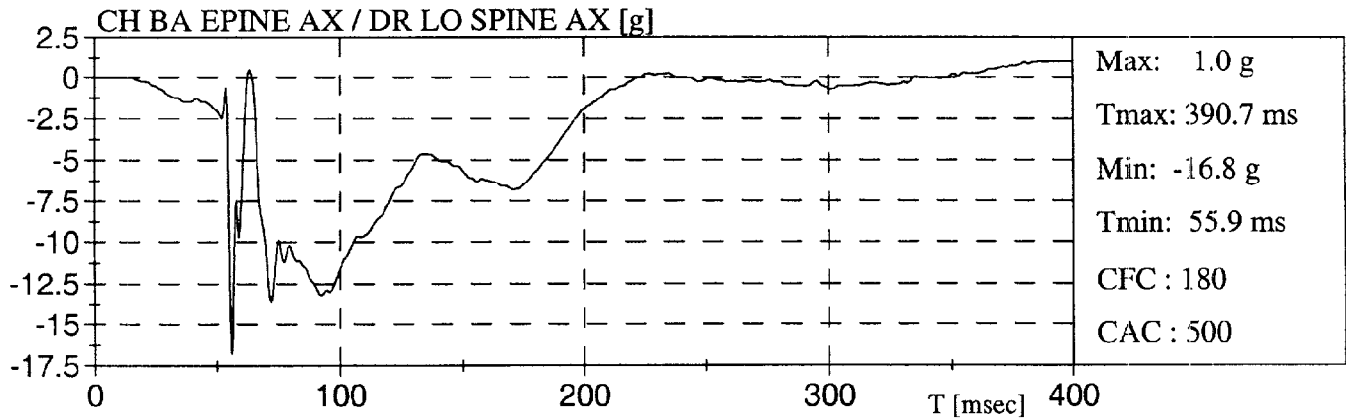
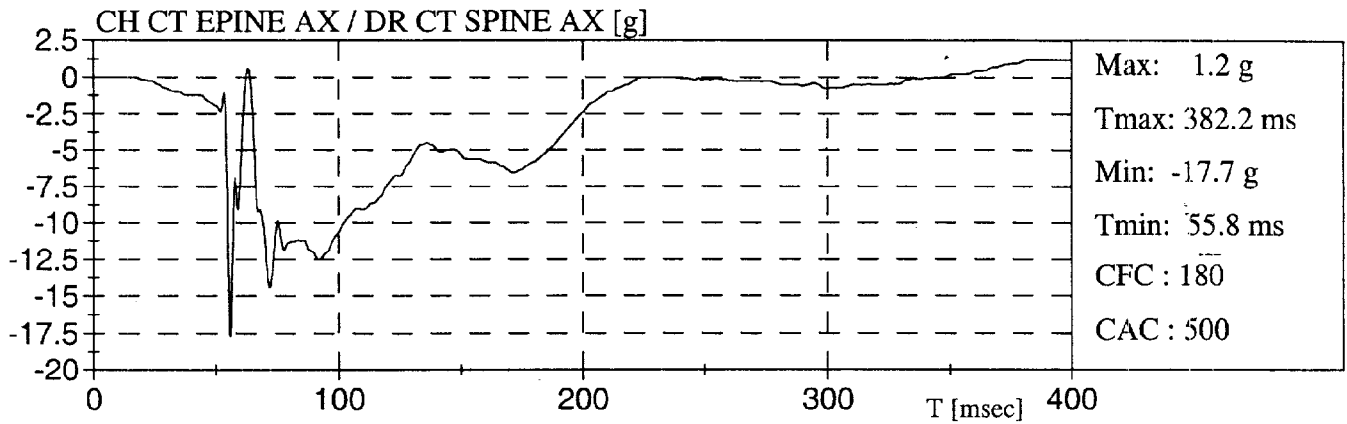
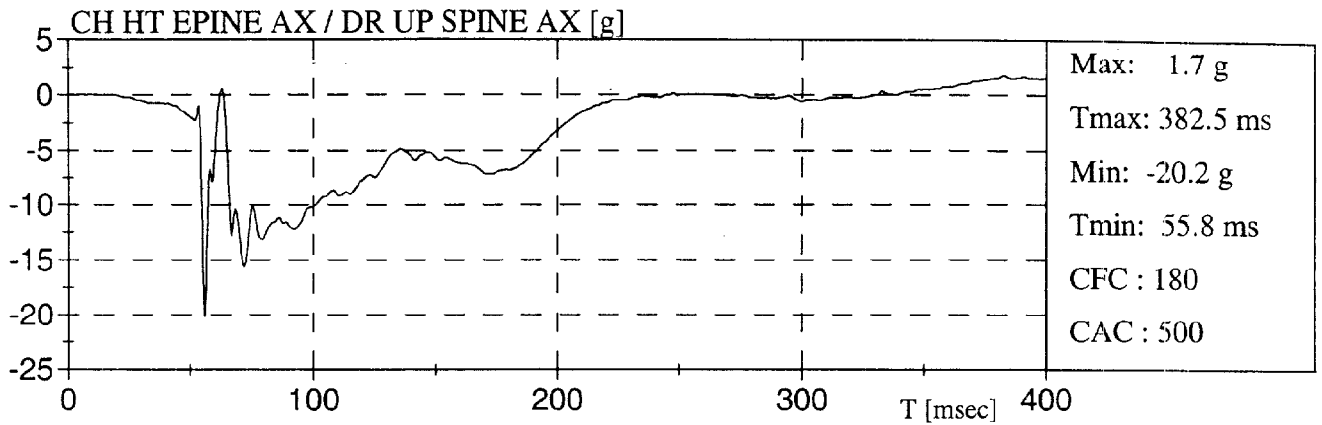


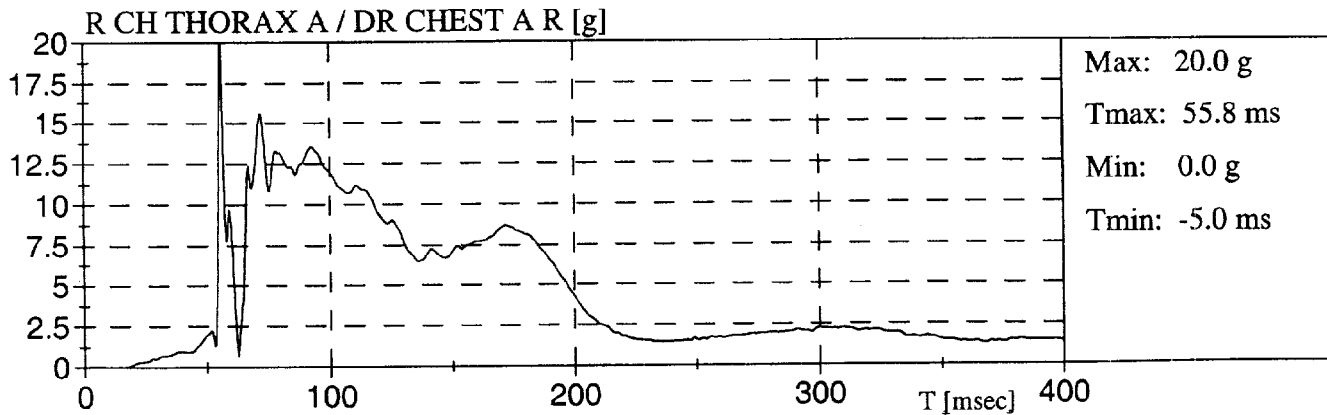
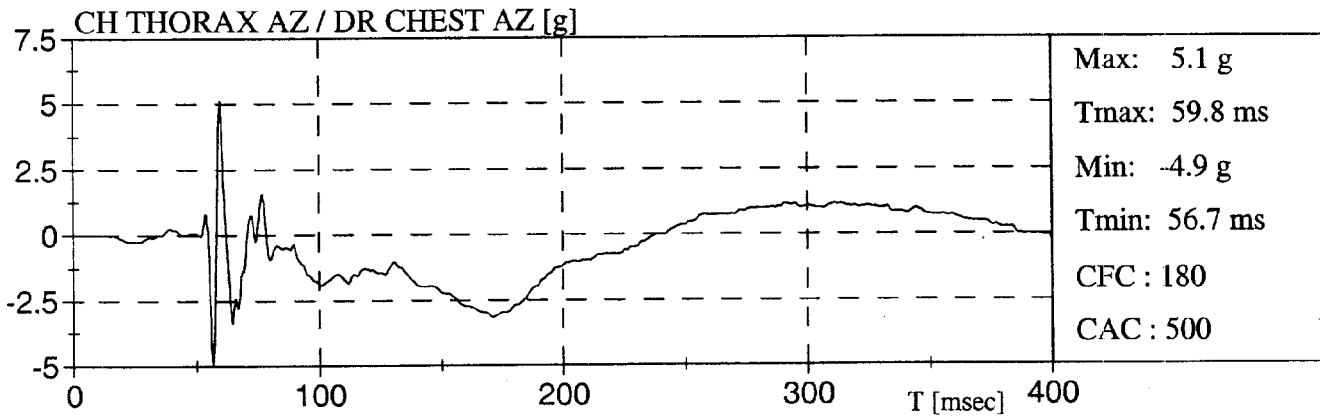
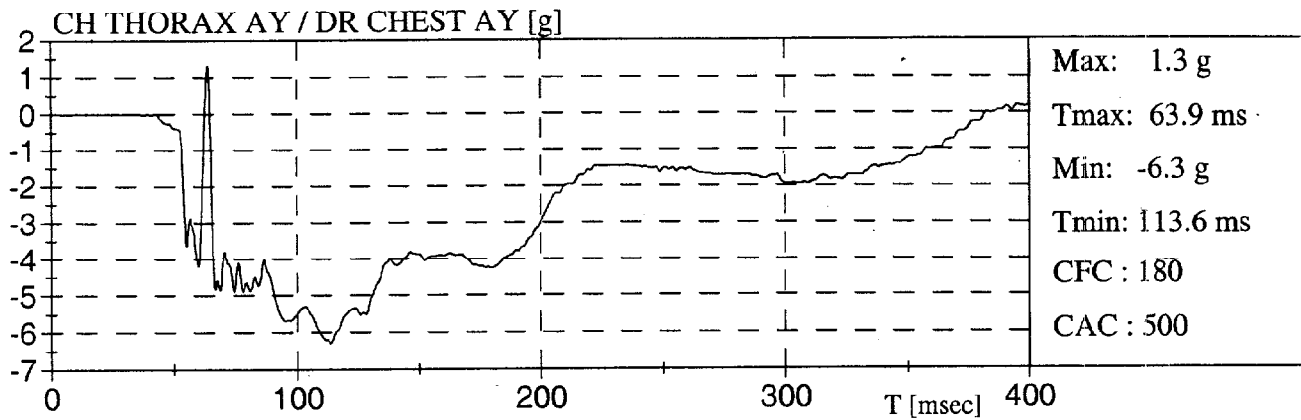
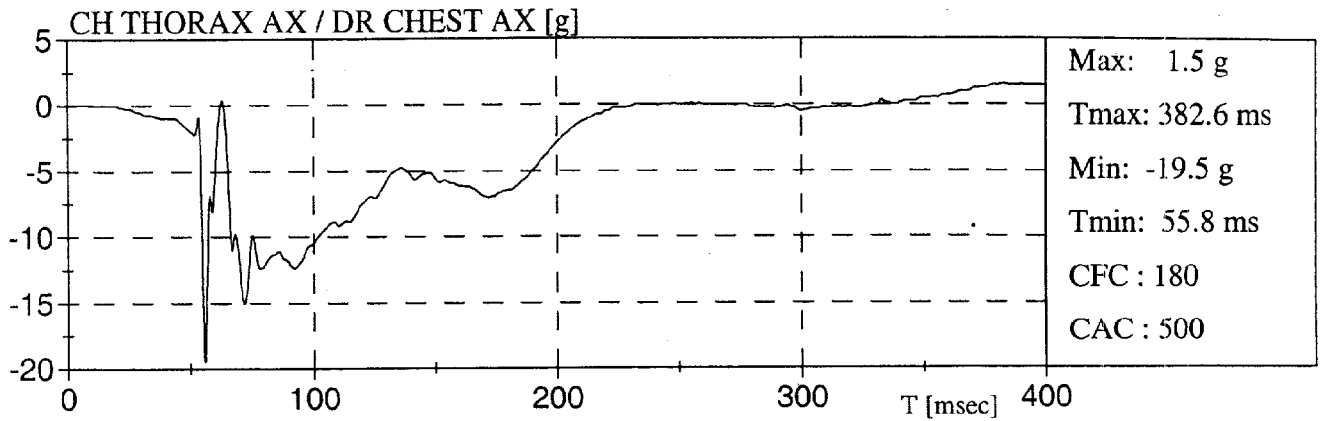


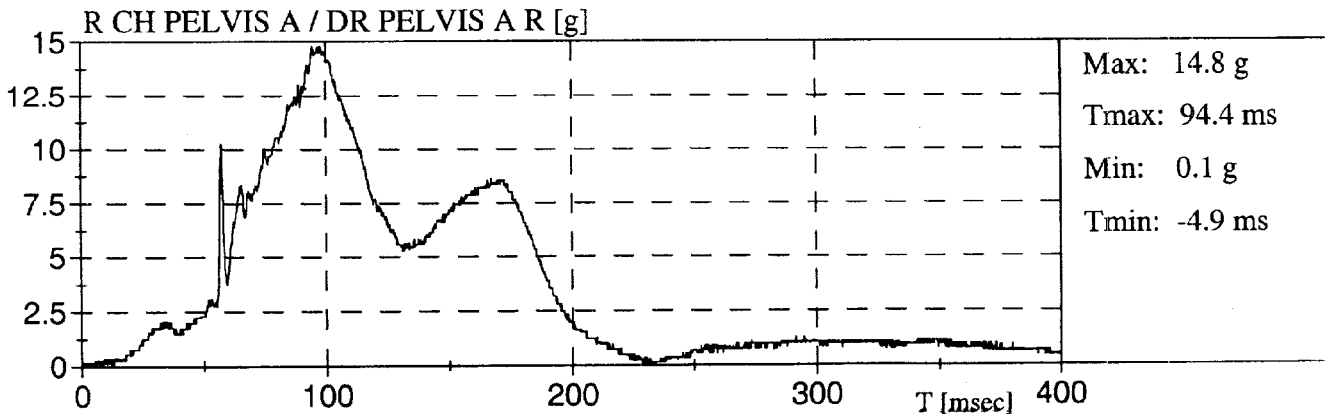
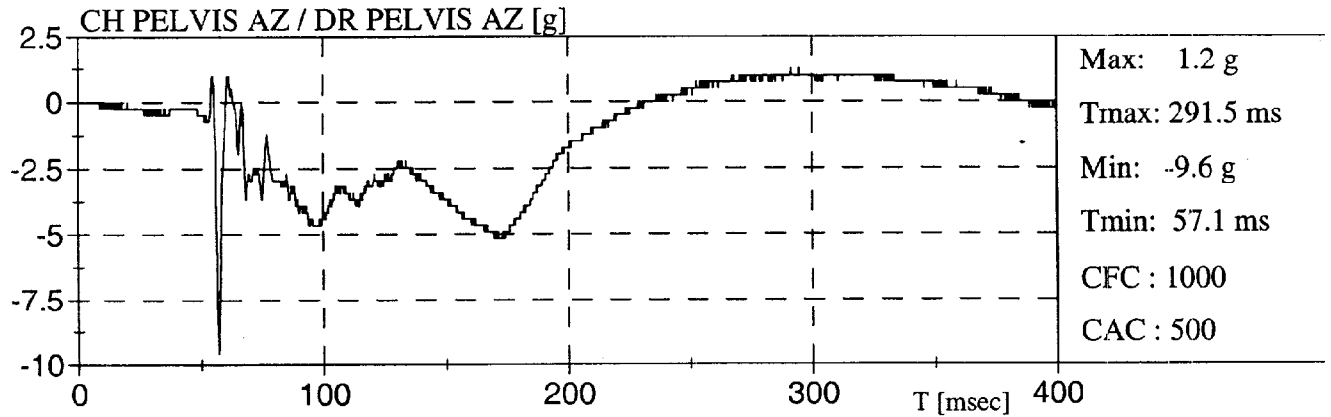
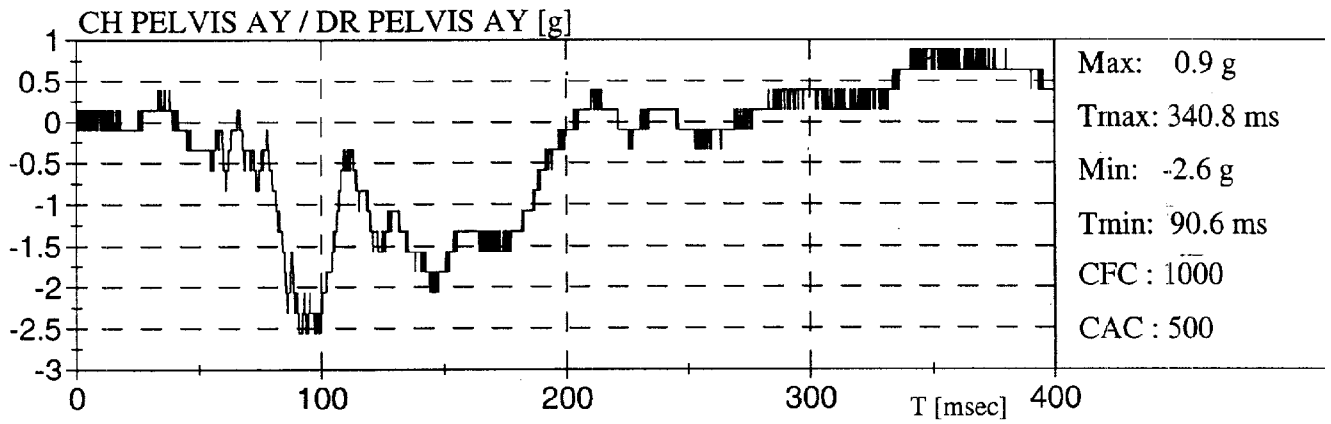
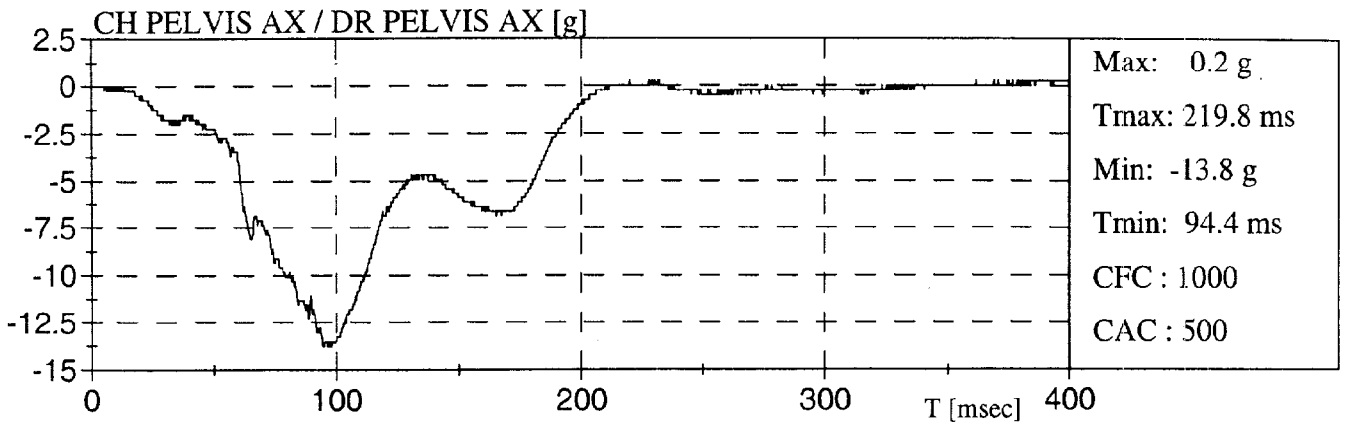


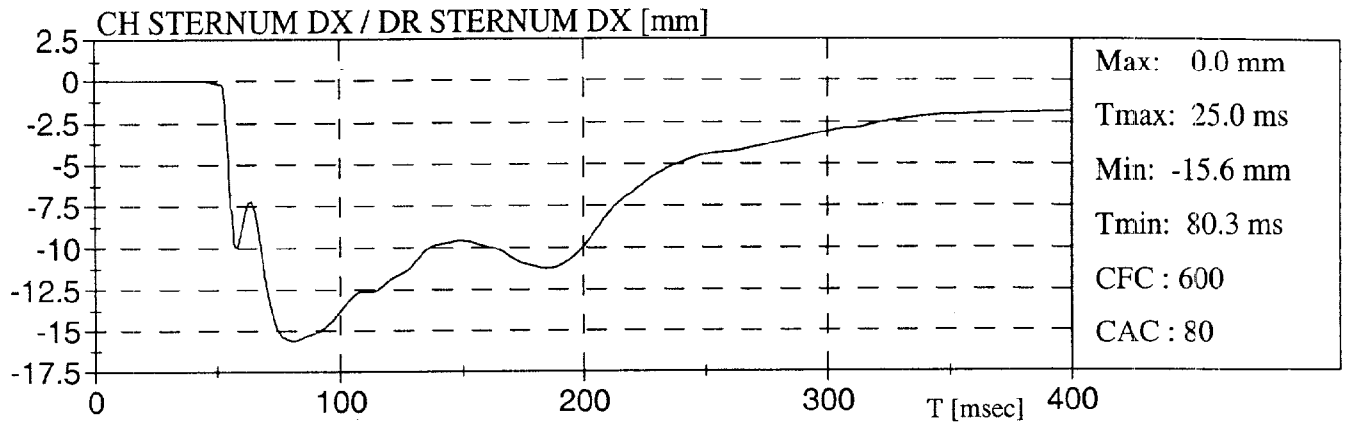


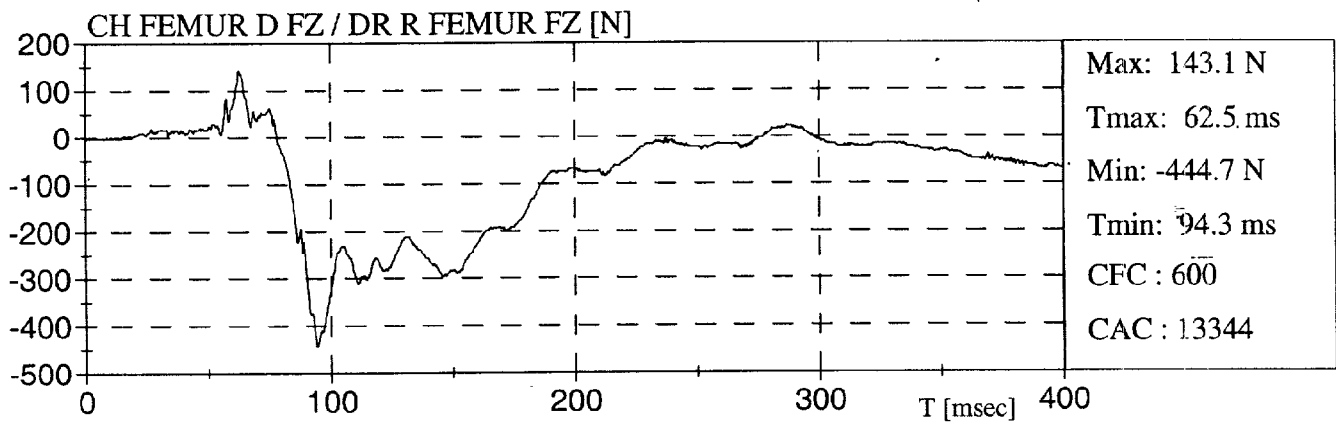
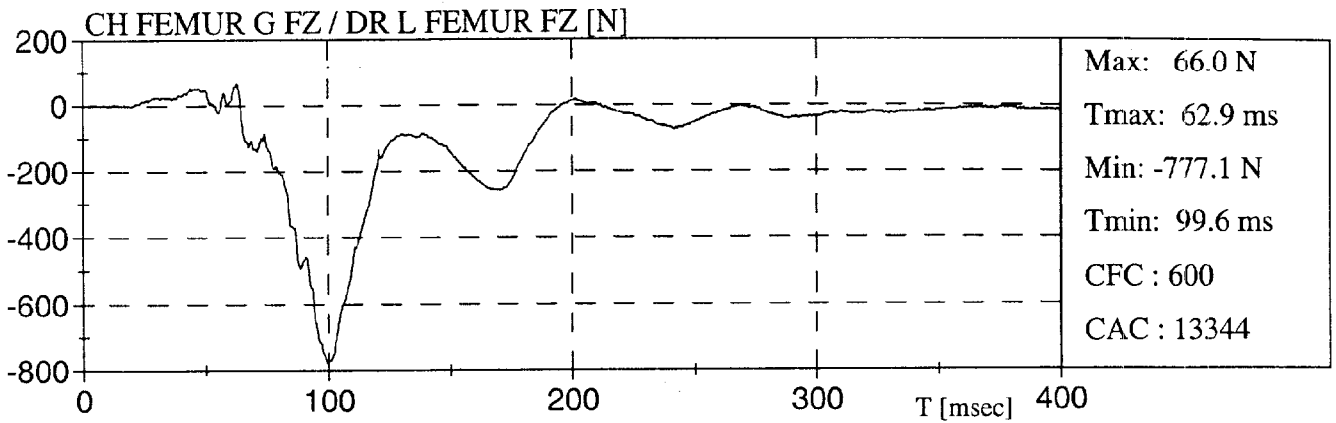


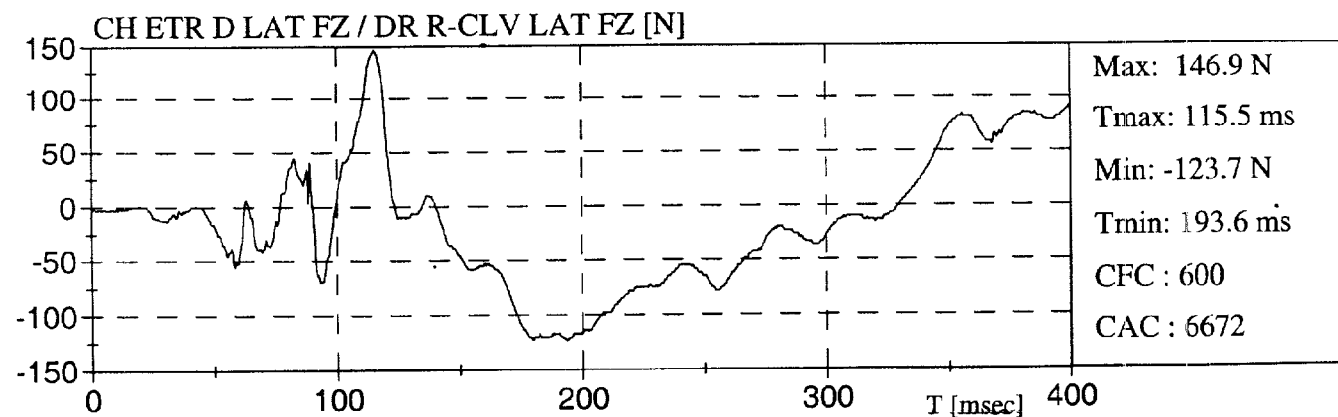
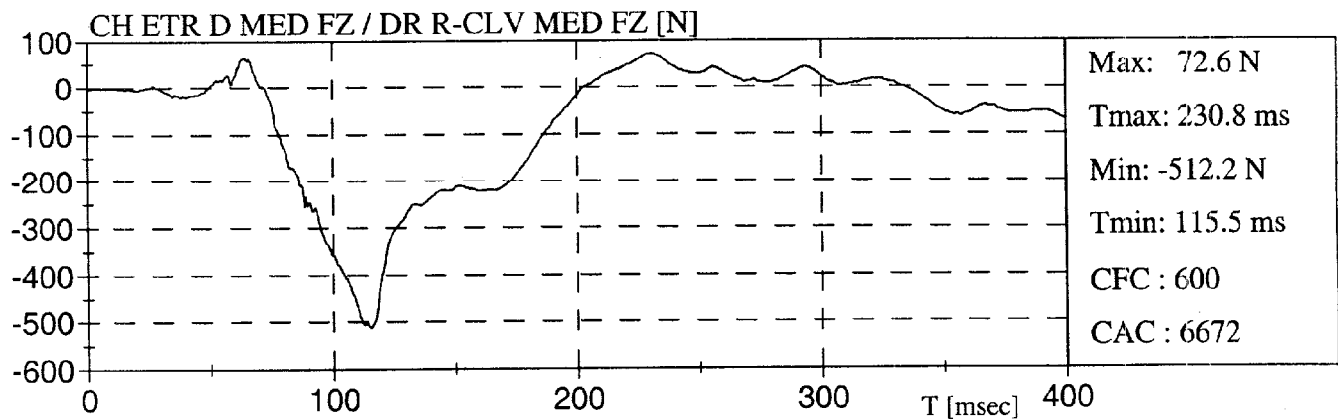
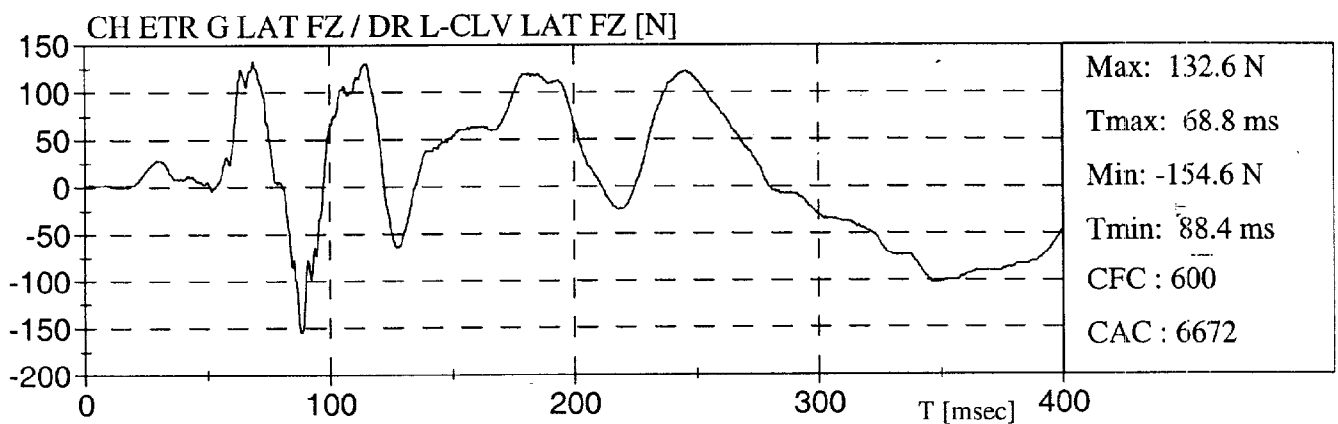
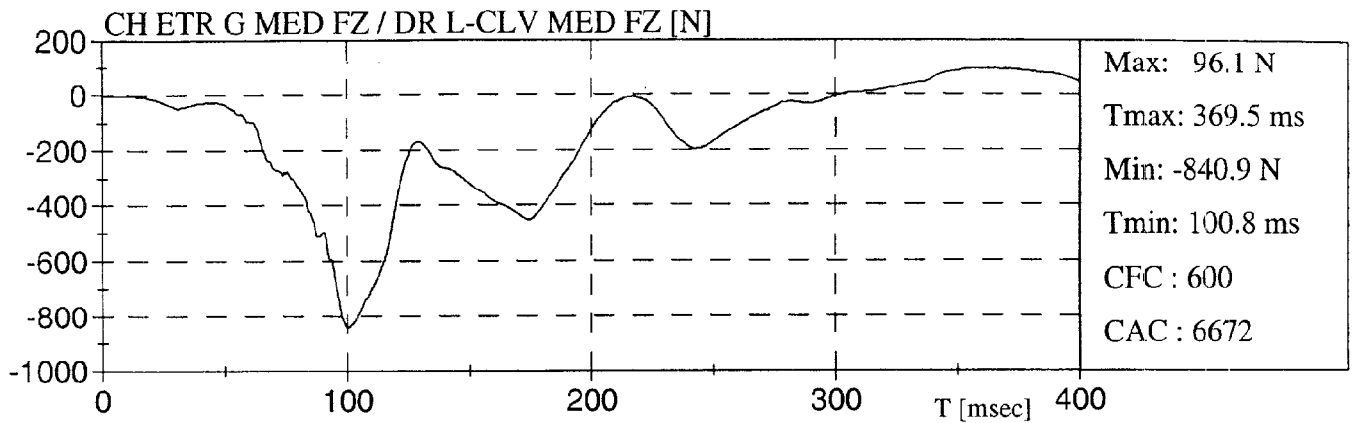


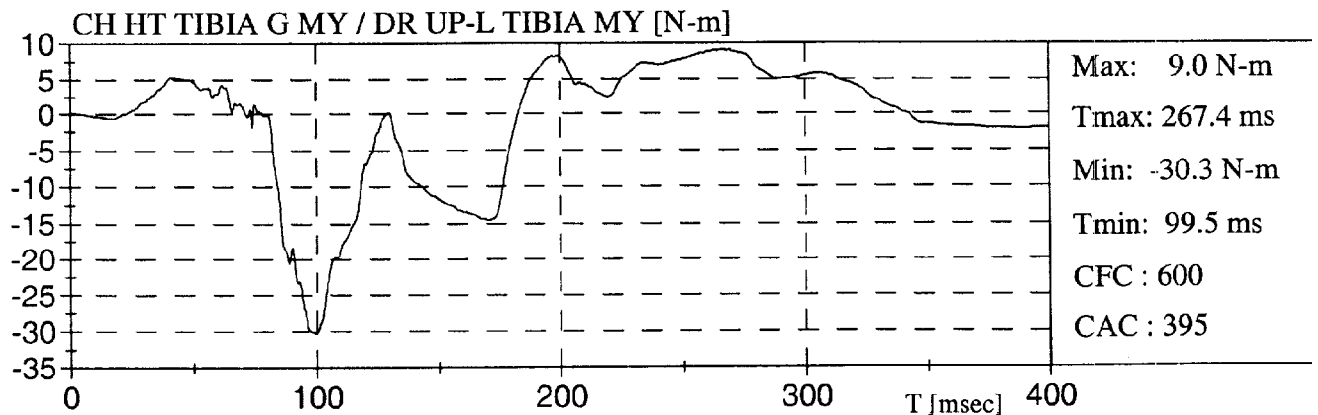
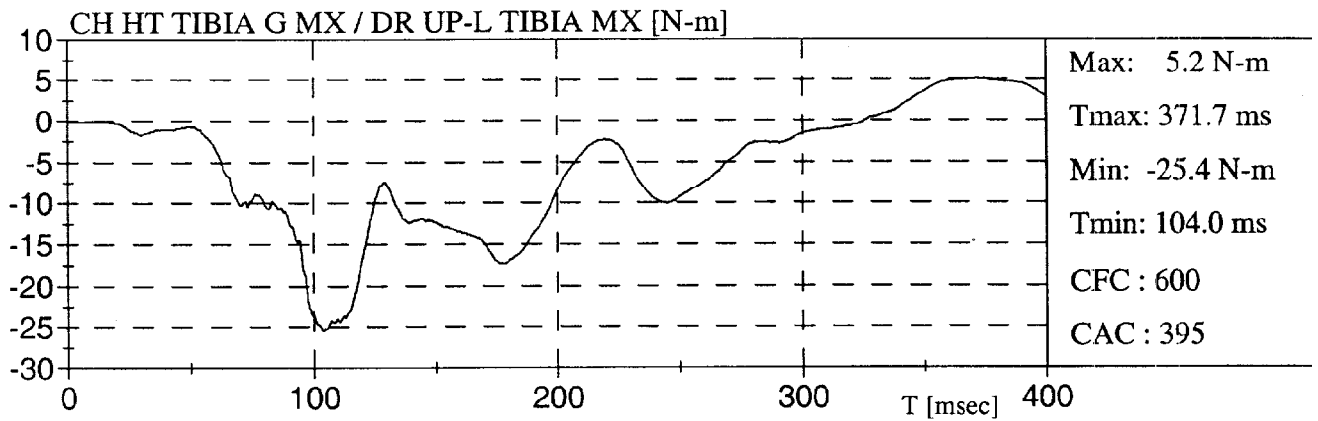
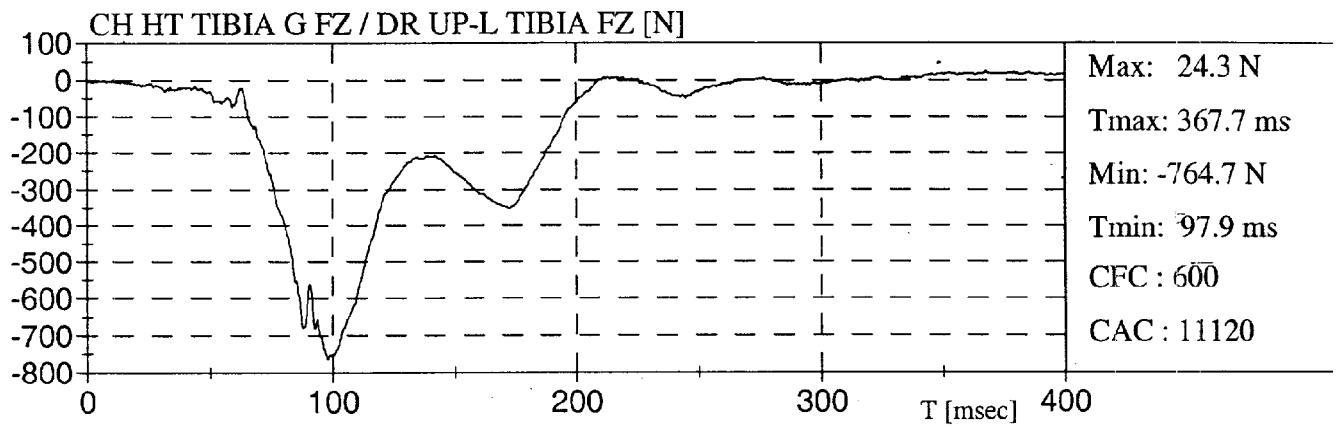
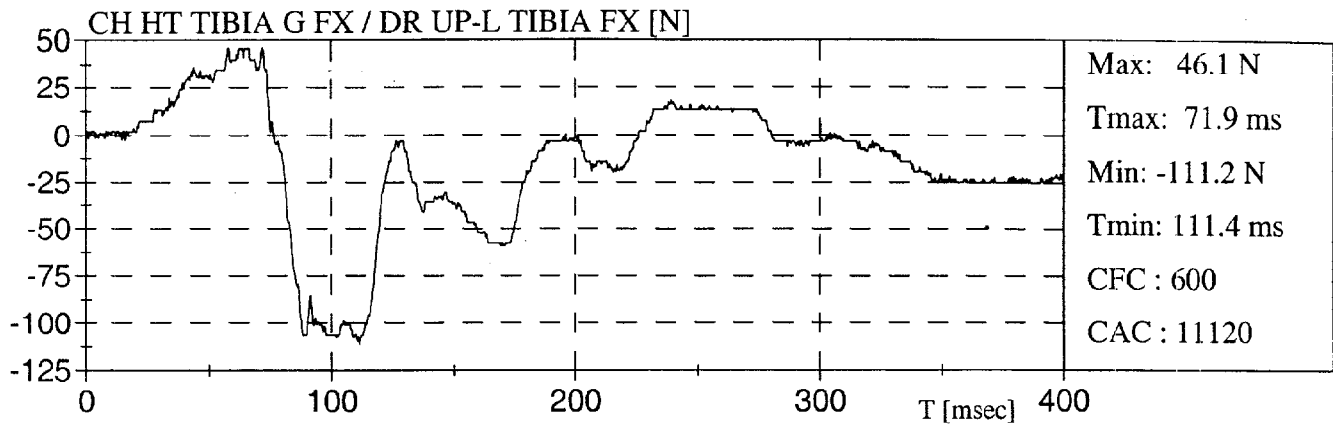


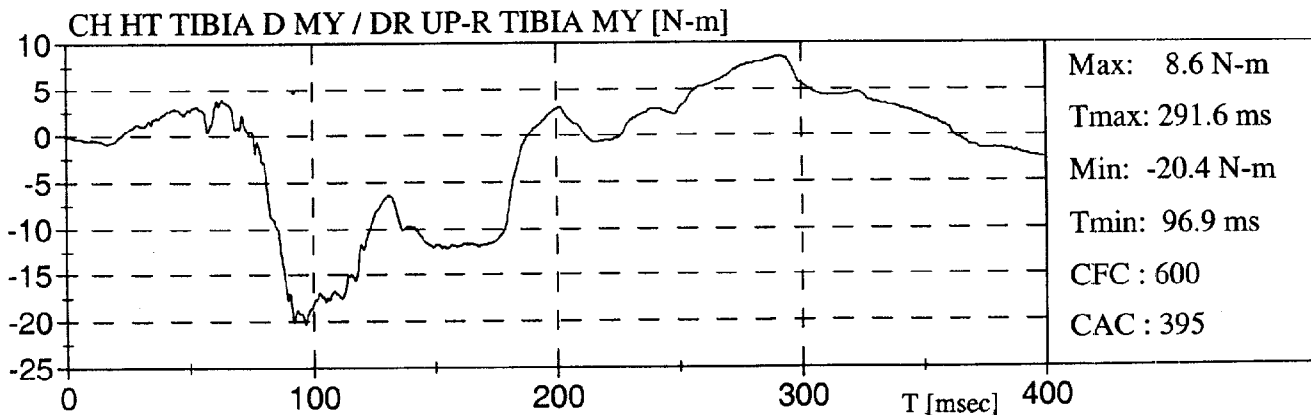
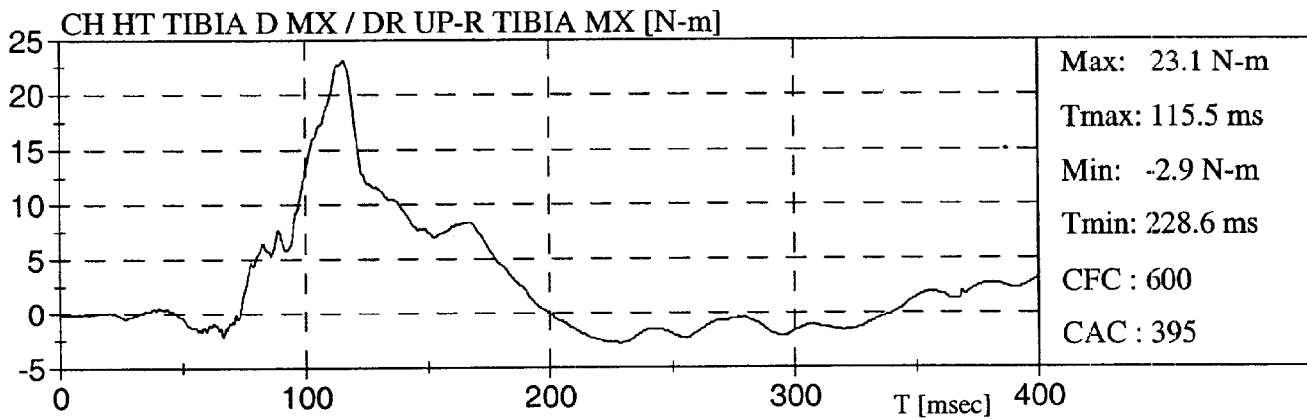
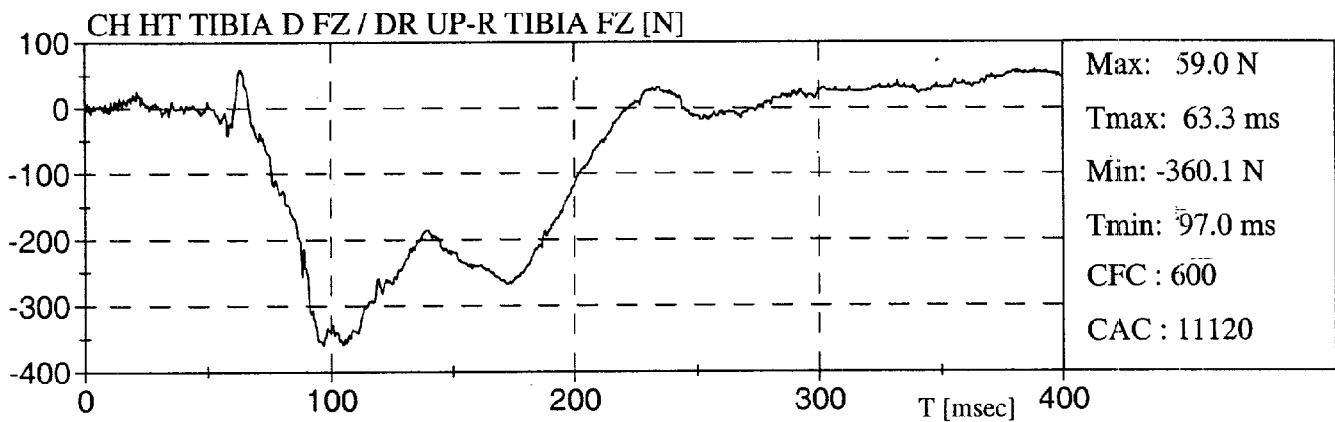
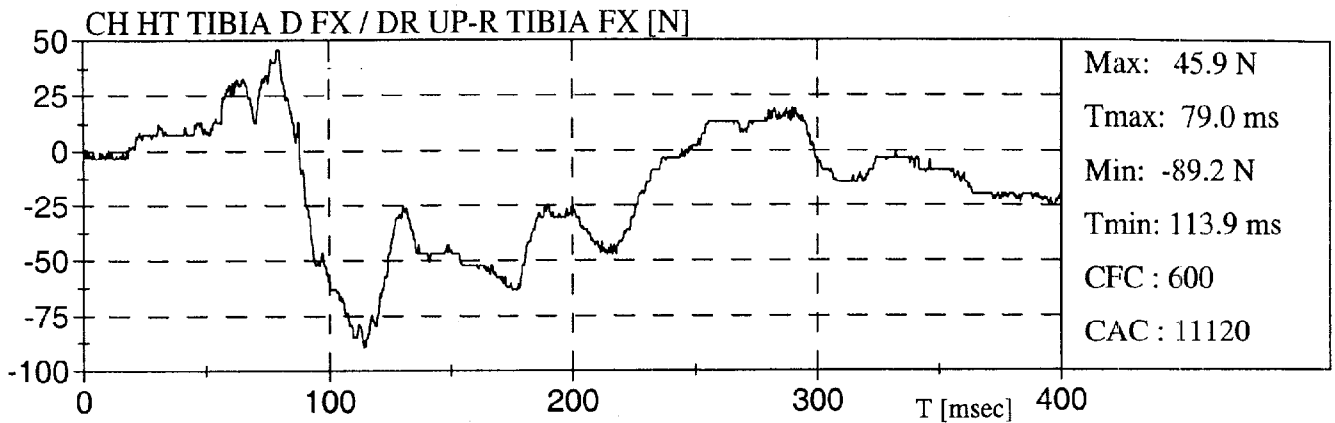


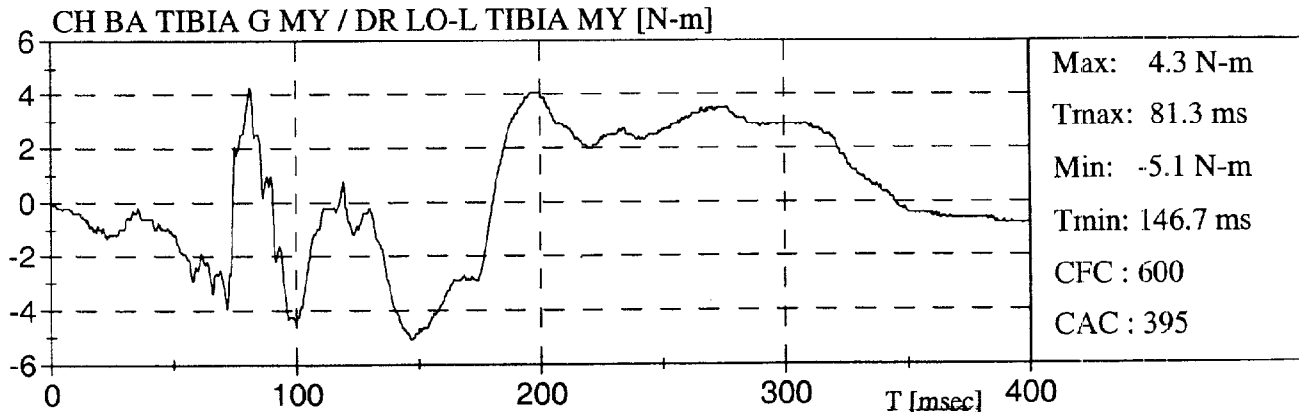
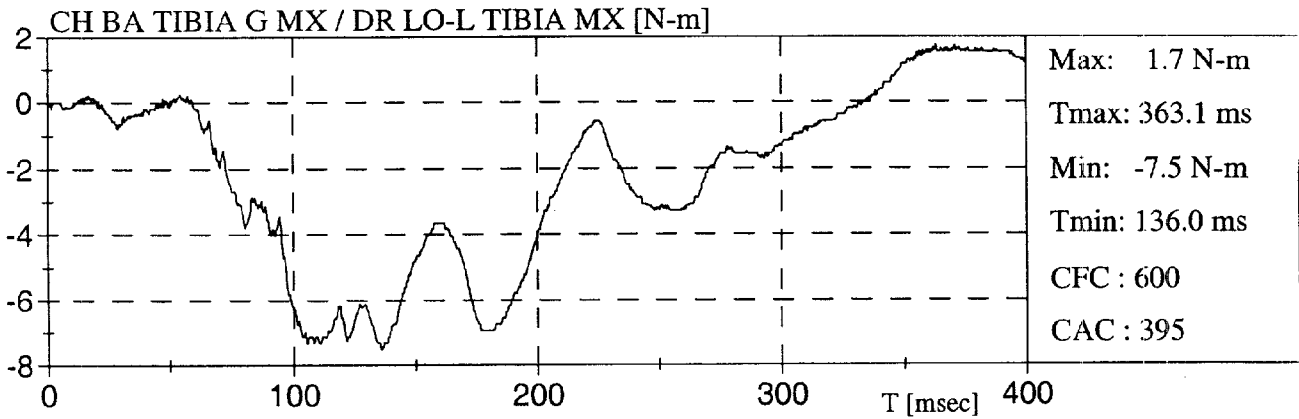
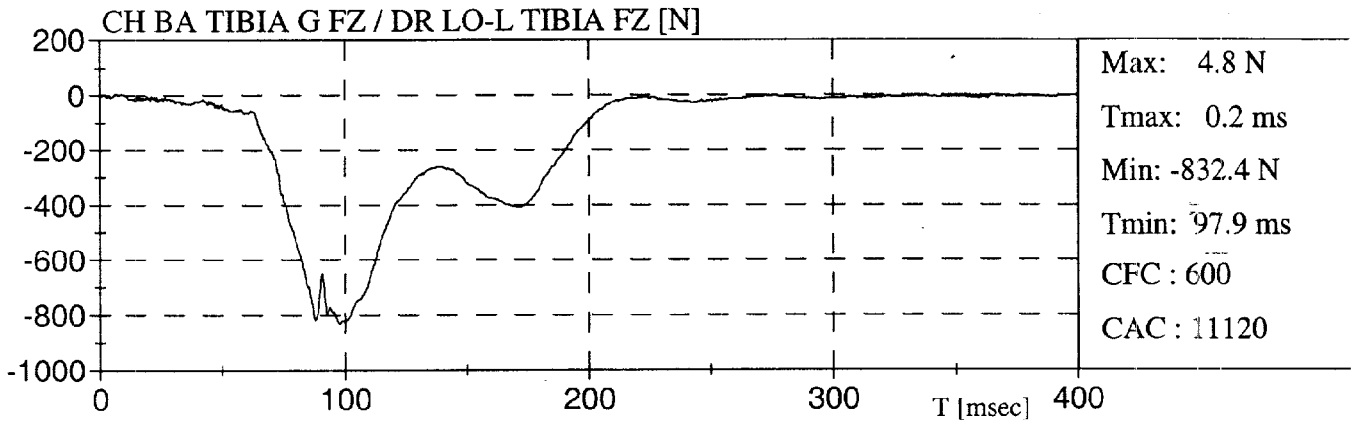
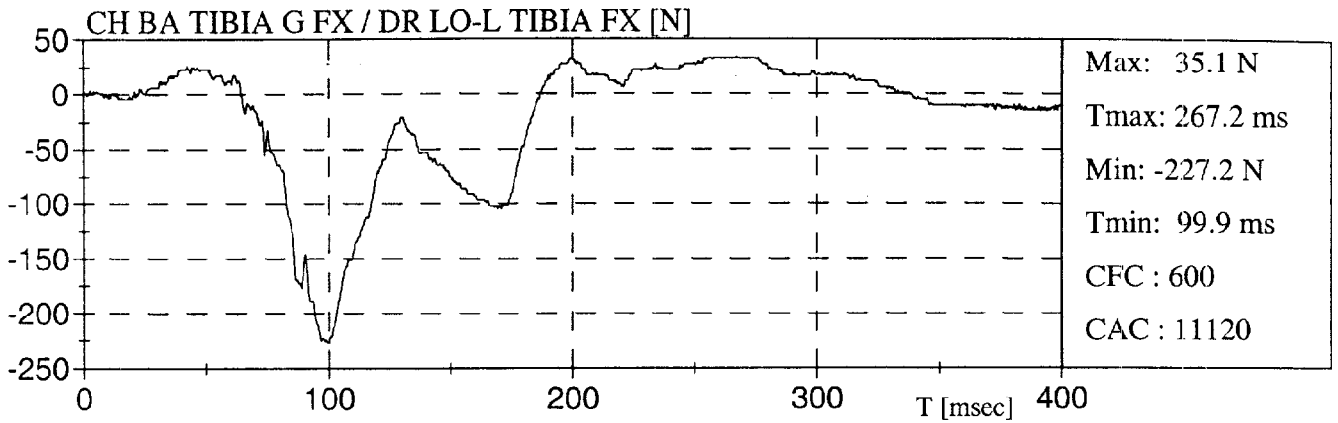


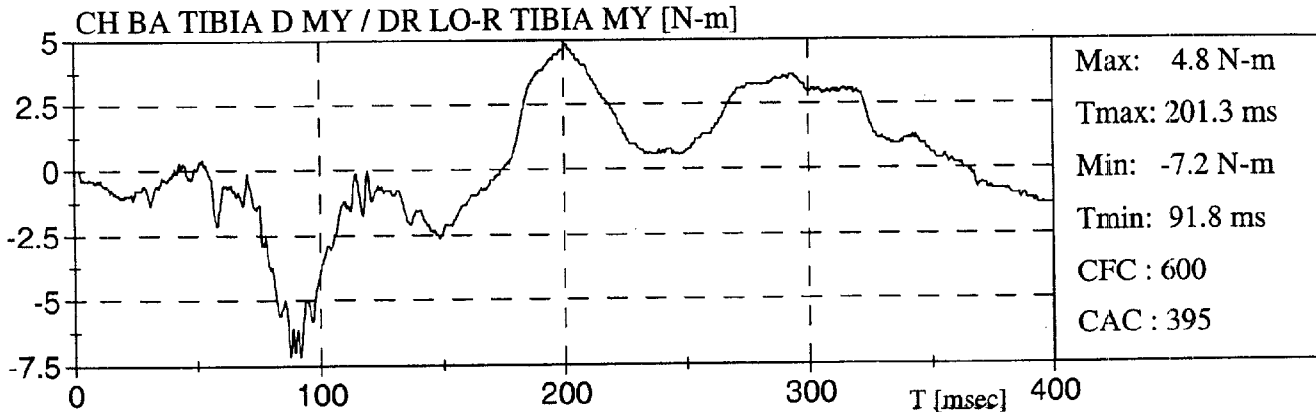
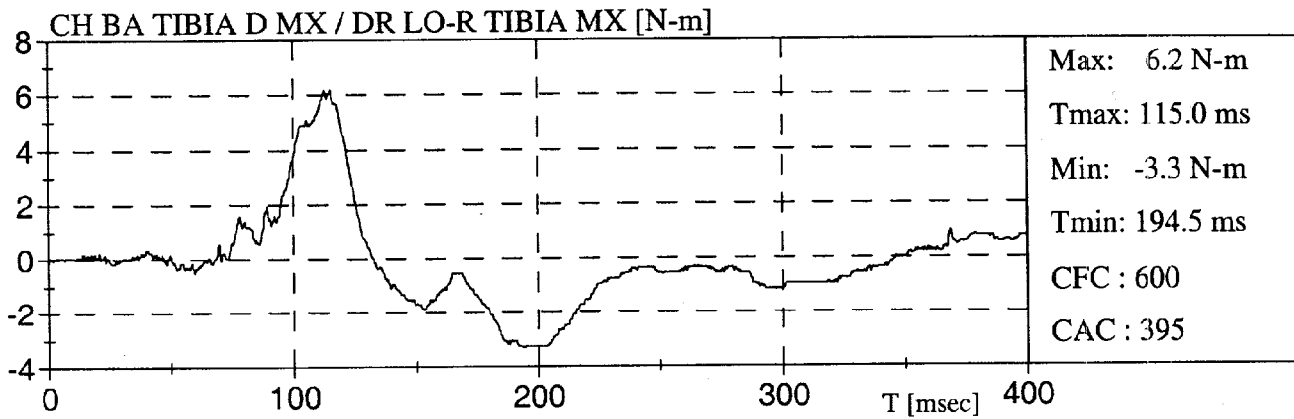
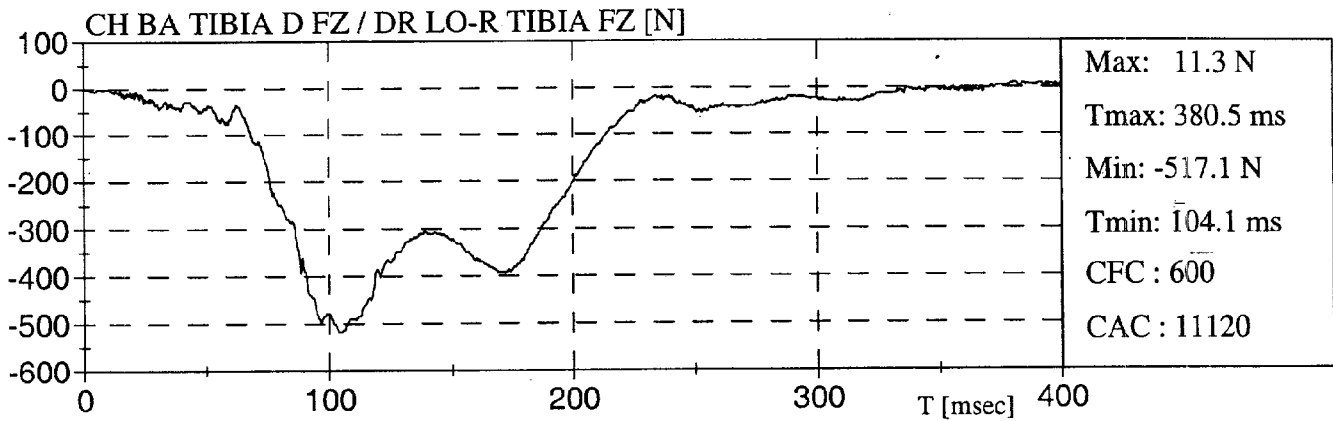
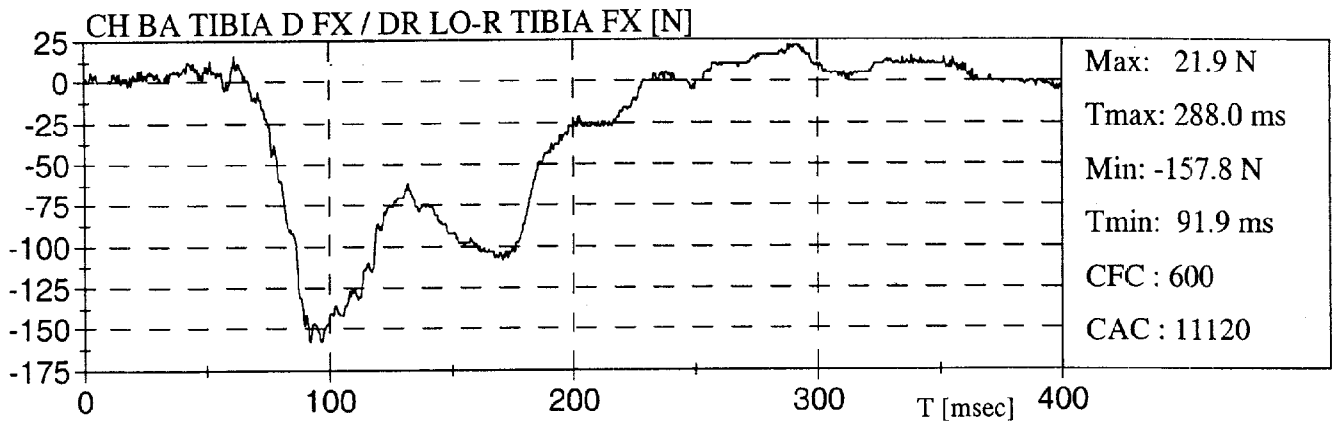


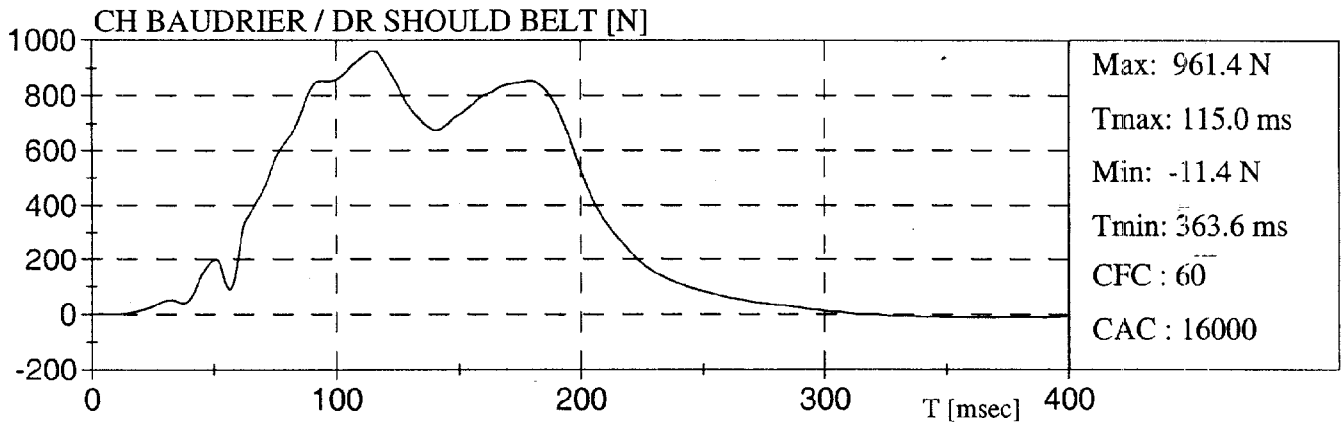
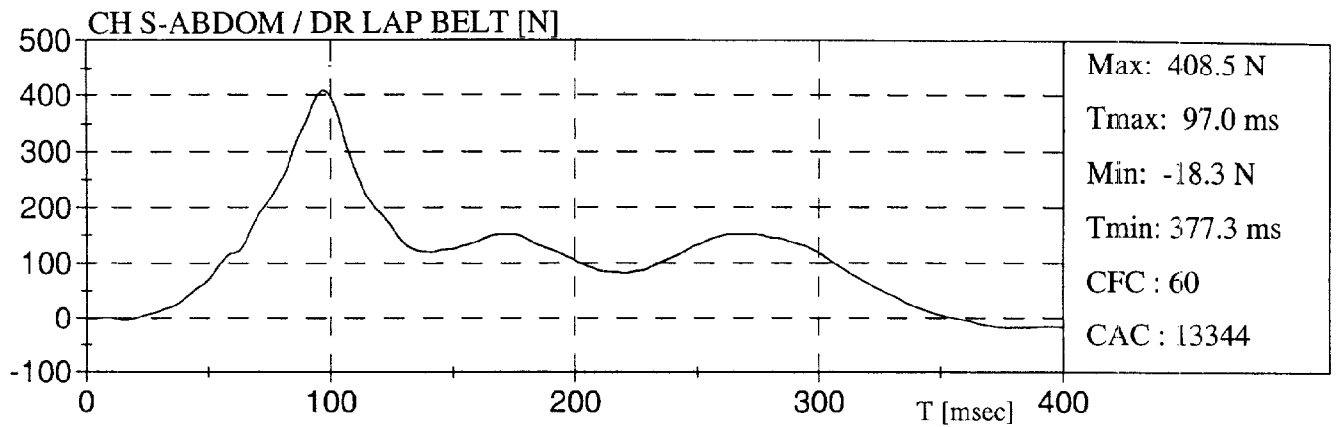


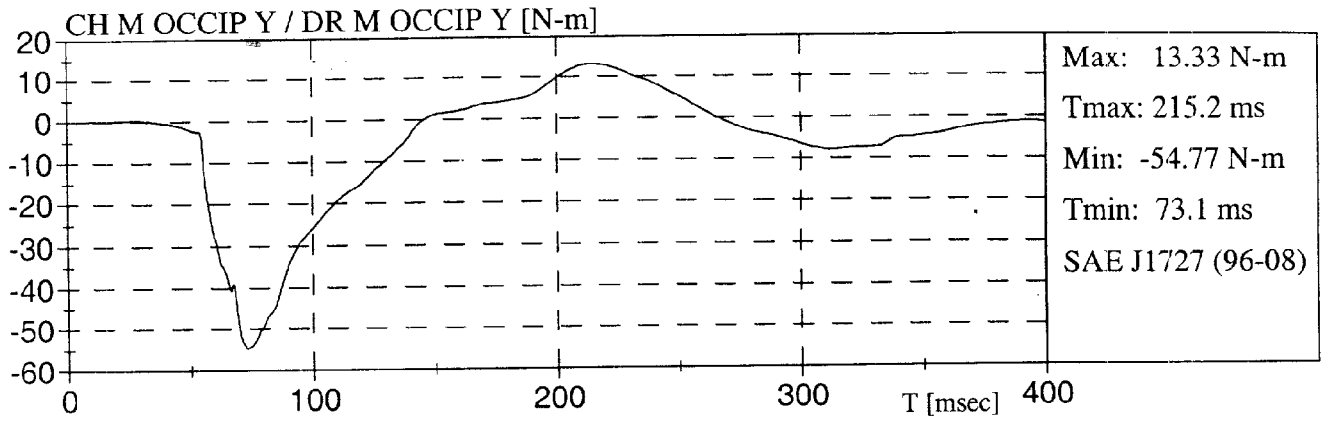


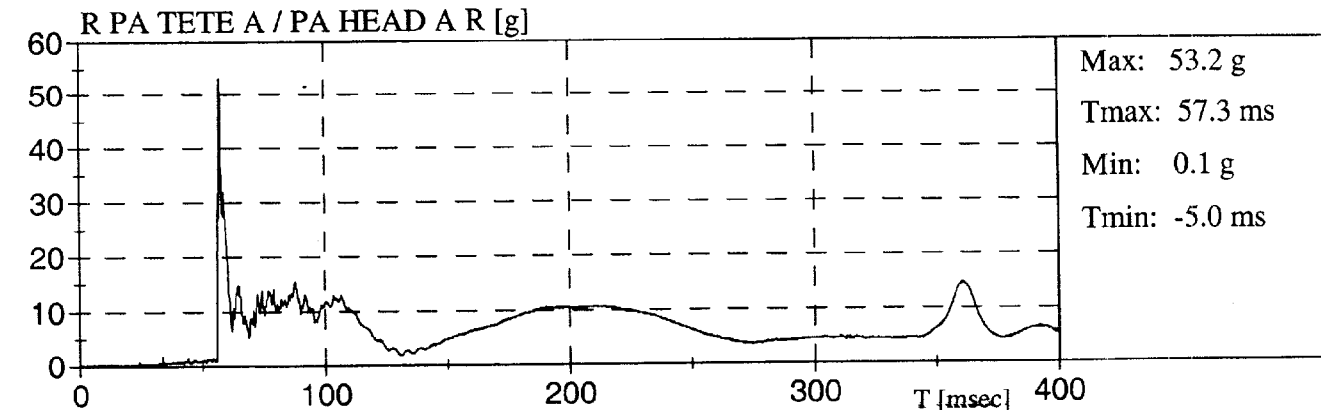
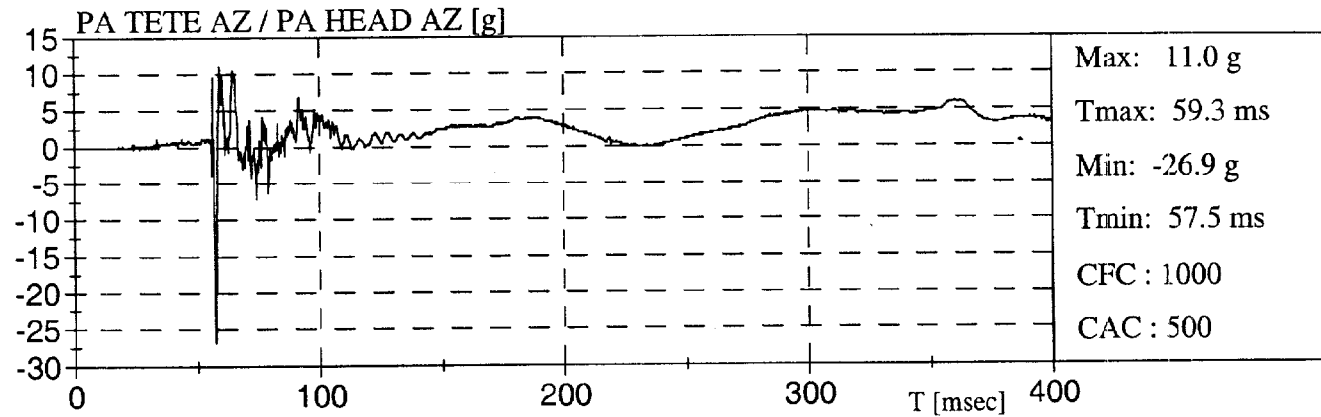
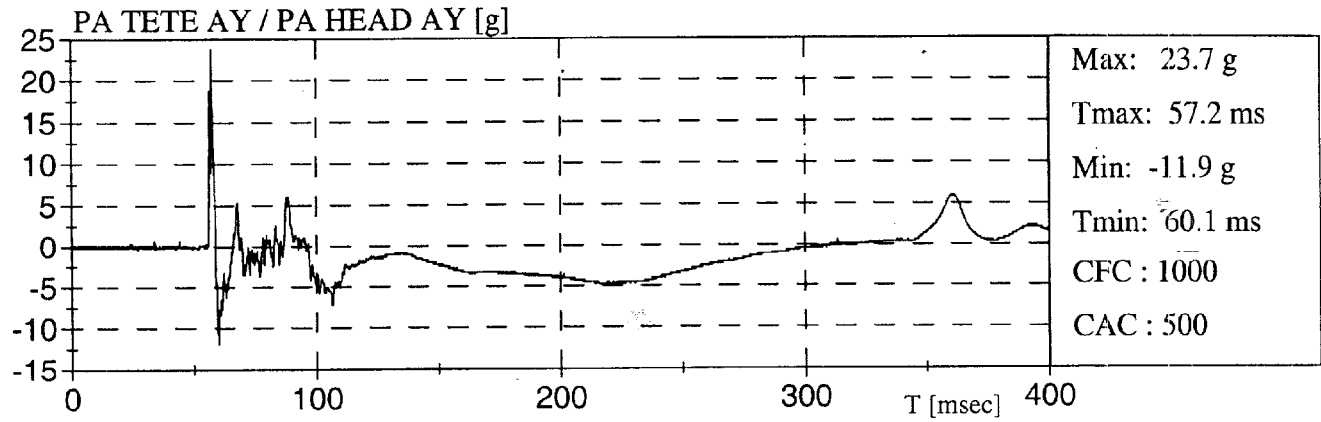
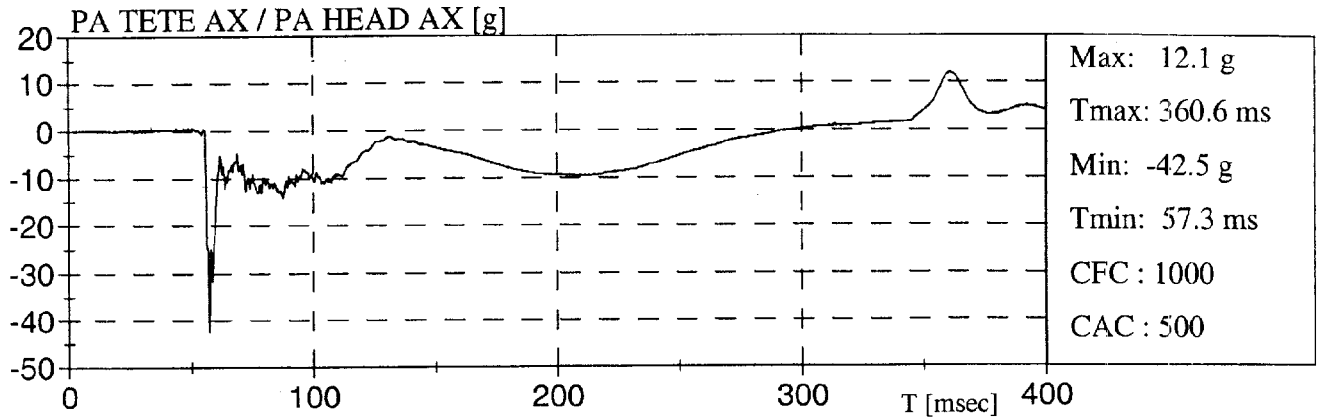


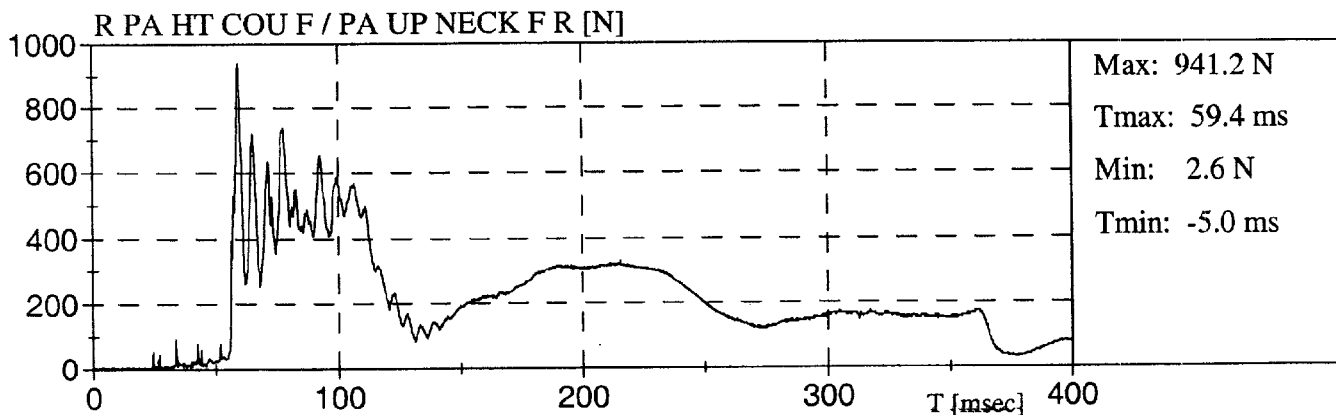
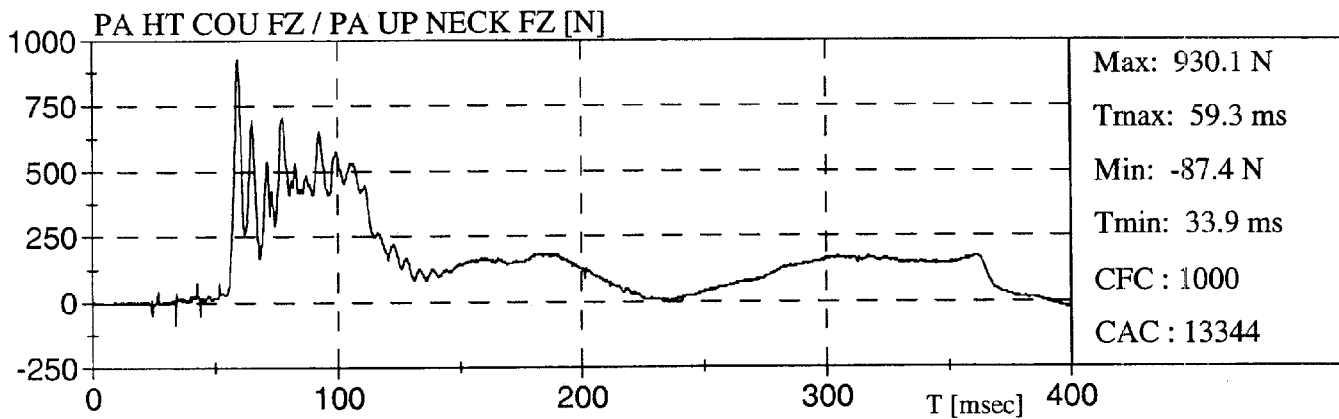
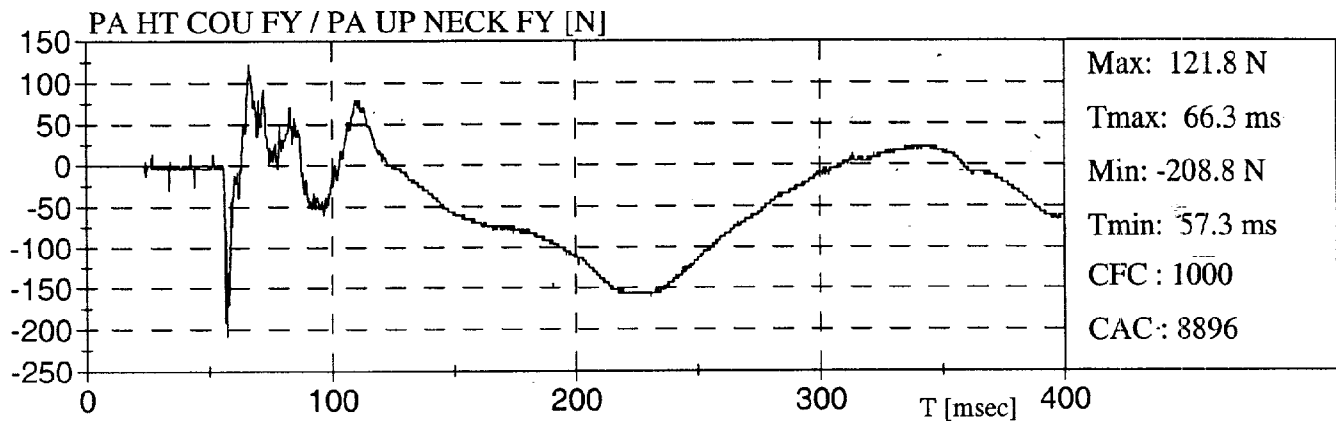
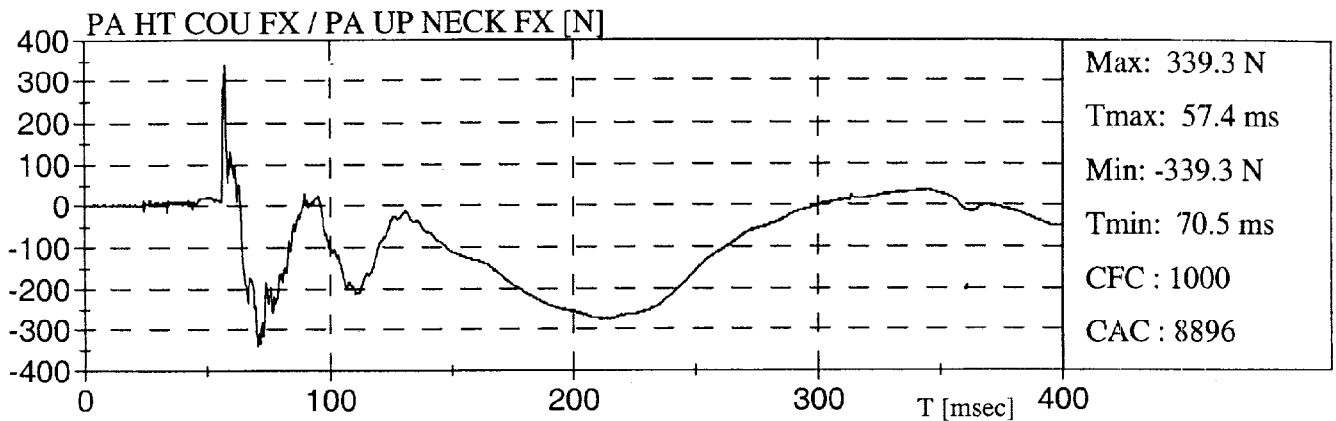


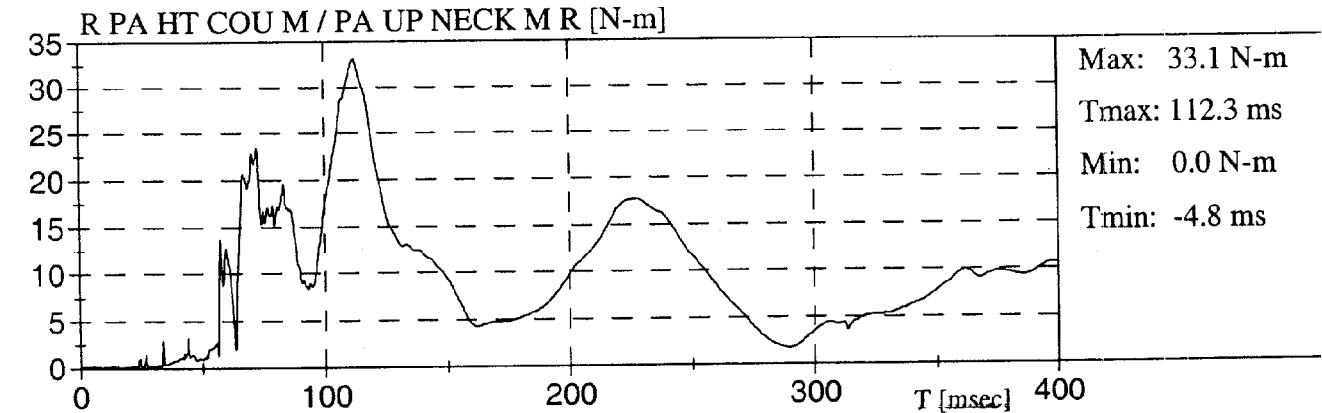
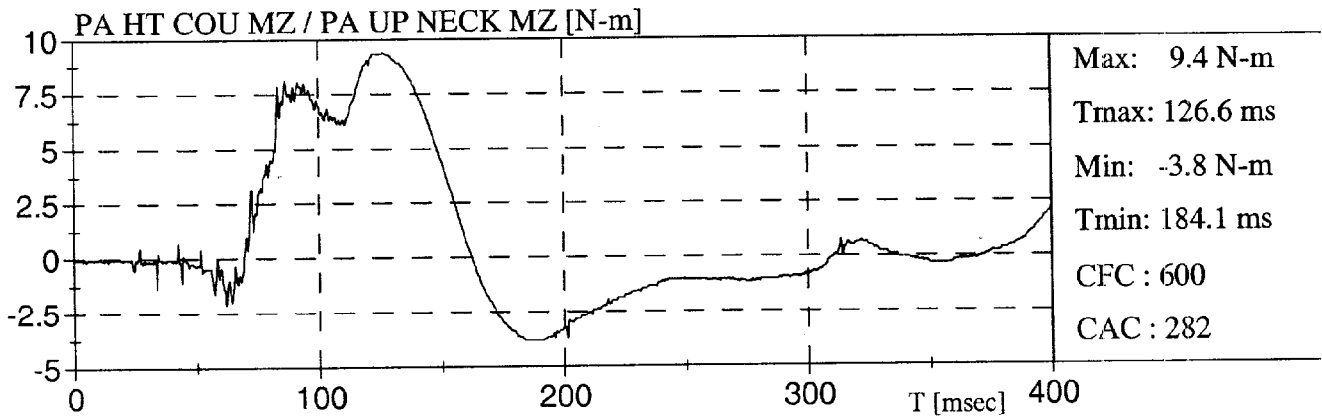
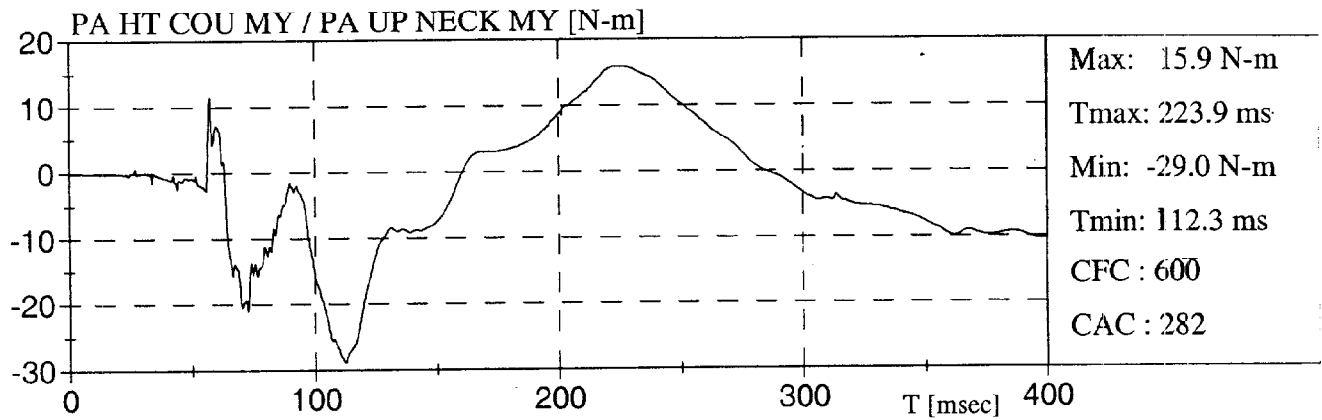
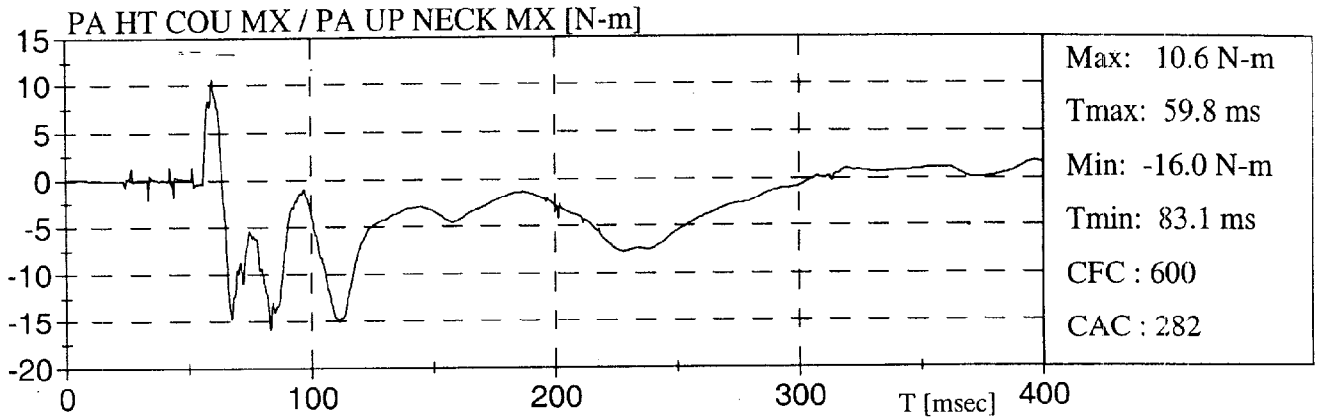


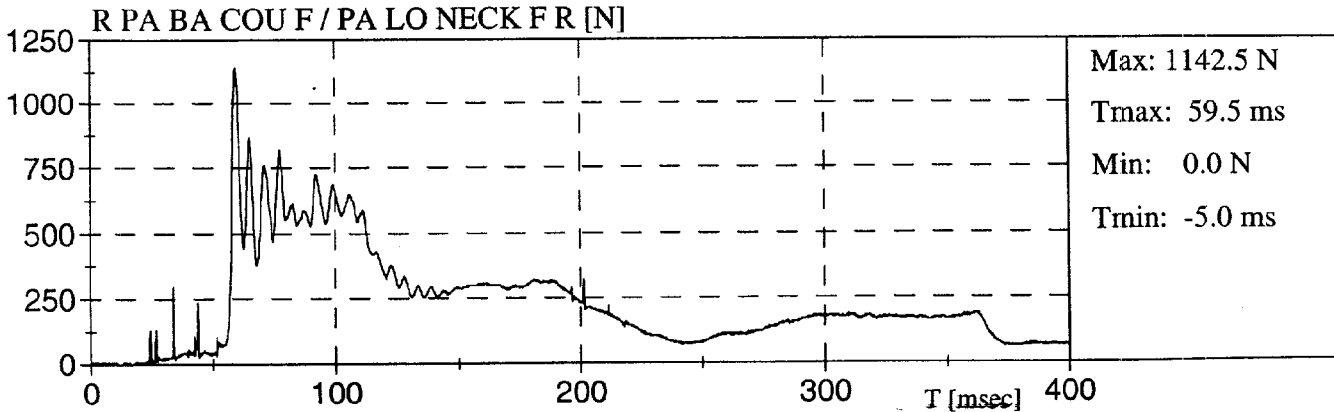
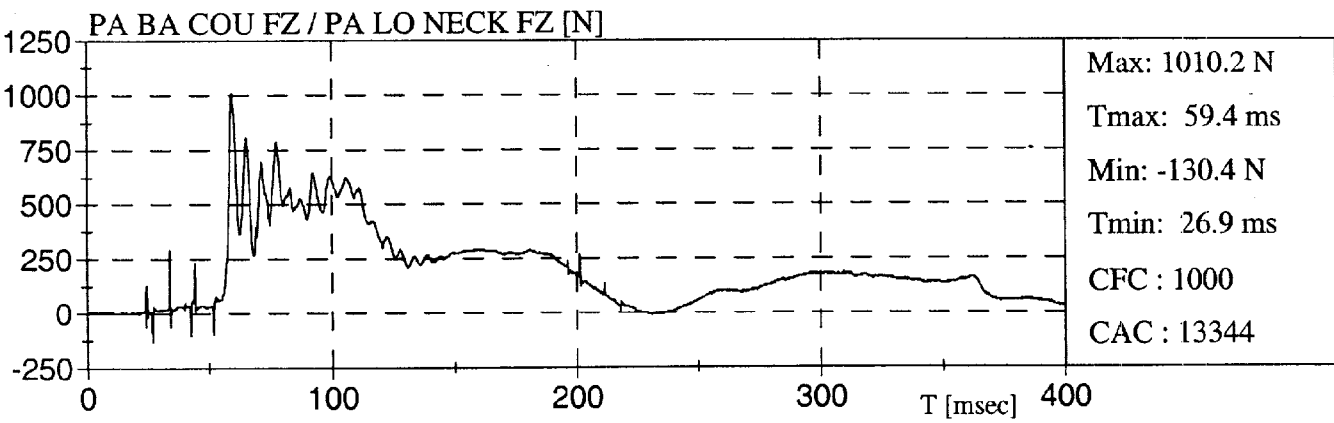
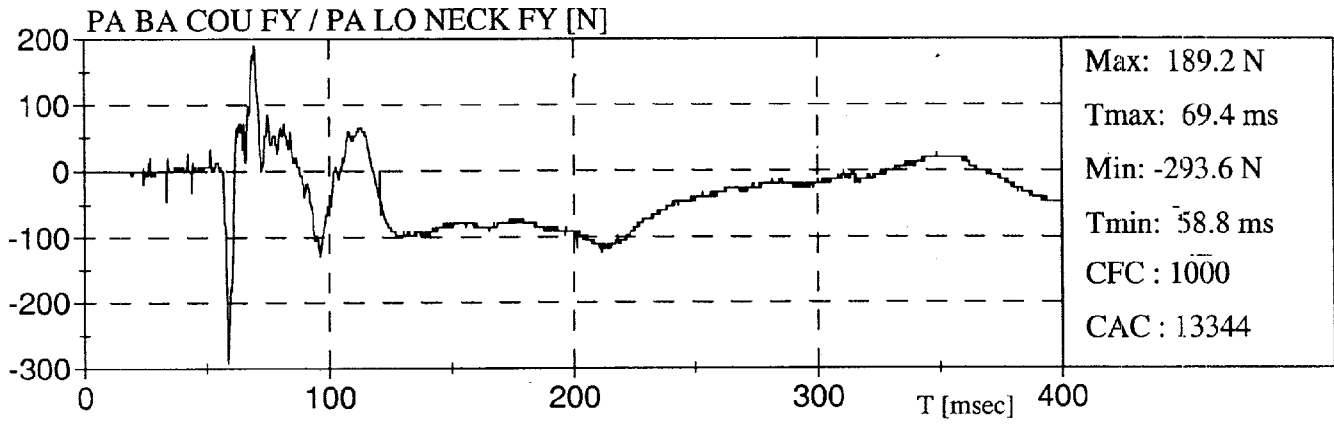
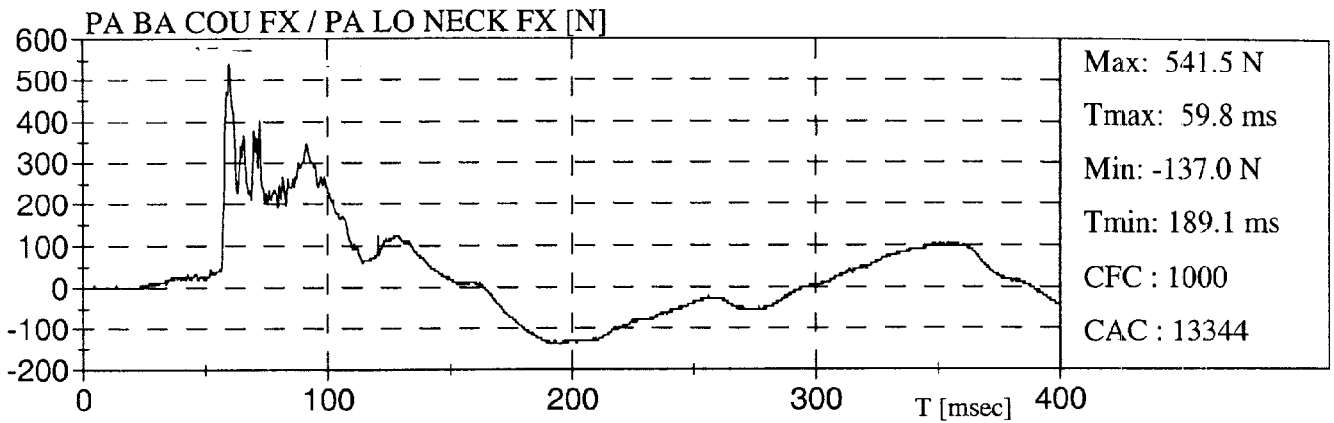


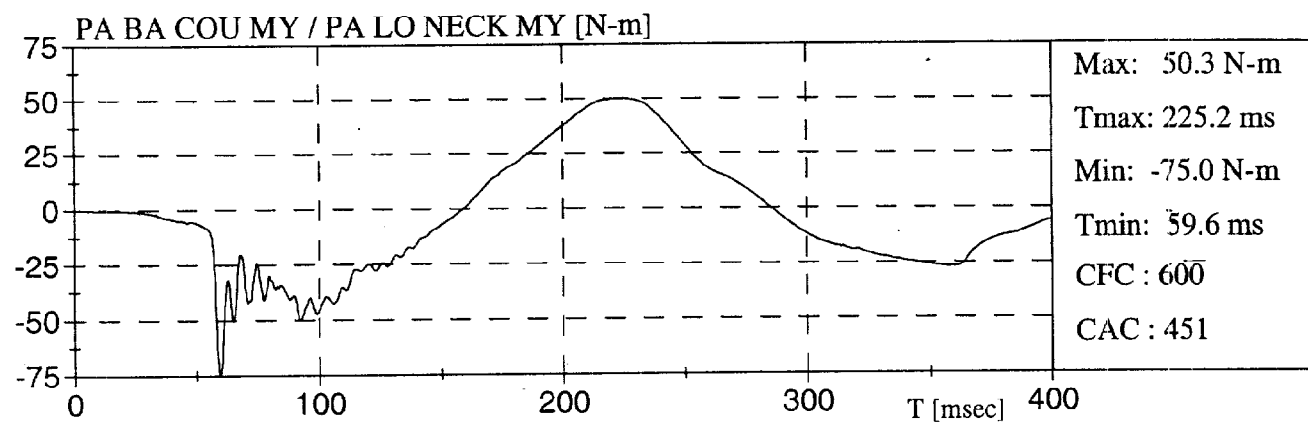
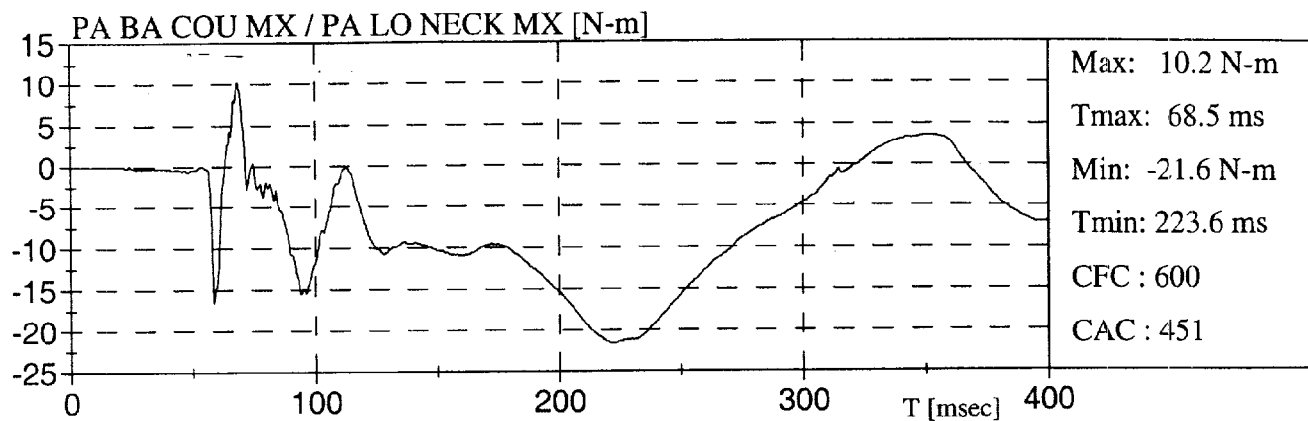


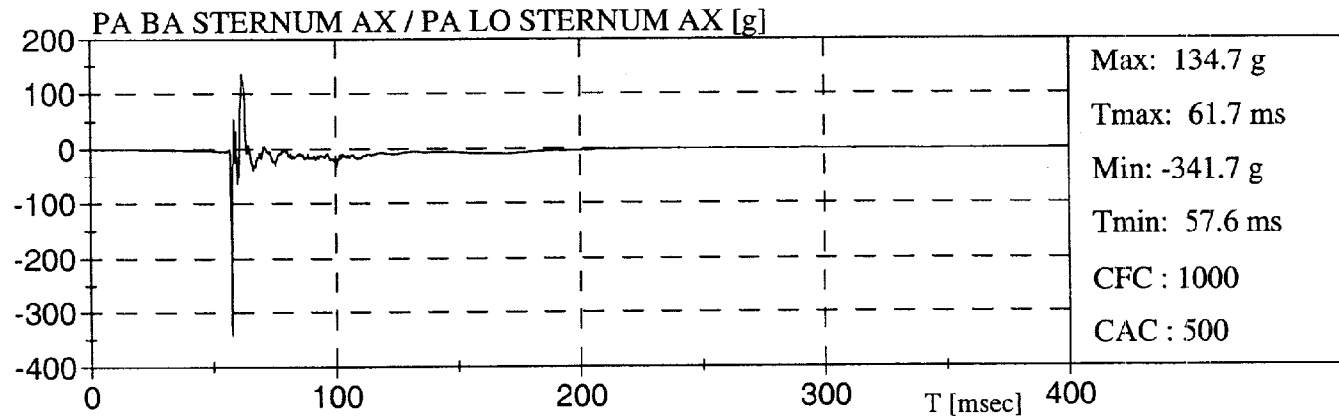
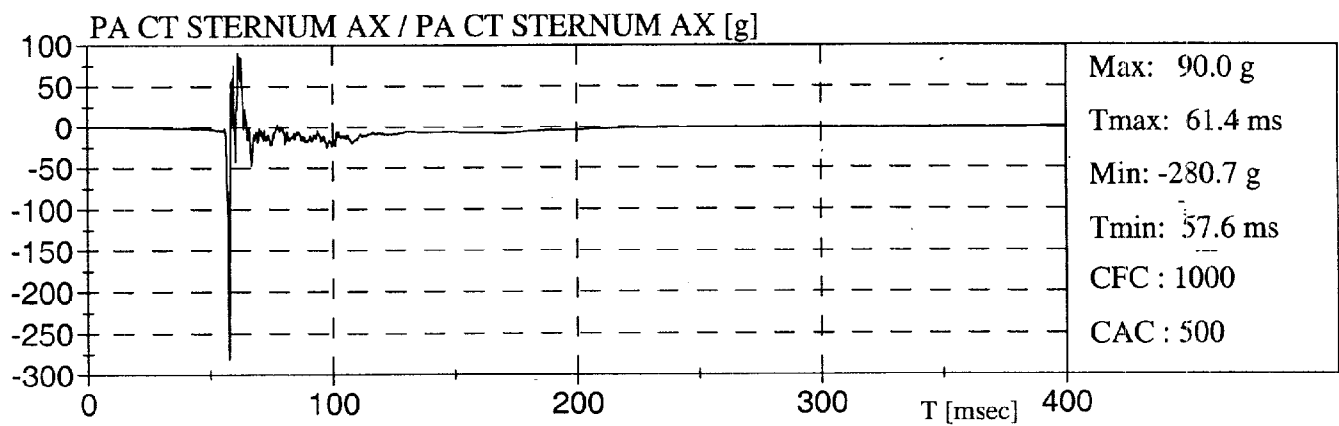
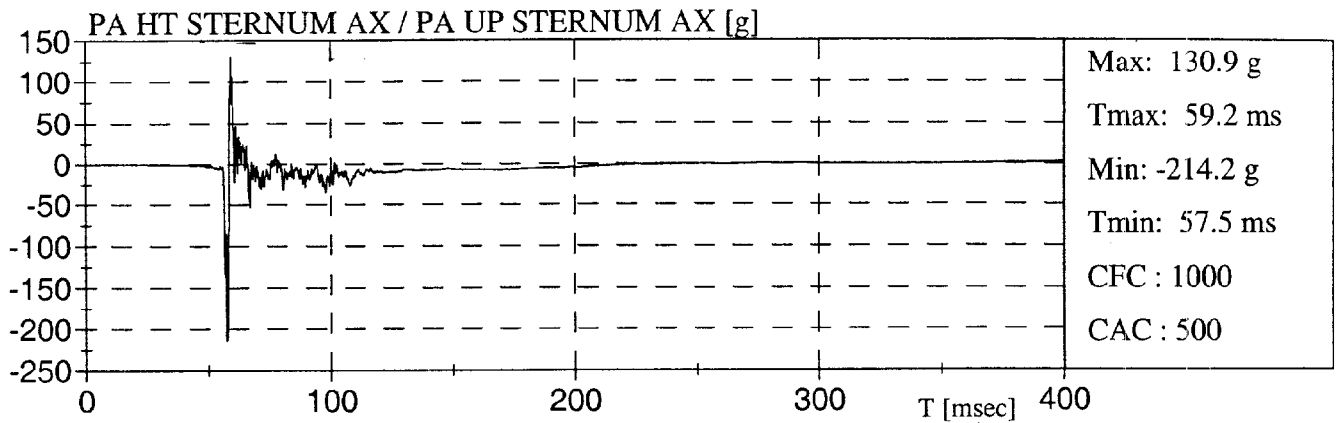


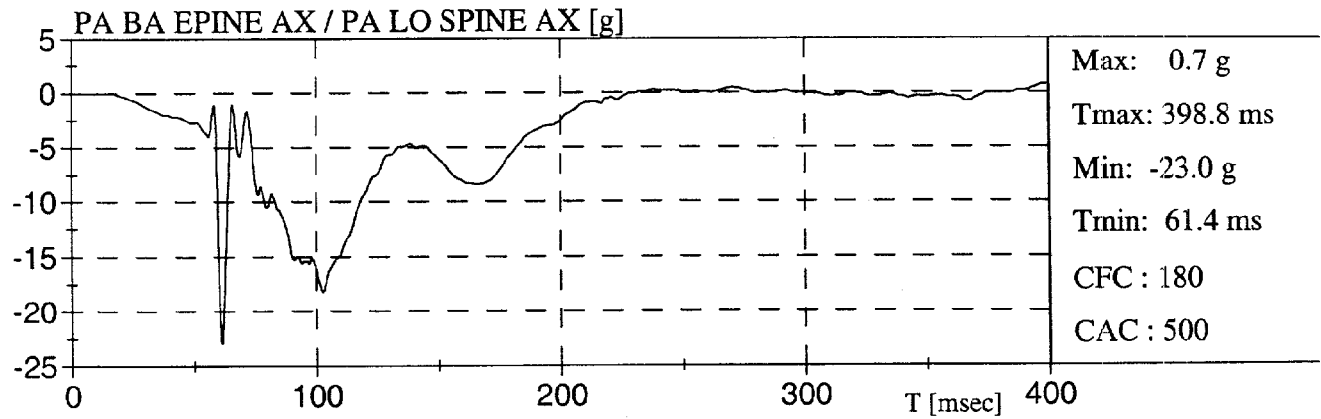
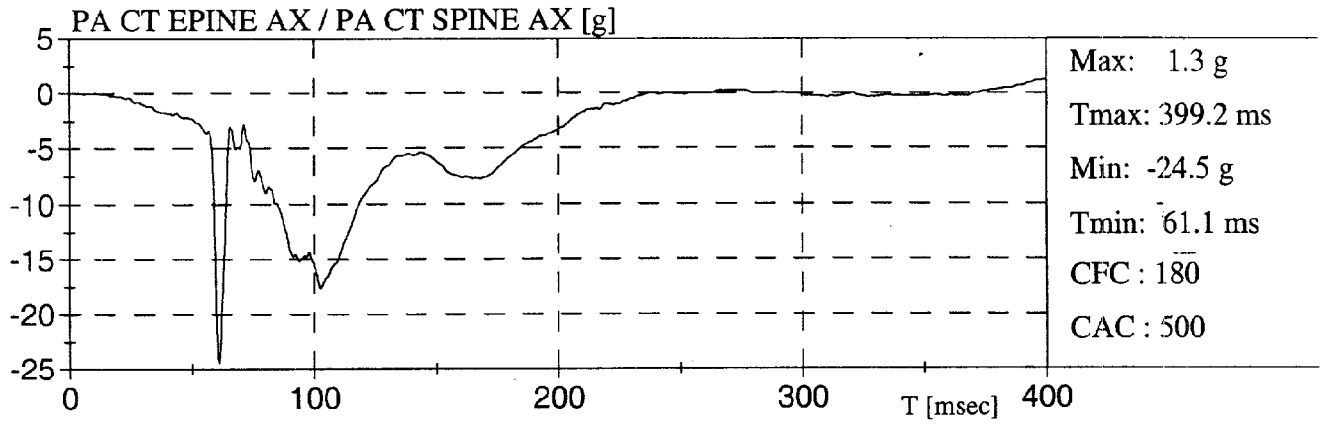
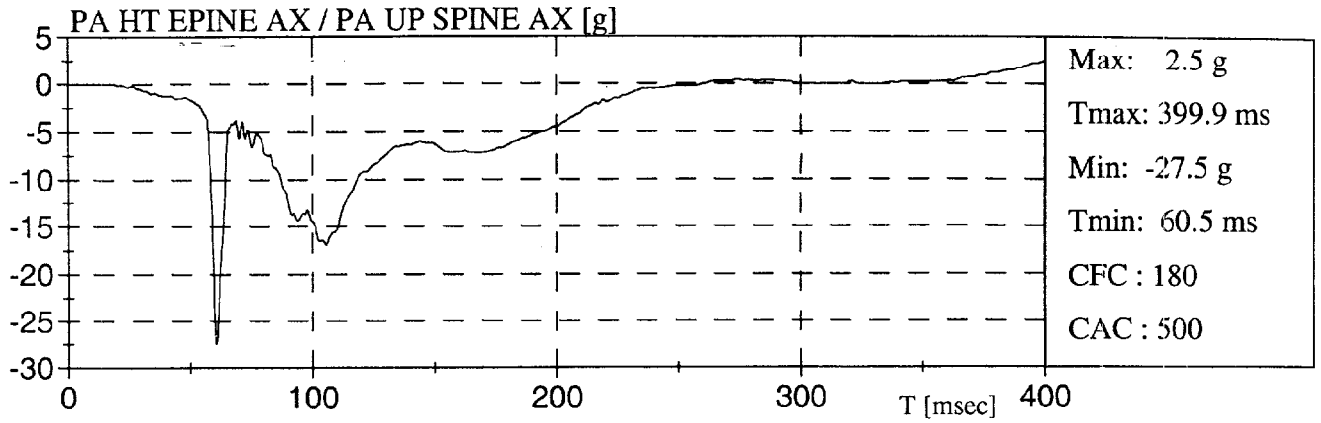


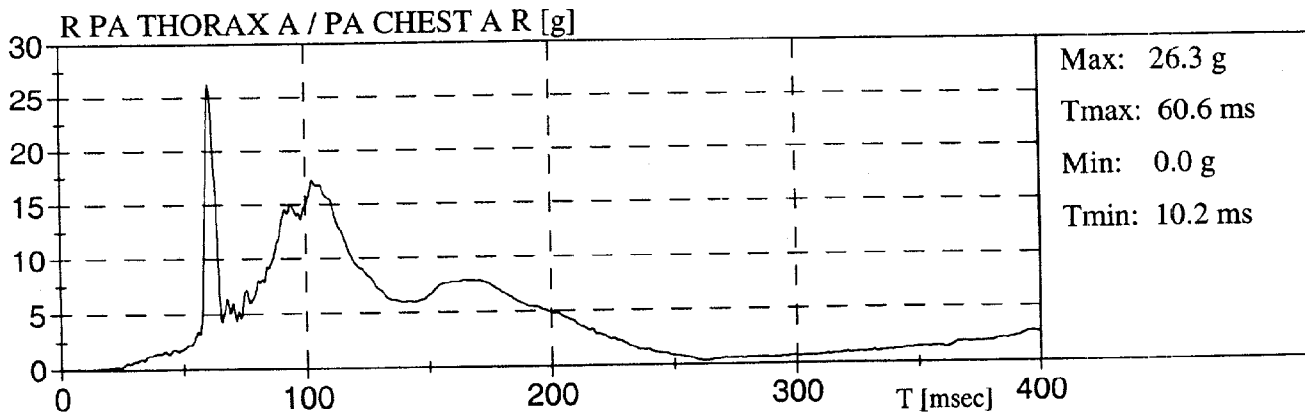
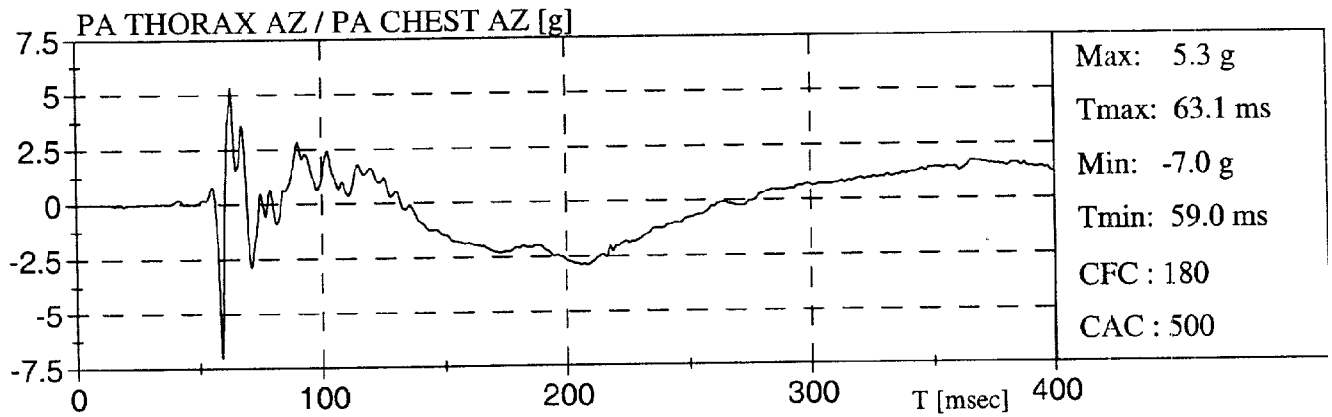
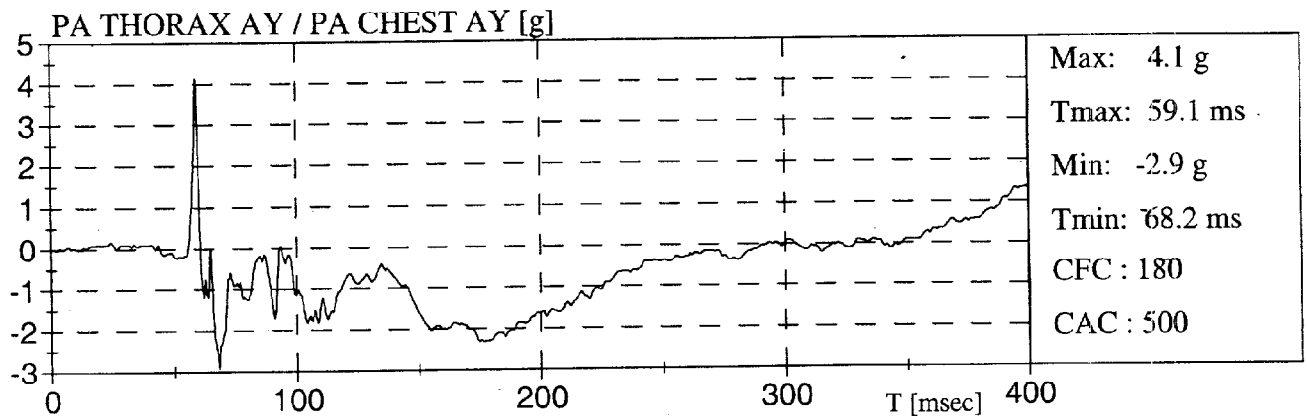
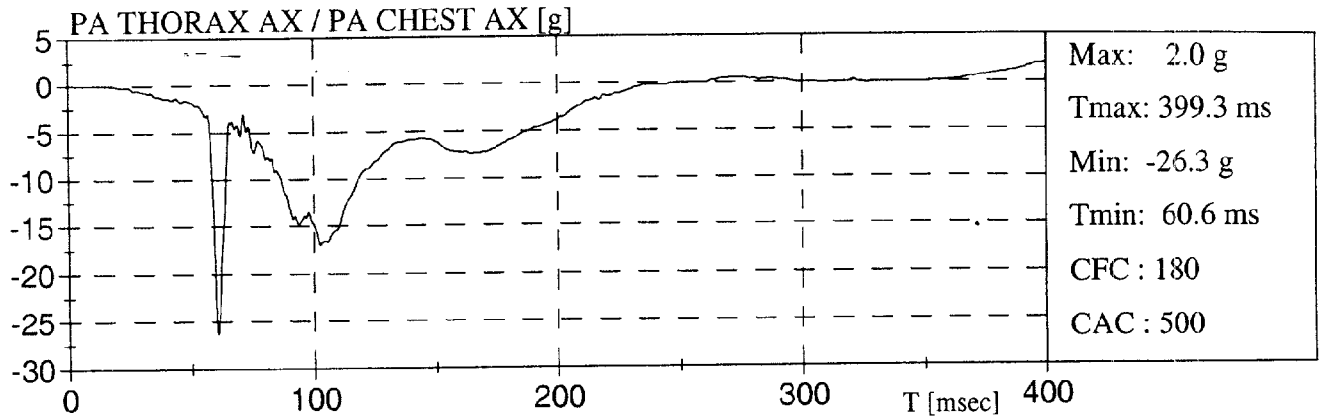


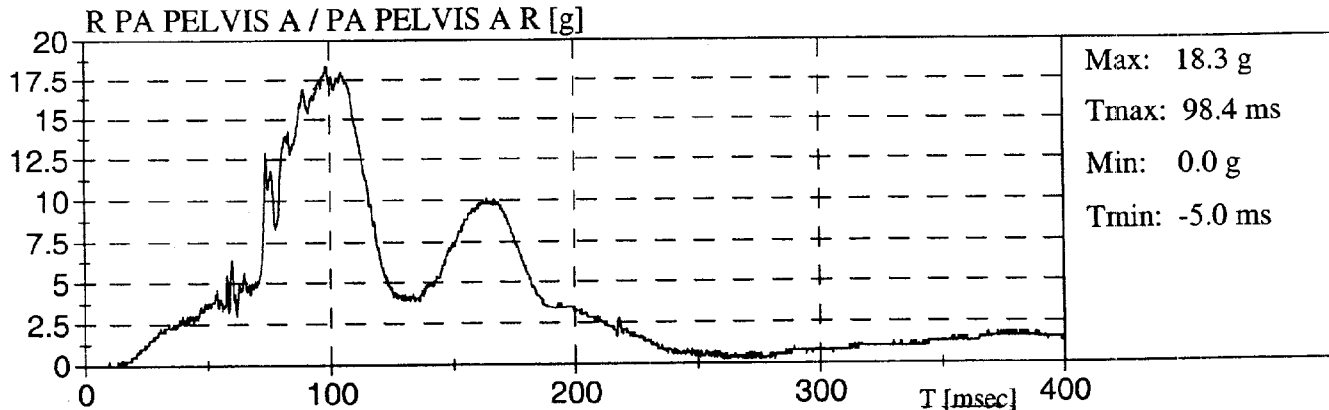
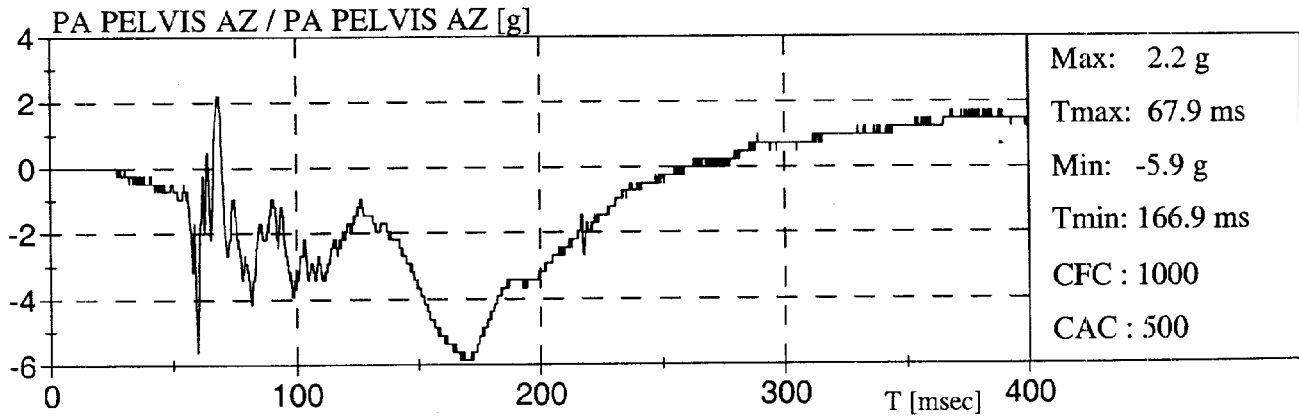
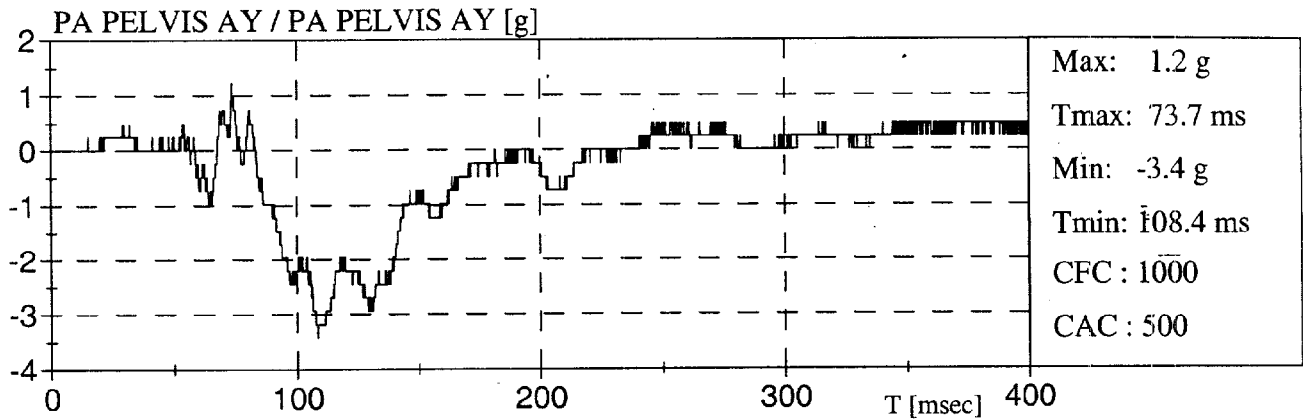
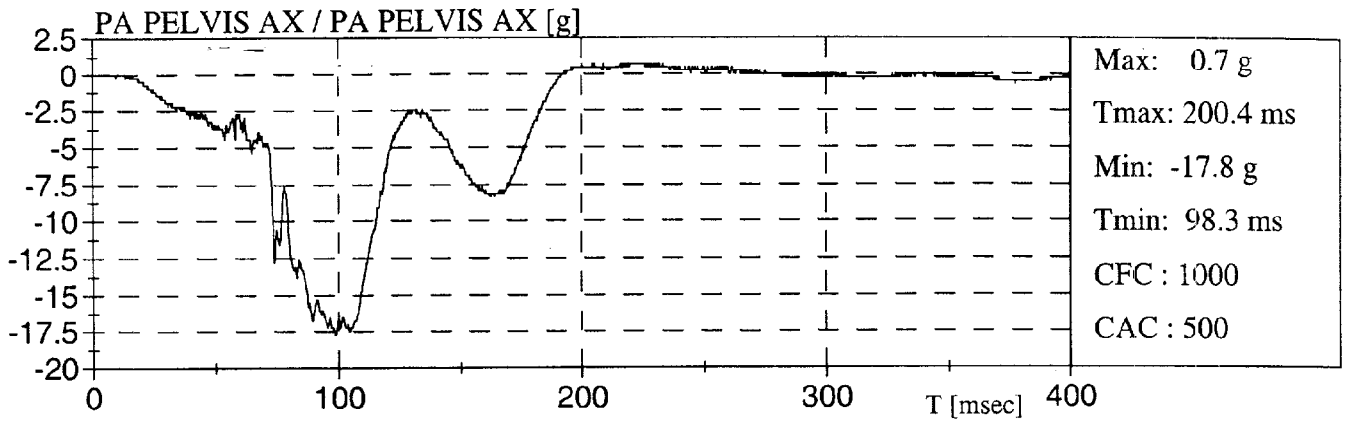


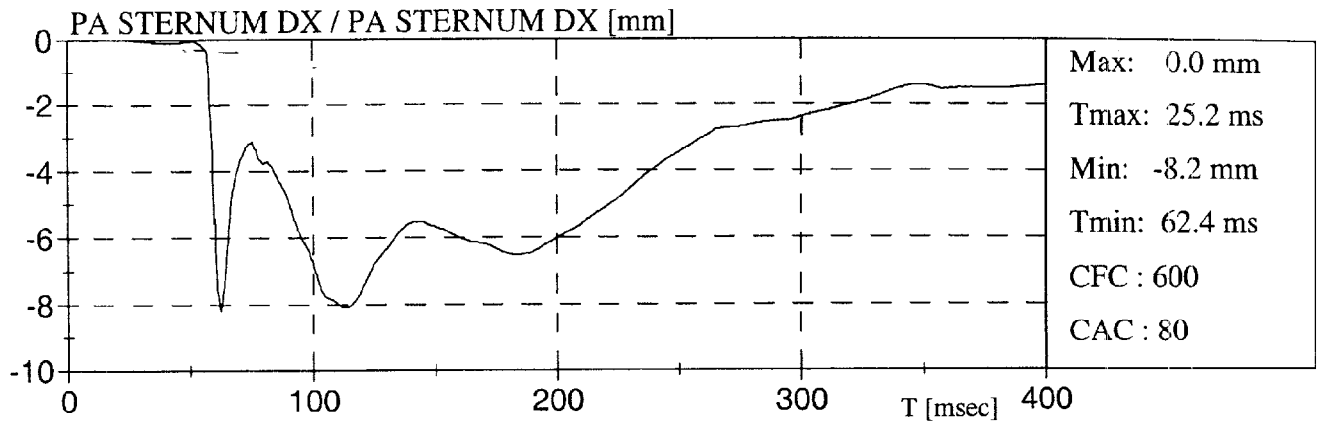


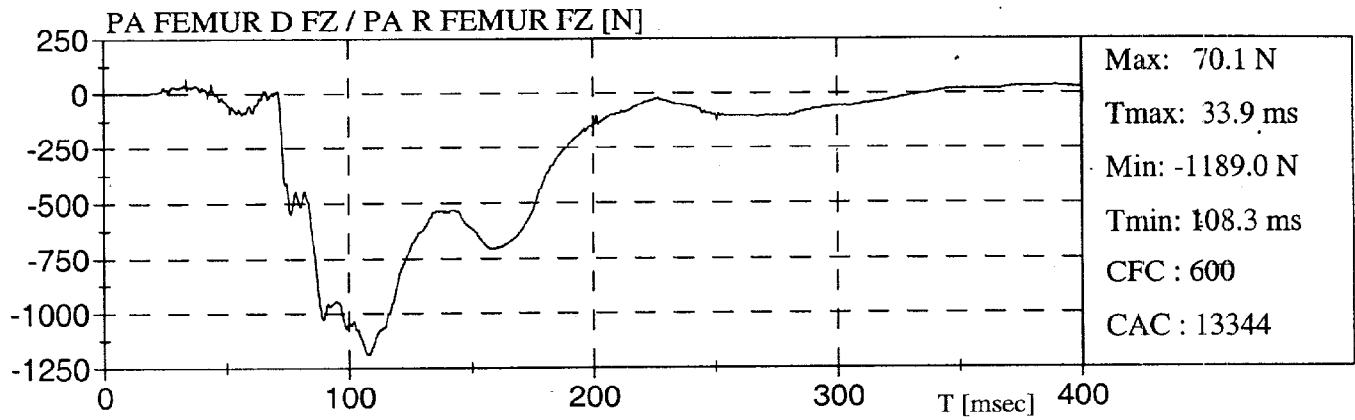
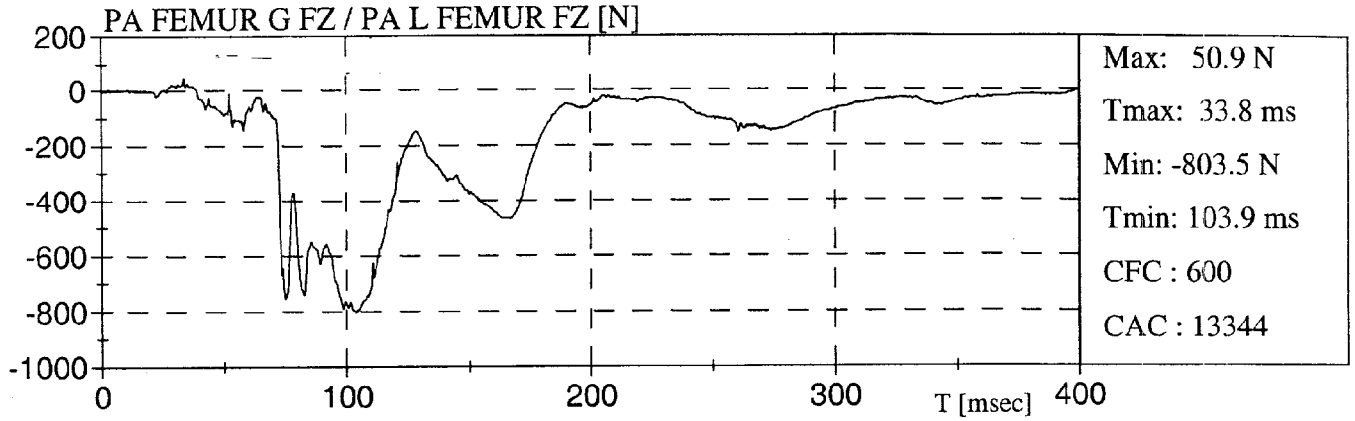


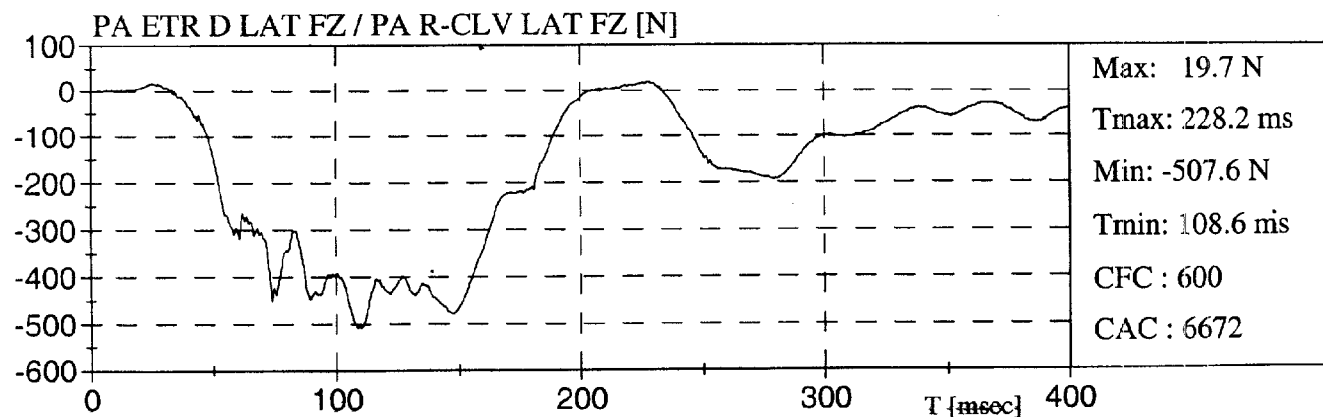
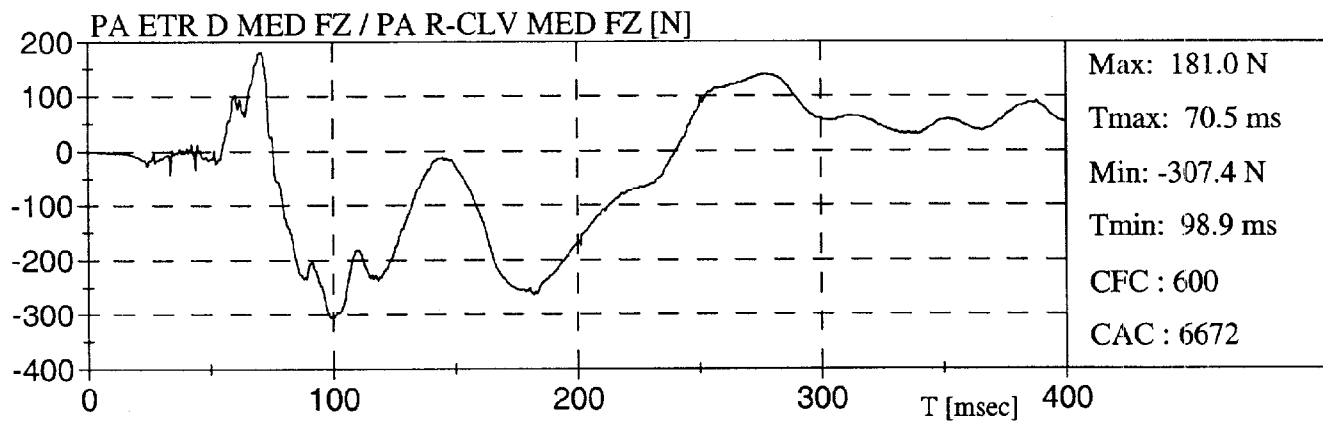
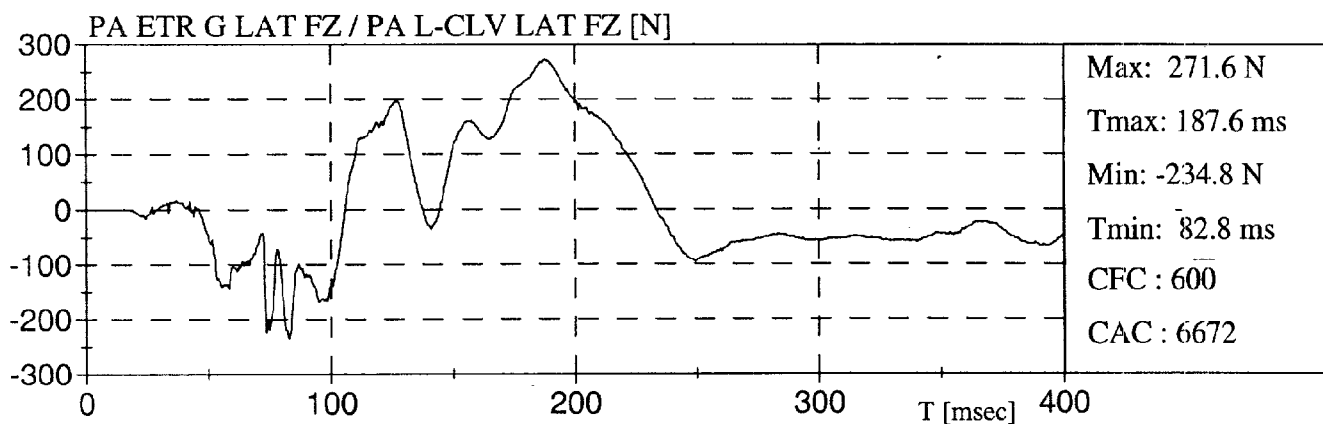
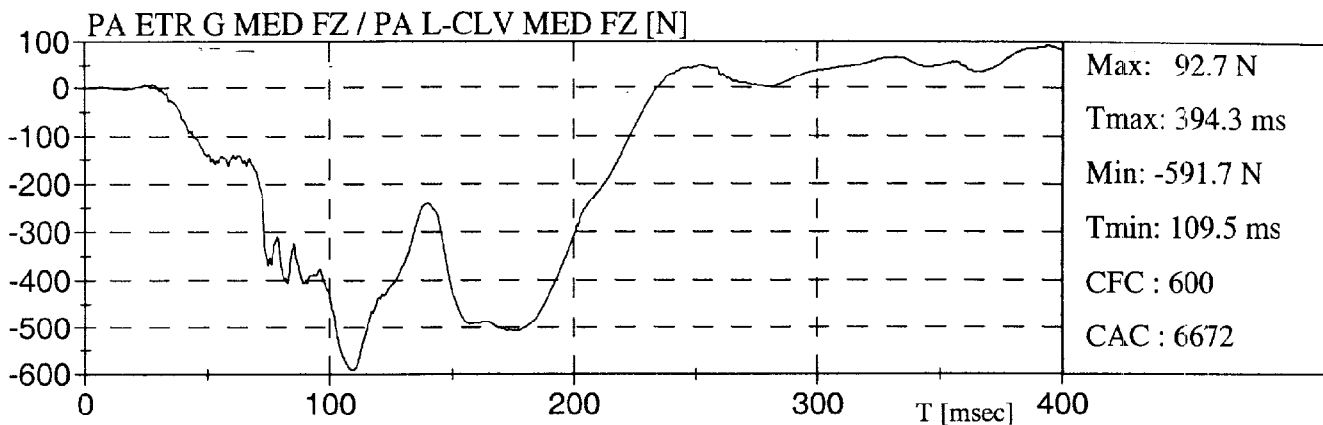


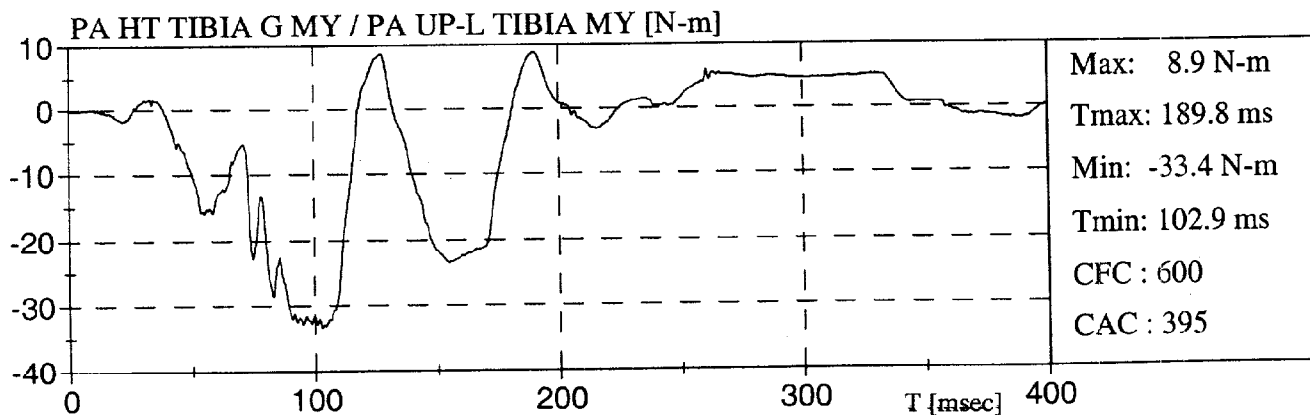
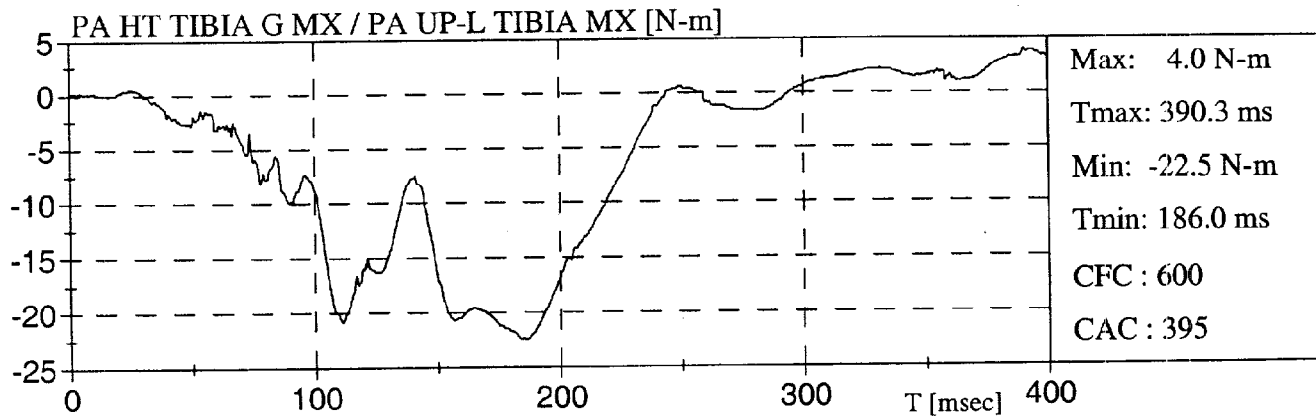
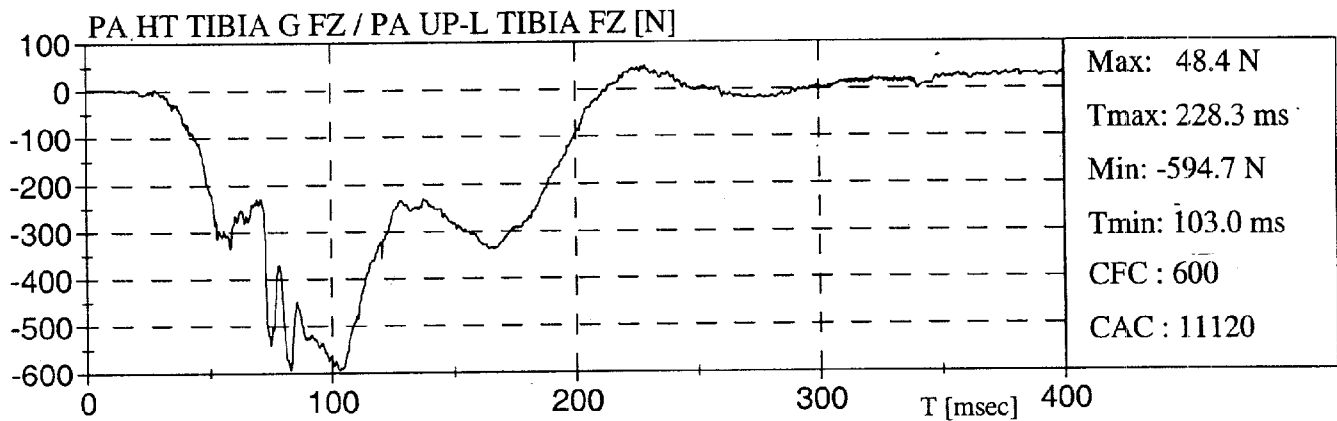
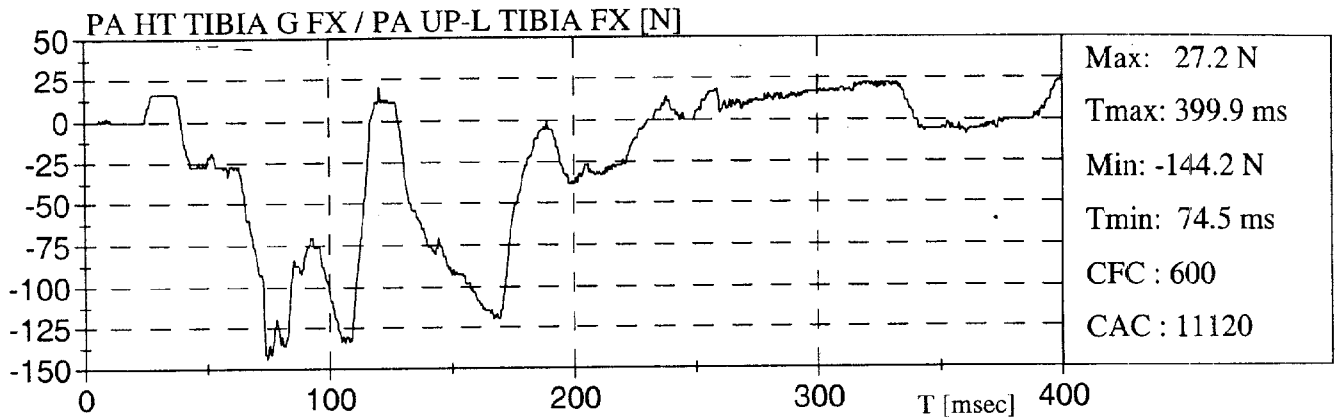


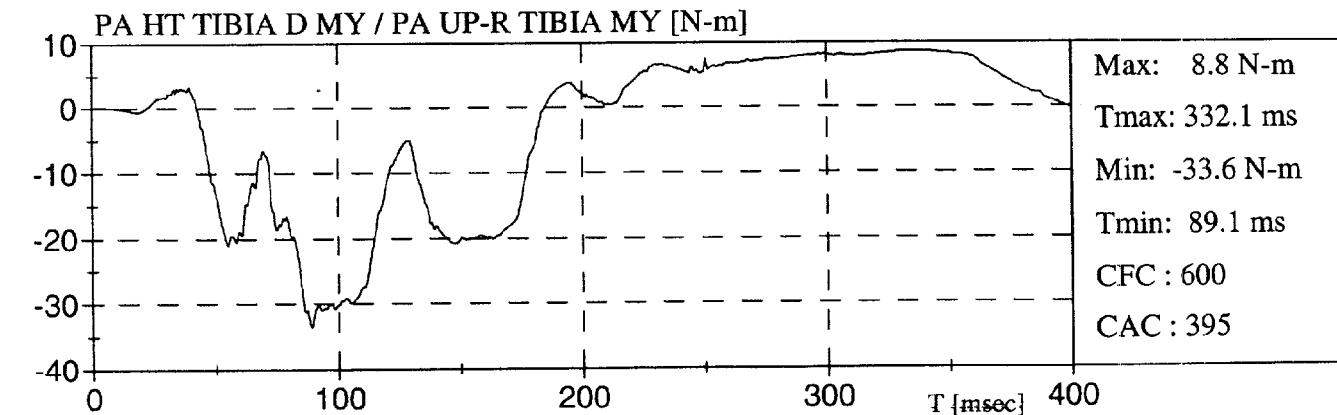
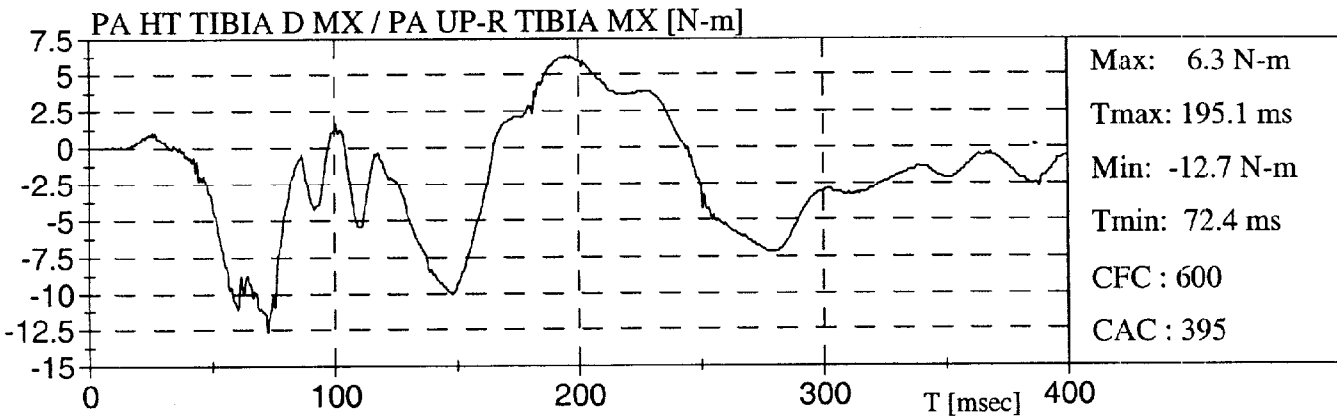
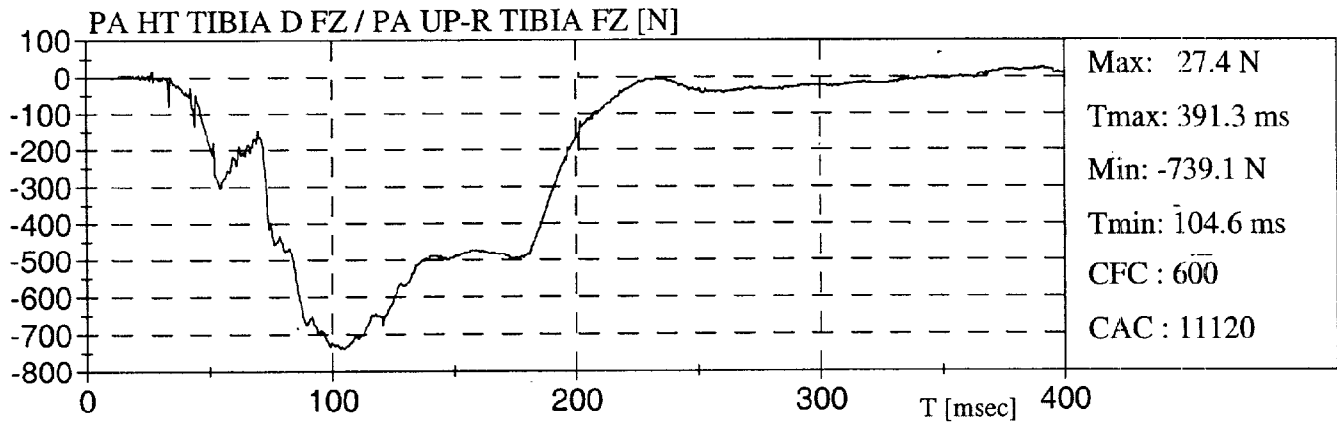
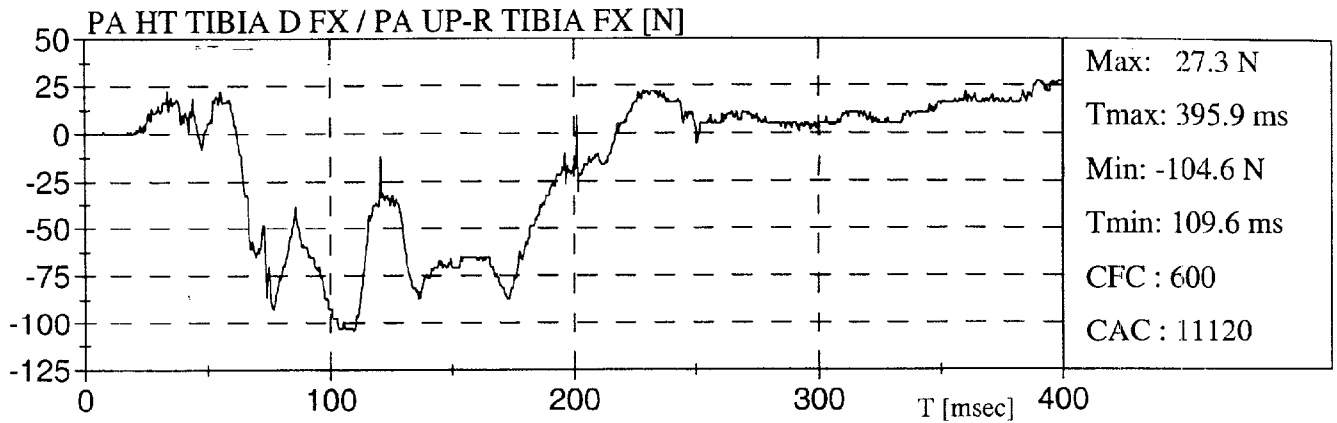


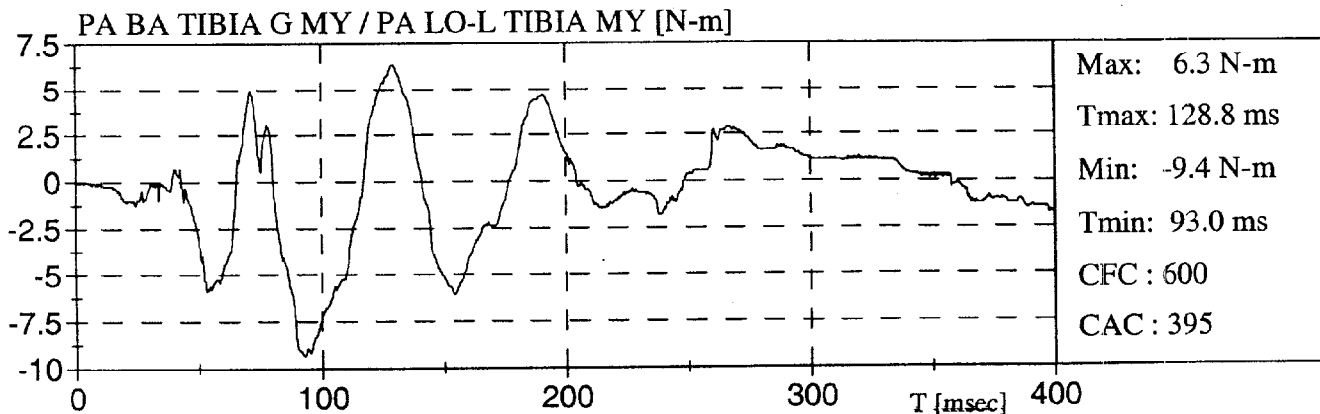
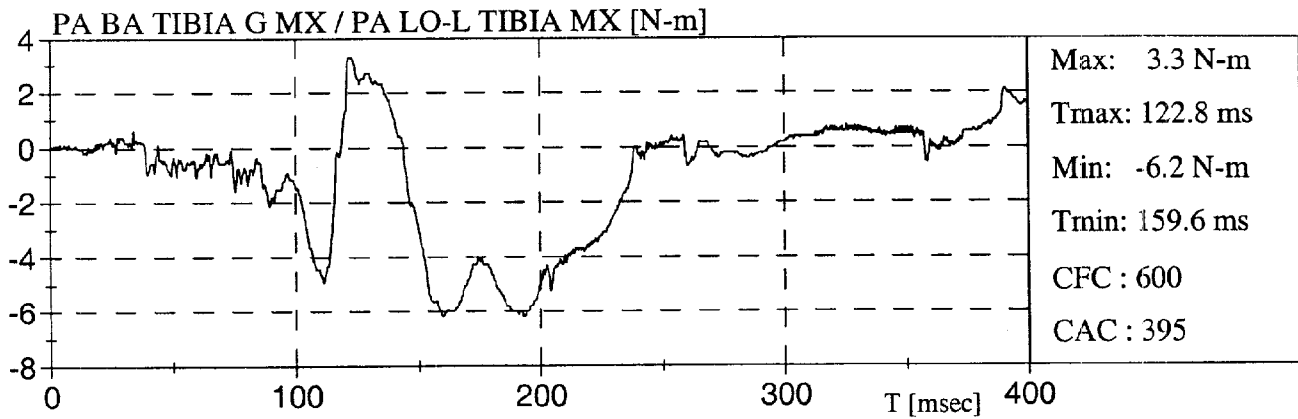
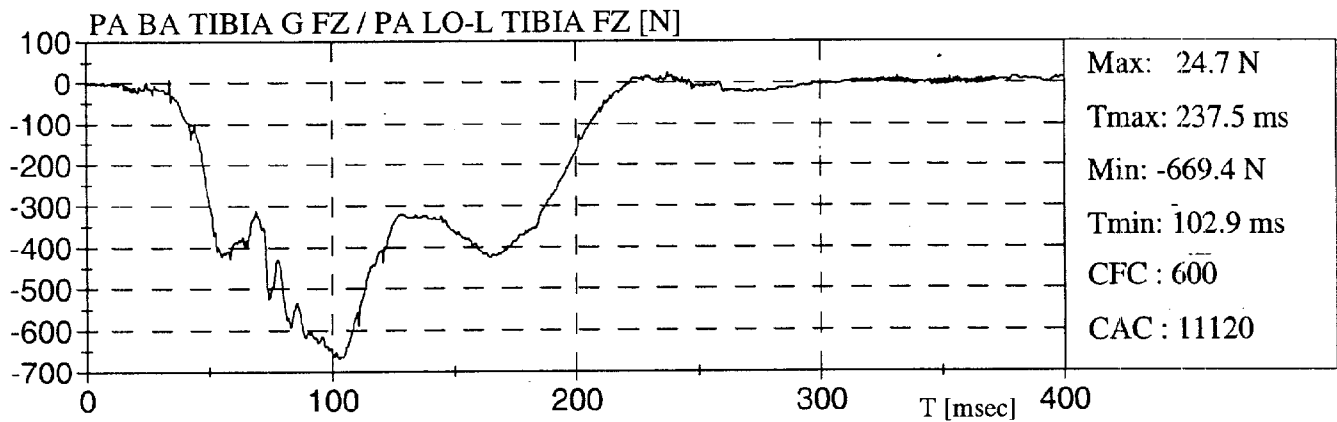
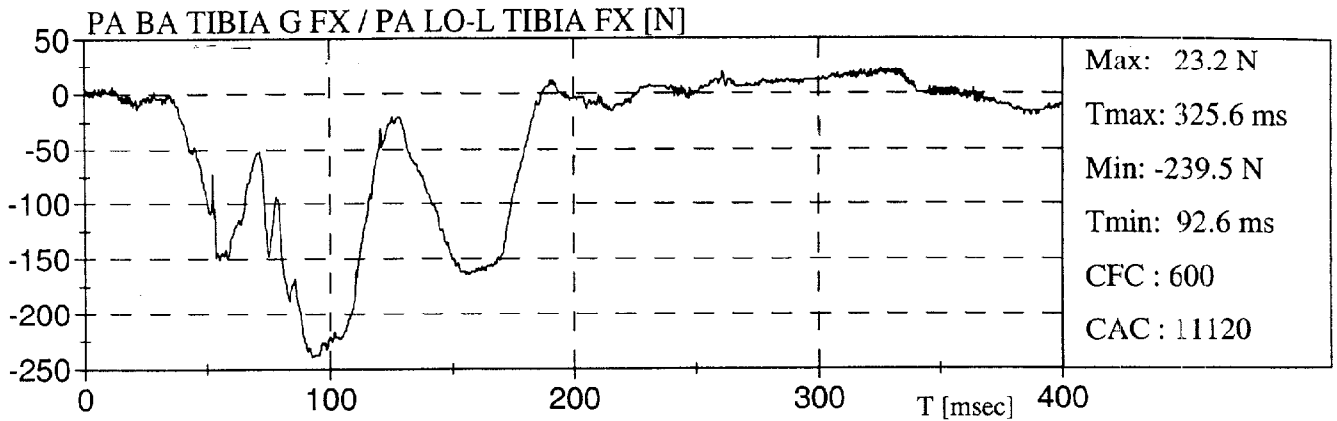


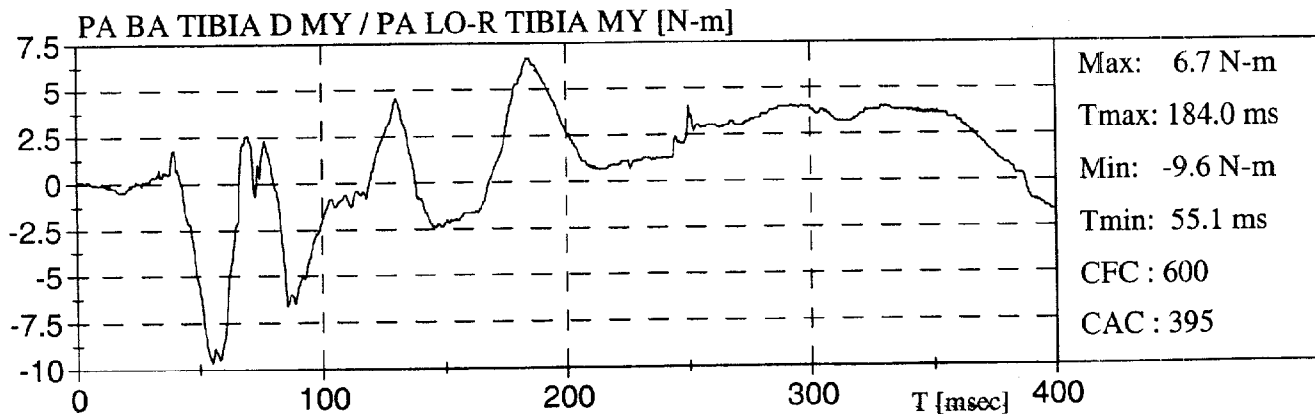
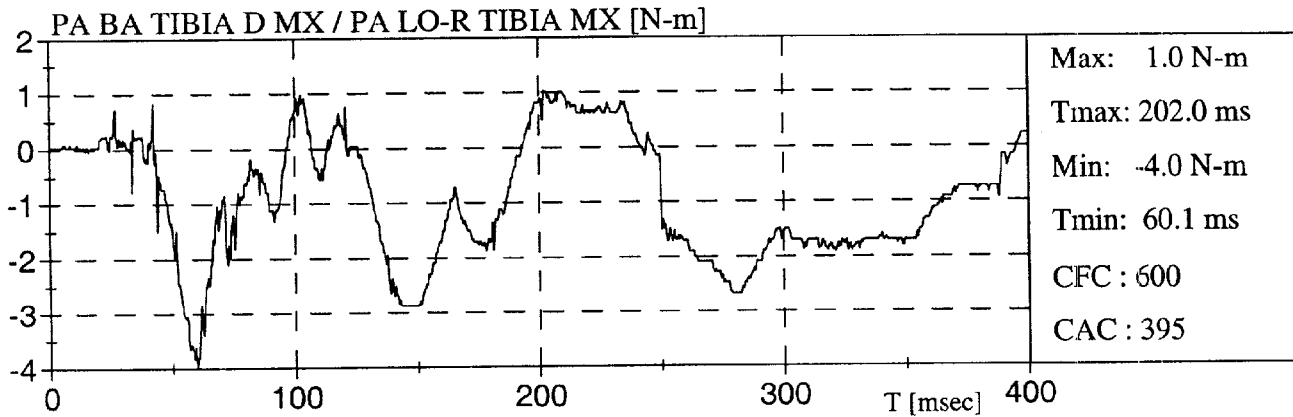
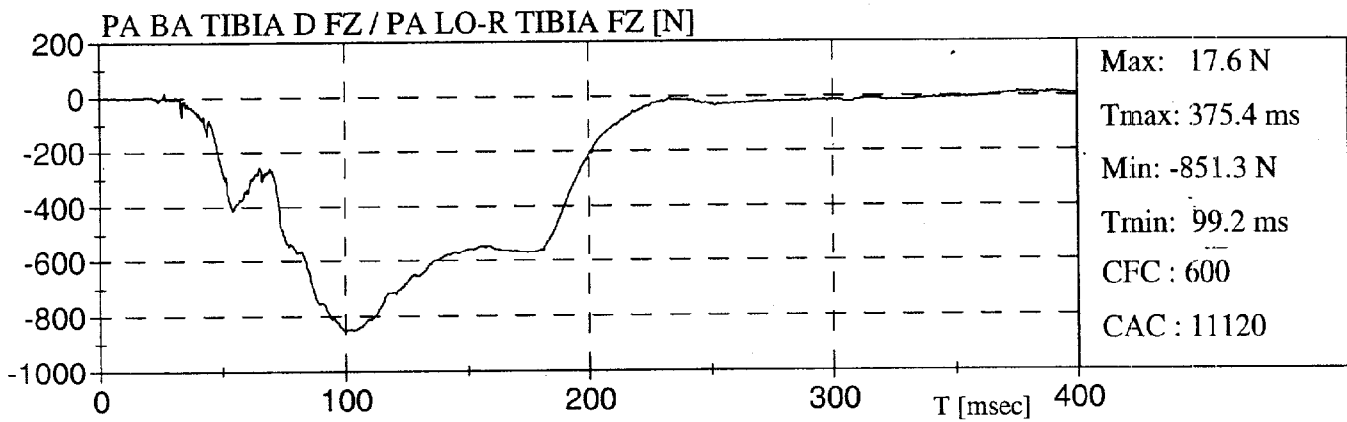
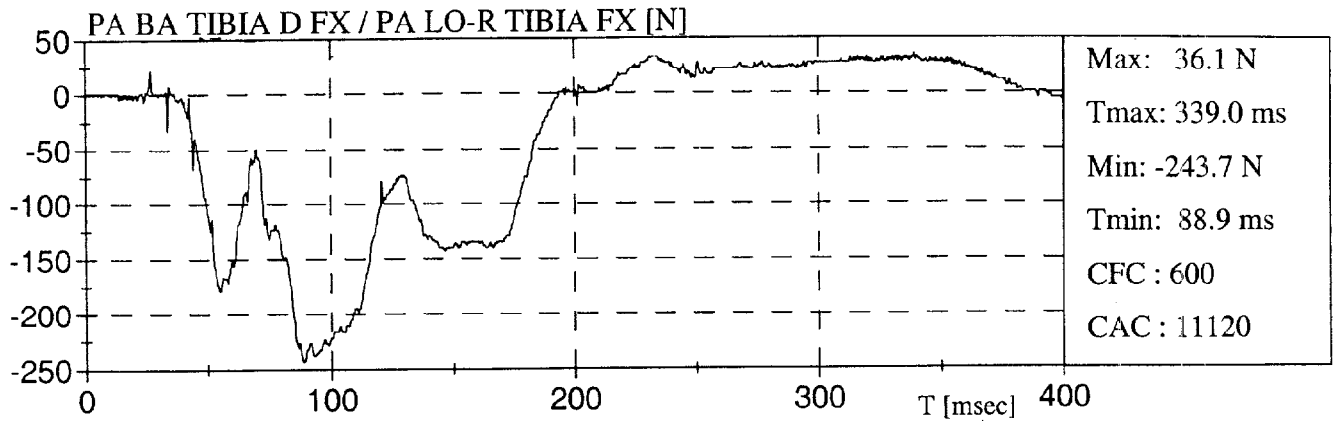


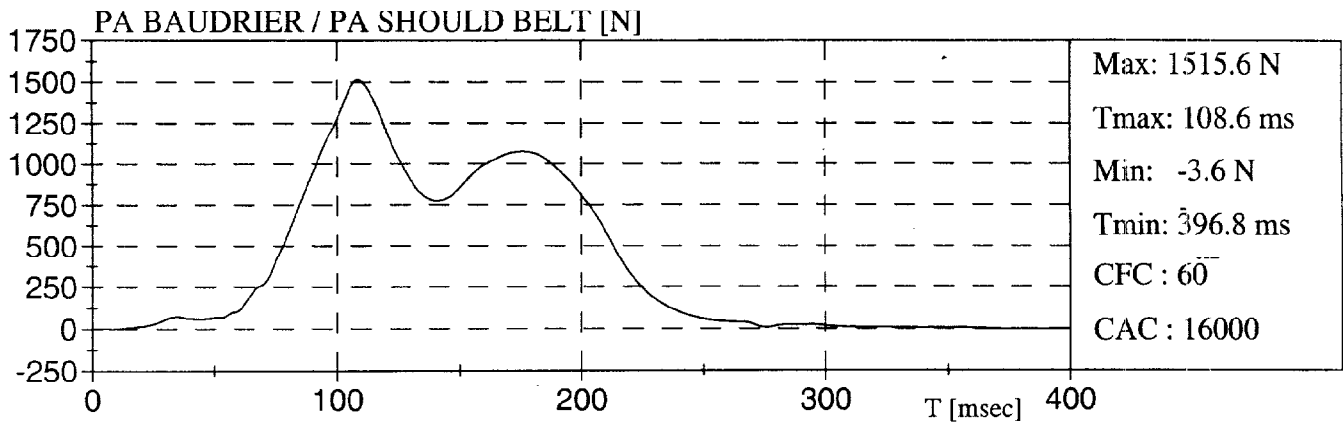
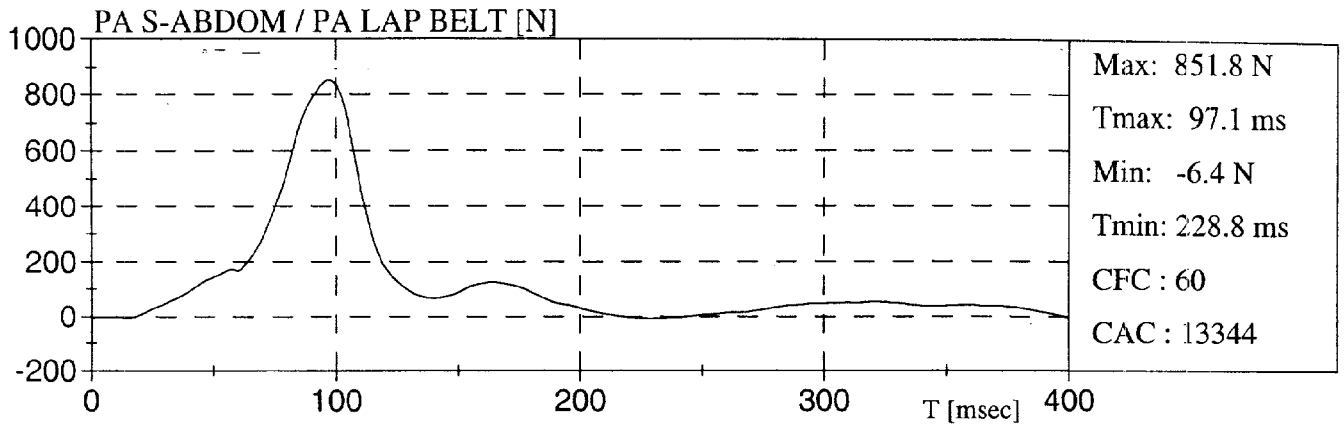


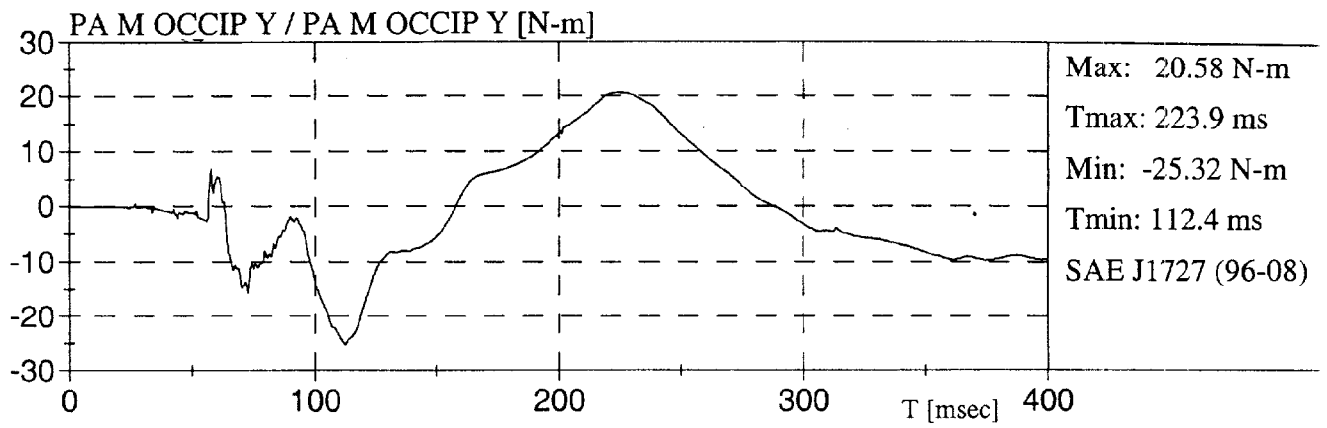


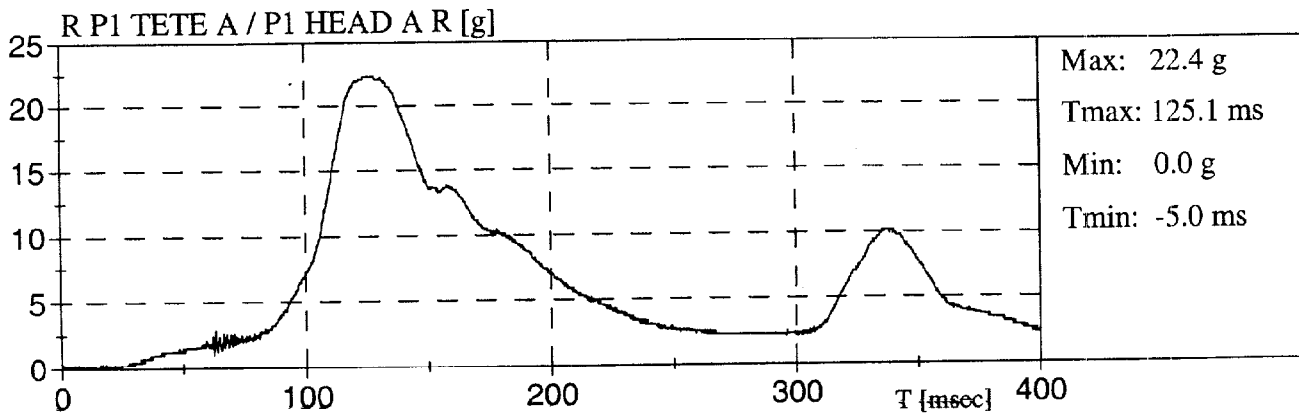
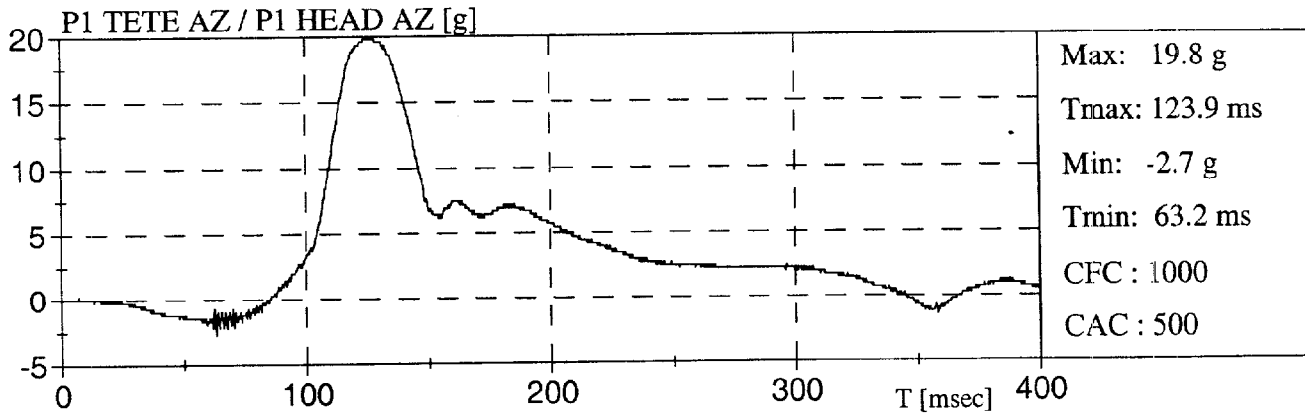
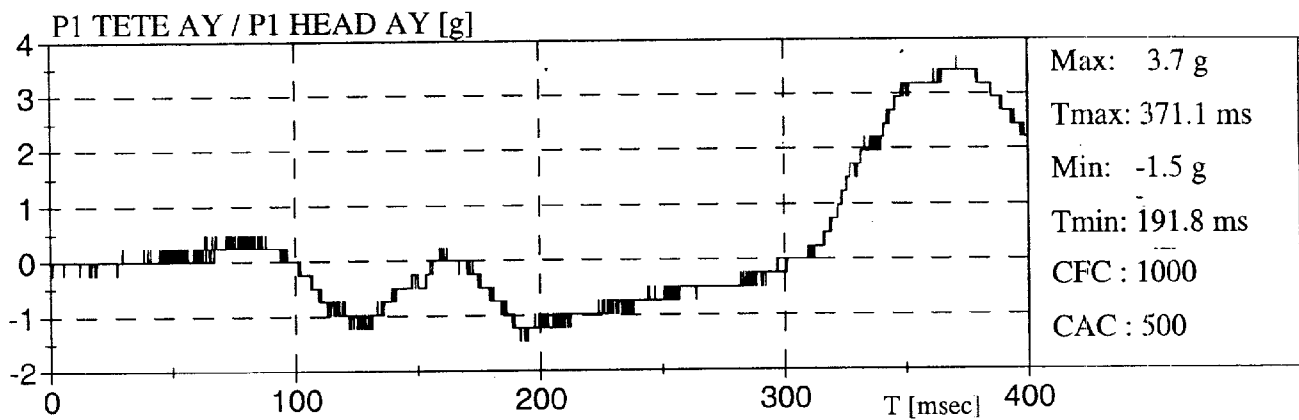
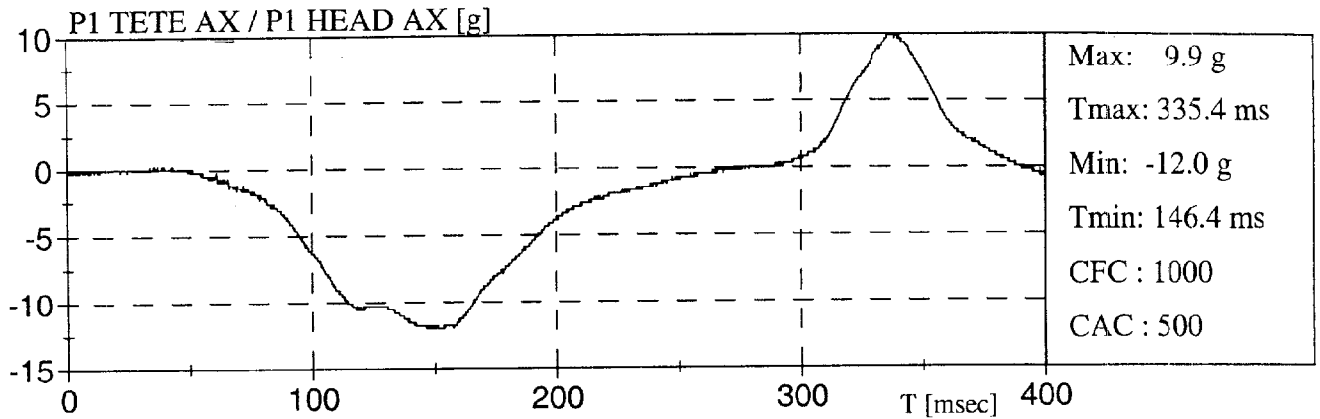


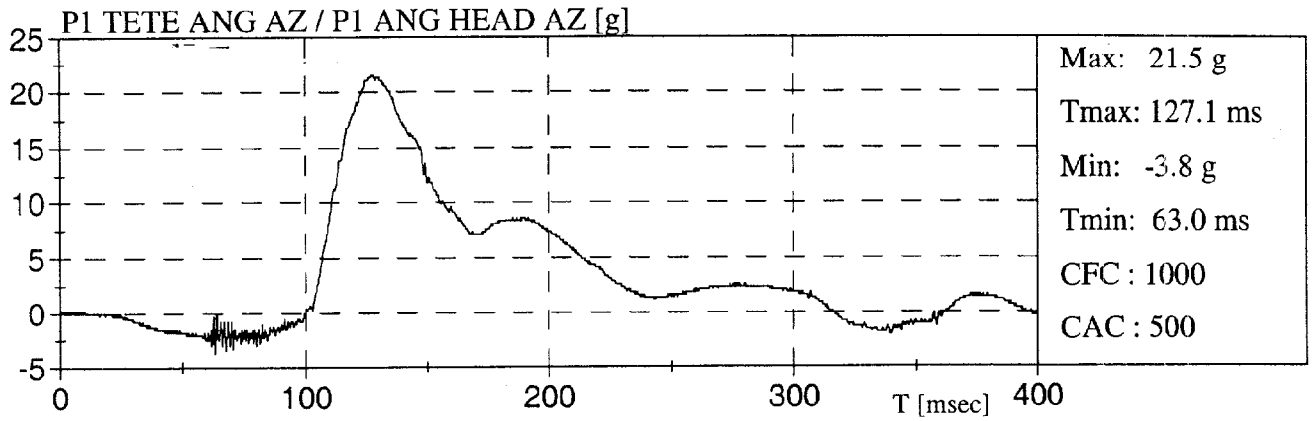


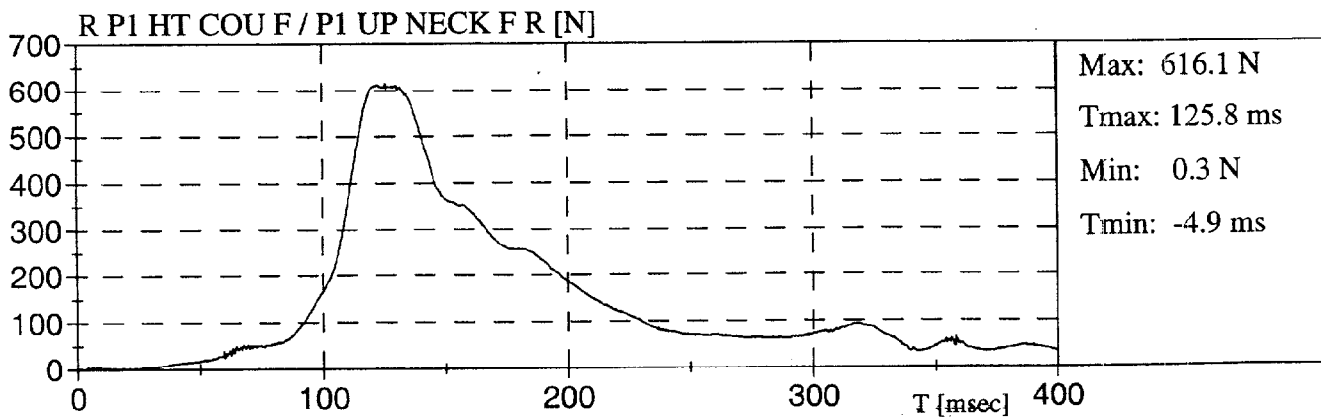
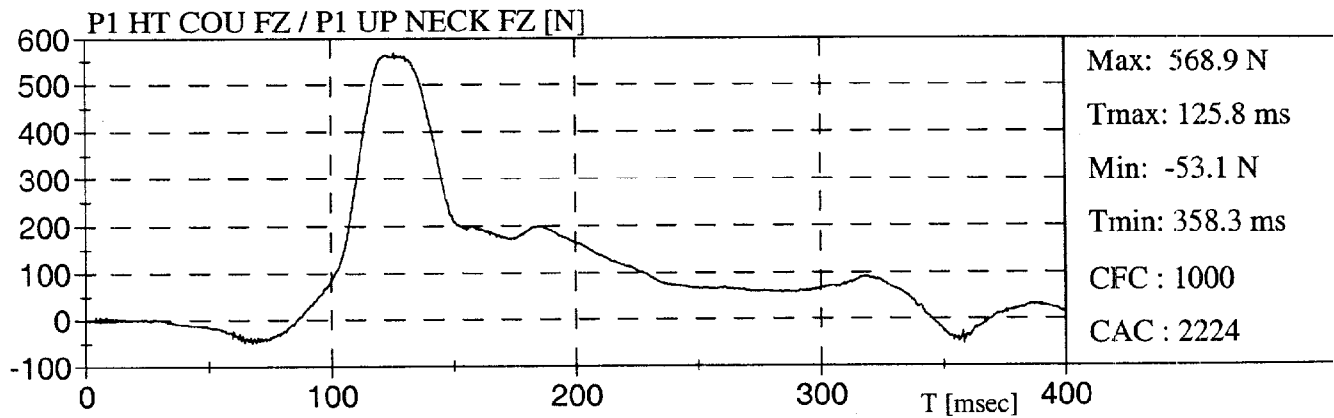
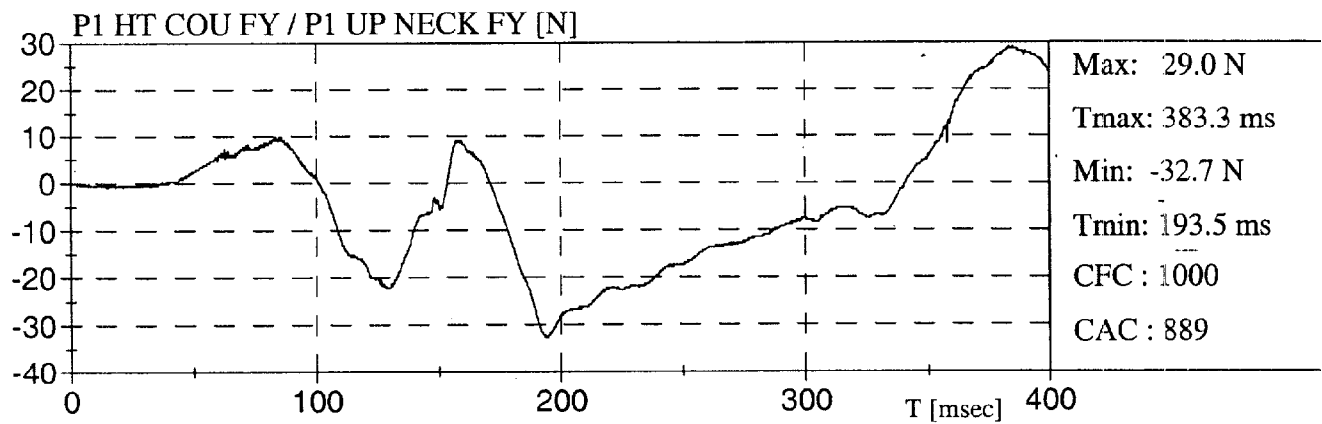
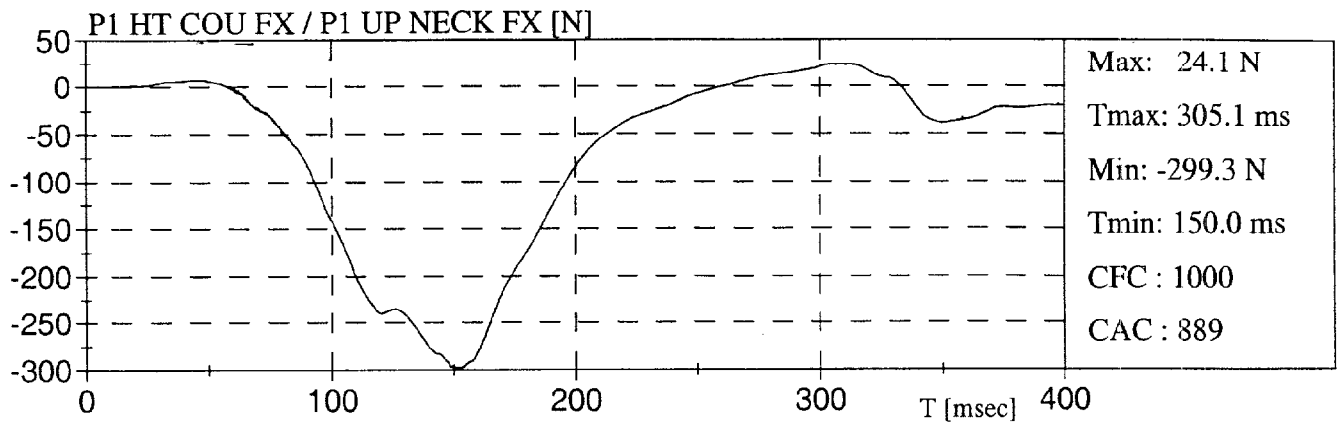


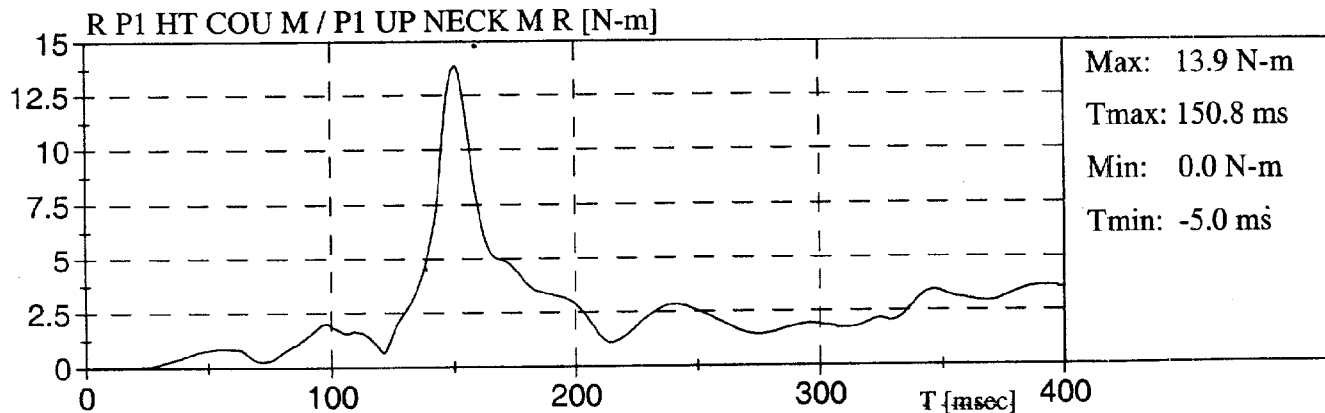
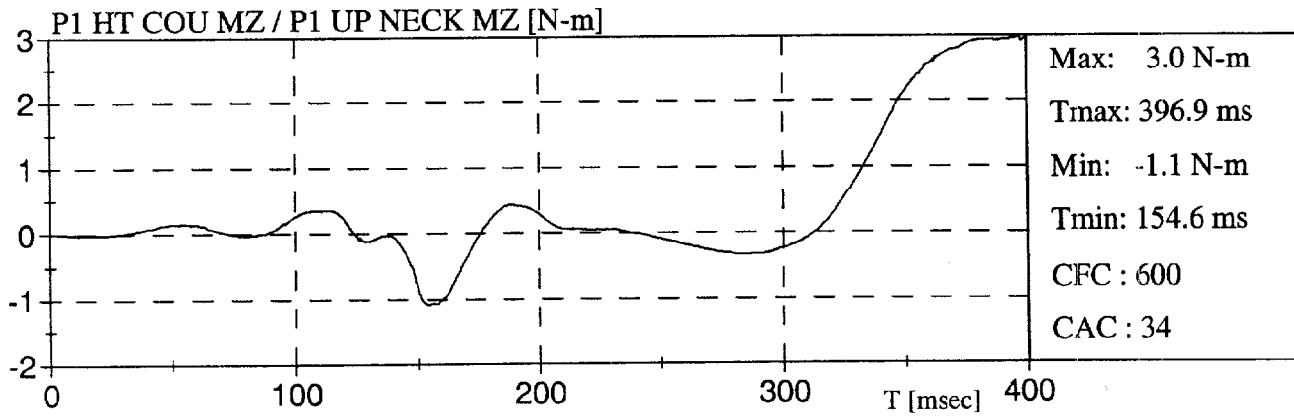
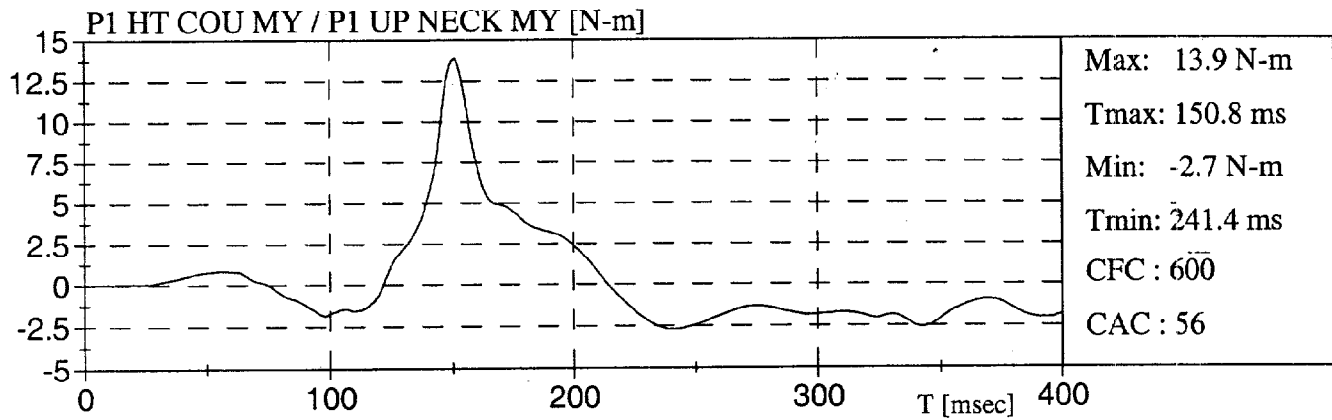
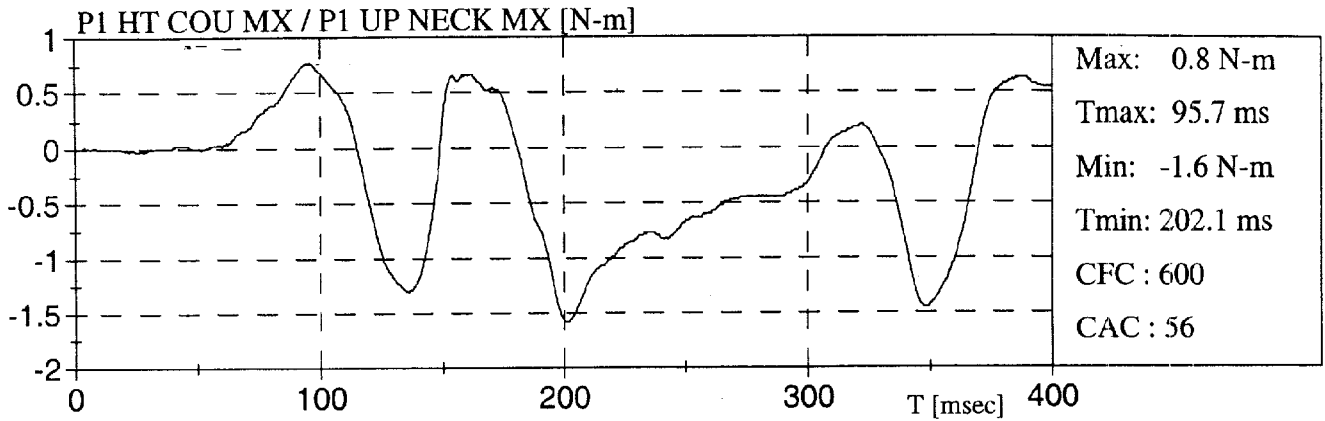


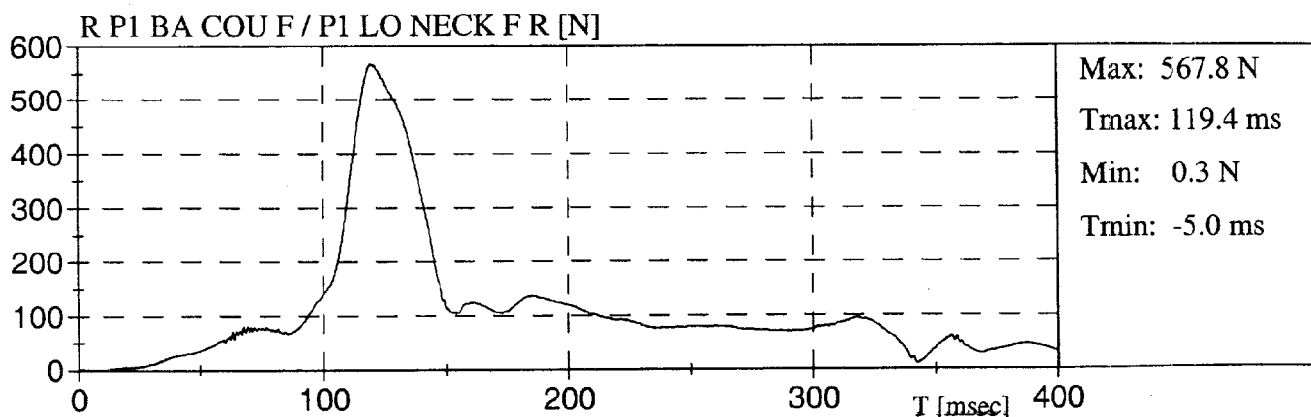
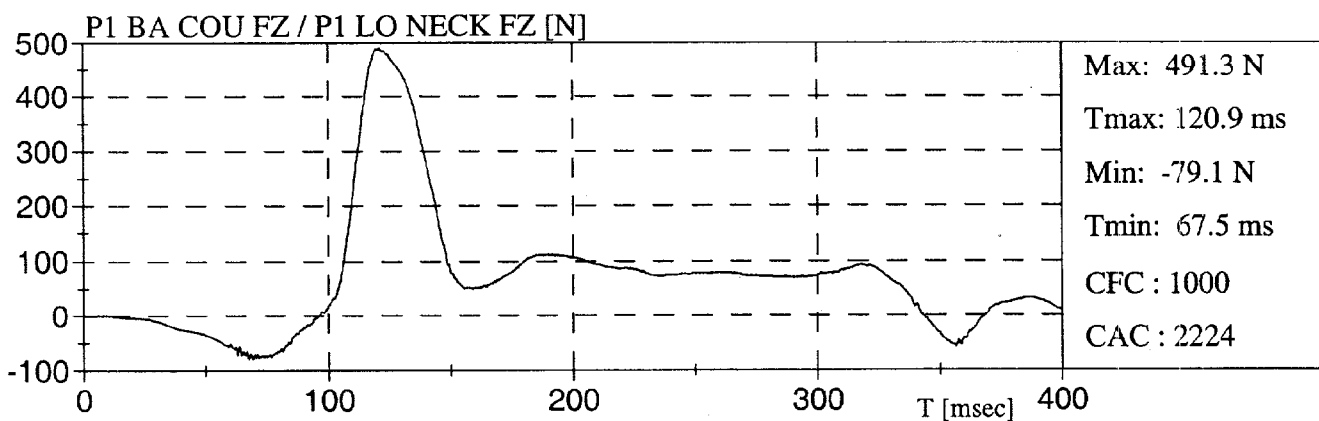
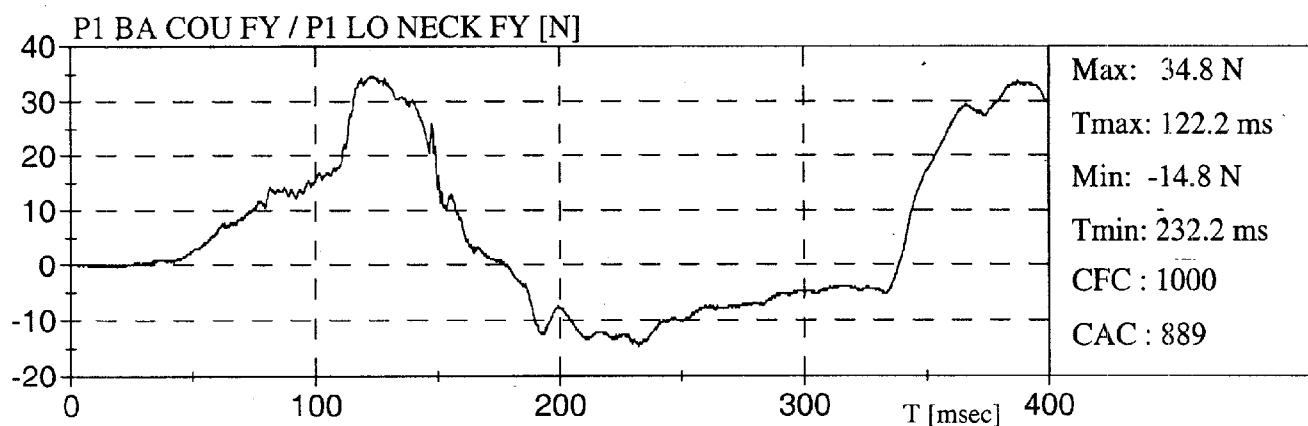
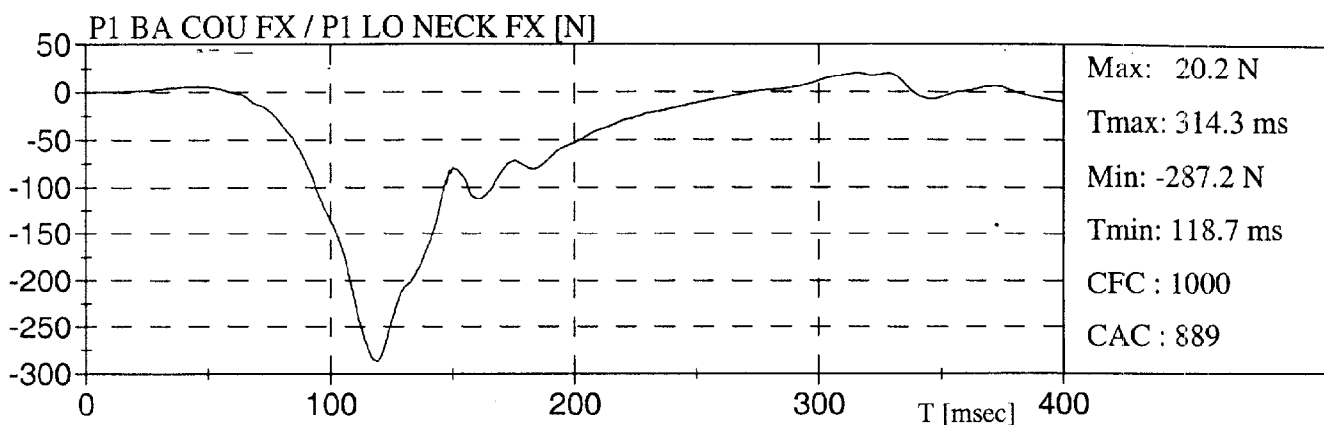


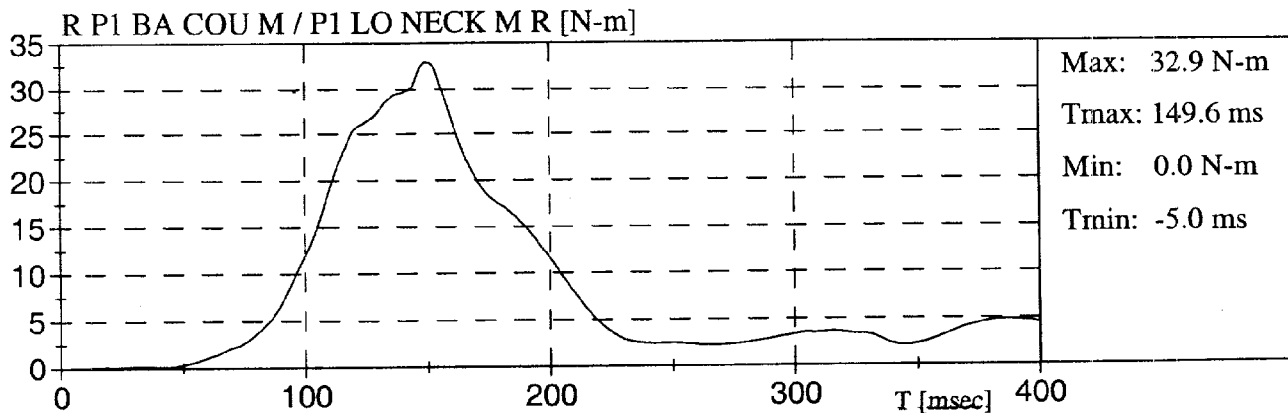
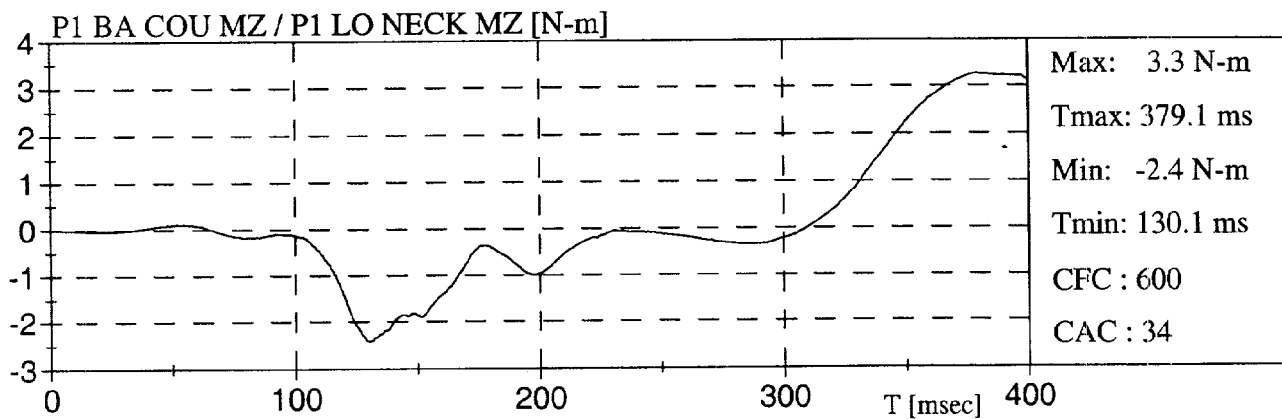
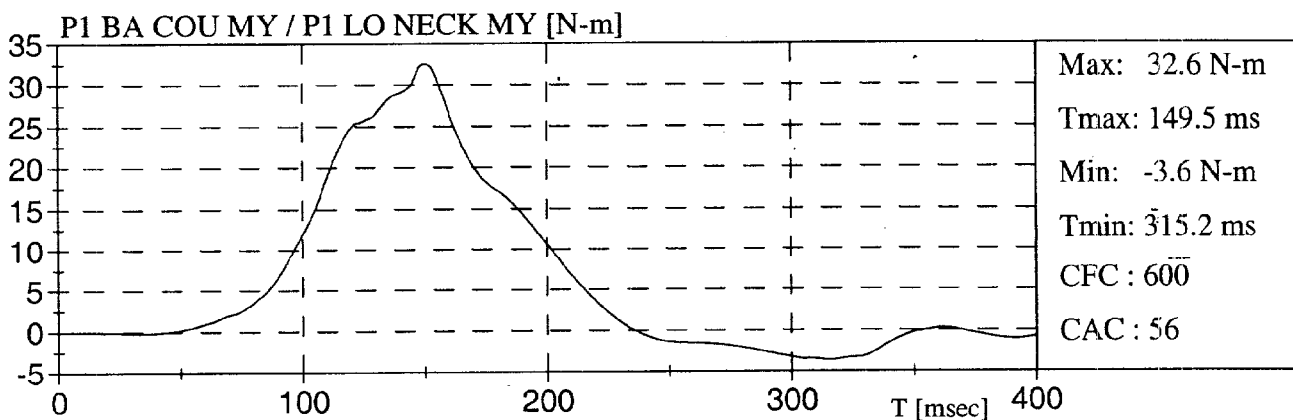
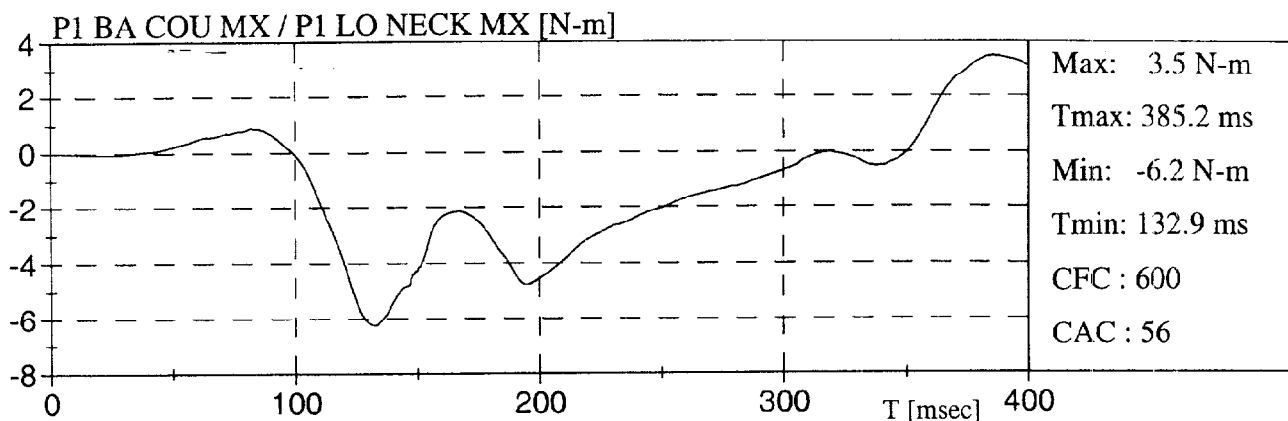


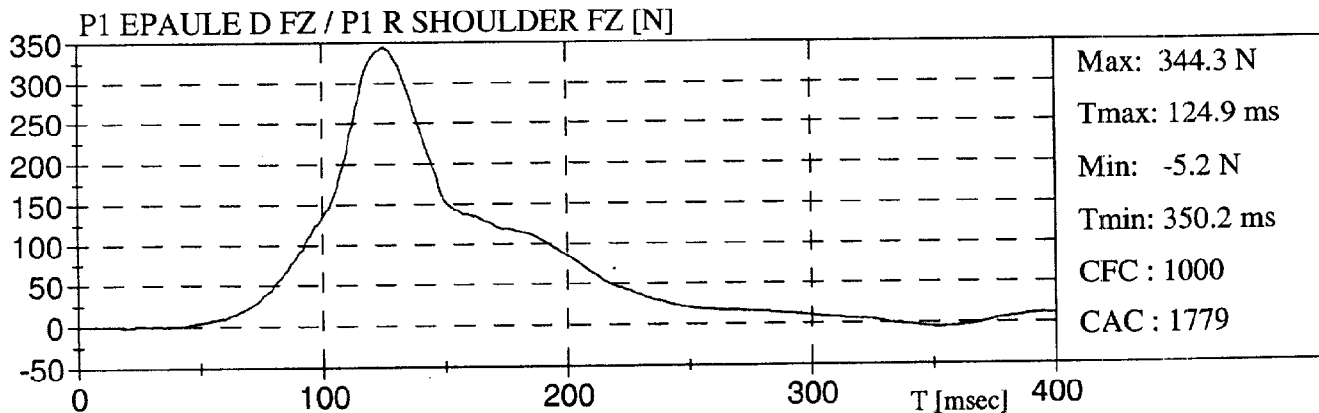
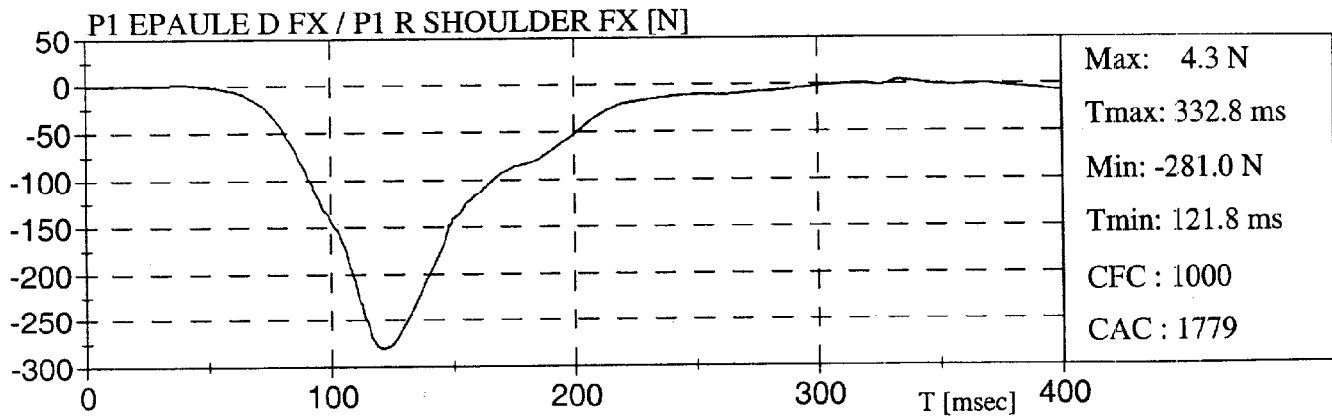
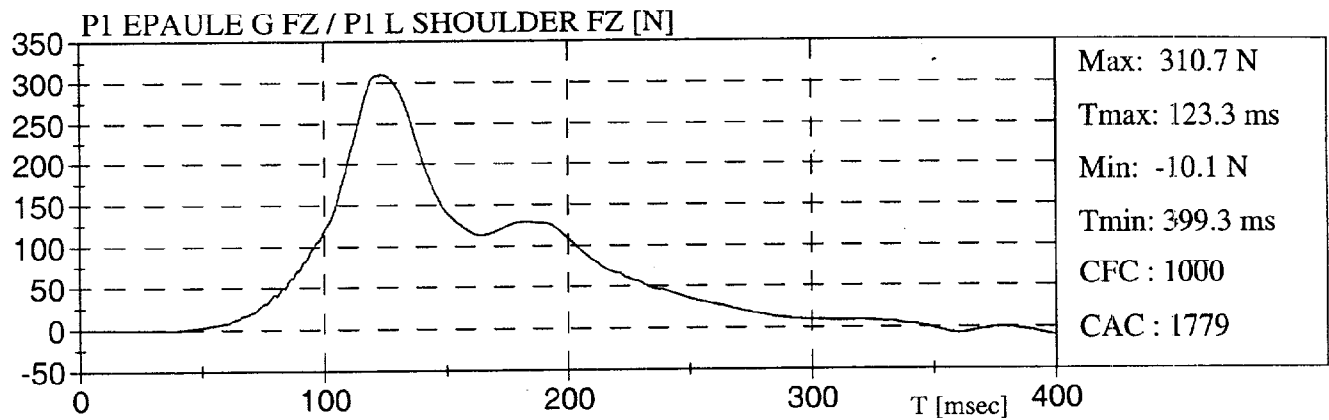
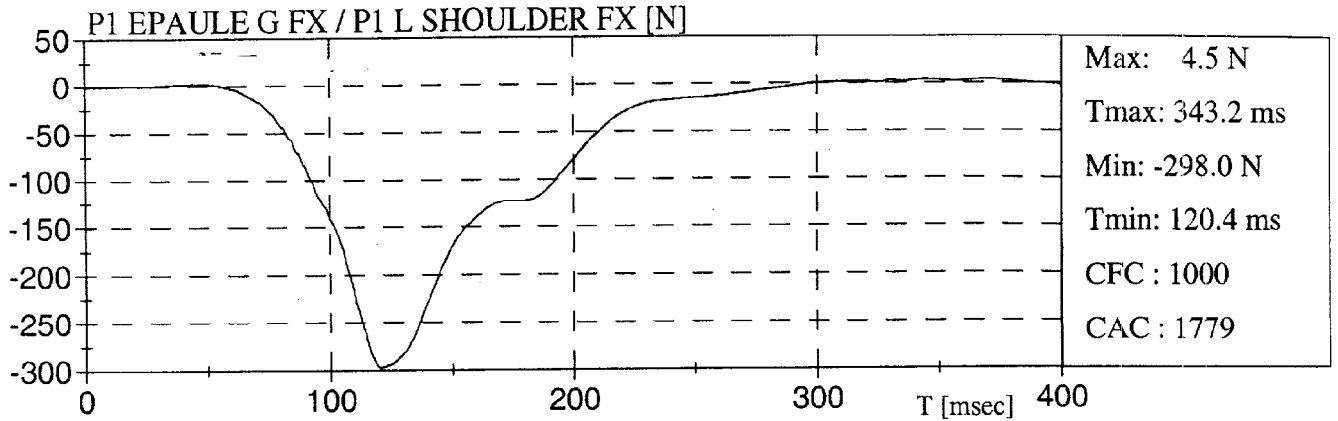


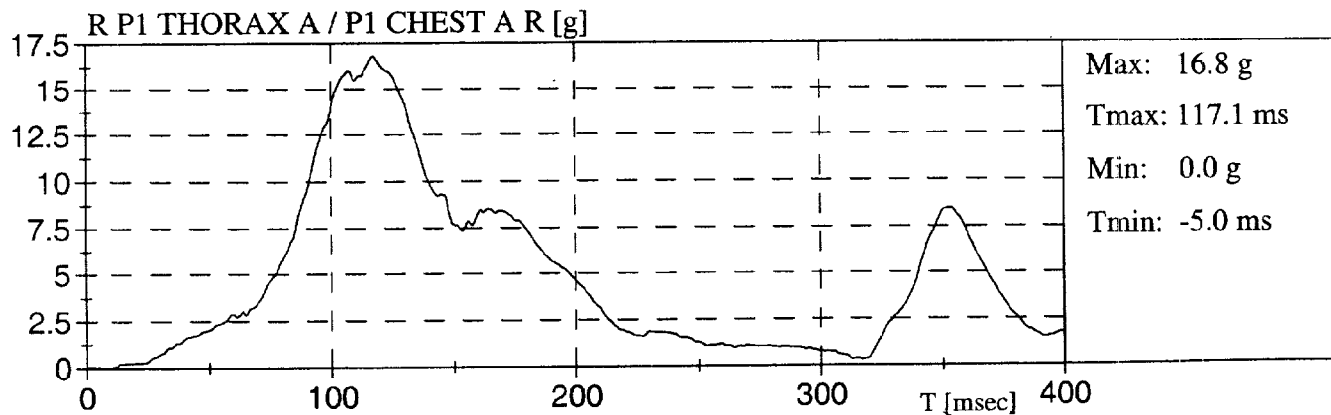
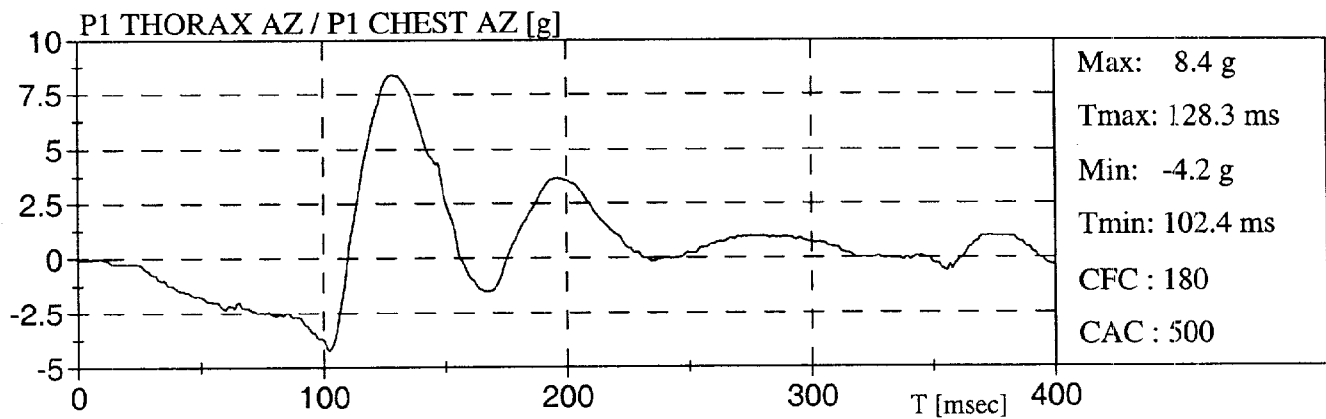
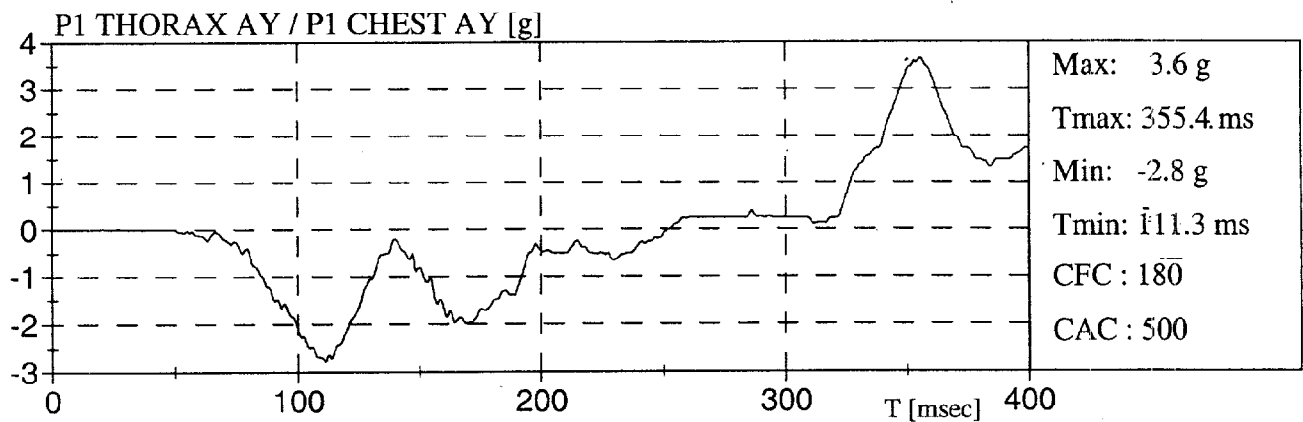
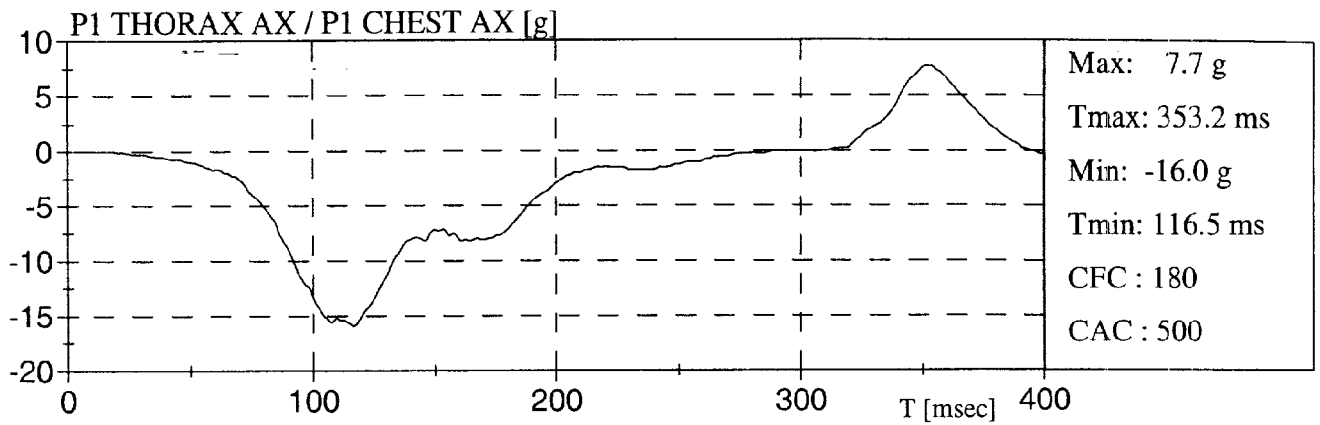


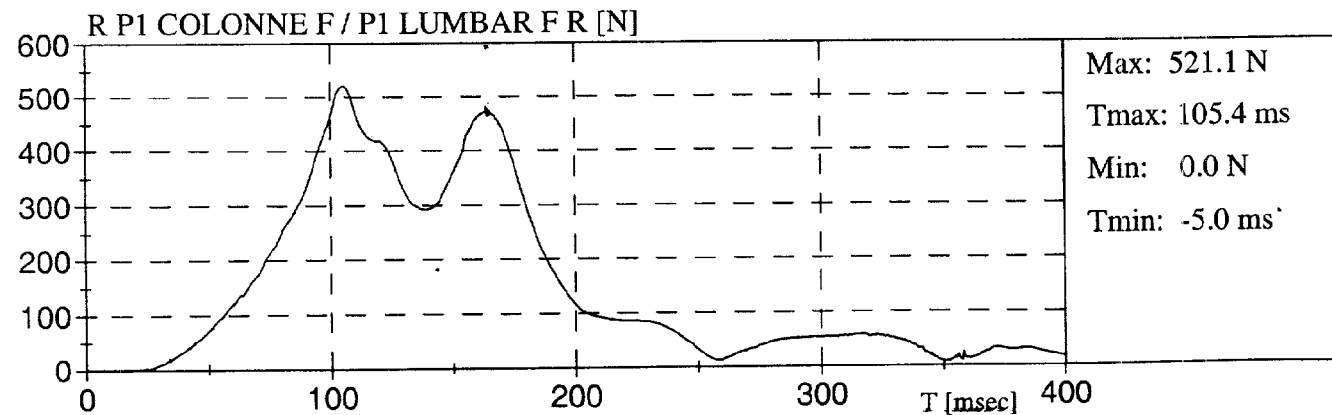
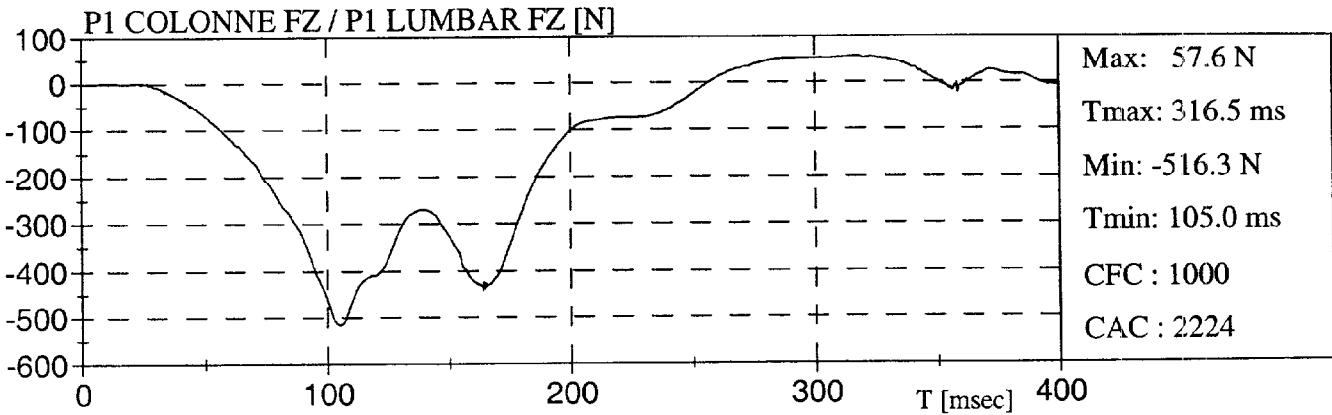
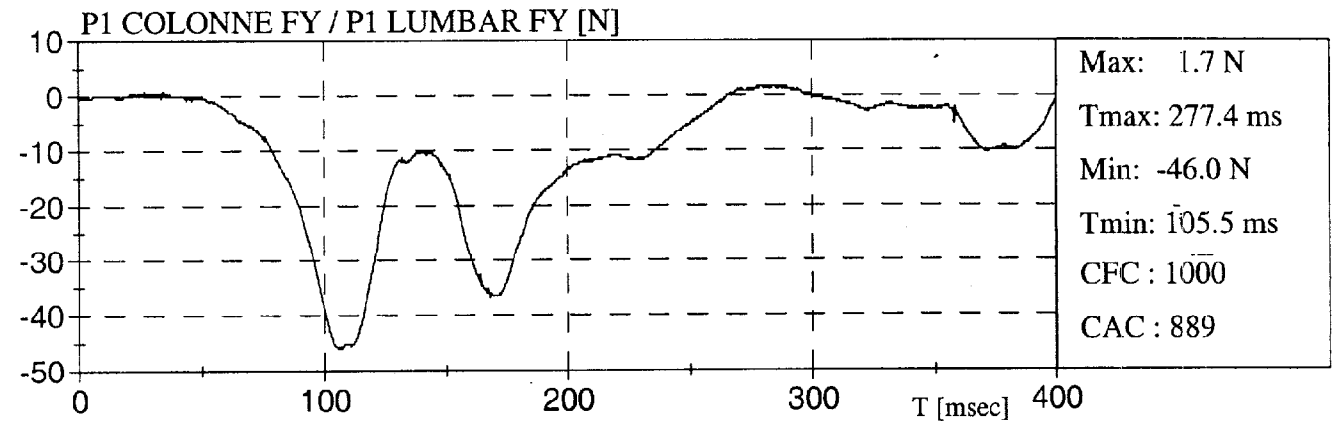
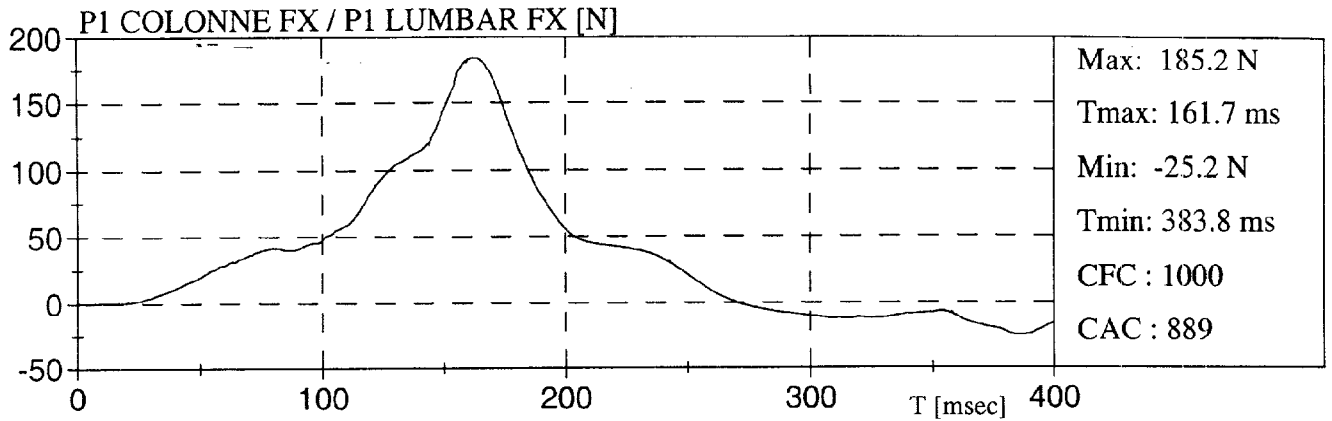


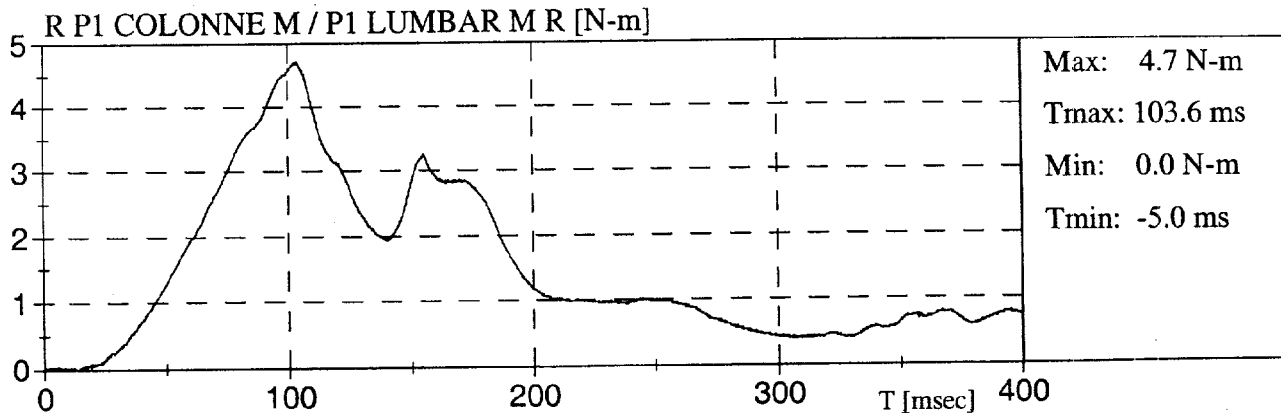
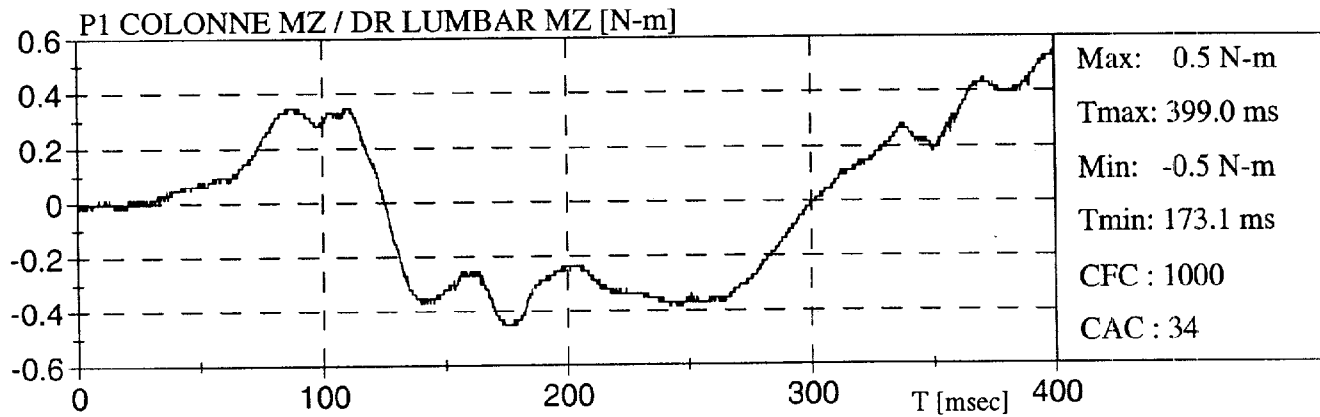
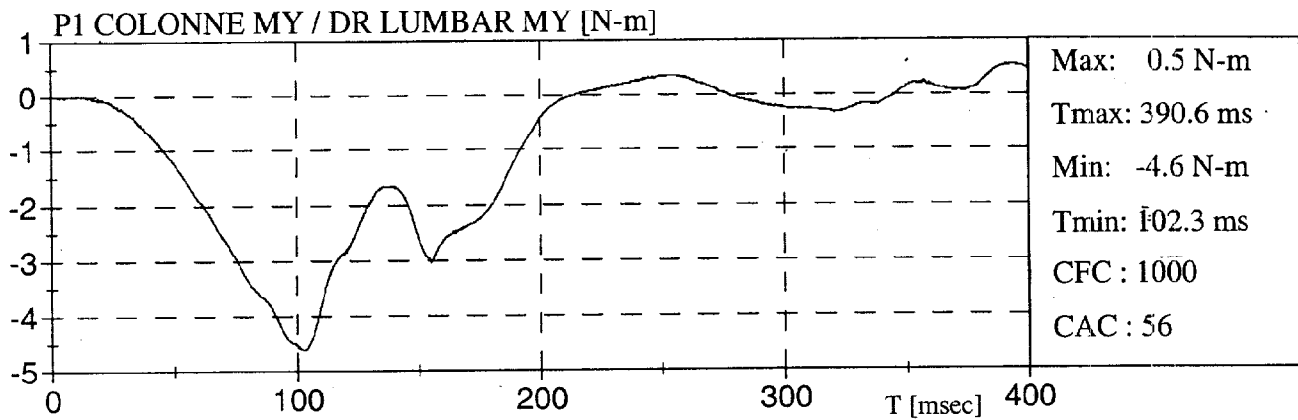
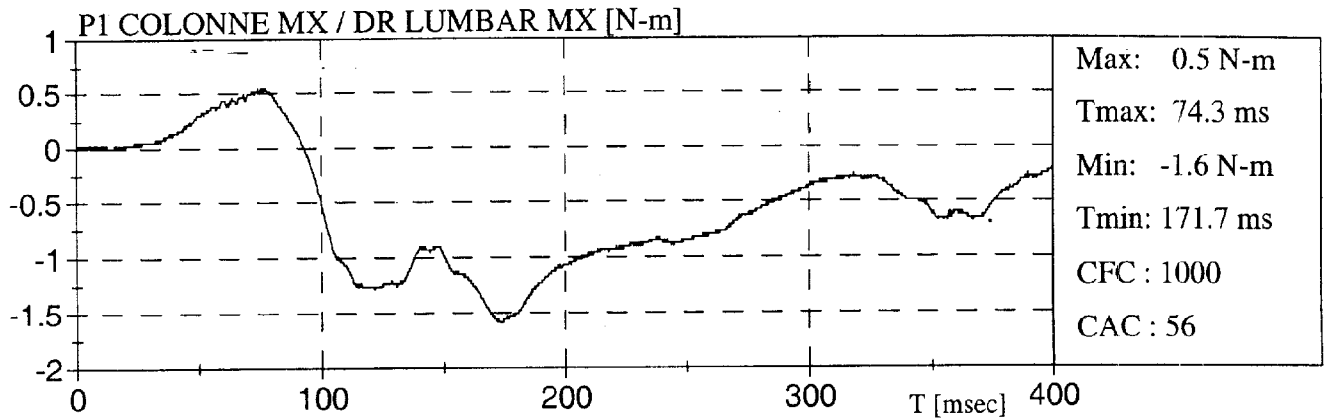


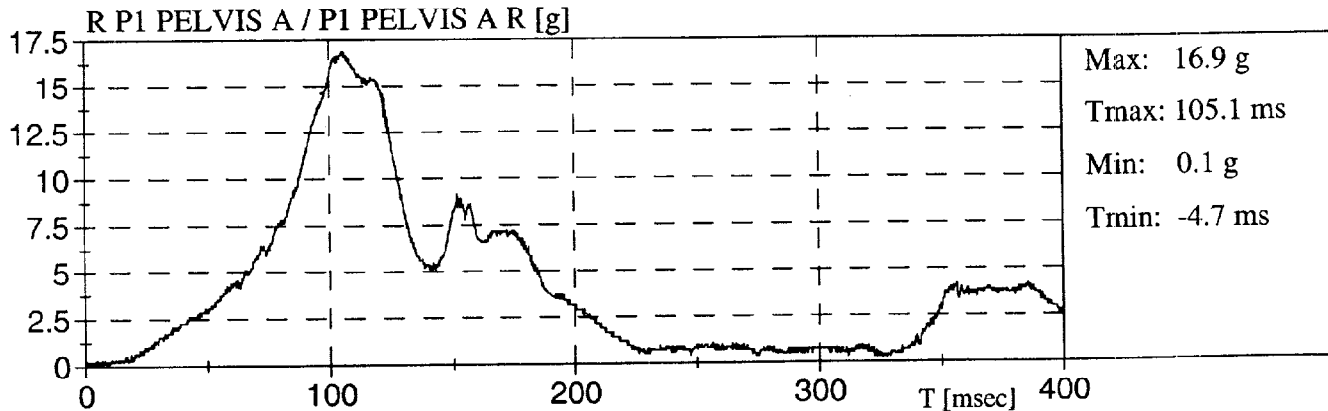
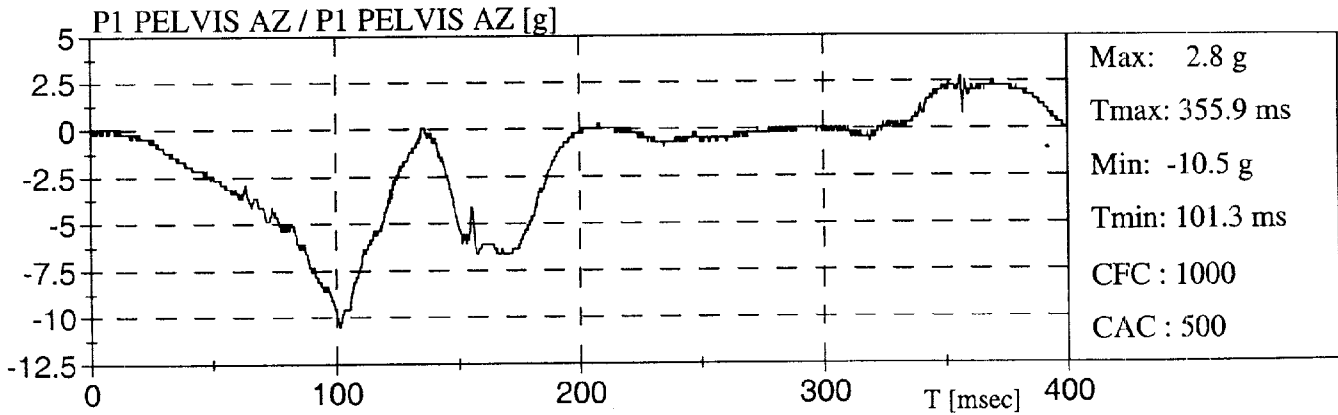
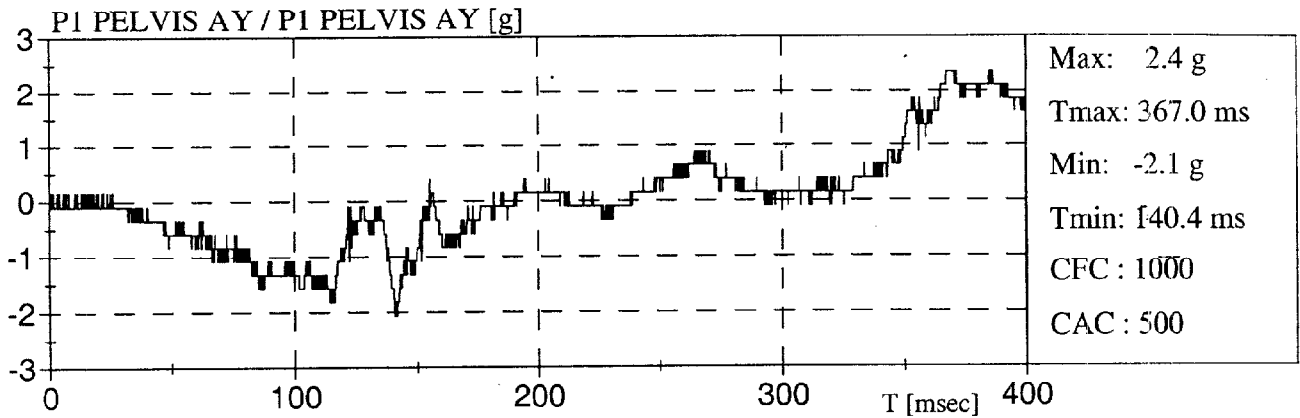
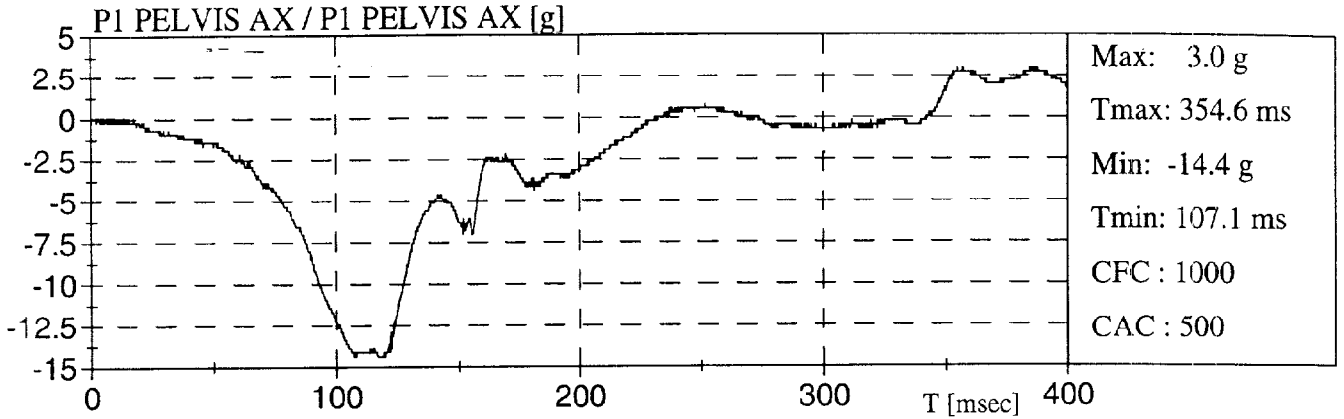


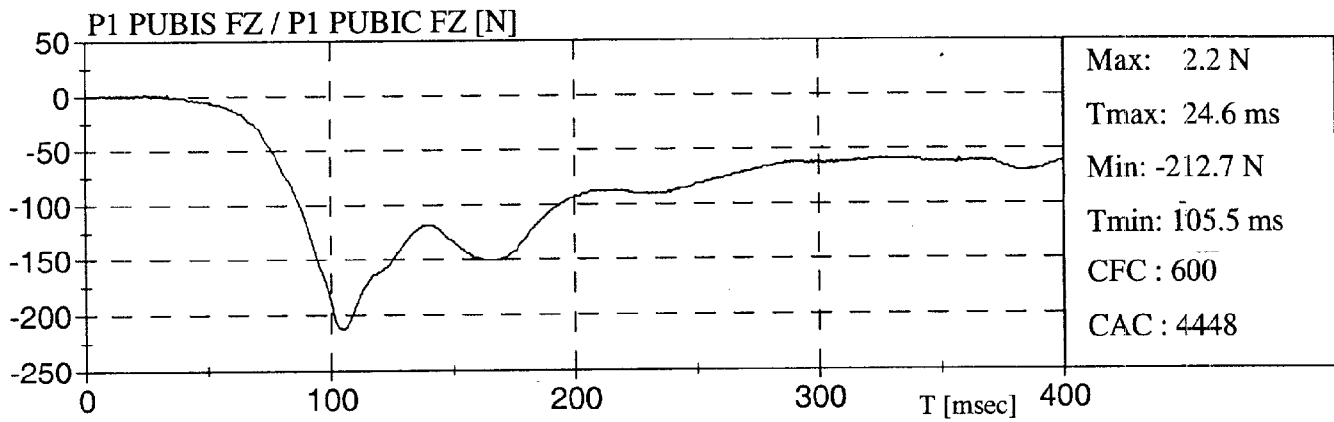
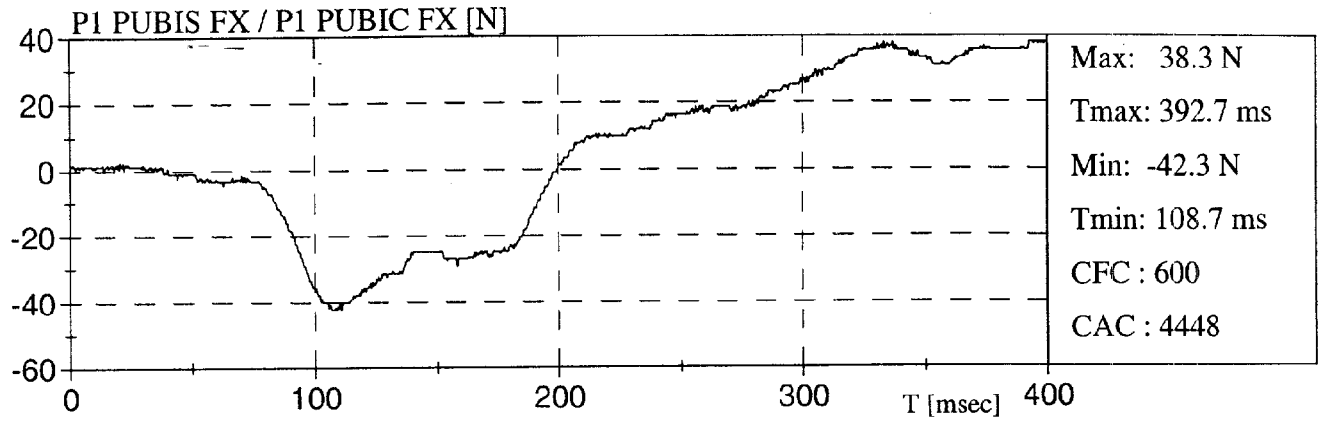


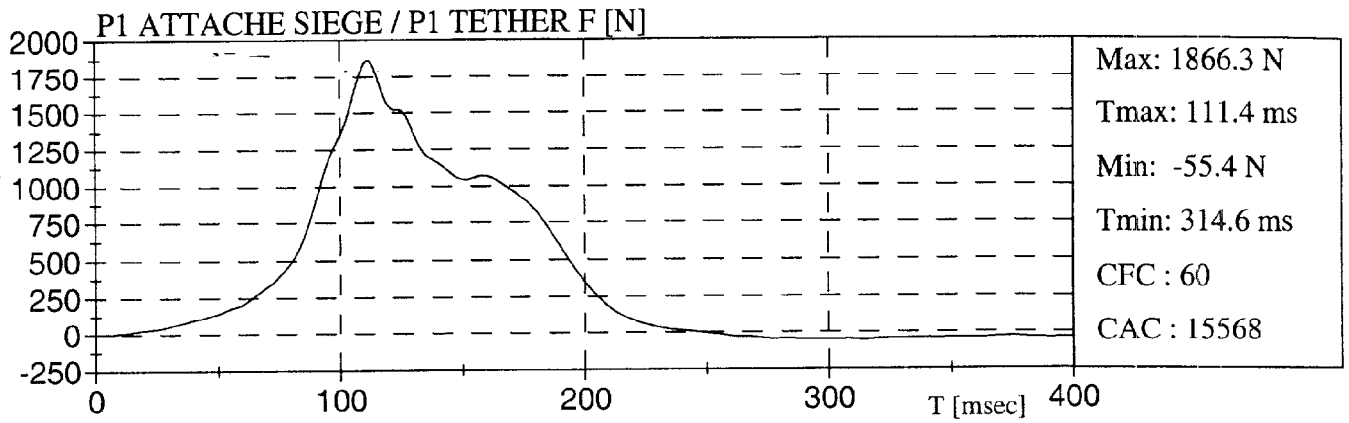


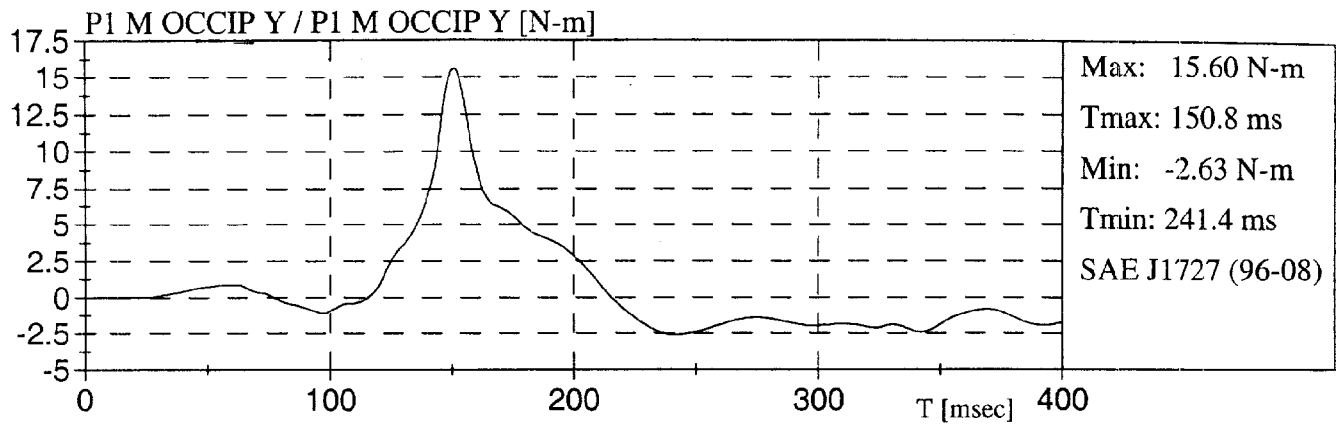


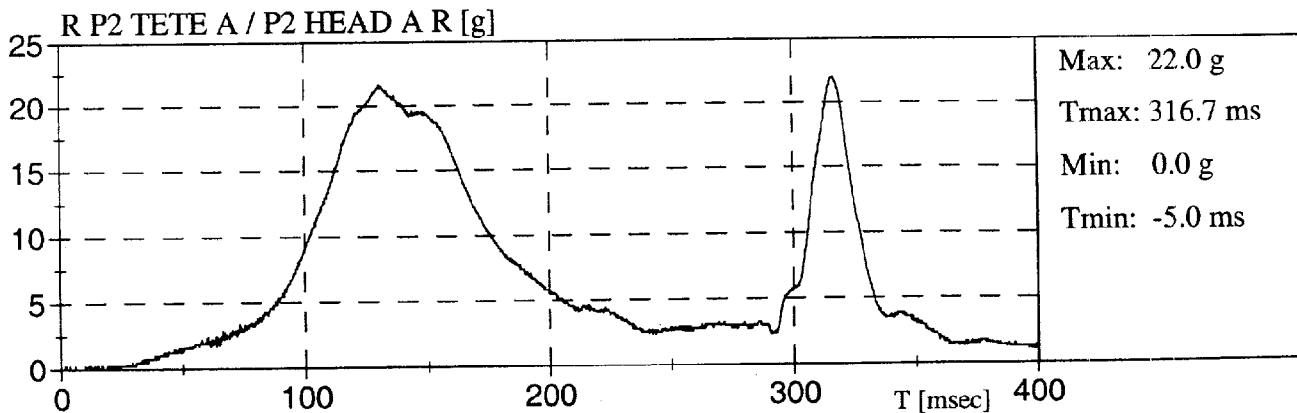
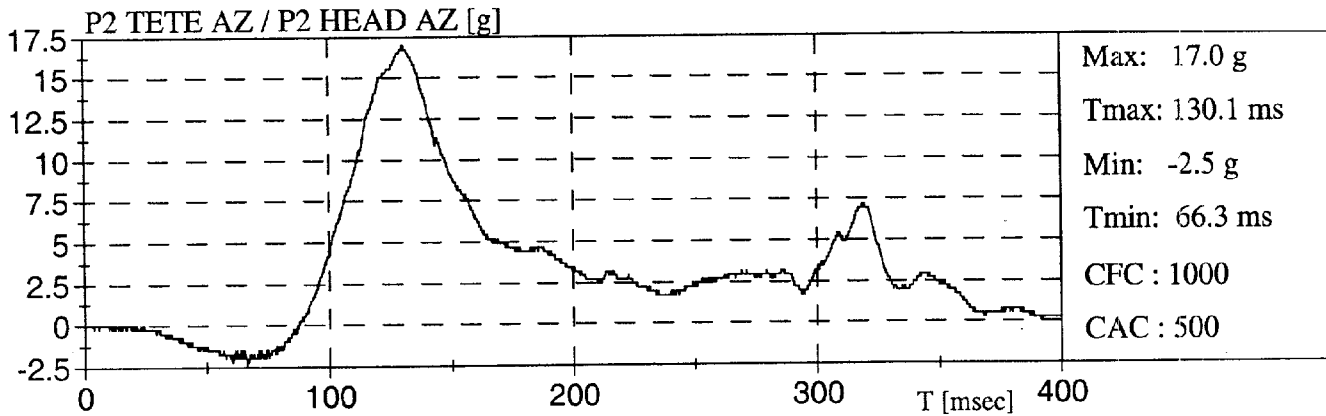
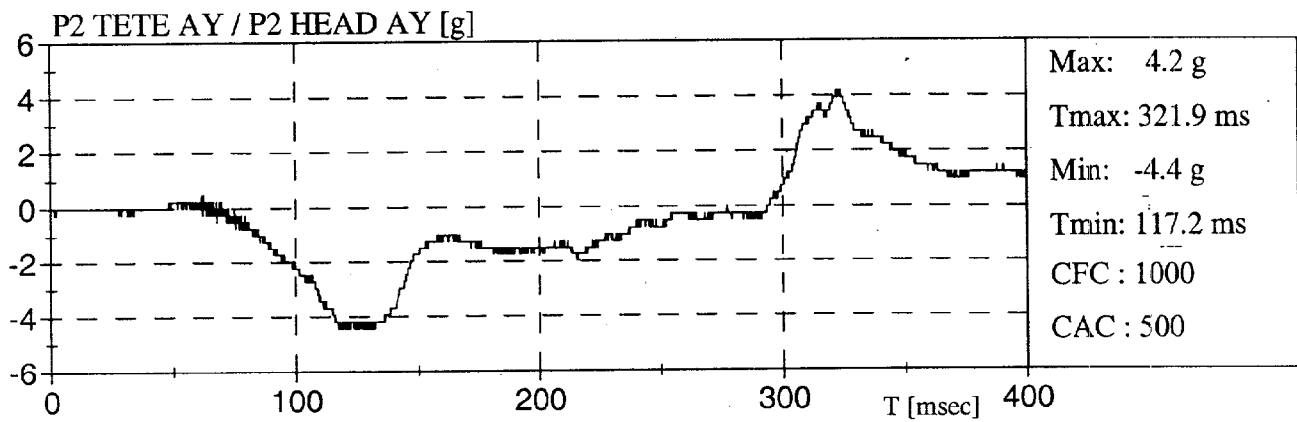
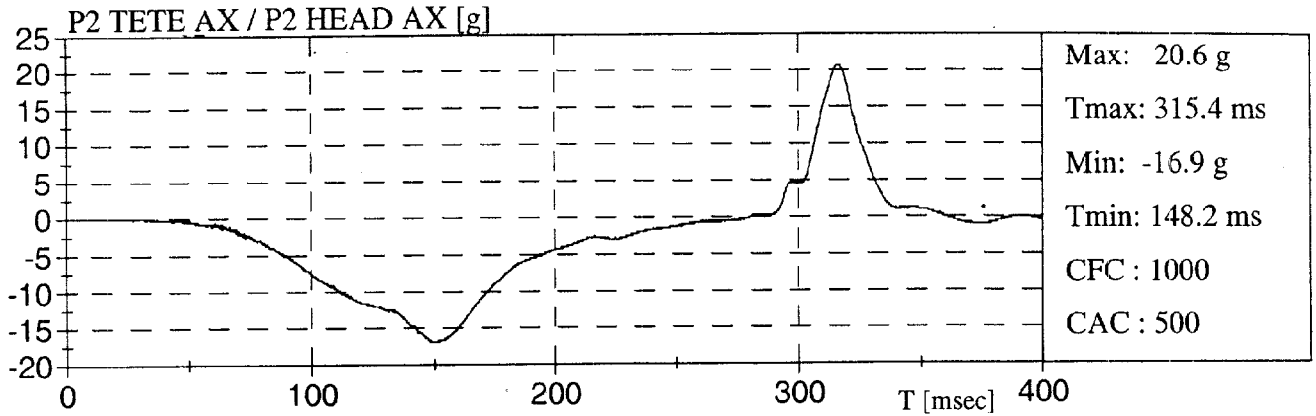


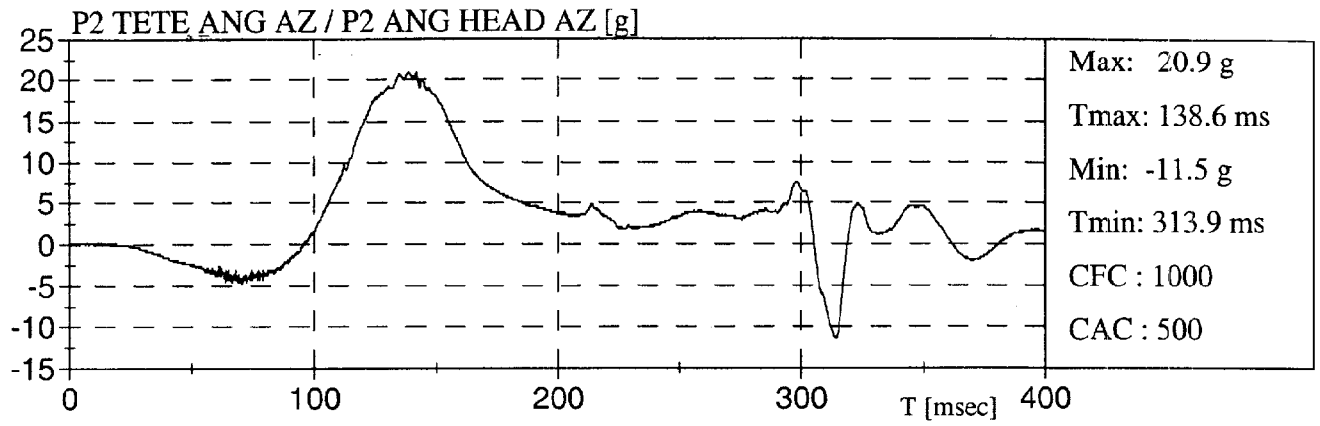


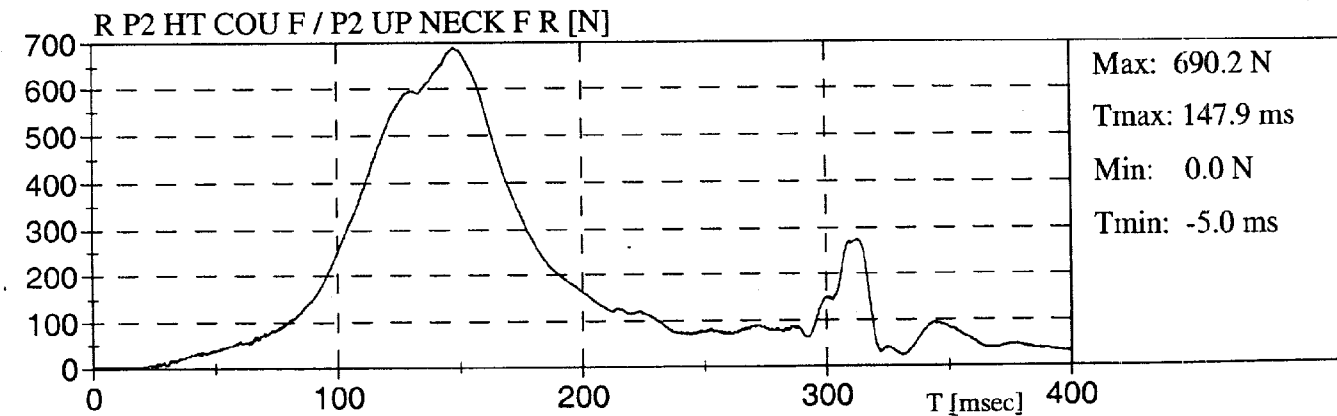
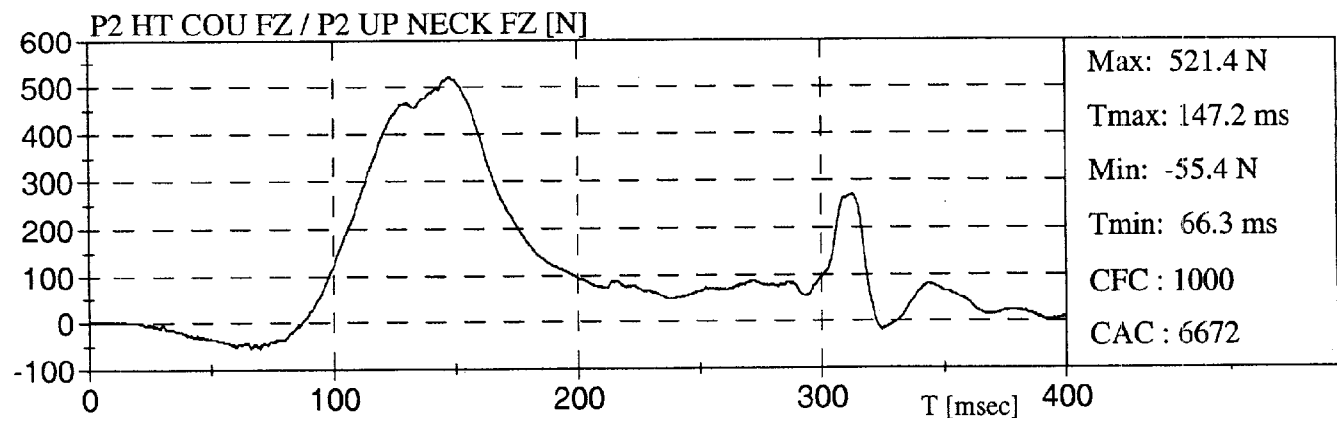
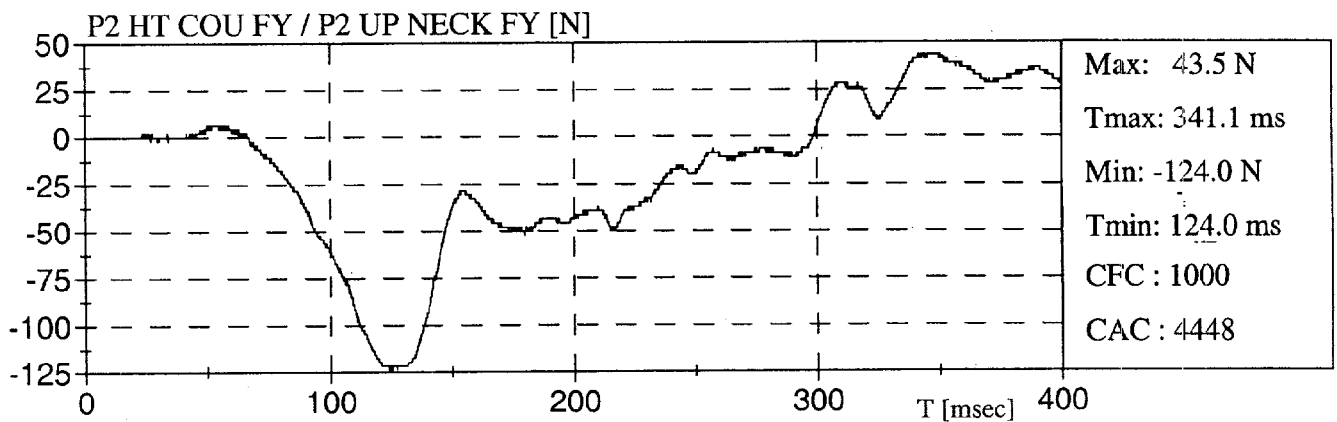
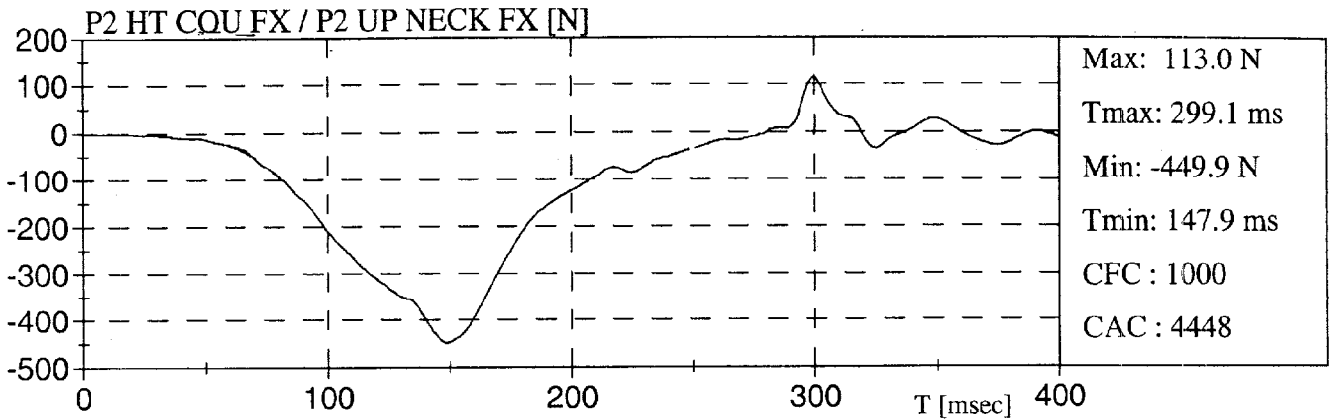


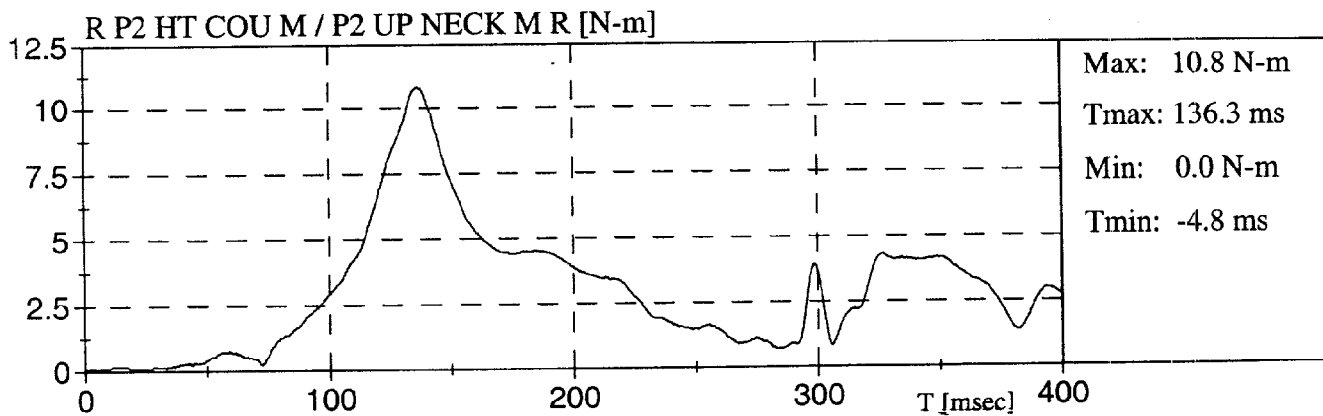
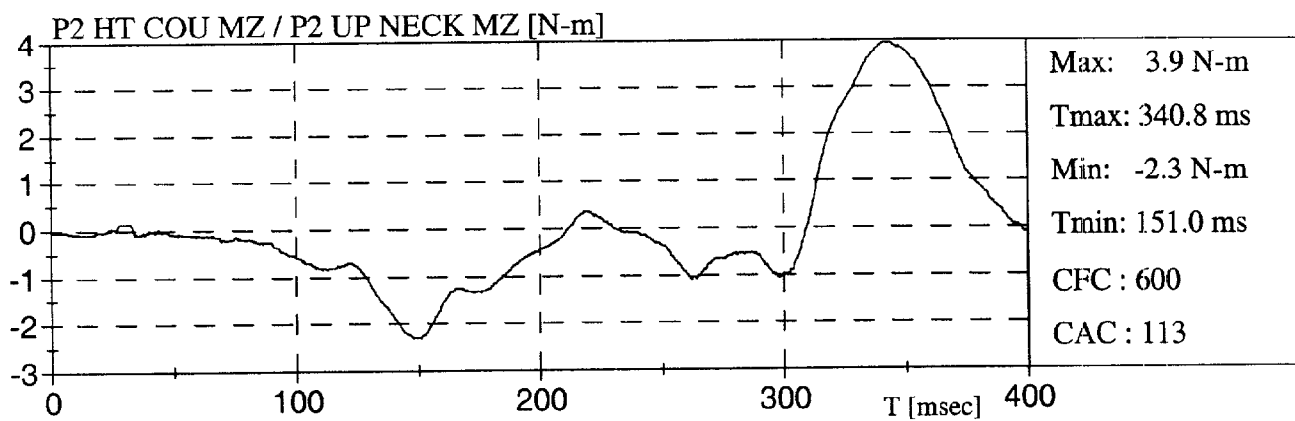
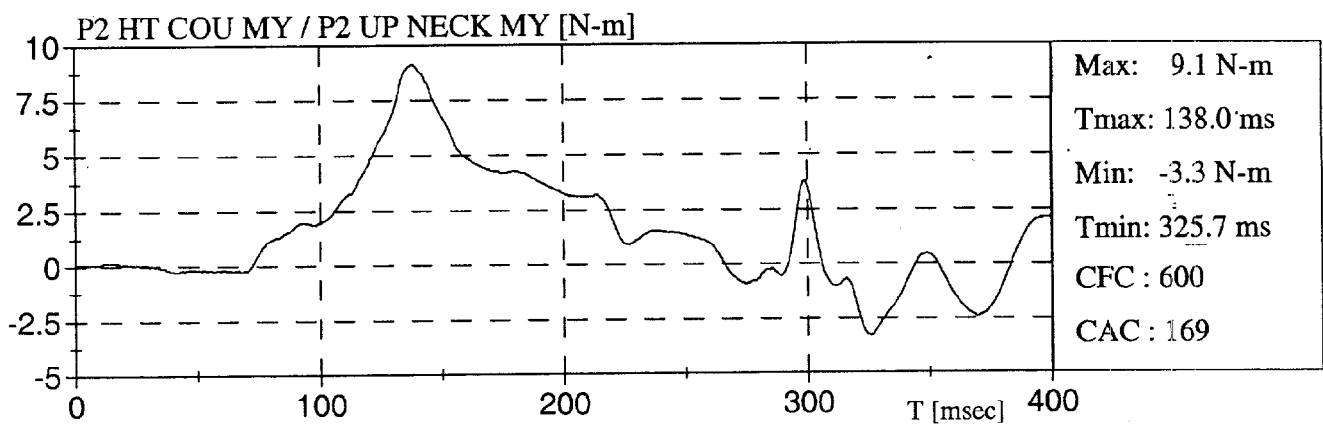
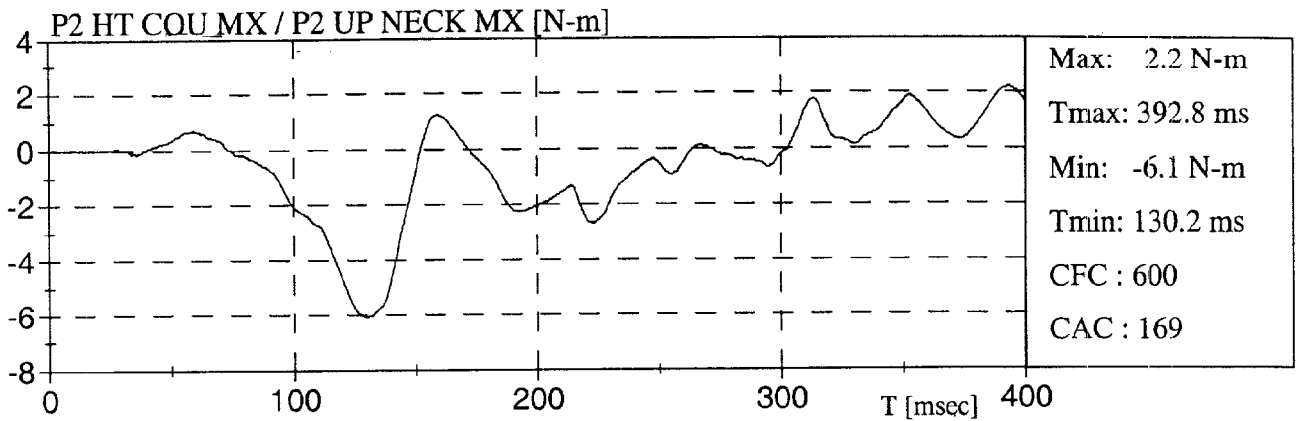


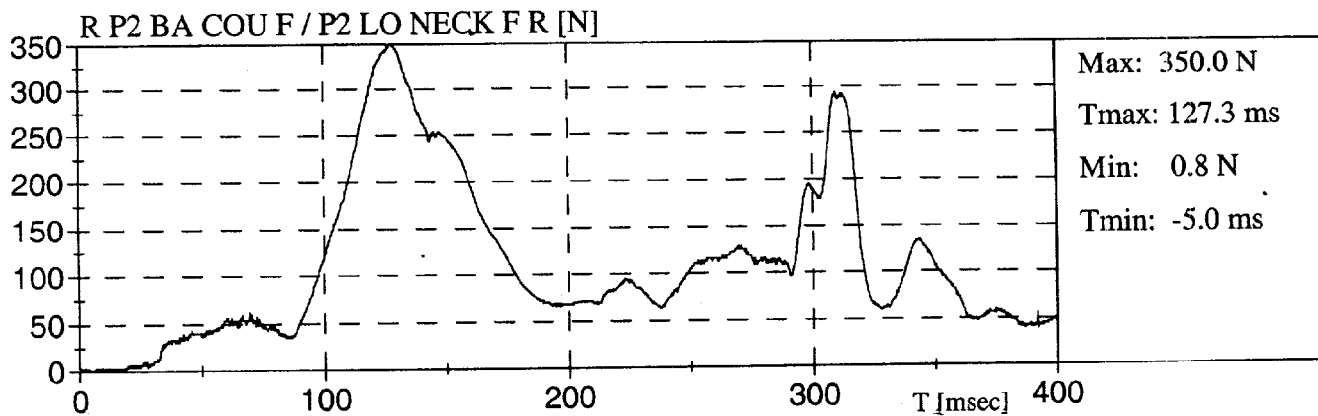
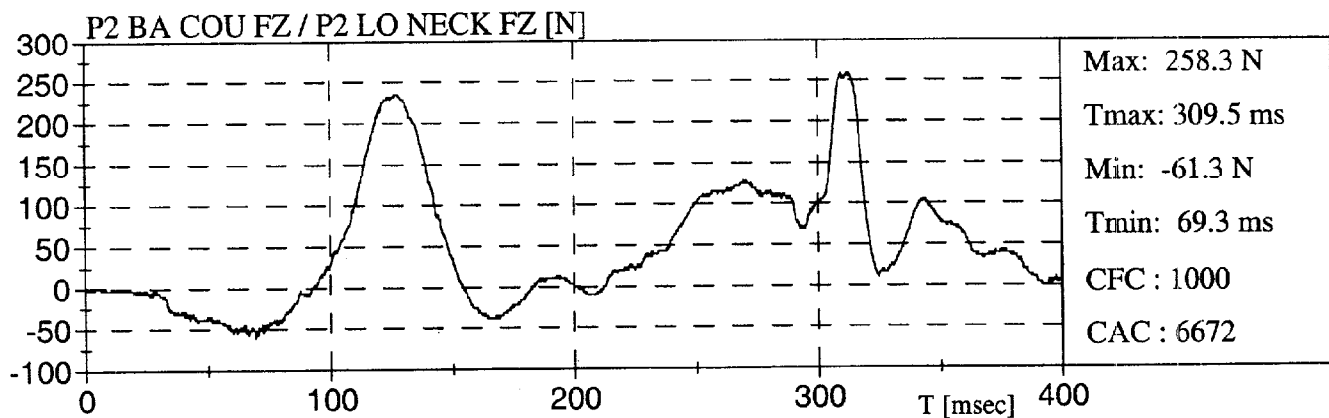
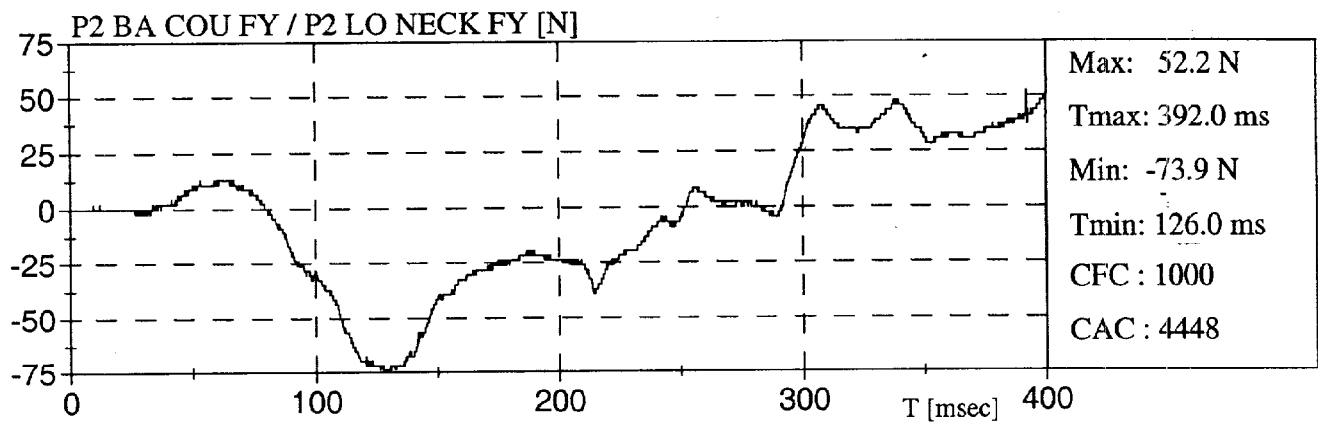
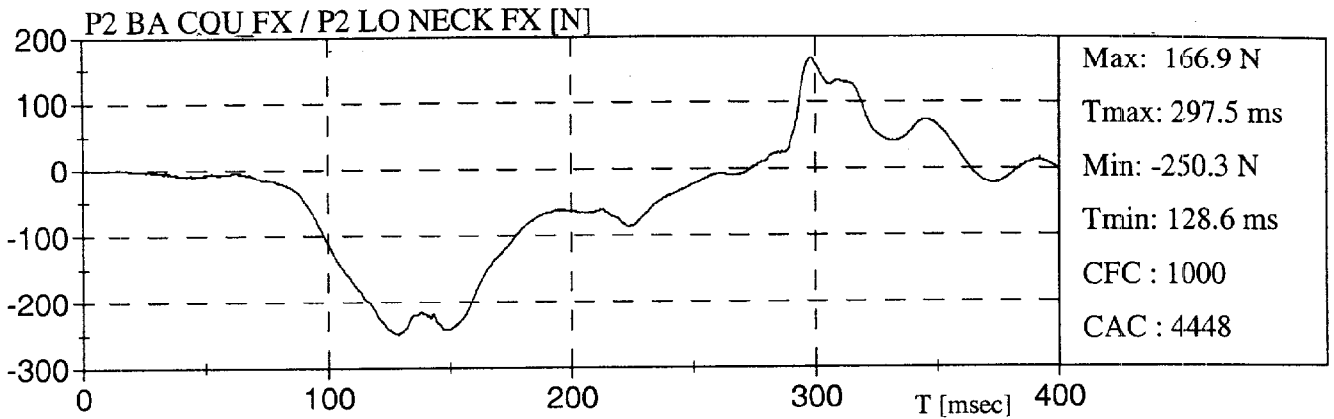


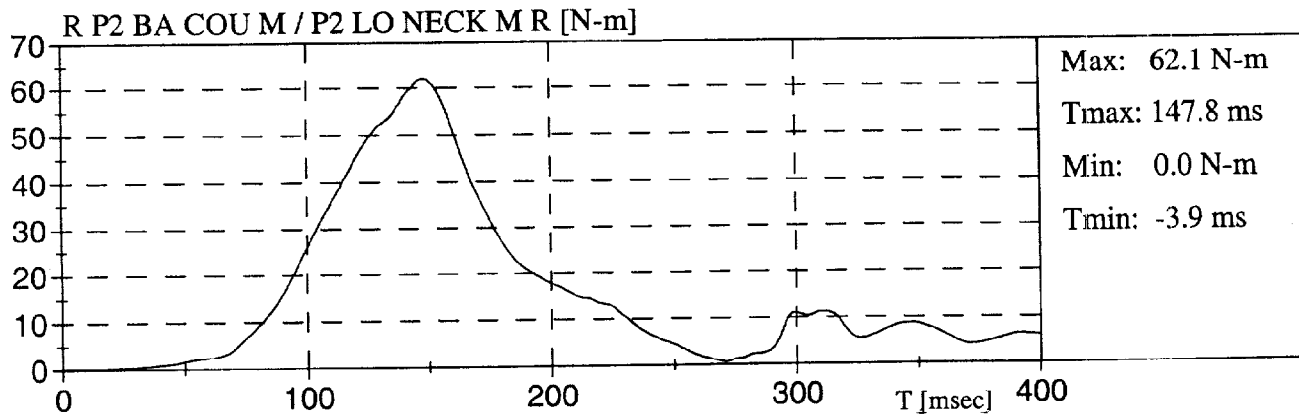
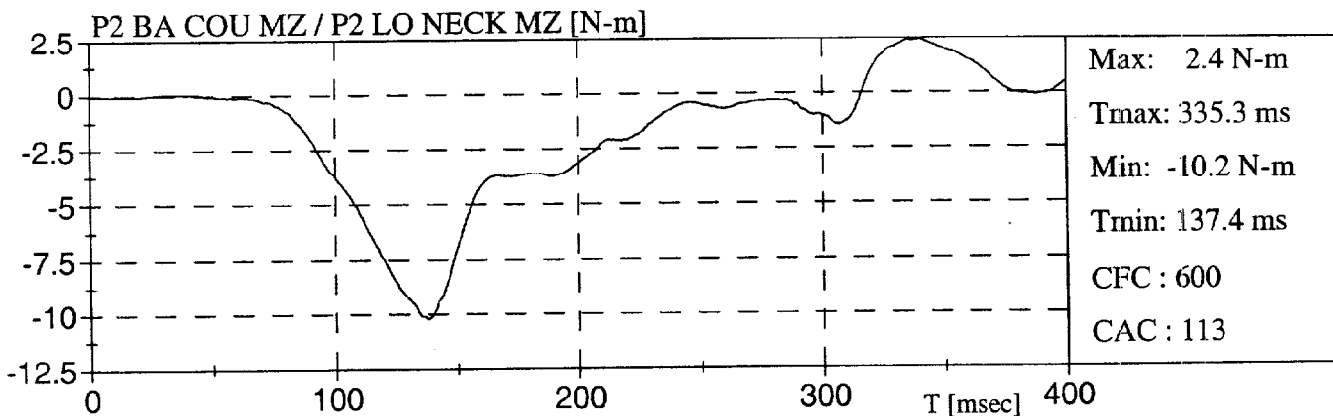
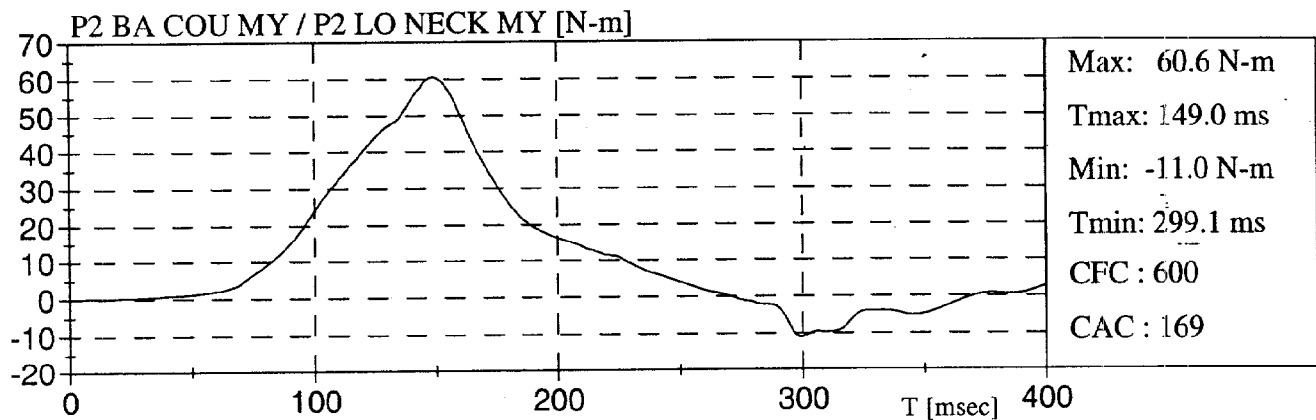
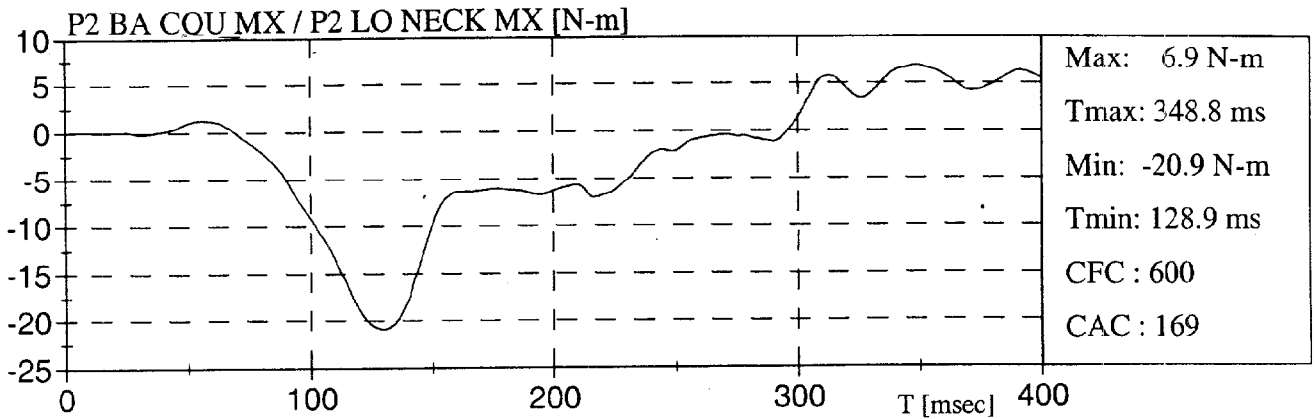


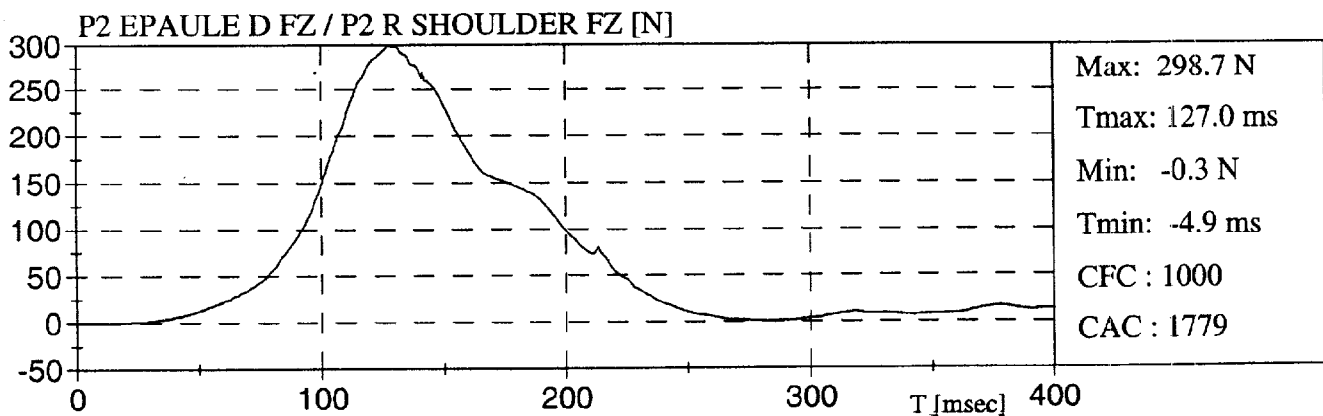
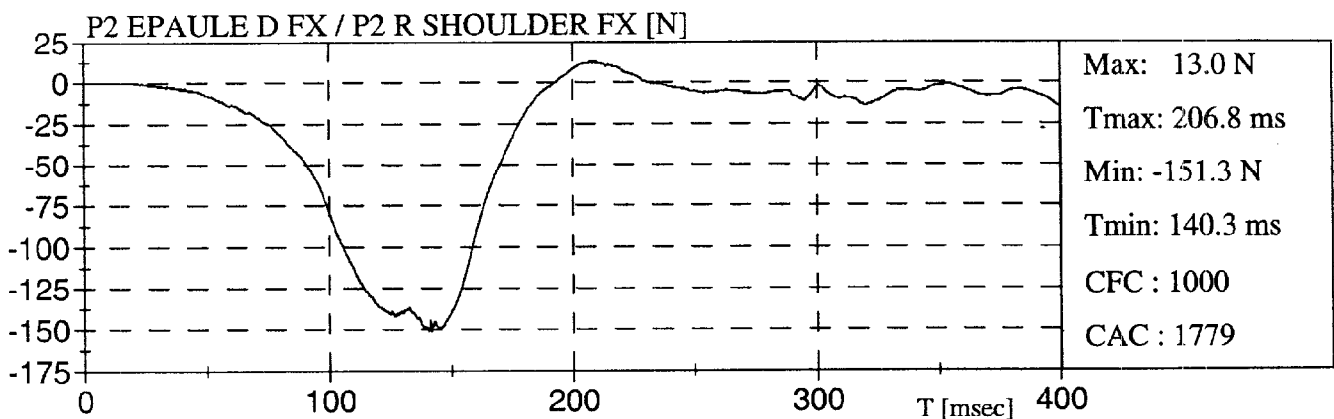
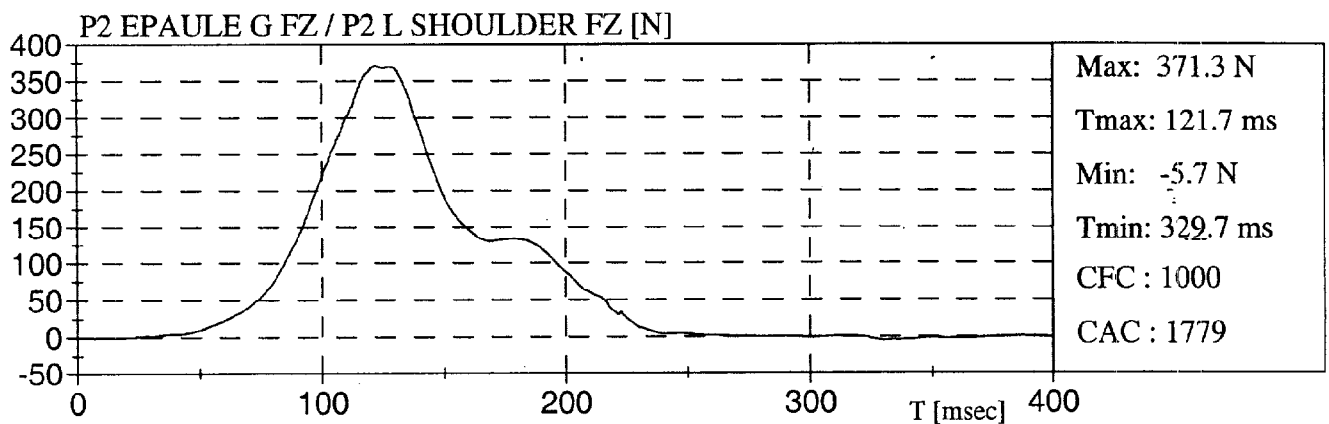
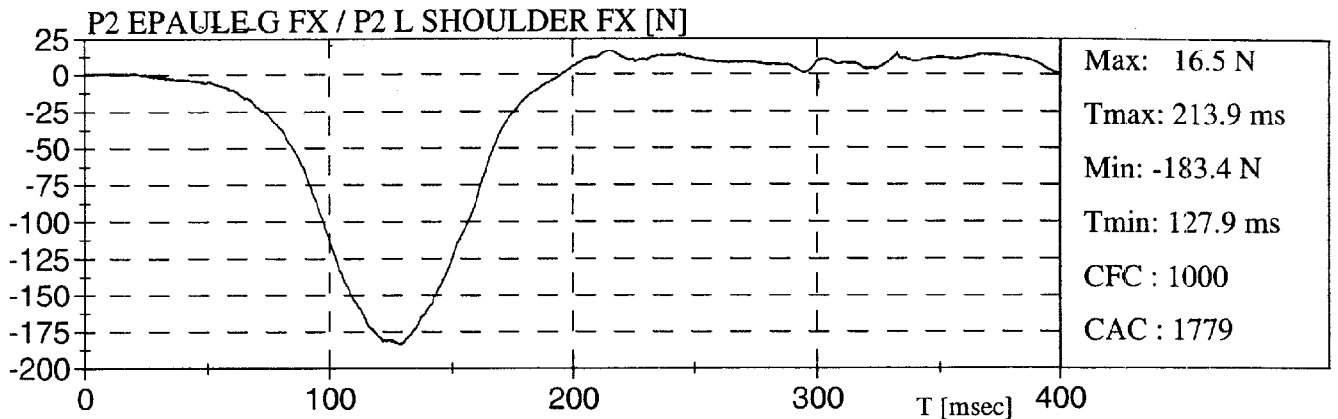


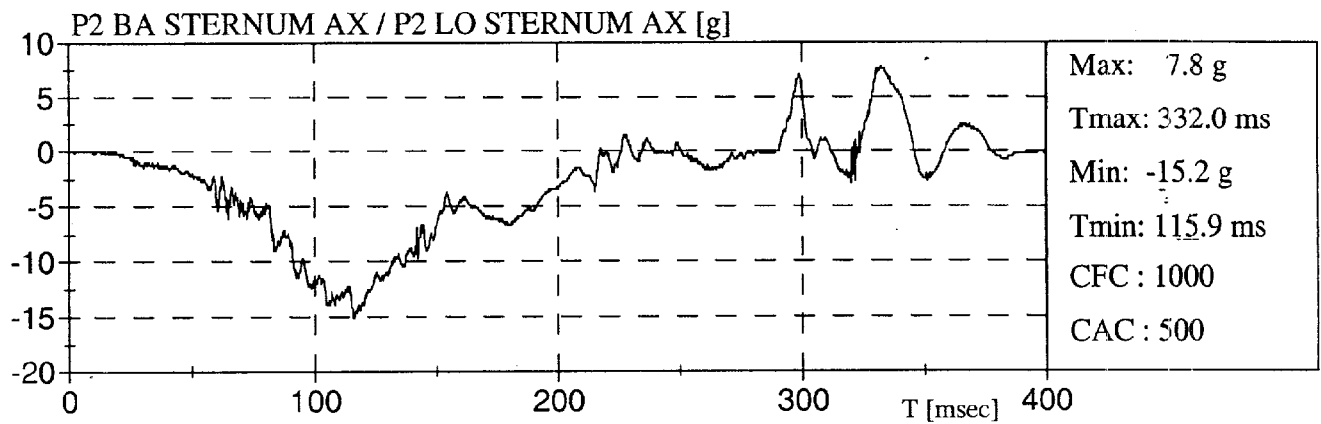
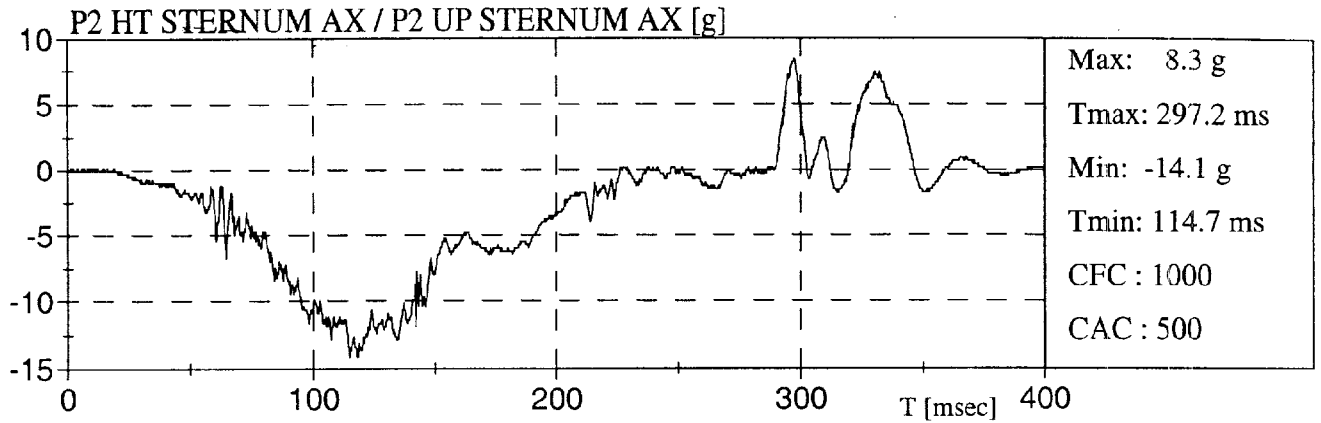


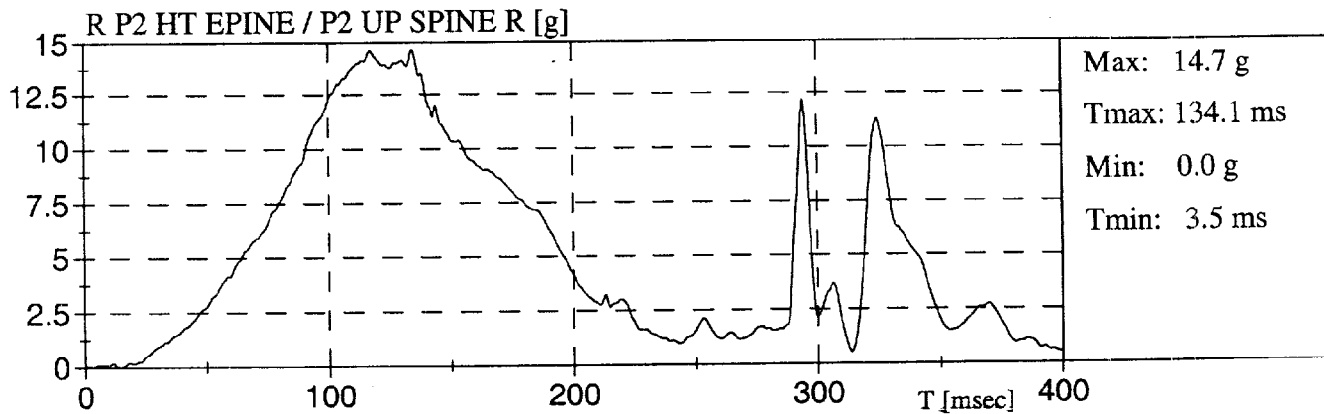
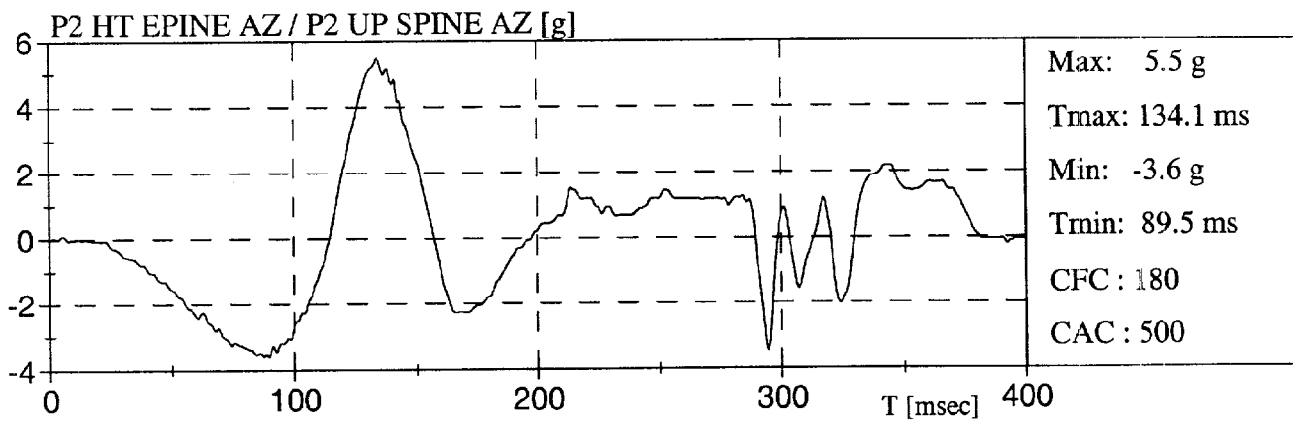
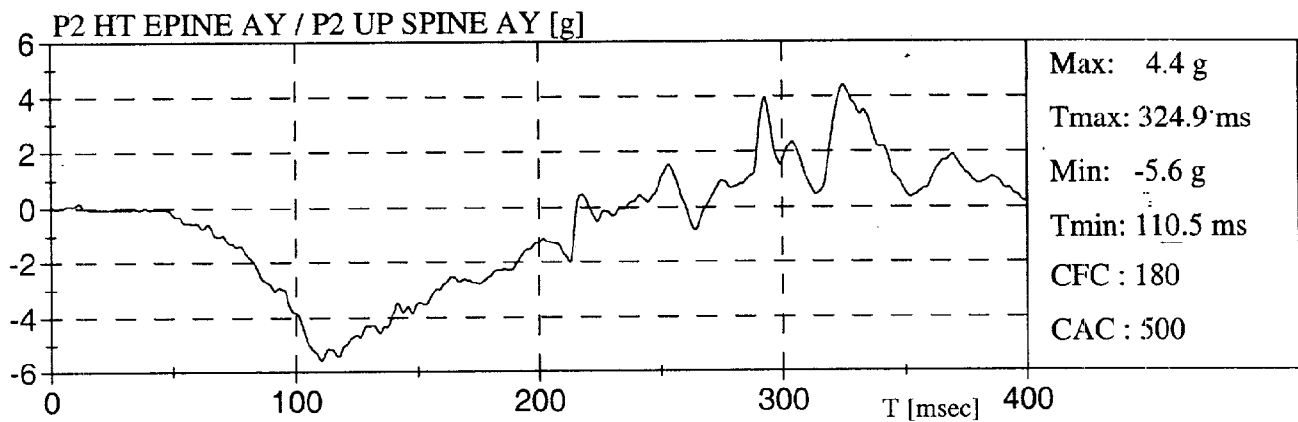
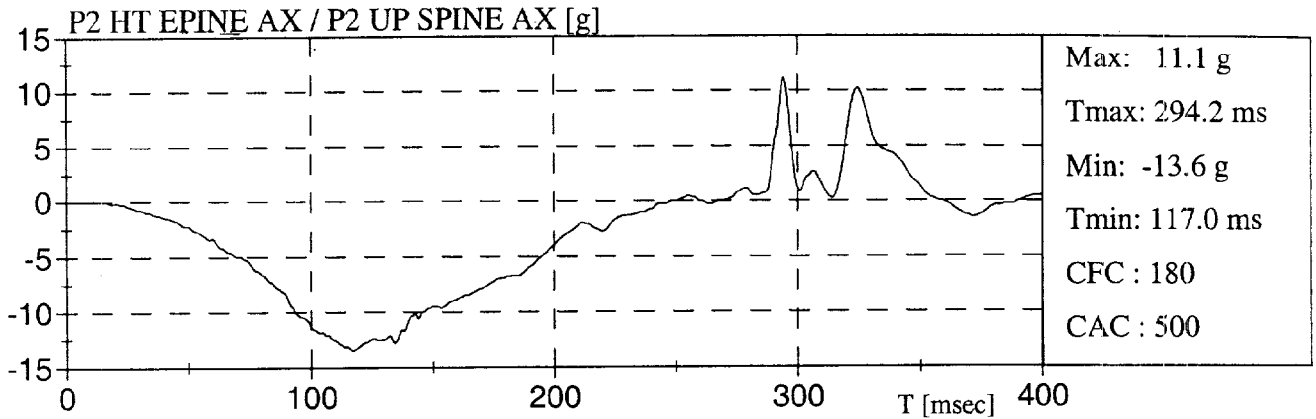


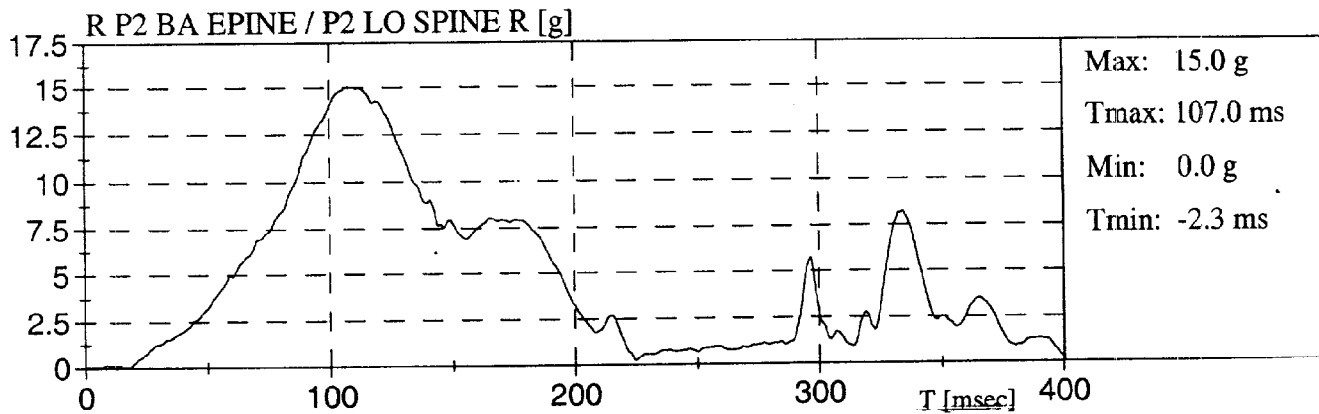
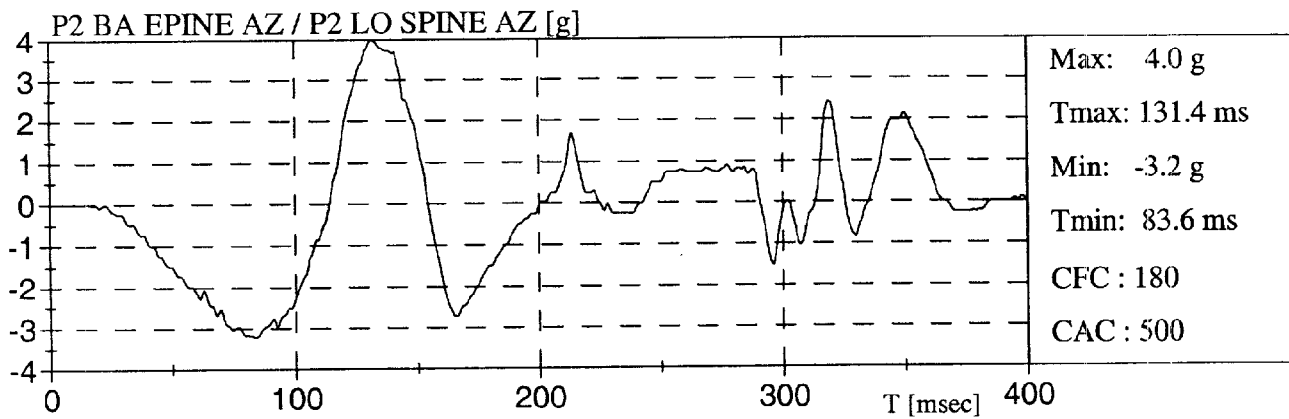
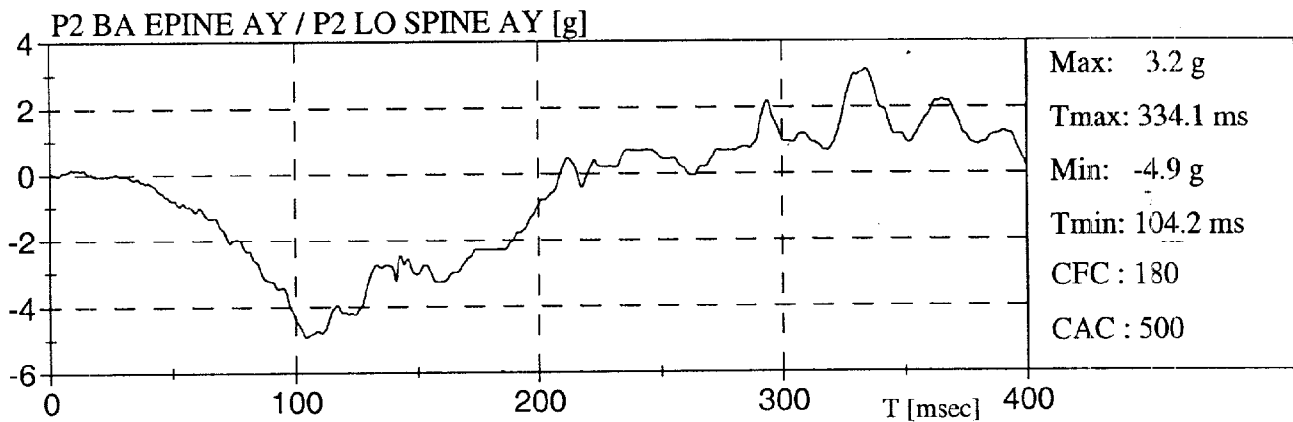
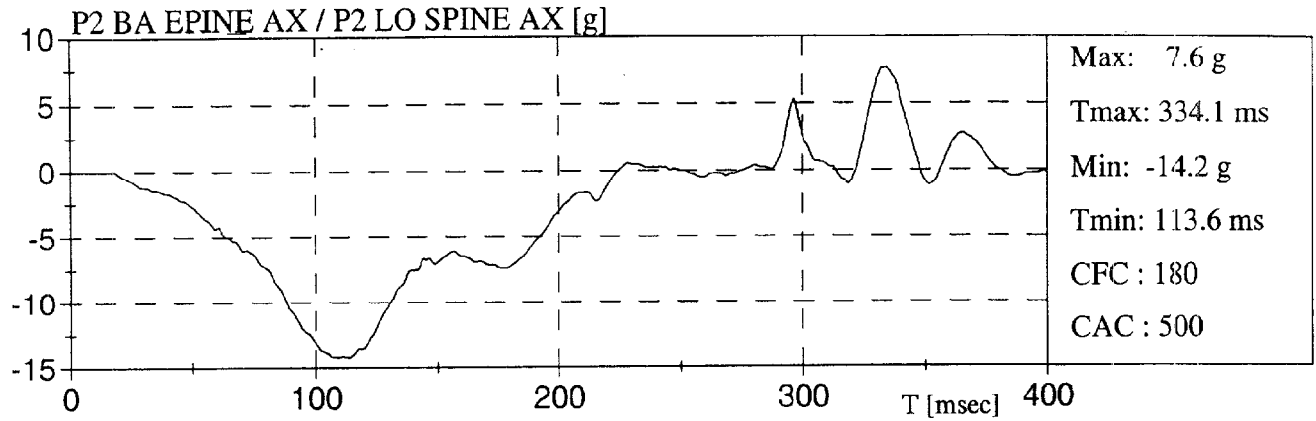


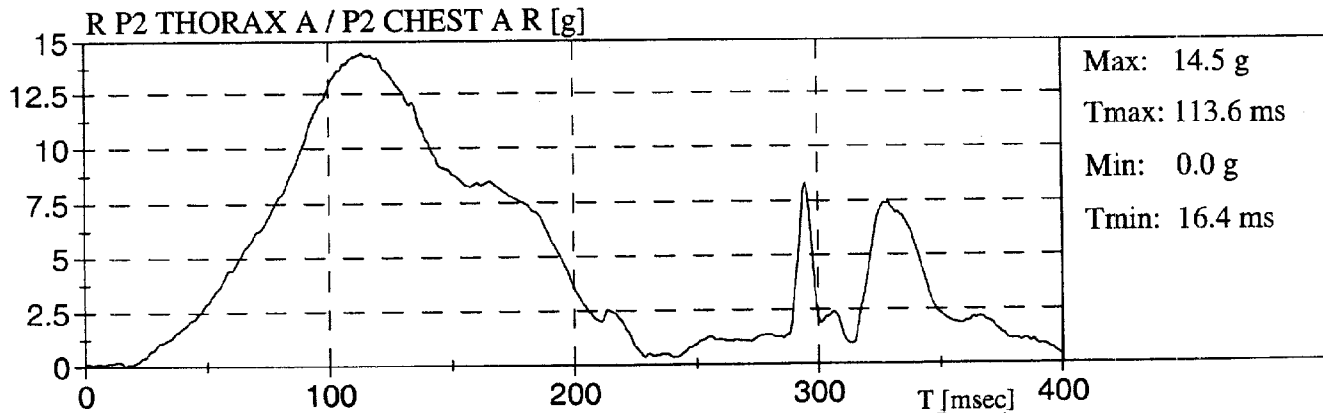
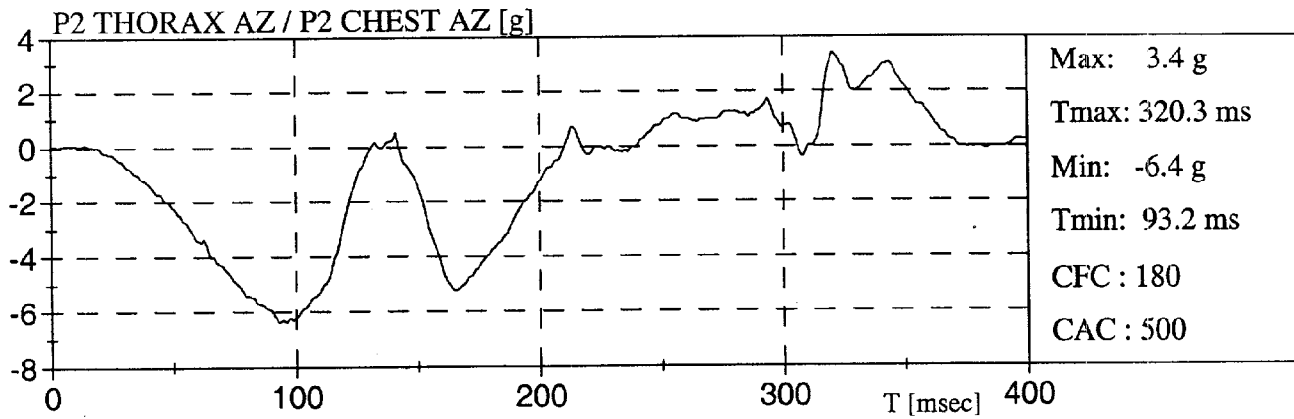
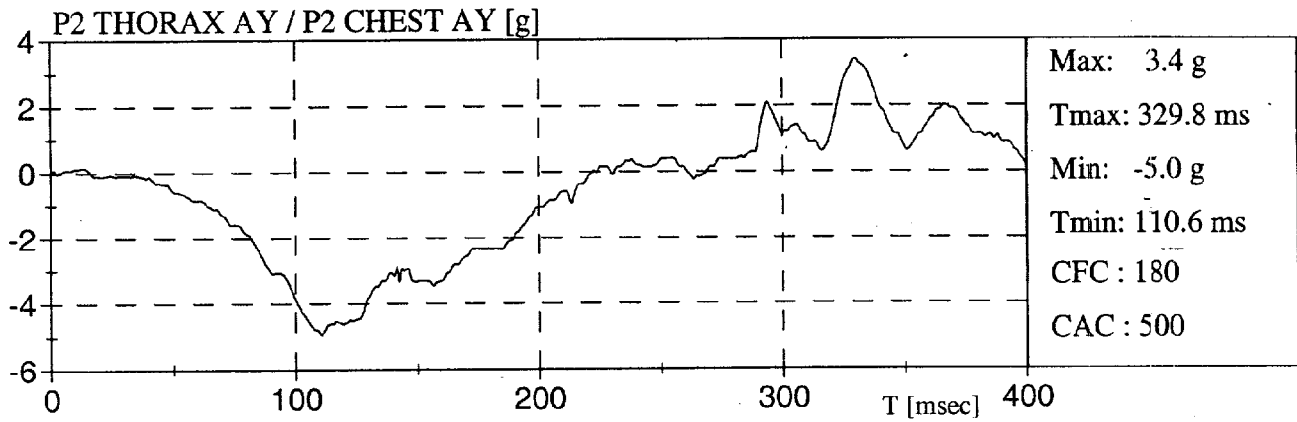
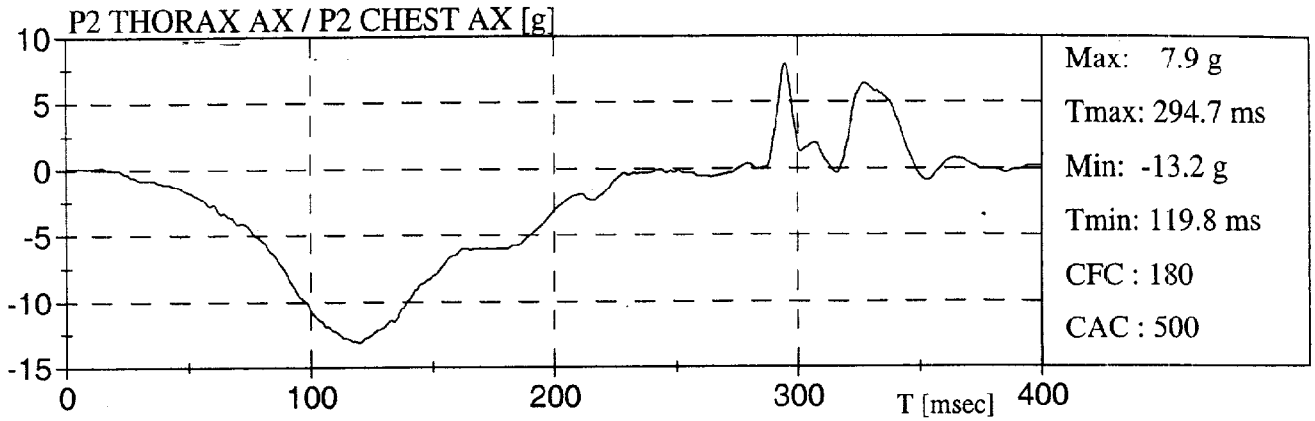


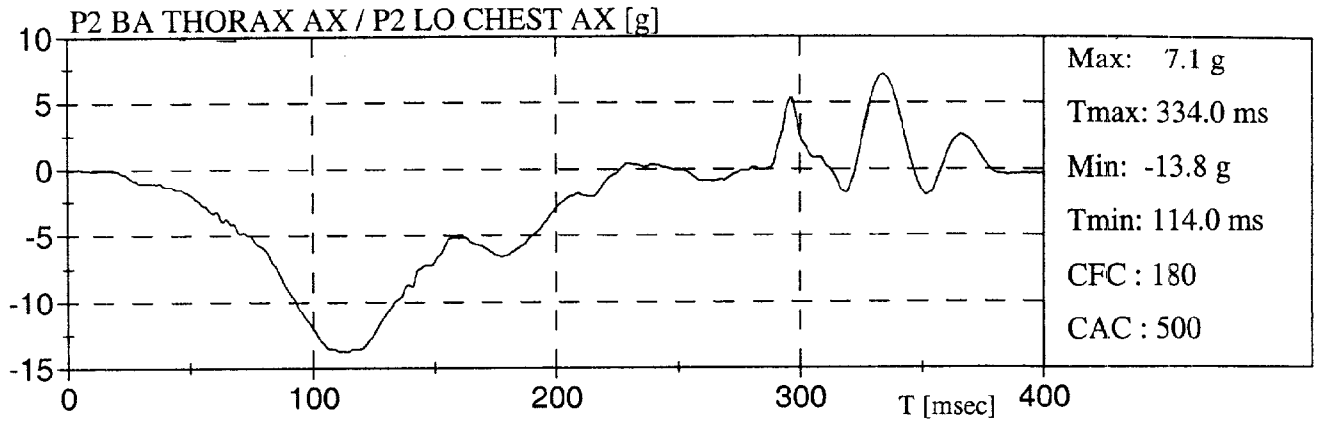


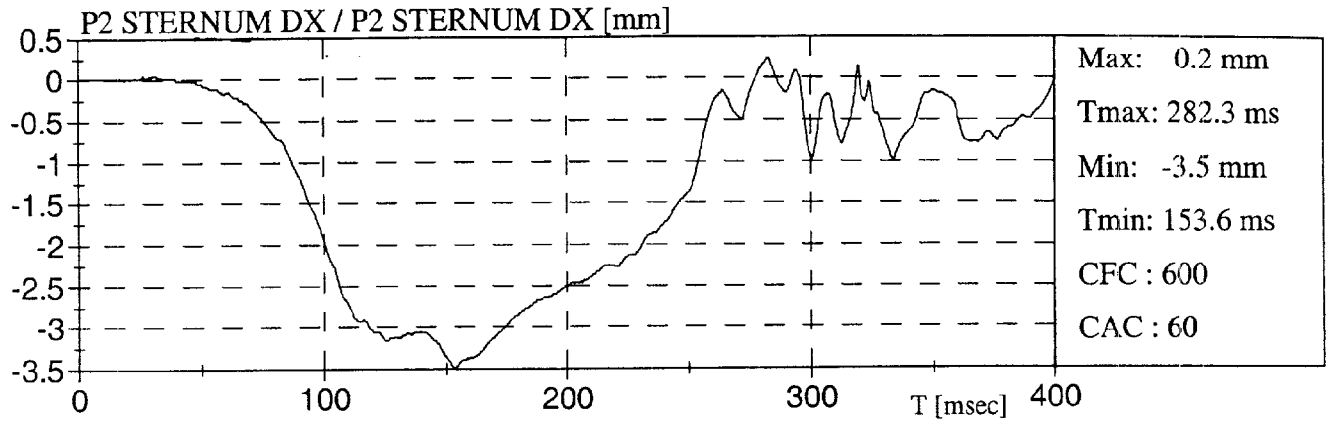


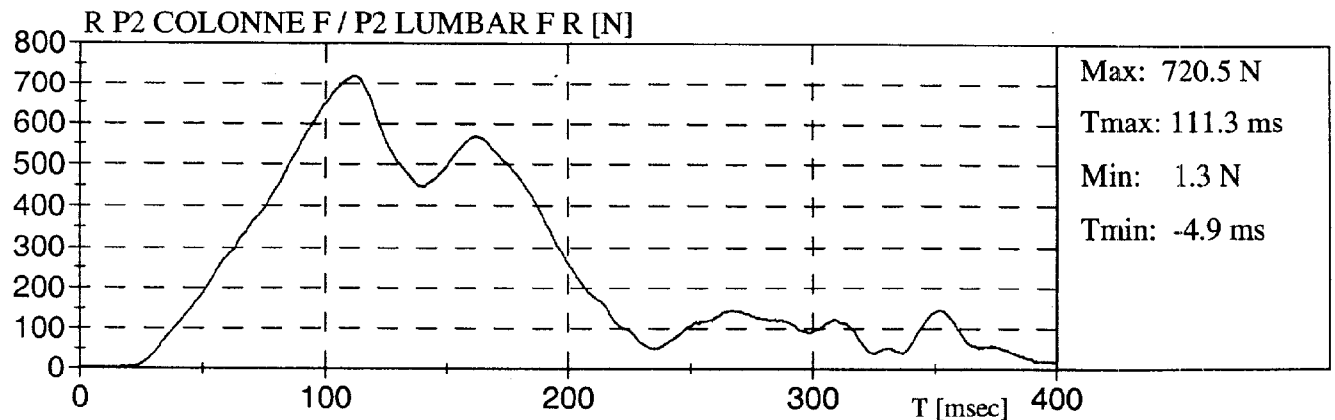
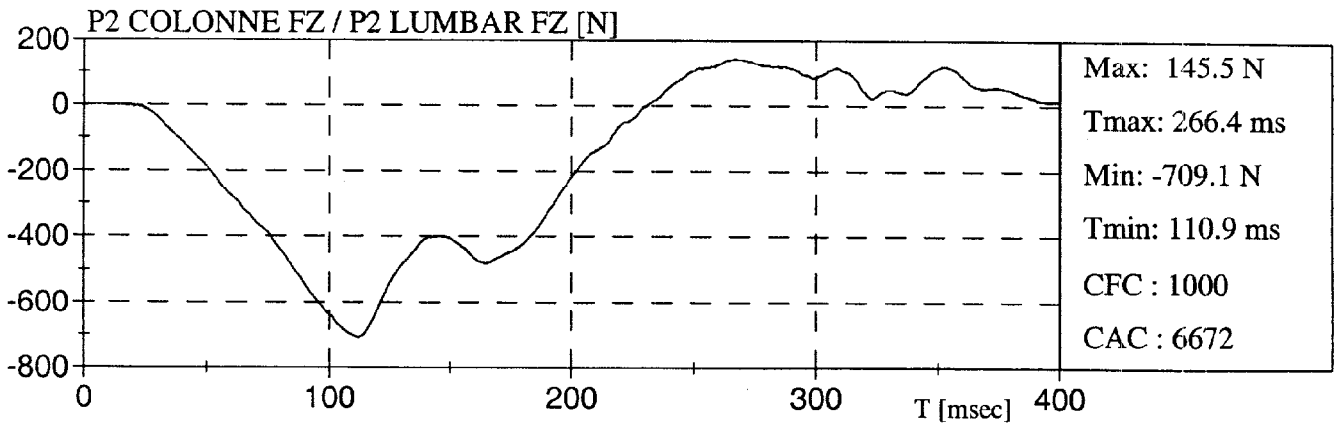
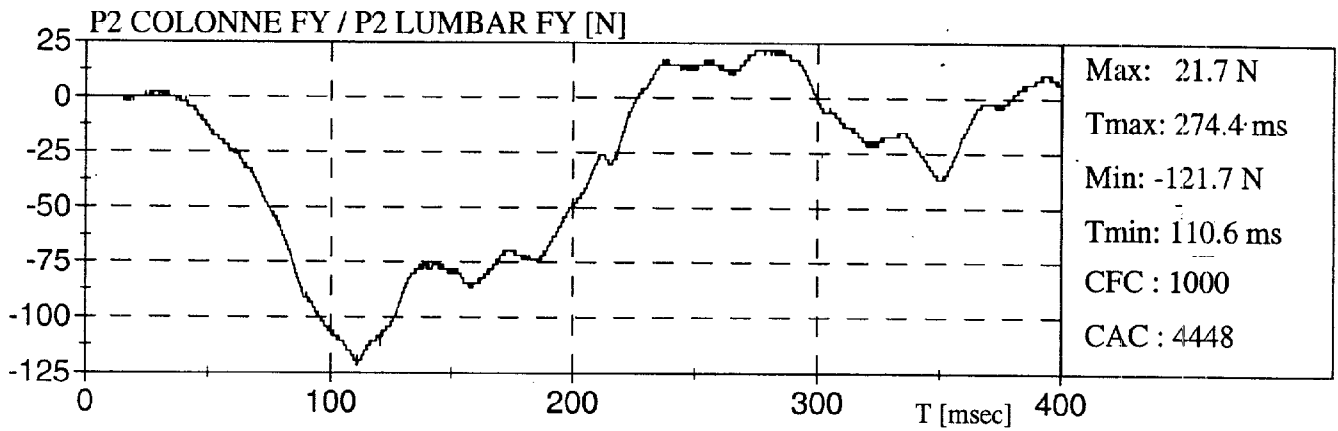
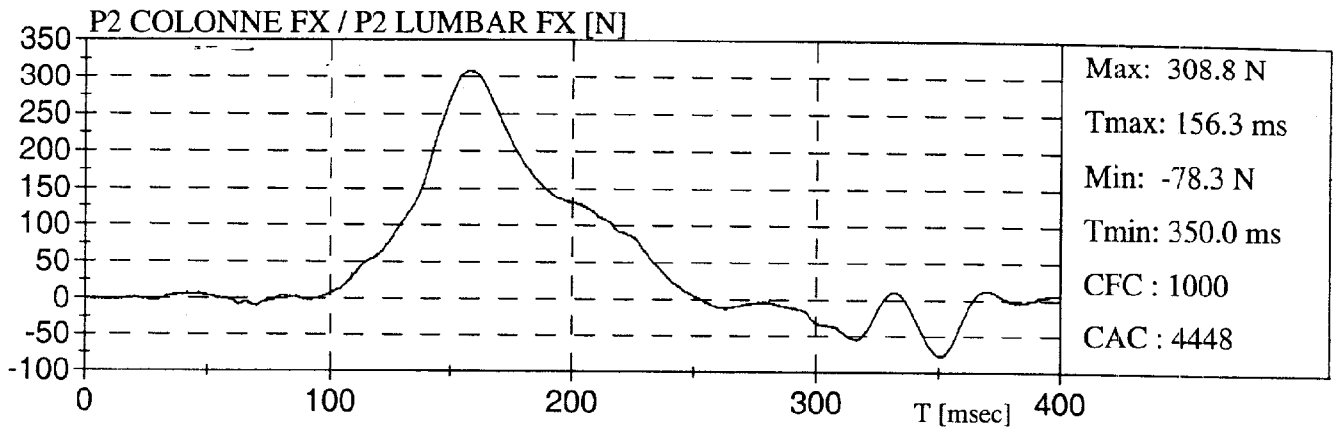


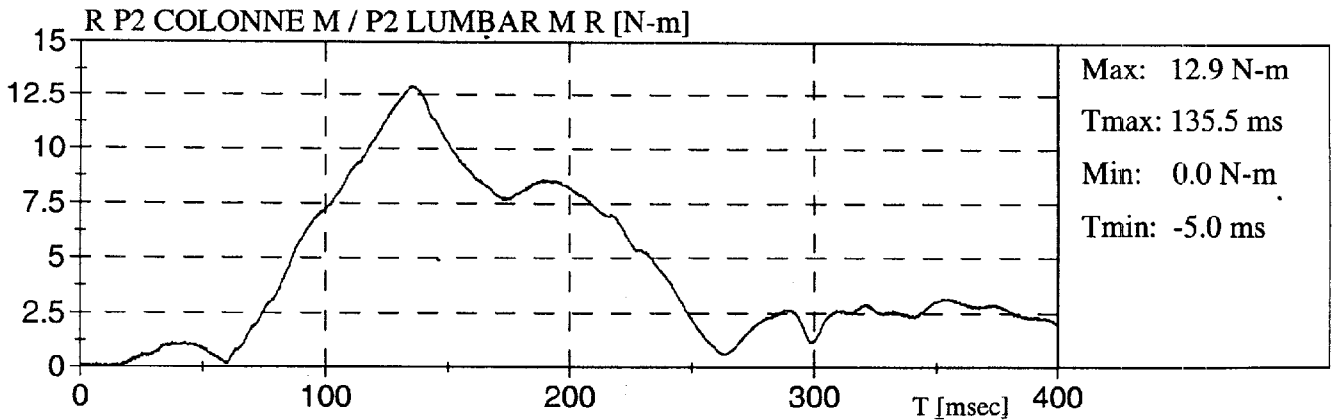
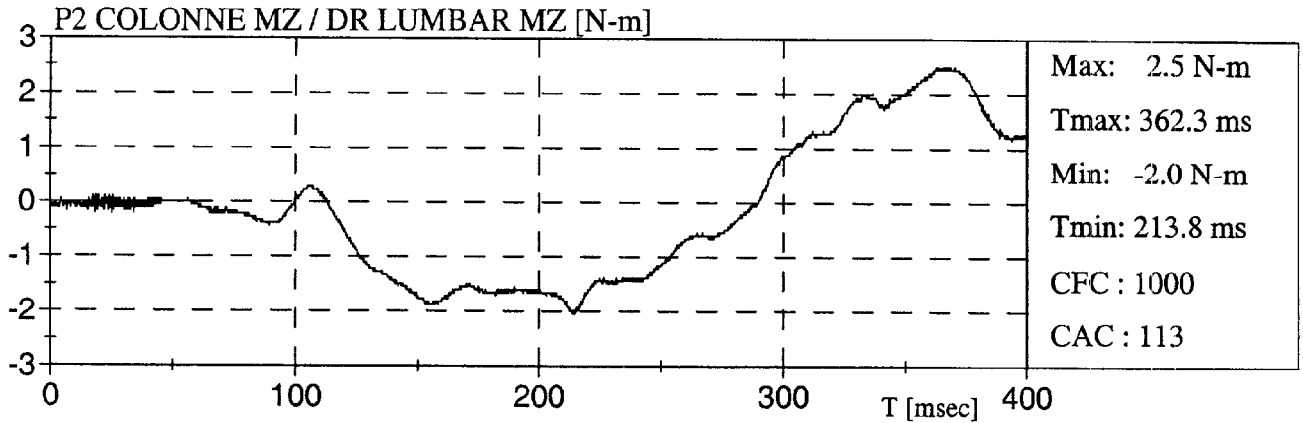
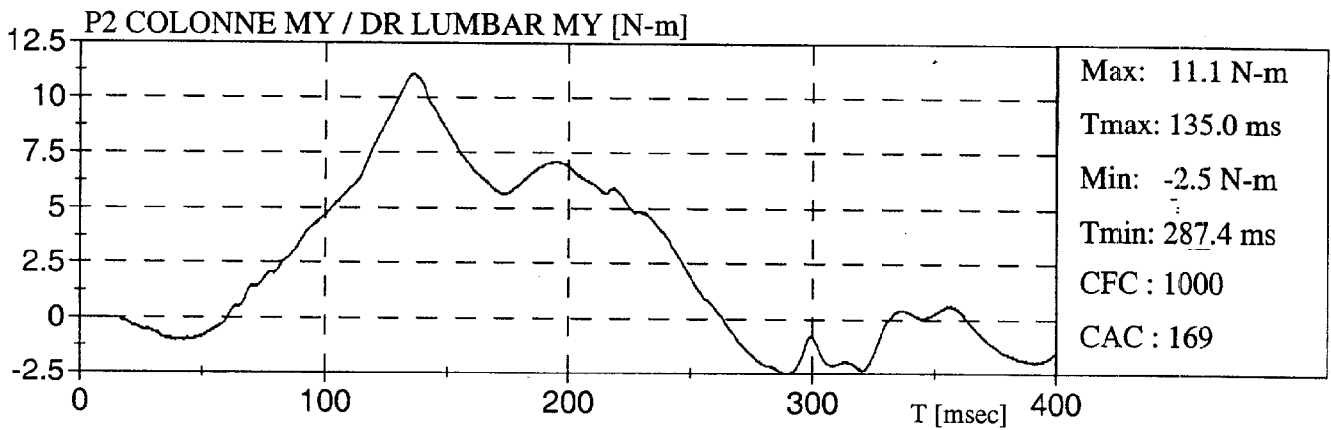
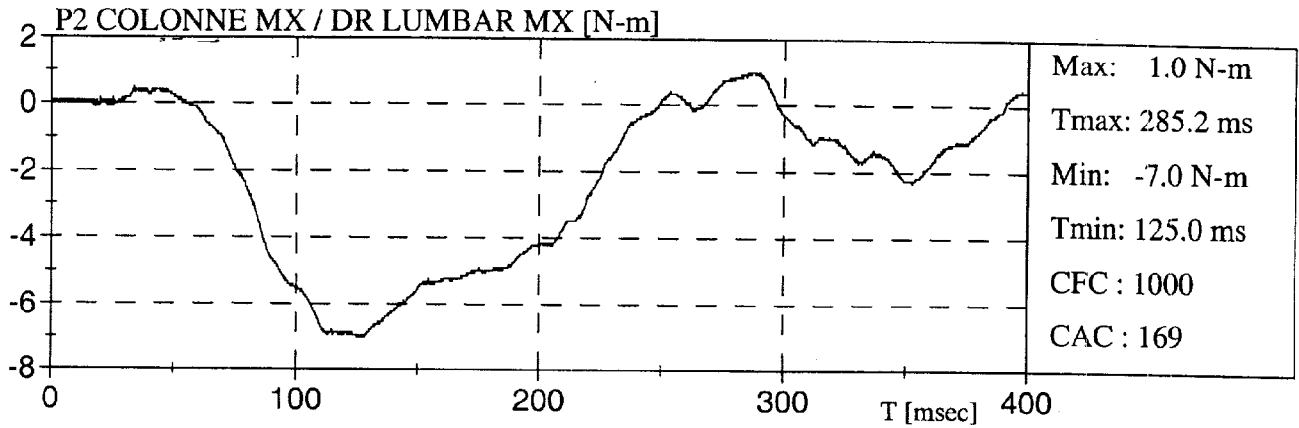


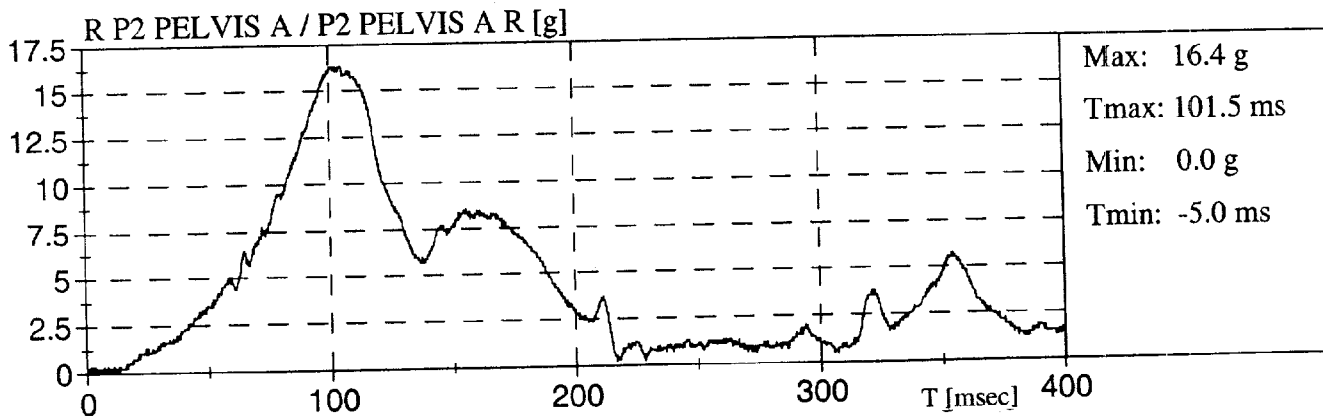
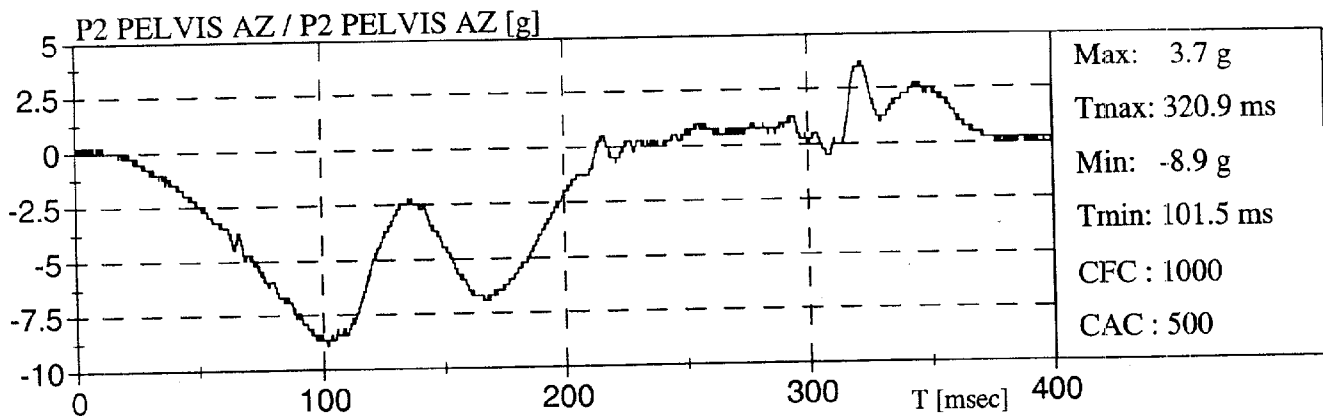
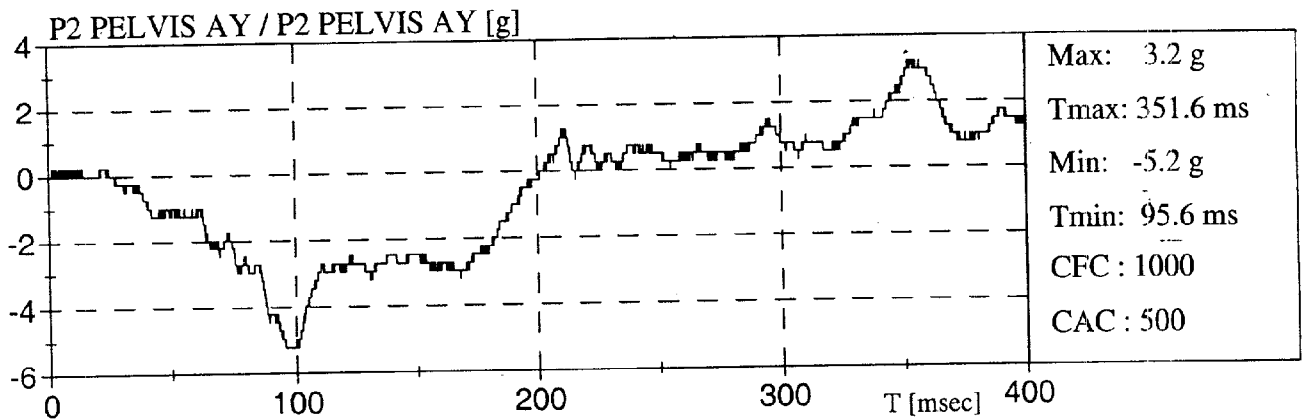
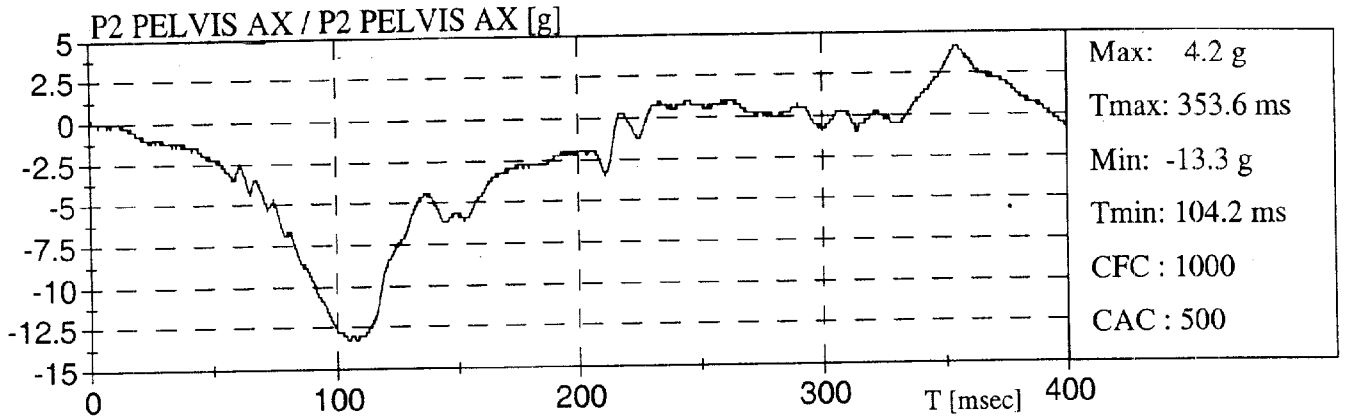


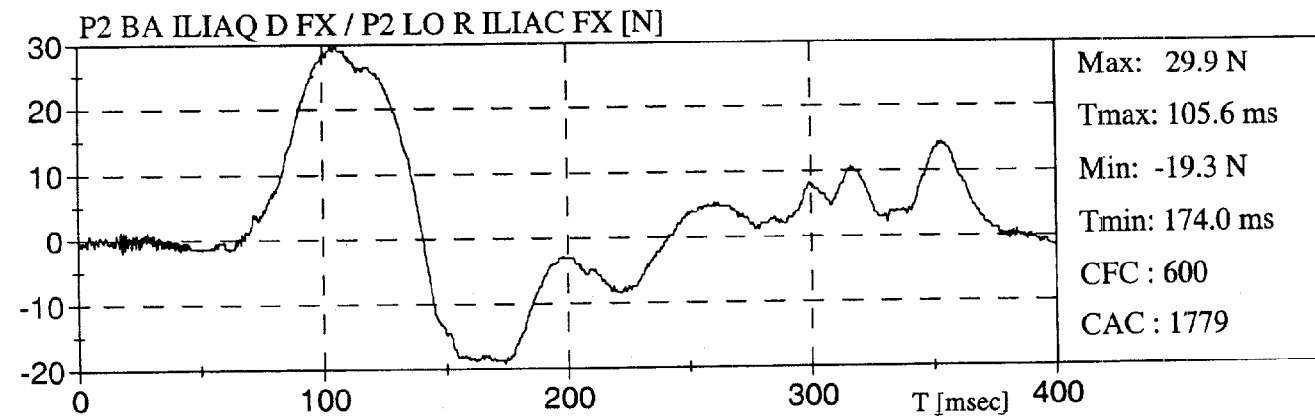
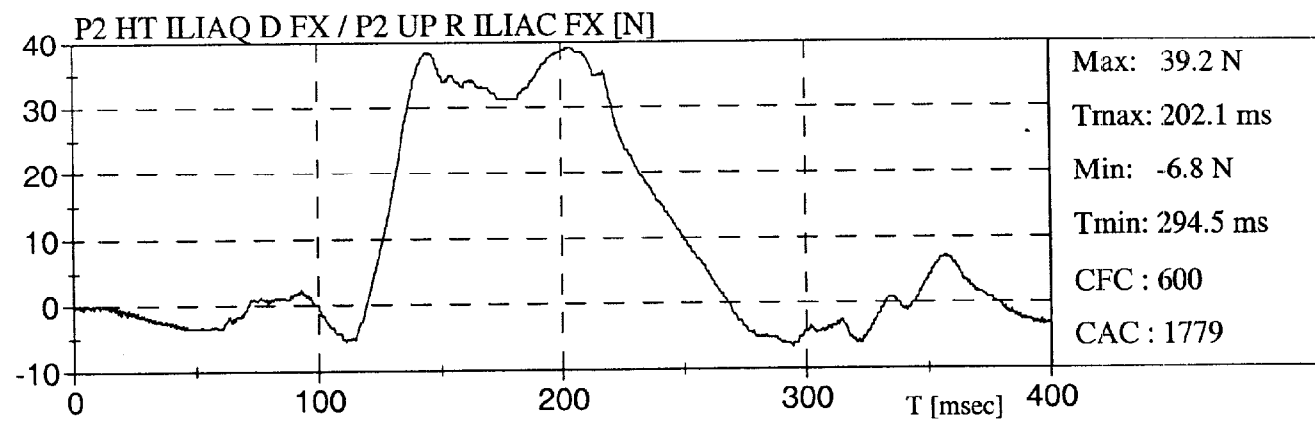
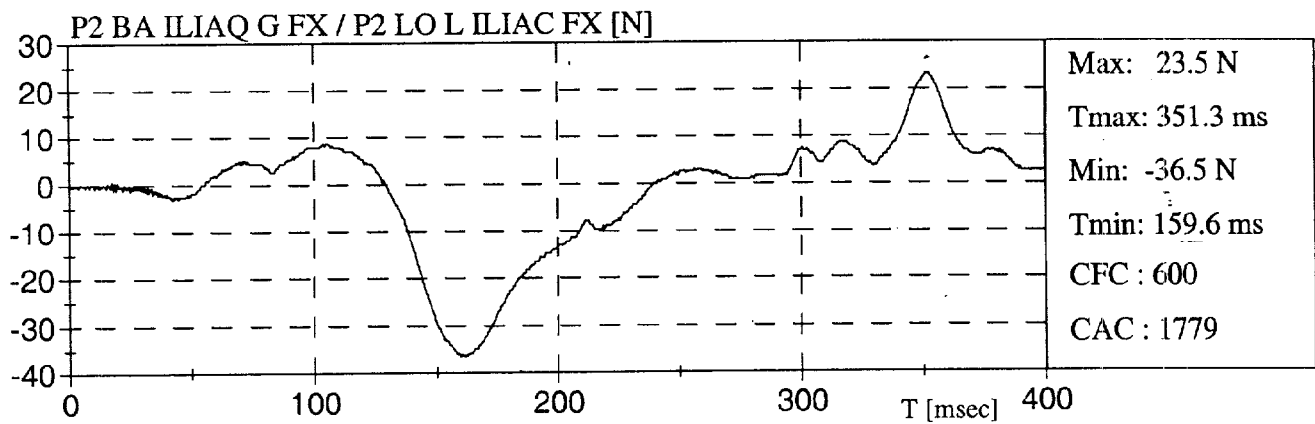
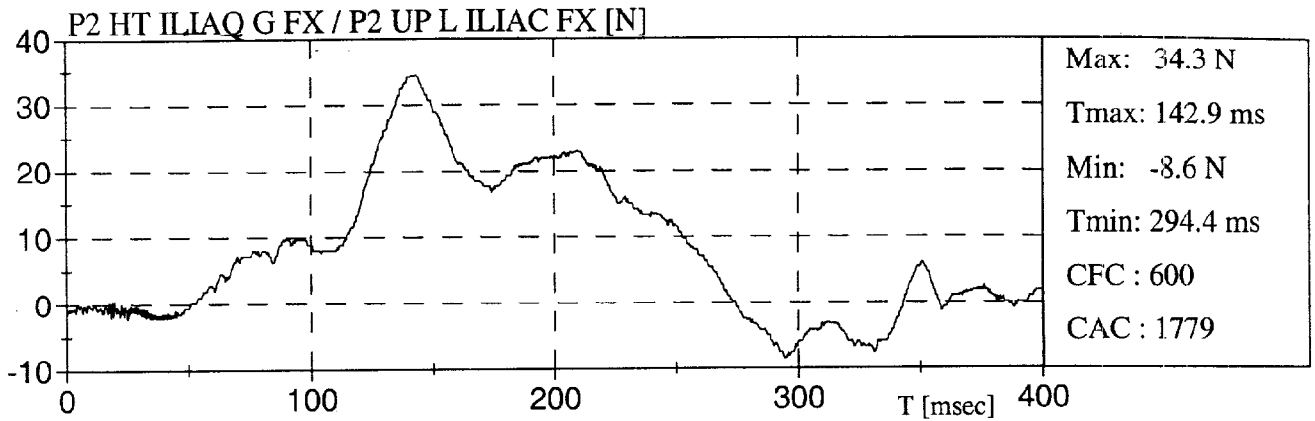


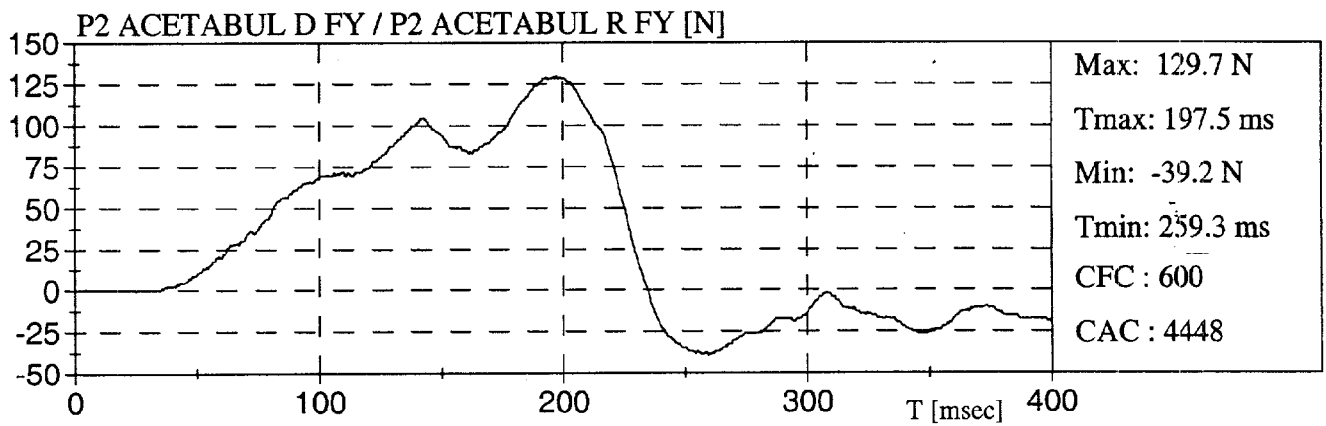
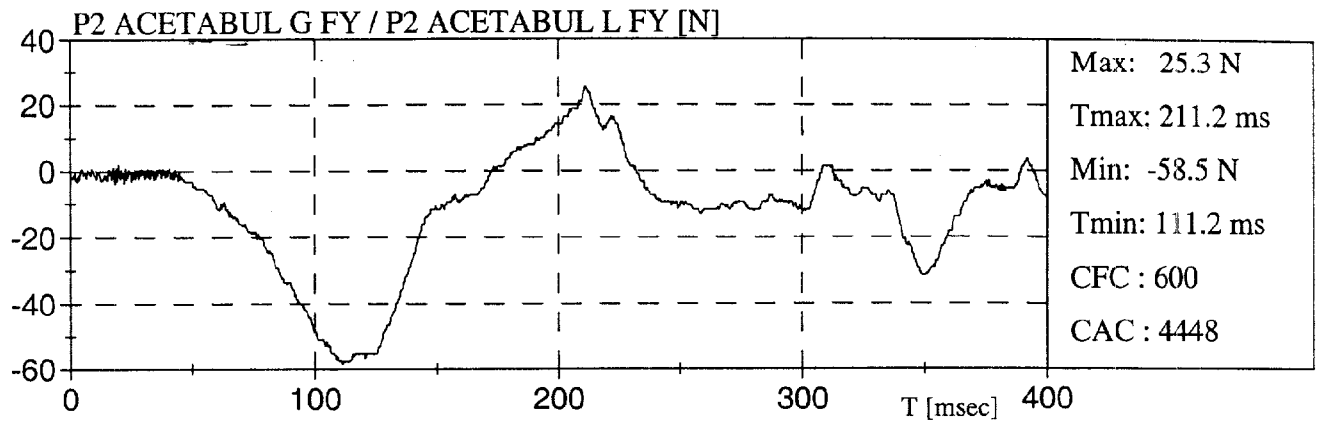


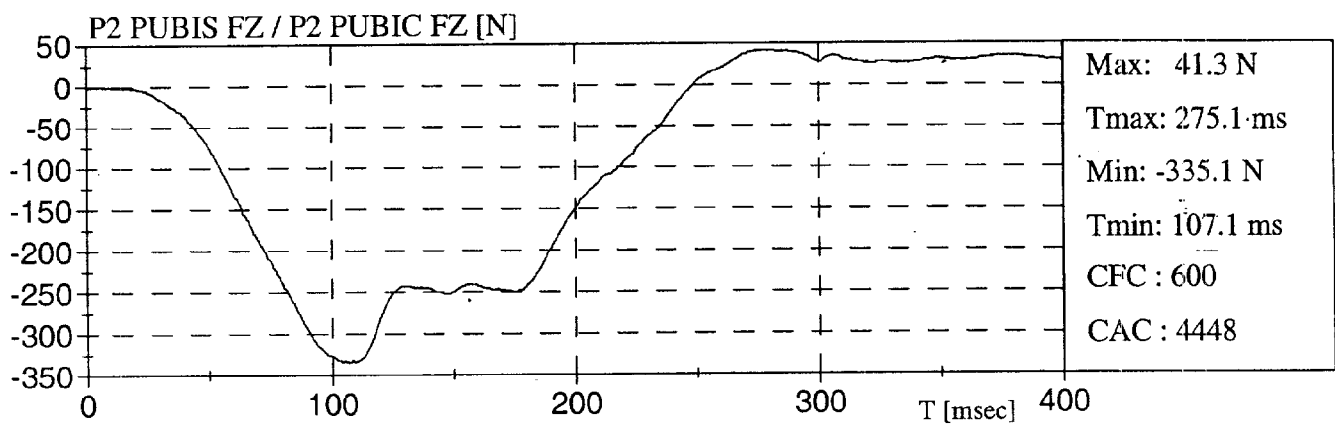
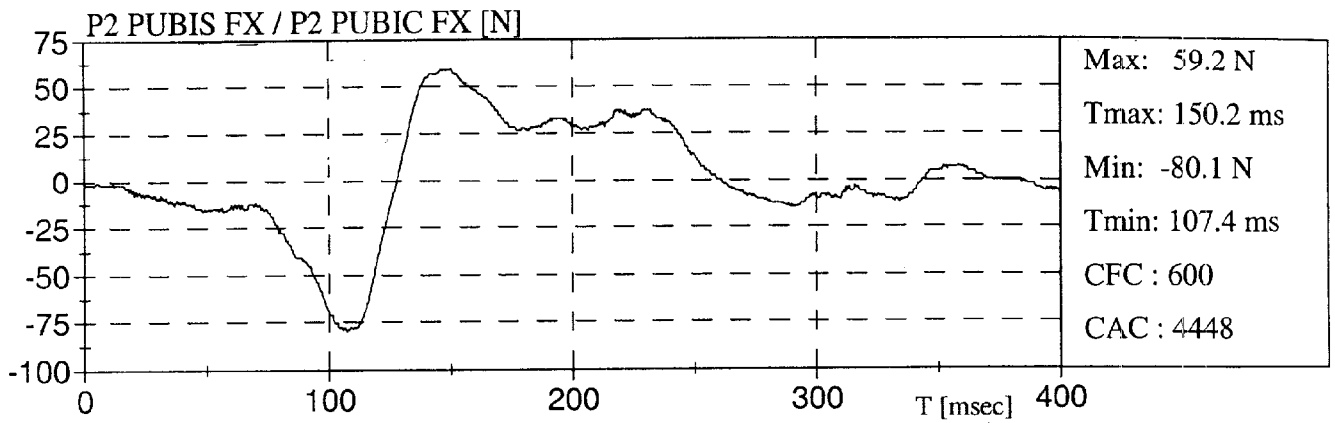


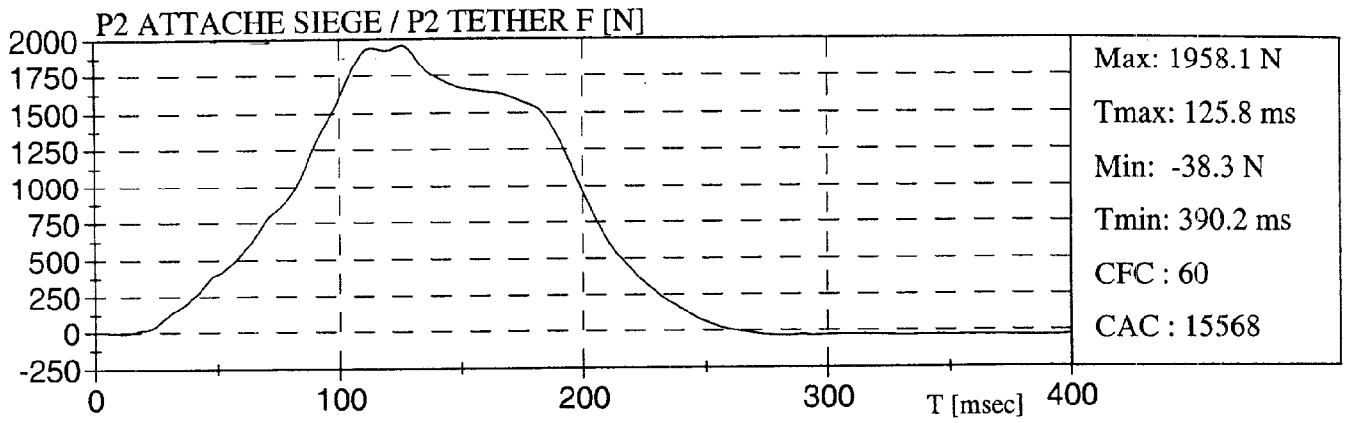


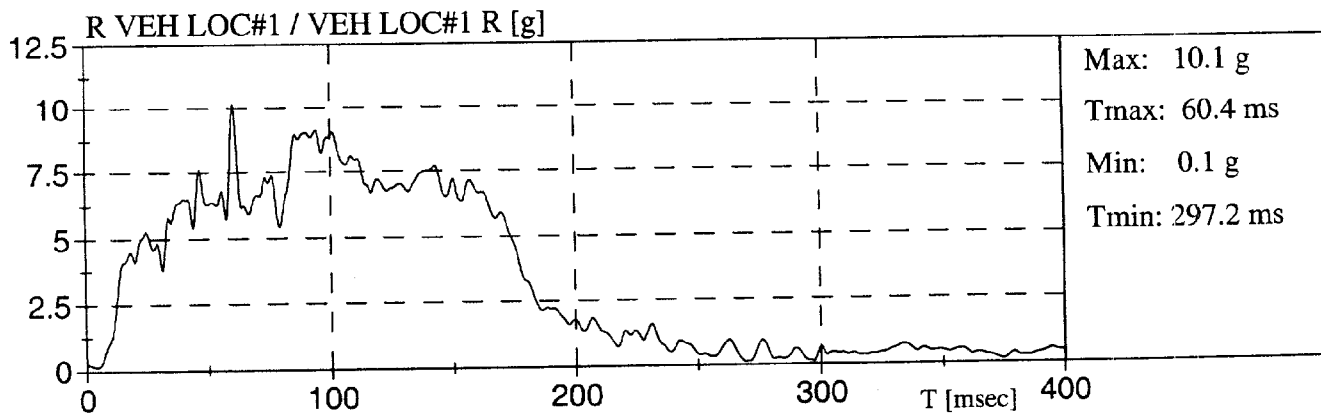
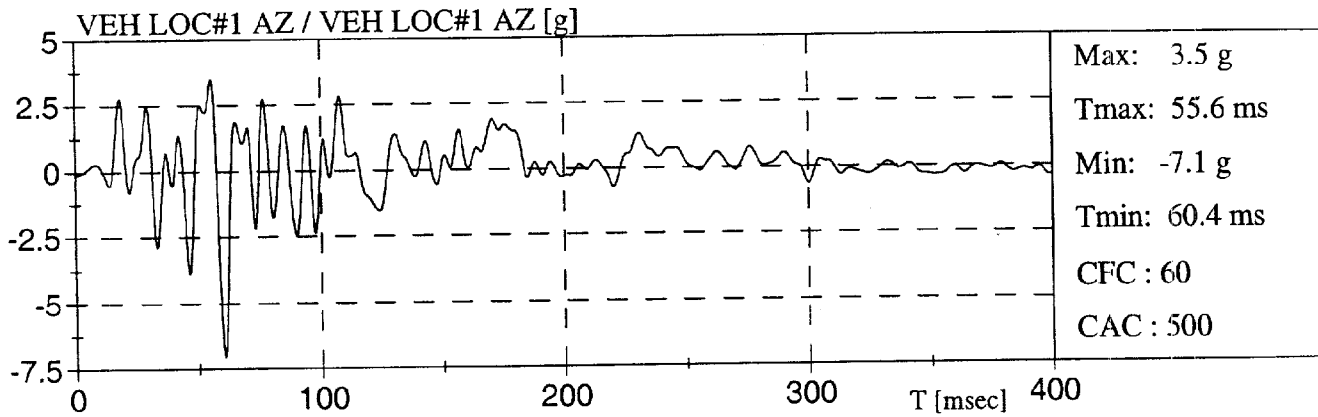
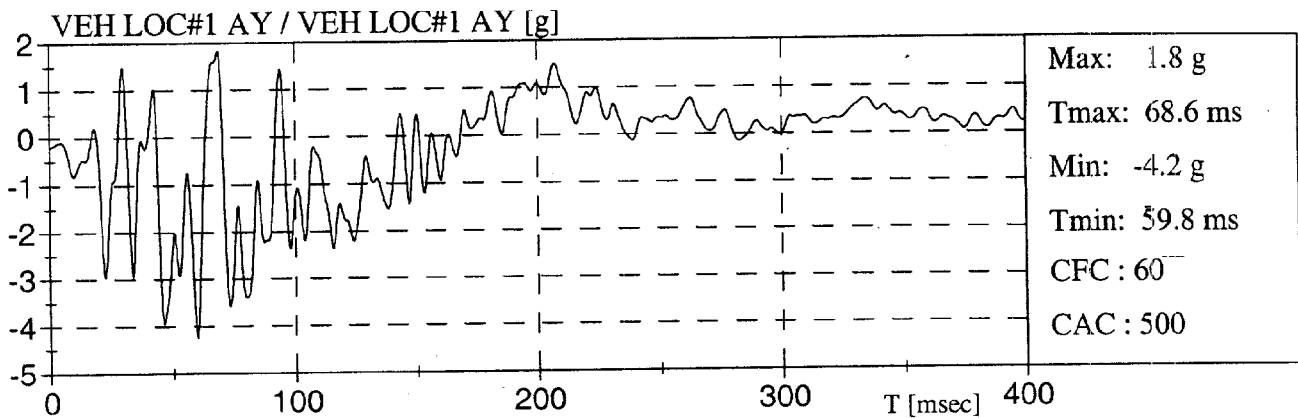
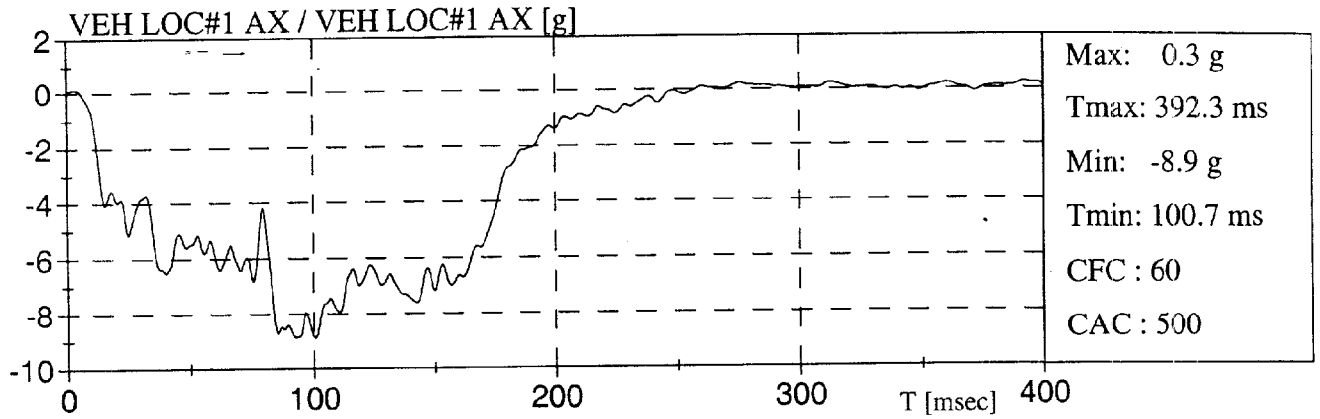


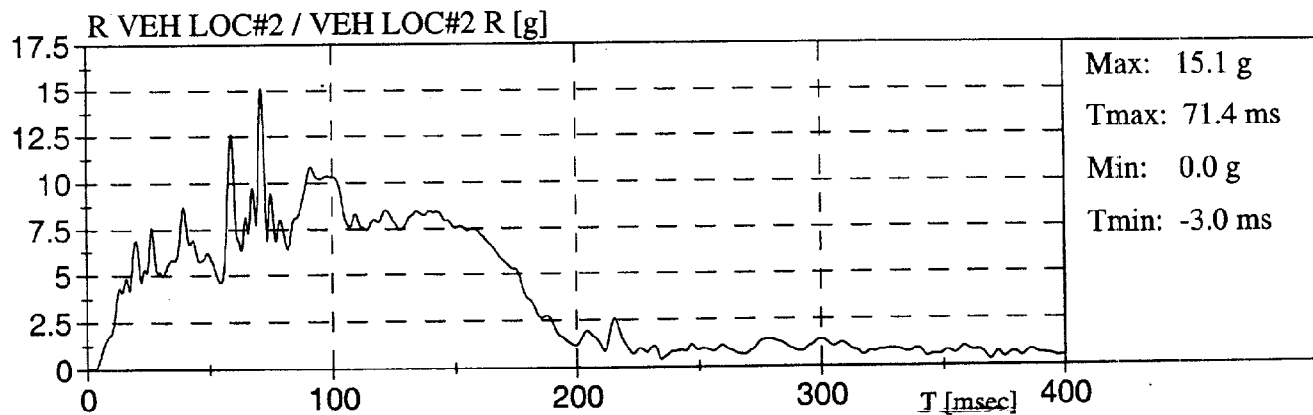
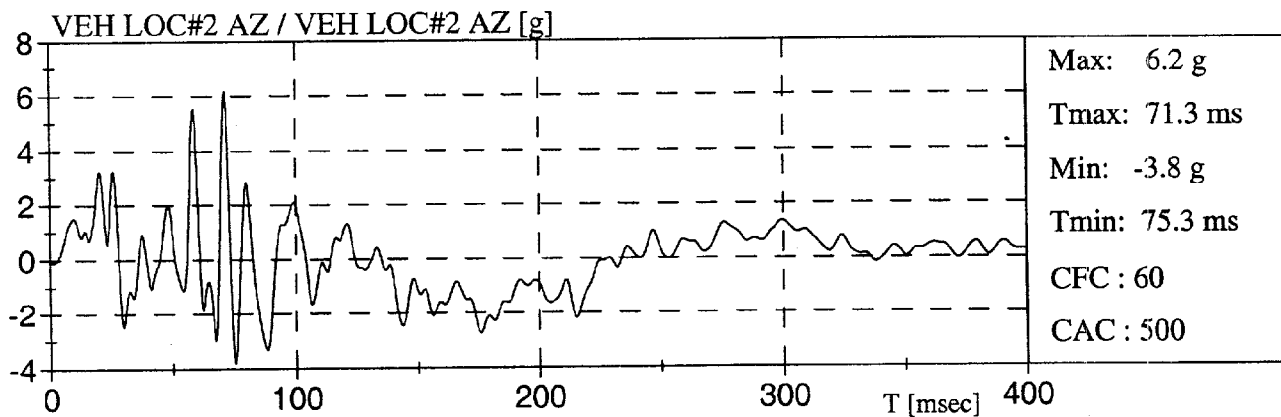
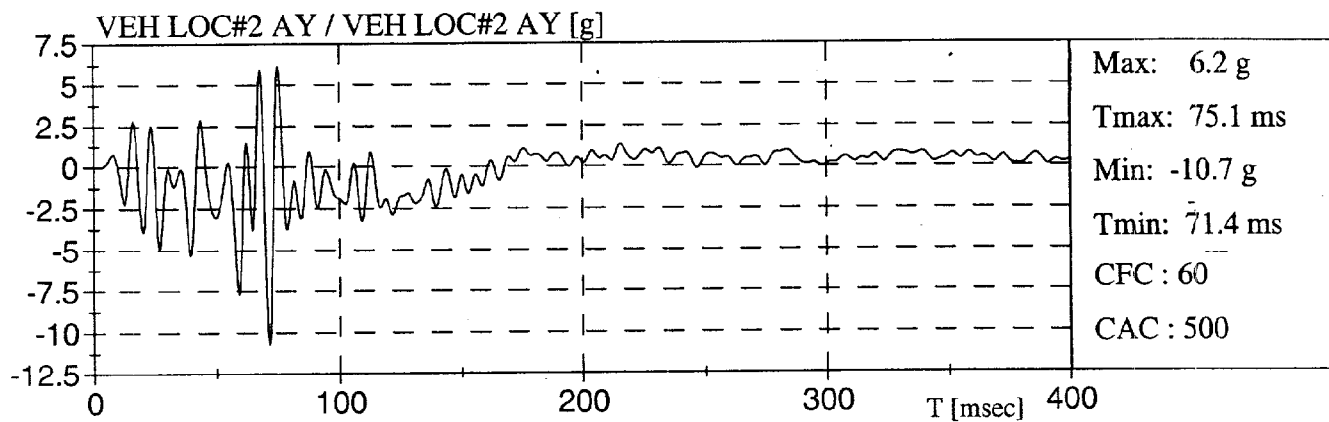
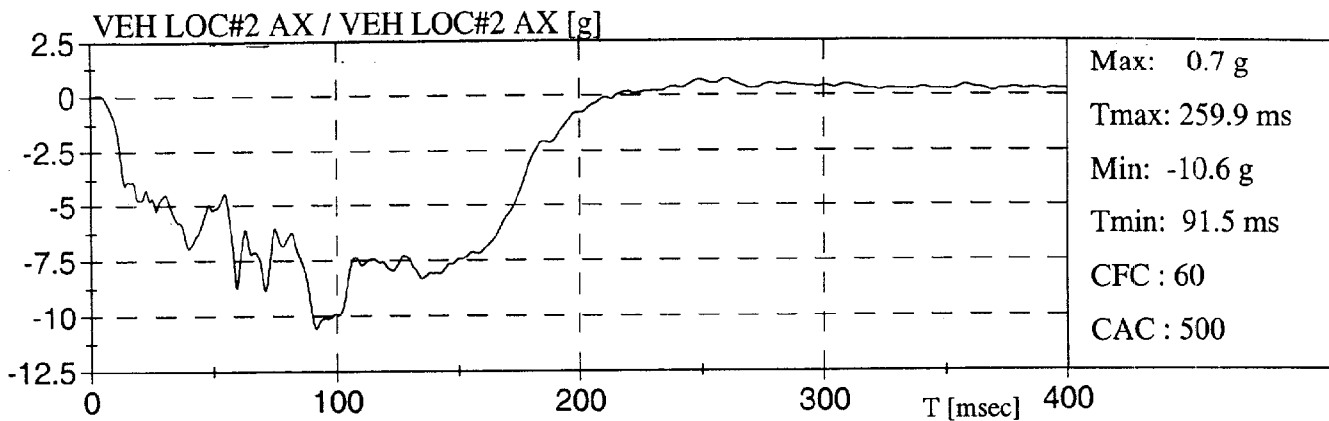


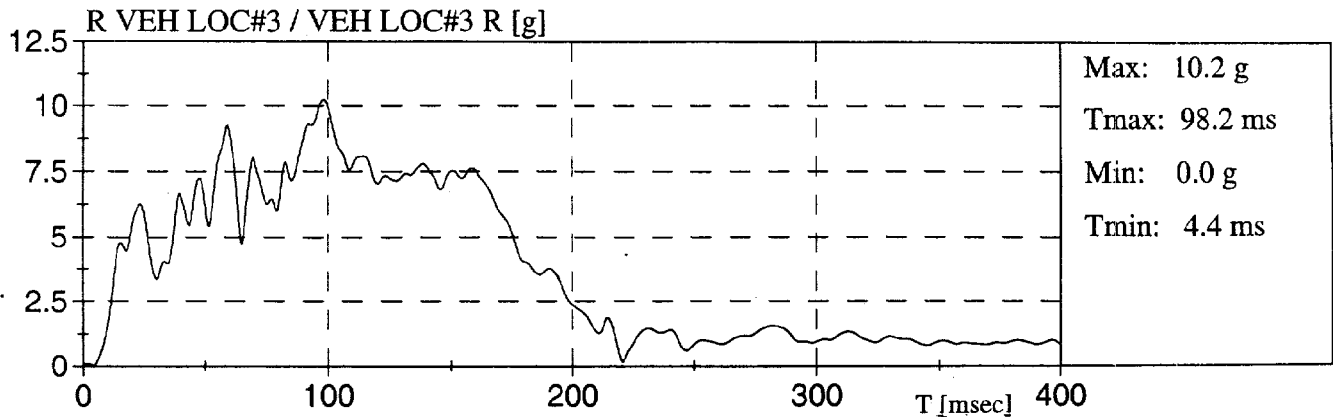
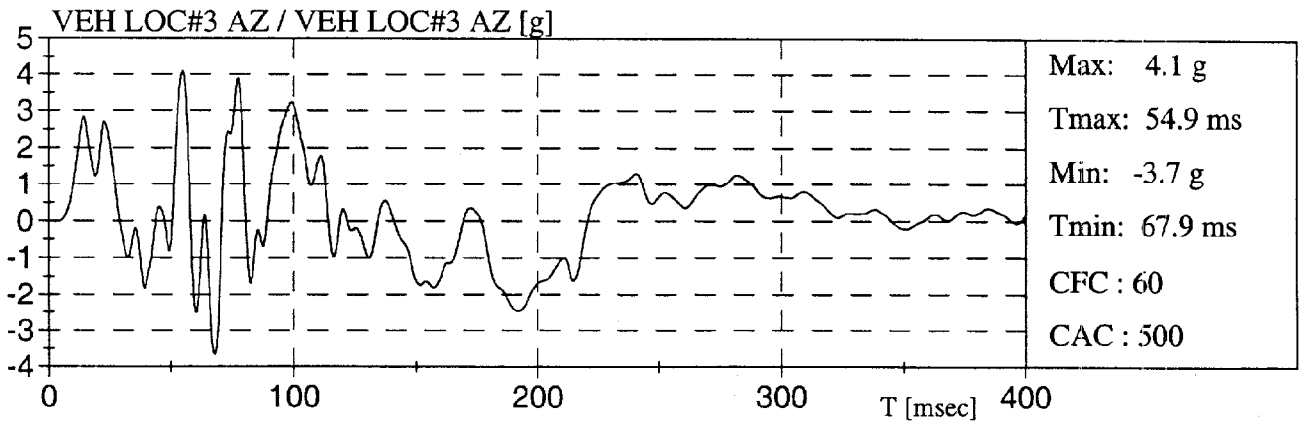
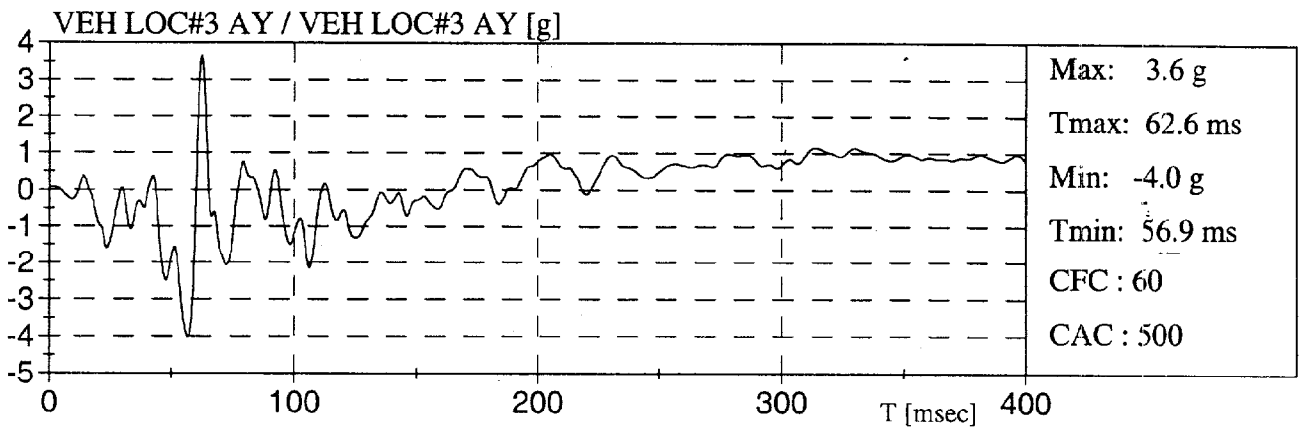
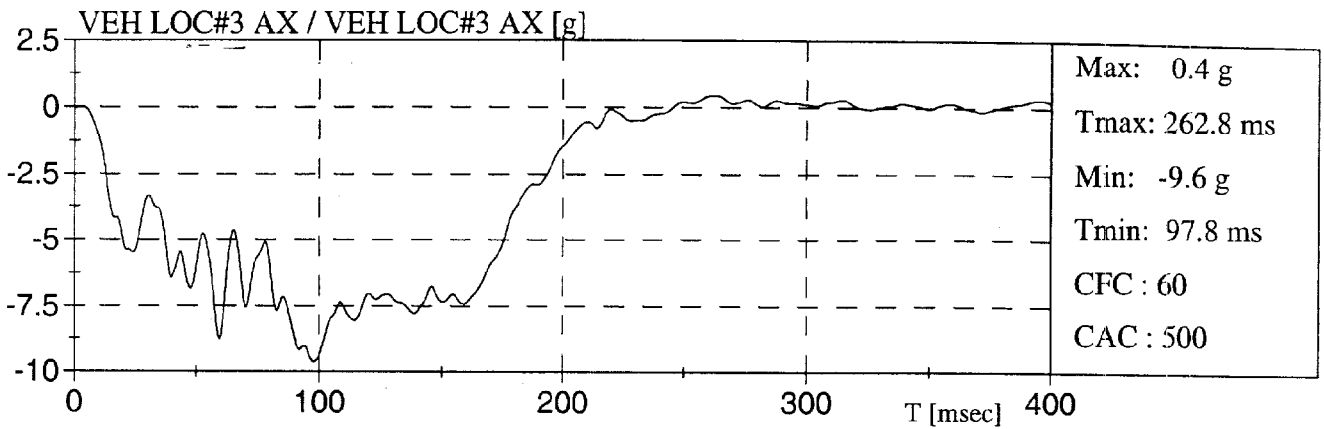


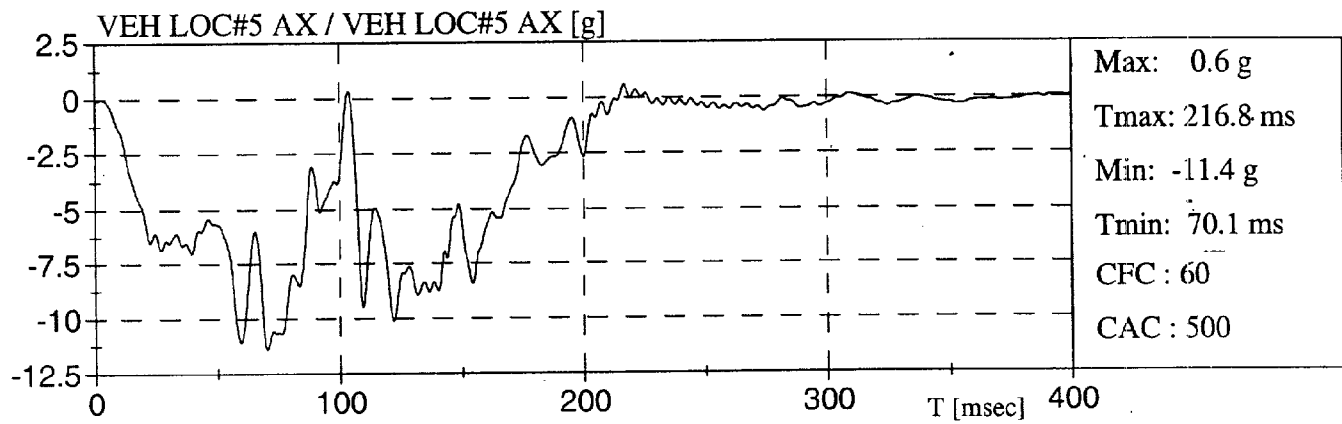
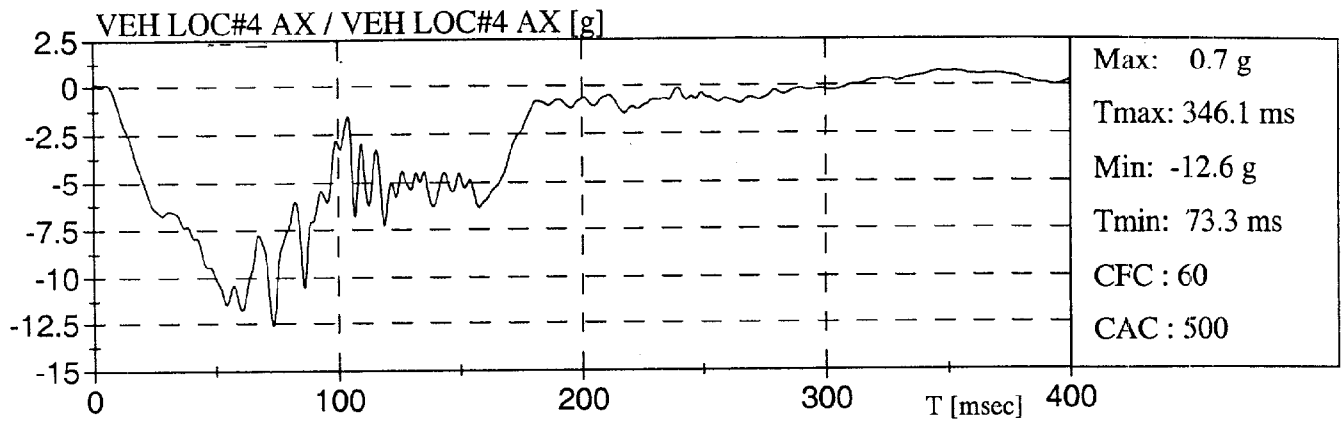


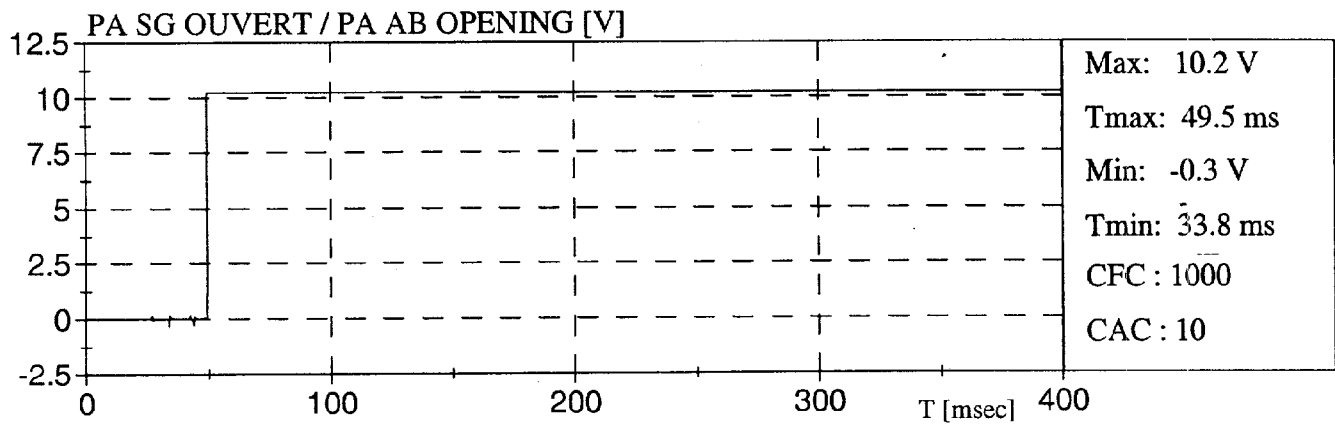
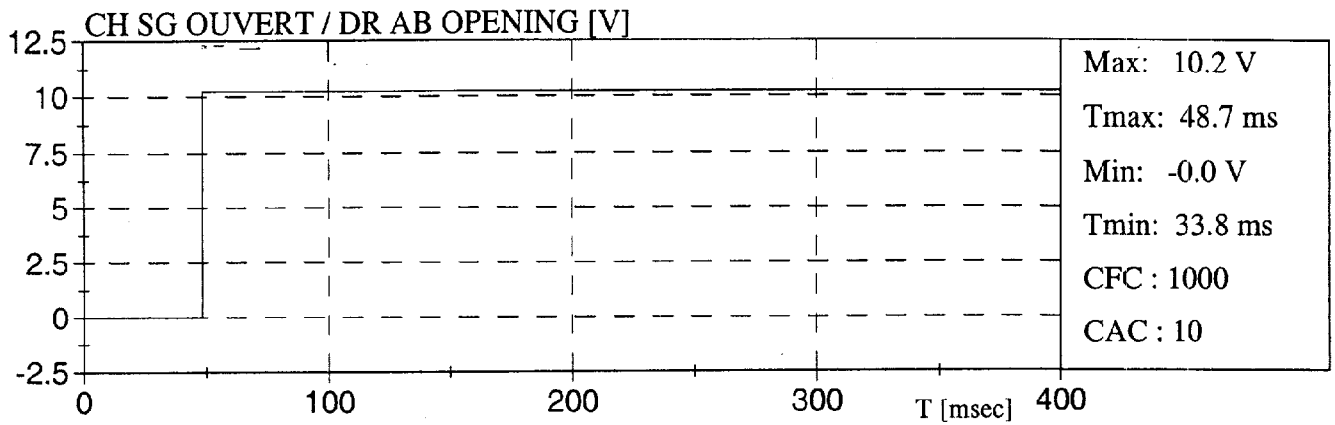


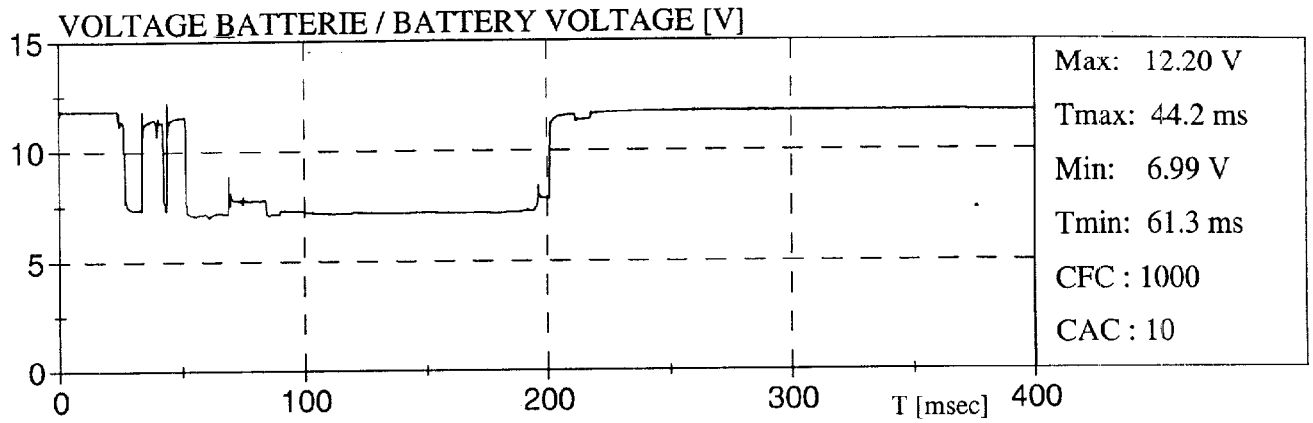


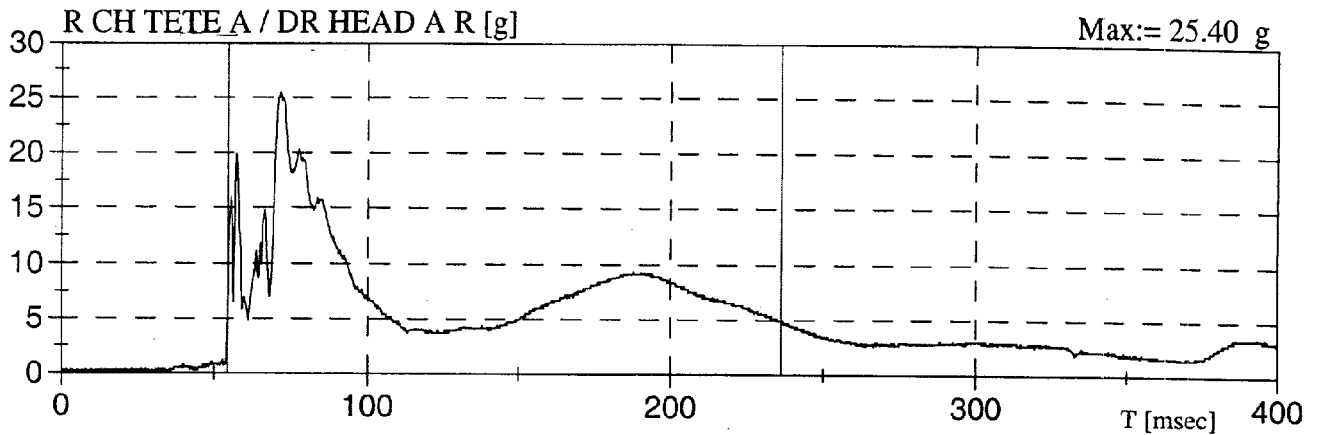








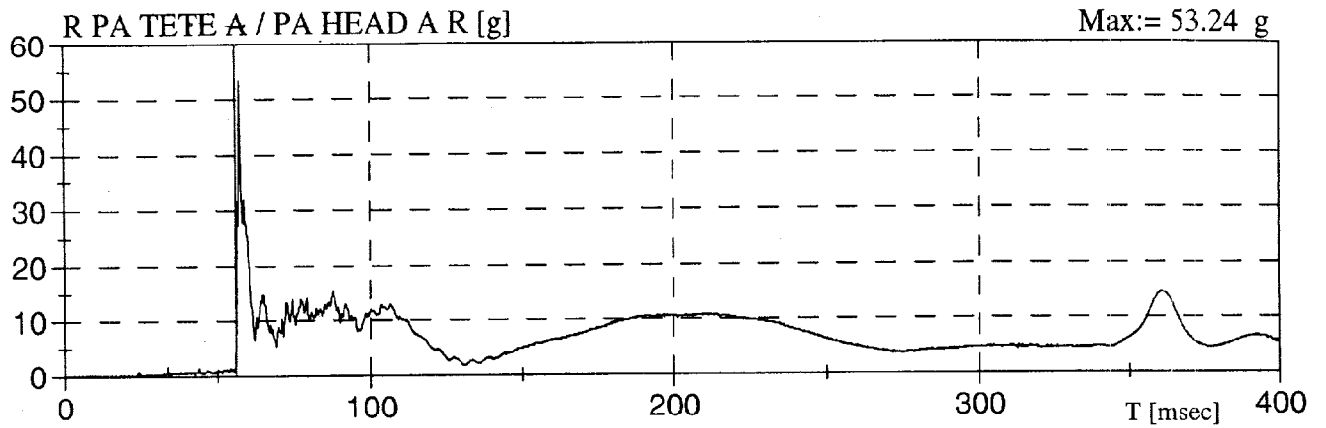




HEAD INJURY CRITERIA (HIC) *
CRITÈRE DE BLESSURE DE LA TÊTE

HIC:= 33	HIC(36ms):= 30	HIC(15ms):= 25
T1:= 54.3 ms	T1:= 54.5 ms	T1:= 69.3 ms
T2:= 236.2 ms	T2:= 90.5 ms	T2:= 84.3 ms

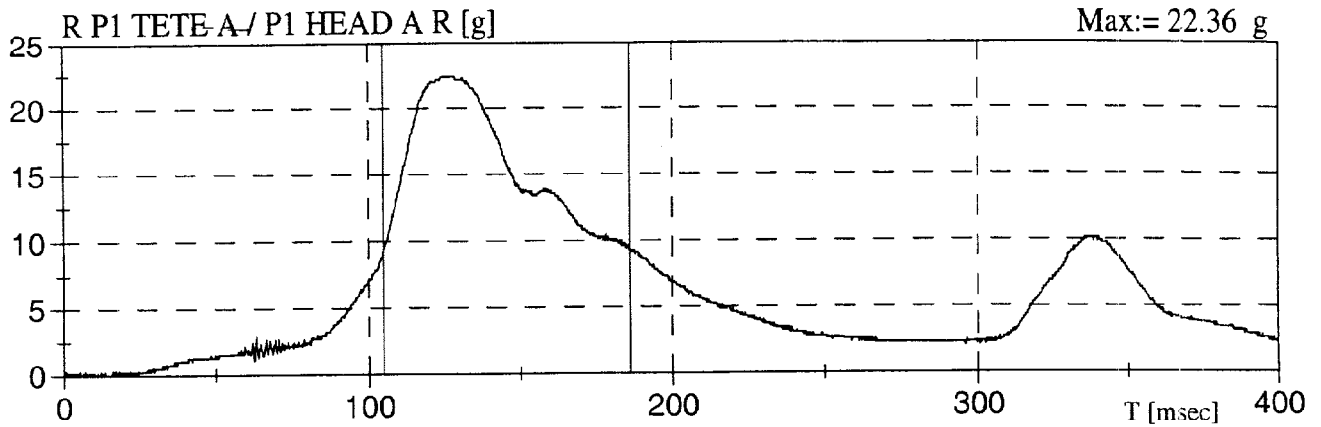
* Selon / According To: SAE J1727 96-08



HEAD INJURY CRITERIA (HIC) *
CRITÈRE DE BLESSURE DE LA TÊTE

HIC:= 53	HIC(36ms):= 24	HIC(15ms):= 22
T1:= 56.0 ms	T1:= 56.2 ms	T1:= 56.2 ms
T2:= 399.9 ms	T2:= 92.2 ms	T2:= 60.5 ms

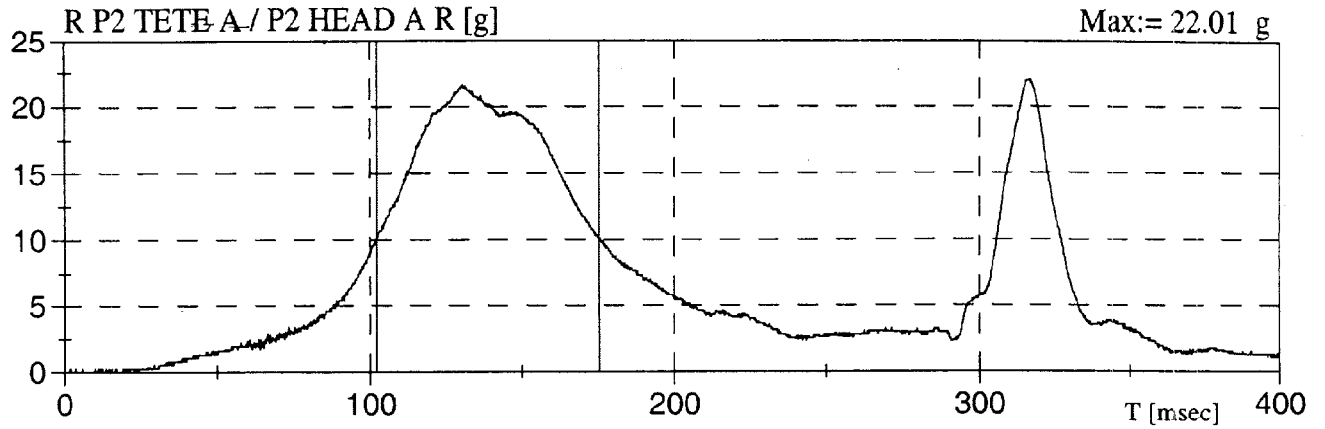
* Selon / According To: SAE J1727 96-08



HEAD INJURY CRITERIA (HIC) *
CRITÈRE DE BLESSURE DE LA TÊTE

HIC:= 77	HIC(36ms):= 65	HIC(15ms):= 34
T1:= 104.8 ms	T1:= 110.9 ms	T1:= 119.0 ms
T2:= 186.1 ms	T2:= 146.9 ms	T2:= 134.0 ms

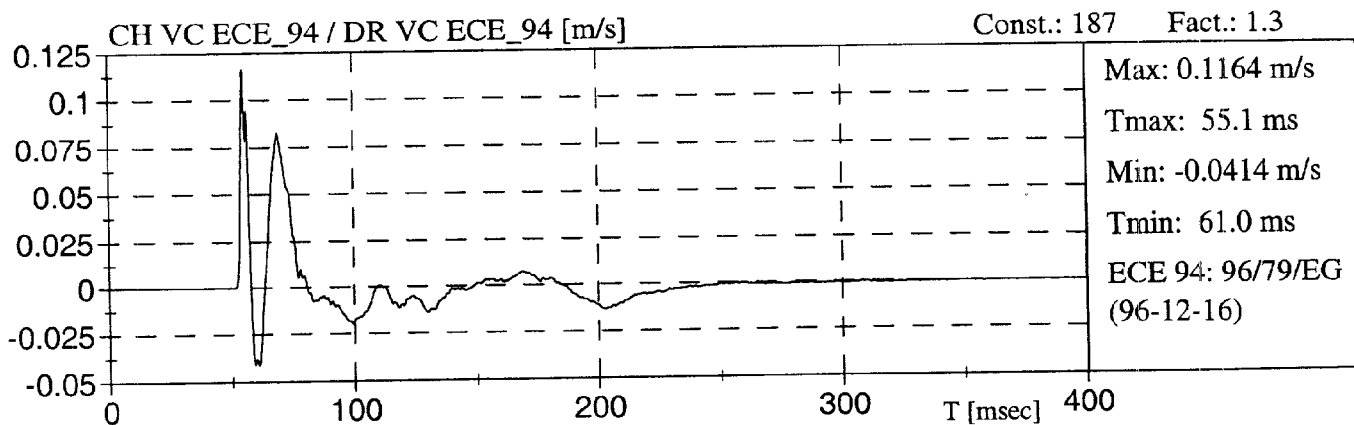
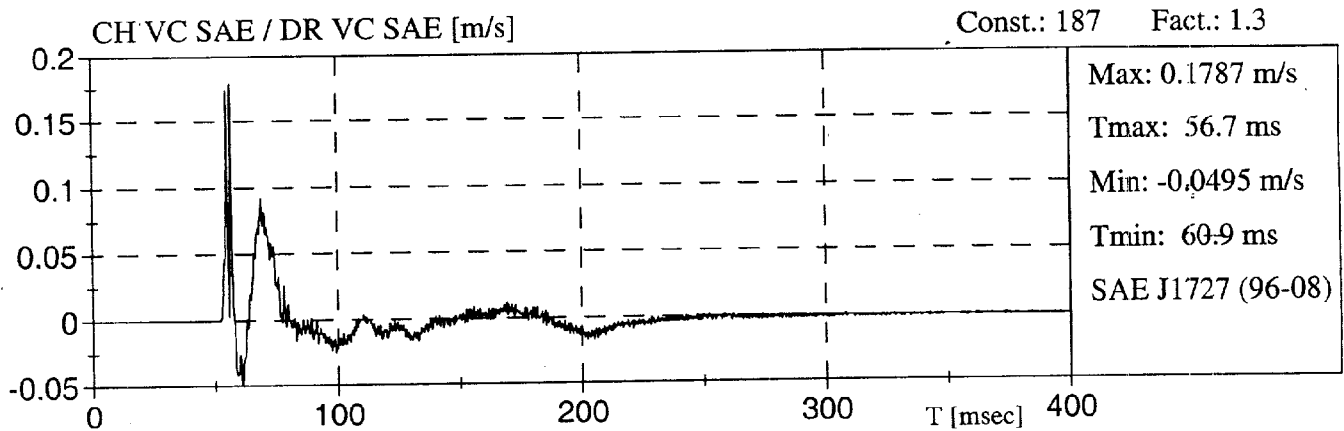
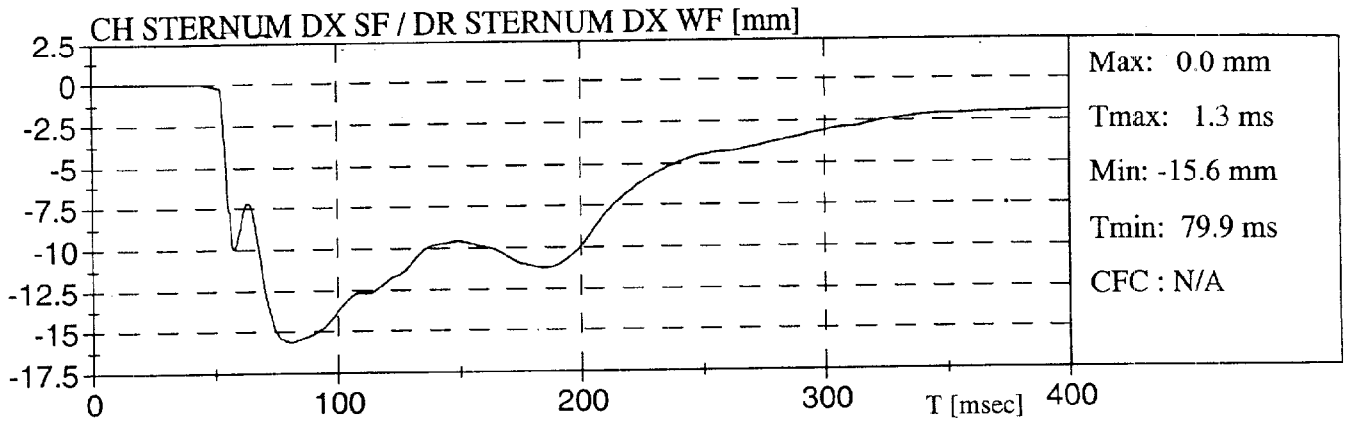
* Selon / According To: SAE J1727 96-08

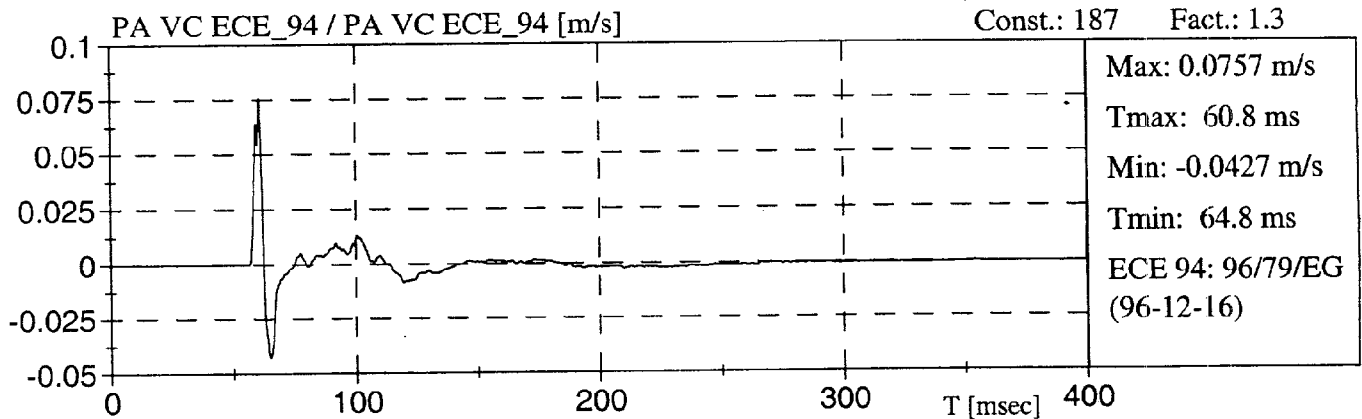
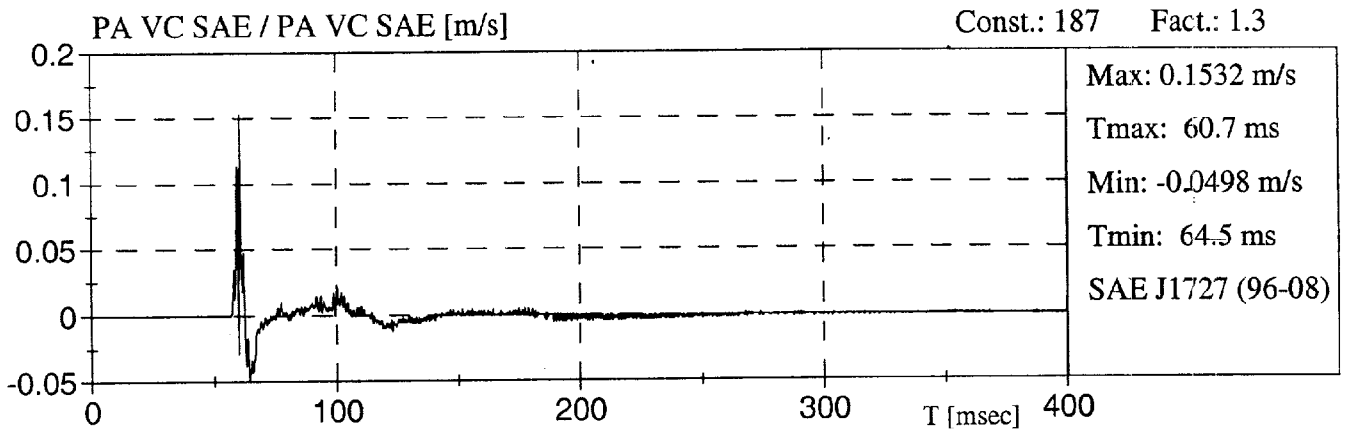
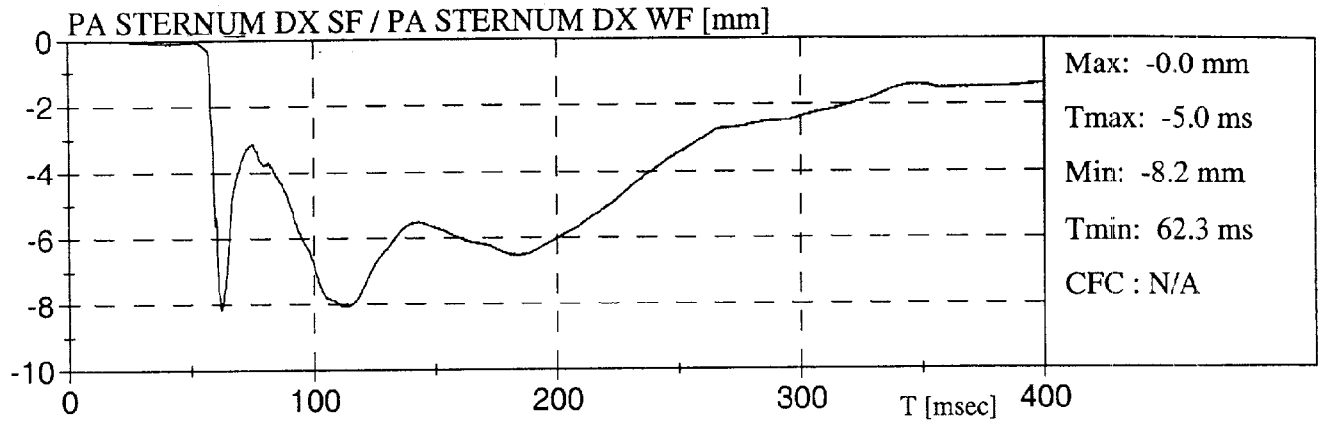


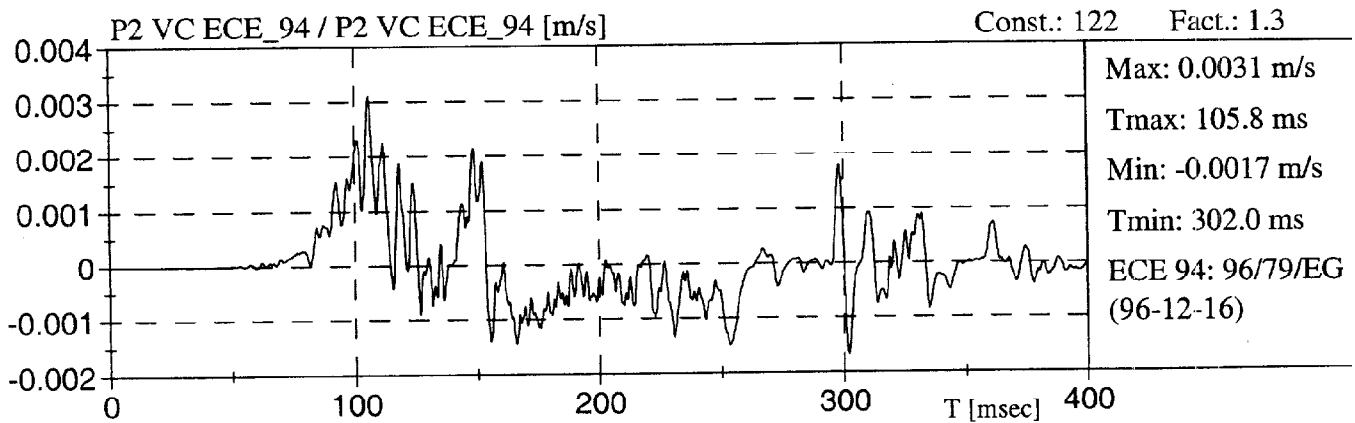
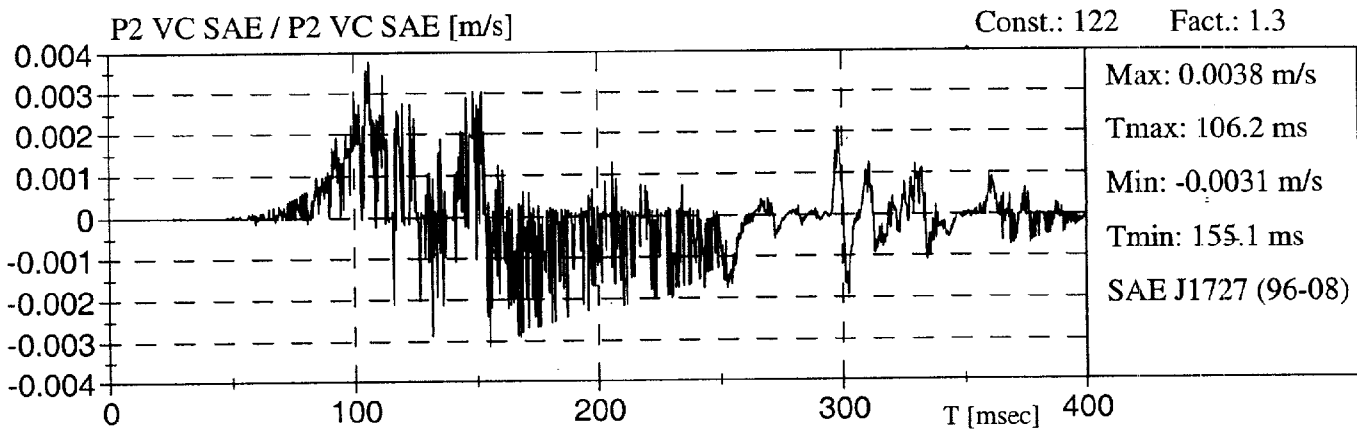
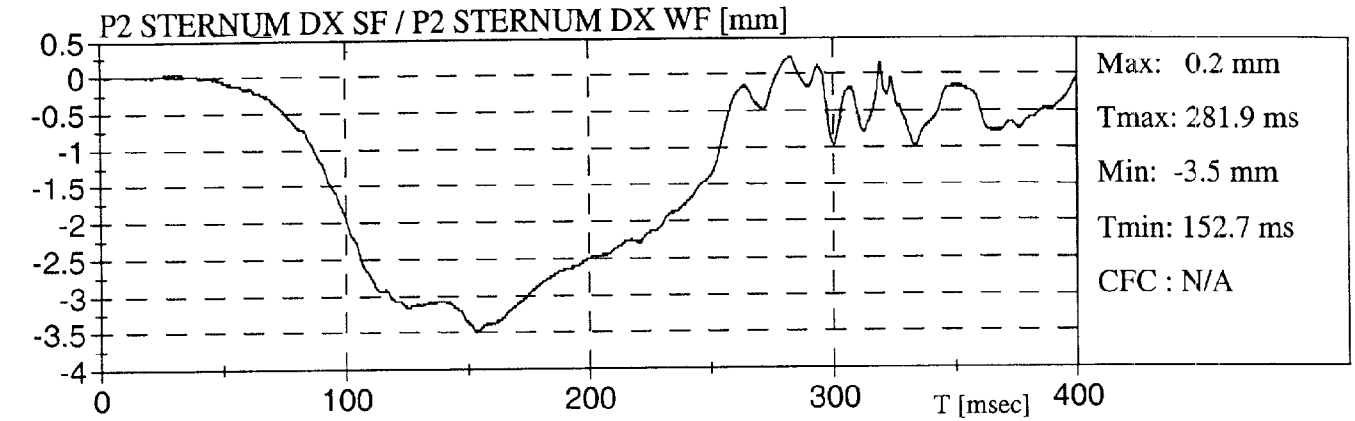
HEAD INJURY CRITERIA (HIC) *
CRITÈRE DE BLESSURE DE LA TÊTE

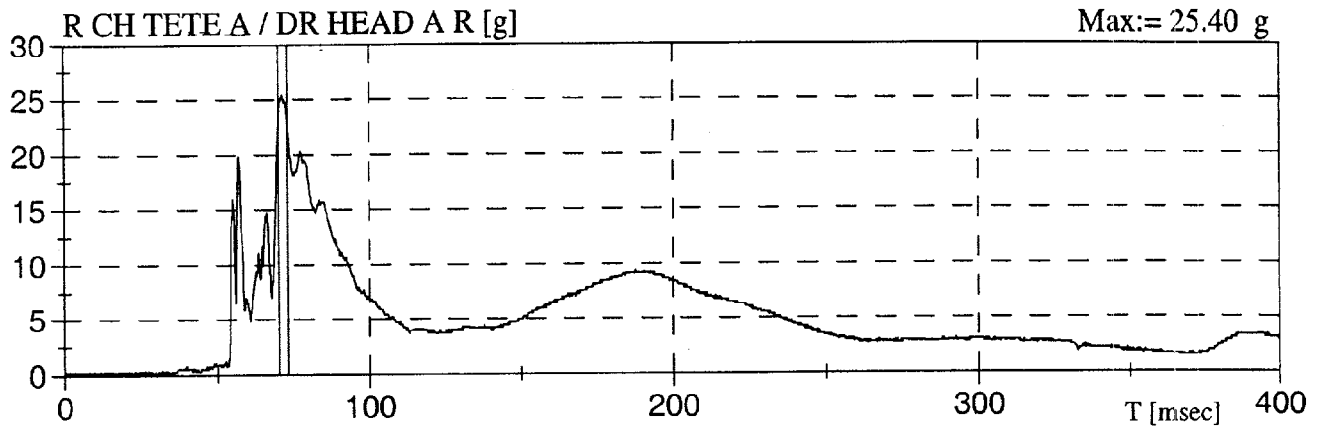
HIC:= 86	HIC(36ms):= 64	HIC(15ms):= 29
T1:= 102.1 ms	T1:= 118.4 ms	T1:= 124.6 ms
T2:= 175.2 ms	T2:= 154.4 ms	T2:= 139.6 ms

* Selon / According To: SAE J1727 96-08



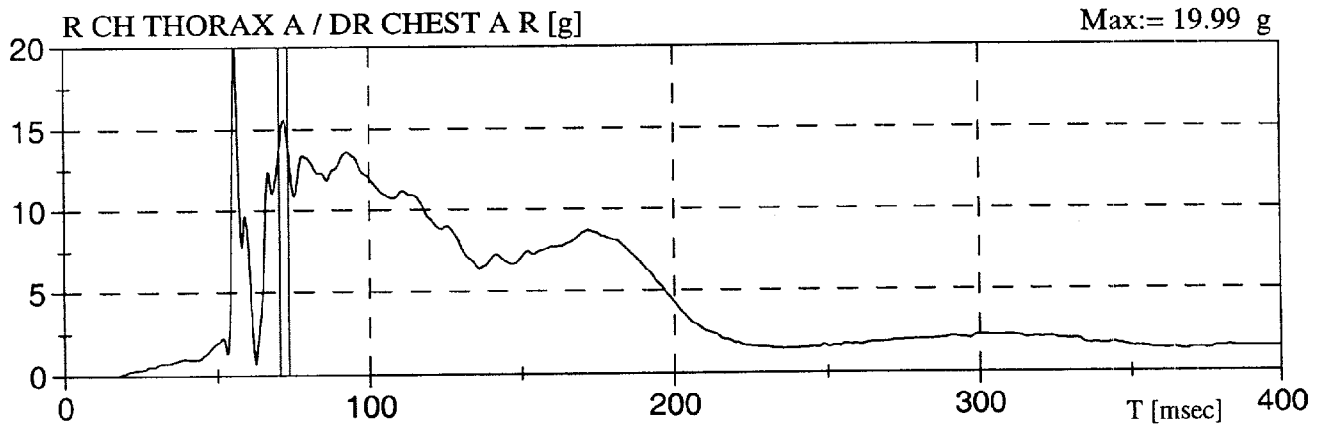






CLIP 3ms *

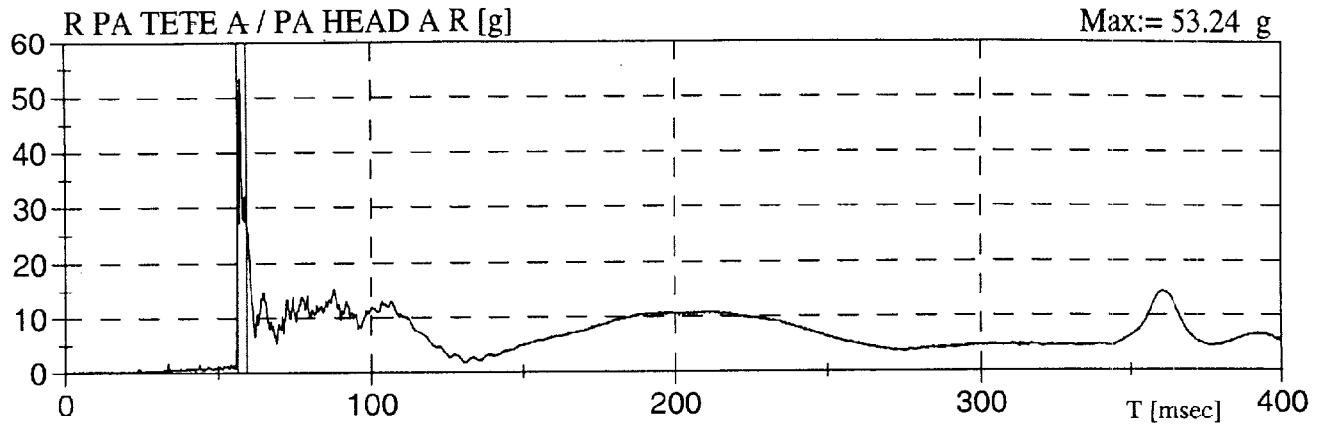
Acc. := 22.66 g	T1:= 70.2 ms	T2:= 73.2 ms
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CLIP 3ms *

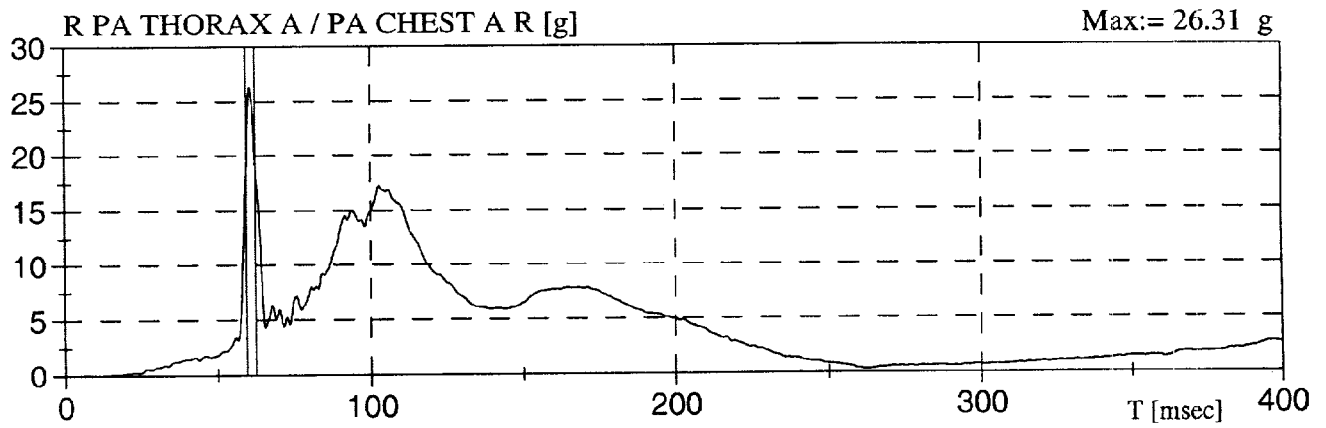
Acc. := 13.76 g	T1:= 70.3 ms	T2:= 73.3 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

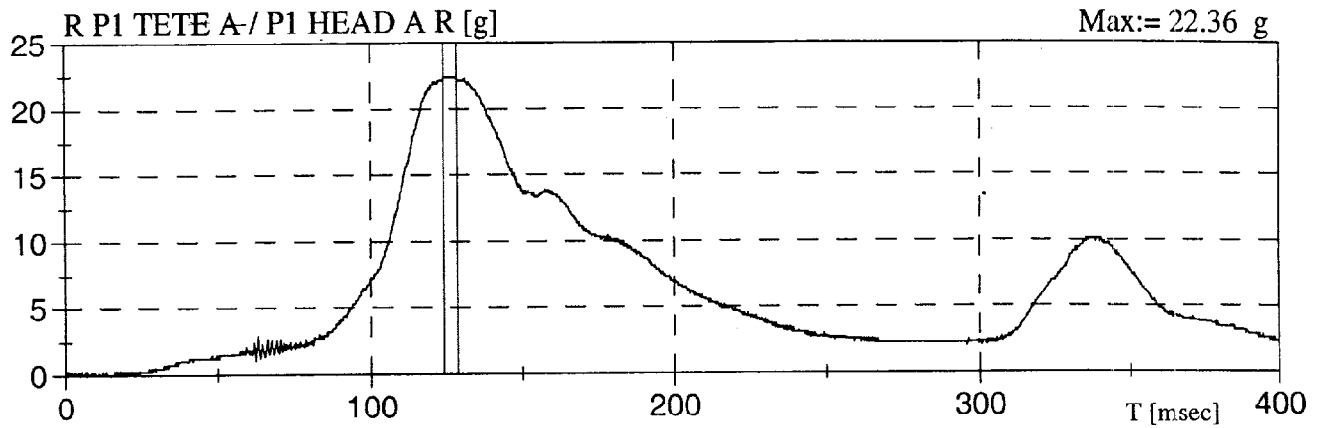
Acc. := 27.12 g	T1:= 56.3 ms	T2:= 59.4 ms
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CLIP 3ms *

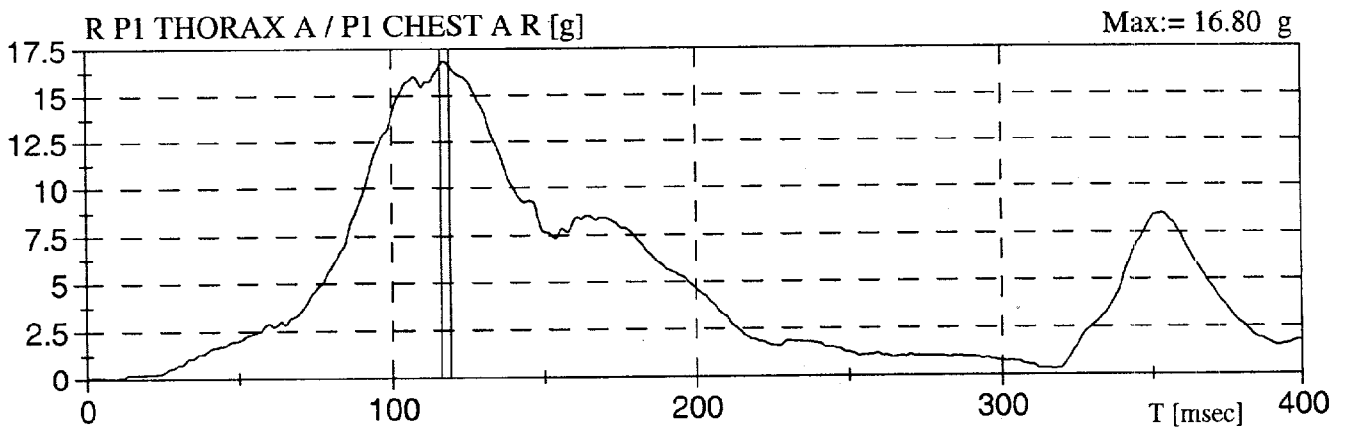
Acc. := 18.81 g	T1:= 59.4 ms	T2:= 62.4 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

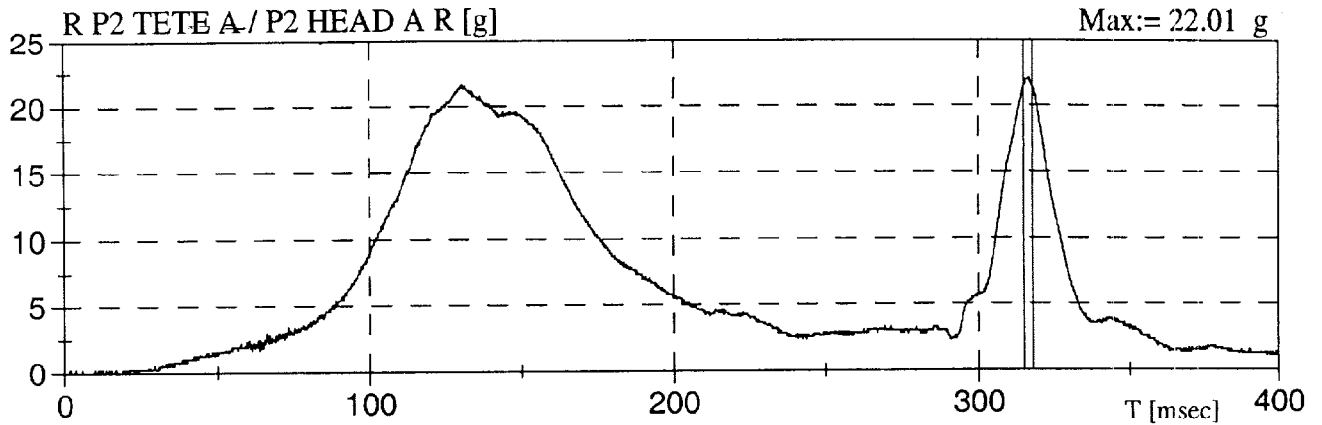
Acc. := 22.35 g	T1:= 123.9 ms	T2:= 128.5 ms
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CLIP 3ms *

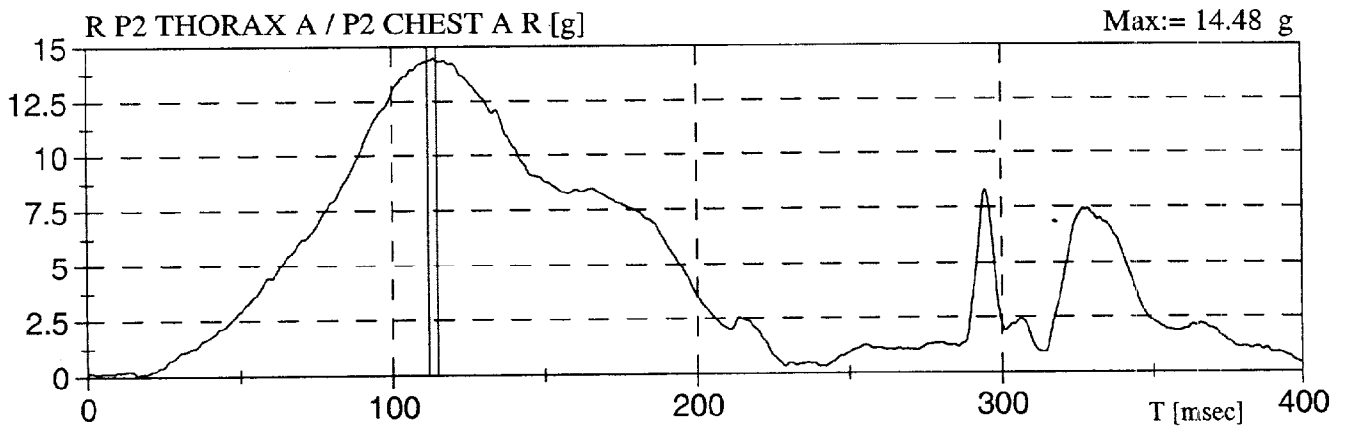
Acc. := 16.59 g	T1:= 115.8 ms	T2:= 118.8 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

Acc. := 21.32 g	T1:= 314.9 ms	T2:= 317.9 ms
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CLIP 3ms *

Acc. := 14.35 g	T1:= 111.6 ms	T2:= 114.6 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95

INDEX DU TIBIA *
TIBIA INDEX *
TI Chauffeur / Driver $M_c := 115 \text{ N-m}$ $F_c := 22.9 \text{ kN}$

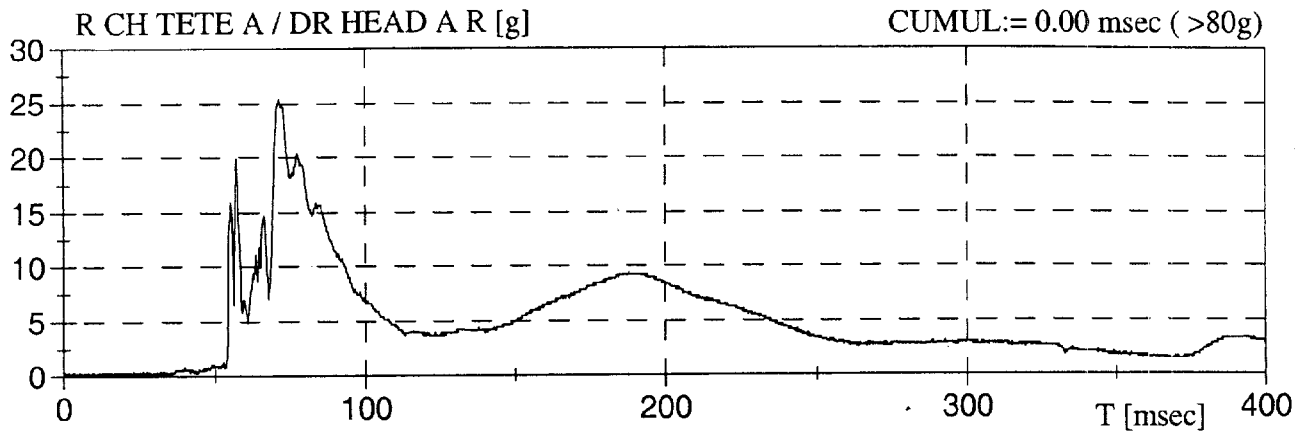
TIBIA	GAUCHE / LEFT	DROIT / RIGHT
HAUT / UPPER	0.367	0.260
BAS / LOWER	0.103	0.083

TI Passager / Passenger $M_c := 115 \text{ N-m}$ $F_c := 22.9 \text{ kN}$

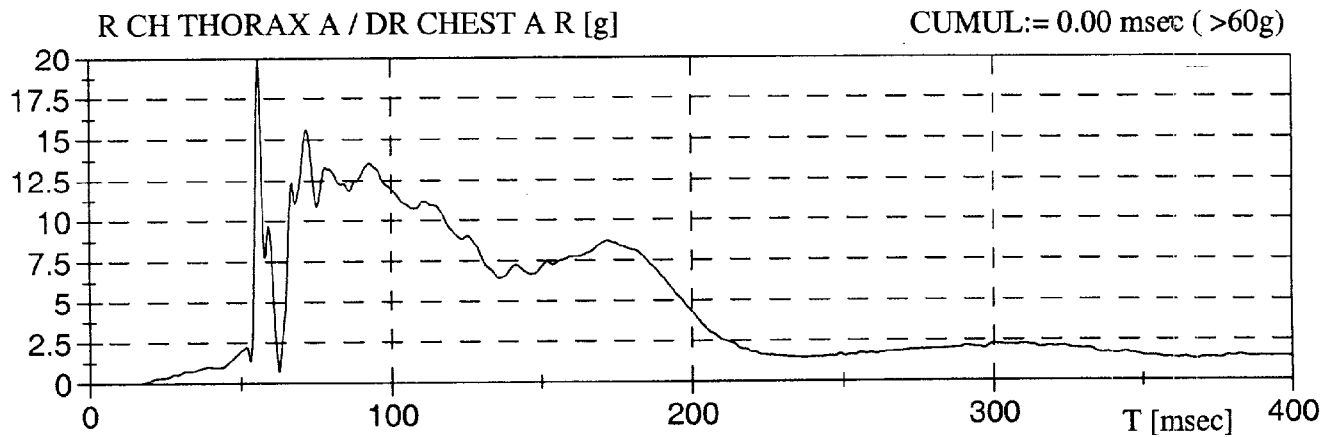
TIBIA	GAUCHE / LEFT	DROIT / RIGHT
HAUT / UPPER	0.345	0.322
BAS / LOWER	0.110	0.106

* Selon / According To: SAE J1727 AUG 96

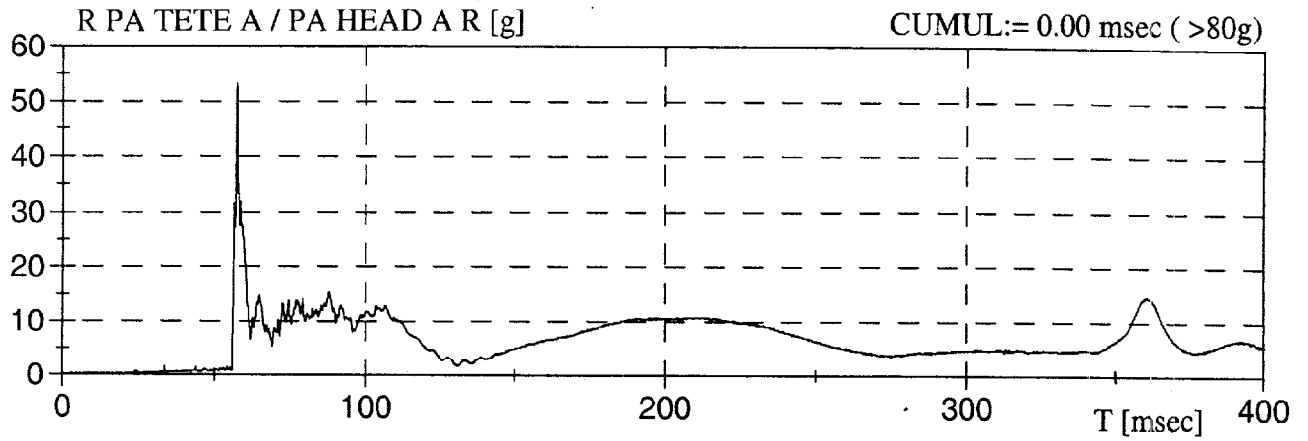
ACCÉLÉRATION DE LA TÊTE >80 g / HEAD ACCELERATION > 80 g



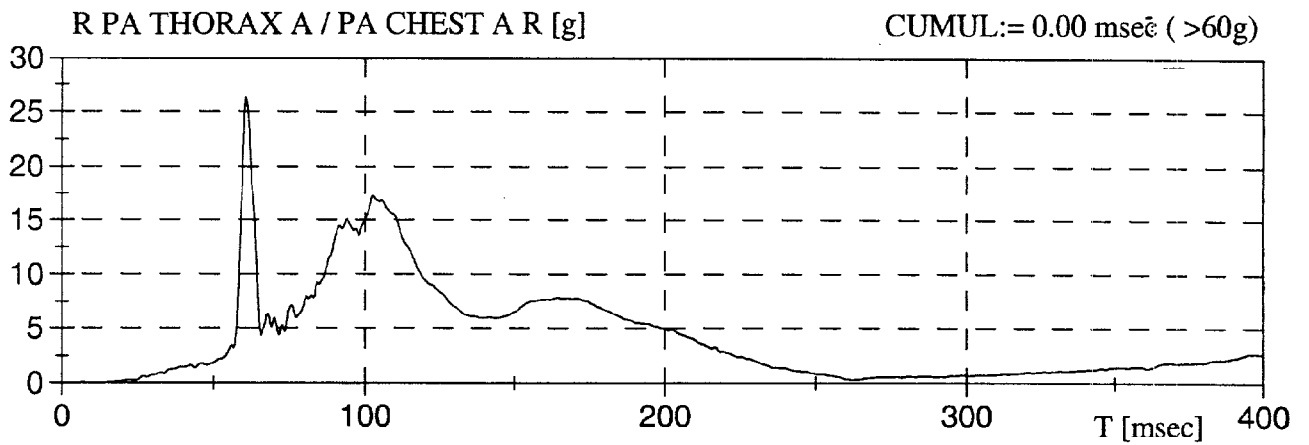
ACCÉLÉRATION DU THORAX >60 g / THORAX ACCELERATION > 60 g



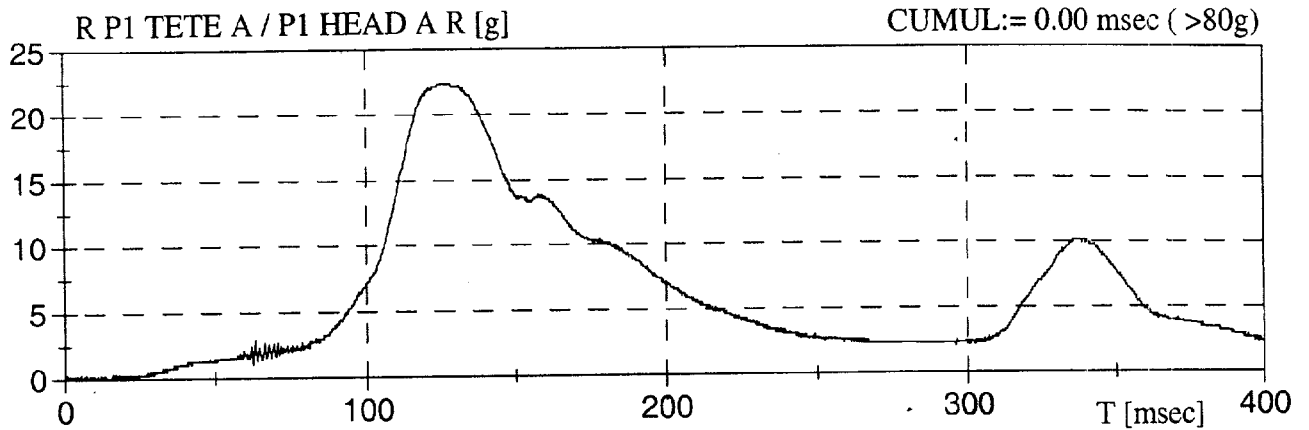
ACCÉLÉRATION DE LA TÊTE >80 g / HEAD ACCELERATION > 80 g



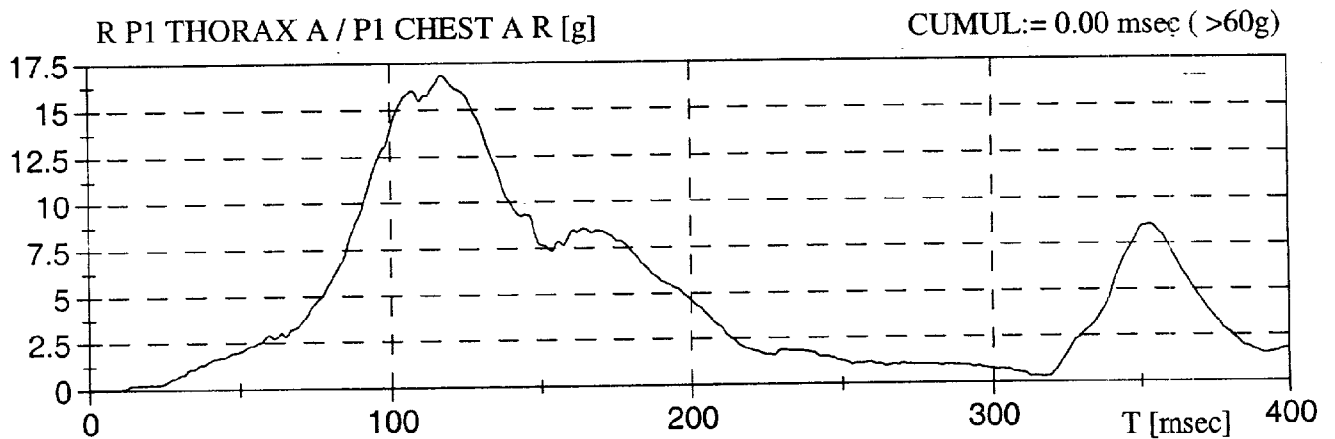
ACCÉLÉRATION DU THORAX >60 g / THORAX ACCELERATION > 60 g



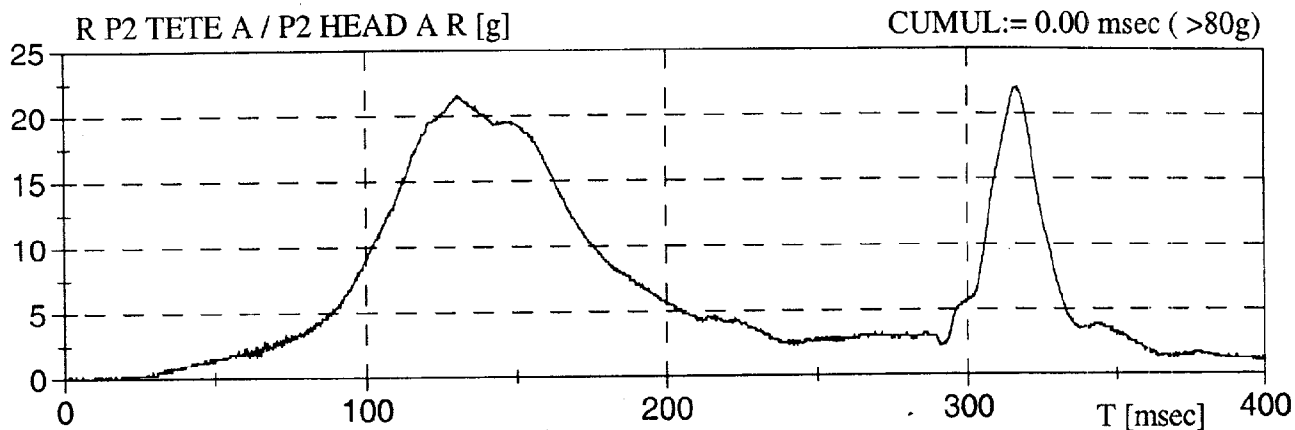
ACCÉLÉRATION DE LA TÊTE >80 g / HEAD ACCELERATION > 80 g



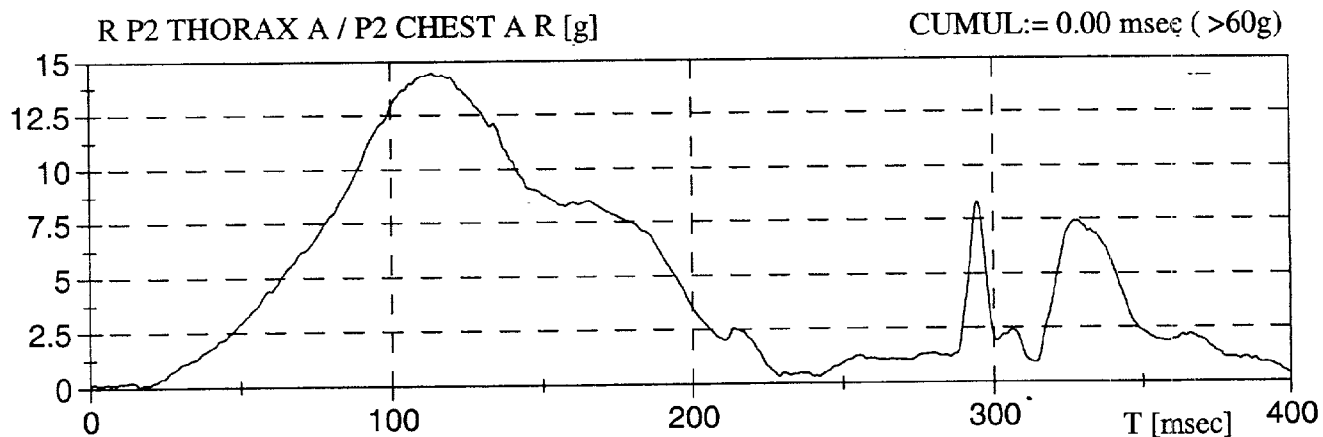
ACCÉLÉRATION DU THORAX >60 g / THORAX ACCELERATION > 60 g



ACCÉLÉRATION DE LA TÊTE >80 g / HEAD ACCELERATION > 80 g

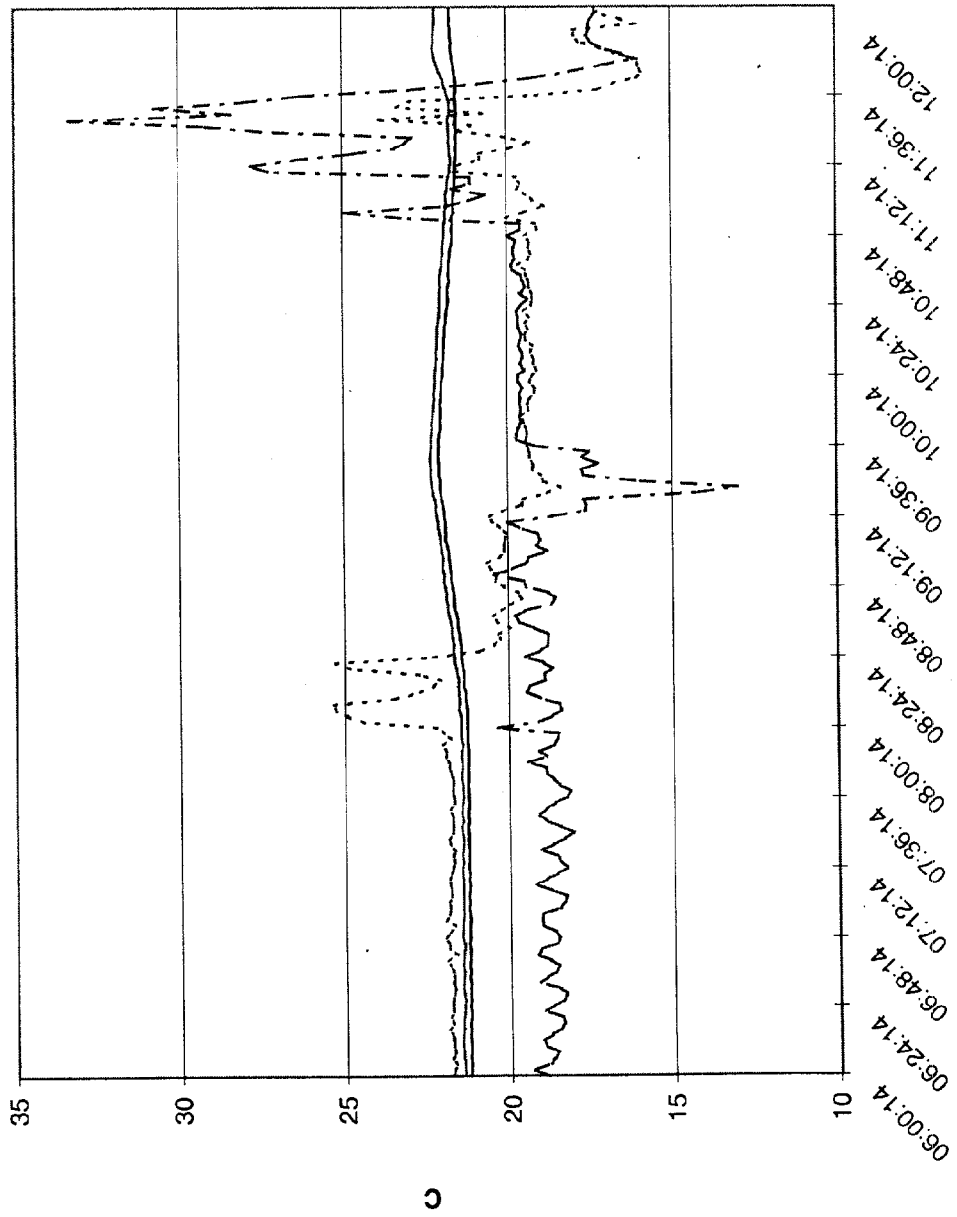


ACCÉLÉRATION DU THORAX >60 g / THORAX ACCELERATION > 60 g



APPENDICE /APPENDIX C
DONNÉES DES TEMPÉRATURES
TEMPERATURE DATA

Temperature TC99-204



99-01-22