

**RAPPORT D'ESSAI - TEST REPORT
COLLISION FRONTALE DE RECHERCHE
RESEARCH FRONTAL IMPACT**

VÉHICULE D'ESSAI / TEST VEHICLE CHRYSLER 300 2005 TC # 05-217
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**ESSAIS DE RECHERCHE CONJOINTS TC/NHTSA SUR LES
SACS GONFLABLES FRONTAUX
JOINT TC/NHTSA FRONTAL AIRBAGS RESEARCH TESTS**

Préparé par :
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N° de contrat : **05-5001**
Rapport N°: **RR05-236**

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

Prepared by :
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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	2005-03-17	Véhicule Vehicle	CHRYSLER 300 2005	T.C. N° T.C.No	05-217
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VÉHICULE D'ESSAI - TEST VEHICLE

Fabricant - Manufacturer DAIMLERCHRYSLER CANADA INC.	Type de carrosserie - Body Style Berline 4P / 4D Sedan	Marque, modèle, Année - Make, model, Year CHRYSLER 300 2005
Classe de véhicule - Class of vehicle Tourisme / Passenger car	Boîte de vitesse - Transmission Type Auto. arrière / Auto. Rear wheel	Moteur - Engine V6 en ligne avant / V6 inline front
Date de fabrication - Date of Manufacture 12-04	Cylindres - Cylinders 3.5 Lit.	N° d'ident. du véhicule - Vehicle Ident. No. 2C3JA53G85H623428
Lecture de l'odomètre - Odometer Reading 12 km	Nombre de places assises désignées Number of Designated Seating Positions 5	Numéro d'ident. PMG - PMG Ident. Number UN5-219
PNBV - GVWR 2246 kg	PNBE (Avant) - GAWR (Front) 1275 kg	PNBE (Arrière) - GAWR (Rear) 1275 kg

CONFIGURATION D'ESSAI - TEST CONFIGURATION

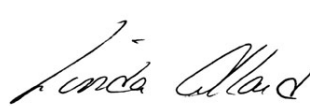
Type d'essai - Test type	Vitesse d'impact- Impact velocity		Angle d'impact Impact angle	Masse du véhicule d'essai Test vehicle mass
Véh. vs barrière - Veh. vs barrier	Prévu / Intended : 40.0 km/h	Obtenu / Obtained : 40.1 km/h	0 °	2033.5 kg
Description et position du mannequin (conducteur) Dummy description and position (driver) Description Hybrid III (5 %)	Position ** 1 mm	Description et position du mannequin (passager avant) Dummy description and position (front passenger) Description Hybrid III (5 %)	Position ** 1 mm	
Description et position du mannequin (passager arrière gauche) Dummy description and position (left rear passenger) Description Hybrid III (6 ans / 6 years old)	Position ** N/A	Description et position du mannequin (passager arrière droit) Dummy description and position (right rear passenger) Description Hybrid III (6 ans / 6 years old)	Position ** N/A	

RÉSULTATS GÉNÉRAUX - GENERAL RESULTS

Déploiement des sacs gonflables - Airbags deployment Coussins frontaux - Frontal airbags		Déploiement des sacs gonflables - Airbags deployment Coussins latéraux - Lateral airbags	
Conducteur / Driver	Passager / Passenger	Conducteur / Driver	Passager / Passenger
Déployé / Deployed 22.8ms	Déployé / Deployed 20.4ms	N/A 0.0	N/A 0.0
Rétrotracteurs de ceintures-prétensionneurs Seat belts retractors-pretensioners		Limiteur de charge des ceintures de sécurité Seat belts load limiter	
Conducteur / Driver	Passager / Passenger	Conducteur / Driver	Passager / Passenger
Déployé / Deployed	Déployé / Deployed	Non-équipé / Not equipped	Non-équipé / Not equipped

Essai réalisé selon la procédure de PMG : Collision frontale de recherche, version 3, révision 10 avril 2000.

Test performed according to PMG procedure: Research frontal impact, version 3, revised april 10, 2000.

Préparé par : Prepared by : 	Digitally signed by Pierre Beauchamp Date: 2005.09.14	Approuvé par : Approved by :	
Vérifié par : Verified by : 	Digitally signed by Linda Allard Date: 2005.09.14	Accepté par : Accepted by :	

* Tel qu'observé avec l'application d'une charge de 12V après l'essai.

* As observed by a 12V application after the test.

** Référence : 0 est la position la plus avancée. / ** Reference : 0 is the foremost position.

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DONNÉES DU VÉHICULE D'ESSAI / TEST VEHICLE DATA

Capacité du véhicule - Vehicle Capacity		Masse des bagages - Cargo Load		Type de sièges – Type of seats			Types de dossiers - Type of seat back			
392 kg					Avt - Frt	Arr - Rr		Avt - Frt	Arr - Rr	
Nombre d'occupants (places assises désignées) Number of Occupants (Designated Seating Positions)				Banquette Bench		X	Dossier ajustable Adjustable Seat Back	X		
Avant – Front 2		Arrière – Rear 3		Total 5		Baquet Bucket	X		Dossier non-ajustable Non-adjustable Seat Back	X
Volume de carburant pour l'essai Fuel system test volume		Pression à froid - Cold Tire Pressure						Dimension - Size		
61.88 l		Avant - Front 210 kPa		Arrière - Rear 210 kPa		Secours - Spare 420 kPa		P215/65R17		

PREMIÈRE PESÉE : VÉHICULE TEL QUE LIVRÉ (AVEC LIQUIDES AU MAXIMUM)

FIRST WEIGHT : VEHICLE AS RECEIVED (WITH MAXIMUM FLUIDS)

Avant gauche - Left front	Avant droit - Right front	Masse avant totale - Total front weight
454.1 kg	463.7 kg	917.8 kg
Arrière gauche - Left rear	Arrière droit - Right rear	Masse arrière totale - Total rear weight
385.7 kg	400.6 kg	786.3 kg
Masse totale côté gauche - Total left side weight	Masse totale côté droit - Total right side weight	Masse totale - Total weight
839.8 kg	864.3 kg	1704.1 kg

TROISIÈME PESÉE : VÉHICULE PRÊT POUR L'ESSAI

THIRD WEIGHT : VEHICLE READY FOR TEST

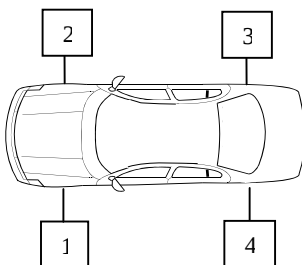
Avant gauche - Left front	Avant droit - Right front	Masse avant totale - Total front weight
478.3 kg	493.4 kg	971.7 kg
Arrière gauche - Left rear	Arrière droit - Right rear	Masse arrière totale - Total rear weight
523.7 kg	538.1 kg	1061.8 kg
Masse totale côté gauche - Total left side weight	Masse totale côté droit - Total right side weight	Masse totale - Total weight
1002.0 kg	1031.5 kg	2033.5 kg

ATTITUDE DU VÉHICULE / VEHICLE ATTITUDE

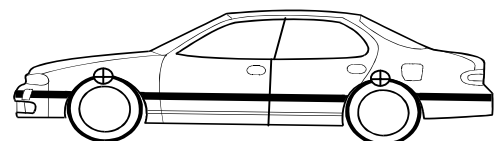
		Attitude tel que livré Attitude on delivery	Attitude tel que testé Attitude as tested
1	Roue avant gauche* Left front wheel*	781 mm	778 mm
2	Roue avant droite* Front right wheel*	781 mm	780 mm
3	Roue arrière droite* Rear right wheel*	787 mm	734 mm
4	Roue arrière gauche* Rear left wheel*	790 mm	741 mm

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

Vue de plan / Plan view



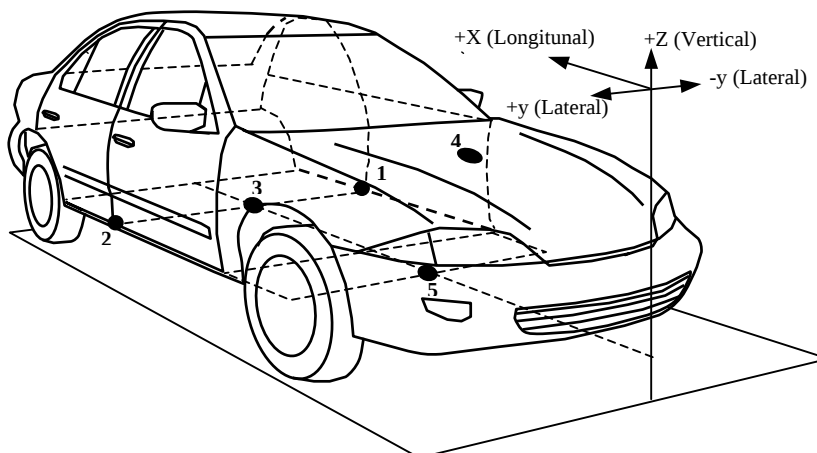
Vue de côté / Side view



⊕ Points de mesure / Measurement points

Date de collision Crash date	2005-03-17	Véhicule Vehicle	CHRYSLER 300 2005	T.C. N° T.C.No	05-217
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EMPLACEMENT DES ACCÉLÉROMÈTRES
ACCELEROMETER LOCATIONS

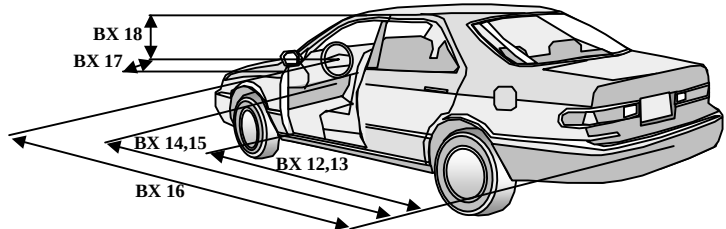
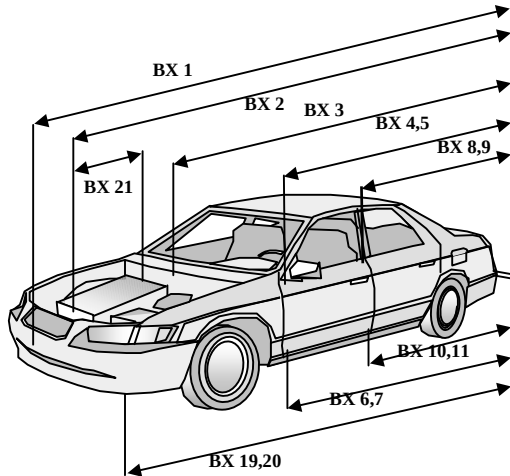


Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.
Reference point : Transversal center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

EMPLACEMENT LOCATION	DESCRIPTIONS	COORDONNÉES / COORDINATES (mm)		
		X	Y	Z
#1	Seuil de la porte gauche @ pilier "B" Left door sill @ pillar "B"	2698	-638	238
#2	Seuil de la porte droite @ pilier "B" Right door sill @ pillar "B"	2810	615	235
#3	Centre de gravité Centre of gravity	2879	2	427
#4	Le dessus du moteur Top of engine	-	-	-
#5	Le dessous du moteur Bottom of engine	-	-	-

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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 supérieure avant porte avant droite
Rear surface of front superior part of right front door
- 5 - Surface arrière à la partie supérieure avant porte avant gauche
Rear surface of front superior part of left front door
- 6 - Surface arrière à la partie inférieure avant porte avant droite
Rear surface of front inferior part of right front door
- 7 - Surface arrière à la partie inférieure avant porte avant gauche
Rear surface of front inferior part of left front door
- 8 - Surface arrière à la partie supérieure arrière porte avant droite
Rear surface of rear superior part of right rear door
- 9 - Surface arrière à la partie supérieure arrière porte avant gauche
Rear surface of rear superior part of left rear door
- 10 - Surface arrière à la partie inférieure arrière porte avant droite
Rear surface of rear inferior part of right rear door
- 11 - Surface arrière à la partie inférieure arrière porte avant gauche
Rear surface of rear inferior part of left rear door
- 12 - Surface arrière à la partie inférieure du pilier "A" droit
Rear surface of rear inferior part of right pillar "A"
- 13 - Surface arrière à la partie inférieure 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**	Δx		BX*	AX**	Δx
1	4999	4693	306	12	3331	3330	1
2	4348	4296	52	13	3332	3331	1
3	3719	3716	3	14	3584	3578	6
4	3373	3374	-1	15	3600	3593	7
5	3392	3391	1	16	2883	2900	-17
6	3442	3443	-1	17	439	431	8
7	3438	3437	1	18	442	423	19
8	2290	2291	-1	19	4912	4684	228
9	2289	2288	1	20	4913	4685	228
10	2326	2327	-1	21	375	377	-2
11	2329	2327	2				

Mesures en mm / Measurements in mm

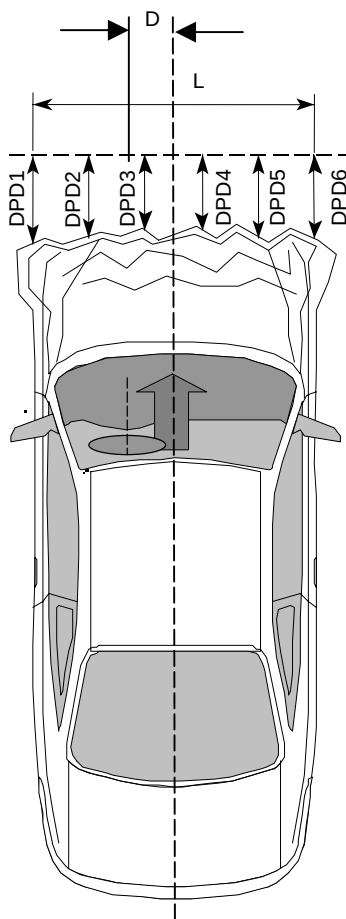
* BX : Mesures du véhicule avant-essai. / Pre-test vehicle measurements data.

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

REMARQUES / COMMENTS : Aucune / None.

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MESURES DES DPD / DPD'S MEASUREMENTS



DPD 1:
DPD 2:
DPD 3:
DPD 4:
DPD 5:
DPD 6:
MESURE L:
MEASUREMENT L:
MESURE D:
MEASUREMENT D:

AVANT ESSAI PRE-TEST	APRÈS ESSAI POST-TEST	Δx
200	313	-113
72	310	-238
13	319	-306
14	307	-293
74	310	-236
208	348	-140
	1551	
	0	

Mesures en mm / Measurements in mm

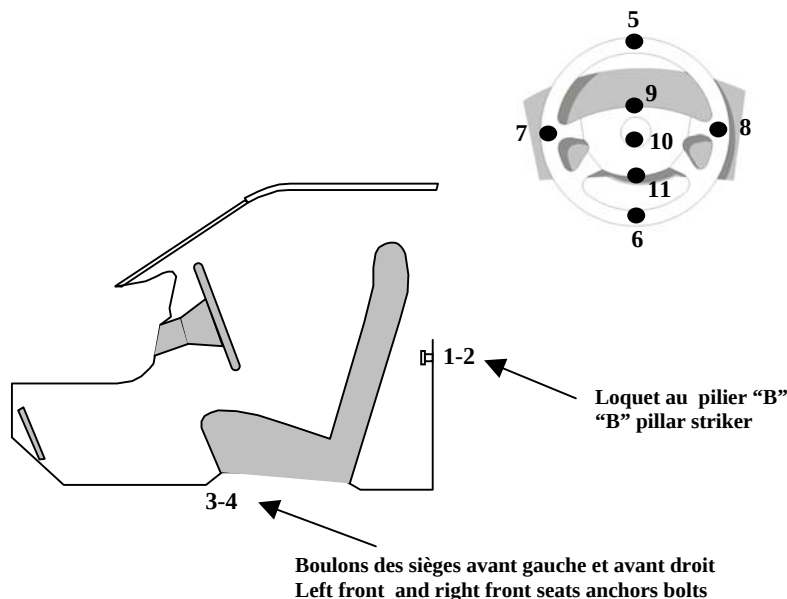
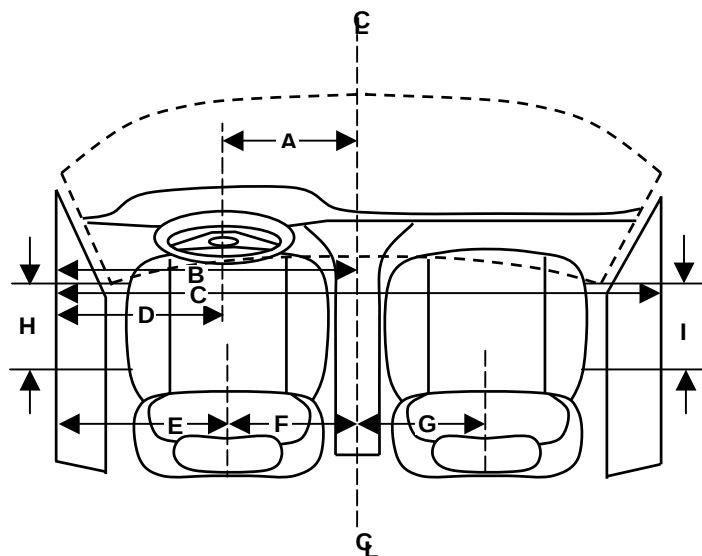
L : Longueur de la région endommagée
Length of damaged region

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

REMARQUES / COMMENTS : Aucune / None.

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MESURES DE VÉHICULE
VEHICLE MEASUREMENTS



Code	Description	mm
A	Centre du volant à la ligne de centre du véhicule Steering wheel center to center line of vehicle	378
B	Seuil de fenêtre à la ligne de centre du véhicule Window edge to center line of the vehicle	855
C	Fenêtre à fenêtre Window to window	1706
D	Centre du volant au seuil de la fenêtre Steering wheel center to window edge	477
E	Seuil de la fenêtre au centre du siège (conducteur) Window edge to seat midline (driver)	473
F	Centre du siège à la ligne de centre du véhicule (conducteur) Seat midline to center line of vehicle (driver)	382
G	Centre du siège à la ligne de centre du véhicule (passager) Seat midline to center line of vehicle (passenger)	374
H	Course du siège (conducteur) Seat travel (driver)	261
I	Course du siège (passager) Seat travel (passenger)	221
J	Ajustement du volant Steering wheel adjustment	48
K	Ajustement de la ceinture baudrier Upper torso belt adjustment	79

Code	Description	X(mm)	Y(mm)	Z(mm)
1	Loquet au pilier "B" (conducteur) "B" pillar striker (driver)	2609	-832	665
2	Loquet au pilier "B" (passager) "B" pillar striker (passenger)	2611	822	664
3	Boulon siège avant, extérieur (conducteur) Front seat bolt, outboard (driver)	2200	-600	332
4	Boulon siège avant, extérieur (passager) Front seat bolt, outboard (passenger)	2202	594	326
5	Jante du volant, centre haut Steering wheel rim, top centre	2057	-378	1108
6	Jante du volant, centre bas Steering wheel rim, bottom centre	2194	-379	744
7	Jante du volant, centre gauche Steering wheel rim, left centre	2124	-571	931
8	Jante du volant, centre droit Steering wheel rim, right centre	2131	-184	930
9	Moyeu du volant, centre haut Steering wheel hub, top centre	2088	-379	976
10	Moyeu du volant, centre Steering wheel hub, centre	2127	-378	909
11	Moyeu du volant, centre bas Steering wheel hub, bottom centre	2150	-378	841
12	Centre du volant Center of steering wheel	2116	-378	928

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: Aucune / None.

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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

103 mm

Espacement du genou droit
Right knee spacing

101 mm

Essai no: / Trial no:		1	2	3
Angle du dossier BTD Back pan angle		24.8 deg.	22.1 deg.	25.0 deg.
Angle de la cuvette BTD Seat pan angle		12.4 deg.	13.4 deg.	13.9 deg.
Angle du pied Foot angle	gauche / left	136 deg.	134 deg.	135 deg.
	droit / right	137 deg.	138 deg.	137 deg.
Angle du genou Knee angle	gauche / left	117 deg.	115 deg.	114 deg.
	droit / right	121 deg.	119 deg.	118 deg.
Mesure sous-abdominale Lap belt score	gauche / left	51 mm / 0 mm	54 mm / 0 mm	52 mm / 0 mm
	droit / right	46 mm / 0 mm	49 mm / 0 mm	48 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	196 mm / - *	198 mm / - *	200 mm / - *
	Clavicule	138 mm / 0 mm	143 mm / 0 mm	140 mm / 0 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 : **Aucune / None.**

**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.**

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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

70 mm

Espacement du genou droit
Right knee spacing

98 mm

Essai no: / Trial no:		1	2	3
Angle du dossier BTD Back pan angle		23.2 deg.	23.5 deg.	23.3 deg.
Angle de la cuvette BTD Seat pan angle		12.2 deg.	12.4 deg.	12.8 deg.
Angle du pied Foot angle	gauche / left	130 deg.	133 deg.	142 deg.
	droit / right	138 deg.	137 deg.	137 deg.
Angle du genou Knee angle	gauche / left	124 deg.	125 deg.	121 deg.
	droit / right	120 deg.	119 deg.	118 deg.
Mesure sous-abdominale Lap belt score	gauche / left	46 mm / 0 mm	46 mm / 0 mm	45 mm / 0 mm
	droit / right	54 mm / 0 mm	54 mm / 0 mm	53 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	190 mm / - *	184 mm / - *	190 mm / - *
	Clavicule	138 mm / 0 mm	134 mm / 0 mm	140 mm / 0 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: Aucune / None.

**Selon le manuel d'opérations pour mesures géométriques des ceintures de sécurité, ébauche,
Transports Canada, janvier 1993.
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POSITIONNEMENT DES MANNEQUINS / MEASUREMENTS OF DUMMY POSITIONS

		MESURES / MEASUREMENTS :					
Conducteur/Driver : Hybrid III (5 %)		Toutes les mesures sont en mm / All measurements are in mm					
Angle du pelvis - Pelvic angle :	21.9°						
Angle transversal - Transversal angle :	-0.4°						
Angle de la tête - Head angle :	0.0°						
Seuil de porte - Door sill :	0.0°						
Mouvement du lacet / Yaw movement :	1 mm						
Position de la rail du siège / Seat track position * :	1 mm						
Passager avant/Front Passenger: Hybrid III (5 %)							
Angle du pelvis - Pelvic angle :	21.5°	16.9 °			7.2 °		
Angle transversal - Transversal angle :	0.4°						
Angle de la tête - Head angle :	0.0°						
Seuil de porte - Door sill :	0.0°						
Mouvement du lacet / Yaw movement :	1 mm						
Position de la rail du siège / Seat track position * :	1 mm						
Cible de tête / Head target :		2444	-447	1127	2410	447	1126
Point-H / H-Point :		2286	-544	573	2274	540	562
Rotule / Knee joint :		1961	-535	650	1943	498	659

Remarques – Comments : Aucune / None.

* Référence : 0 est la position la plus avancée.

* Reference : 0 is the foremost position.

Selon la procédure de positionnement de mannequin 5^e percentile Hybrid III, 49 CFR 552, 571, 585 and 595, Docket No. NHTSA 00-7013; Notice 1, RIN 2127-AG70, Federal Motor Vehicle Safety Standards, Occupant Crash Protection (Paragraphe S16.3).

As per procedure for placement of a 5th percentile Hybrid III 49 CFR 552, 571, 585 and 595, Docket No. NHTSA 00-7013; Notice 1, RIN 2127-AG70, Federal Motor Vehicle Safety Standards, Occupant Crash Protection (Section S16.3).

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.

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POSITIONNEMENT DES MANNEQUINS / MEASUREMENTS OF DUMMY POSITIONS

		<u>MESURES / MEASUREMENTS :</u>					
Passager arrière gauche : Rear left passenger :	Hybrid III (6 ans / 6 years old)	Toutes les mesures sont en mm / All measurements are in mm					
Angle du pelvis - Pelvic angle :	N/A	Passager arrière gauche Rear left passenger			Passager arrière droit Rear right passenger		
Angle transversal - Transversal angle :	N/A	Ajustement du siège : Seat adjustment :			Ajustement du siège : Seat adjustment :		
Angle de la tête - Head angle :	N/A	N/A			N/A		
Mouvement du lacet / Yaw movement :	N/A	Ajustement du dossier : Seat back adjustment :			Ajustement du dossier : Seat back adjustment :		
Passager arrière droit : Rear right passenger :	Hybrid III (6 ans / 6 years old)	N/A			N/A		
Angle du pelvis - Pelvic angle :	N/A	X	Y	Z	X	Y	Z
Angle transversal - Transversal angle :	N/A						
Angle de la tête - Head angle :	N/A						
Mouvement du lacet / Yaw movement :	N/A						
Cible de tête / Head target :		2444	-447	1127	2410	447	1126

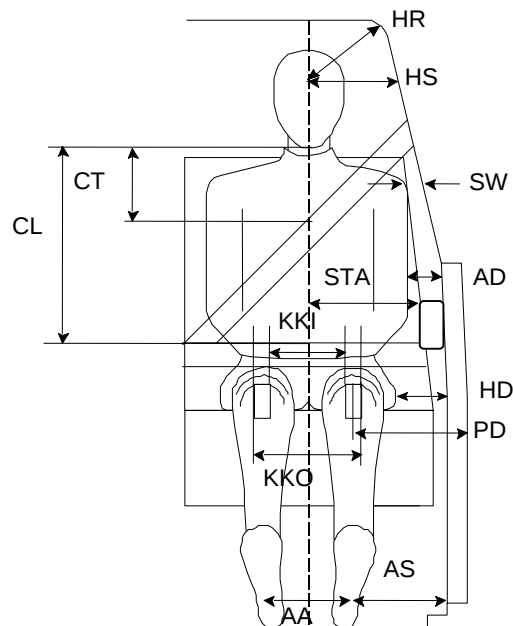
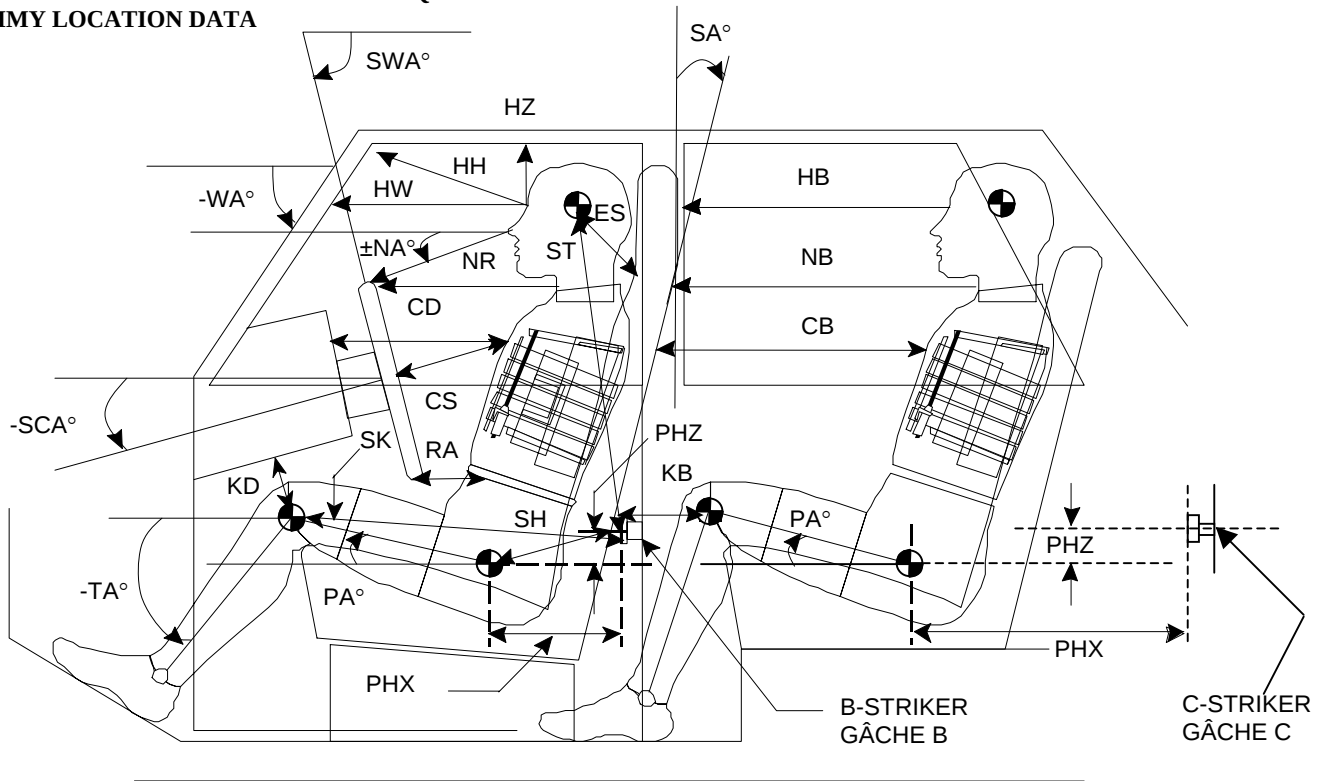
Point de référence : Centre transversal du véhicule, au point le plus avancé, au niveau du sol. Selon SAE J182a.
Reference point : Transversal center of the vehicle, at the foremost point and at ground level. As per SAE J182a.

Passager arrière gauche : Rear left passenger :	Hybrid III (6 ans / 6 years old)	
	Méthodes d'attaches : Attachment methods:	Siège / Seat : ceinture boudrier gauche / left shoulder belt Enfant / Child : ceinture boudrier gauche / left shoulder belt
	Manufacturier du siège : Seat manufacturer :	Graco Turbo Booster
	Modèle du siège : Seat model :	8493BRGCA
	No. de série du siège : Seat serial number :	N/A
	Date de fabrication du siège : Seat fabrication date :	8/10/2004

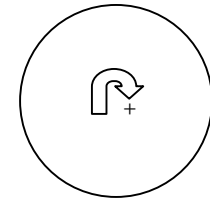
Passager arrière droit : Rear right passenger :	Hybrid III (6 ans / 6 years old)	
	Méthodes d'attaches : Attachment methods:	Siège / Seat : ceinture boudrier droit / right shoulder belt Enfant / Child : ceinture boudrier droit / right shoulder belt
	Manufacturier du siège : Seat manufacturer :	Britax Bodyguard Booster
	Modèle du siège : Seat model :	E903642
	No. de série du siège : Seat serial number :	N/A
	Date de fabrication du siège : Seat fabrication date :	1/14/2004

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COTES DE LOCALISATION DES MANNEQUINS
DUMMY LOCATION DATA



référence
reference :



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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	300	250		
Genou à genou (plaque) Intérieur / Interior Centre / Center Knee to knee (plate) Extérieur / Extérieur	KKI	130	95		
	KKC	200	165		
	KKO	270	235		
De la cheville jusqu'au seuil de porte (horizontalement) Ankle to door sill (horizontal)	AS	210	175		
Centre du genou au tableau de bord ou siège horizontalement (minimum) Knees centre to dash or seat back horizontal (minimum)	KDL	40	30		
	KDR	50	30		
Sternum au tableau de bord (horizontalement) Chest to dash (horizontal)	CD		365		
Milieu du sternum au centre du moyeu du volant ou siège avant Mid sternum to steering hub center or front seat	CS/CB	220			
Milieu du front jusqu'au pare-brise (horizontalement) Mid forehead to windshield (horizontal)	HW	753	753		
Milieu du front jusqu'au haut du pare-brise Mid forehead to windshield header	HH	477	430		
Nez à la jante du volant de direction (haut) ou siège avant Nose to steering wheel rim (top) or front seat	NR/HB	260			
Milieu du front jusqu'au début du toit Mid forehead to edge roof	HR	265	270		
Haut de l'oreille au haut du siège avant Ear top to front seat top	ES	295	252		
Menton au haut de la ceinture sous-abdominale (verticalement) Chin to lap belt upper edge (vertical)	CL	365	355		
Menton au haut de la ceinture baudrier (verticalement) Chin to thorax belt upper edge (vertical)	CT	125	120		
Milieu du front à la fenêtre latérale (horizontalement) Mid forehead to side window (horizontal)	HS	355	365		
La rotule à la porte (horizontalement) Patella to door (horizontal)	PD	196	223		
Du point-H à la porte (horizontalement) H-point to door (horizontal)	HD	245	230		
Du milieu du bras à la porte (horizontalement) Mid upper arm to door (horizontal)	AD	85	190		
Cou jusqu'au volant ou tableau de bord (horizontalement) ou siège avant Neck to steering wheel or dash board (horizontal) or front seat	NB	360	510		
Épaule à la fenêtre de côté Shoulder to side window	SW	193	225		
Abdomen à l'appui-bras Abdomen to armrest	STA	185	195		
Milieu du front au toit (verticalement) Mid forehead to roof (vertical)	HZ	230	235		
Tête au loquet (plan (x,z)) Striker to head ((x,z) plan)	ST	491	504		
Abdomen à la jante du volant de direction (bas) Steering wheel rim to abdomen (bottom)	RA	80			
Genou au loquet (plan (x,z)) Striker to knee ((x,z) plan)	SK	648	668		
Point-H au loquet (plan (x,z)) Striker to H-Point ((x,z) plan)	SH	336	352		
Point-H au loquet en X (horizontalement) Striker to H-Point in X (horizontal)	PHX	323	337		
Point-H au loquet en Z (verticalement) Striker to H-Point in Z (vertical)	PHZ	92	102		

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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	69.1°			
Angle du pare-brise Windshield angle	-WA	-30.0°			
Angle de la colonne de direction Steering column angle	-SCA	-23.0°			
Angle du tibia gauche Left tibial angle	-TA	-27.2°	-34.0°		
Angle du tibia droit Right tibial angle	-TA	-30.1°	-29.5°		
Angle pelvis Pelvic angle	+PA	21.9°	21.5°		
Angle du nez à la jante de direction (haut) Nose to steering wheel rim (top) angle	±NA	0.9°			
Angle du dossier Seat back angle	+SA	16.9°	7.2°		
Angle ST (horizontalement) ST angle (horizontal)	+ST-A	70.3°	66.5°		
Angle SK (horizontalement) SK angle (horizontal)	±SK-A	-1.3°	-0.4°		
Angle SH (horizontalement) SH angle (horizontal)	-SH-A	-15.9°	-16.8°		

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**MESURES DE MANNEQUIN DAE
TEST DUMMY MEASUREMENTS**

CONDUCTEUR / DRIVER

Description et emplacement du Mannequin
ATD description and location :

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Centre de gravité de la tête, extérieur - Head CG, outboard	2444	-447	1127
Base du nez - Glabella (root of nose)	2357	-380	1142
Menton - Chin (bottom)	2351	-381	1035
Jonction menton et cou - Chin / neck junction	2421	-381	1056
Thorax au niveau des côtes supérieures - Chest at upper rib level	2333	-387	881
Thorax au niveau des côtes inférieures - Chest at lower rib level	2299	-386	776
Boulon supérieur avant de l'épaule, ext. - Shoulder bolt, top front outboard	2473	-545	904
Boulon supérieur avant de l'épaule, int. - Shoulder bolt, top front inboard	2473	-225	905
Boulon du coude, extérieur - Elbow bolt, outboard	2308	-670	836
Boulon du coude, intérieur - Elbow bolt, inboard	2320	-74	847
Boulon du poignet, extérieur - Wrist bolt, outboard	2145	-612	965
Boulon du poignet, intérieur - Wrist bolt, inboard	2162	-156	970
Point d'articulation de la hanche, extérieur - Hip point, outboard	2371	-506	609
Boulon du genou gauche, extérieur - Knee bolt, left leg, outboard	1959	-534	648
Boulon de la cheville gauche, extérieur - Ankle bolt, left leg , outboard	1772	-489	364
Point du talon gauche - Heel point, left leg	1836	-491	259
Plante du pied gauche vs plancher - Ball of foot at toeboard contact, left leg	1705	-529	285
Boulon du genou droit, intérieur - Knee bolt, right leg , inboard	2342	-382	900
Boulon de la cheville droite, intérieur - Ankle bolt, right leg , inboard	2310	-383	814
Point du talon droit - Heel point, right leg	2202	-382	652
Plante du pied droit vs plancher - Ball of foot at toeboard contact, right leg	2319	-237	651

Remarques – Comments : Aucune / None.

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**MESURES DE MANNEQUIN DAE
TEST DUMMY MEASUREMENTS**

PASSAGER / PASSENGER

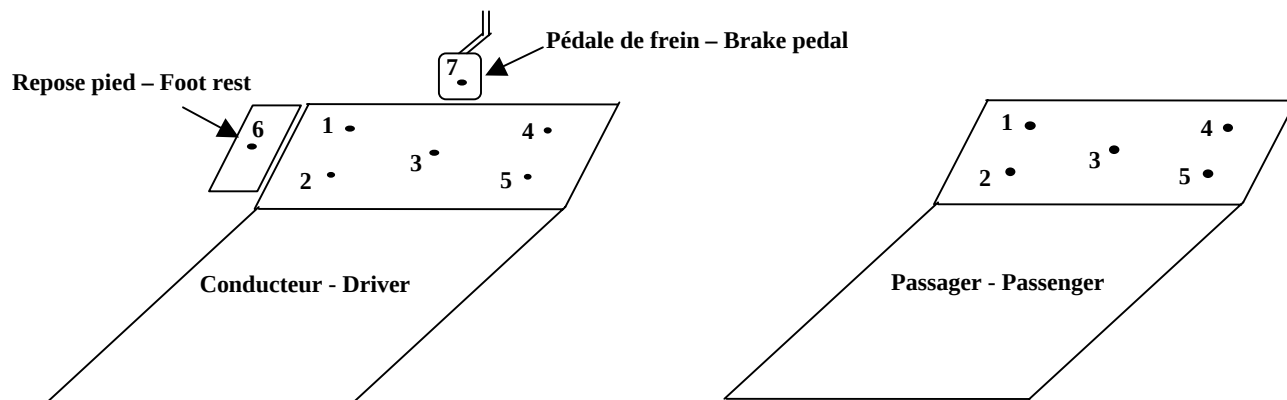
Description et emplacement du Mannequin
ATD description and location:

DESCRIPTION	X(mm)	Y(mm)	Z(mm)
Centre de gravité de la tête, extérieur - Head CG, outboard	2410	447	1126
Base du nez - Glabella (root of nose)	2325	379	1137
Menton - Chin (bottom)	2322	379	1032
Jonction menton et cou - Chin / neck junction	2390	379	1056
Thorax au niveau des côtes supérieures - Chest at upper rib level	2298	374	838
Thorax au niveau des côtes inférieures - Chest at lower rib level	2267	373	726
Boulon supérieur avant de l'épaule, ext. - Shoulder bolt, top front outboard	2430	536	889
Boulon supérieur avant de l'épaule, int. - Shoulder bolt, top front inboard	2435	225	900
Boulon du coude, extérieur - Elbow bolt, outboard	2374	594	680
Boulon du coude, intérieur - Elbow bolt, inboard	2359	177	700
Boulon du poignet, extérieur - Wrist bolt, outboard	2165	540	649
Boulon du poignet, intérieur - Wrist bolt, inboard	2152	204	648
Point d'articulation de la hanche, extérieur - Hip point, outboard	2361	499	606
Boulon du genou gauche, intérieur - Knee bolt, left leg, inboard	1940	335	652
Boulon de la cheville gauche, intérieur - Ankle bolt, left leg, inboard	1746	335	370
Point du talon gauche - Heel point, left leg	1819	346	276
Plante du pied gauche vs plancher - Ball of foot at toeboard contact, left leg	1688	379	285
Boulon du genou droit, extérieur - Knee bolt, right leg, outboard	1945	499	661
Boulon de la cheville droite, extérieur - Ankle bolt, right leg, outboard	1775	506	362
Point du talon droit - Heel point, right leg	1849	512	267
Plante du pied droit vs plancher - Ball of foot at toeboard contact, right leg	1709	560	282

Remarques – Comments : Aucune / None.

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MESURES PLANCHER / FOOTWELL MEASUREMENTS

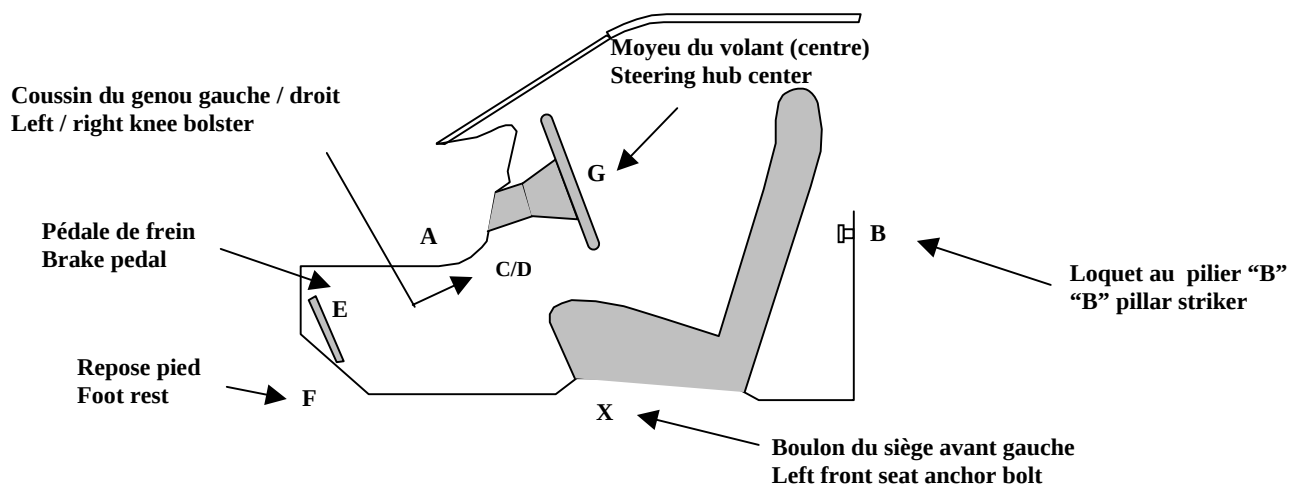


N° Cible	AVANT ESSAI	APRÈS ESSAI	
Target No.	PRE-TEST	POST-TEST	Δ mm
1	x	1436	1434
	y	-488	-488
	z	386	389
2	x	1478	1477
	y	-489	-489
	z	282	285
3	x	1439	1439
	y	-361	-360
	z	312	315
4	x	1422	1423
	y	-288	-289
	z	371	375
5	x	1468	1468
	y	-278	-277
	z	303	307
6	x	1577	1577
	y	-624	-625
	z	392	393
7	x	1612	1615
	y	-401	-402
	z	434	439

N° Cible	AVANT ESSAI	APRÈS ESSAI	
Target No.	PRE-TEST	POST-TEST	Δ mm
1	x	1433	1432
	y		
	z		
2	x	1476	1469
	y		
	z		
3	x	1451	1449
	y		
	z		
4	x	1461	1462
	y	572	575
	z	369	376
5	x	1499	1494
	y	568	571
	z	276	283

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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	1873	-816	1008	1873	-821	1008
B	Loquet au pilier "B" "B" pillar striker	2609	-832	665	2610	-832	667
C	Coussin du genou gauche Left knee bolster	1880	-491	705	1879	-492	708
D	Coussin du genou droit Right knee bolster	1877	-288	701	1875	-288	705
E	Pédale de frein Break pedal	1612	-401	434	1615	-402	439
F	Repose pied Foot rest	1577	-624	392	1577	-625	393
G	Moyeu du volant (centre) Steering hub (center)	2127	-378	909	2096	-388	949
X	Boulon du siège avant gauche Left front seat anchor bolt	2200	-600	332	2200	-600	333

APPENDICE / APPENDIX A

**PHOTOGRAPHIES DE L'ESSAI
TEST PHOTOGRAPHS**

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



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

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



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

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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.

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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.

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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.

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



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

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



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

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15. Vue de plan du devant du véhicule d'essai, avant essai.
Over view of the front part of the test vehicle, pre-test.



16. Vue de plan du devant du véhicule d'essai, après essai.
Over view of the front part of the test vehicle, post-test.

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



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



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

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



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

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23. Vue du dessous du compartiment moteur, avant essai.
Under view of the engine compartment , pre-test.



24. Vue du dessous du compartiment moteur, après essai.
Under view of the engine compartment , post-test.

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



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

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



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

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29. Point de contact des genoux du conducteur, après essai.
Driver's knees contact point, post-test.



30. Contact du volant sur l'abdomen du conducteur, après essai.
Steering wheel's contact point with driver's abdomen.

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



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

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



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

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Non disponible
Not available

35. Point de contact des genoux du passager, après essai.
Passenger's knees contact point, post-test.

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36. Position du passager arrière droit, avant essai.
Rear right passenger's position, pre-test.



37. Position du passager arrière droit, après essai.
Rear right passenger's position, post-test.

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38. Position du passager arrière gauche, avant essai.
Rear left passenger's position, pre-test.



39. Position du passager arrière gauche, après essai.
Rear left passenger's position, post-test.

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

APPENDICE / APPENDIX B

**DONNÉES GRAPHIQUES
GRAPHICAL DATA**



Nom du client
Client Name **TRANSPORT CANADA**

Type de véhicule
Type of Vehicle **CHRYSLER 300 2005**

Numéro de TC
Tc Number **TC05-217**

Vitesse
Speed **40 km/h**

Numéro de contrat
Contract No **05-5001**

Acquisition de données selon
Data Acquisition according to **SAE J211/1 MAR 95**

Date de l'essai
Test date **2005-03-17**

Titre du projet
COLLISION DE RECHERCHE
COLLISION FRONTALE

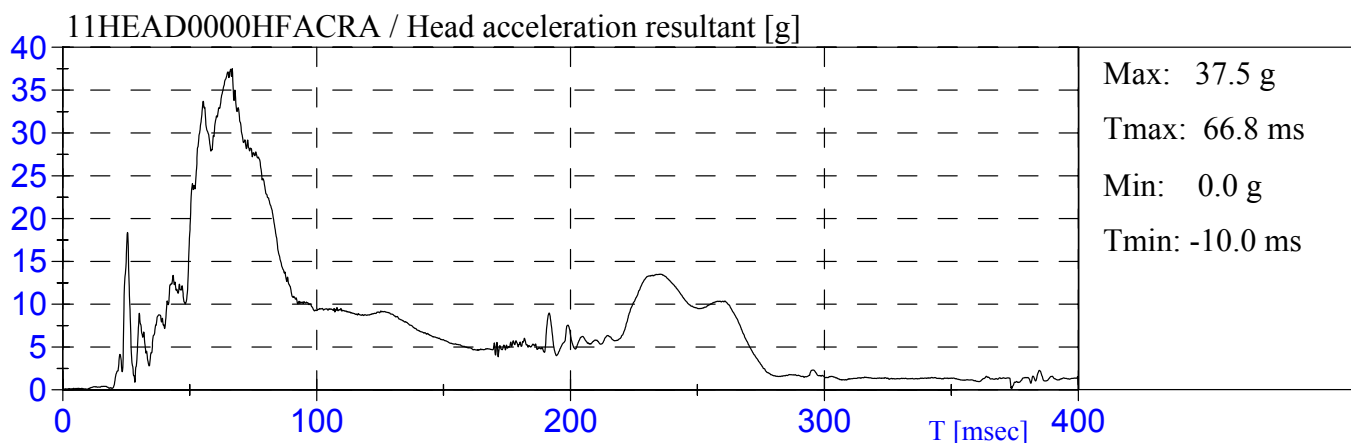
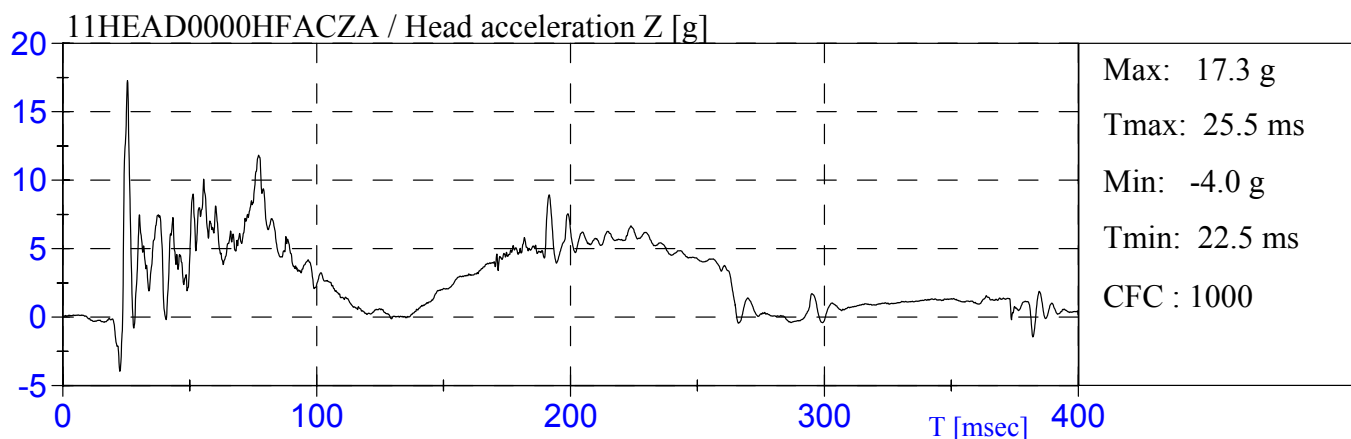
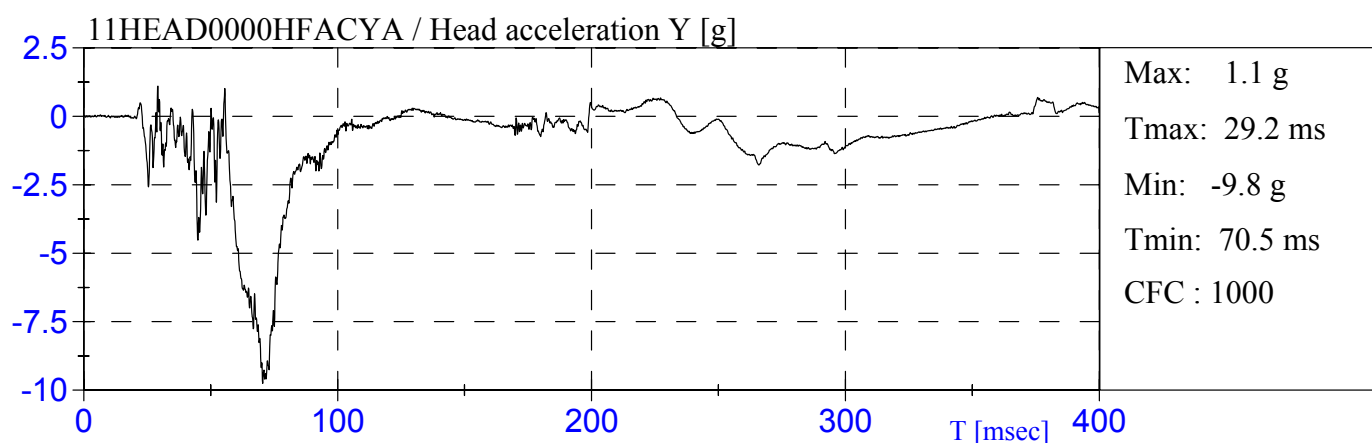
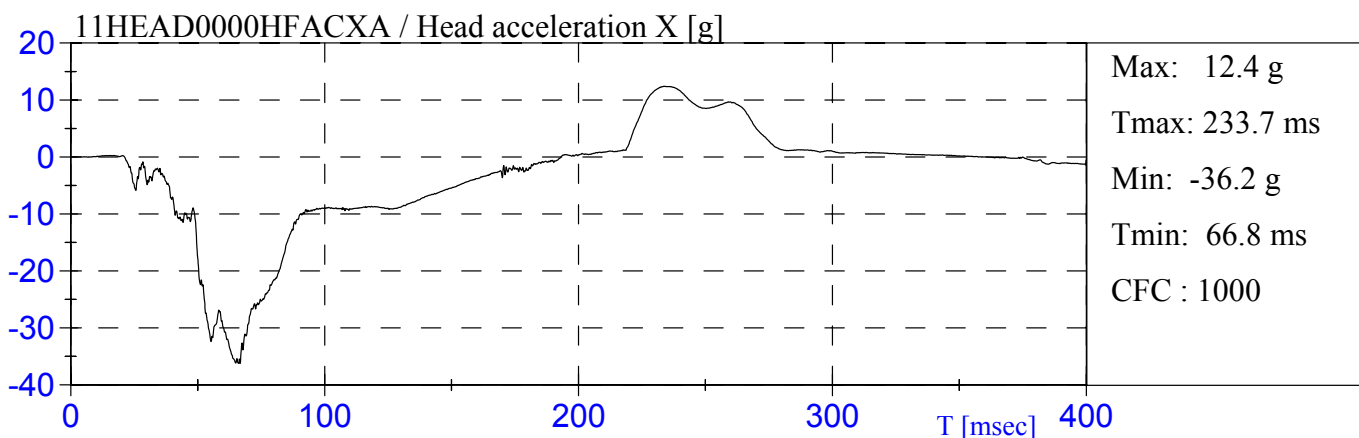
Project Title
RESEARCH COLLISION TEST
FRONTAL CRASH

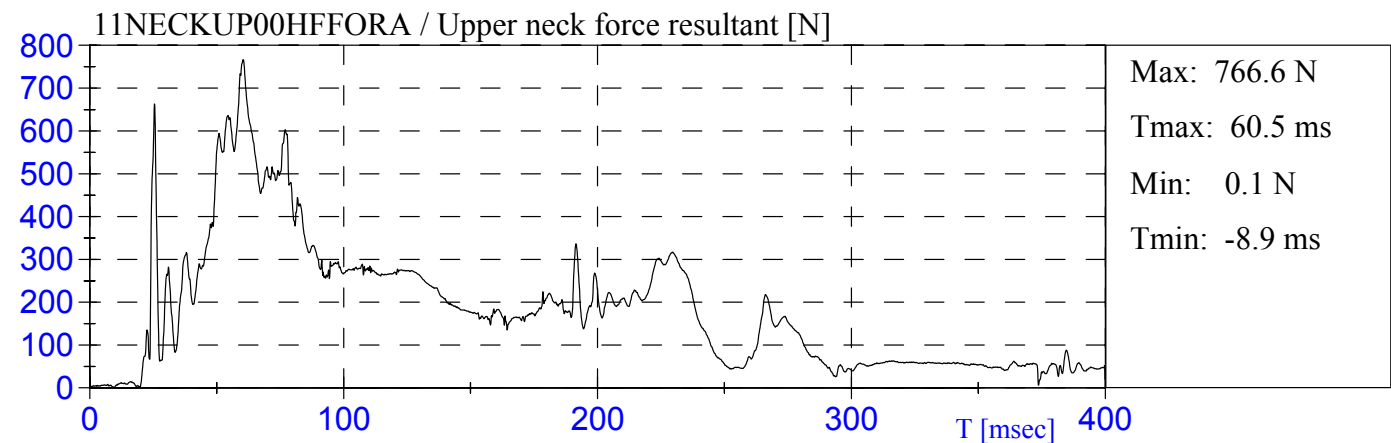
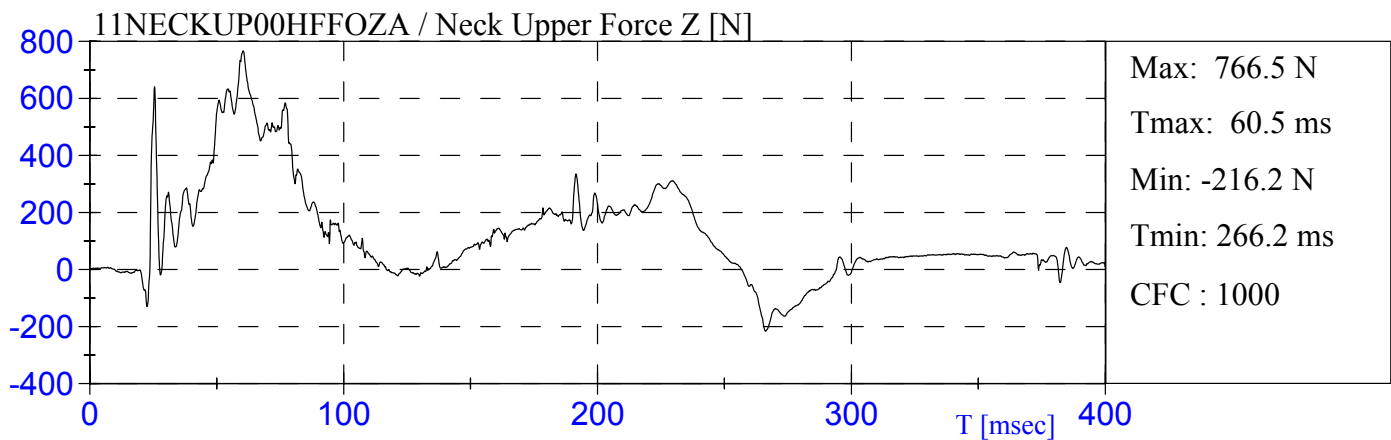
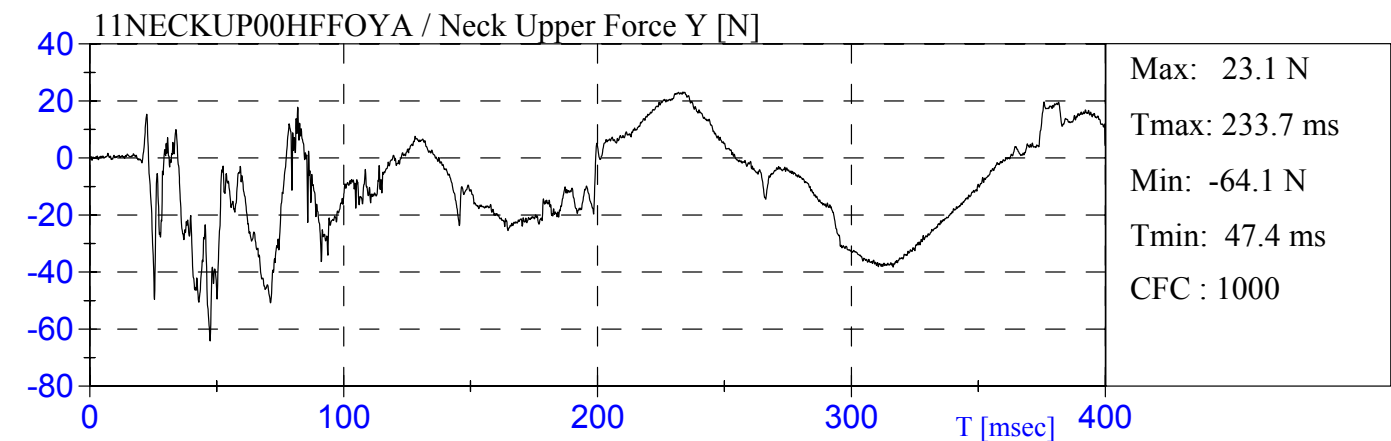
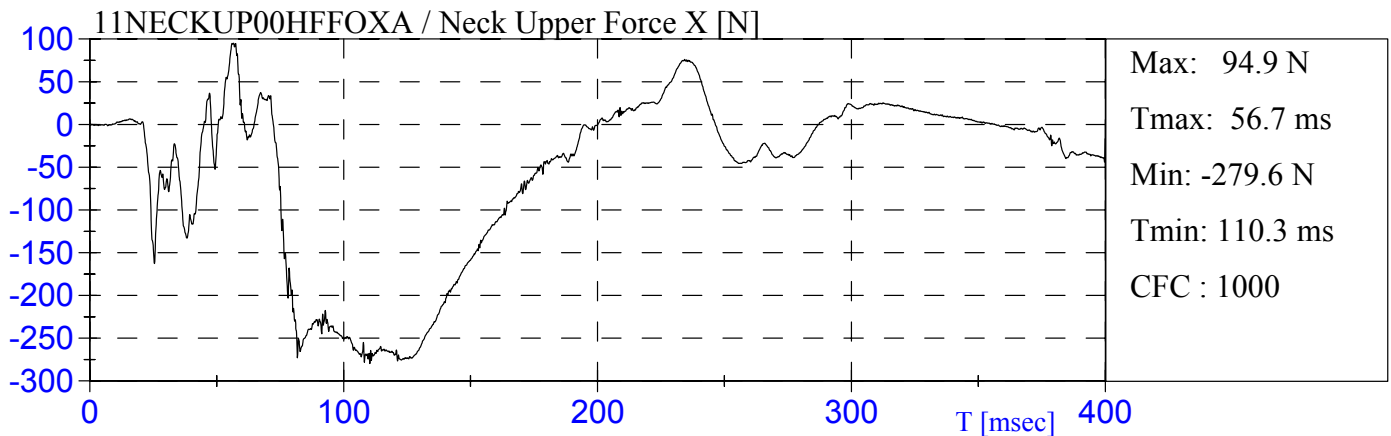
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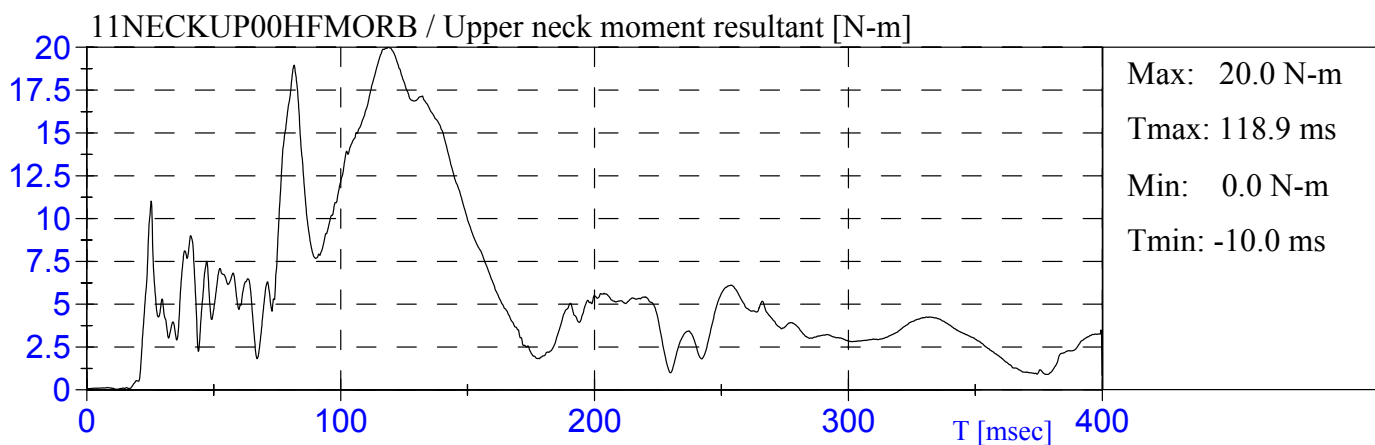
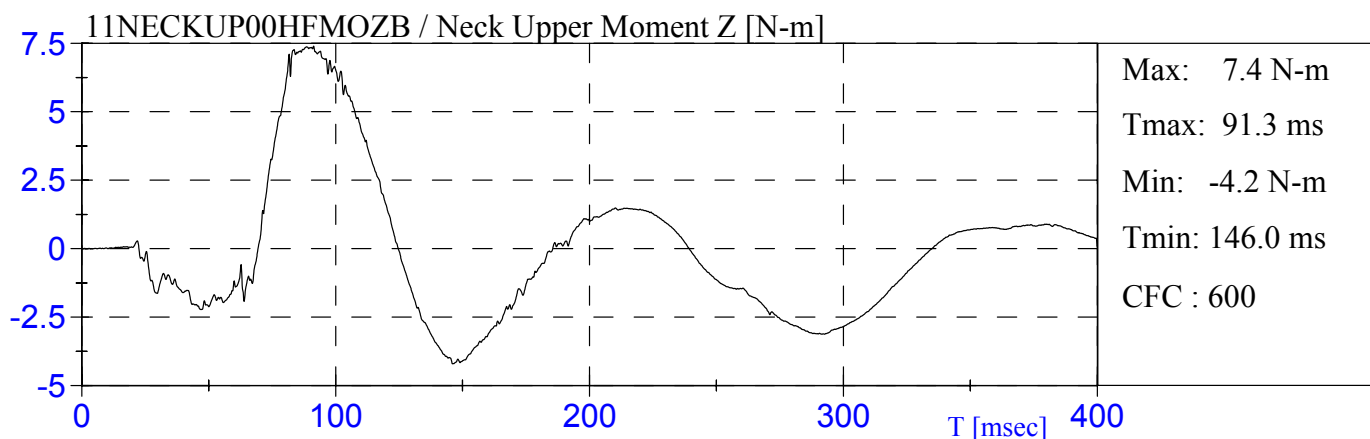
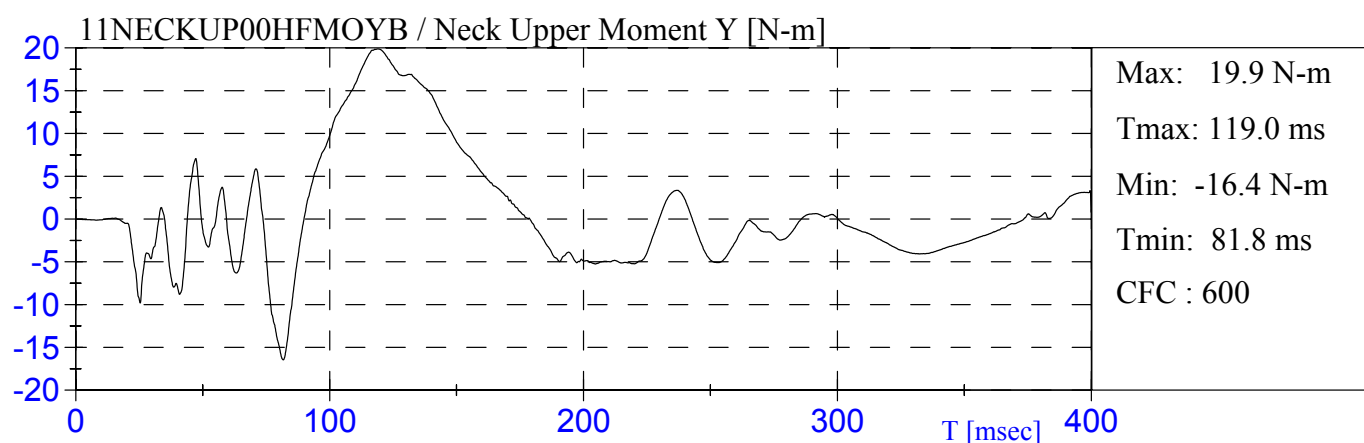
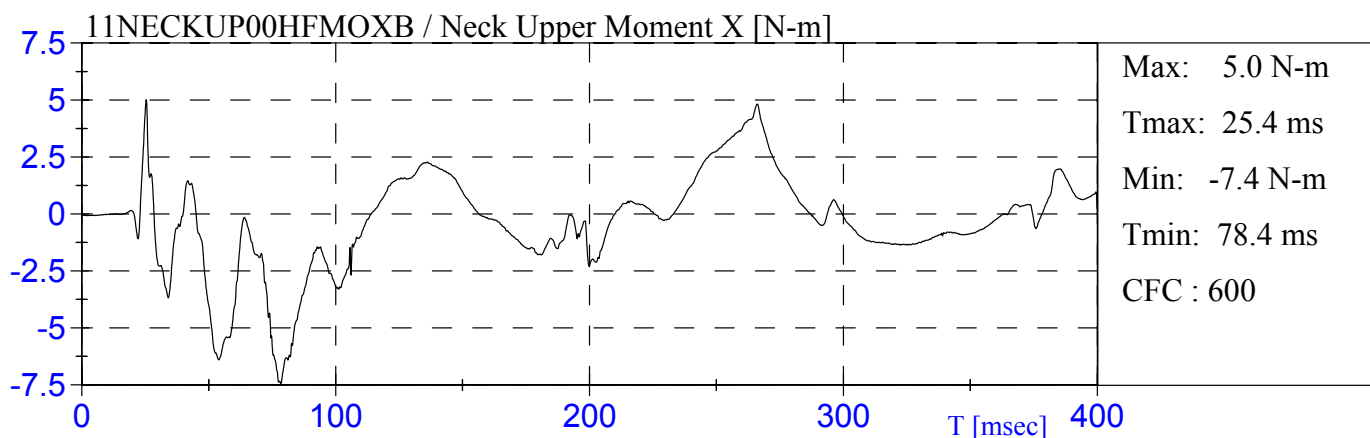
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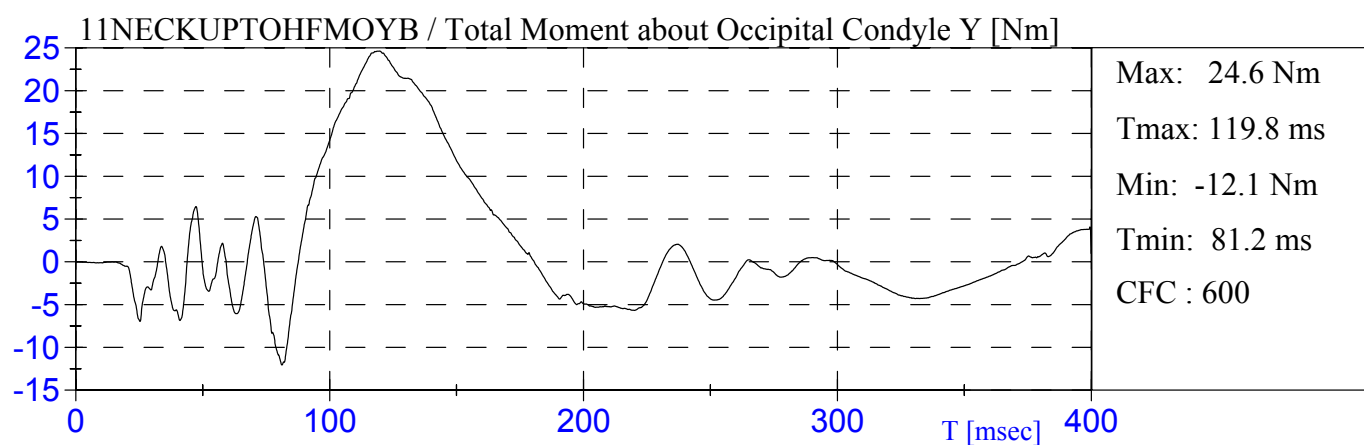
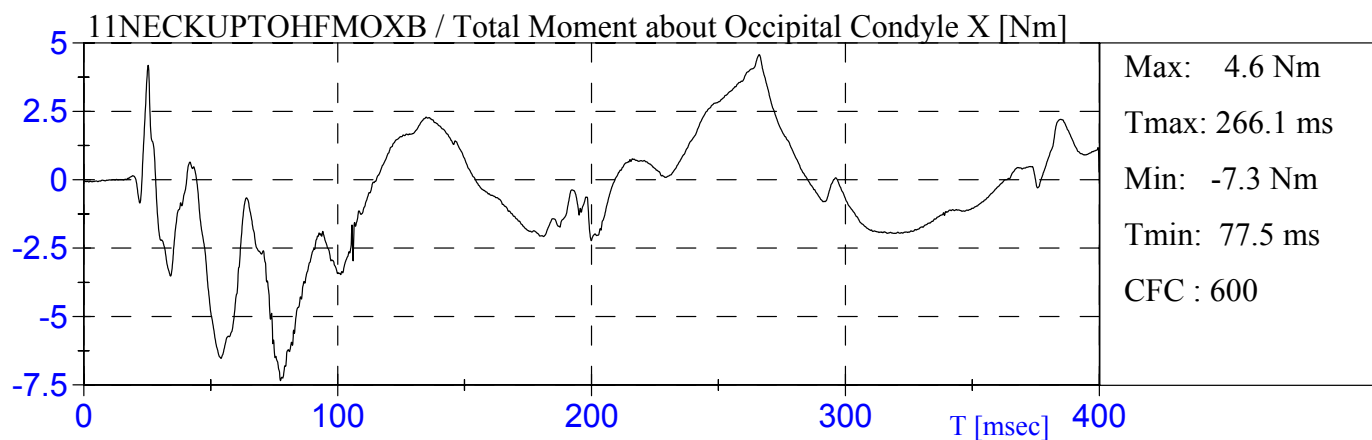
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Y7		Y7

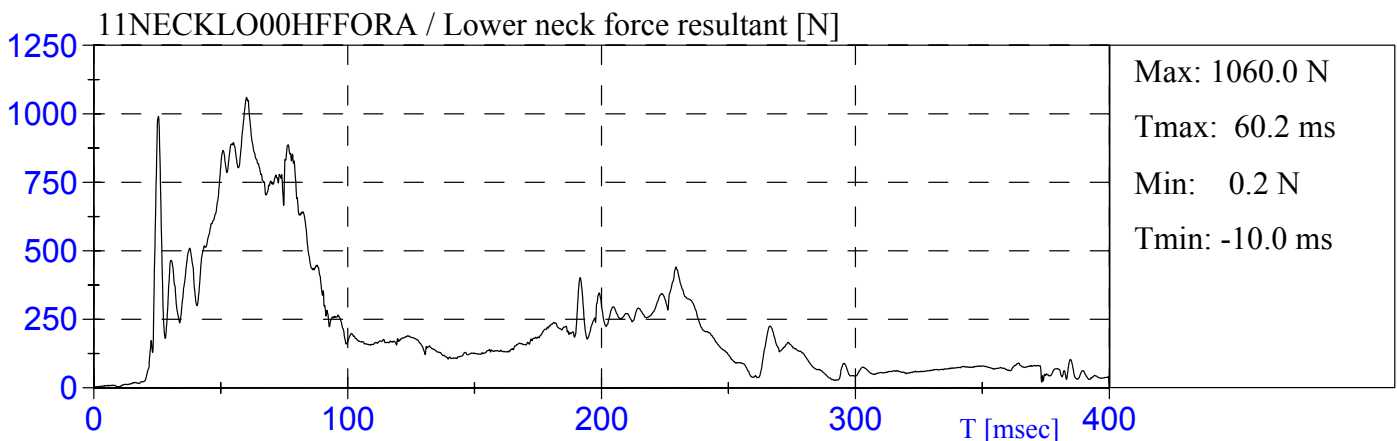
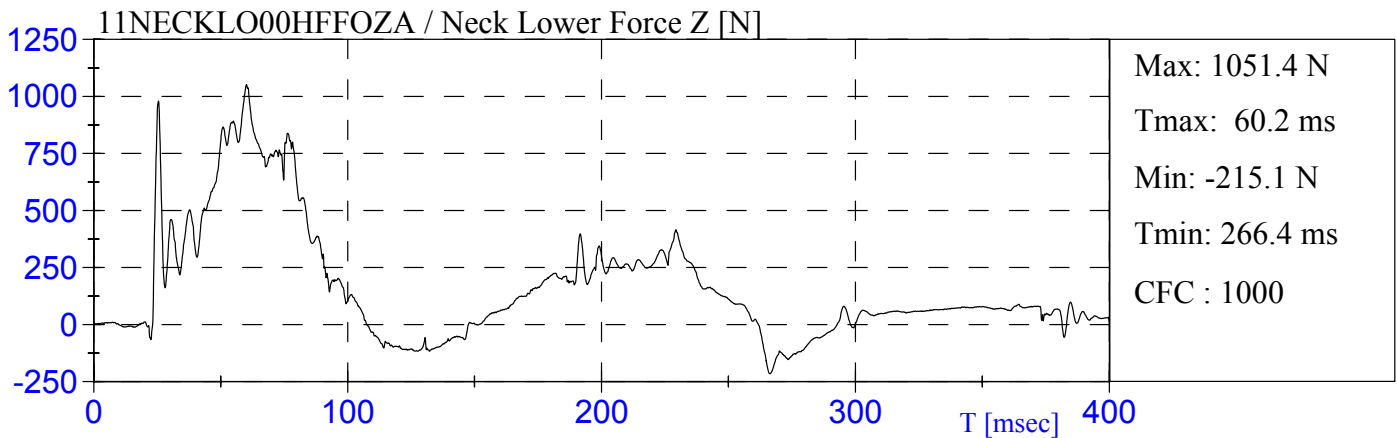
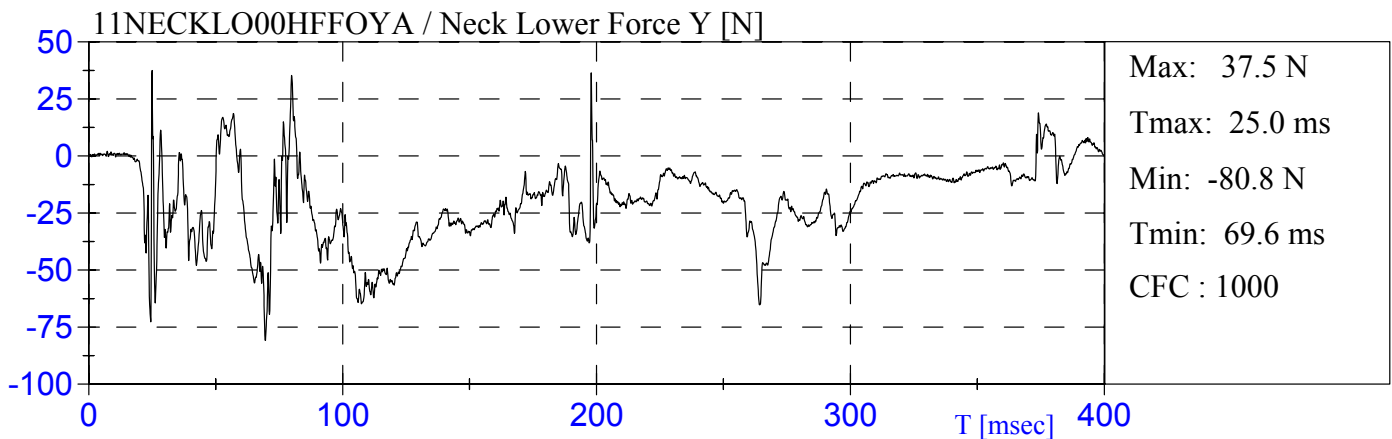
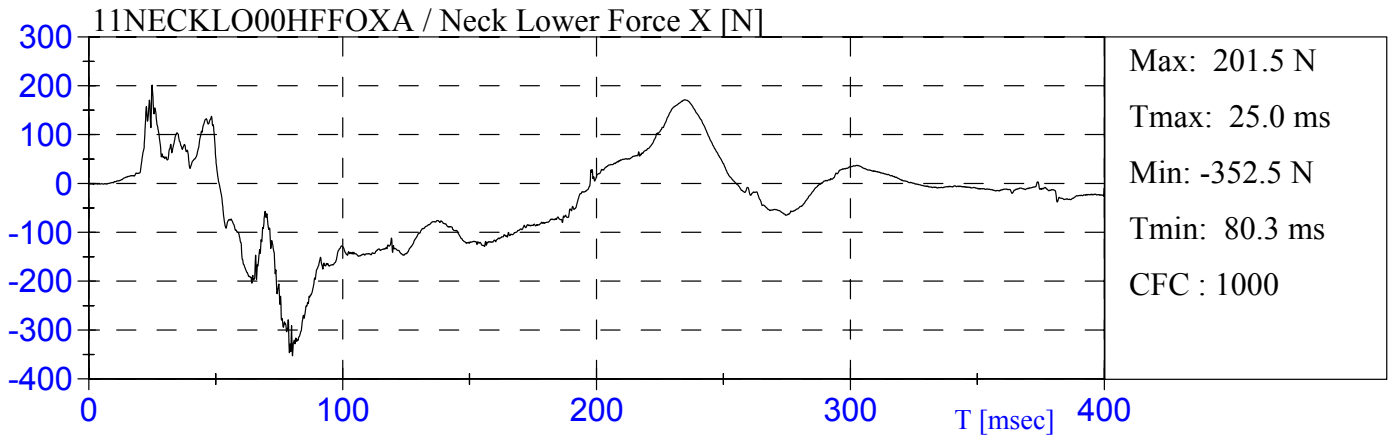
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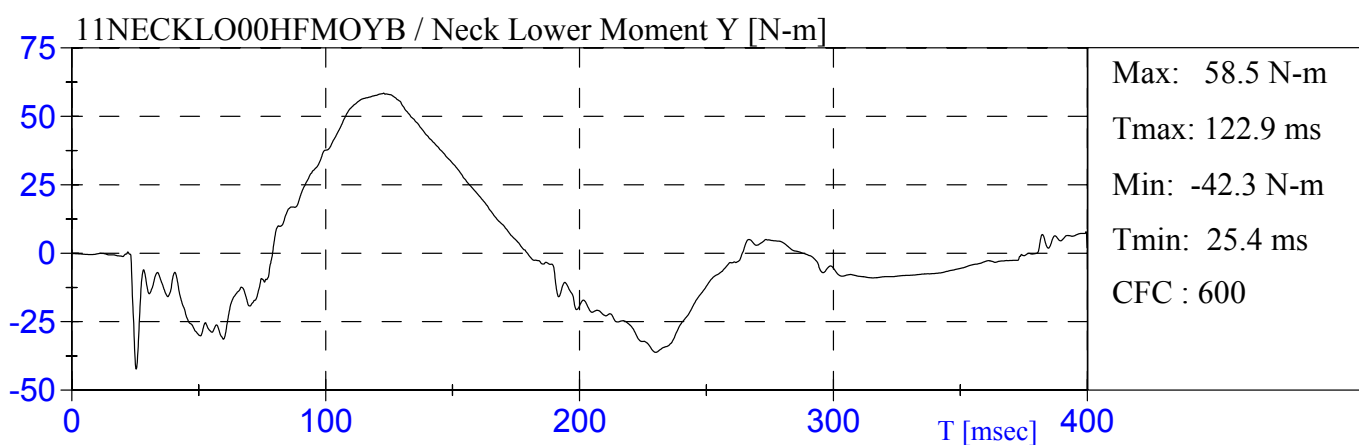
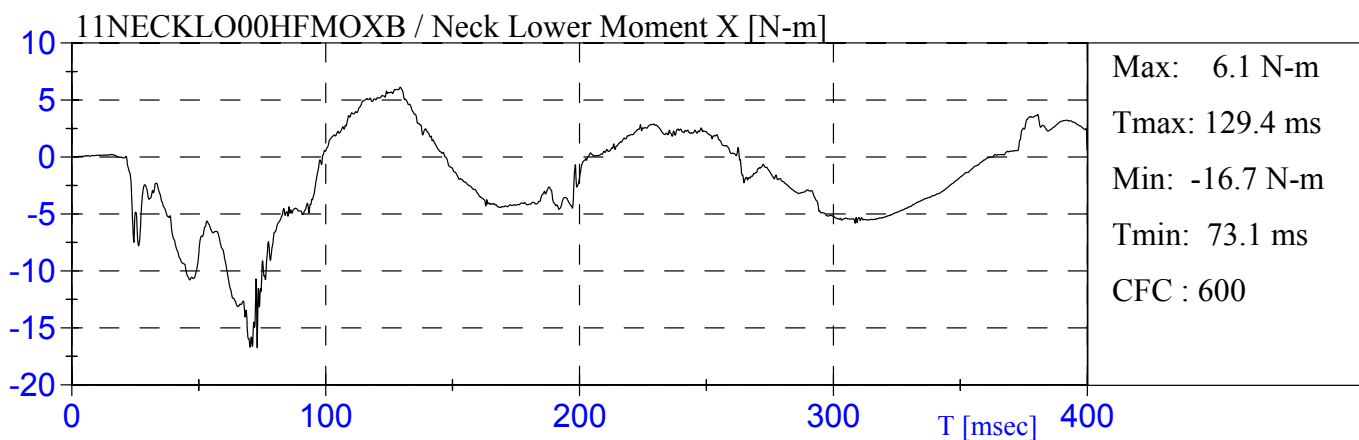


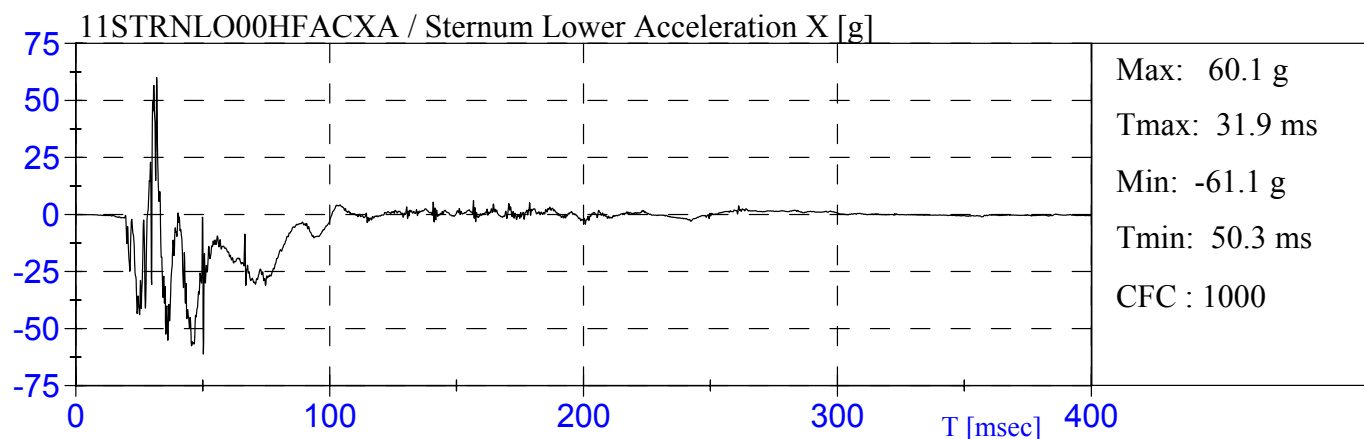
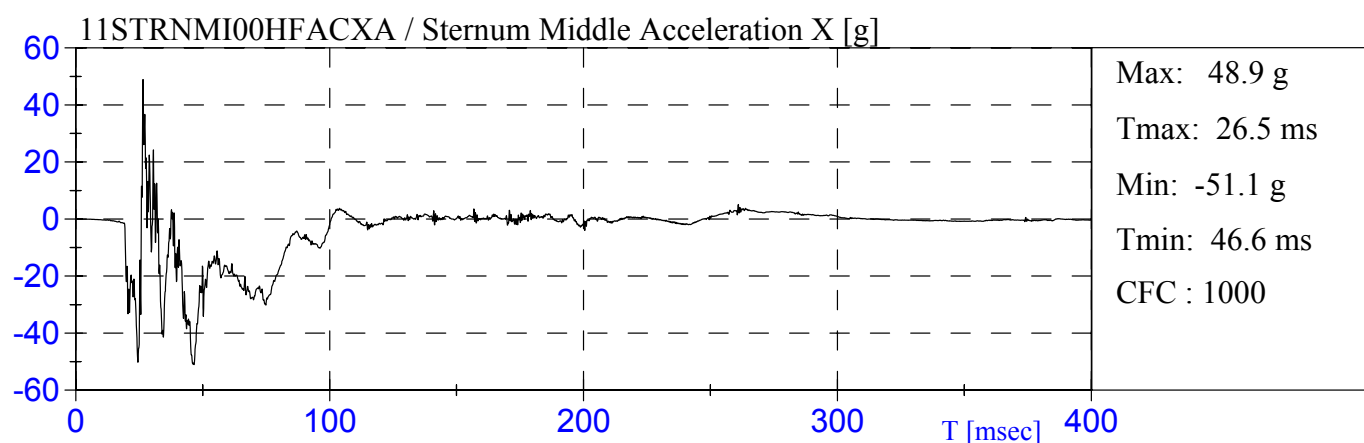
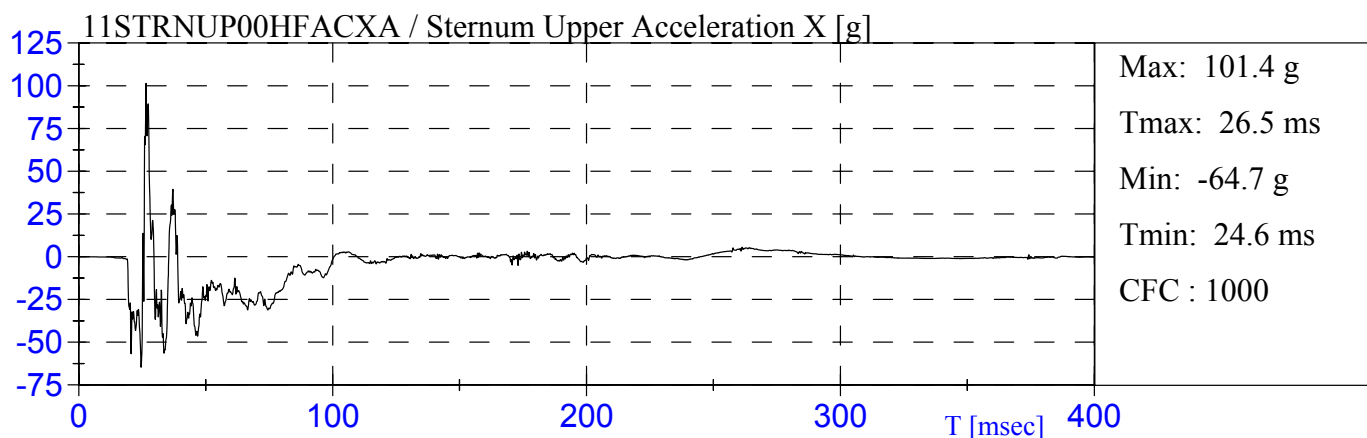


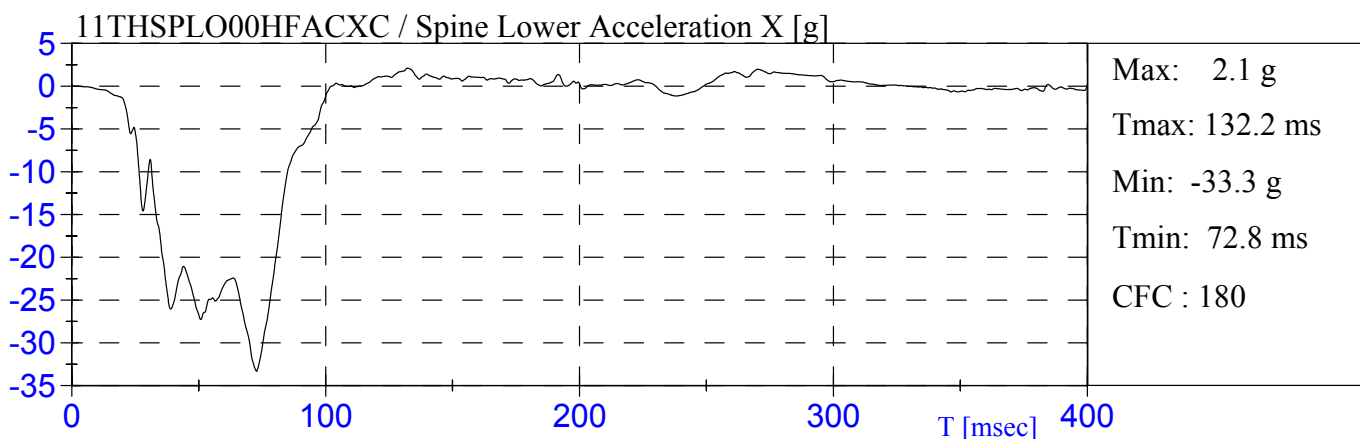
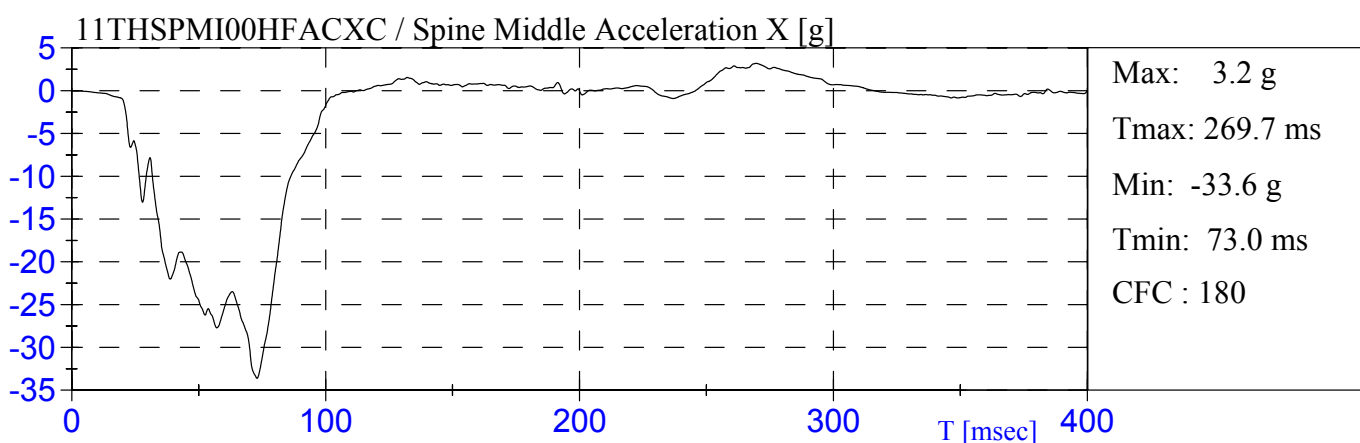
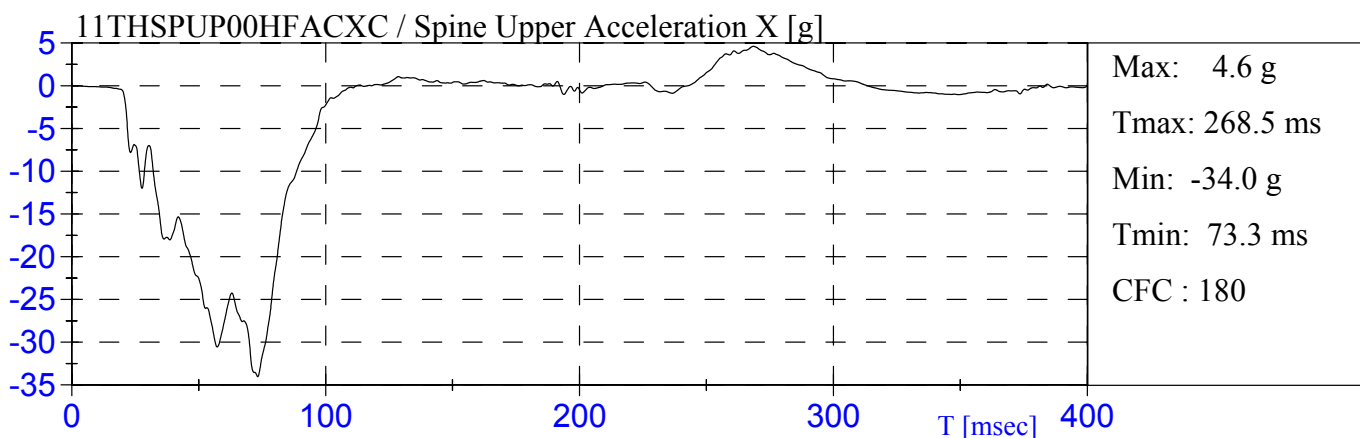


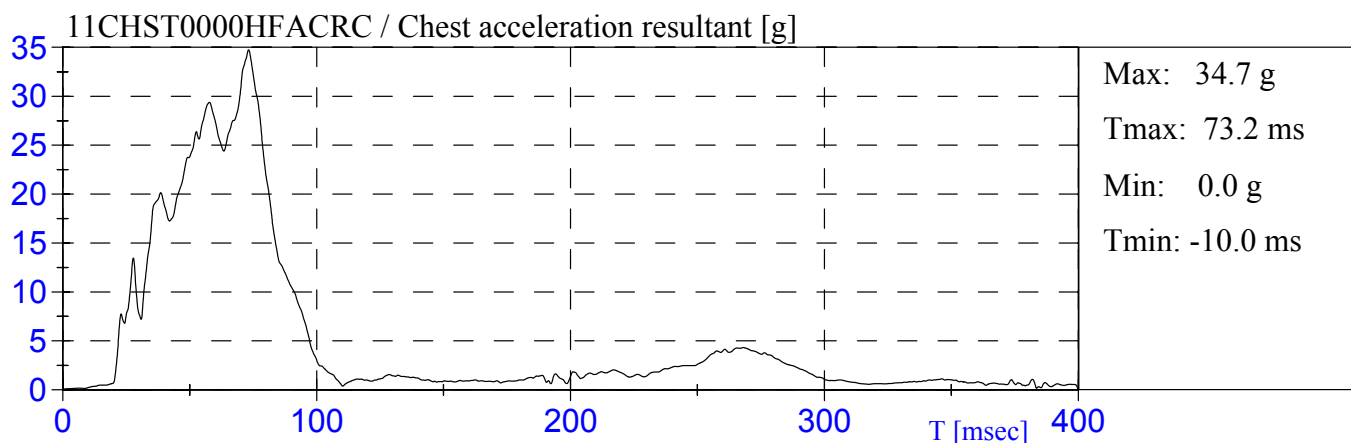
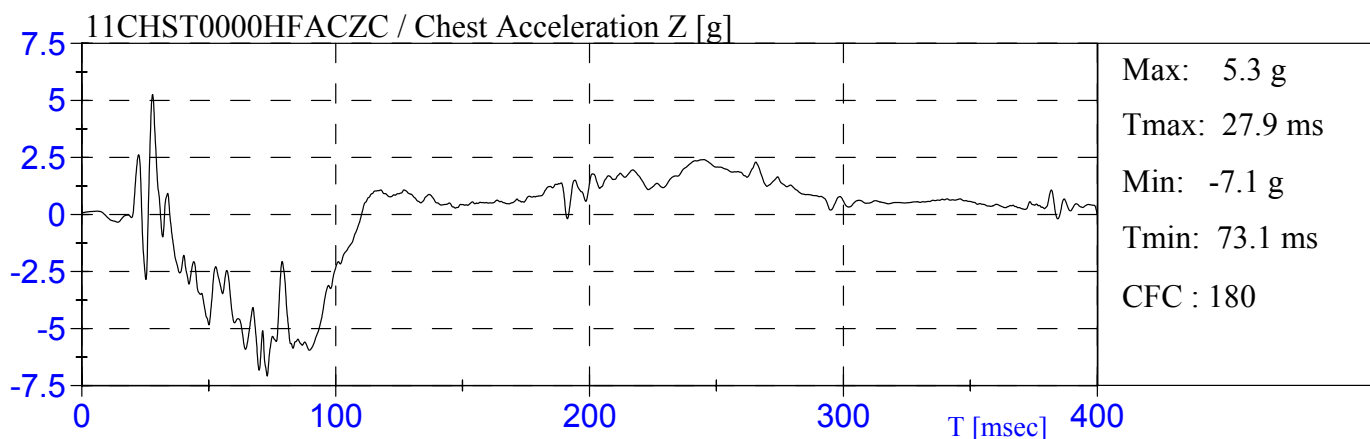
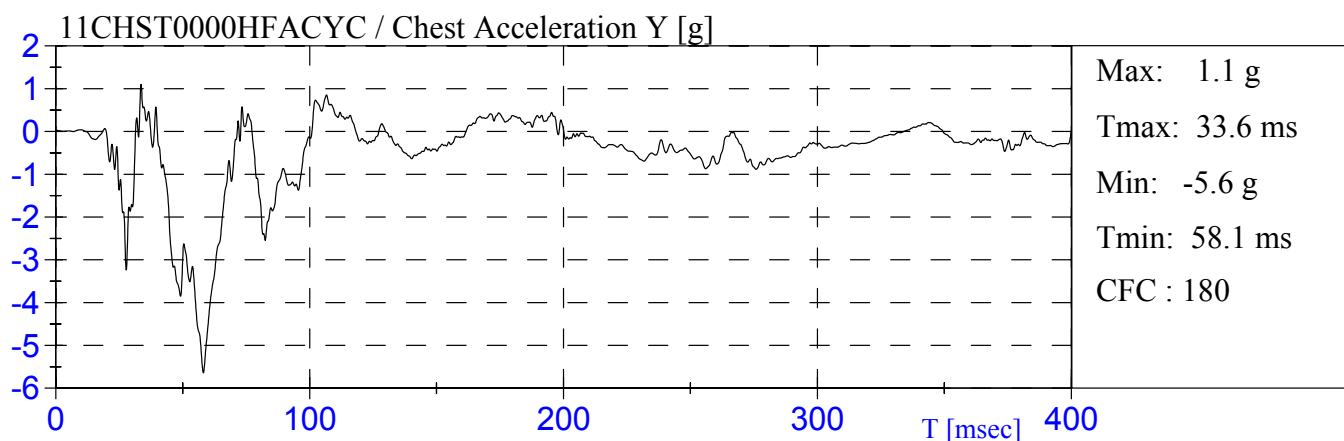
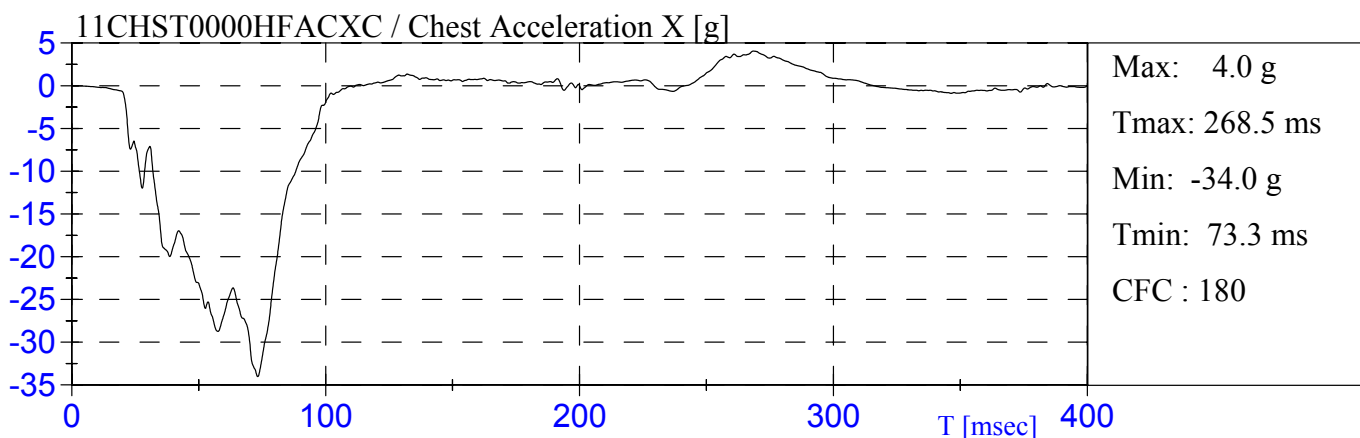


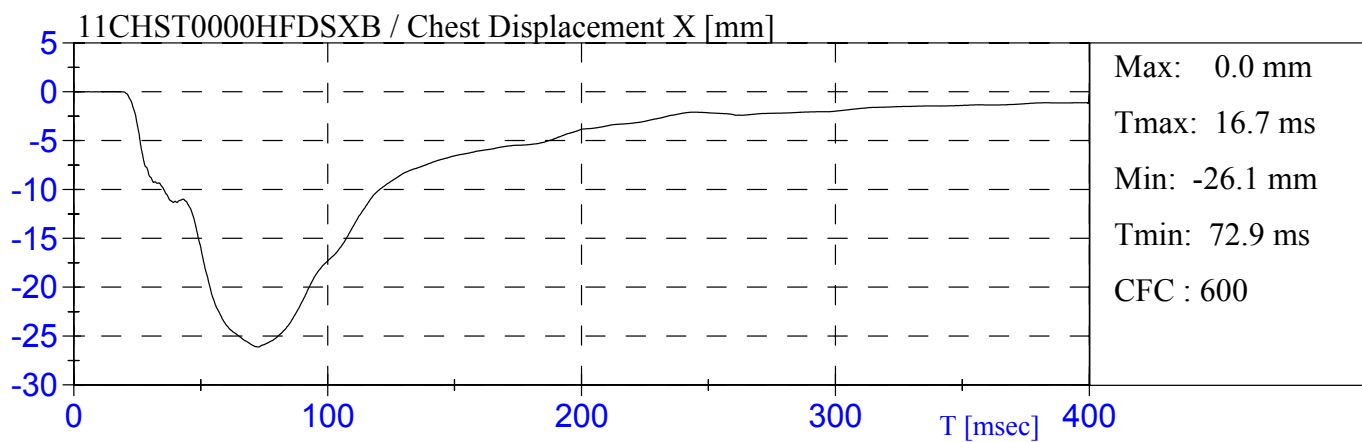


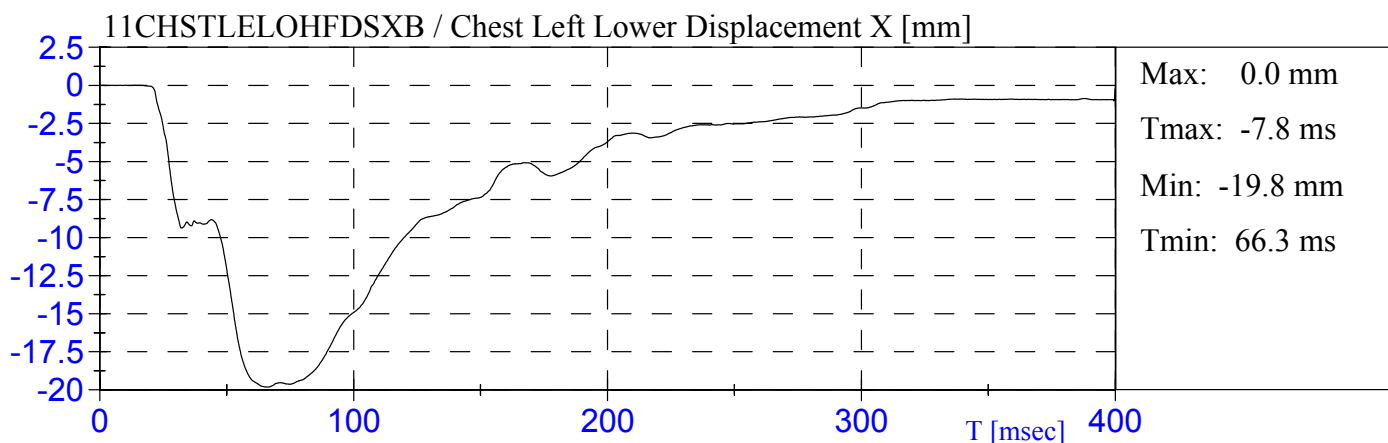
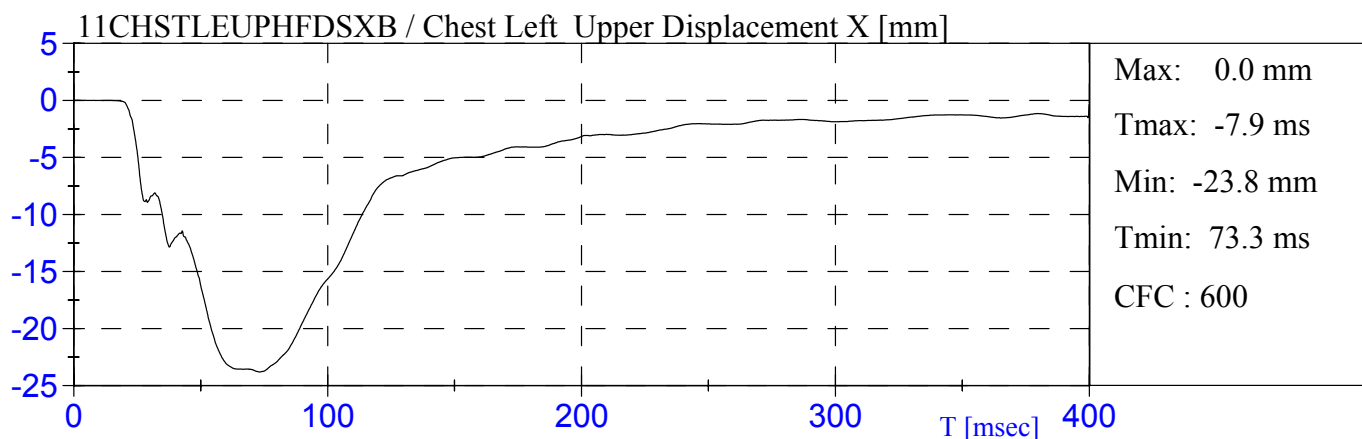
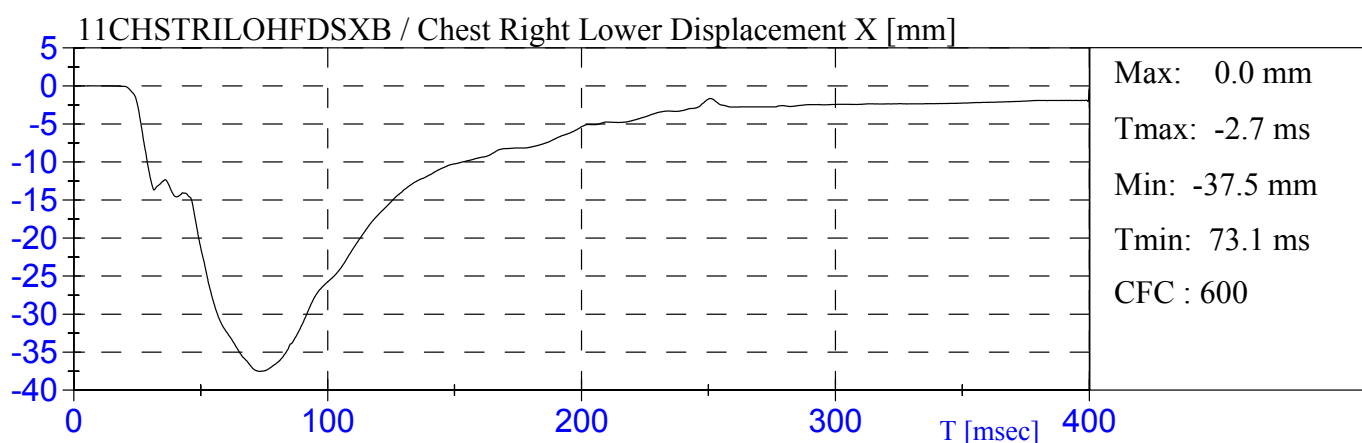
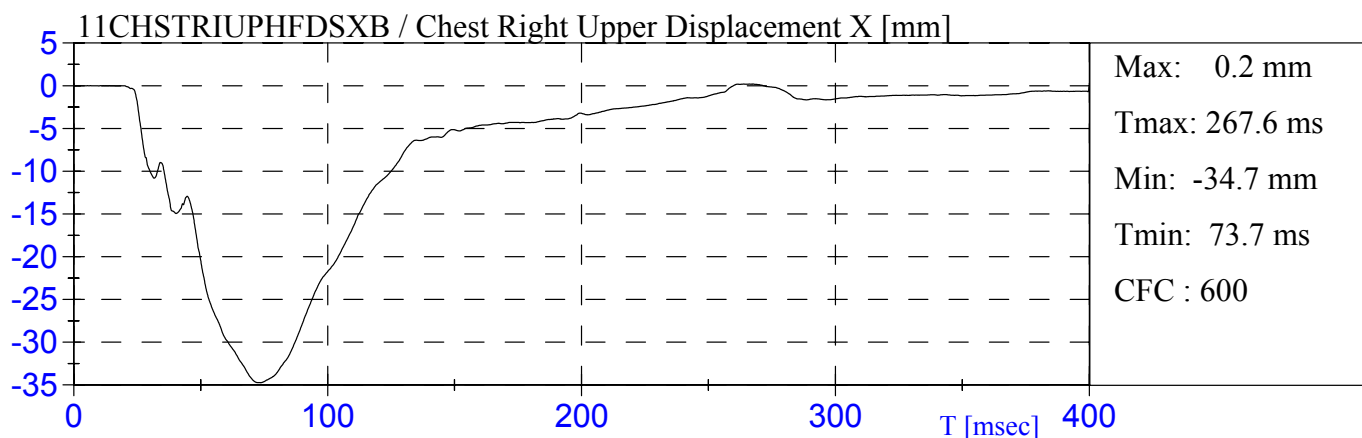


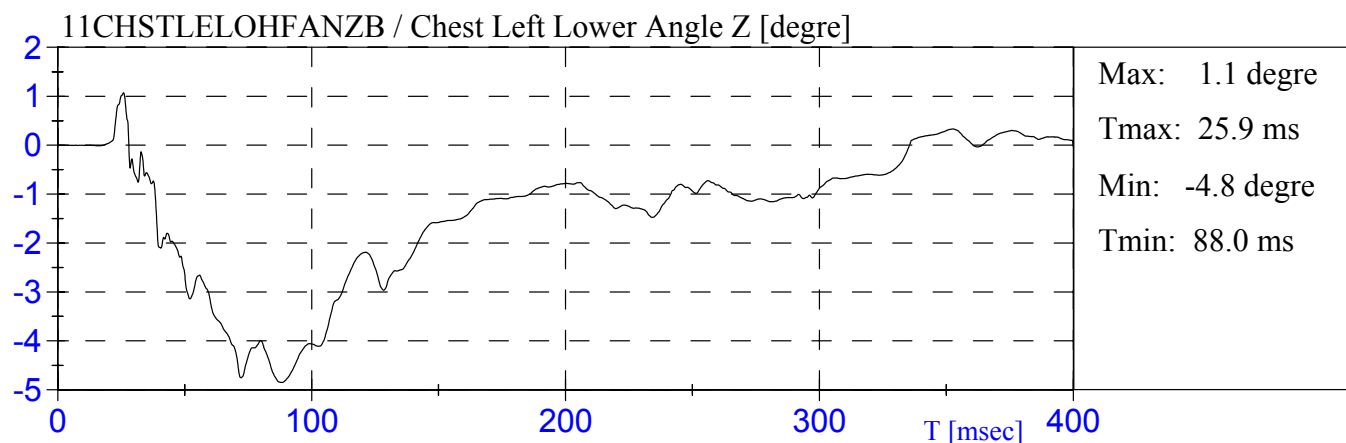
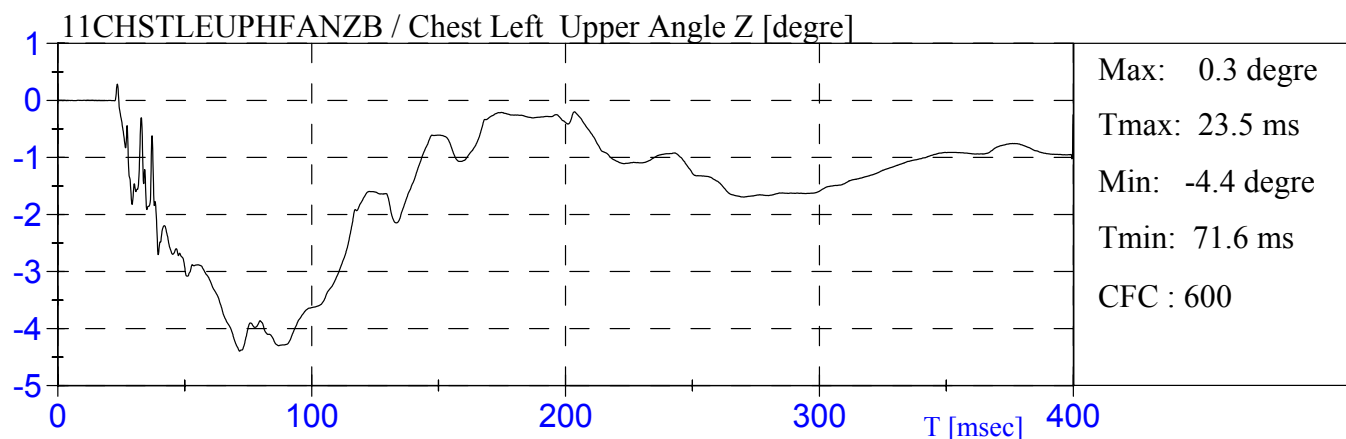
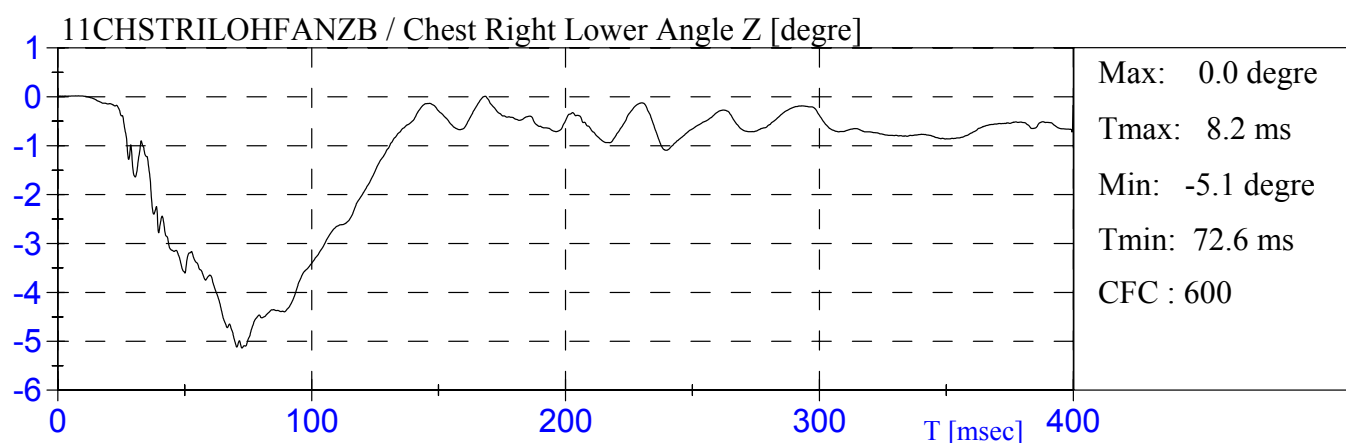
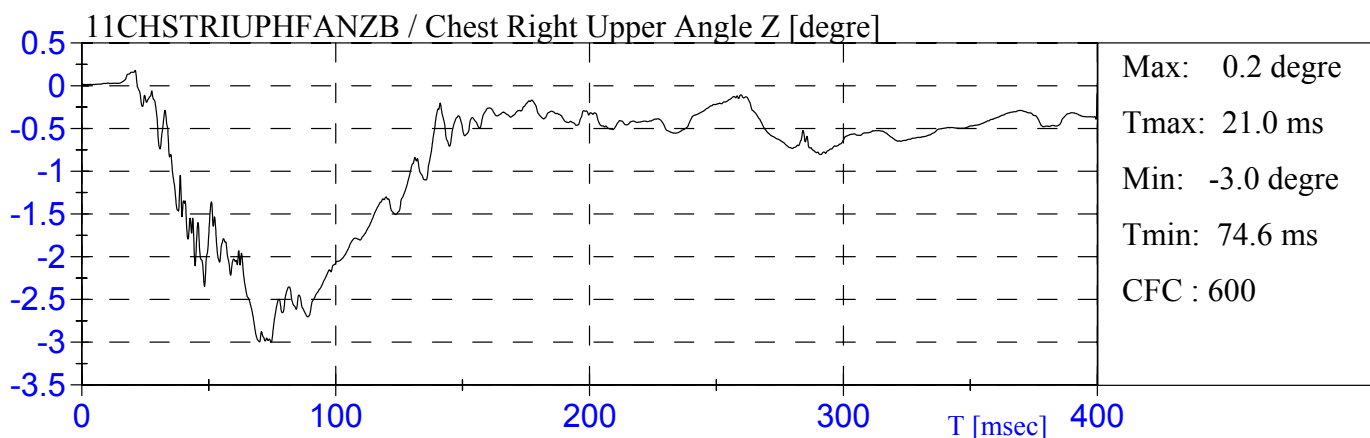


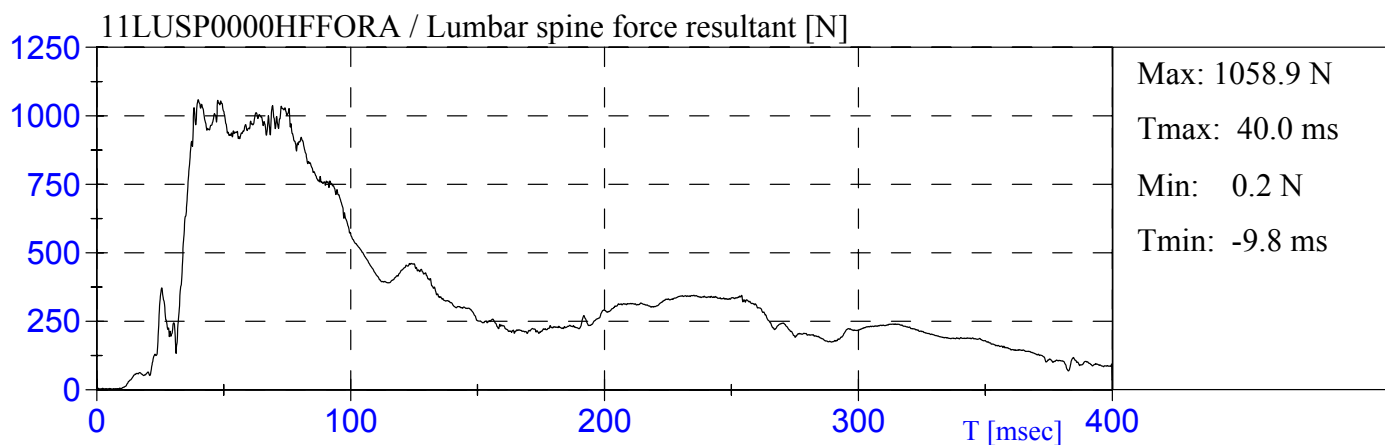
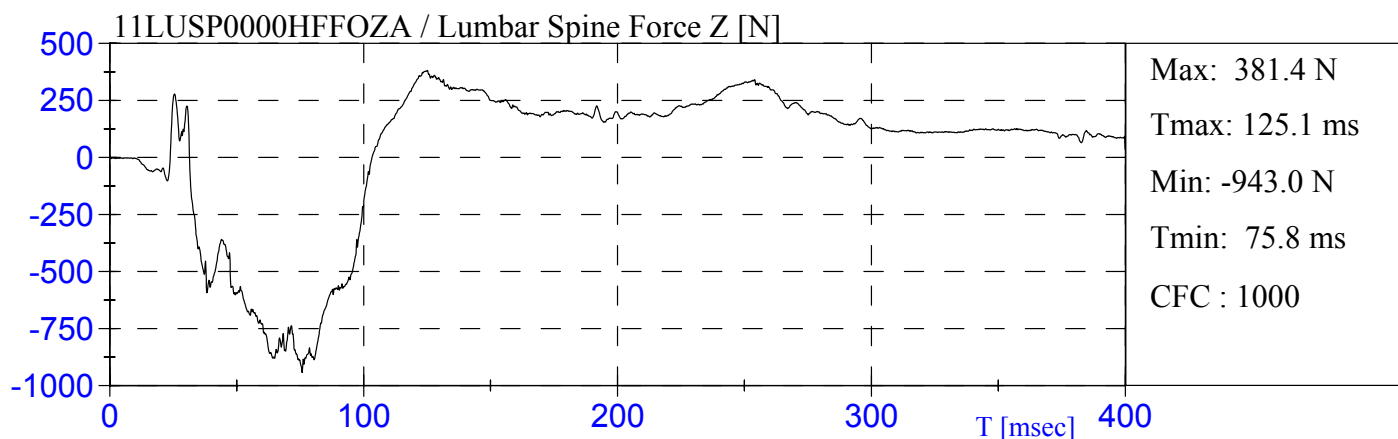
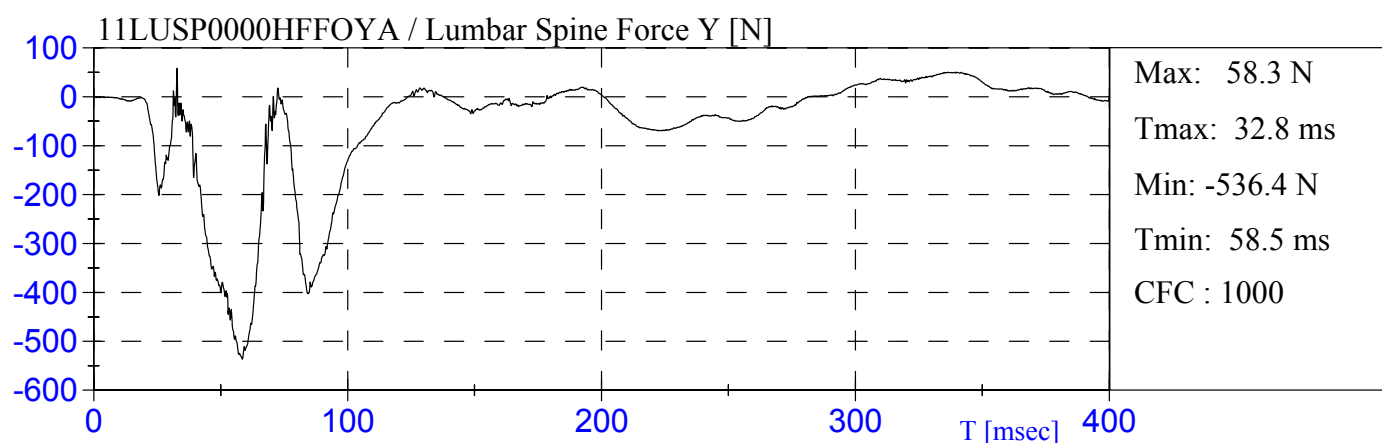
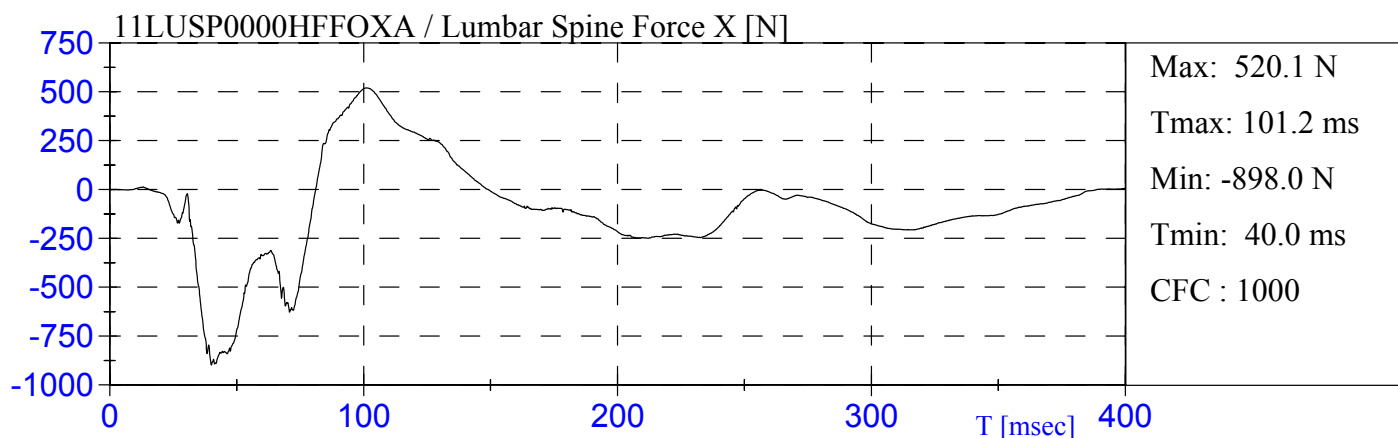


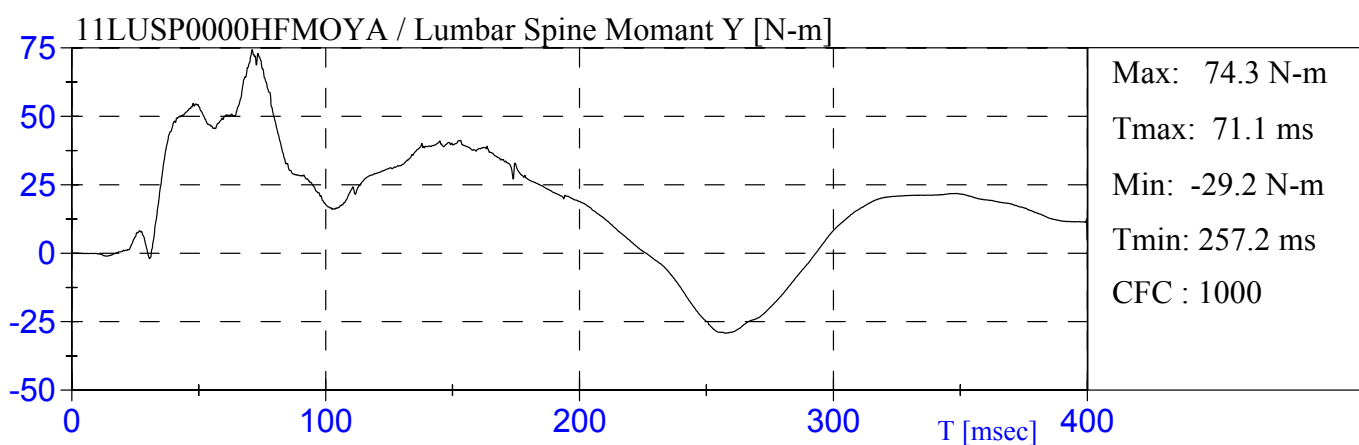
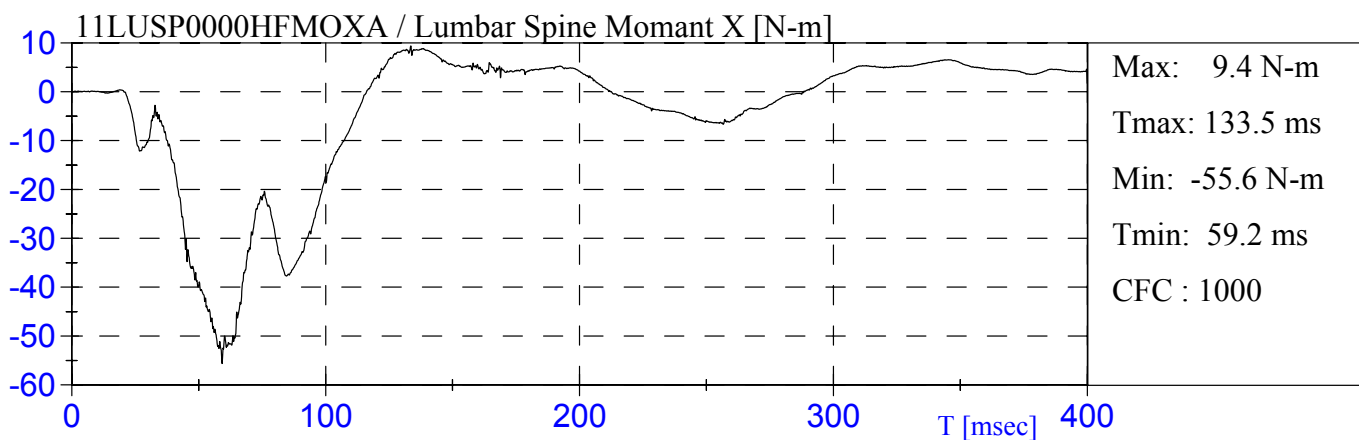


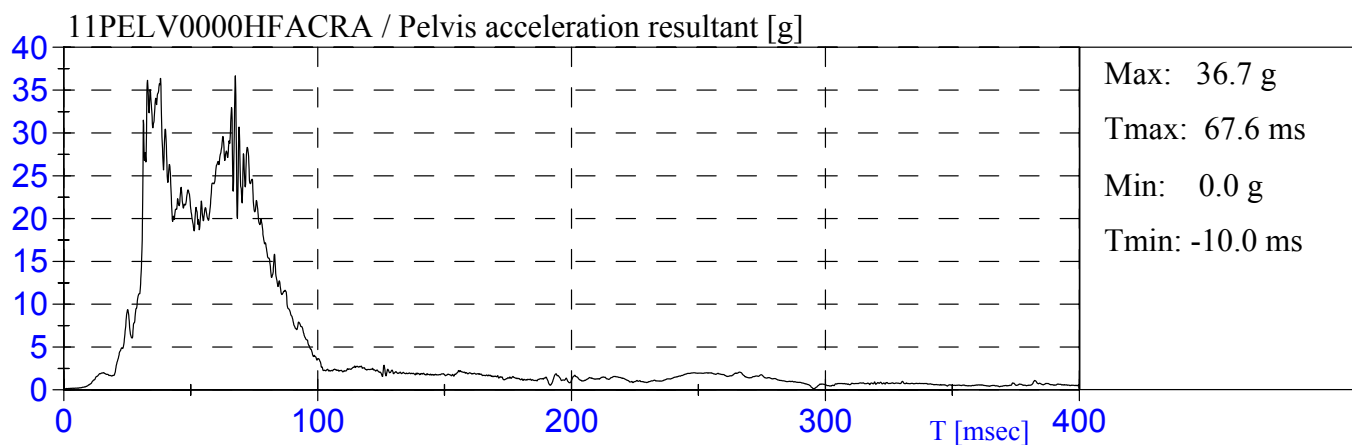
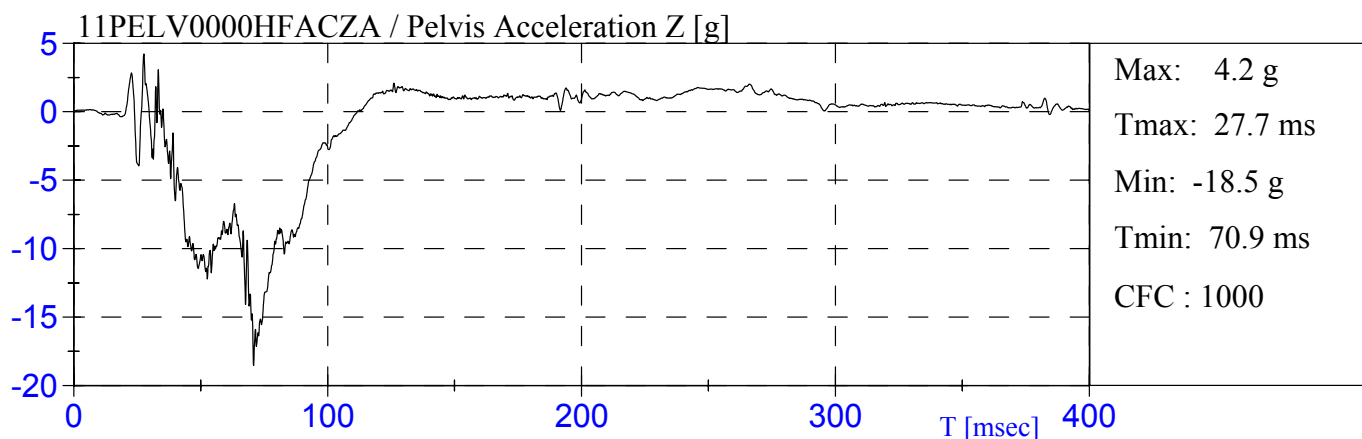
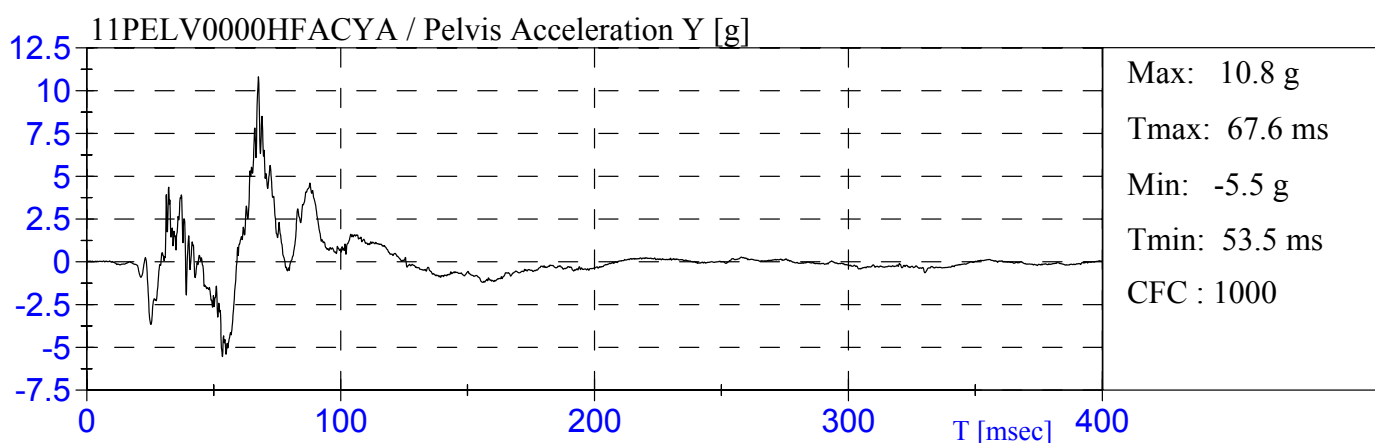
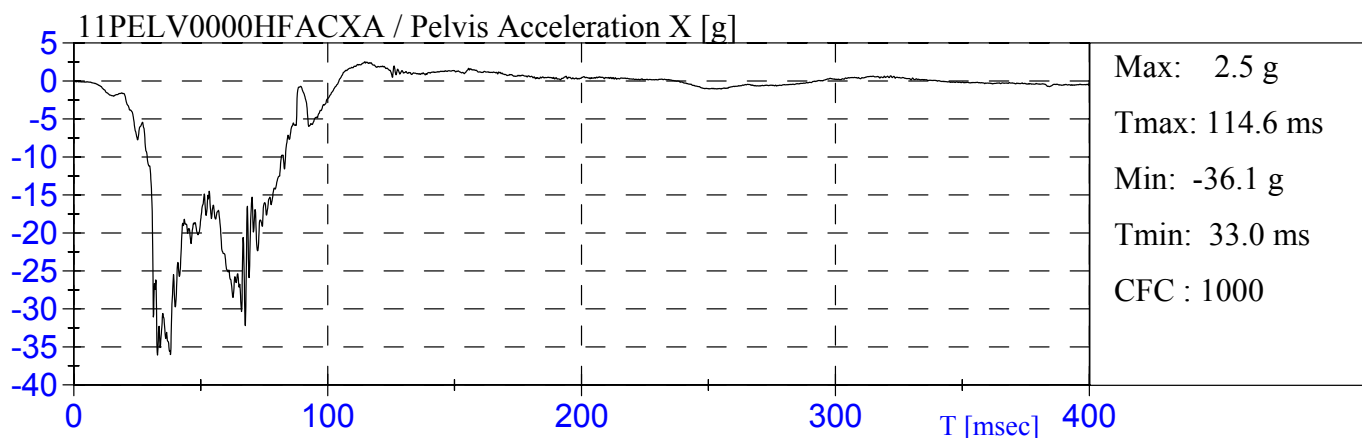


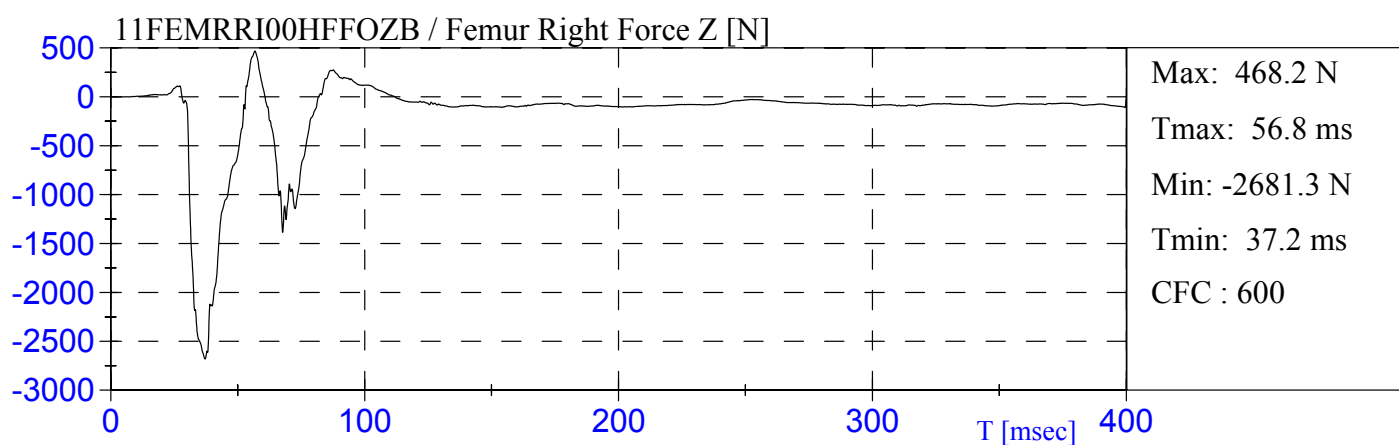
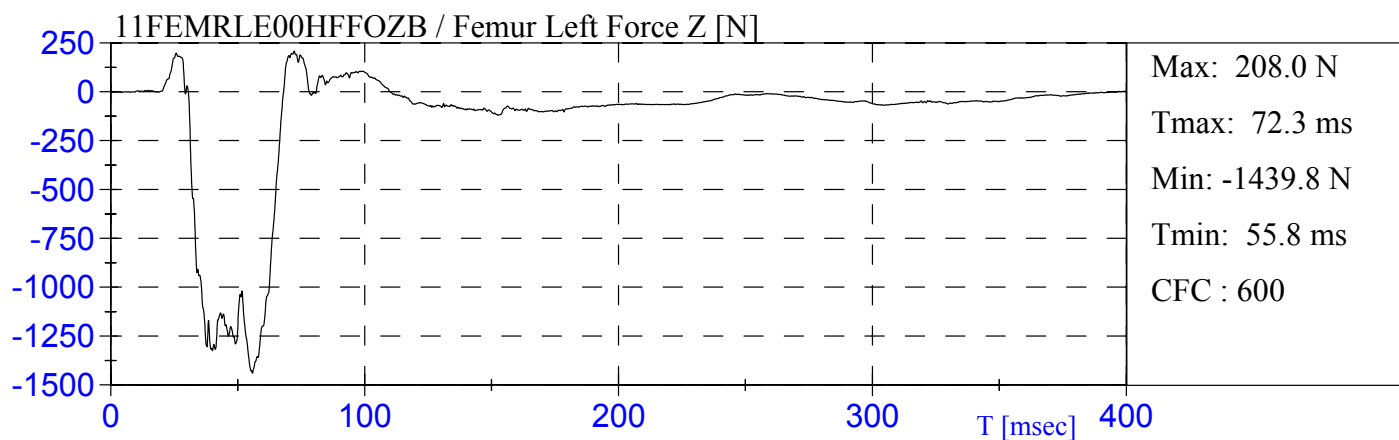


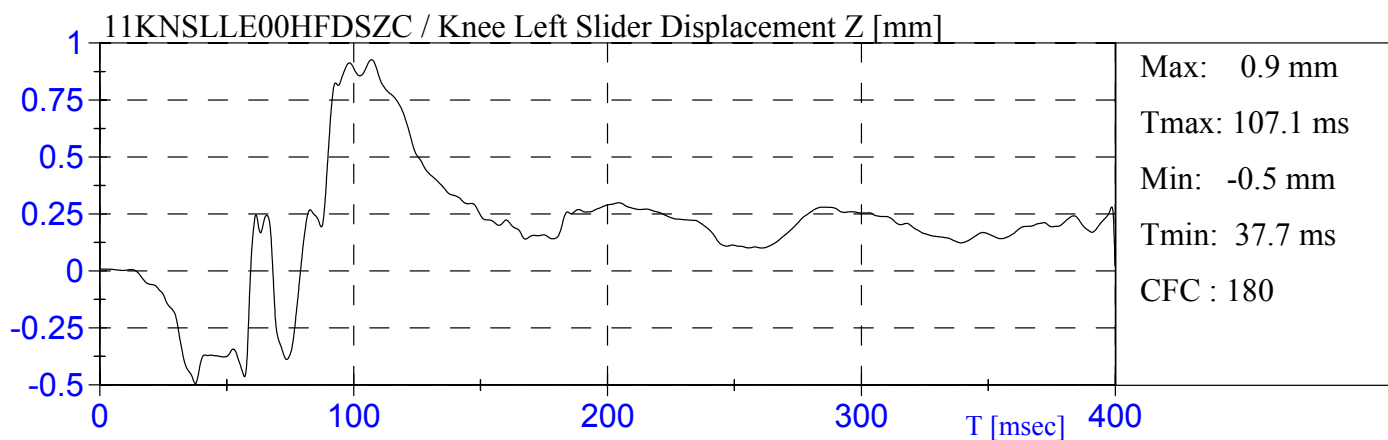


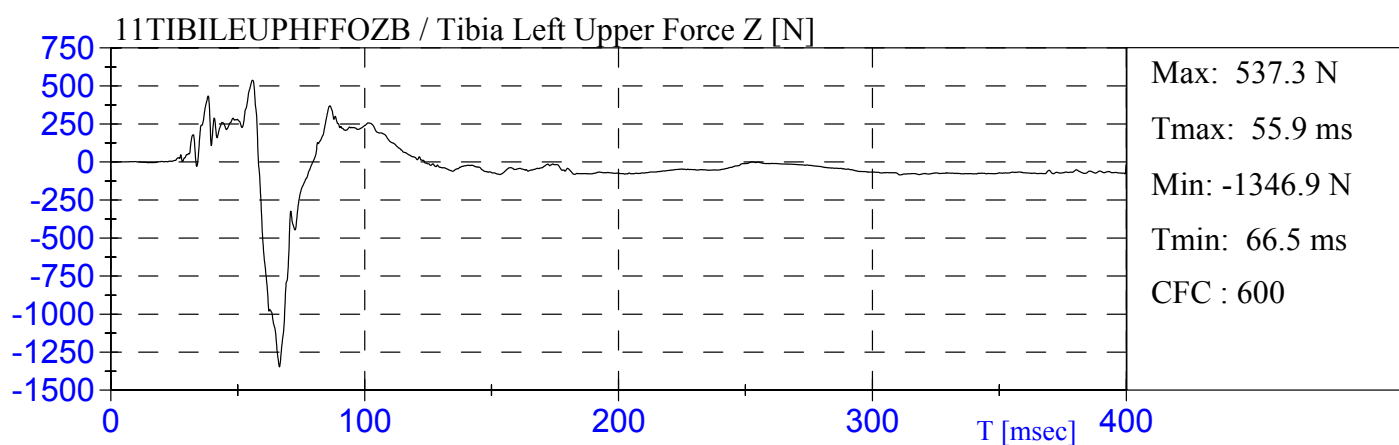
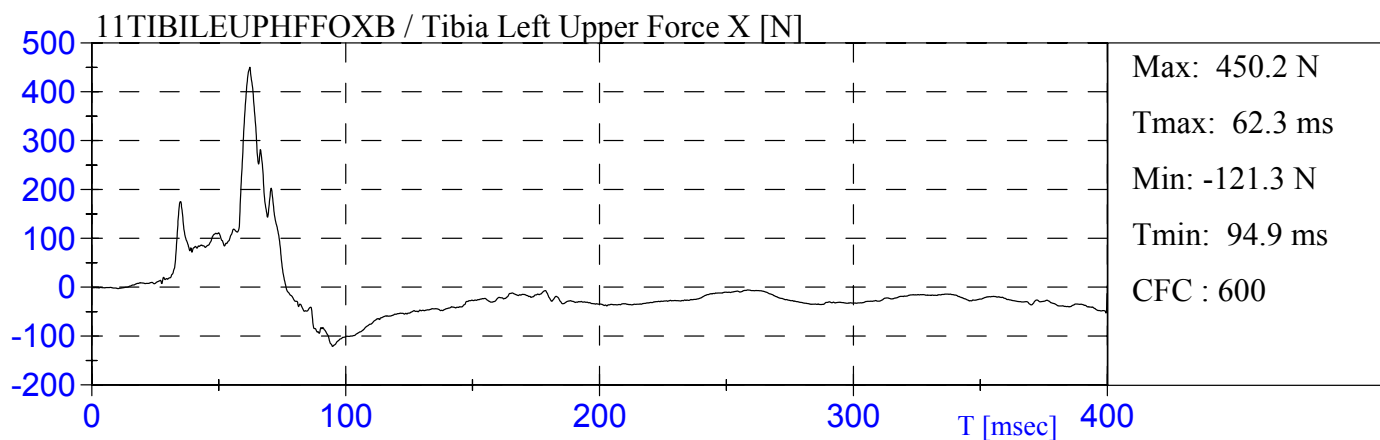


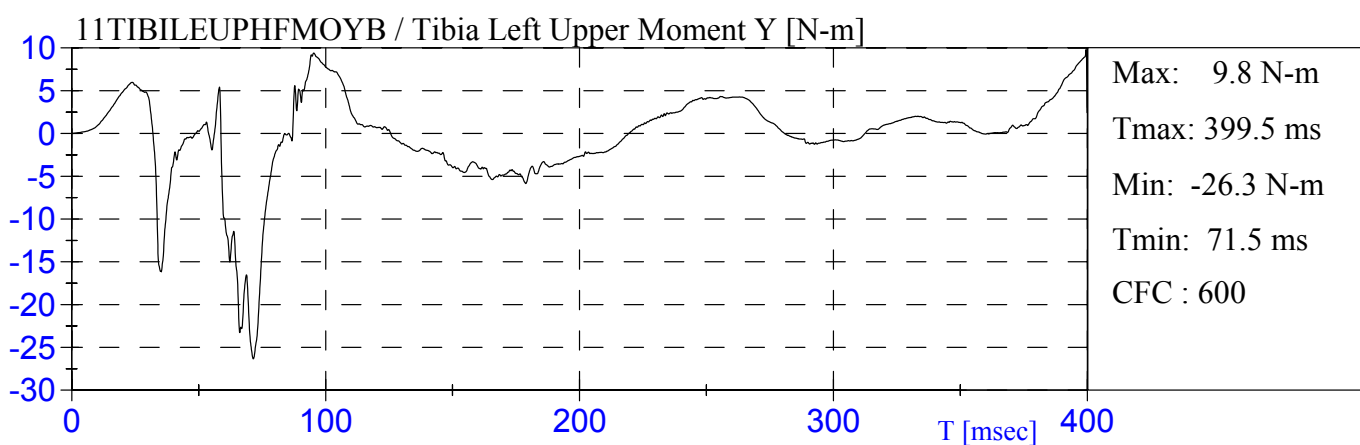
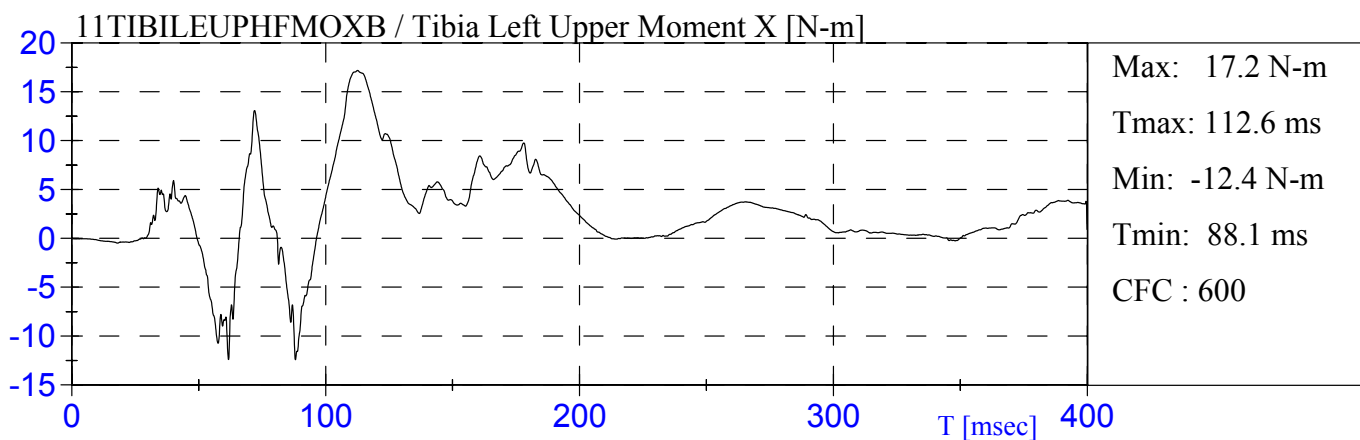


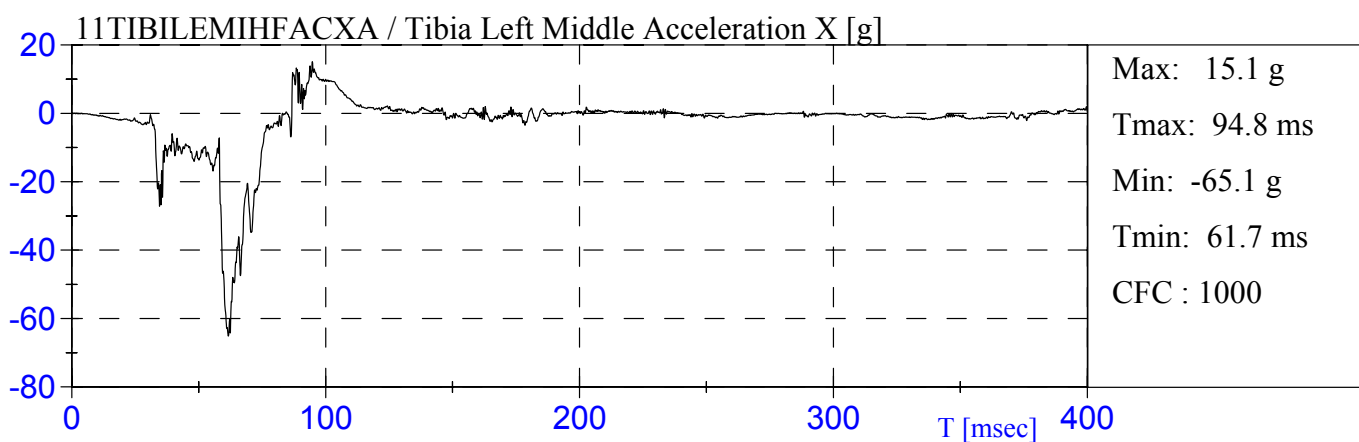


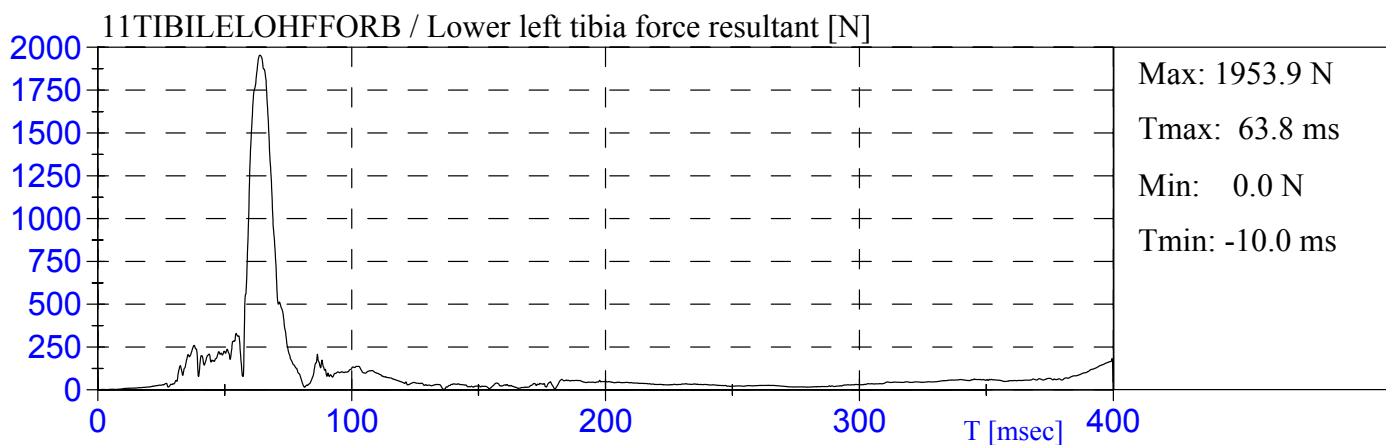
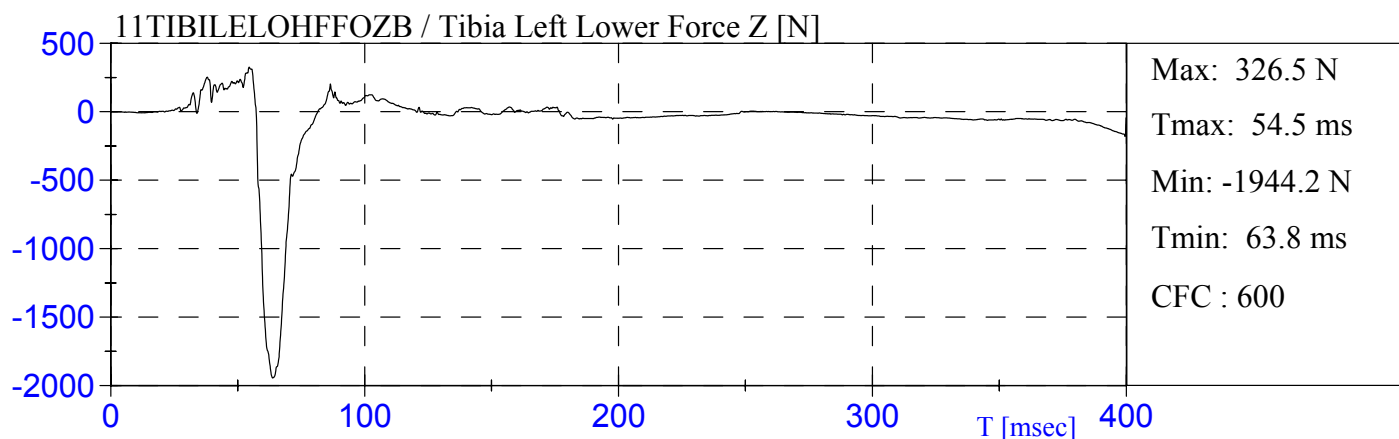
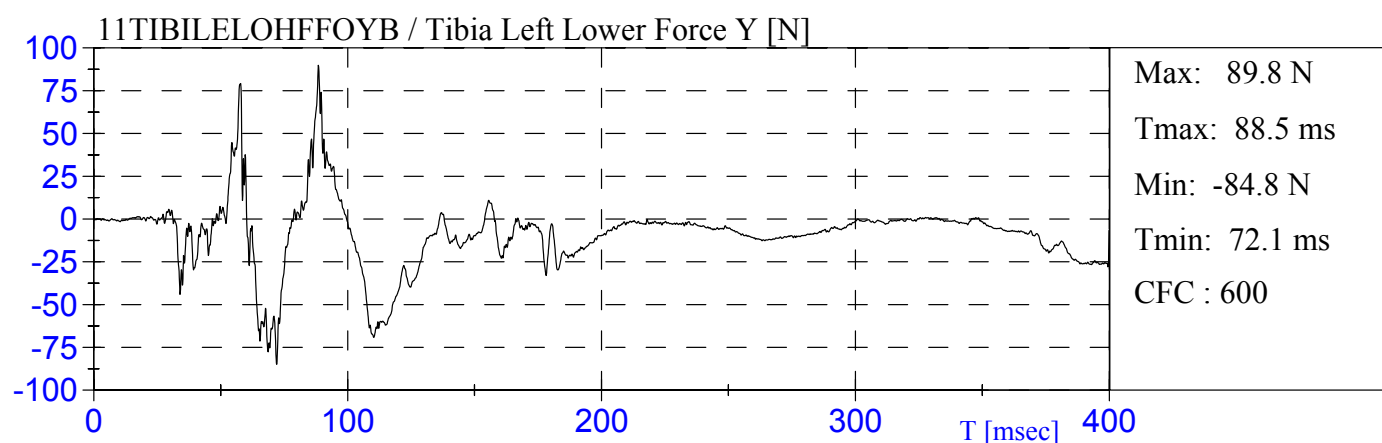
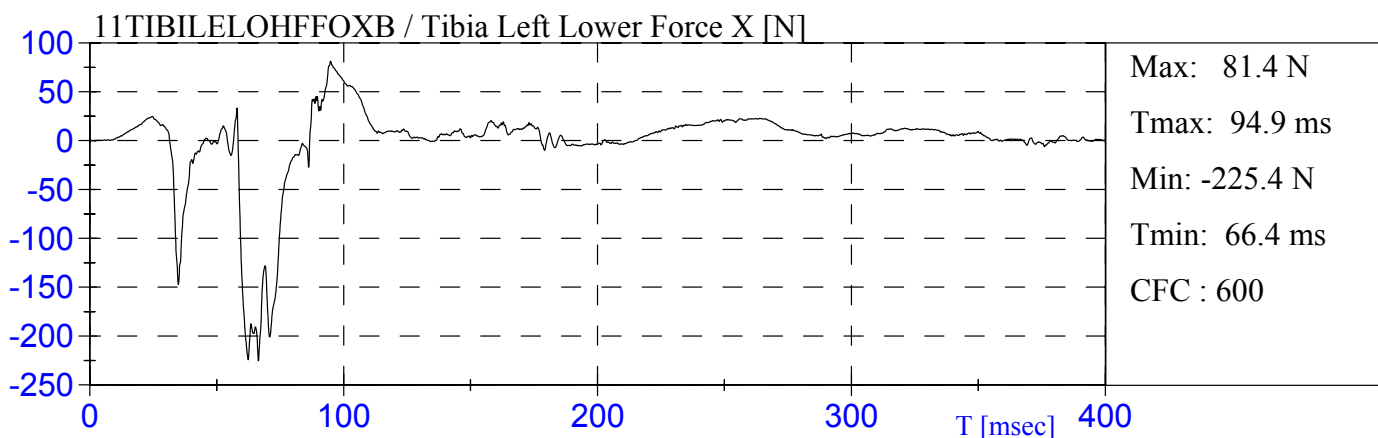


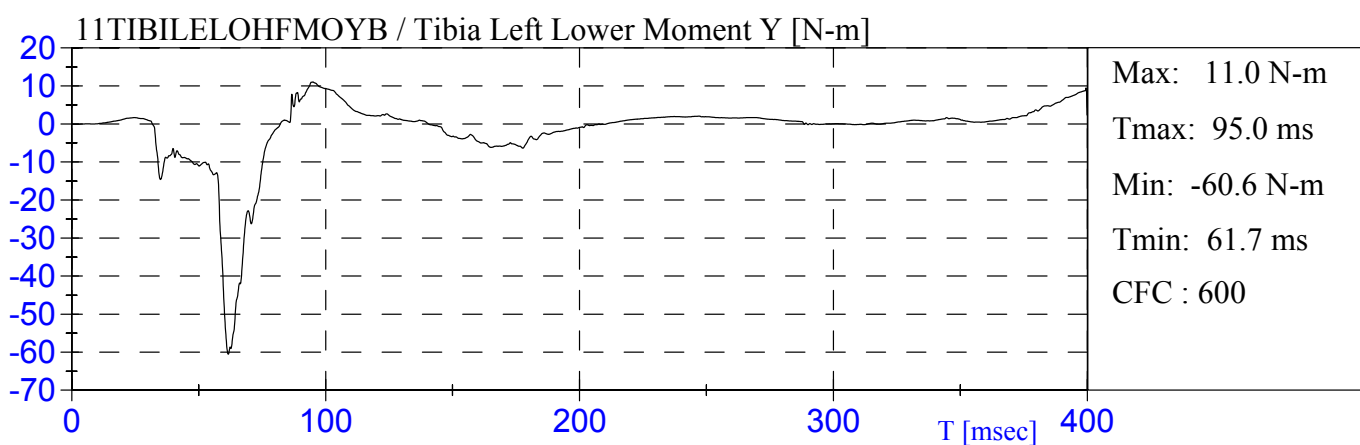
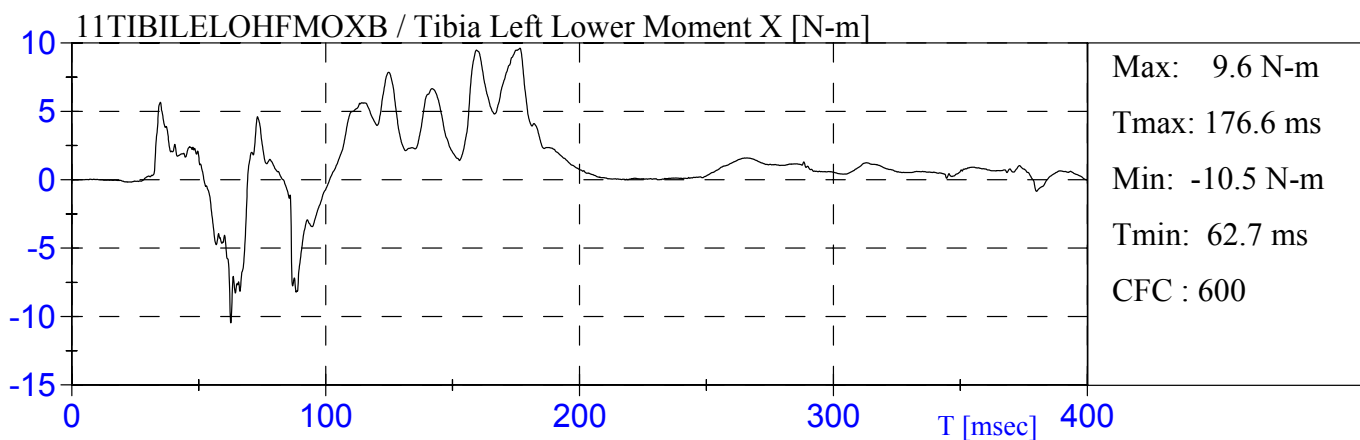


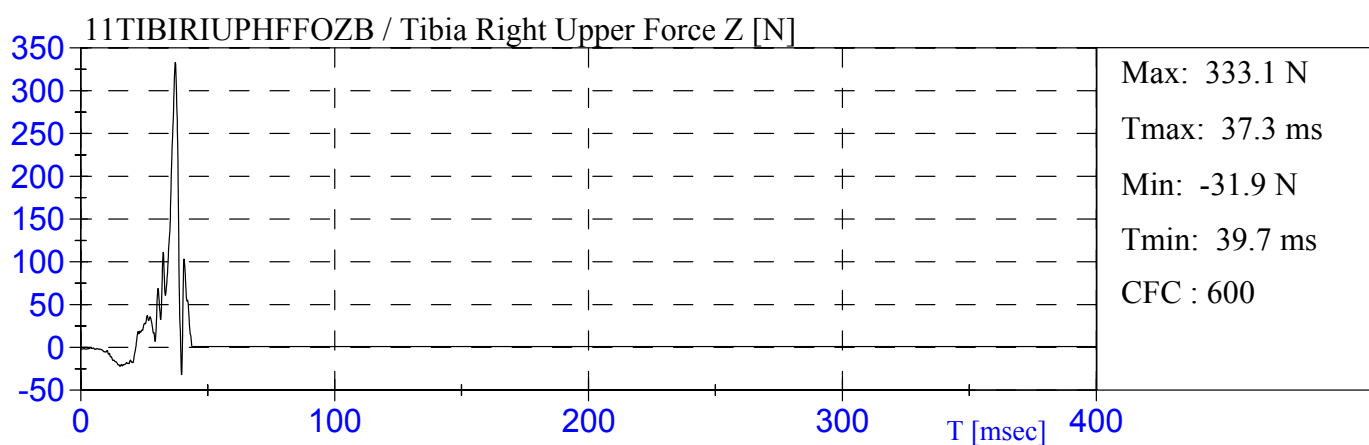
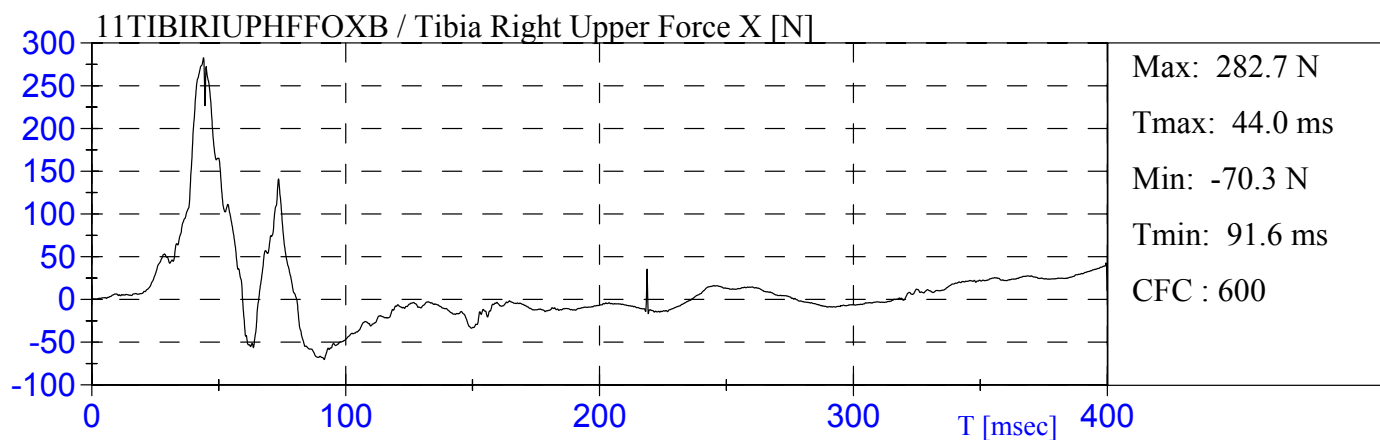


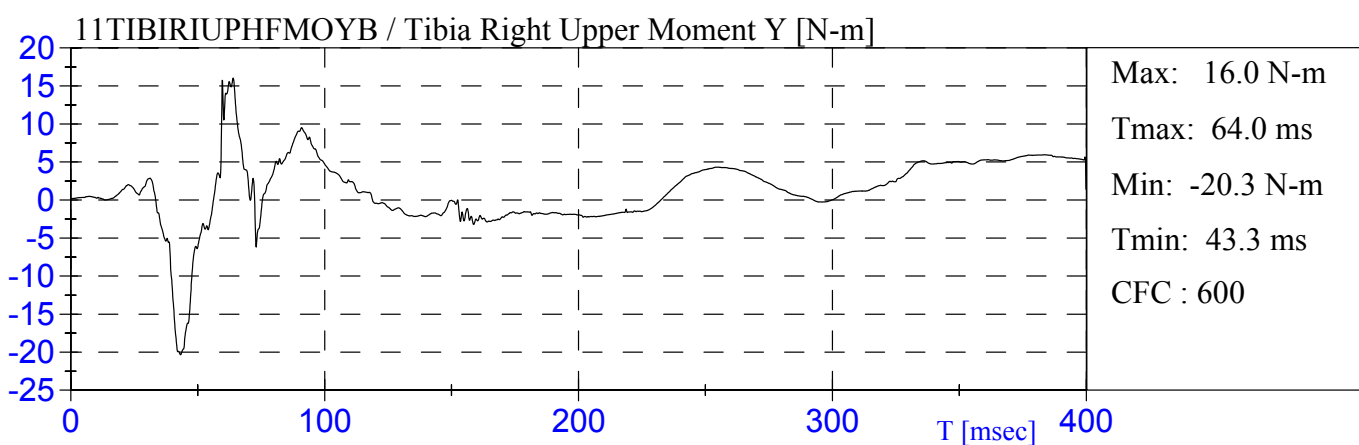
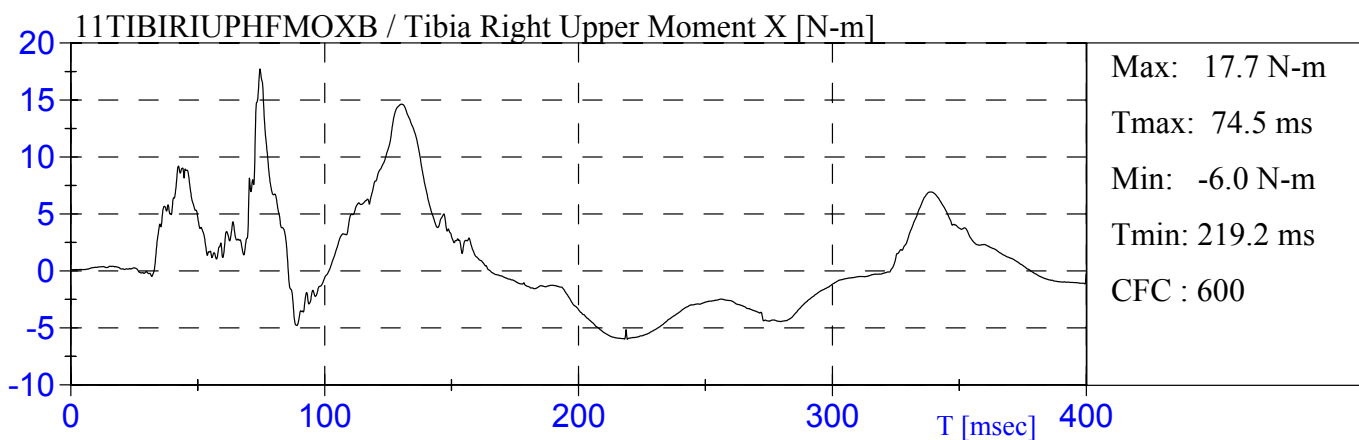


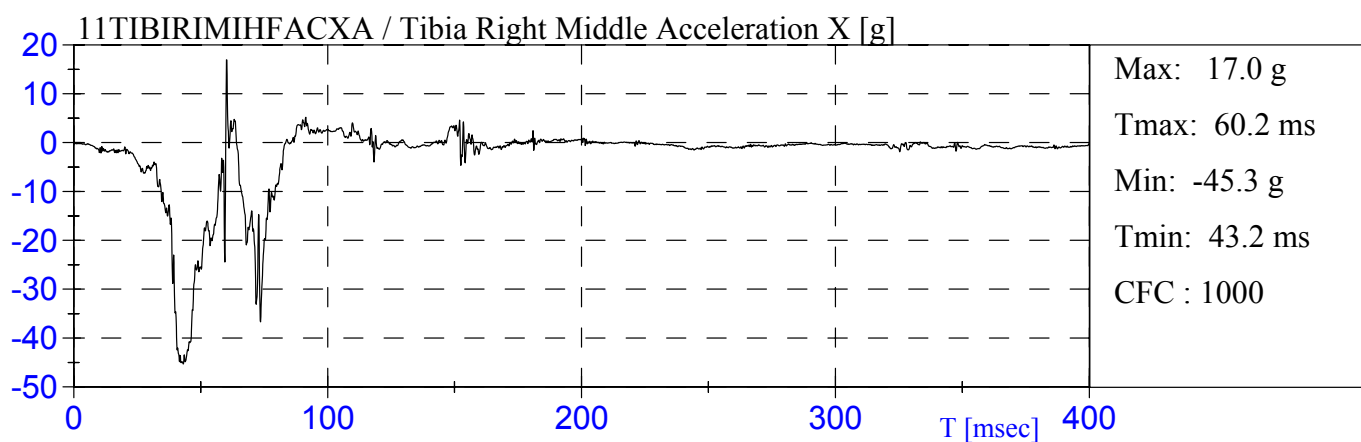


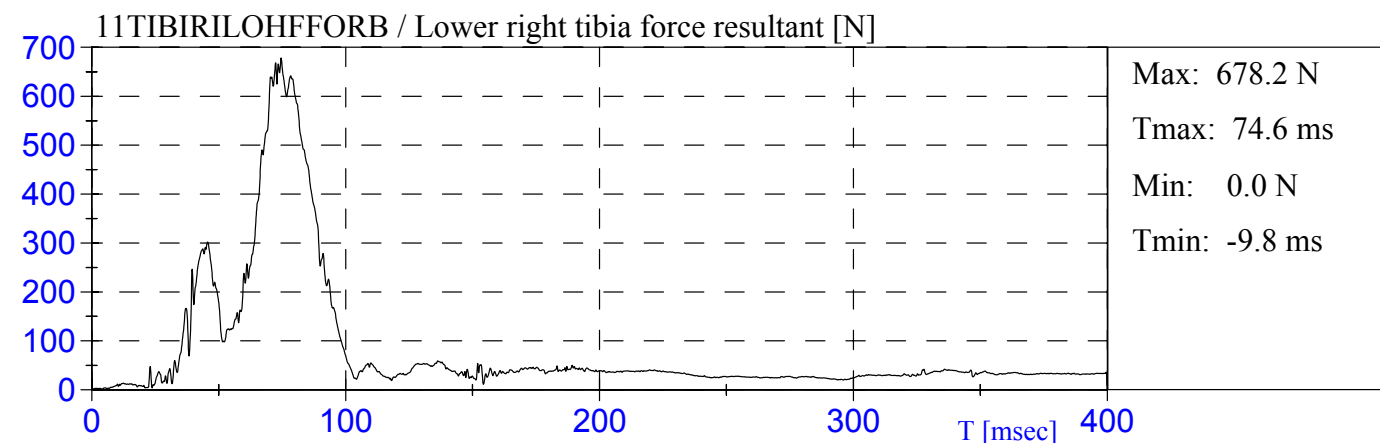
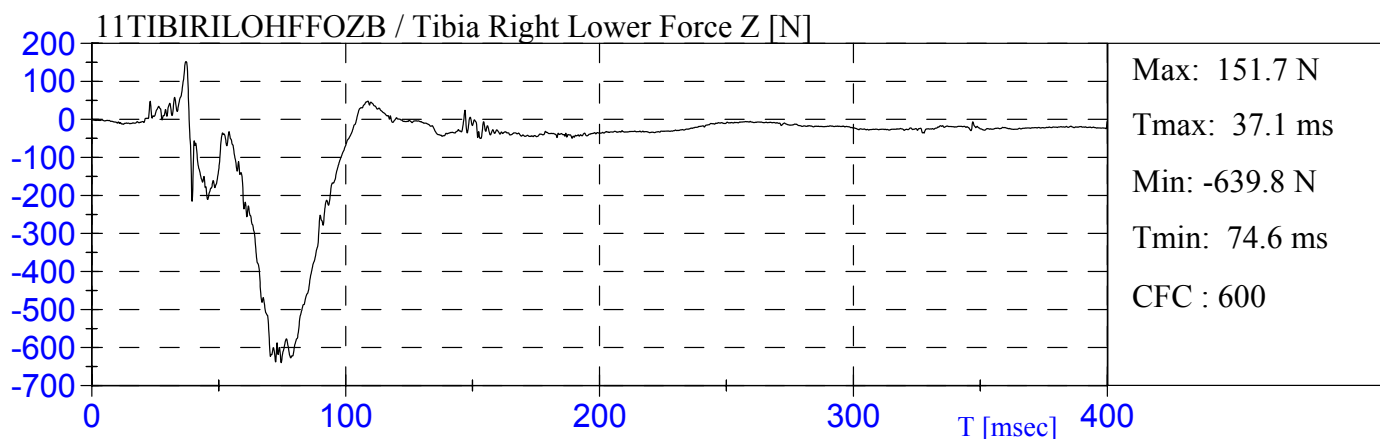
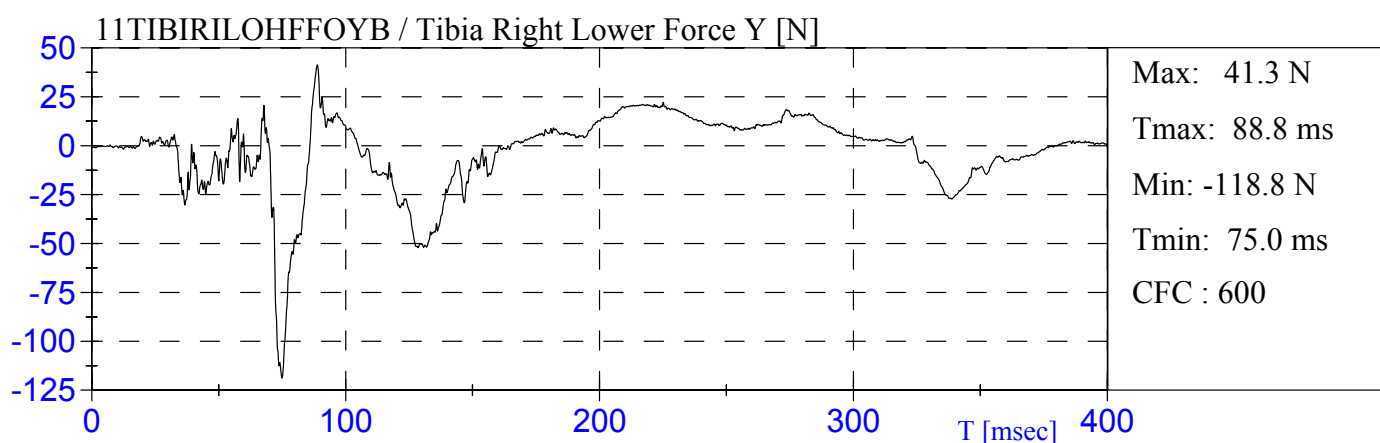
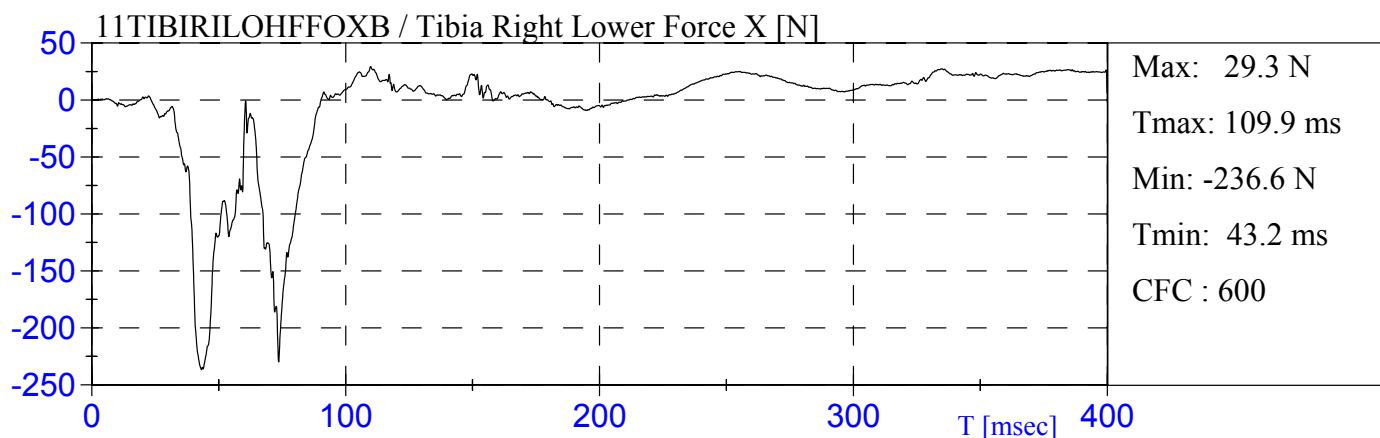


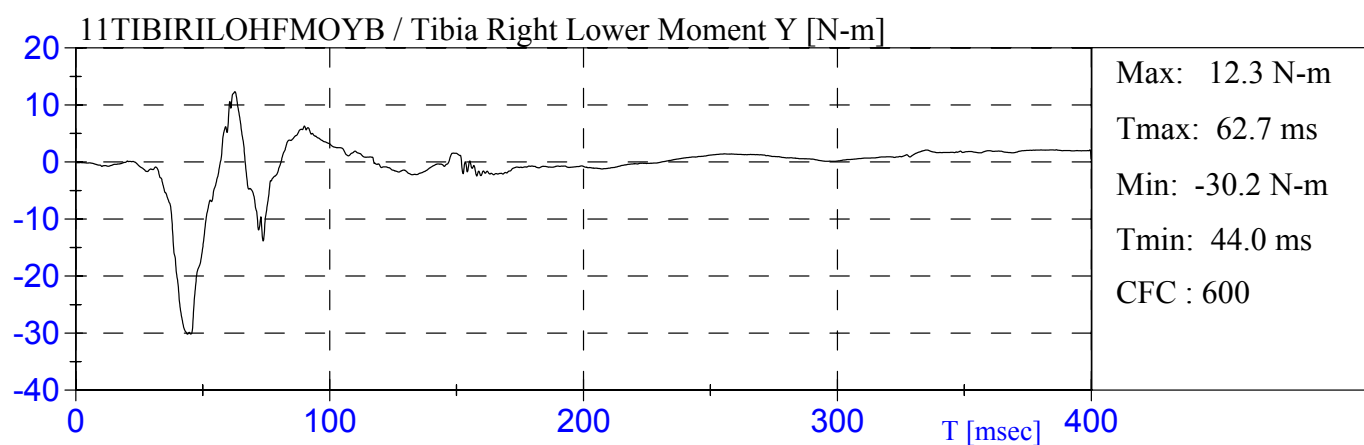
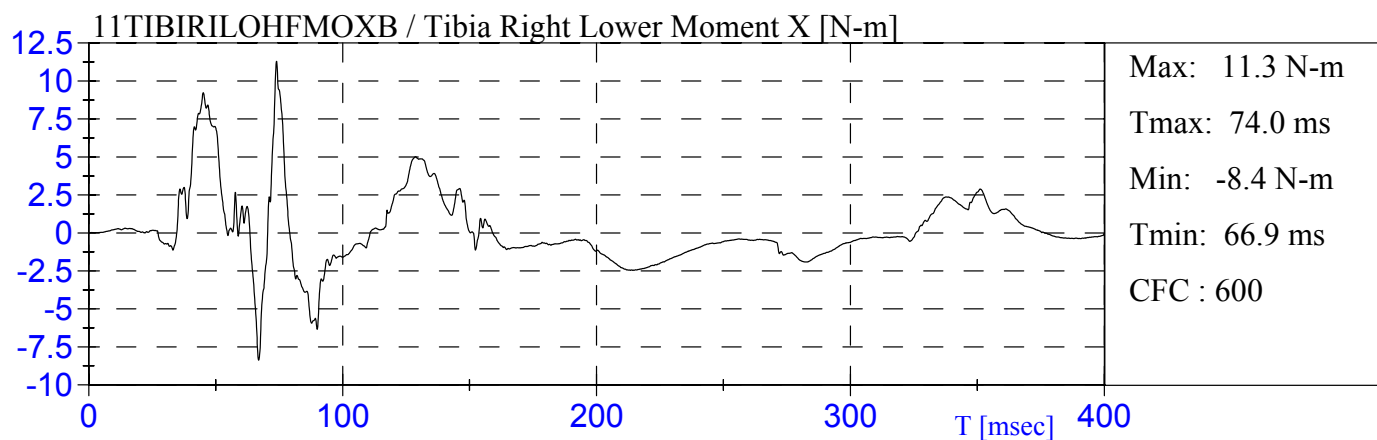


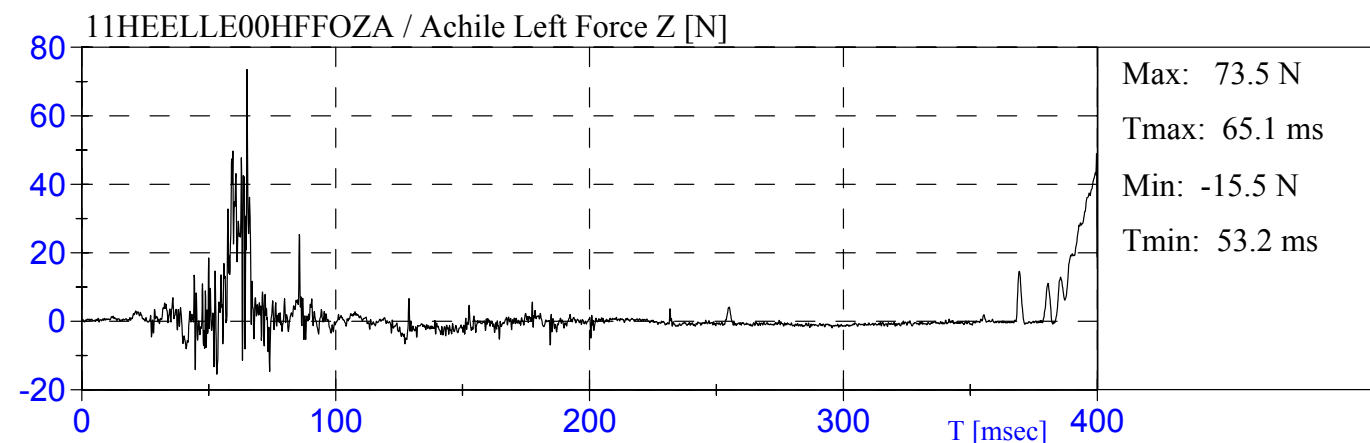
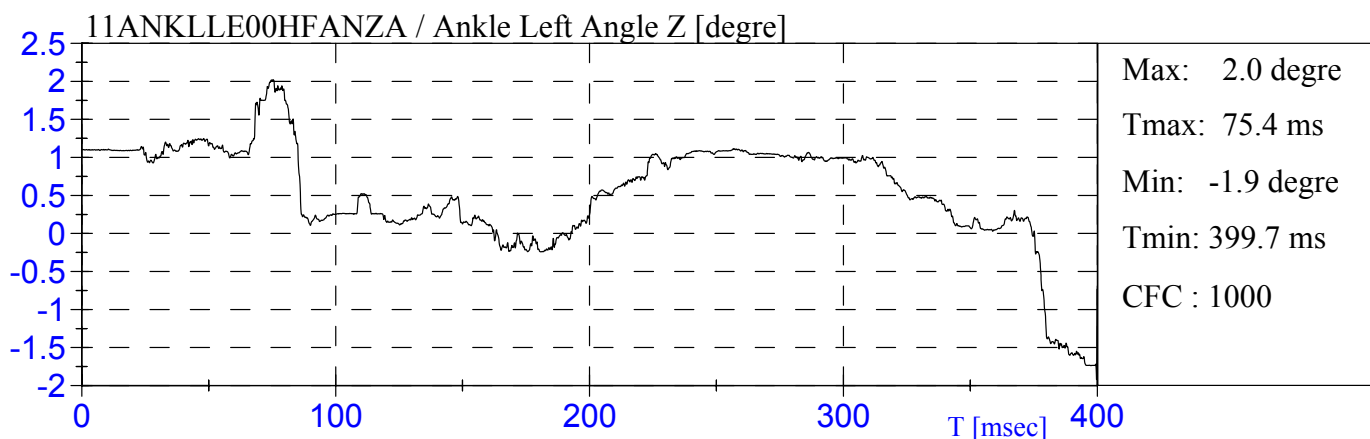
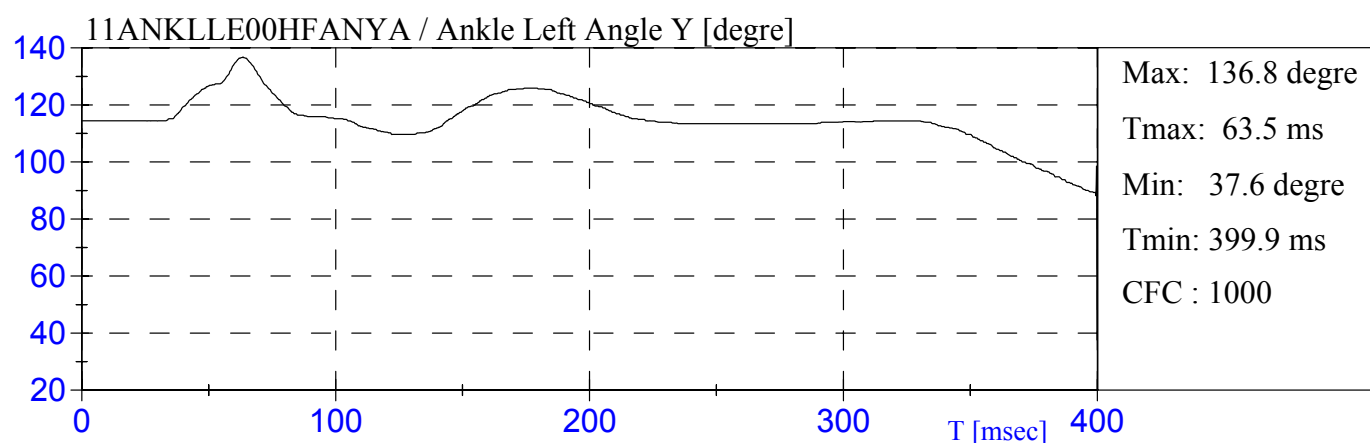
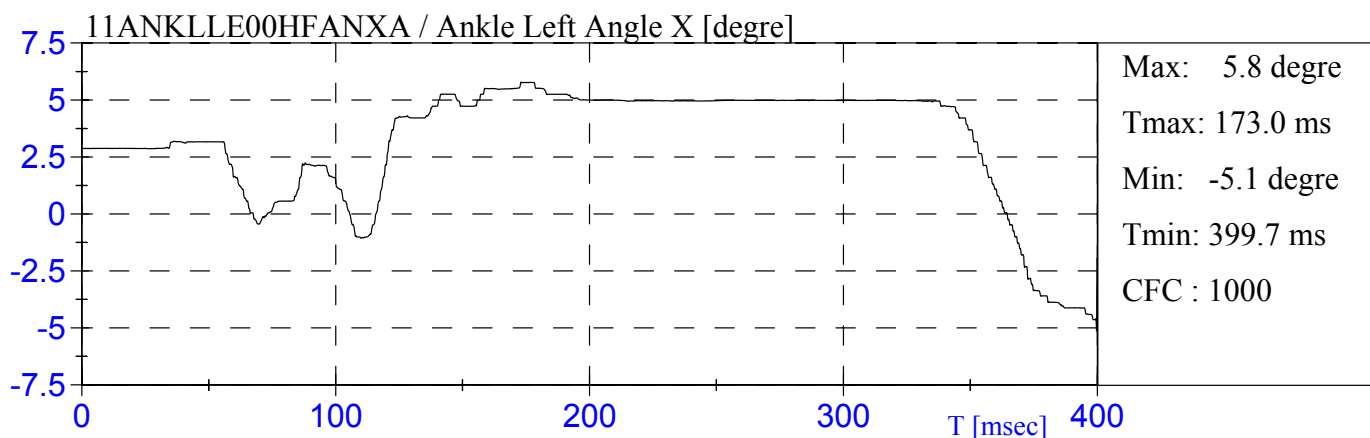


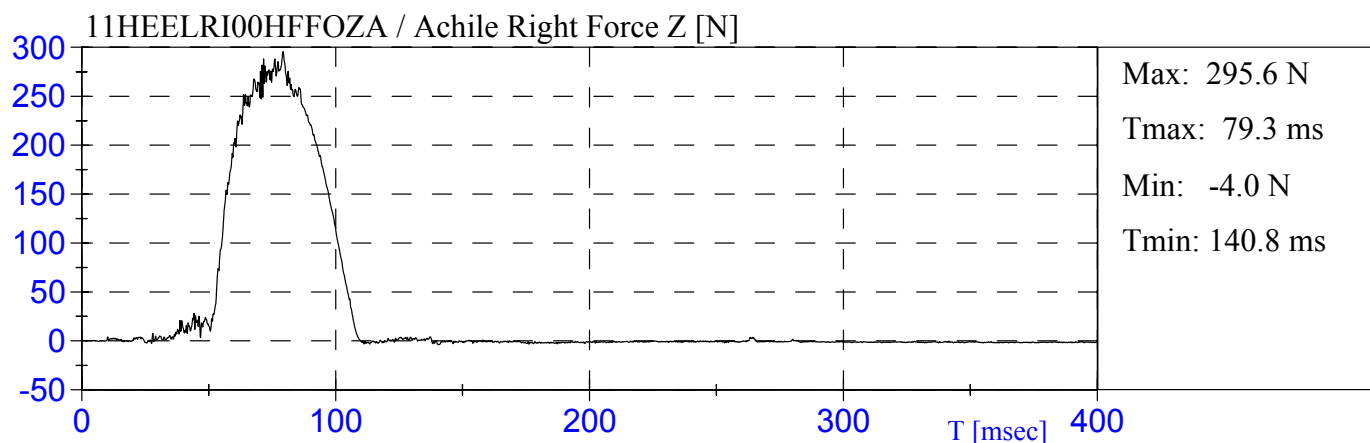
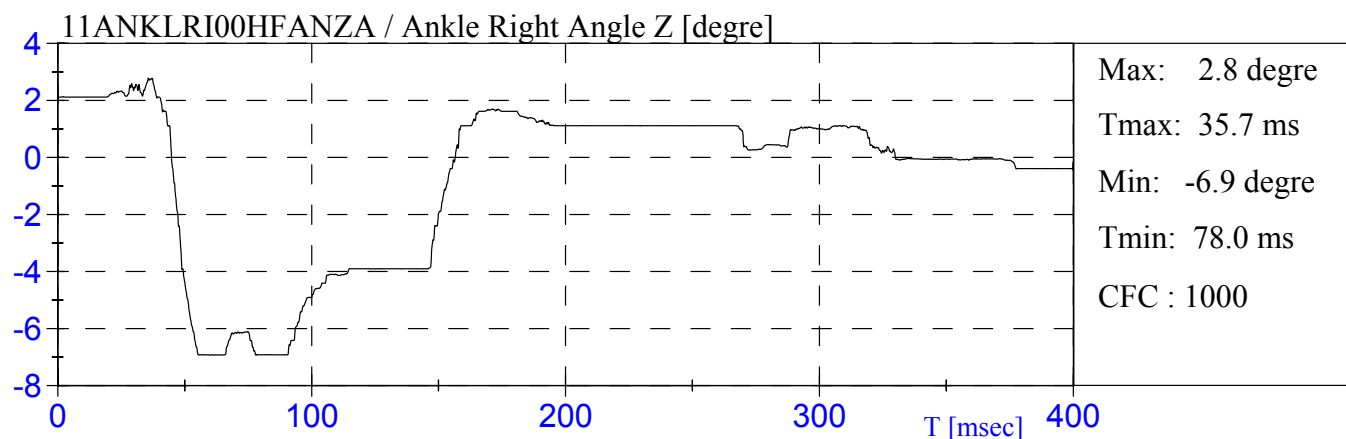
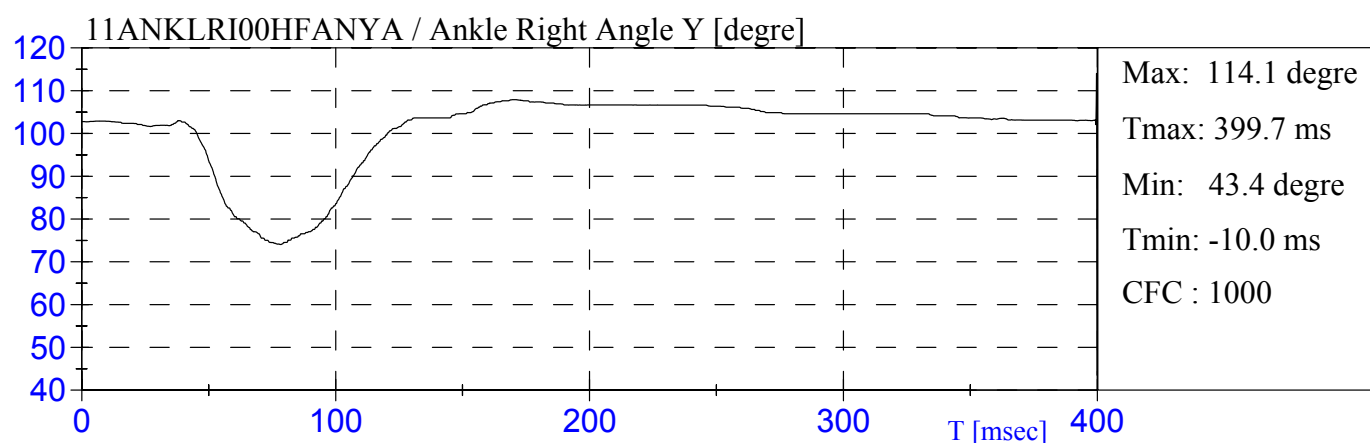
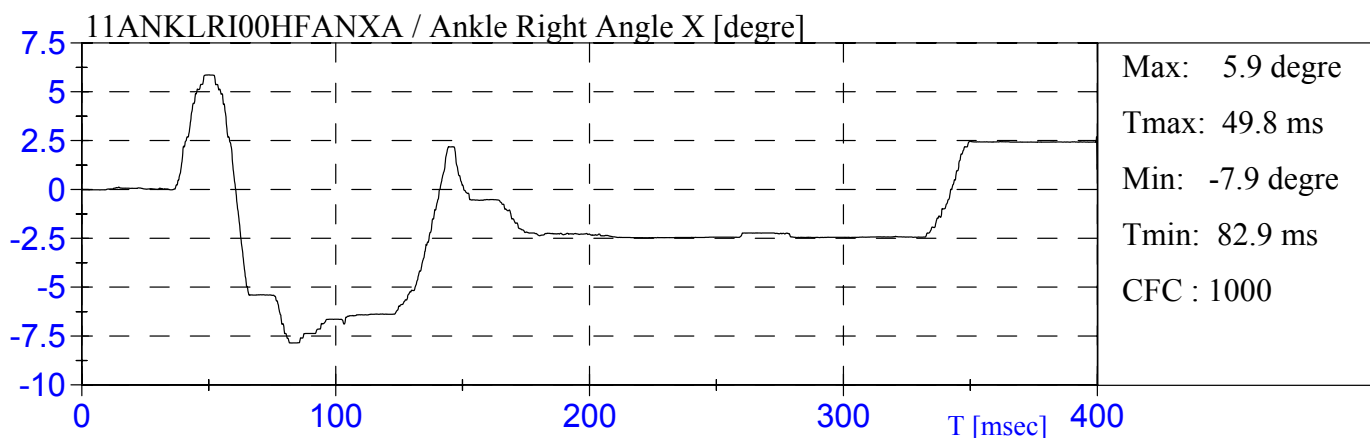


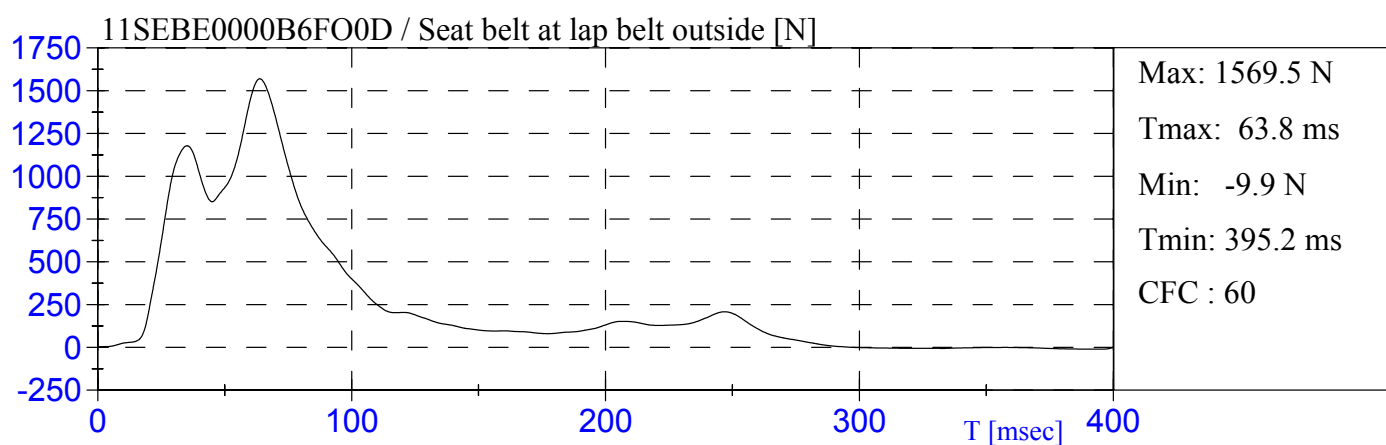
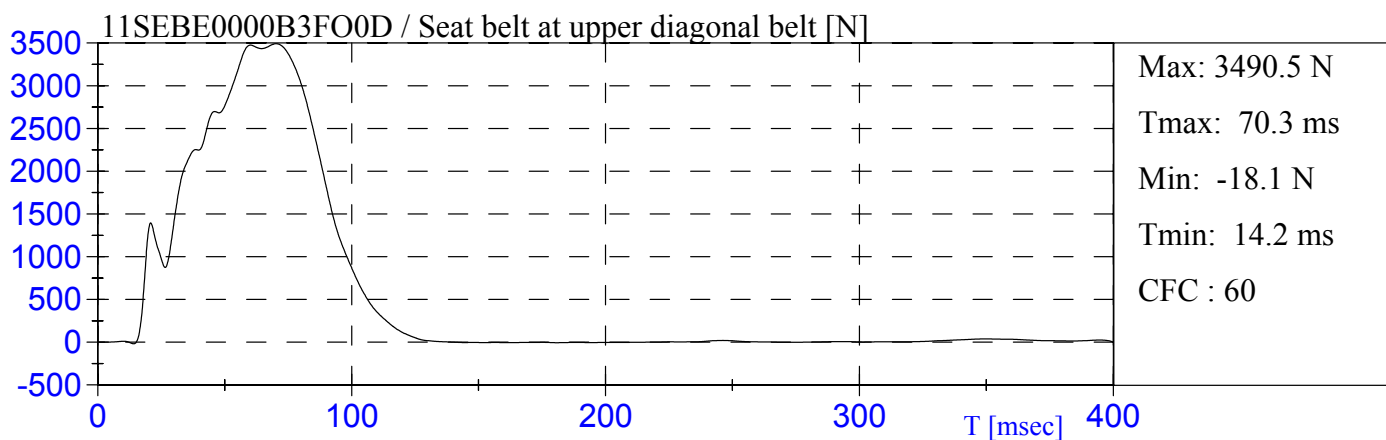


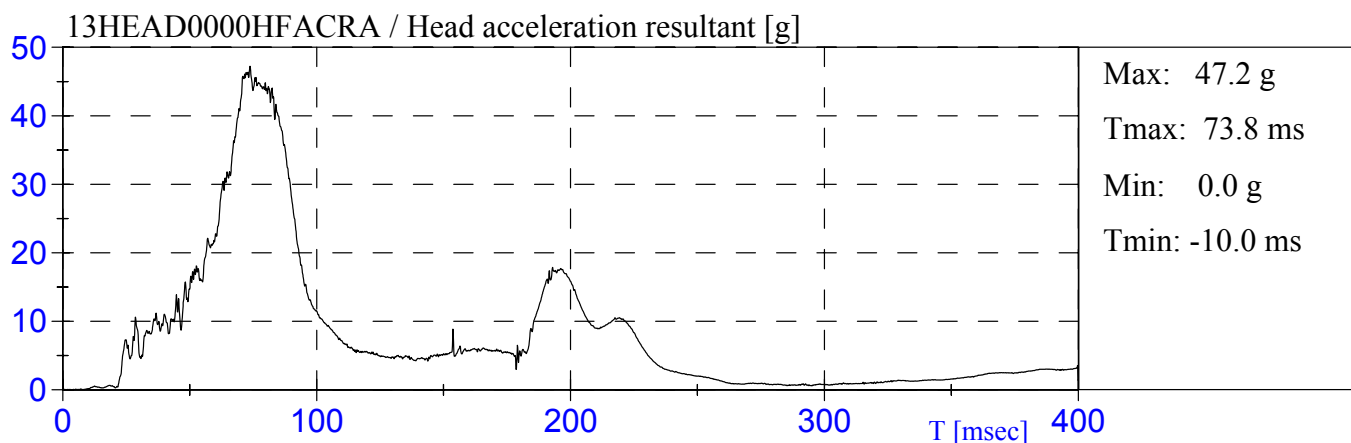
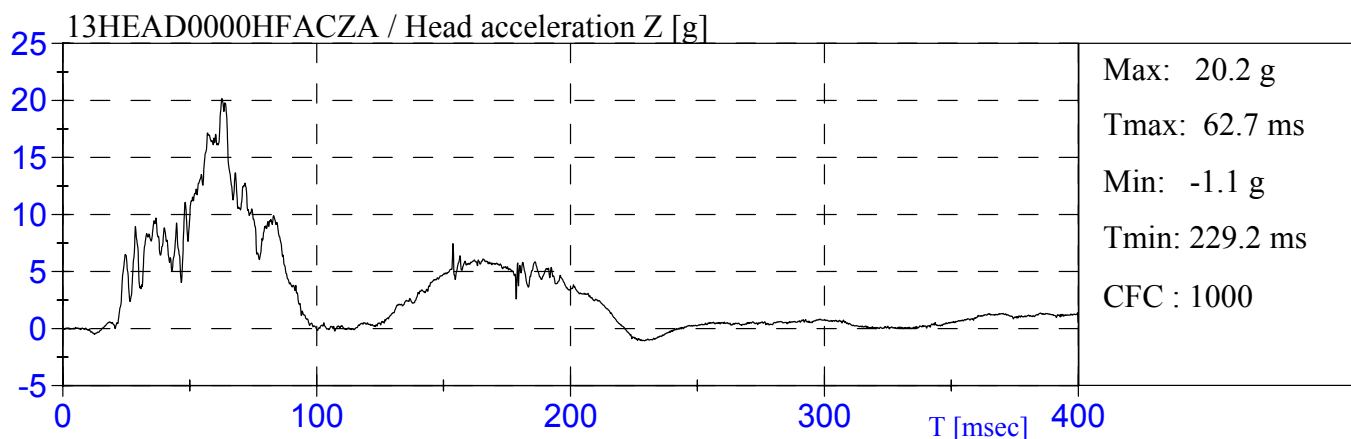
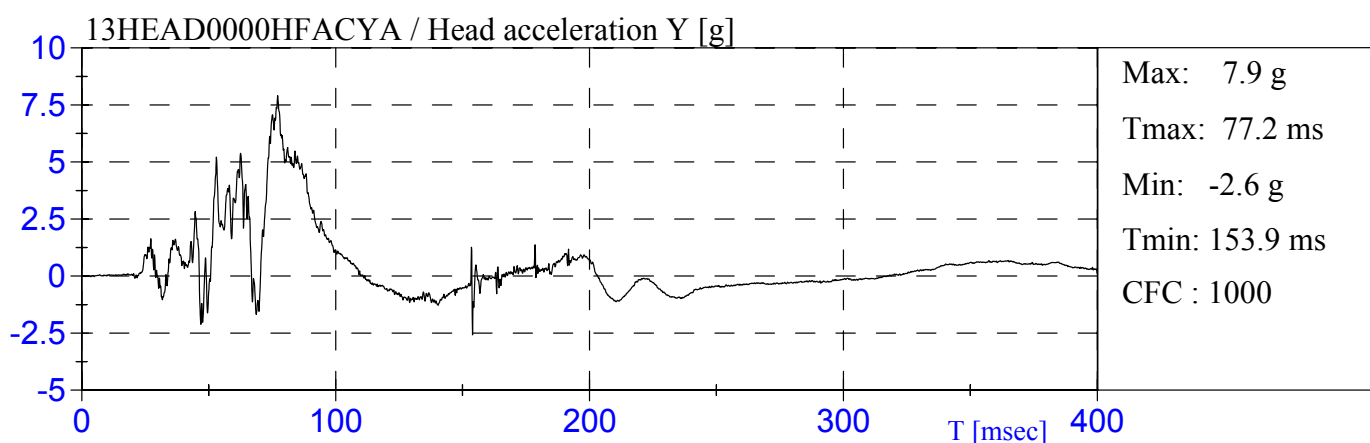
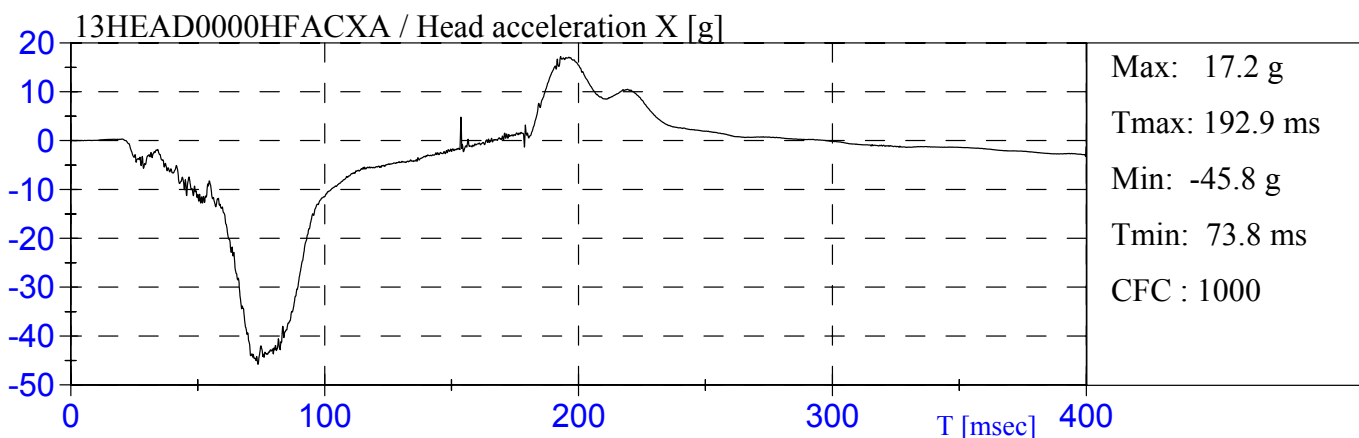


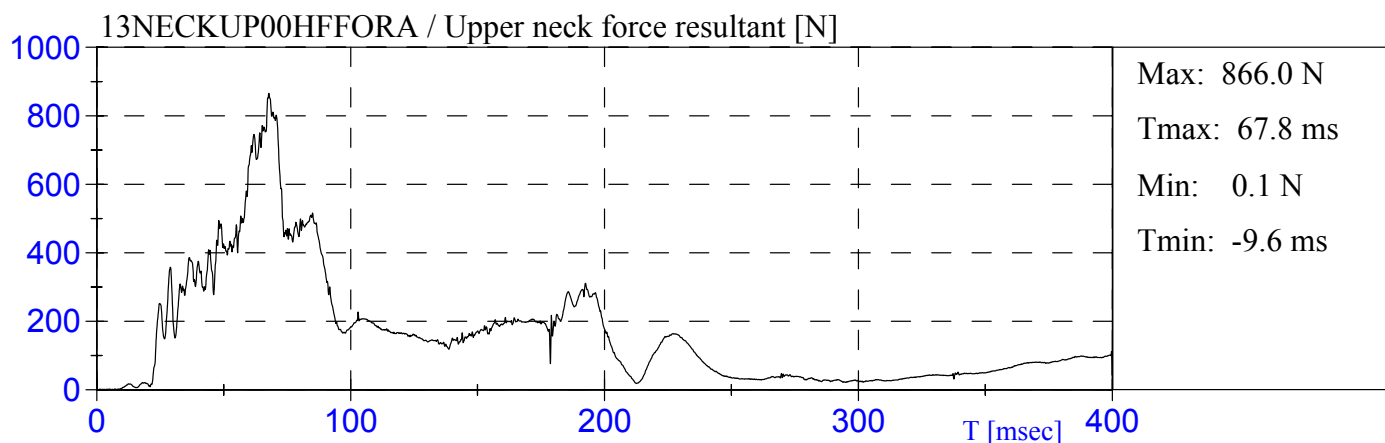
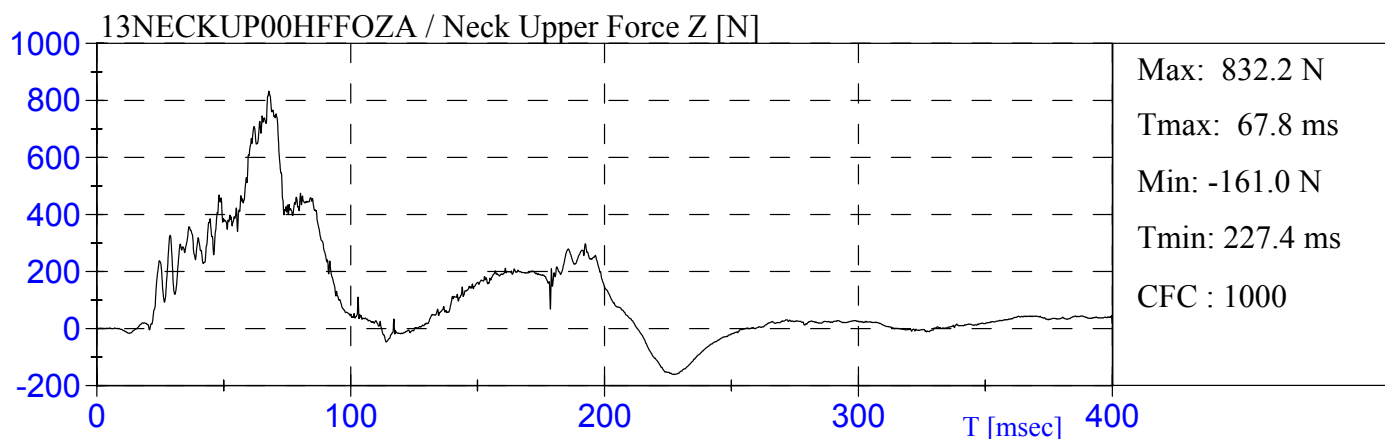
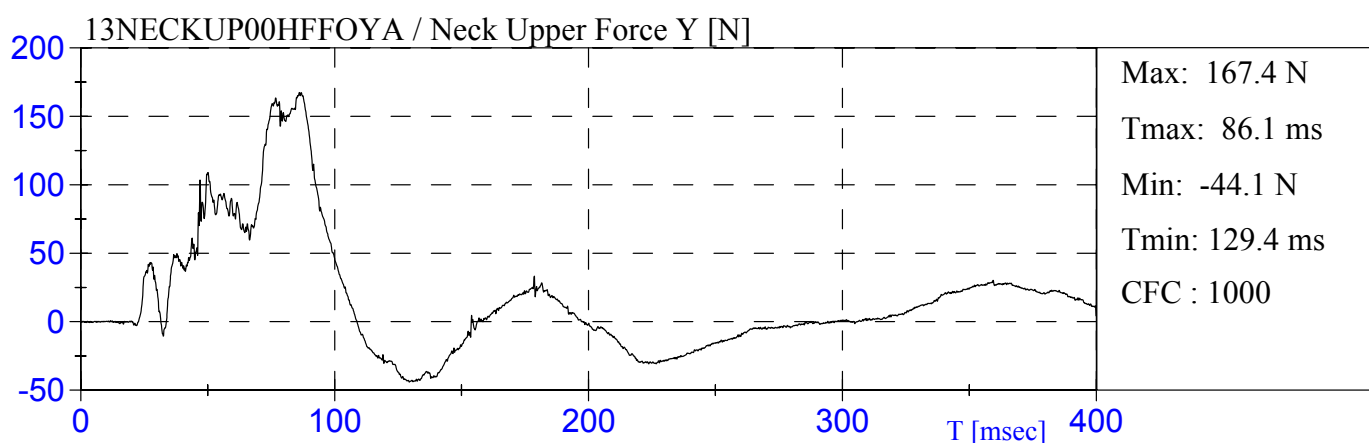
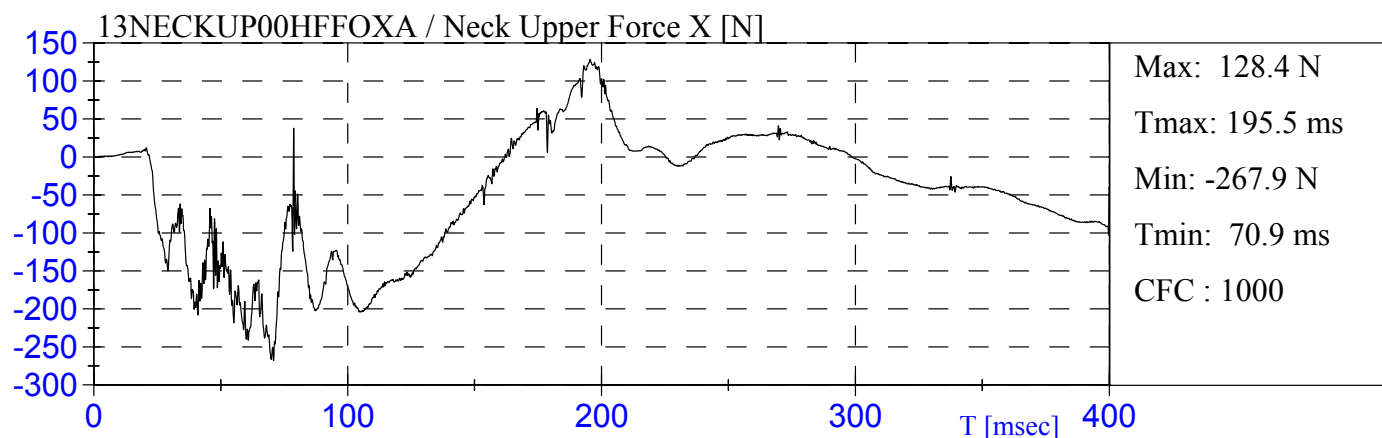


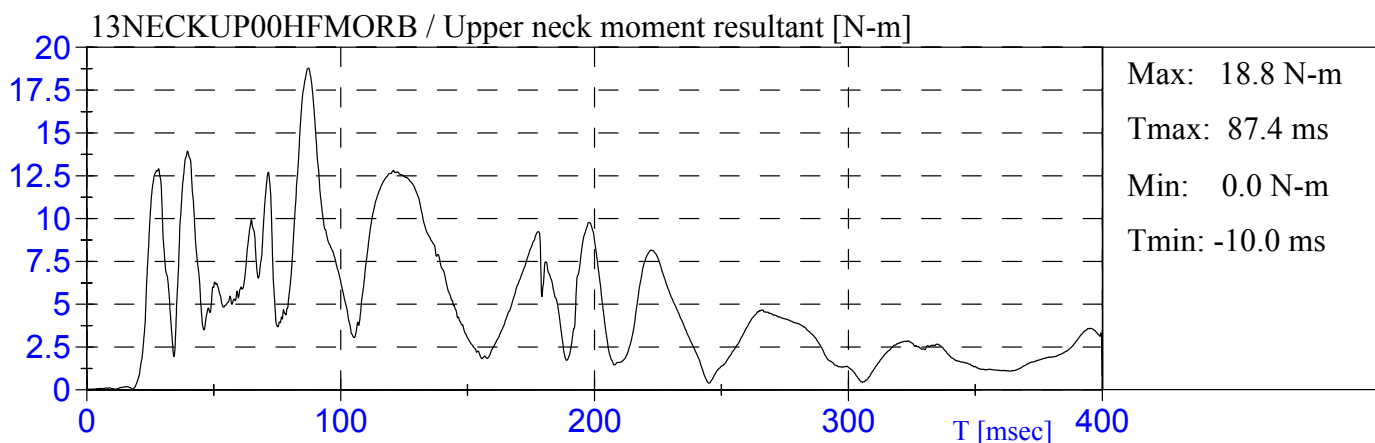
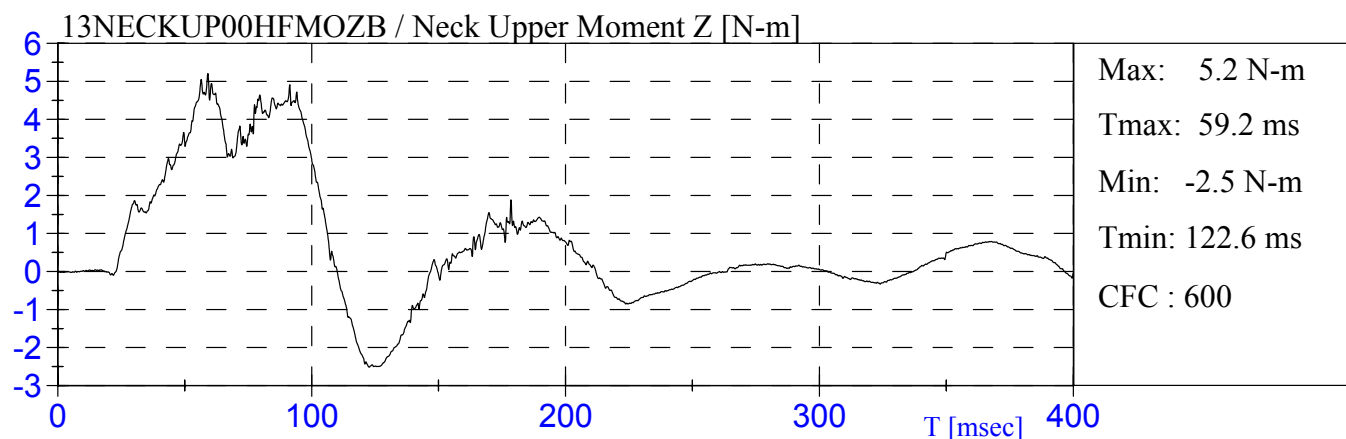
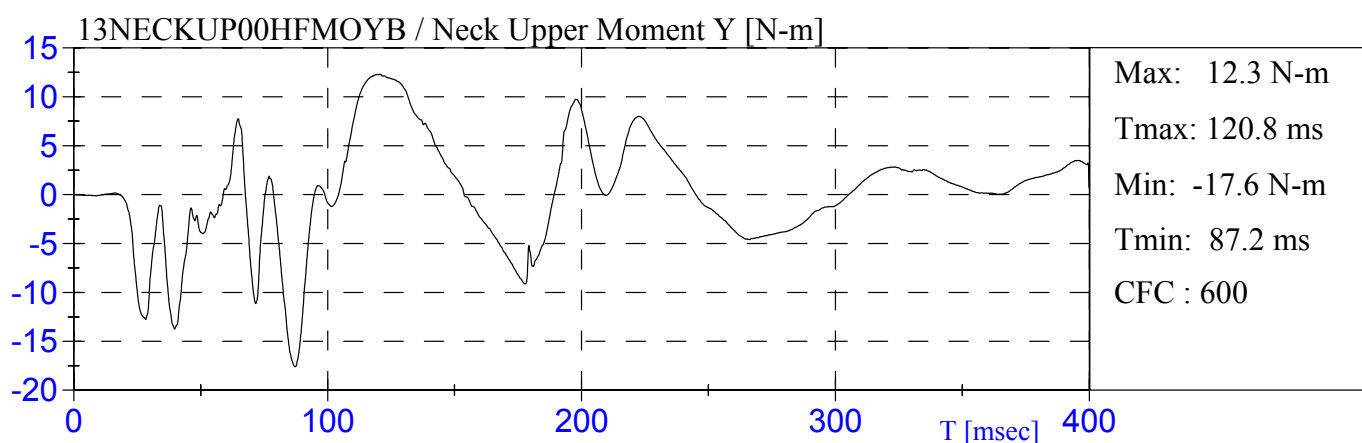
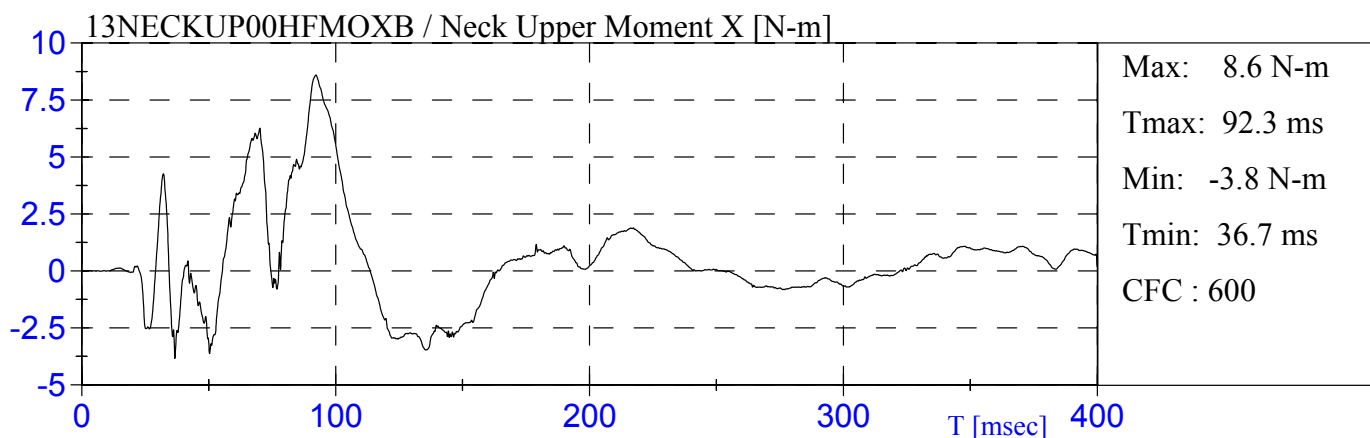


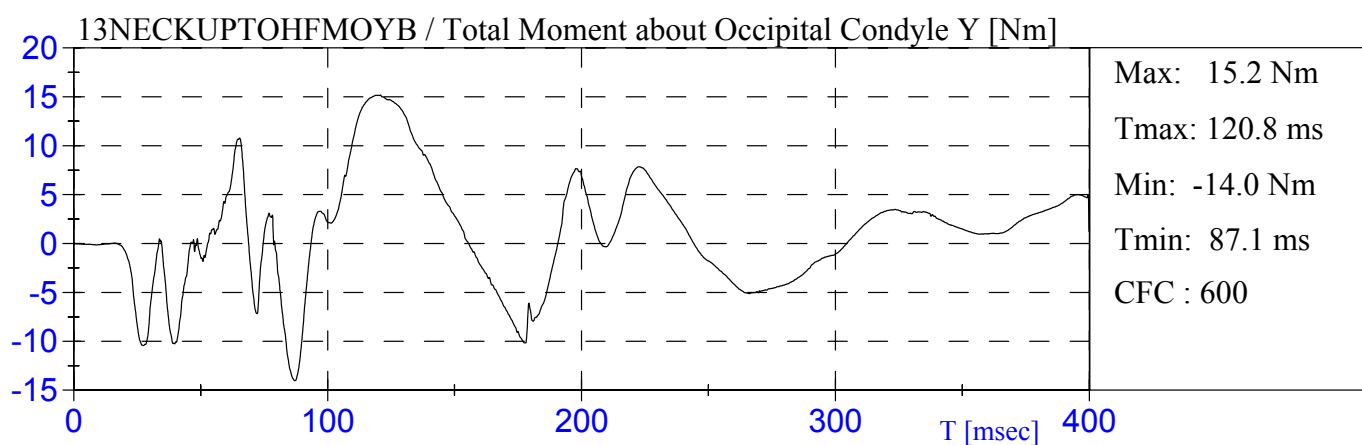
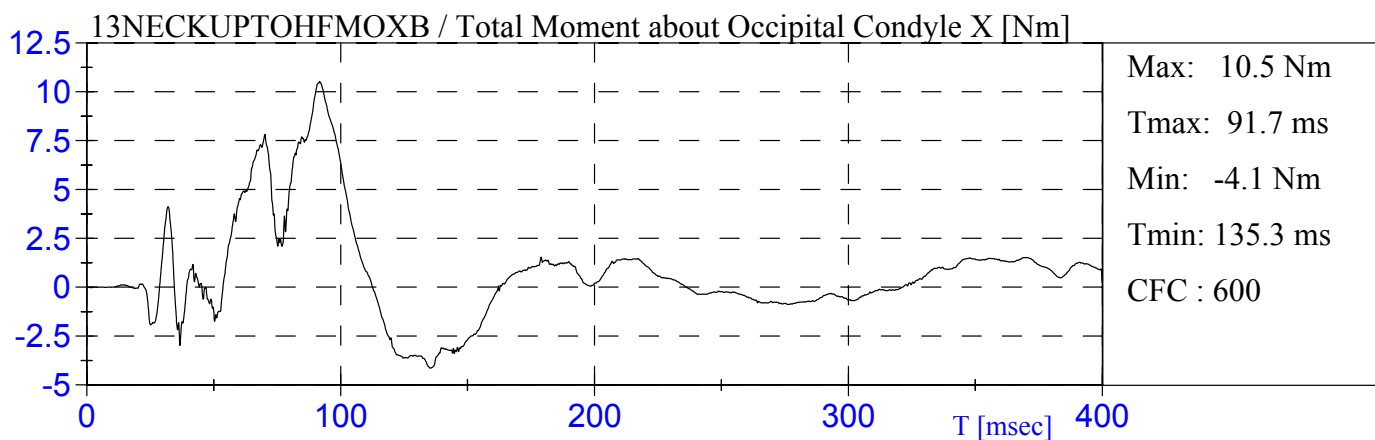


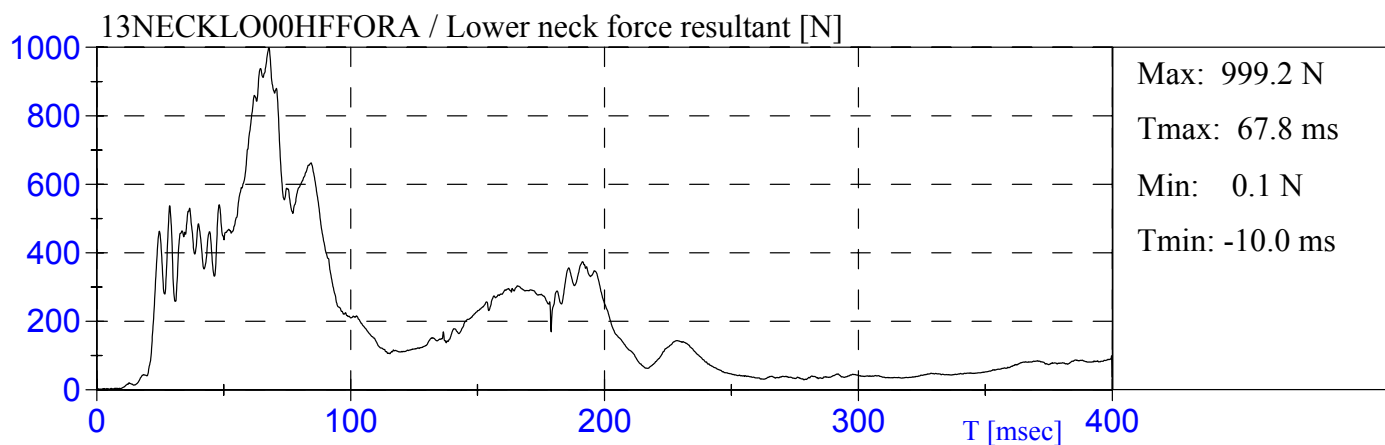
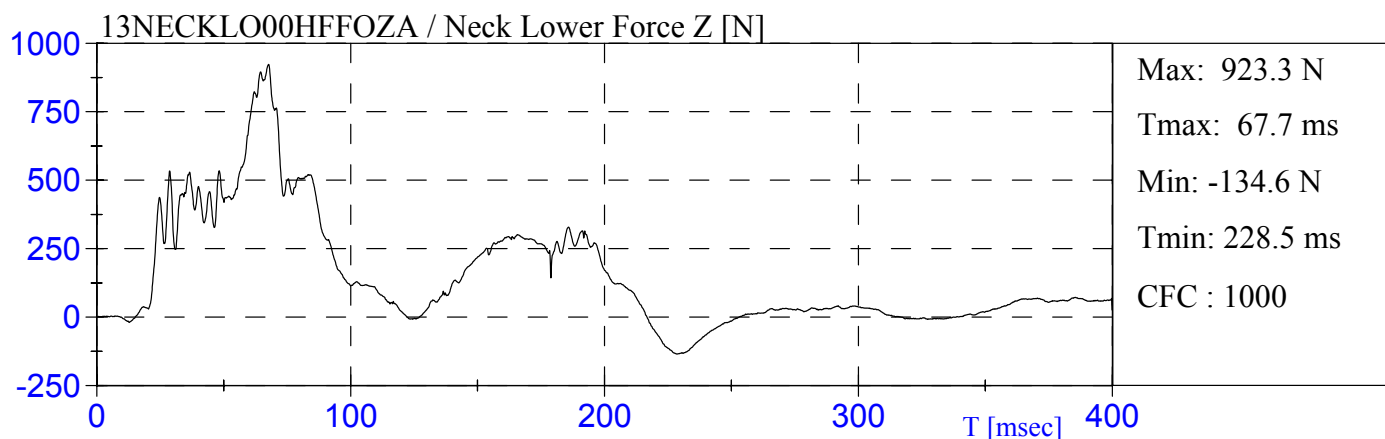
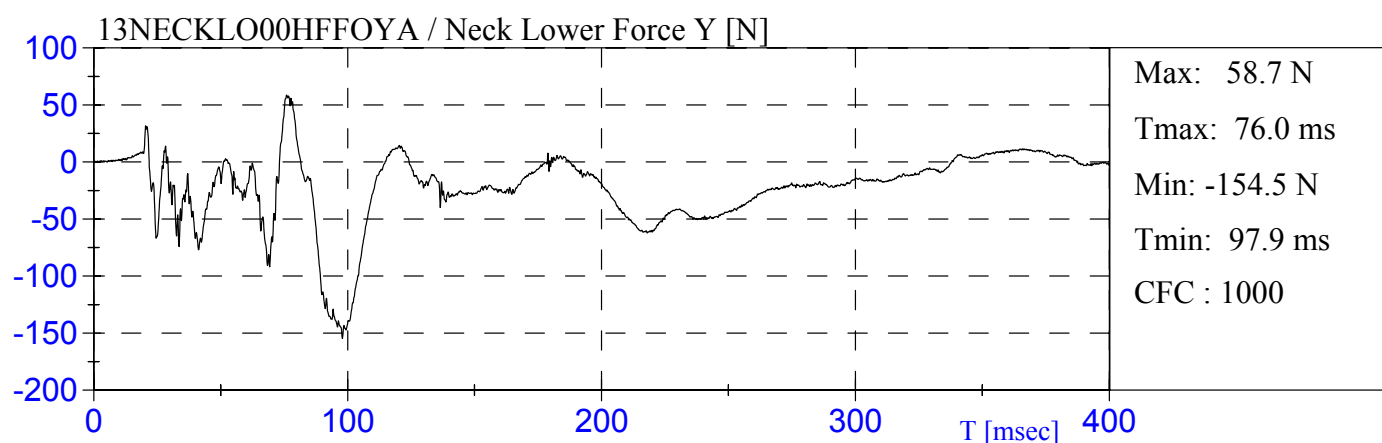
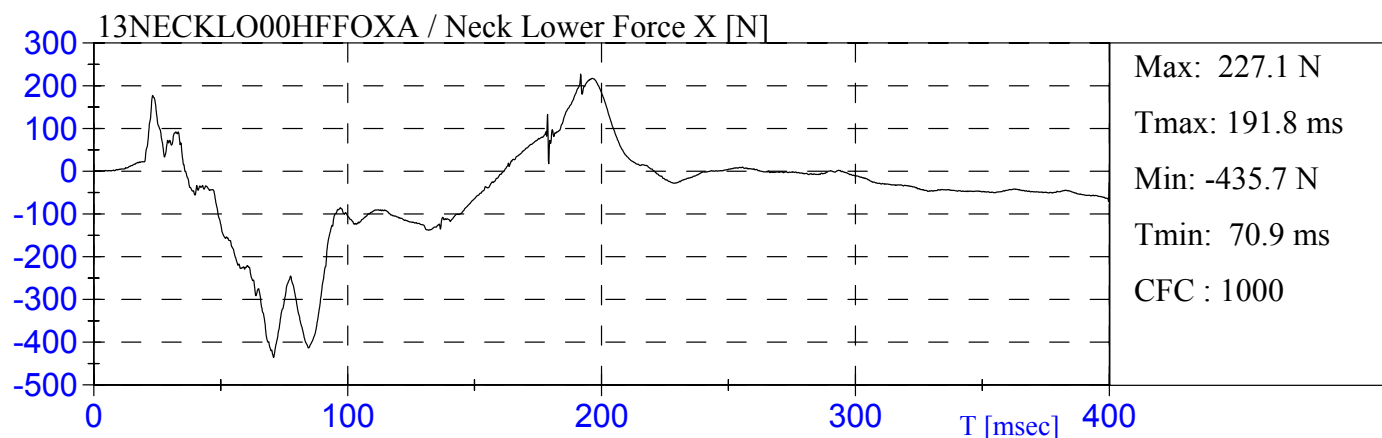


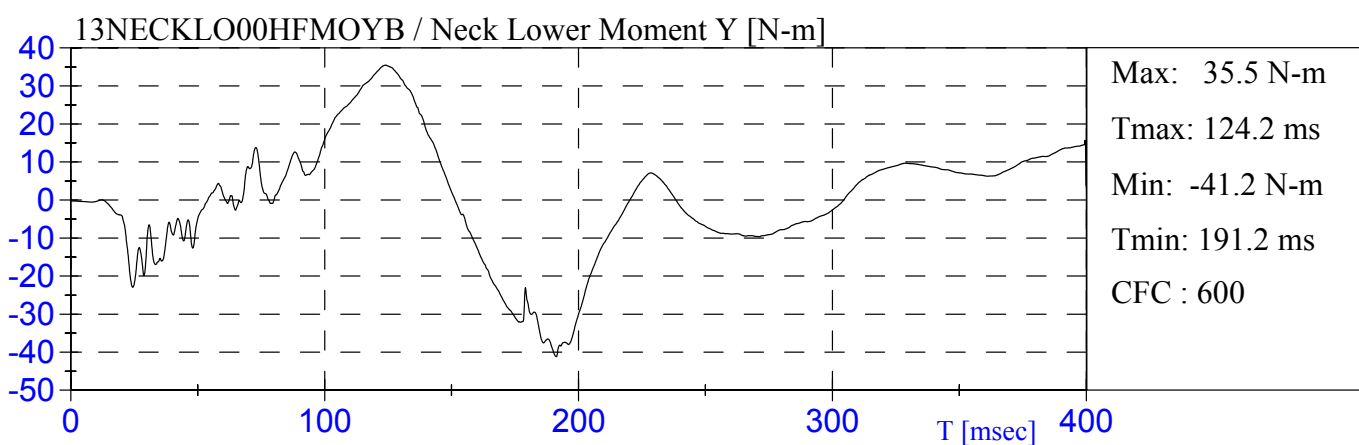
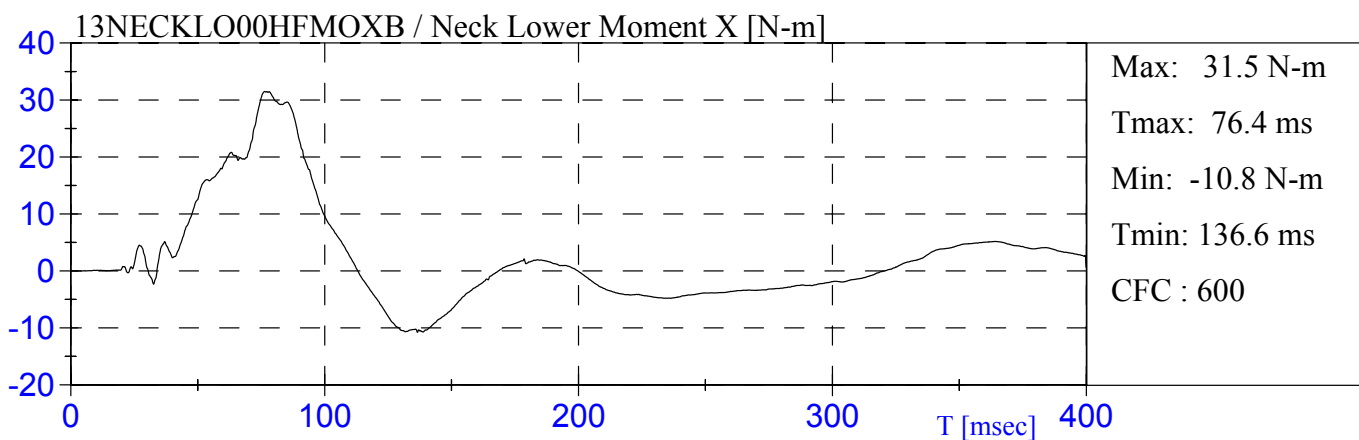


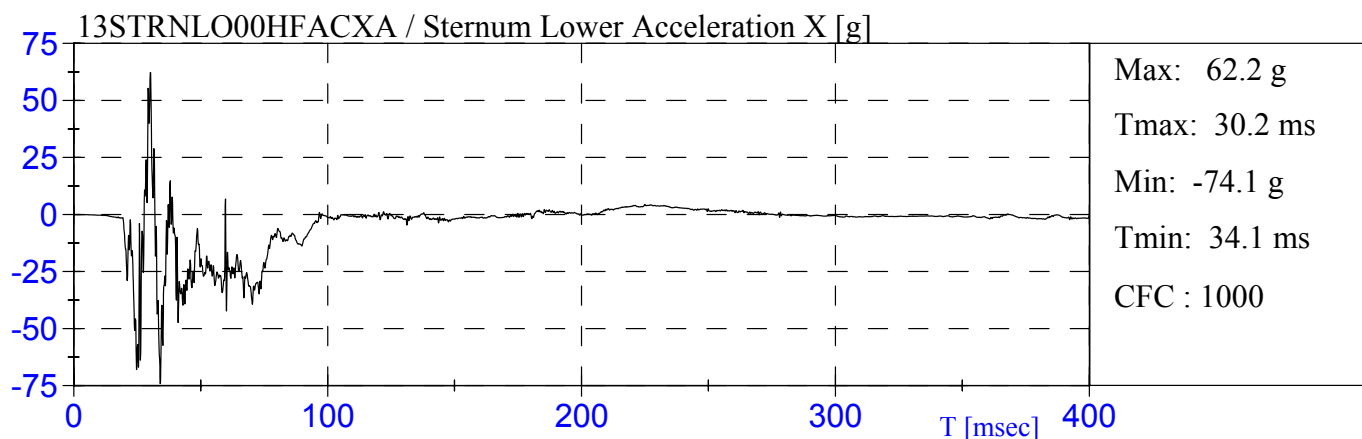
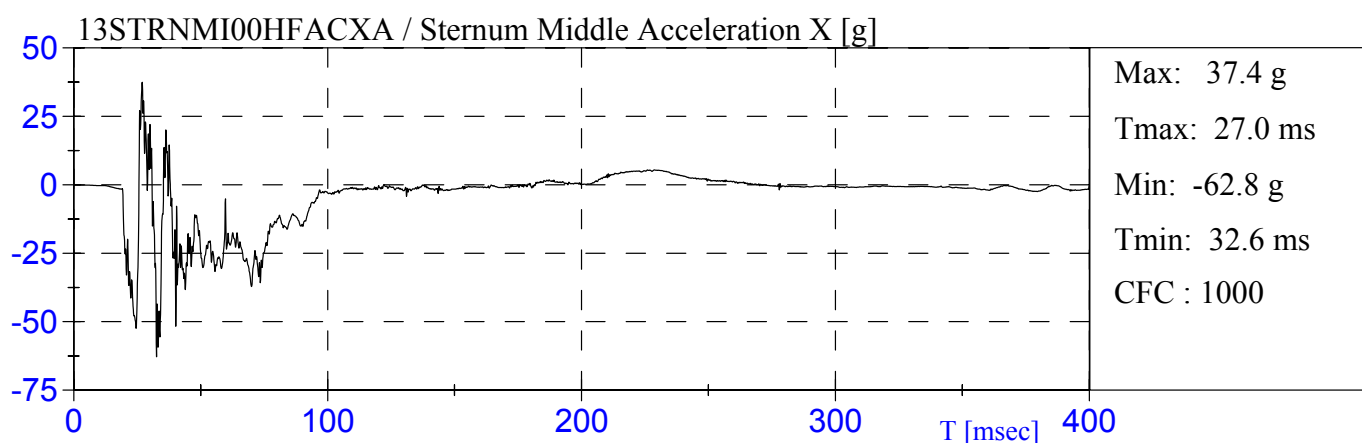
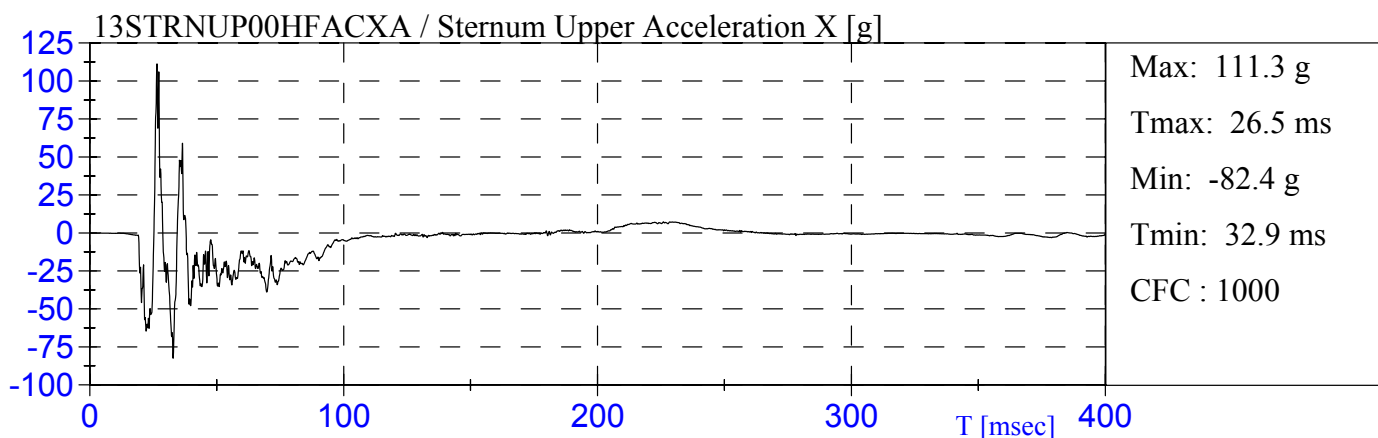


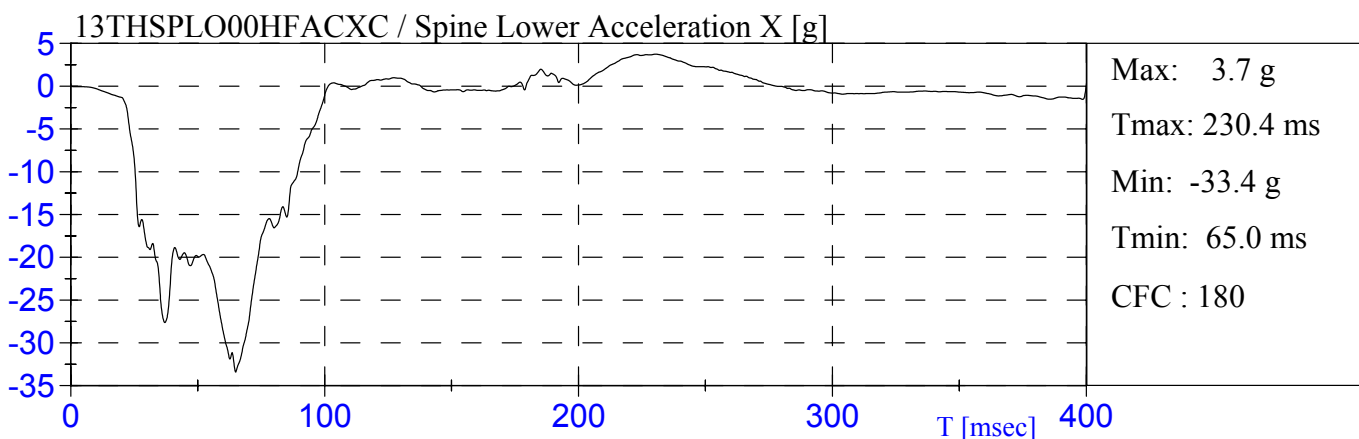
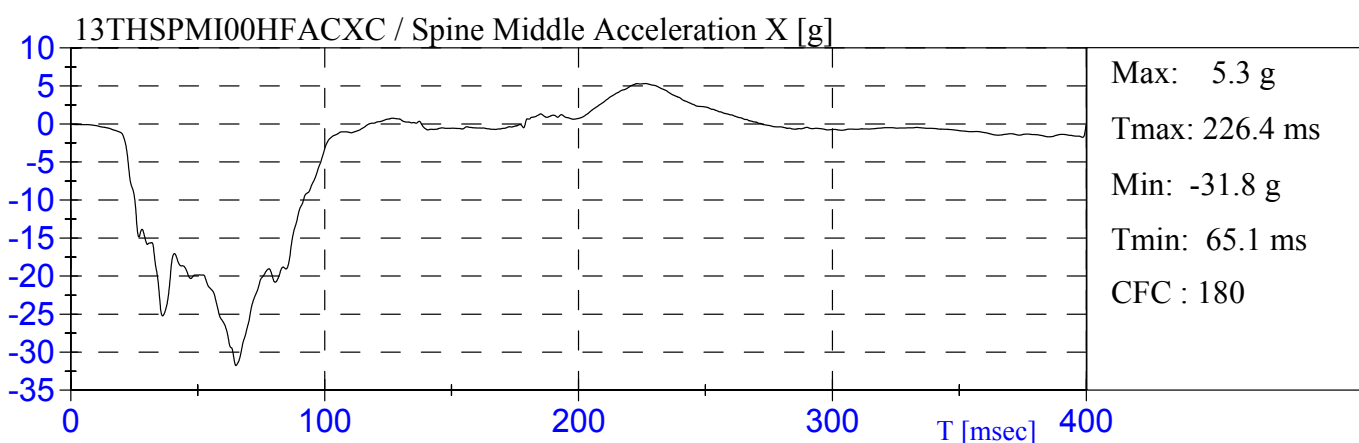
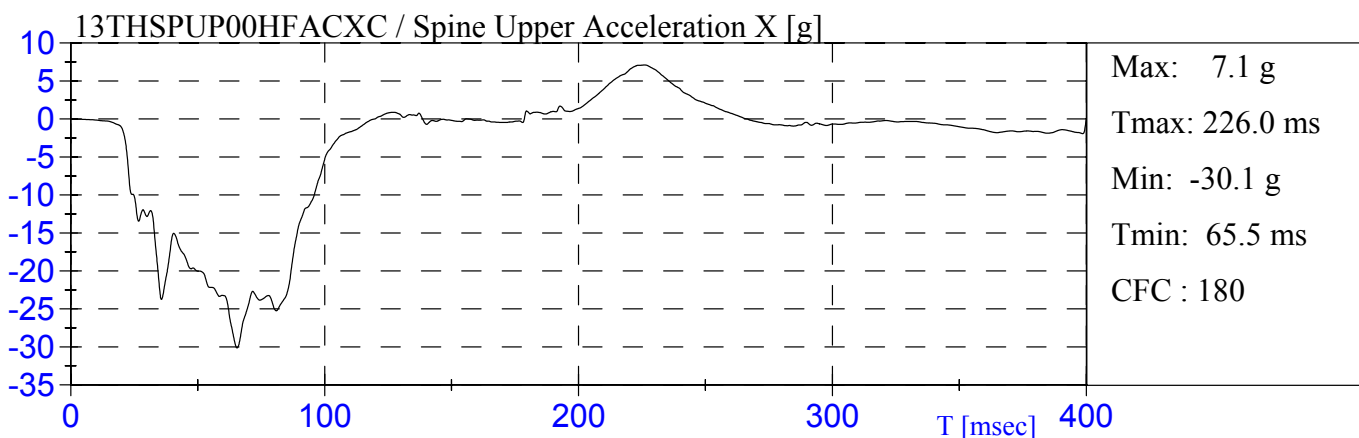


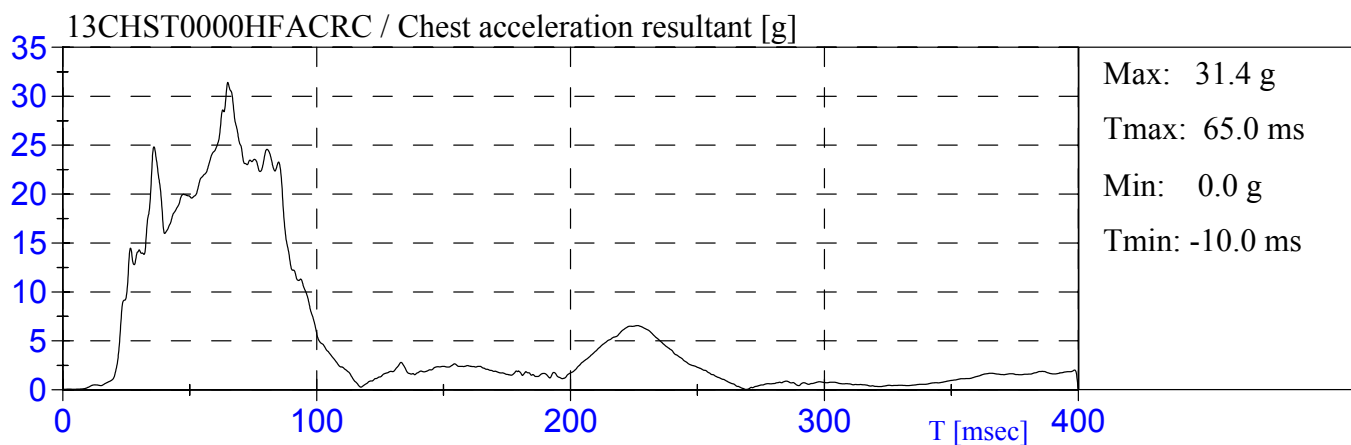
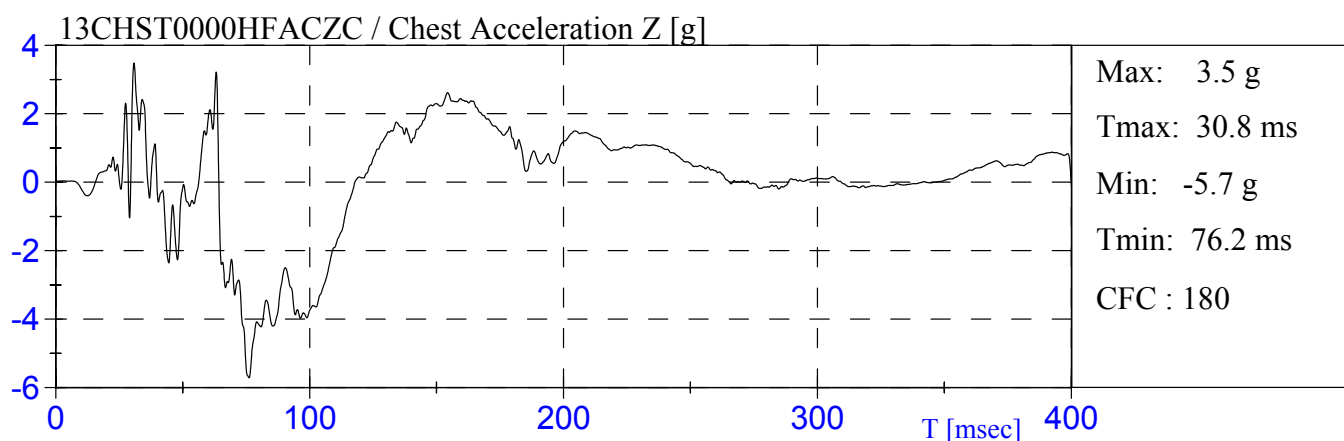
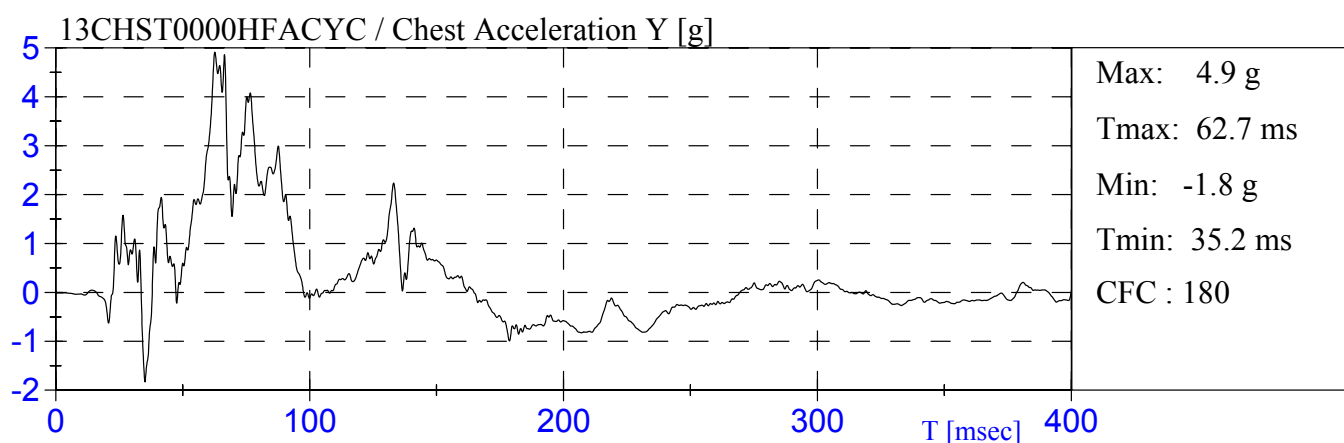
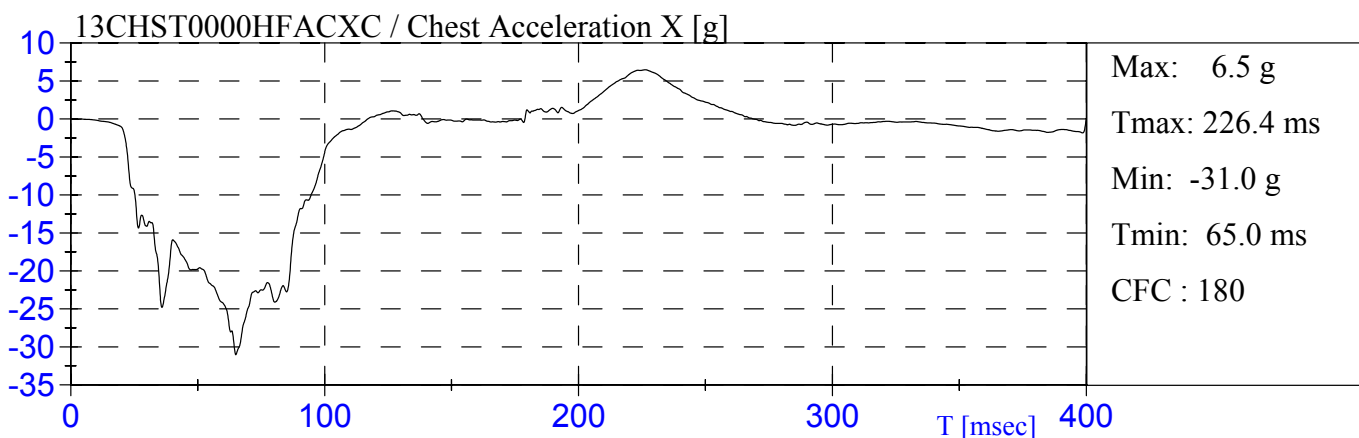


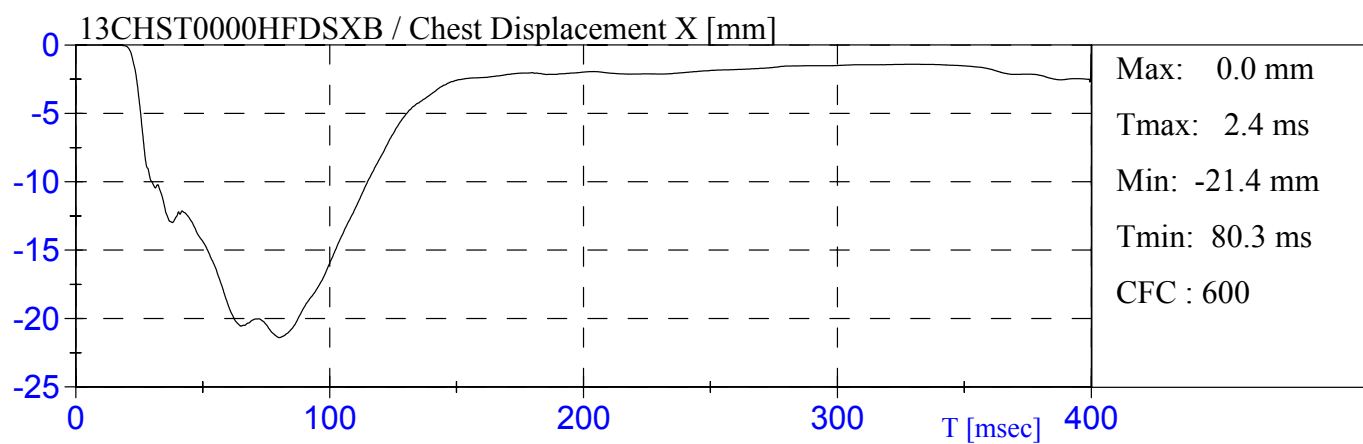


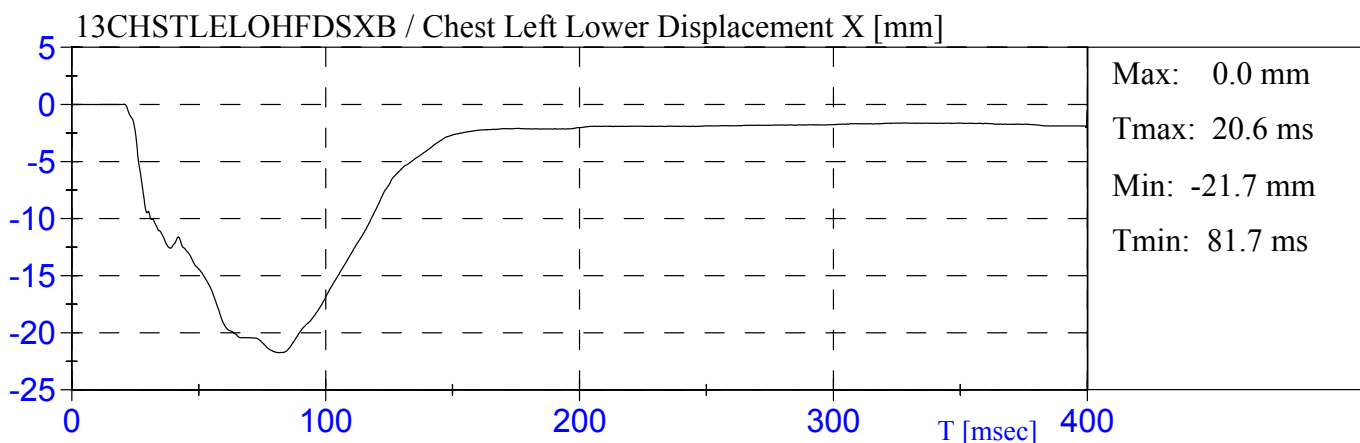
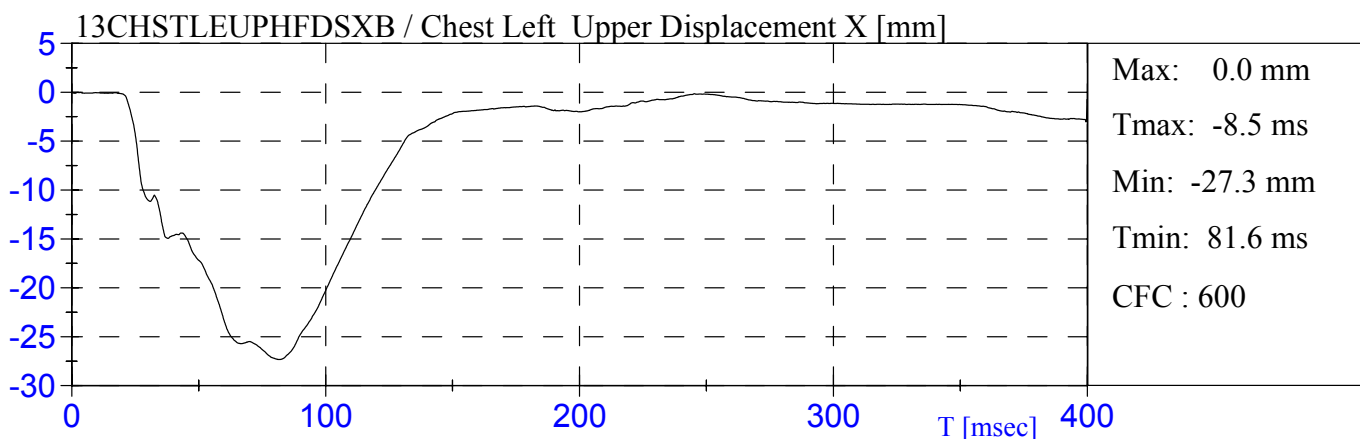
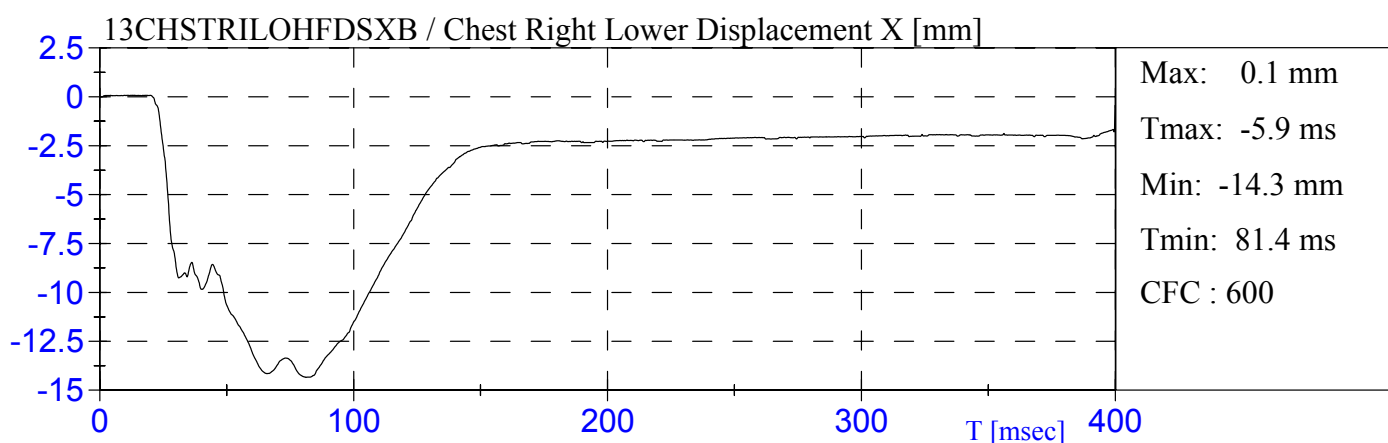
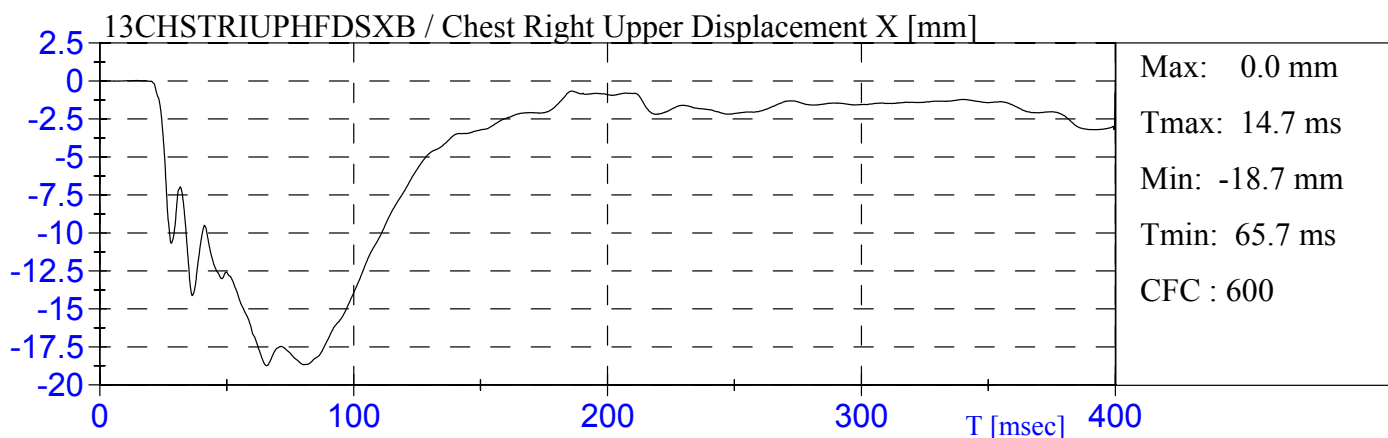


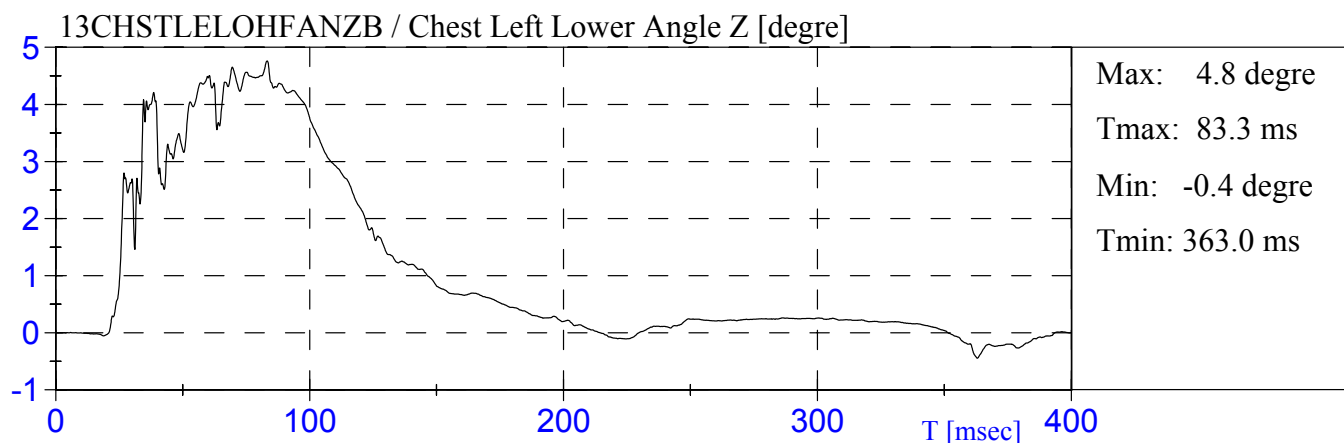
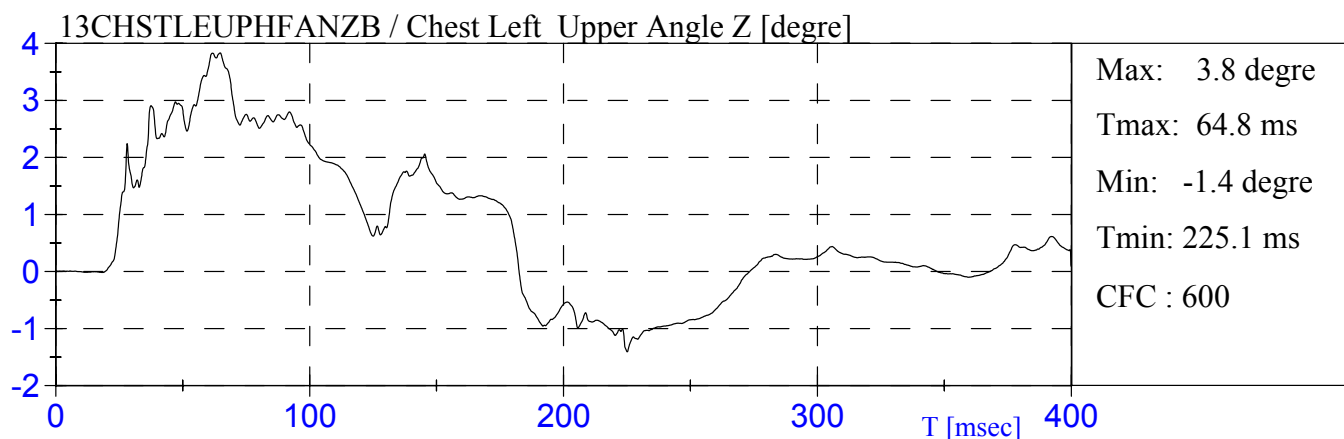
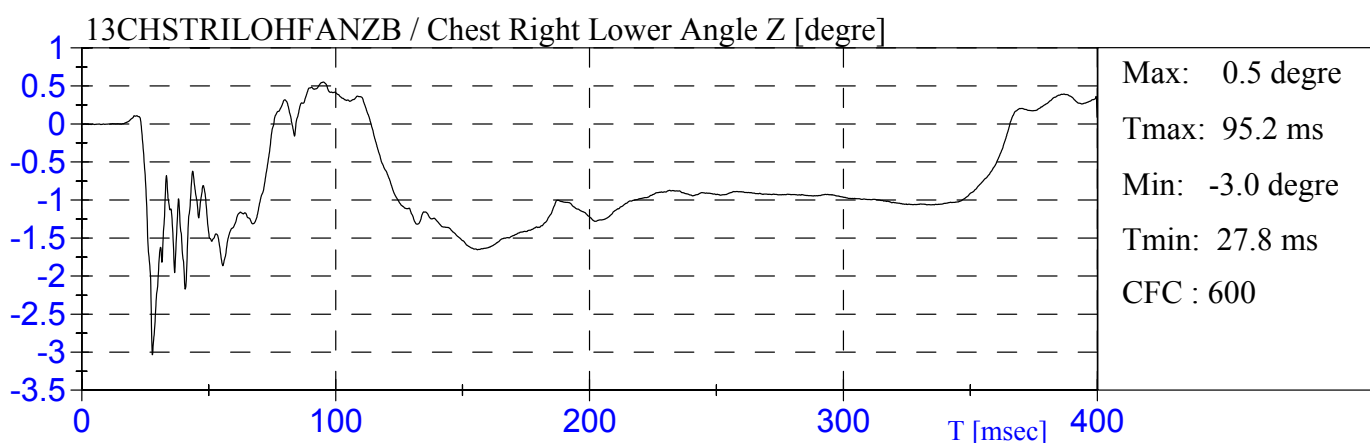
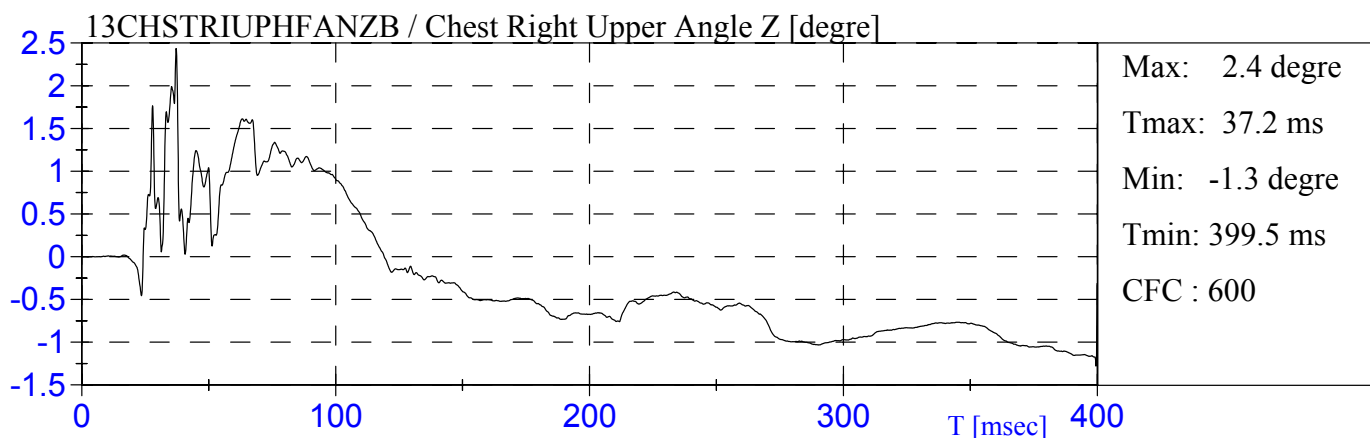


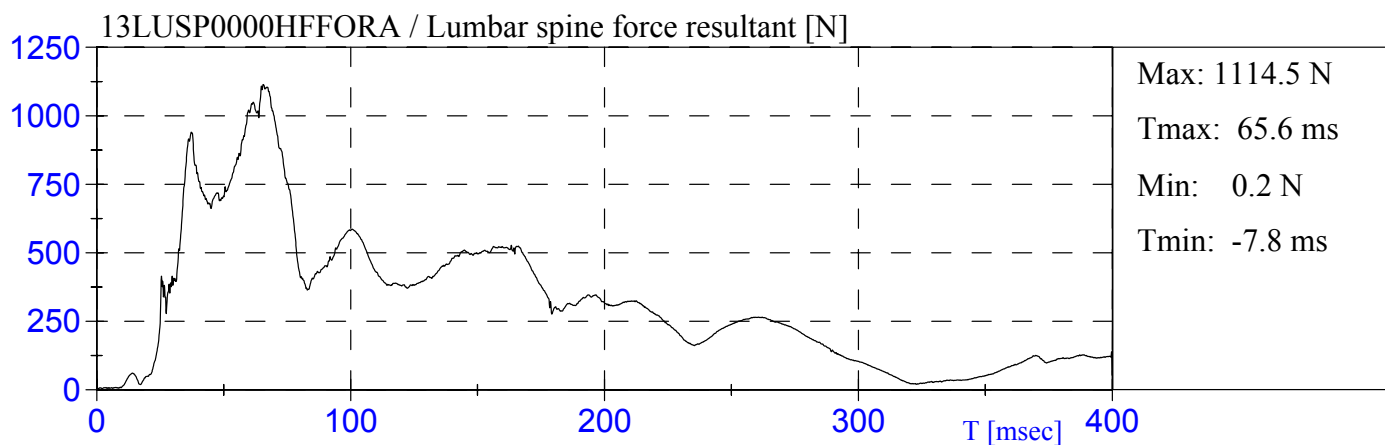
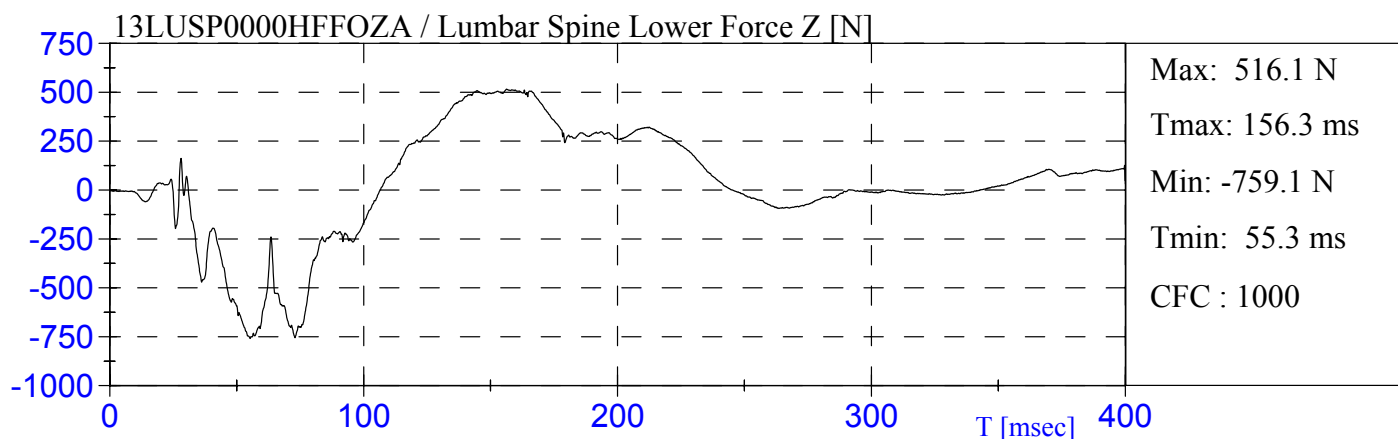
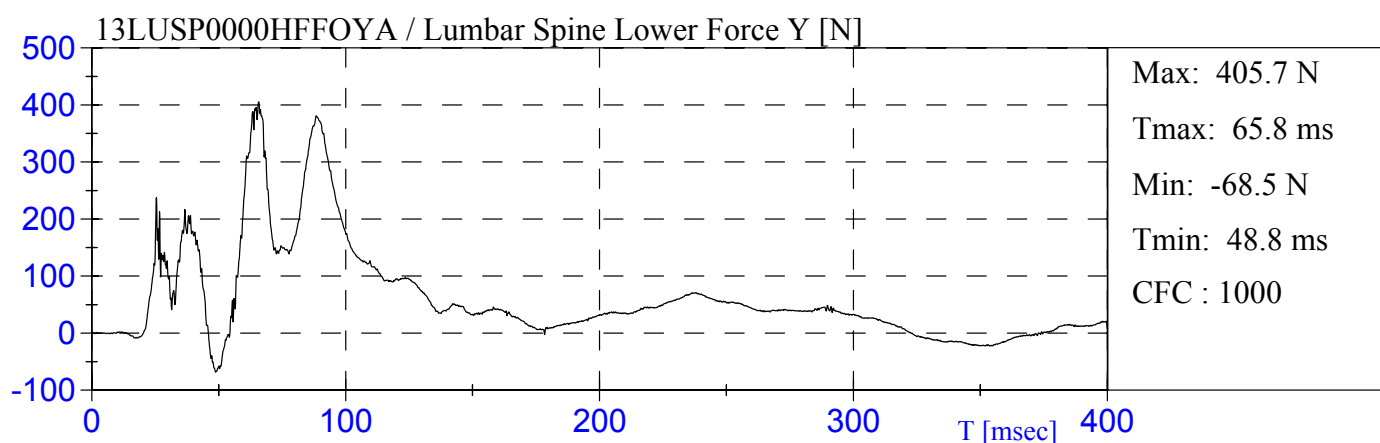
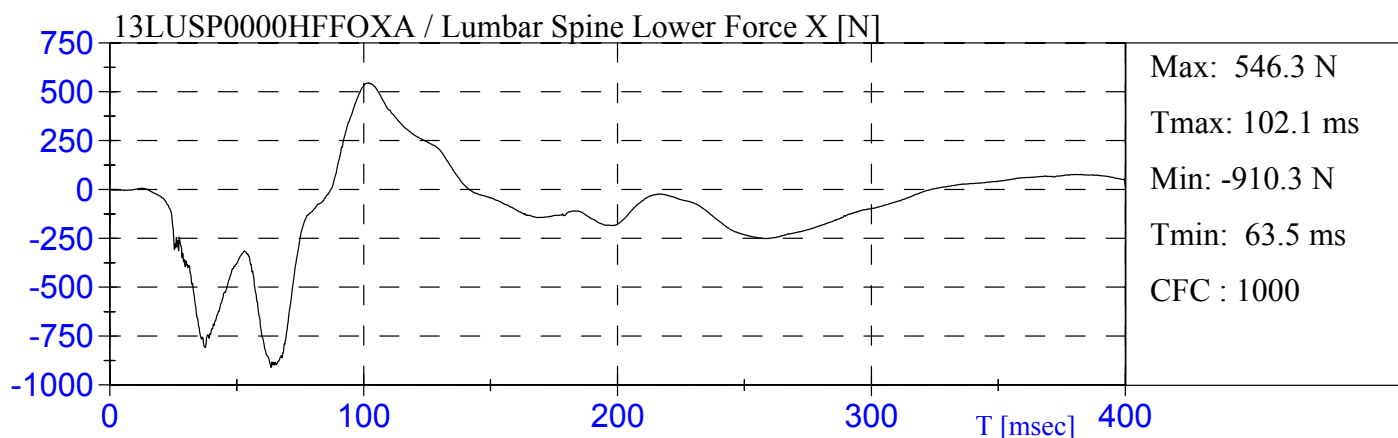


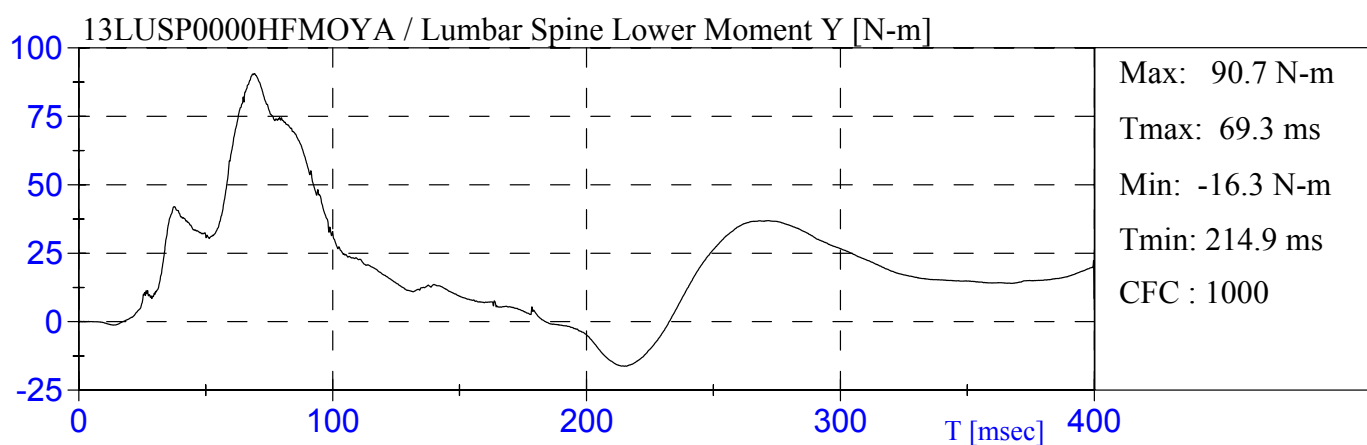
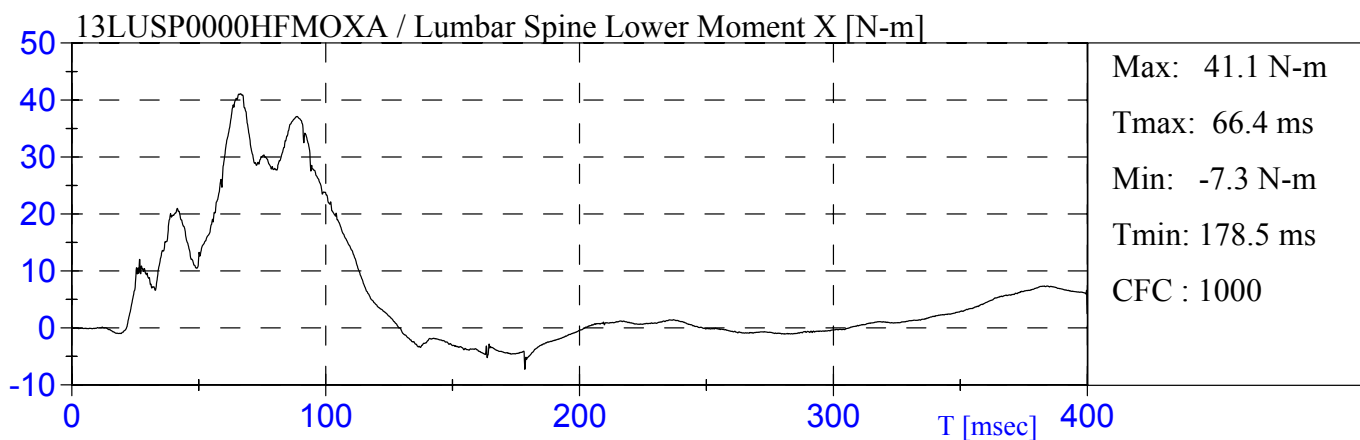


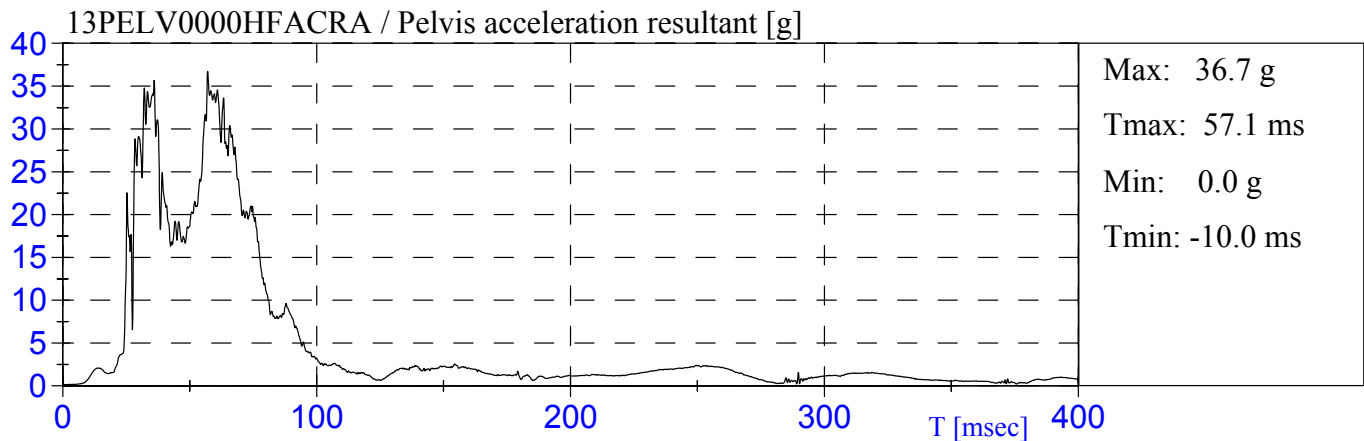
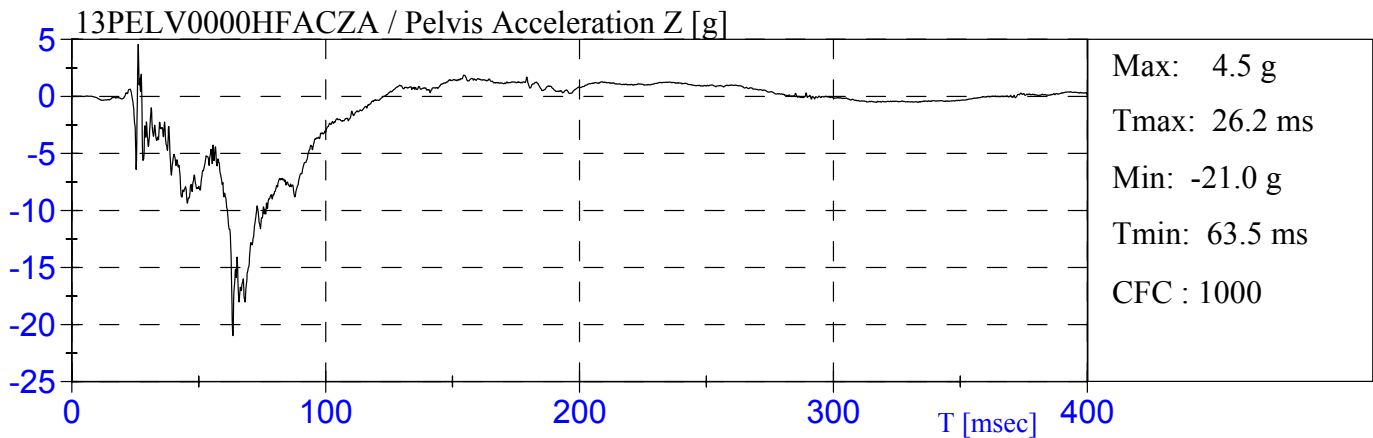
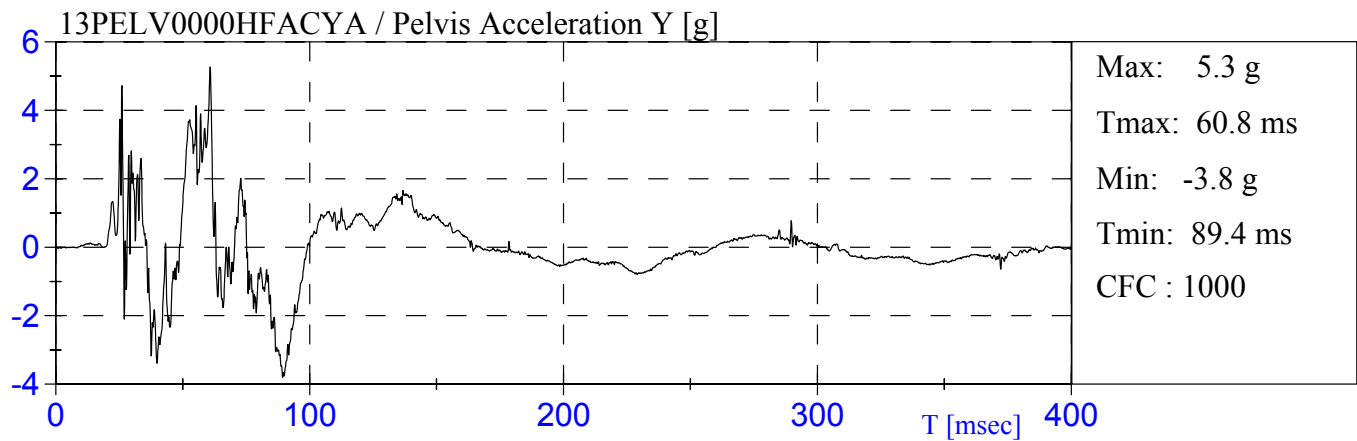
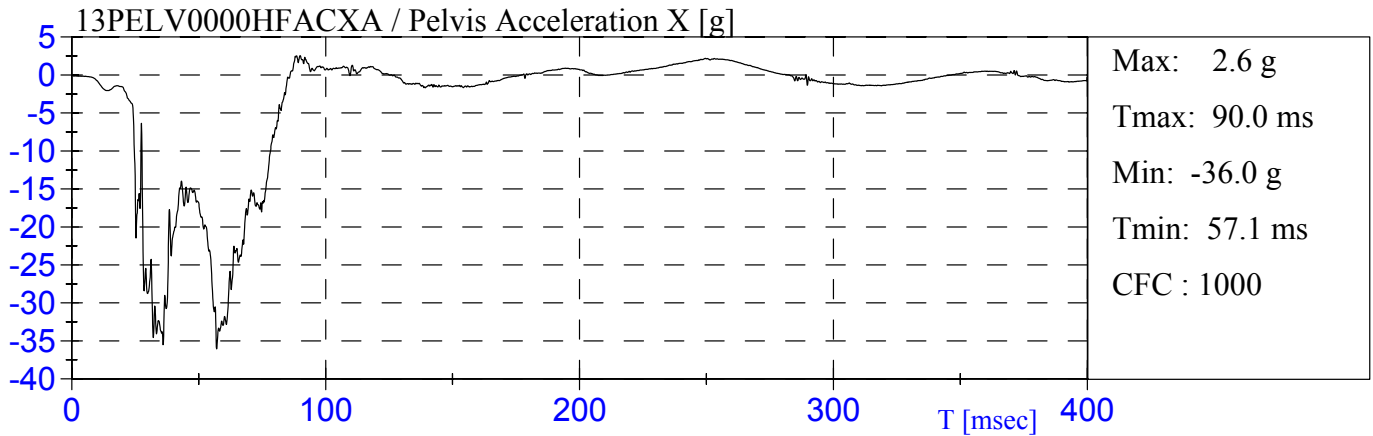


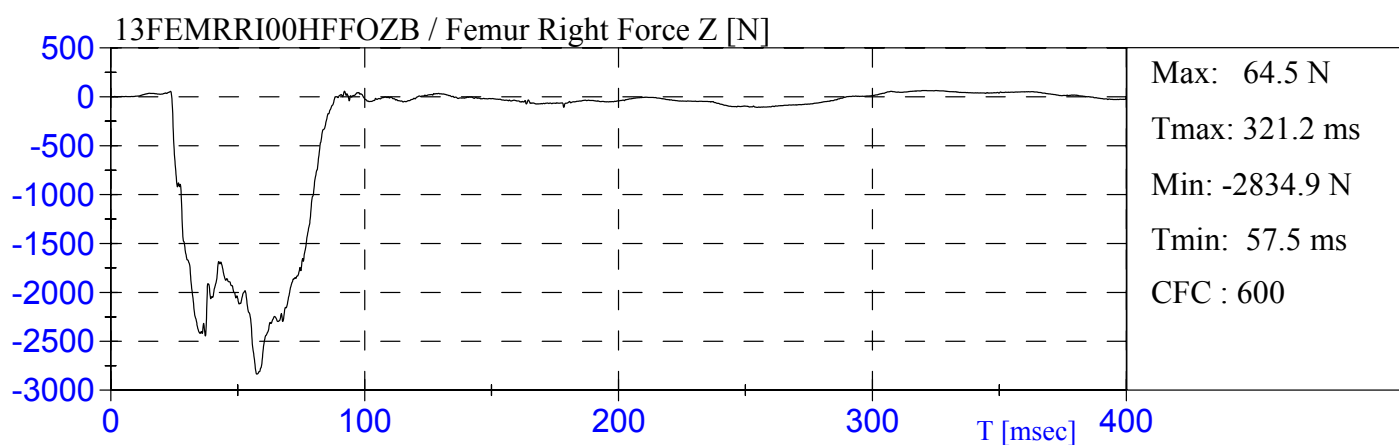
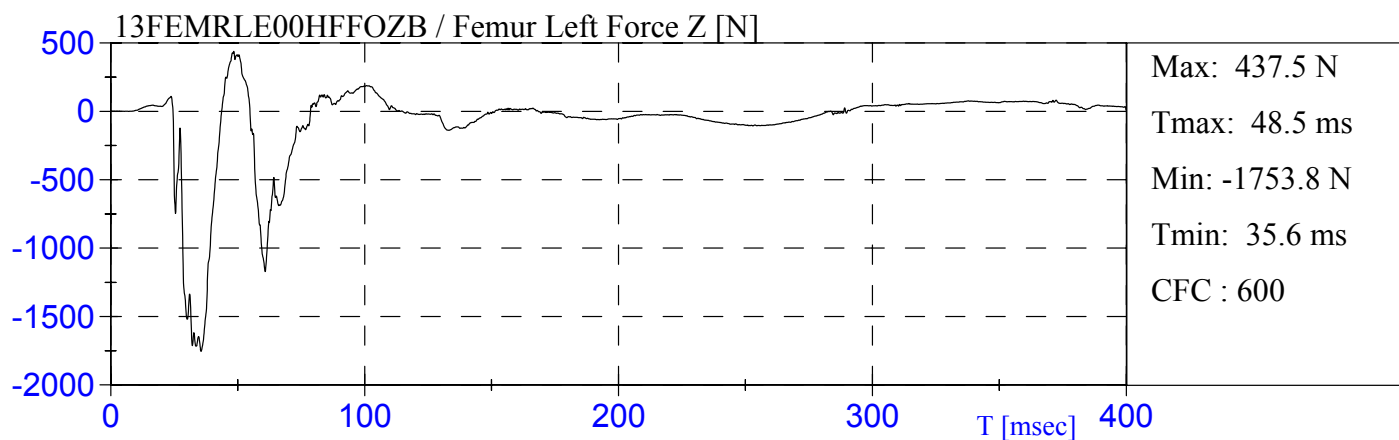


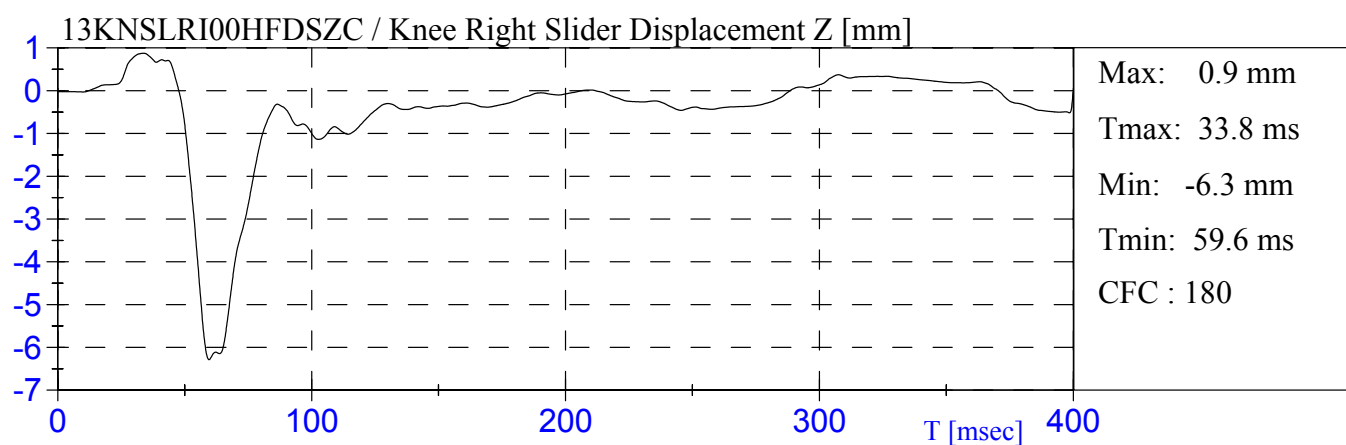
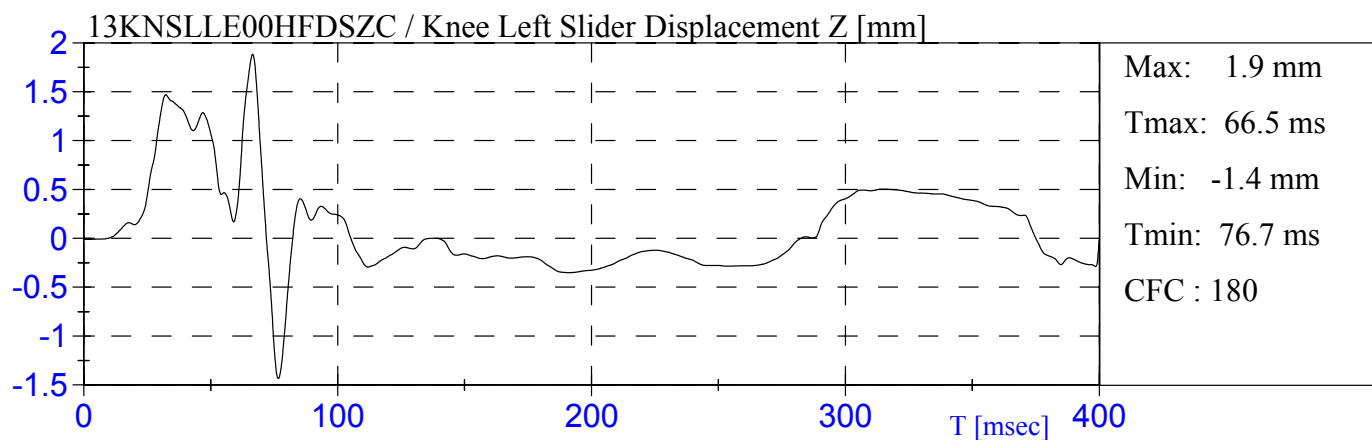


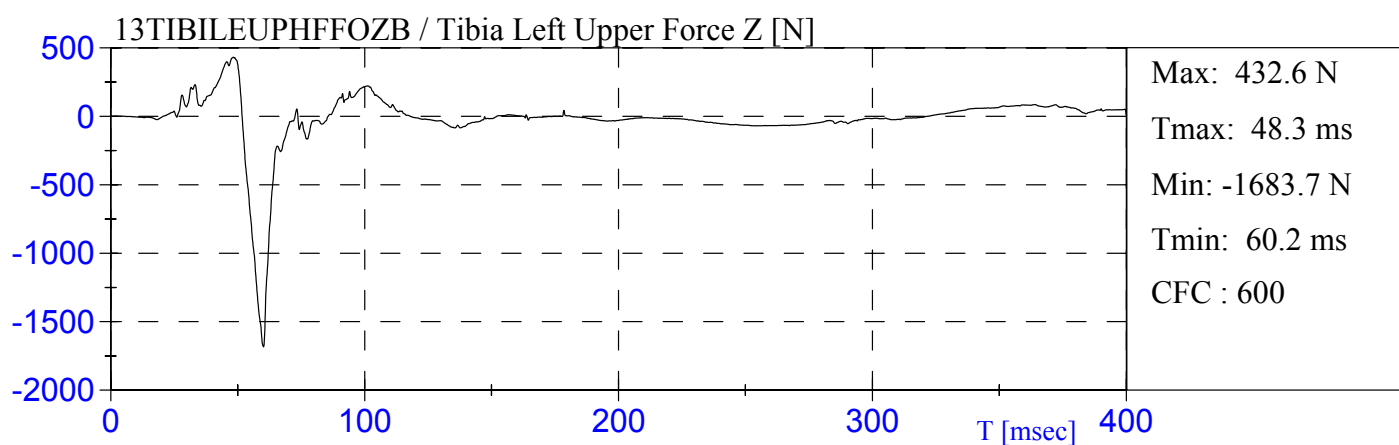
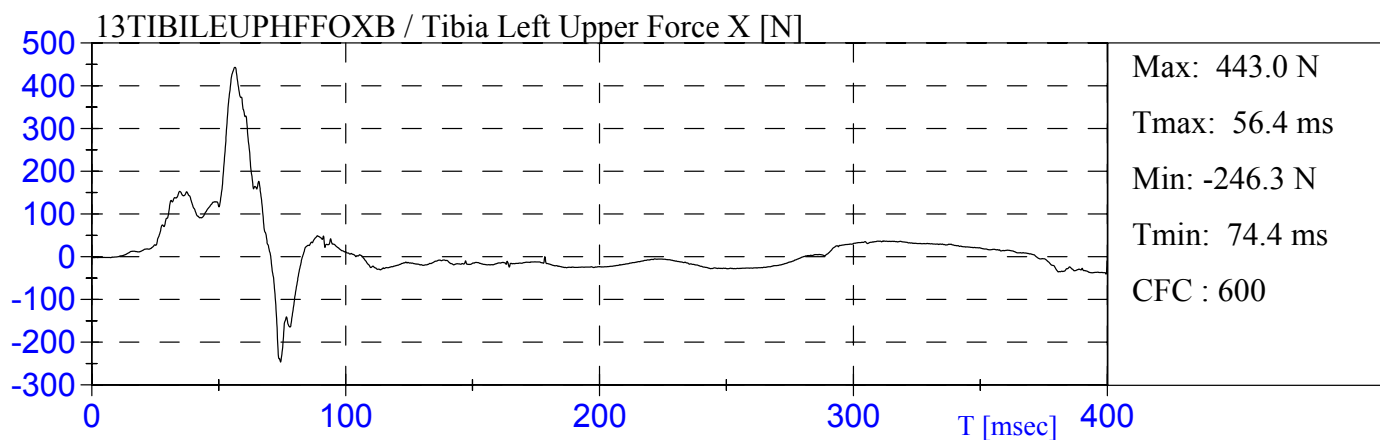


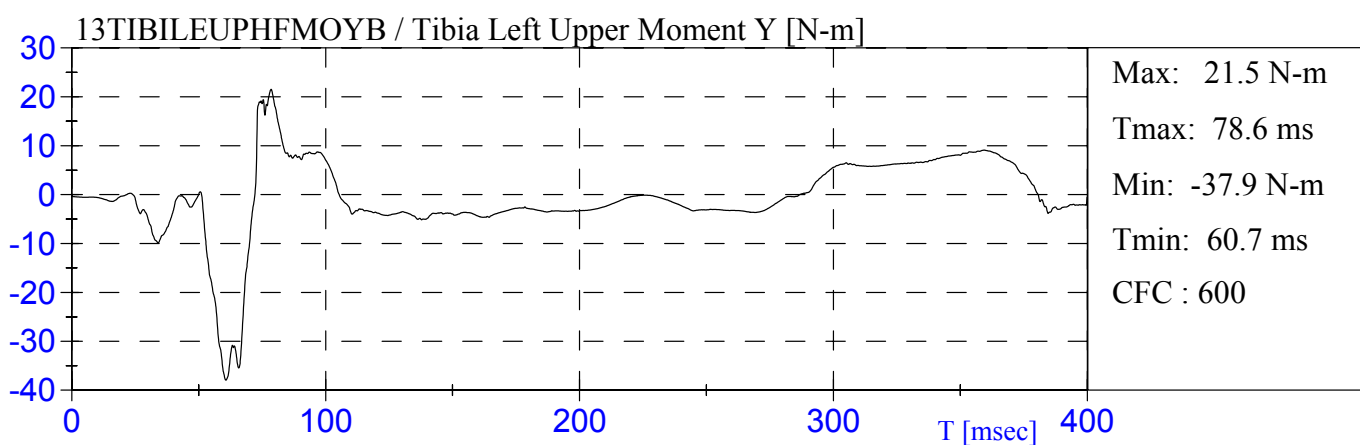
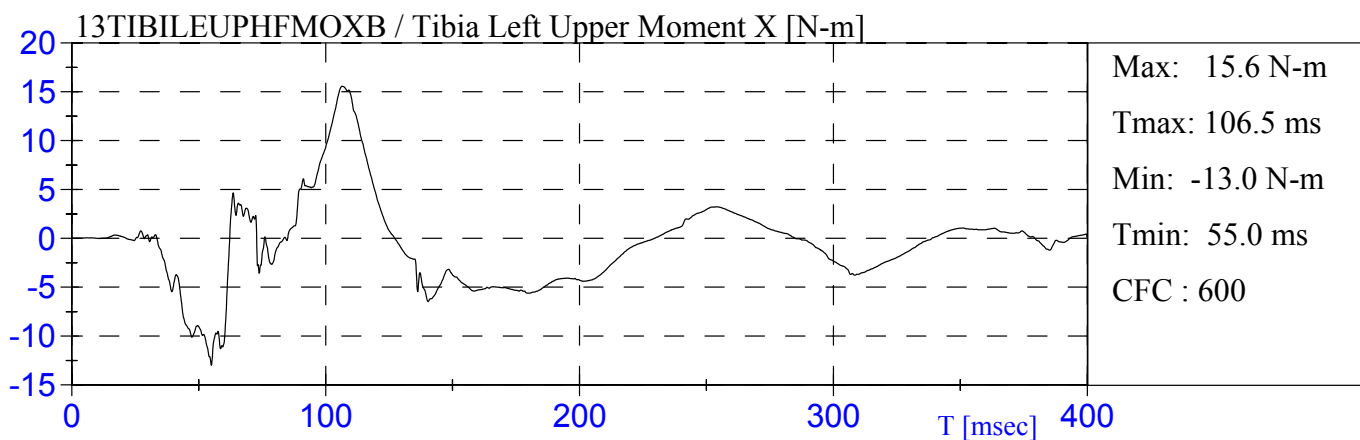


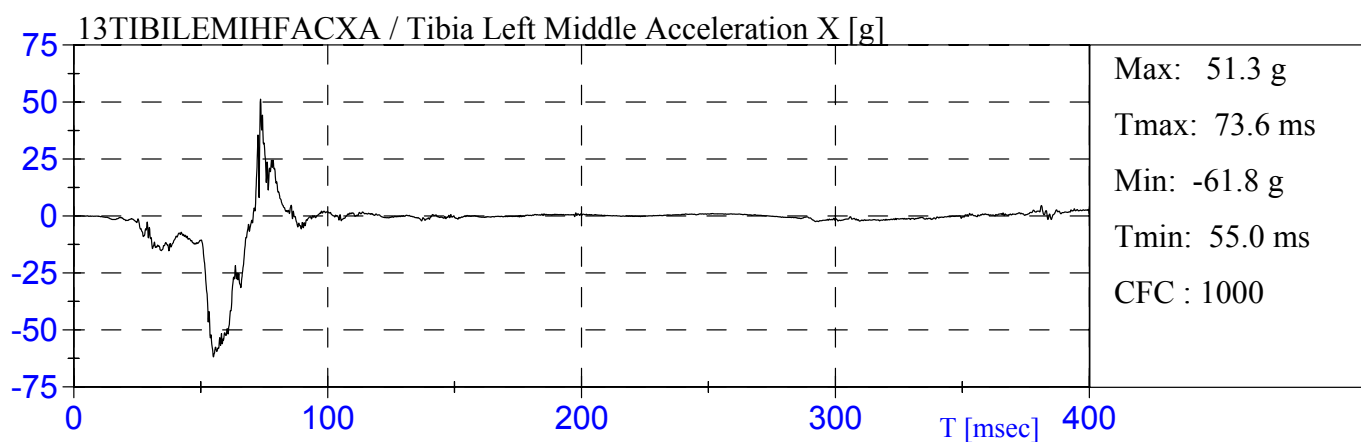


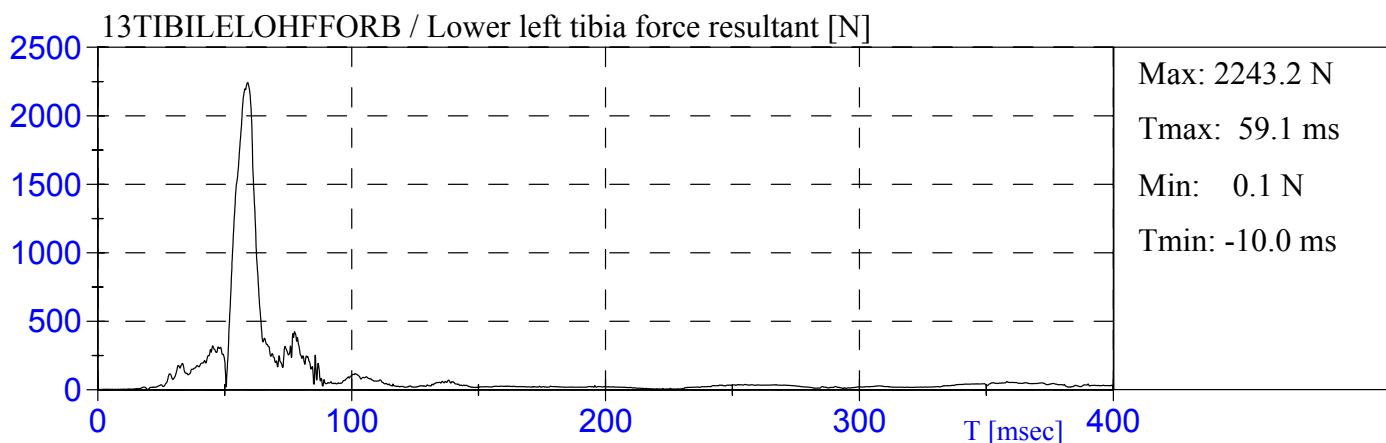
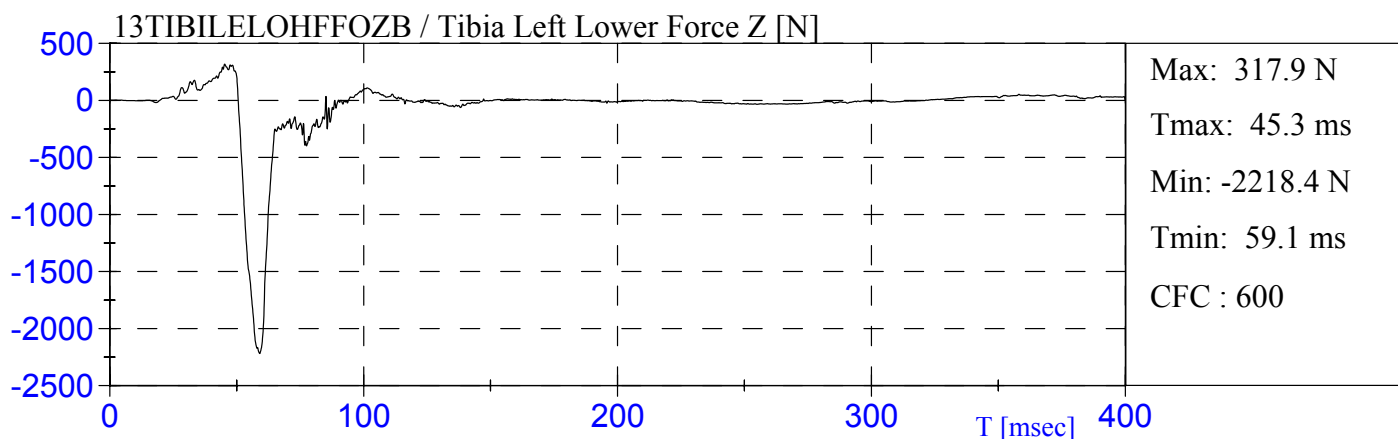
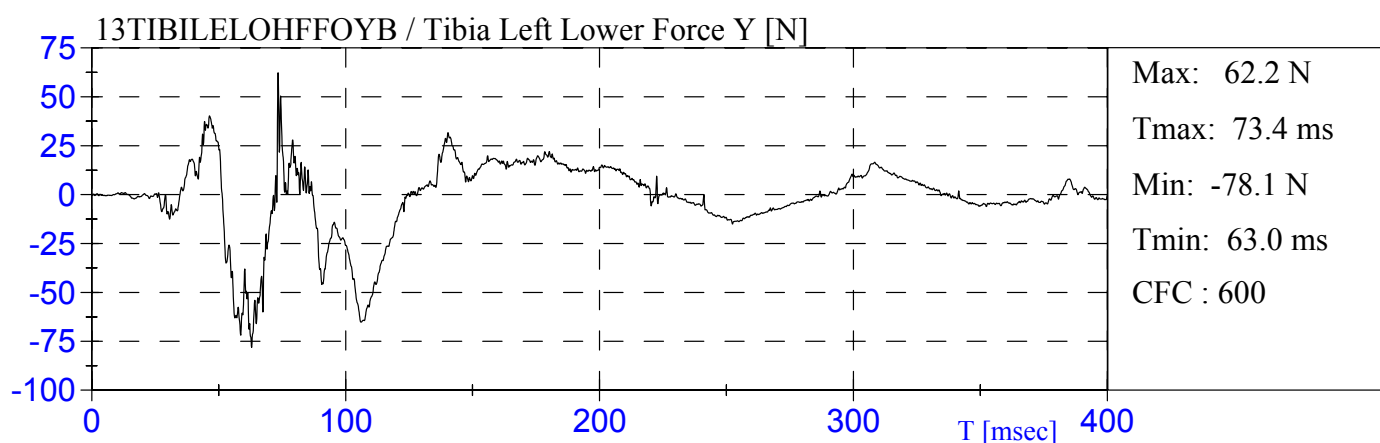
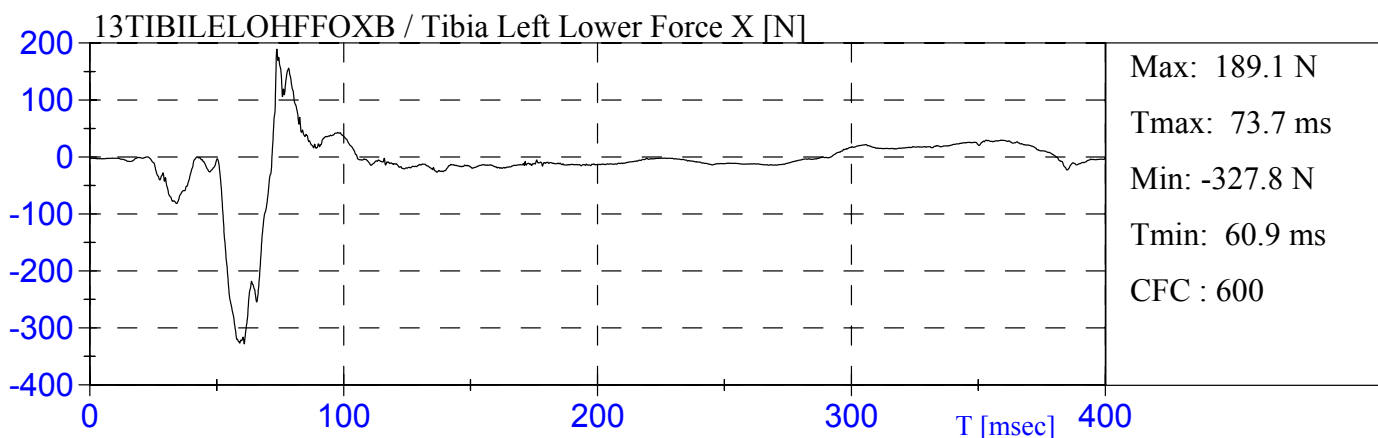


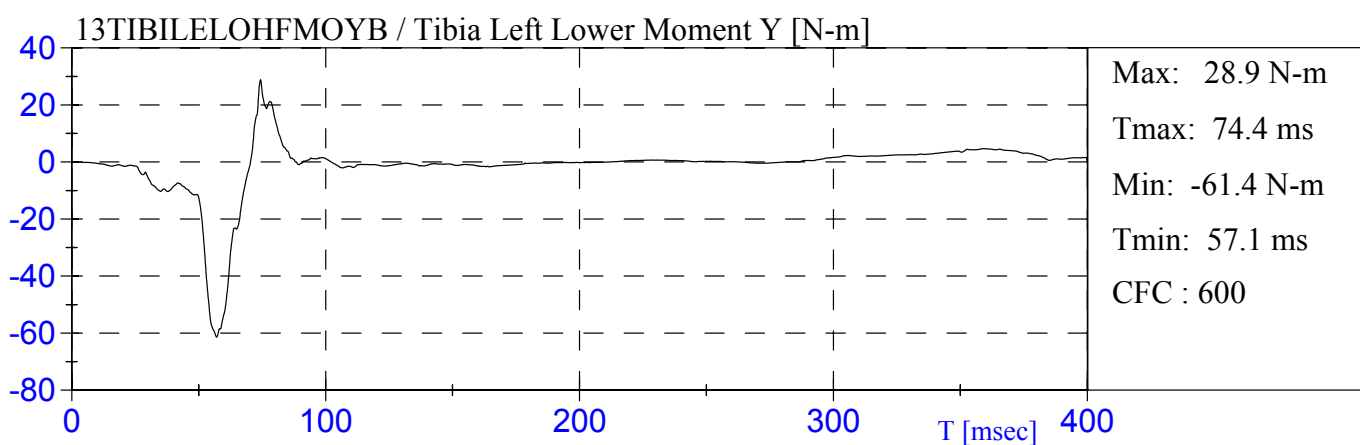
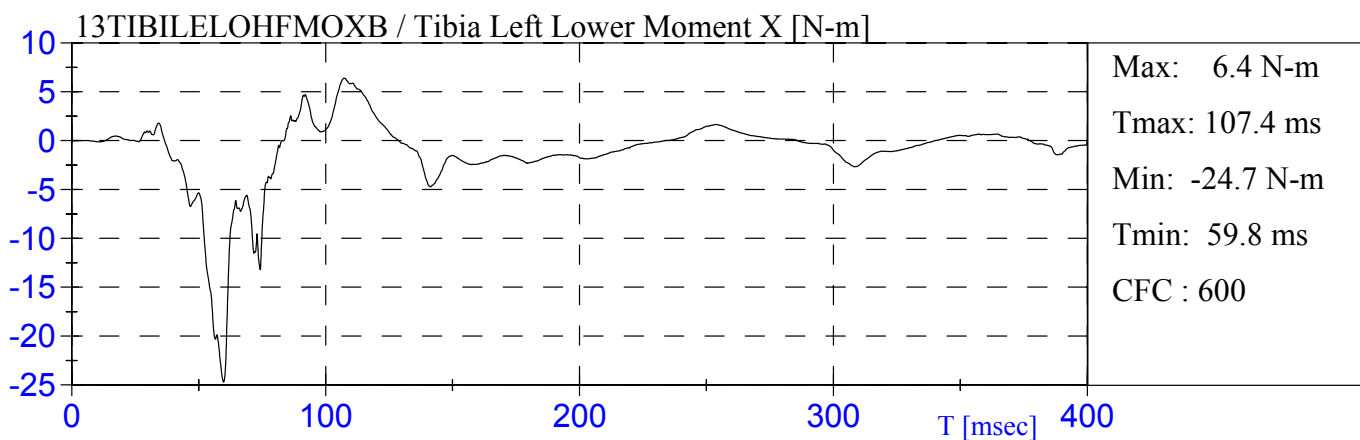


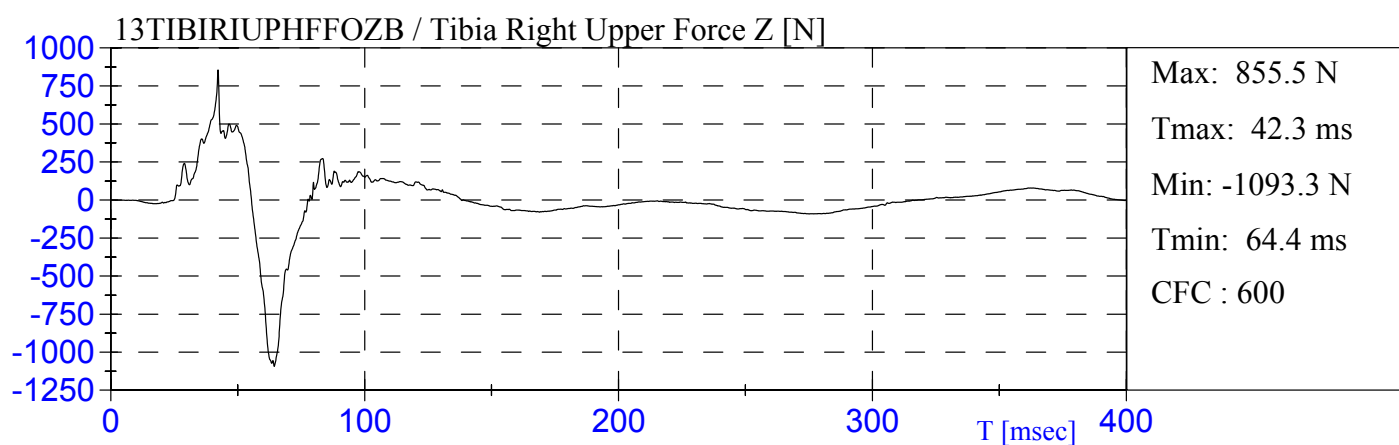
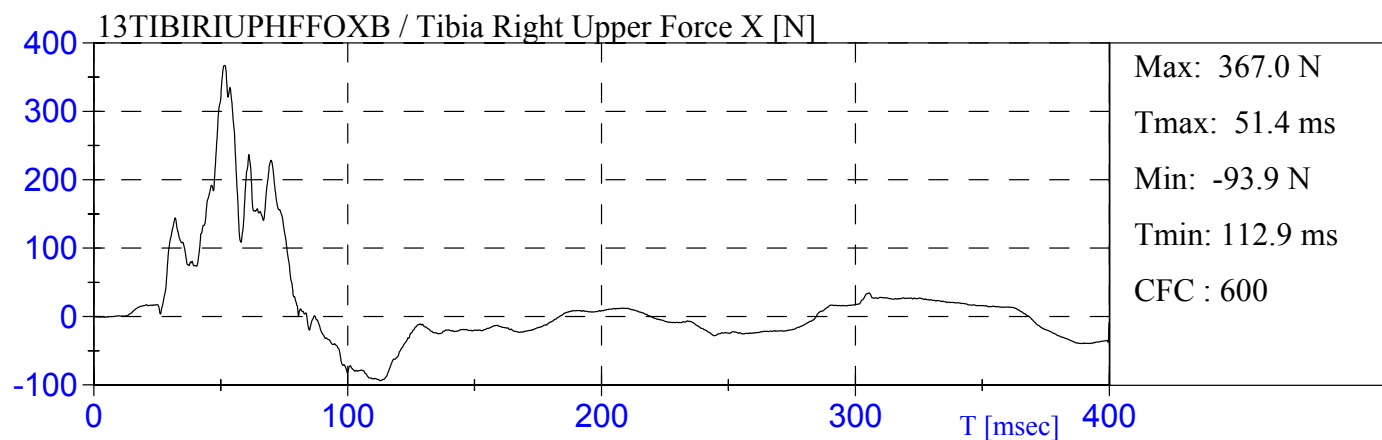


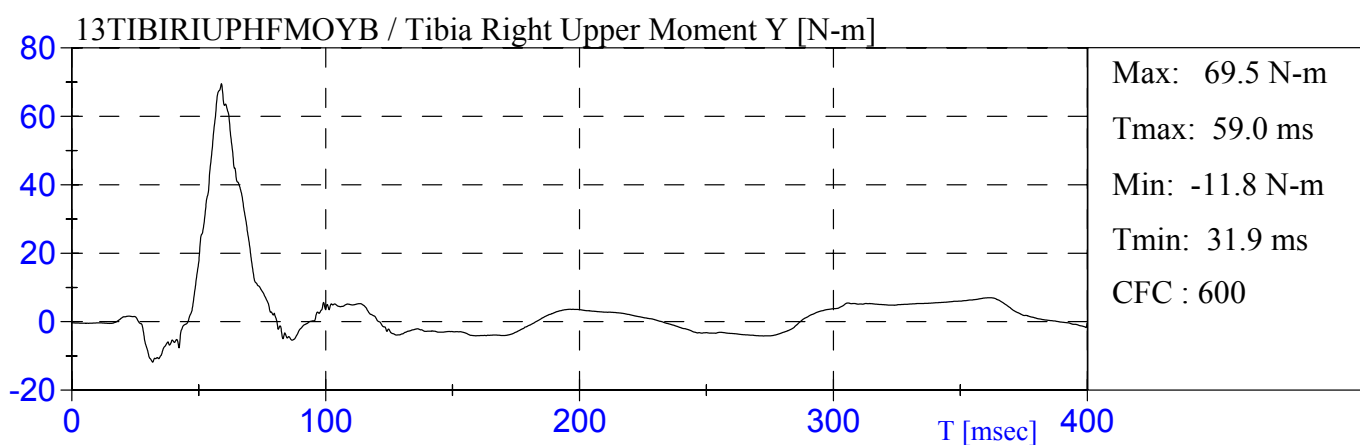
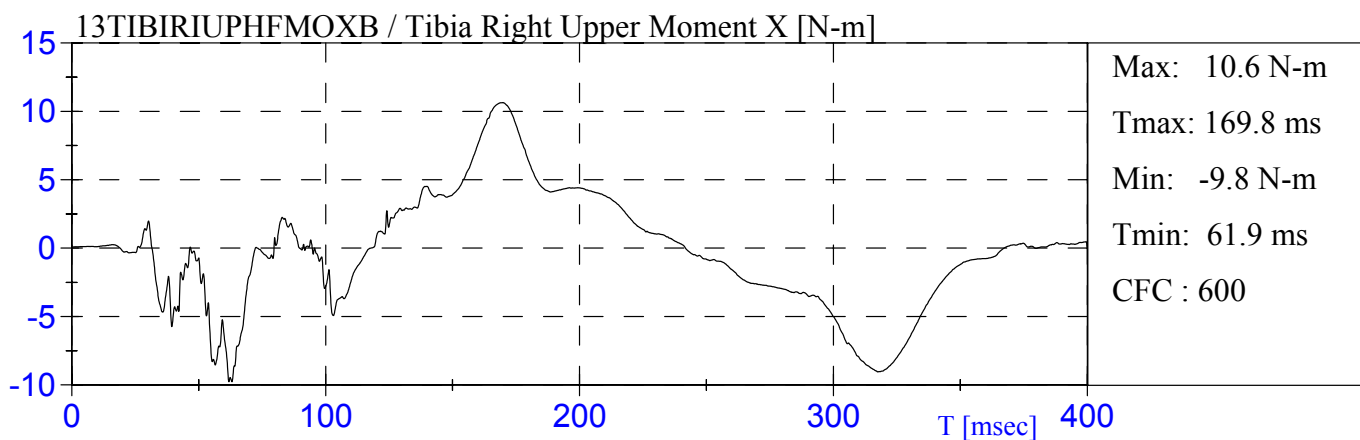


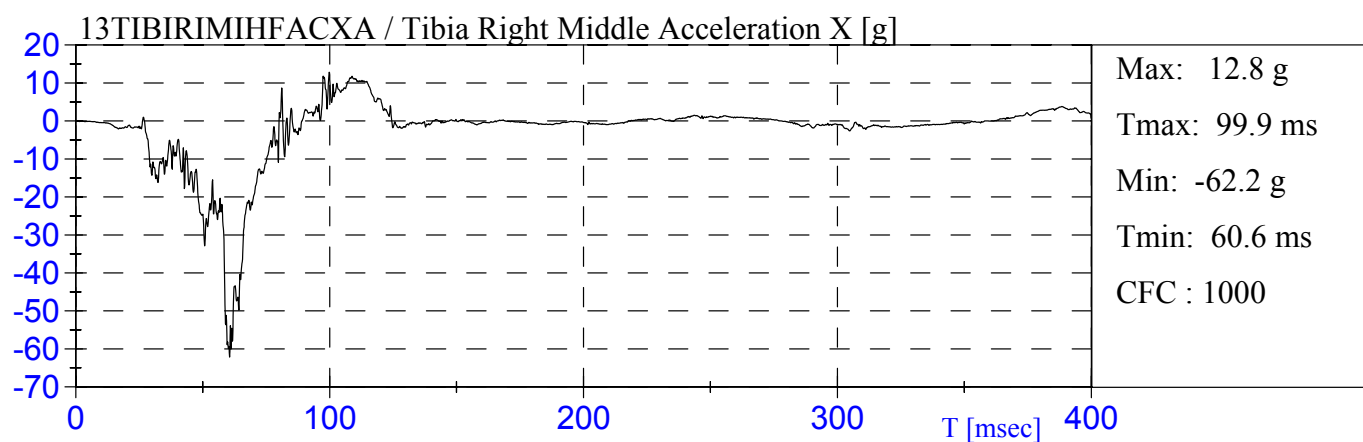


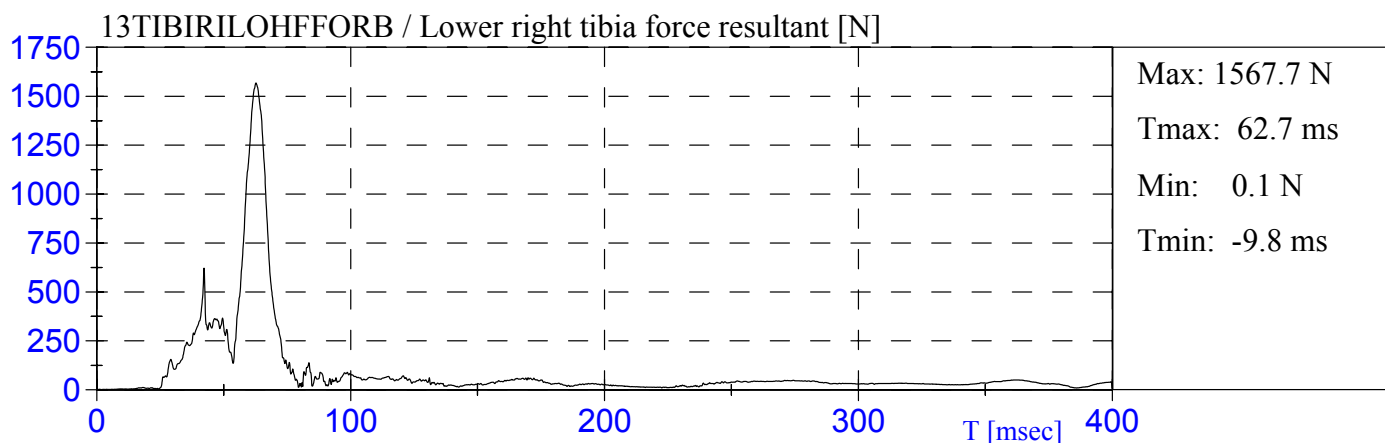
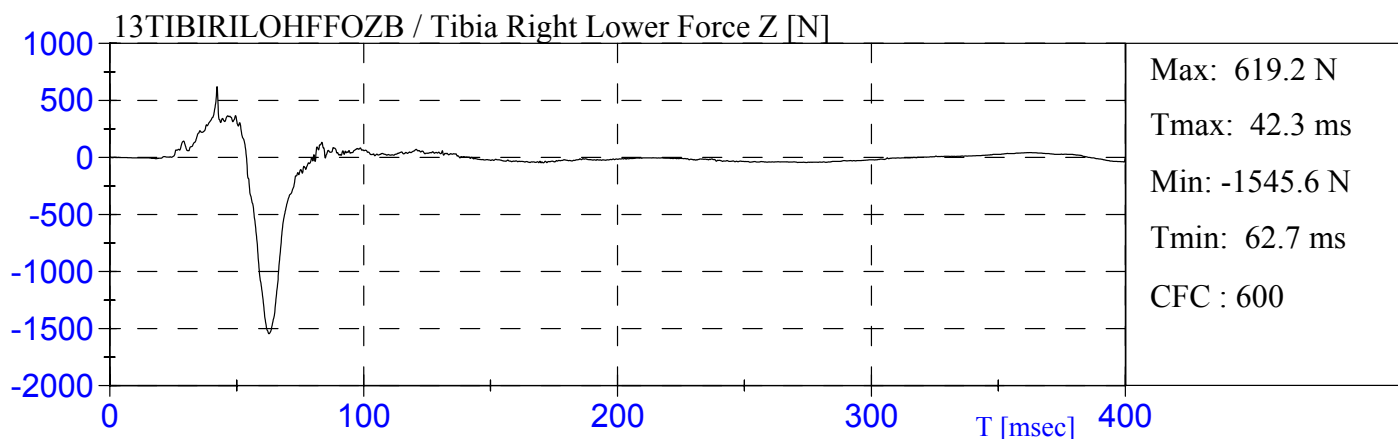
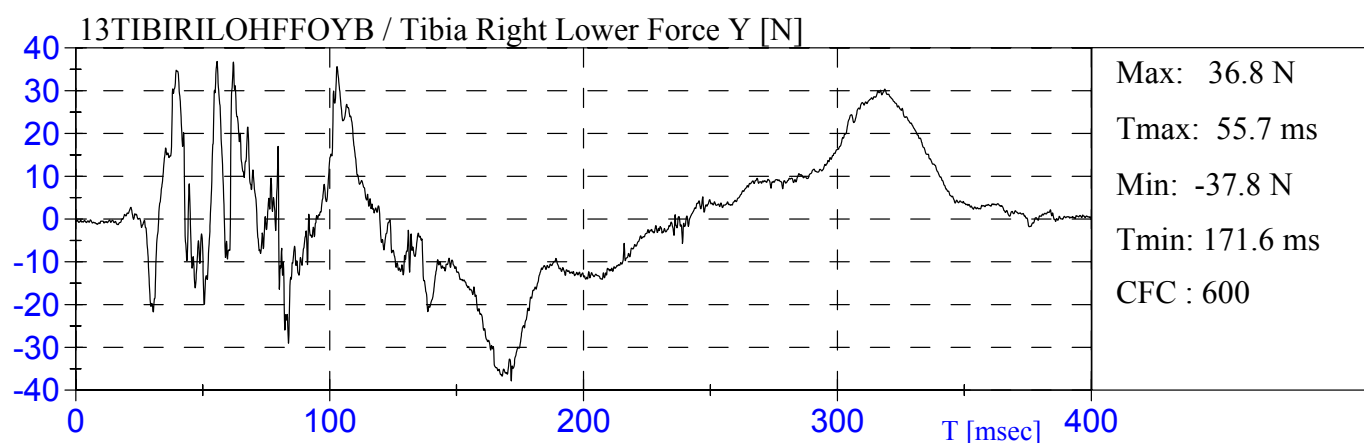
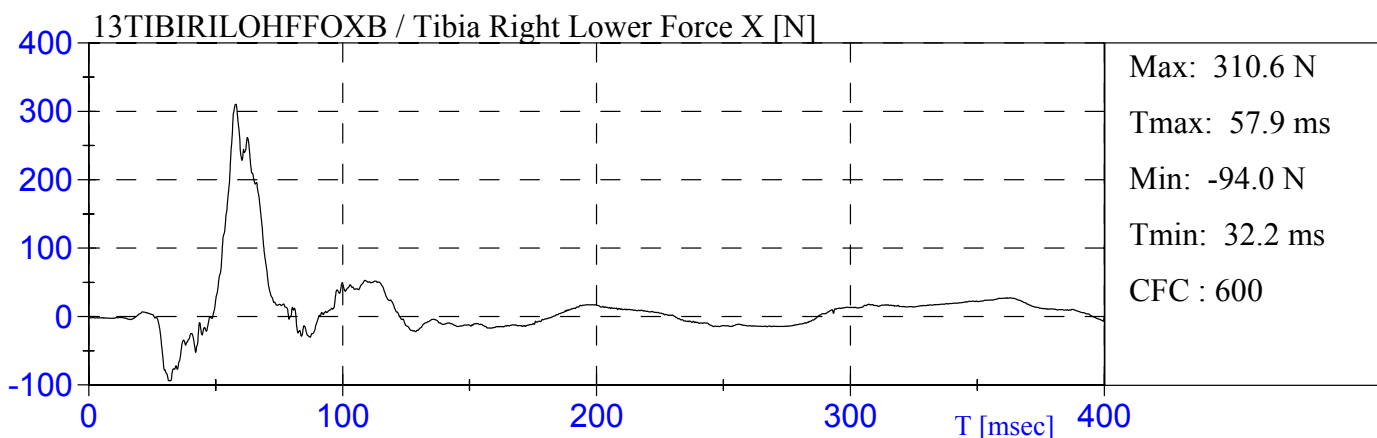


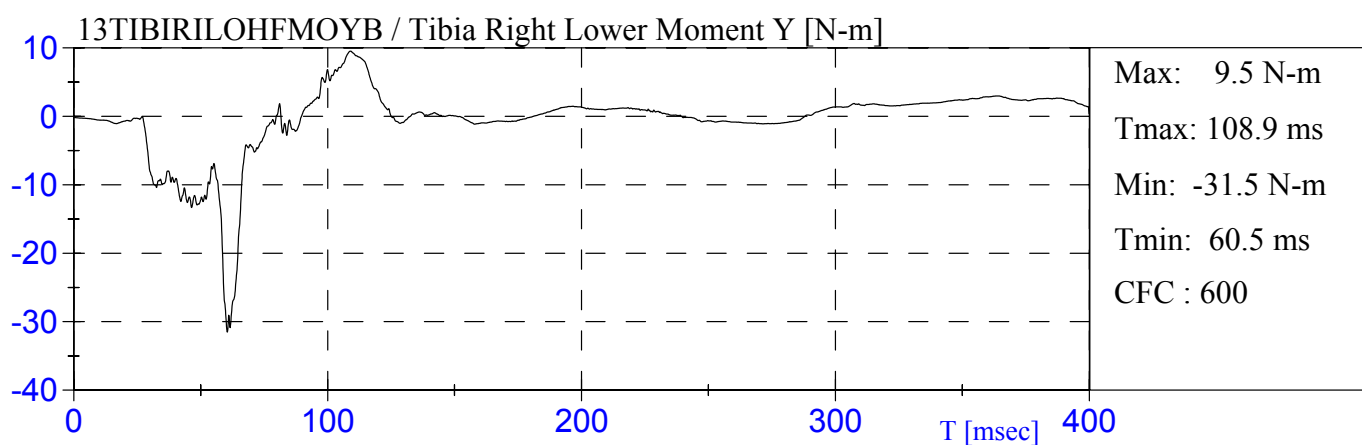
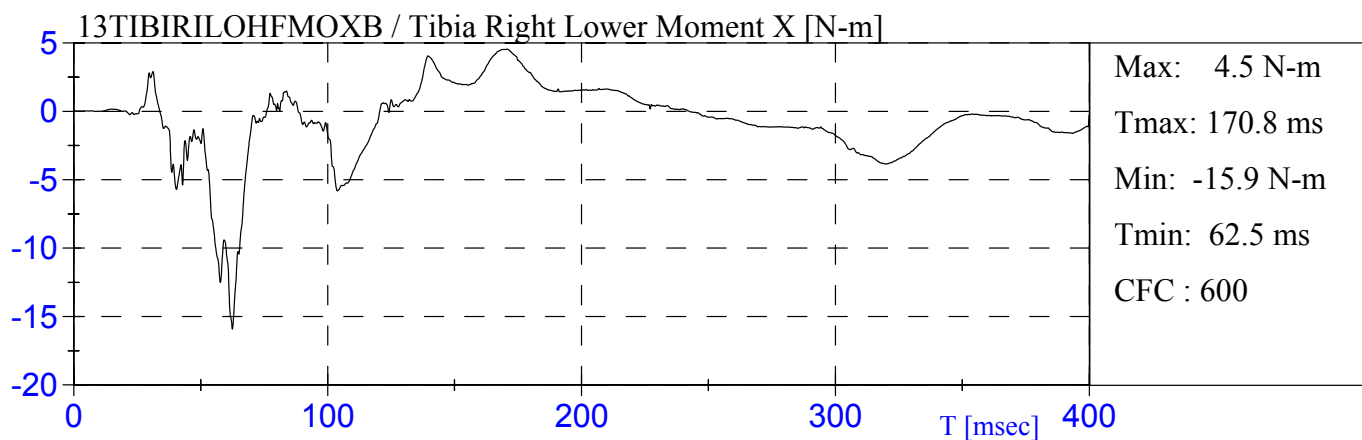


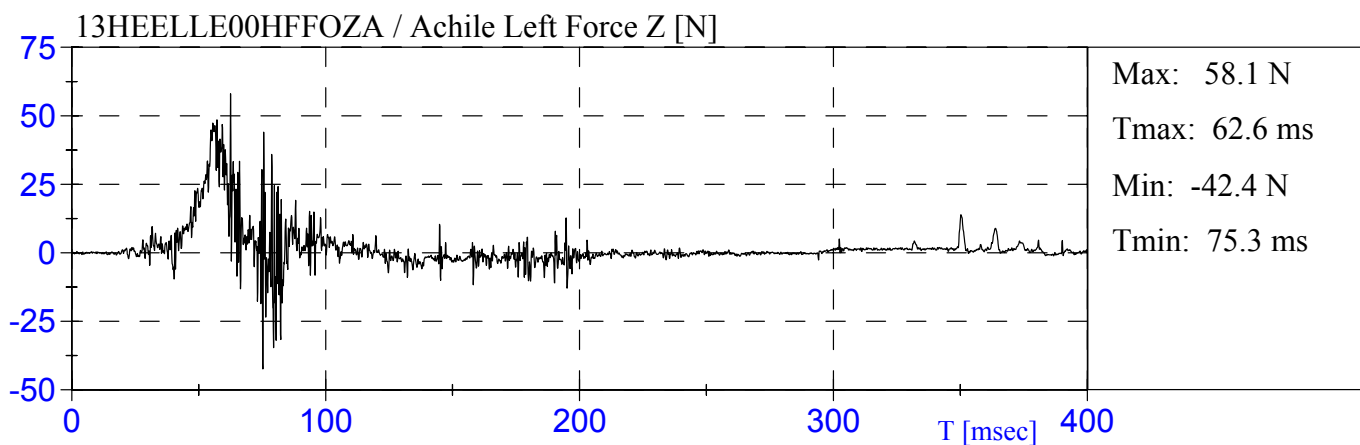
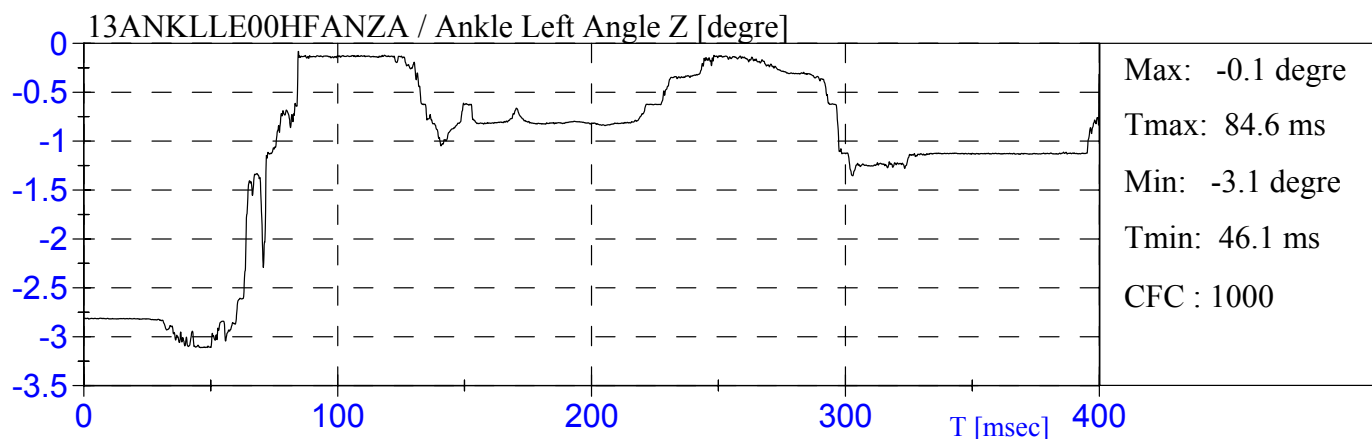
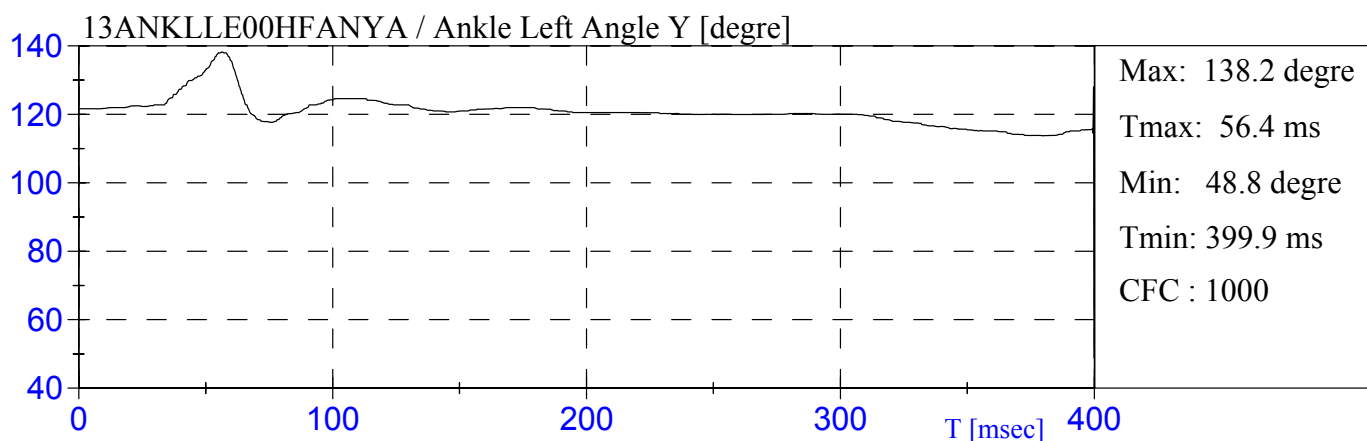
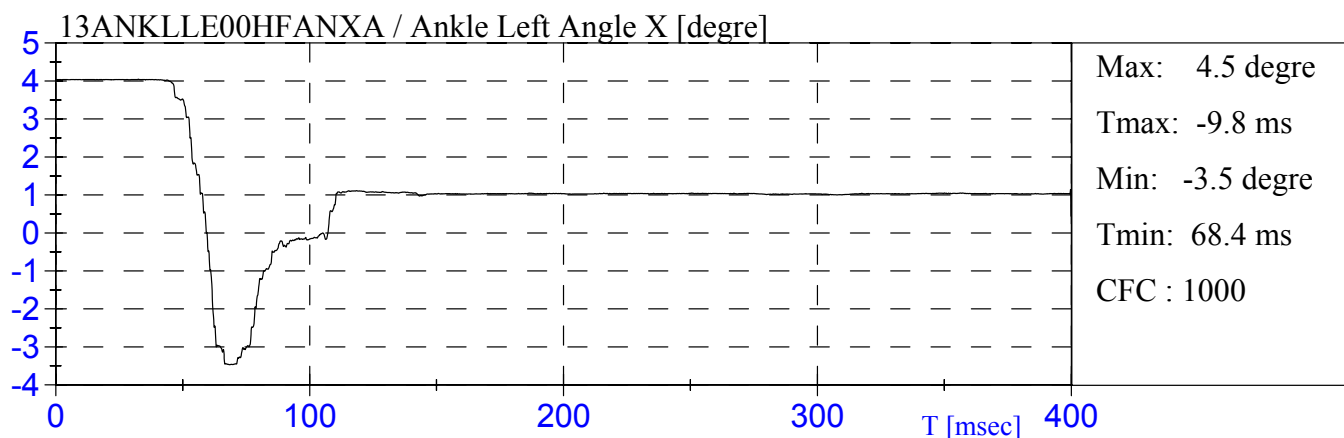


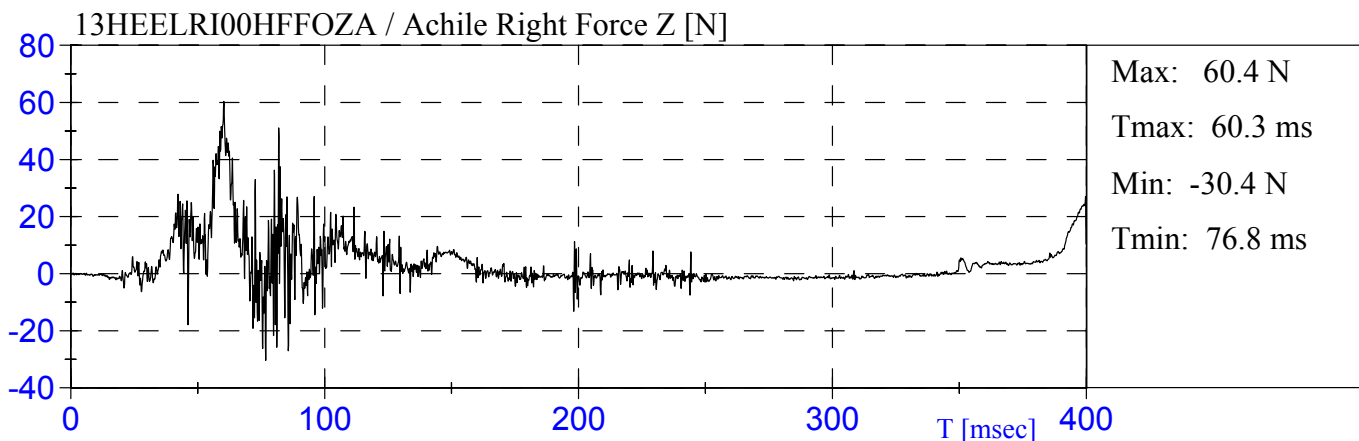
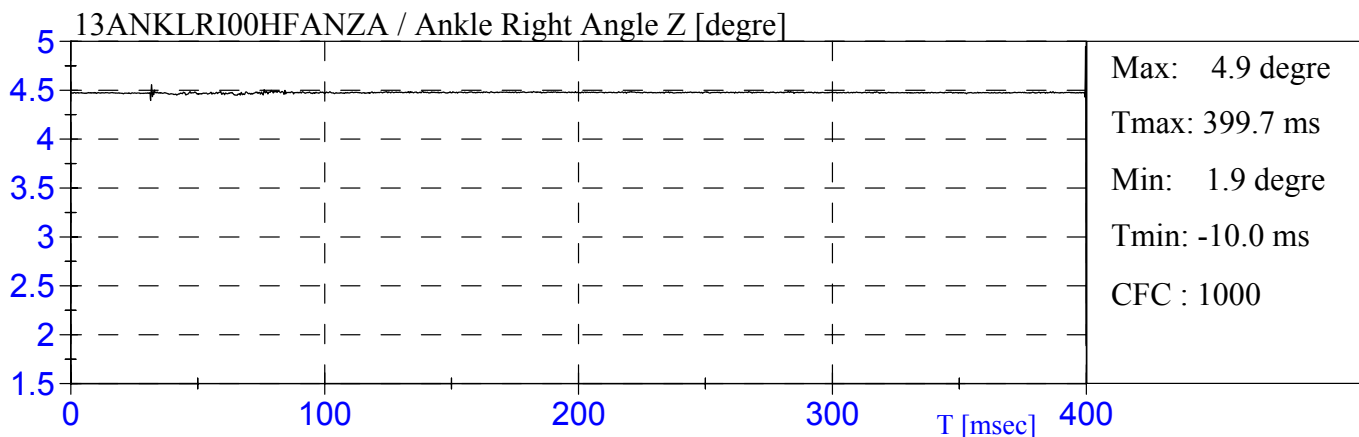
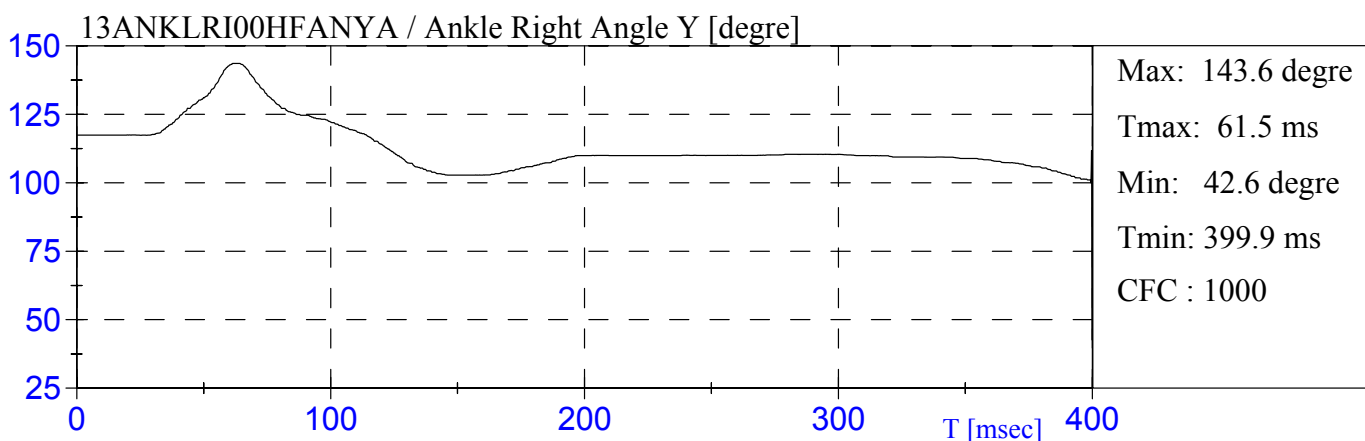
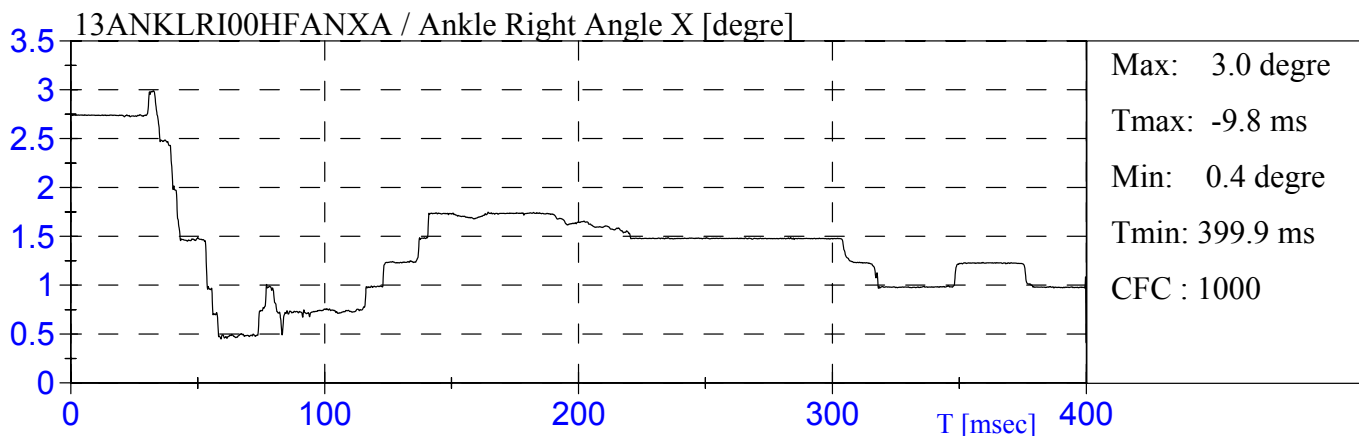


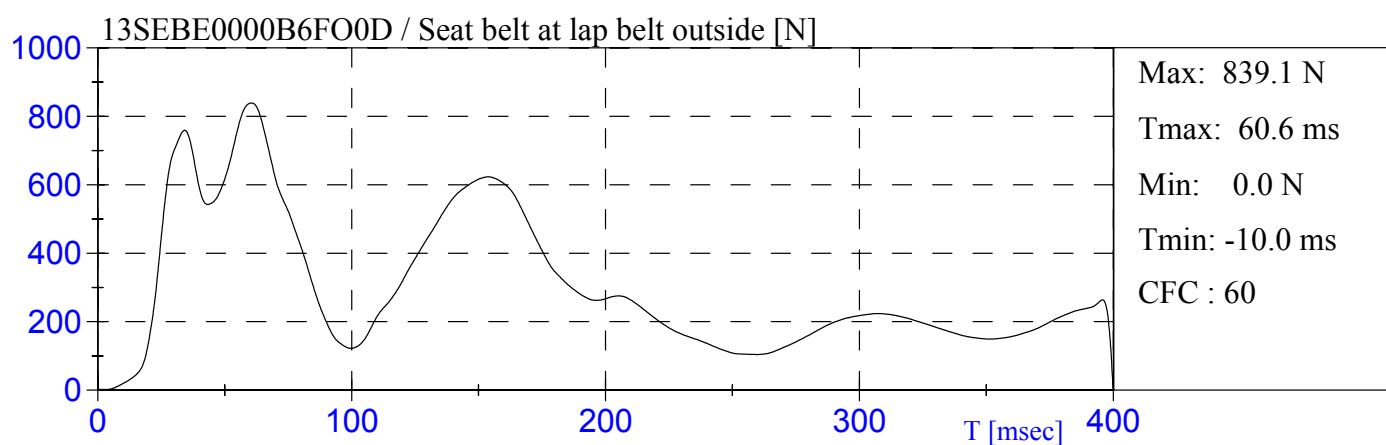
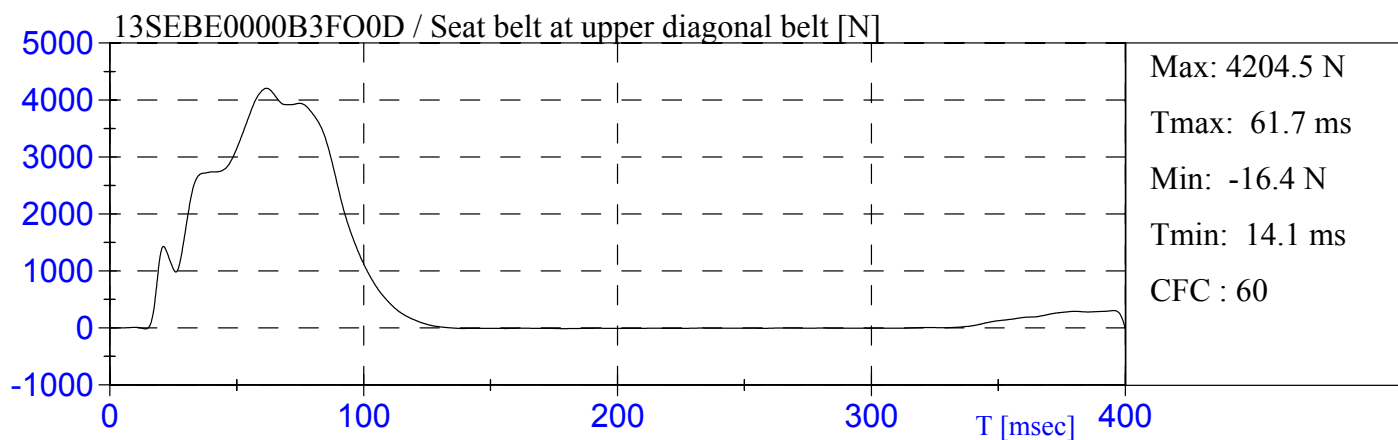


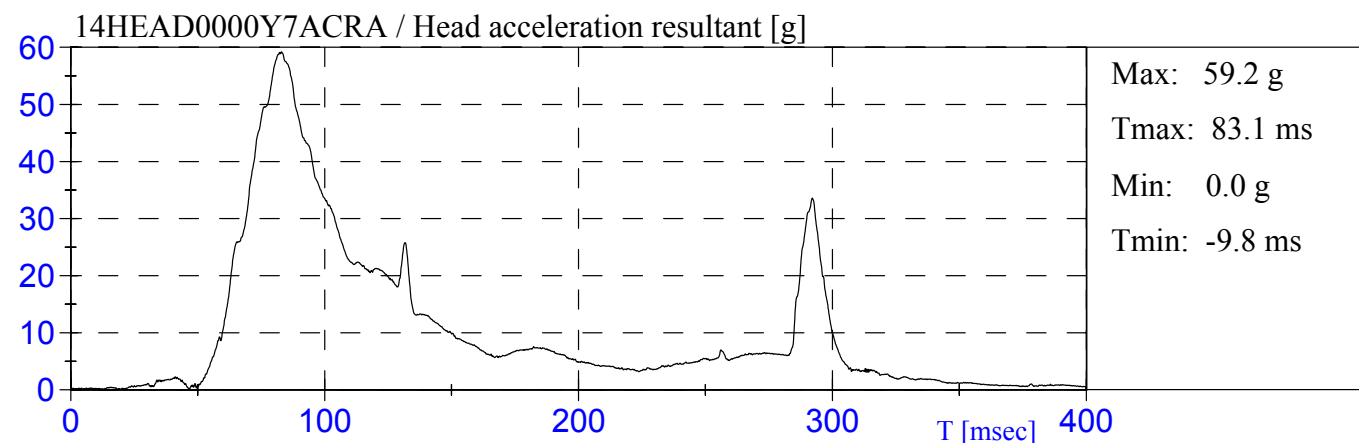
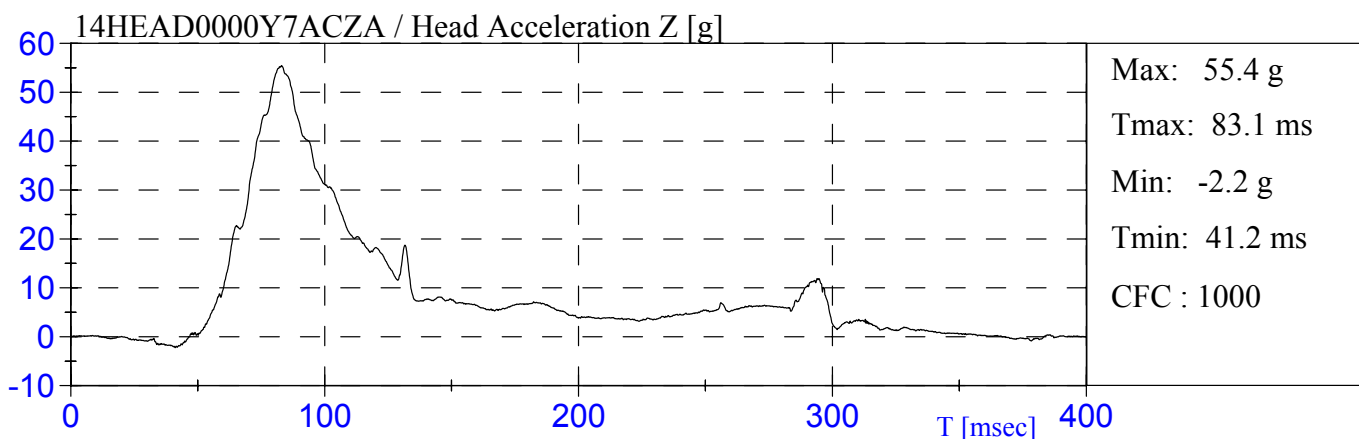
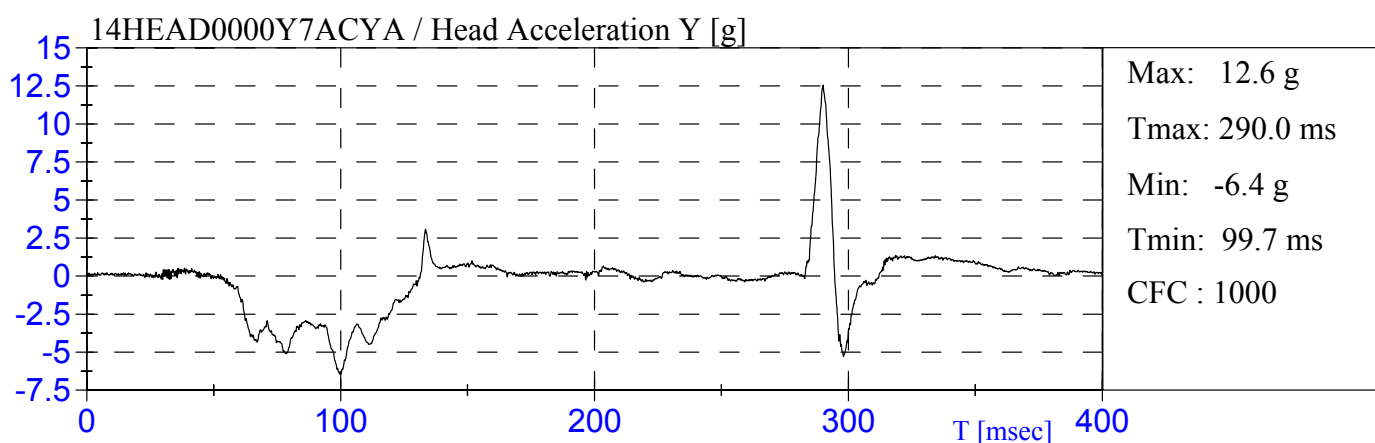
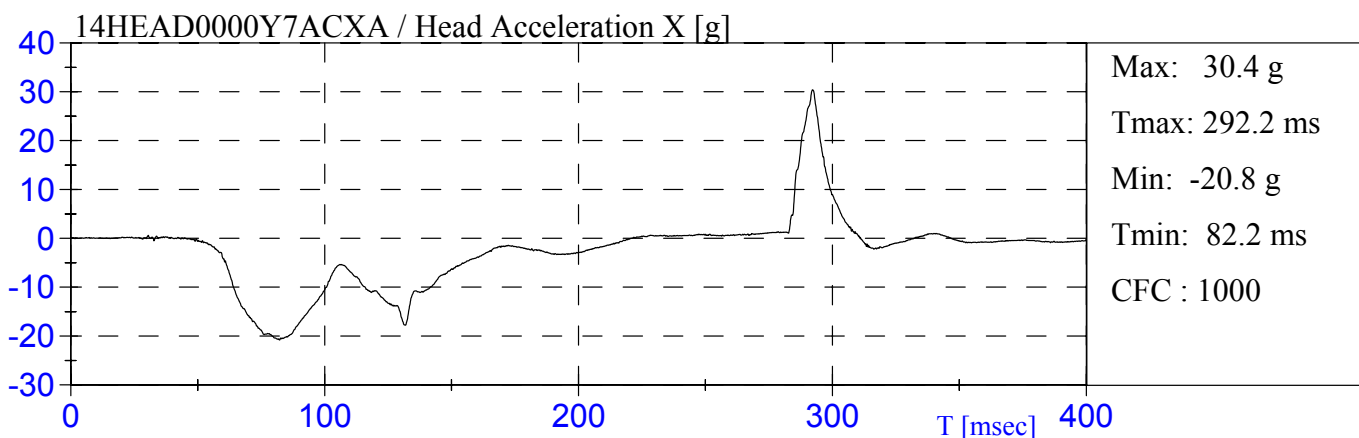


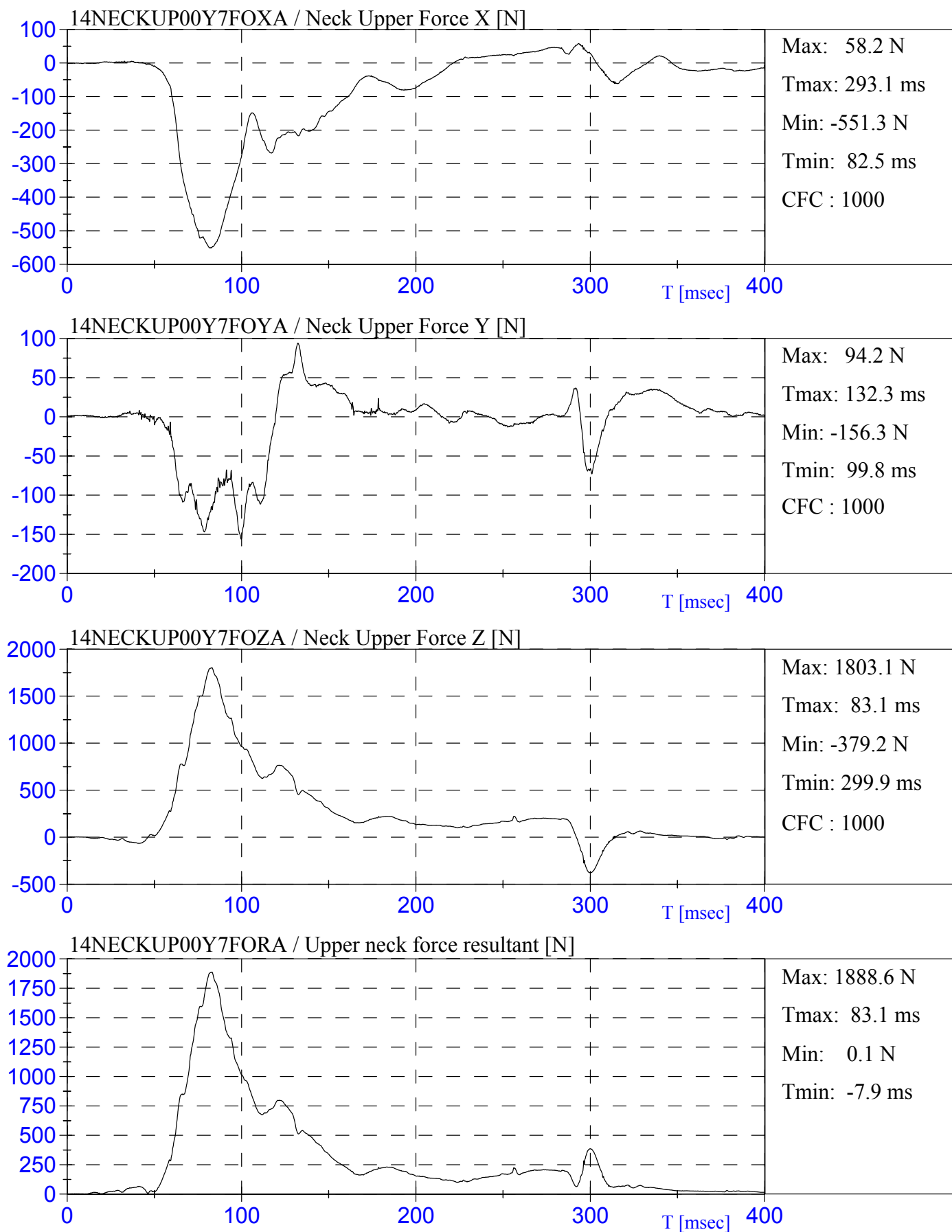


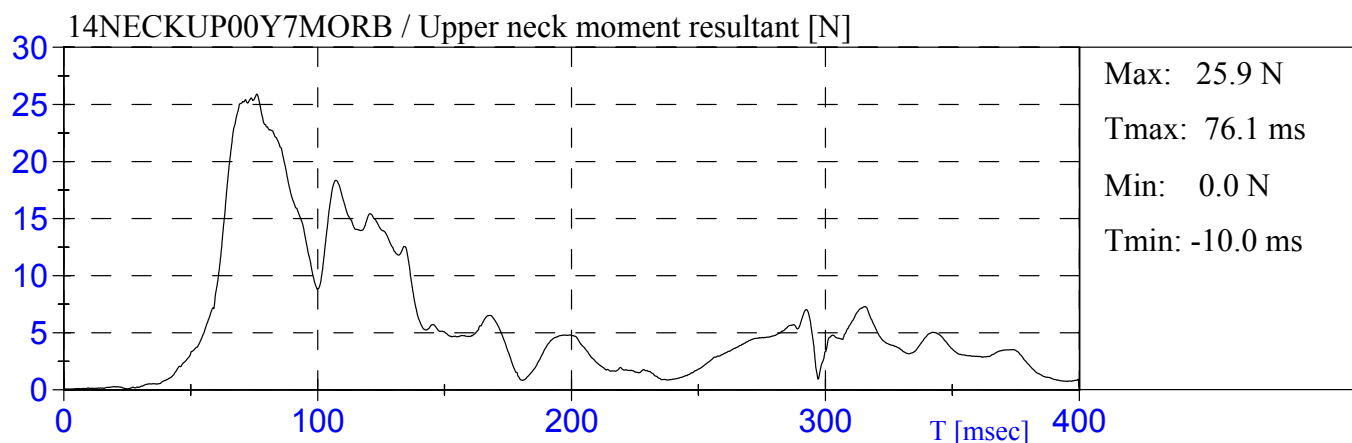
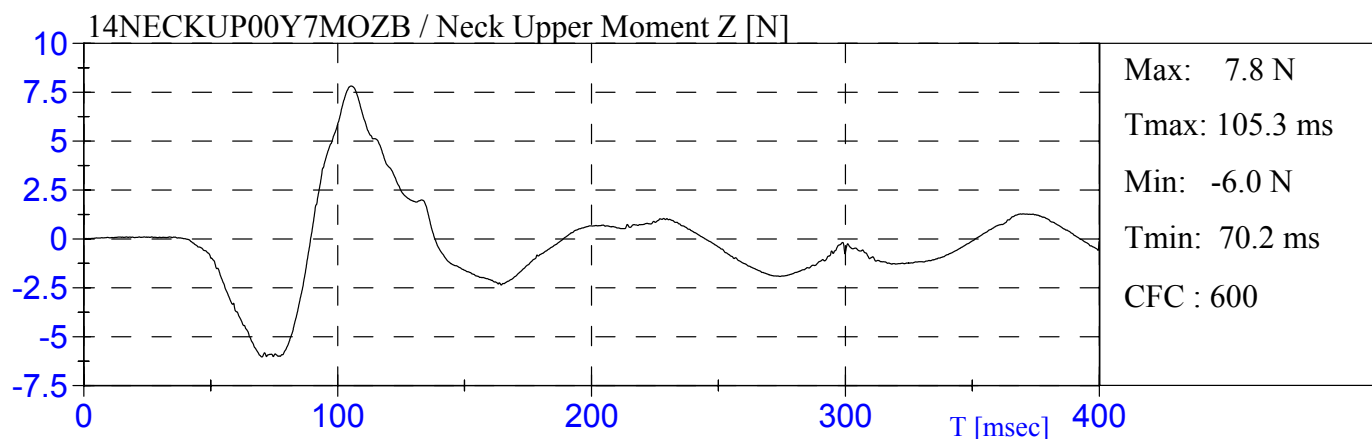
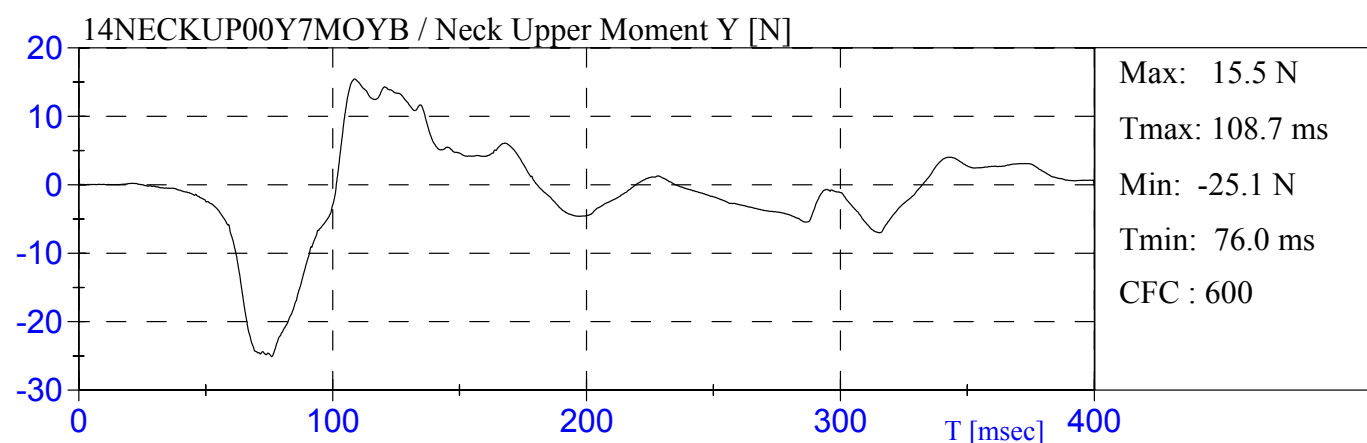
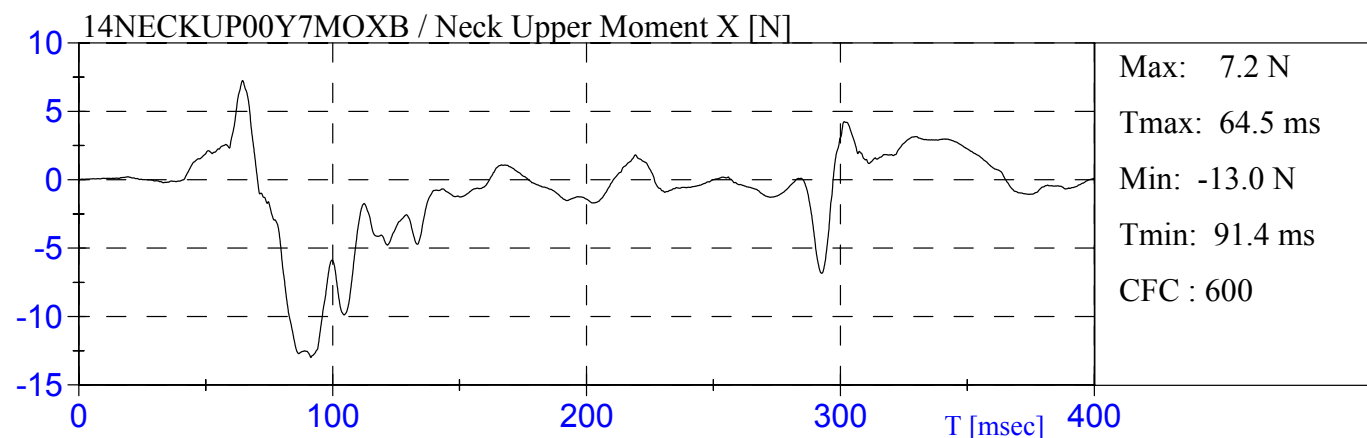


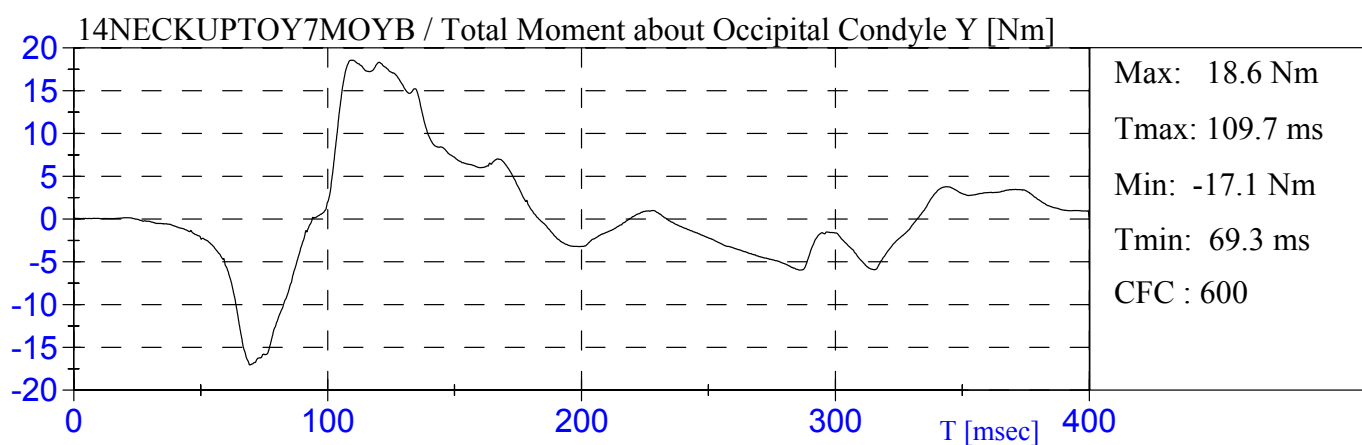
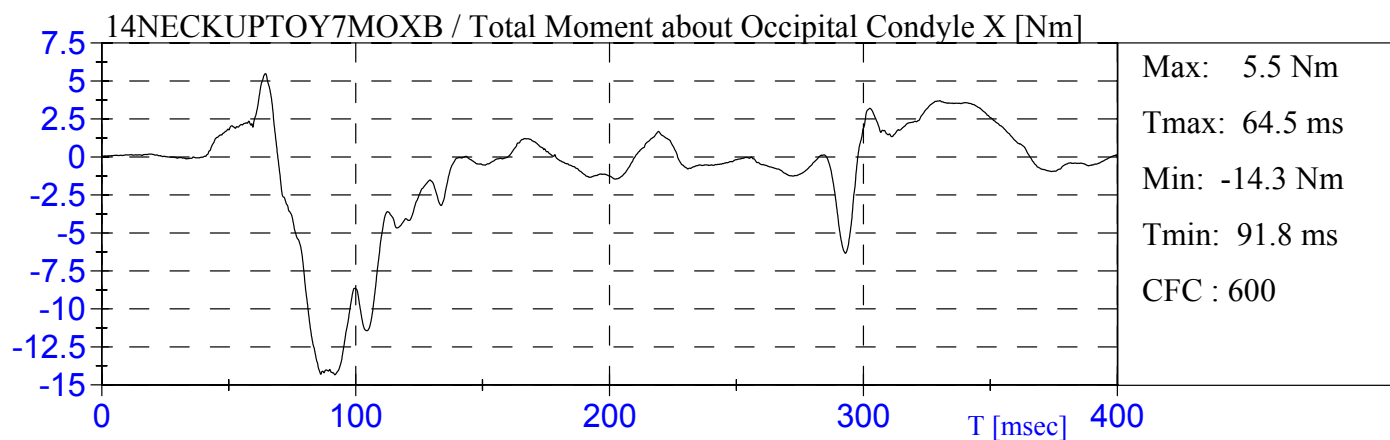


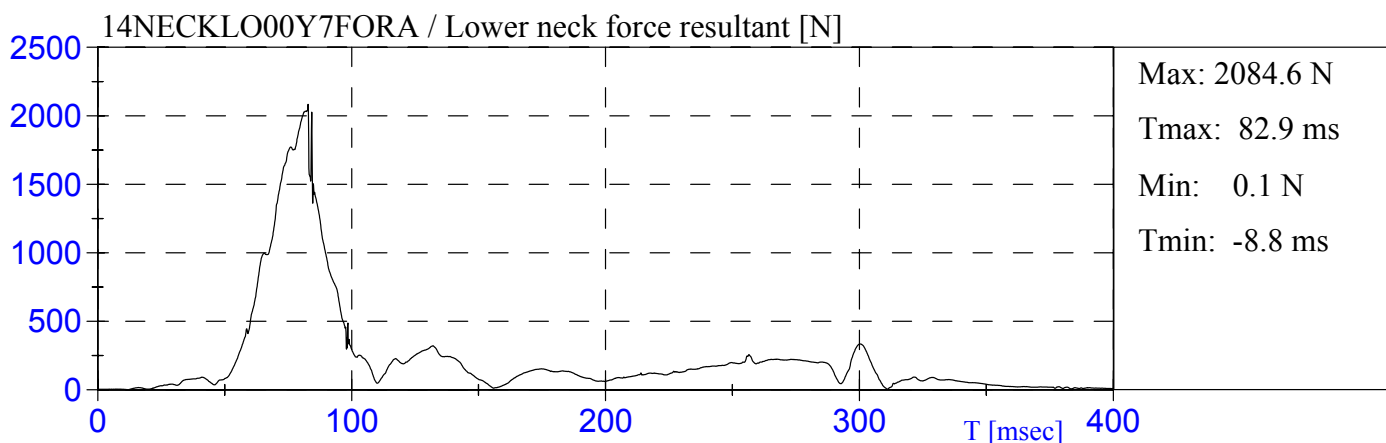
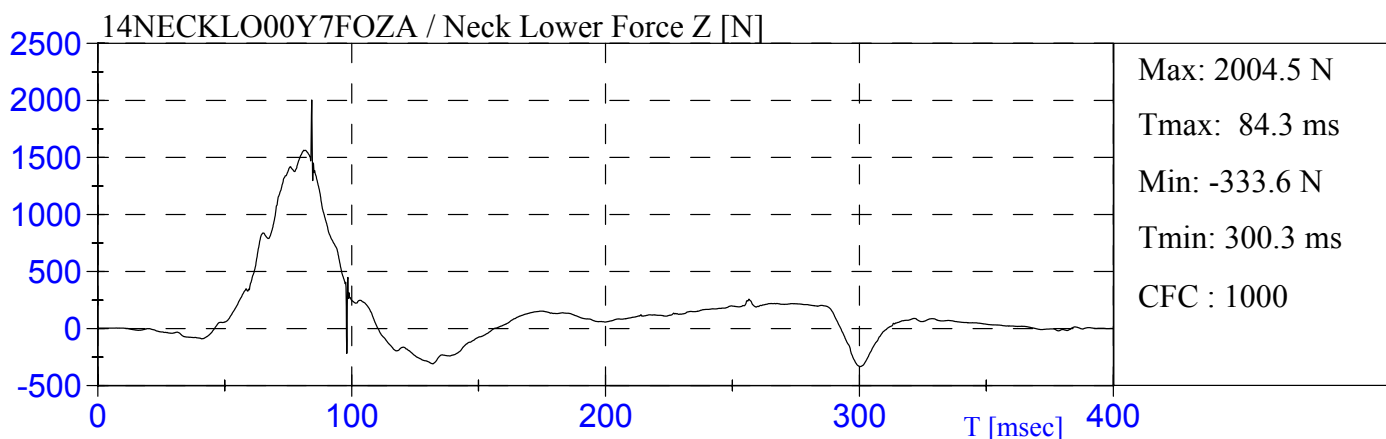
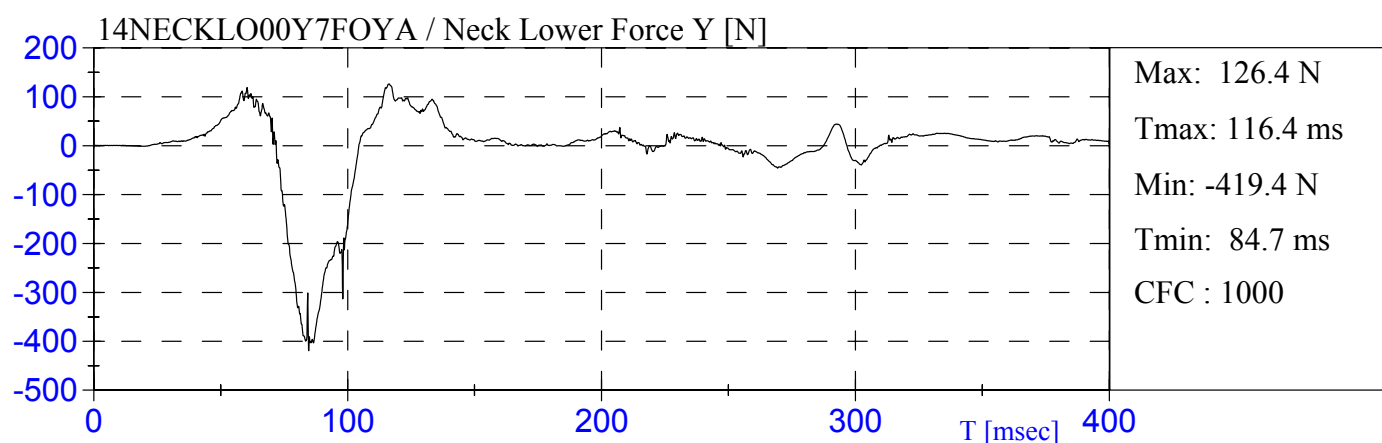
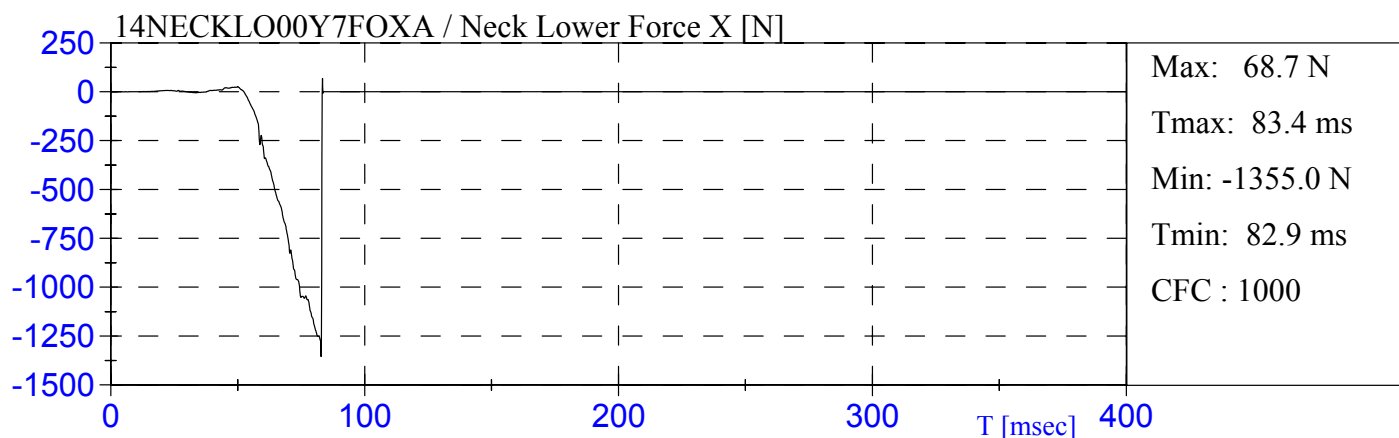


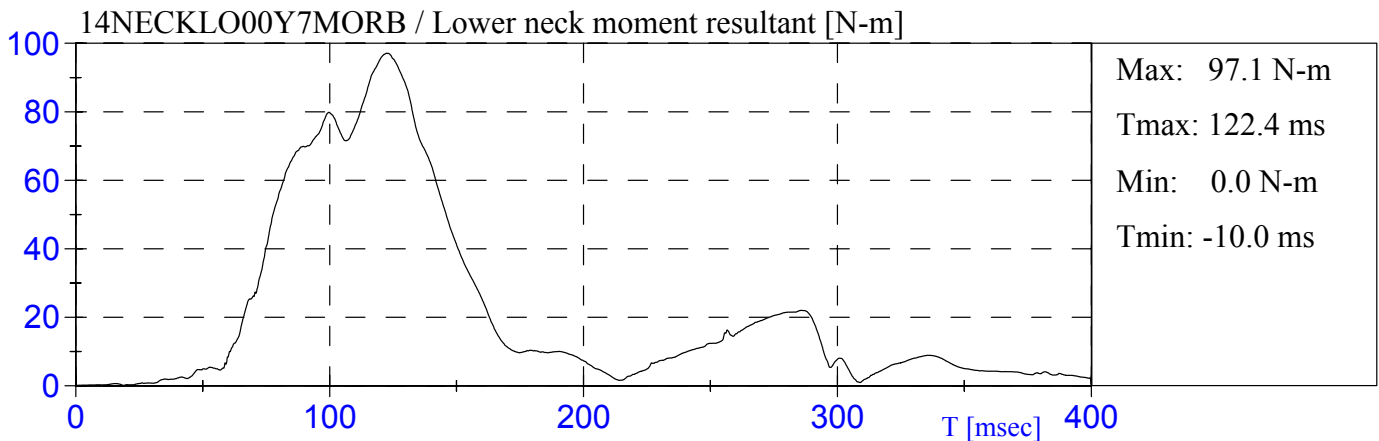
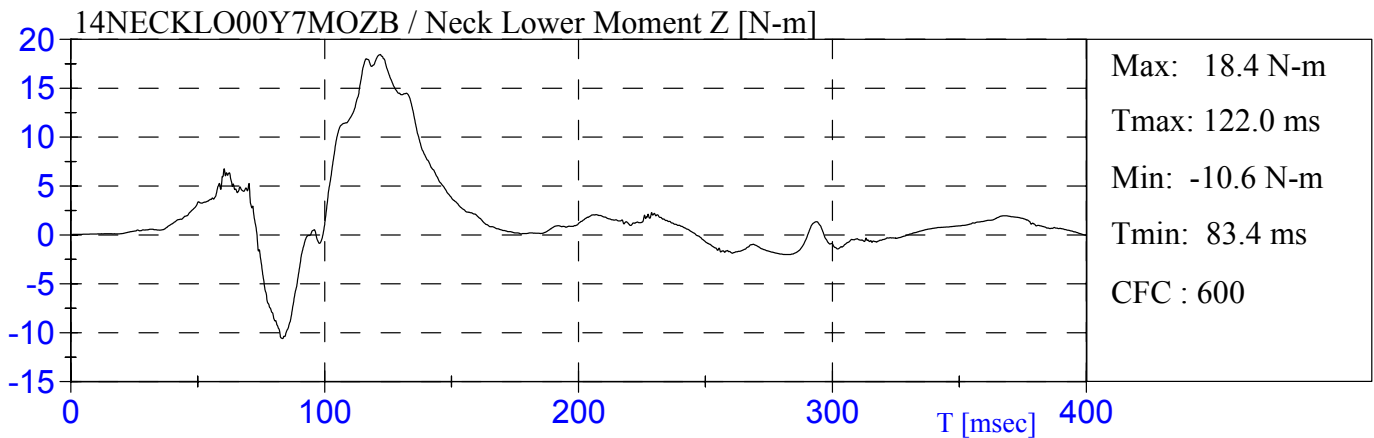
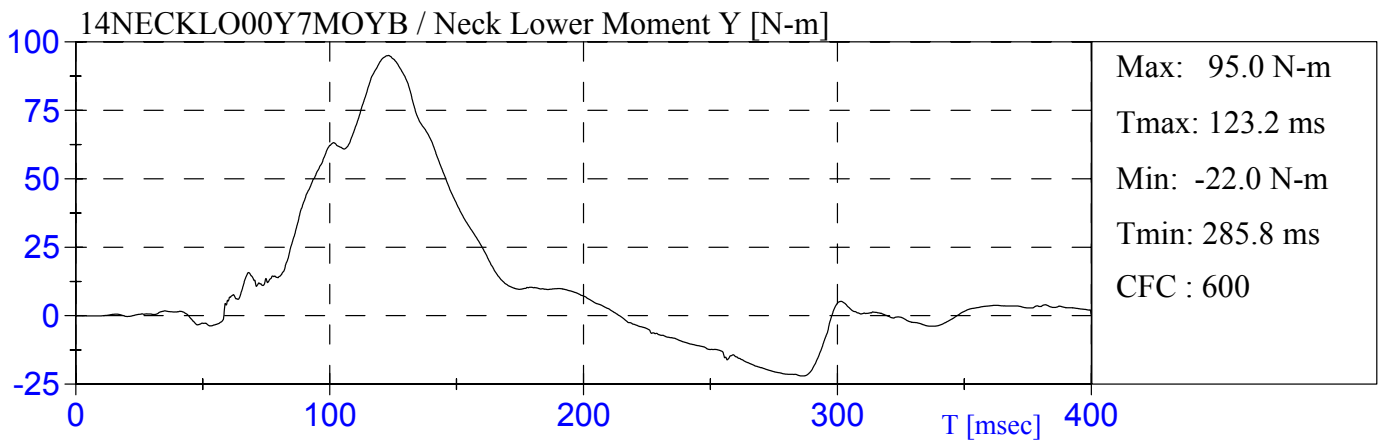
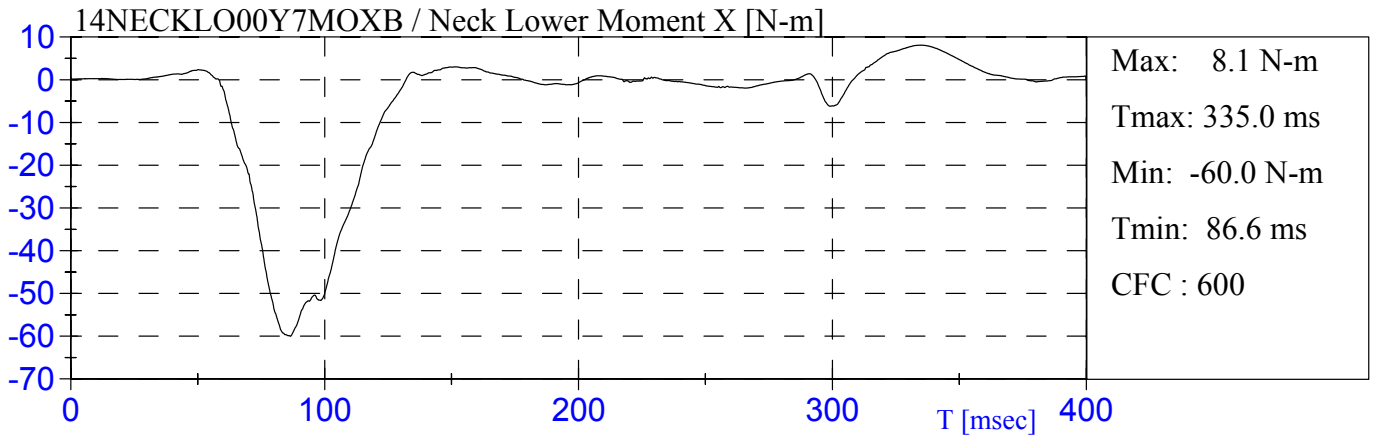


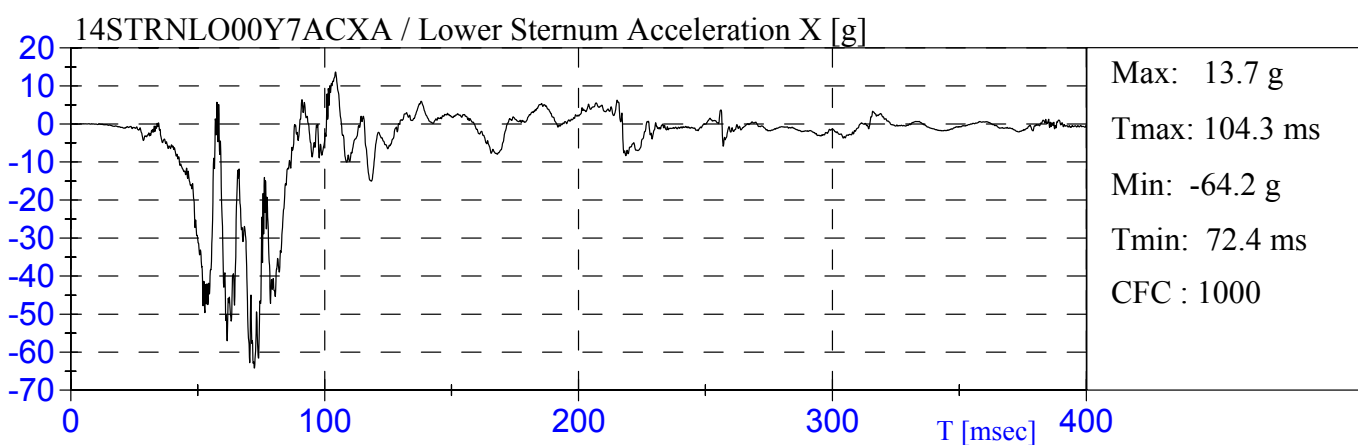
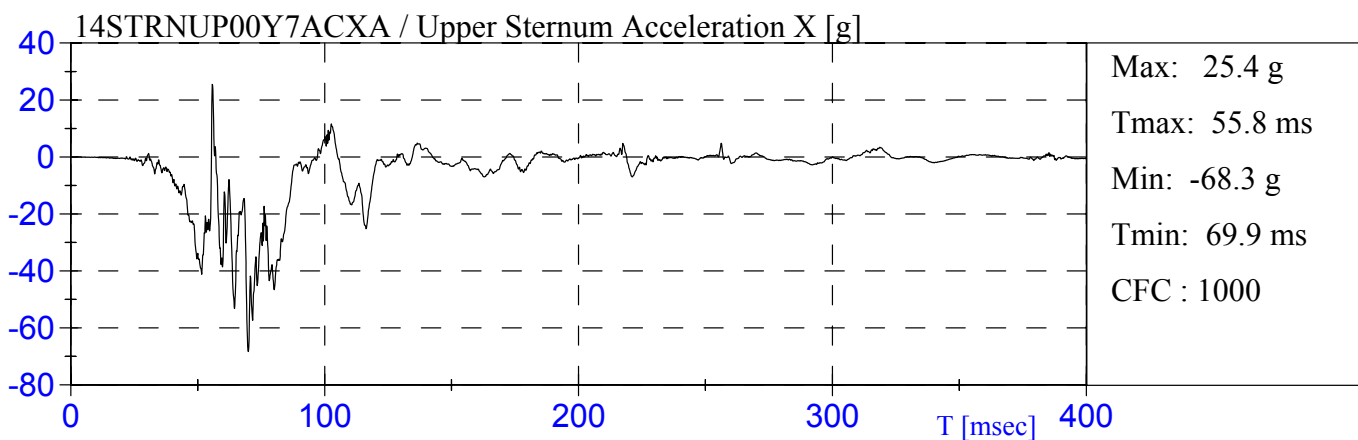


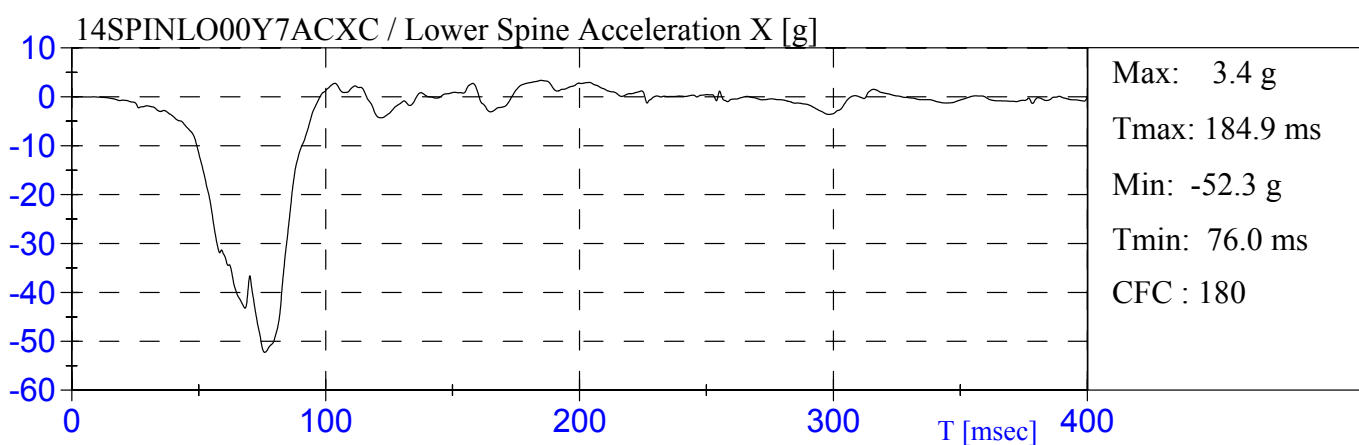
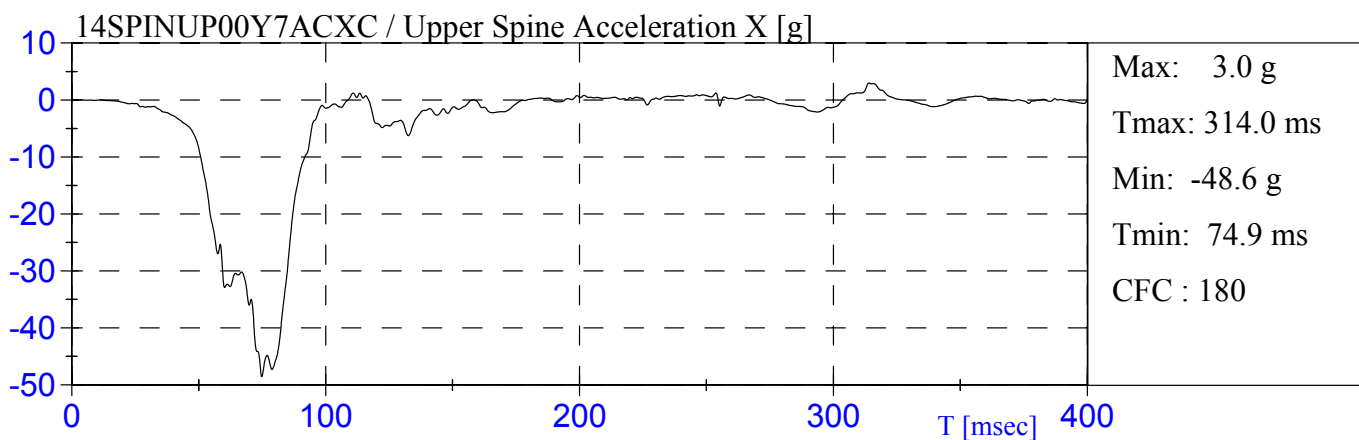


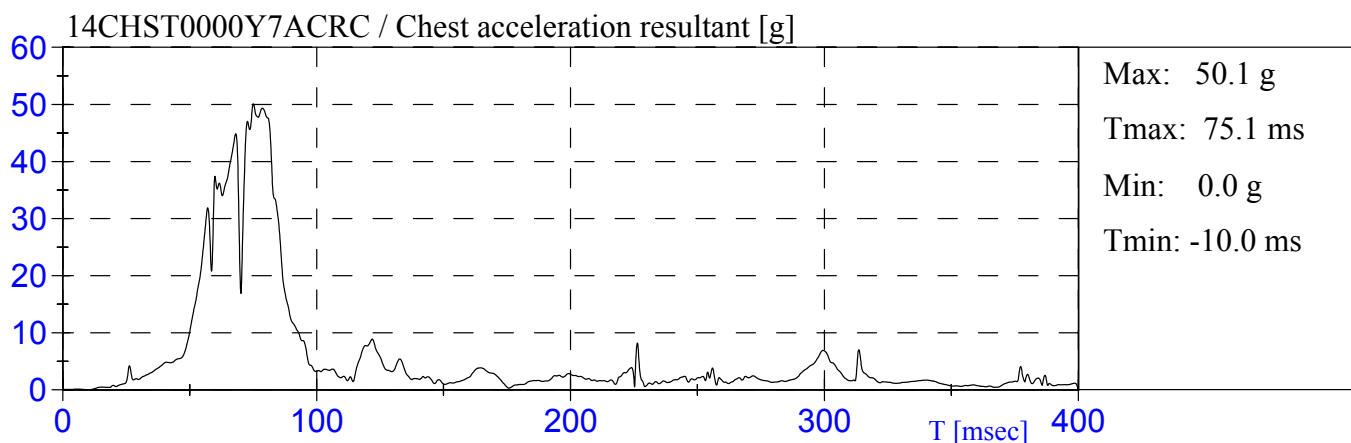
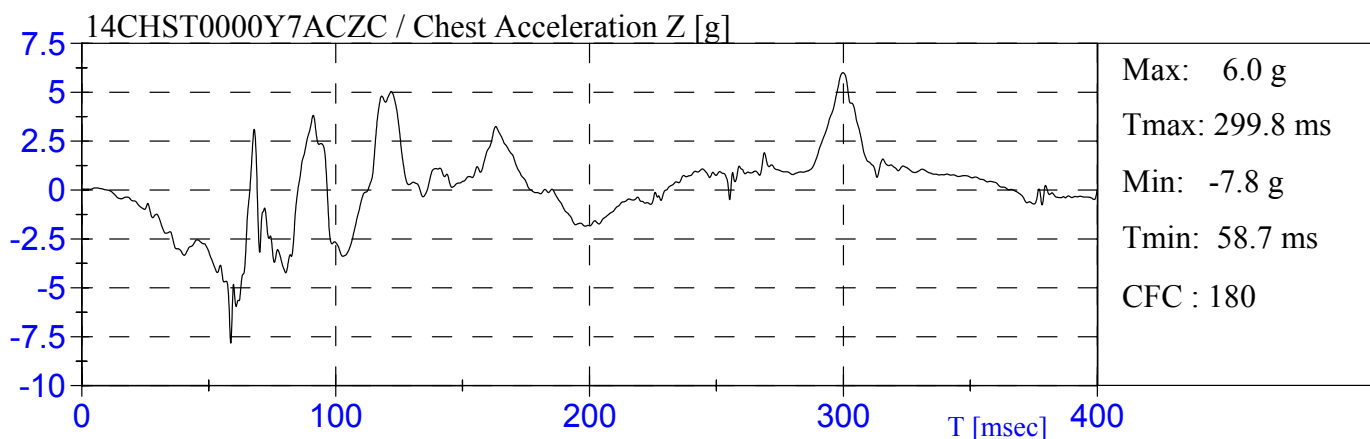
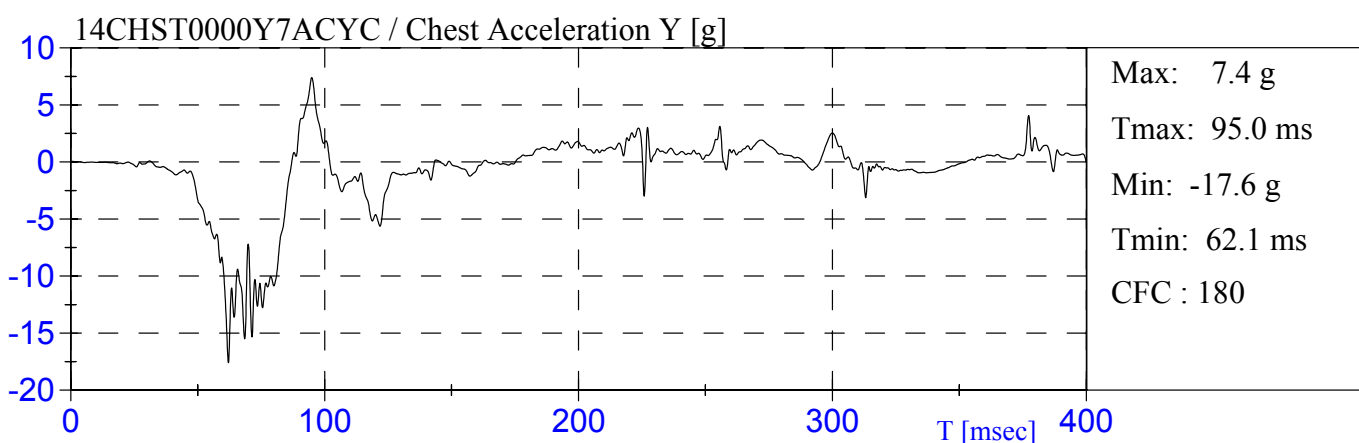
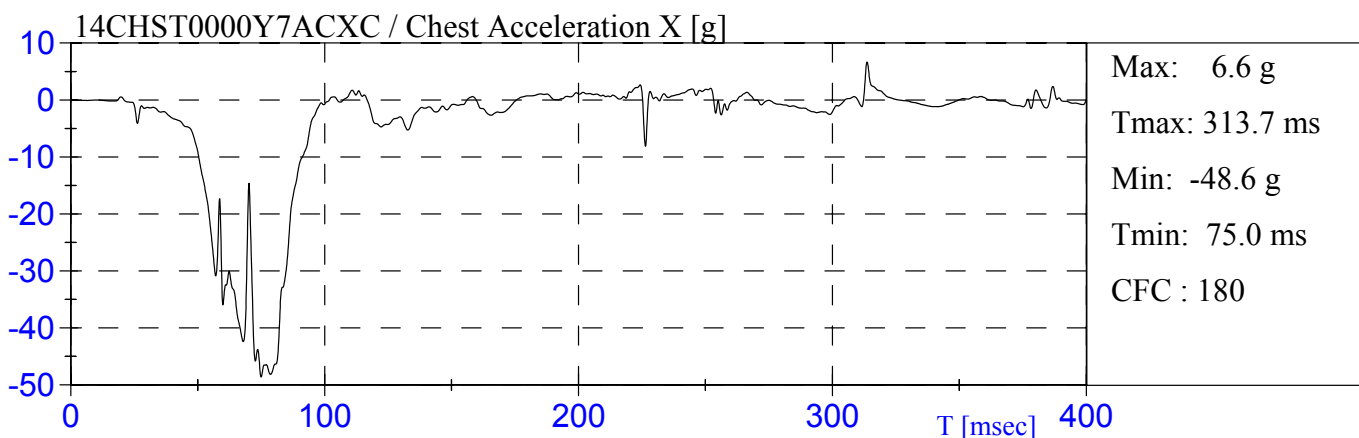


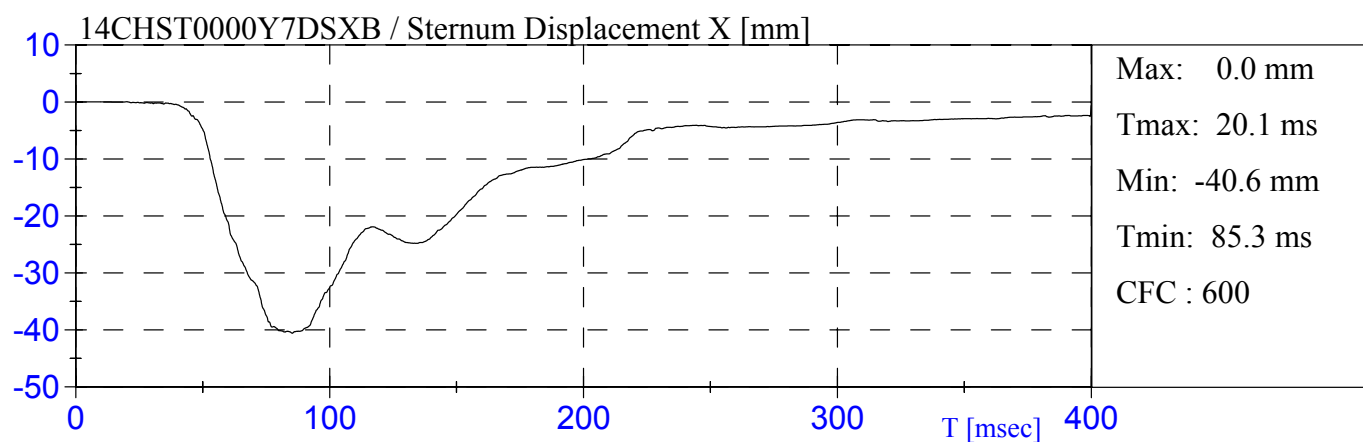


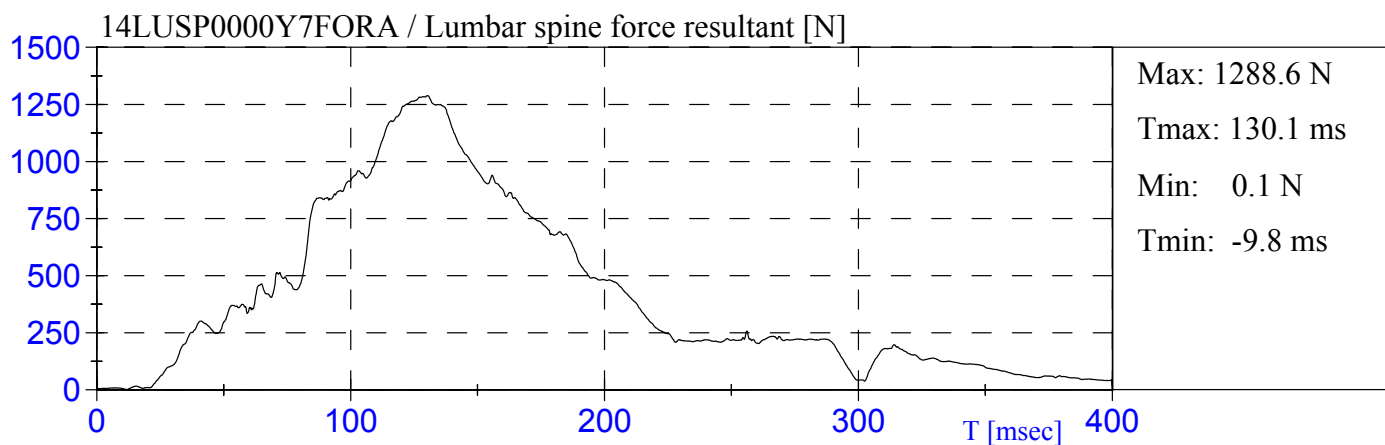
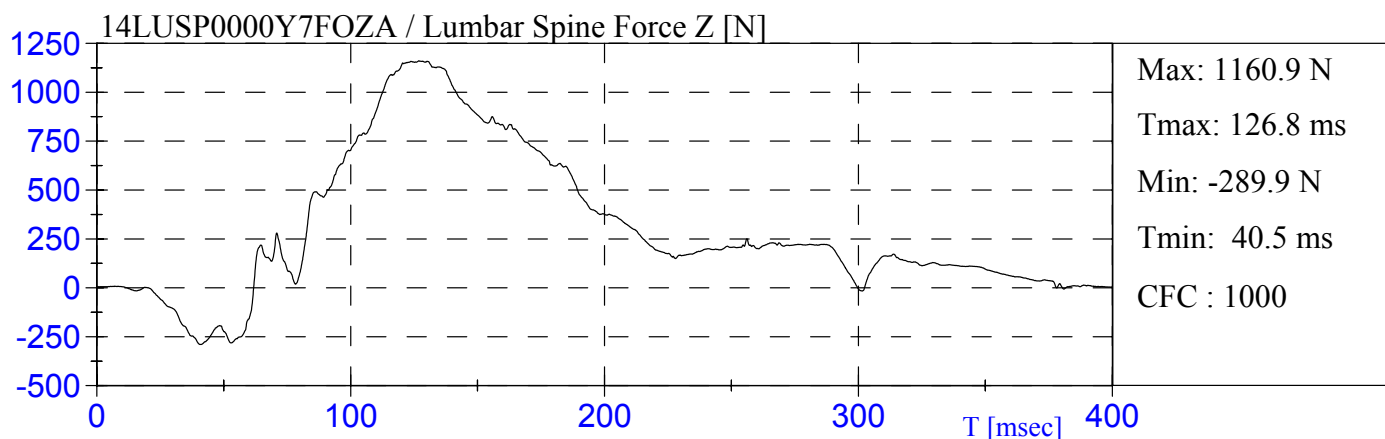
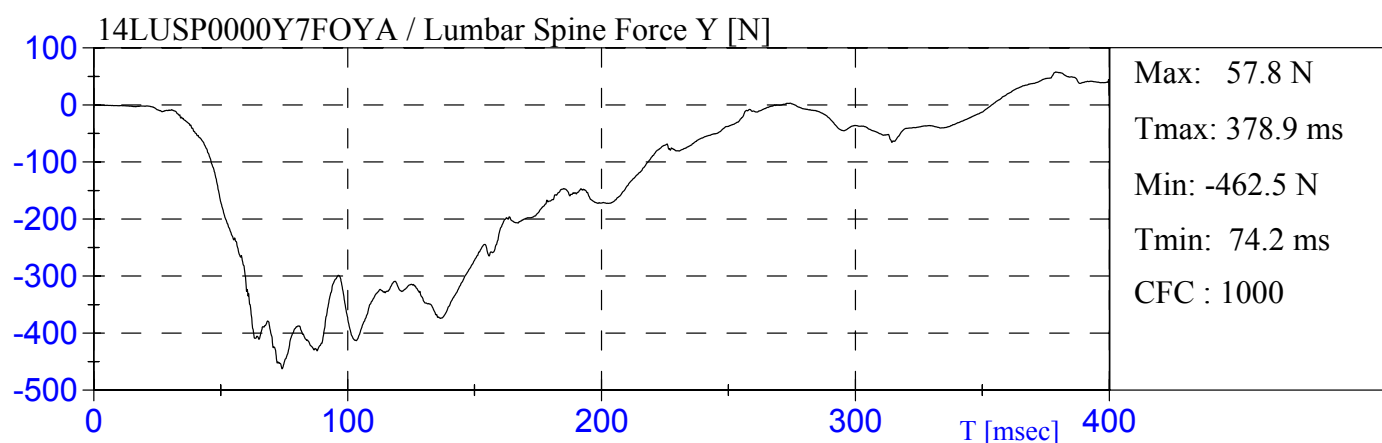
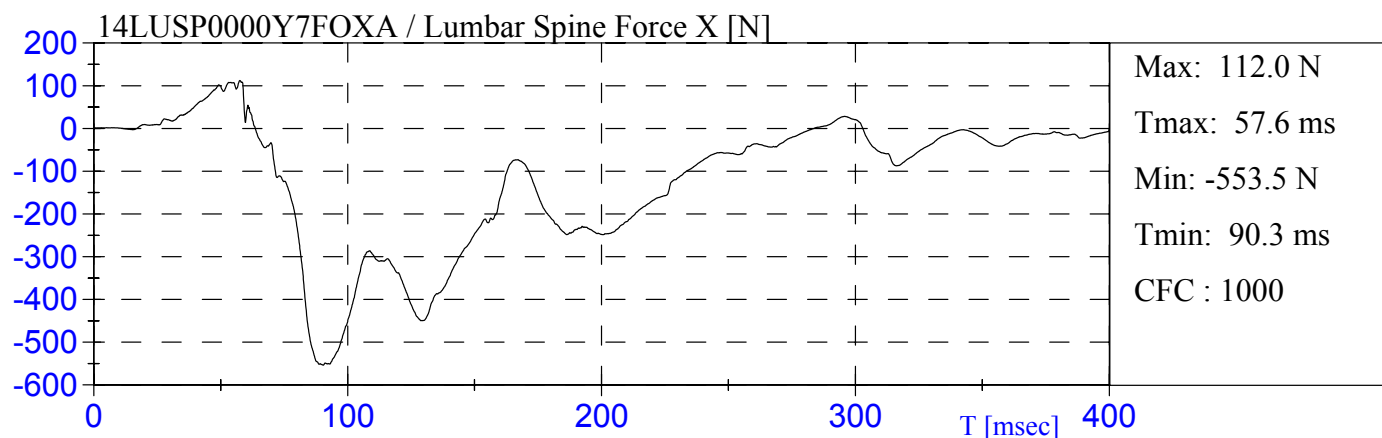


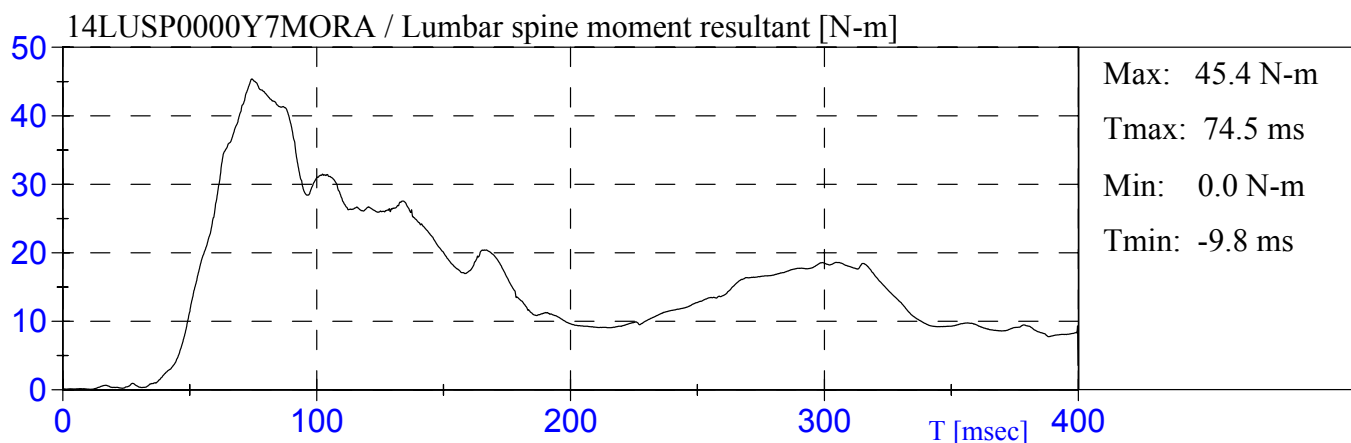
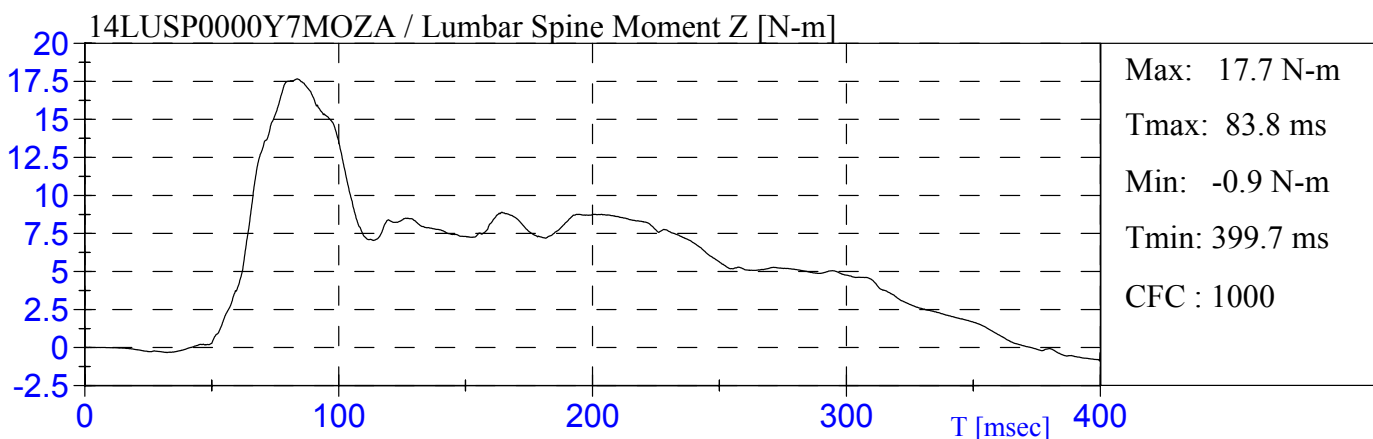
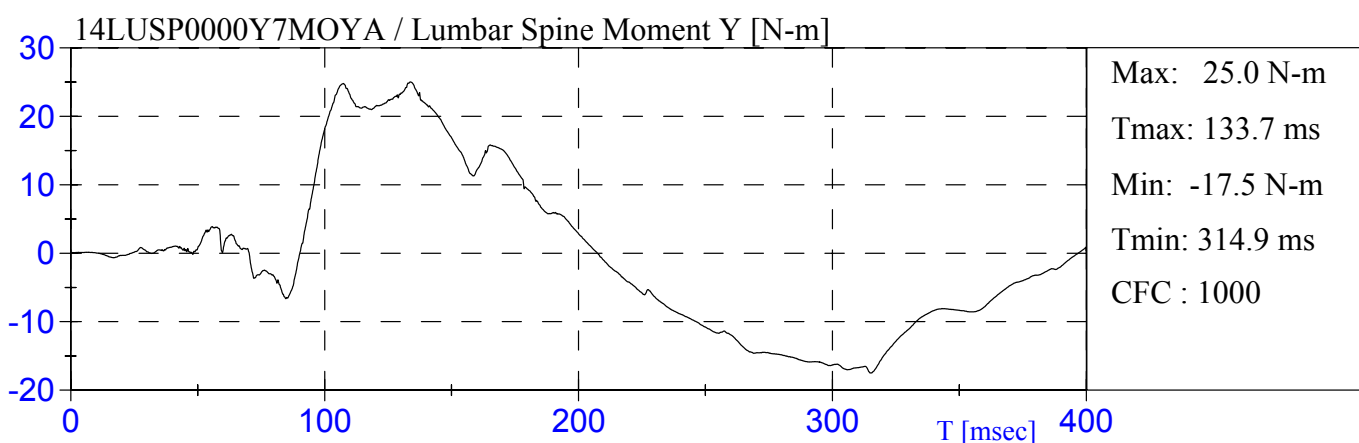
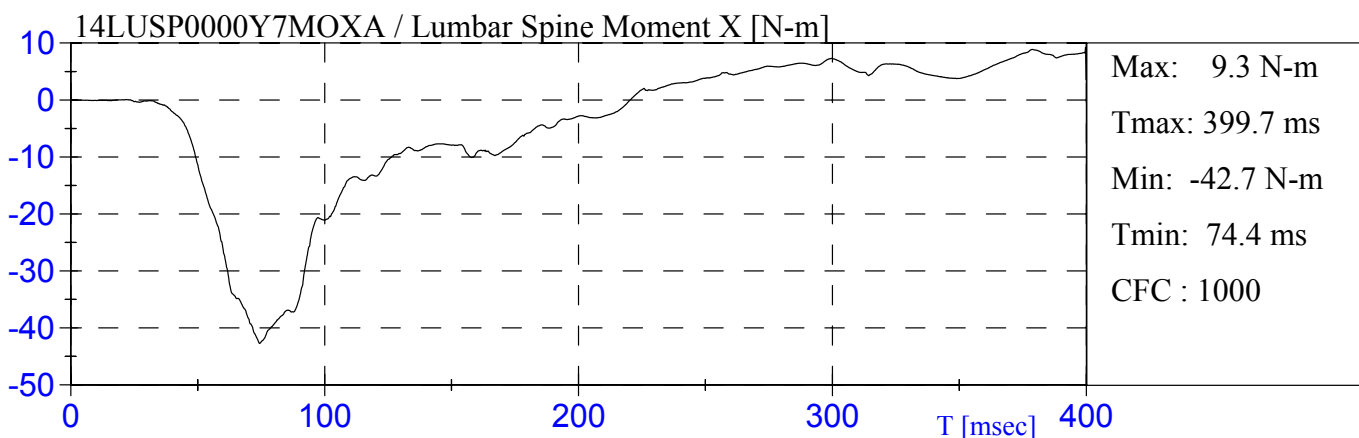


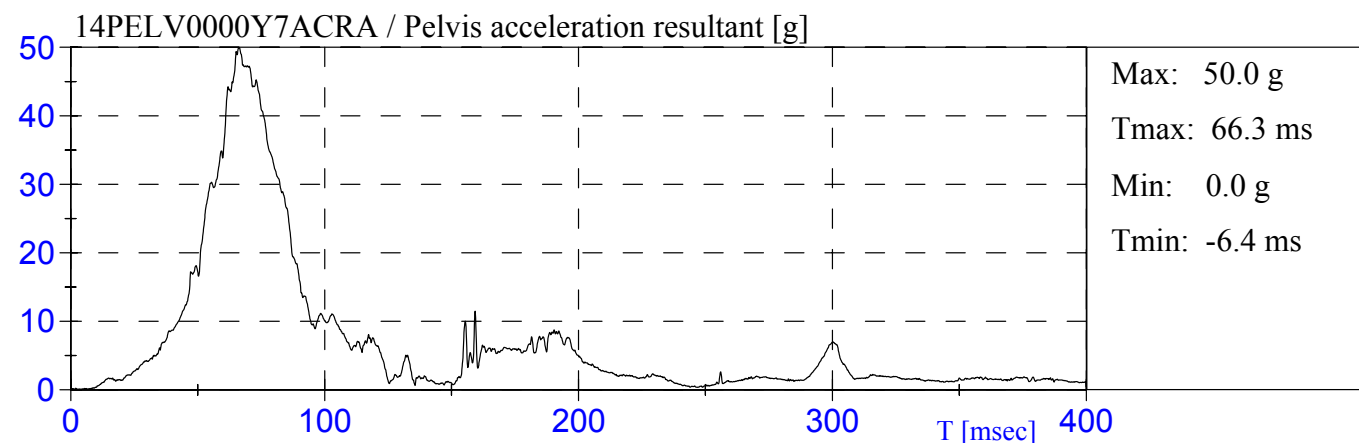
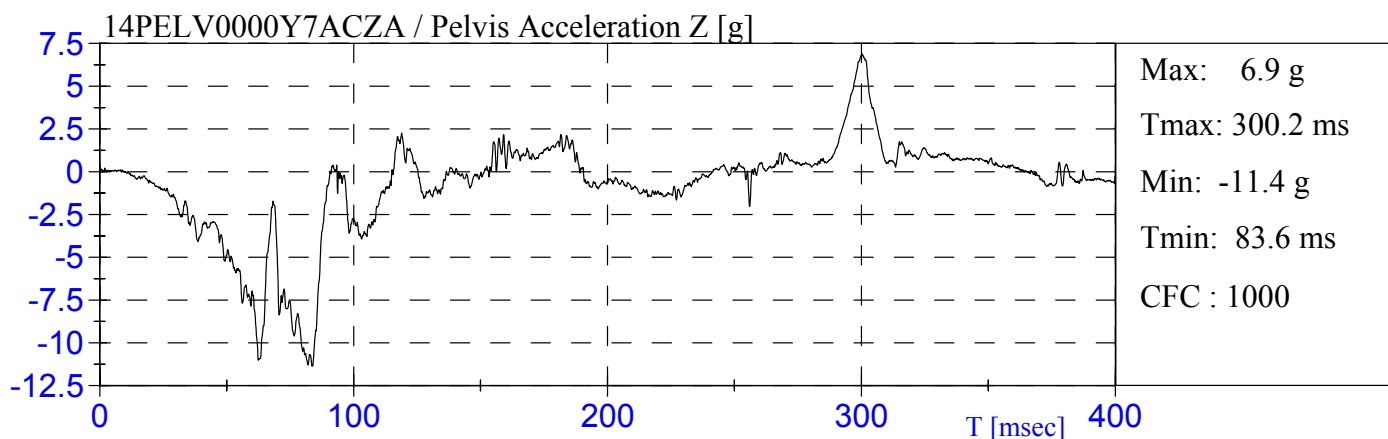
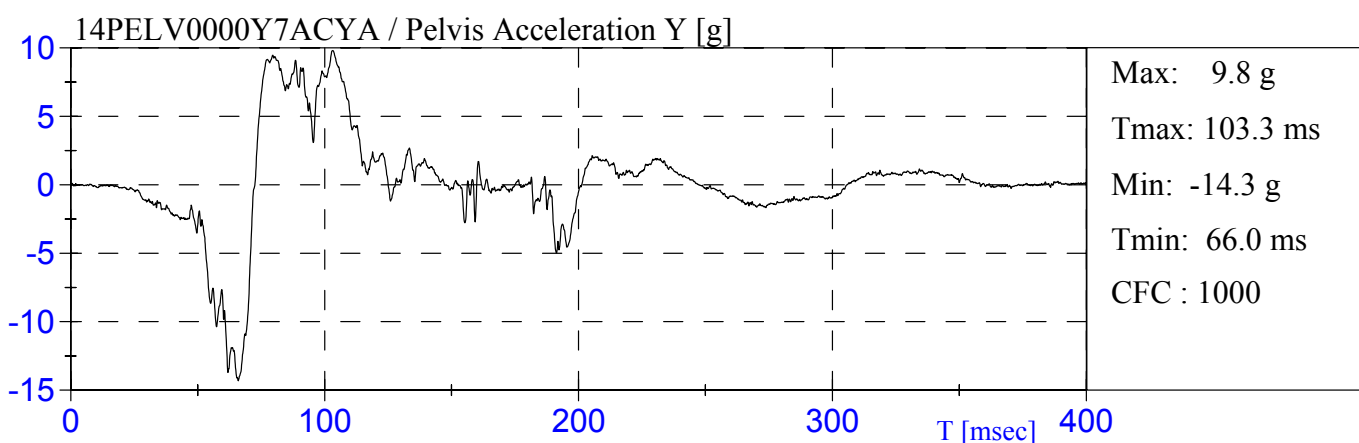
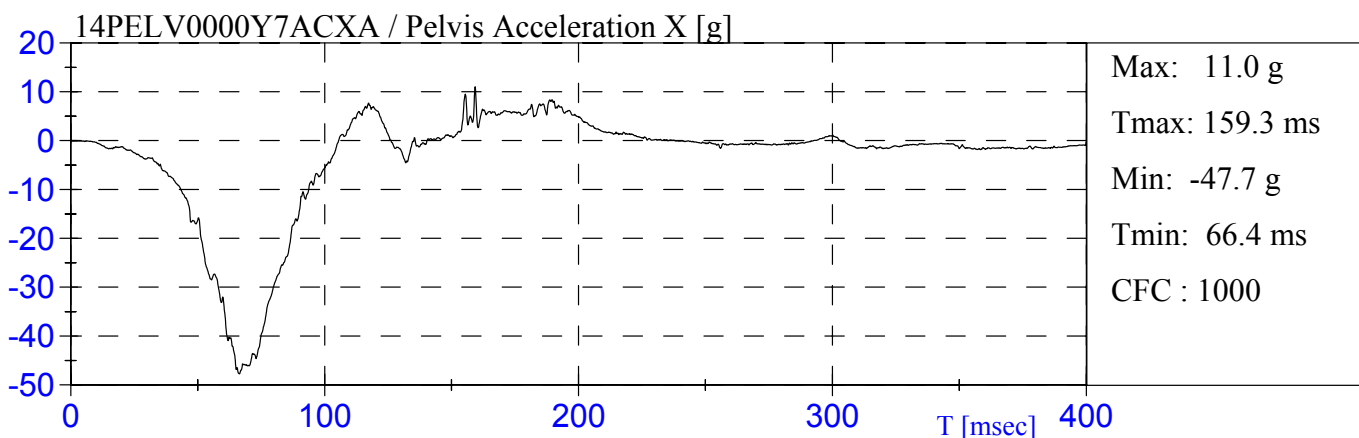


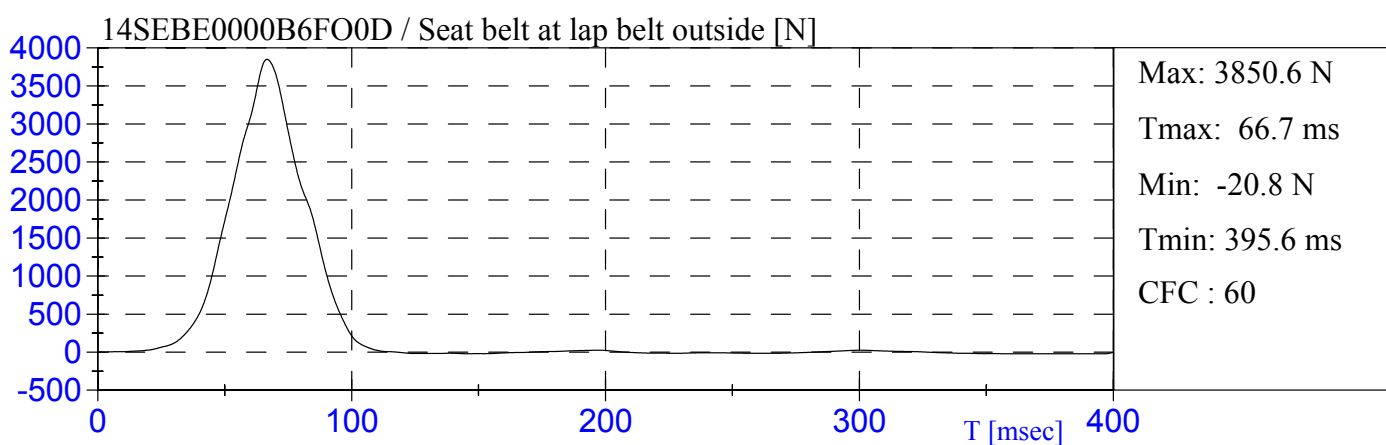
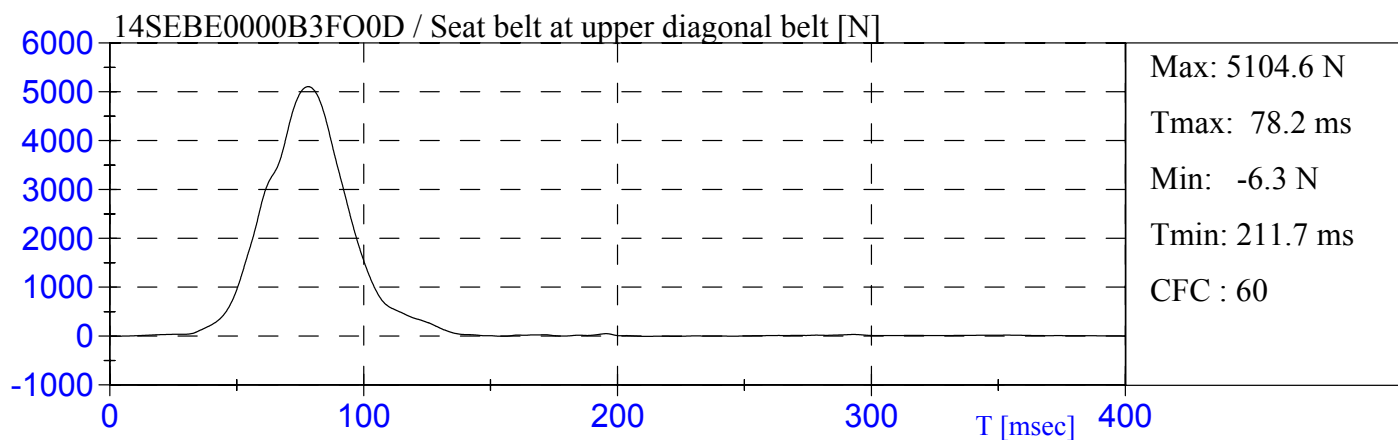


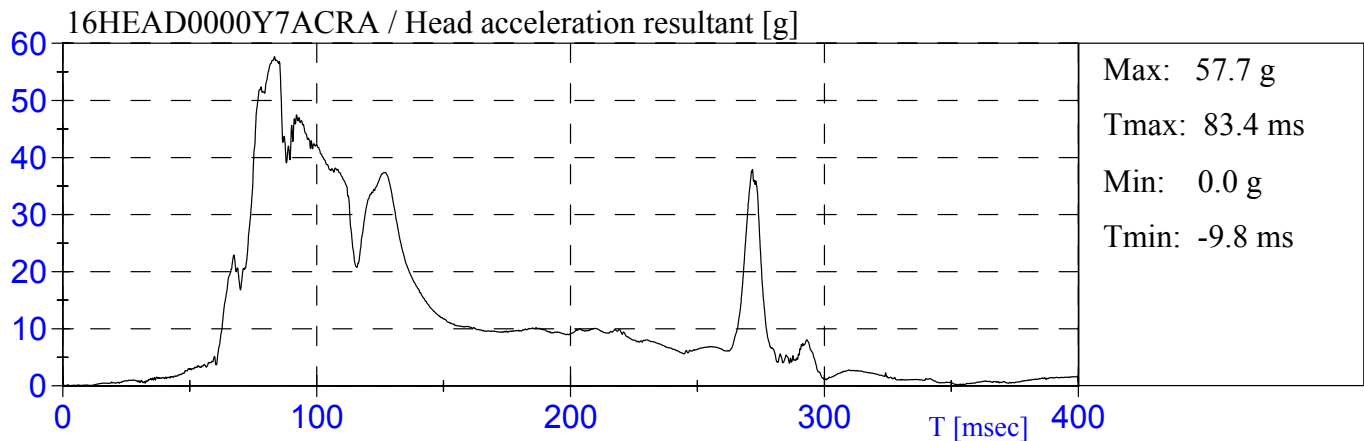
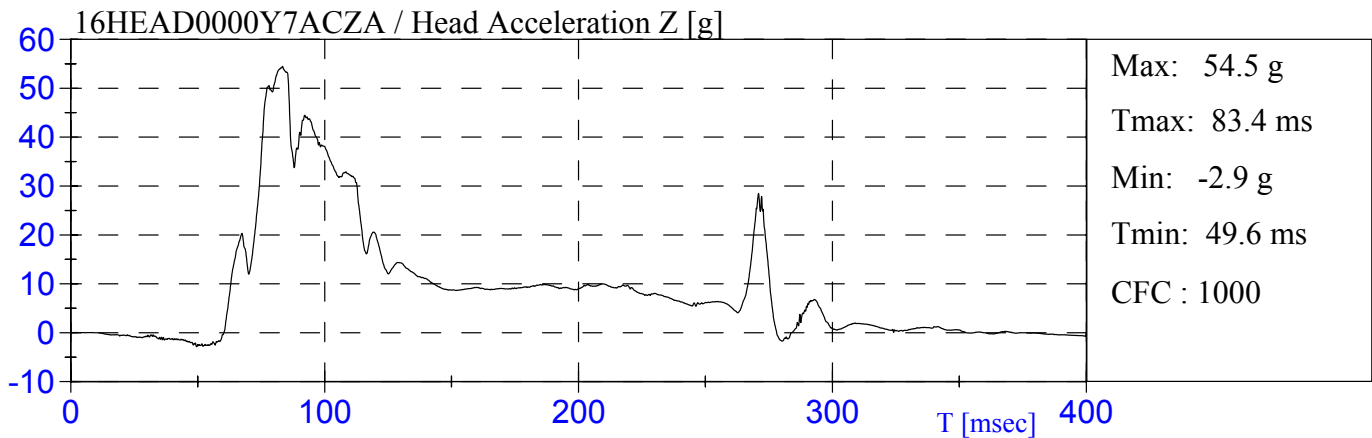
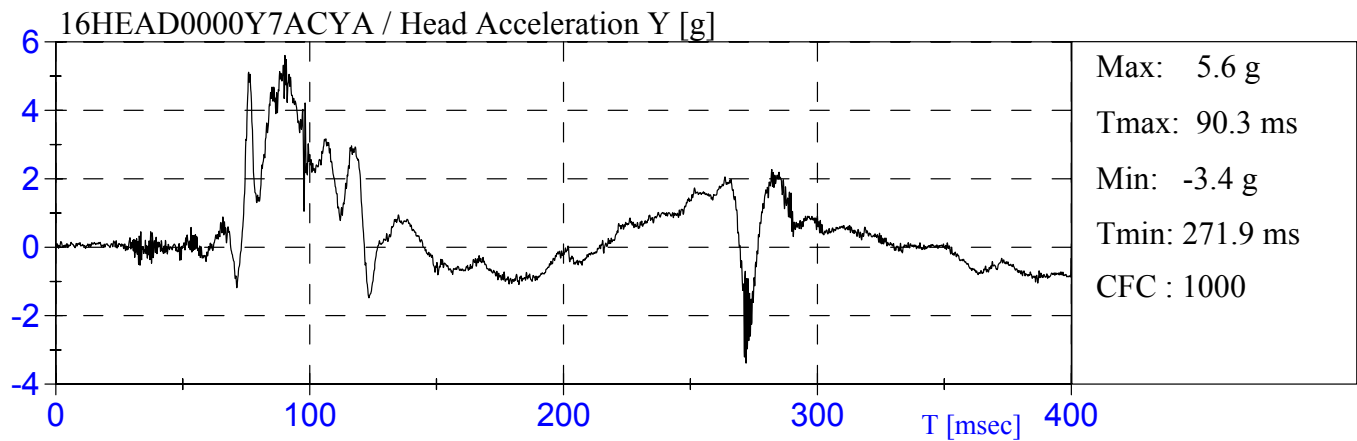
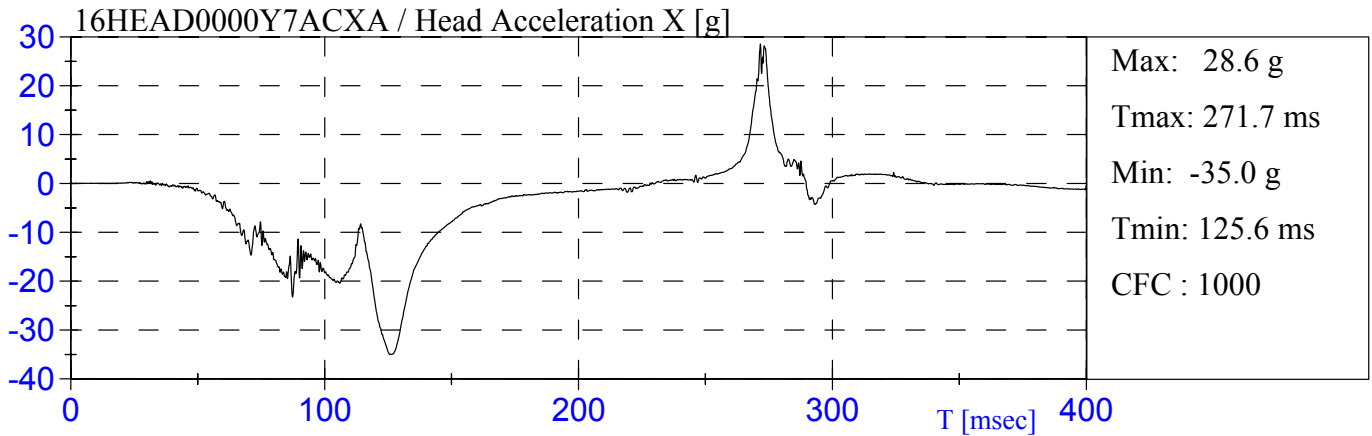


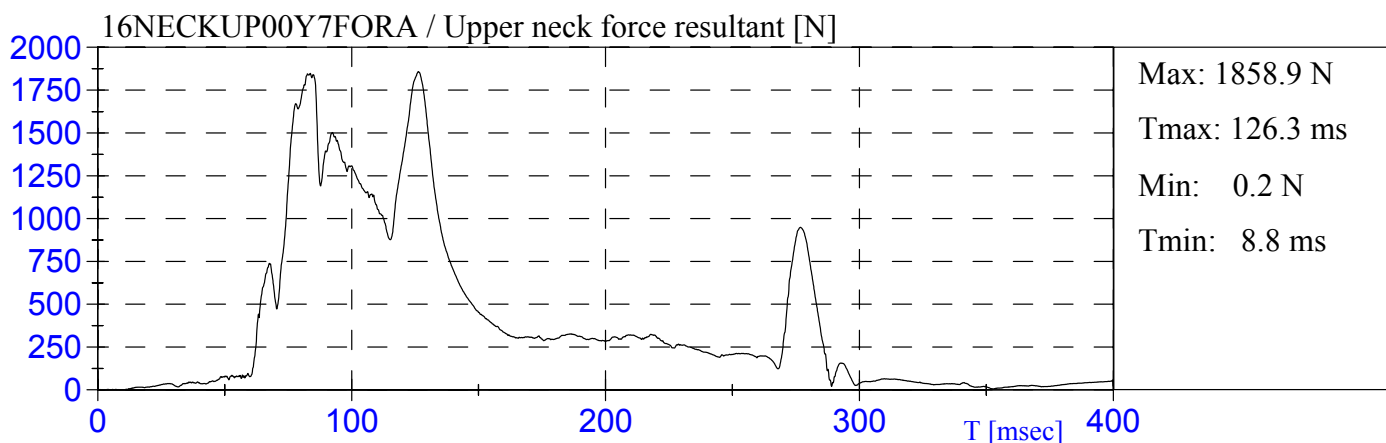
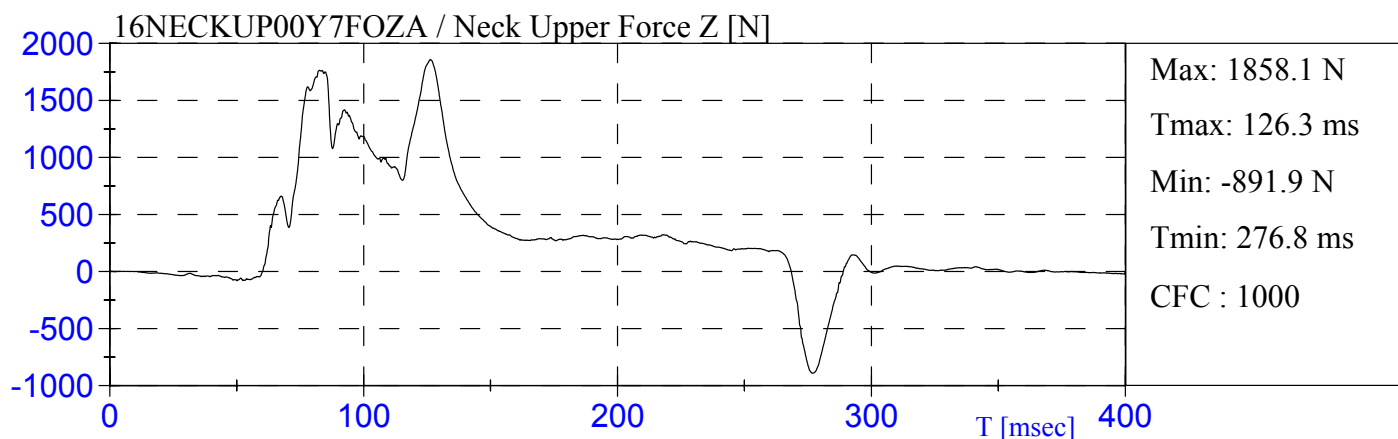
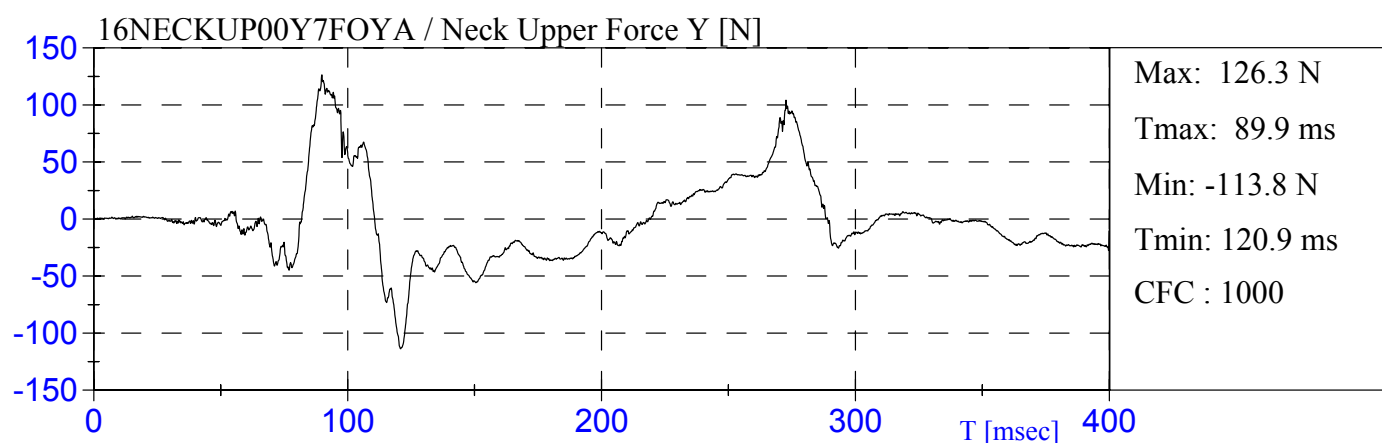
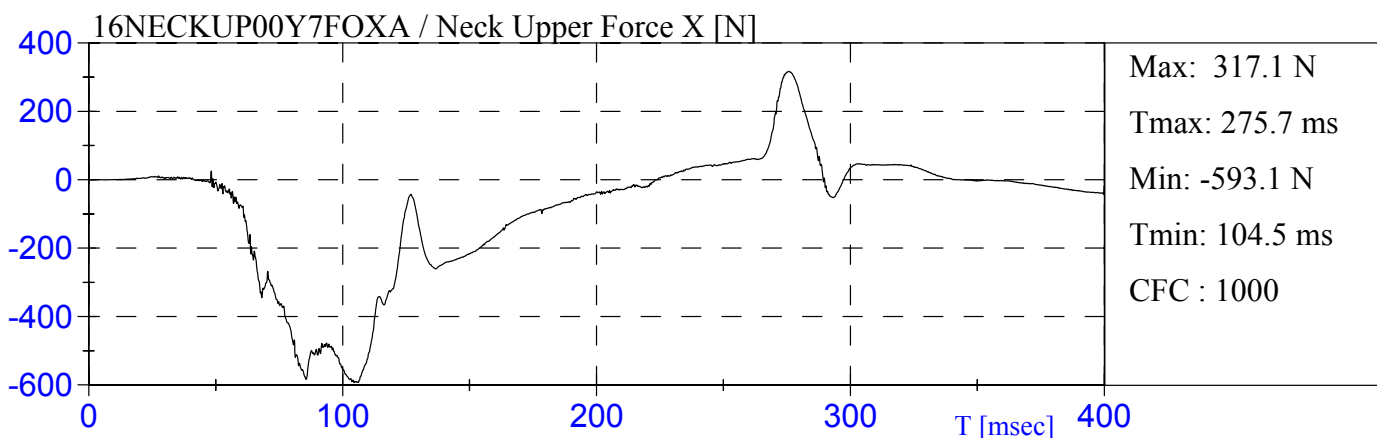


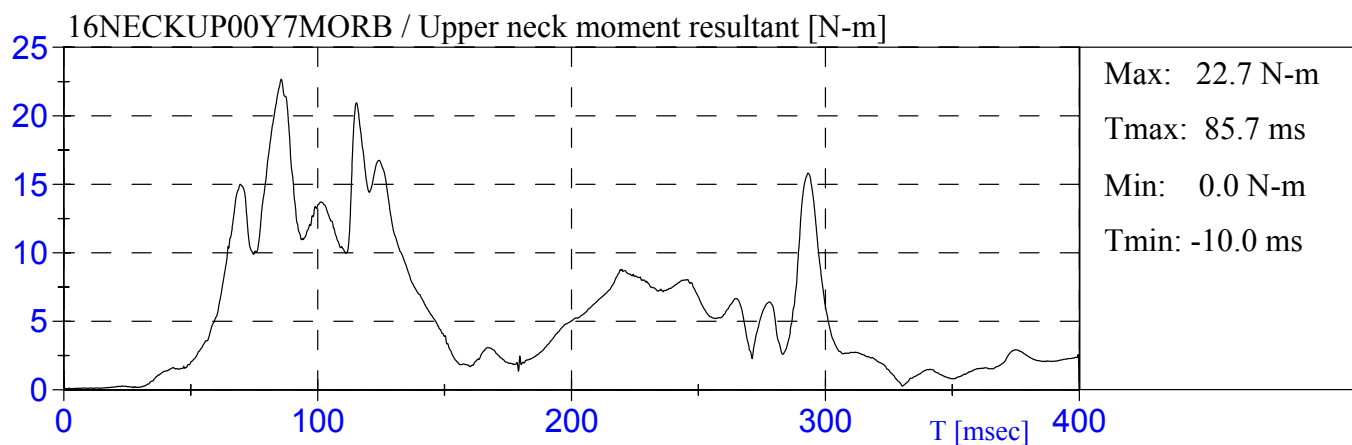
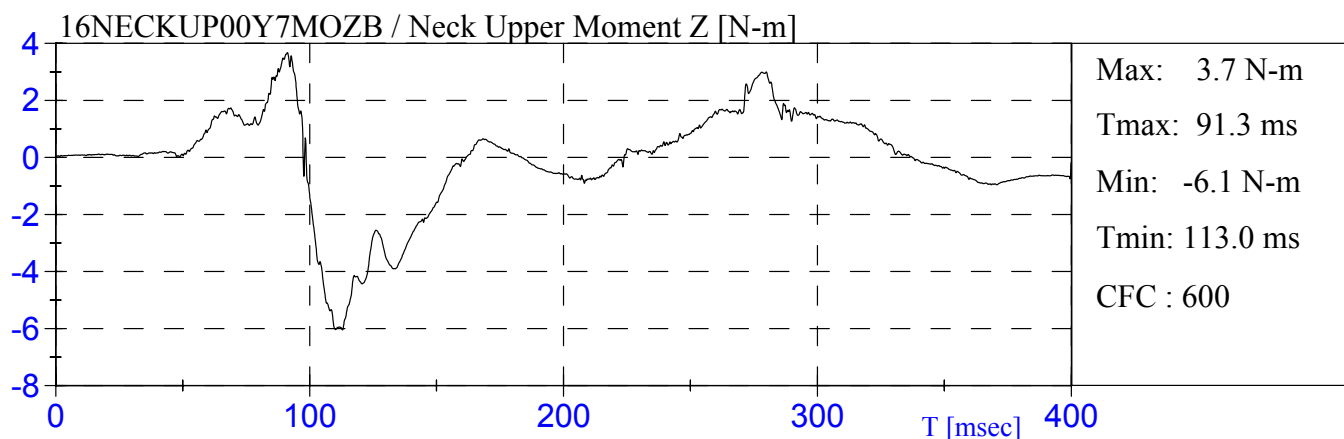
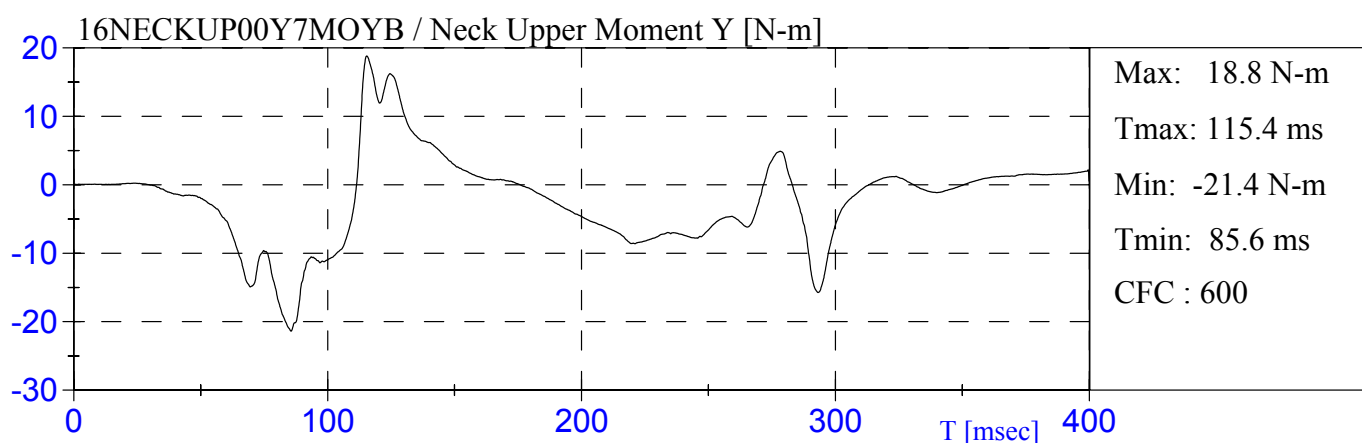
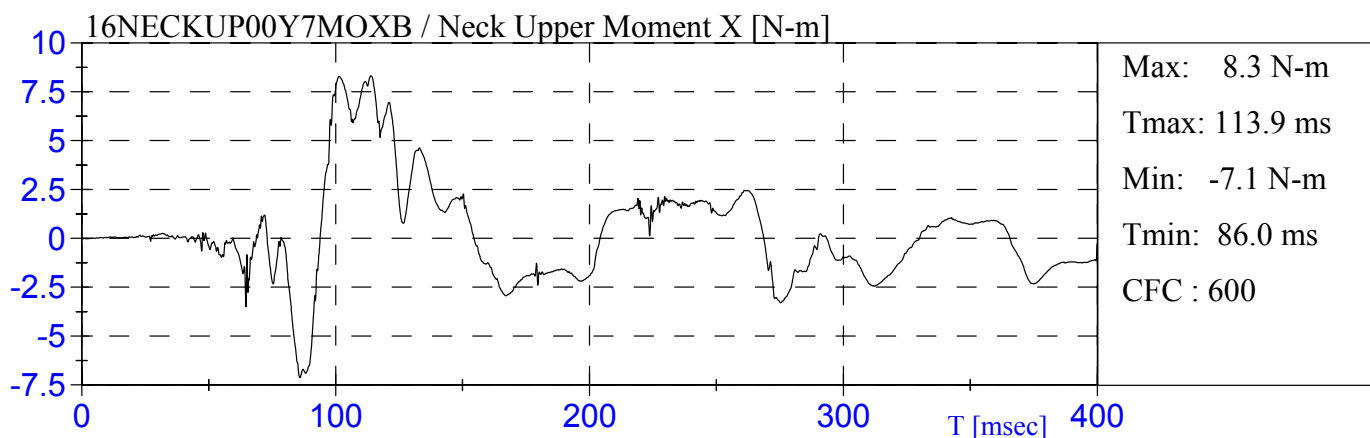


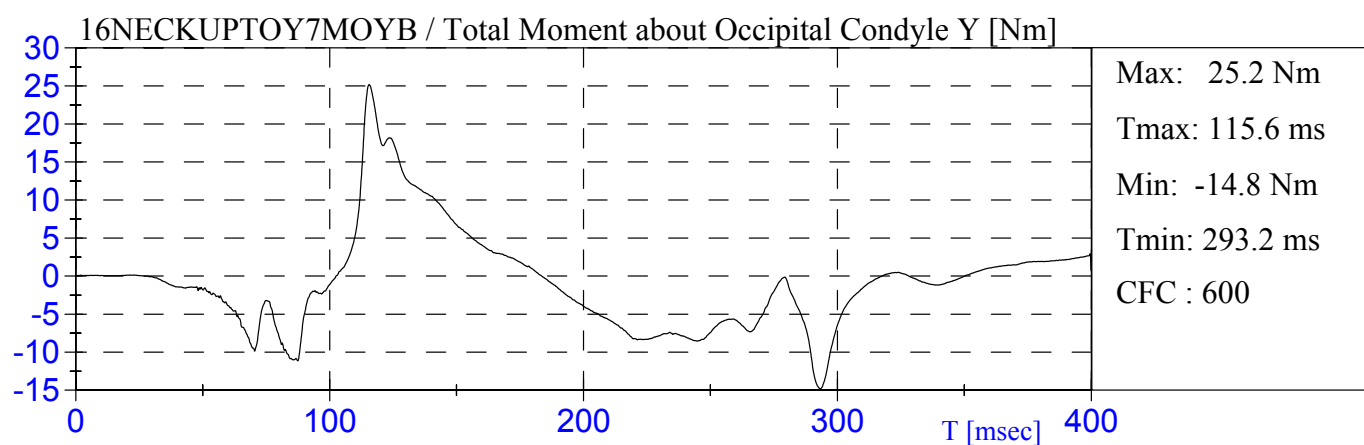
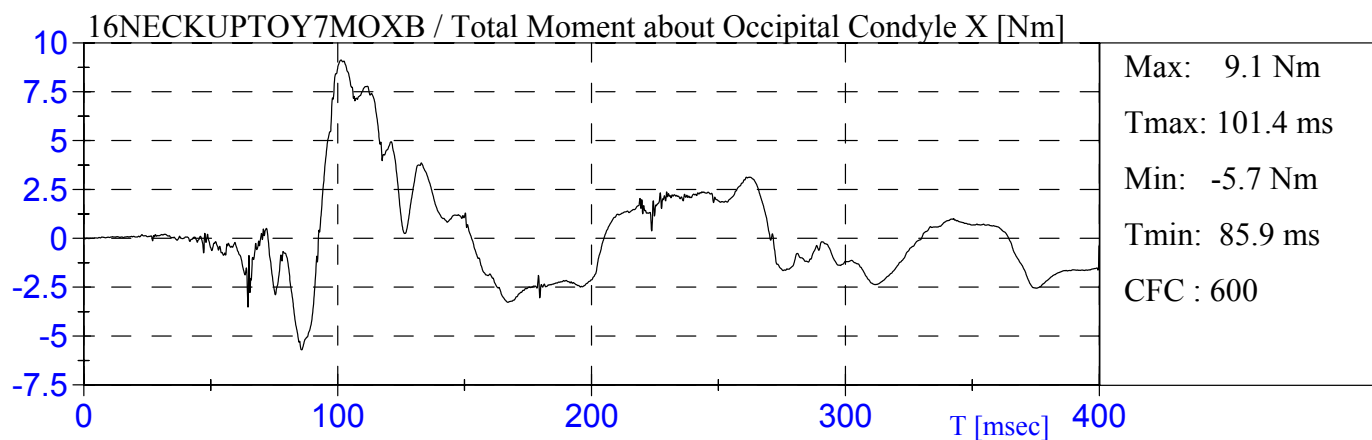


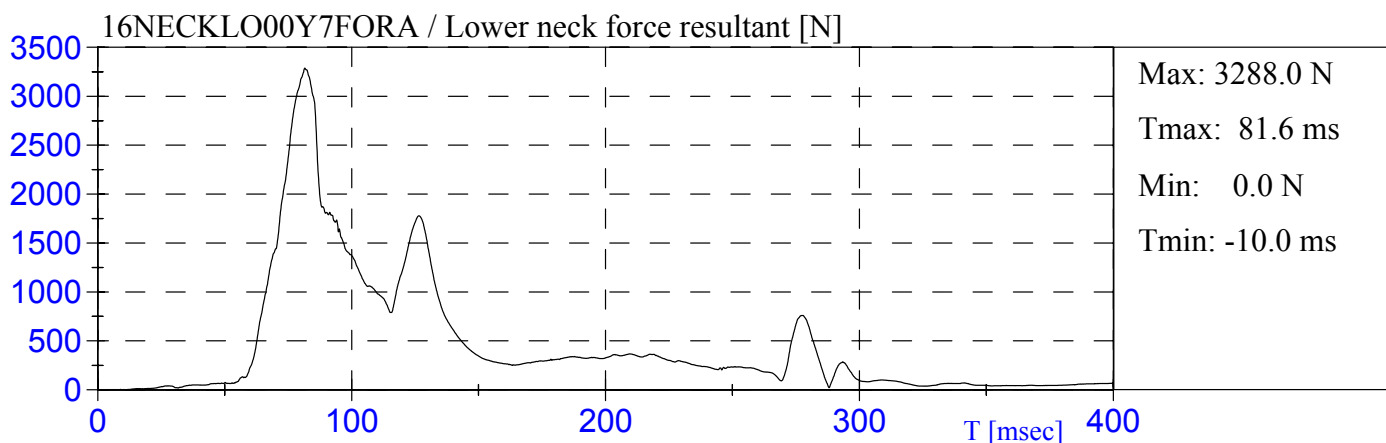
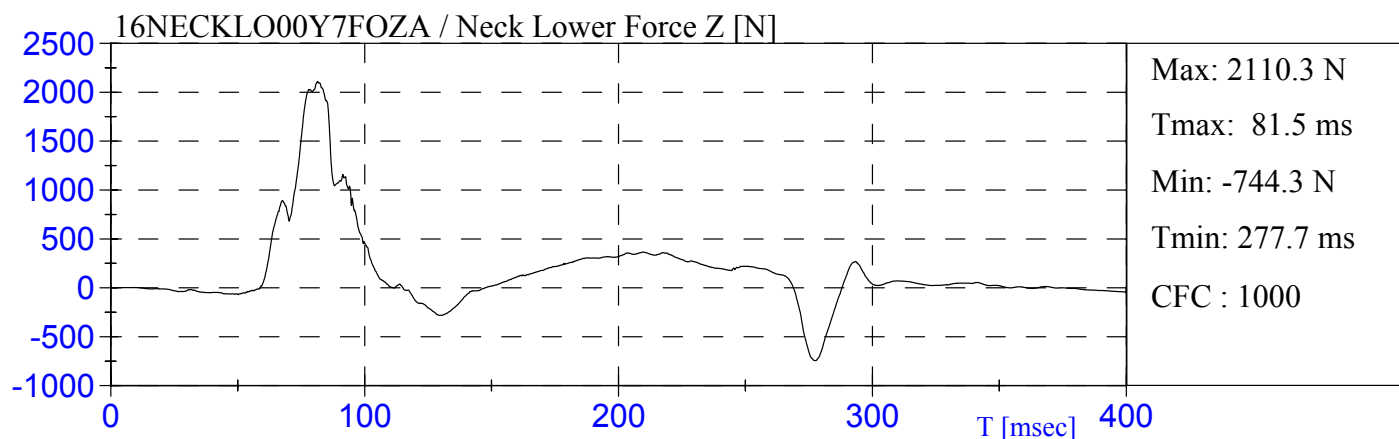
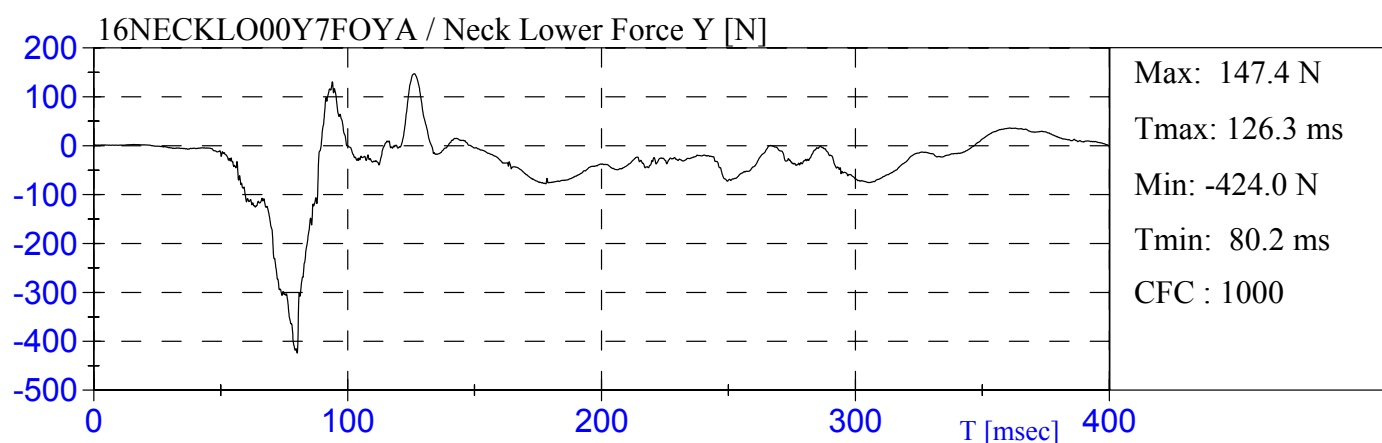
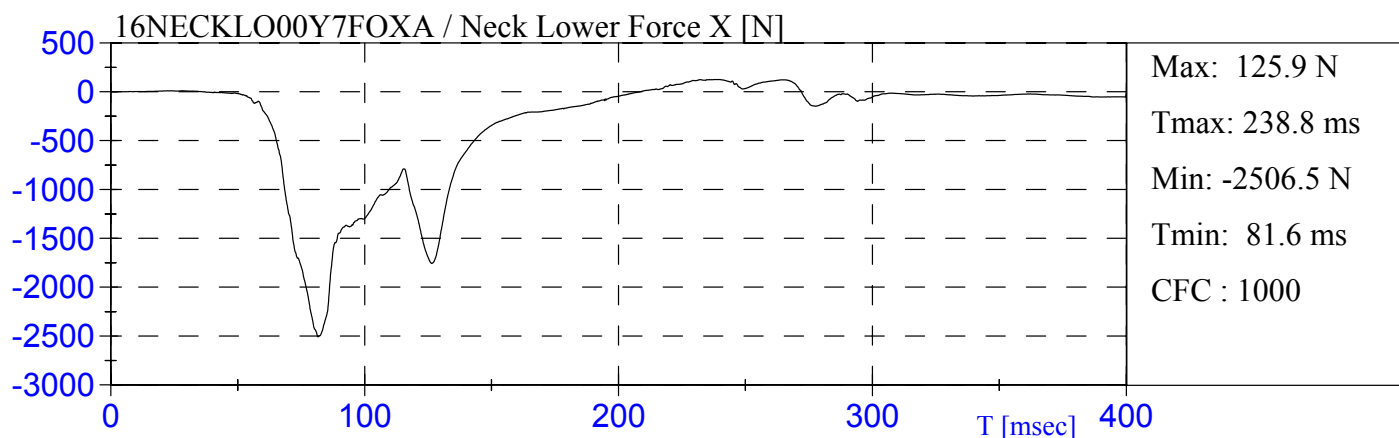


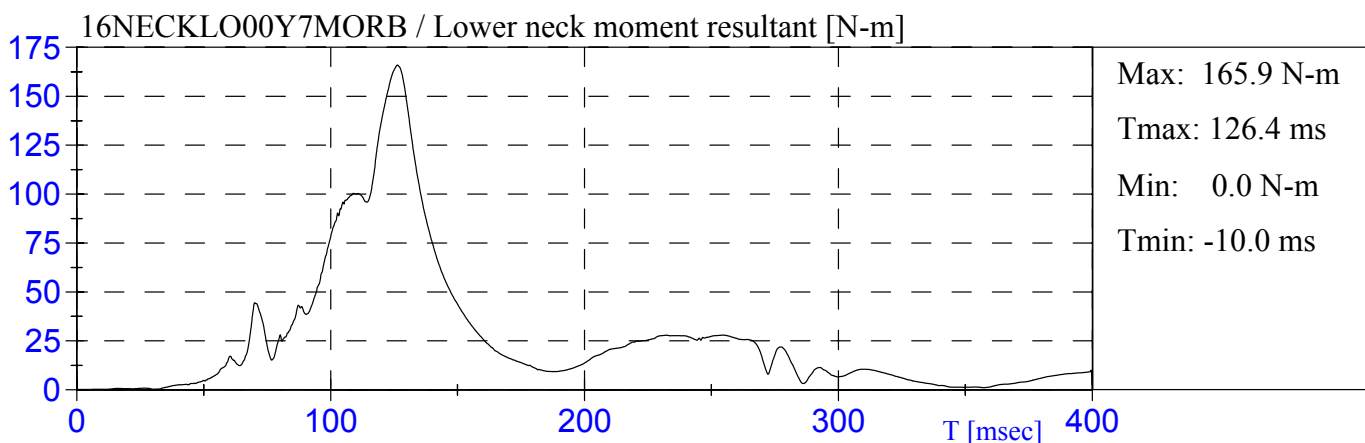
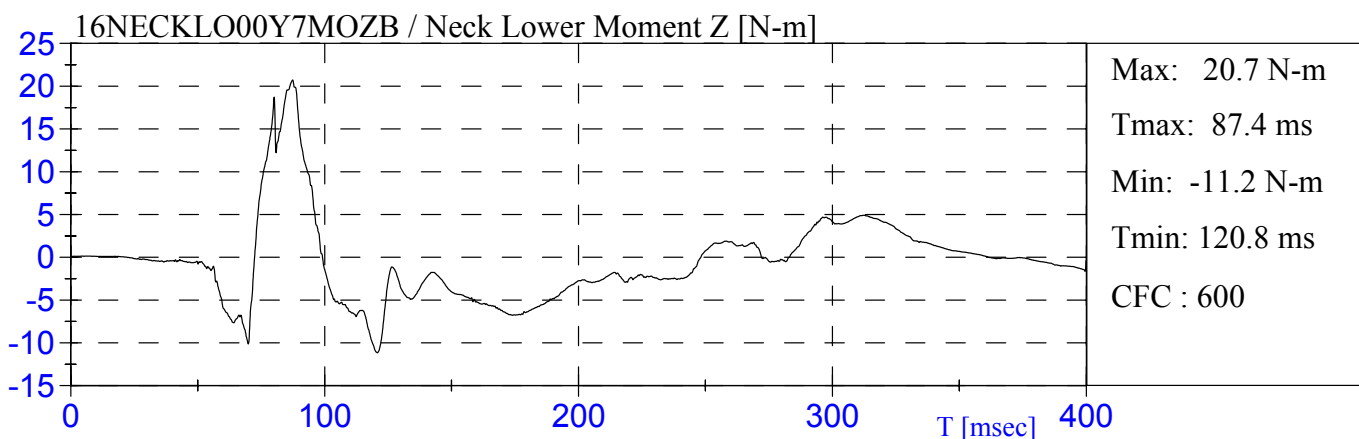
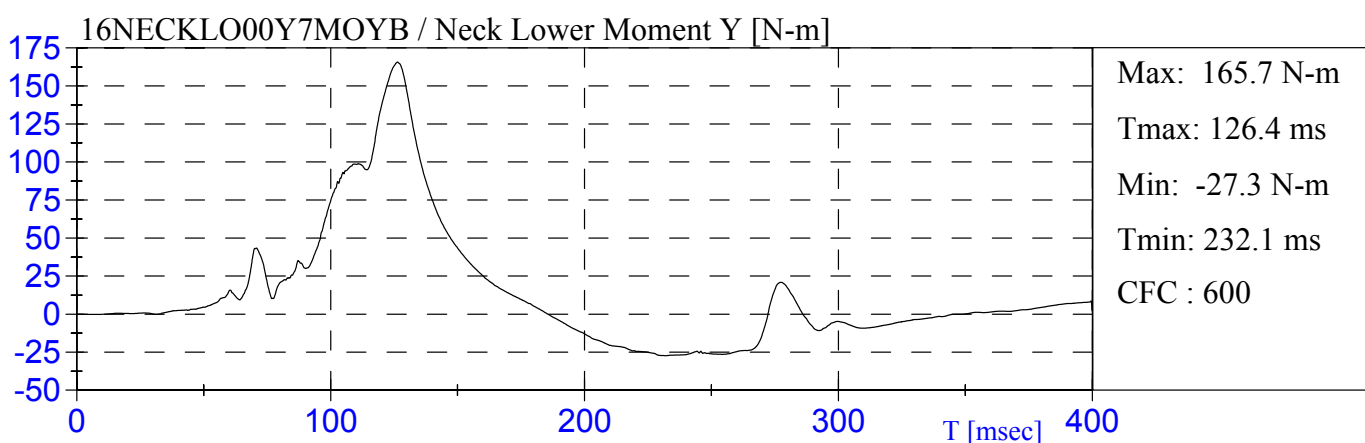
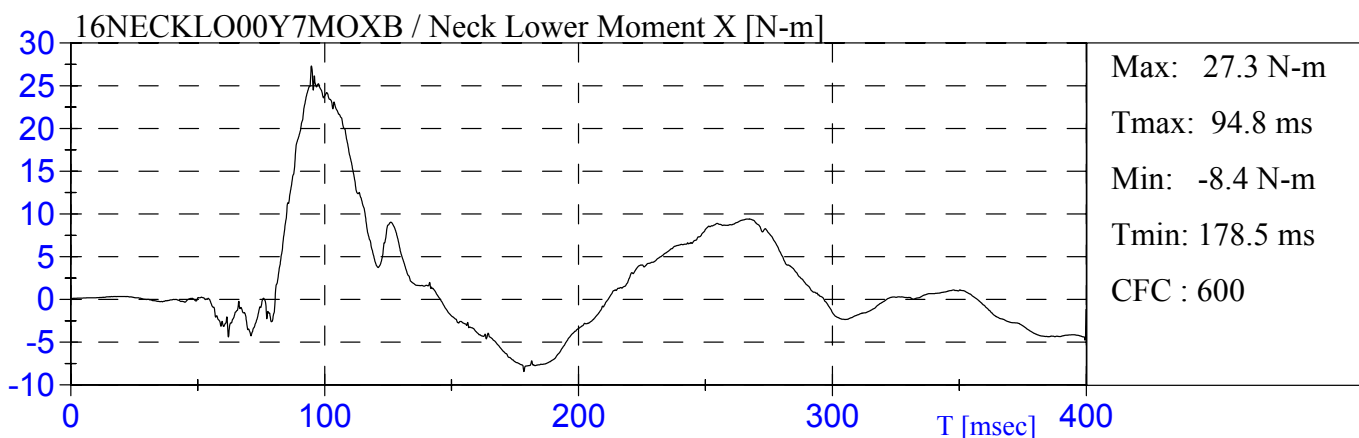


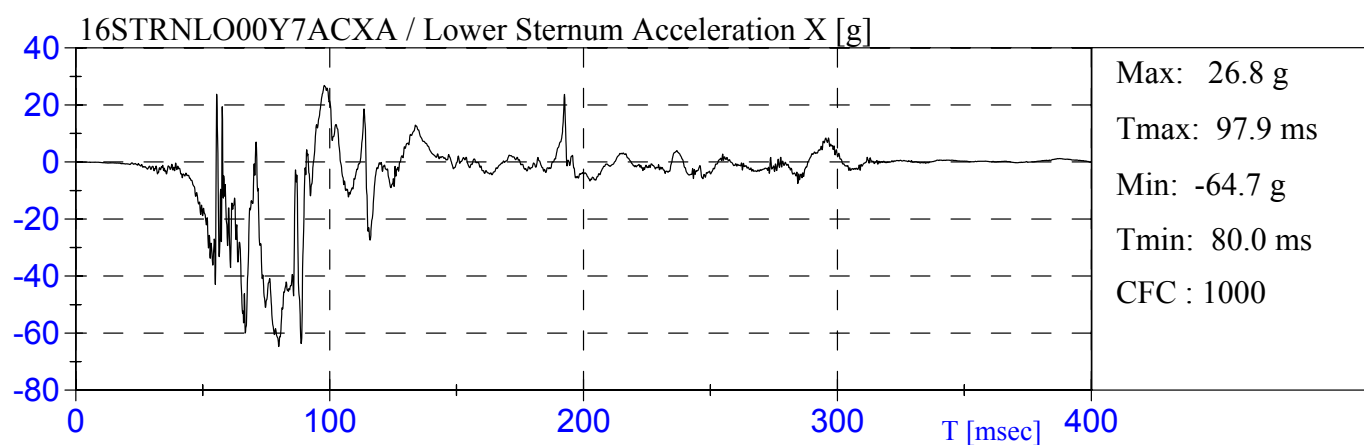
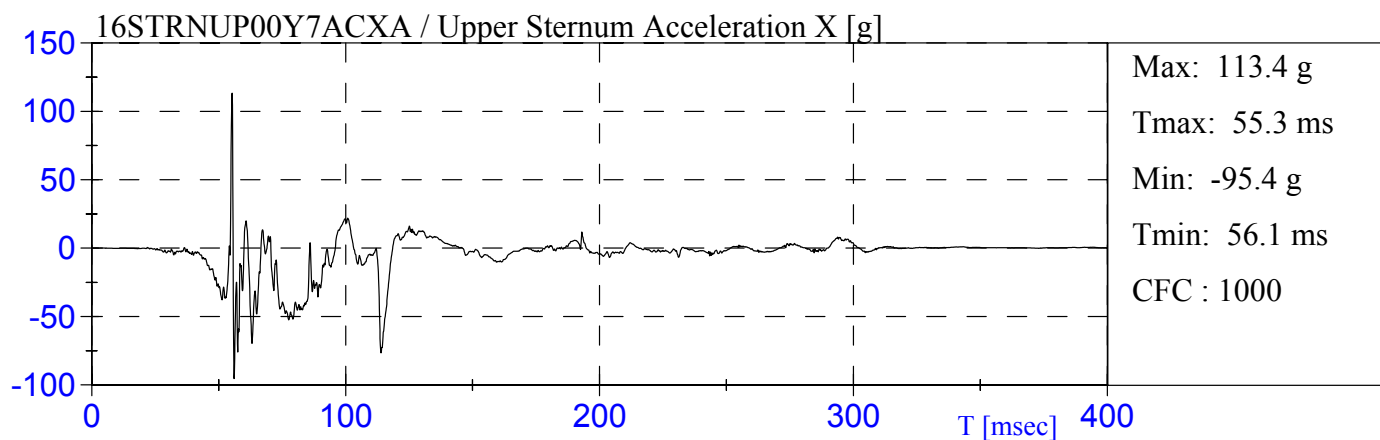


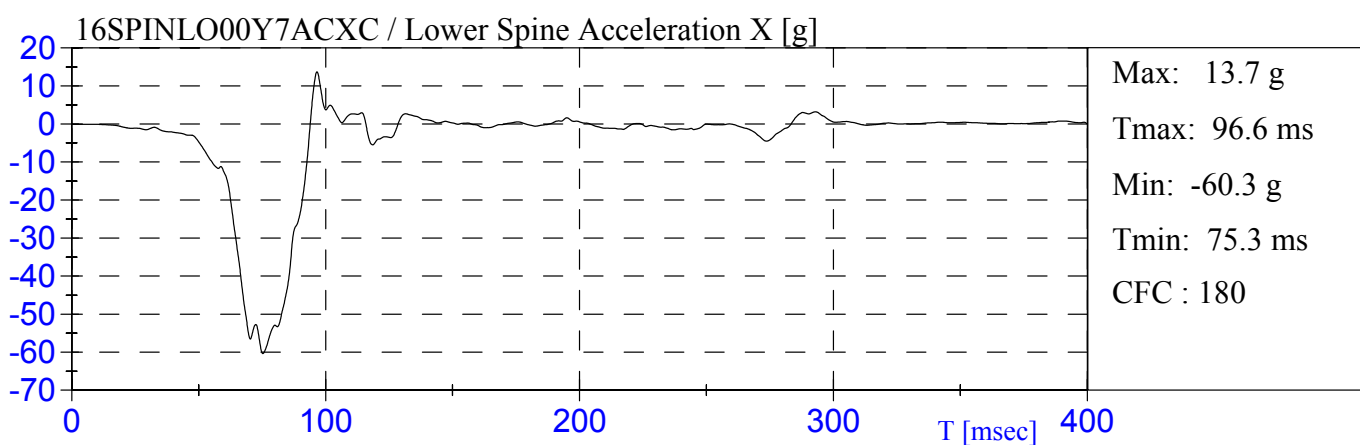
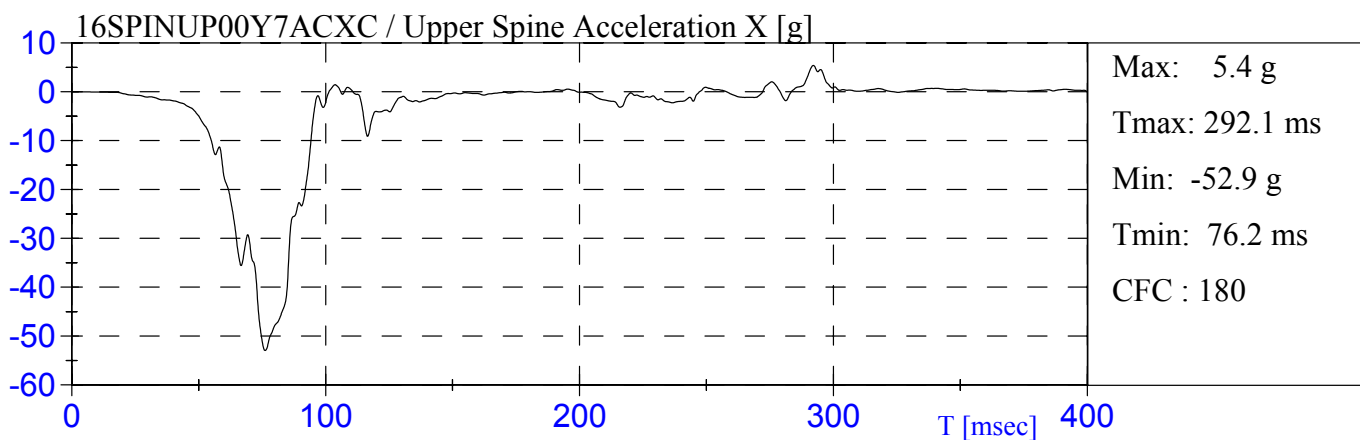


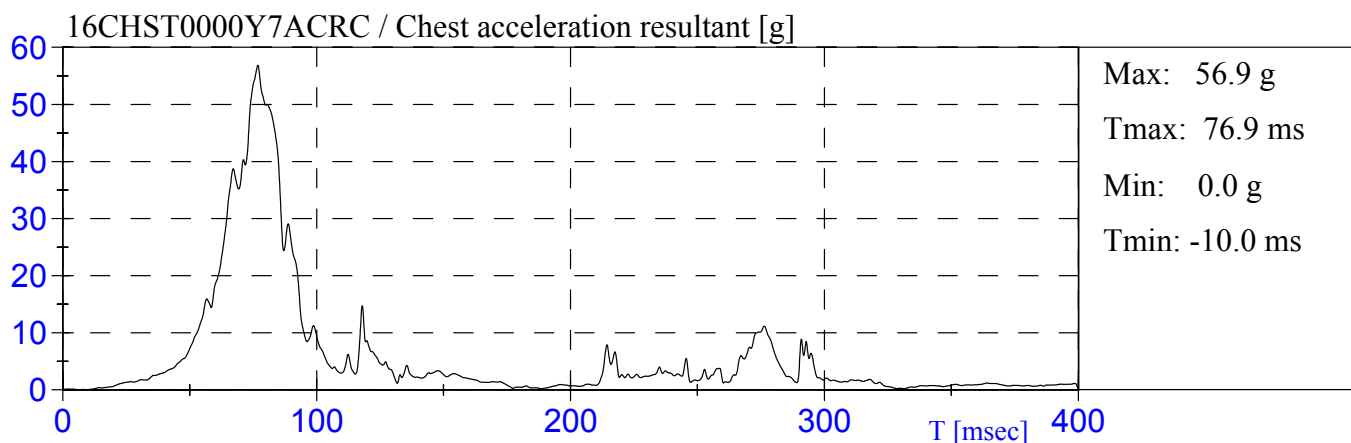
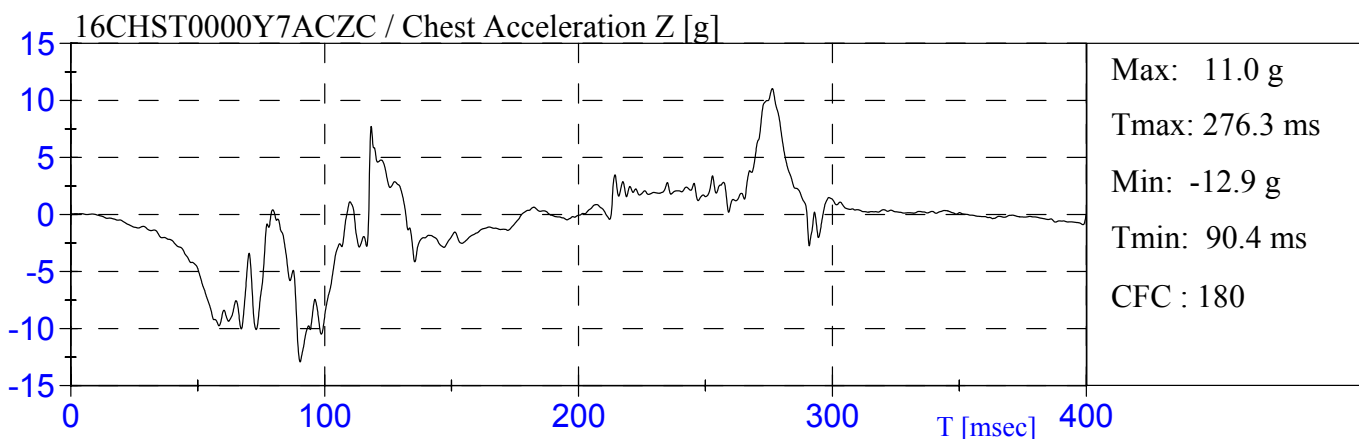
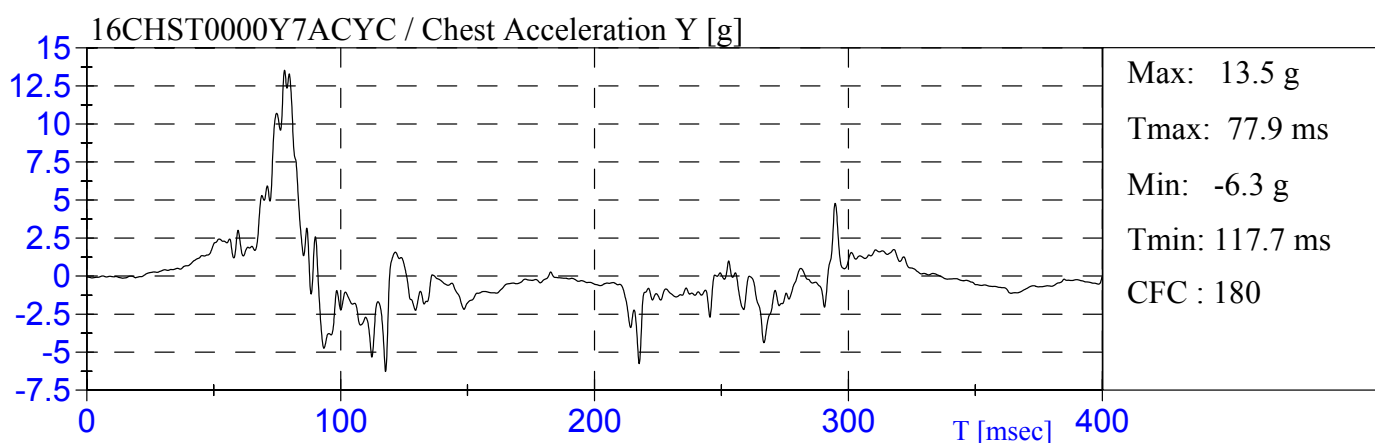
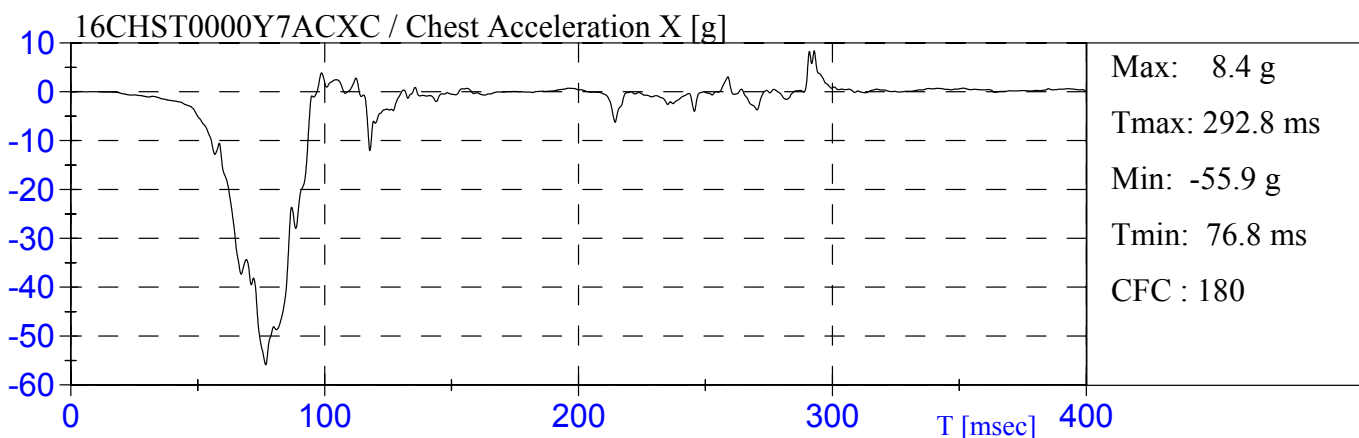


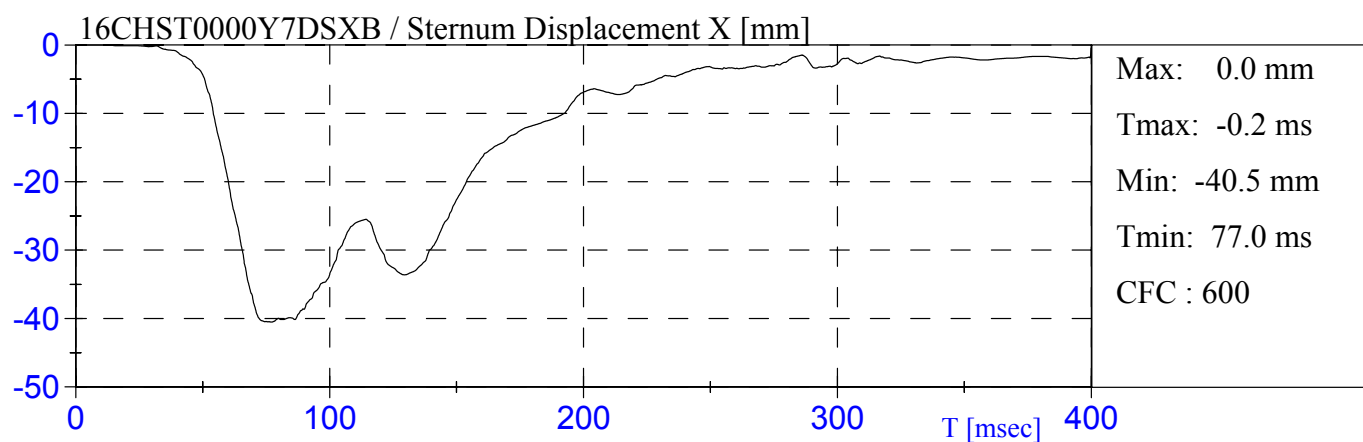


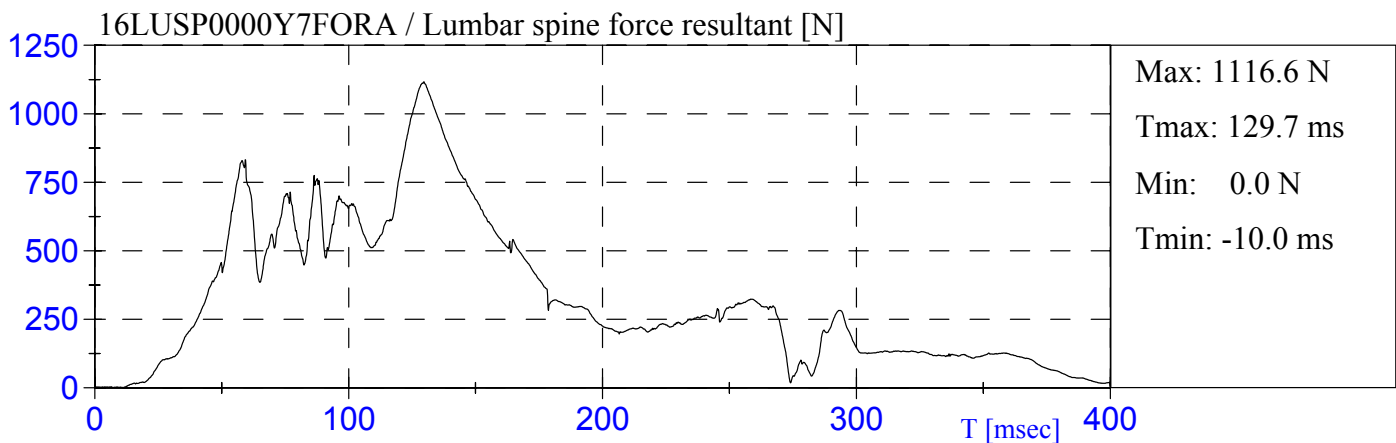
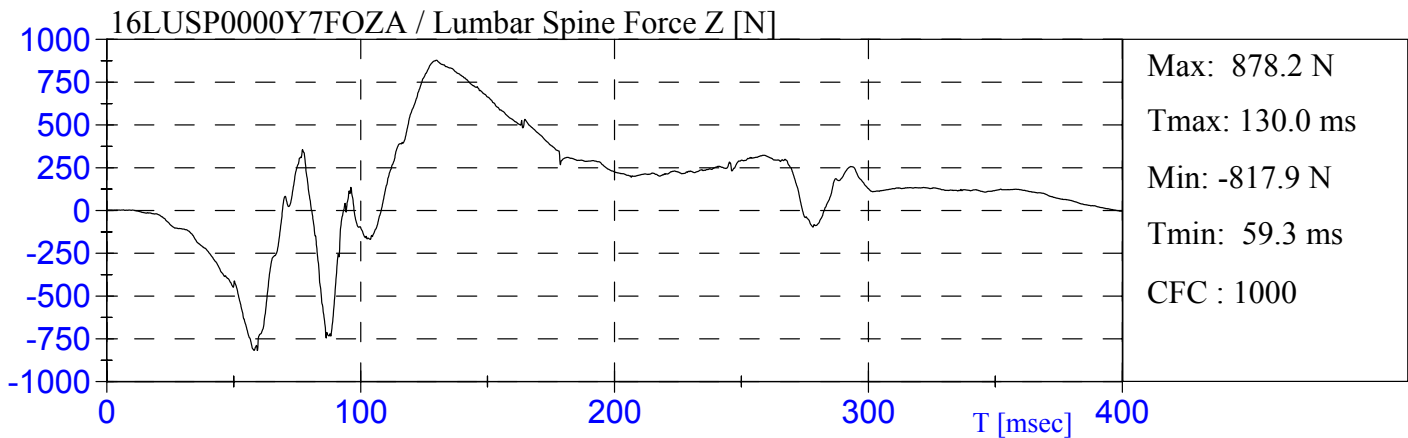
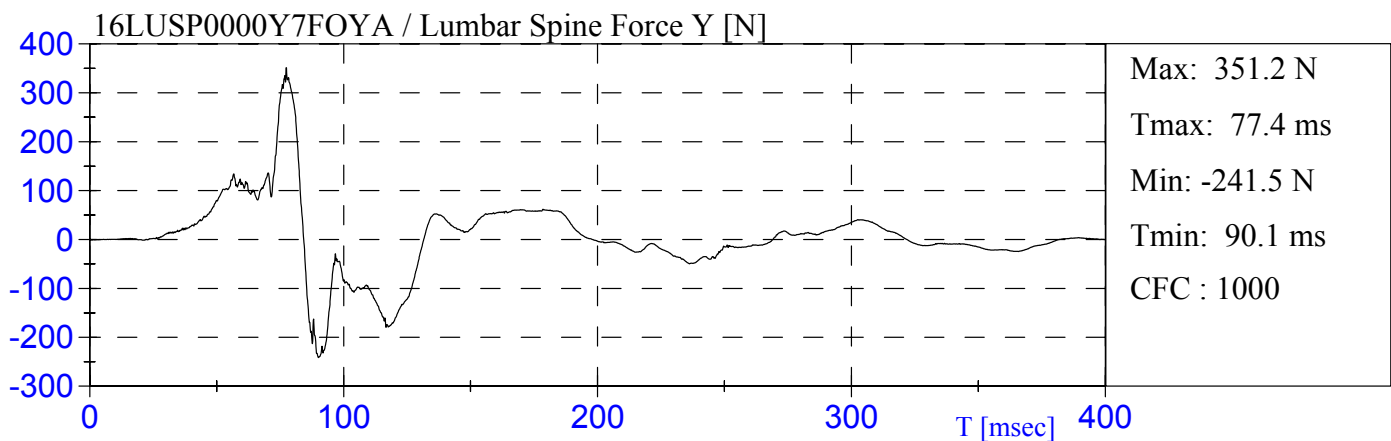
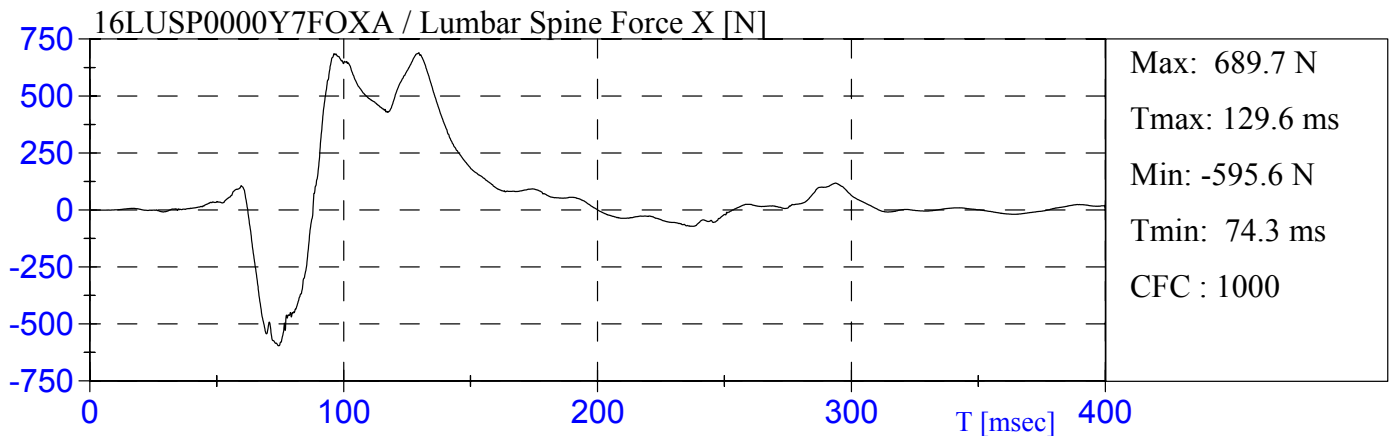


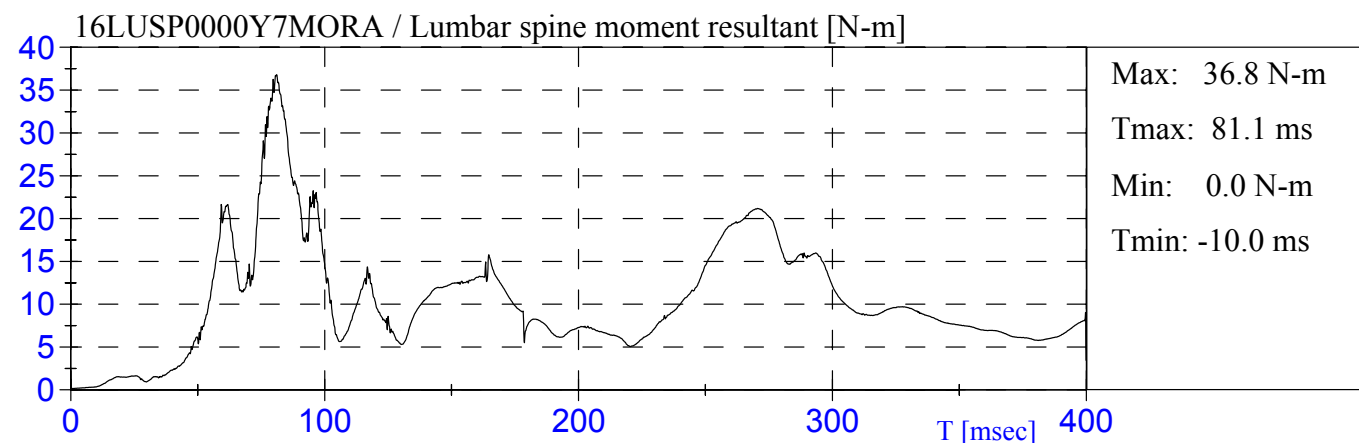
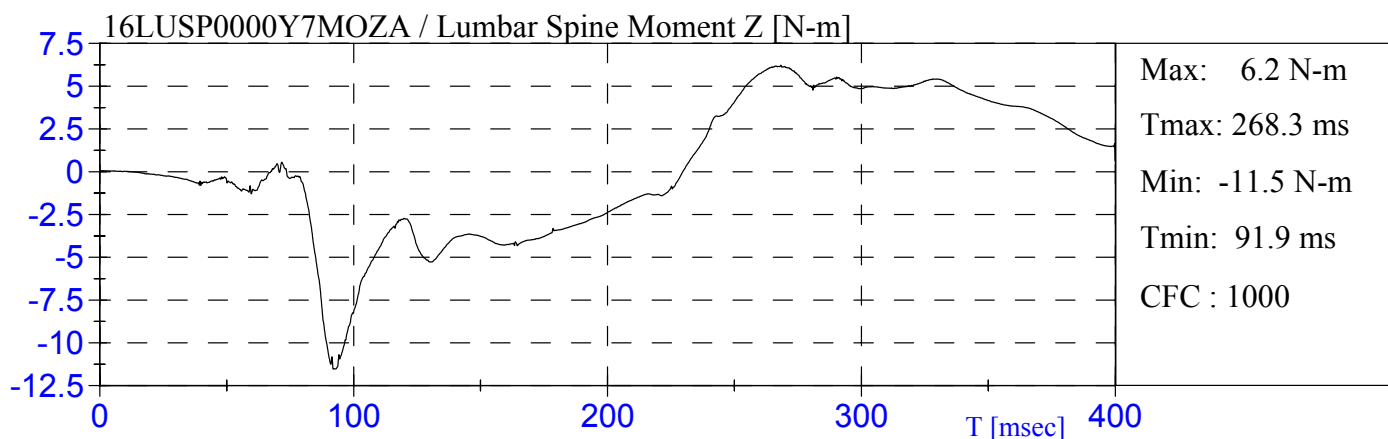
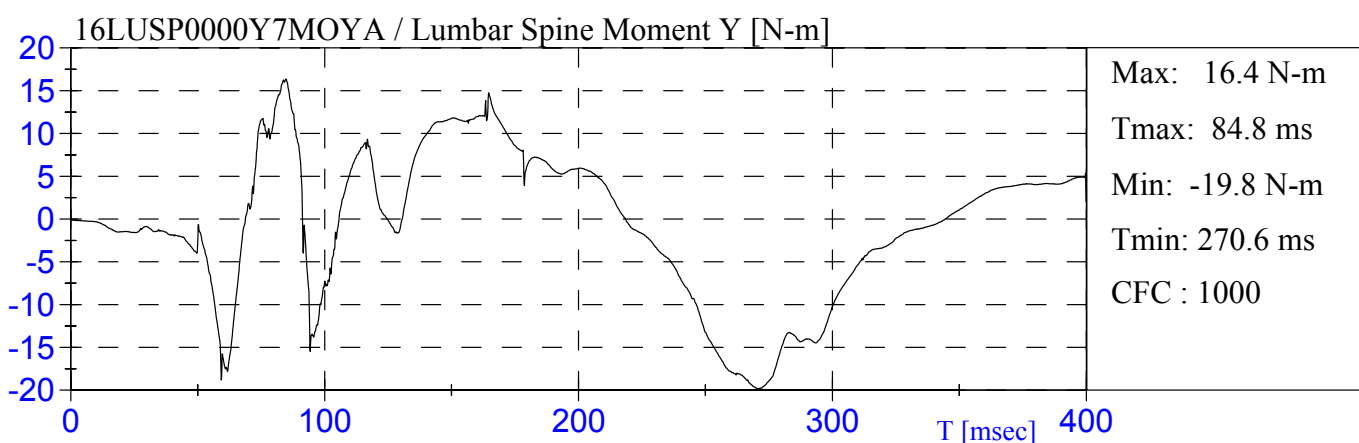
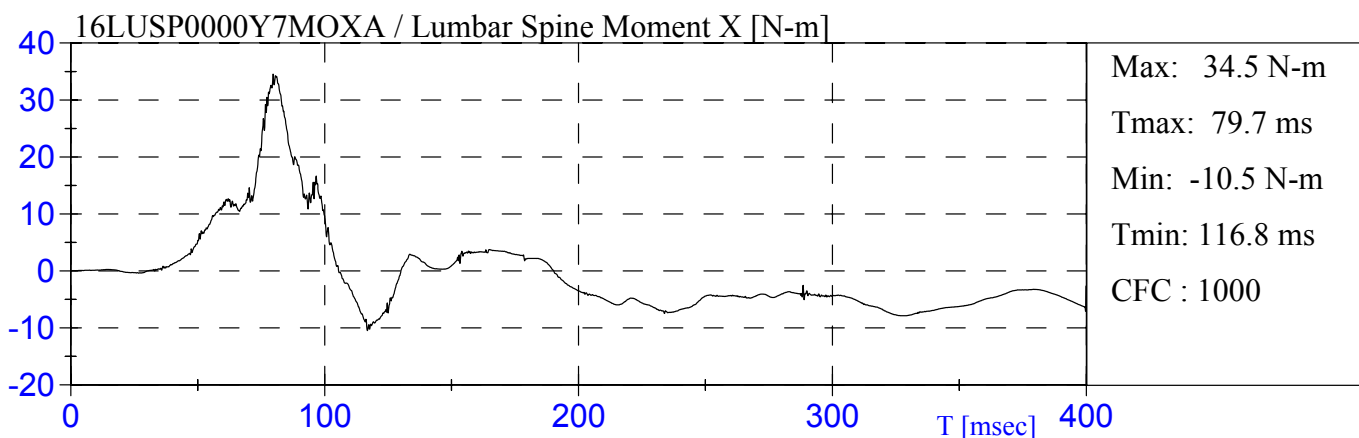


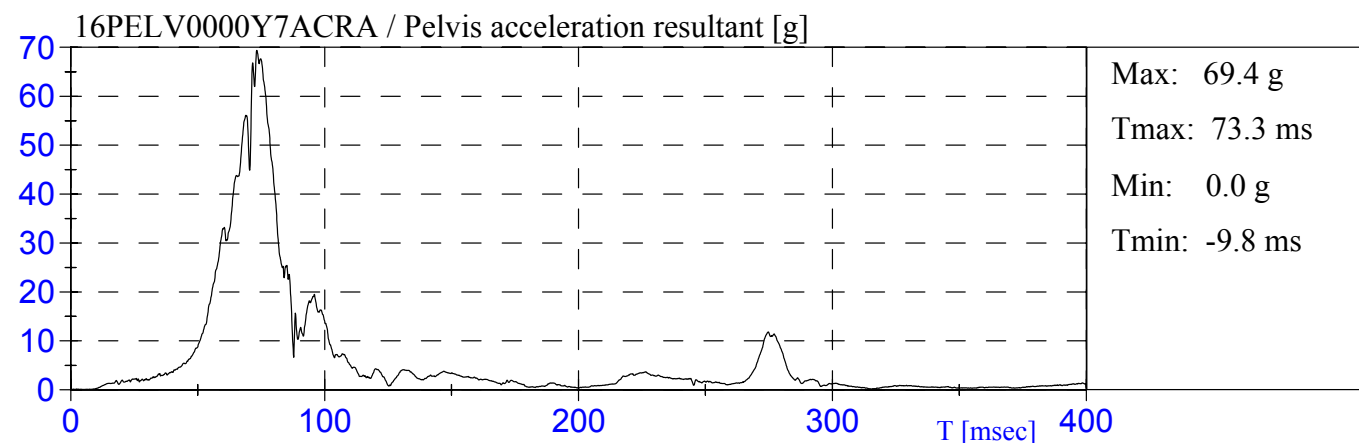
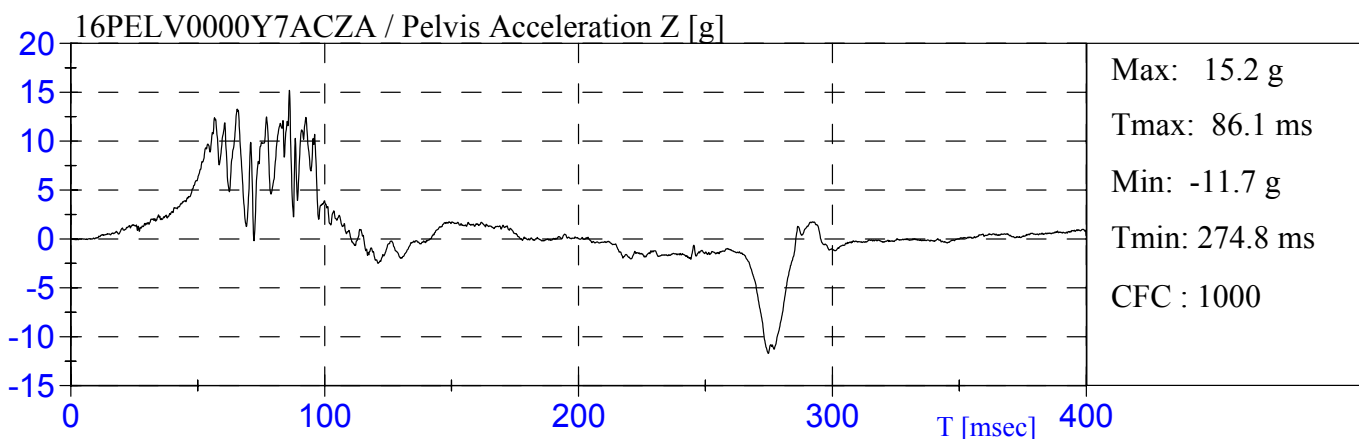
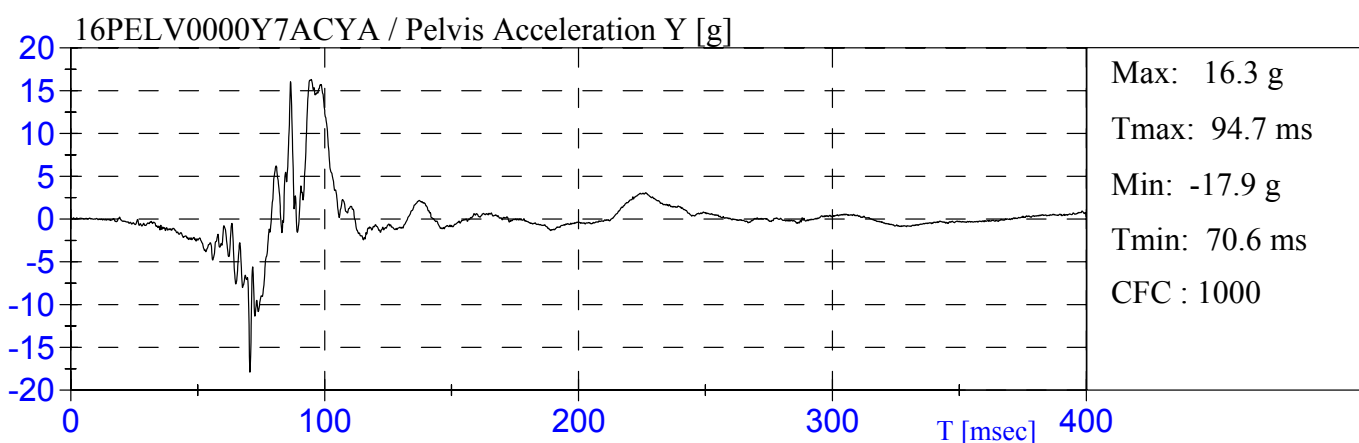
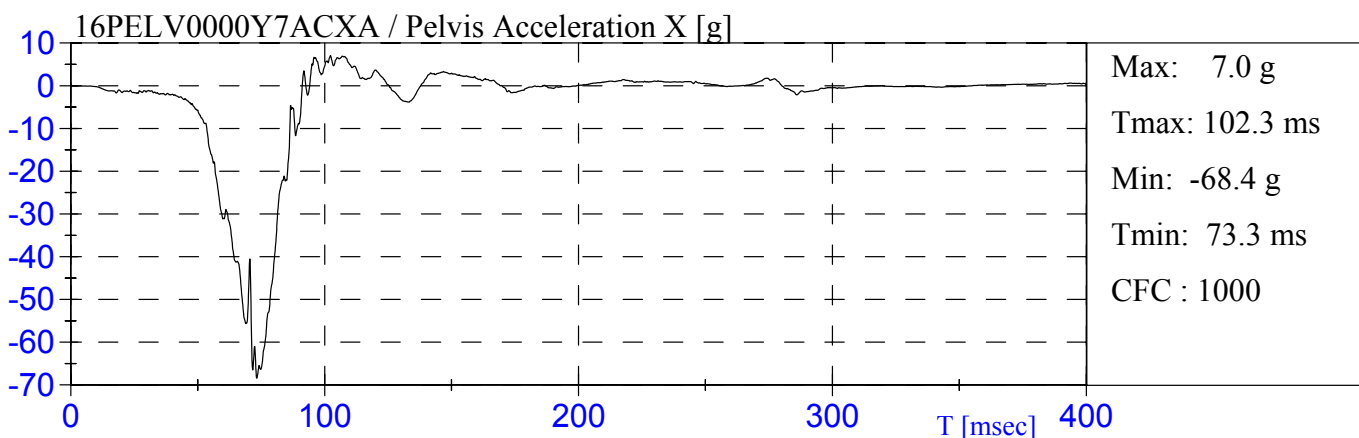


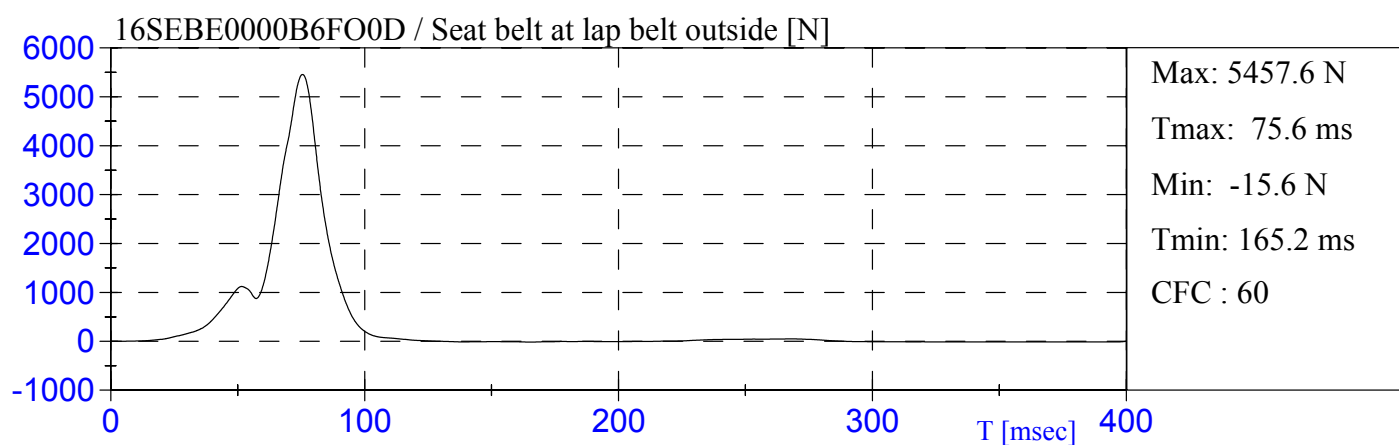
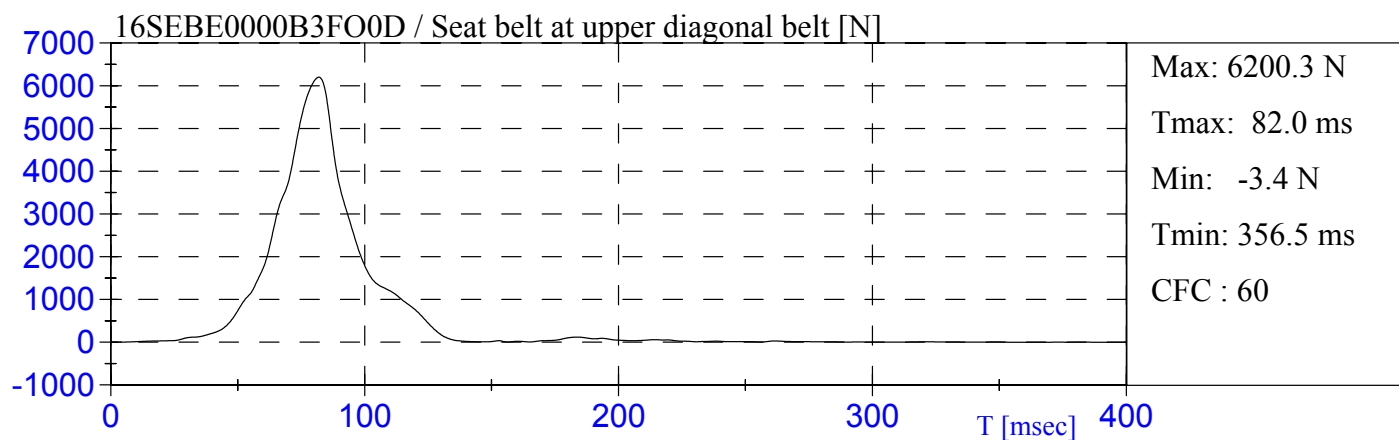


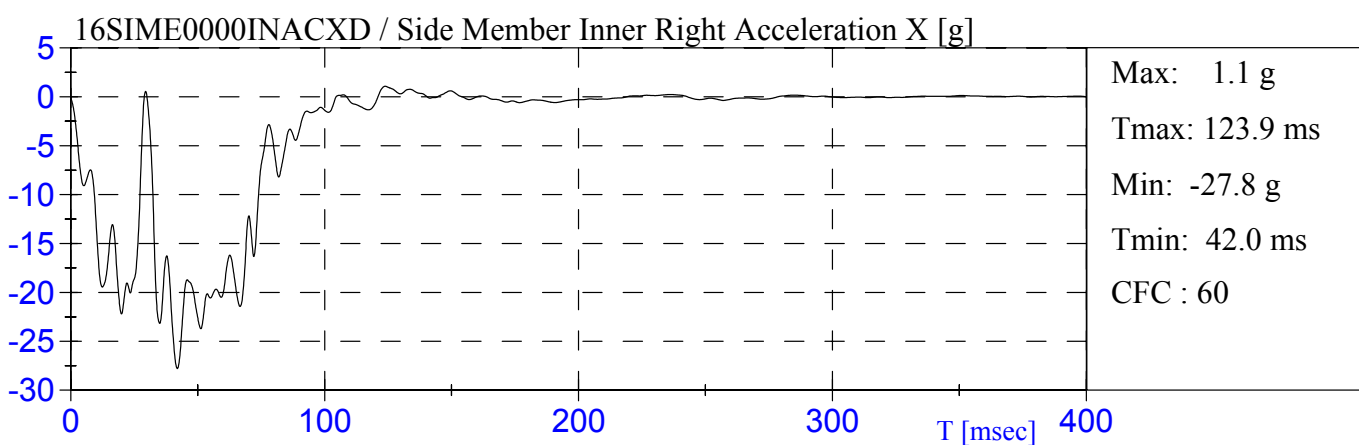
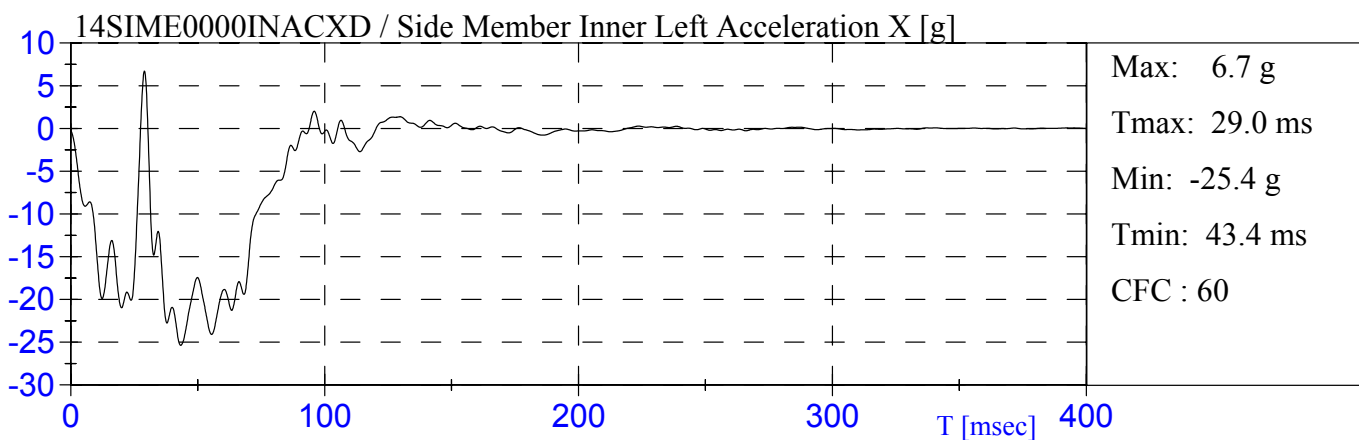


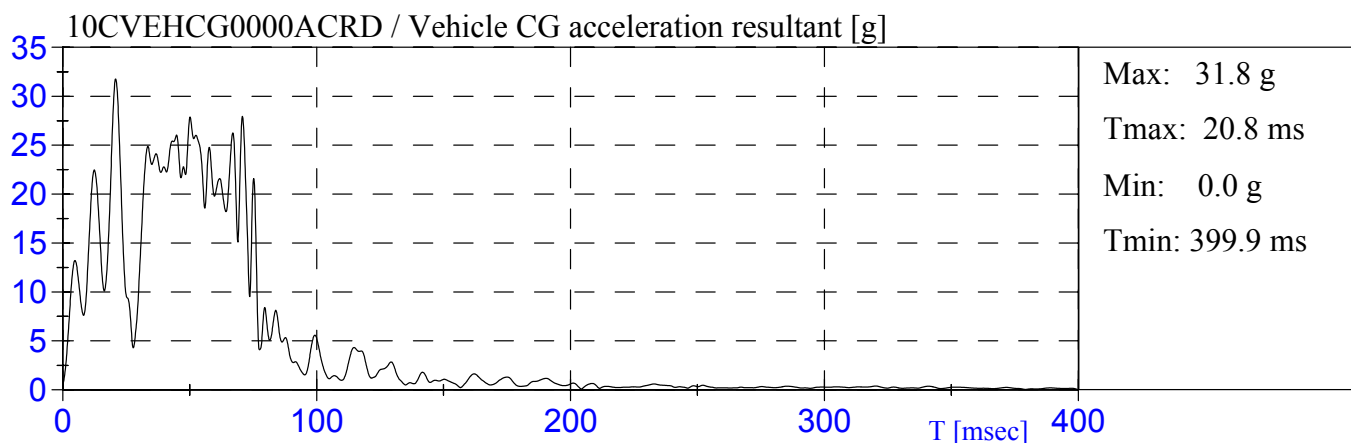
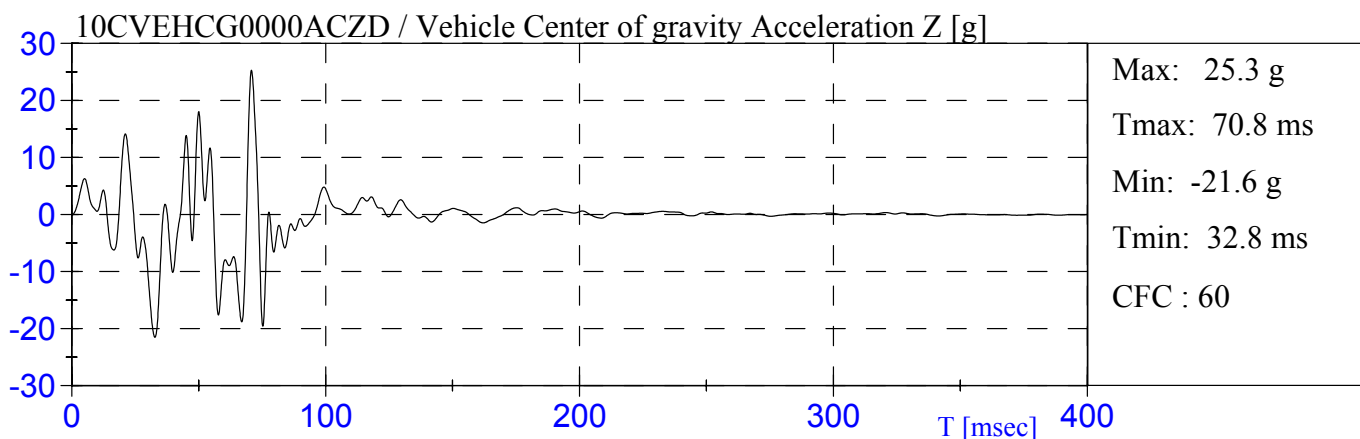
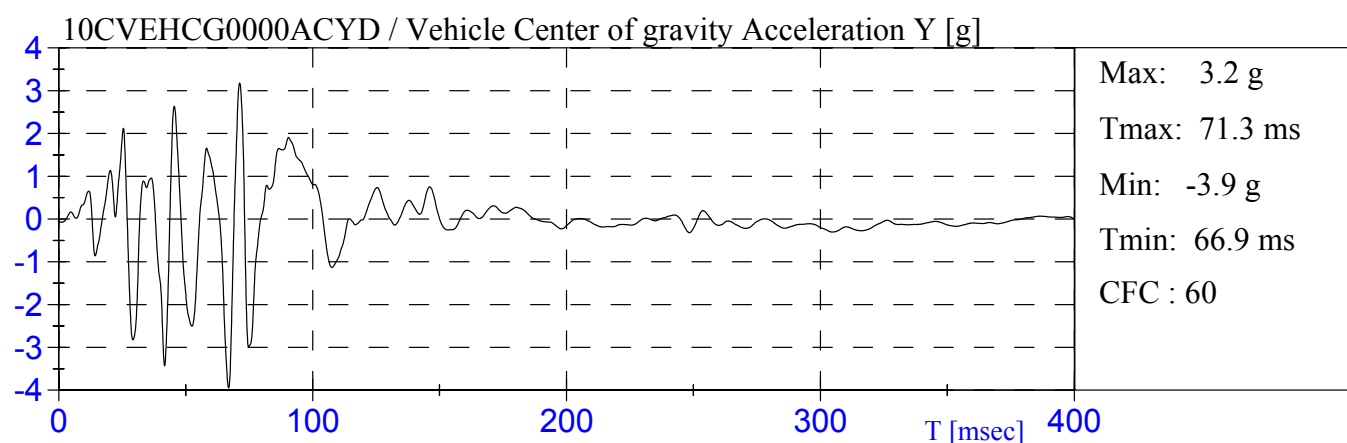
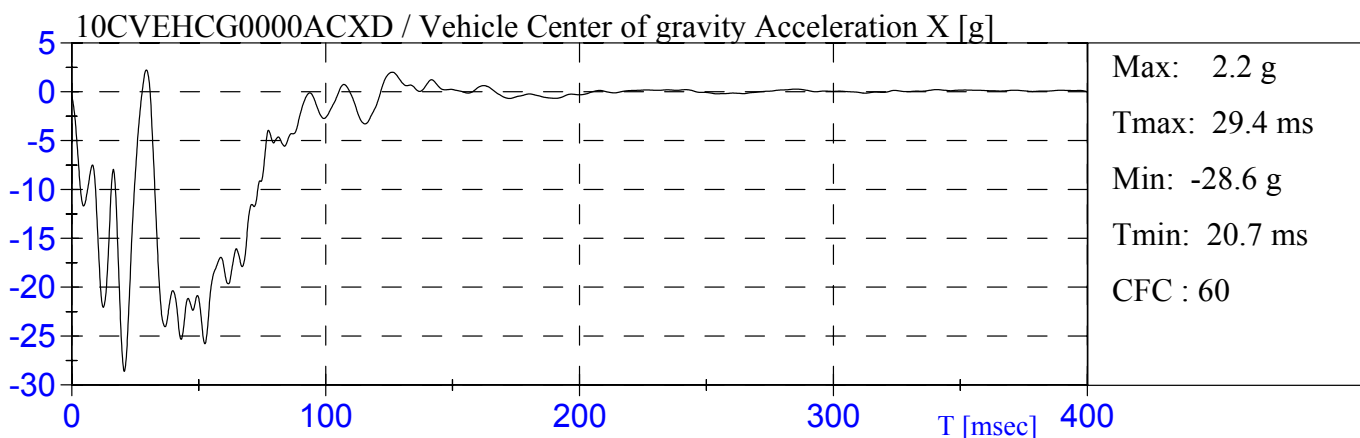


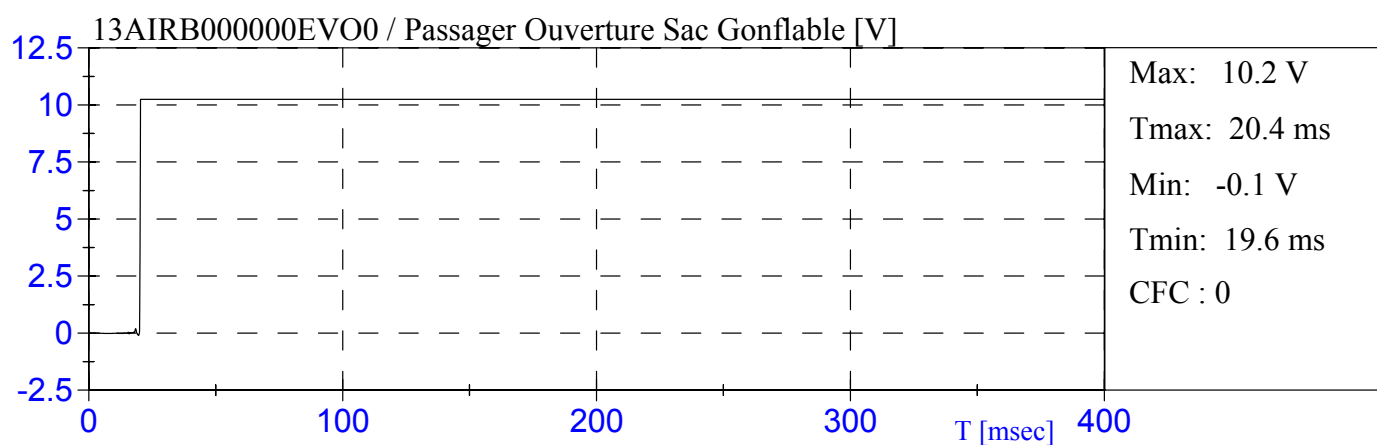
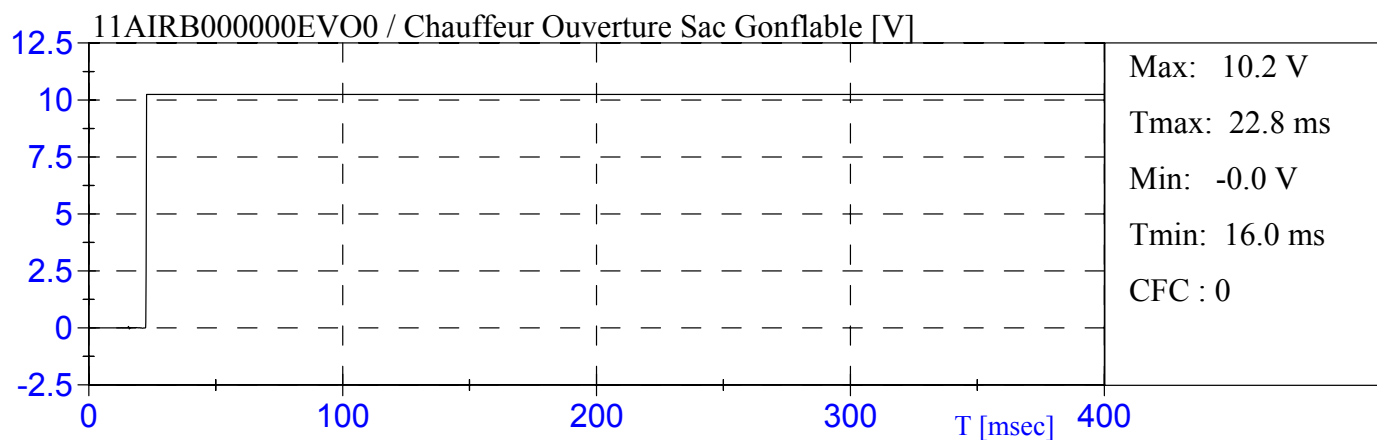


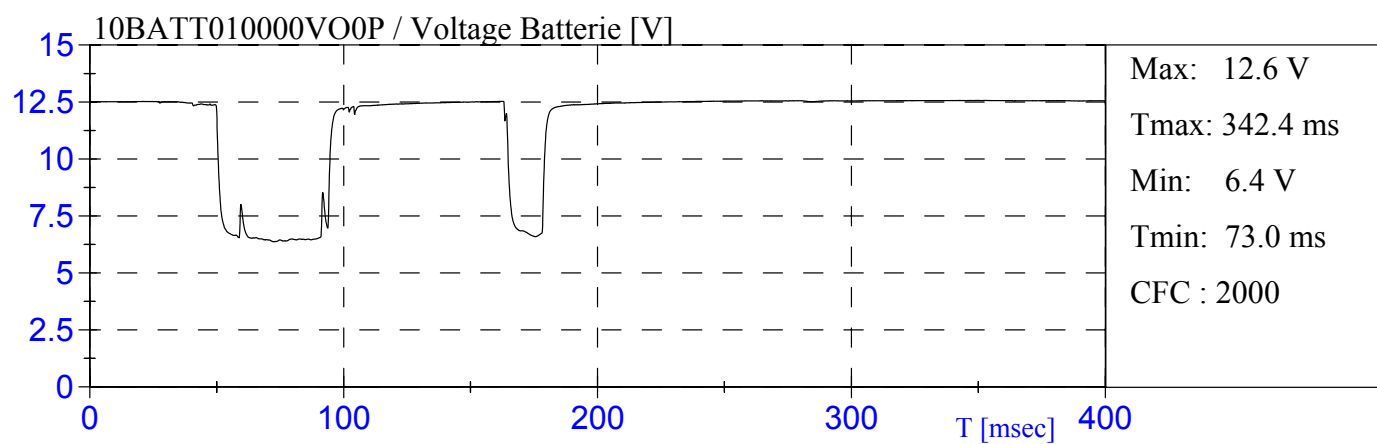


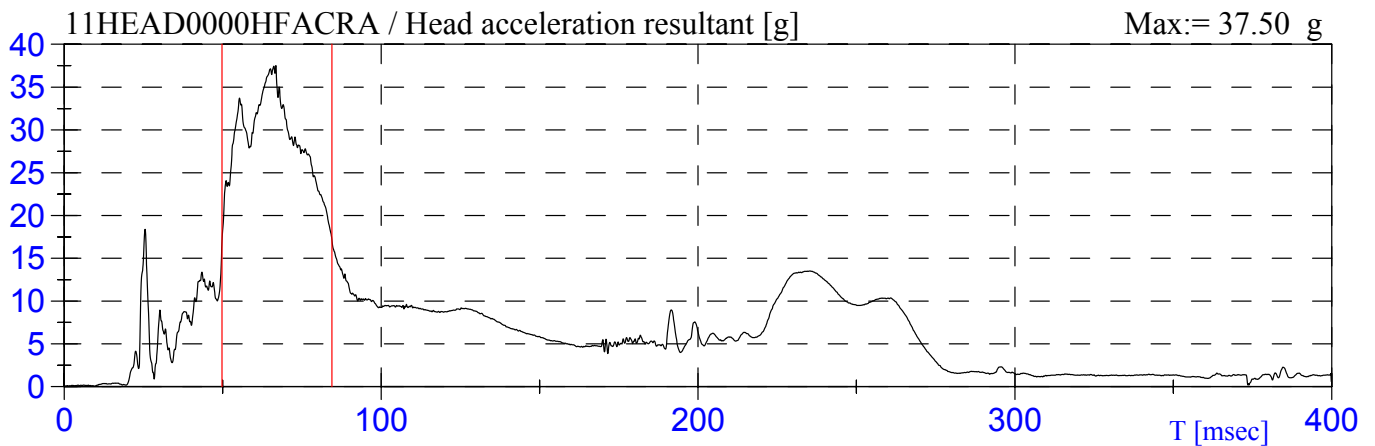










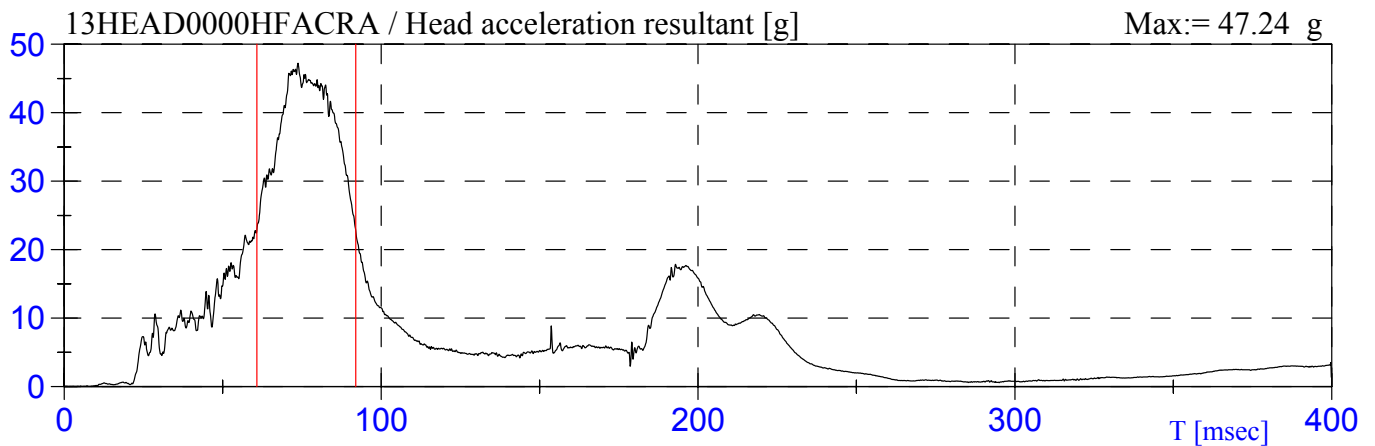


HEAD INJURY CRITERIA (HIC) *

CRITÈRE DE BLESSURE DE LA TÊTE

HIC:= 154	HIC(36ms):= 154	HIC(15ms):= 95
T1:= 49.8 ms	T1:= 49.8 ms	T1:= 54.6 ms
T2:= 84.5 ms	T2:= 84.5 ms	T2:= 69.6 ms

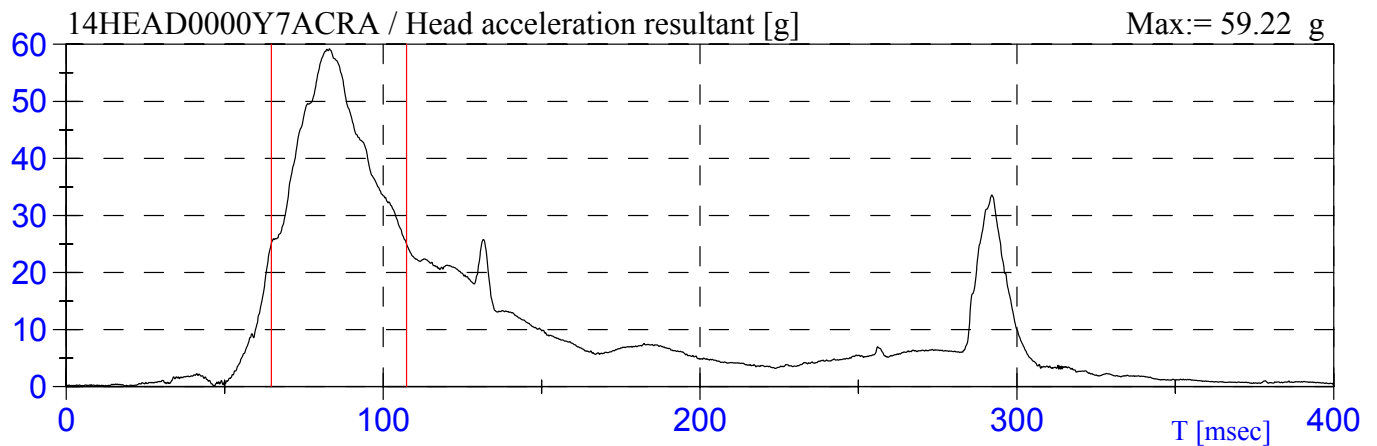
* Selon / According To: SAE J1727 96-08



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

HIC:= 278	HIC(36ms):= 278	HIC(15ms):= 194
T1:= 60.8 ms	T1:= 60.8 ms	T1:= 69.3 ms
T2:= 92.0 ms	T2:= 92.0 ms	T2:= 84.3 ms

* Selon / According To: SAE J1727 96-08

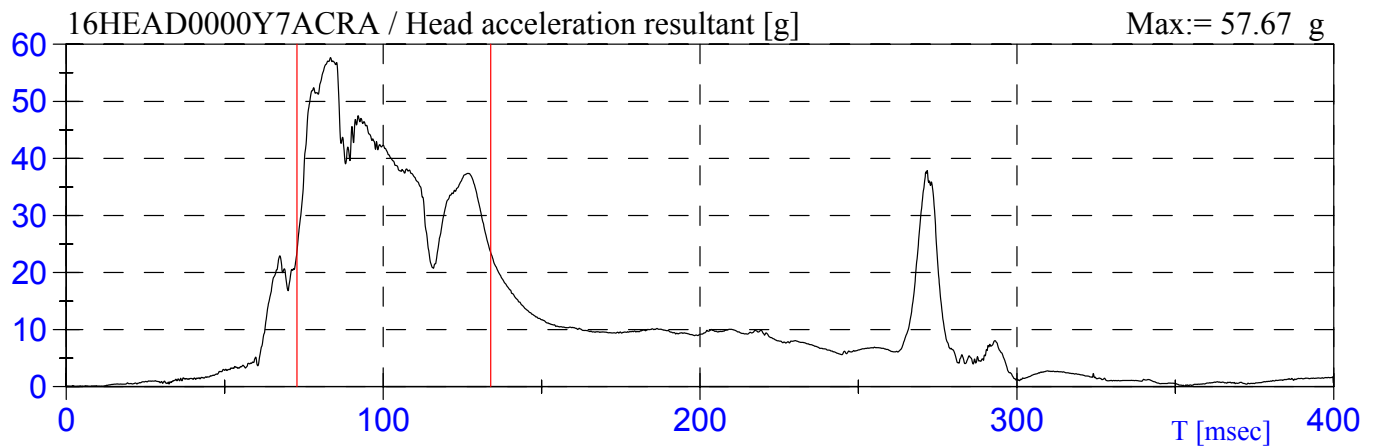


HEAD INJURY CRITERIA (HIC) *

CRITÈRE DE BLESSURE DE LA TÊTE

HIC:= 480	HIC(36ms):= 476	HIC(15ms):= 321
T1:= 64.7 ms	T1:= 68.6 ms	T1:= 75.0 ms
T2:= 107.4 ms	T2:= 104.6 ms	T2:= 90.0 ms

* Selon / According To: SAE J1727 96-08



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

HIC:= 586	HIC(36ms):= 489	HIC(15ms):= 268
T1:= 72.8 ms	T1:= 74.9 ms	T1:= 76.0 ms
T2:= 134.0 ms	T2:= 110.9 ms	T2:= 91.0 ms

* Selon / According To: SAE J1727 96-08

Neck Injury Criteria: 11NIJCIP000000YX

$N_{ij}^* = 0.26$

Valeurs critiques
Criticals Values

N _{tf}	N _{te}	N _{cf}	N _{ce}	Tc	4287
				Cc	3880
0.17	0.26	0.16	0.09	Fc	155
				Ec	67

* Selon / According To: Federal Register 5/2000

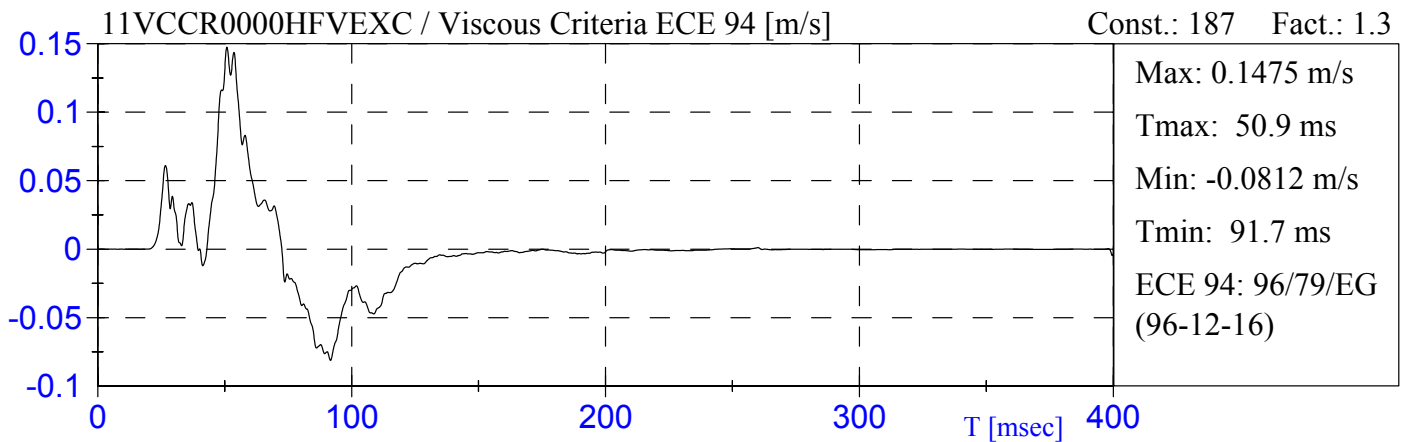
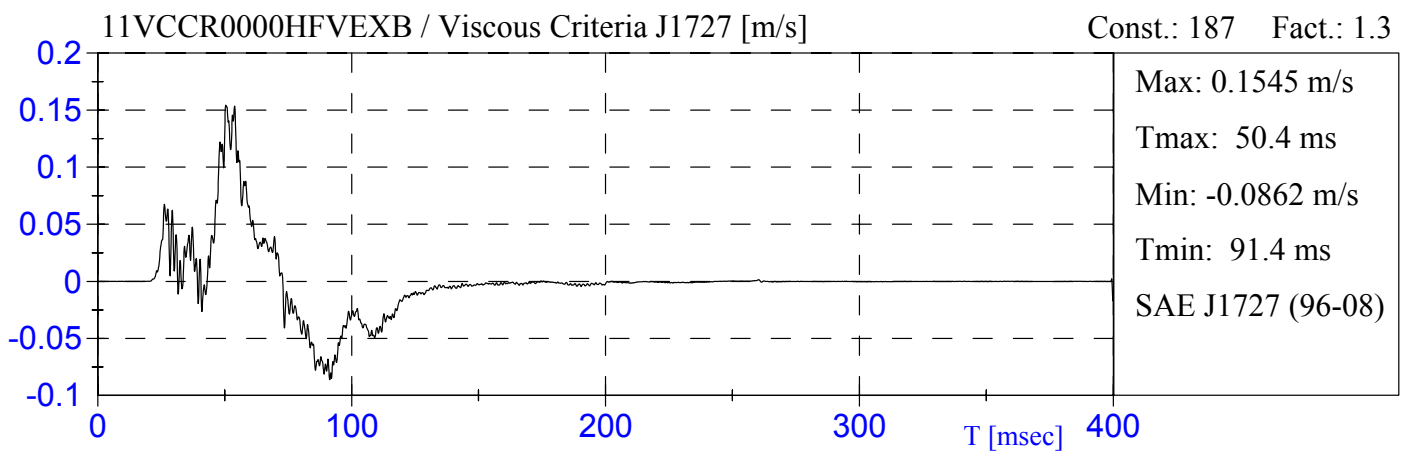
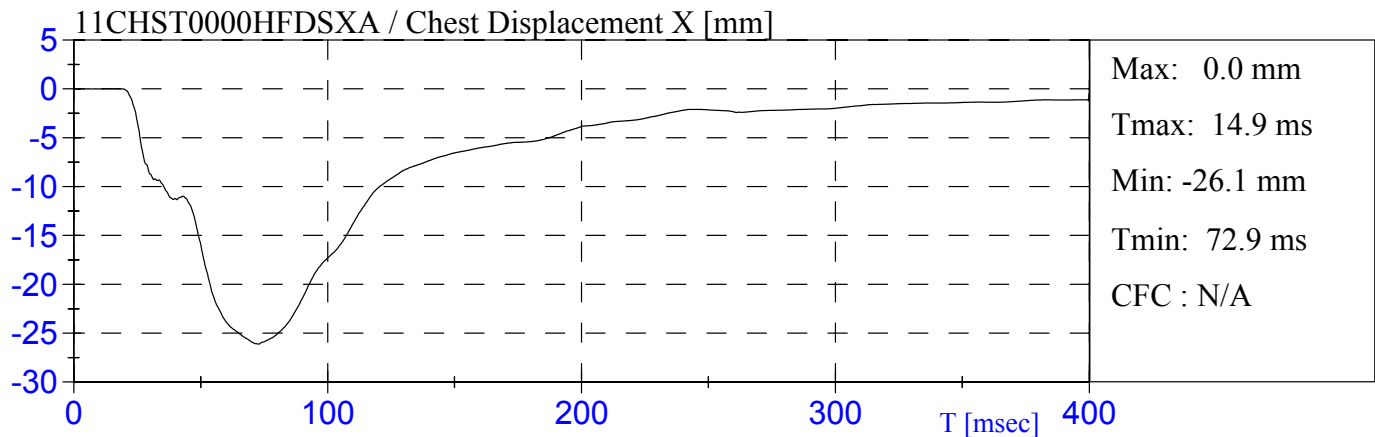
Neck Injury Criteria: 13NIJCIP000000YX

$N_{ij}^* = 0.30$

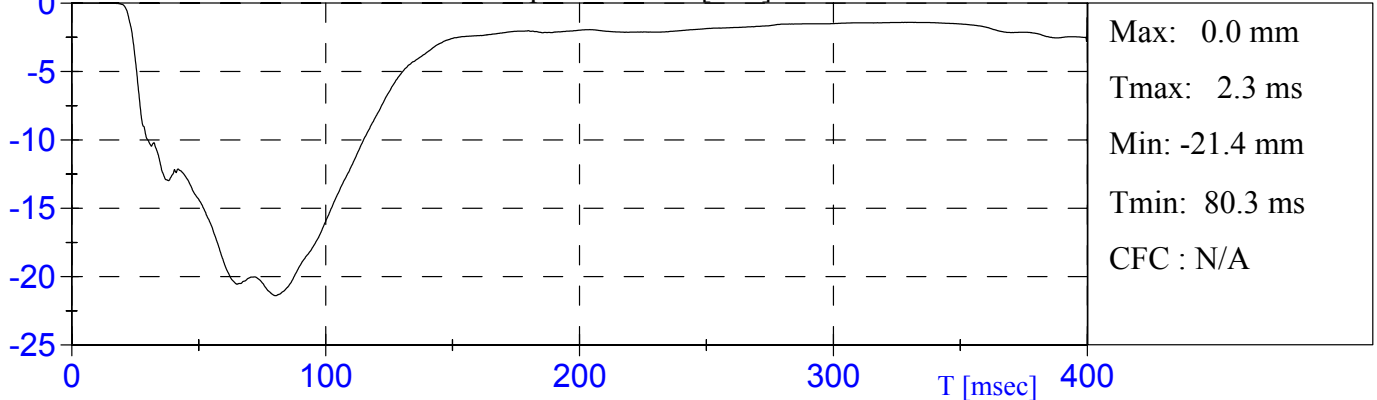
Valeurs critiques
Criticals Values

N tf	N te	Ncf	N ce	Tc	4287
				Cc	3880
0.24	0.30	0.10	0.06	Fc	155
				Ec	67

* Selon / According To: Federal Register 5/2000

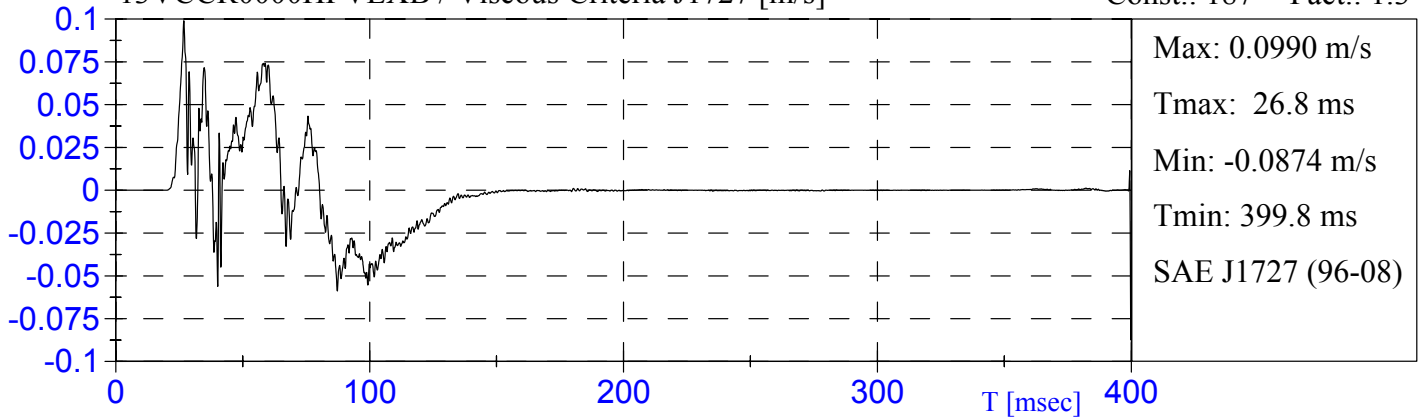


13CHST0000HFDSXA / Chest Displacement X [mm]



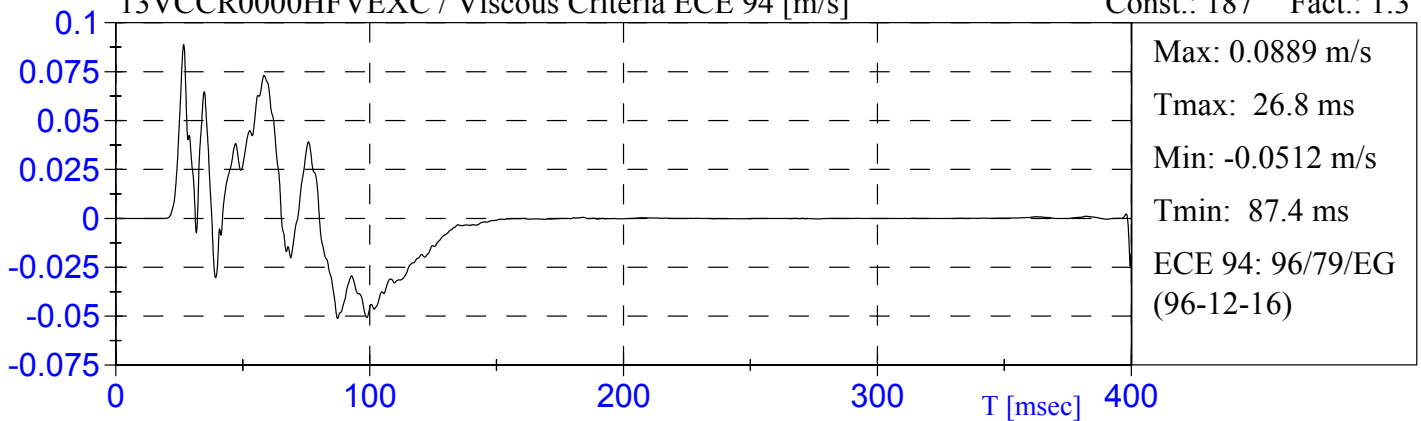
13VCCR0000HFVEXB / Viscous Criteria J1727 [m/s]

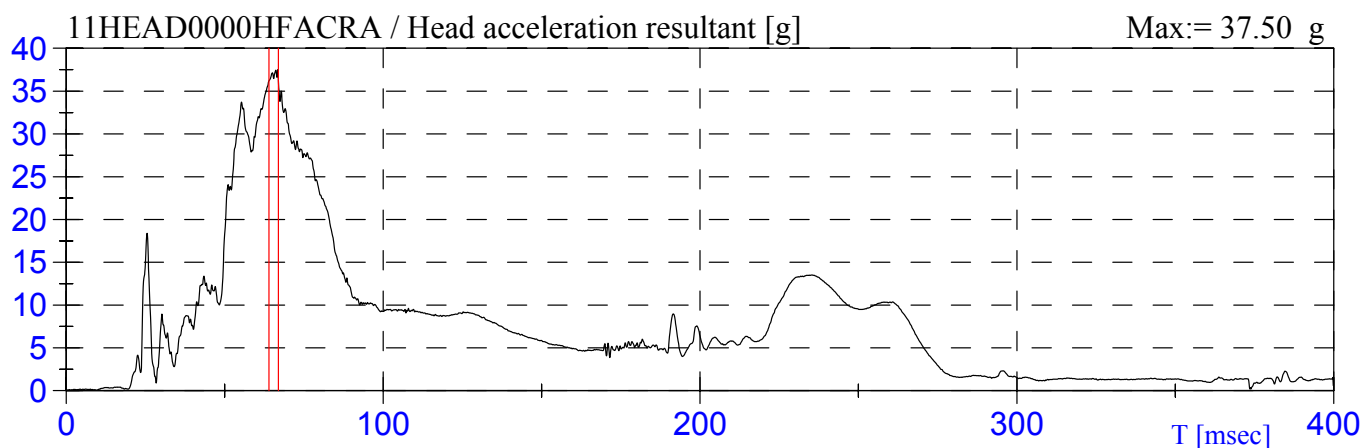
Const.: 187 Fact.: 1.3



13VCCR0000HFVEXC / Viscous Criteria ECE 94 [m/s]

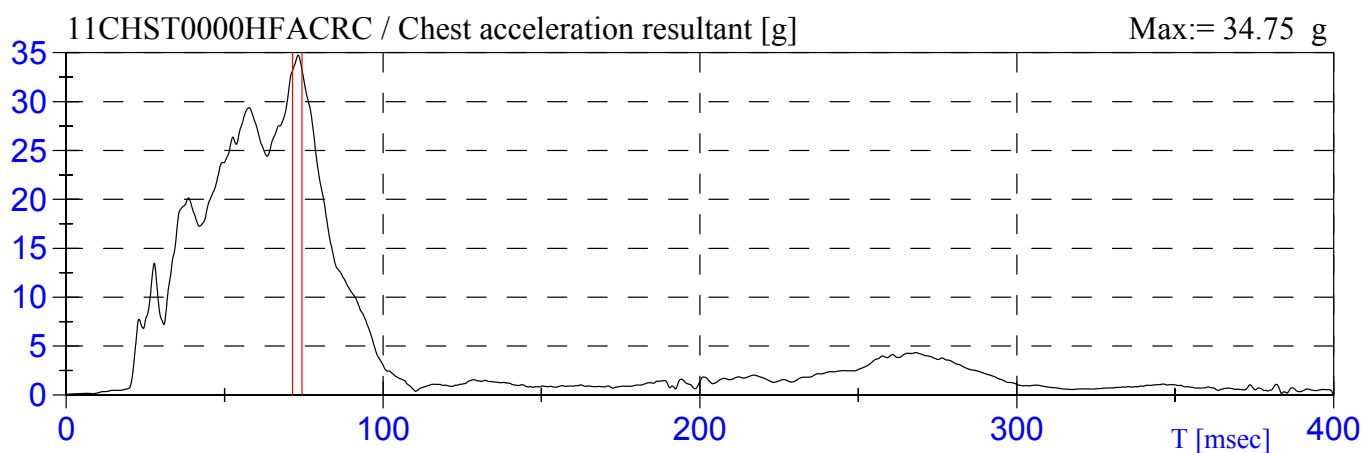
Const.: 187 Fact.: 1.3





CLIP 3ms *

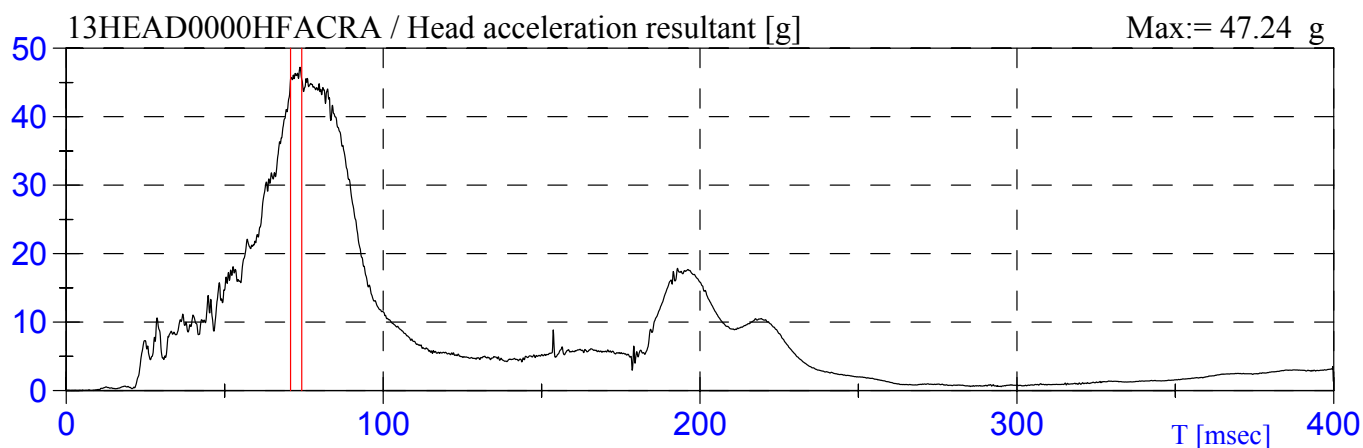
Acc. := 36.20 g	T1:= 64.0 ms	T2:= 67.0 ms
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CLIP 3ms *

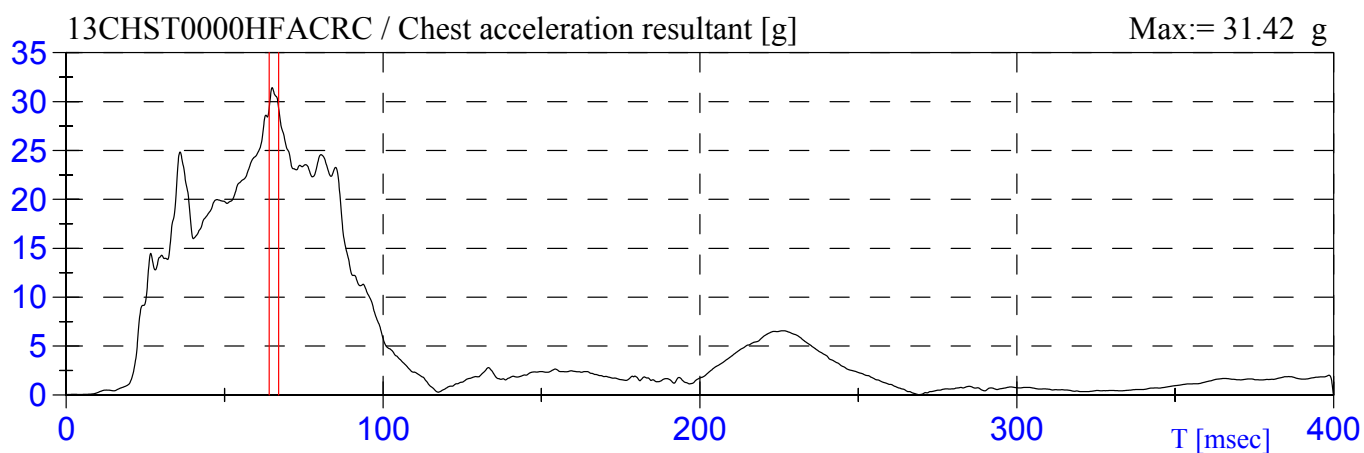
Acc. := 33.19 g	T1:= 71.5 ms	T2:= 74.5 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

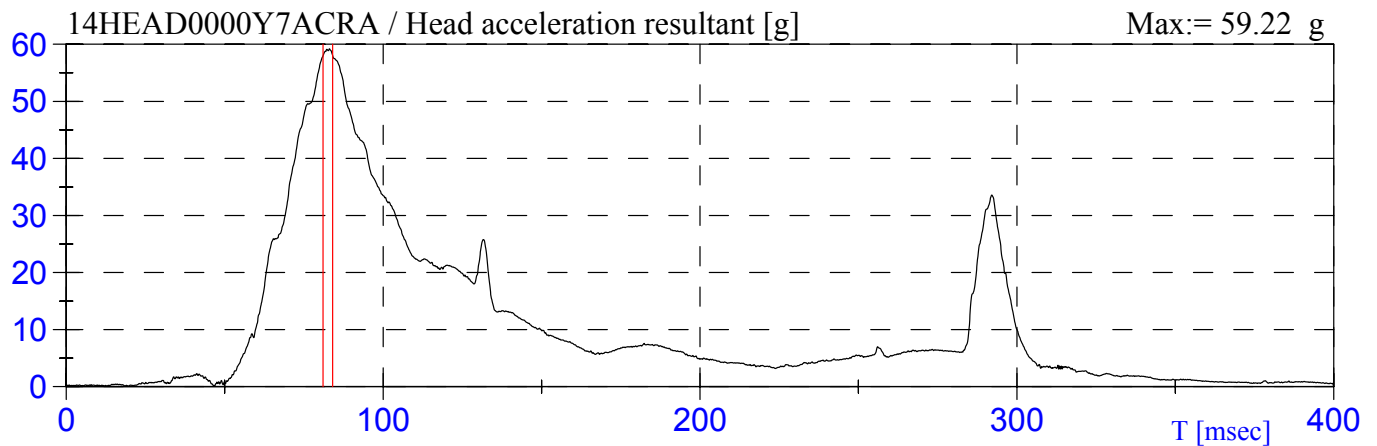
Acc. := 45.43 g	T1:= 70.8 ms	T2:= 74.3 ms
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CLIP 3ms *

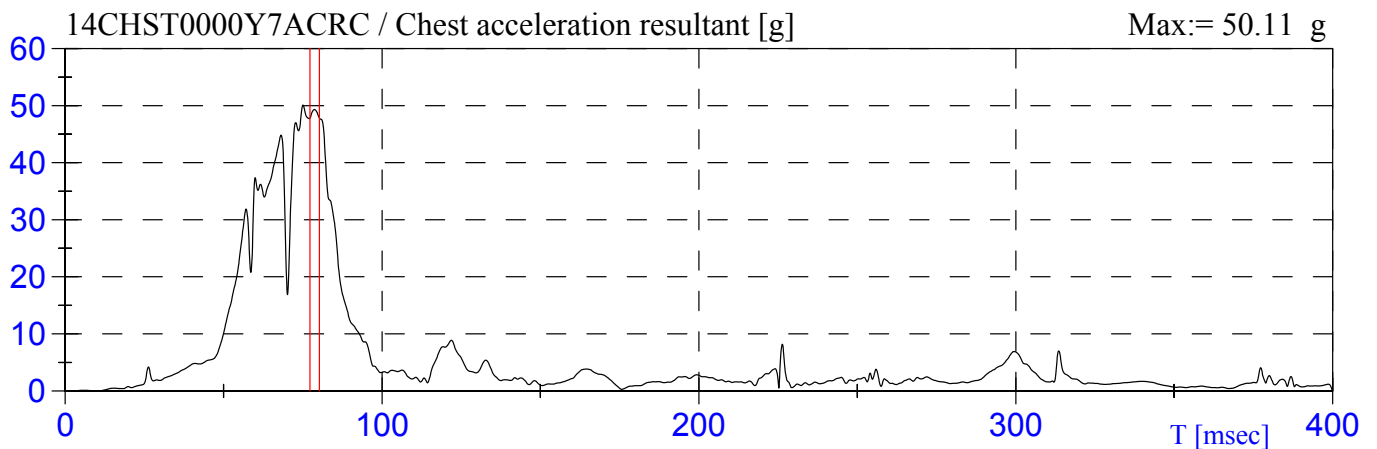
Acc. := 29.31 g	T1:= 64.1 ms	T2:= 67.1 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

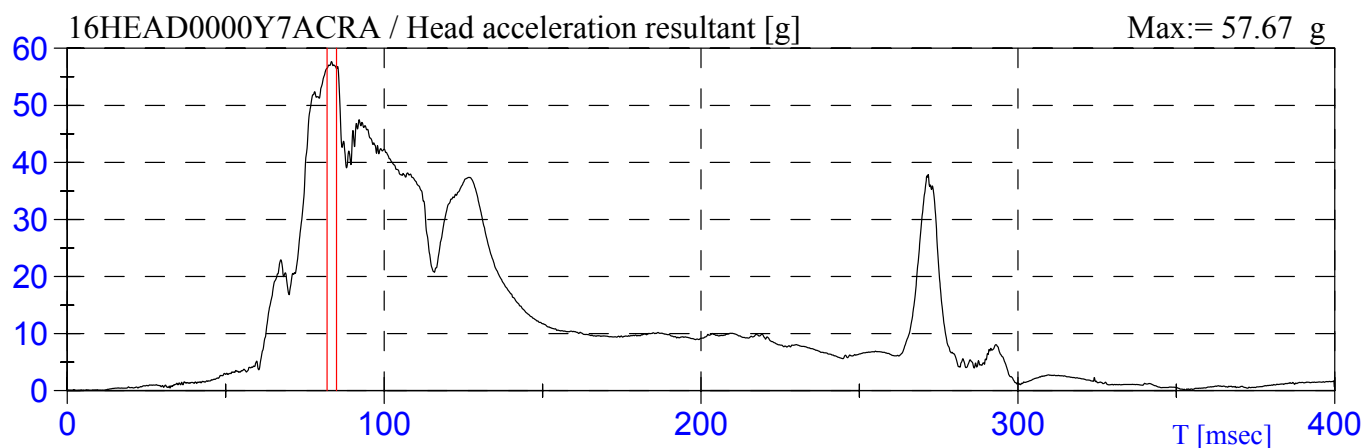
Acc. := 58.01 g	T1:= 81.1 ms	T2:= 84.1 ms
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CLIP 3ms *

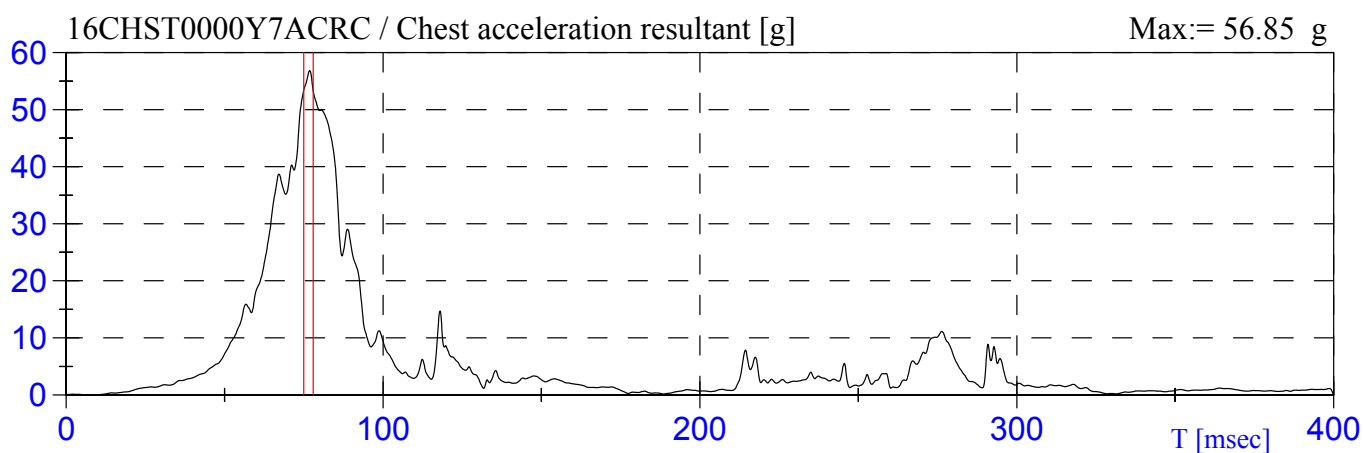
Acc. := 47.84 g	T1:= 77.3 ms	T2:= 80.3 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95



CLIP 3ms *

Acc. := 56.48 g	T1:= 82.0 ms	T2:= 85.0 ms
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CLIP 3ms *

Acc. := 53.35 g	T1:= 75.0 ms	T2:= 78.0 ms
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* Selon / According To: NHTSA CLIP VERSION 2.1 5/95

COMMENTAIRES / COMMENTS

- 11TIBIRIUPHFFOZB: N'est pas valide à partir de 43.5 ms.
Is not valid from 43.5 ms.
- 14NECKLO00Y7FOXA: N'est pas valide à partir de 40.0 ms.
Is not valid from 40.0 ms.