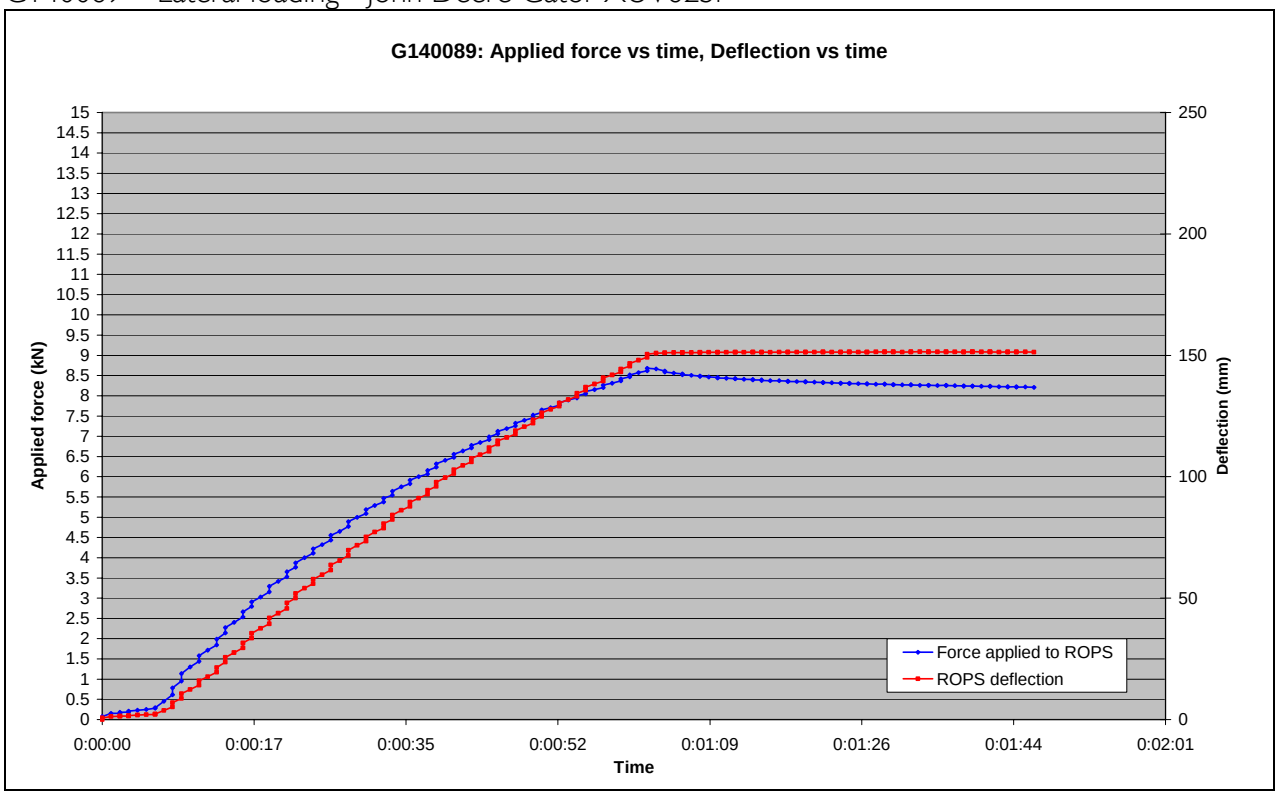
Appendix B
Instrument response data

Appendix Prepared by: Drew Sherry

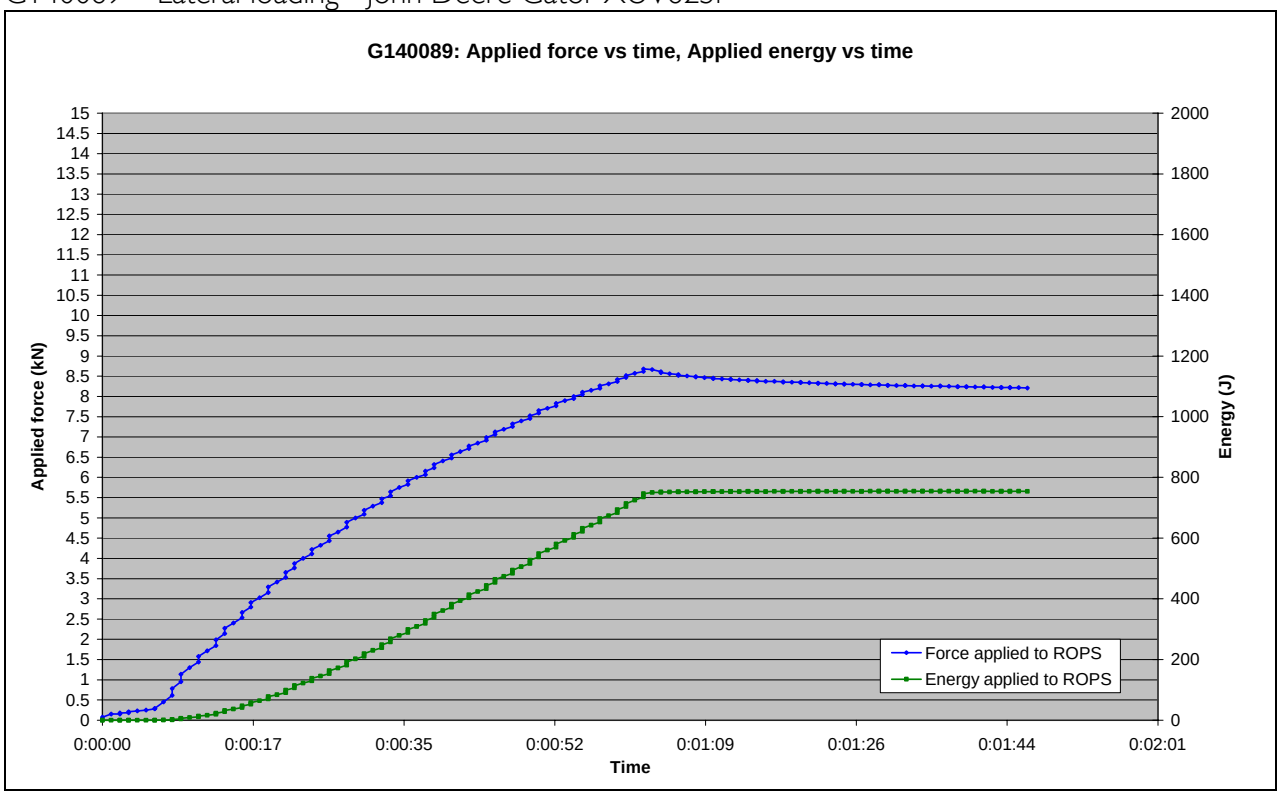
Appendix Checked by: Ross Dal Nevo

1. Roll-Over Protective Structure

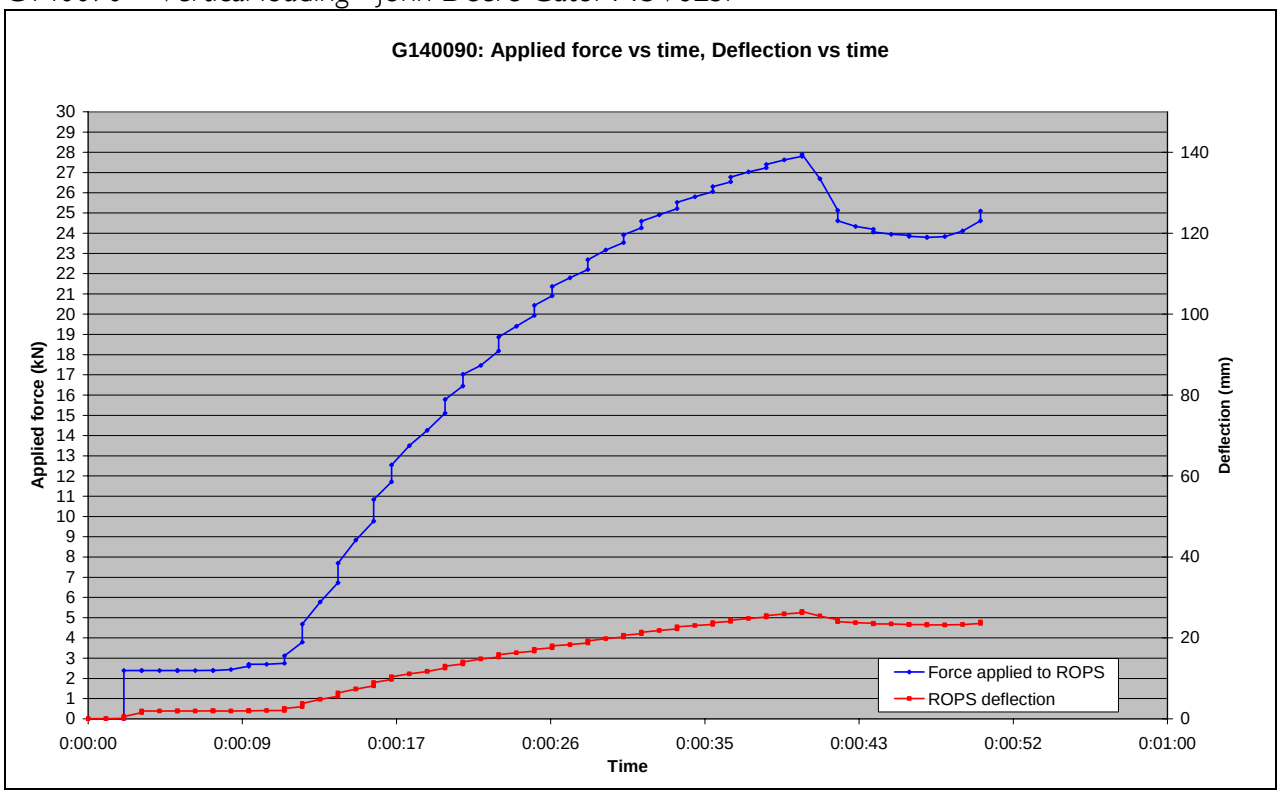
G140089 – Lateral loading - John Deere Gator XUV825i



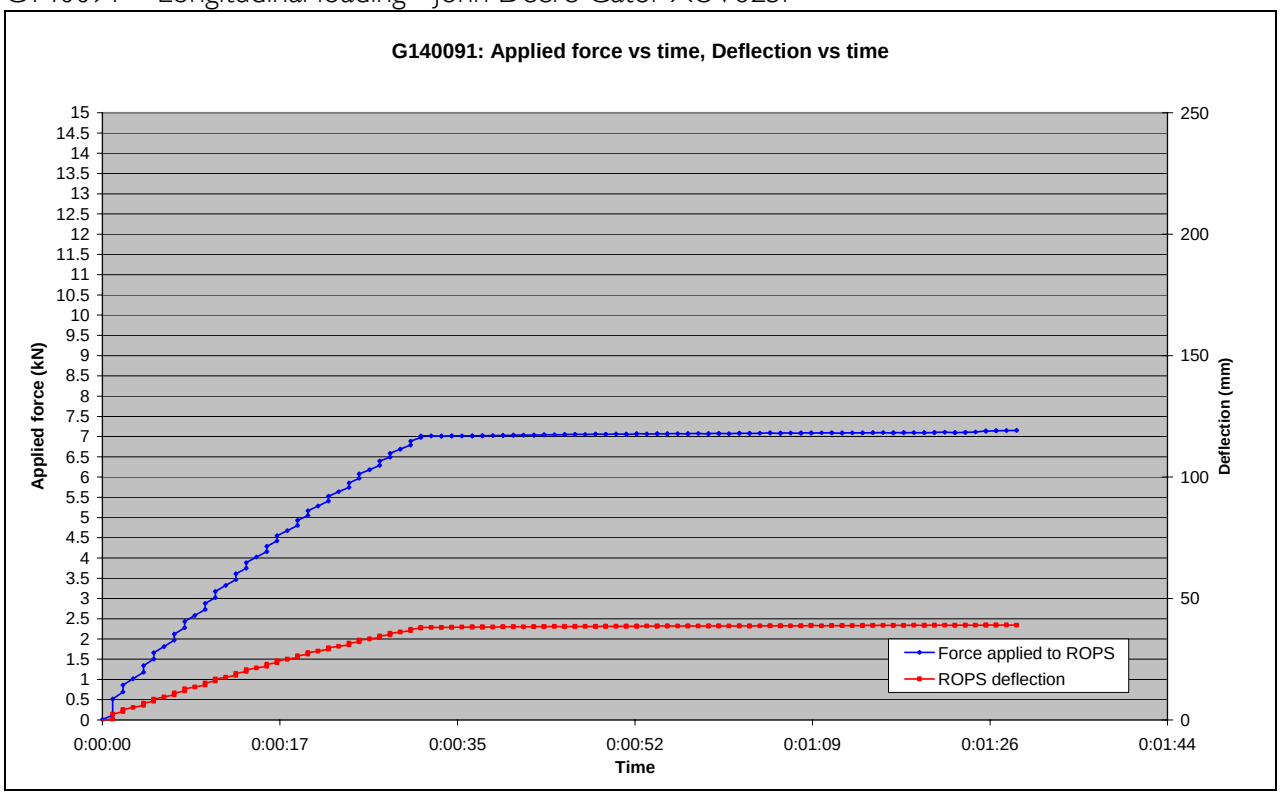
G140089 – Lateral loading - John Deere Gator XUV825i



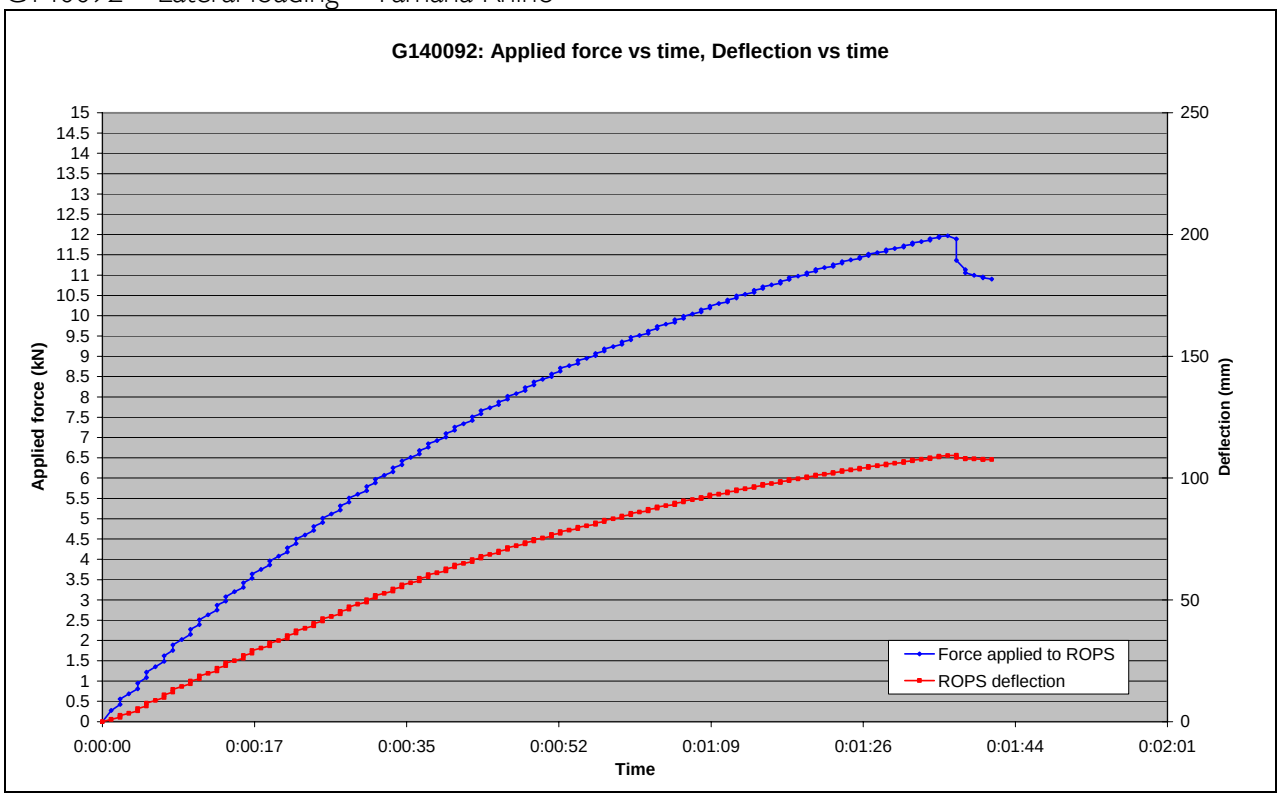
G140090 – Vertical loading - John Deere Gator XUV825i



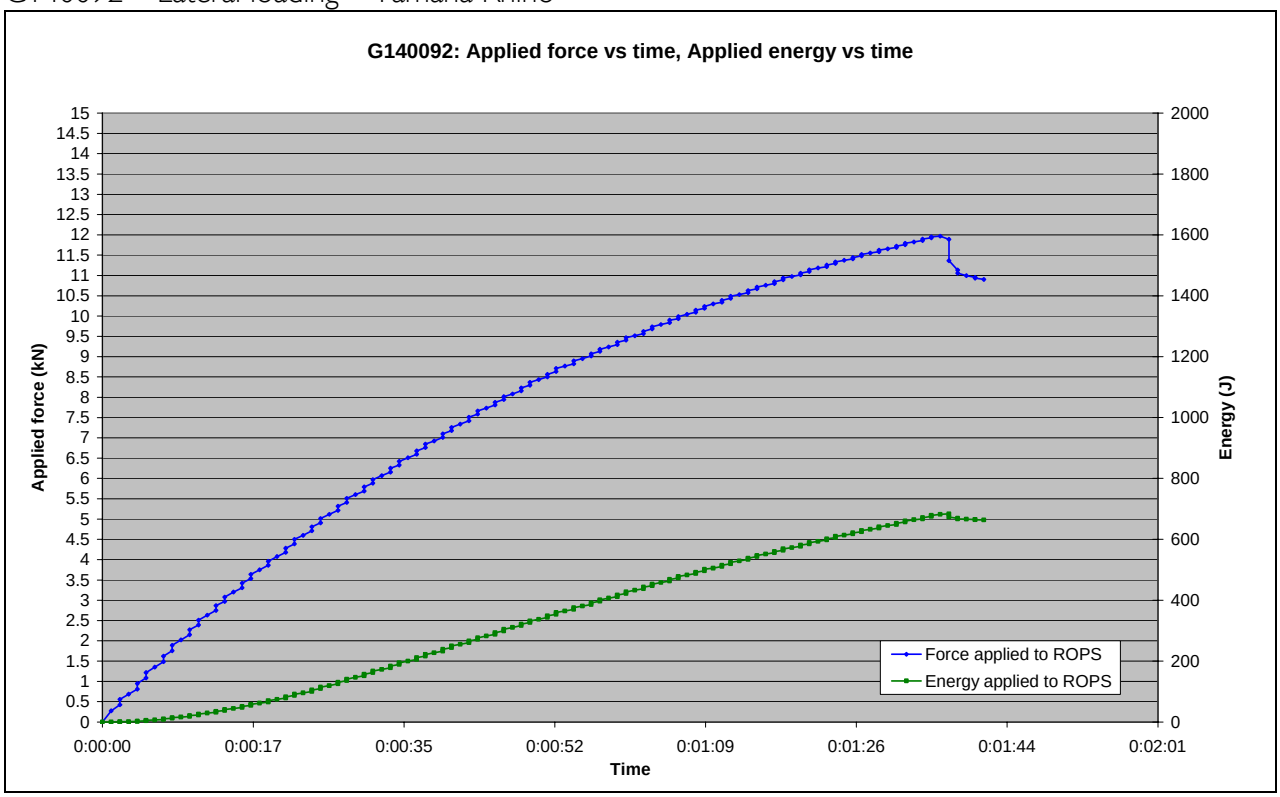
G140091 – Longitudinal loading - John Deere Gator XUV825i



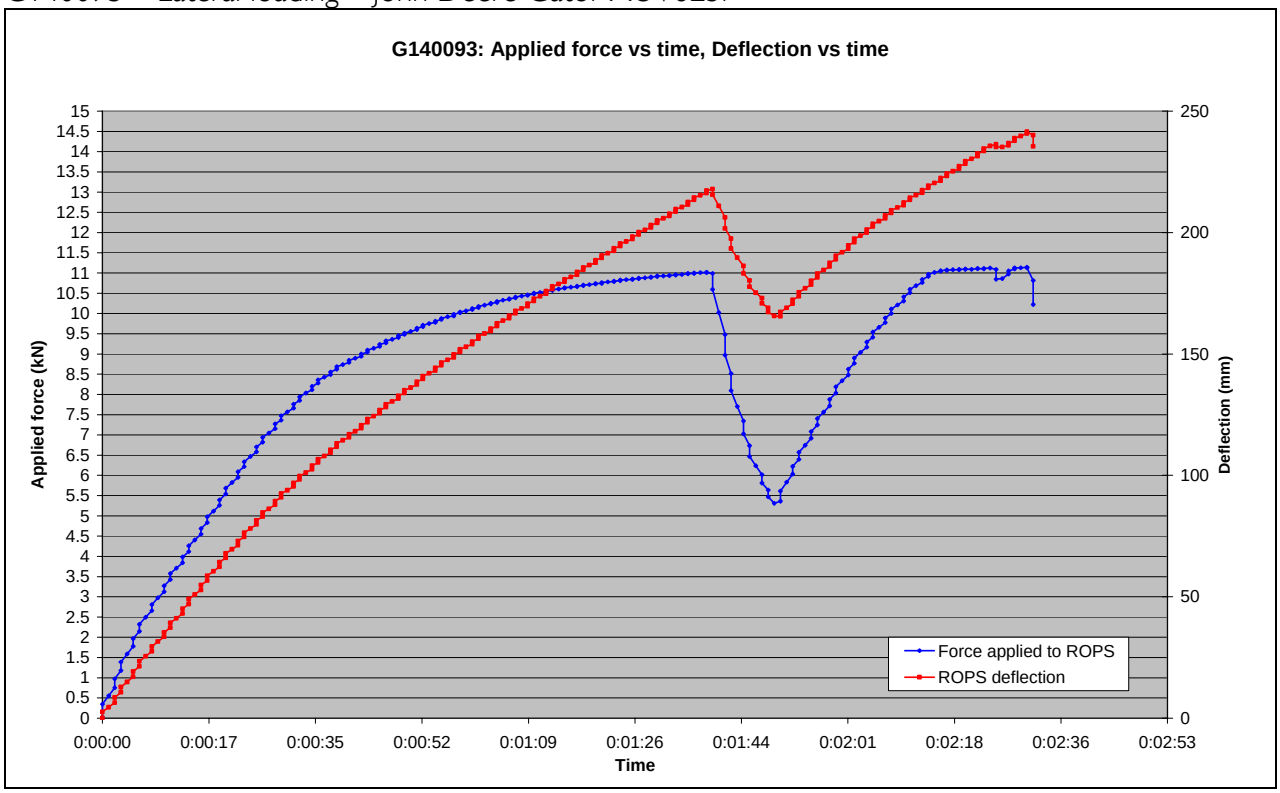
G140092 – Lateral loading – Yamaha Rhino



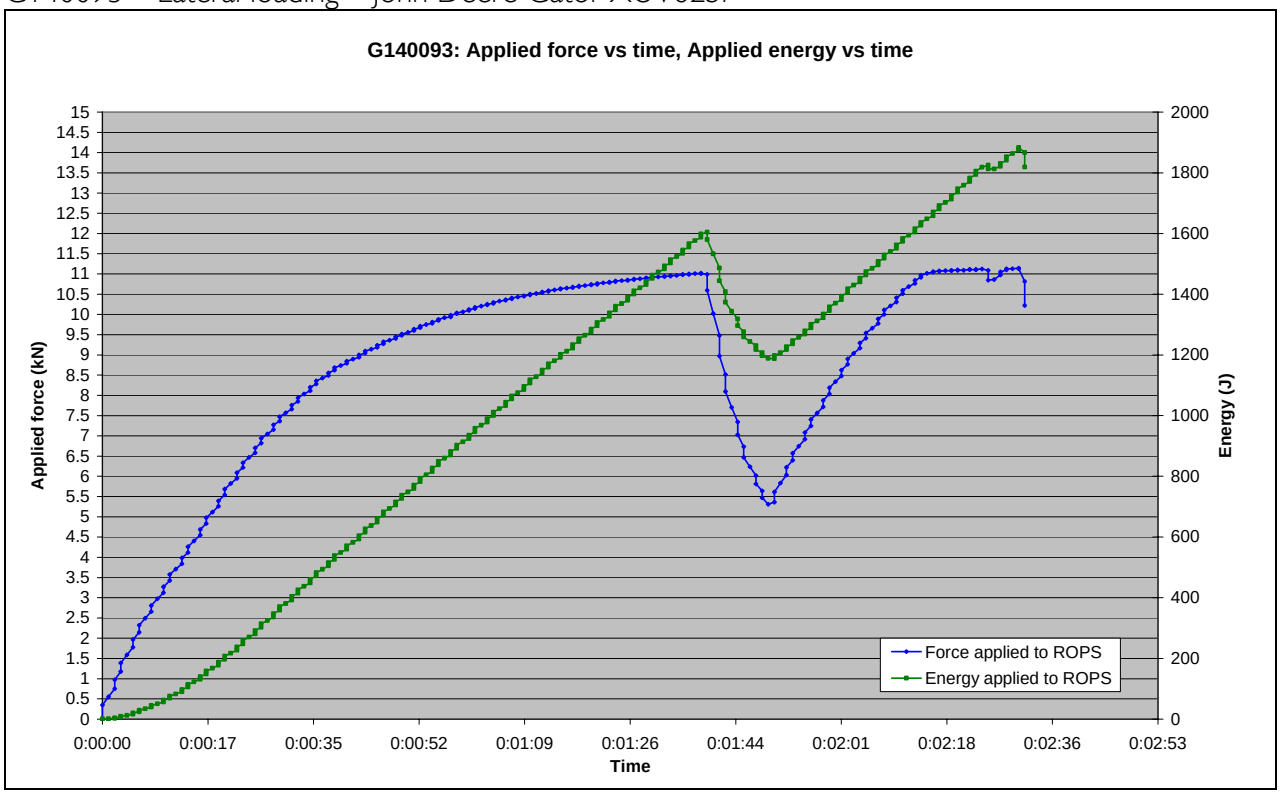
G140092 – Lateral loading – Yamaha Rhino



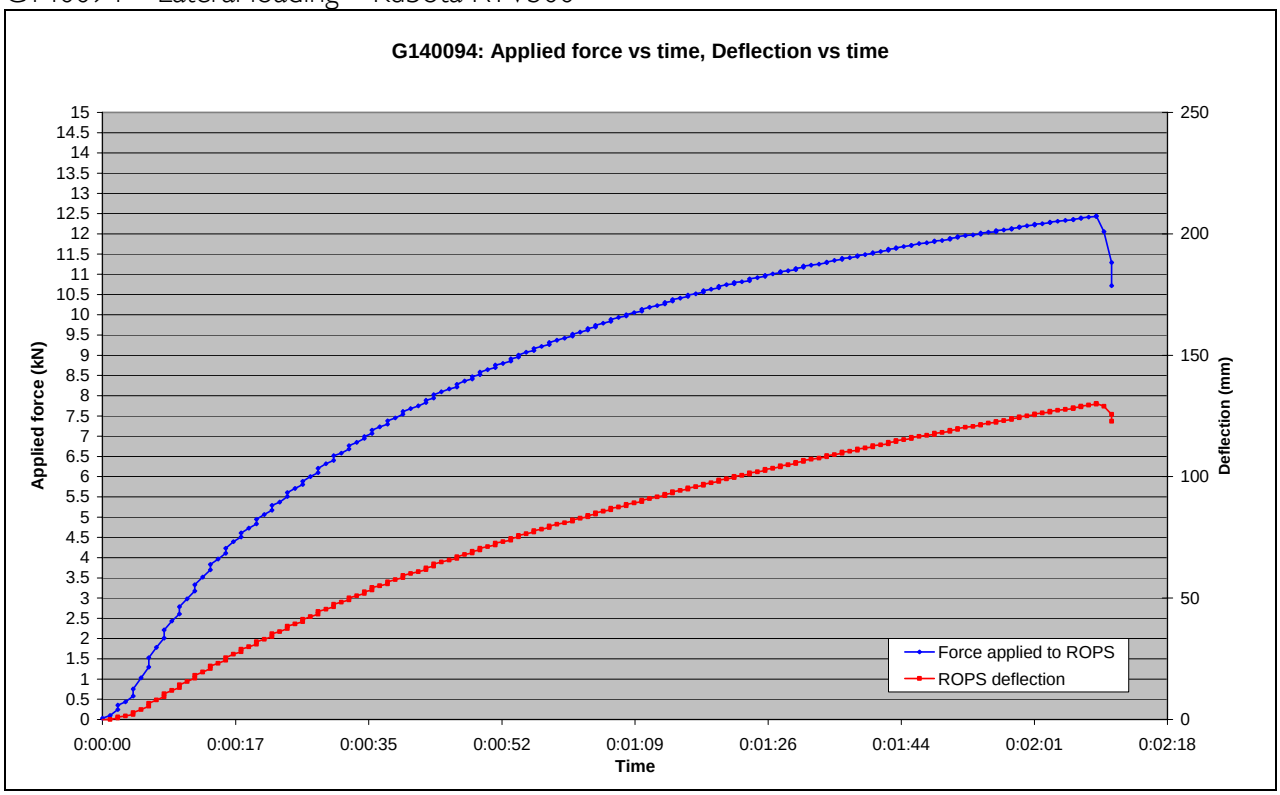
G140093 – Lateral loading – John Deere Gator XUV825i



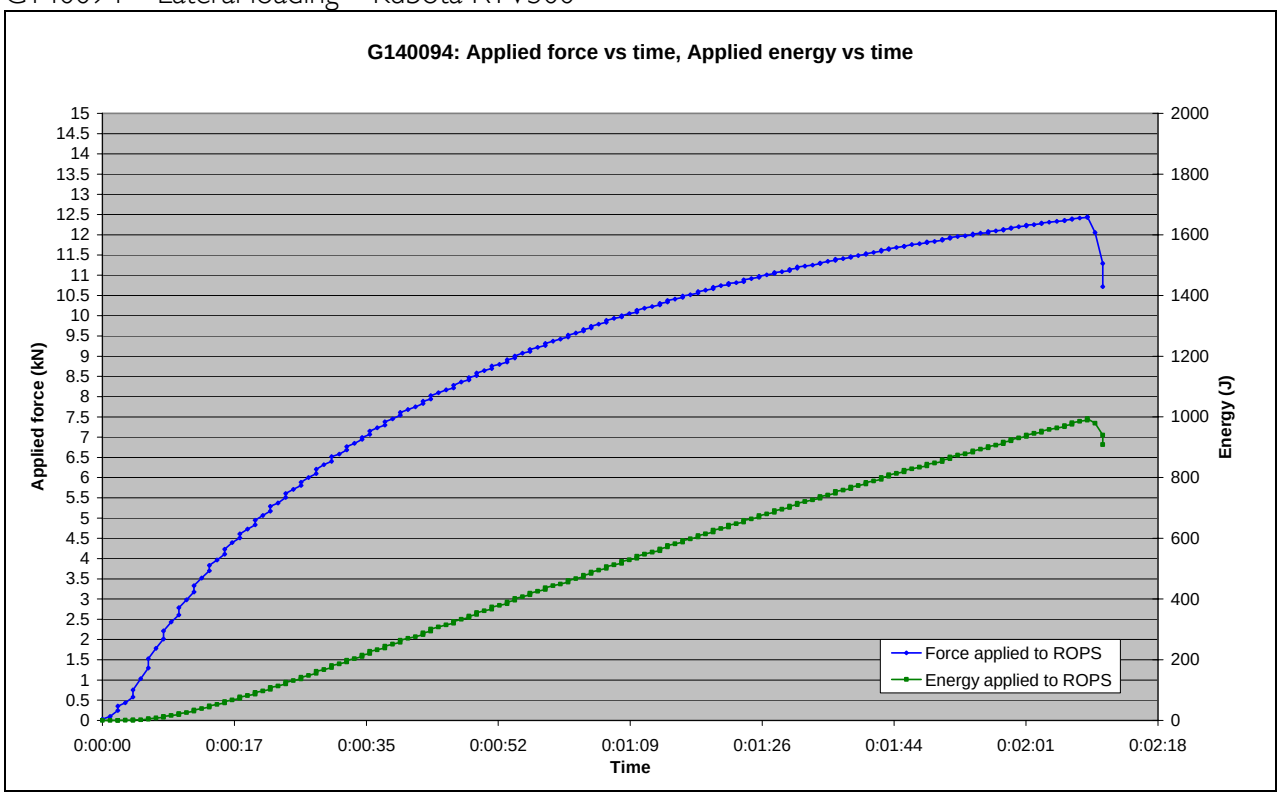
G140093 – Lateral loading – John Deere Gator XUV825i



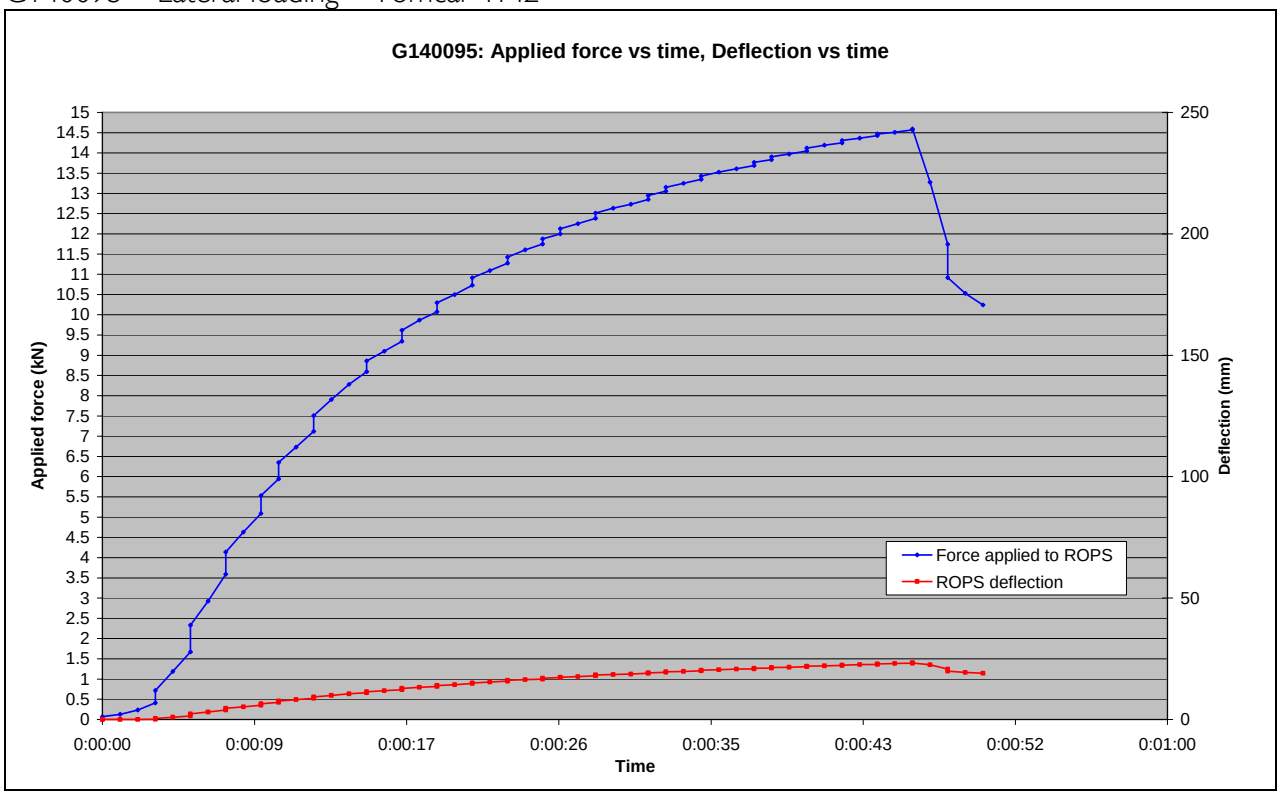
G140094 – Lateral loading – Kubota RTV500



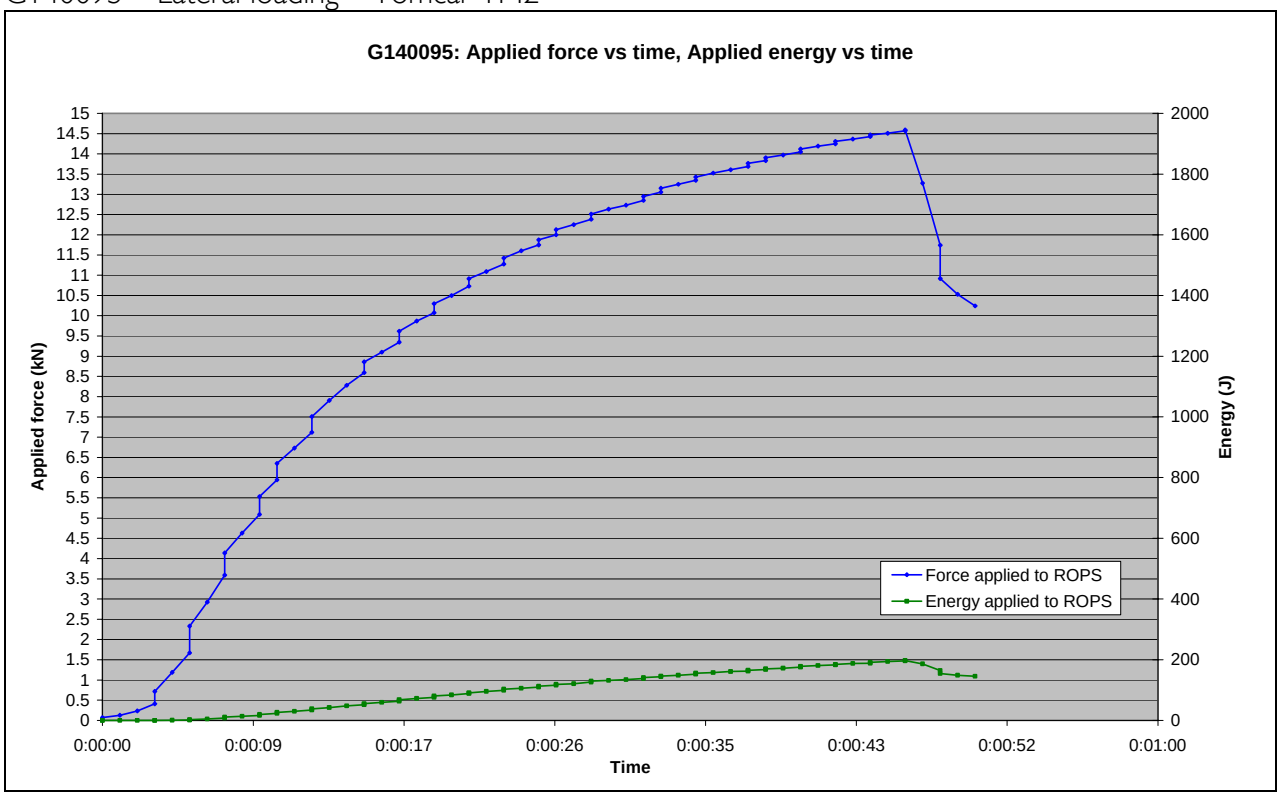
G140094 – Lateral loading – Kubota RTV500



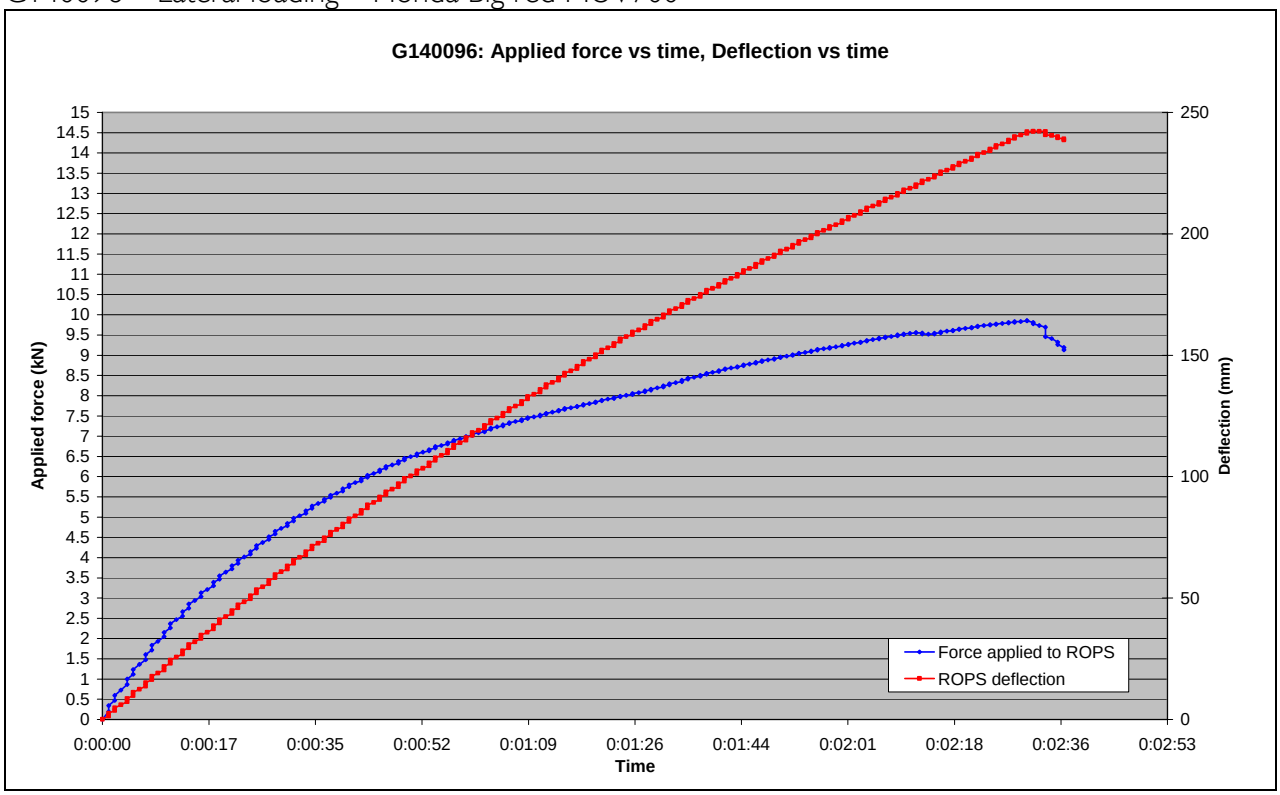
G140095 – Lateral loading – Tomcar TM2



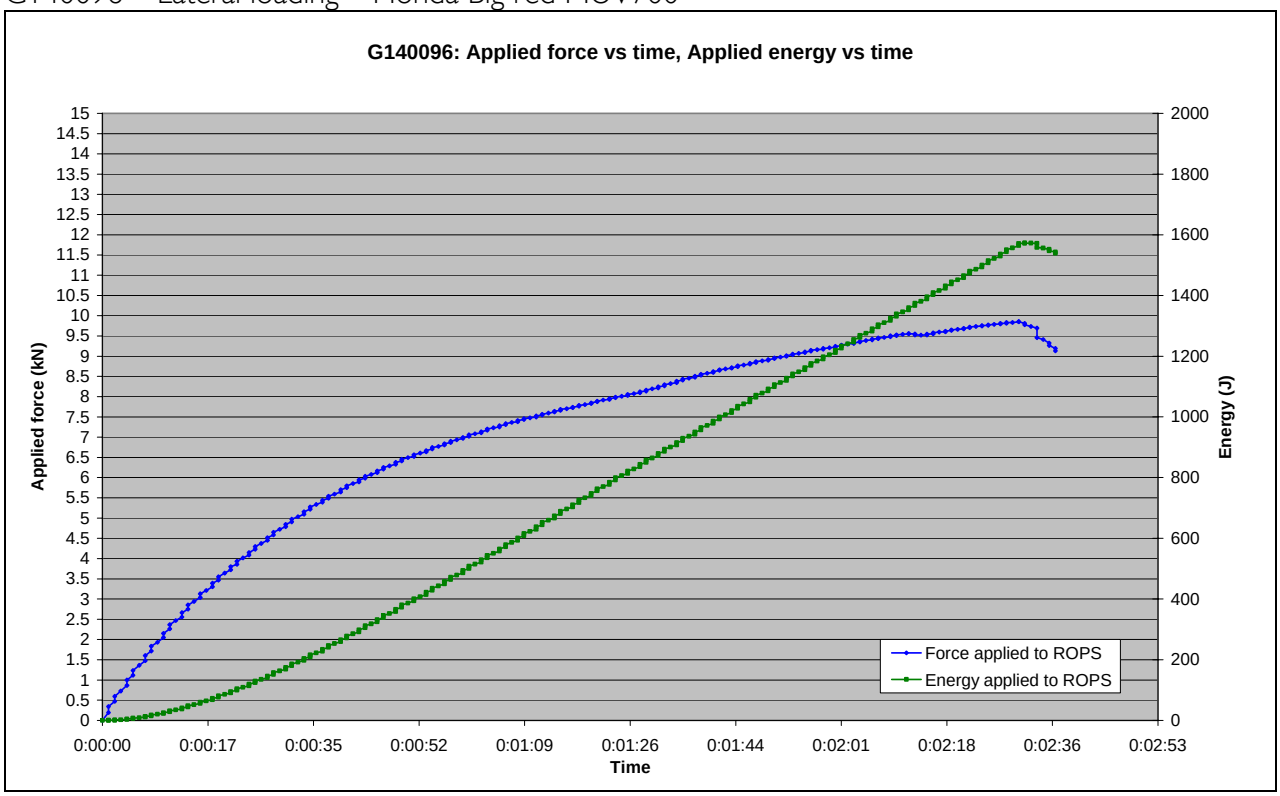
G140095 – Lateral loading – Tomcar TM2



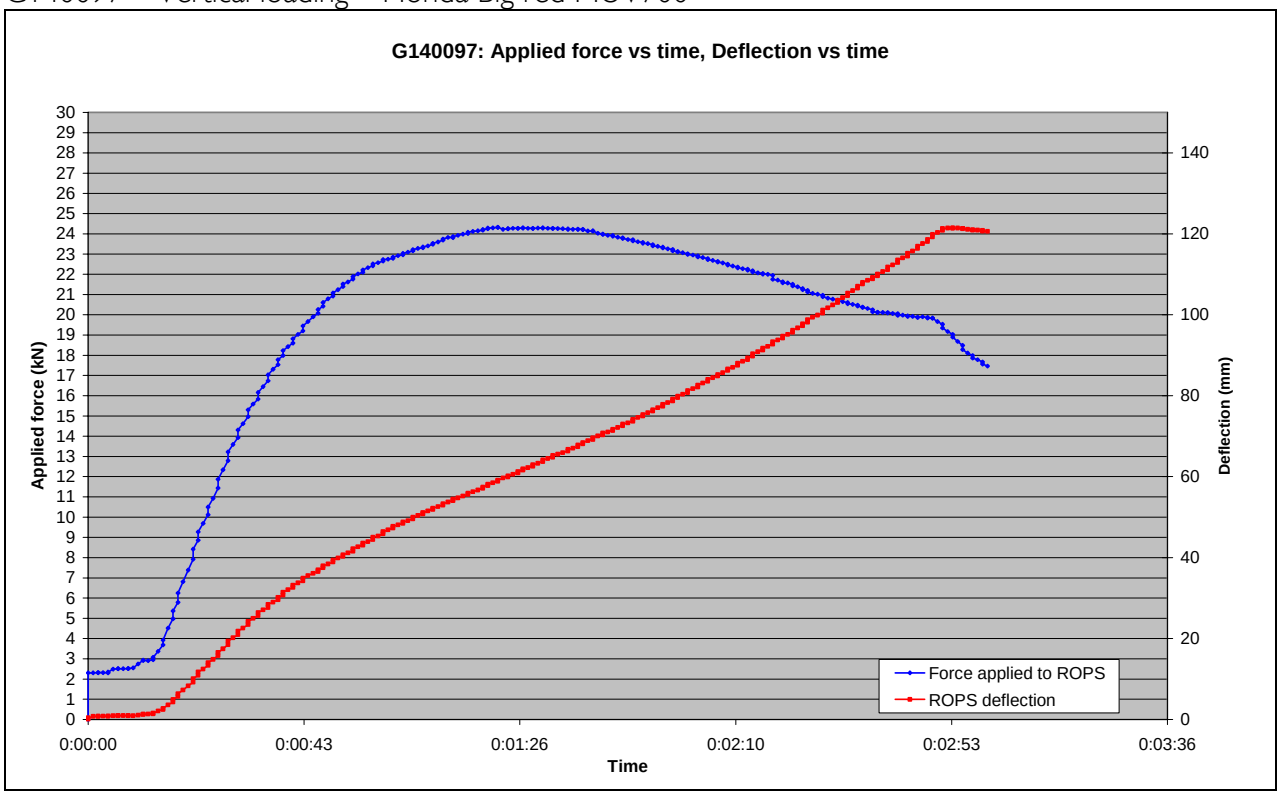
G140096 – Lateral loading – Honda Big red MUV700



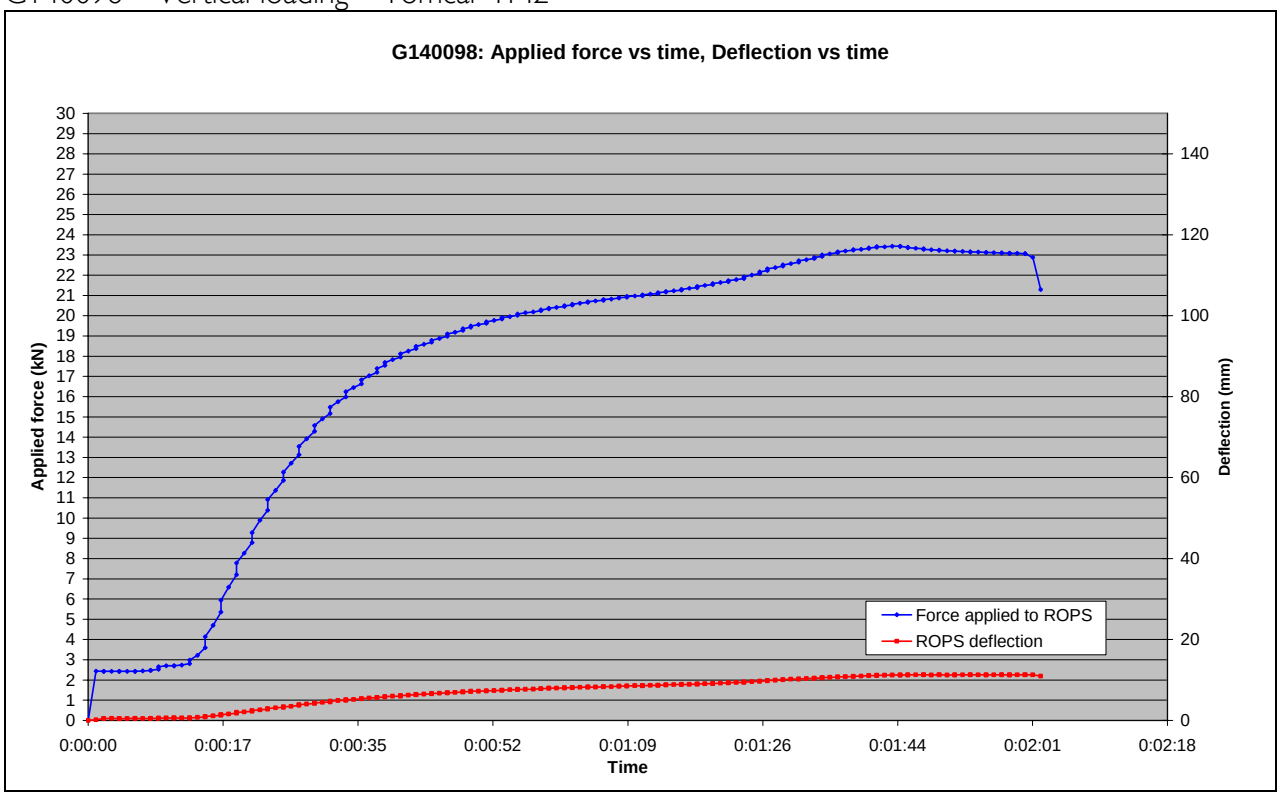
G140096 – Lateral loading – Honda Big red MUV700



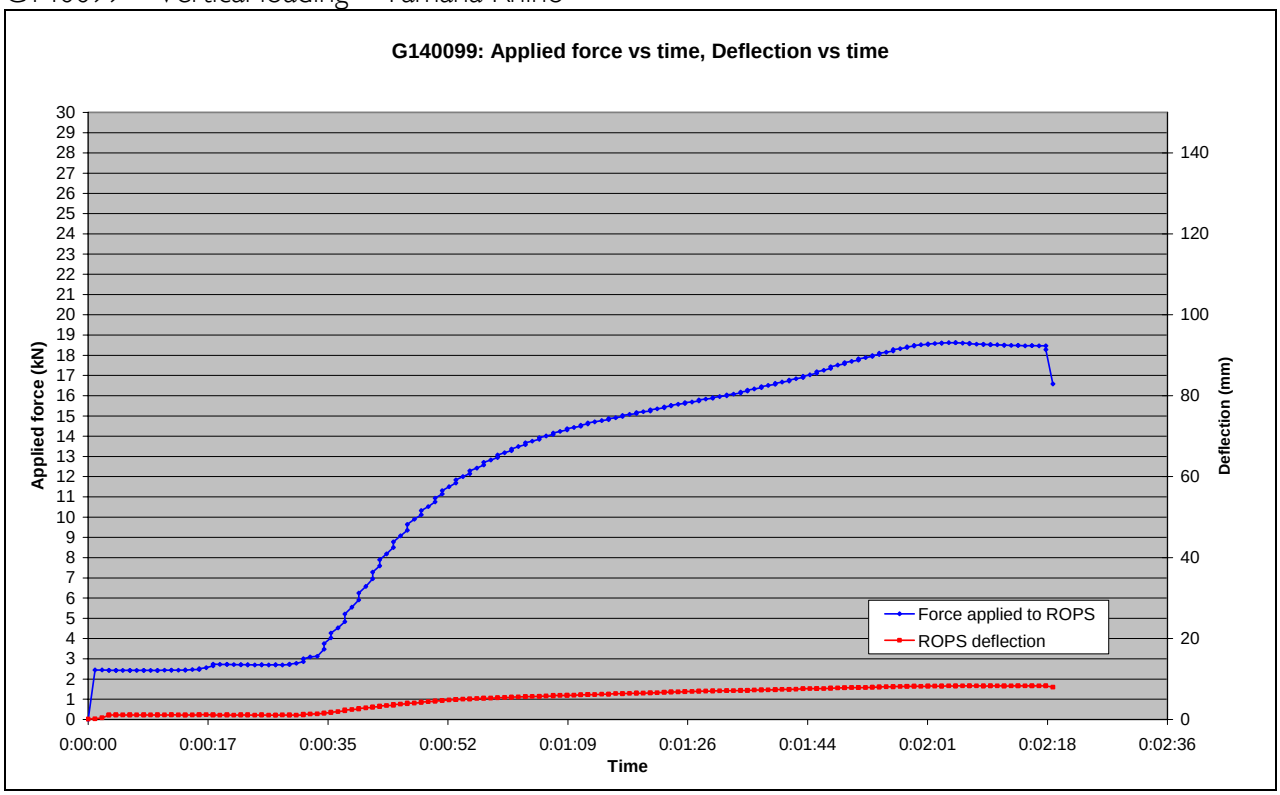
G140097 – Vertical loading – Honda Big red MUV700



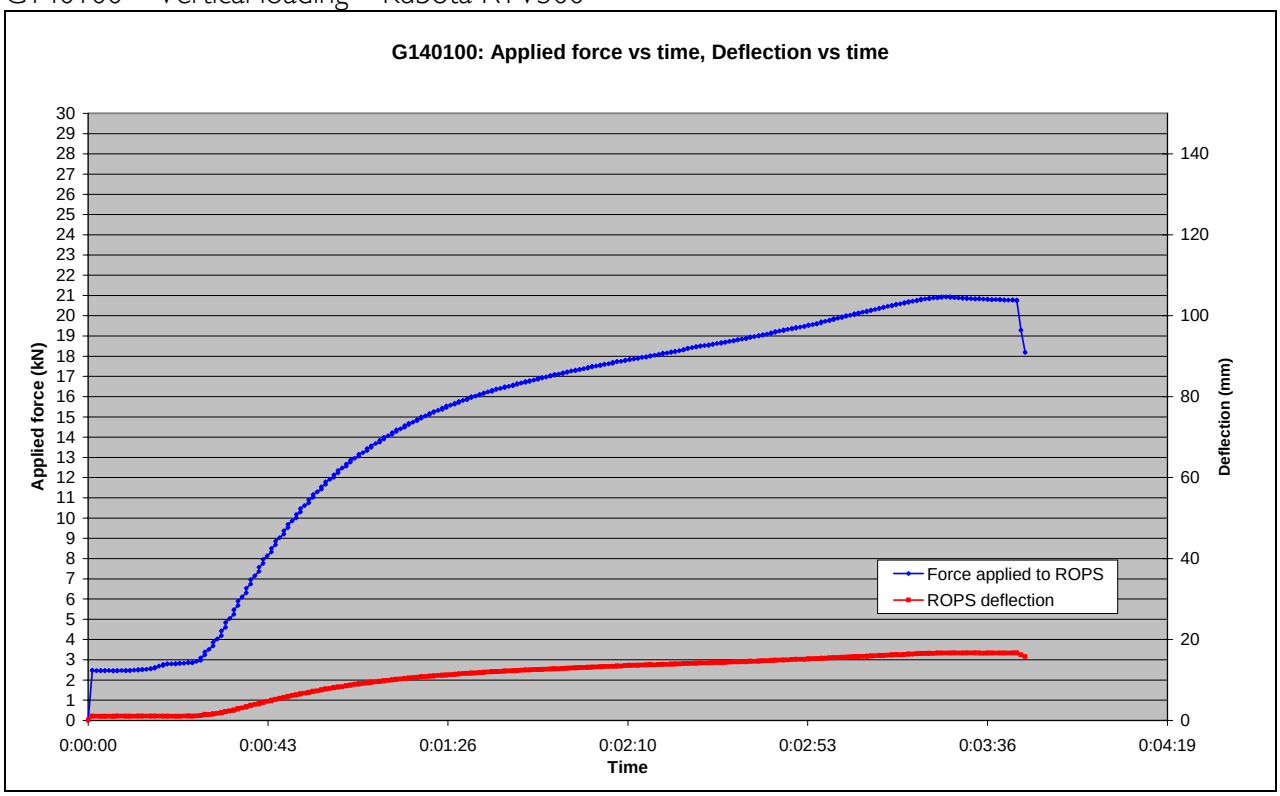
G140098 – Vertical loading – Tomcar TM2



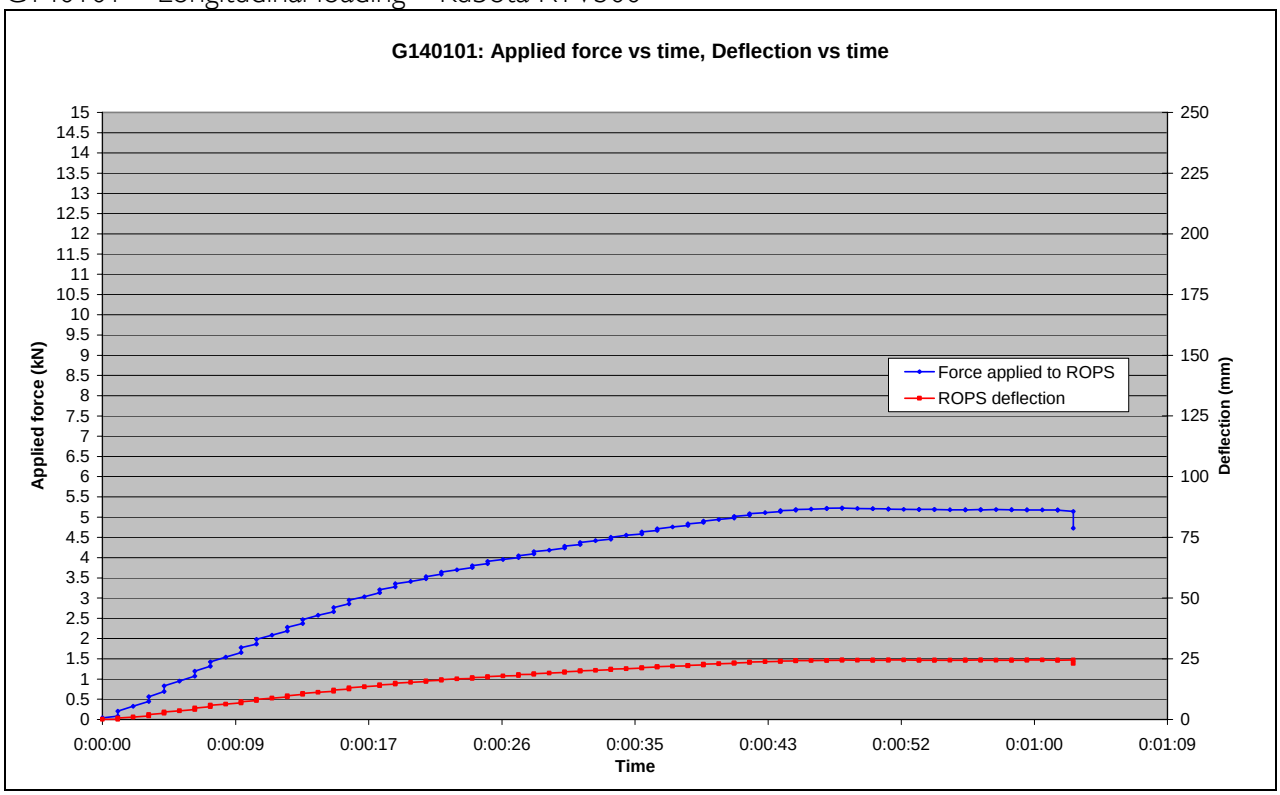
G140099 – Vertical loading – Yamaha Rhino



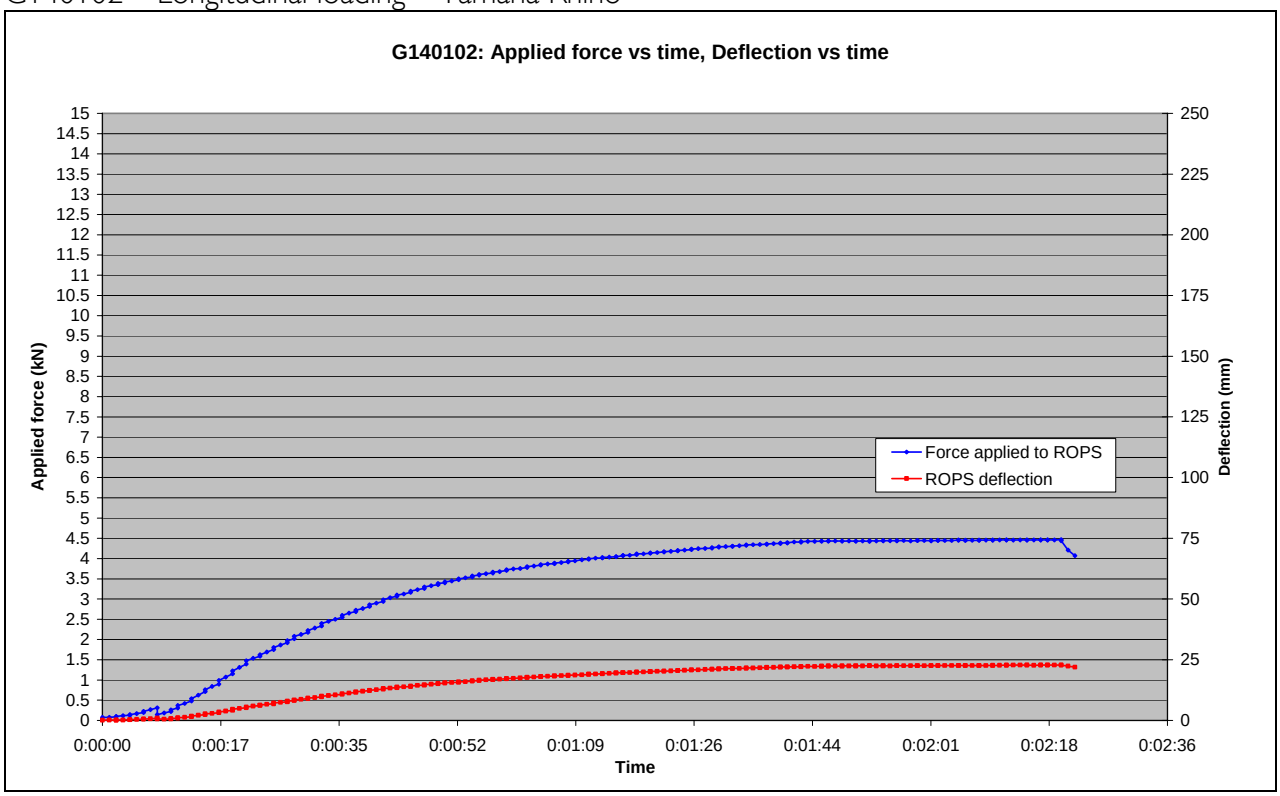
G140100 – Vertical loading – Kubota RTV500



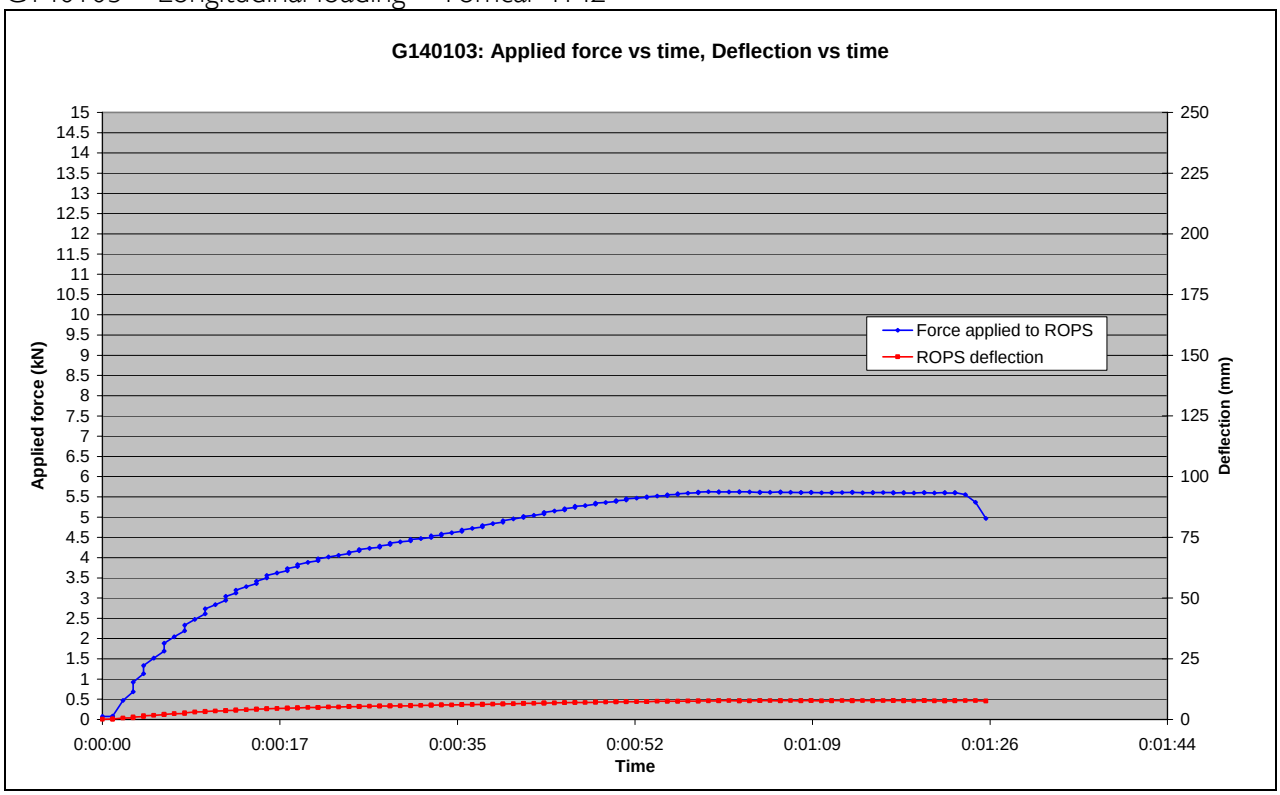
G140101 – Longitudinal loading – Kubota RTV500



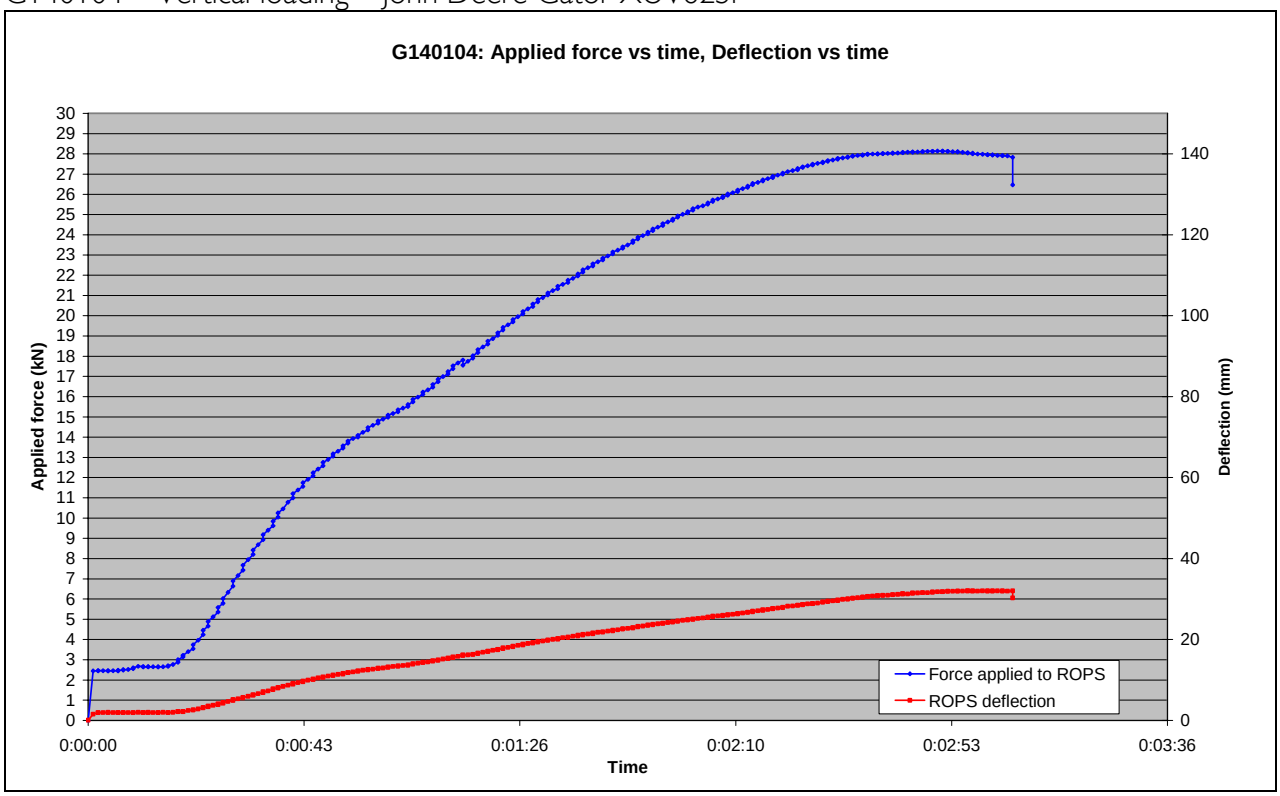
G140102 – Longitudinal loading – Yamaha Rhino



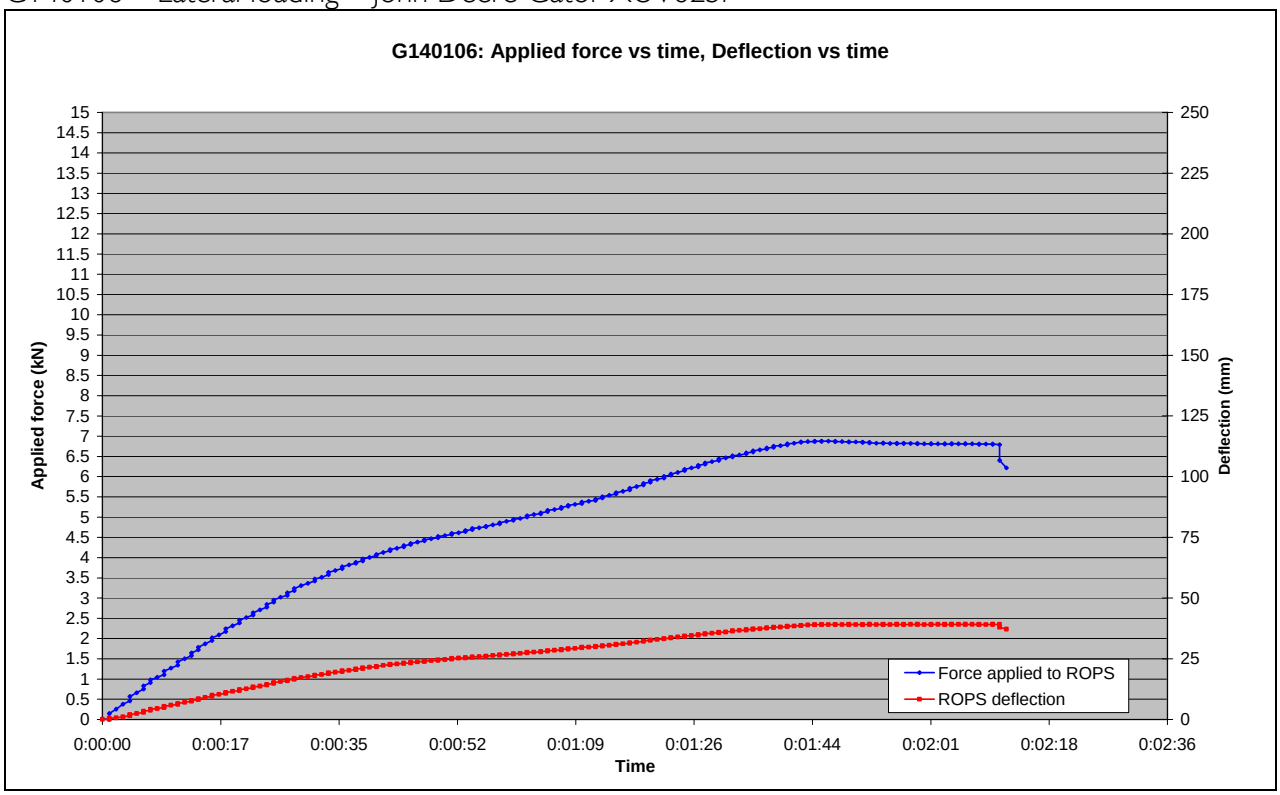
G140103 – Longitudinal loading – Tomcar TM2



G140104 – Vertical loading – John Deere Gator XUV825i



G140106 – Lateral loading – John Deere Gator XUV825i



2. Vehicle and occupant rollover

2.1 G140075

G140075_ICM.IC1

Test Number : G140075
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.250
Cmax	=	4.350
VCmax	=	0.000
HIC	=	166.6
NII (2002 MATD Neck)	=	1.8
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.973	0.998	1.000	1.000	1.000	0
1	0.011	0.002	0.000	0.000	0.000	0
2	0.009	0.000	0.000	0.000	0.000	0
3	0.007	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.050	0.002	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140075.rpt

Test G140075, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	6.47 g	1.357	-7.78 g	1.367
Ay,c	7.63 g	1.451	-18.41 g	1.357
Az,c	15.85 g	1.368	-13.29 g	1.450
Ax,p	7.58 g	1.450	-4.48 g	1.378
Ay,p	8.89 g	1.449	-7.87 g	1.503
Az,p	11.05 g	1.447	-14.84 g	1.449
spare	0.00 -	-0.656	0.00 -	1.452
spare	0.00 -	1.451	0.00 -	1.510
L,ur	0.03 mm	0.248	-18.58 mm	1.465
L,lr	1.27 mm	1.350	-15.50 mm	1.466
a1	22.53 g	1.479	-36.86 g	1.339
a2	19.06 g	1.479	-36.47 g	1.339
a3	35.74 g	1.479	-39.22 g	1.331
a4	22.86 g	1.331	-10.14 g	1.363
a5	21.94 g	1.331	-11.26 g	1.364
a6	32.91 g	1.331	-12.39 g	1.376
Mx,l	80.60 Nm	1.391	-10.91 Nm	0.742
My,l	550.54 Nm	1.473	-218.43 Nm	1.345
Mz,l	45.15 Nm	1.510	-5.83 Nm	0.909
Fx,l	0.08 kN	1.329	-1.40 kN	1.504
Fy,l	0.78 kN	1.371	-0.25 kN	1.452
Fz,l	1.43 kN	1.452	-1.69 kN	1.390
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	3.928	0.00 -	1.446
spare	0.01 -	1.446	0.00 -	-0.990
spare	0.00 -	-0.179	0.00 -	-0.260
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	3.908	0.00 -	1.375
a7	27.53 g	1.331	-13.54 g	1.365
a8	36.59 g	1.377	-17.50 g	1.365
a9	33.37 g	1.331	-16.31 g	1.398
Fz,uf,r	0.34 kN	1.418	-0.31 kN	1.471
Mx,uf,r	62.15 Nm	1.426	-23.11 Nm	1.519
My,uf,r	27.14 Nm	1.450	-69.29 Nm	1.425
Mz,uf,r	22.45 Nm	1.401	-26.57 Nm	1.564
Fz,uf,l	0.75 kN	1.446	-0.24 kN	1.380
Mx,uf,l	37.32 Nm	2.102	-50.46 Nm	1.459
My,uf,l	145.97 Nm	1.451	-17.27 Nm	1.349
Mz,uf,l	101.14 Nm	1.986	-6.51 Nm	0.724
Fx,n	0.58 kN	1.347	-0.43 kN	1.379
Fy,n	0.93 kN	1.353	-0.15 kN	1.384
Fz,n	0.87 kN	1.379	-3.53 kN	1.343
Mx,n	45.98 Nm	1.387	-105.74 Nm	1.353
My,n	14.32 Nm	1.734	-33.73 Nm	1.360
Mz,n	6.36 Nm	1.383	-27.84 Nm	1.360
L,ul	10.54 mm	1.373	-1.42 mm	2.235
L,ll	13.12 mm	1.373	-1.06 mm	2.232
Ax,h	13.62 g	1.340	-21.60 g	1.479
Ay,h	17.97 g	1.361	-38.96 g	1.339
Az,h	27.55 g	1.331	-13.55 g	1.365
àx,h	4.46 krad/s**2	1.377	-5.38 krad/s**2	1.360
ày,h	2.15 krad/s**2	1.479	-1.87 krad/s**2	1.359
àz,h	2.07 krad/s**2	1.378	-1.88 krad/s**2	1.359
Ar,h	45.57 g	1.331	0.01 g	0.033
àr,h	5.88 krad/s**2	1.359	0.00 krad/s**2	3.069
G	0.25 -	1.360	0.00 -	-0.930
HIC	166.58	1.352	----	1.329
Fxy,n	1.00 kN	1.353	0.00 kN	-0.256
Dx,us	0.80 mm	1.390	-8.16 mm	1.465
Dy,us	20.23 mm	1.465	-0.04 mm	0.256

Page 1

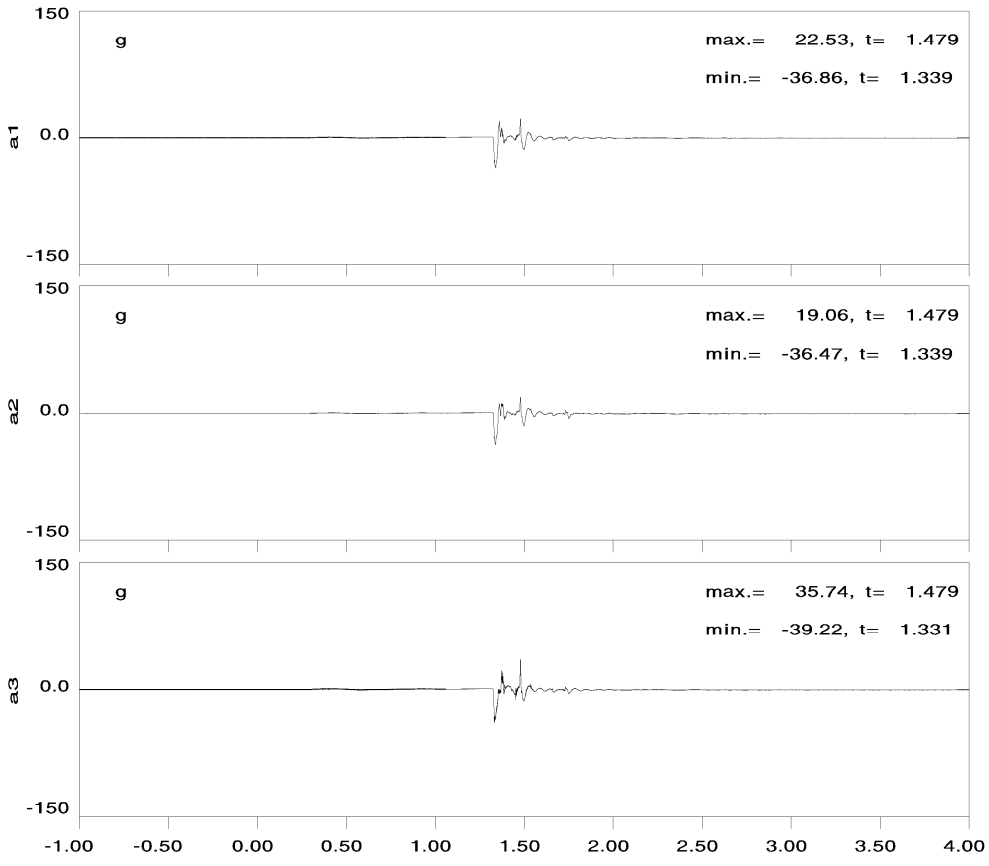
G140075.rpt

Cus	4.35	%	1.465	-0.43 %	1.390
Vus	0.20	m/s	1.380	-0.52 m/s	1.450
VCus	0.02	m/s	1.451	-0.01 m/s	1.480
Dx,ls	3.19	mm	1.349	-4.35 mm	1.550
Dy,ls	19.31	mm	1.465	-0.03 mm	0.261
Cls	2.32	%	1.550	-1.70 %	1.349
Vls	0.20	m/s	1.341	-0.33 m/s	1.451
VCls	0.01	m/s	1.453	0.00 m/s	1.484
Mxy,uf,r	93.01	Nm	1.425	0.00 Nm	-0.771
Mxy,uf,l	151.30	Nm	1.456	0.00 Nm	-0.388
Mx,n,oc	44.85	Nm	1.387	-89.23 Nm	1.353
My,n,oc	15.41	Nm	1.710	-35.04 Nm	1.360
NII	1.81	-	1.353	0.00 -	-0.253
Ar,p	17.35	g	1.449	0.01 g	-0.028
Ar,c	20.67	g	1.357	0.00 g	-0.966

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

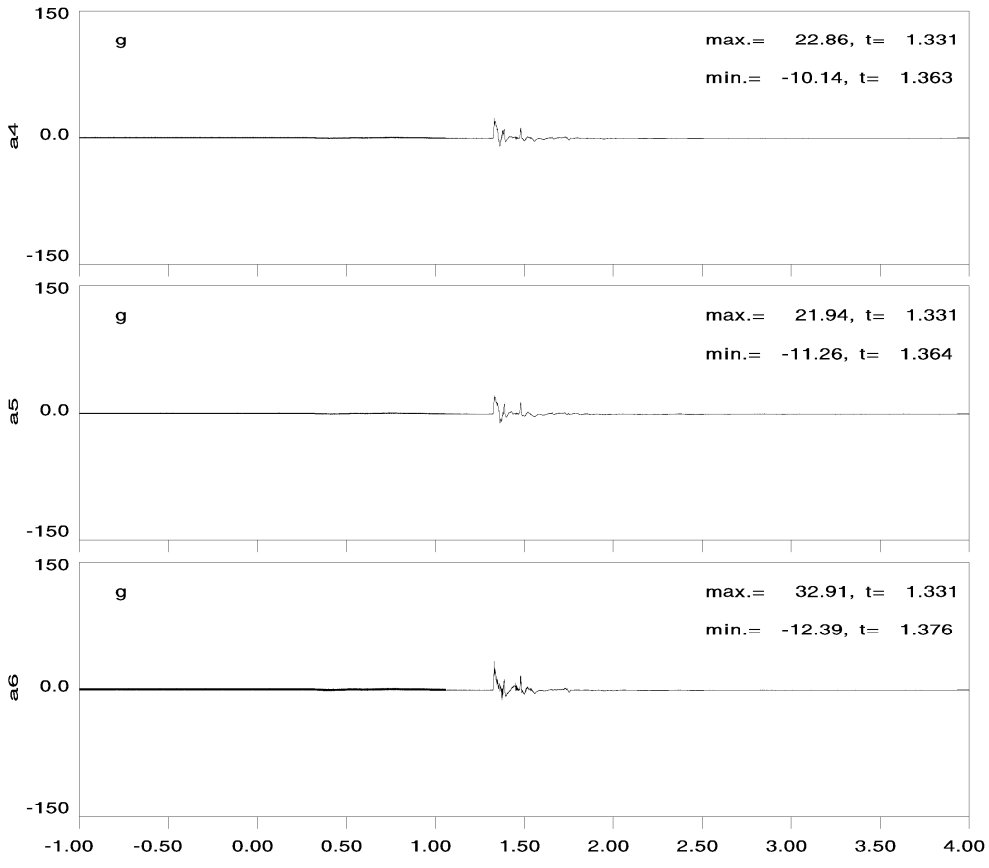
Page 2

Primary Test G140075



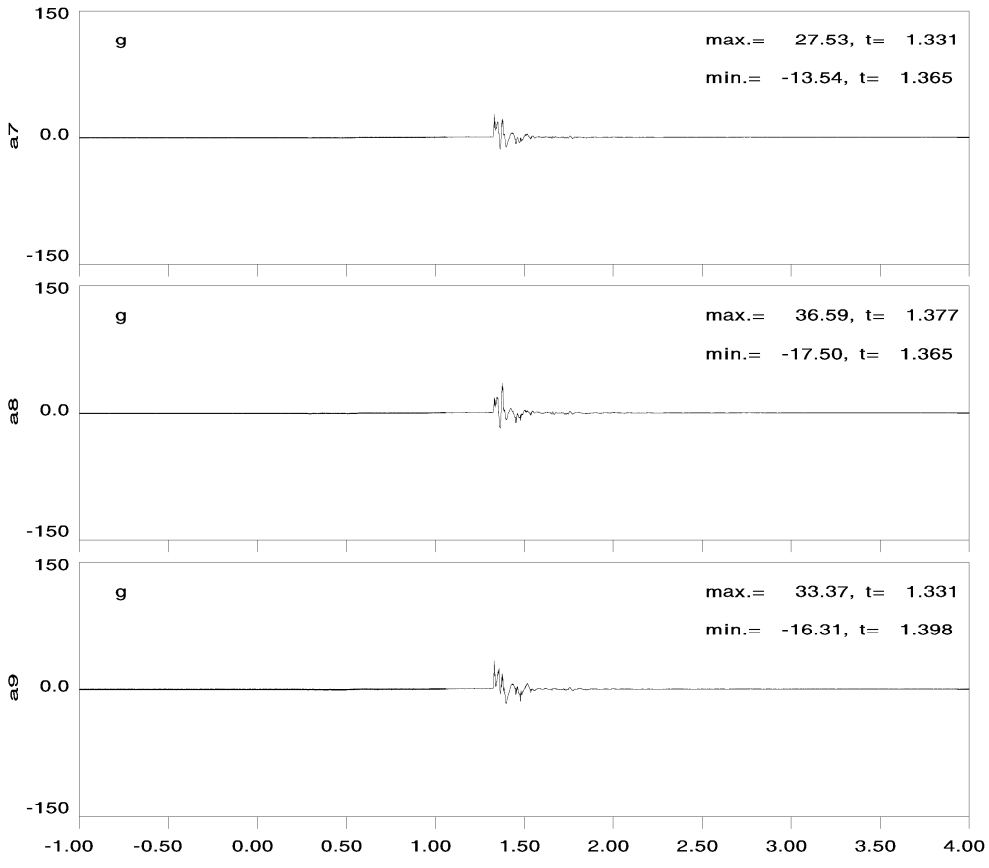
Page 1

Primary Test G140075



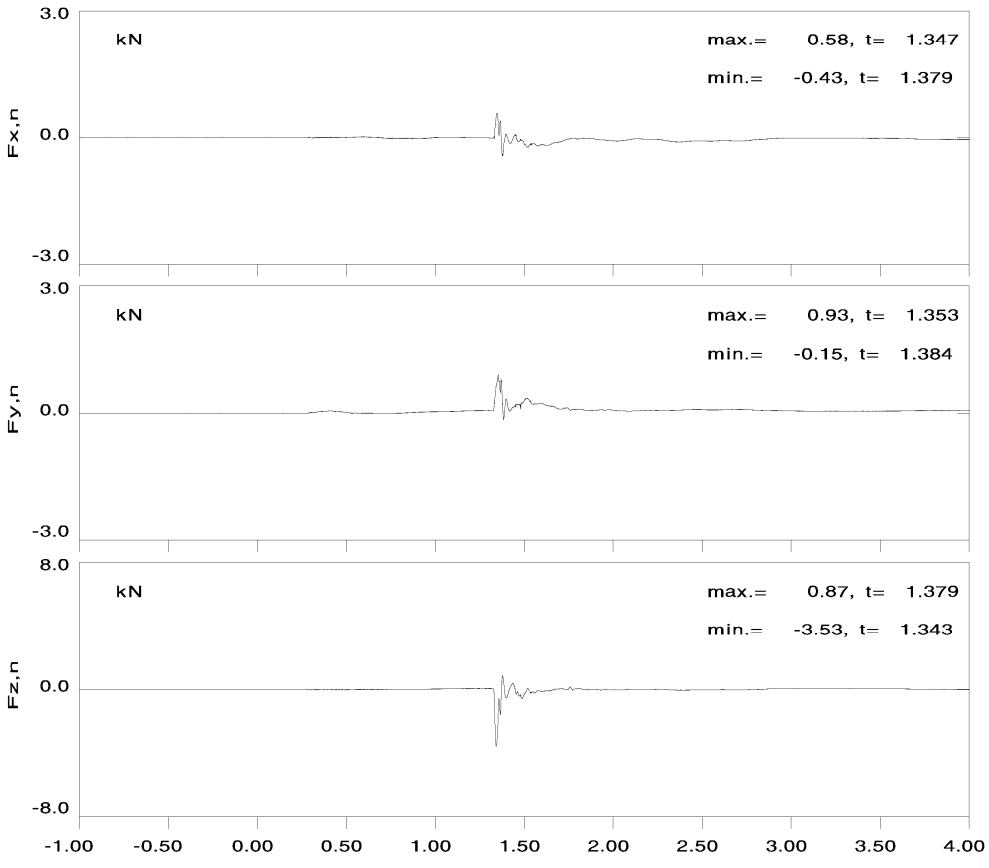
Page 2

Primary Test G140075



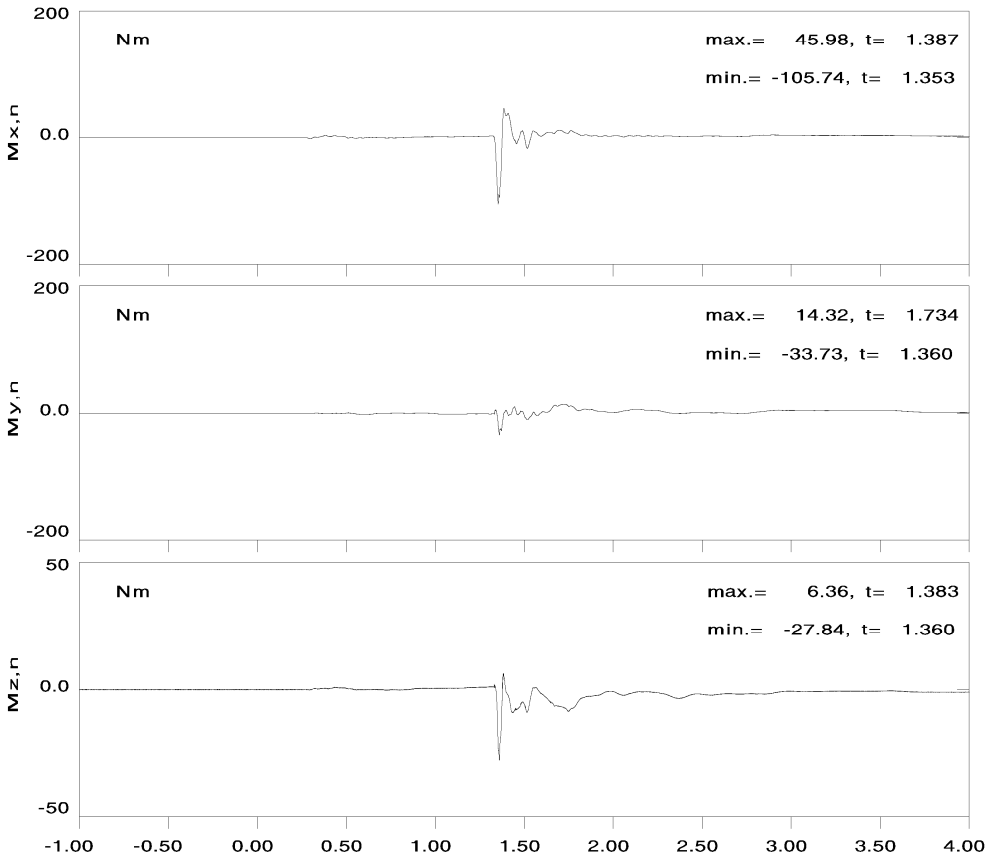
Page 3

Primary Test G140075

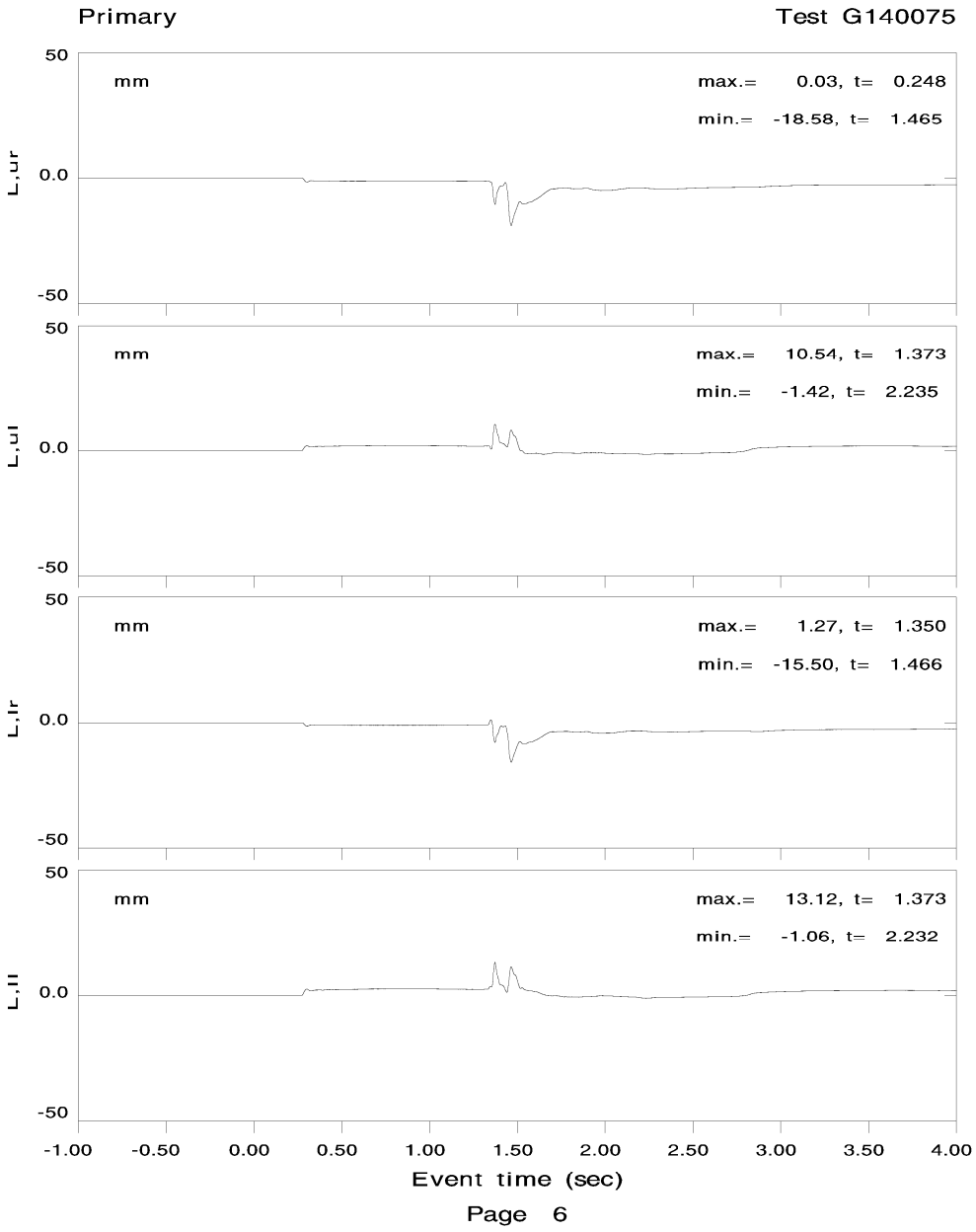


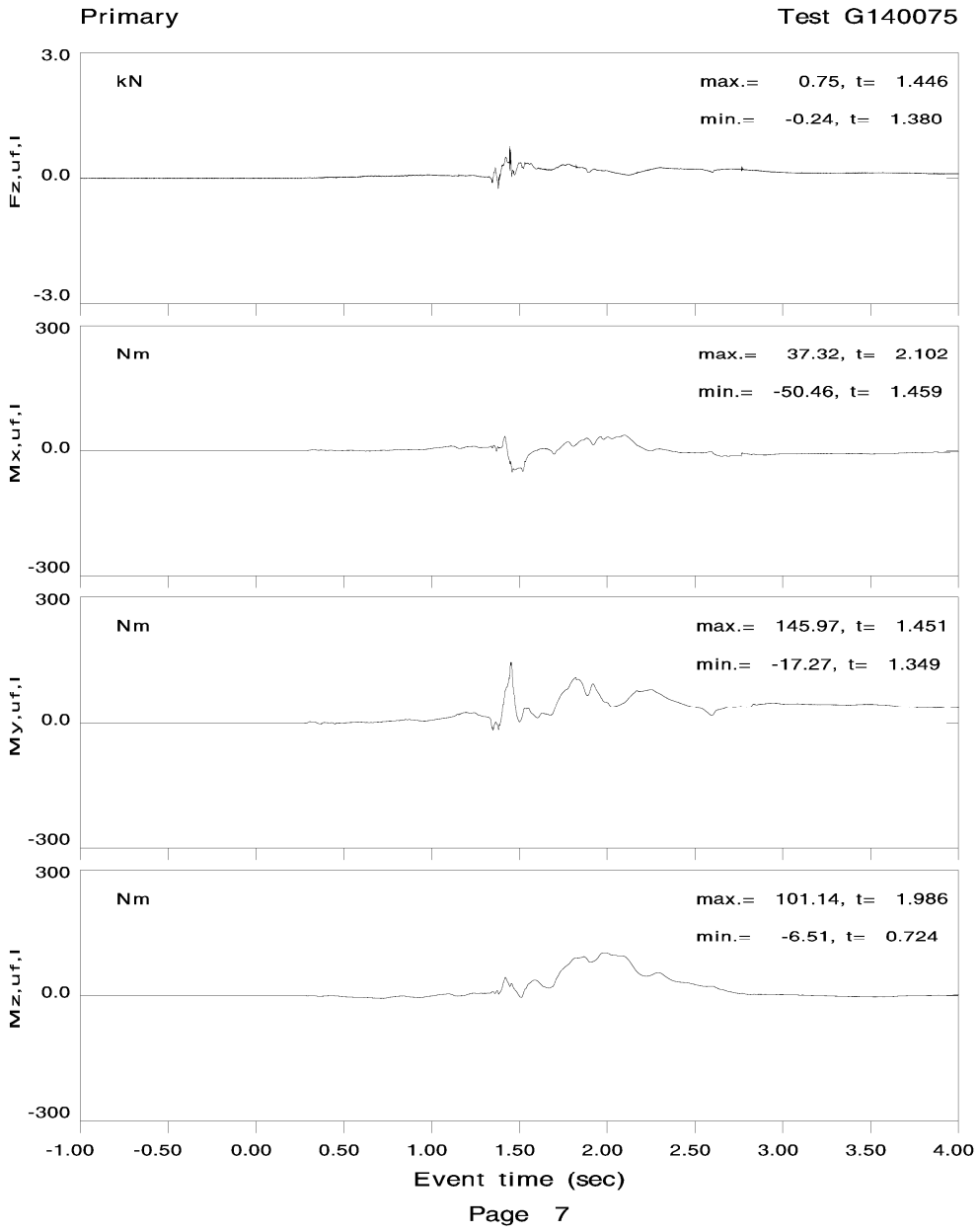
Page 4

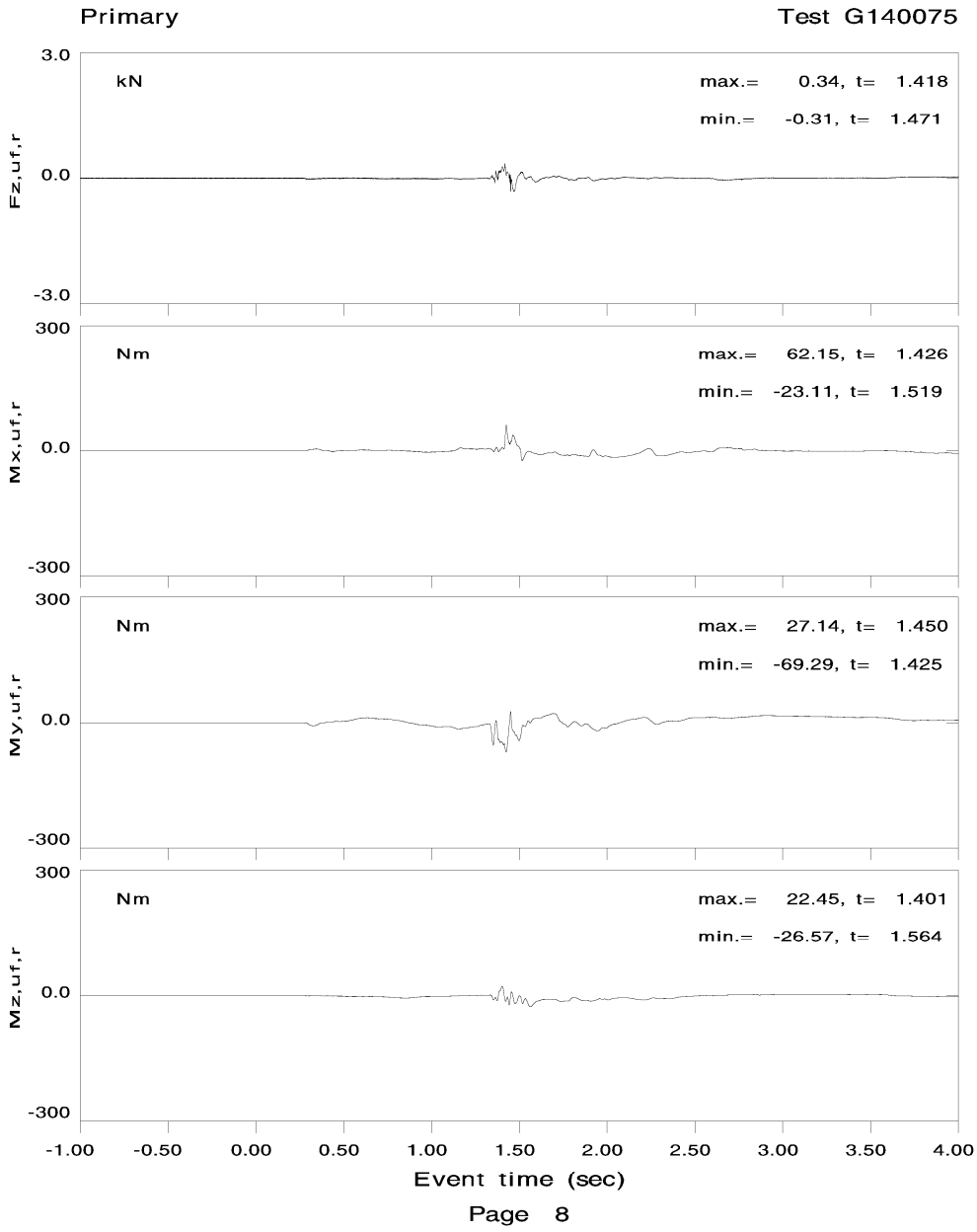
Primary Test G140075

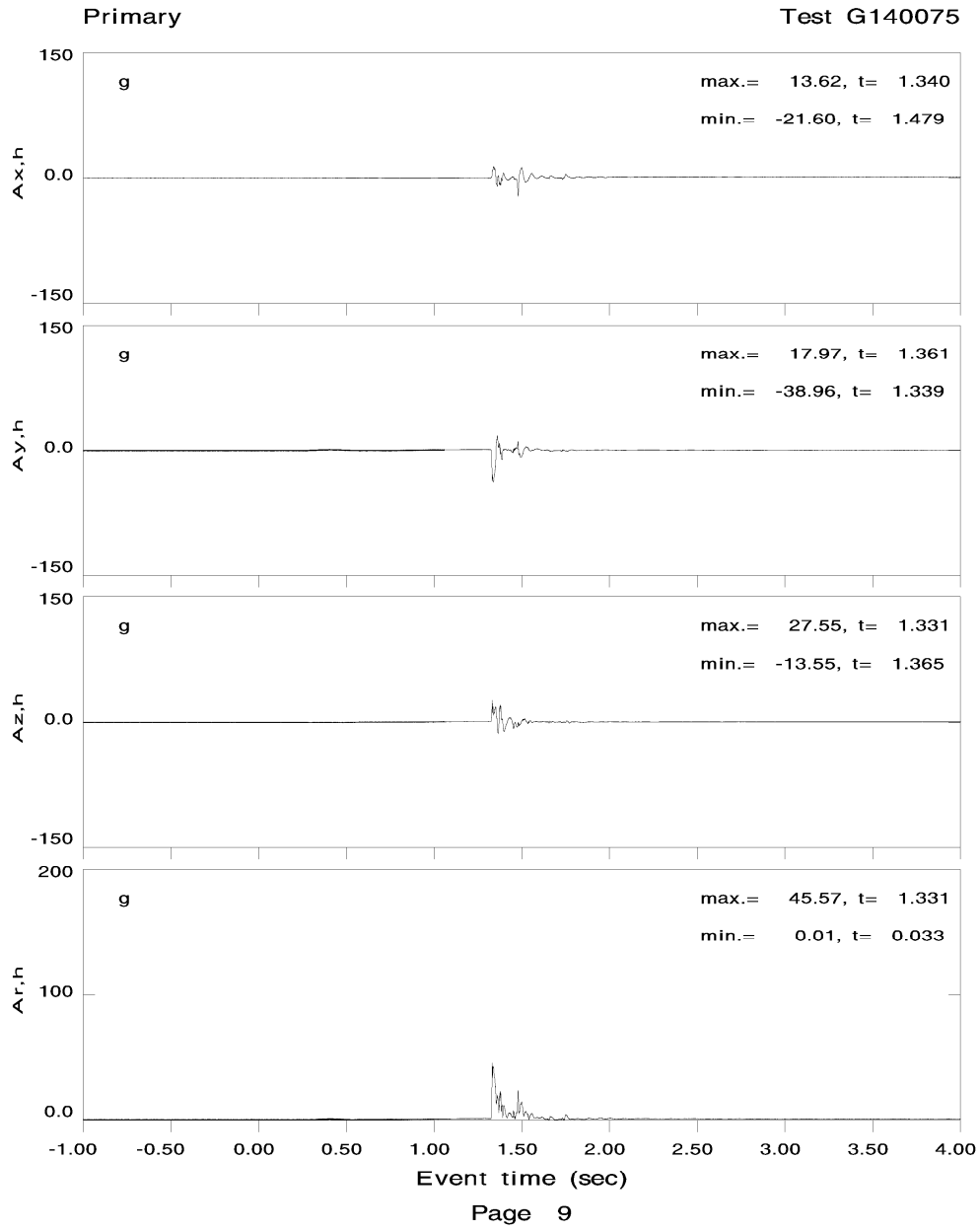


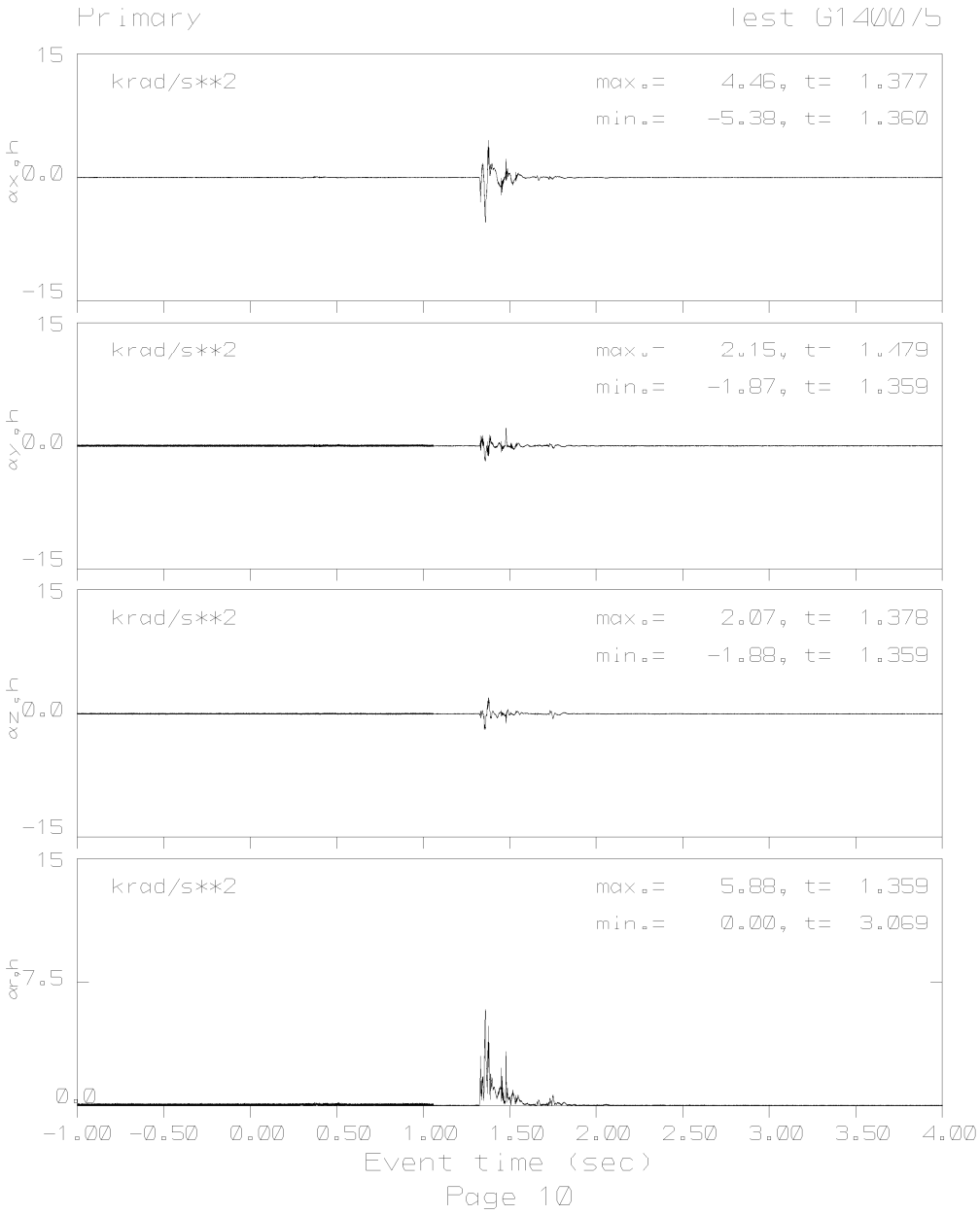
Page 5

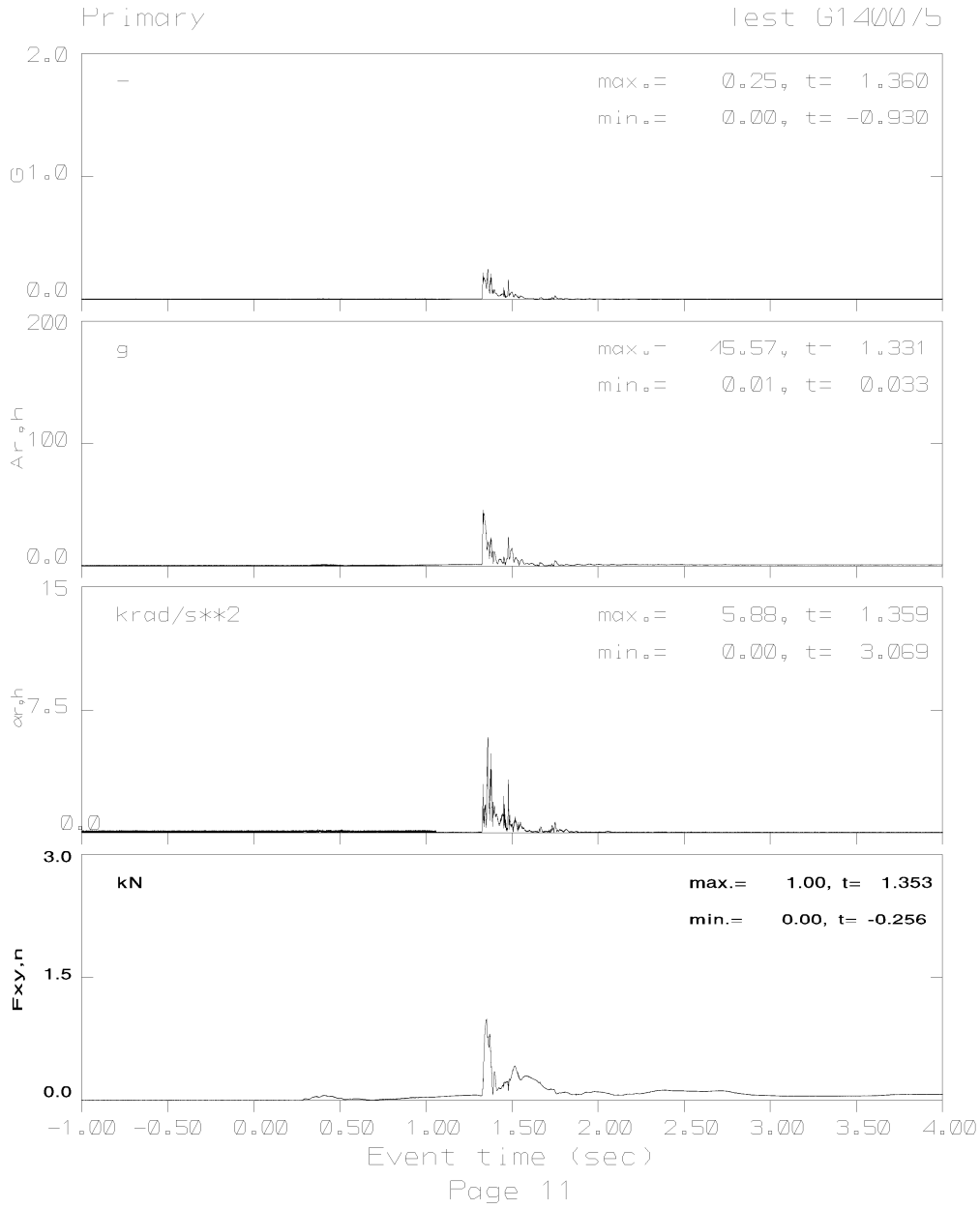

Primary
Test G140075
mm
max.= 0.03, t= 0.248
min.= -18.58, t= 1.465
L,ur
mm
max.= 10.54, t= 1.373
min.= -1.42, t= 2.235
L,ul
mm
max.= 1.27, t= 1.350
min.= -15.50, t= 1.466
L,lr
mm
max.= 13.12, t= 1.373
min.= -1.06, t= 2.232
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

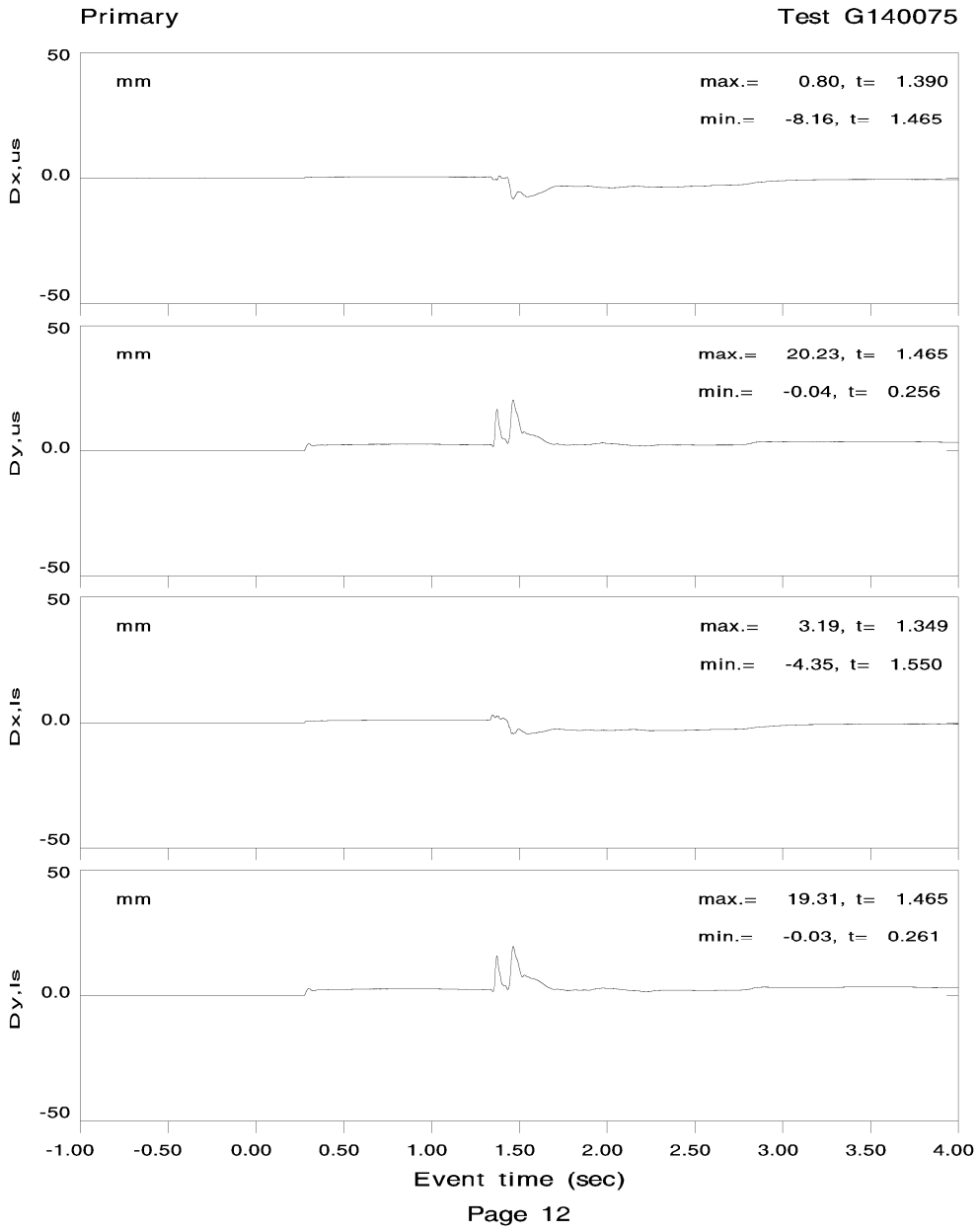

Primary
Test G140075
kN
max.= 0.75, t= 1.446
min.= -0.24, t= 1.380
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 37.32, t= 2.102
min.= -50.46, t= 1.459
Mx,uf,l
300
0.0
-300
Nm
max.= 145.97, t= 1.451
min.= -17.27, t= 1.349
My,uf,l
300
0.0
-300
Nm
max.= 101.14, t= 1.986
min.= -6.51, t= 0.724
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140075
kN
max.= 0.34, t= 1.418
min.= -0.31, t= 1.471
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 62.15, t= 1.426
min.= -23.11, t= 1.519
Mx,uf,r
300
0.0
-300
Nm
max.= 27.14, t= 1.450
min.= -69.29, t= 1.425
My,uf,r
300
0.0
-300
Nm
max.= 22.45, t= 1.401
min.= -26.57, t= 1.564
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

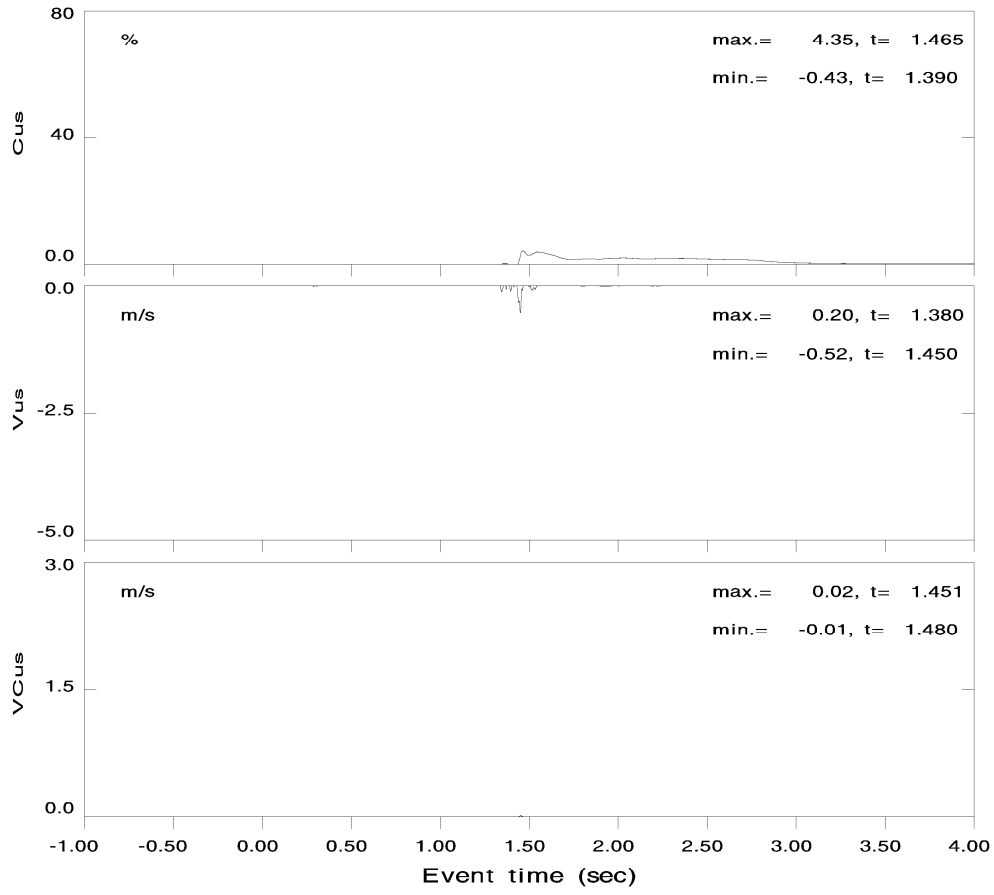

Primary
Test G140075
g
max.= 13.62, t= 1.340
min.= -21.60, t= 1.479
Ax,h
150
0.0
-150
g
max.= 17.97, t= 1.361
min.= -38.96, t= 1.339
Ay,h
150
0.0
-150
g
max.= 27.55, t= 1.331
min.= -13.55, t= 1.365
Az,h
150
0.0
-150
g
max.= 45.57, t= 1.331
min.= 0.01, t= 0.033
Ar,h
200
100
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test G1400/5
krad/s**2
max.= 4.46, t= 1.377
min.= -5.38, t= 1.360
ax,h
krad/s**2
max.= 2.15, t= 1.479
min.= -1.87, t= 1.359
ay,h
krad/s**2
max.= 2.07, t= 1.378
min.= -1.88, t= 1.359
az,h
krad/s**2
max.= 5.88, t= 1.359
min.= 0.00, t= 3.069
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G1400/5
2.0
-
max.= 0.25, t= 1.360
min.= 0.00, t= -0.930
G1.0
0.0
200
g
max.= 15.57, t= 1.331
min.= 0.01, t= 0.033
Ar.h
100
0.0
15
krad/s**2
max.= 5.88, t= 1.359
min.= 0.00, t= 3.069
ar.h
7.5
0.0
3.0
kN
max.= 1.00, t= 1.353
min.= 0.00, t= -0.256
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

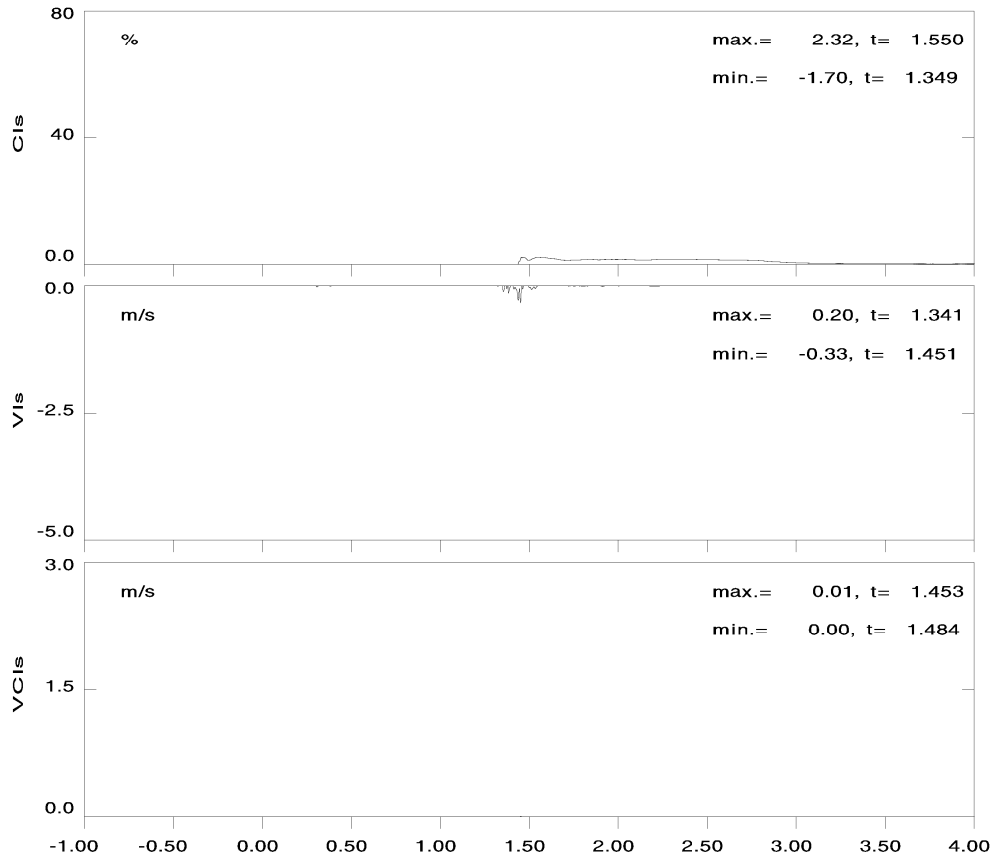

Primary
Test G140075
mm
max.= 0.80, t= 1.390
min.= -8.16, t= 1.465
Dx,us
mm
max.= 20.23, t= 1.465
min.= -0.04, t= 0.256
Dy,us
mm
max.= 3.19, t= 1.349
min.= -4.35, t= 1.550
Dx,ls
mm
max.= 19.31, t= 1.465
min.= -0.03, t= 0.261
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140075



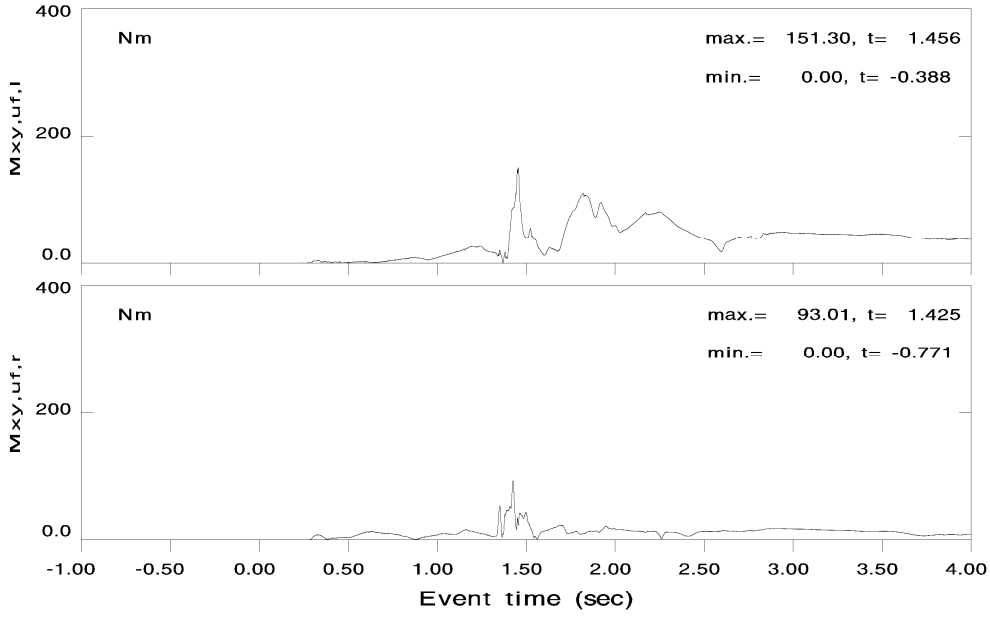
Page 13

Primary Test G140075

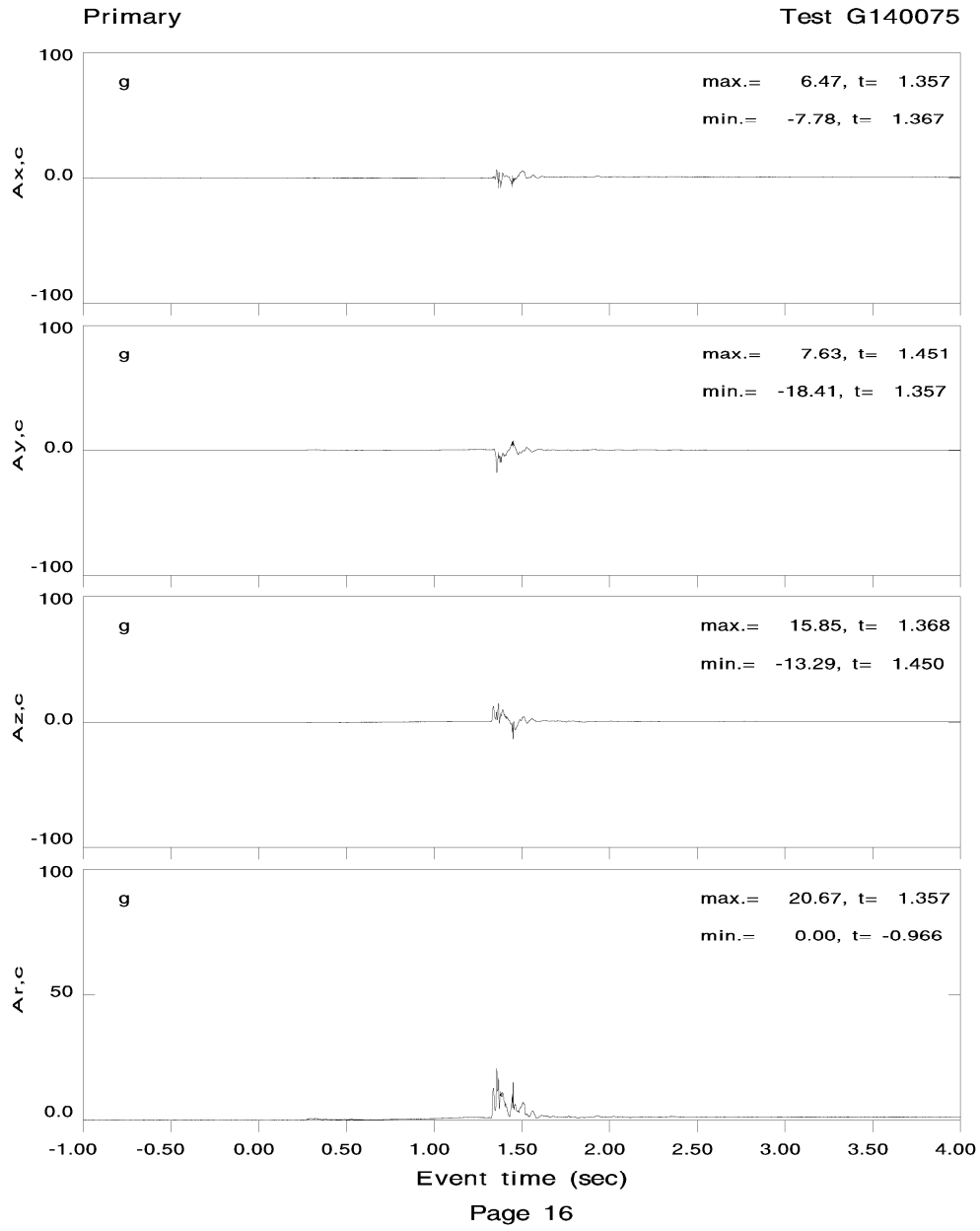


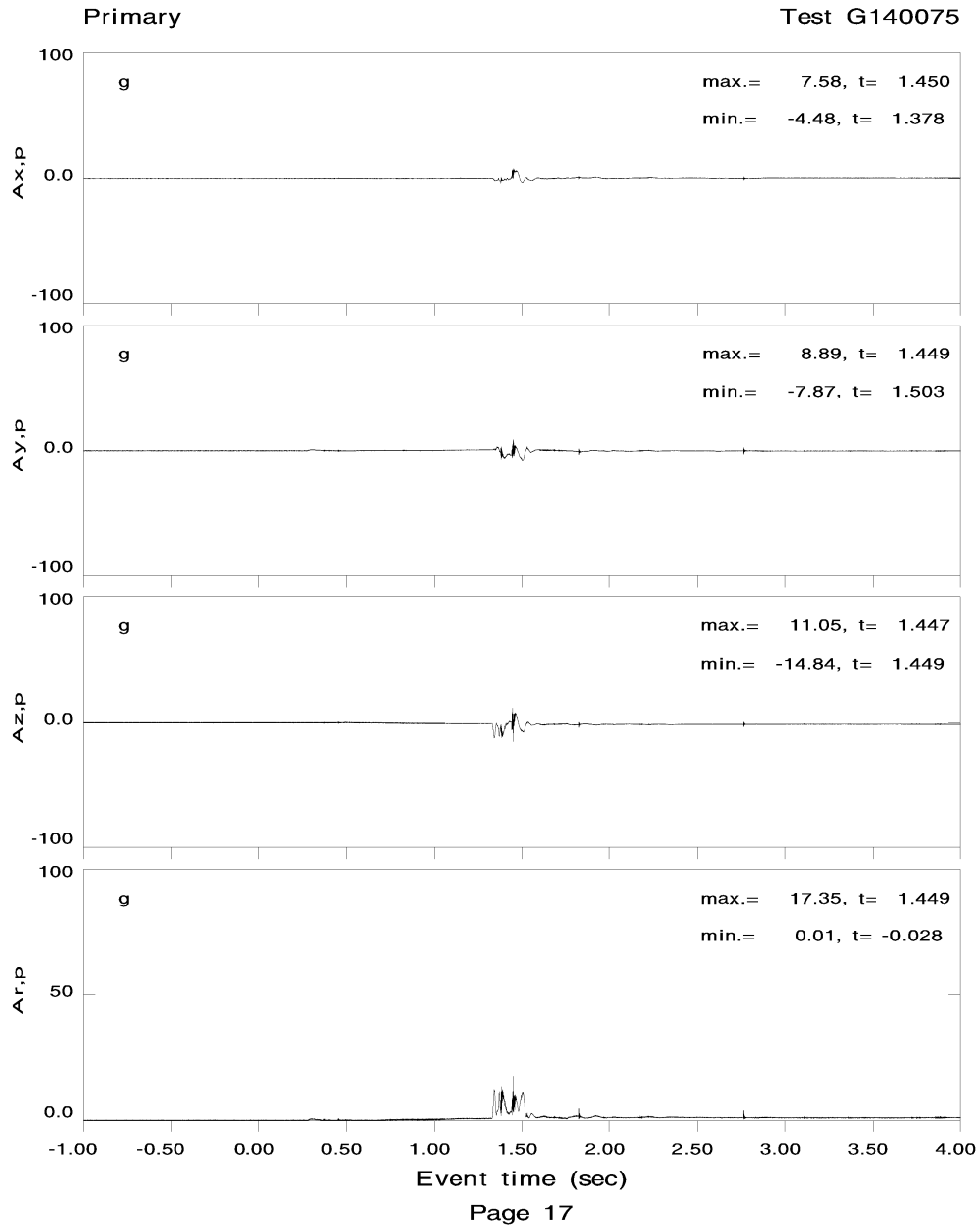
Page 14

Primary Test G140075

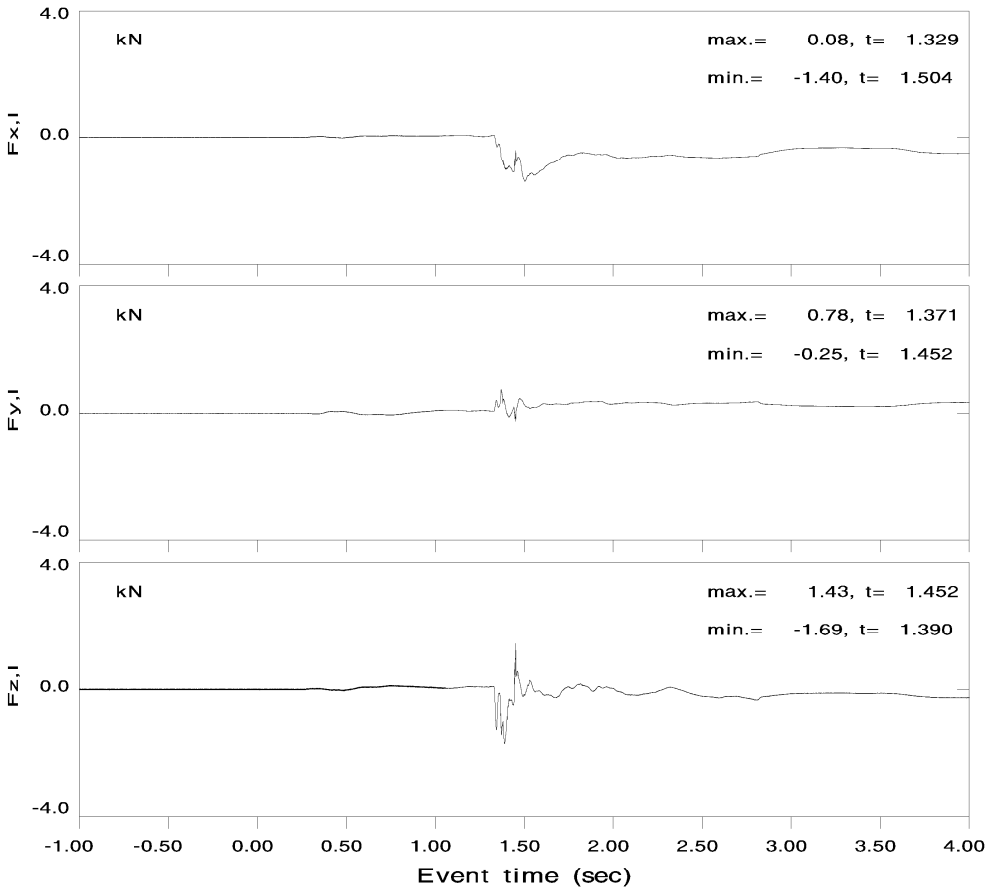


Page 15


Primary
Test G140075
g
max.= 6.47, t= 1.357
min.= -7.78, t= 1.367
Ax,c
g
max.= 7.63, t= 1.451
min.= -18.41, t= 1.357
Ay,c
g
max.= 15.85, t= 1.368
min.= -13.29, t= 1.450
Az,c
g
max.= 20.67, t= 1.357
min.= 0.00, t= -0.966
Ar,c
Event time (sec)
Page 16

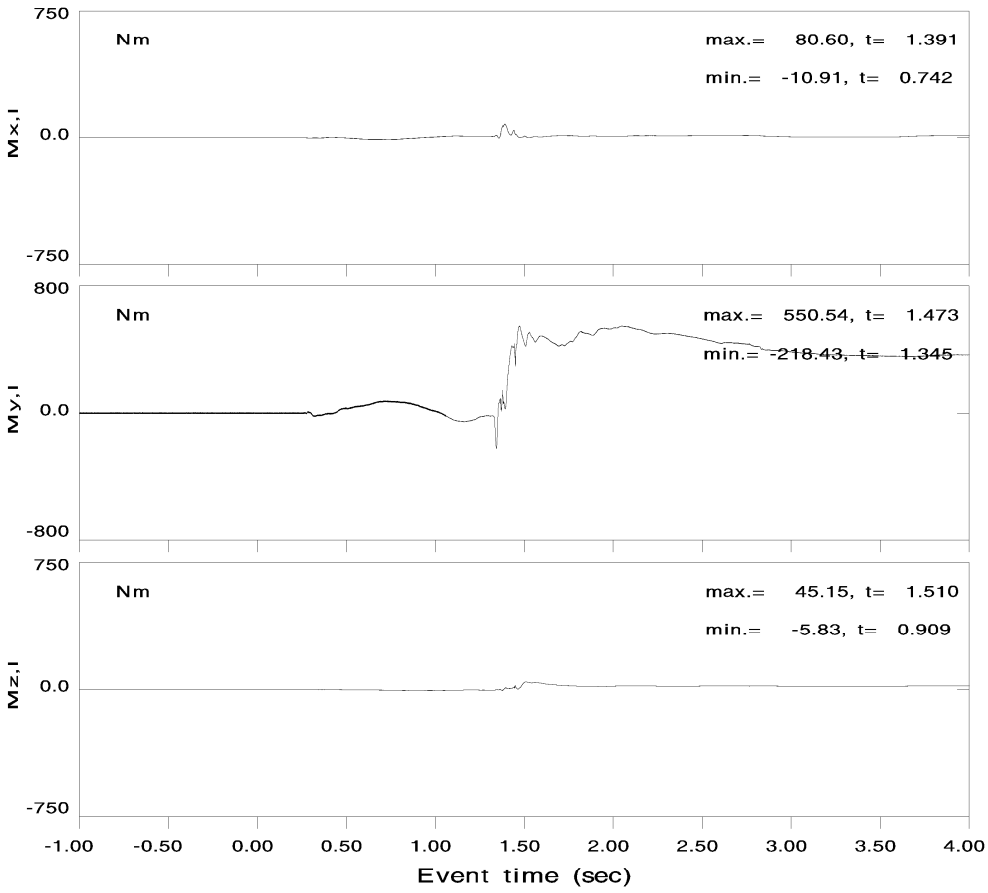

Primary
Test G140075
g
max.= 7.58, t= 1.450
min.= -4.48, t= 1.378
Ax,p
100
0.0
-100
g
max.= 8.89, t= 1.449
min.= -7.87, t= 1.503
Ay,p
100
0.0
-100
g
max.= 11.05, t= 1.447
min.= -14.84, t= 1.449
Az,p
100
0.0
-100
g
max.= 17.35, t= 1.449
min.= 0.01, t= -0.028
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140075

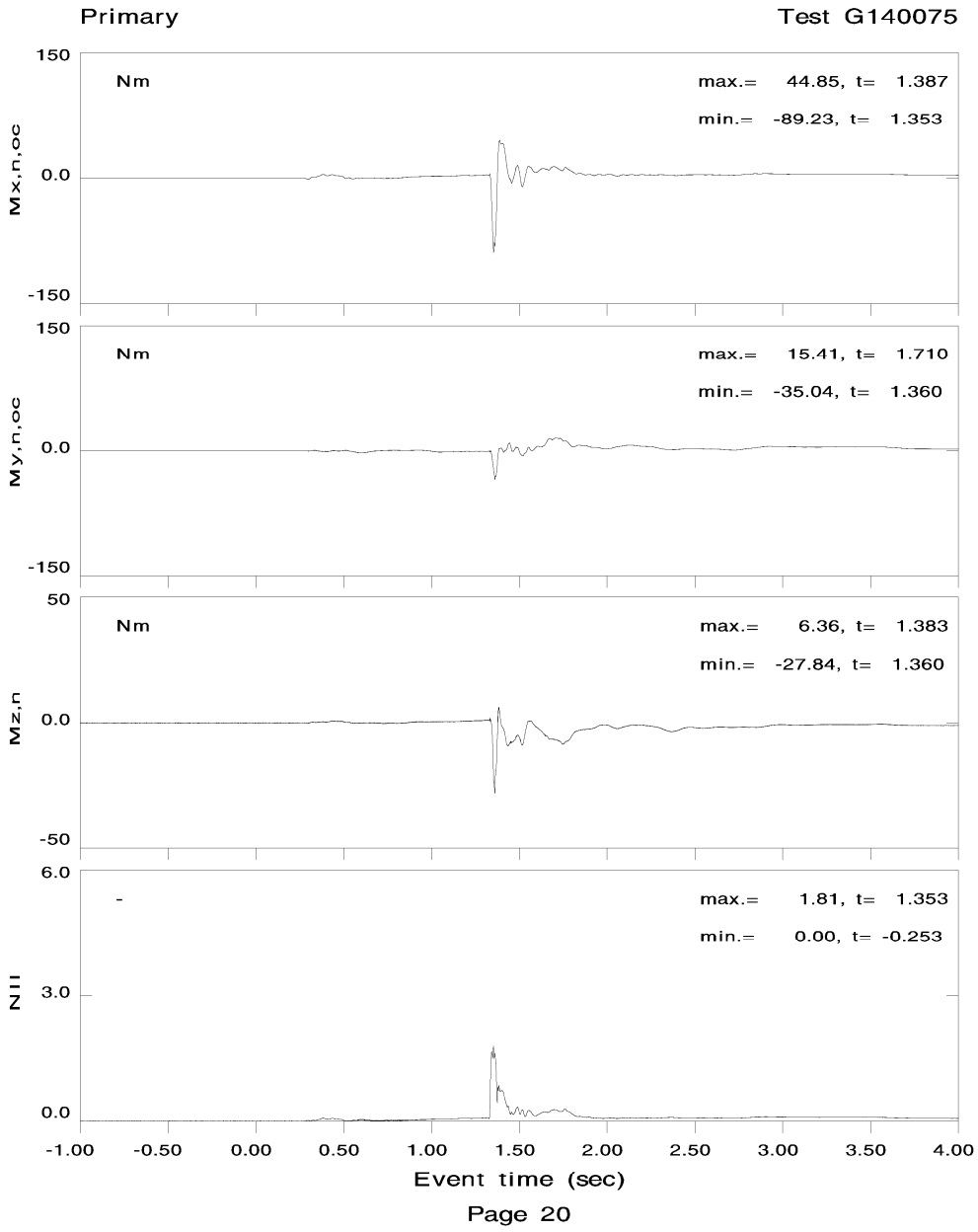


Page 18

Primary Test G140075



Page 19


Primary
Test G140075
Nm
max.= 44.85, t= 1.387
min.= -89.23, t= 1.353
Mx,n,oc
150
0.0
-150
Nm
max.= 15.41, t= 1.710
min.= -35.04, t= 1.360
My,n,oc
150
0.0
-150
Nm
max.= 6.36, t= 1.383
min.= -27.84, t= 1.360
Mz,n
50
0.0
-50
-
max.= 1.81, t= 1.353
min.= 0.00, t= -0.253
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.2 G140076

G140076_ICM.ICE

Test Number : G140076
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.240
Cmax	=	6.330
VCmax	=	0.000
HIC	=	172.8
NII (2002 MATD Neck)	=	1.8
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.970	0.998	1.000	1.000	1.000	0
1	0.012	0.002	0.000	0.000	0.000	0
2	0.010	0.000	0.000	0.000	0.000	0
3	0.008	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.055	0.002	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140076.rpt

Test G140076, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	10.23 g	0.905	-7.80 g	0.927
Ay,c	7.01 g	0.999	-16.82 g	0.907
Az,c	12.43 g	0.920	-5.06 g	1.001
Ax,p	4.56 g	0.998	-5.77 g	0.931
Ay,p	6.52 g	0.930	-8.98 g	0.929
Az,p	6.01 g	0.999	-11.56 g	0.893
spare	0.00 -	-0.922	0.00 -	3.607
spare	0.00 -	2.322	0.00 -	0.295
L,ur	0.03 mm	-0.162	-21.54 mm	1.019
L,lr	0.96 mm	0.899	-18.12 mm	1.021
a1	20.93 g	0.909	-39.01 g	0.889
a2	14.63 g	1.027	-39.32 g	0.889
a3	25.31 g	0.923	-41.61 g	0.881
a4	17.11 g	0.880	-10.83 g	0.913
a5	16.10 g	0.888	-10.44 g	0.913
a6	27.90 g	0.880	-12.21 g	0.924
Mx,l	85.44 Nm	0.943	-9.33 Nm	0.250
My,l	503.75 Nm	1.030	-217.06 Nm	0.894
Mz,l	22.96 Nm	1.052	-6.52 Nm	0.929
Fx,l	0.07 kN	0.816	-1.05 kN	0.955
Fy,l	0.80 kN	0.922	-0.24 kN	0.961
Fz,l	0.57 kN	0.999	-1.71 kN	0.942
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	0.908	0.00 -	3.802
spare	0.00 -	-0.606	-0.01 -	3.761
spare	0.00 -	0.407	0.00 -	0.511
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	0.935	0.00 -	0.926
a7	23.19 g	0.881	-13.67 g	0.915
a8	34.97 g	0.927	-18.71 g	0.915
a9	31.26 g	0.881	-13.85 g	0.947
Fz,uf,r	0.37 kN	0.988	-0.16 kN	1.028
Mx,uf,r	53.37 Nm	0.985	-11.81 Nm	1.118
My,uf,r	36.34 Nm	1.069	-49.70 Nm	0.961
Mz,uf,r	24.82 Nm	0.946	-35.85 Nm	1.039
Fz,uf,l	0.89 kN	0.998	-0.30 kN	0.928
Mx,uf,l	33.19 Nm	0.966	-66.01 Nm	1.041
My,uf,l	188.08 Nm	1.006	-17.29 Nm	0.901
Mz,uf,l	35.78 Nm	0.971	-4.19 Nm	0.259
Fx,n	0.68 kN	0.896	-0.42 kN	0.929
Fy,n	0.89 kN	0.902	-0.06 kN	0.933
Fz,n	0.69 kN	0.928	-3.26 kN	0.893
Mx,n	40.80 Nm	0.935	-98.25 Nm	0.903
My,n	15.13 Nm	1.051	-48.02 Nm	0.909
Mz,n	6.65 Nm	1.130	-28.51 Nm	0.910
L,ul	9.75 mm	0.930	-1.18 mm	1.071
L,ll	11.59 mm	0.924	-1.39 mm	1.073
Ax,h	17.84 g	0.889	-15.46 g	1.028
Ay,h	18.65 g	0.911	-38.53 g	0.889
Az,h	23.20 g	0.881	-13.68 g	0.915
àx,h	4.26 krad/s**2	0.927	-5.02 krad/s**2	0.909
ày,h	1.42 krad/s**2	0.938	-2.51 krad/s**2	0.909
àz,h	2.10 krad/s**2	0.928	-2.22 krad/s**2	0.903
Ar,h	45.78 g	0.886	0.01 g	-0.282
àr,h	5.75 krad/s**2	0.909	0.00 krad/s**2	2.218
G	0.24 -	0.909	0.00 -	-0.471
HIC	172.81	0.899	----	0.879
Fxy,n	0.99 kN	0.900	0.00 kN	-0.378
Dx,us	0.59 mm	0.304	-11.87 mm	1.014
Dy,us	20.31 mm	1.021	-0.05 mm	-0.167

Page 1

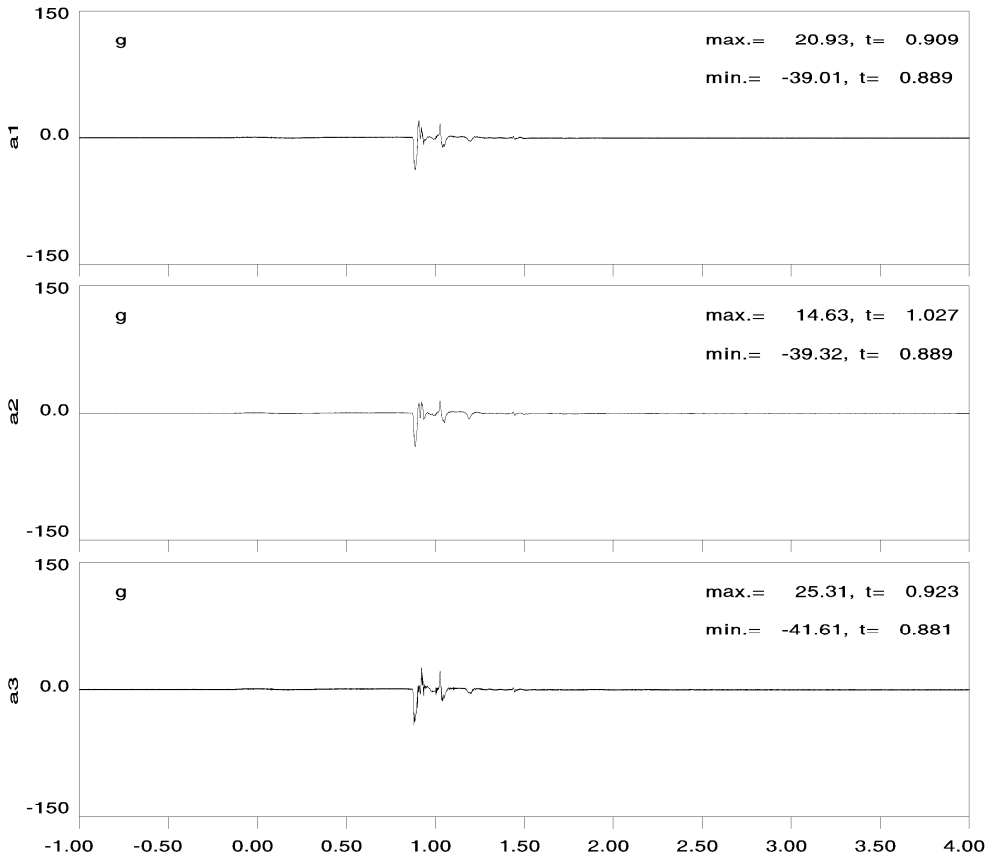
G140076.rpt

Cus	6.33	%	1.014	-0.31	%	0.304
Vus	0.29	m/s	1.046	-0.62	m/s	1.002
VCus	0.03	m/s	1.004	-0.01	m/s	1.040
Dx,ls	3.17	mm	0.898	-7.49	mm	1.012
Dy,ls	19.54	mm	1.022	-0.04	mm	-0.170
Cls	4.00	%	1.012	-1.69	%	0.898
Vls	0.19	m/s	0.891	-0.40	m/s	1.003
VCls	0.01	m/s	1.004	-0.01	m/s	1.046
Mxy,uf,r	57.54	Nm	0.985	0.00	Nm	-0.290
Mxy,uf,l	193.80	Nm	1.009	0.00	Nm	-0.698
Mx,n,oc	41.10	Nm	0.937	-82.56	Nm	0.903
My,n,oc	13.76	Nm	1.050	-46.95	Nm	0.909
NII	1.82	-	0.902	0.00	-	-0.159
Ar,p	12.24	g	0.931	0.01	g	-0.881
Ar,c	21.30	g	0.907	0.00	g	-0.837

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

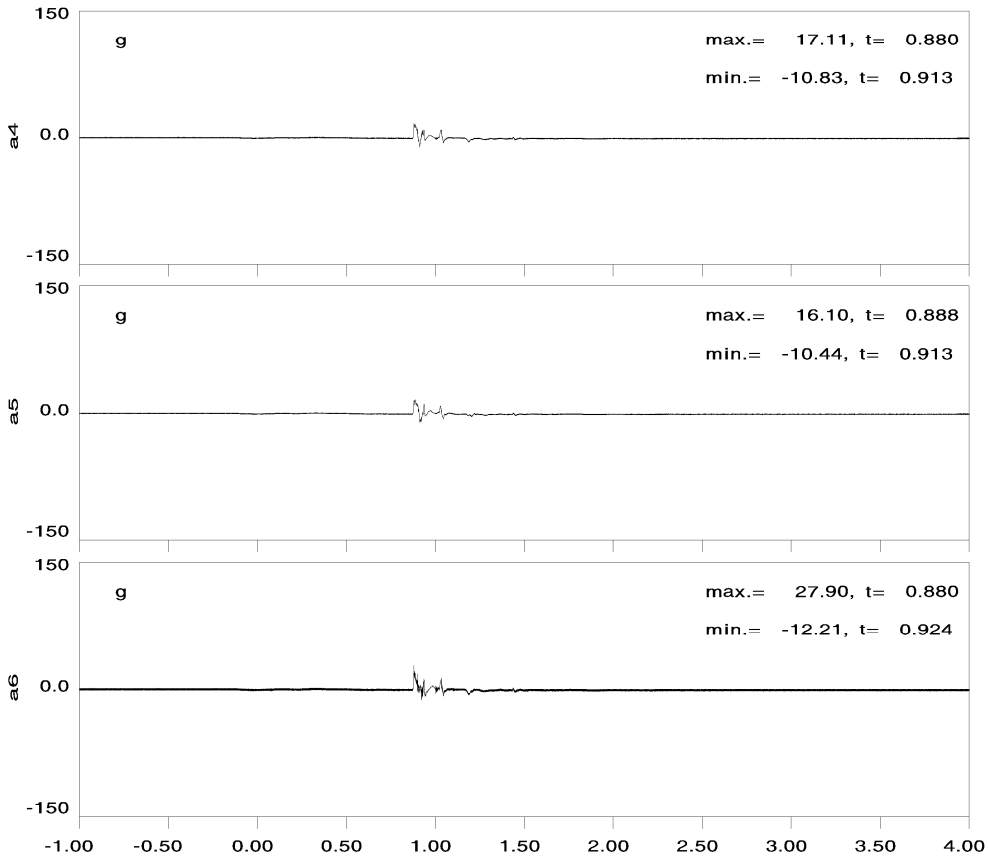
Page 2

Primary Test G140076



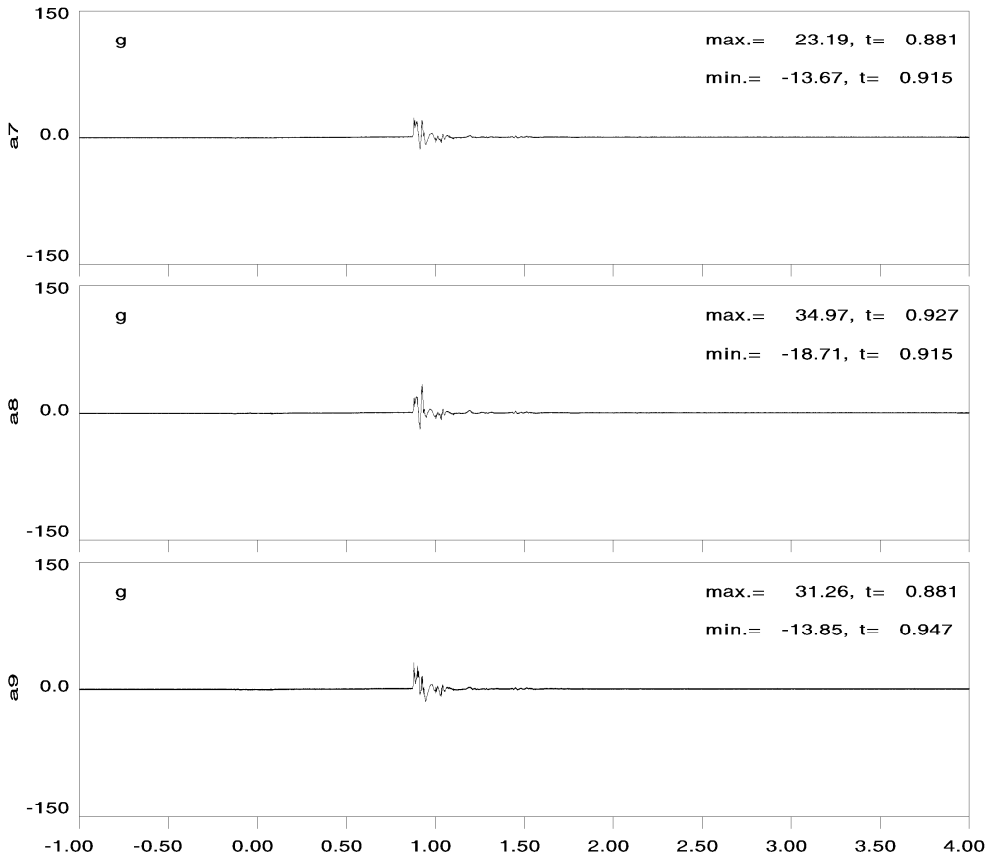
Page 1

Primary Test G140076



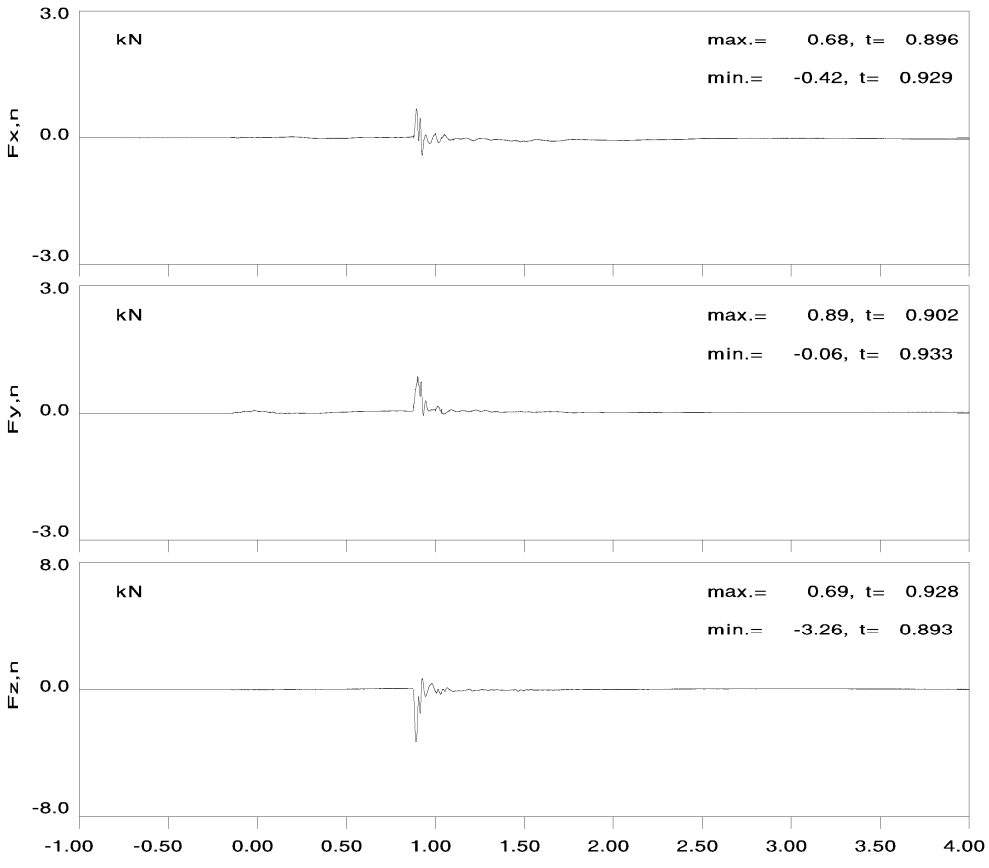
Page 2

Primary Test G140076



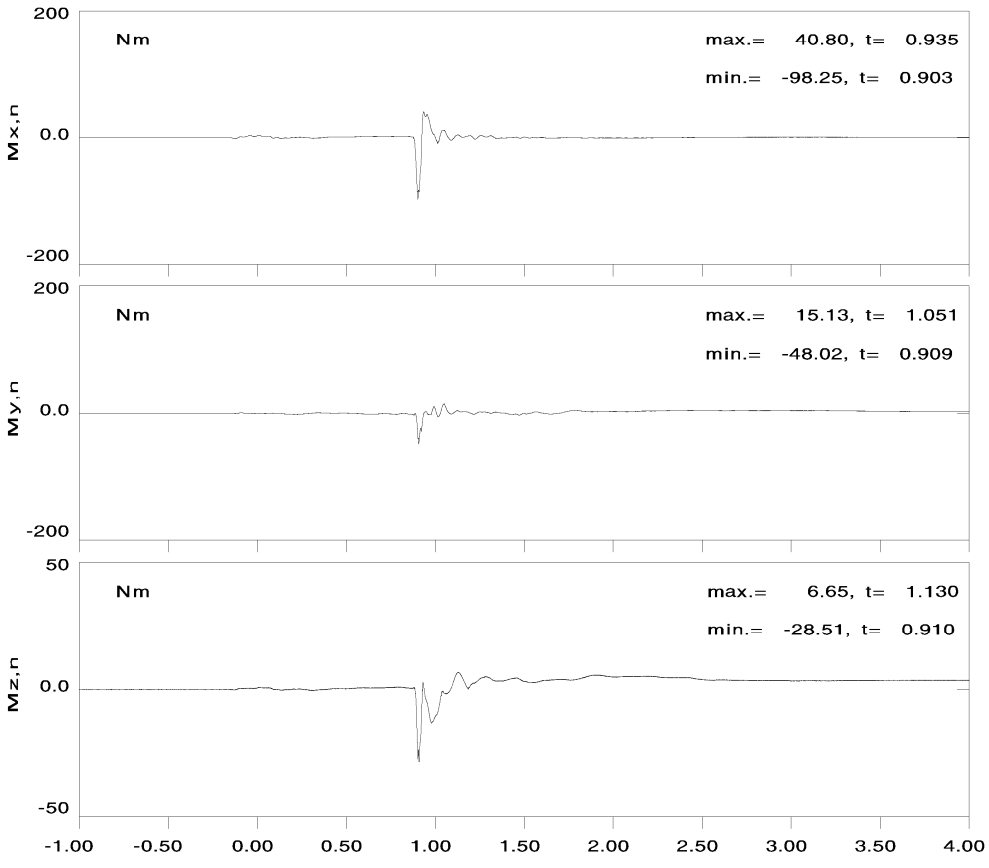
Page 3

Primary Test G140076

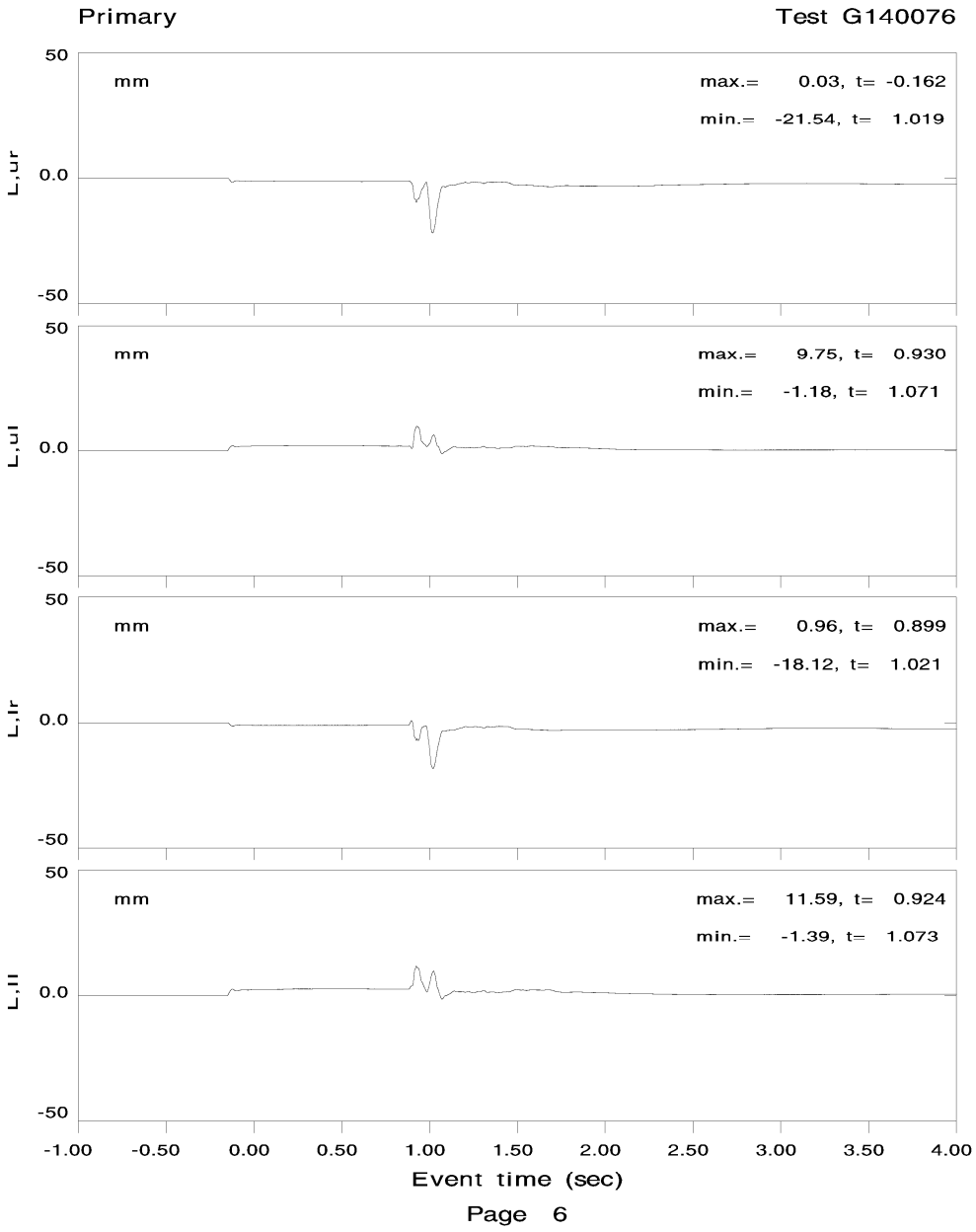


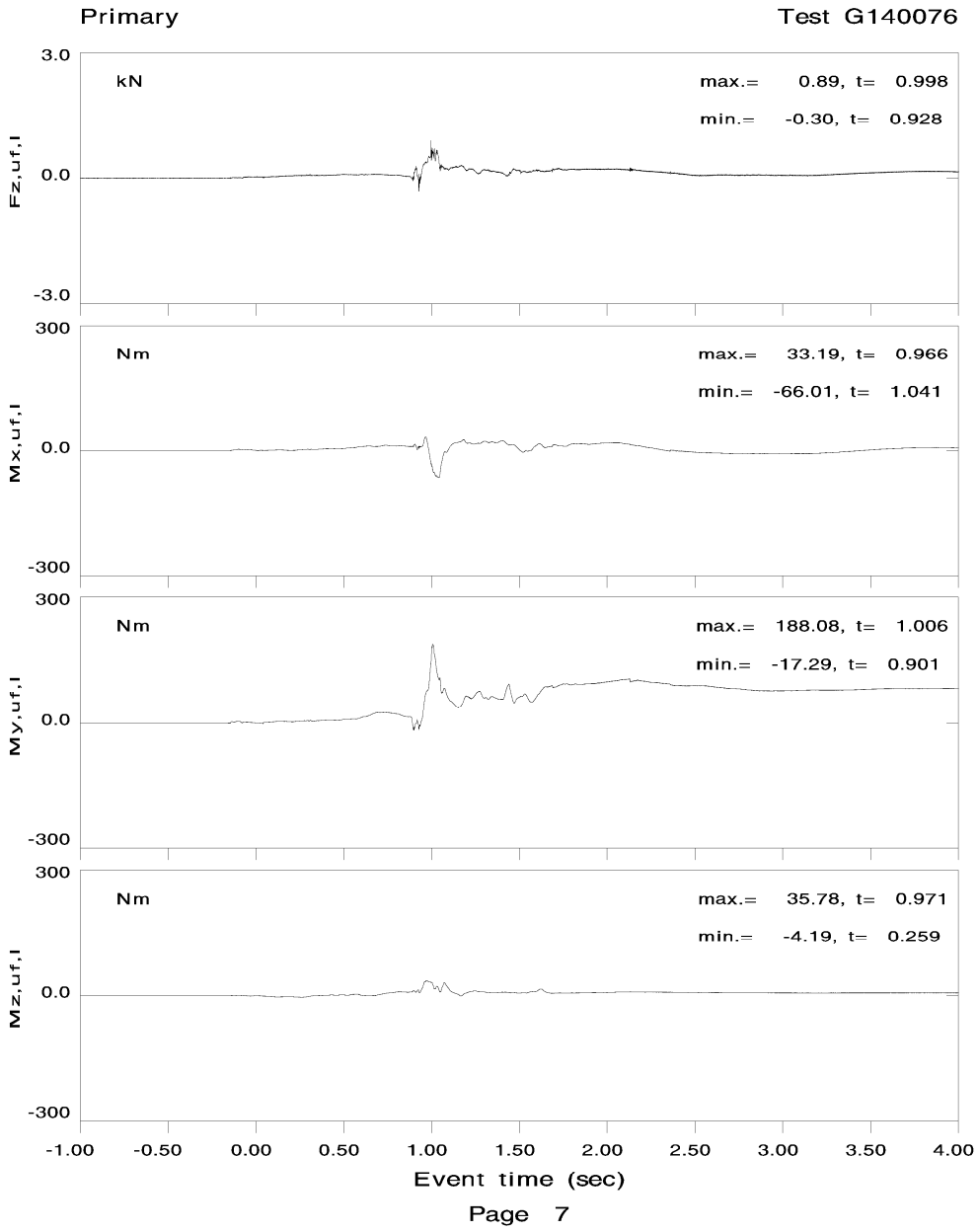
Page 4

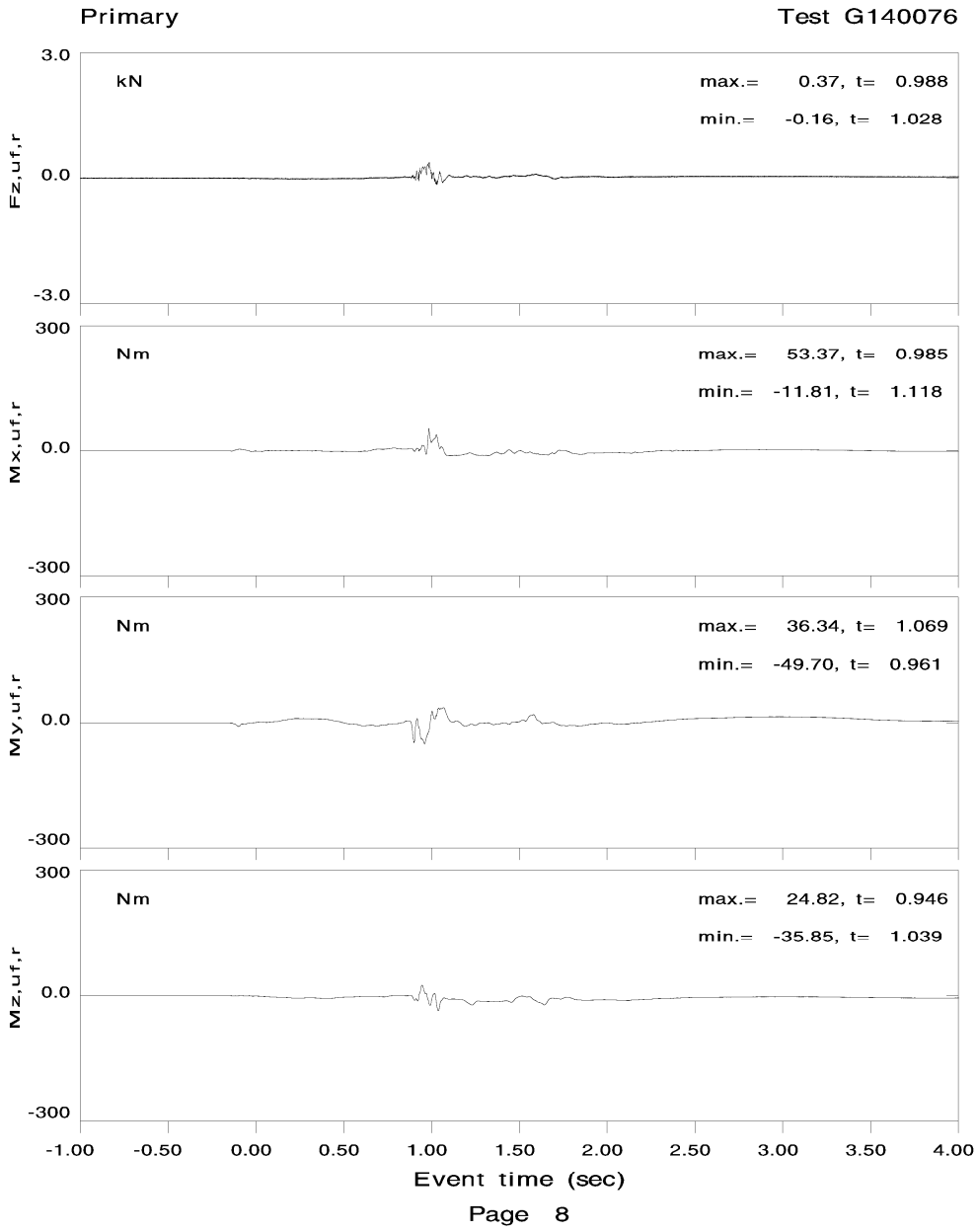
Primary Test G140076

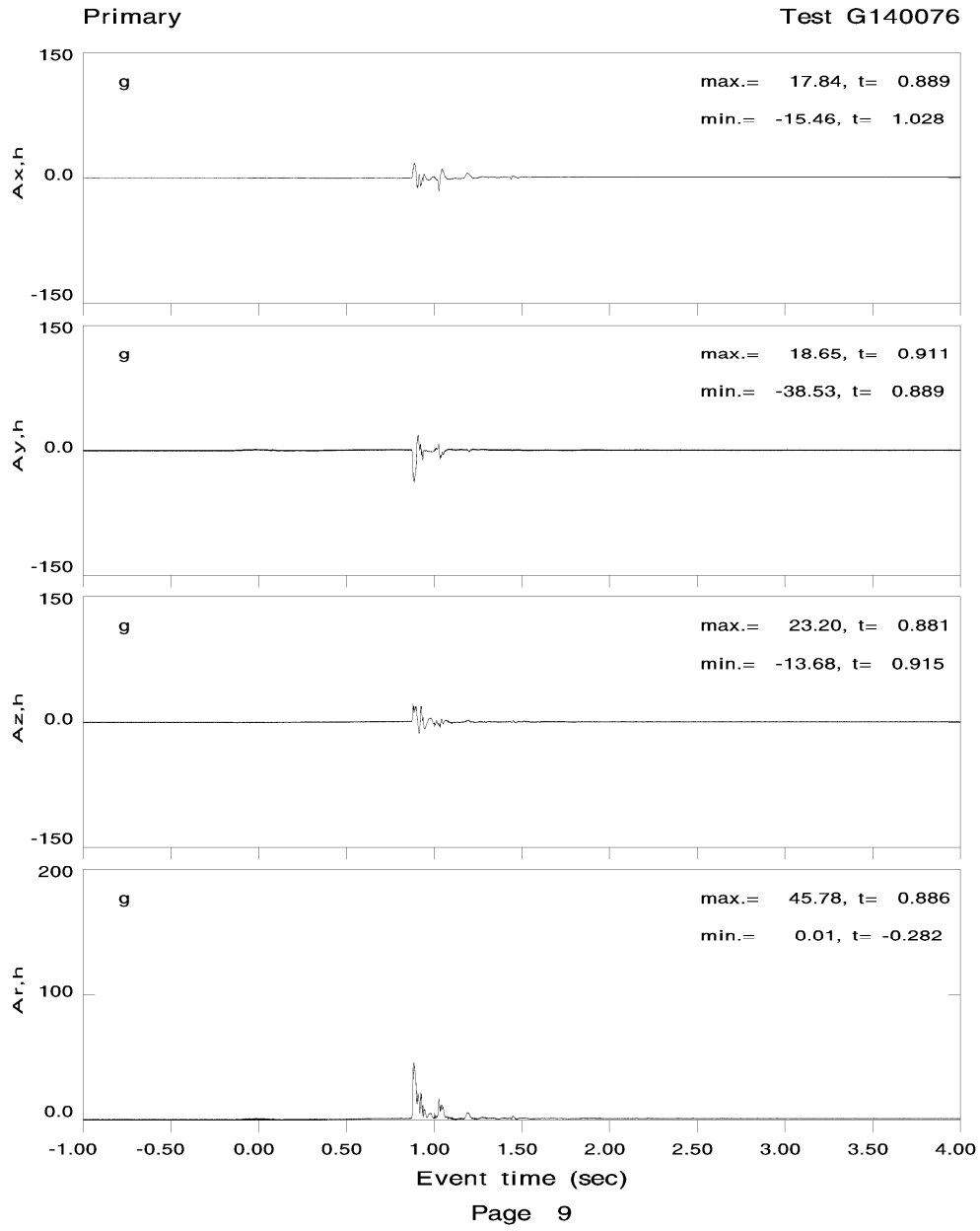


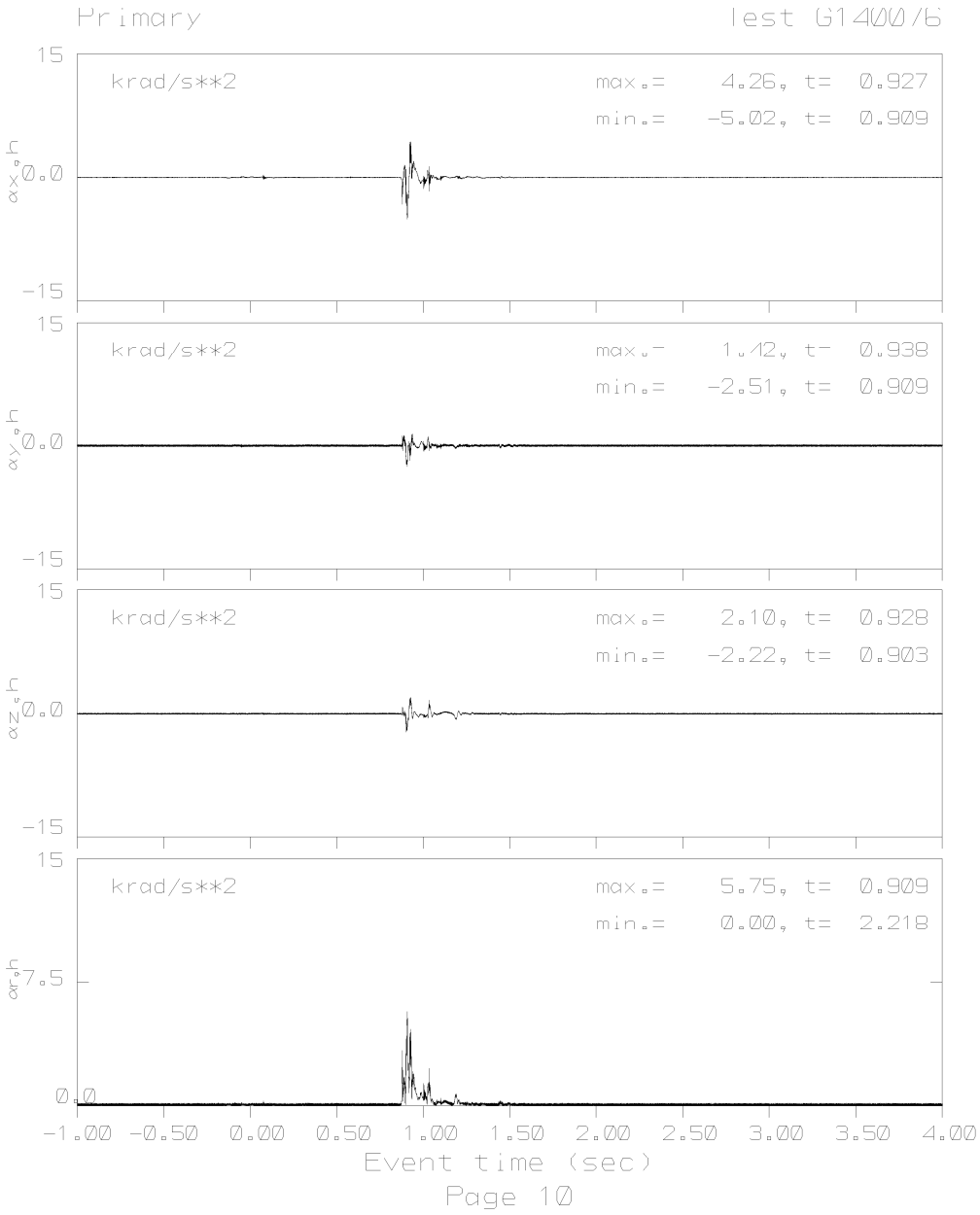
Page 5

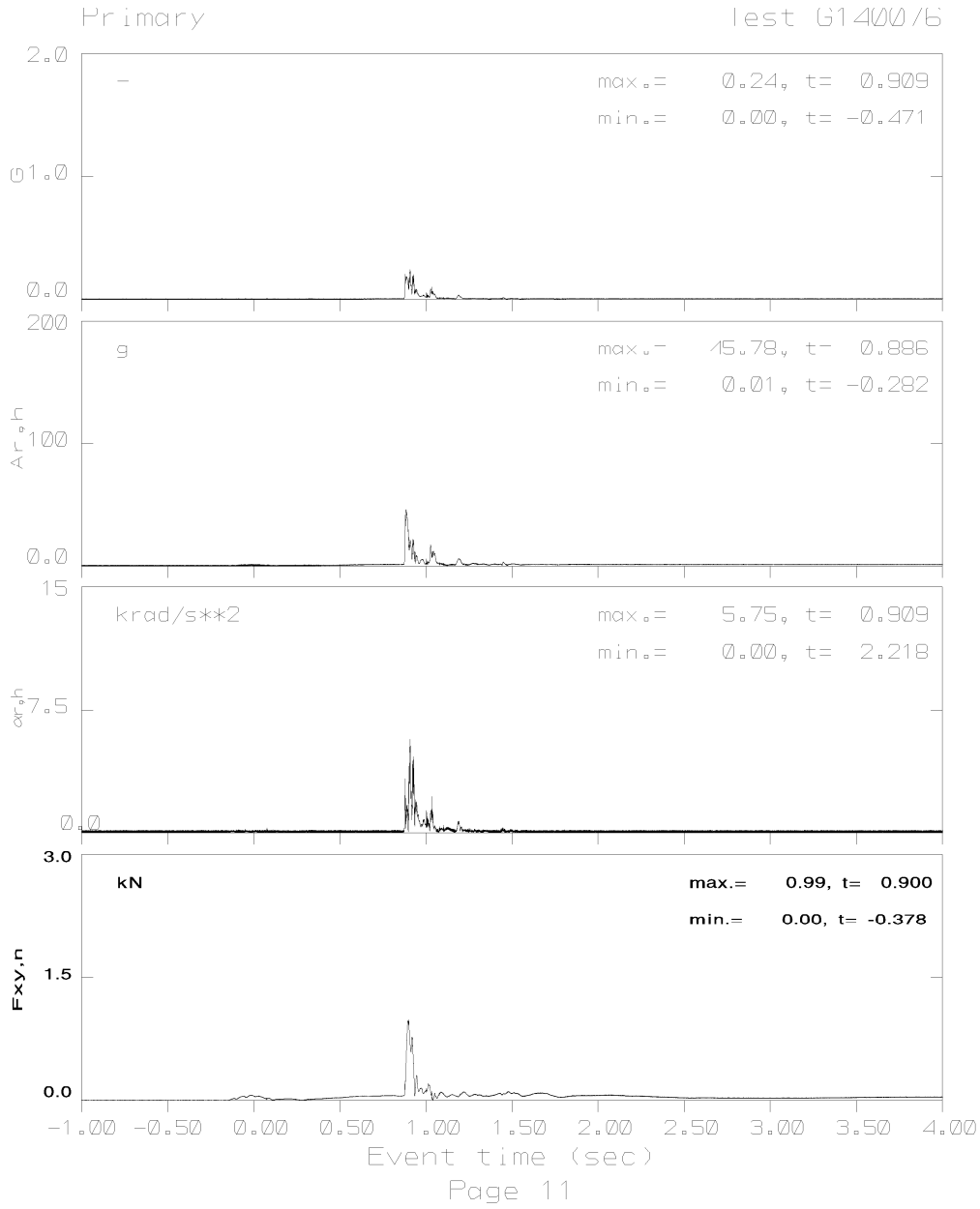

Primary
Test G140076
mm
max.= 0.03, t= -0.162
min.= -21.54, t= 1.019
L,ur
mm
max.= 9.75, t= 0.930
min.= -1.18, t= 1.071
L,ul
mm
max.= 0.96, t= 0.899
min.= -18.12, t= 1.021
L,lr
mm
max.= 11.59, t= 0.924
min.= -1.39, t= 1.073
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

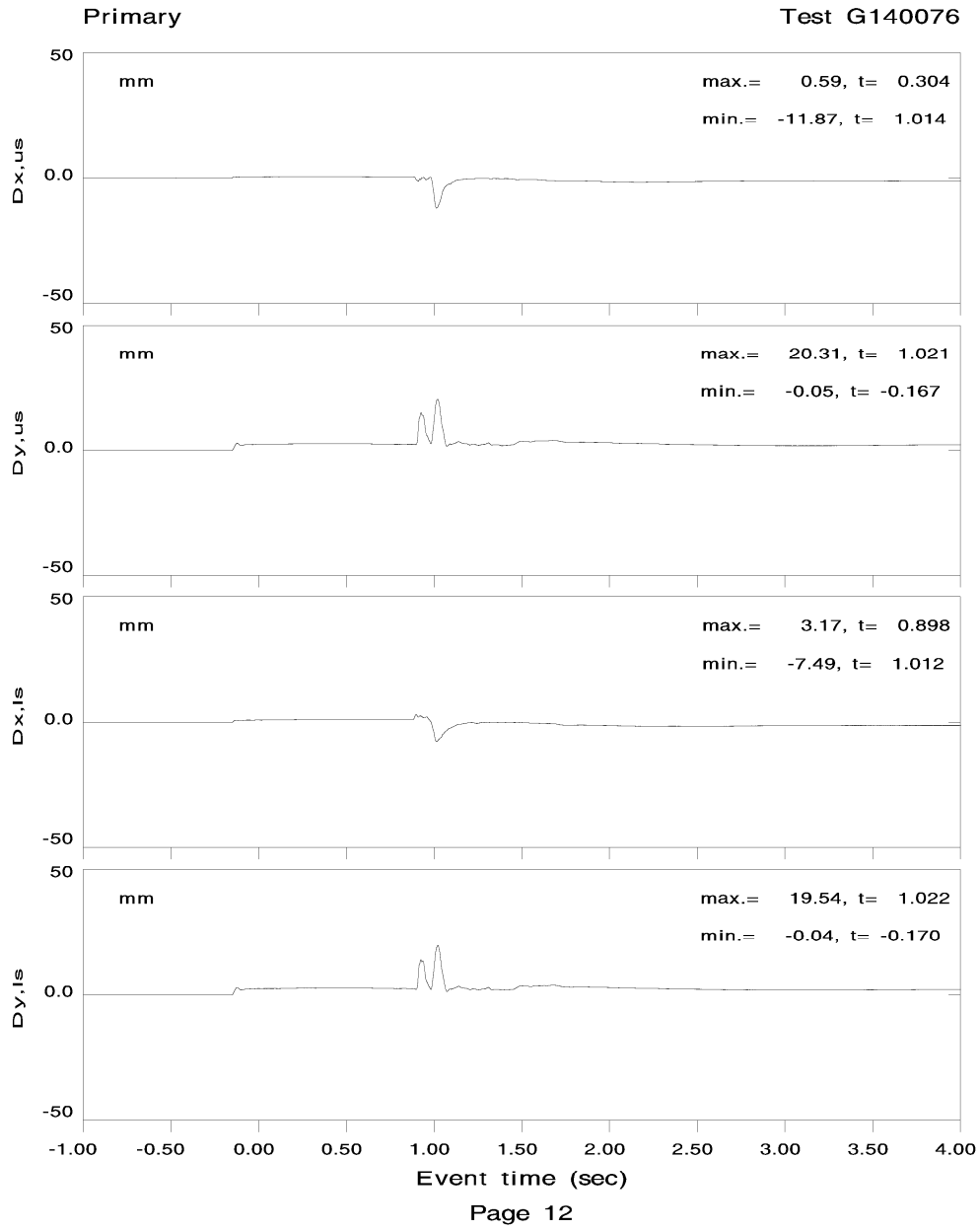

Primary
Test G140076
kN
max.= 0.89, t= 0.998
min.= -0.30, t= 0.928
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 33.19, t= 0.966
min.= -66.01, t= 1.041
Mx,uf,l
300
0.0
-300
Nm
max.= 188.08, t= 1.006
min.= -17.29, t= 0.901
My,uf,l
300
0.0
-300
Nm
max.= 35.78, t= 0.971
min.= -4.19, t= 0.259
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140076
kN
max.= 0.37, t= 0.988
min.= -0.16, t= 1.028
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 53.37, t= 0.985
min.= -11.81, t= 1.118
Mx,uf,r
300
0.0
-300
Nm
max.= 36.34, t= 1.069
min.= -49.70, t= 0.961
My,uf,r
300
0.0
-300
Nm
max.= 24.82, t= 0.946
min.= -35.85, t= 1.039
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

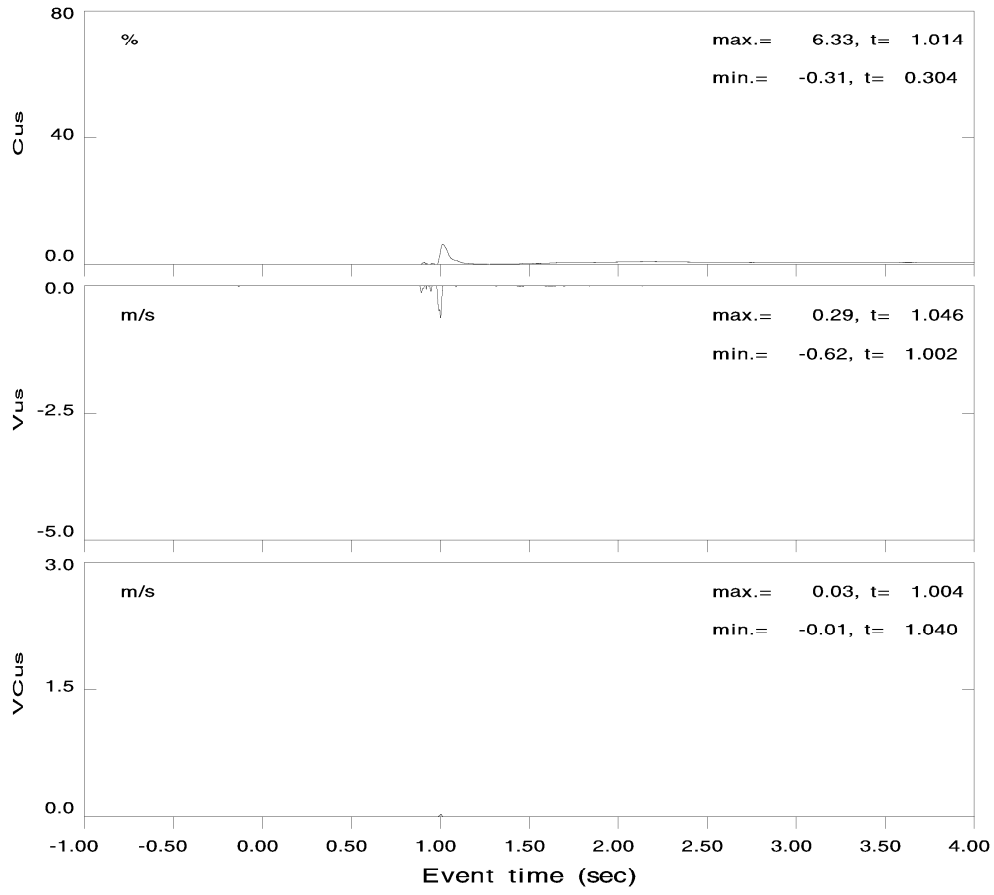

Primary
Test G140076
g
max.= 17.84, t= 0.889
min.= -15.46, t= 1.028
Ax,h
150
0.0
-150
g
max.= 18.65, t= 0.911
min.= -38.53, t= 0.889
Ay,h
150
0.0
-150
g
max.= 23.20, t= 0.881
min.= -13.68, t= 0.915
Az,h
150
0.0
-150
g
max.= 45.78, t= 0.886
min.= 0.01, t= -0.282
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G1400/6
krad/s**2
max.= 4.26, t= 0.927
min.= -5.02, t= 0.909
ax,h
krad/s**2
max.= 1.42, t= 0.938
min.= -2.51, t= 0.909
ay,h
krad/s**2
max.= 2.10, t= 0.928
min.= -2.22, t= 0.903
az,h
krad/s**2
max.= 5.75, t= 0.909
min.= 0.00, t= 2.218
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G1400/6
2.0
-
max.= 0.24, t= 0.909
min.= 0.00, t= -0.471
G1.0
0.0
200
g
max.= 15.78, t= 0.886
min.= 0.01, t= -0.282
Ar.h
100
0.0
15
krad/s**2
max.= 5.75, t= 0.909
min.= 0.00, t= 2.218
ar.h
7.5
0.0
3.0
kN
max.= 0.99, t= 0.900
min.= 0.00, t= -0.378
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

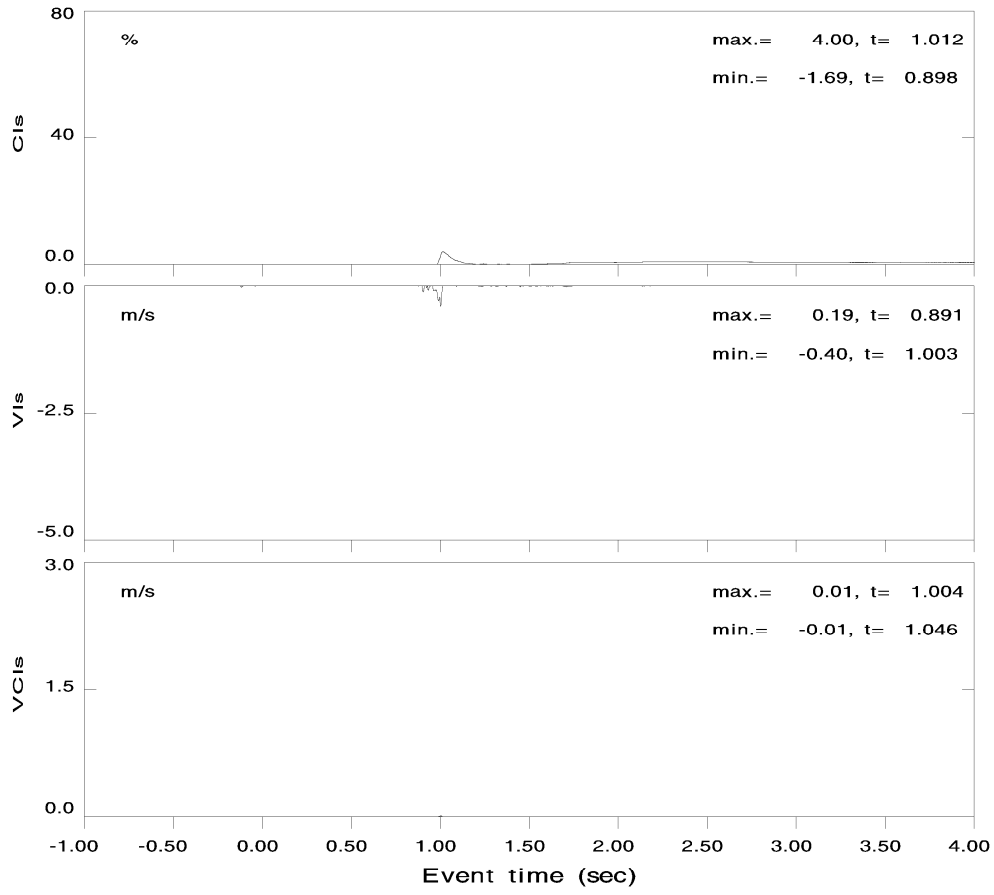

Primary
Test G140076
mm
max.= 0.59, t= 0.304
min.= -11.87, t= 1.014
Dx,us
mm
max.= 20.31, t= 1.021
min.= -0.05, t= -0.167
Dy,us
mm
max.= 3.17, t= 0.898
min.= -7.49, t= 1.012
Dx,ls
mm
max.= 19.54, t= 1.022
min.= -0.04, t= -0.170
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140076



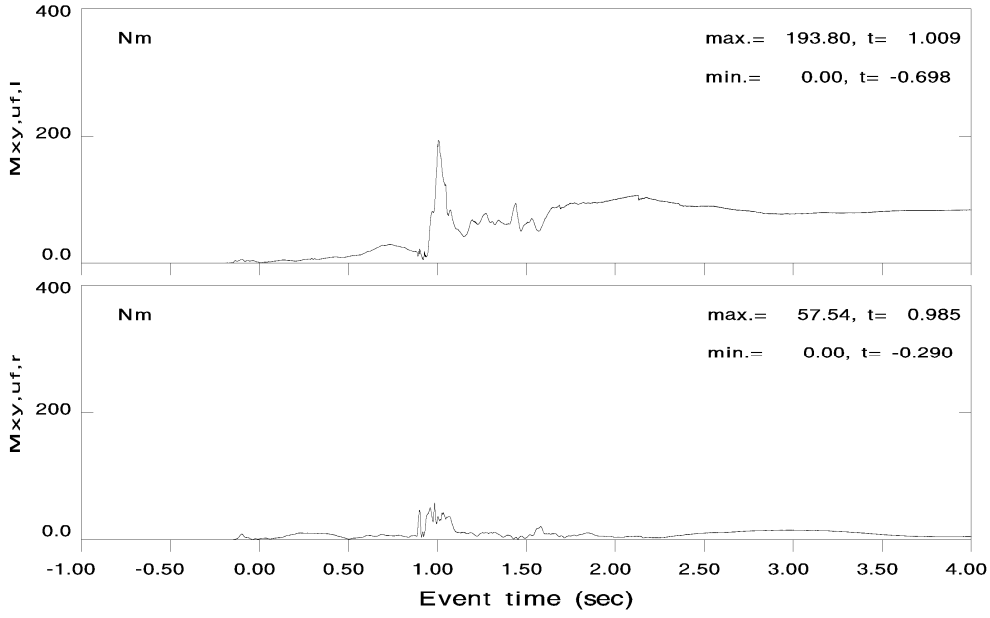
Page 13

Primary Test G140076

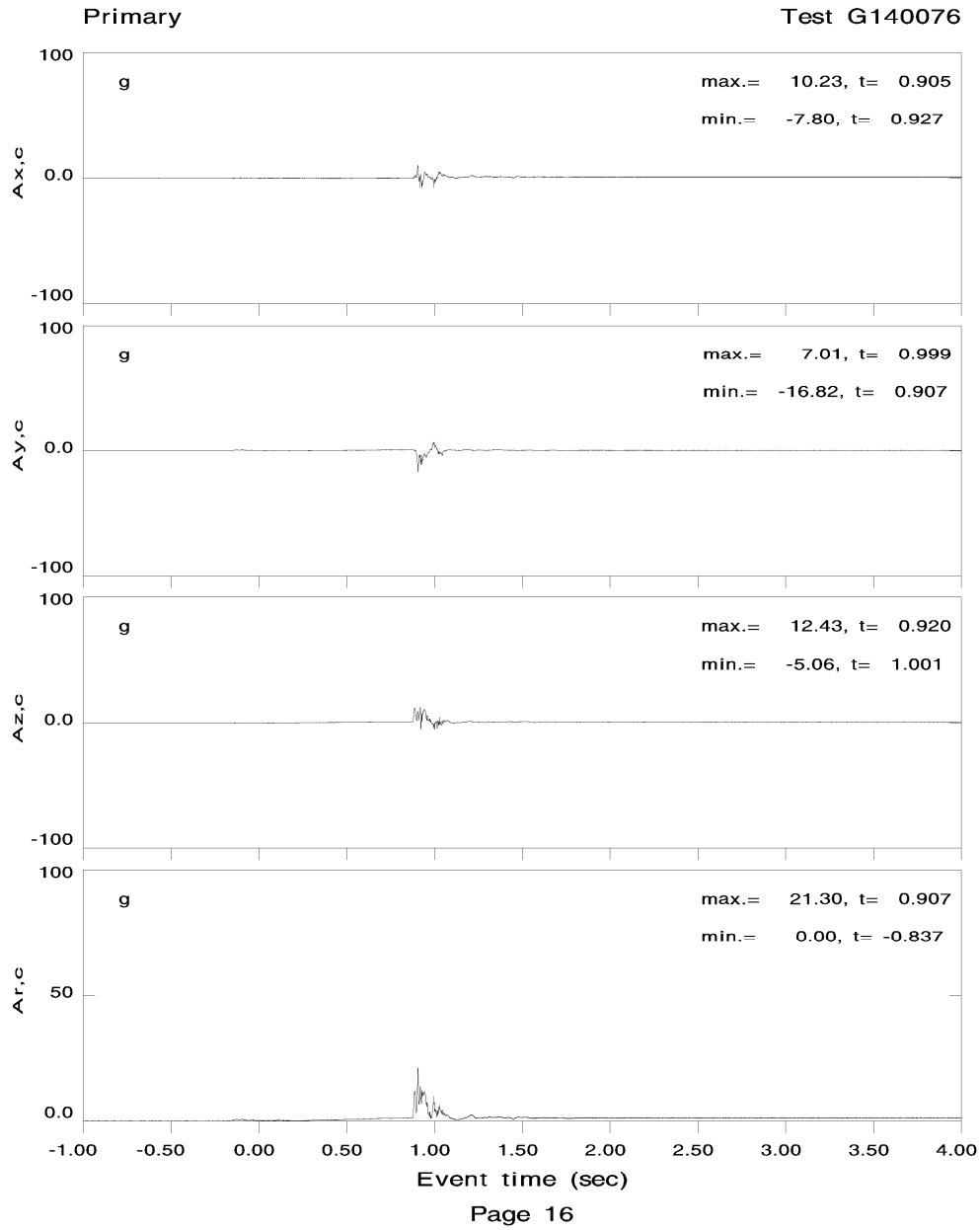


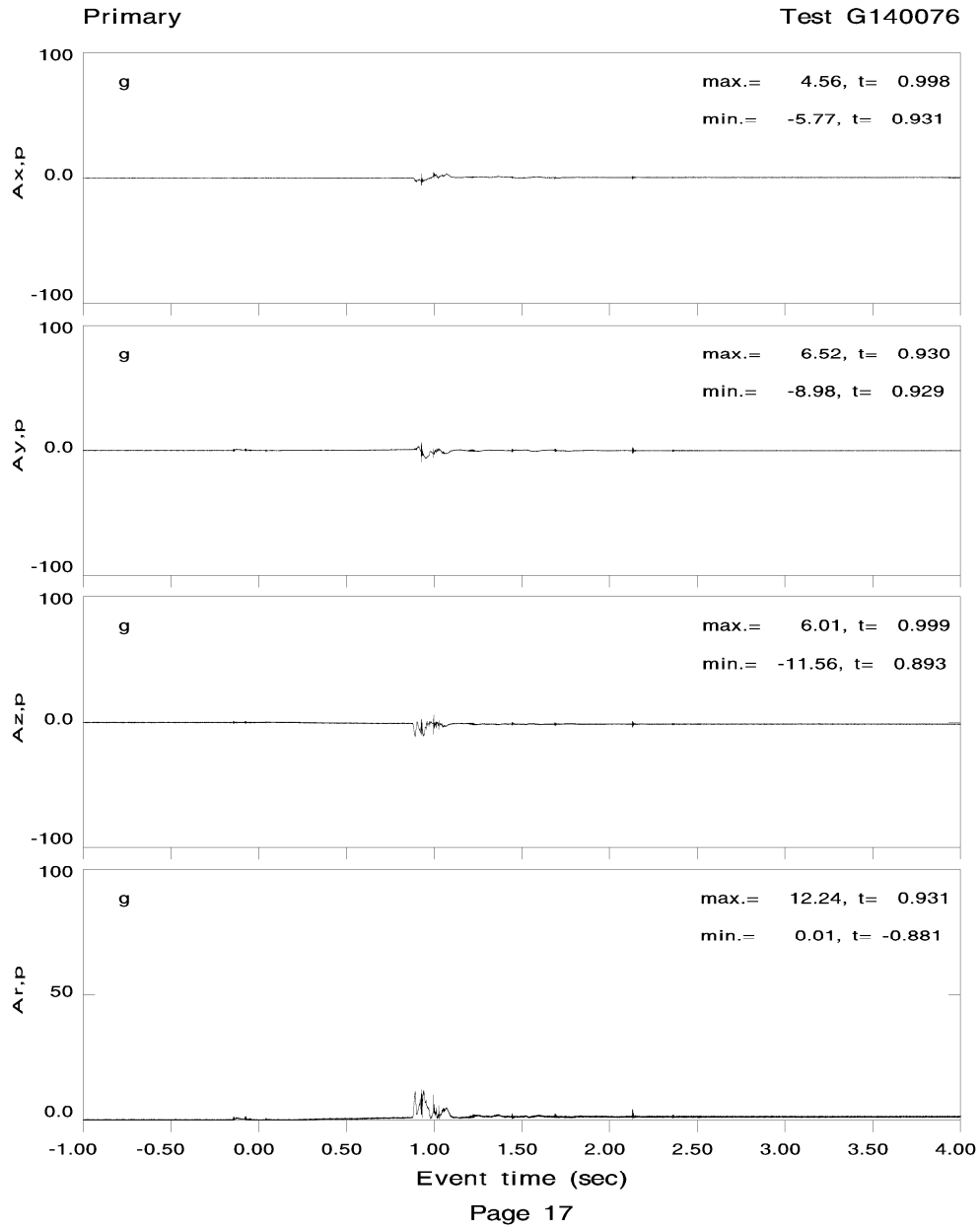
Page 14

Primary Test G140076

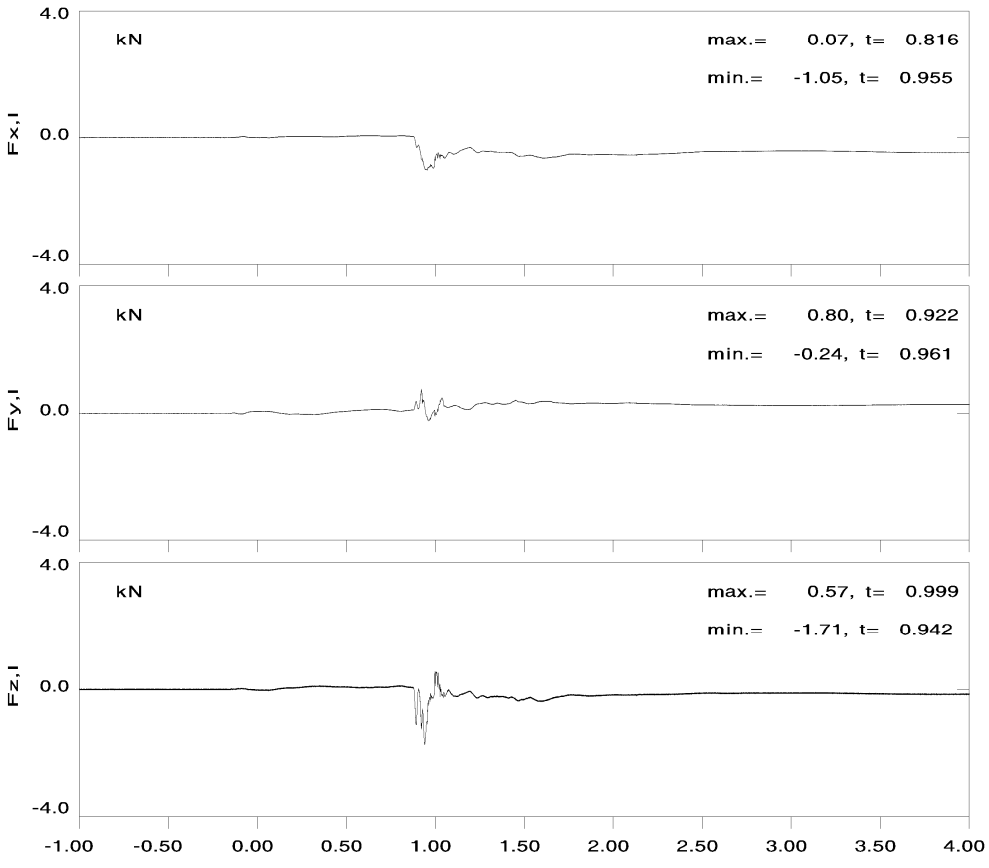


Page 15


Primary
Test G140076
g
max.= 10.23, t= 0.905
min.= -7.80, t= 0.927
Ax,c
g
max.= 7.01, t= 0.999
min.= -16.82, t= 0.907
Ay,c
g
max.= 12.43, t= 0.920
min.= -5.06, t= 1.001
Az,c
g
max.= 21.30, t= 0.907
min.= 0.00, t= -0.837
Ar,c
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

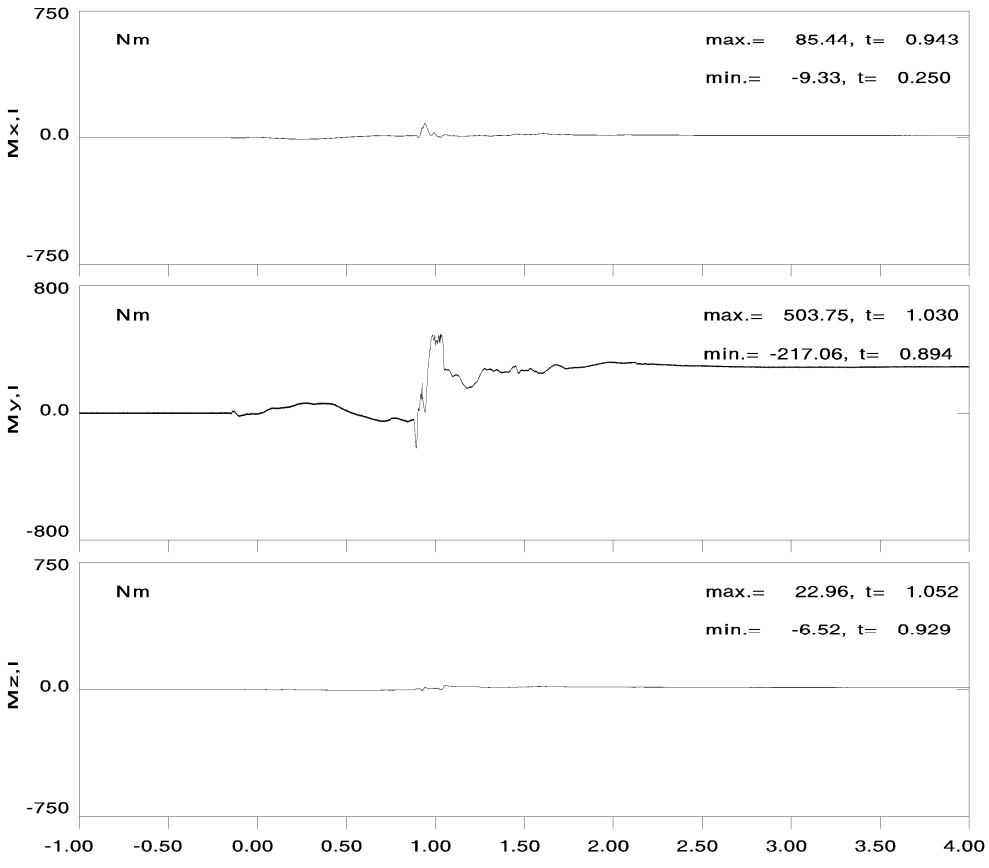

Primary
Test G140076
g
max.= 4.56, t= 0.998
min.= -5.77, t= 0.931
Ax,p
g
max.= 6.52, t= 0.930
min.= -8.98, t= 0.929
Ay,p
g
max.= 6.01, t= 0.999
min.= -11.56, t= 0.893
Az,p
g
max.= 12.24, t= 0.931
min.= 0.01, t= -0.881
Ar,p
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140076

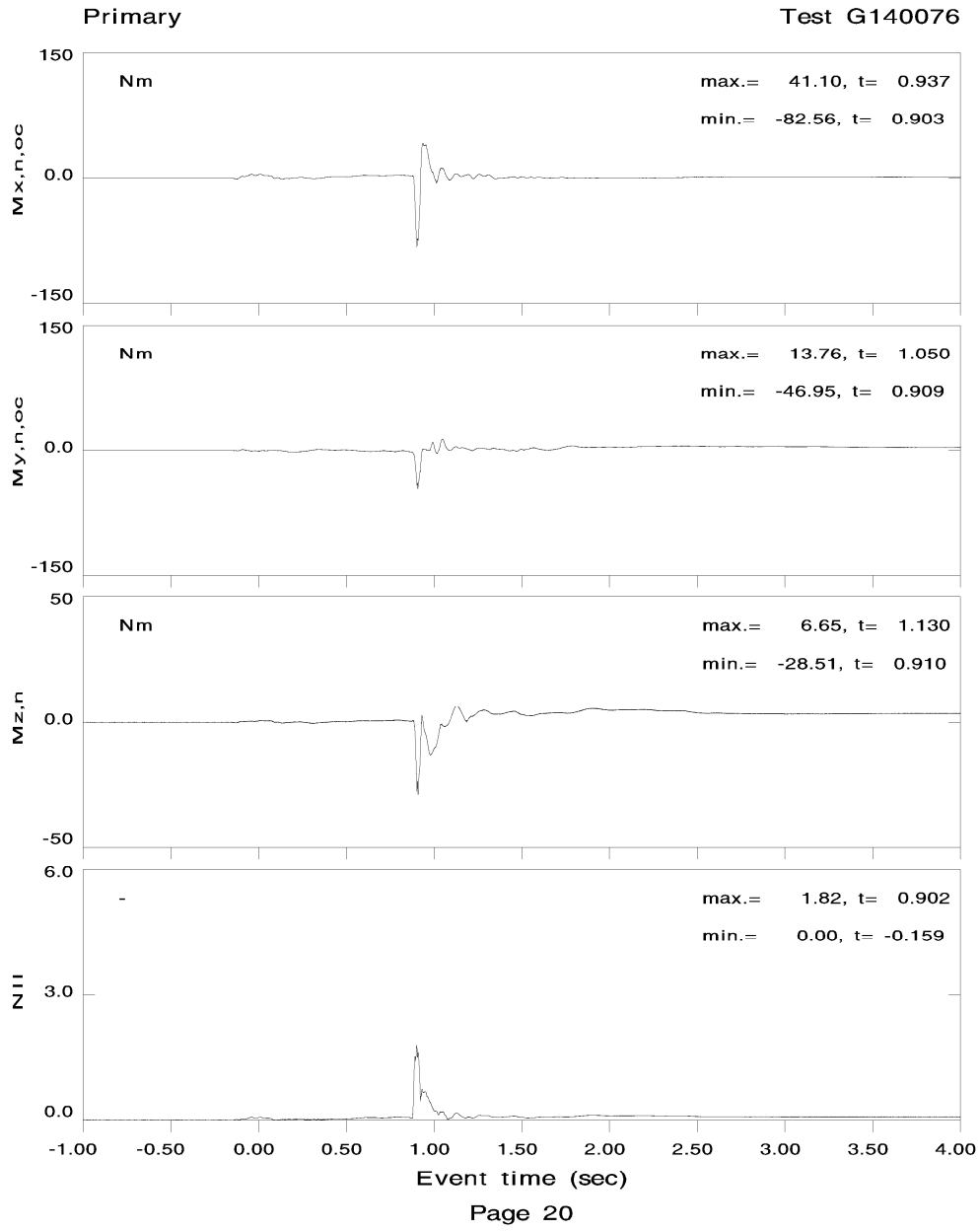


Page 18

Primary Test G140076



Page 19


Primary
Test G140076
Nm
max.= 41.10, t= 0.937
min.= -82.56, t= 0.903
Mx,n,oc
150
0.0
-150
Nm
max.= 13.76, t= 1.050
min.= -46.95, t= 0.909
My,n,oc
150
0.0
-150
Nm
max.= 6.65, t= 1.130
min.= -28.51, t= 0.910
Mz,n
50
0.0
-50
-
max.= 1.82, t= 0.902
min.= 0.00, t= -0.159
N II
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.3 G140077

G140077_ICM.IC1

Test Number : G140077
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.250
Cmax	=	4.540
VCmax	=	0.000
HIC	=	178.6
NII (2002 MATD Neck)	=	1.8
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.967	0.998	1.000	1.000	1.000	0
1	0.014	0.002	0.000	0.000	0.000	0
2	0.011	0.000	0.000	0.000	0.000	0
3	0.008	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.059	0.002	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140077.rpt

Test G140077, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	8.83 g	1.012	-9.28 g	1.018
Ay,c	6.22 g	1.108	-24.20 g	1.013
Az,c	19.61 g	1.019	-11.31 g	1.107
Ax,p	4.36 g	1.110	-10.92 g	1.030
Ay,p	14.25 g	1.030	-9.36 g	1.030
Az,p	9.92 g	1.105	-20.79 g	1.030
spare	0.00 -	2.441	0.00 -	1.109
spare	0.00 -	1.109	0.00 -	3.628
L,ur	0.02 mm	-0.063	-15.92 mm	1.123
L,lr	1.31 mm	1.005	-14.44 mm	1.126
a1	19.74 g	1.015	-38.60 g	0.994
a2	11.17 g	1.031	-39.17 g	0.994
a3	22.70 g	1.029	-39.18 g	0.986
a4	18.48 g	0.993	-10.86 g	1.018
a5	18.45 g	0.993	-12.45 g	1.019
a6	30.58 g	0.986	-12.15 g	1.030
Mx,l	83.59 Nm	1.050	-10.90 Nm	0.416
My,l	575.60 Nm	1.147	-232.79 Nm	1.000
Mz,l	28.35 Nm	1.393	-6.12 Nm	0.985
Fx,l	0.08 kN	0.984	-0.96 kN	1.046
Fy,l	0.76 kN	1.158	-0.19 kN	1.105
Fz,l	1.30 kN	1.109	-1.51 kN	1.045
spare	0.01 -	1.214	0.00 -	-0.992
spare	0.01 -	1.343	0.00 -	1.110
spare	0.00 -	3.093	0.00 -	-0.661
spare	0.00 -	0.773	0.00 -	0.560
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	2.489	0.00 -	1.032
a7	23.98 g	0.987	-12.88 g	1.018
a8	36.88 g	1.034	-18.71 g	1.016
a9	29.60 g	0.986	-15.40 g	1.055
Fz,uf,r	0.29 kN	1.106	-0.23 kN	1.121
Mx,uf,r	54.67 Nm	1.074	-13.03 Nm	1.289
My,uf,r	25.13 Nm	1.108	-54.31 Nm	1.069
Mz,uf,r	24.46 Nm	1.053	-29.55 Nm	1.129
Fz,uf,l	0.81 kN	1.109	-0.36 kN	1.031
Mx,uf,l	30.48 Nm	1.069	-85.03 Nm	1.143
My,uf,l	148.86 Nm	1.116	-27.61 Nm	1.033
Mz,uf,l	49.48 Nm	1.077	-3.61 Nm	0.302
Fx,n	0.65 kN	1.002	-0.43 kN	1.032
Fy,n	0.90 kN	1.009	-0.19 kN	1.039
Fz,n	0.94 kN	1.033	-3.60 kN	0.999
Mx,n	46.59 Nm	1.042	-101.61 Nm	1.009
My,n	16.18 Nm	1.154	-36.38 Nm	1.014
Mz,n	5.87 Nm	1.324	-30.09 Nm	1.016
L,ul	12.07 mm	1.025	-0.03 mm	-0.067
L,ll	15.08 mm	1.025	-0.04 mm	-0.080
Ax,h	15.75 g	0.996	-11.09 g	1.015
Ay,h	18.57 g	1.016	-40.14 g	0.993
Az,h	24.00 g	0.987	-12.89 g	1.018
ȧx,h	4.71 krad/s**2	1.032	-5.14 krad/s**2	1.016
ȧy,h	1.48 krad/s**2	1.038	-2.19 krad/s**2	1.014
ȧz,h	2.01 krad/s**2	1.032	-2.79 krad/s**2	1.010
Ar,h	44.57 g	0.993	0.01 g	-0.978
ȧr,h	5.81 krad/s**2	1.016	0.00 krad/s**2	-0.911
G	0.25 -	1.016	0.00 -	-0.440
HIC	178.57	1.006	----	0.984
Fxy,n	0.97 kN	1.008	0.00 kN	-0.809
Dx,us	1.37 mm	1.043	-8.52 mm	1.124
Dy,us	18.41 mm	1.025	-0.04 mm	-0.067

Page 1

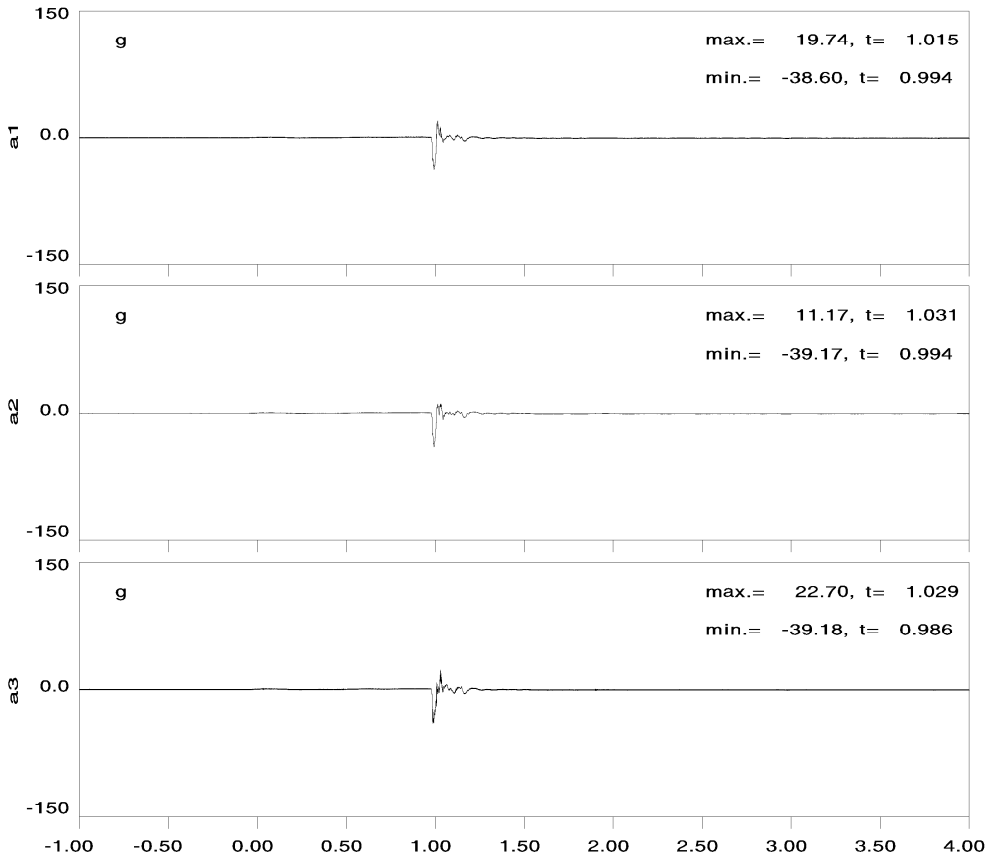
G140077.rpt

Cus	4.54	%	1.124	-0.73	%	1.043
Vus	0.24	m/s	1.031	-0.42	m/s	1.109
VCus	0.01	m/s	1.111	0.00	m/s	1.137
Dx,ls	3.61	mm	1.004	-6.86	mm	1.133
Dy,ls	18.05	mm	1.025	-0.04	mm	-0.066
Cls	3.66	%	1.133	-1.92	%	1.004
Vls	0.23	m/s	0.996	-0.49	m/s	1.110
VCls	0.01	m/s	1.112	0.00	m/s	1.035
Mxy,uf,r	74.79	Nm	1.074	0.00	Nm	-0.268
Mxy,uf,l	159.92	Nm	1.116	0.00	Nm	-0.136
Mx,n,oc	45.11	Nm	1.043	-85.64	Nm	1.009
My,n,oc	16.02	Nm	1.154	-36.45	Nm	1.015
NII	1.80	-	1.008	0.00	-	-0.200
Ar,p	25.00	g	1.030	0.00	g	-0.741
Ar,c	27.08	g	1.012	0.00	g	-0.071

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

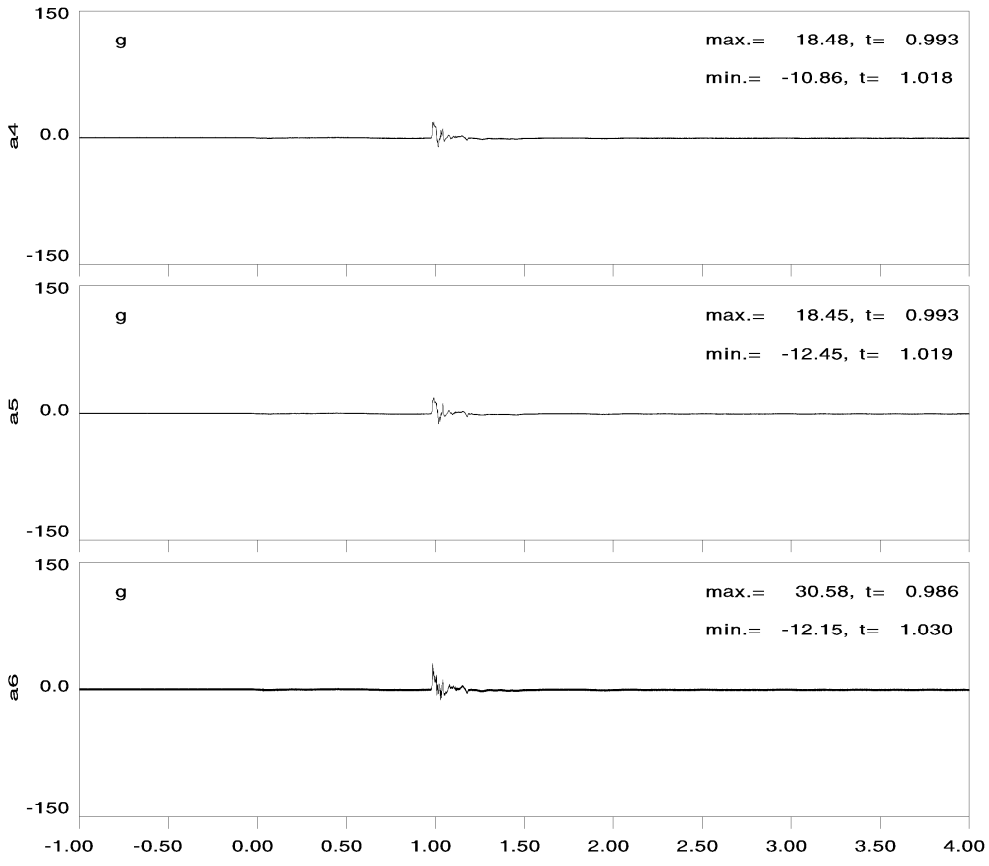
Page 2

Primary Test G140077



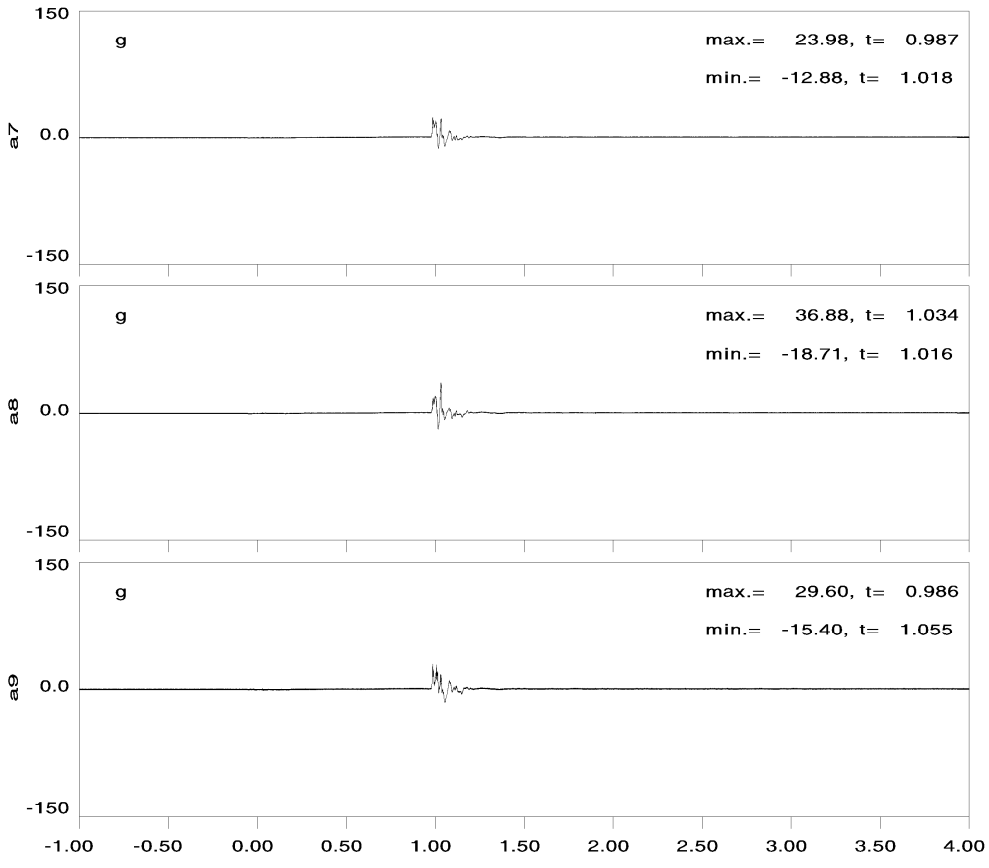
Page 1

Primary Test G140077



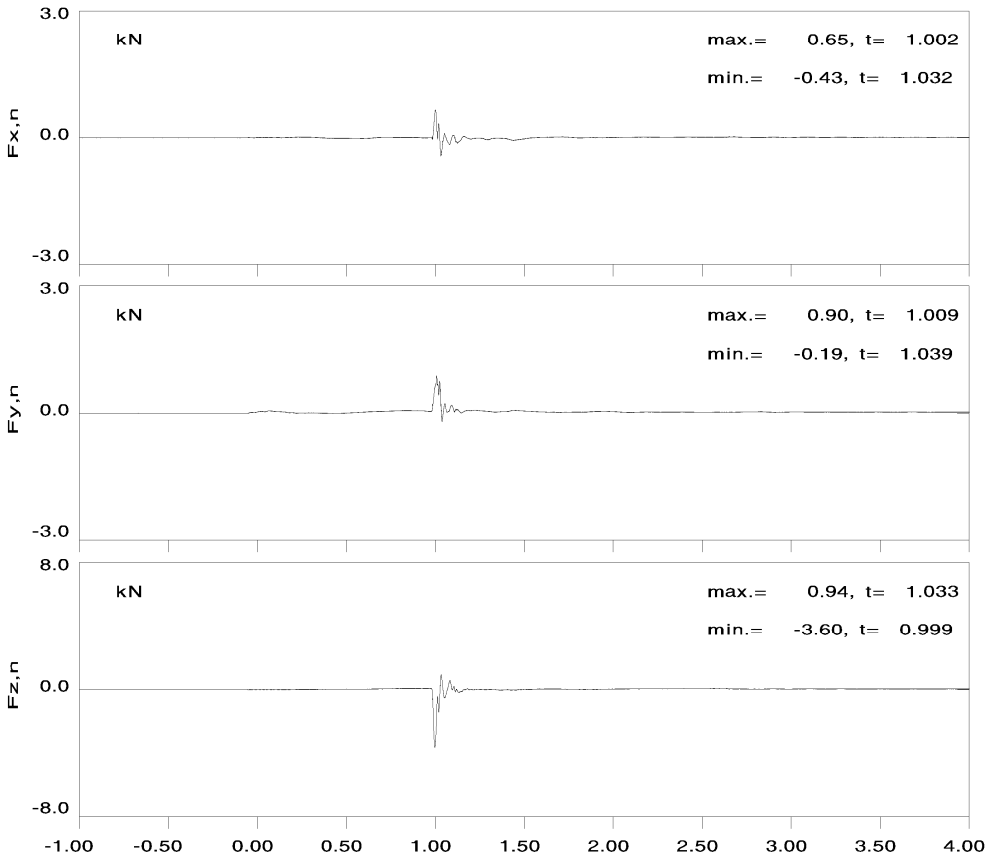
Page 2

Primary Test G140077



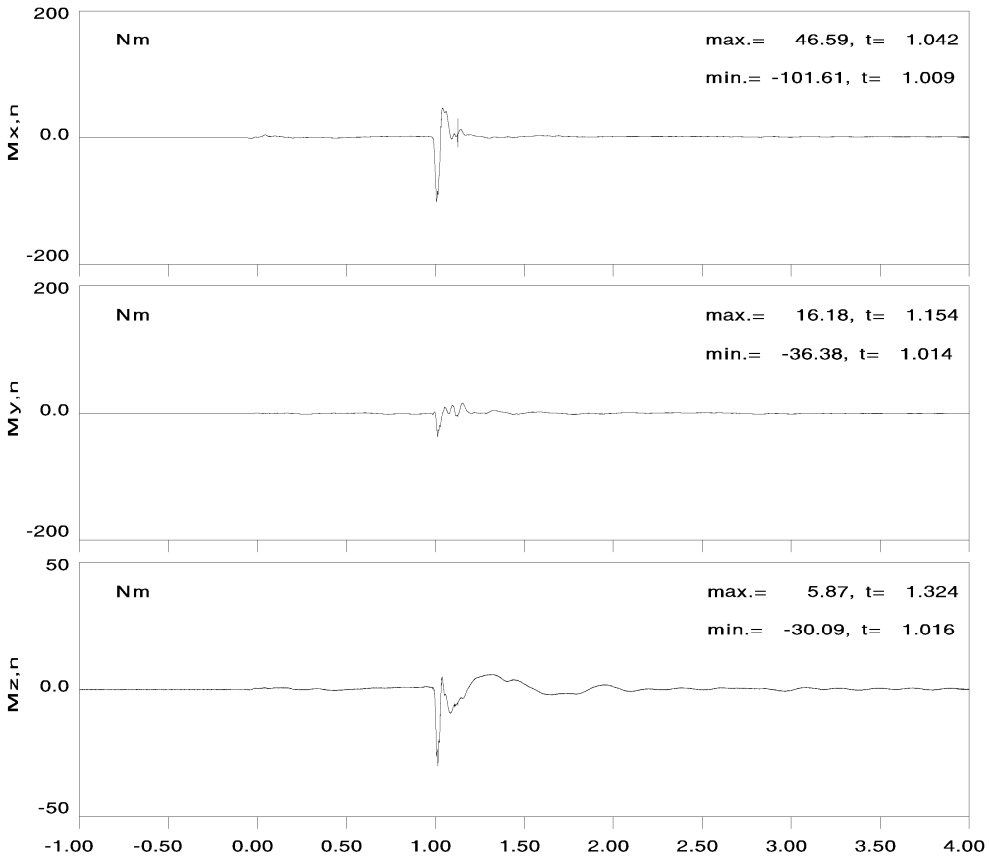
Page 3

Primary Test G140077

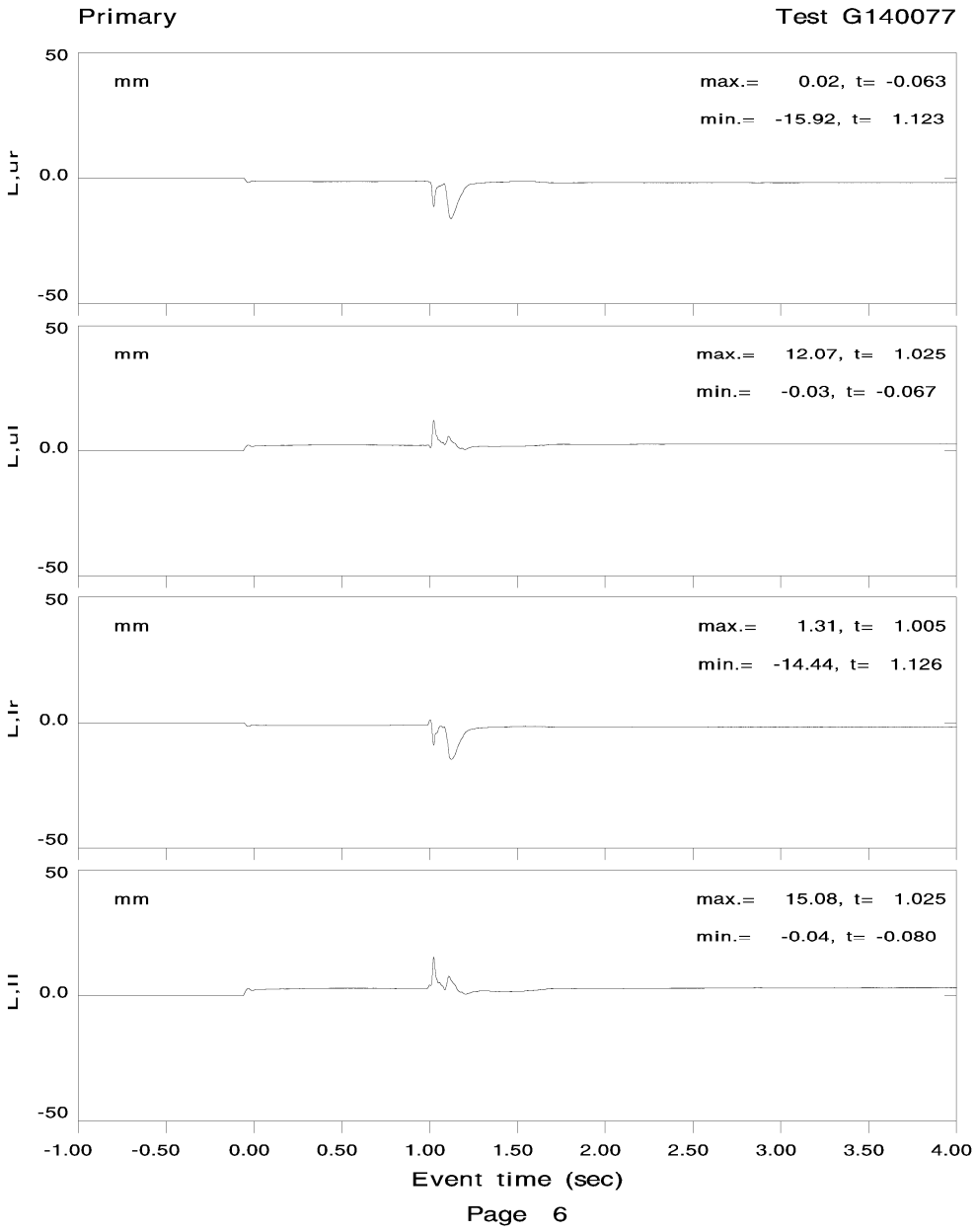


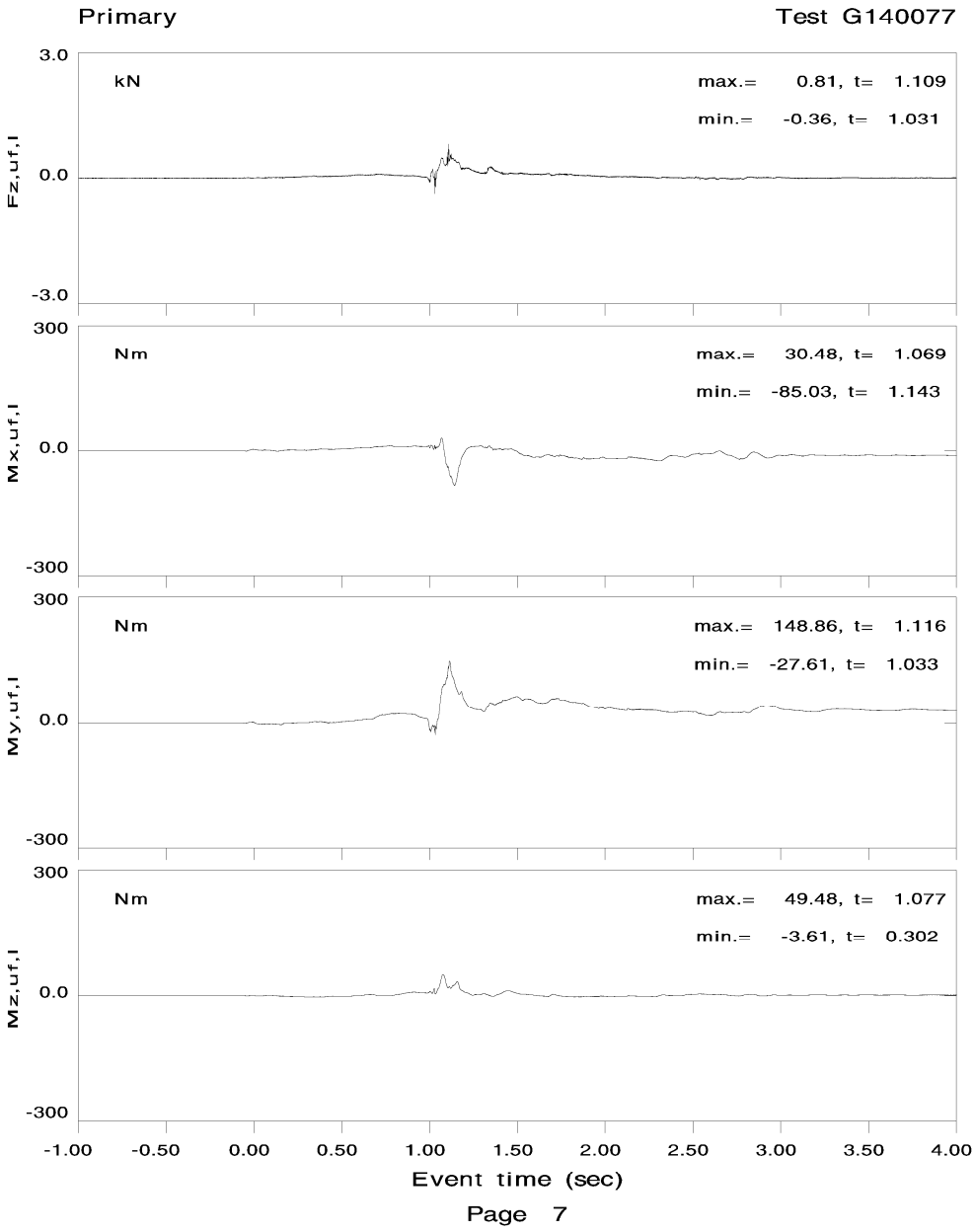
Page 4

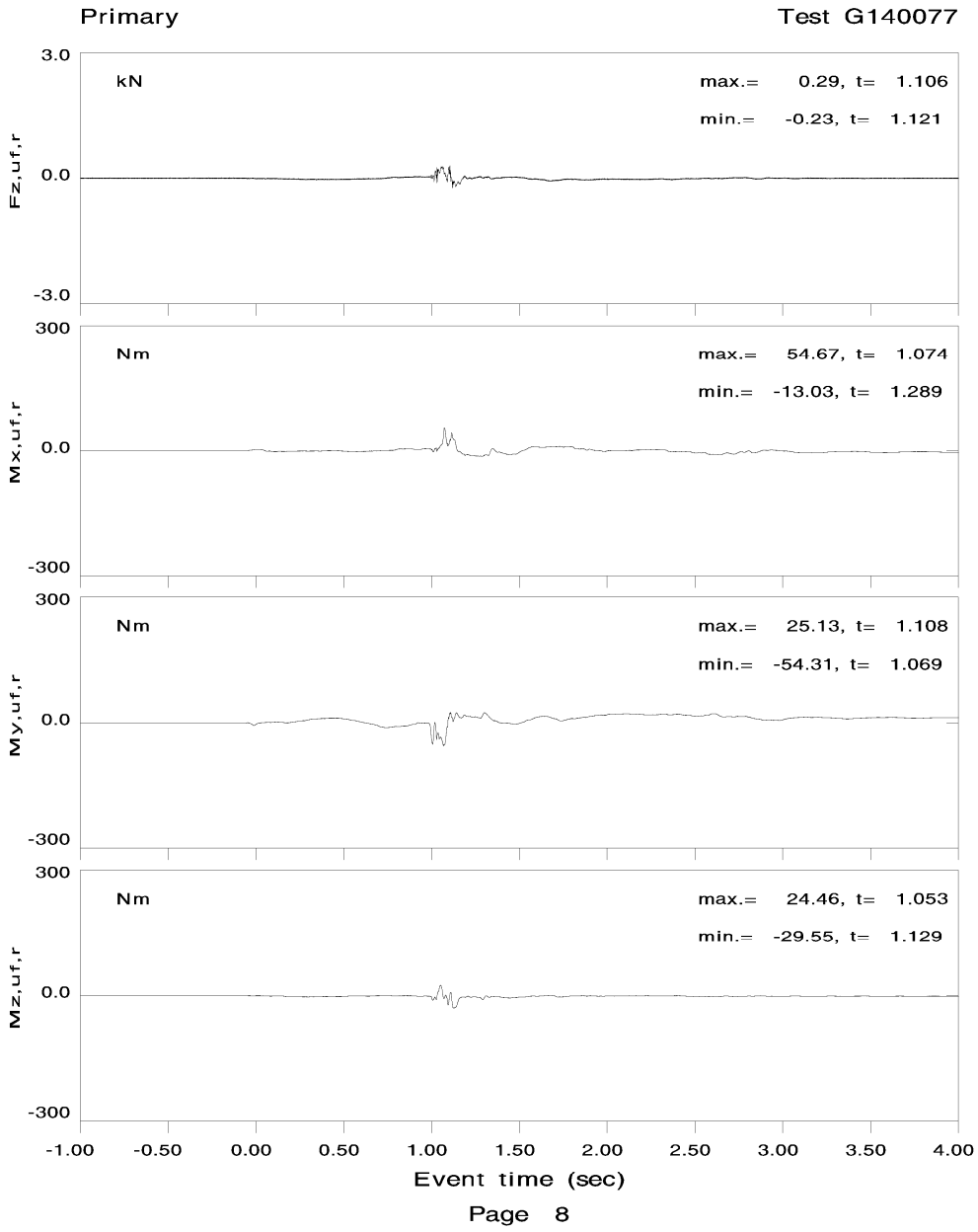
Primary Test G140077

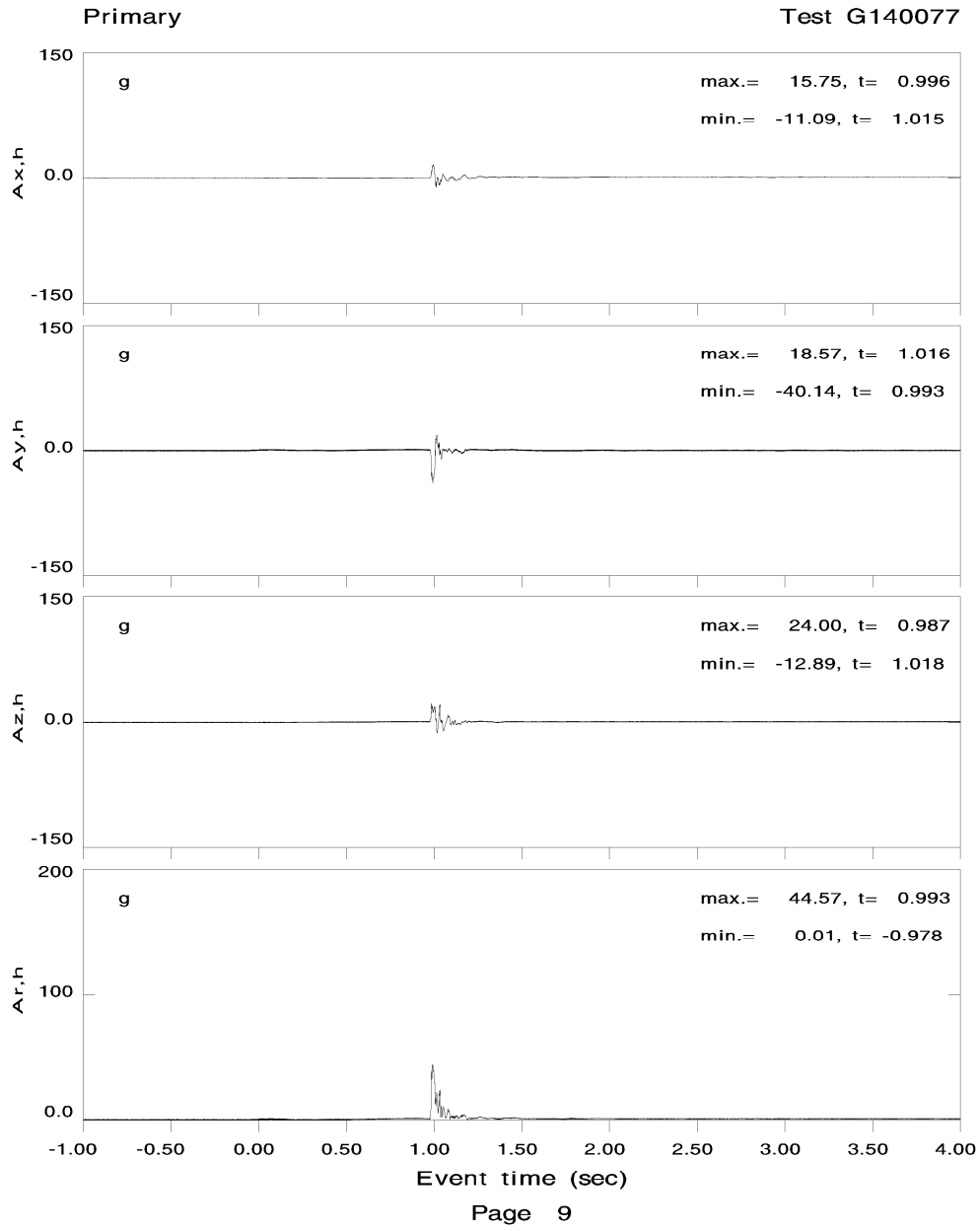


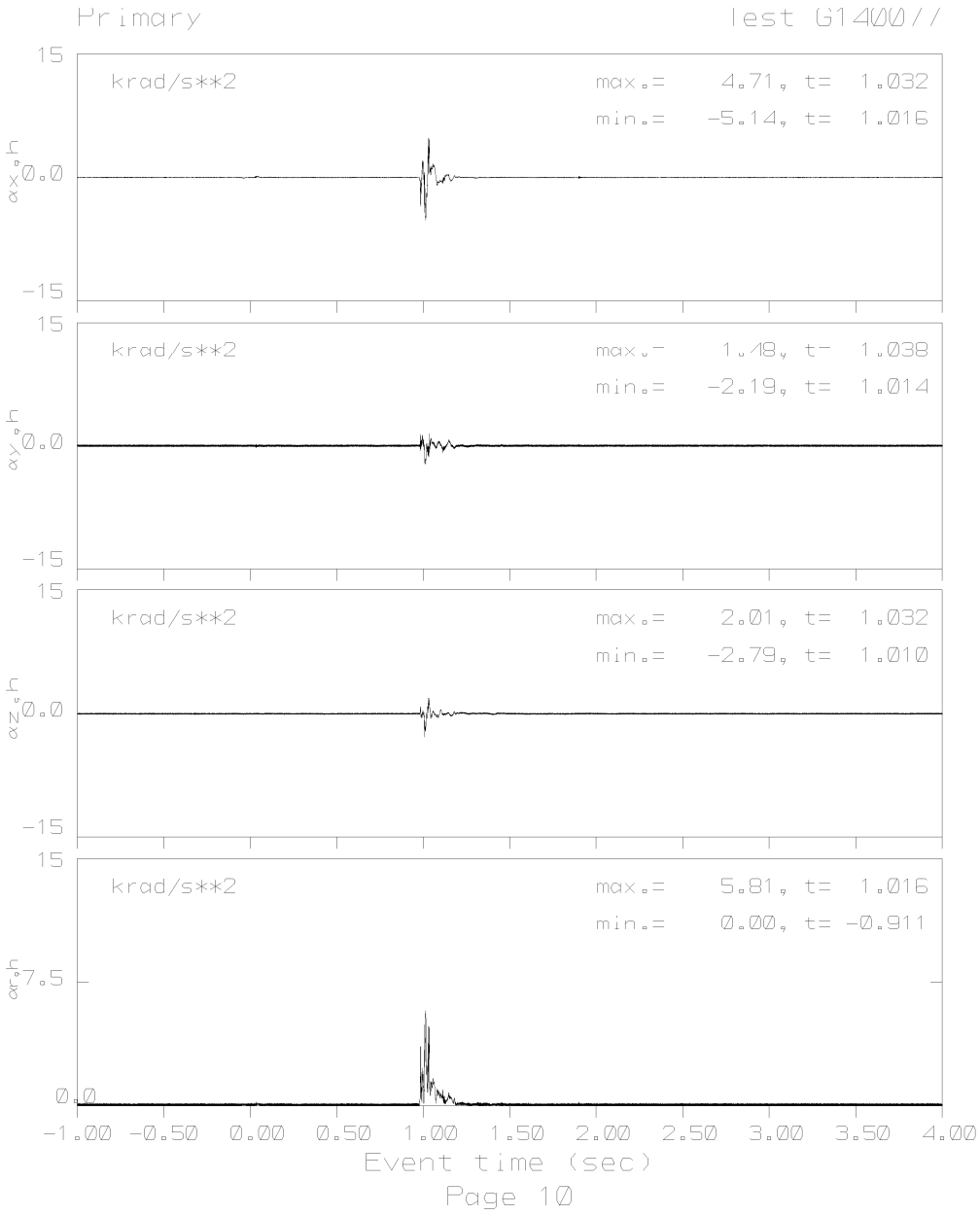
Page 5

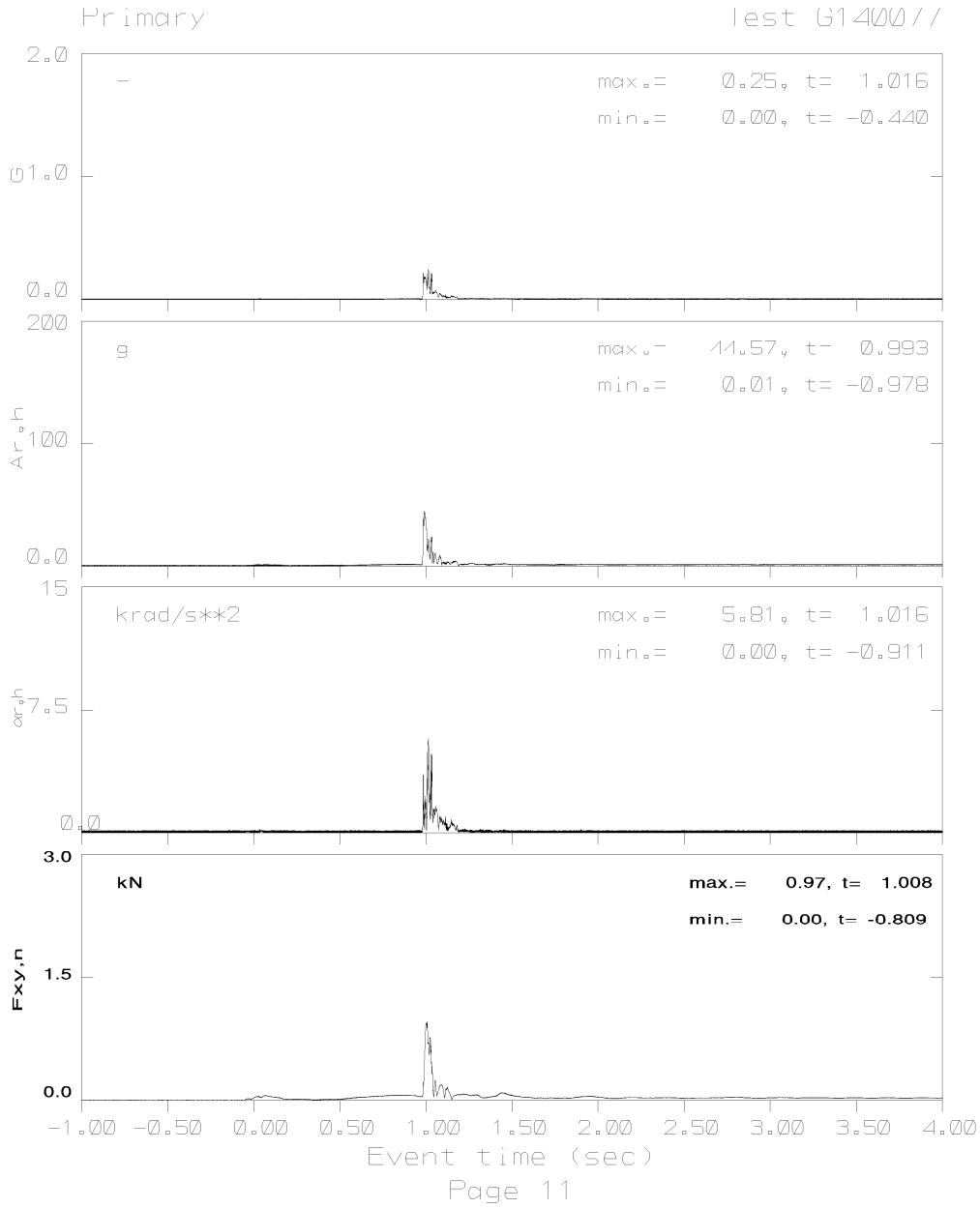

Primary
Test G140077
mm
max.= 0.02, t= -0.063
min.= -15.92, t= 1.123
L,ur
mm
max.= 12.07, t= 1.025
min.= -0.03, t= -0.067
L,ul
mm
max.= 1.31, t= 1.005
min.= -14.44, t= 1.126
L,lr
mm
max.= 15.08, t= 1.025
min.= -0.04, t= -0.080
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

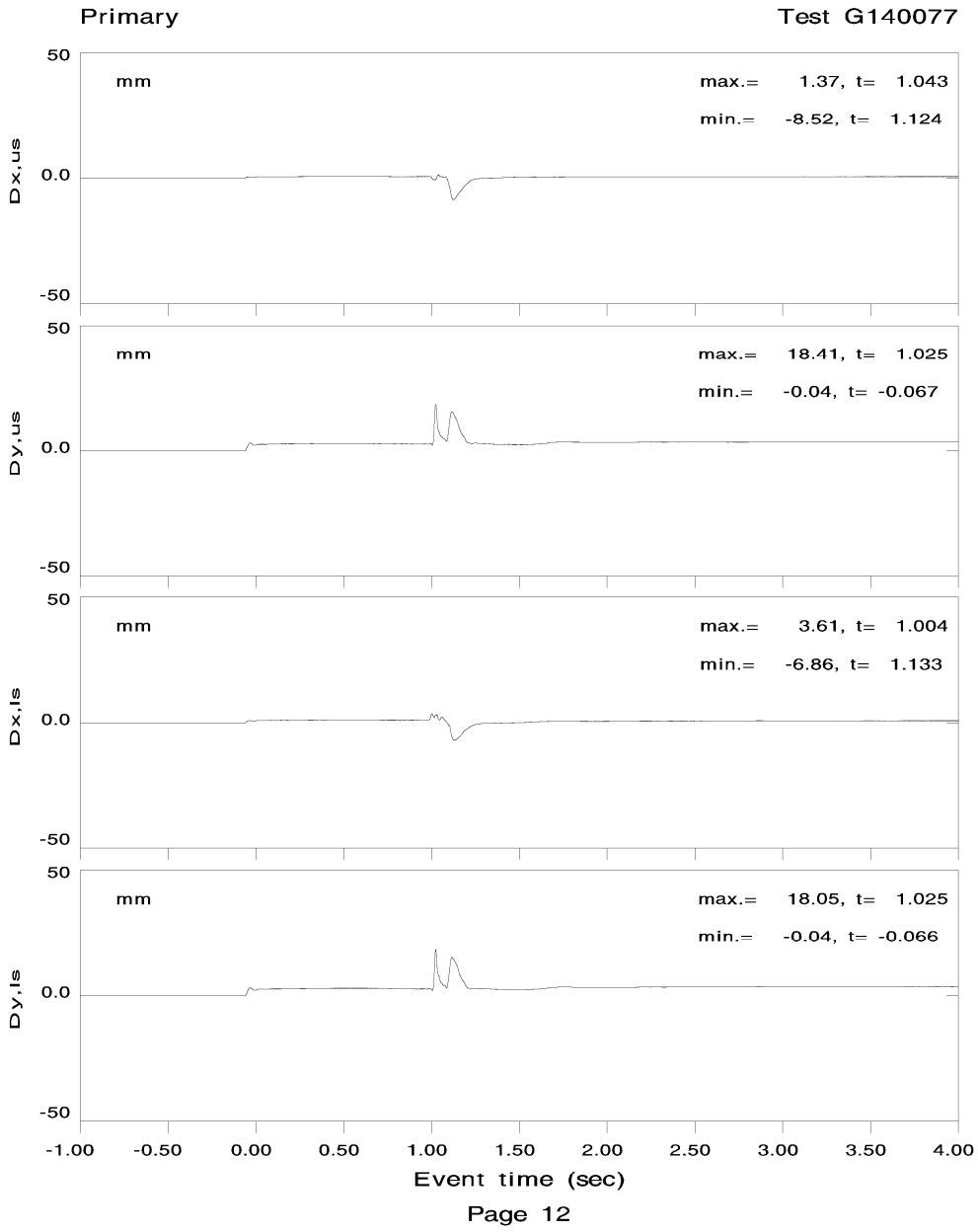

Primary
Test G140077
kN
max.= 0.81, t= 1.109
min.= -0.36, t= 1.031
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 30.48, t= 1.069
min.= -85.03, t= 1.143
Mx,uf,l
300
0.0
-300
Nm
max.= 148.86, t= 1.116
min.= -27.61, t= 1.033
My,uf,l
300
0.0
-300
Nm
max.= 49.48, t= 1.077
min.= -3.61, t= 0.302
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140077
kN
max.= 0.29, t= 1.106
min.= -0.23, t= 1.121
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 54.67, t= 1.074
min.= -13.03, t= 1.289
Mx,uf,r
300
0.0
-300
Nm
max.= 25.13, t= 1.108
min.= -54.31, t= 1.069
My,uf,r
300
0.0
-300
Nm
max.= 24.46, t= 1.053
min.= -29.55, t= 1.129
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

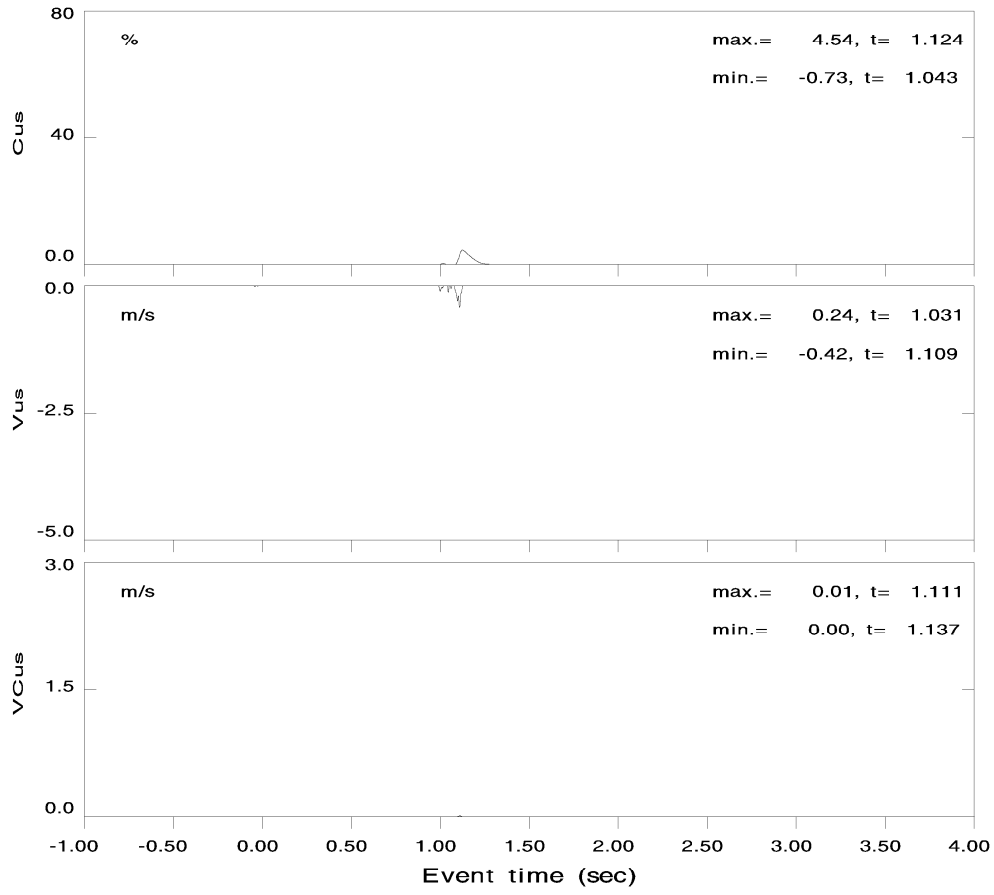

Primary
Test G140077
g
max.= 15.75, t= 0.996
min.= -11.09, t= 1.015
Ax,h
150
0.0
-150
g
max.= 18.57, t= 1.016
min.= -40.14, t= 0.993
Ay,h
150
0.0
-150
g
max.= 24.00, t= 0.987
min.= -12.89, t= 1.018
Az,h
150
0.0
-150
g
max.= 44.57, t= 0.993
min.= 0.01, t= -0.978
Ar,h
200
100
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test G1400//
krad/s**2
max.= 4.71, t= 1.032
min.= -5.14, t= 1.016
ax,h
krad/s**2
max.= 1.18, t= 1.038
min.= -2.19, t= 1.014
ay,h
krad/s**2
max.= 2.01, t= 1.032
min.= -2.79, t= 1.010
az,h
krad/s**2
max.= 5.81, t= 1.016
min.= 0.00, t= -0.911
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G1400//
2.0
-
max.= 0.25, t= 1.016
min.= 0.00, t= -0.440
G1.0
0.0
200
g
max.= 44.57, t= 0.993
min.= 0.01, t= -0.978
Ar,h
100
0.0
15
krad/s**2
max.= 5.81, t= 1.016
min.= 0.00, t= -0.911
ar,h
7.5
0.0
3.0
kN
max.= 0.97, t= 1.008
min.= 0.00, t= -0.809
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

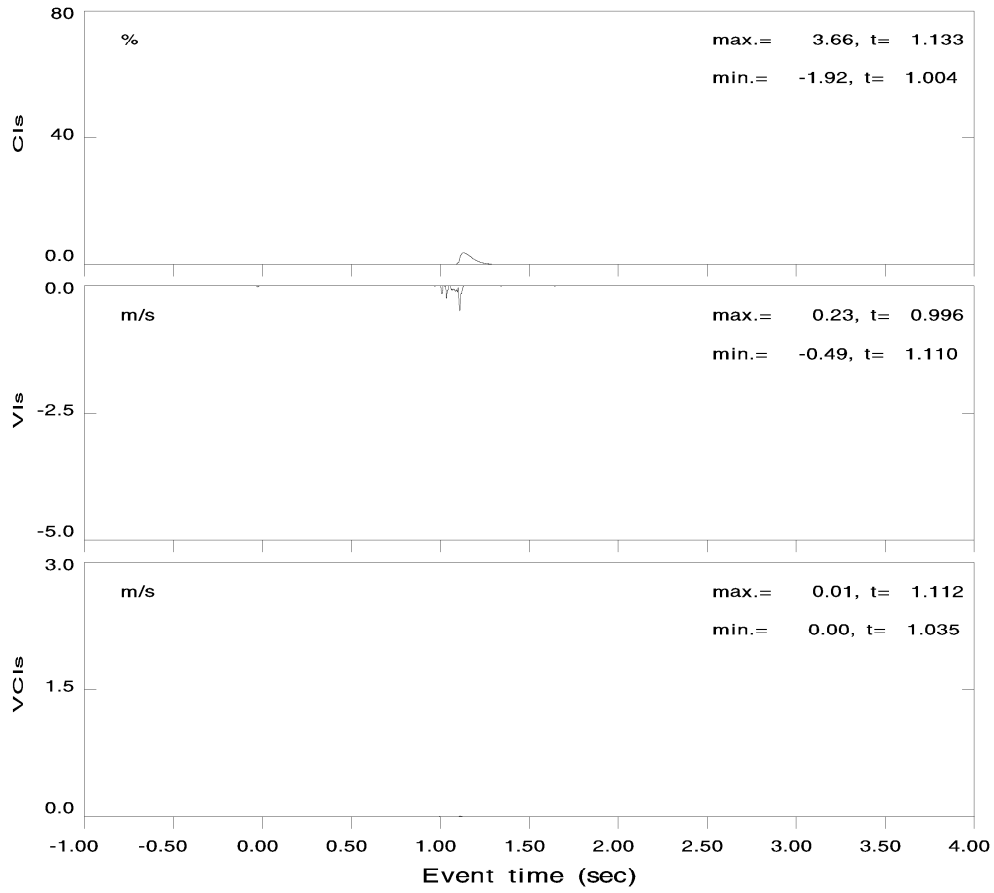

Primary
Test G140077
mm
max.= 1.37, t= 1.043
min.= -8.52, t= 1.124
Dx,us
mm
max.= 18.41, t= 1.025
min.= -0.04, t= -0.067
Dy,us
mm
max.= 3.61, t= 1.004
min.= -6.86, t= 1.133
Dx,ls
mm
max.= 18.05, t= 1.025
min.= -0.04, t= -0.066
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140077



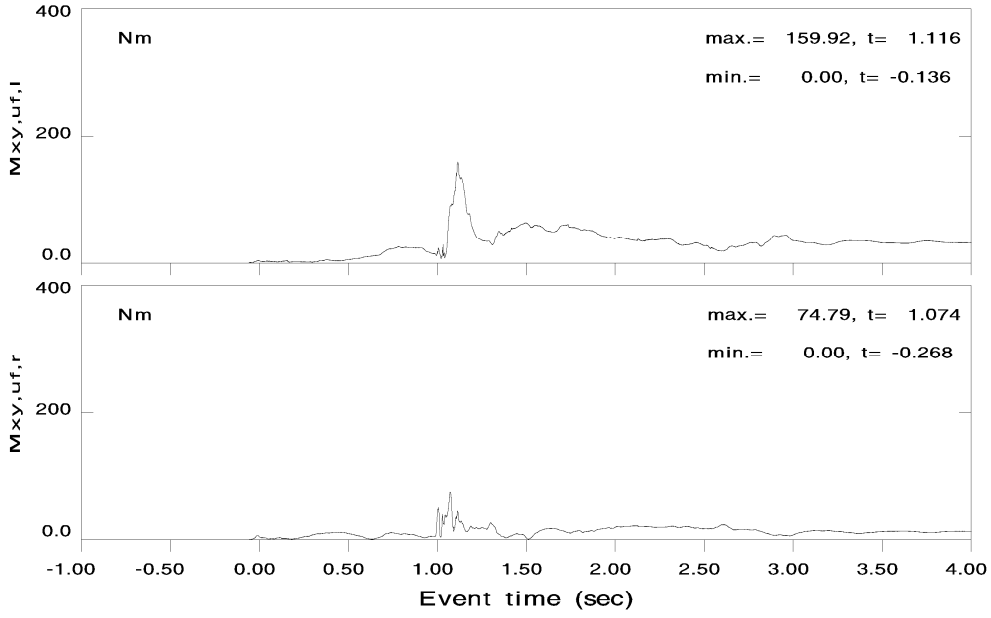
Page 13

Primary Test G140077

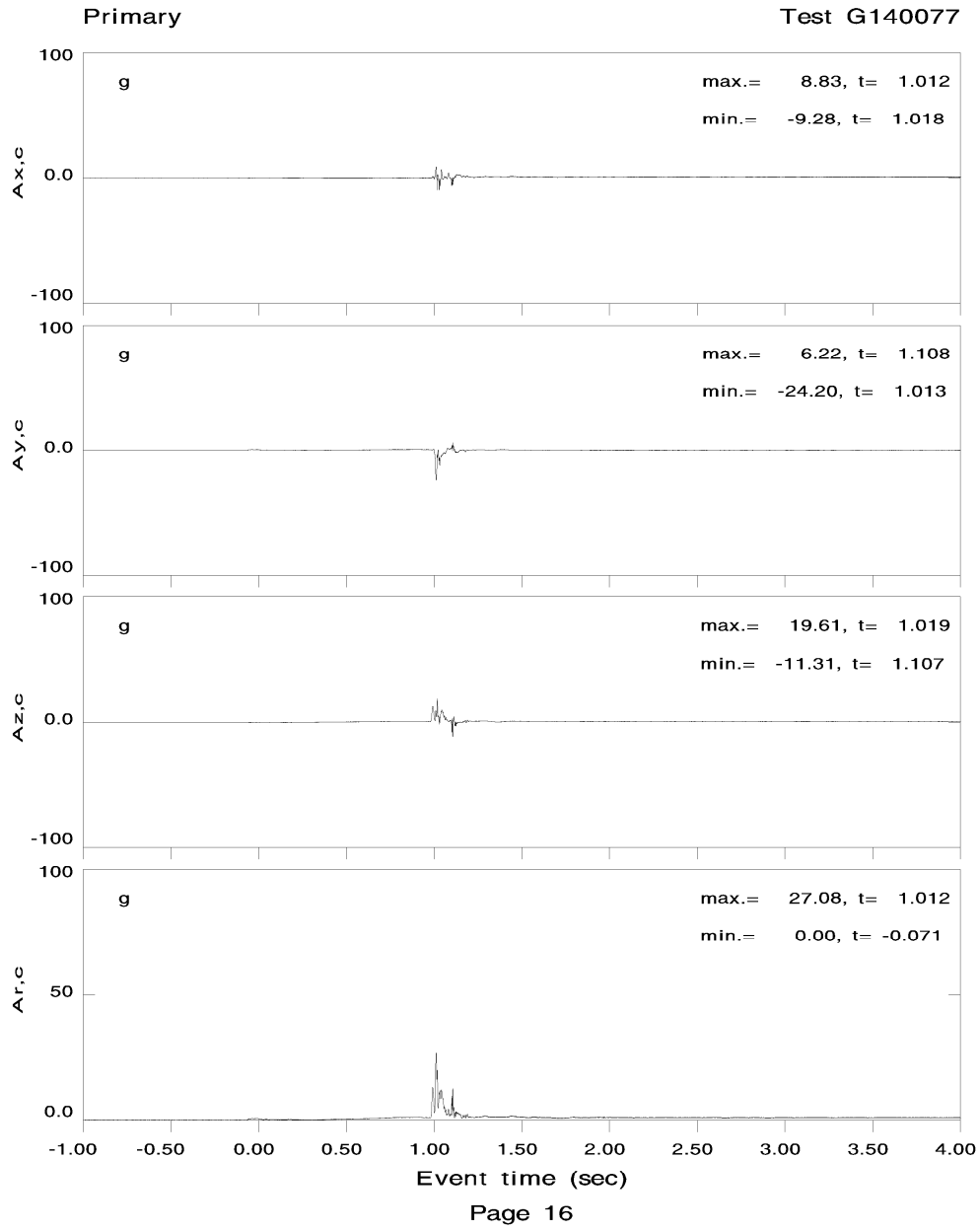


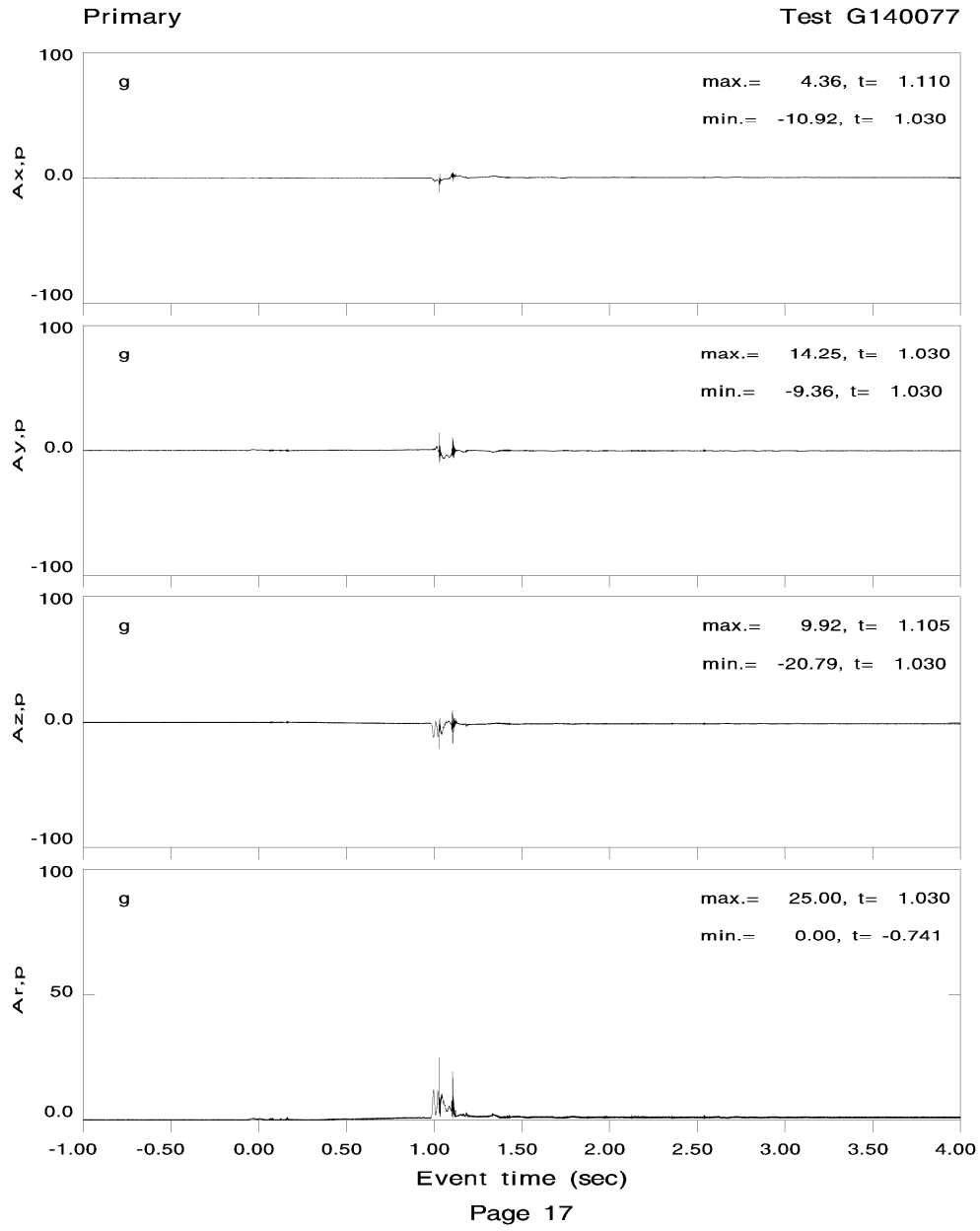
Page 14

Primary Test G140077

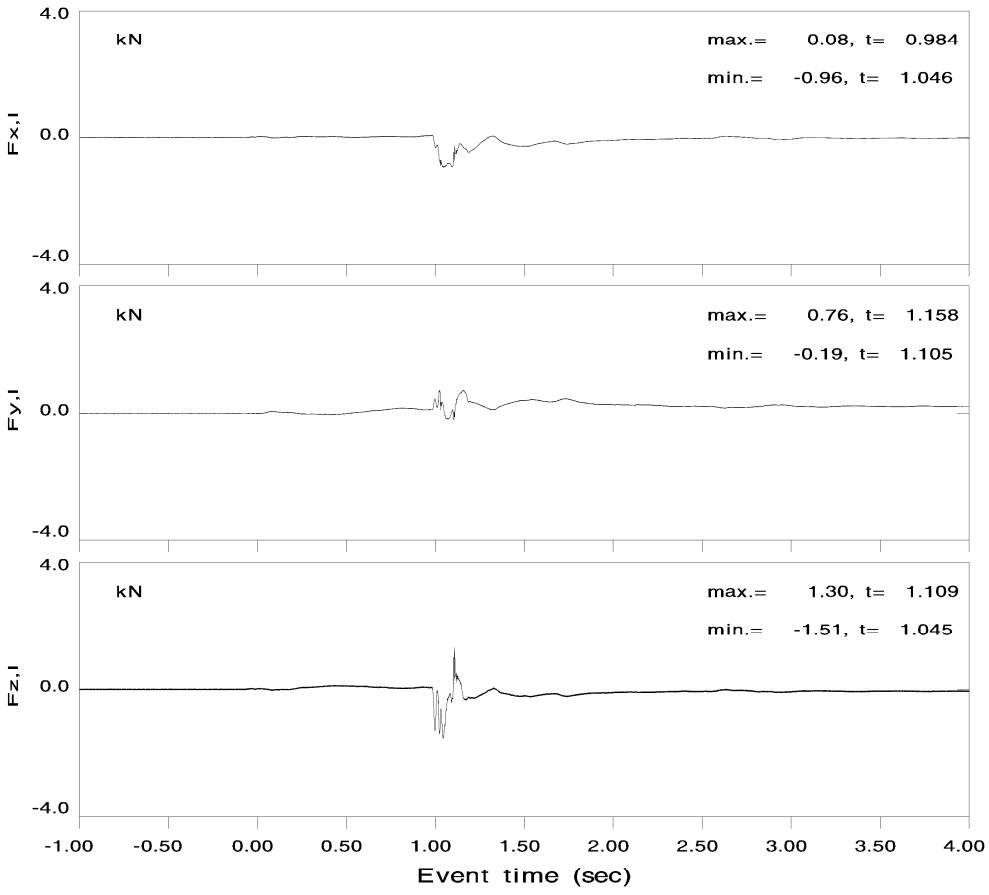


Page 15


Primary
Test G140077
g
max.= 8.83, t= 1.012
min.= -9.28, t= 1.018
Ax,c
g
max.= 6.22, t= 1.108
min.= -24.20, t= 1.013
Ay,c
g
max.= 19.61, t= 1.019
min.= -11.31, t= 1.107
Az,c
g
max.= 27.08, t= 1.012
min.= 0.00, t= -0.071
Ar,c
Event time (sec)
Page 16

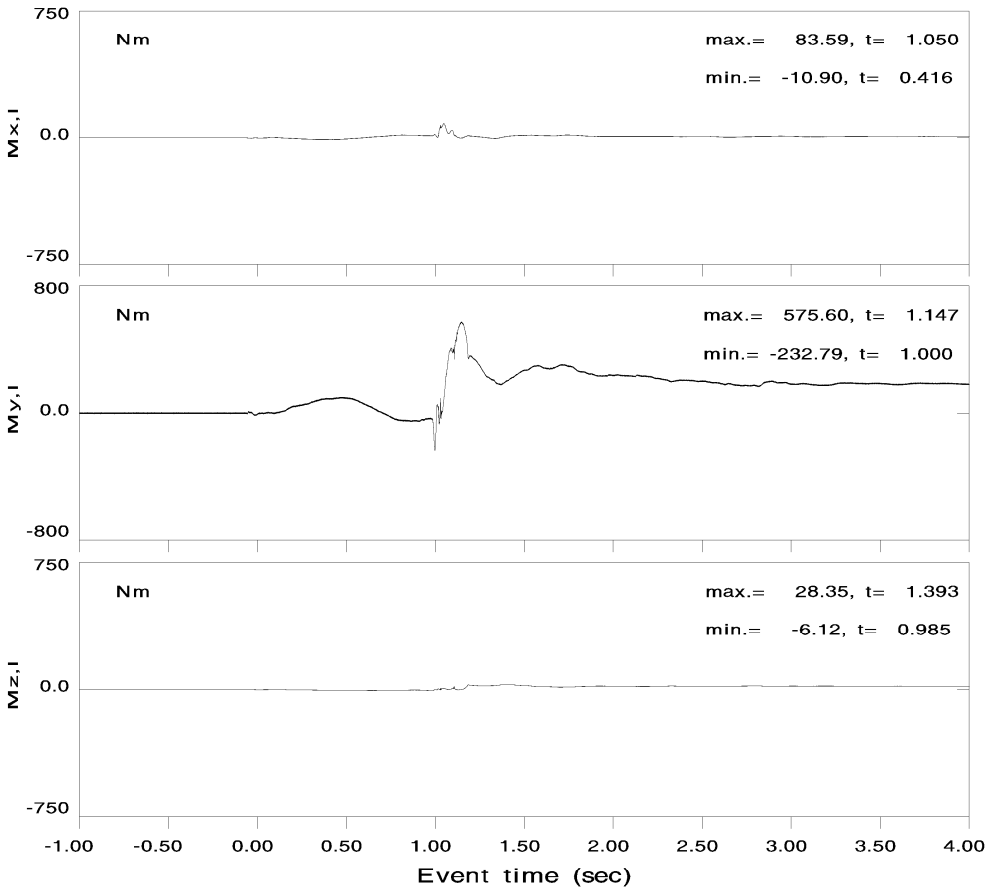

Primary
Test G140077
g
max.= 4.36, t= 1.110
min.= -10.92, t= 1.030
Ax,p
100
0.0
-100
g
max.= 14.25, t= 1.030
min.= -9.36, t= 1.030
Ay,p
100
0.0
-100
g
max.= 9.92, t= 1.105
min.= -20.79, t= 1.030
Az,p
100
0.0
-100
g
max.= 25.00, t= 1.030
min.= 0.00, t= -0.741
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140077

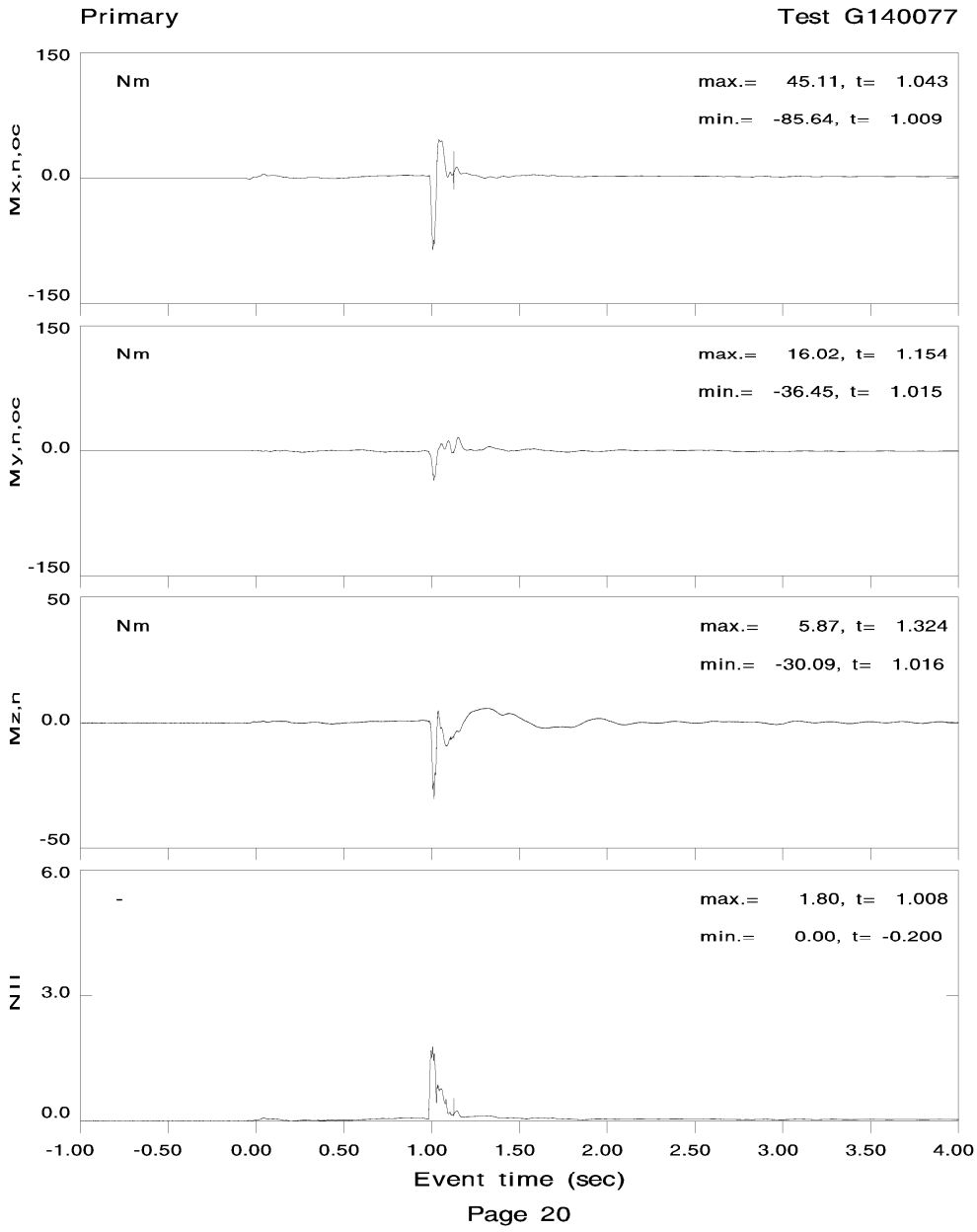


Page 18

Primary Test G140077



Page 19


Primary
Test G140077
Nm
max.= 45.11, t= 1.043
min.= -85.64, t= 1.009
Mx,n,oc
150
0.0
-150
Nm
max.= 16.02, t= 1.154
min.= -36.45, t= 1.015
My,n,oc
150
0.0
-150
Nm
max.= 5.87, t= 1.324
min.= -30.09, t= 1.016
Mz,n
50
0.0
-50
-
max.= 1.80, t= 1.008
min.= 0.00, t= -0.200
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)

Page 20

2.4 G140078

G140078_ICM.IC1

Test Number : G140078
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.290
Cmax	=	1.460
VCmax	=	0.000
HIC	=	188.0
NII (2002 MATD Neck)	=	0.5
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.002
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.962	1.000	1.000	1.000	1.000	0
1	0.016	0.000	0.000	0.000	0.000	0
2	0.013	0.000	0.000	0.000	0.000	0
3	0.008	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.068	0.000	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.002	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140078.rpt

Test G140078, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	19.62 g	1.291	-2.89 g	1.324
Ay,c	3.82 g	1.282	-2.79 g	1.277
Az,c	8.34 g	1.290	-1.27 g	1.319
Ax,p	20.11 g	1.293	-1.43 g	1.505
Ay,p	1.12 g	1.295	-2.21 g	2.554
Az,p	1.15 g	1.342	-6.30 g	1.290
spare	0.00 -	0.741	0.00 -	3.269
spare	0.00 -	2.238	0.00 -	-0.343
L,ur	0.65 mm	1.169	-3.07 mm	1.283
L,lr	0.68 mm	1.171	-1.91 mm	1.308
a1	7.94 g	1.296	-42.28 g	1.271
a2	7.70 g	1.297	-44.33 g	1.271
a3	5.62 g	1.296	-52.65 g	1.271
a4	6.53 g	1.296	-42.23 g	1.271
a5	6.47 g	1.297	-39.48 g	1.271
a6	5.83 g	1.296	-53.40 g	1.271
Mx,l	14.02 Nm	1.679	-21.27 Nm	2.260
My,l	560.46 Nm	1.676	-202.86 Nm	2.009
Mz,l	16.87 Nm	2.771	-29.72 Nm	1.680
Fx,l	0.46 kN	1.951	-0.34 kN	1.300
Fy,l	0.49 kN	1.668	-0.39 kN	2.277
Fz,l	0.34 kN	2.357	-0.53 kN	1.673
spare	0.00 -	3.747	0.00 -	0.603
spare	0.00 -	1.663	0.00 -	2.152
spare	0.00 -	0.770	0.00 -	2.548
spare	0.00 -	1.091	0.00 -	0.074
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	1.979	0.00 -	1.369
a7	17.81 g	1.270	-4.49 g	1.309
a8	28.21 g	1.271	-4.88 g	1.334
a9	27.27 g	1.271	-5.09 g	1.333
Fz,uf,r	0.20 kN	1.784	-1.43 kN	1.301
Mx,uf,r	52.72 Nm	2.218	-58.18 Nm	1.895
My,uf,r	66.54 Nm	1.710	-7.19 Nm	0.602
Mz,uf,r	26.71 Nm	1.330	-21.15 Nm	1.823
Fz,uf,l	0.25 kN	1.814	-1.51 kN	1.301
Mx,uf,l	59.38 Nm	1.895	-40.23 Nm	1.301
My,uf,l	81.11 Nm	1.700	-11.86 Nm	2.317
Mz,uf,l	41.76 Nm	1.881	-18.78 Nm	1.153
Fx,n	0.07 kN	1.984	-0.37 kN	1.282
Fy,n	0.07 kN	2.358	-0.08 kN	2.282
Fz,n	0.52 kN	1.300	-0.68 kN	1.284
Mx,n	6.71 Nm	2.379	-10.70 Nm	2.356
My,n	20.62 Nm	1.332	-9.79 Nm	1.959
Mz,n	4.35 Nm	2.695	-6.16 Nm	2.494
L,ul	0.81 mm	2.464	-2.14 mm	1.277
L,ll	1.43 mm	2.367	-1.50 mm	1.277
Ax,h	59.52 g	1.271	-9.76 g	1.297
Ay,h	2.06 g	1.283	-9.90 g	2.331
Az,h	17.82 g	1.270	-4.49 g	1.309
àx,h	0.76 krad/s**2	2.371	-1.05 krad/s**2	2.331
ày,h	1.49 krad/s**2	1.279	-3.71 krad/s**2	1.271
àz,h	0.34 krad/s**2	1.286	-0.69 krad/s**2	1.271
Ar,h	61.83 g	1.271	0.00 g	-0.693
àr,h	3.76 krad/s**2	1.271	0.00 krad/s**2	3.110
G	0.29 -	1.271	0.00 -	0.239
HIC	188.02	1.285	----	1.269
Fxy,n	0.38 kN	1.282	0.00 kN	0.007
Dx,us	0.07 mm	0.068	-2.74 mm	1.297
Dy,us	1.99 mm	2.369	-1.17 mm	1.169

Page 1

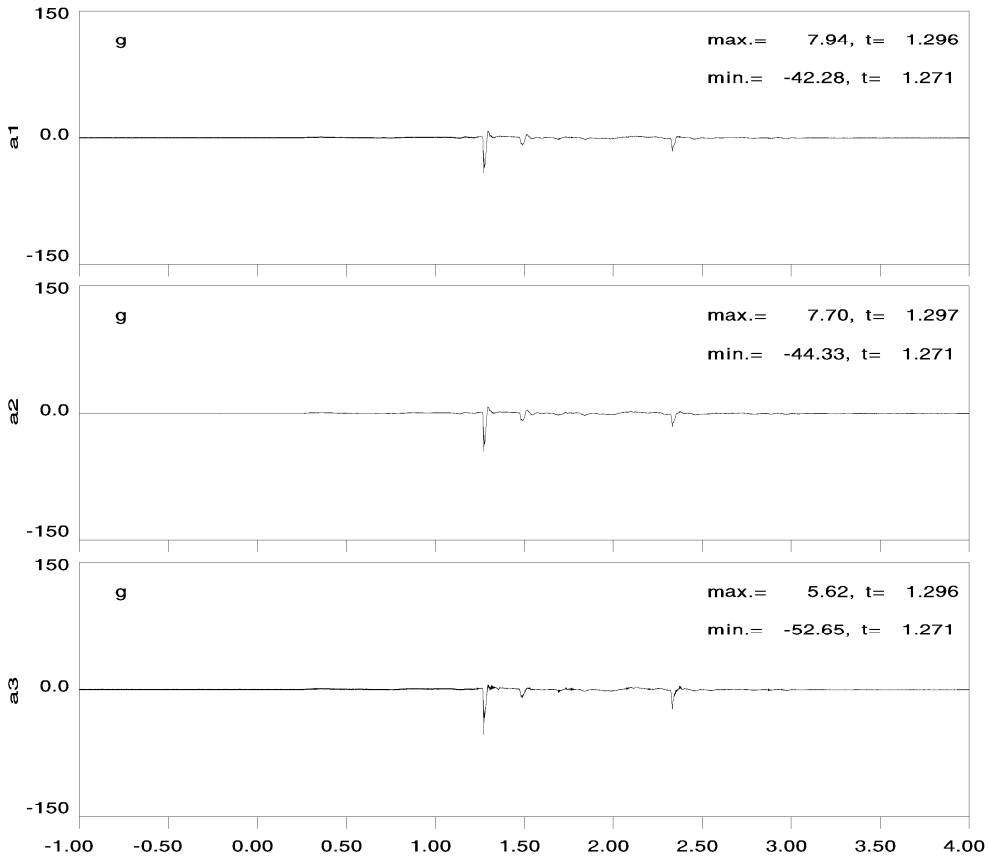
G140078.rpt

Cus	1.46	%	1.297	-0.04 %	0.068
Vus	0.17	m/s	1.285	-0.27 m/s	1.274
VCus	0.00	m/s	1.276	0.00 m/s	1.284
Dx,ls	0.31	mm	2.360	-2.20 mm	1.313
Dy,ls	1.93	mm	2.275	-1.12 mm	1.171
Cls	1.17	%	1.313	-0.16 %	2.360
Vls	0.17	m/s	1.284	-0.19 m/s	1.293
VCls	0.00	m/s	1.306	0.00 m/s	1.324
Mxy,uf,r	77.27	Nm	1.888	0.00 Nm	-0.593
Mxy,uf,l	81.12	Nm	1.700	0.00 Nm	-0.702
Mx,n,oc	6.64	Nm	2.379	-9.51 Nm	2.356
My,n,oc	20.51	Nm	1.333	-10.51 Nm	1.959
NII	0.49	-	1.300	0.00 -	-0.962
Ar,p	20.95	g	1.293	0.02 g	-0.558
Ar,c	21.20	g	1.290	0.00 g	0.113

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

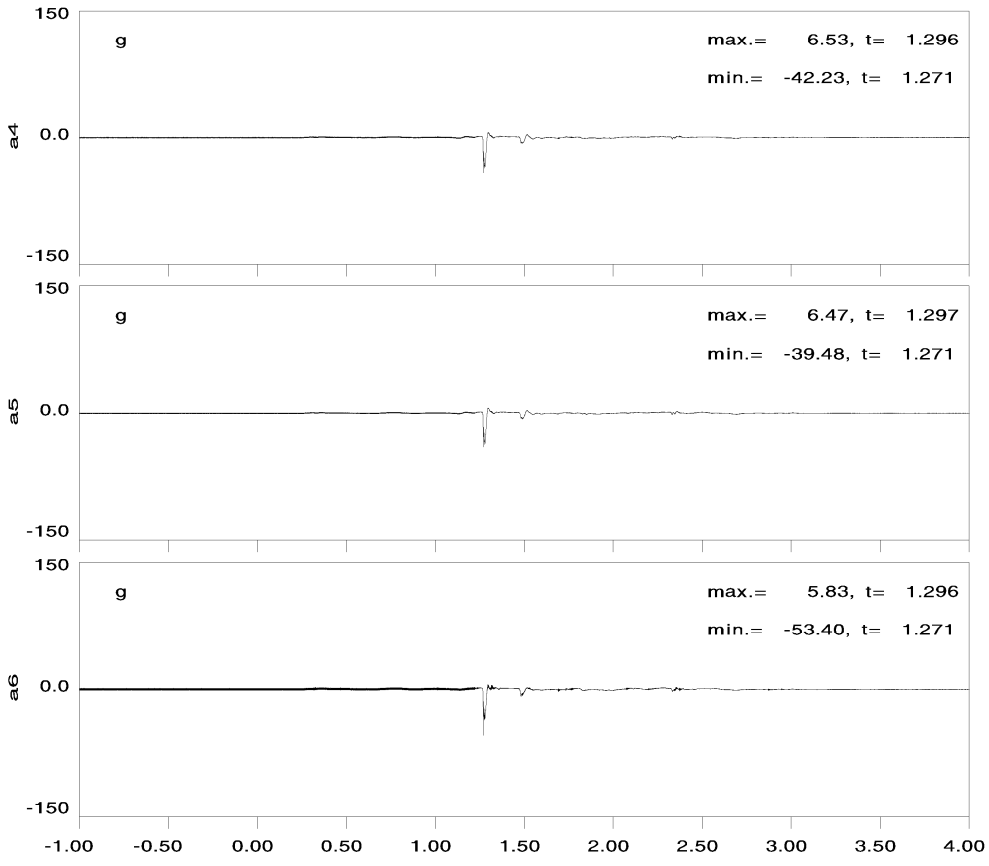
Page 2

Primary Test G140078



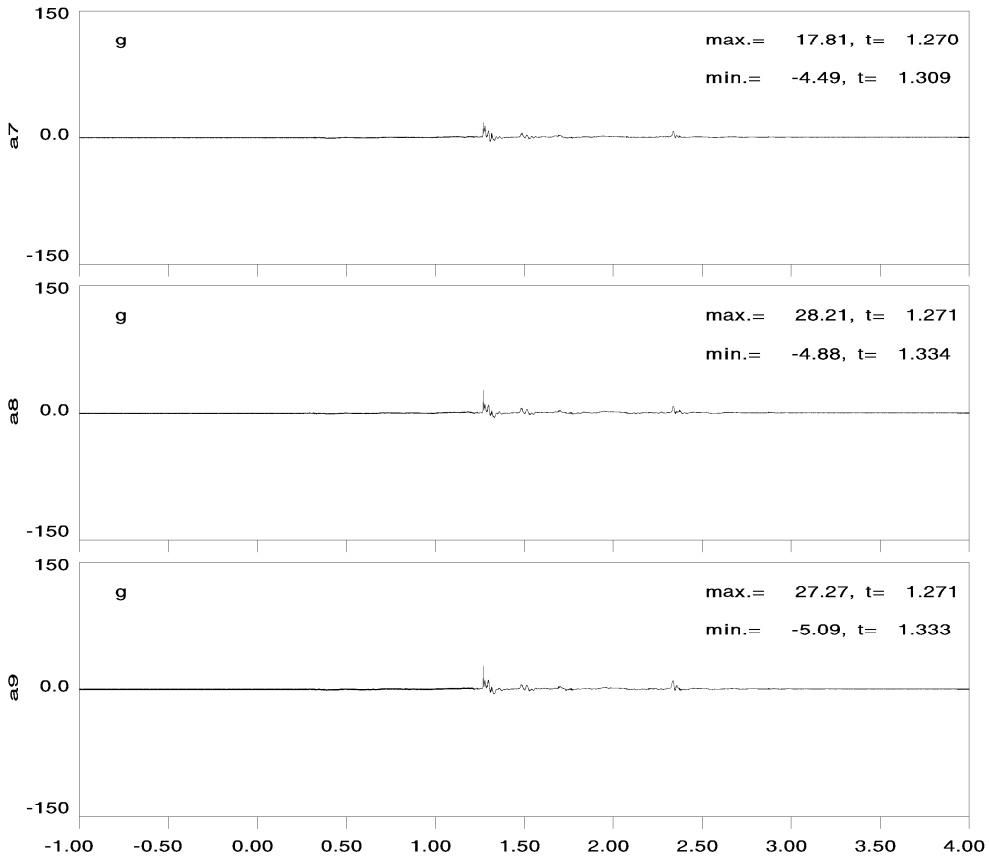
Page 1

Primary Test G140078



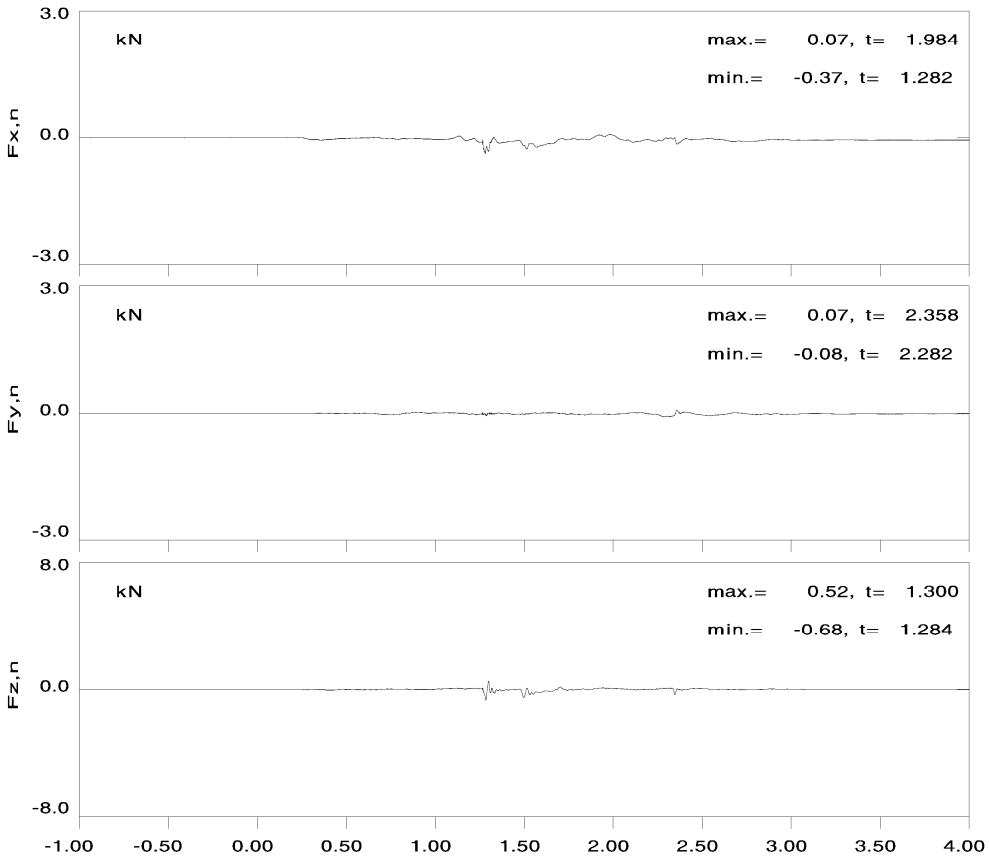
Page 2

Primary Test G140078



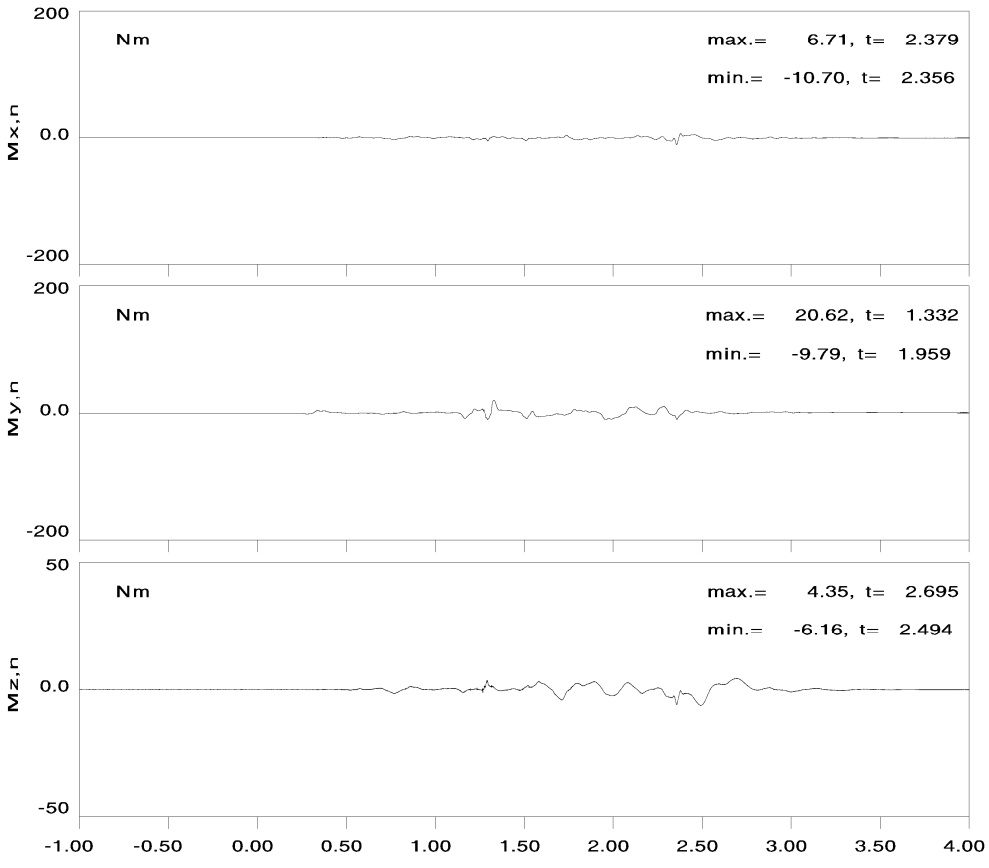
Page 3

Primary Test G140078

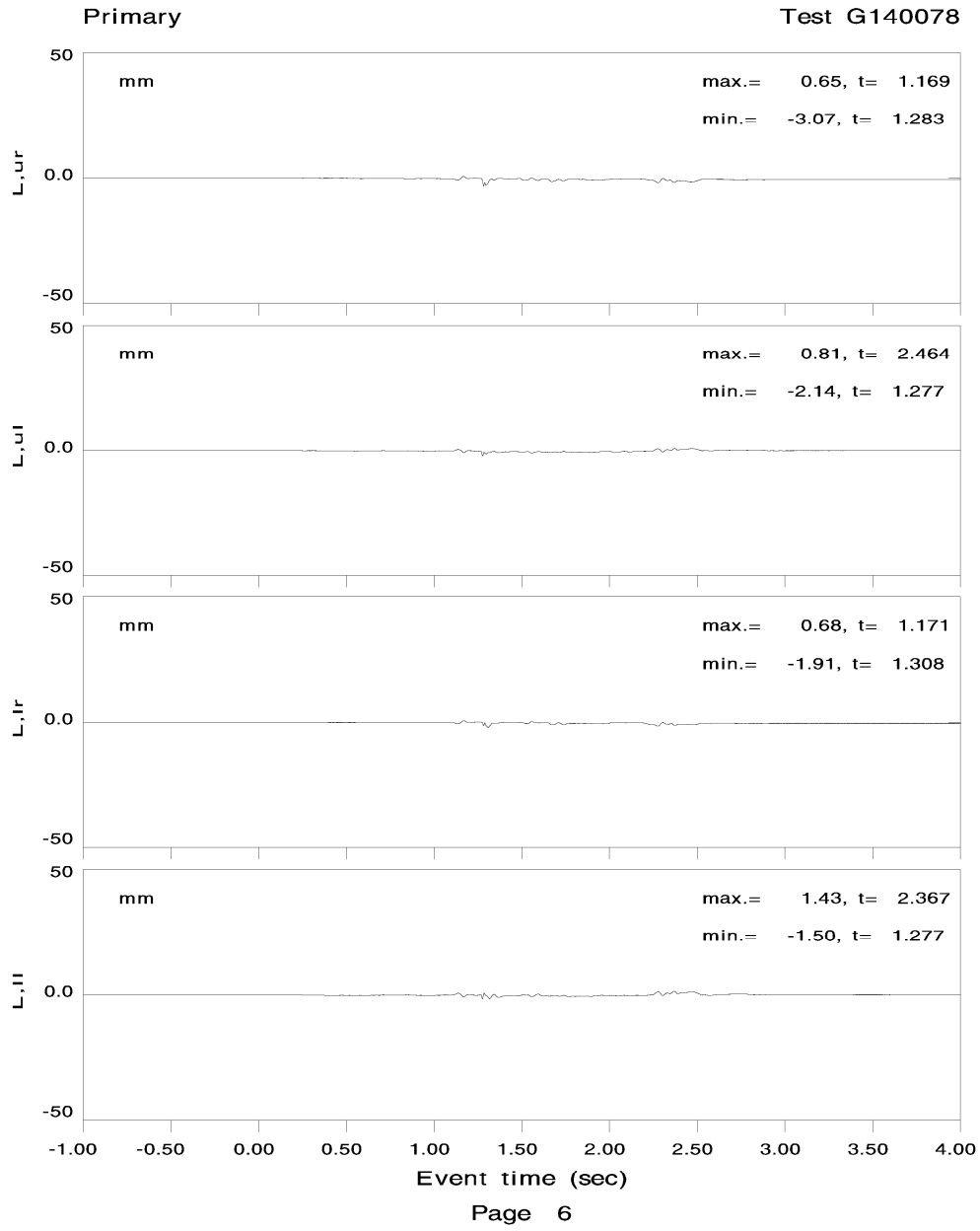


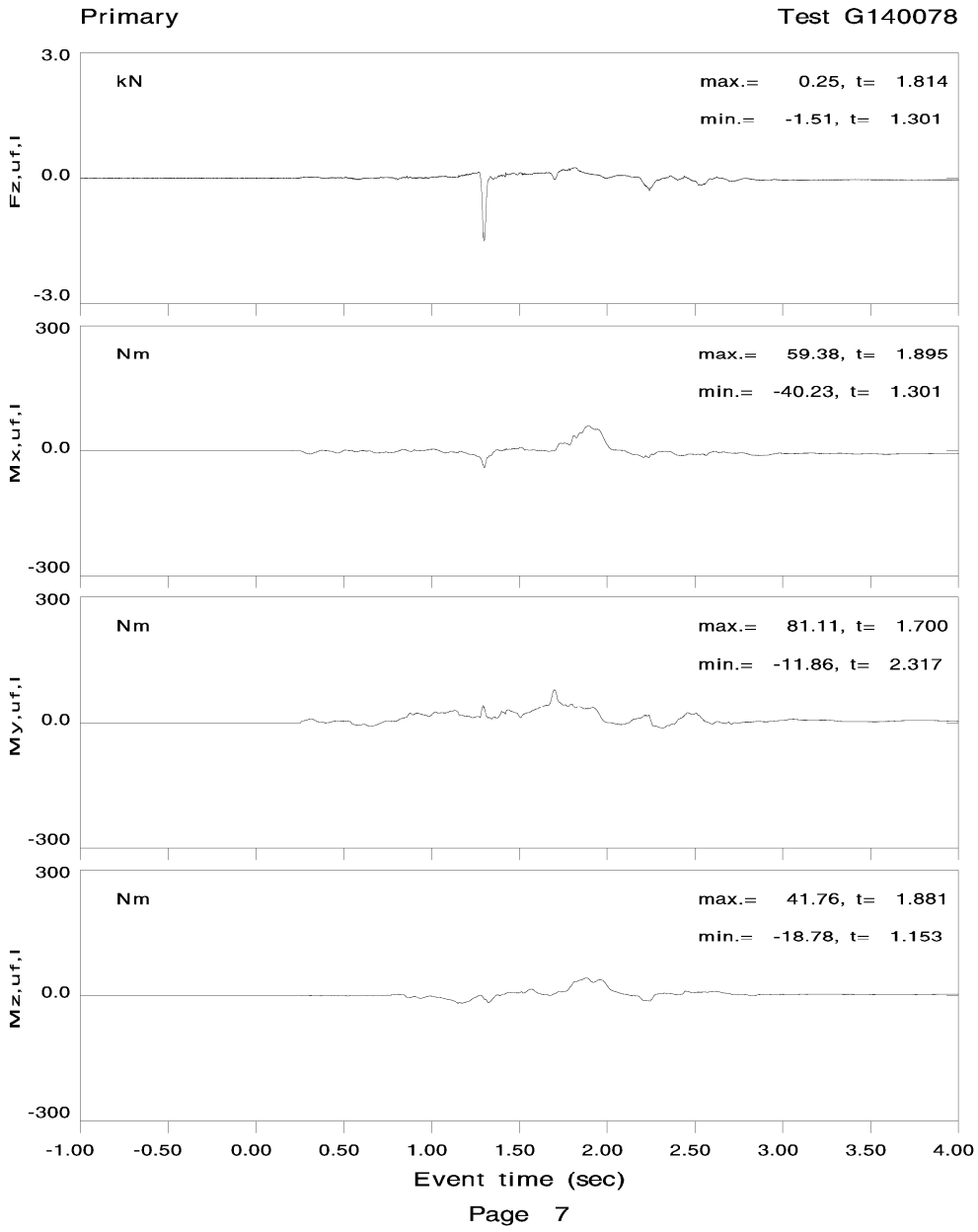
Page 4

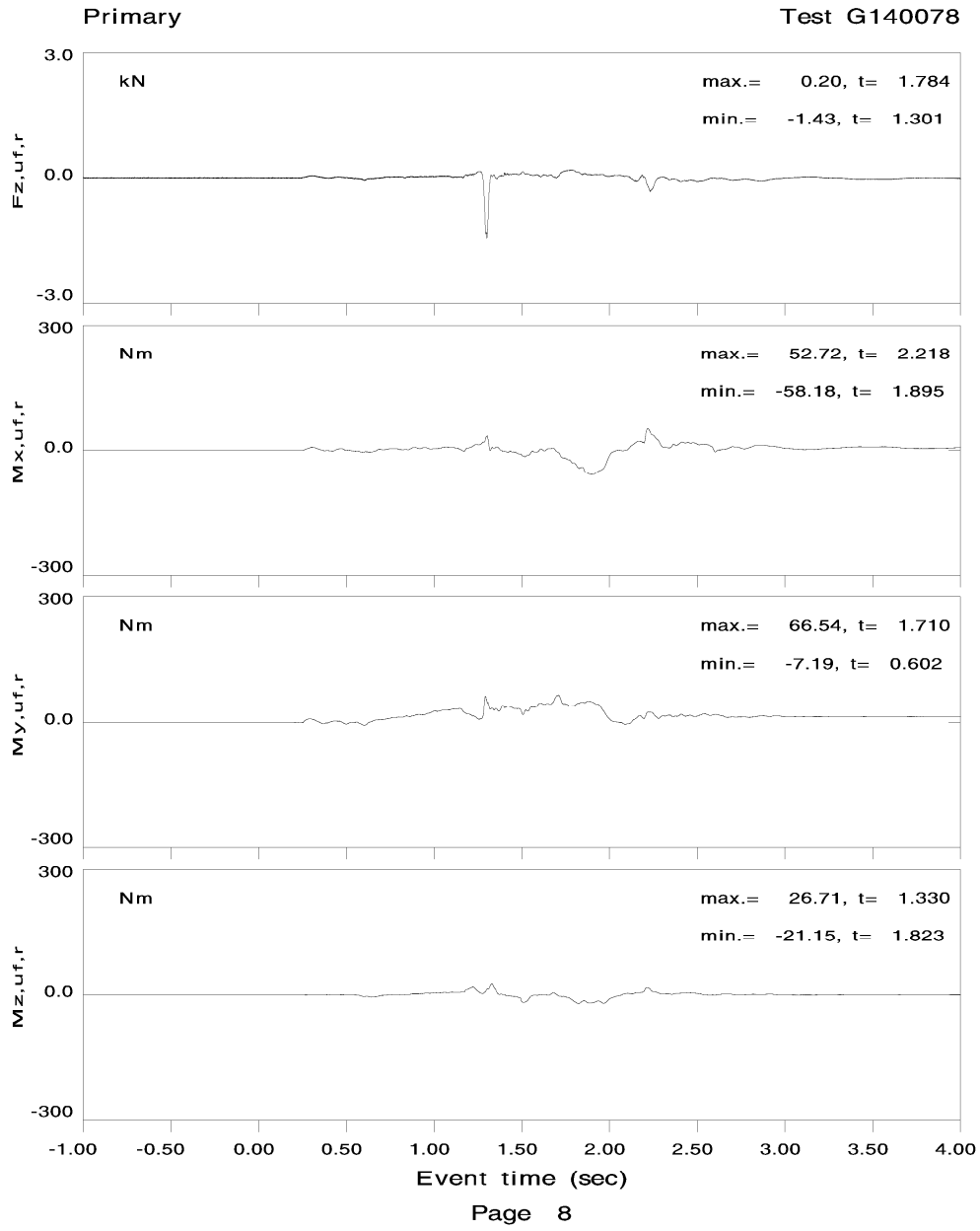
Primary Test G140078

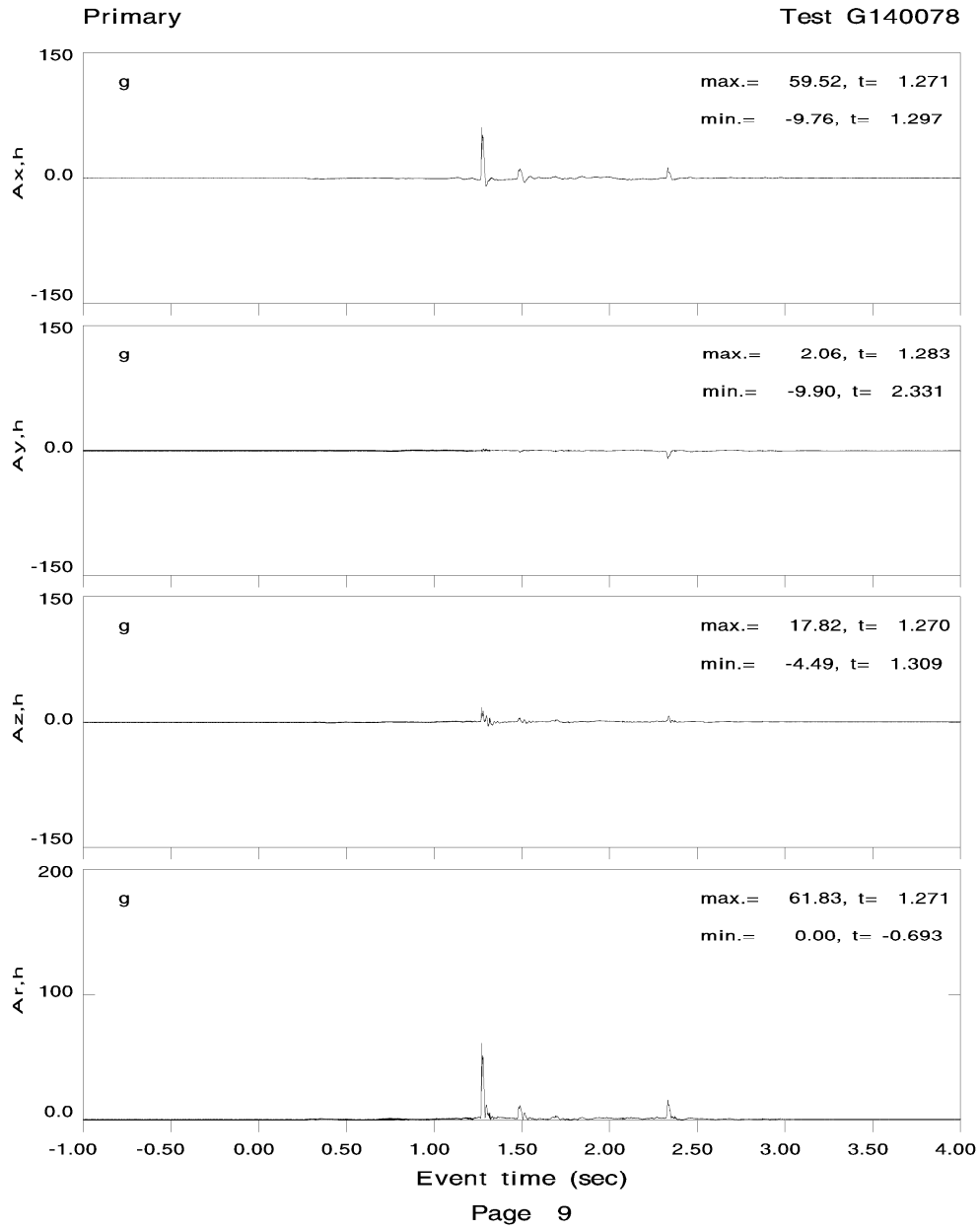


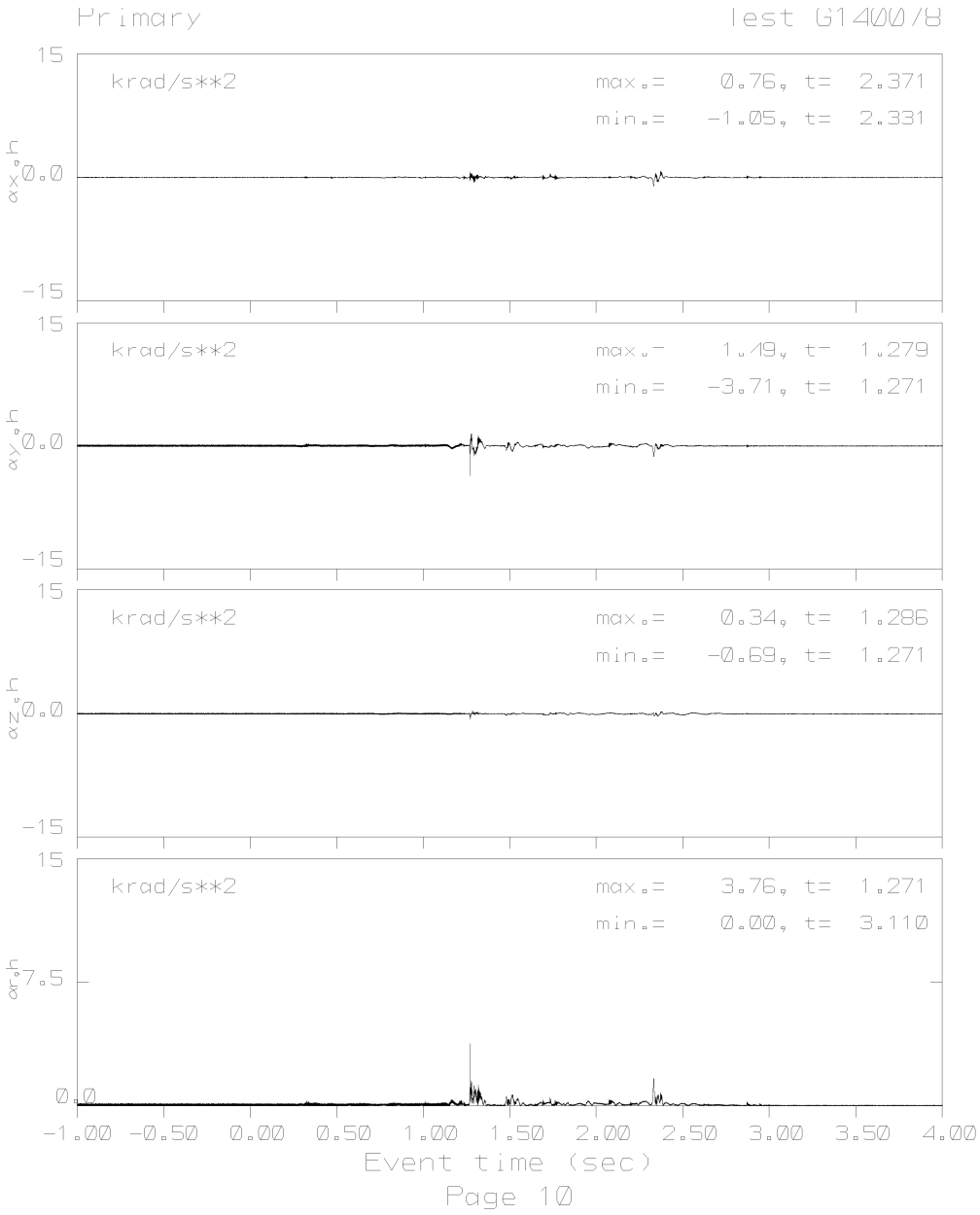
Page 5

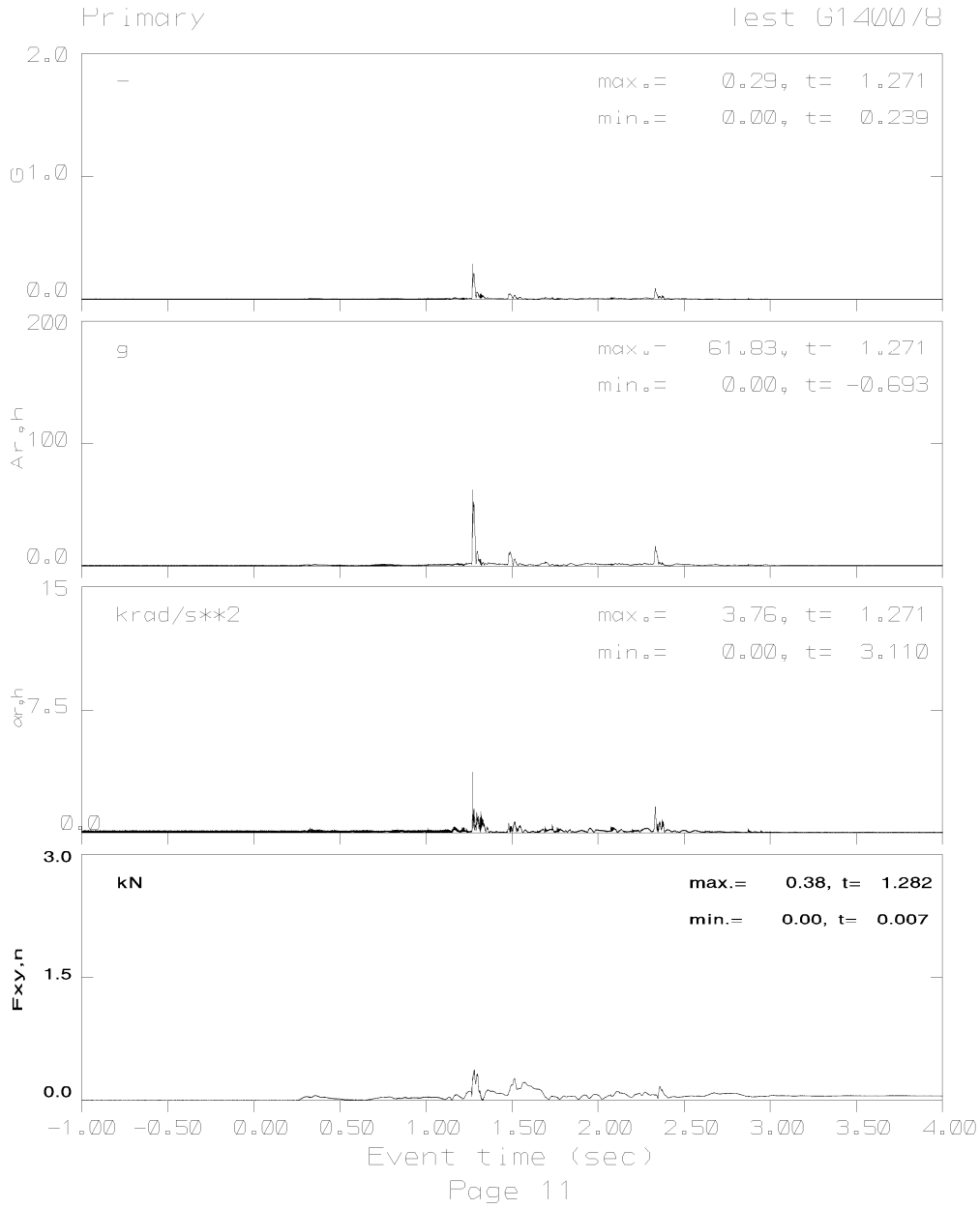

Primary
Test G140078
mm
max.= 0.65, t= 1.169
min.= -3.07, t= 1.283
L,ur
mm
max.= 0.81, t= 2.464
min.= -2.14, t= 1.277
L,ul
mm
max.= 0.68, t= 1.171
min.= -1.91, t= 1.308
L,lr
mm
max.= 1.43, t= 2.367
min.= -1.50, t= 1.277
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

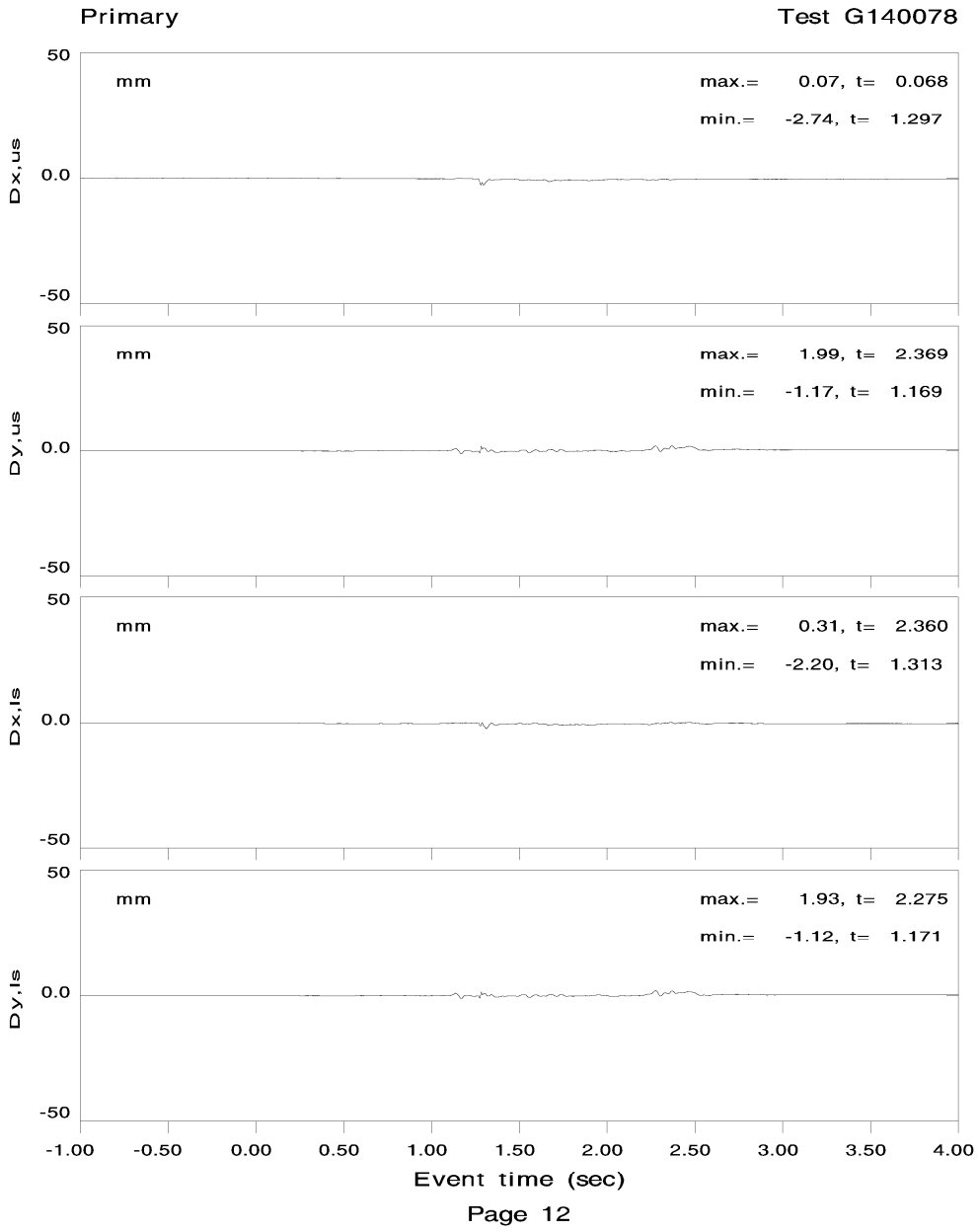

Primary
Test G140078
kN
max.= 0.25, t= 1.814
min.= -1.51, t= 1.301
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 59.38, t= 1.895
min.= -40.23, t= 1.301
Mx,uf,l
300
0.0
-300
Nm
max.= 81.11, t= 1.700
min.= -11.86, t= 2.317
My,uf,l
300
0.0
-300
Nm
max.= 41.76, t= 1.881
min.= -18.78, t= 1.153
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140078
kN
max.= 0.20, t= 1.784
min.= -1.43, t= 1.301
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 52.72, t= 2.218
min.= -58.18, t= 1.895
Mx,uf,r
300
0.0
-300
Nm
max.= 66.54, t= 1.710
min.= -7.19, t= 0.602
My,uf,r
300
0.0
-300
Nm
max.= 26.71, t= 1.330
min.= -21.15, t= 1.823
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

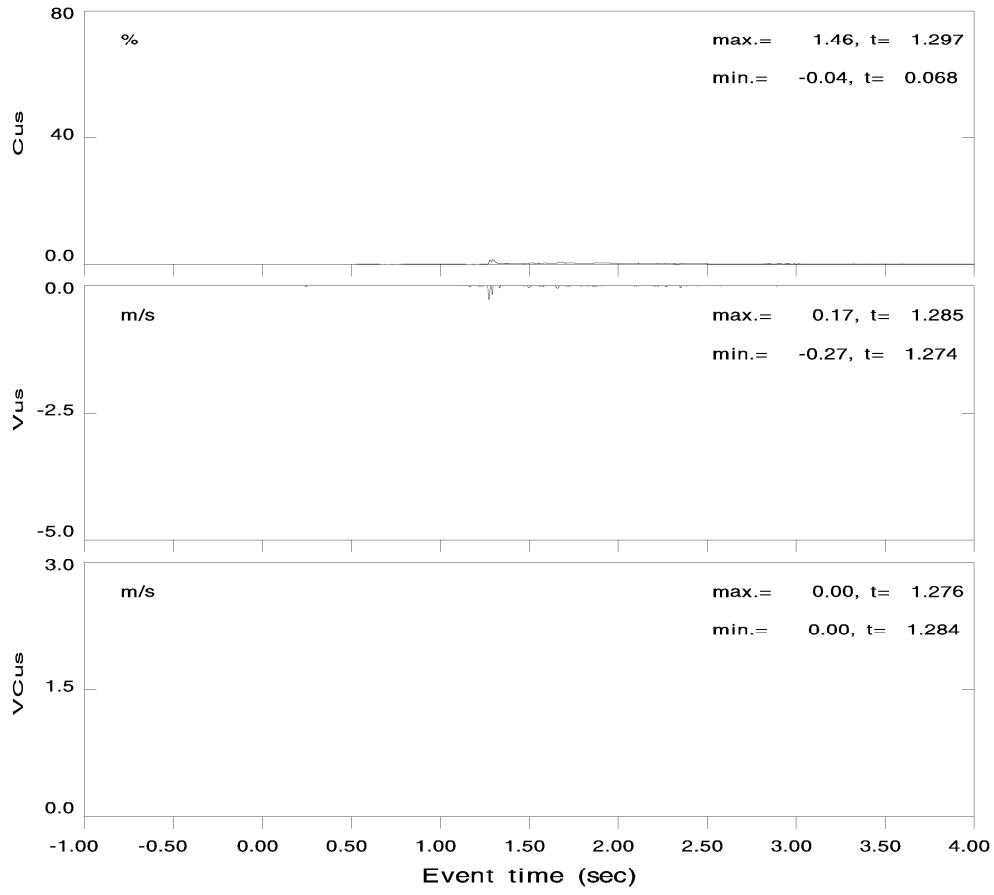

Primary
Test G140078
g
max.= 59.52, t= 1.271
min.= -9.76, t= 1.297
Ax,h
150
0.0
-150
g
max.= 2.06, t= 1.283
min.= -9.90, t= 2.331
Ay,h
150
0.0
-150
g
max.= 17.82, t= 1.270
min.= -4.49, t= 1.309
Az,h
150
0.0
-150
g
max.= 61.83, t= 1.271
min.= 0.00, t= -0.693
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G1400/8
krad/s**2
max.= 0.76, t= 2.371
min.= -1.05, t= 2.331
ax,h
krad/s**2
max.= 1.49, t= 1.279
min.= -3.71, t= 1.271
ay,h
krad/s**2
max.= 0.34, t= 1.286
min.= -0.69, t= 1.271
az,h
krad/s**2
max.= 3.76, t= 1.271
min.= 0.00, t= 3.110
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G1400/8
2.0
-
max.= 0.29, t= 1.271
min.= 0.00, t= 0.239
G1.0
0.0
200
g
max.= 61.83, t= 1.271
min.= 0.00, t= -0.693
Ar.h
100
0.0
15
krad/s**2
max.= 3.76, t= 1.271
min.= 0.00, t= 3.110
ar.h
7.5
0.0
3.0
kN
max.= 0.38, t= 1.282
min.= 0.00, t= 0.007
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

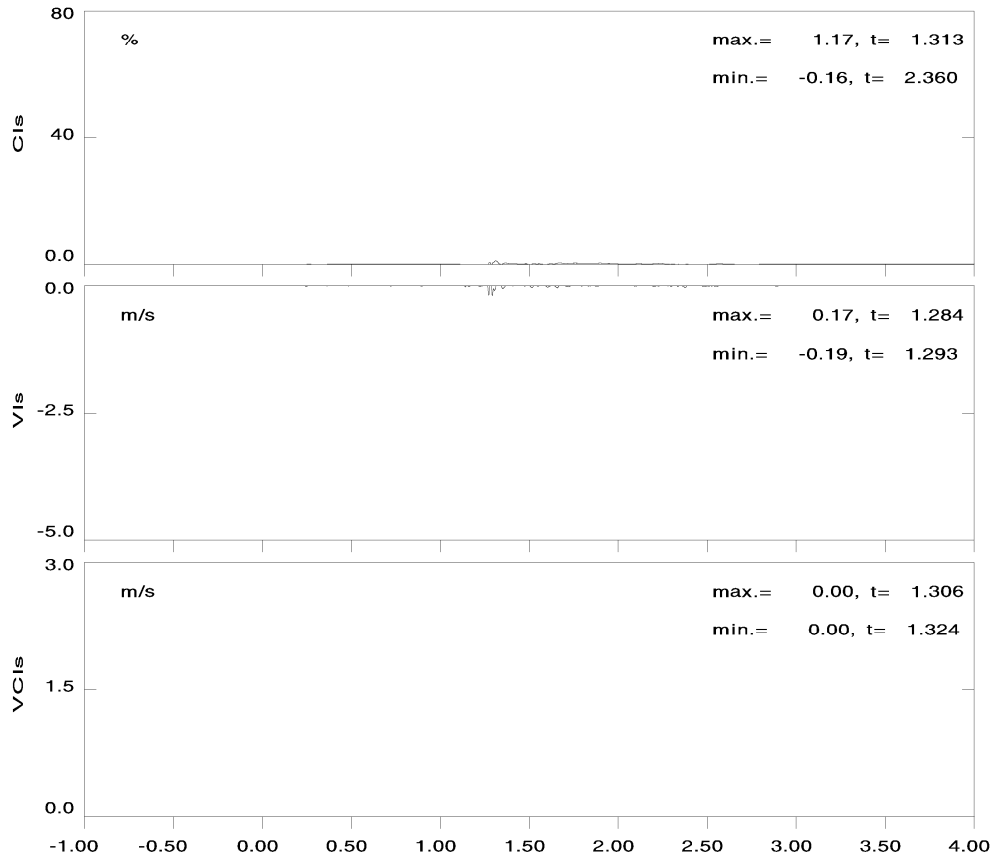

Primary
Test G140078
Dx,us
Dy,us
Dx,ls
Dy,ls
mm
max.= 0.07, t= 0.068
min.= -2.74, t= 1.297
max.= 1.99, t= 2.369
min.= -1.17, t= 1.169
max.= 0.31, t= 2.360
min.= -2.20, t= 1.313
max.= 1.93, t= 2.275
min.= -1.12, t= 1.171
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140078



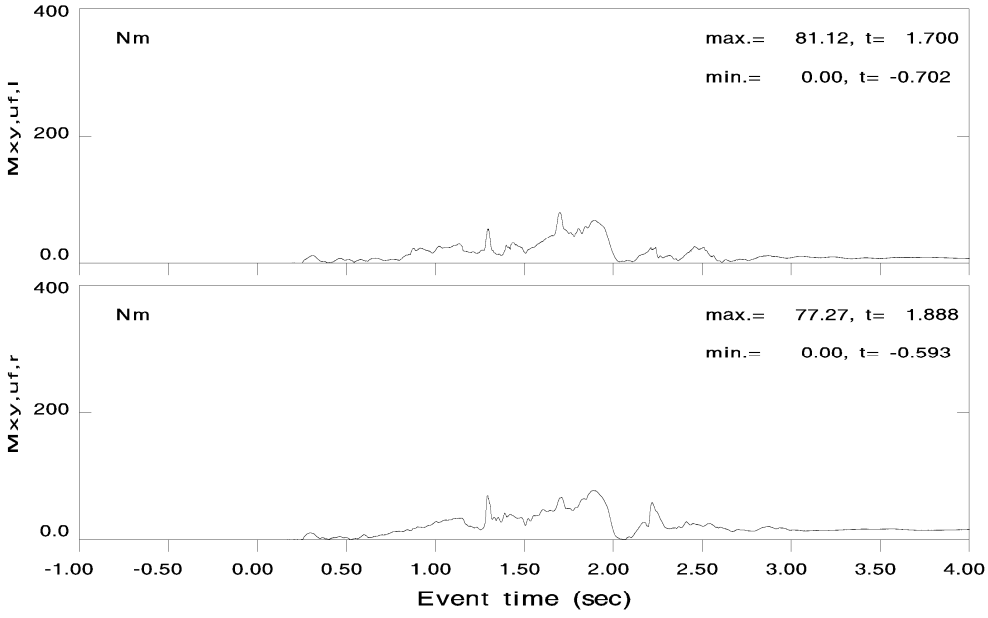
Page 13

Primary Test G140078

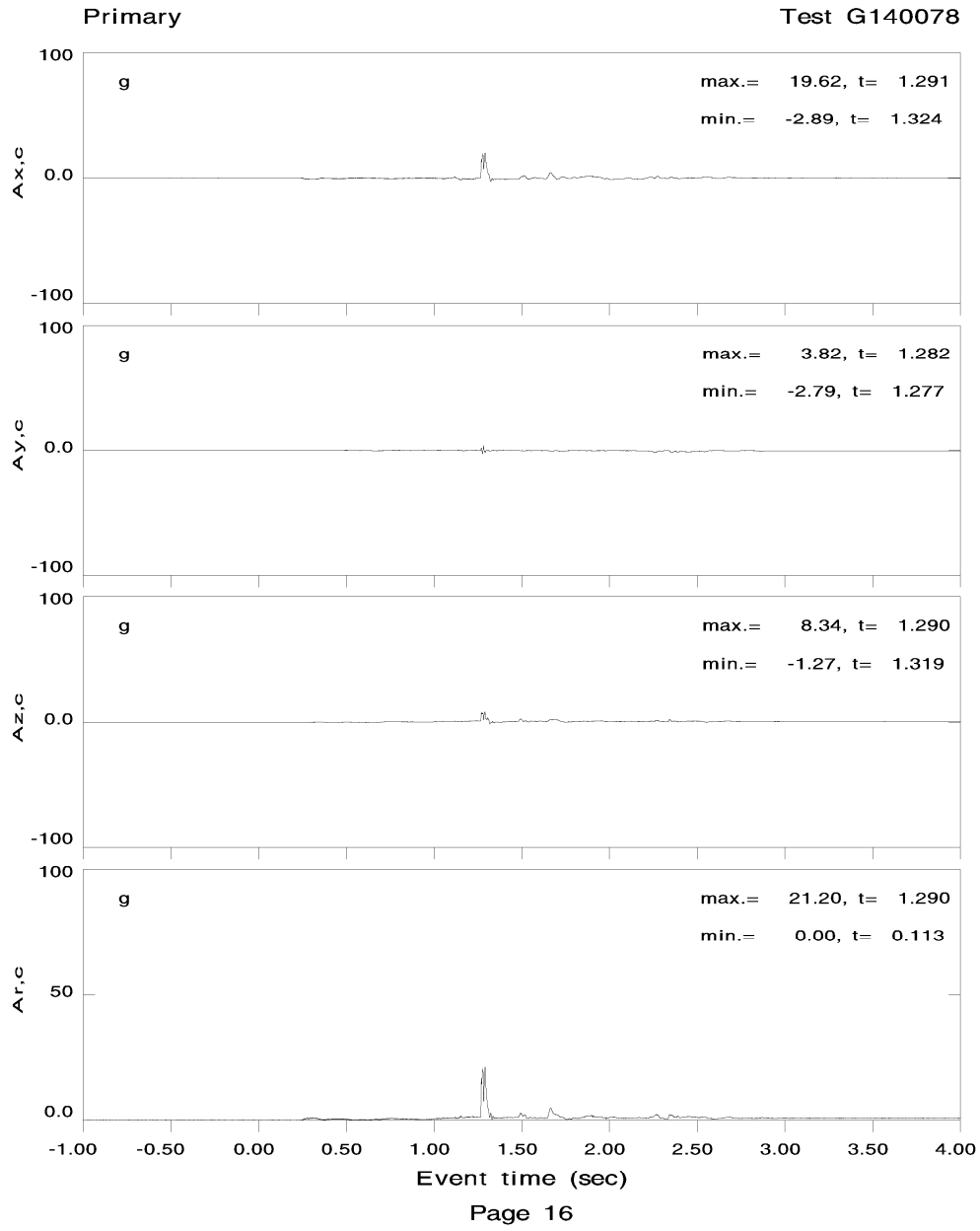


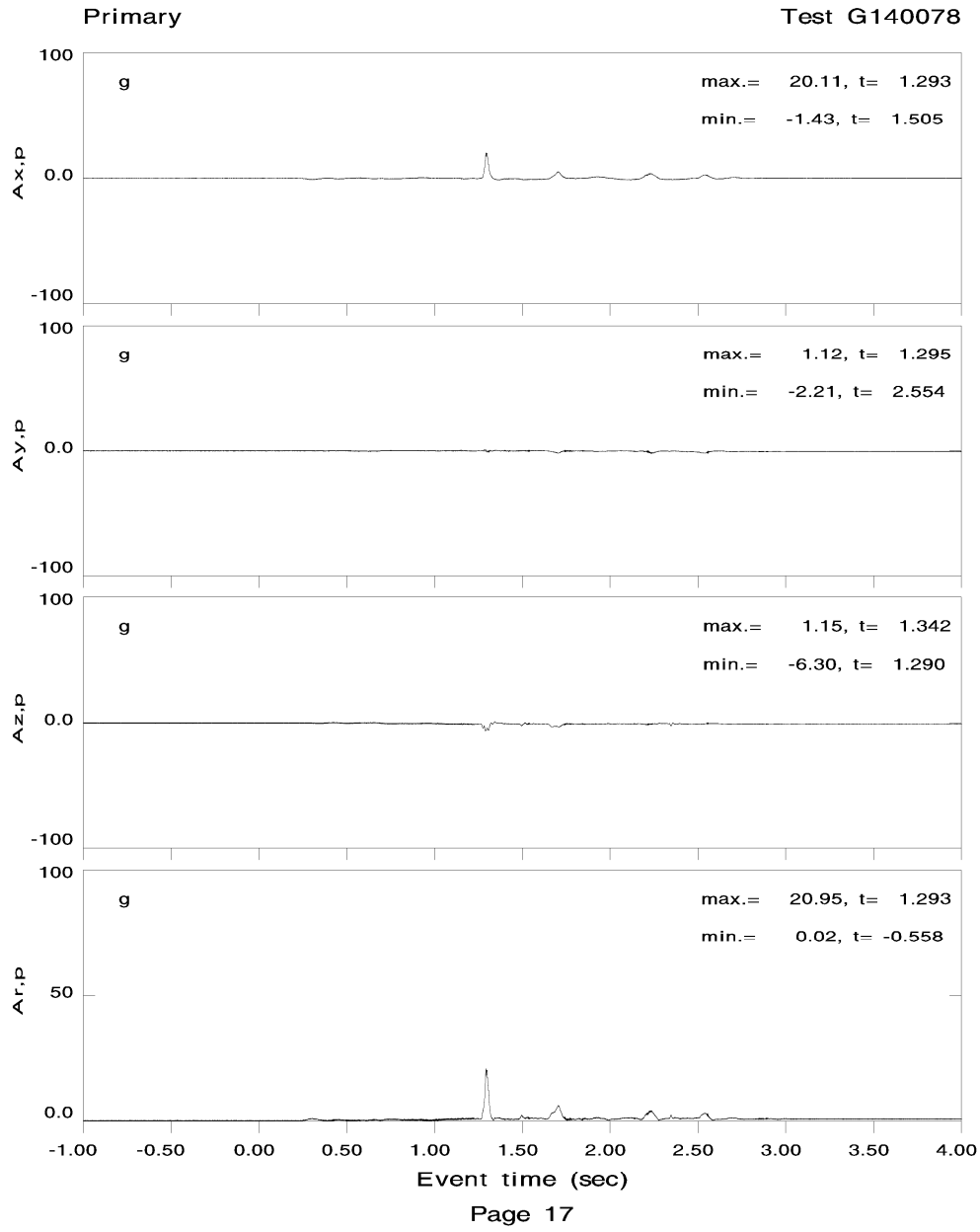
Page 14

Primary Test G140078

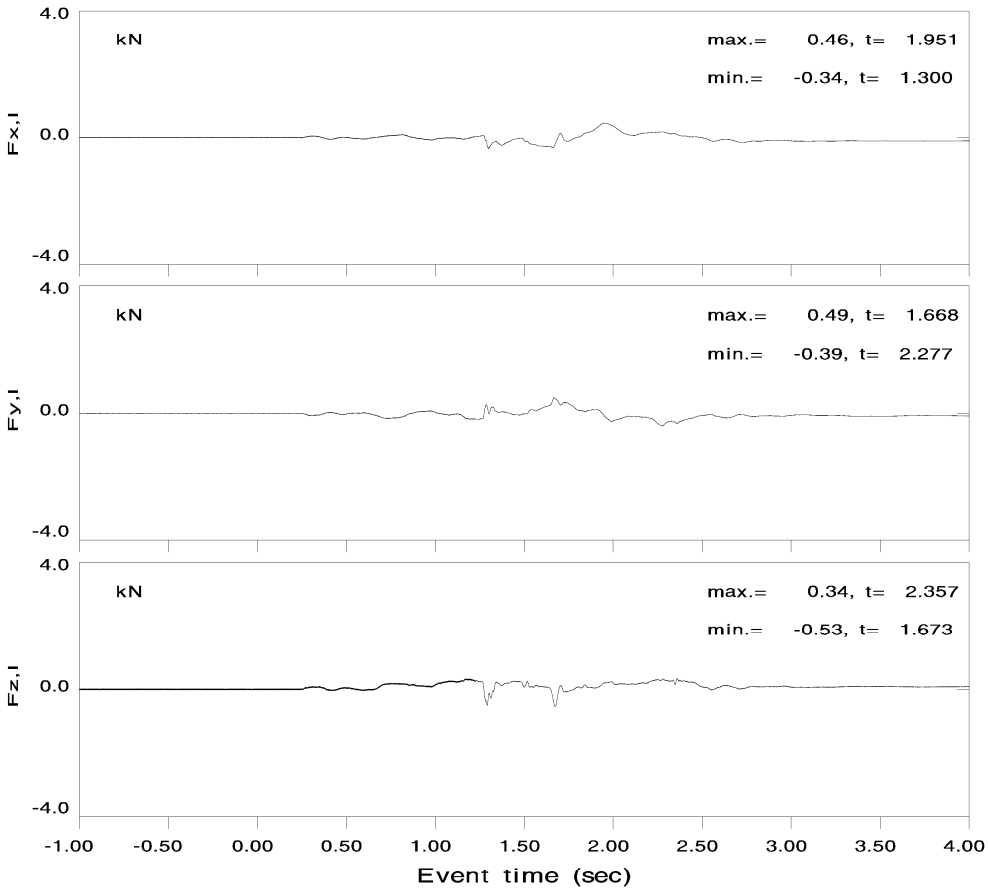


Page 15


Primary
Test G140078
g
max.= 19.62, t= 1.291
min.= -2.89, t= 1.324
Ax,c
g
max.= 3.82, t= 1.282
min.= -2.79, t= 1.277
Ay,c
g
max.= 8.34, t= 1.290
min.= -1.27, t= 1.319
Az,c
g
max.= 21.20, t= 1.290
min.= 0.00, t= 0.113
Ar,c
Event time (sec)
Page 16

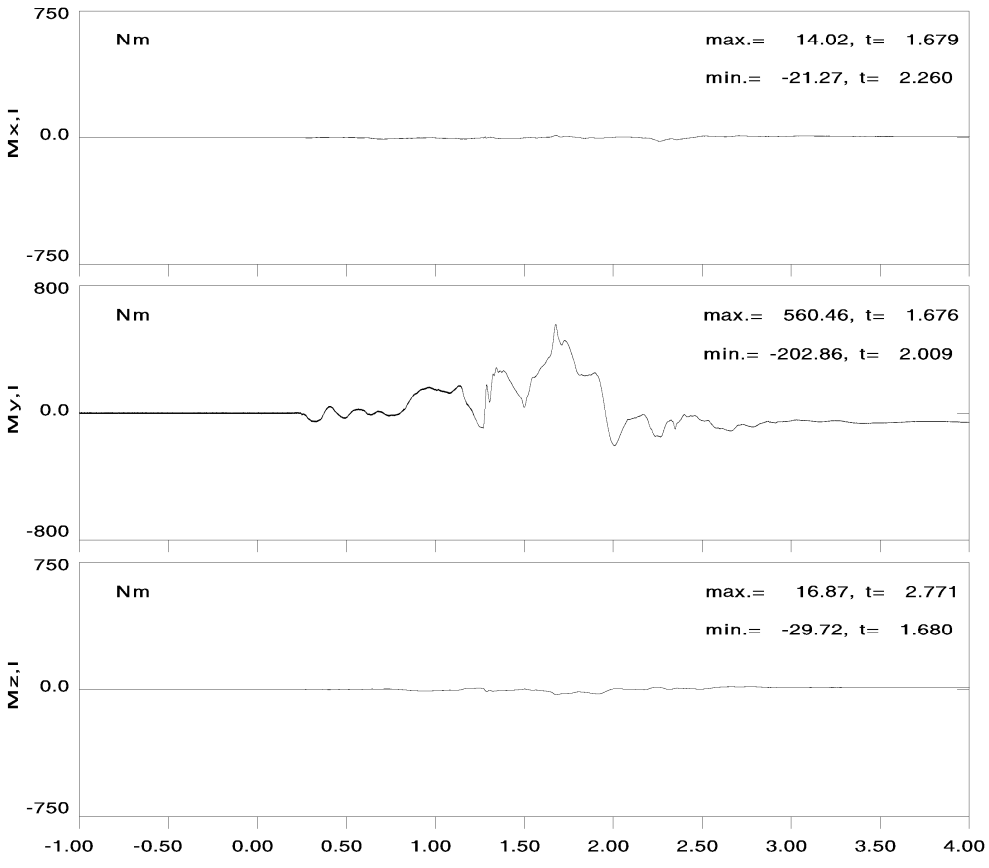

Primary
Test G140078
g
max.= 20.11, t= 1.293
min.= -1.43, t= 1.505
Ax,p
100
0.0
-100
g
max.= 1.12, t= 1.295
min.= -2.21, t= 2.554
Ay,p
100
0.0
-100
g
max.= 1.15, t= 1.342
min.= -6.30, t= 1.290
Az,p
100
0.0
-100
g
max.= 20.95, t= 1.293
min.= 0.02, t= -0.558
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140078

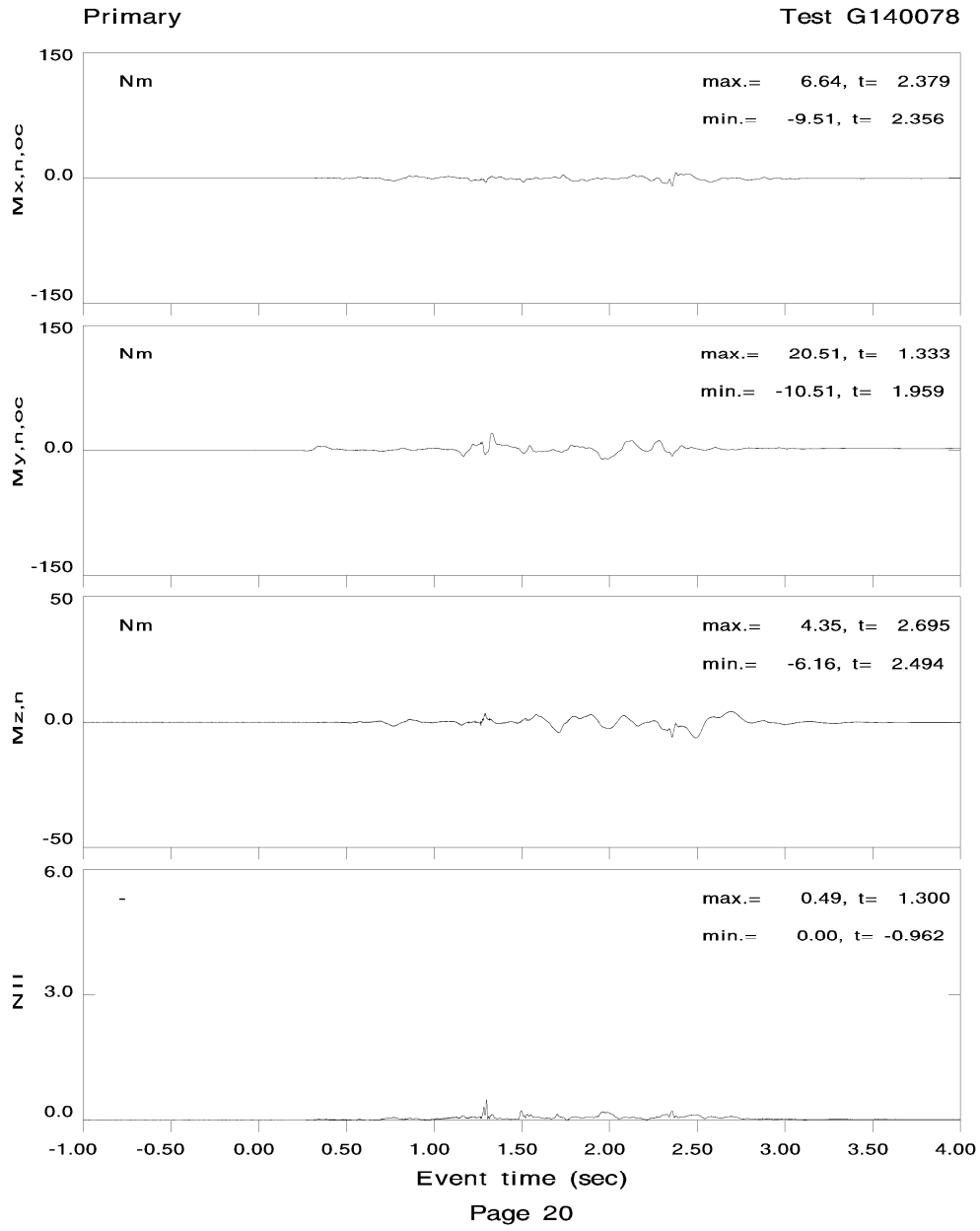


Page 18

Primary Test G140078



Page 19


Primary
Test G140078
Nm
max.= 6.64, t= 2.379
min.= -9.51, t= 2.356
Mx,n,oc
150
0.0
-150
Nm
max.= 20.51, t= 1.333
min.= -10.51, t= 1.959
My,n,oc
150
0.0
-150
Nm
max.= 4.35, t= 2.695
min.= -6.16, t= 2.494
Mz,n
50
0.0
-50
-
max.= 0.49, t= 1.300
min.= 0.00, t= -0.962
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)

Page 20

2.5 G140079

G140079_ICM.IC1

Test Number : G140079
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.370
Cmax	=	1.510
VCmax	=	0.000
HIC	=	180.4
NII (2002 MATD Neck)	=	0.8
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.002
Normalized Cost of Survival	=	0.002
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.921	1.000	1.000	1.000	1.000	0
1	0.054	0.000	0.000	0.000	0.000	0
2	0.017	0.000	0.000	0.000	0.000	0
3	0.008	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.112	0.000	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.002	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140079.rpt

Test G140079, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	35.09 g	1.148	-2.82 g	1.220
Ay,c	4.52 g	1.166	-5.90 g	1.159
Az,c	14.42 g	1.148	-3.26 g	1.262
Ax,p	11.06 g	1.244	-1.60 g	1.301
Ay,p	0.94 g	2.229	-1.37 g	1.234
Az,p	2.01 g	1.156	-6.35 g	2.151
spare	0.00 -	1.792	0.00 -	0.844
spare	0.00 -	0.234	0.00 -	3.392
L,ur	0.91 mm	1.238	-5.57 mm	1.166
L,lr	1.06 mm	1.237	-4.09 mm	1.168
a1	11.06 g	1.649	-56.74 g	1.165
a2	11.75 g	1.649	-57.12 g	1.165
a3	16.31 g	1.649	-70.13 g	1.165
a4	9.06 g	1.649	-48.42 g	1.165
a5	8.25 g	1.649	-46.77 g	1.165
a6	14.18 g	1.649	-64.32 g	1.166
Mx,l	11.91 Nm	1.266	-9.84 Nm	2.857
My,l	592.41 Nm	1.368	-42.06 Nm	0.189
Mz,l	5.32 Nm	2.580	-29.99 Nm	1.530
Fx,l	0.22 kN	1.209	-0.52 kN	1.262
Fy,l	0.51 kN	2.150	-0.11 kN	0.620
Fz,l	0.36 kN	1.155	-0.56 kN	1.262
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
spare	0.17 -	3.988	0.01 -	-0.993
spare	0.00 -	3.309	0.00 -	2.429
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.01 -	2.658	0.00 -	-0.280
a7	26.90 g	1.170	-3.11 g	1.301
a8	35.42 g	1.166	-7.40 g	1.650
a9	32.91 g	1.170	-7.04 g	1.649
Fz,uf,r	0.27 kN	2.204	-0.42 kN	1.249
Mx,uf,r	33.27 Nm	1.445	-24.90 Nm	2.780
My,uf,r	80.38 Nm	1.215	-11.27 Nm	0.445
Mz,uf,r	42.58 Nm	1.233	-4.72 Nm	2.778
Fz,uf,l	0.24 kN	1.314	-0.40 kN	1.242
Mx,uf,l	46.30 Nm	2.778	-33.60 Nm	2.172
My,uf,l	91.58 Nm	2.175	-1.16 Nm	0.485
Mz,uf,l	6.61 Nm	2.811	-25.93 Nm	1.405
Fx,n	0.36 kN	1.183	-0.37 kN	1.315
Fy,n	0.10 kN	1.145	-0.06 kN	1.176
Fz,n	0.74 kN	1.193	-0.38 kN	1.962
Mx,n	6.01 Nm	1.169	-5.07 Nm	1.269
My,n	39.39 Nm	1.325	-39.89 Nm	1.203
Mz,n	3.16 Nm	1.434	-3.28 Nm	2.189
L,ul	1.42 mm	1.167	-2.47 mm	1.155
L,ll	2.98 mm	1.167	-2.34 mm	1.247
Ax,h	74.40 g	1.165	-14.20 g	1.649
Ay,h	1.70 g	1.151	-6.19 g	1.165
Az,h	26.91 g	1.170	-3.11 g	1.301
àx,h	0.68 krad/s**2	1.151	-0.82 krad/s**2	1.151
ày,h	1.73 krad/s**2	1.649	-5.26 krad/s**2	1.166
àz,h	0.28 krad/s**2	1.167	-0.49 krad/s**2	1.166
Ar,h	76.75 g	1.165	0.01 g	-0.339
àr,h	5.28 krad/s**2	1.166	0.00 krad/s**2	3.965
G	0.37 -	1.165	0.00 -	-0.541
HIC	180.43	1.178	----	1.164
Fxy,n	0.37 kN	1.315	0.00 kN	-0.247
Dx,us	0.07 mm	-0.652	-2.83 mm	1.165
Dy,us	5.38 mm	1.167	-2.05 mm	1.242

Page 1

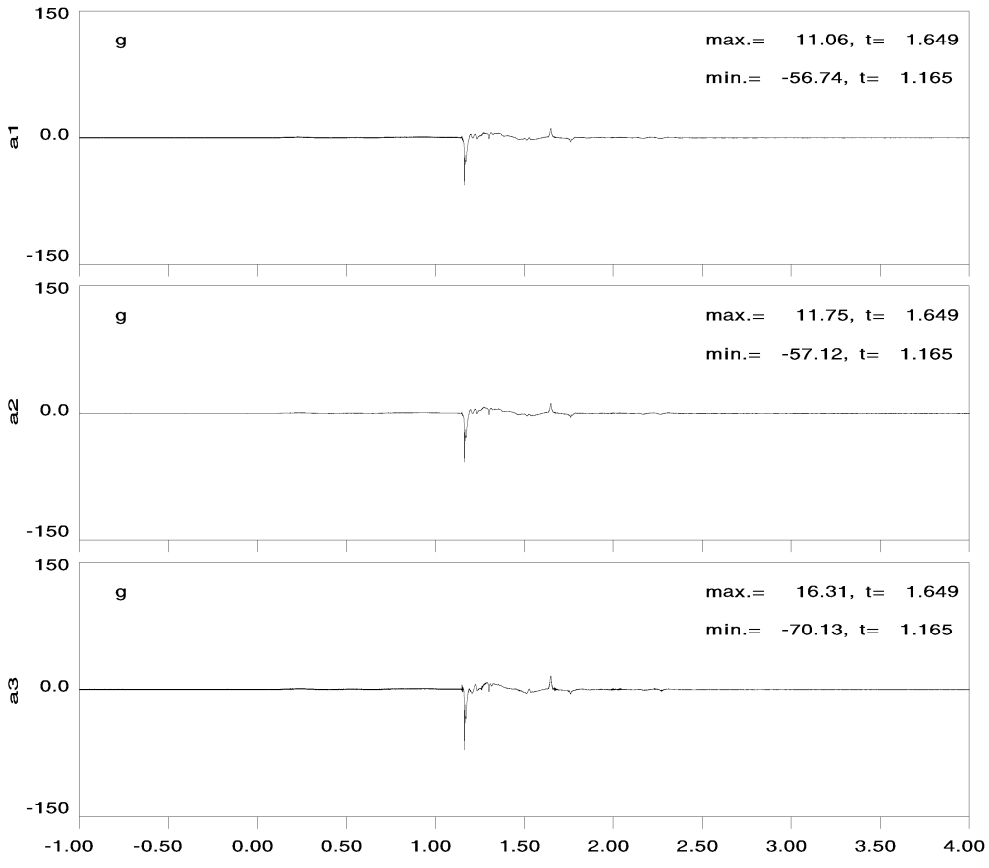
G140079.rpt

Cus	1.51	%	1.165	-0.04	%	-0.652
Vus	0.13	m/s	1.184	-0.40	m/s	1.150
VCus	0.00	m/s	1.151	0.00	m/s	1.183
Dx,ls	0.87	mm	1.219	-1.61	mm	1.155
Dy,ls	5.17	mm	1.167	-2.17	mm	1.241
Cls	0.86	%	1.155	-0.46	%	1.219
Vls	0.12	m/s	1.158	-0.29	m/s	1.150
VCls	0.00	m/s	1.152	0.00	m/s	1.158
Mxy,uf,r	81.73	Nm	1.215	0.00	Nm	-0.330
Mxy,uf,l	97.10	Nm	2.175	0.00	Nm	-0.463
Mx,n,oc	6.37	Nm	1.382	-4.31	Nm	1.269
My,n,oc	44.17	Nm	1.325	-35.55	Nm	1.204
NII	0.75	-	1.202	0.00	-	-0.487
Ar,p	11.50	g	1.242	0.02	g	-0.035
Ar,c	37.95	g	1.148	0.00	g	-0.912

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

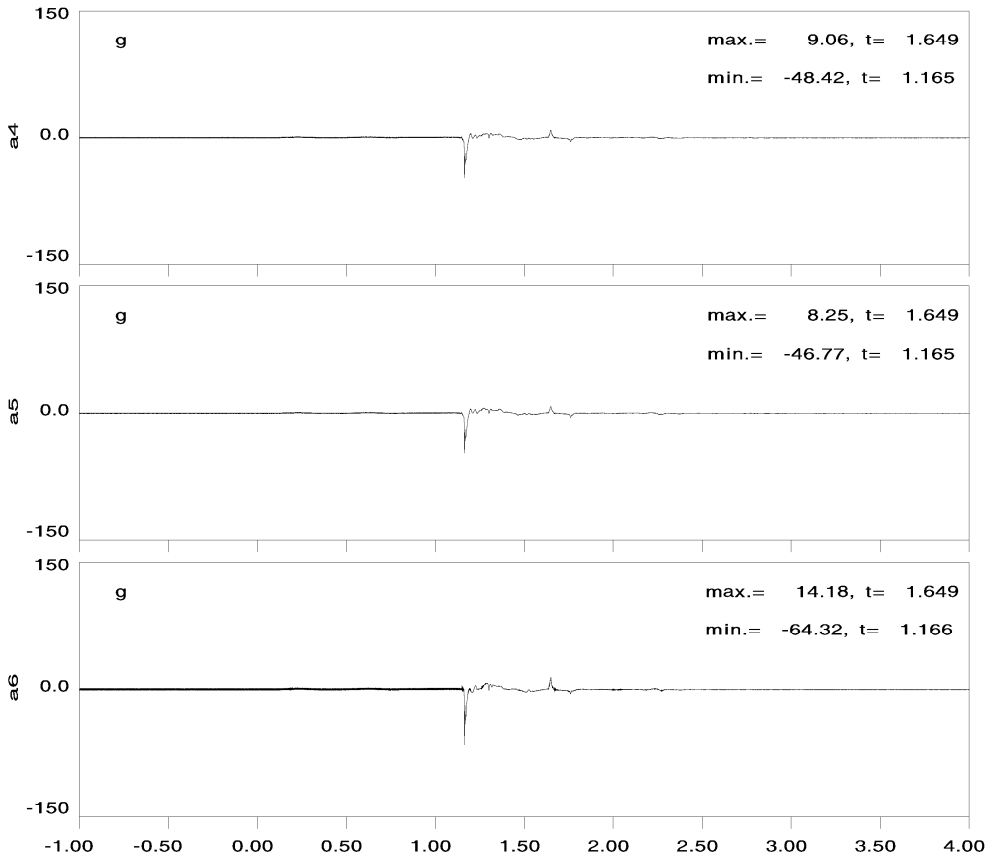
Page 2

Primary Test G140079



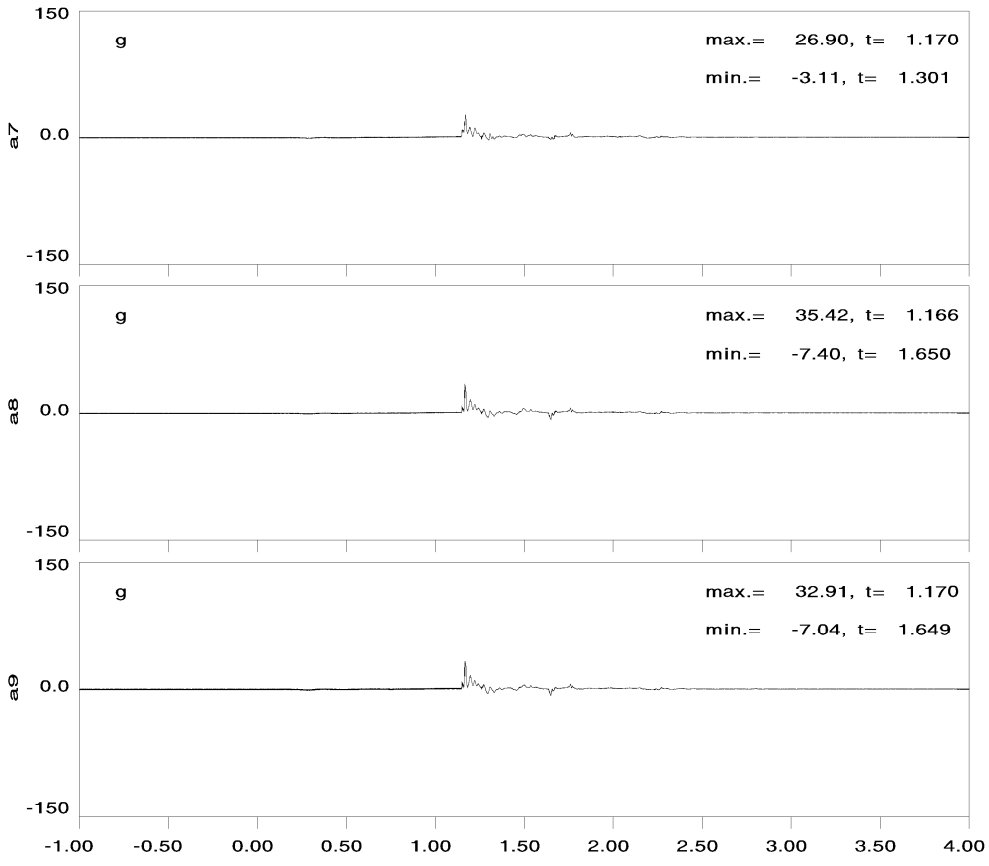
Page 1

Primary Test G140079



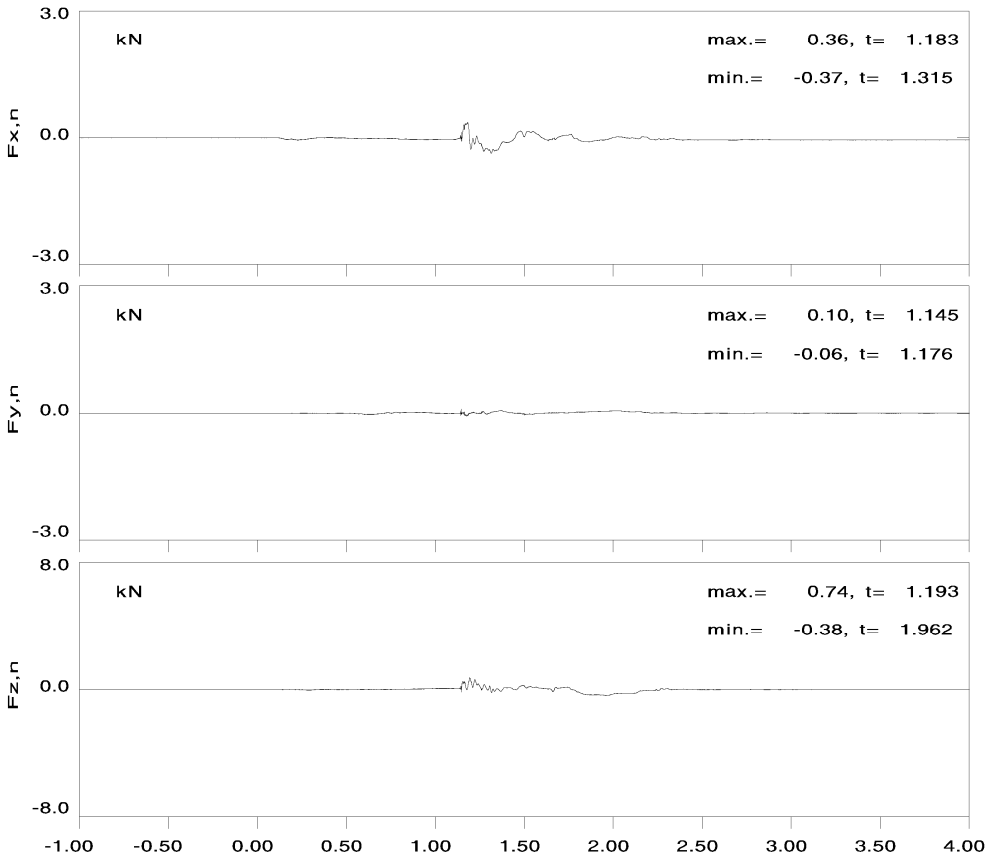
Page 2

Primary Test G140079



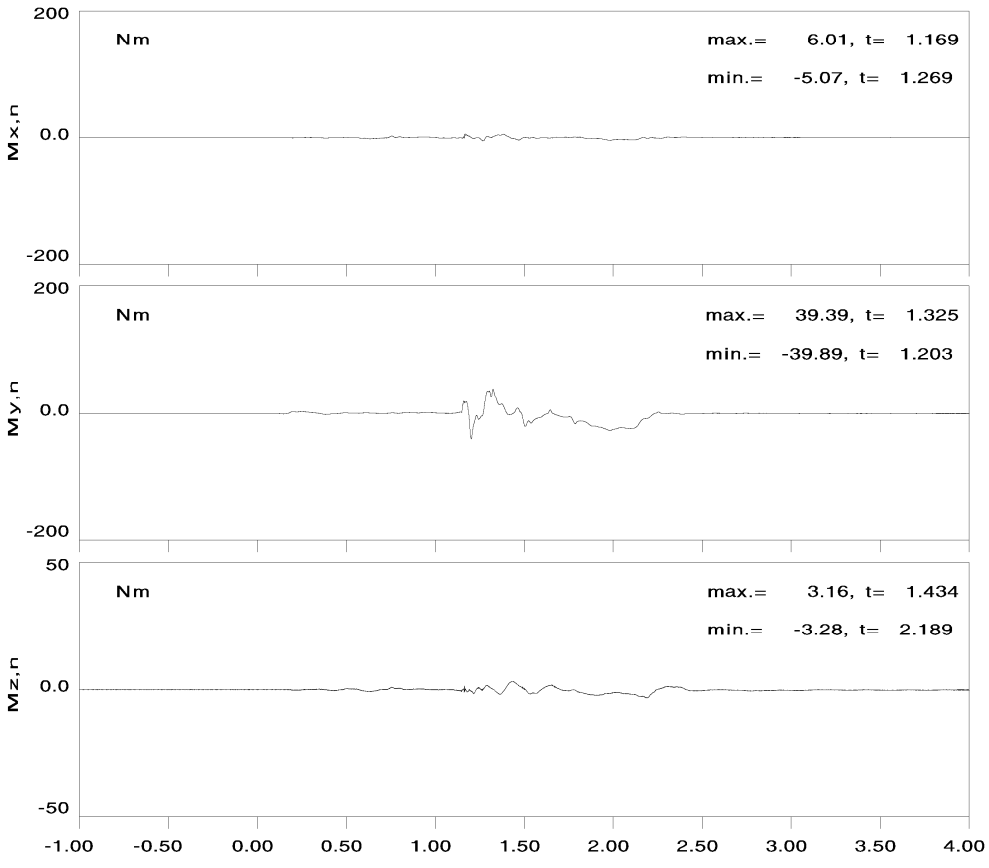
Page 3

Primary Test G140079

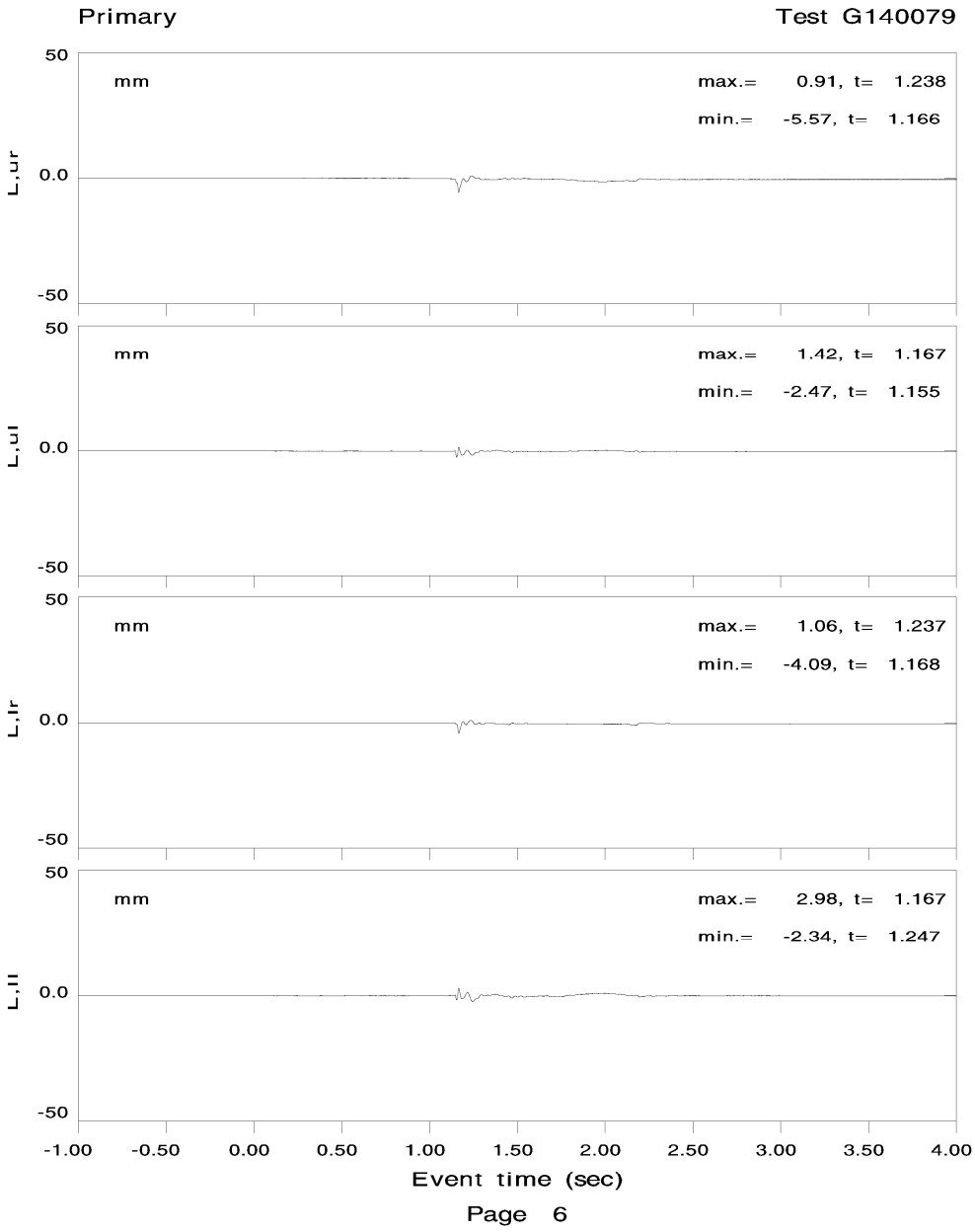


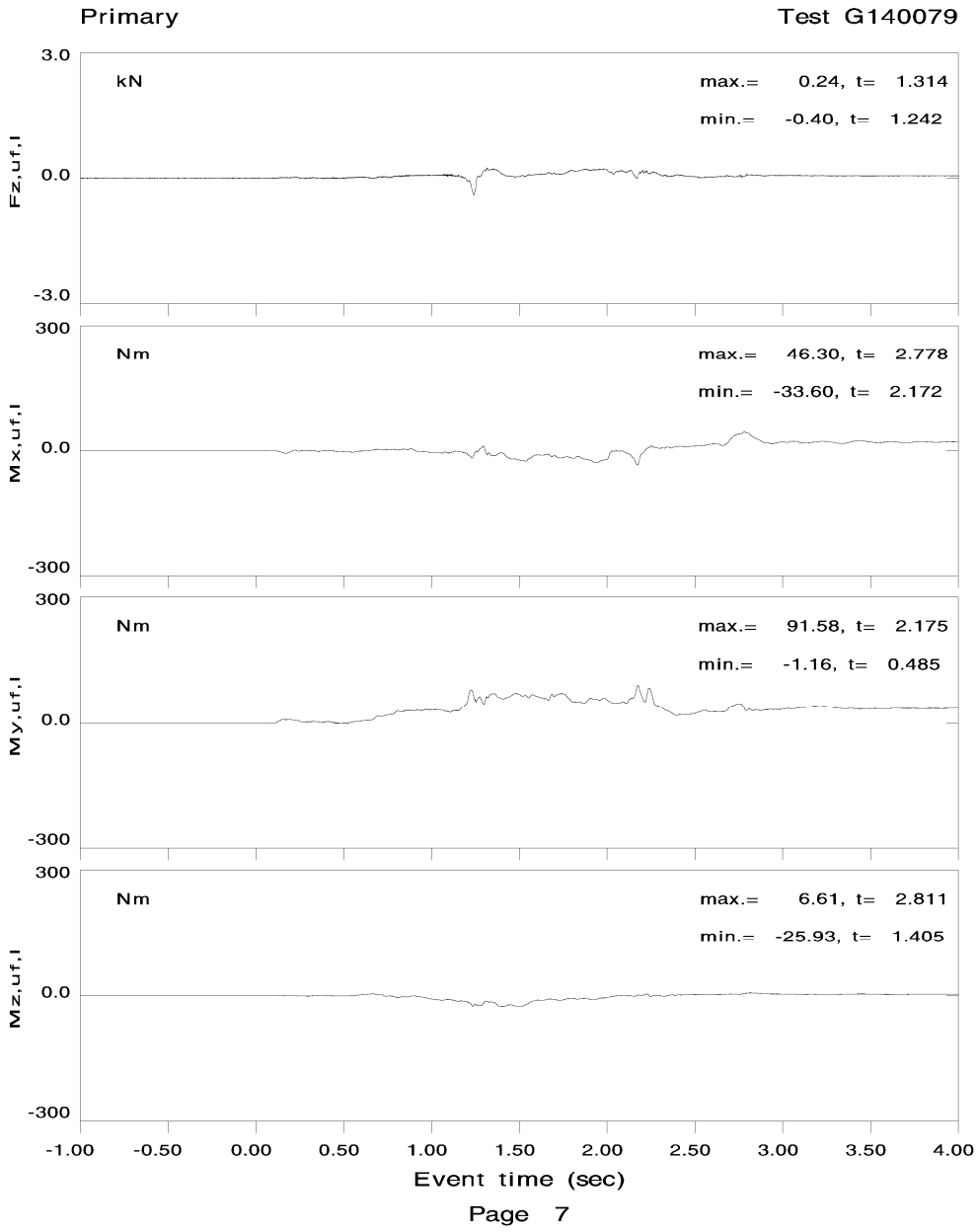
Page 4

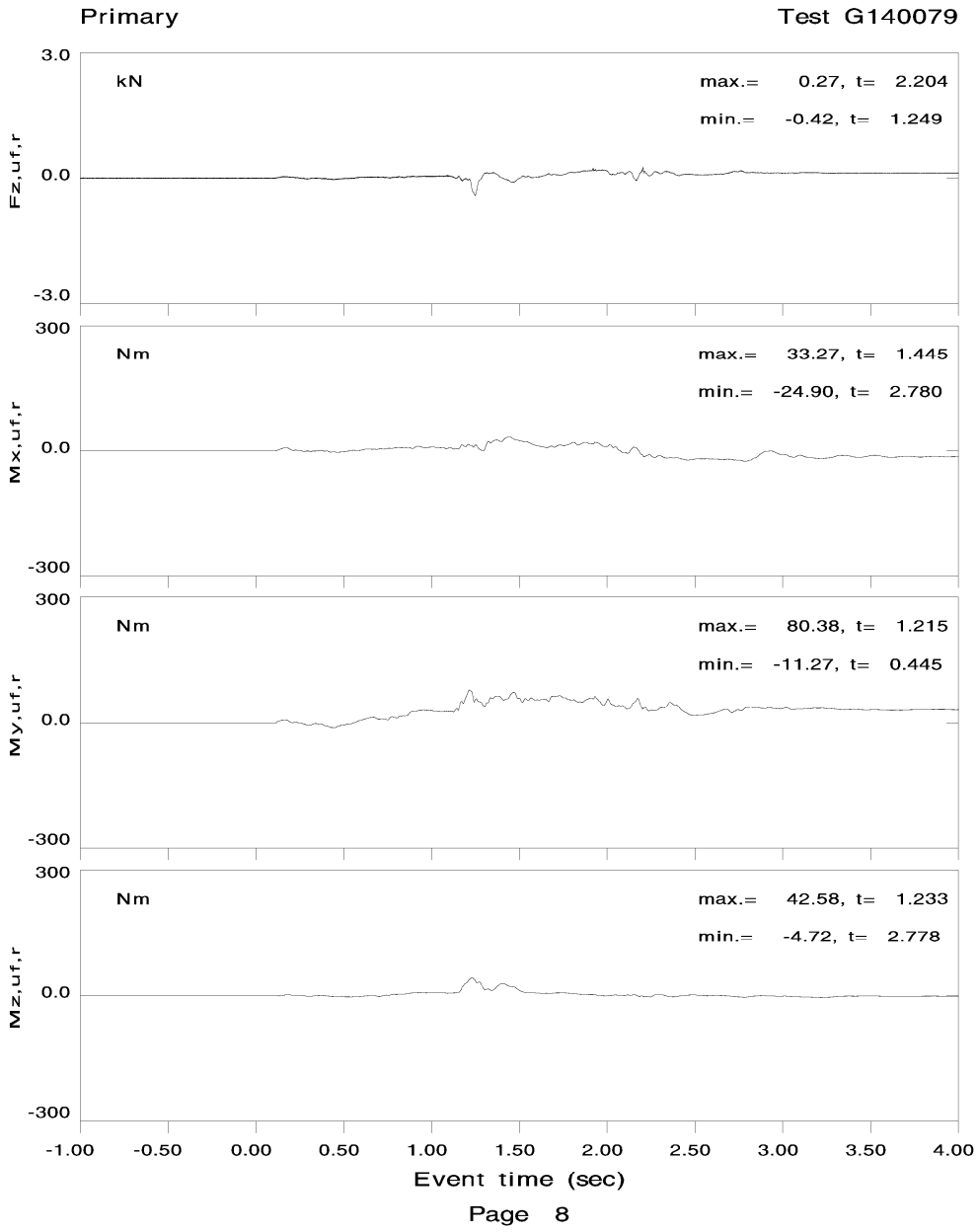
Primary Test G140079

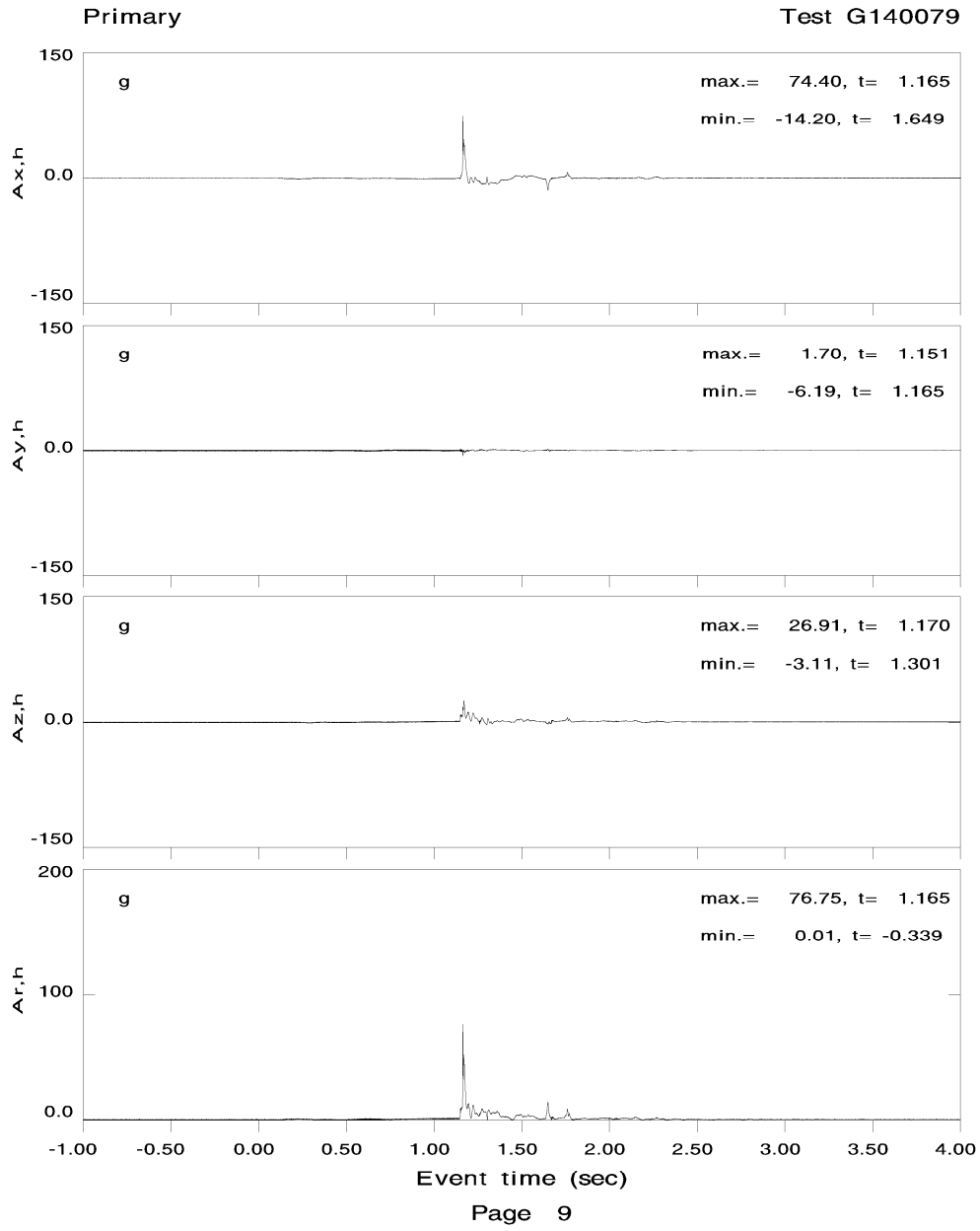


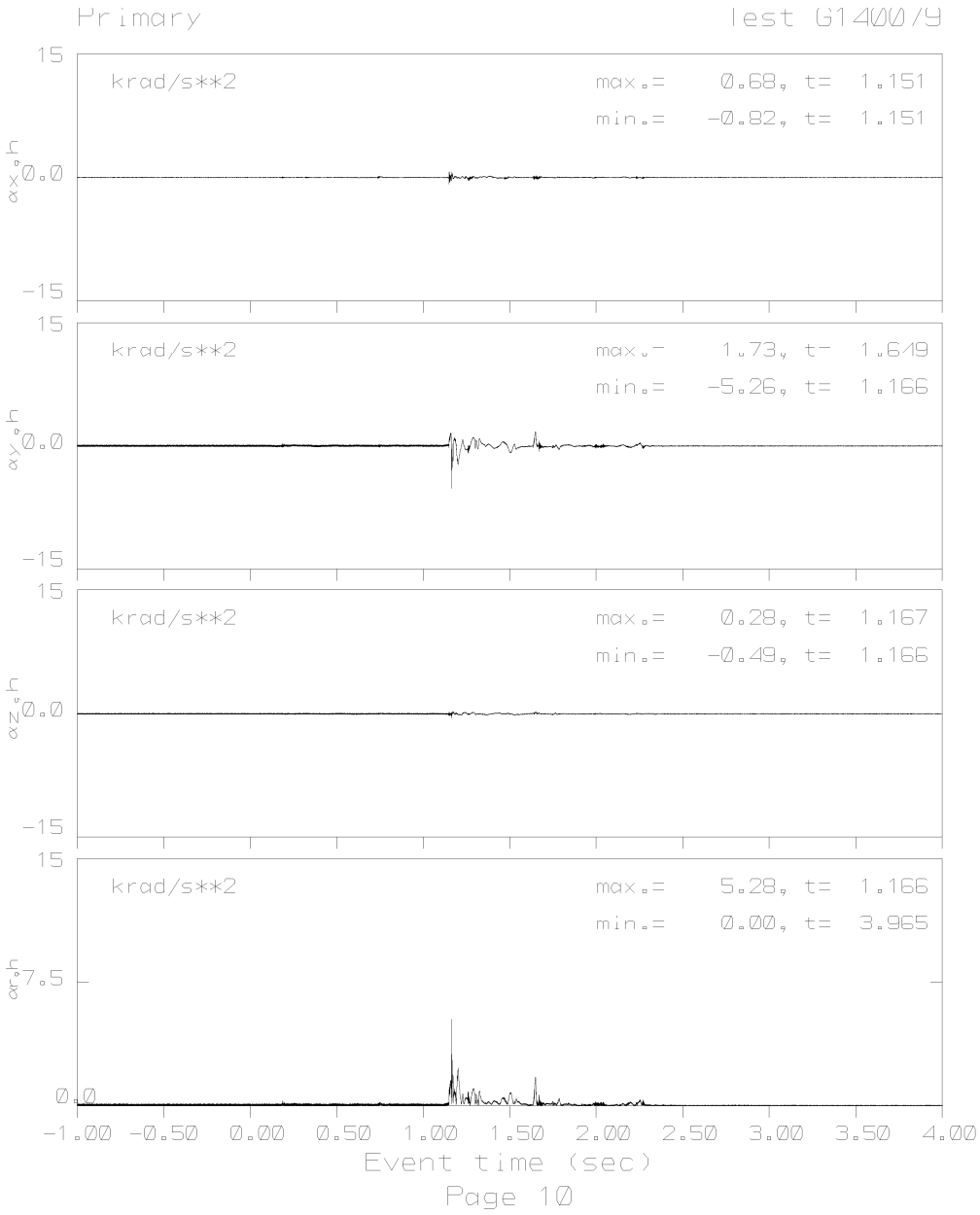
Page 5

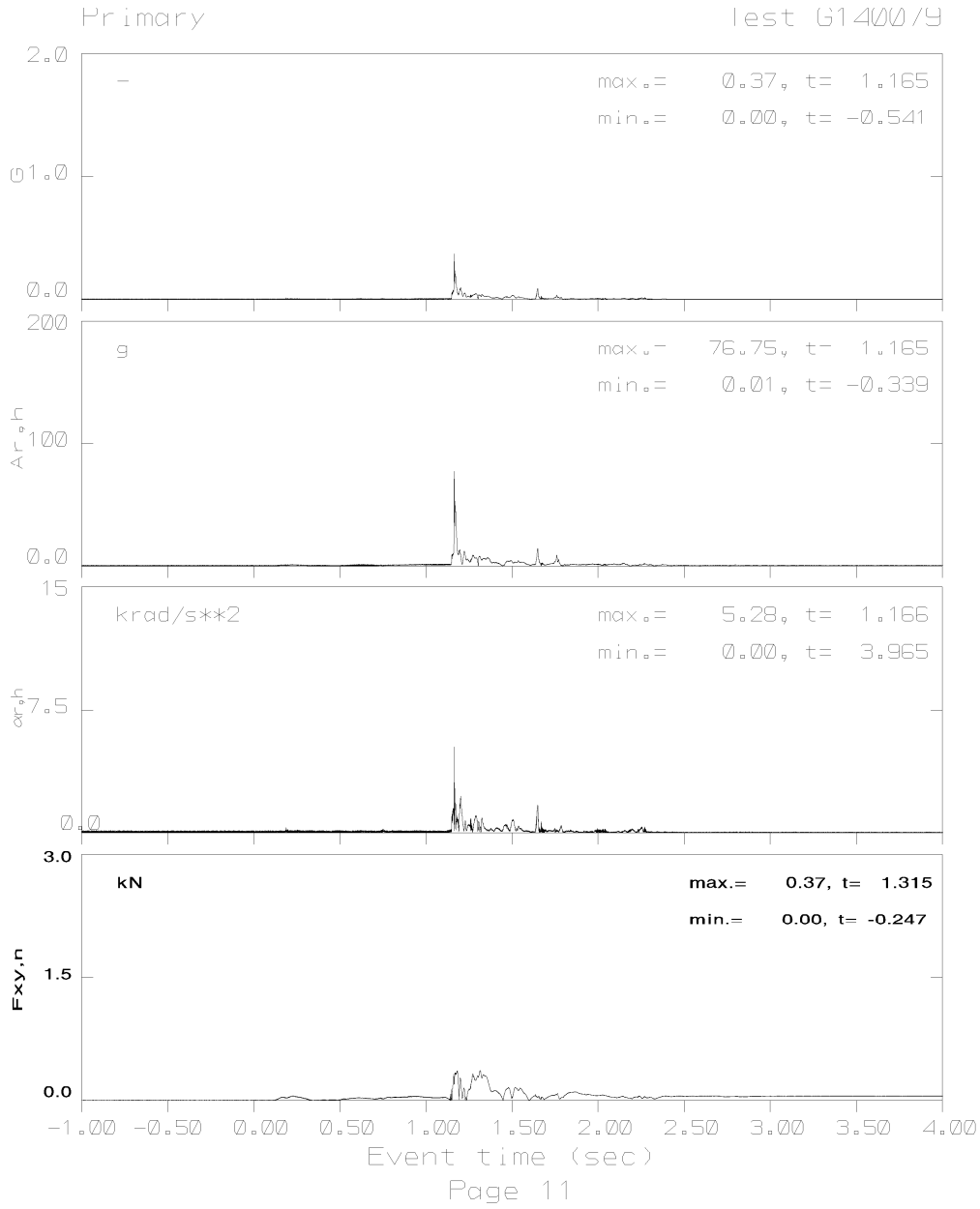

Primary
Test G140079
mm
max.= 0.91, t= 1.238
min.= -5.57, t= 1.166
L,ur
mm
max.= 1.42, t= 1.167
min.= -2.47, t= 1.155
L,ul
mm
max.= 1.06, t= 1.237
min.= -4.09, t= 1.168
L,lr
mm
max.= 2.98, t= 1.167
min.= -2.34, t= 1.247
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

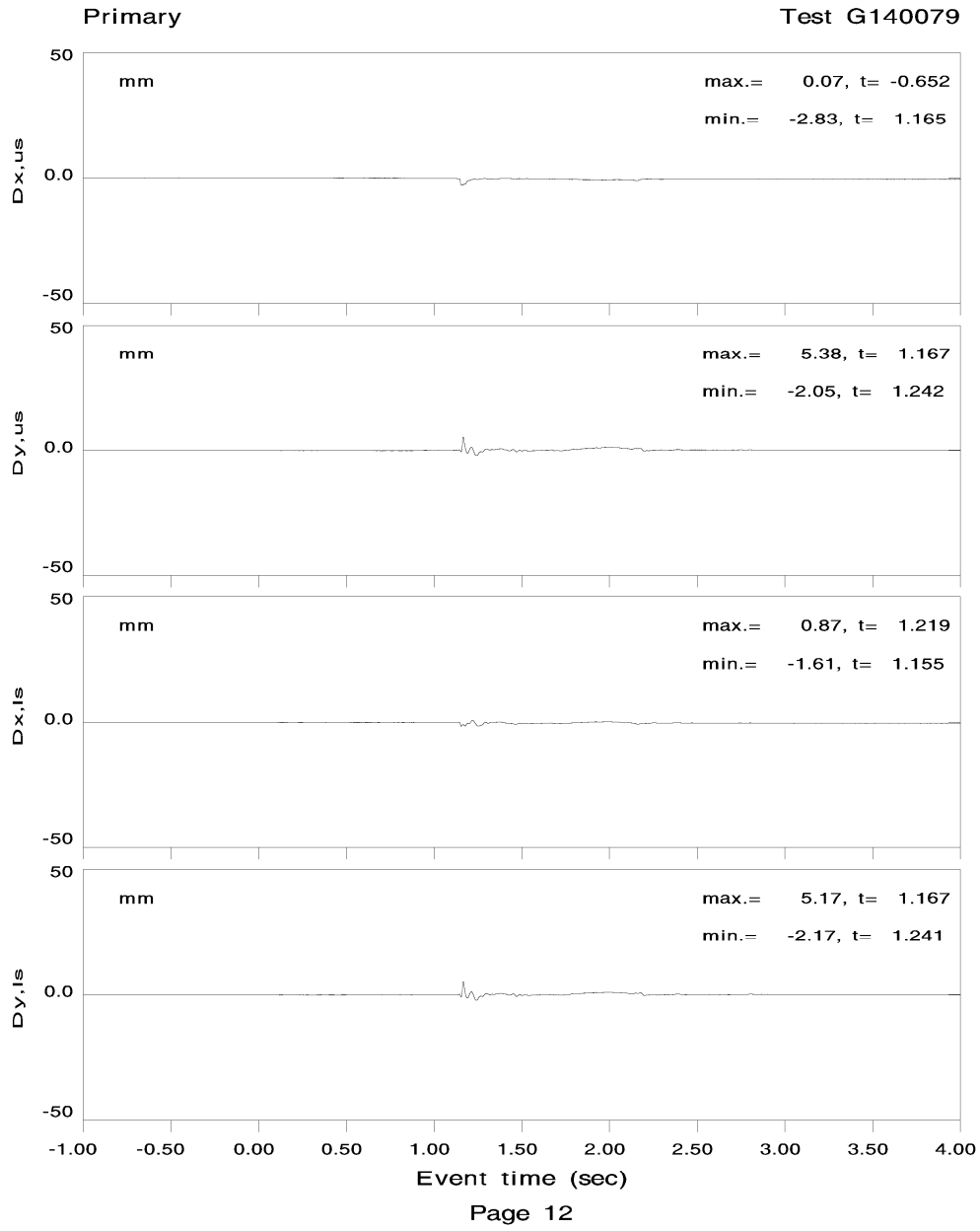

Primary
Test G140079
kN
max.= 0.24, t= 1.314
min.= -0.40, t= 1.242
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 46.30, t= 2.778
min.= -33.60, t= 2.172
Mx,uf,l
300
0.0
-300
Nm
max.= 91.58, t= 2.175
min.= -1.16, t= 0.485
My,uf,l
300
0.0
-300
Nm
max.= 6.61, t= 2.811
min.= -25.93, t= 1.405
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140079
kN
max.= 0.27, t= 2.204
min.= -0.42, t= 1.249
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 33.27, t= 1.445
min.= -24.90, t= 2.780
Mx,uf,r
300
0.0
-300
Nm
max.= 80.38, t= 1.215
min.= -11.27, t= 0.445
My,uf,r
300
0.0
-300
Nm
max.= 42.58, t= 1.233
min.= -4.72, t= 2.778
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

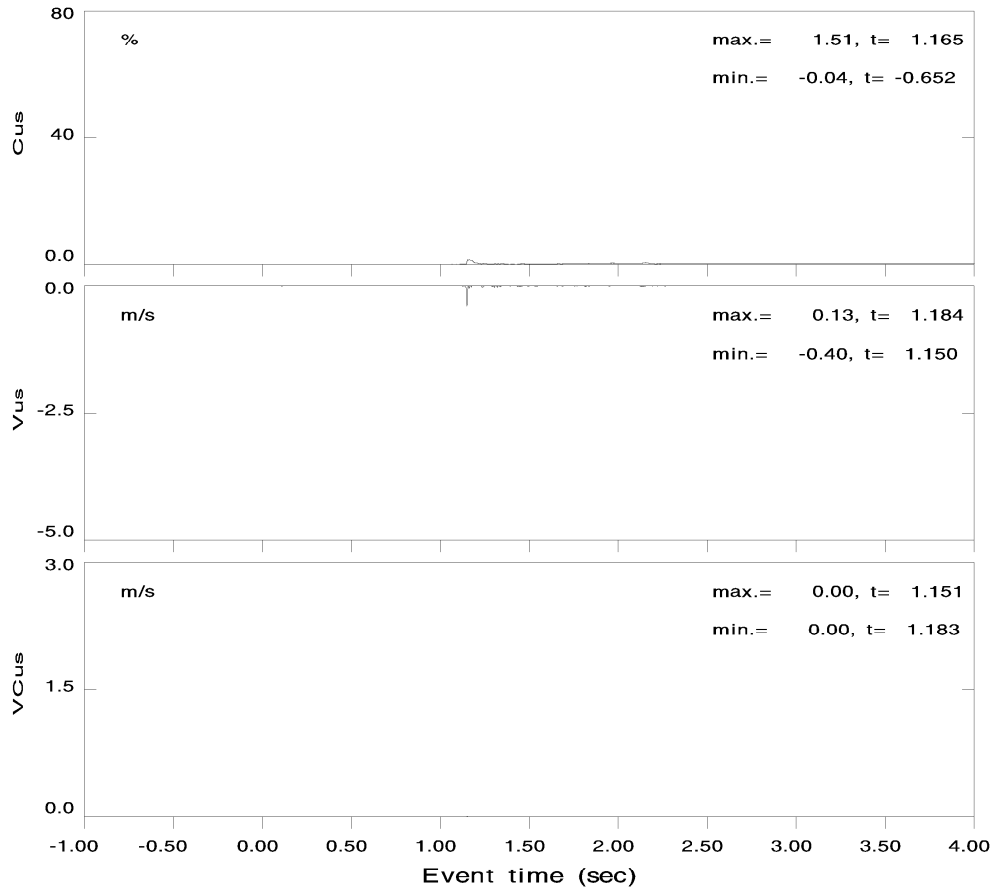

Primary
Test G140079
g
max.= 74.40, t= 1.165
min.= -14.20, t= 1.649
Ax,h
150
0.0
-150
g
max.= 1.70, t= 1.151
min.= -6.19, t= 1.165
Ay,h
150
0.0
-150
g
max.= 26.91, t= 1.170
min.= -3.11, t= 1.301
Az,h
150
0.0
-150
g
max.= 76.75, t= 1.165
min.= 0.01, t= -0.339
Ar,h
200
100
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test G1400/9
krad/s**2
max.= 0.68, t= 1.151
min.= -0.82, t= 1.151
ax,h
krad/s**2
max.= 1.73, t= 1.619
min.= -5.26, t= 1.166
ay,h
krad/s**2
max.= 0.28, t= 1.167
min.= -0.49, t= 1.166
az,h
krad/s**2
max.= 5.28, t= 1.166
min.= 0.00, t= 3.965
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G1400/9
2.0
G1.0
0.0
max.= 0.37, t= 1.165
min.= 0.00, t= -0.541
200
Ar,h
100
0.0
g
max.= 76.75, t= 1.165
min.= 0.01, t= -0.339
15
ar,h
7.5
0.0
krad/s**2
max.= 5.28, t= 1.166
min.= 0.00, t= 3.965
3.0
Fxy,n
1.5
0.0
kN
max.= 0.37, t= 1.315
min.= 0.00, t= -0.247
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

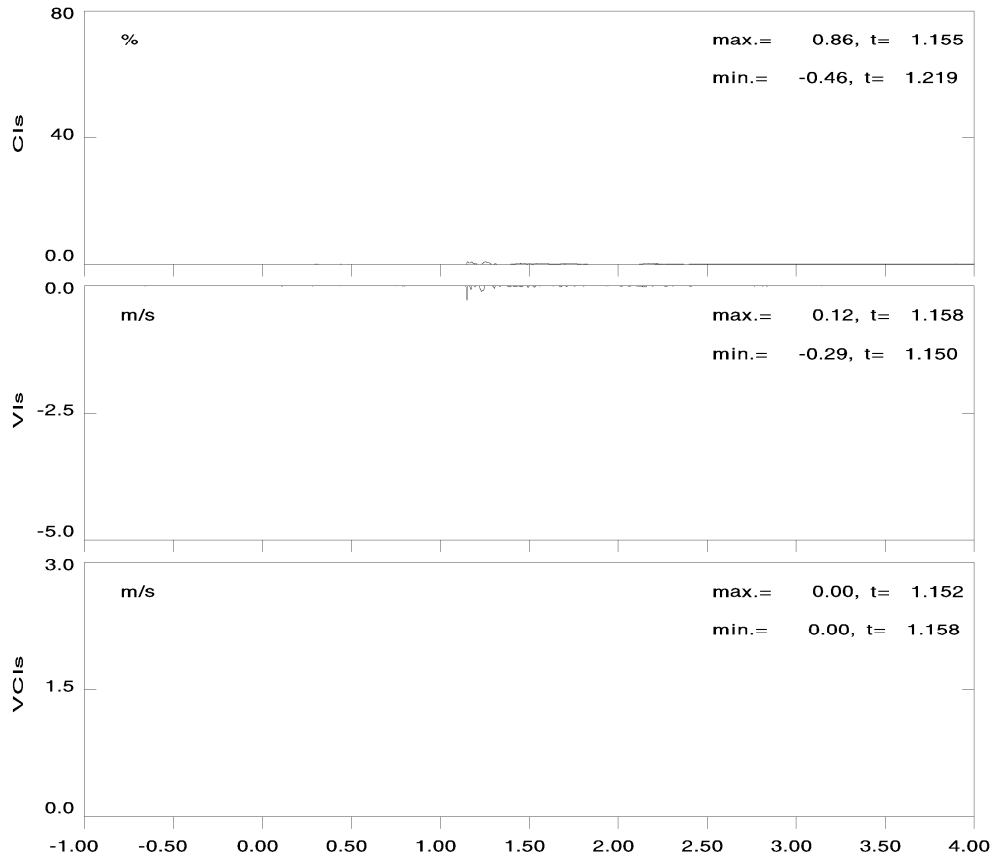

Primary
Test G140079
mm
max.= 0.07, t= -0.652
min.= -2.83, t= 1.165
Dx,us
mm
max.= 5.38, t= 1.167
min.= -2.05, t= 1.242
Dy,us
mm
max.= 0.87, t= 1.219
min.= -1.61, t= 1.155
Dx,ls
mm
max.= 5.17, t= 1.167
min.= -2.17, t= 1.241
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140079



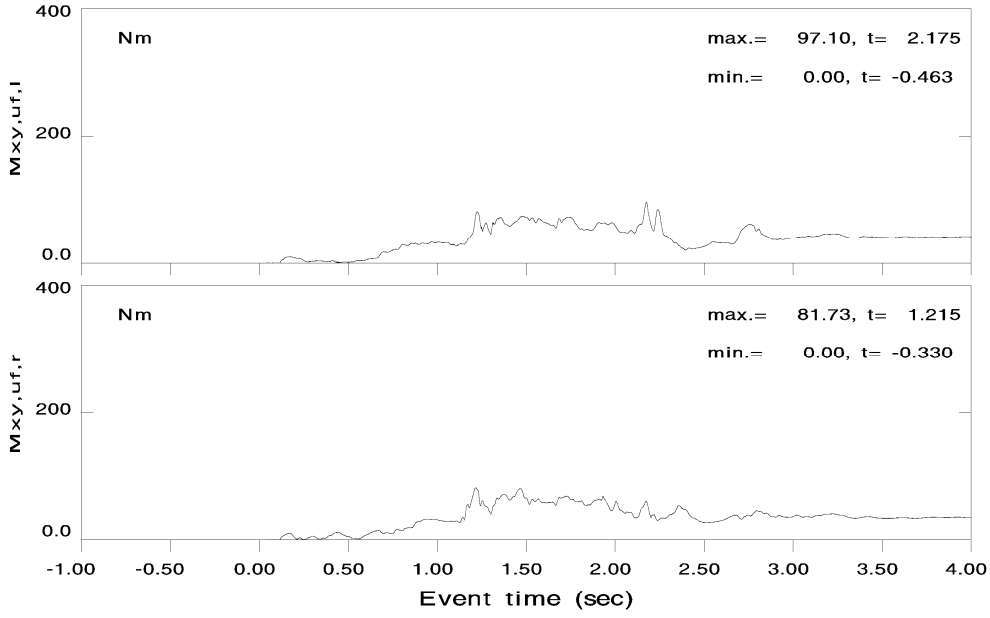
Page 13

Primary Test G140079

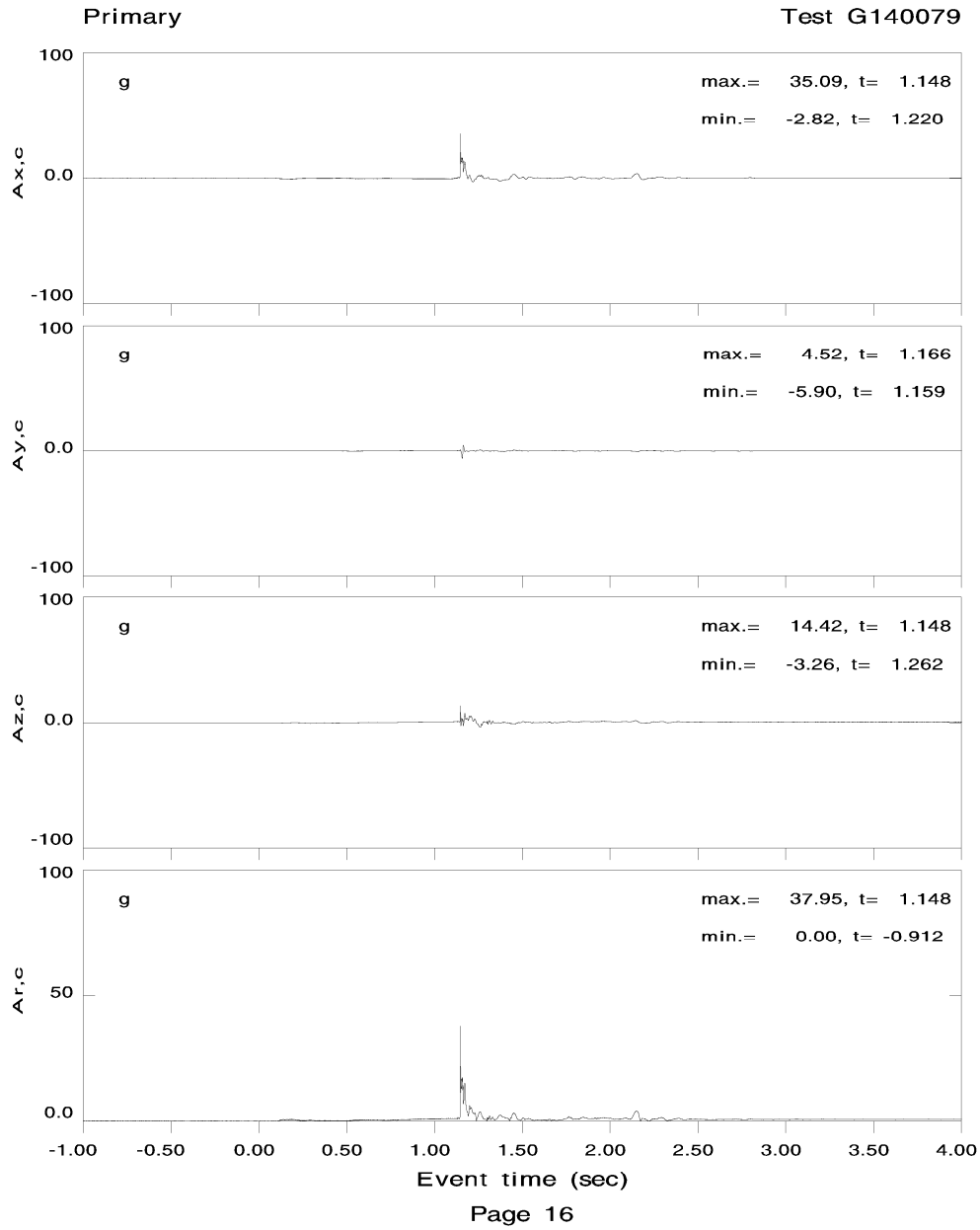


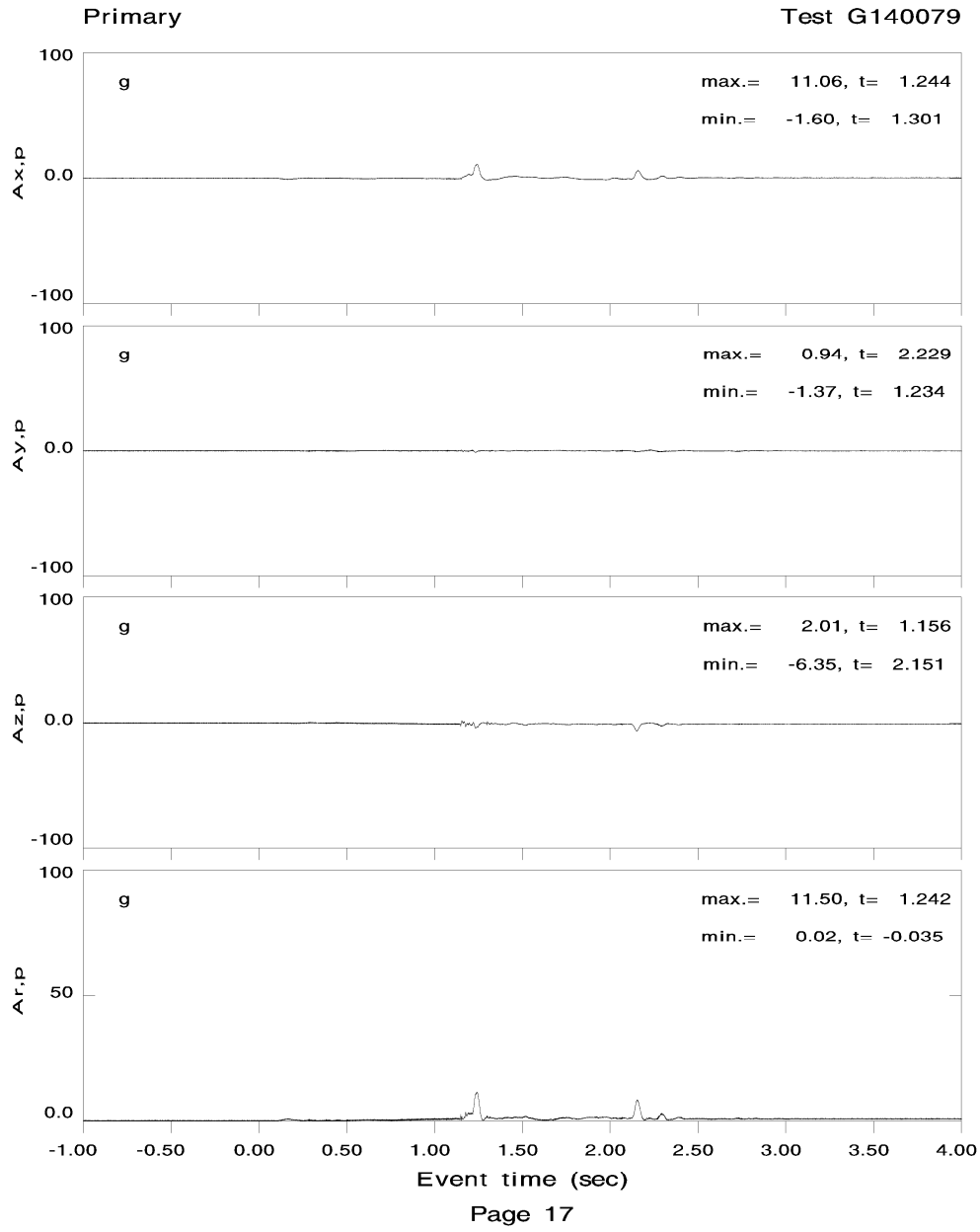
Page 14

Primary Test G140079

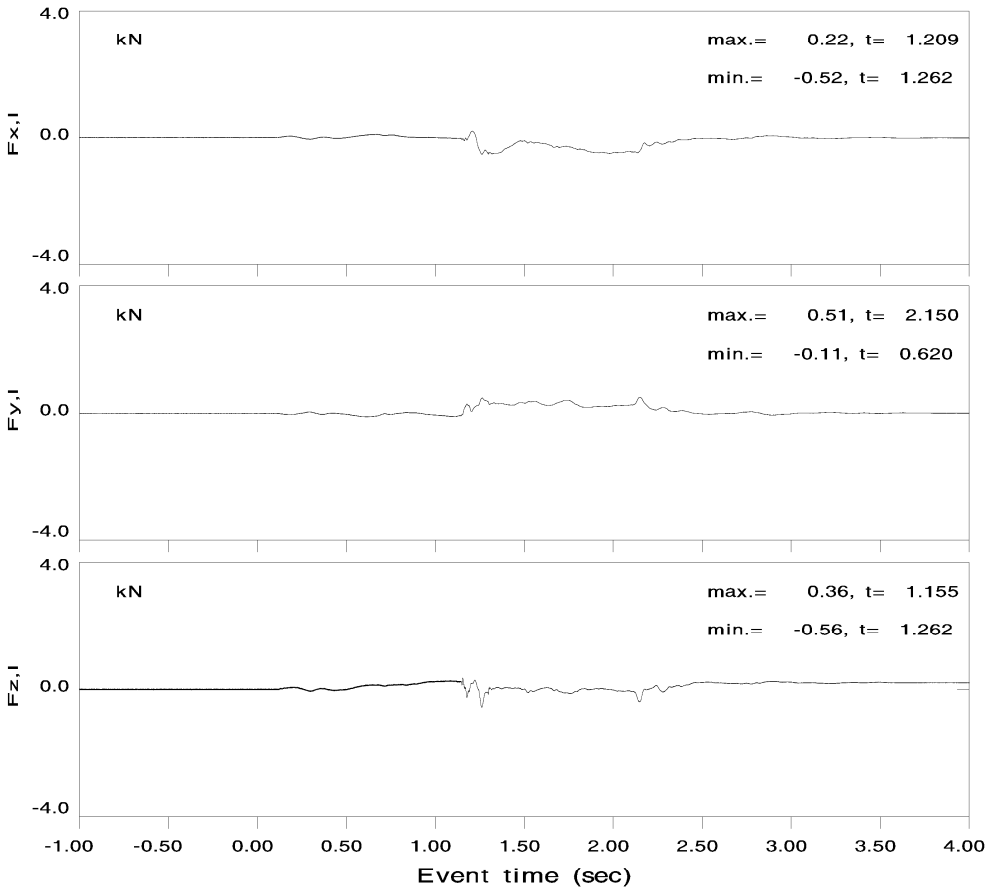


Page 15


Primary
Test G140079
g
max.= 35.09, t= 1.148
min.= -2.82, t= 1.220
Ax,c
100
0.0
-100
g
max.= 4.52, t= 1.166
min.= -5.90, t= 1.159
Ay,c
100
0.0
-100
g
max.= 14.42, t= 1.148
min.= -3.26, t= 1.262
Az,c
100
0.0
-100
g
max.= 37.95, t= 1.148
min.= 0.00, t= -0.912
Ar,c
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

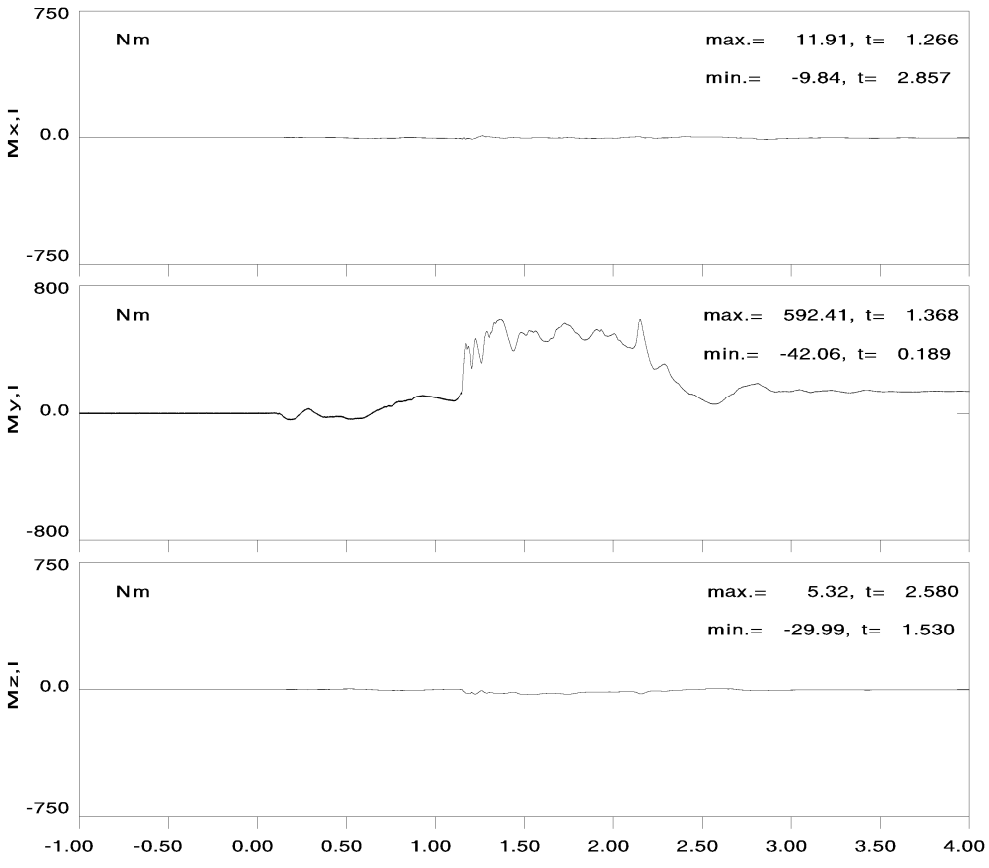

Primary
Test G140079
g
max.= 11.06, t= 1.244
min.= -1.60, t= 1.301
Ax,p
g
max.= 0.94, t= 2.229
min.= -1.37, t= 1.234
Ay,p
g
max.= 2.01, t= 1.156
min.= -6.35, t= 2.151
Az,p
g
max.= 11.50, t= 1.242
min.= 0.02, t= -0.035
Ar,p
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140079

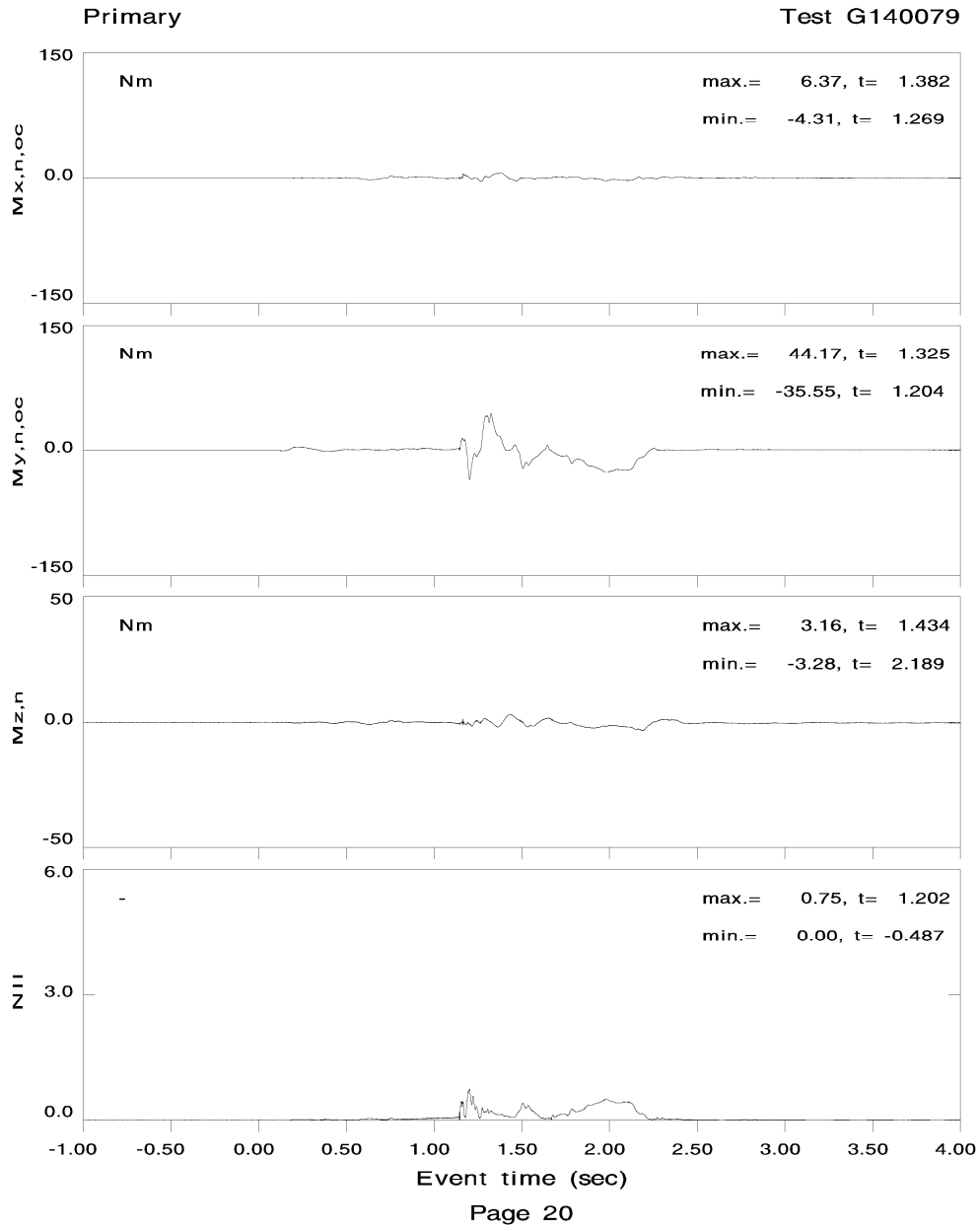


Page 18

Primary Test G140079



Page 19


Primary
Test G140079
Nm
max.= 6.37, t= 1.382
min.= -4.31, t= 1.269
Mx,n,oc
150
0.0
-150
Nm
max.= 44.17, t= 1.325
min.= -35.55, t= 1.204
My,n,oc
150
0.0
-150
Nm
max.= 3.16, t= 1.434
min.= -3.28, t= 2.189
Mz,n
50
0.0
-50
-
max.= 0.75, t= 1.202
min.= 0.00, t= -0.487
Nll
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.6 G140080

G140080_ICM.IC1

Test Number : G140080
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.190
Cmax	=	2.020
VCmax	=	0.000
HIC	=	99.2
NII (2002 MATD Neck)	=	0.9
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.000
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.992	1.000	1.000	1.000	1.000	0
1	0.003	0.000	0.000	0.000	0.000	0
2	0.001	0.000	0.000	0.000	0.000	0
3	0.004	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.018	0.000	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140080.rpt

Test G140080, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	22.07 g	1.905	-2.54 g	1.965
Ay,c	5.59 g	1.913	-5.00 g	1.909
Az,c	12.49 g	1.918	-2.25 g	1.929
Ax,p	12.86 g	1.939	-2.30 g	2.211
Ay,p	1.90 g	2.662	-1.97 g	3.789
Az,p	6.12 g	1.951	-12.23 g	1.924
spare	0.00 -	0.132	0.00 -	3.689
spare	0.00 -	-0.081	0.00 -	2.249
L,ur	1.06 mm	1.889	-3.55 mm	1.913
L,lr	1.38 mm	1.896	-1.71 mm	2.290
a1	9.30 g	2.301	-30.42 g	1.883
a2	9.32 g	1.908	-28.84 g	1.883
a3	11.02 g	1.929	-36.30 g	1.883
a4	10.15 g	2.301	-26.24 g	1.883
a5	10.52 g	2.301	-27.67 g	1.883
a6	10.75 g	2.301	-30.54 g	1.883
Mx,l	12.83 Nm	3.876	-10.51 Nm	1.951
My,l	780.10 Nm	1.926	-44.78 Nm	0.923
Mz,l	15.56 Nm	1.905	-35.94 Nm	1.932
Fx,l	0.42 kN	1.951	-0.47 kN	1.913
Fy,l	0.73 kN	1.924	-0.41 kN	1.951
Fz,l	1.29 kN	1.951	-1.73 kN	1.925
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
spare	0.13 -	4.000	0.01 -	-0.996
spare	0.00 -	1.736	0.00 -	0.827
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	3.531	0.00 -	1.125
a7	20.27 g	1.883	-10.51 g	1.941
a8	24.59 g	1.883	-17.07 g	1.941
a9	25.88 g	1.883	-15.97 g	1.940
Fz,uf,r	0.47 kN	3.777	-0.39 kN	1.942
Mx,uf,r	25.36 Nm	1.941	-46.99 Nm	3.790
My,uf,r	125.67 Nm	1.960	-5.42 Nm	0.973
Mz,uf,r	30.28 Nm	1.959	-9.54 Nm	3.783
Fz,uf,l	0.34 kN	2.359	-0.72 kN	1.938
Mx,uf,l	21.62 Nm	2.335	-27.14 Nm	1.936
My,uf,l	101.44 Nm	1.963	-3.12 Nm	1.185
Mz,uf,l	7.69 Nm	2.458	-16.35 Nm	1.849
Fx,n	0.24 kN	1.940	-0.48 kN	1.904
Fy,n	0.14 kN	1.926	-0.05 kN	1.928
Fz,n	0.98 kN	2.343	-0.78 kN	1.892
Mx,n	8.20 Nm	1.931	-6.69 Nm	1.908
My,n	43.74 Nm	1.941	-53.86 Nm	1.904
Mz,n	3.43 Nm	2.152	-5.67 Nm	1.919
L,ul	0.66 mm	1.965	-3.52 mm	1.909
L,ll	2.16 mm	1.965	-1.57 mm	1.939
Ax,h	40.09 g	1.883	-13.76 g	2.301
Ay,h	2.67 g	1.963	-3.68 g	1.895
Az,h	20.28 g	1.883	-10.51 g	1.941
ȧx,h	1.46 krad/s**2	1.929	-0.71 krad/s**2	1.927
ȧy,h	3.53 krad/s**2	1.942	-2.69 krad/s**2	1.907
ȧz,h	0.61 krad/s**2	1.884	-0.43 krad/s**2	1.919
Ar,h	45.02 g	1.883	0.01 g	-0.666
ȧr,h	3.53 krad/s**2	1.942	0.00 krad/s**2	-0.101
G	0.19 -	1.883	0.00 -	0.420
HIC	99.18	1.898	----	1.881
Fxy,n	0.48 kN	1.904	0.00 kN	-0.467
Dx,us	0.08 mm	-0.896	-3.78 mm	1.910
Dy,us	2.02 mm	1.965	-1.88 mm	1.889

Page 1

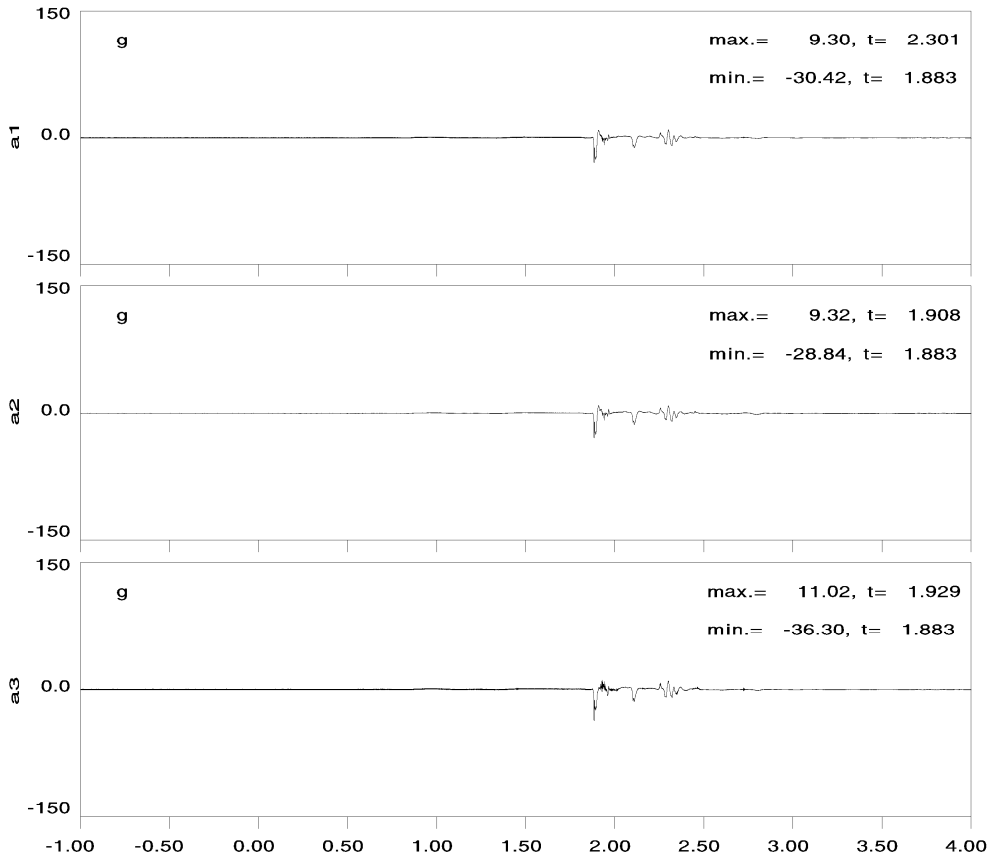
G140080.rpt

Cus	2.02	%	1.910	-0.04 %	-0.896
Vus	0.37	m/s	1.915	-0.37 m/s	1.905
VCus	0.01	m/s	1.907	-0.01 m/s	1.914
Dx,ls	1.05	mm	1.965	-2.08 mm	2.299
Dy,ls	2.02	mm	1.966	-1.84 mm	1.888
Cls	1.11	%	2.299	-0.56 %	1.965
Vls	0.17	m/s	1.956	-0.23 m/s	1.921
VCls	0.00	m/s	1.923	0.00 m/s	1.942
Mxy,uf,r	127.52	Nm	1.960	0.00 Nm	0.264
Mxy,uf,l	101.64	Nm	1.963	0.00 Nm	-0.423
Mx,n,oc	7.75	Nm	1.929	-6.45 Nm	2.018
My,n,oc	39.75	Nm	1.938	-45.65 Nm	1.903
NII	0.91	-	2.343	0.00 -	-0.666
Ar,p	15.50	g	1.939	0.01 g	-0.719
Ar,c	24.49	g	1.905	0.00 g	0.527

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

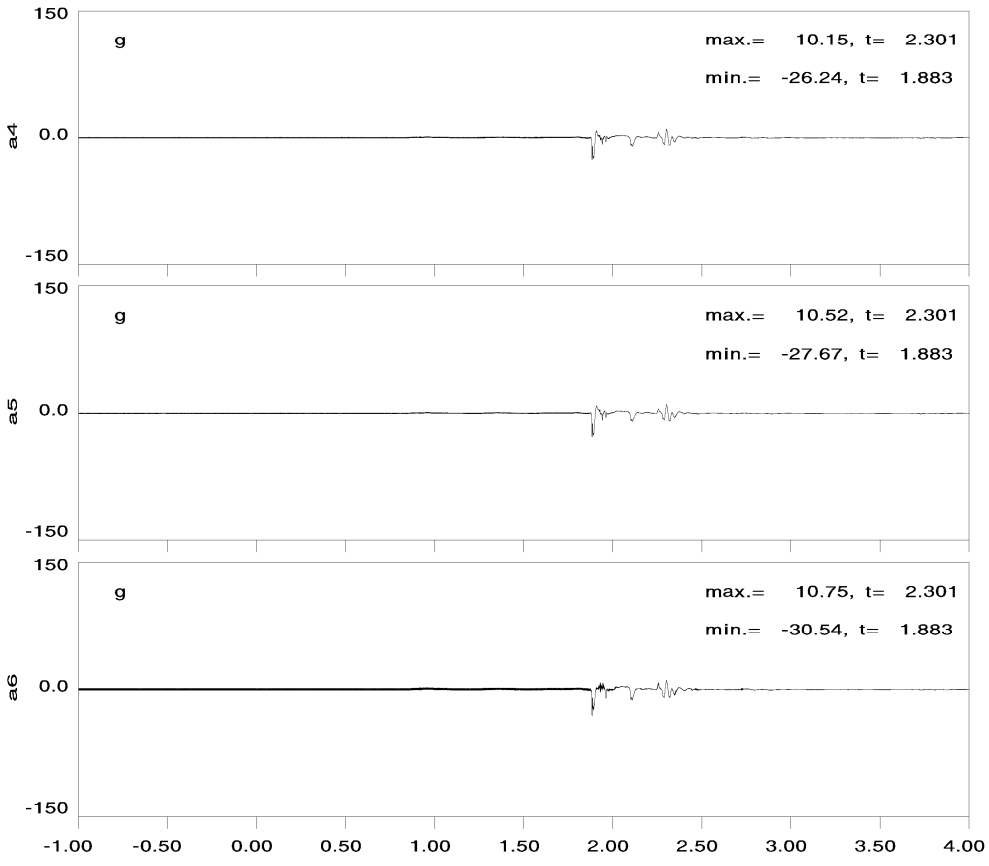
Page 2

Primary Test G140080



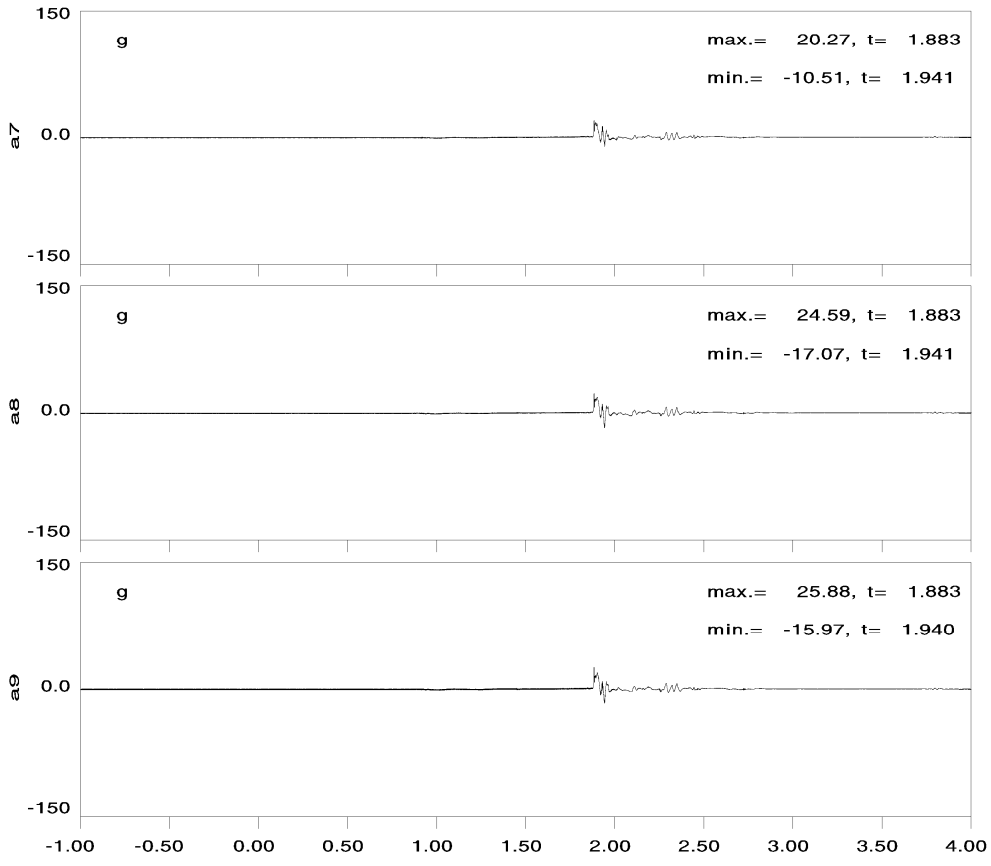
Page 1

Primary Test G140080



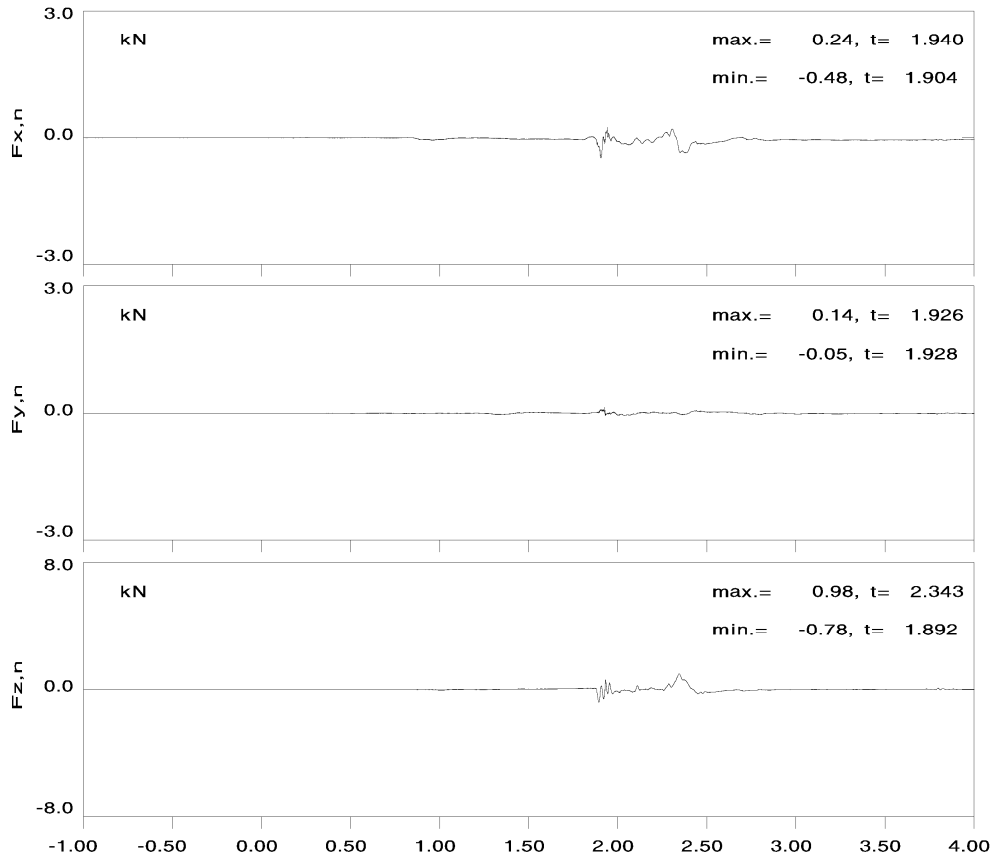
Page 2

Primary Test G140080



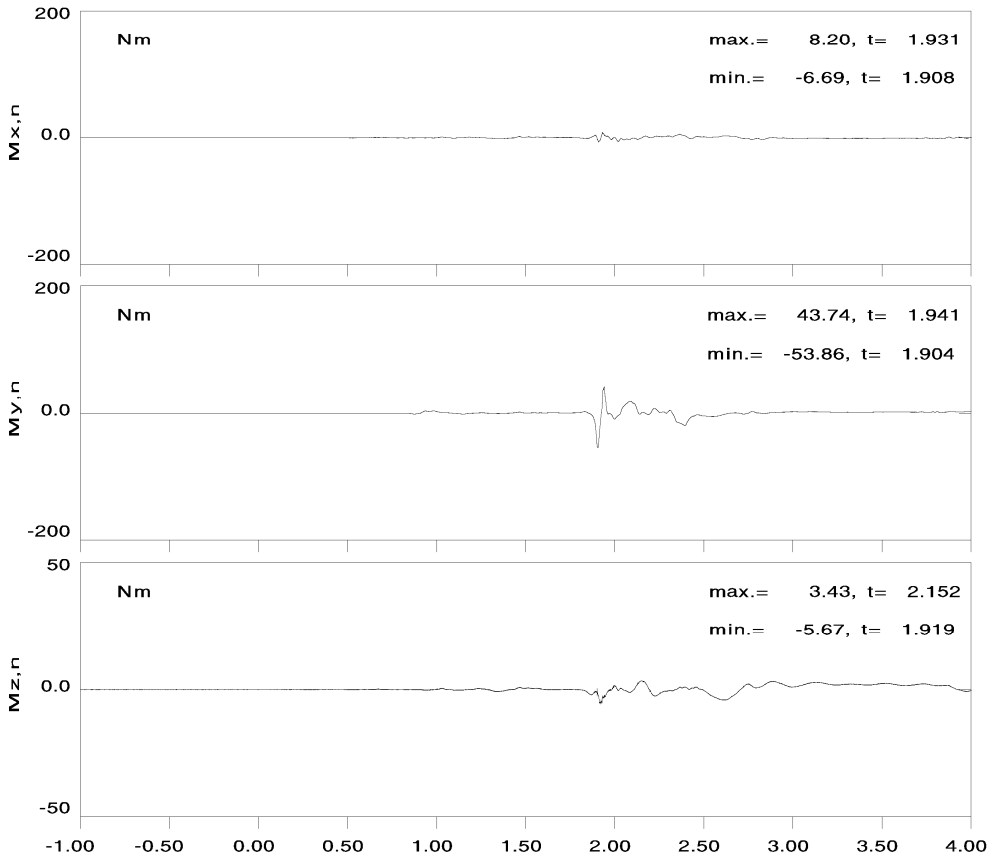
Page 3

Primary Test G140080

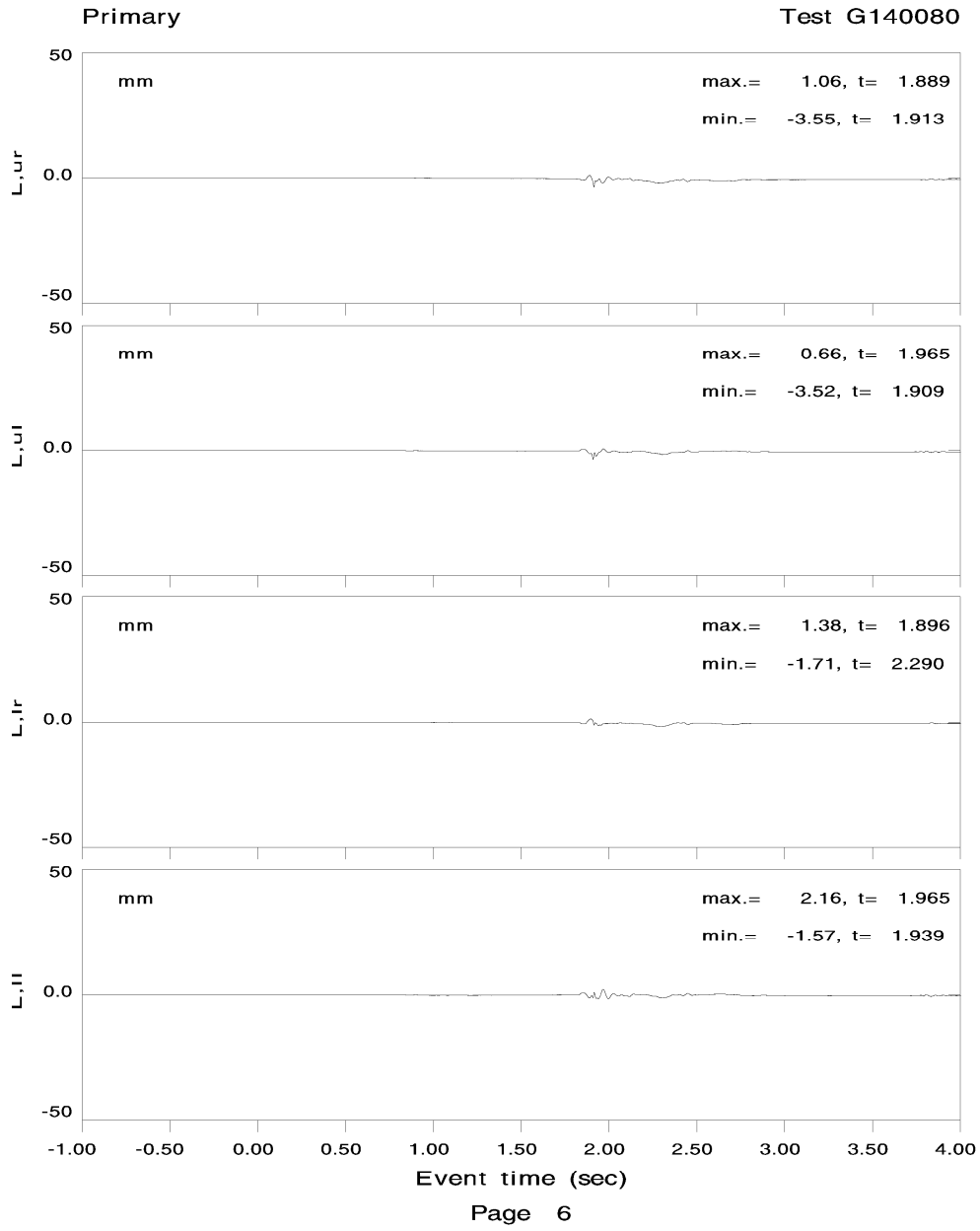


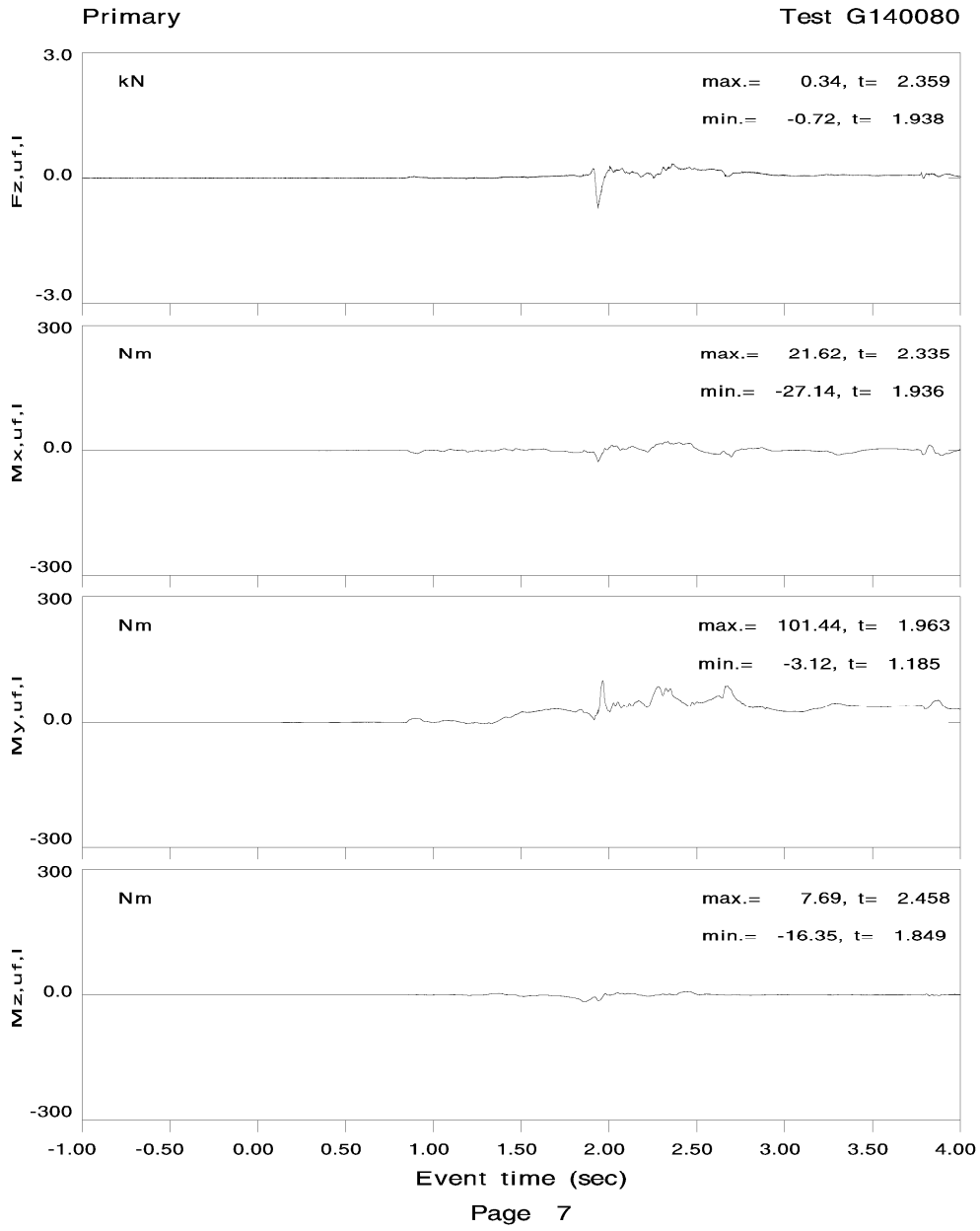
Page 4

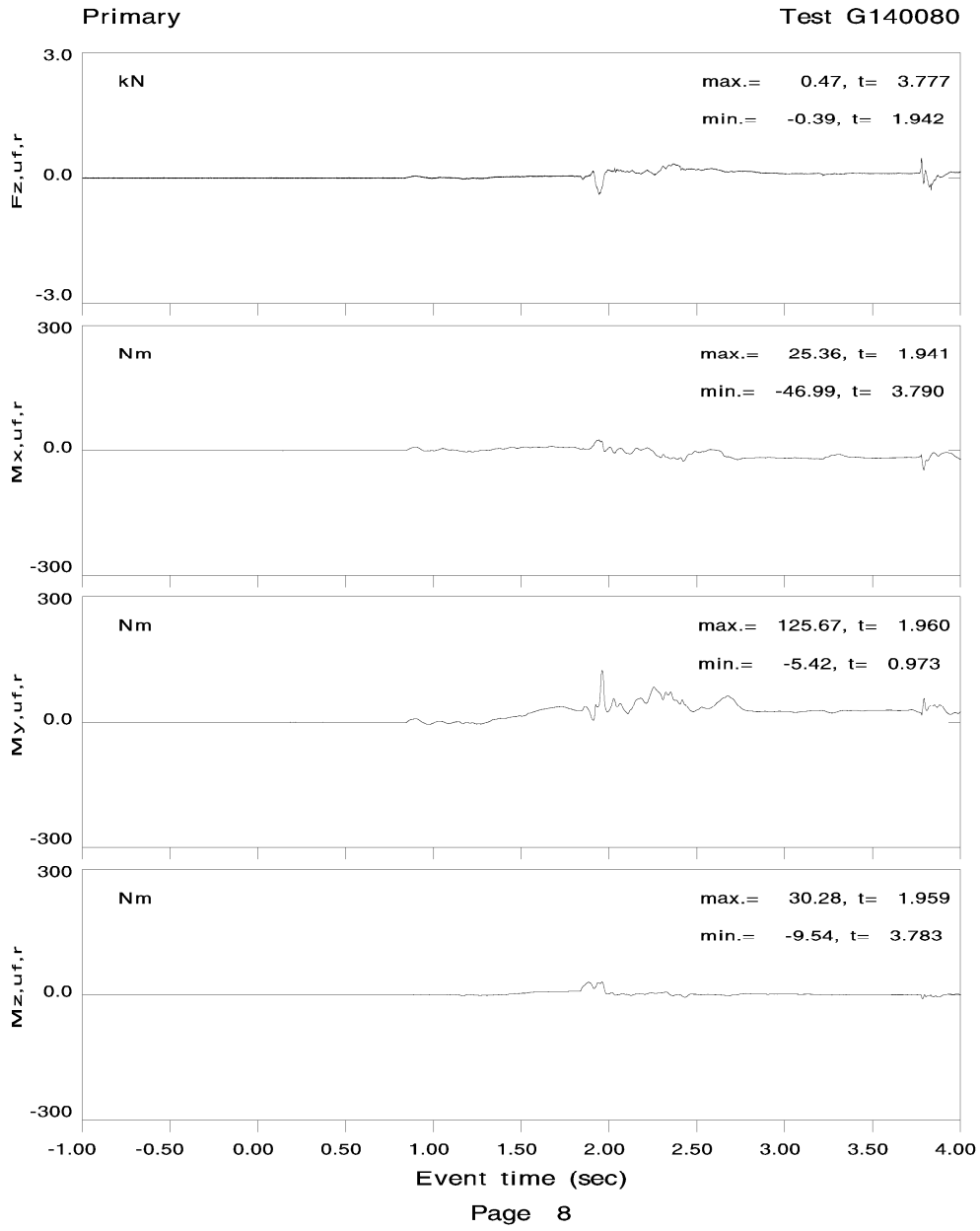
Primary Test G140080

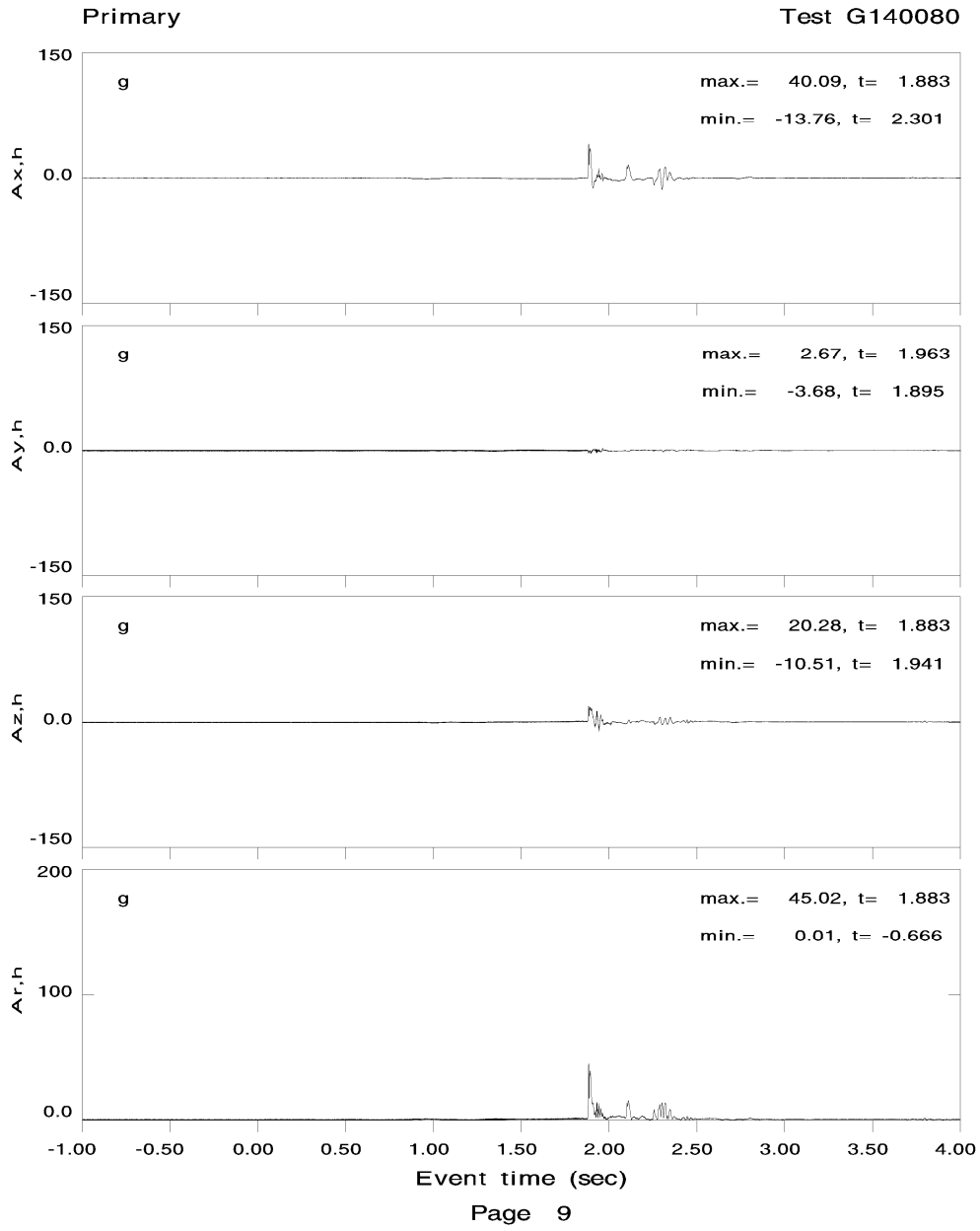


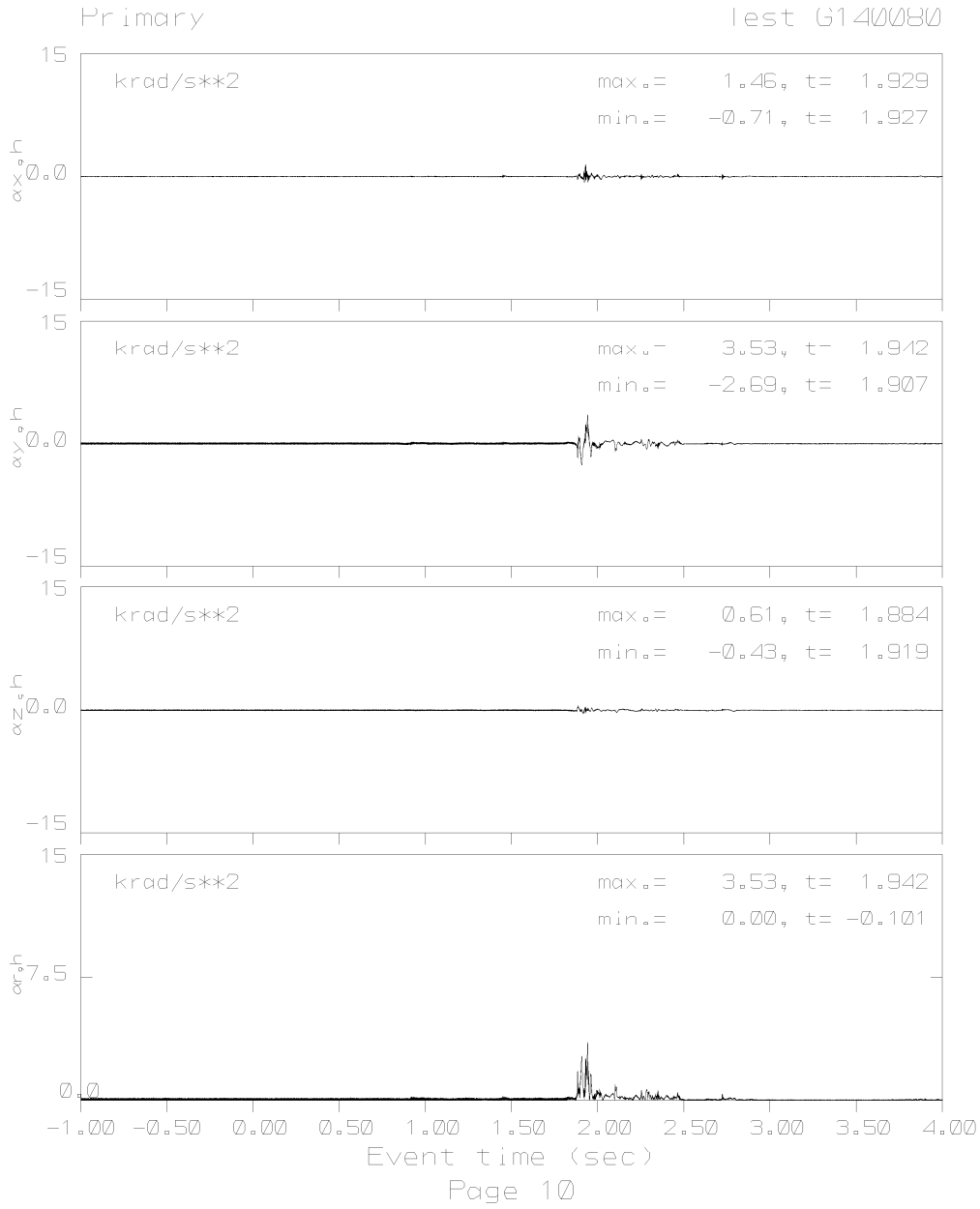
Page 5

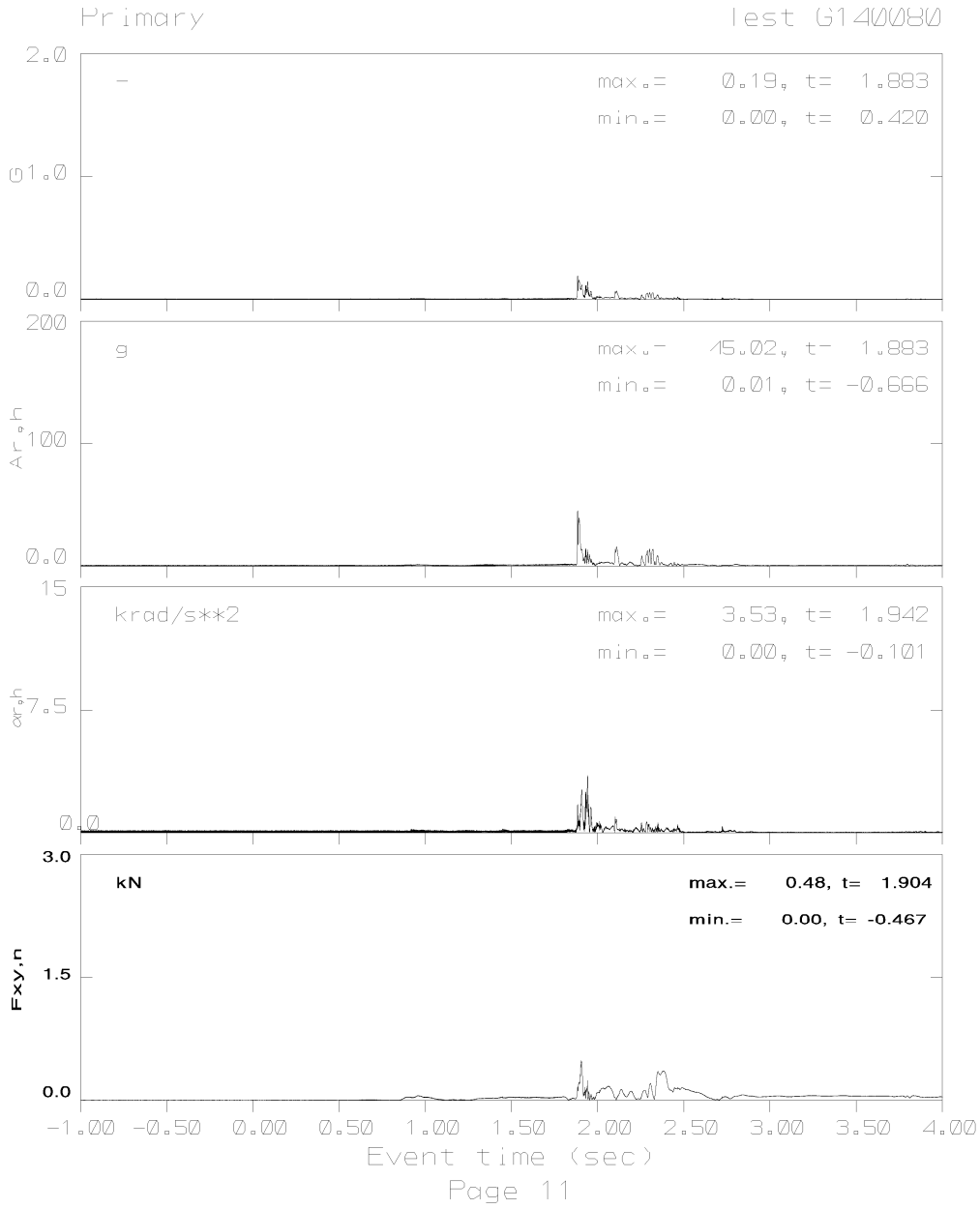

Primary
Test G140080
mm
max.= 1.06, t= 1.889
min.= -3.55, t= 1.913
L,ur
mm
max.= 0.66, t= 1.965
min.= -3.52, t= 1.909
L,ul
mm
max.= 1.38, t= 1.896
min.= -1.71, t= 2.290
L,lr
mm
max.= 2.16, t= 1.965
min.= -1.57, t= 1.939
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

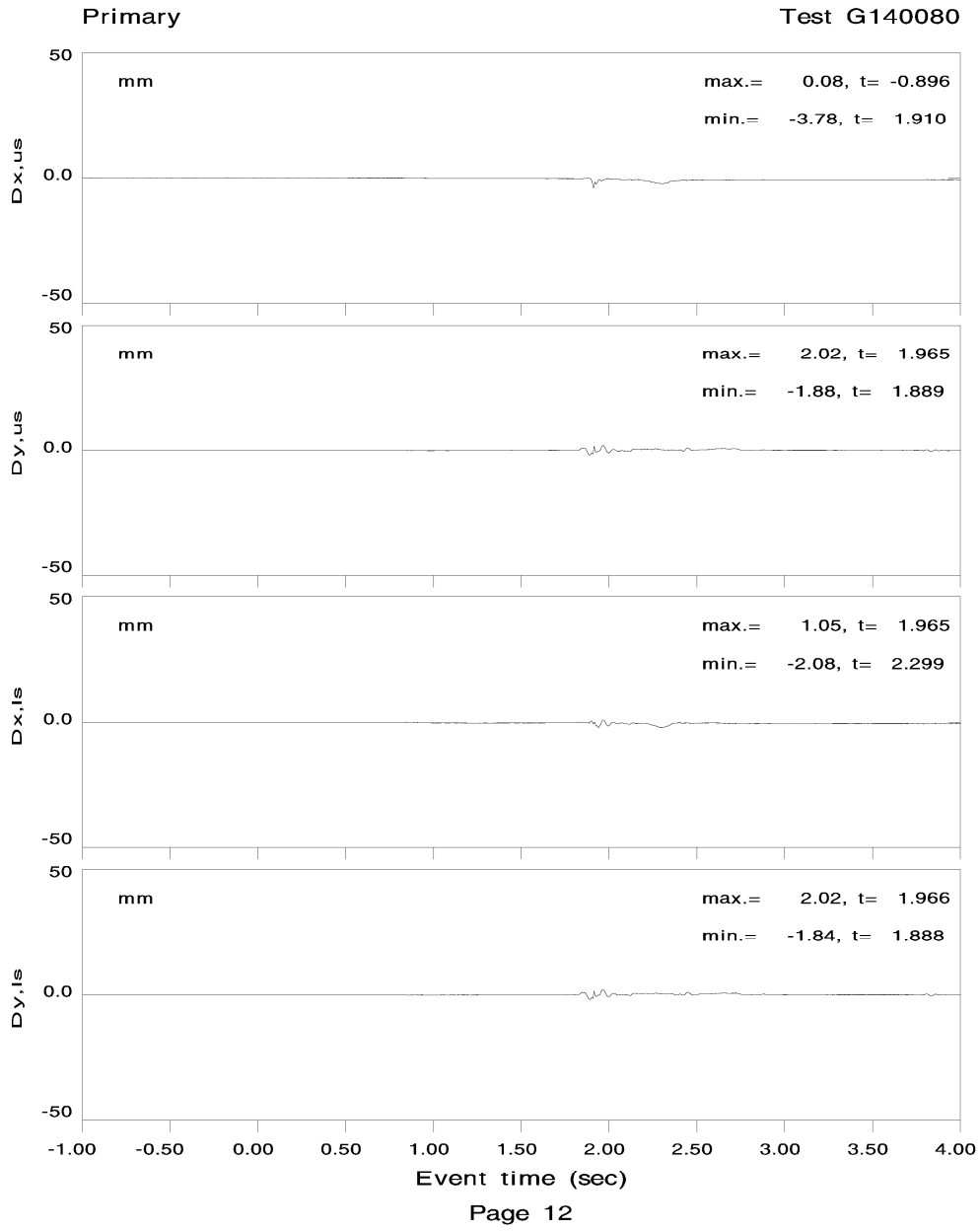

Primary
Test G140080
kN
max.= 0.34, t= 2.359
min.= -0.72, t= 1.938
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 21.62, t= 2.335
min.= -27.14, t= 1.936
Mx,uf,l
300
0.0
-300
Nm
max.= 101.44, t= 1.963
min.= -3.12, t= 1.185
My,uf,l
300
0.0
-300
Nm
max.= 7.69, t= 2.458
min.= -16.35, t= 1.849
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140080
kN
max.= 0.47, t= 3.777
min.= -0.39, t= 1.942
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 25.36, t= 1.941
min.= -46.99, t= 3.790
Mx,uf,r
300
0.0
-300
Nm
max.= 125.67, t= 1.960
min.= -5.42, t= 0.973
My,uf,r
300
0.0
-300
Nm
max.= 30.28, t= 1.959
min.= -9.54, t= 3.783
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

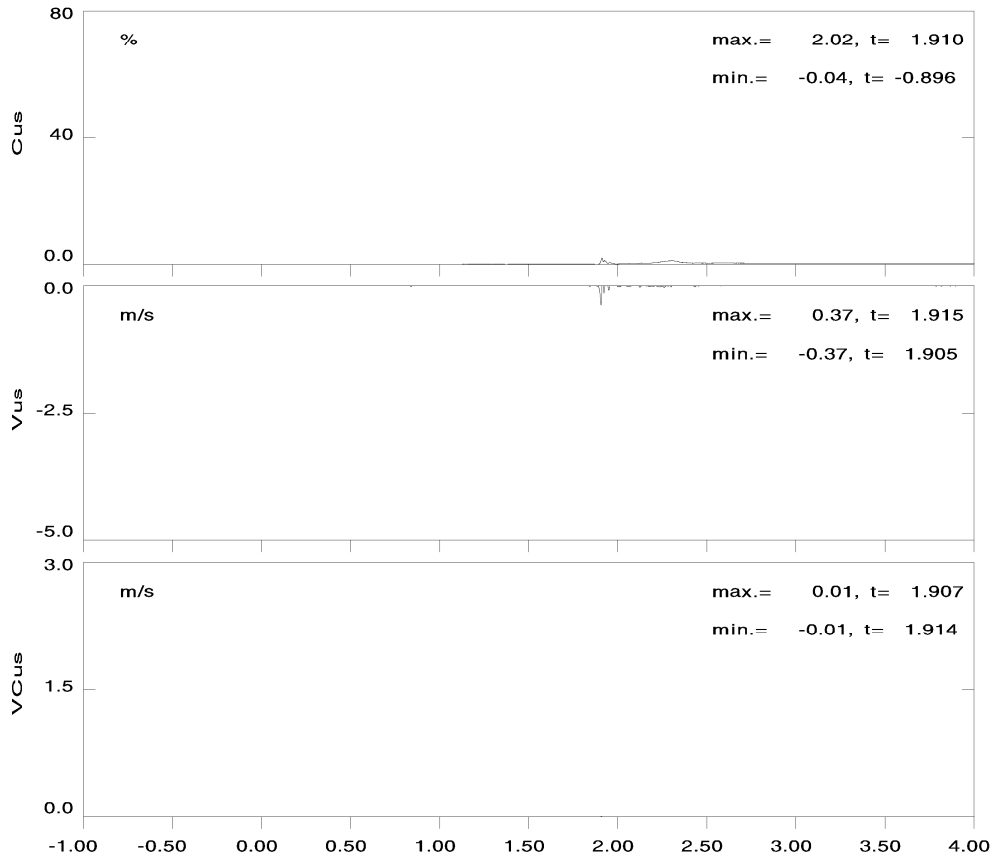

Primary
Test G140080
g
max.= 40.09, t= 1.883
min.= -13.76, t= 2.301
Ax,h
150
0.0
-150
g
max.= 2.67, t= 1.963
min.= -3.68, t= 1.895
Ay,h
150
0.0
-150
g
max.= 20.28, t= 1.883
min.= -10.51, t= 1.941
Az,h
150
0.0
-150
g
max.= 45.02, t= 1.883
min.= 0.01, t= -0.666
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G140080
krad/s**2
max.= 1.46, t= 1.929
min.= -0.71, t= 1.927
ax,h
krad/s**2
max.= 3.53, t= 1.942
min.= -2.69, t= 1.907
ay,h
krad/s**2
max.= 0.61, t= 1.884
min.= -0.43, t= 1.919
az,h
krad/s**2
max.= 3.53, t= 1.942
min.= 0.00, t= -0.101
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140080
max.= 0.19, t= 1.883
min.= 0.00, t= 0.420
max.= 15.02, t= 1.883
min.= 0.01, t= -0.666
krad/s**2
max.= 3.53, t= 1.942
min.= 0.00, t= -0.101
kN
max.= 0.48, t= 1.904
min.= 0.00, t= -0.467
Event time (sec)
Page 11

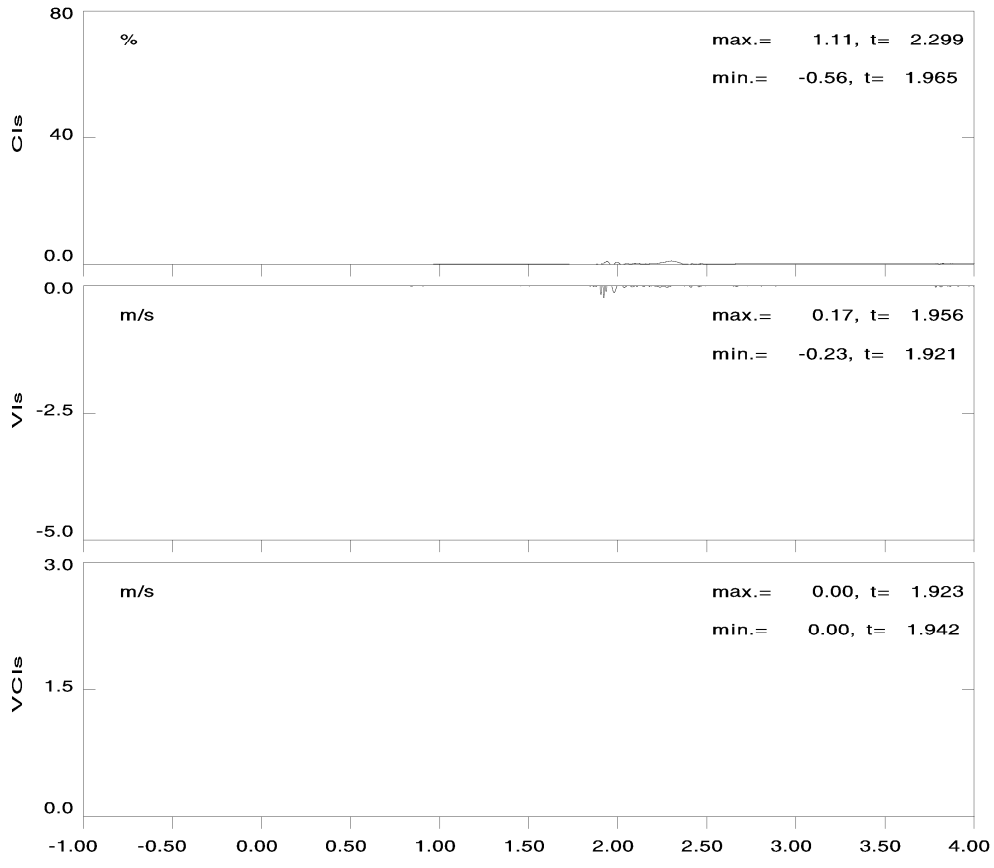

Primary
Test G140080
mm
max.= 0.08, t= -0.896
min.= -3.78, t= 1.910
Dx,us
mm
max.= 2.02, t= 1.965
min.= -1.88, t= 1.889
Dy,us
mm
max.= 1.05, t= 1.965
min.= -2.08, t= 2.299
Dx,ls
mm
max.= 2.02, t= 1.966
min.= -1.84, t= 1.888
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140080



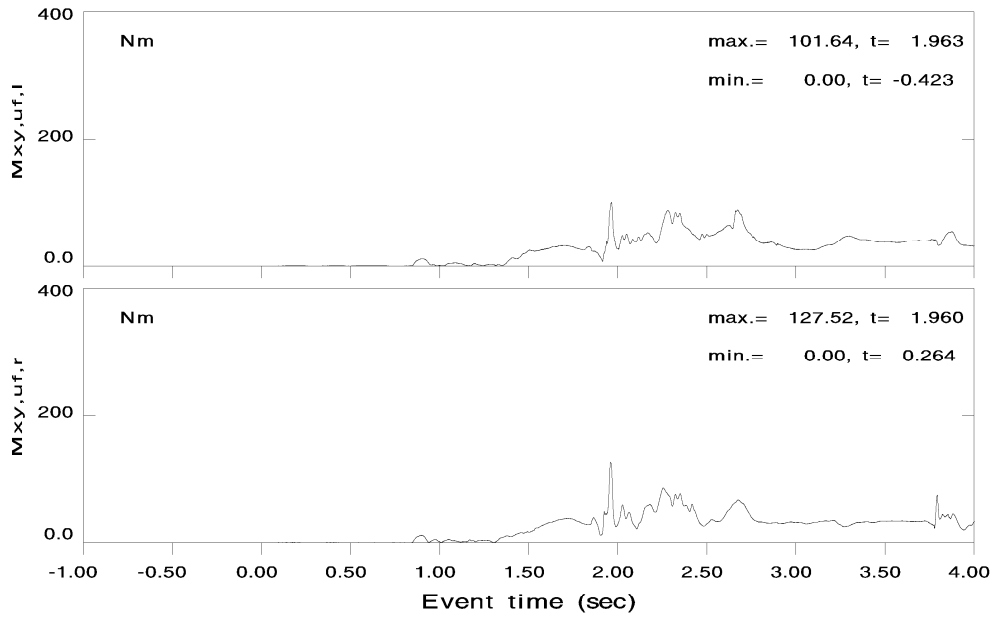
Page 13

Primary Test G140080

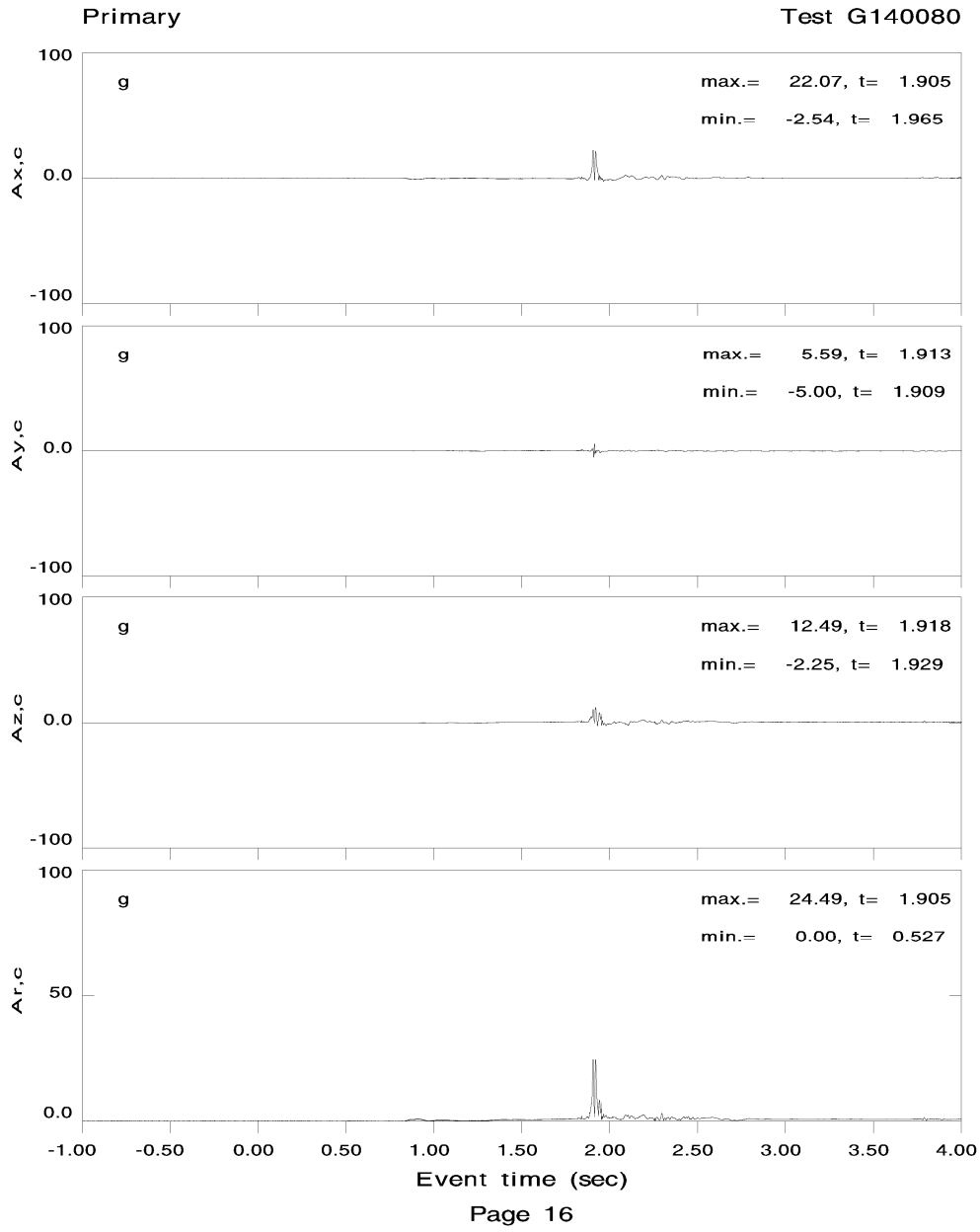


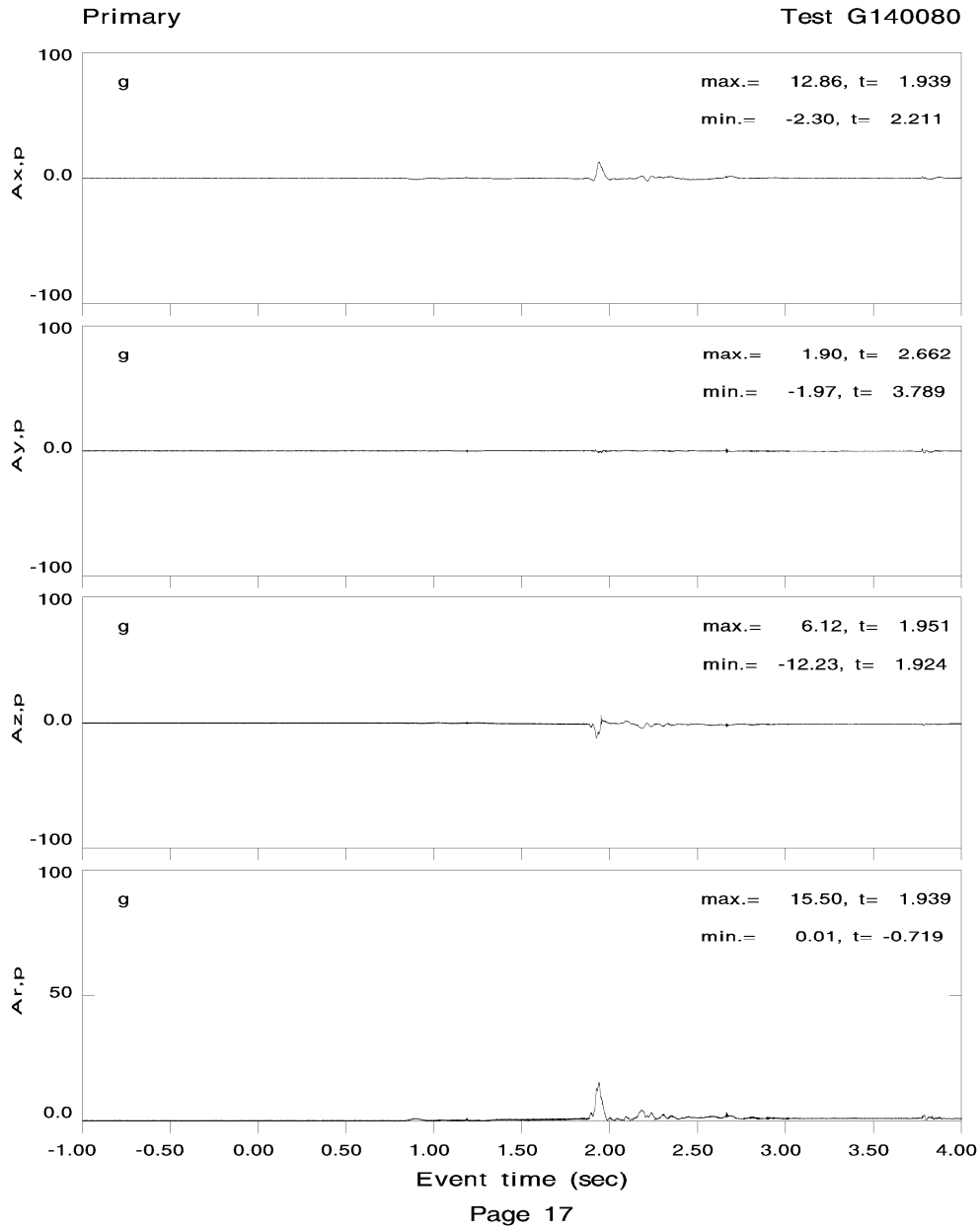
Page 14

Primary Test G140080

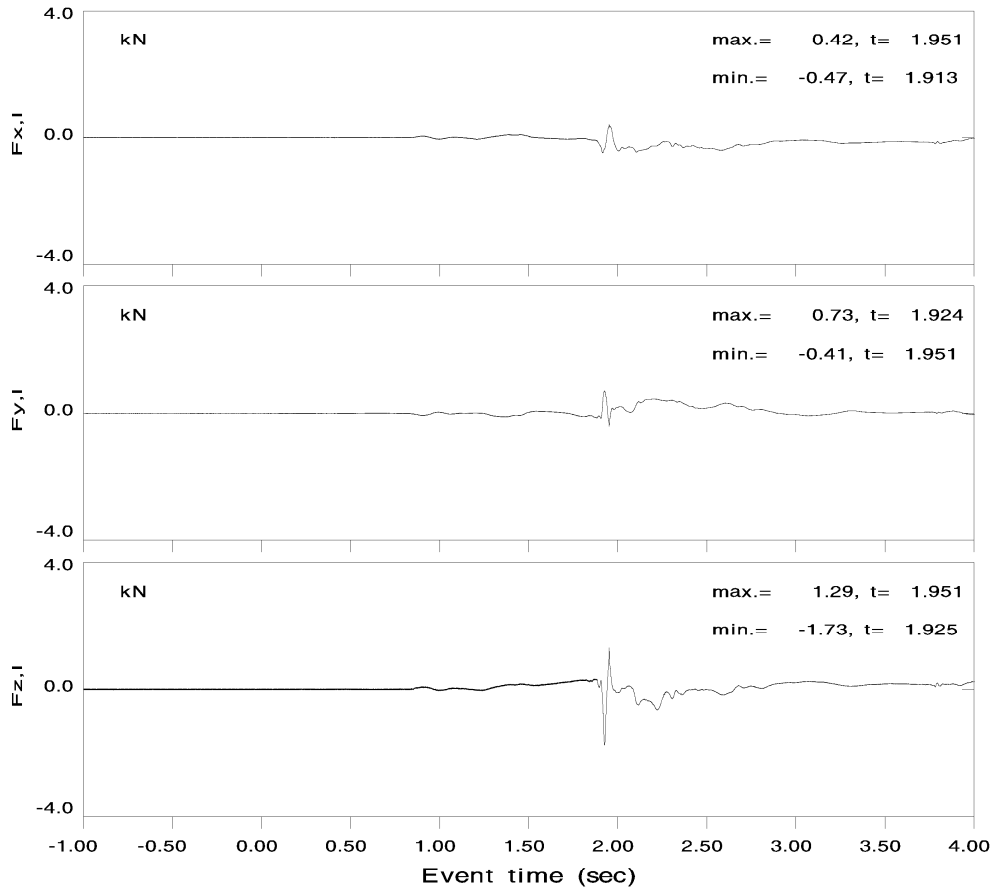


Page 15


Primary
Test G140080
g
max.= 22.07, t= 1.905
min.= -2.54, t= 1.965
Ax,c
g
max.= 5.59, t= 1.913
min.= -5.00, t= 1.909
Ay,c
g
max.= 12.49, t= 1.918
min.= -2.25, t= 1.929
Az,c
g
max.= 24.49, t= 1.905
min.= 0.00, t= 0.527
Ar,c
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

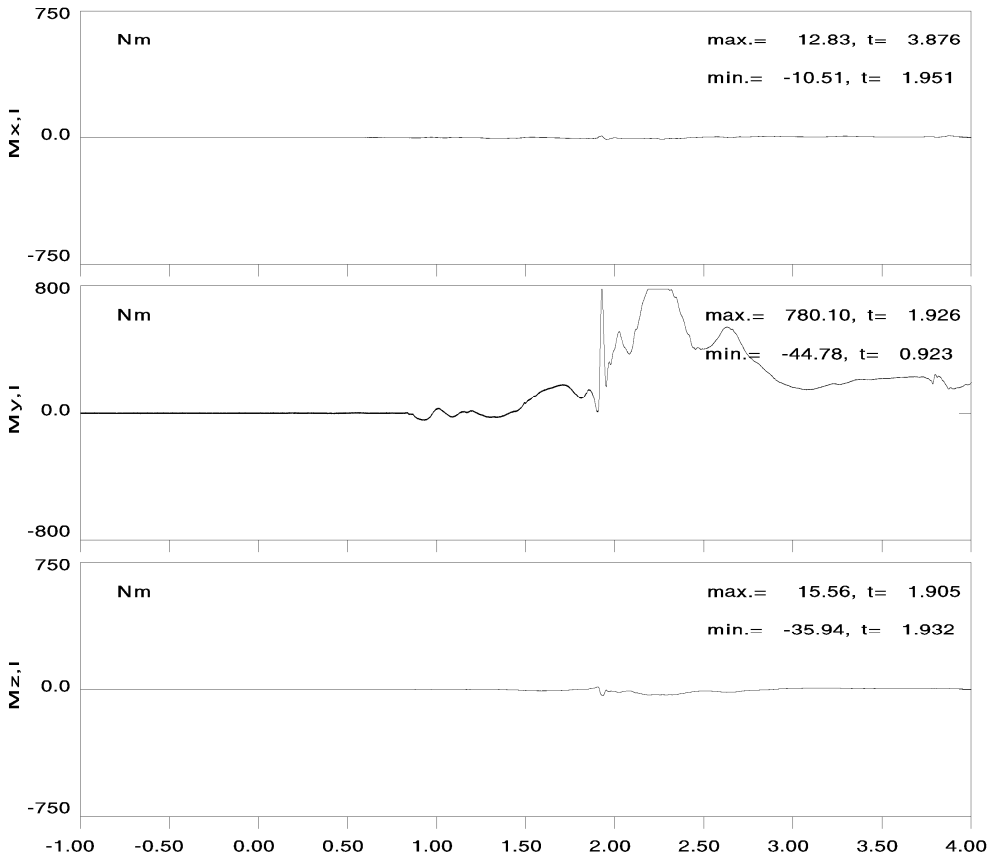

Primary
Test G140080
g
max.= 12.86, t= 1.939
min.= -2.30, t= 2.211
Ax,p
100
0.0
-100
g
max.= 1.90, t= 2.662
min.= -1.97, t= 3.789
Ay,p
100
0.0
-100
g
max.= 6.12, t= 1.951
min.= -12.23, t= 1.924
Az,p
100
0.0
-100
g
max.= 15.50, t= 1.939
min.= 0.01, t= -0.719
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140080

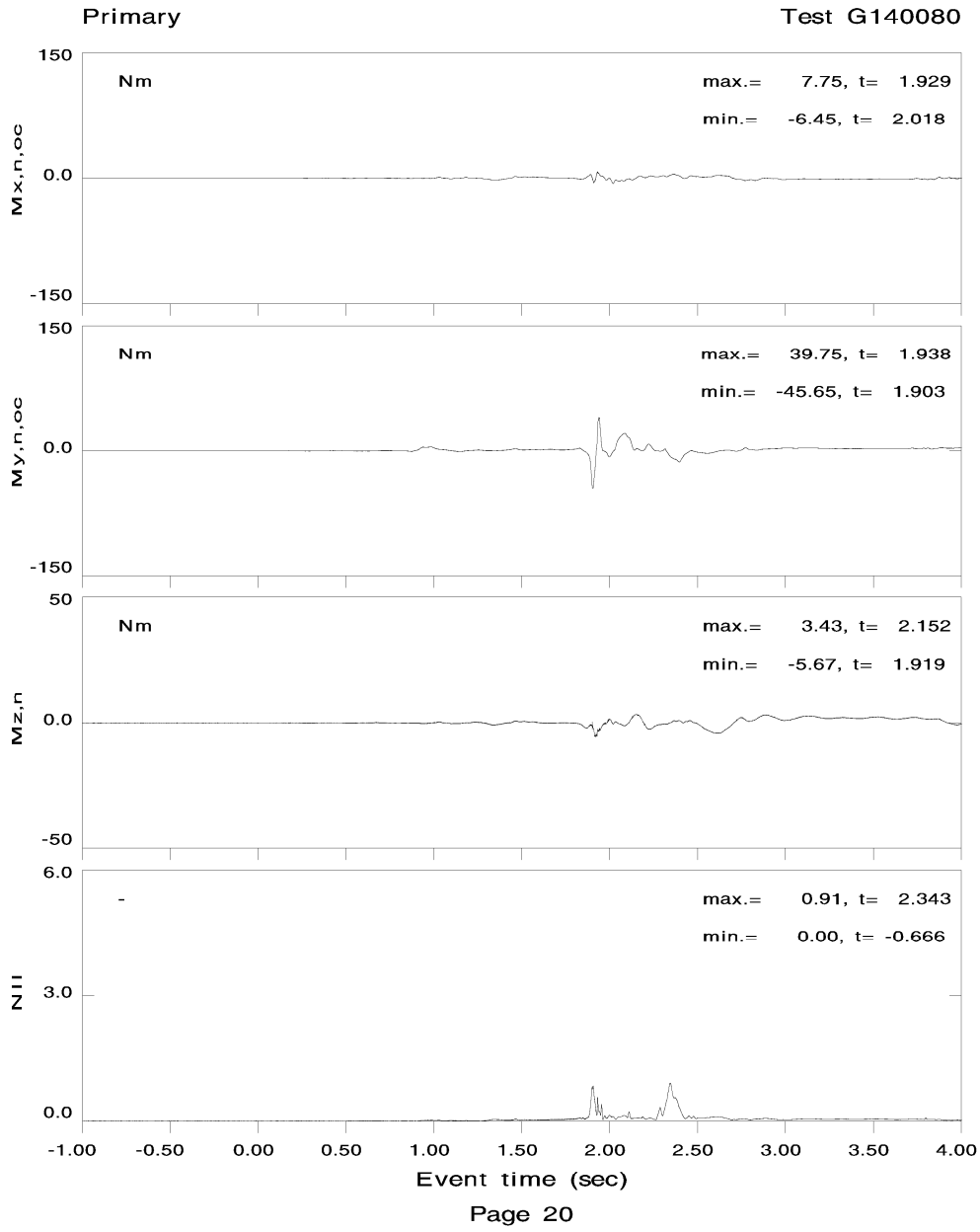


Page 18

Primary Test G140080



Page 19


Primary
Test G140080
Nm
max.= 7.75, t= 1.929
min.= -6.45, t= 2.018
Mx,n,oc
150
0.0
-150
Nm
max.= 39.75, t= 1.938
min.= -45.65, t= 1.903
My,n,oc
150
0.0
-150
Nm
max.= 3.43, t= 2.152
min.= -5.67, t= 1.919
Mz,n
50
0.0
-50
-
max.= 0.91, t= 2.343
min.= 0.00, t= -0.666
NII
6.0
3.0
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 20

2.7 G140082

G140082_ICM.IC1

Test Number : G140082
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	= 0
Number of AIS 2 Tibia Fractures	= 0
Number of AIS 3 Tibia Fractures	= 0
Number of AIS 2 Knee Dislocation Injuries	= 0
Number of AIS 3 Knee Dislocation Injuries	= 0
Index for Cmax Location	= 2
Index for VCmax Location	= 2
maximum Abdomen Penetration	= 0.000
maximum GAMBIT	= 0.170
Cmax	= 2.530
VCmax	= 0.000
HIC	= 77.9
NII (2002 MATD Neck)	= 2.0
Location of Cmax	: lower sternum
Location of VCmax	: lower sternum

Injury Cost Model output:

MAIS	= 0.0
Total AIS	= 0.0
Normalized Injury Cost	= 0.000
Normalized Cost of Survival	= 0.000
Normalized Cost of Dying	= 0.000
Probability of Fatality	= 0.000
Probability of Fatality due to non AIS 6 injuries	= 0.000
Probability of Fatality due AIS 6 injuries	= 0.000
Permanent Partial Incapacity	= 0.000
Risk of life threatening brain injury (%)	= 0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.995	0.995	1.000	1.000	1.000	0
1	0.002	0.005	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0
3	0.004	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.013	0.005	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.000	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140082.rpt

Test G140082, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	7.01 g	1.498	-6.32 g	1.448
Ay,c	2.95 g	1.543	-3.78 g	1.496
Az,c	14.28 g	1.443	-8.70 g	1.543
Ax,p	3.53 g	1.635	-5.31 g	1.608
Ay,p	2.53 g	1.494	-2.95 g	1.539
Az,p	9.82 g	1.546	-13.60 g	1.448
spare	0.00 -	1.541	0.00 -	2.585
spare	0.00 -	2.784	0.00 -	-0.428
L,ur	4.52 mm	1.554	-10.41 mm	1.697
L,lr	4.08 mm	1.549	-5.68 mm	1.706
a1	20.55 g	1.430	-10.34 g	1.465
a2	20.18 g	1.431	-8.82 g	1.466
a3	24.67 g	1.430	-12.87 g	1.461
a4	21.55 g	1.437	-9.31 g	1.465
a5	20.95 g	1.437	-10.17 g	1.465
a6	26.10 g	1.446	-11.14 g	1.464
Mx,l	24.34 Nm	1.857	-16.05 Nm	3.242
My,l	658.59 Nm	1.635	-135.91 Nm	1.444
Mz,l	13.52 Nm	2.677	-29.04 Nm	1.555
Fx,l	0.13 kN	3.240	-1.51 kN	1.611
Fy,l	0.80 kN	1.849	-0.13 kN	2.637
Fz,l	0.89 kN	1.669	-1.71 kN	1.451
spare	0.00 -	4.000	0.00 -	4.000
spare	0.01 -	1.951	0.00 -	-0.411
spare	0.09 -	3.999	0.01 -	-0.992
spare	0.00 -	3.089	0.00 -	3.473
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.01 -	3.982	0.00 -	0.257
a7	27.48 g	1.430	-8.28 g	1.501
a8	23.24 g	1.430	-13.93 g	1.447
a9	24.90 g	1.430	-13.56 g	1.447
Fz,uf,r	0.17 kN	1.674	-0.60 kN	1.507
Mx,uf,r	19.04 Nm	2.331	-36.45 Nm	3.050
My,uf,r	33.13 Nm	1.874	-59.66 Nm	1.453
Mz,uf,r	12.16 Nm	3.226	-33.17 Nm	2.351
Fz,uf,l	1.00 kN	1.681	-0.33 kN	1.532
Mx,uf,l	19.02 Nm	1.759	-19.80 Nm	1.702
My,uf,l	130.11 Nm	1.686	-61.84 Nm	1.556
Mz,uf,l	25.20 Nm	1.615	-11.13 Nm	3.102
Fx,n	0.63 kN	1.439	-0.02 kN	0.345
Fy,n	0.05 kN	1.438	-0.65 kN	1.676
Fz,n	0.84 kN	1.724	-4.32 kN	1.449
Mx,n	52.49 Nm	1.676	-19.24 Nm	1.491
My,n	68.22 Nm	1.452	-4.03 Nm	0.218
Mz,n	4.39 Nm	1.583	-7.38 Nm	1.497
L,ul	6.07 mm	1.700	-2.30 mm	1.550
L,ll	9.28 mm	1.700	-2.40 mm	1.551
Ax,h	13.78 g	1.465	-28.32 g	1.430
Ay,h	14.41 g	1.599	-3.82 g	1.542
Az,h	27.50 g	1.430	-8.29 g	1.501
ȧx,h	1.11 krad/s**2	1.481	-1.85 krad/s**2	1.497
ȧy,h	4.03 krad/s**2	1.447	-2.62 krad/s**2	1.498
ȧz,h	0.89 krad/s**2	1.498	-1.76 krad/s**2	1.599
Ar,h	38.33 g	1.430	0.01 g	-0.483
ȧr,h	4.03 krad/s**2	1.447	0.00 krad/s**2	0.785
G	0.17 -	1.447	0.00 -	-0.092
HIC	77.94	1.464	----	1.428
Fxy,n	0.76 kN	1.676	0.00 kN	-0.864
Dx,us	1.73 mm	1.560	-3.43 mm	1.690
Dy,us	12.76 mm	1.698	-5.41 mm	1.550

Page 1

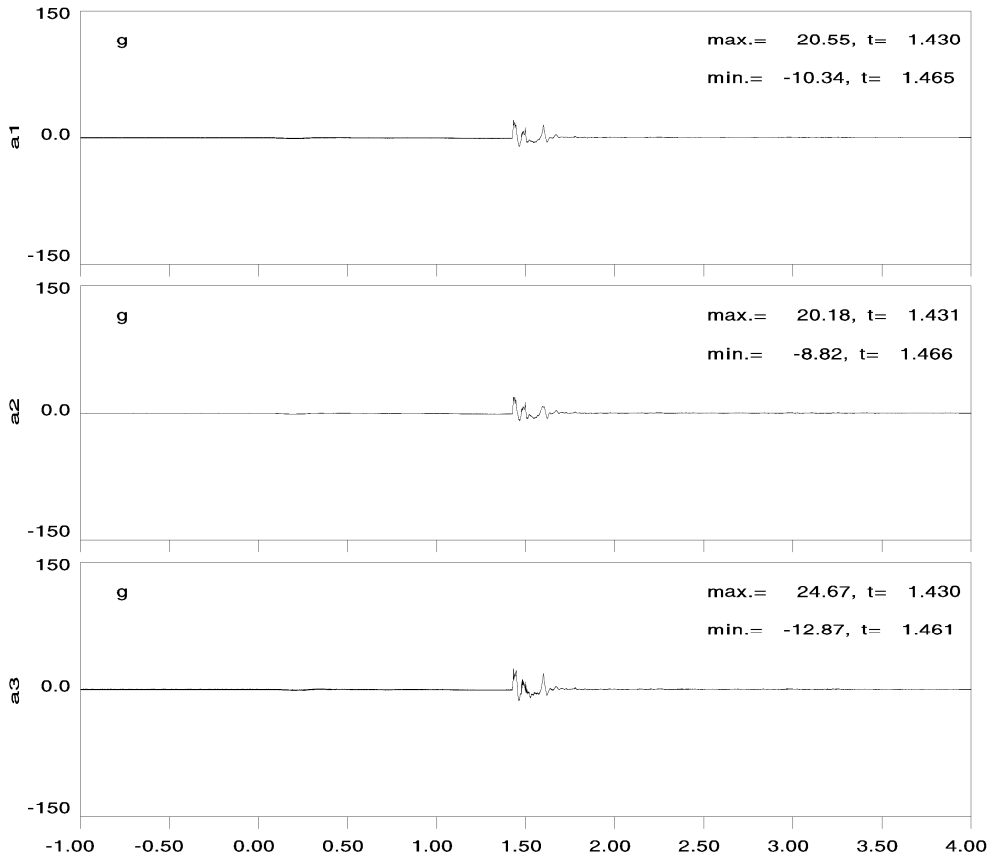
G140082.rpt

Cus	1.83	%	1.690	-0.92	%	1.560
Vus	0.10	m/s	1.496	-0.12	m/s	1.647
VCus	0.00	m/s	1.662	0.00	m/s	1.770
Dx,ls	4.75	mm	1.453	-0.06	mm	-0.747
Dy,ls	11.20	mm	1.699	-4.79	mm	1.550
Cls	0.03	%	-0.747	-2.53	%	1.453
Vls	0.22	m/s	1.446	-0.20	m/s	1.499
VCls	0.00	m/s	1.447	0.00	m/s	1.457
Mxy,uf,r	59.76	Nm	1.453	0.00	Nm	-0.366
Mxy,uf,l	130.21	Nm	1.686	0.00	Nm	-0.924
Mx,n,oc	40.98	Nm	1.679	-21.44	Nm	1.491
My,n,oc	66.39	Nm	1.451	-4.89	Nm	0.217
NII	2.05	-	1.449	0.00	-	-0.760
Ar,p	13.83	g	1.448	0.00	g	-0.984
Ar,c	14.90	g	1.444	0.00	g	-0.783

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

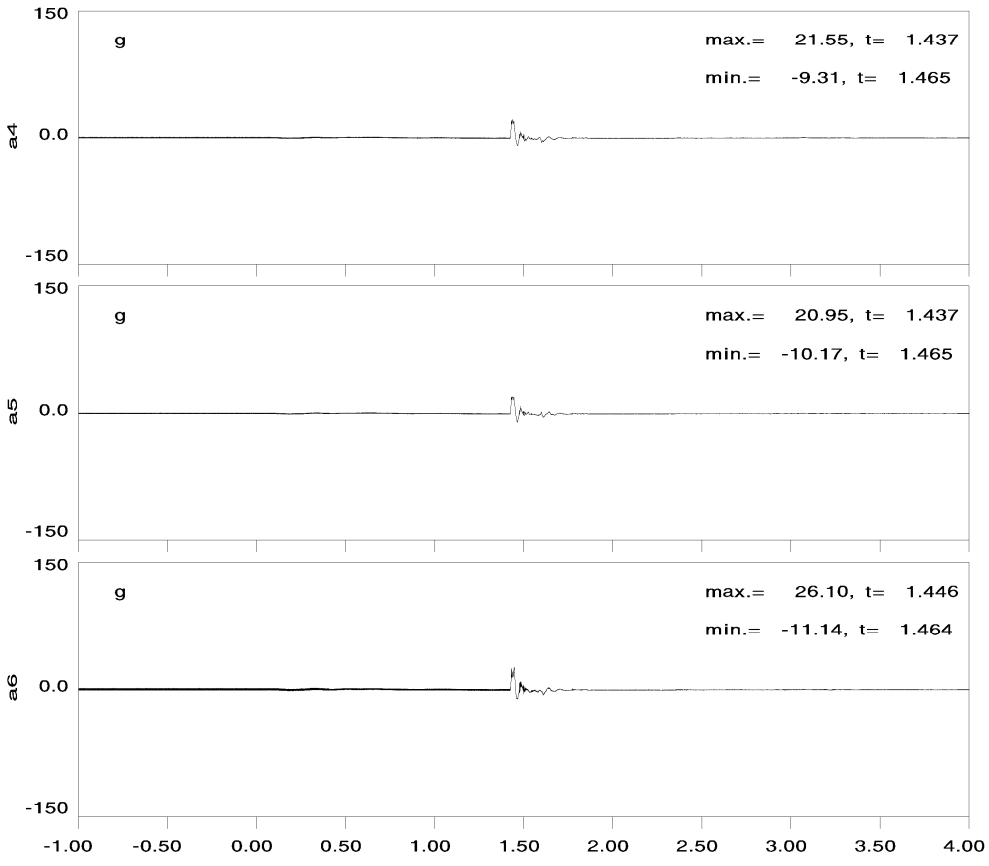
Page 2

Primary Test G140082



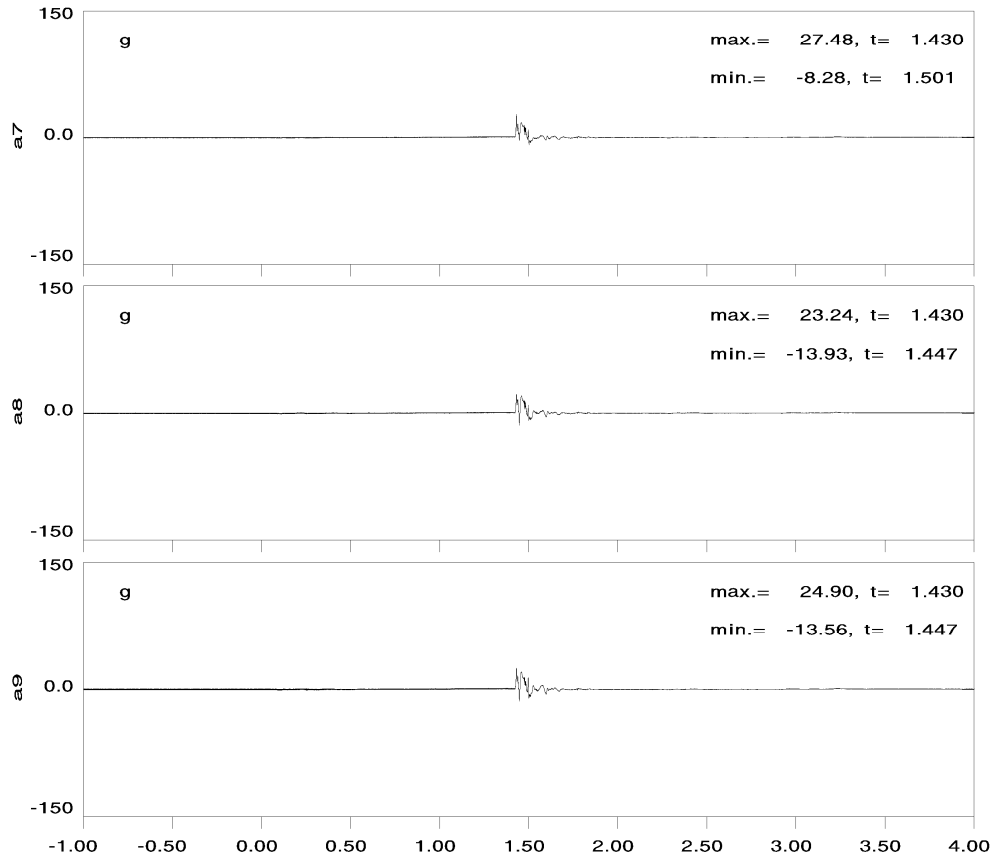
Page 1

Primary Test G140082



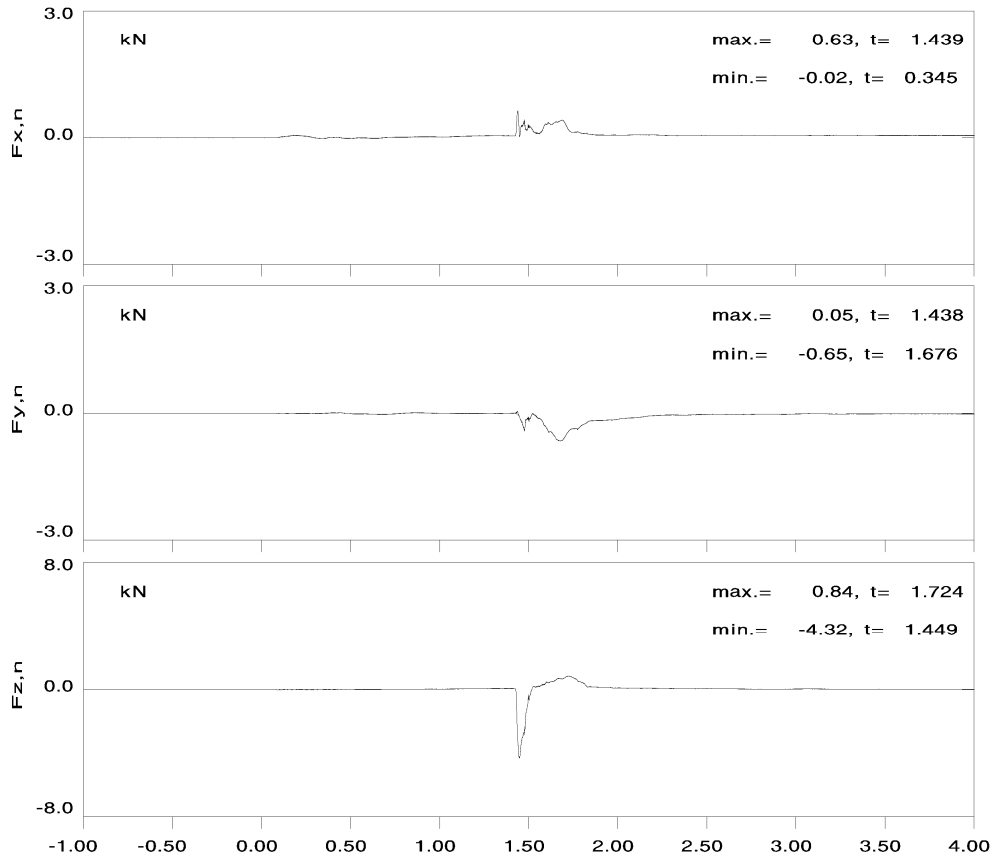
Page 2

Primary Test G140082



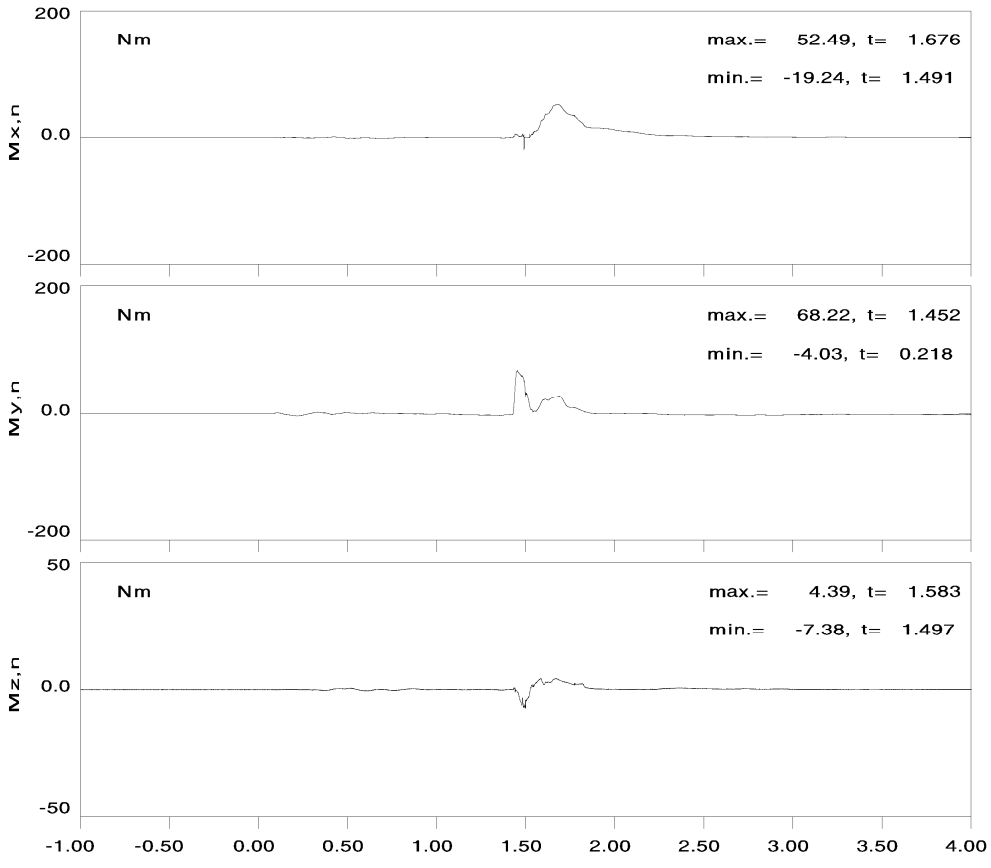
Page 3

Primary Test G140082

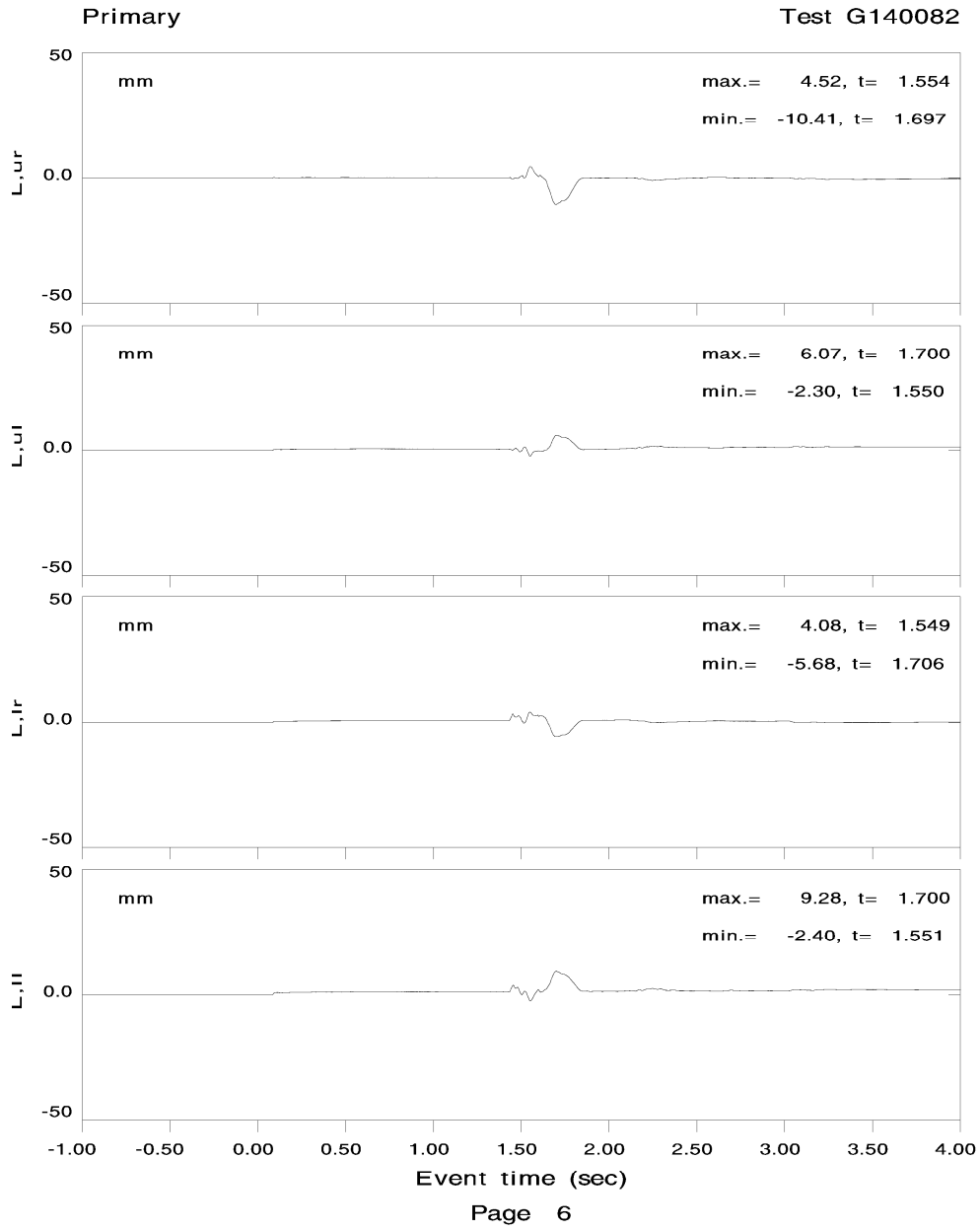


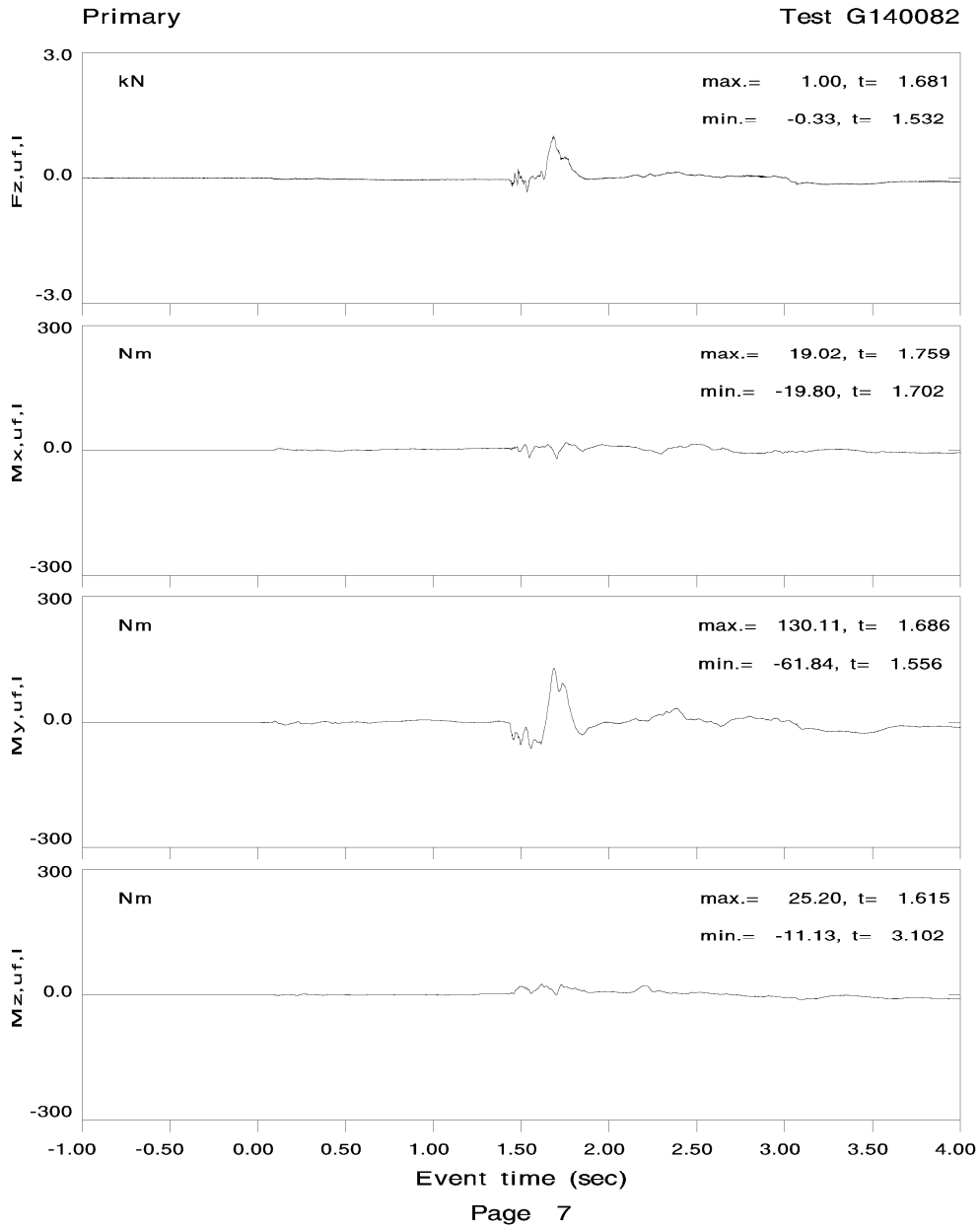
Page 4

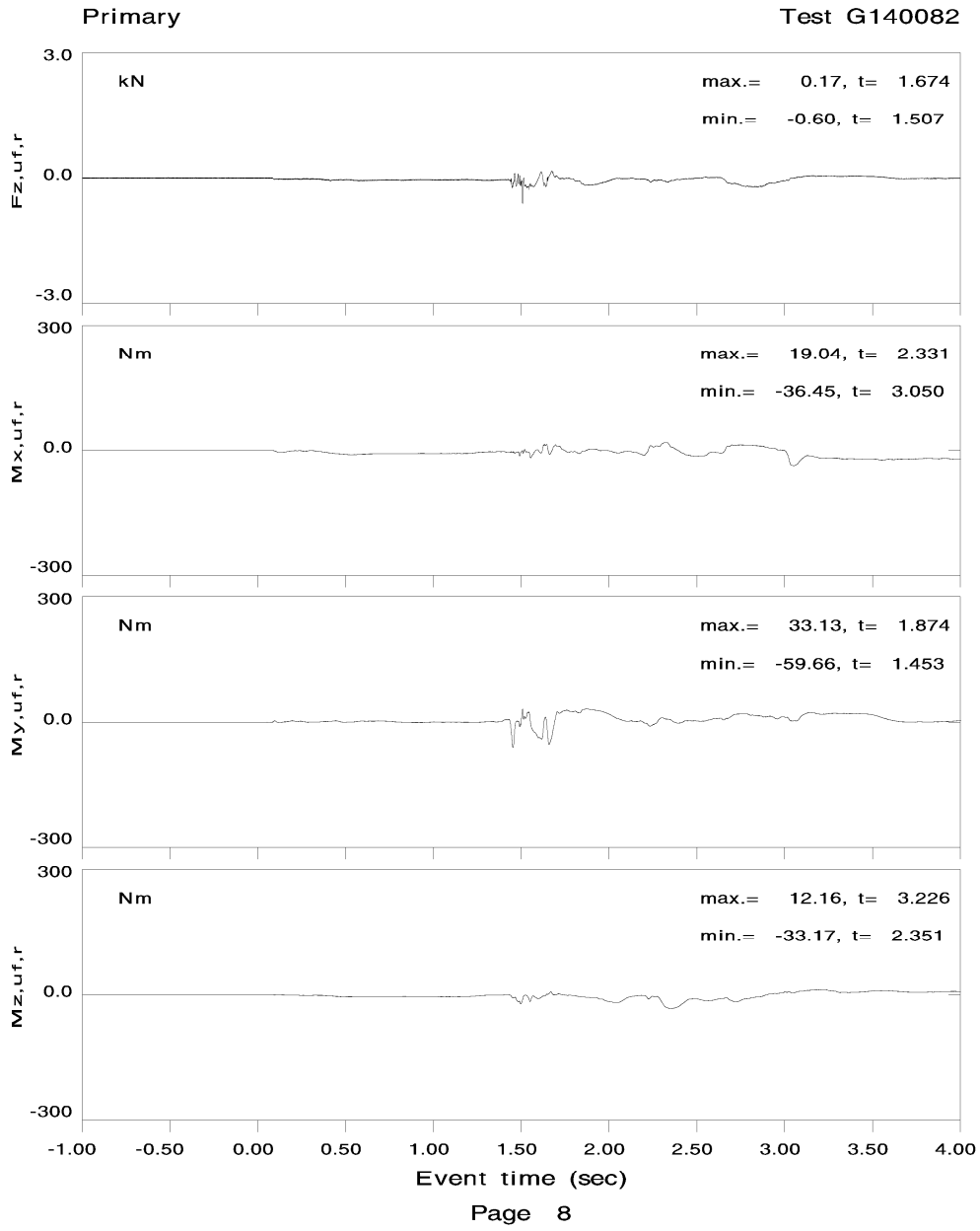
Primary Test G140082

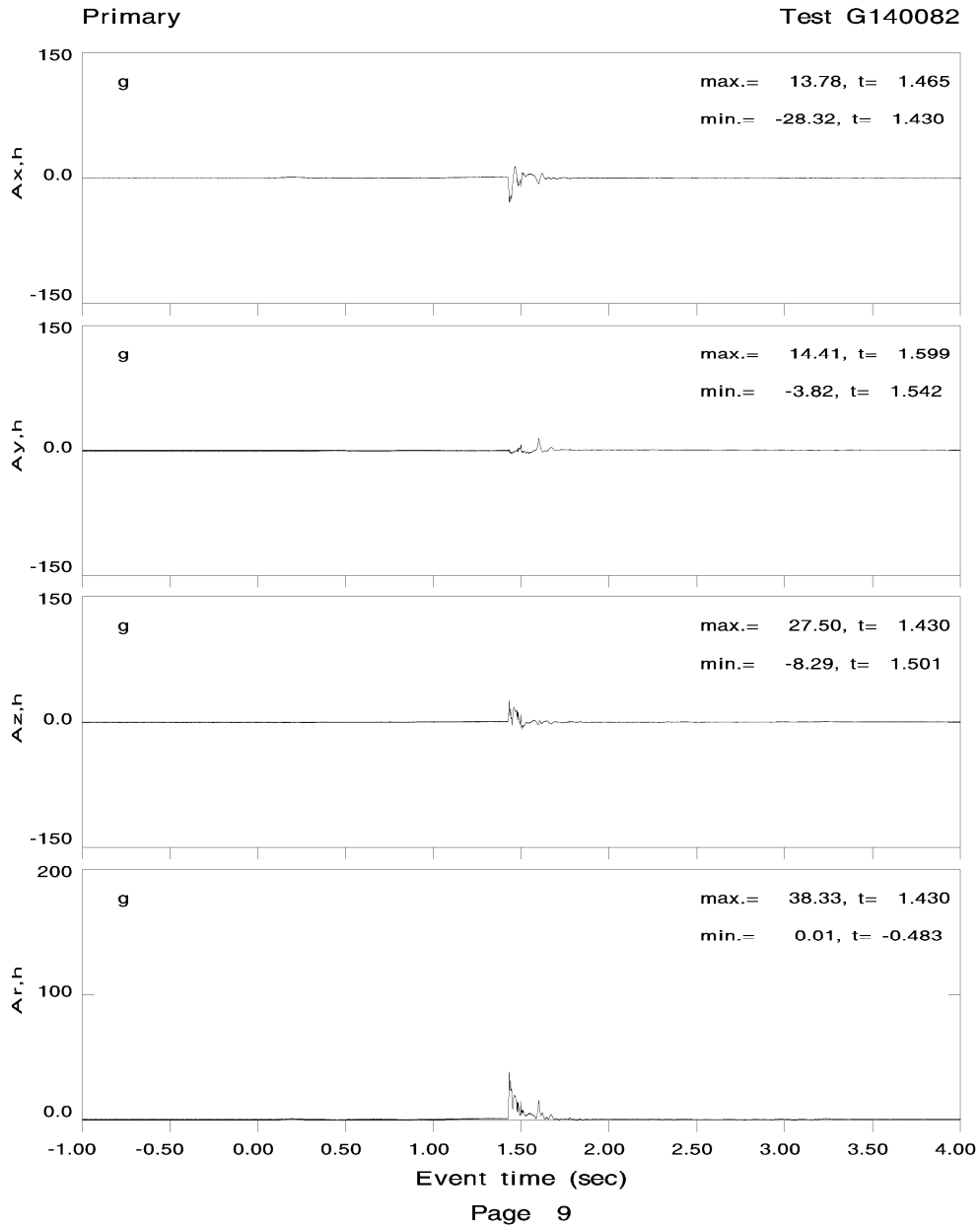


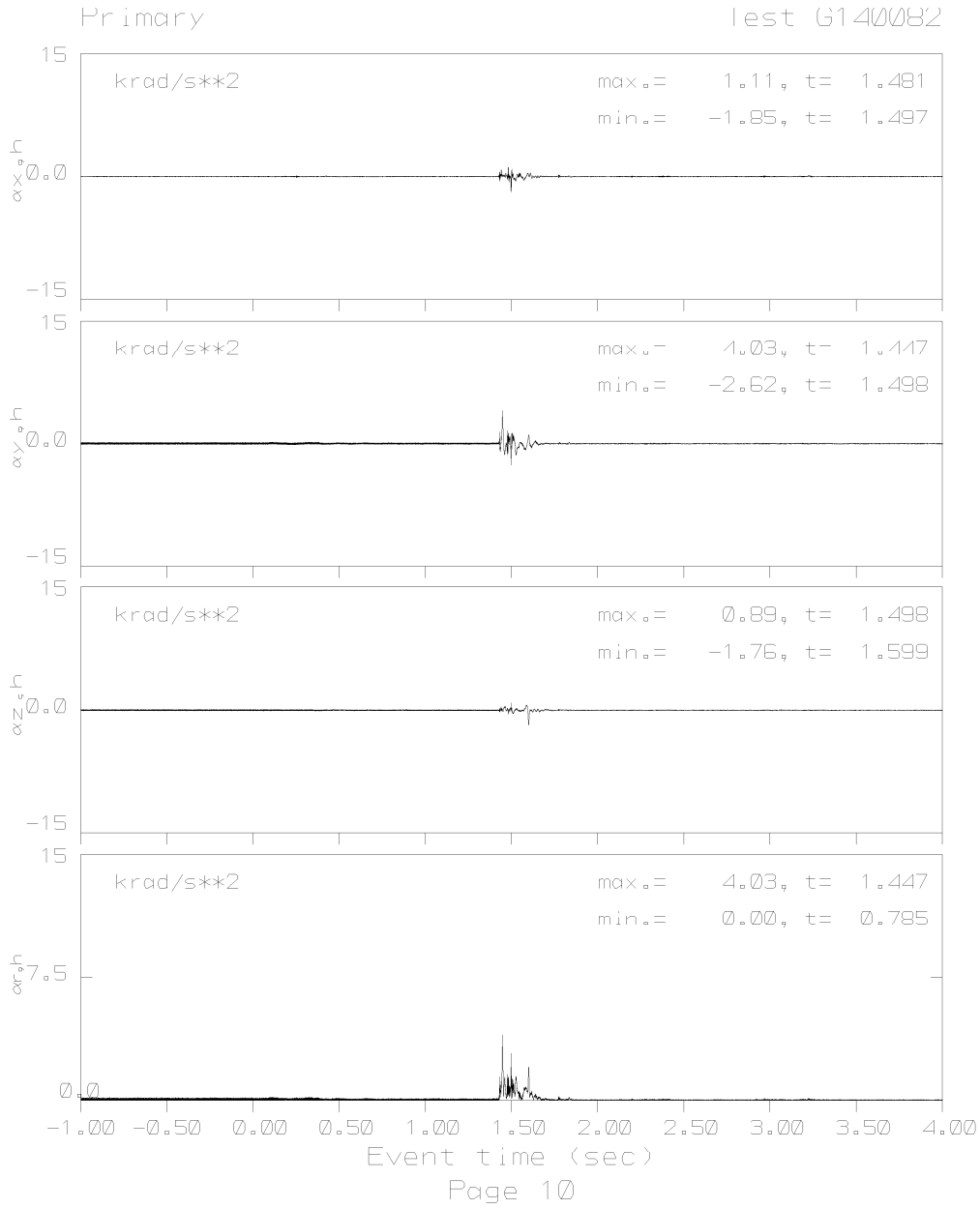
Page 5

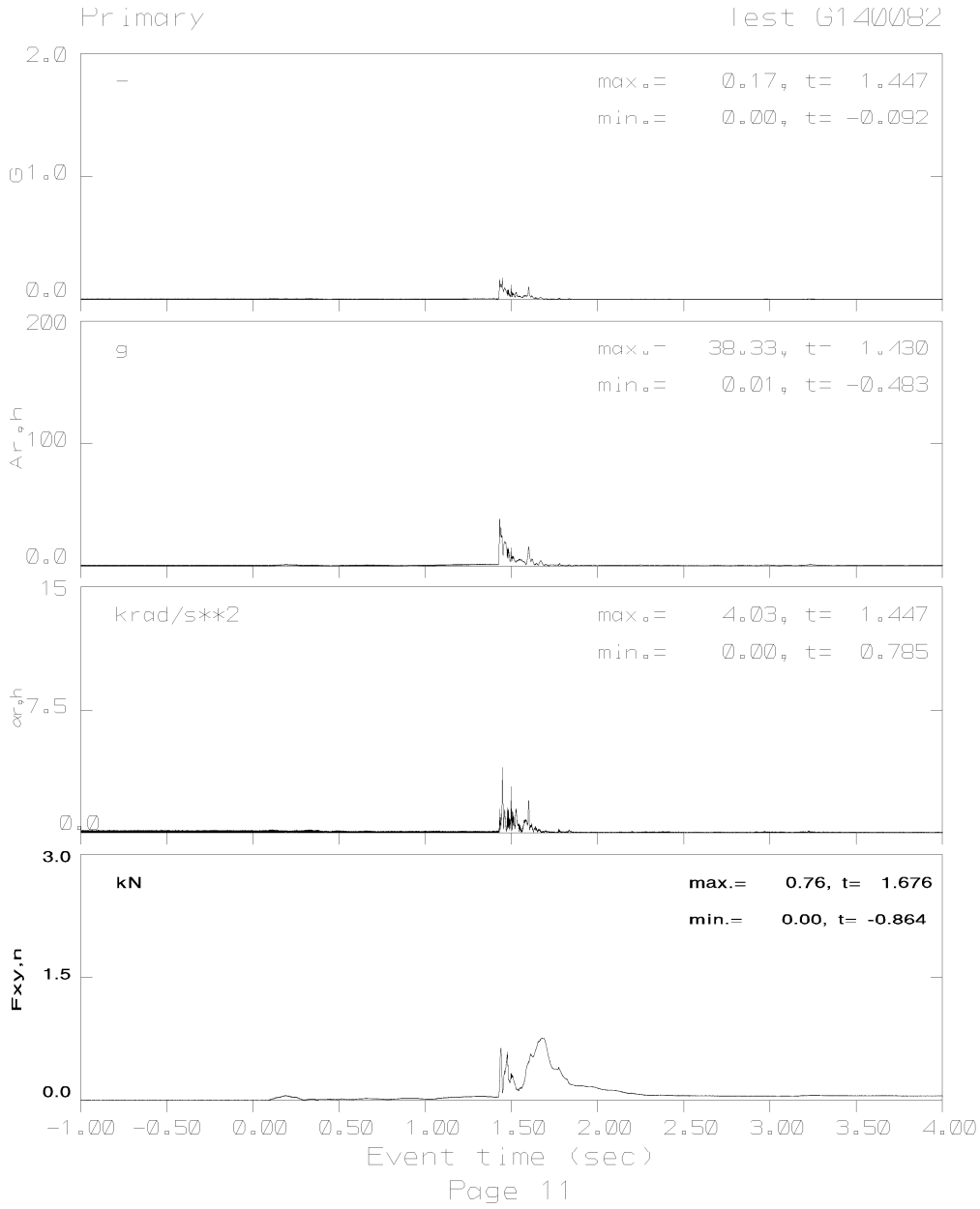

Primary
Test G140082
mm
max.= 4.52, t= 1.554
min.= -10.41, t= 1.697
L,ur
mm
max.= 6.07, t= 1.700
min.= -2.30, t= 1.550
L,ul
mm
max.= 4.08, t= 1.549
min.= -5.68, t= 1.706
L,lr
mm
max.= 9.28, t= 1.700
min.= -2.40, t= 1.551
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

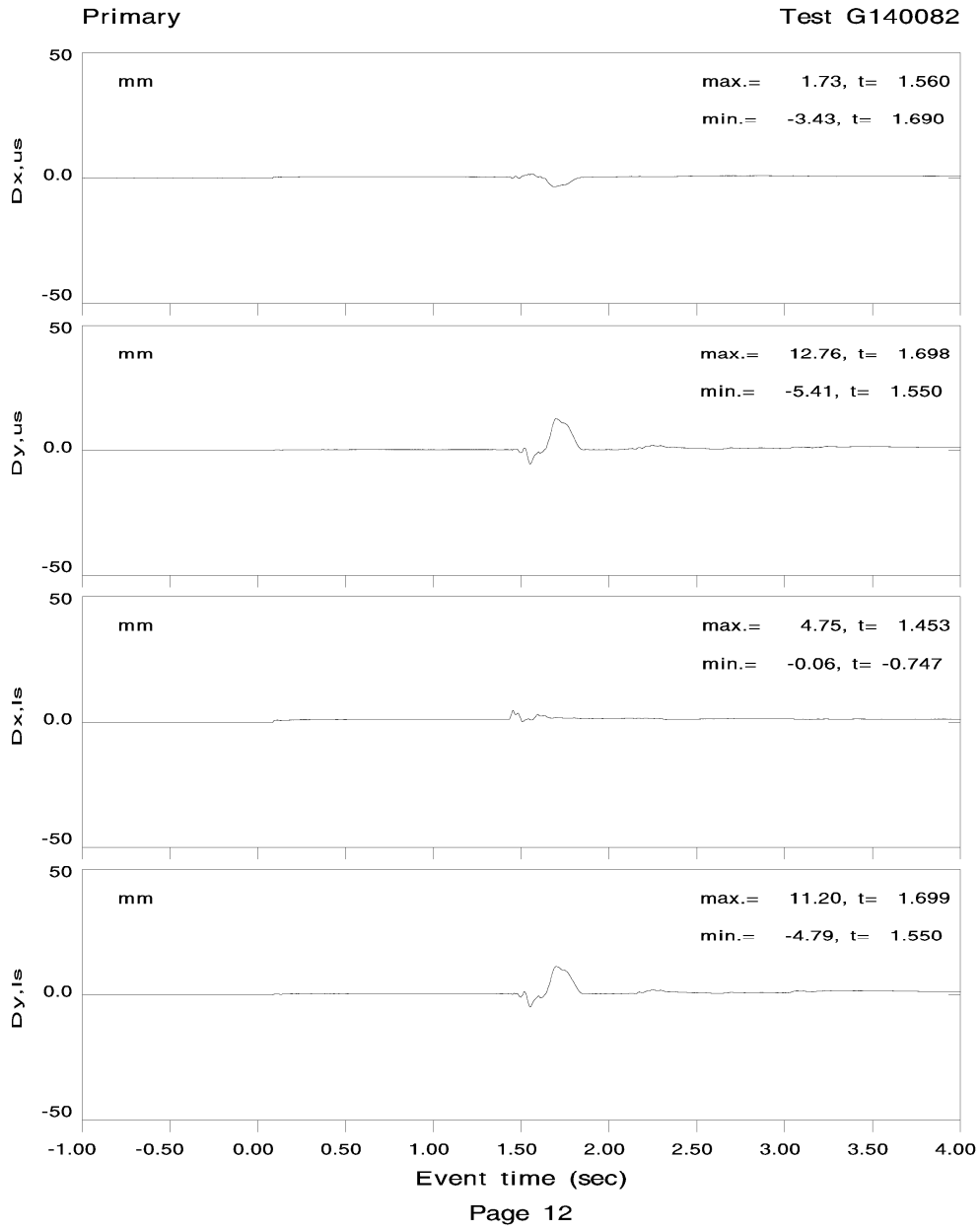

Primary
Test G140082
kN
max.= 1.00, t= 1.681
min.= -0.33, t= 1.532
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 19.02, t= 1.759
min.= -19.80, t= 1.702
Mx,uf,l
300
0.0
-300
Nm
max.= 130.11, t= 1.686
min.= -61.84, t= 1.556
My,uf,l
300
0.0
-300
Nm
max.= 25.20, t= 1.615
min.= -11.13, t= 3.102
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140082
kN
max.= 0.17, t= 1.674
min.= -0.60, t= 1.507
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 19.04, t= 2.331
min.= -36.45, t= 3.050
Mx,uf,r
300
0.0
-300
Nm
max.= 33.13, t= 1.874
min.= -59.66, t= 1.453
My,uf,r
300
0.0
-300
Nm
max.= 12.16, t= 3.226
min.= -33.17, t= 2.351
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

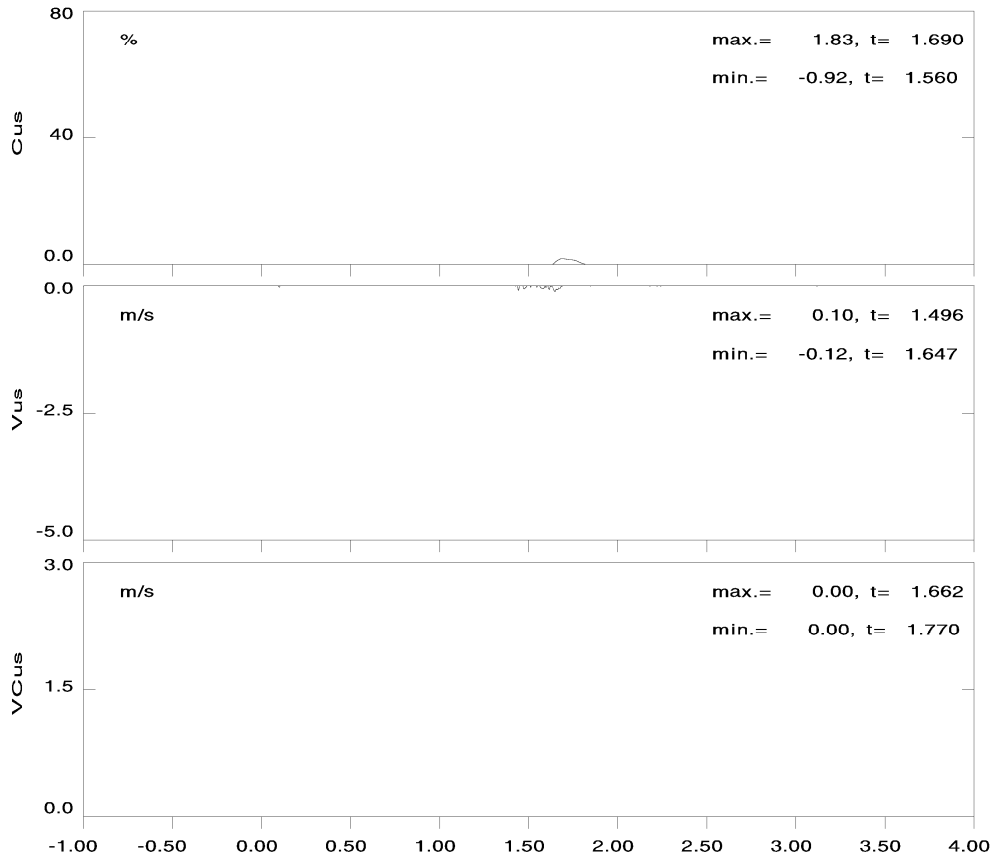

Primary
Test G140082
g
max.= 13.78, t= 1.465
min.= -28.32, t= 1.430
Ax,h
150
0.0
-150
g
max.= 14.41, t= 1.599
min.= -3.82, t= 1.542
Ay,h
150
0.0
-150
g
max.= 27.50, t= 1.430
min.= -8.29, t= 1.501
Az,h
150
0.0
-150
g
max.= 38.33, t= 1.430
min.= 0.01, t= -0.483
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G140082
krad/s**2
max.= 1.11, t= 1.481
min.= -1.85, t= 1.497
ax,h
krad/s**2
max.= 1.03, t= 1.447
min.= -2.62, t= 1.498
ay,h
krad/s**2
max.= 0.89, t= 1.498
min.= -1.76, t= 1.599
az,h
krad/s**2
max.= 4.03, t= 1.447
min.= 0.00, t= 0.785
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140082
2.0
-
max.= 0.17, t= 1.447
min.= 0.00, t= -0.092
G1.0
0.0
200
g
max.= 38.33, t= 1.430
min.= 0.01, t= -0.483
Ar.h
100
0.0
15
krad/s**2
max.= 4.03, t= 1.447
min.= 0.00, t= 0.785
ar.h
7.5
0
3.0
kN
max.= 0.76, t= 1.676
min.= 0.00, t= -0.864
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

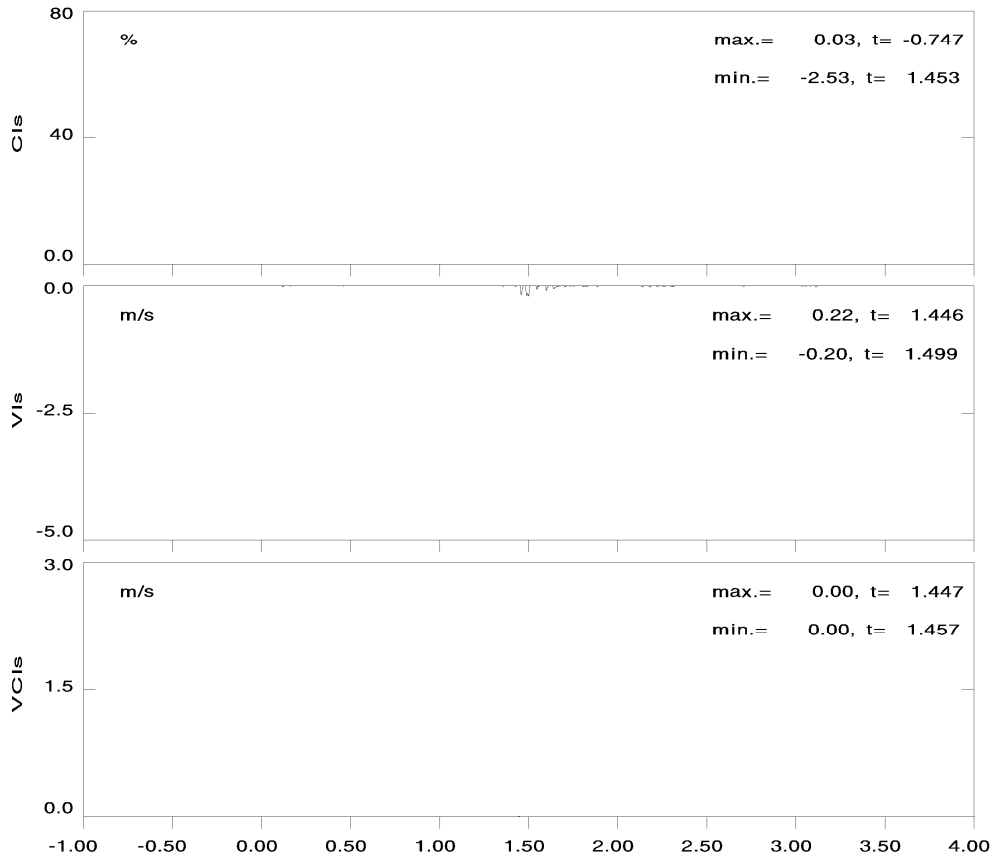

Primary
Test G140082
mm
max.= 1.73, t= 1.560
min.= -3.43, t= 1.690
Dx,us
mm
max.= 12.76, t= 1.698
min.= -5.41, t= 1.550
Dy,us
mm
max.= 4.75, t= 1.453
min.= -0.06, t= -0.747
Dx,ls
mm
max.= 11.20, t= 1.699
min.= -4.79, t= 1.550
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140082



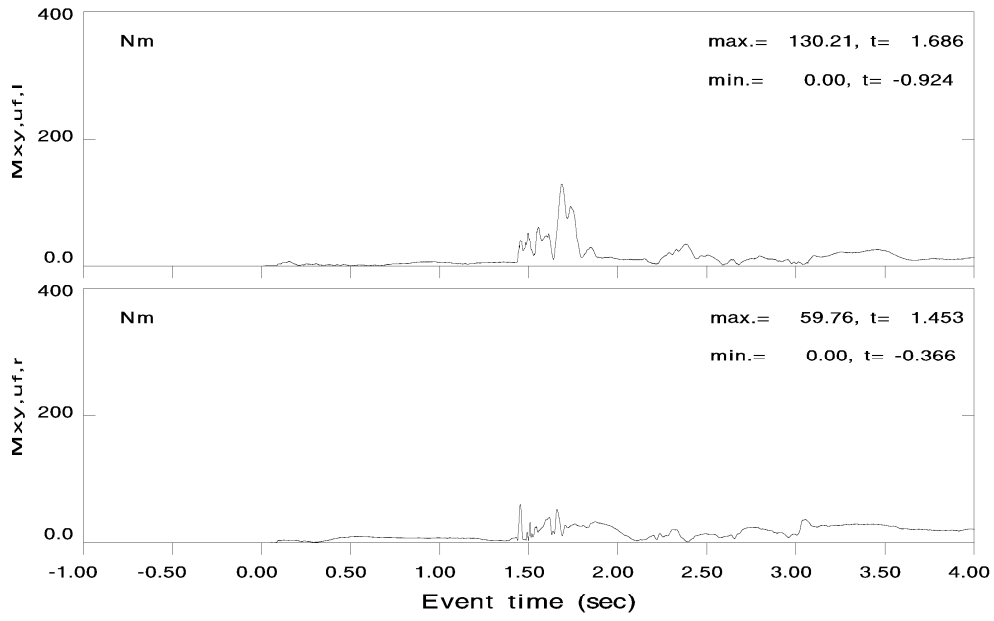
Page 13

Primary Test G140082

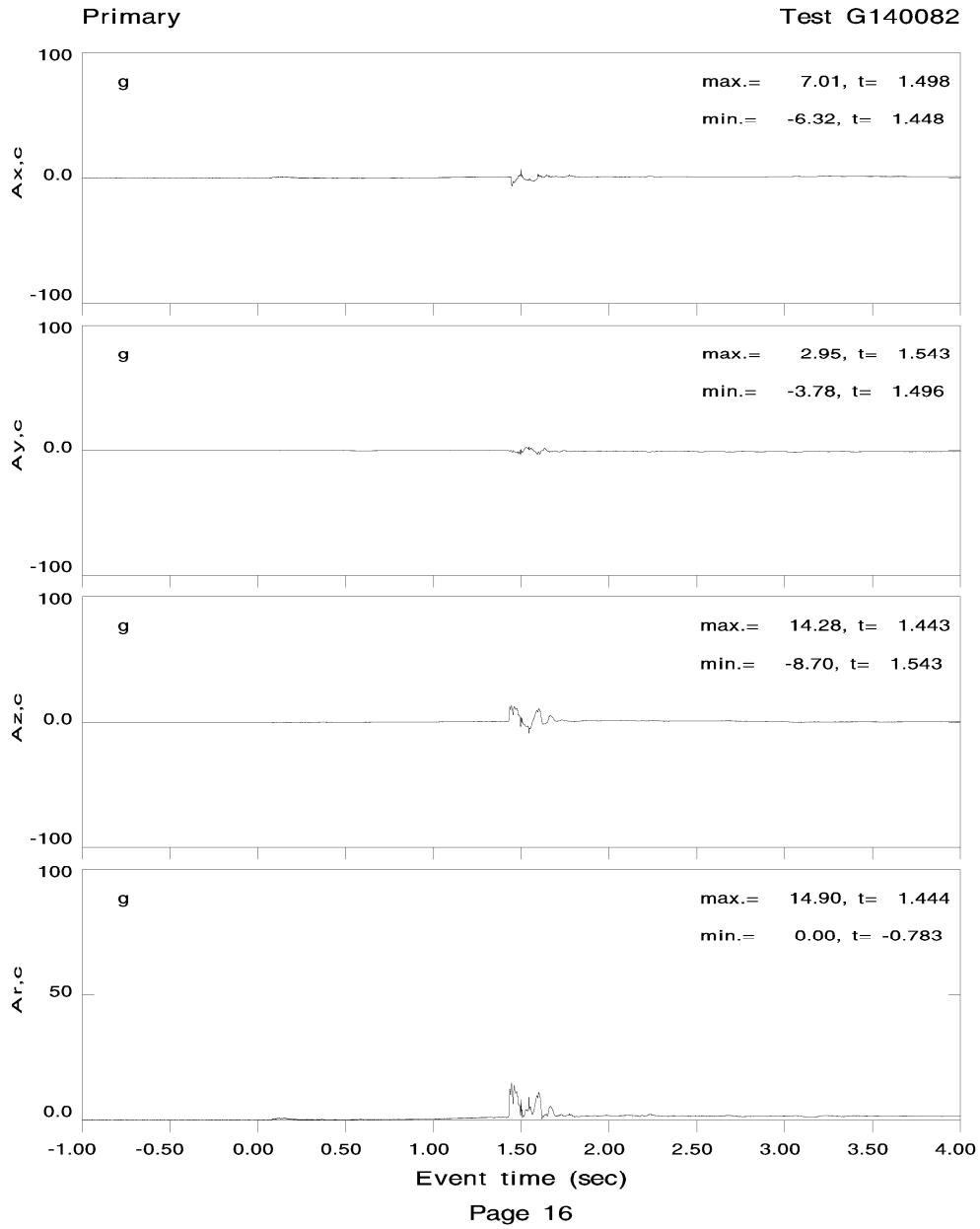


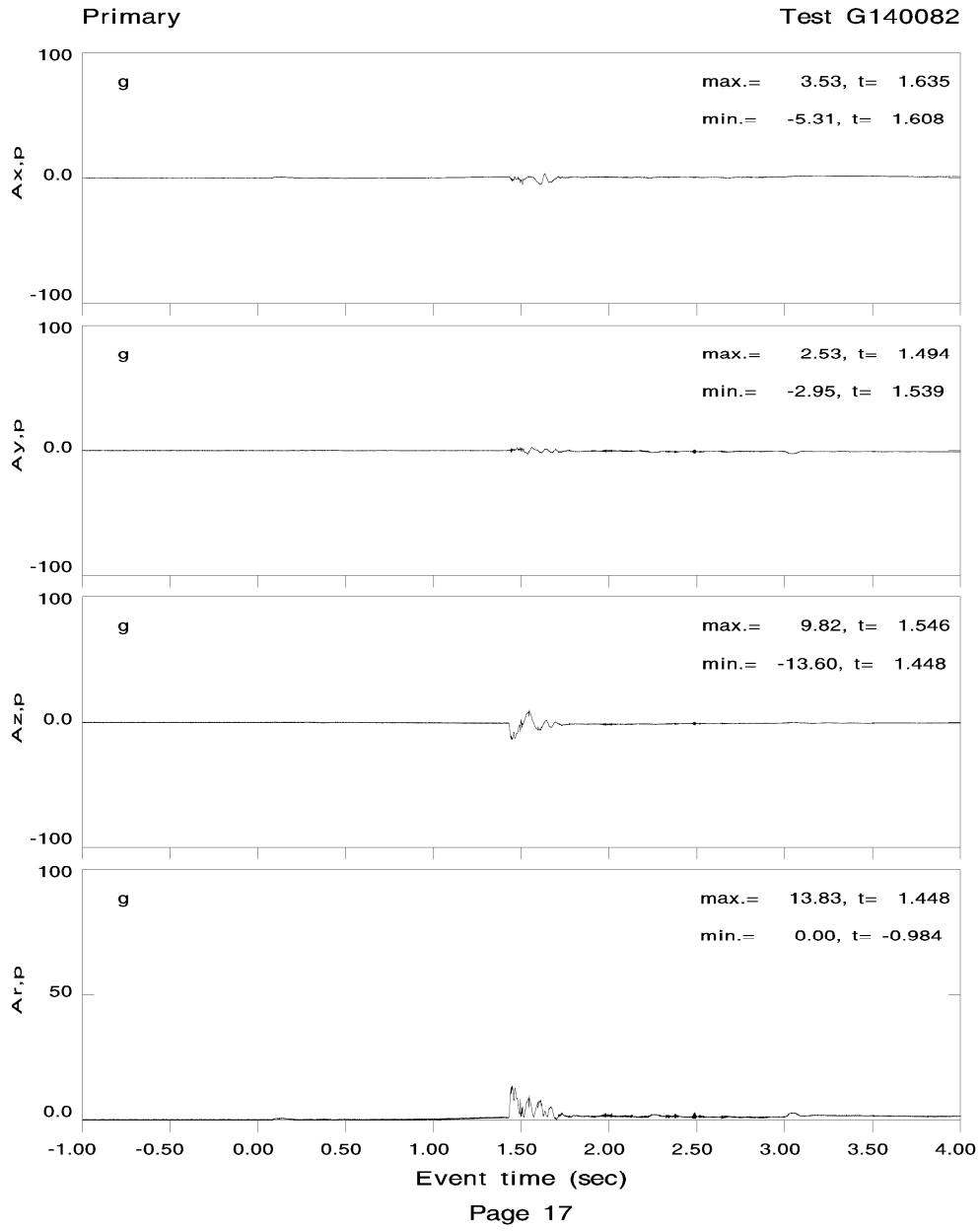
Page 14

Primary Test G140082

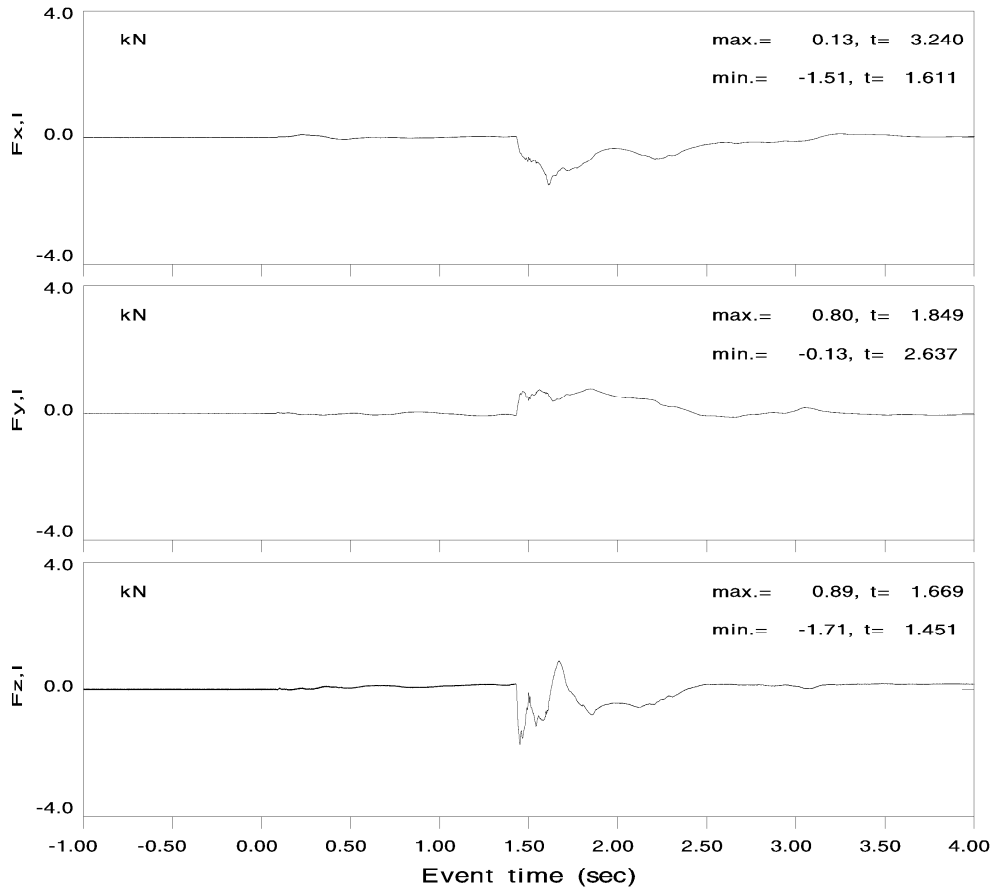


Page 15


Primary
Test G140082
g
max.= 7.01, t= 1.498
min.= -6.32, t= 1.448
Ax,c
100
0.0
-100
g
max.= 2.95, t= 1.543
min.= -3.78, t= 1.496
Ay,c
100
0.0
-100
g
max.= 14.28, t= 1.443
min.= -8.70, t= 1.543
Az,c
100
0.0
-100
g
max.= 14.90, t= 1.444
min.= 0.00, t= -0.783
Ar,c
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

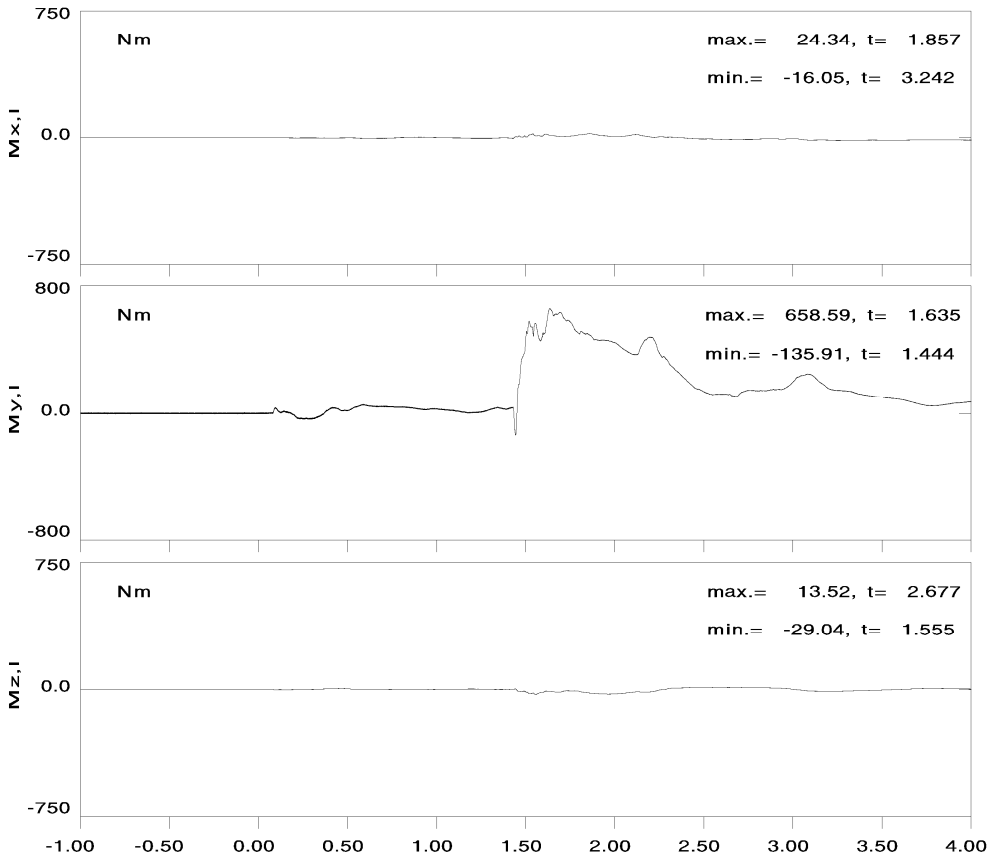

Primary
Test G140082
g
max.= 3.53, t= 1.635
min.= -5.31, t= 1.608
Ax,p
100
0.0
-100
g
max.= 2.53, t= 1.494
min.= -2.95, t= 1.539
Ay,p
100
0.0
-100
g
max.= 9.82, t= 1.546
min.= -13.60, t= 1.448
Az,p
100
0.0
-100
g
max.= 13.83, t= 1.448
min.= 0.00, t= -0.984
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140082

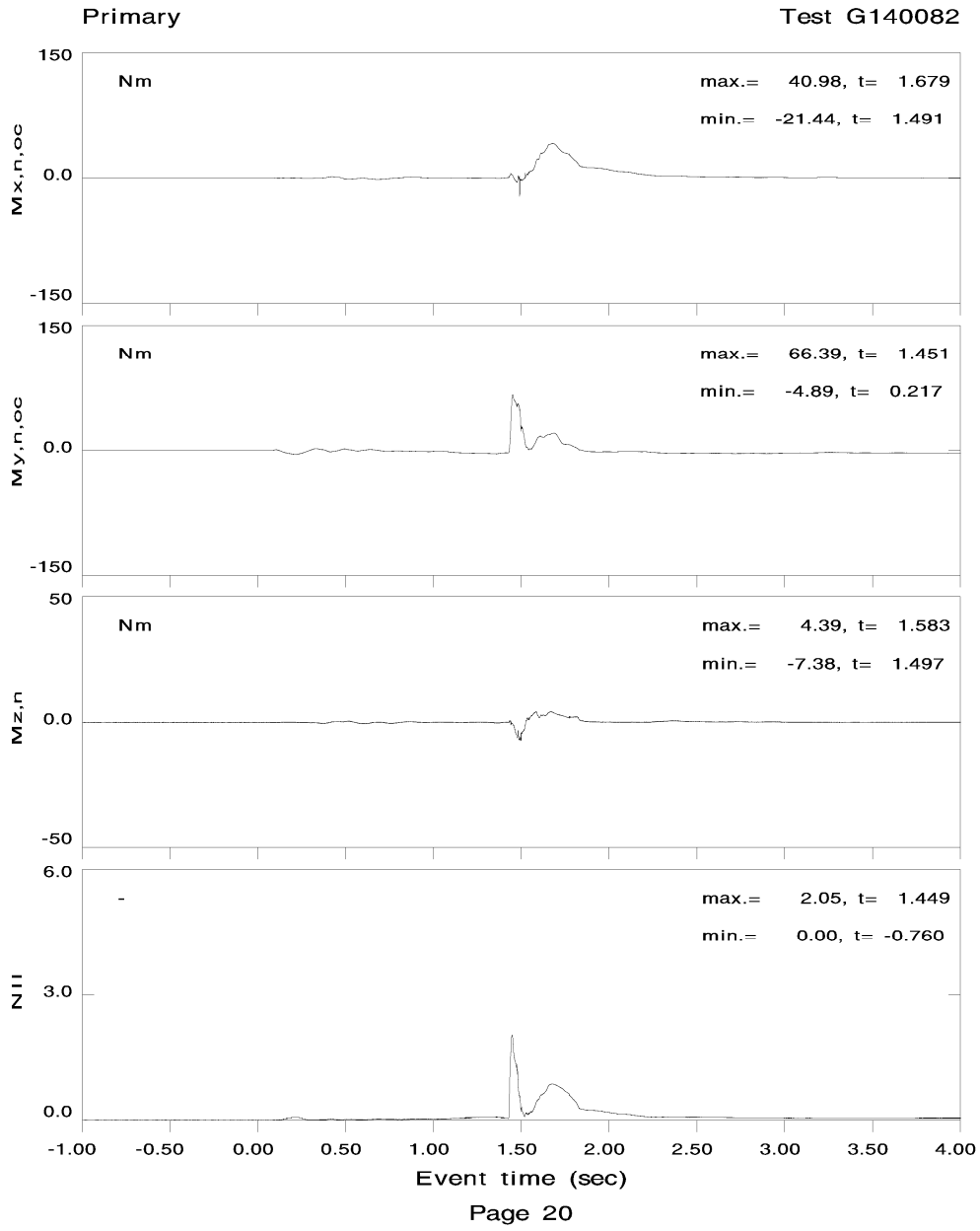


Page 18

Primary Test G140082



Page 19


Primary
Test G140082
Nm
max.= 40.98, t= 1.679
min.= -21.44, t= 1.491
Mx,n,oc
150
0.0
-150
Nm
max.= 66.39, t= 1.451
min.= -4.89, t= 0.217
My,n,oc
150
0.0
-150
Nm
max.= 4.39, t= 1.583
min.= -7.38, t= 1.497
Mz,n
50
0.0
-50
-
max.= 2.05, t= 1.449
min.= 0.00, t= -0.760
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.8 G140085

G140085_ICM.IC1

Test Number : G140085
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	2
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.140
Cmax	=	12.910
VCmax	=	0.000
HIC	=	84.0
NII (2002 MATD Neck)	=	3.8*
Location of Cmax	:	lower sternum
Location of VCmax	:	lower sternum

* Hybrid III standard neck used for this test

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.005
Normalized Cost of Survival	=	0.004
Normalized Cost of Dying	=	0.001
Probability of Fatality	=	0.001
Probability of Fatality due to non AIS 6 injuries	=	0.001
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

	BODY REGION					
AIS	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	LEG # Injuries
0	0.996	0.830	0.990	1.000	1.000	0
1	0.000	0.117	0.010	0.000	0.000	0
2	0.000	0.031	0.000	0.000	0.000	0
3	0.004	0.022	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.011	0.245	0.010	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.000	0.004	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140085.rpt

Test G140085, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	5.87 g	1.710	-15.84 g	1.659
Ay,c	4.13 g	1.895	-2.78 g	1.866
Az,c	19.18 g	1.662	-12.54 g	1.744
Ax,p	7.01 g	1.738	-17.77 g	1.891
Ay,p	1.82 g	1.724	-3.73 g	1.896
Az,p	12.25 g	1.730	-21.55 g	1.651
spare	0.00 -	1.923	0.00 -	0.275
spare	0.01 -	1.887	0.00 -	-0.317
L,ur	3.10 mm	2.315	-28.24 mm	1.896
L,lr	4.27 mm	1.656	-30.87 mm	1.895
a1	22.38 g	1.644	-9.09 g	1.666
a2	22.90 g	1.643	-9.45 g	1.666
a3	22.53 g	1.648	-11.39 g	1.664
a4	18.00 g	1.643	-11.00 g	1.663
a5	17.83 g	1.643	-11.16 g	1.662
a6	18.09 g	1.648	-15.00 g	1.664
Mx,l	30.89 Nm	1.895	-4.38 Nm	1.785
My,l	166.29 Nm	1.692	-758.46 Nm	1.874
Mz,l	18.10 Nm	1.747	-44.62 Nm	1.942
Fx,l	0.49 kN	1.861	-0.74 kN	1.745
Fy,l	0.84 kN	1.652	-0.36 kN	1.826
Fz,l	0.29 kN	1.826	-2.66 kN	1.652
spare	0.00 -	4.000	0.00 -	4.000
spare	0.02 -	3.992	-0.02 -	1.888
spare	0.05 -	3.996	0.00 -	-0.871
spare	0.00 -	-0.311	0.00 -	1.563
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	3.817	0.00 -	0.579
a7	22.24 g	1.645	-9.75 g	1.745
a8	23.38 g	1.644	-9.63 g	1.730
a9	23.78 g	1.645	-10.30 g	1.745
Fz,uf,r	0.36 kN	1.847	-0.80 kN	1.891
Mx,uf,r	50.09 Nm	1.732	-16.17 Nm	1.795
My,uf,r	23.49 Nm	1.944	-67.83 Nm	1.733
Mz,uf,r	5.61 Nm	1.892	-32.47 Nm	1.717
Fz,uf,l	0.34 kN	1.863	-0.41 kN	1.667
Mx,uf,l	51.79 Nm	1.901	-40.60 Nm	1.734
My,uf,l	17.60 Nm	2.067	-62.70 Nm	1.735
Mz,uf,l	42.70 Nm	1.911	-1.19 Nm	0.235
Fx,n	1.15 kN	1.649	-0.65 kN	1.675
Fy,n	0.08 kN	2.237	-0.20 kN	1.656
Fz,n	0.77 kN	1.925	-7.94 kN	1.654
Mx,n	12.52 Nm	1.669	-23.44 Nm	1.725
My,n	204.10 Nm	1.655	-31.52 Nm	1.893
Mz,n	6.64 Nm	2.295	-5.03 Nm	1.970
L,ul	2.52 mm	1.929	-16.85 mm	2.274
L,ll	4.09 mm	1.674	-19.32 mm	2.273
Ax,h	13.11 g	1.664	-28.05 g	1.643
Ay,h	4.36 g	1.936	-3.67 g	2.275
Az,h	22.25 g	1.645	-9.76 g	1.745
àx,h	0.60 krad/s**2	1.639	-0.80 krad/s**2	1.648
ày,h	1.26 krad/s**2	1.656	-1.32 krad/s**2	1.648
àz,h	0.63 krad/s**2	1.912	-0.55 krad/s**2	1.648
Ar,h	35.31 g	1.643	0.01 g	0.706
àr,h	1.55 krad/s**2	1.648	0.00 krad/s**2	3.511
G	0.14 -	1.643	0.00 -	-0.519
HIC	84.04	1.668	----	1.632
Fxy,n	1.15 kN	1.649	0.00 kN	0.158
Dx,us	1.96 mm	1.667	-21.52 mm	1.895
Dy,us	18.35 mm	1.898	-14.03 mm	2.274

Page 1

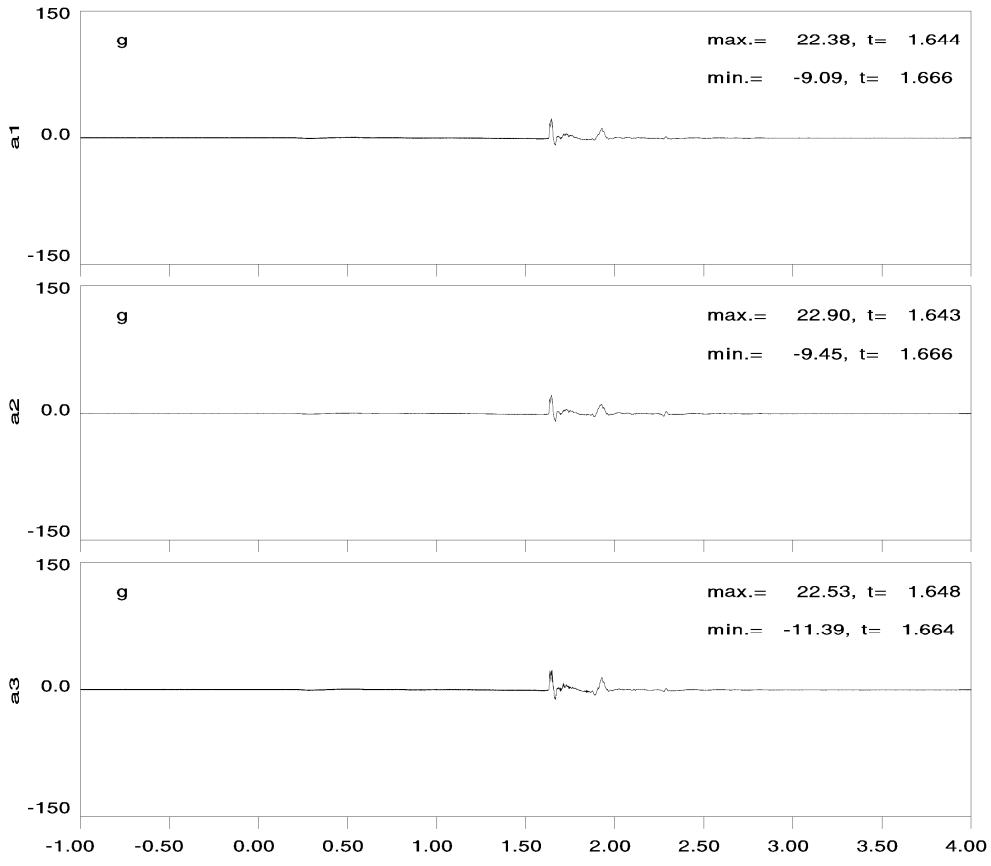
G140085.rpt

Cus	11.48	%	1.895	-1.04	%	1.667
Vus	0.51	m/s	1.916	-0.97	m/s	1.873
VCus	0.08	m/s	1.881	-0.04	m/s	1.910
Dx,ls	5.00	mm	1.674	-24.21	mm	1.893
Dy,ls	19.46	mm	1.896	-16.08	mm	2.274
Cls	12.91	%	1.893	-2.67	%	1.674
Vls	0.42	m/s	1.918	-1.23	m/s	1.872
VCls	0.10	m/s	1.878	-0.04	m/s	1.915
Mxy,uf,r	84.27	Nm	1.733	0.00	Nm	-0.023
Mxy,uf,l	74.69	Nm	1.734	0.00	Nm	-0.806
Mx,n,oc	9.53	Nm	1.669	-24.21	Nm	1.801
My,n,oc	193.16	Nm	1.655	-32.73	Nm	1.892
NII	3.77	-	1.654	0.00	-	-0.011
Ar,p	21.59	g	1.651	0.01	g	-0.776
Ar,c	24.01	g	1.661	0.00	g	-0.018

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

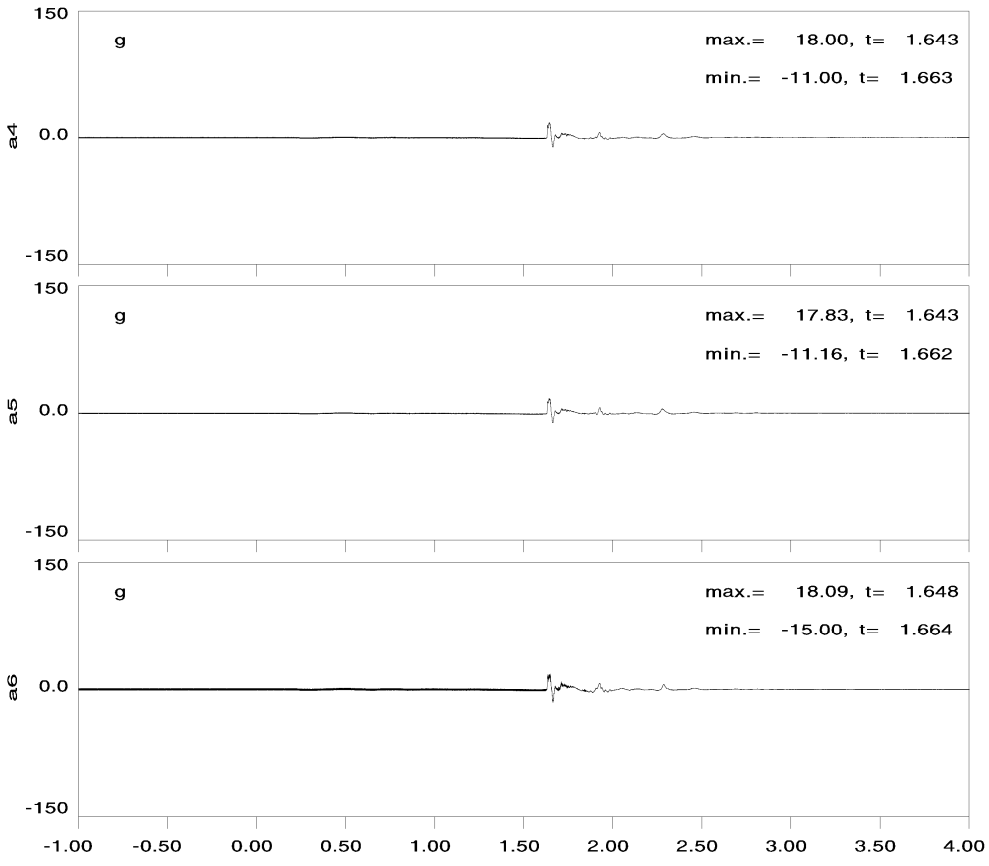
Page 2

Primary Test G140085



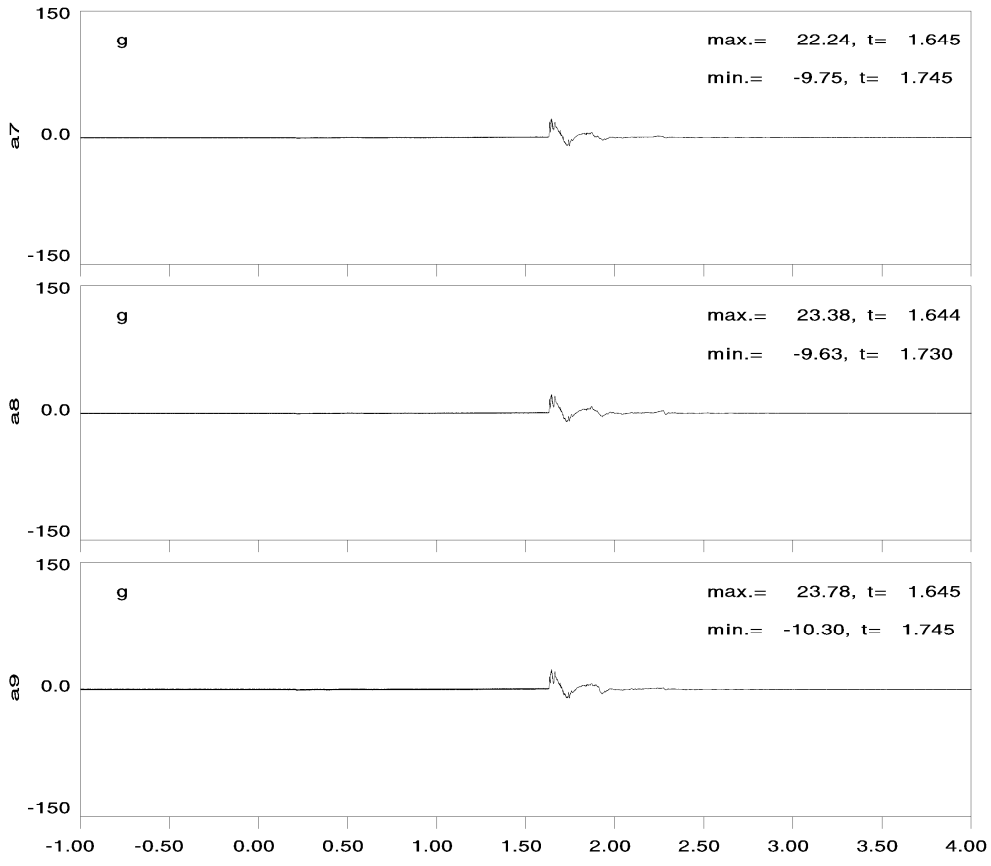
Page 1

Primary Test G140085



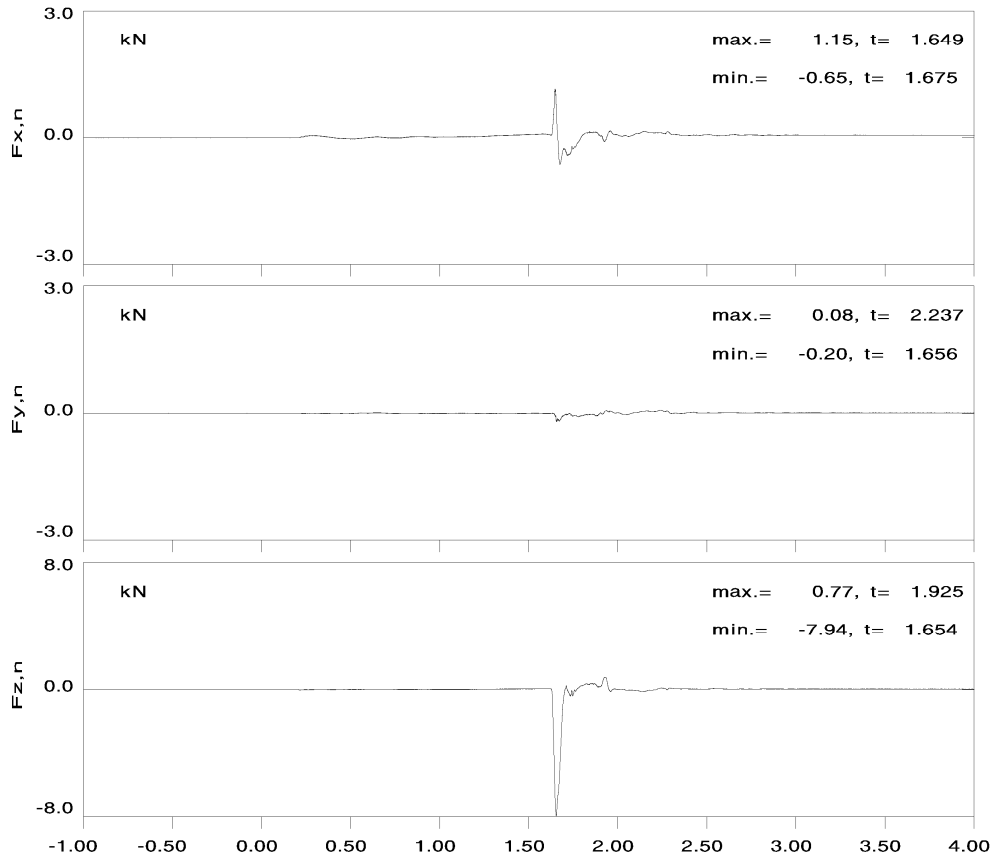
Page 2

Primary Test G140085



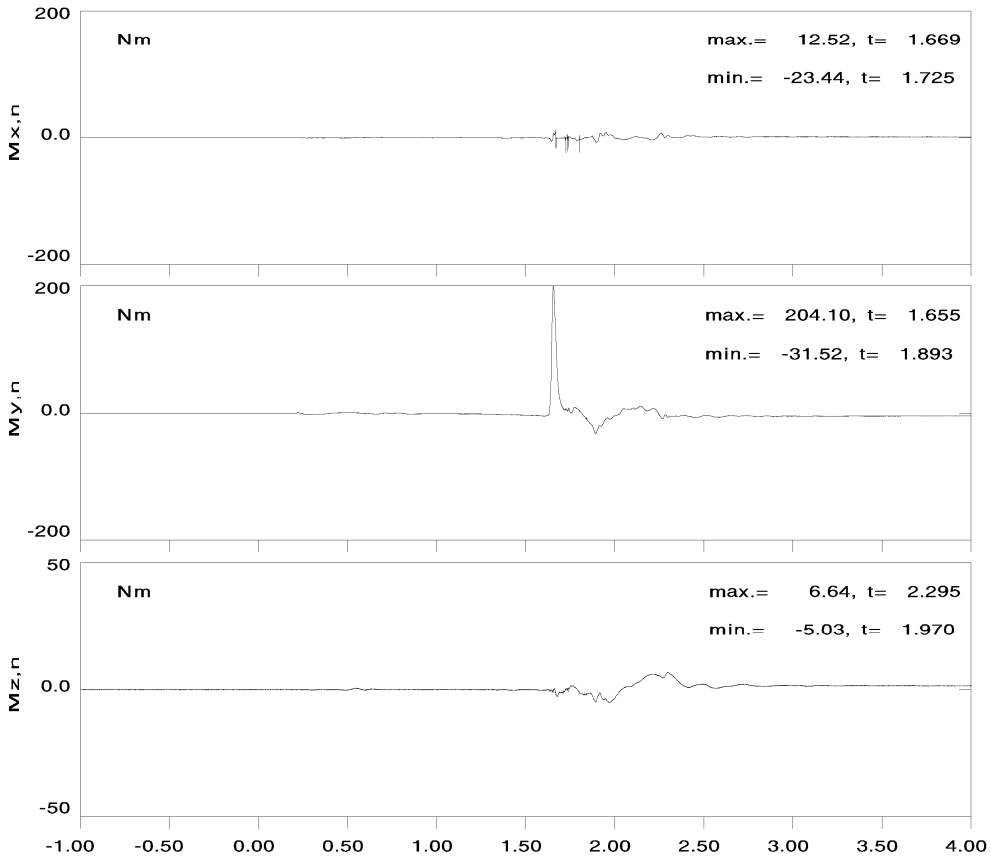
Page 3

Primary Test G140085

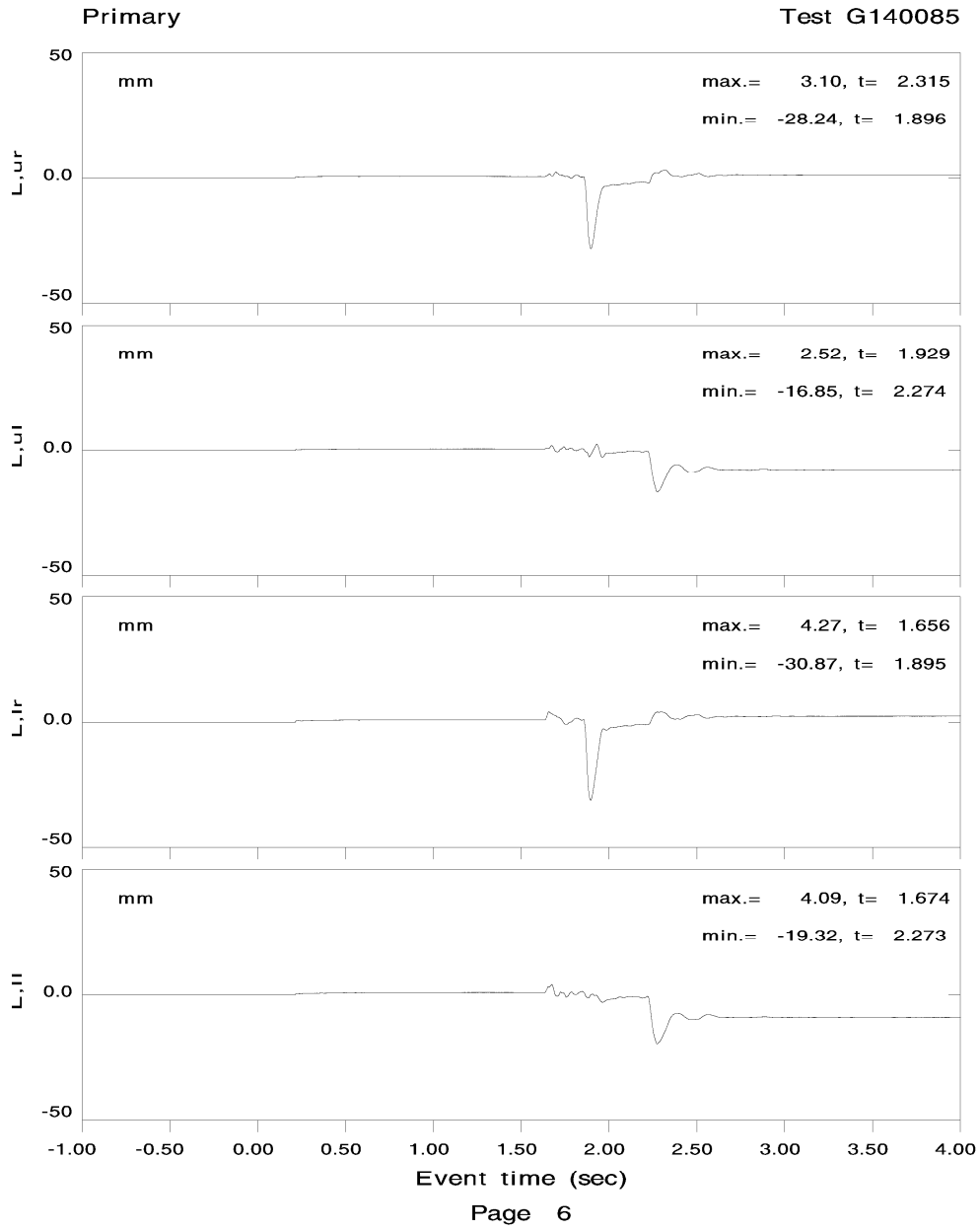


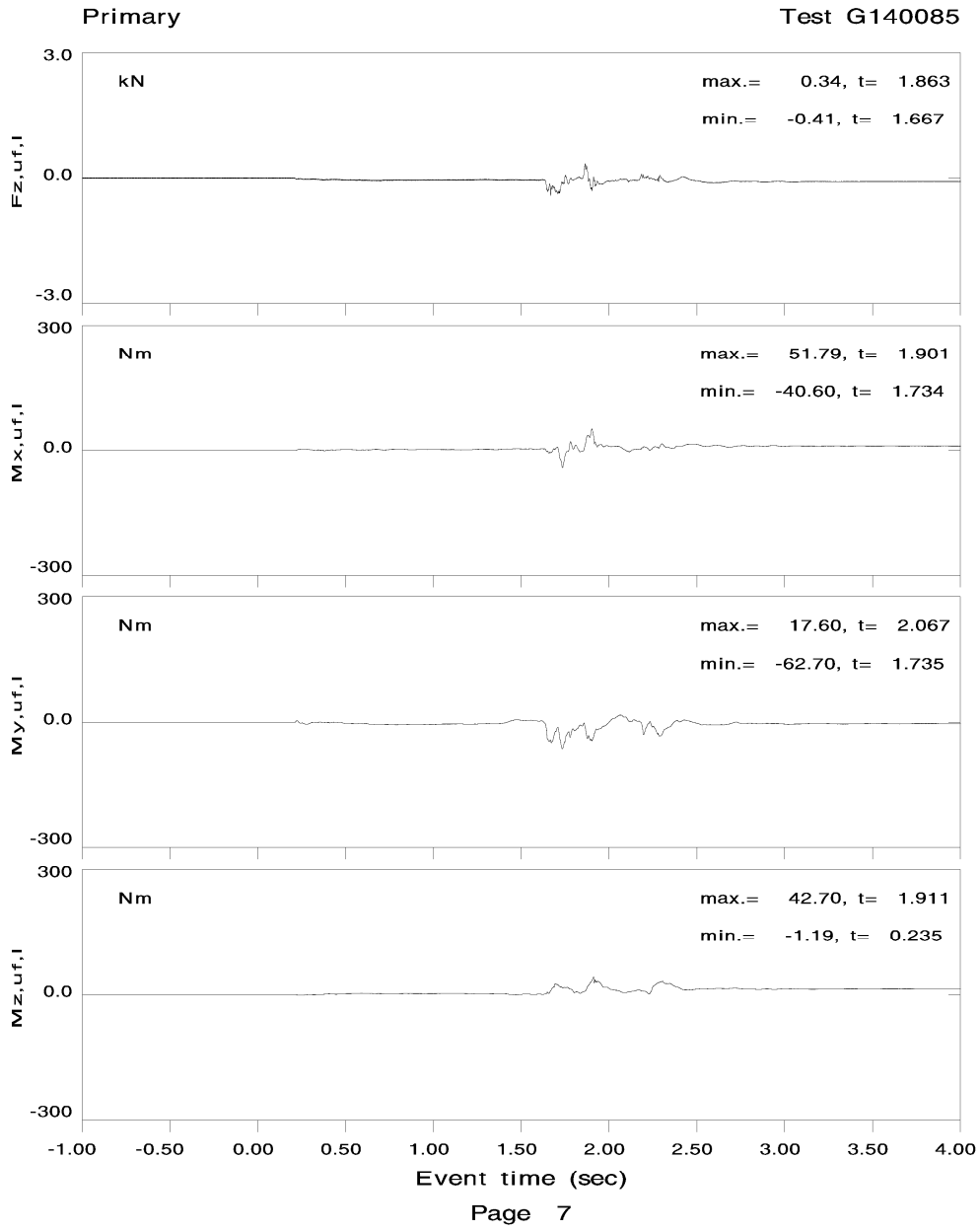
Page 4

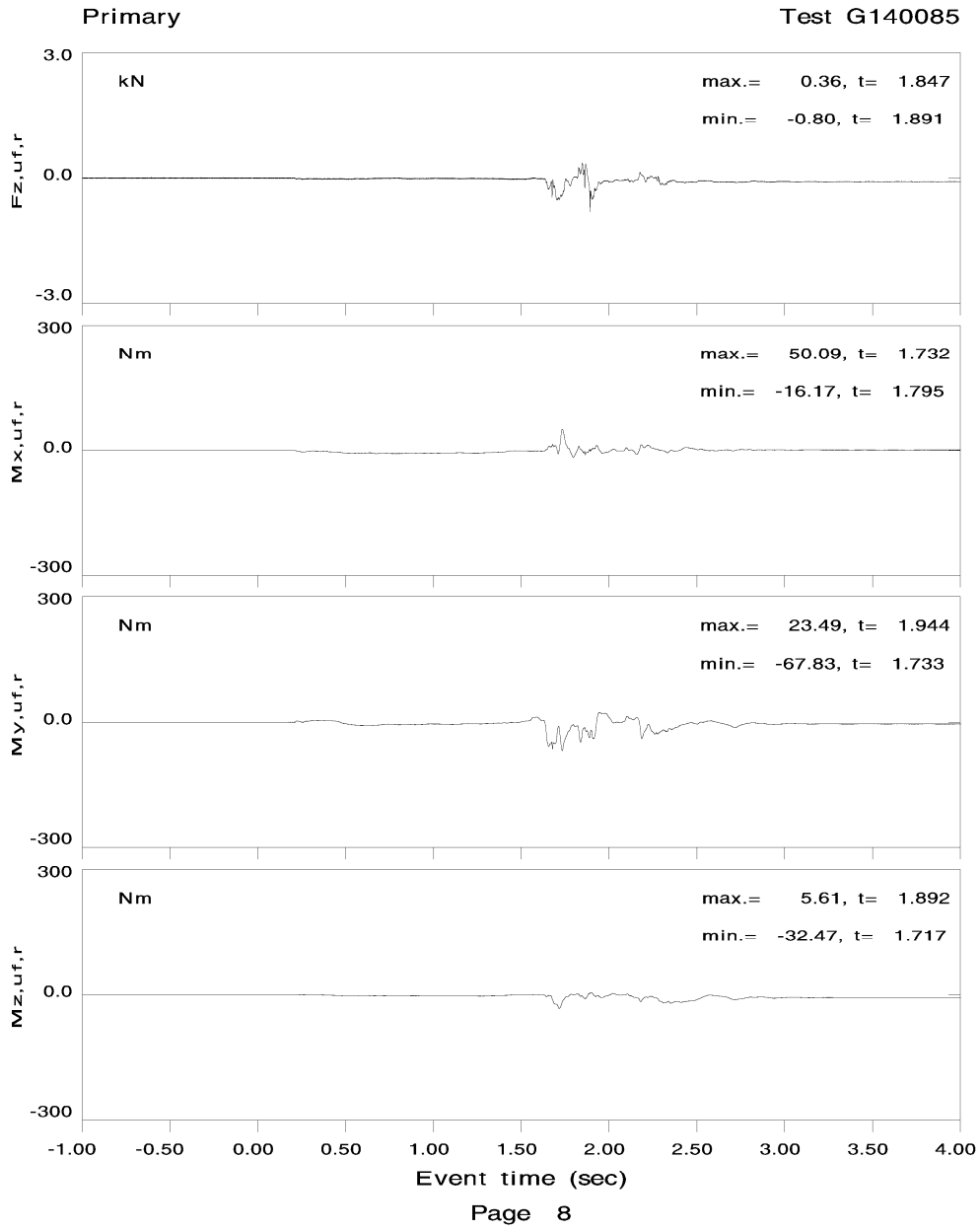
Primary Test G140085

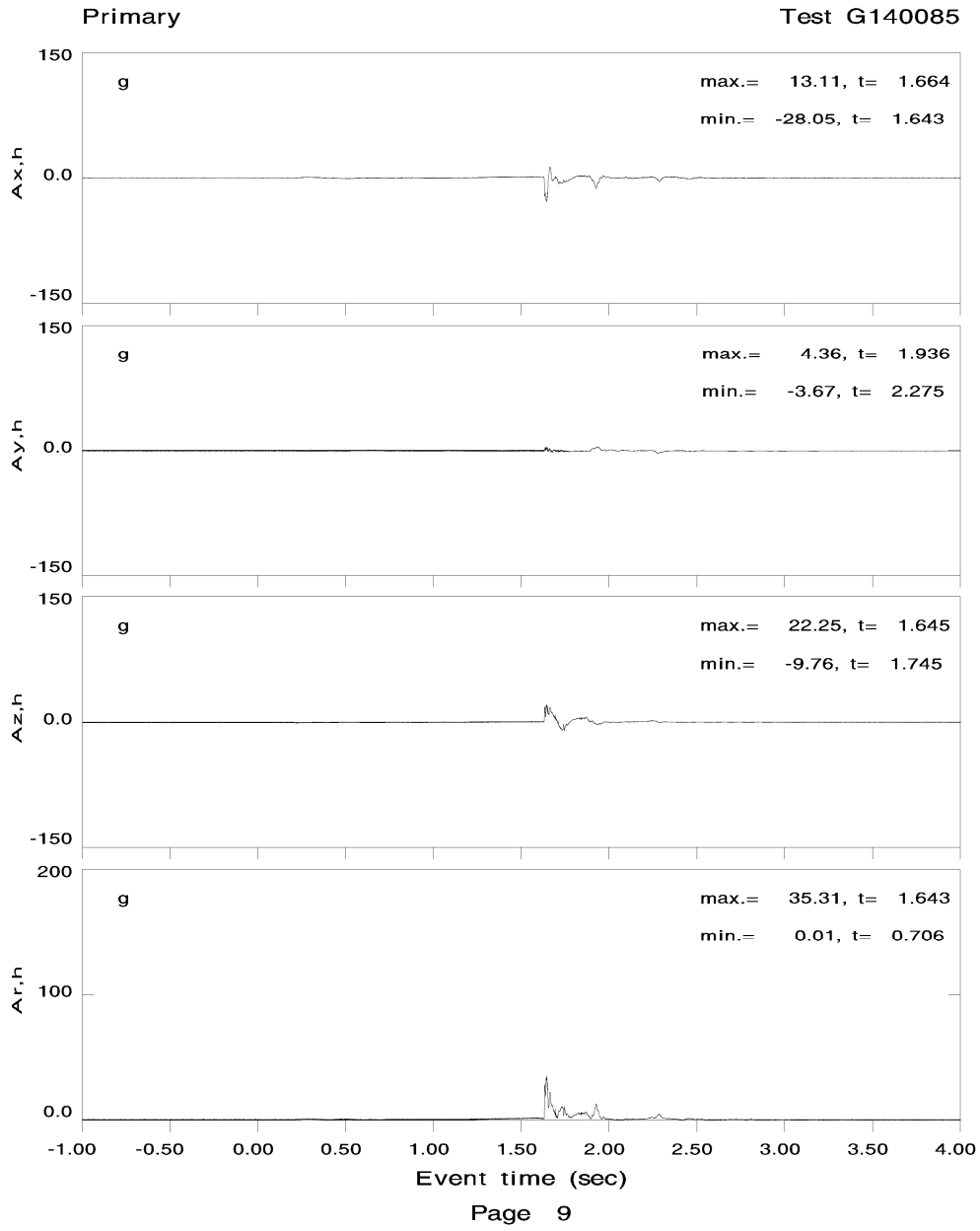


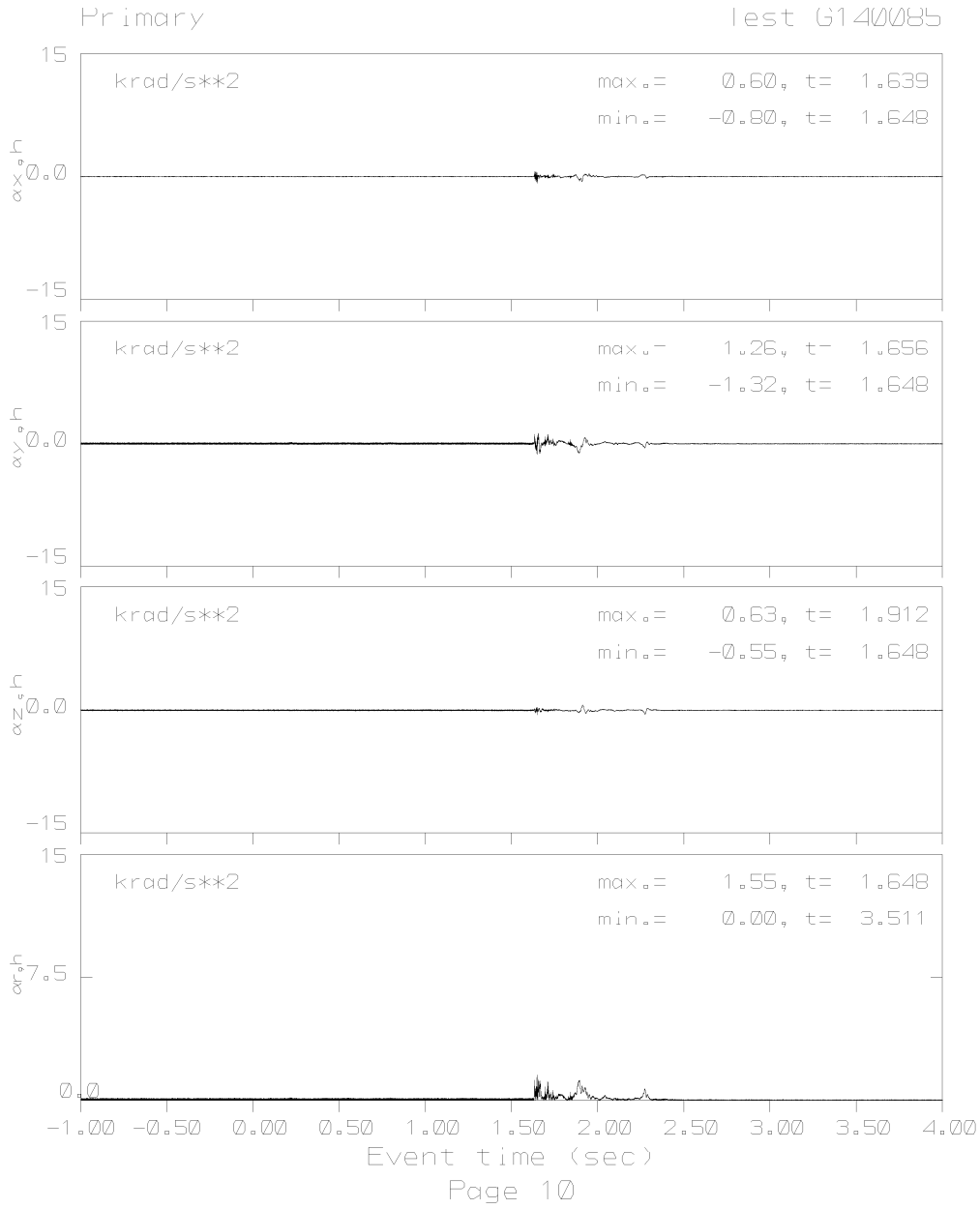
Page 5

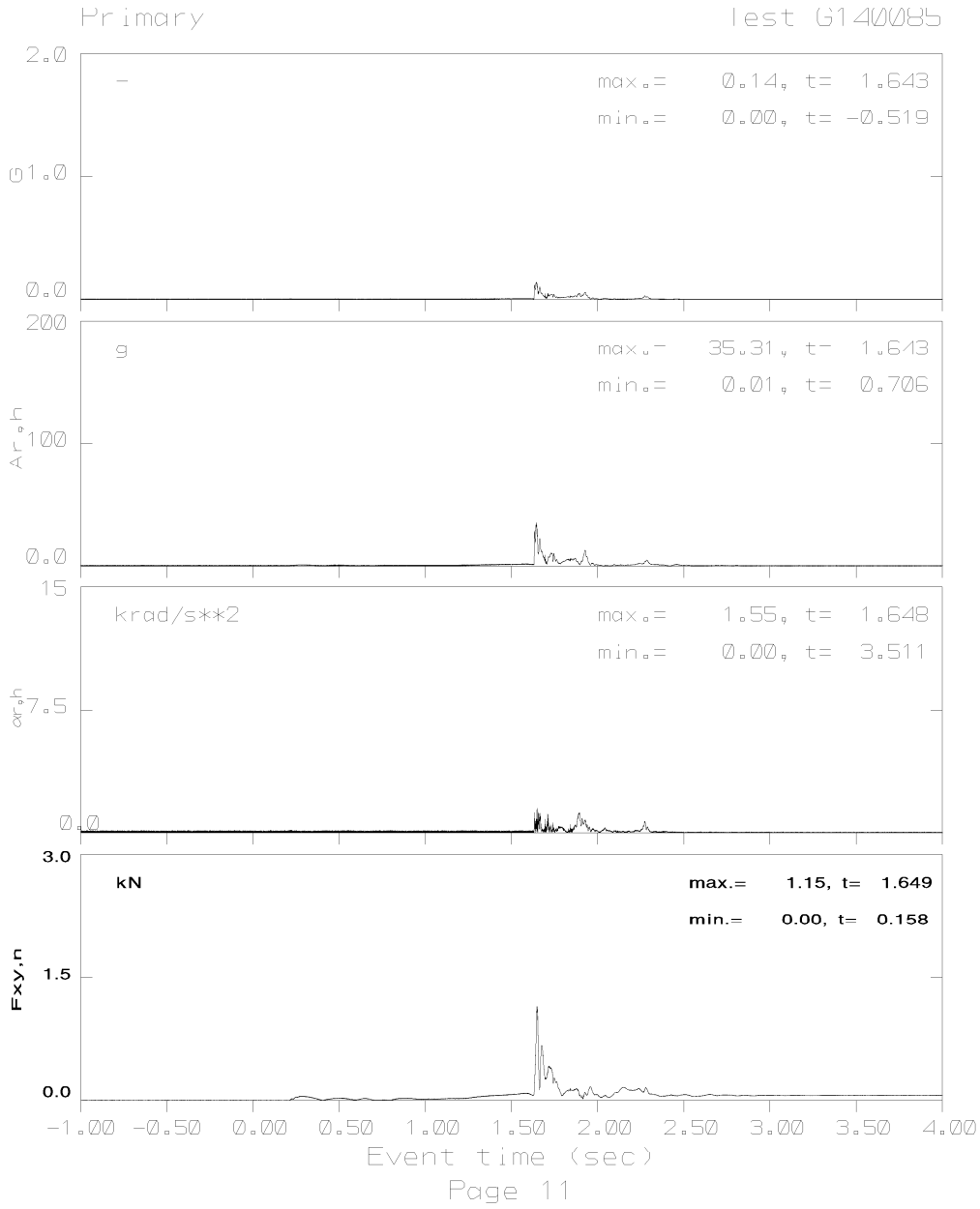

Primary
Test G140085
mm
max.= 3.10, t= 2.315
min.= -28.24, t= 1.896
L,ur
mm
max.= 2.52, t= 1.929
min.= -16.85, t= 2.274
L,ul
mm
max.= 4.27, t= 1.656
min.= -30.87, t= 1.895
L,lr
mm
max.= 4.09, t= 1.674
min.= -19.32, t= 2.273
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

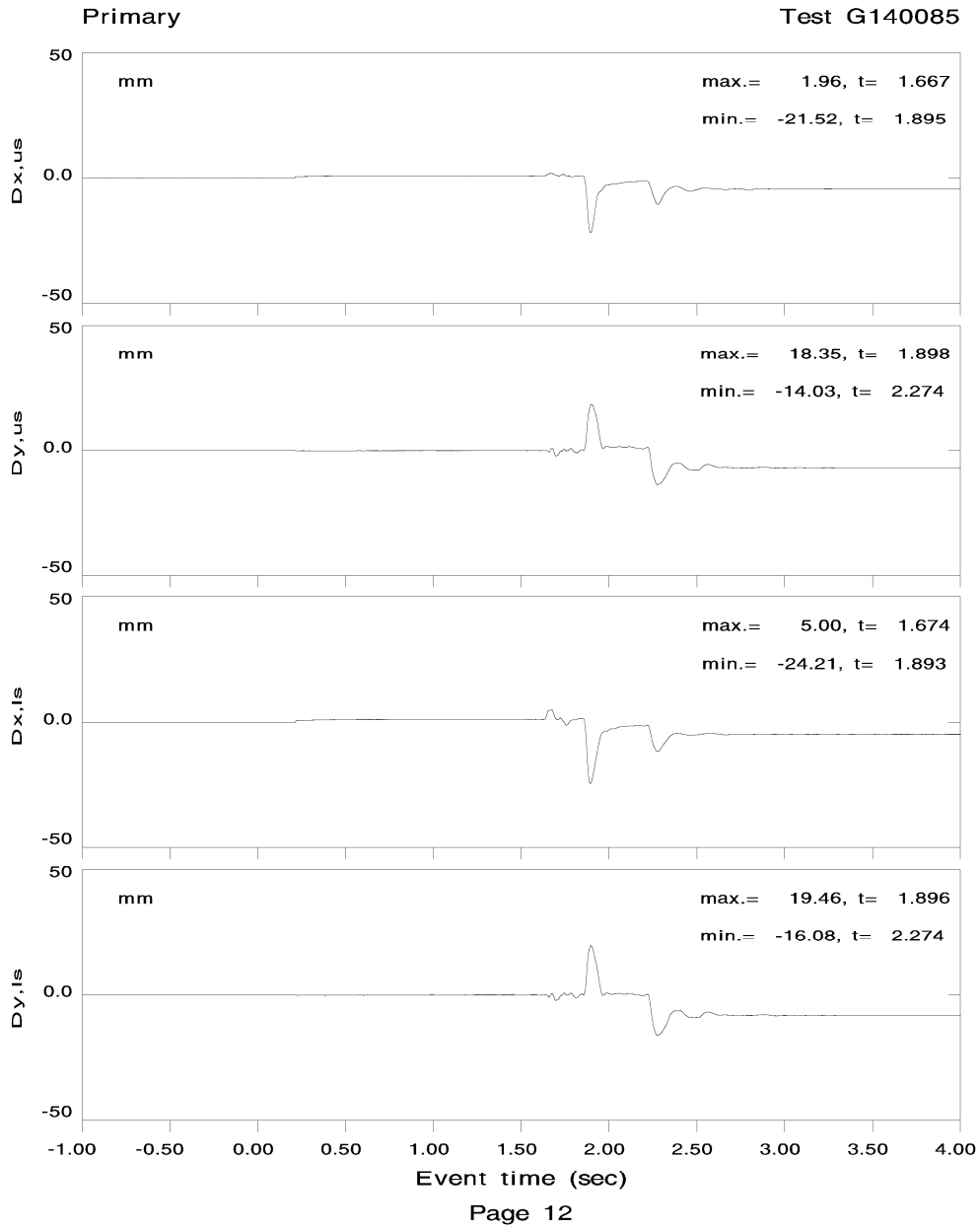

Primary
Test G140085
kN
max.= 0.34, t= 1.863
min.= -0.41, t= 1.667
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 51.79, t= 1.901
min.= -40.60, t= 1.734
Mx,uf,l
300
0.0
-300
Nm
max.= 17.60, t= 2.067
min.= -62.70, t= 1.735
My,uf,l
300
0.0
-300
Nm
max.= 42.70, t= 1.911
min.= -1.19, t= 0.235
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140085
kN
max.= 0.36, t= 1.847
min.= -0.80, t= 1.891
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 50.09, t= 1.732
min.= -16.17, t= 1.795
Mx,uf,r
300
0.0
-300
Nm
max.= 23.49, t= 1.944
min.= -67.83, t= 1.733
My,uf,r
300
0.0
-300
Nm
max.= 5.61, t= 1.892
min.= -32.47, t= 1.717
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

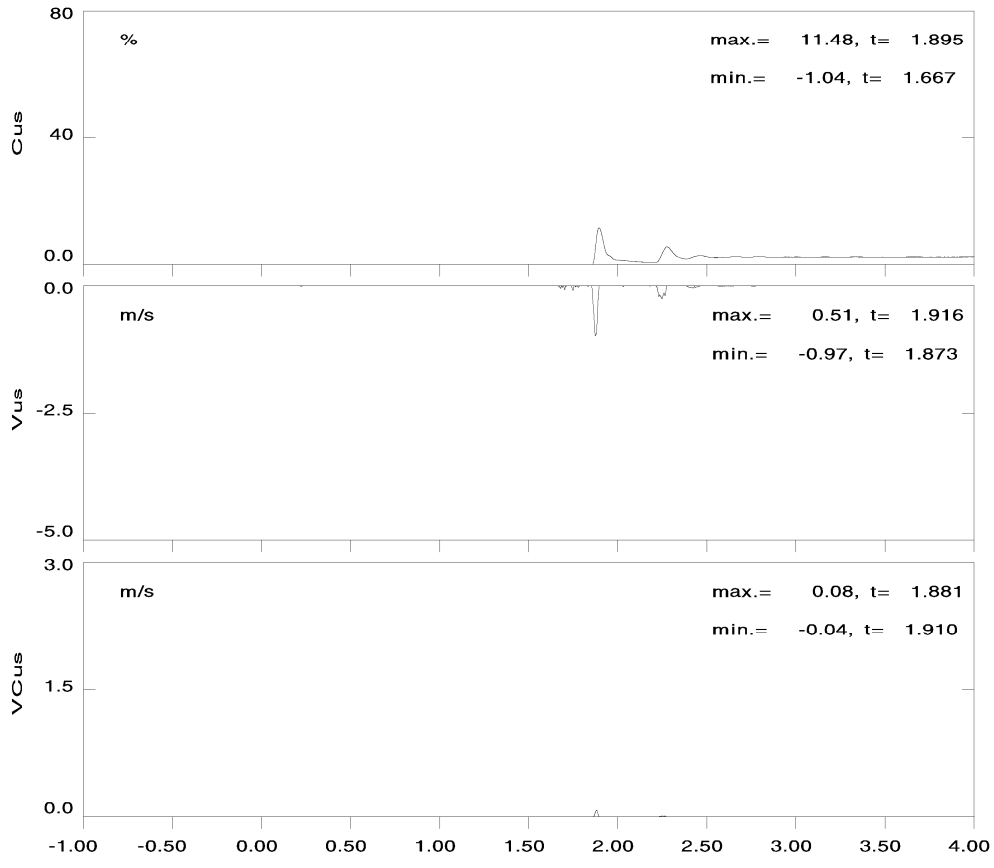

Primary
Test G140085
g
max.= 13.11, t= 1.664
min.= -28.05, t= 1.643
Ax,h
150
0.0
-150
g
max.= 4.36, t= 1.936
min.= -3.67, t= 2.275
Ay,h
150
0.0
-150
g
max.= 22.25, t= 1.645
min.= -9.76, t= 1.745
Az,h
150
0.0
-150
g
max.= 35.31, t= 1.643
min.= 0.01, t= 0.706
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G140085
krad/s**2
max.= 0.60, t= 1.639
min.= -0.80, t= 1.648
ax,h
krad/s**2
max.= 1.26, t= 1.656
min.= -1.32, t= 1.648
ay,h
krad/s**2
max.= 0.63, t= 1.912
min.= -0.55, t= 1.648
az,h
krad/s**2
max.= 1.55, t= 1.648
min.= 0.00, t= 3.511
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140085
2.0
-
max.= 0.14, t= 1.643
min.= 0.00, t= -0.519
G1.0
0.0
200
g
max.= 35.31, t= 1.643
min.= 0.01, t= 0.706
Ar.h
100
0.0
15
krad/s**2
max.= 1.55, t= 1.648
min.= 0.00, t= 3.511
ar.h
7.5
0.0
3.0
kN
max.= 1.15, t= 1.649
min.= 0.00, t= 0.158
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

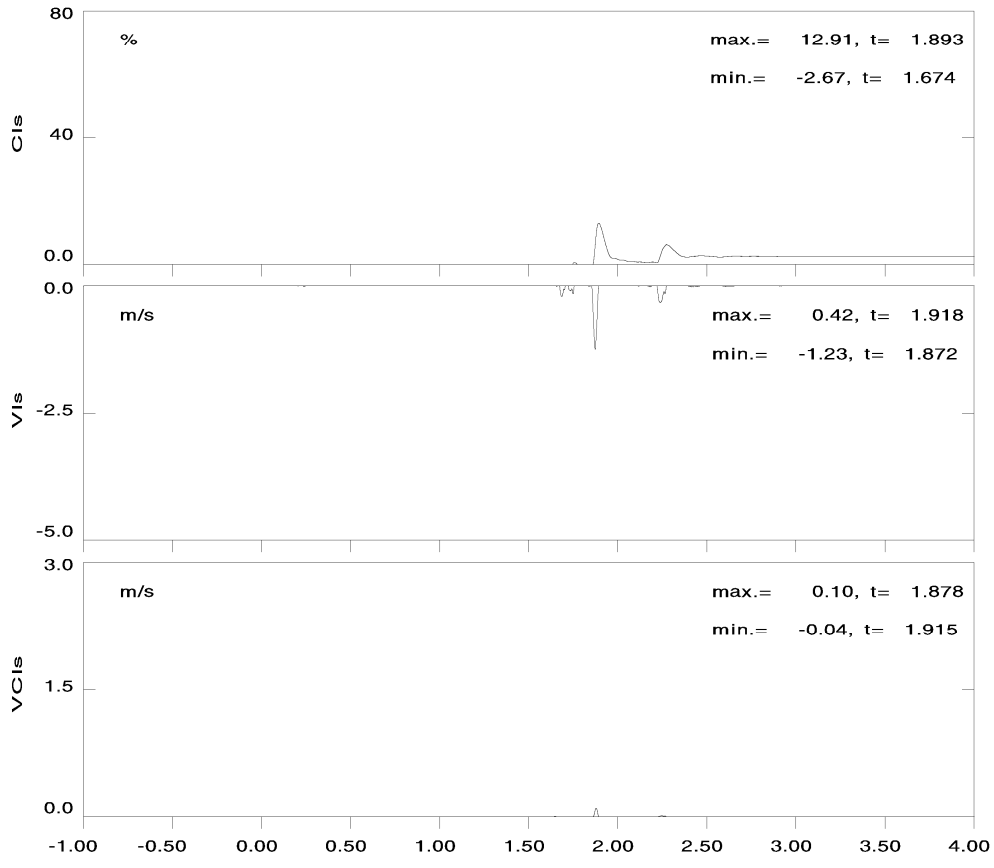

Primary
Test G140085
mm
max.= 1.96, t= 1.667
min.= -21.52, t= 1.895
Dx,us
mm
max.= 18.35, t= 1.898
min.= -14.03, t= 2.274
Dy,us
mm
max.= 5.00, t= 1.674
min.= -24.21, t= 1.893
Dx,ls
mm
max.= 19.46, t= 1.896
min.= -16.08, t= 2.274
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140085



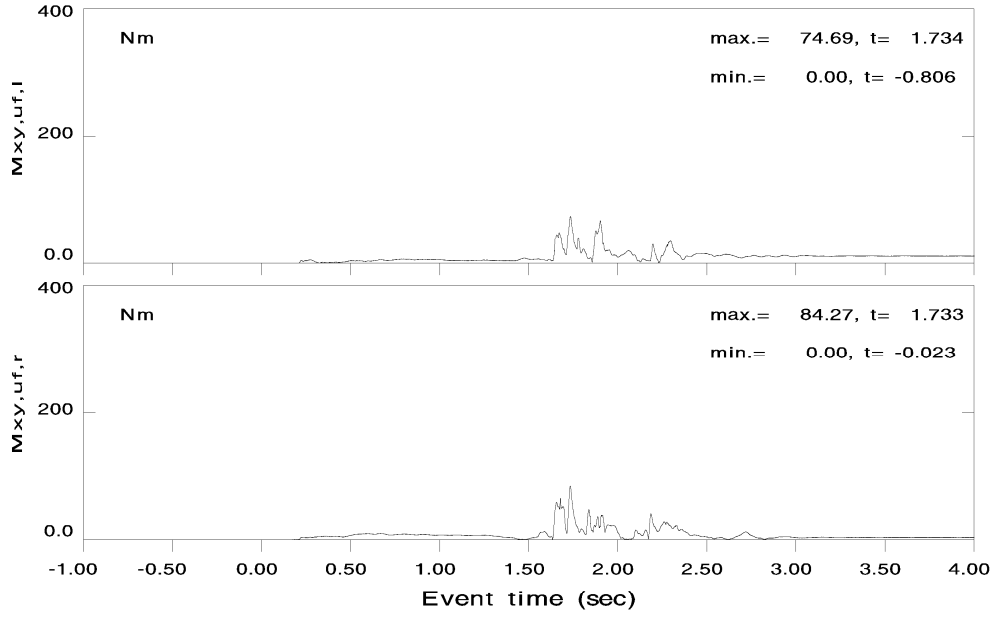
Page 13

Primary Test G140085

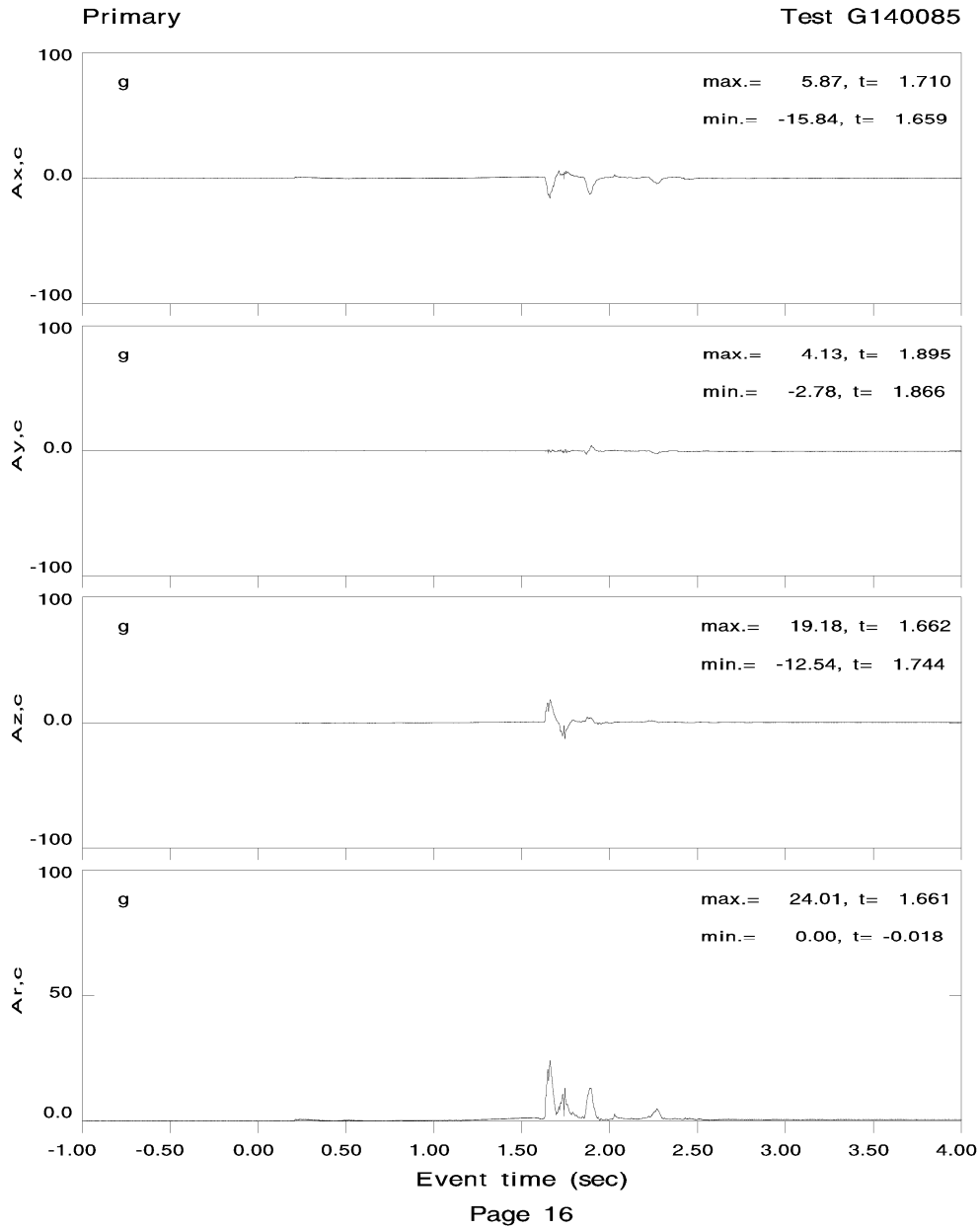


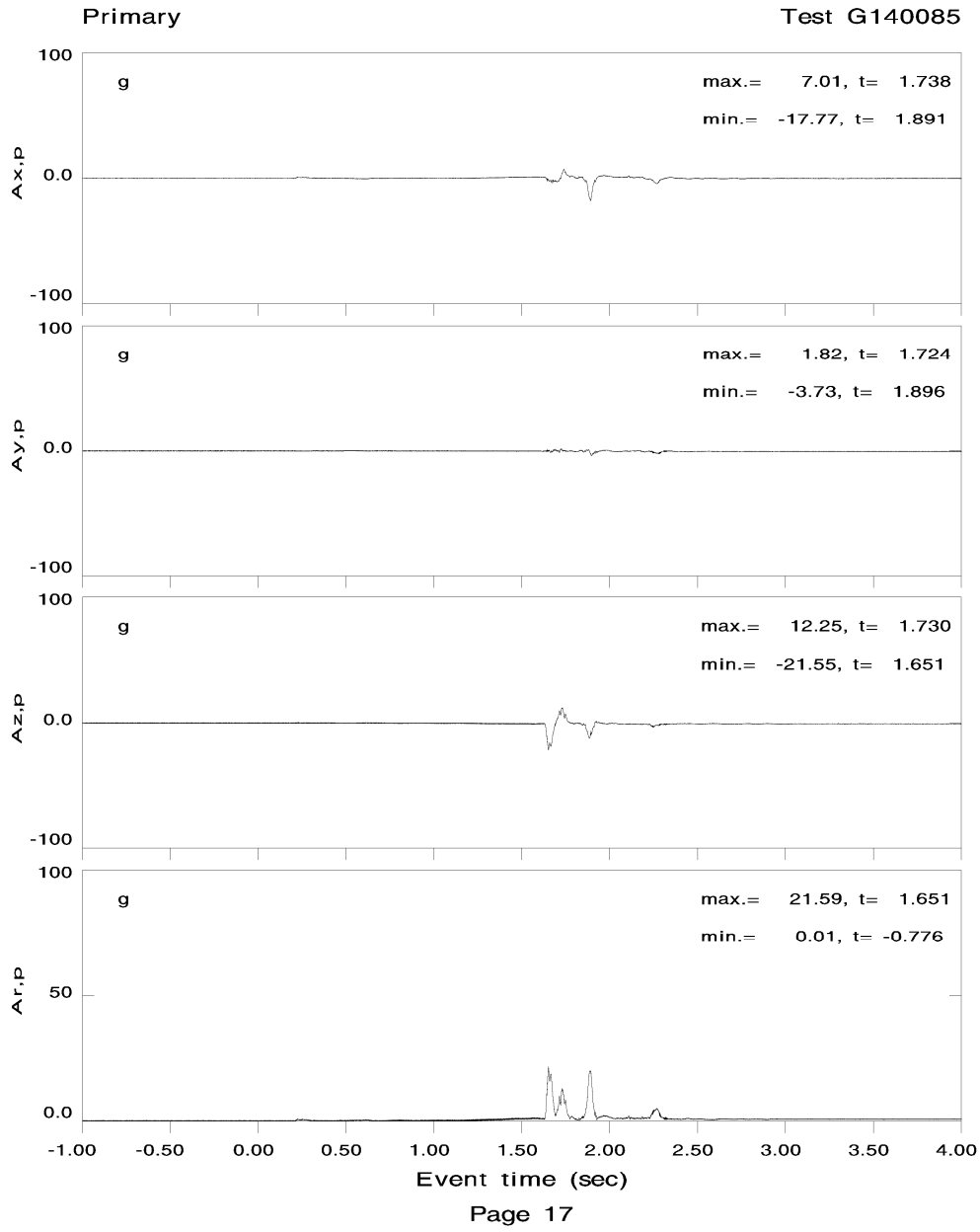
Page 14

Primary Test G140085

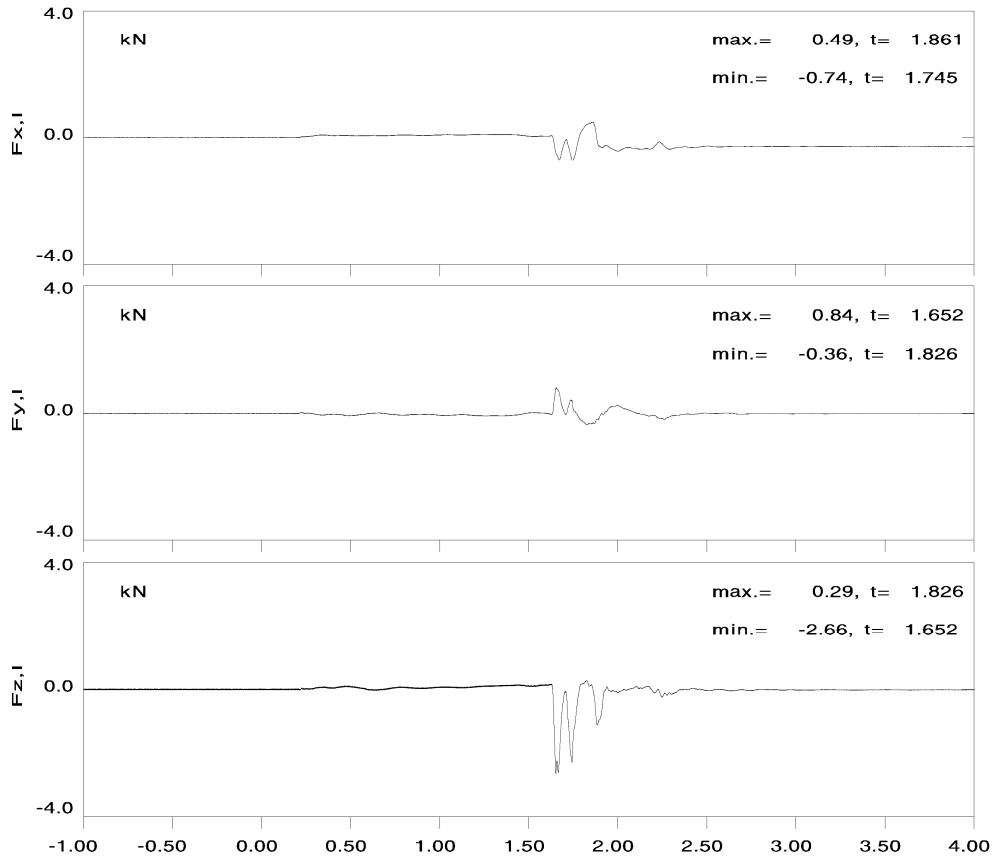


Page 15


Primary
Test G140085
Ax,c
Ay,c
Az,c
Ar,c
g
max.= 5.87, t= 1.710
min.= -15.84, t= 1.659
max.= 4.13, t= 1.895
min.= -2.78, t= 1.866
max.= 19.18, t= 1.662
min.= -12.54, t= 1.744
max.= 24.01, t= 1.661
min.= 0.00, t= -0.018
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

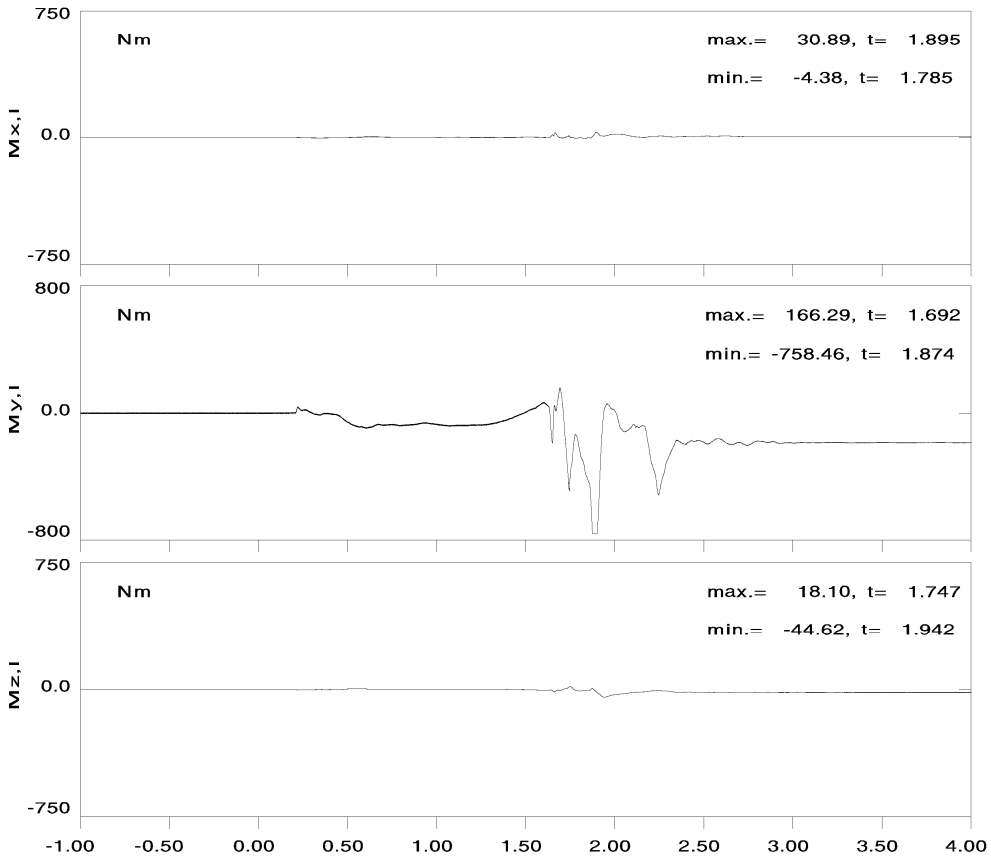

Primary
Test G140085
g
max.= 7.01, t= 1.738
min.= -17.77, t= 1.891
Ax,p
100
0.0
-100
g
max.= 1.82, t= 1.724
min.= -3.73, t= 1.896
Ay,p
100
0.0
-100
g
max.= 12.25, t= 1.730
min.= -21.55, t= 1.651
Az,p
100
0.0
-100
g
max.= 21.59, t= 1.651
min.= 0.01, t= -0.776
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140085

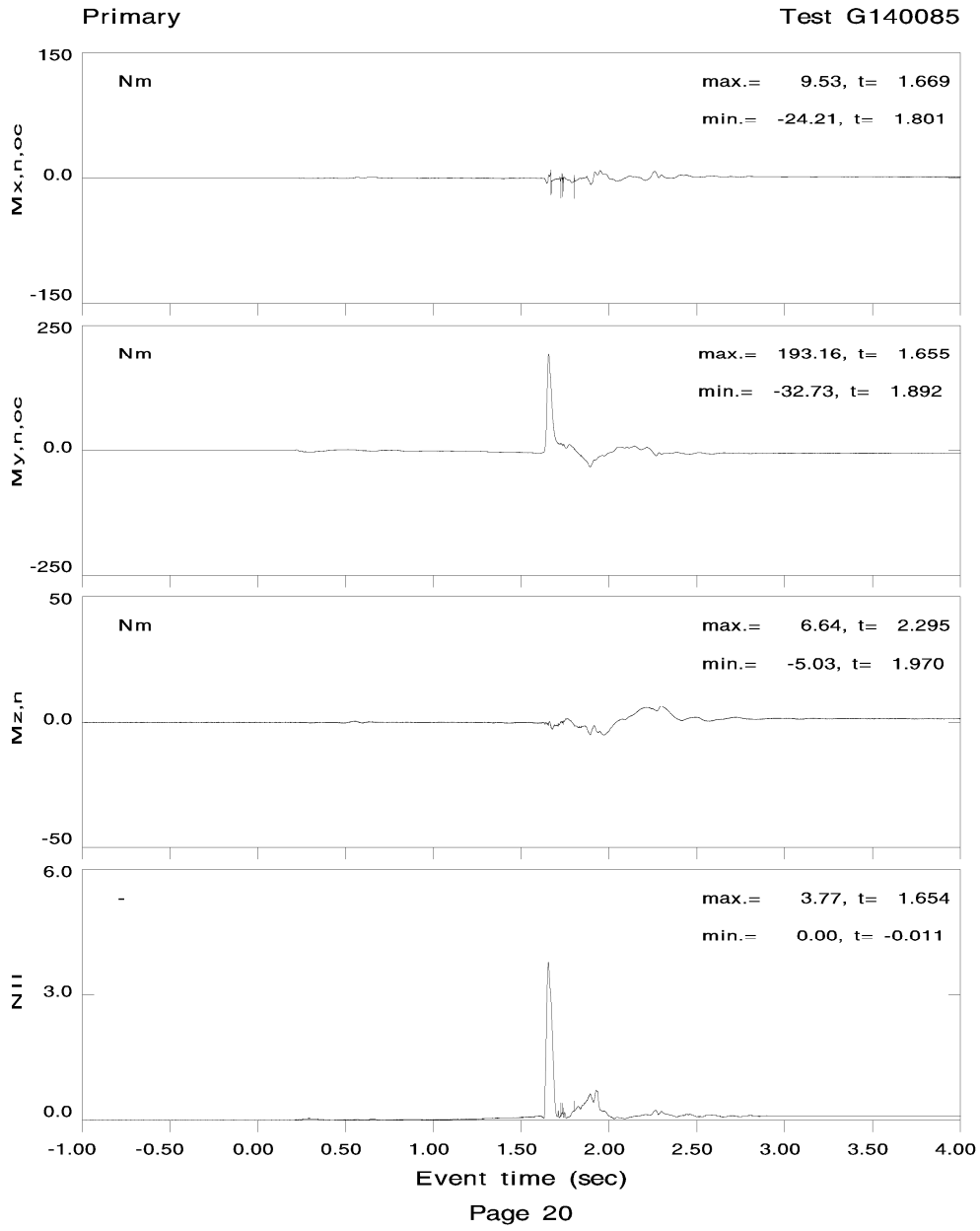


Page 18

Primary Test G140085



Page 19


Primary
Test G140085
Nm
max.= 9.53, t= 1.669
min.= -24.21, t= 1.801
Mx,n,oc
150
0.0
-150
Nm
max.= 193.16, t= 1.655
min.= -32.73, t= 1.892
My,n,oc
250
0.0
-250
Nm
max.= 6.64, t= 2.295
min.= -5.03, t= 1.970
Mz,n
50
0.0
-50
-
max.= 3.77, t= 1.654
min.= 0.00, t= -0.011
Nii
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.9 G140087

G140087_ICM.IC1

Test Number : G140087
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	2
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.150
Cmax	=	6.330
VCmax	=	0.000
HIC	=	83.0
NII (2002 MATD Neck)	=	3.3*
Location of Cmax	:	lower sternum
Location of VCmax	:	lower sternum

* Hybrid III standard neck used for this test

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.002
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

	BODY REGION					
AIS	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	LEG # Injuries
0	0.997	0.902	1.000	1.000	1.000	0
1	0.000	0.075	0.000	0.000	0.000	0
2	0.000	0.016	0.000	0.000	0.000	0
3	0.004	0.007	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.011	0.128	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.000	0.002	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140087.rpt

Test G140087, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	6.02 g	1.408	-15.30 g	1.323
Ay,c	2.44 g	1.579	-3.69 g	1.553
Az,c	16.65 g	1.328	-9.91 g	1.399
Ax,p	3.61 g	1.425	-7.01 g	1.577
Ay,p	5.25 g	1.596	-5.67 g	1.396
Az,p	11.98 g	1.395	-18.02 g	1.317
spare	0.00 -	0.889	0.00 -	1.557
spare	0.00 -	0.362	0.00 -	-0.302
L,ur	2.18 mm	1.325	-7.61 mm	1.569
L,lr	4.69 mm	1.320	-11.22 mm	1.569
a1	19.27 g	1.307	-8.75 g	1.328
a2	19.79 g	1.308	-7.66 g	1.577
a3	17.21 g	1.308	-10.87 g	1.325
a4	23.91 g	1.308	-15.71 g	1.327
a5	24.08 g	1.308	-16.47 g	1.327
a6	23.86 g	1.308	-21.96 g	1.327
Mx,l	13.06 Nm	1.328	-45.15 Nm	1.630
My,l	324.98 Nm	1.358	-435.83 Nm	1.411
Mz,l	38.65 Nm	1.569	-19.59 Nm	1.326
Fx,l	0.21 kN	1.483	-0.80 kN	1.410
Fy,l	0.80 kN	1.328	-0.40 kN	1.514
Fz,l	0.32 kN	1.497	-2.24 kN	1.329
spare	0.00 -	-0.947	-0.02 -	1.376
spare	0.00 -	-0.813	0.00 -	1.302
spare	0.22 -	3.998	0.02 -	-0.994
spare	0.00 -	0.431	0.00 -	-0.717
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.01 -	3.891	0.00 -	0.976
a7	22.94 g	1.310	-9.00 g	1.397
a8	24.48 g	1.310	-10.27 g	1.397
a9	24.81 g	1.310	-10.05 g	1.397
Fz,uf,r	0.27 kN	1.593	-1.48 kN	1.472
Mx,uf,r	33.93 Nm	1.459	-72.02 Nm	1.599
My,uf,r	37.04 Nm	2.013	-52.50 Nm	1.320
Mz,uf,r	0.27 Nm	-0.055	-73.46 Nm	1.599
Fz,uf,l	0.40 kN	1.556	-0.36 kN	1.597
Mx,uf,l	14.16 Nm	2.439	-26.34 Nm	1.404
My,uf,l	13.85 Nm	1.518	-48.41 Nm	1.402
Mz,uf,l	19.11 Nm	1.392	-16.19 Nm	1.478
Fx,n	1.03 kN	1.311	-0.62 kN	1.342
Fy,n	0.53 kN	1.331	-0.06 kN	1.568
Fz,n	1.23 kN	1.581	-7.05 kN	1.318
Mx,n	30.09 Nm	1.496	-42.83 Nm	1.336
My,n	178.04 Nm	1.318	-35.39 Nm	1.584
Mz,n	10.62 Nm	1.334	-5.84 Nm	2.245
L,ul	5.20 mm	1.829	-8.54 mm	1.553
L,ll	4.25 mm	1.826	-10.08 mm	1.554
Ax,h	16.90 g	1.327	-29.93 g	1.307
Ay,h	5.64 g	1.331	-10.60 g	1.578
Az,h	22.95 g	1.310	-9.01 g	1.397
ȧx,h	0.83 krad/s**2	1.555	-0.83 krad/s**2	1.588
ȧy,h	1.75 krad/s**2	1.318	-1.60 krad/s**2	1.329
ȧz,h	0.51 krad/s**2	1.330	-1.17 krad/s**2	1.577
Ar,h	36.31 g	1.308	0.02 g	2.089
ȧr,h	1.81 krad/s**2	1.318	0.00 krad/s**2	3.710
G	0.15 -	1.308	0.00 -	-0.966
HIC	83.03	1.332	----	1.296
Fxy,n	1.06 kN	1.311	0.00 kN	-0.691
Dx,us	2.27 mm	1.332	-8.61 mm	1.556
Dy,us	8.61 mm	1.831	-3.29 mm	1.550

Page 1

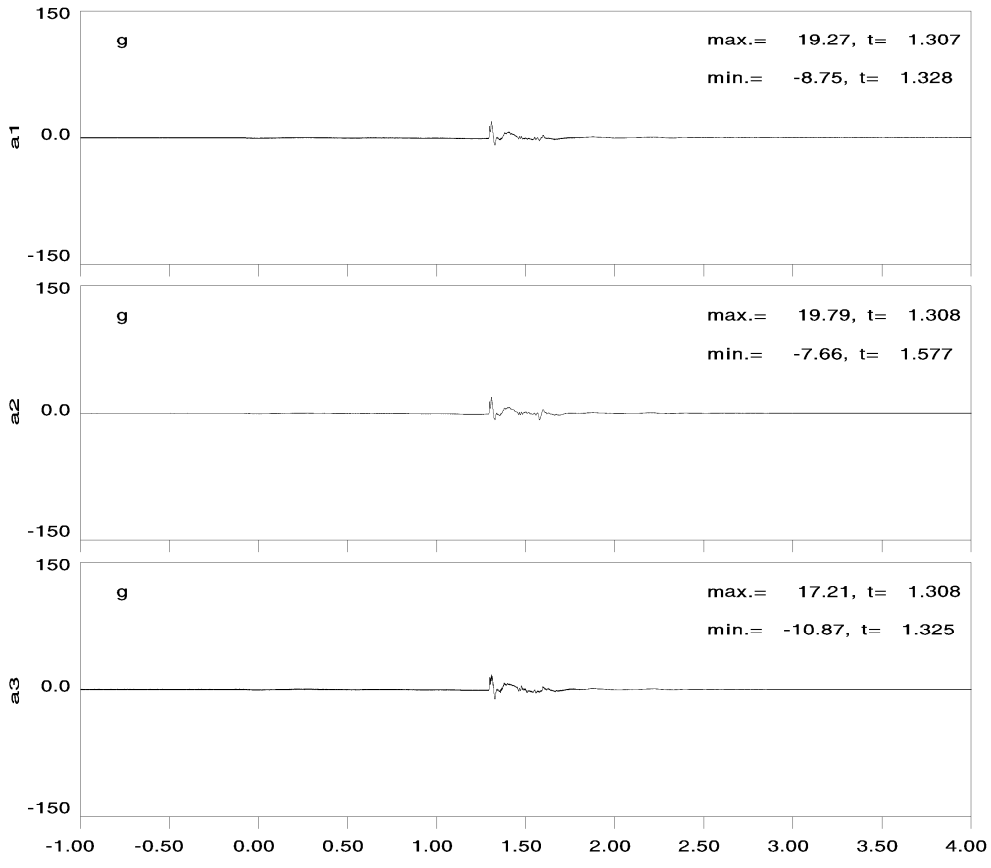
G140087.rpt

Cus	4.59	%	1.556	-1.21 %	1.332
Vus	0.37	m/s	1.580	-0.71 m/s	1.538
VCus	0.02	m/s	1.542	-0.01 m/s	1.577
Dx,ls	4.91	mm	1.320	-11.87 mm	1.559
Dy,ls	8.58	mm	1.828	-3.15 mm	1.551
Cls	6.33	%	1.559	-2.62 %	1.320
Vls	0.26	m/s	1.581	-0.87 m/s	1.539
VCls	0.03	m/s	1.544	-0.01 m/s	1.577
Mxy,uf,r	81.06	Nm	1.599	0.00 Nm	-0.537
Mxy,uf,l	54.73	Nm	1.402	0.00 Nm	-0.717
Mx,n,oc	32.30	Nm	1.496	-33.69 Nm	1.336
My,n,oc	168.67	Nm	1.319	-35.77 Nm	1.555
NII	3.35	-	1.318	0.00 -	-0.662
Ar,p	18.03	g	1.317	0.01 g	-0.330
Ar,c	20.94	g	1.325	0.00 g	-0.770

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

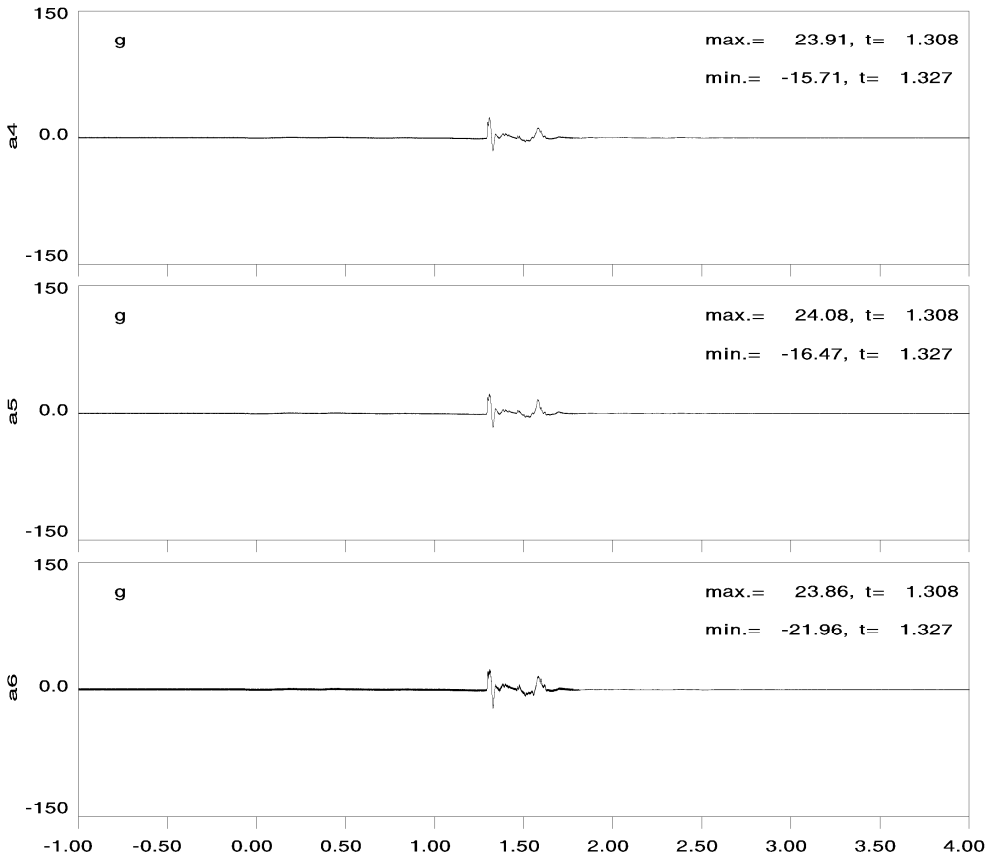
Page 2

Primary Test G140087



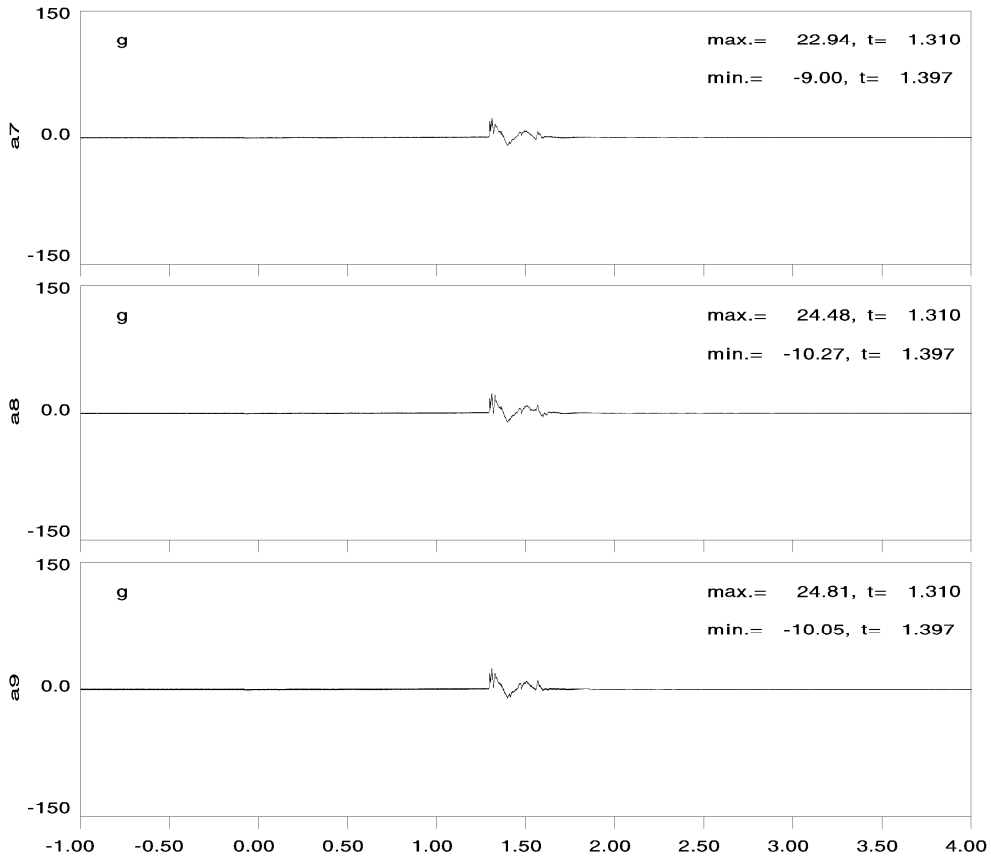
Page 1

Primary Test G140087



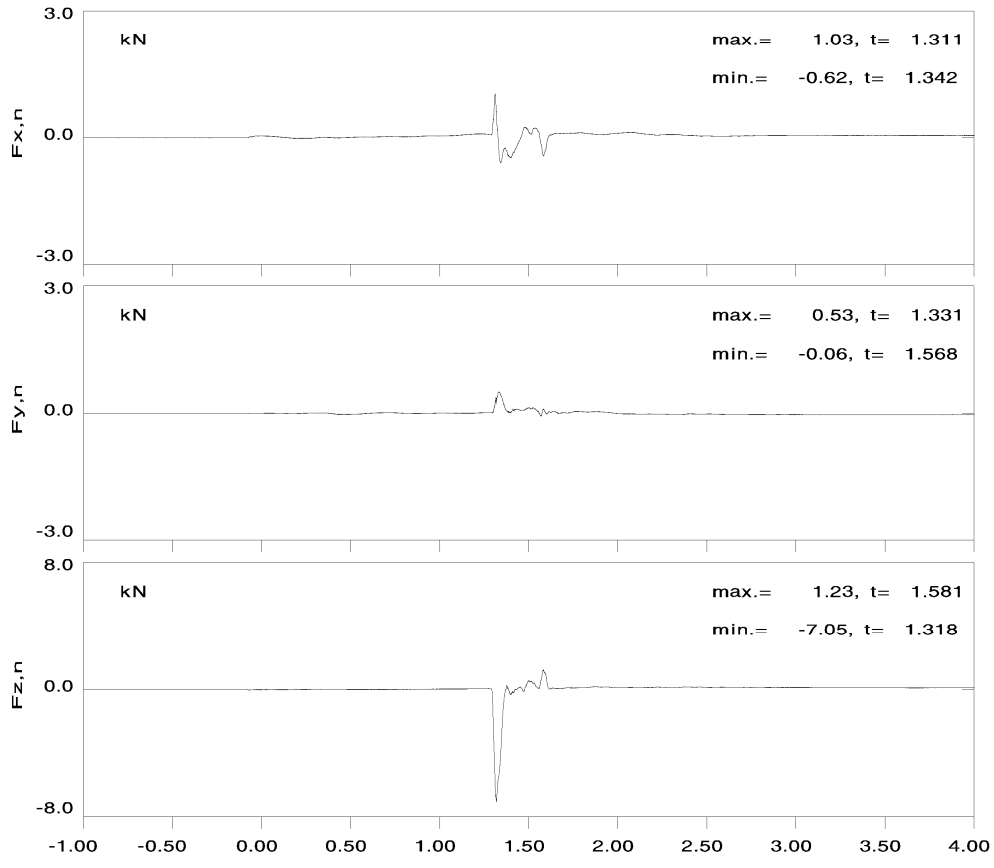
Page 2

Primary Test G140087



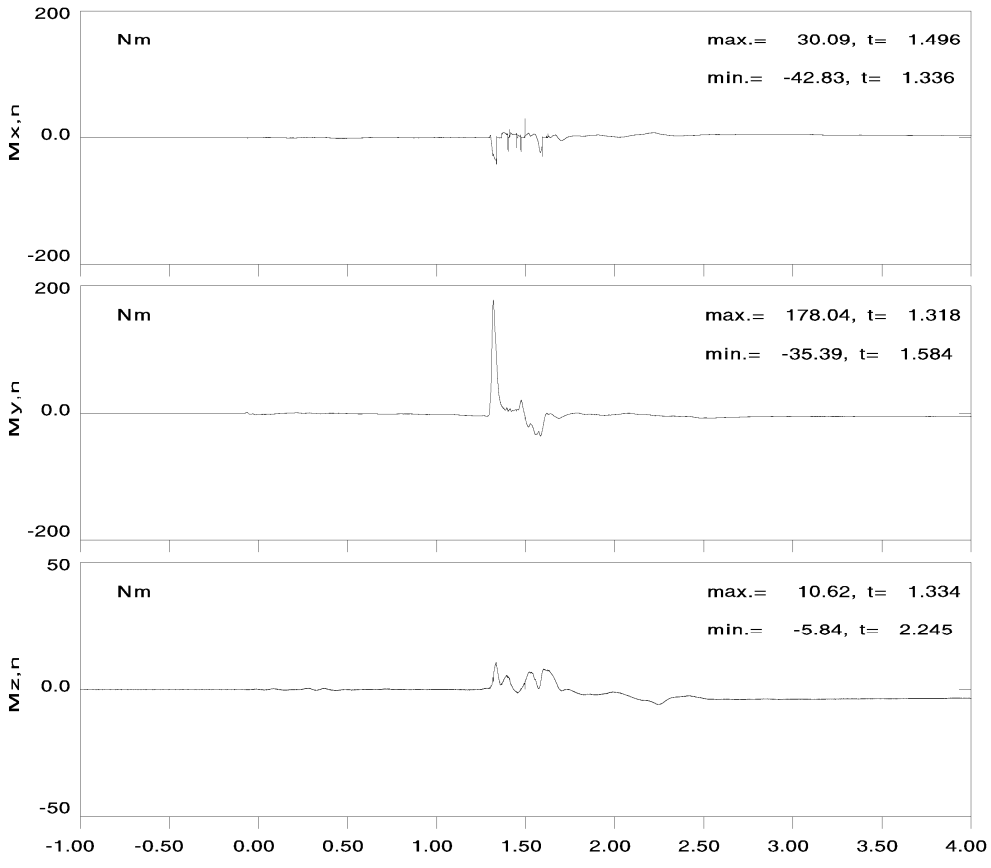
Page 3

Primary Test G140087

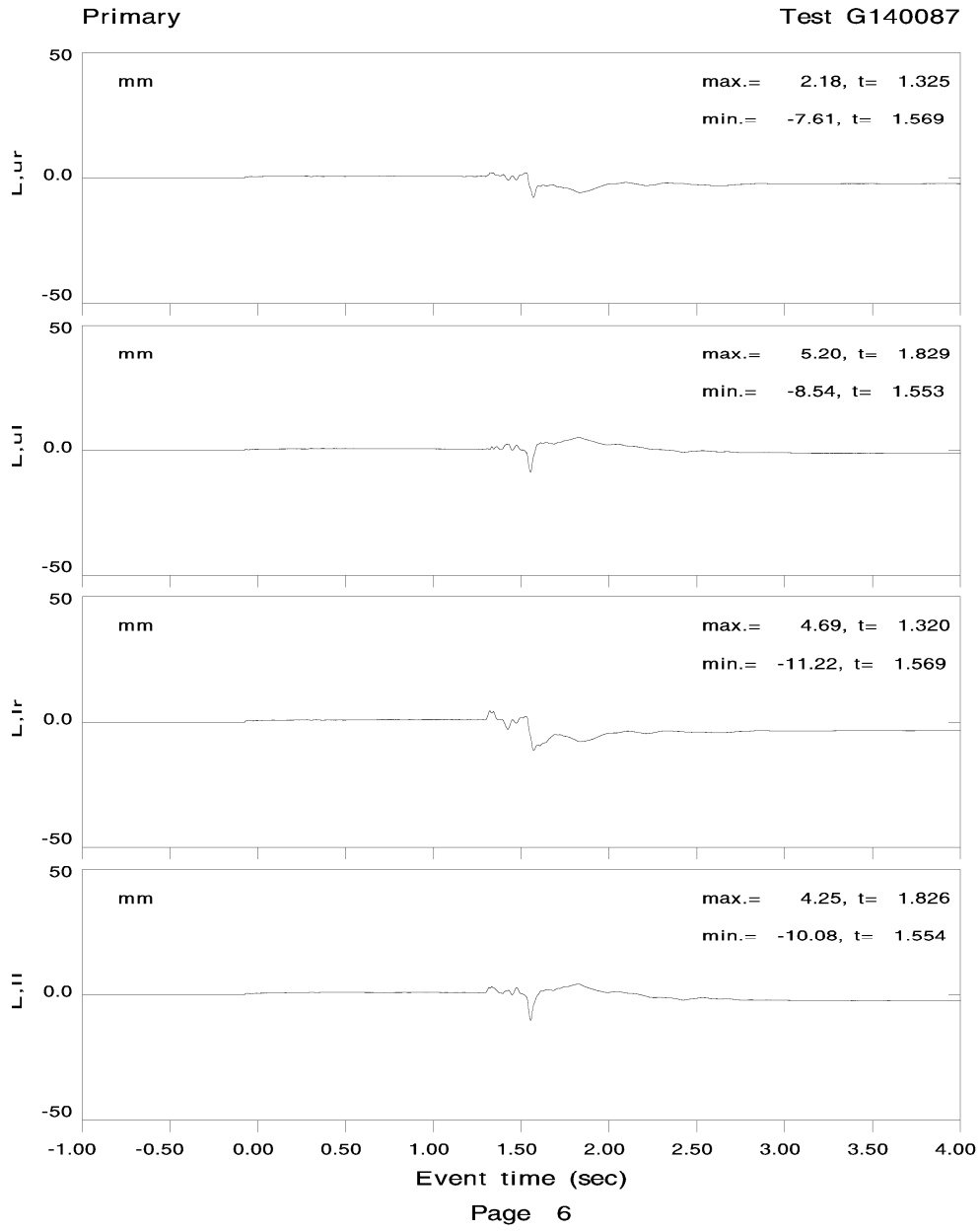


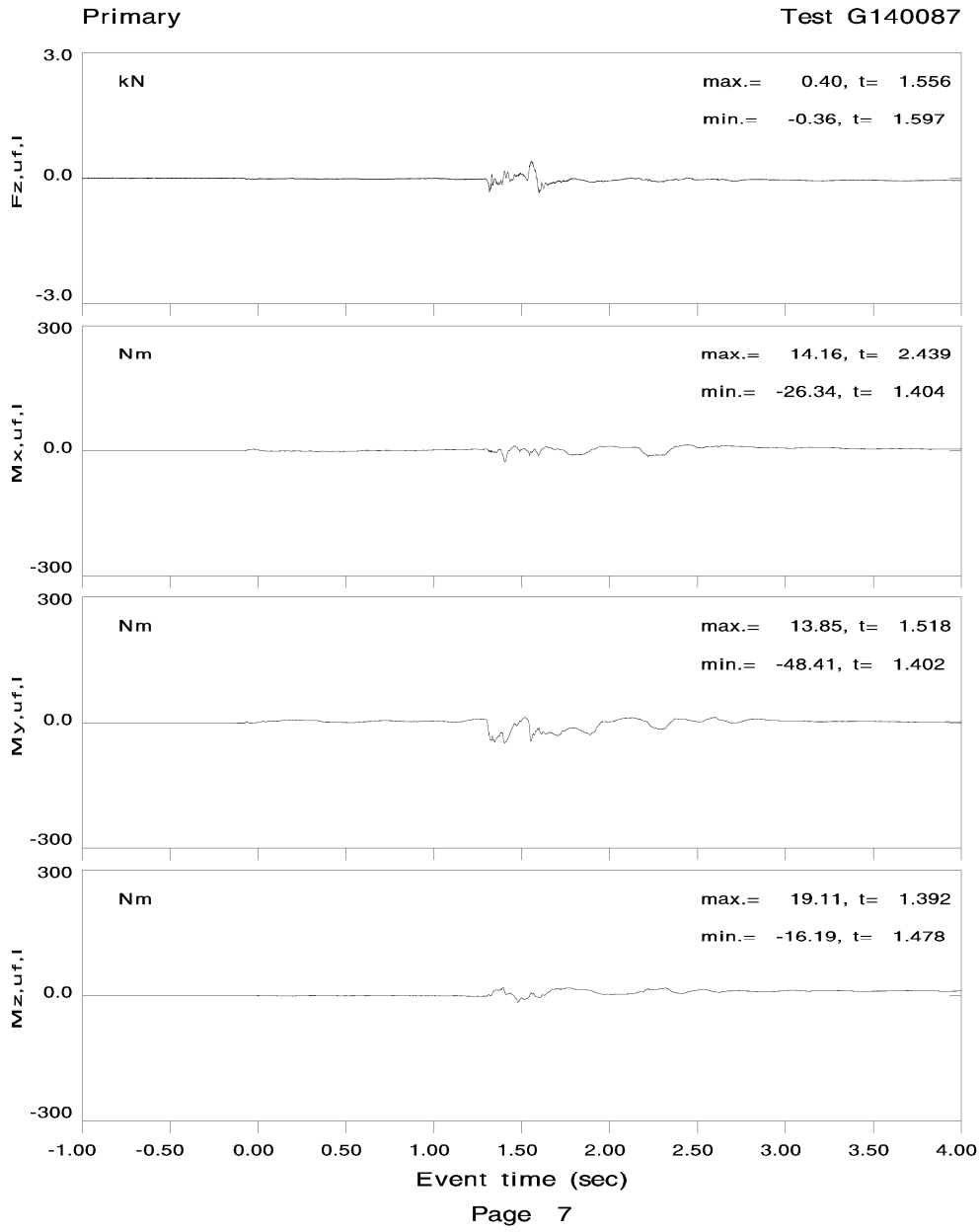
Page 4

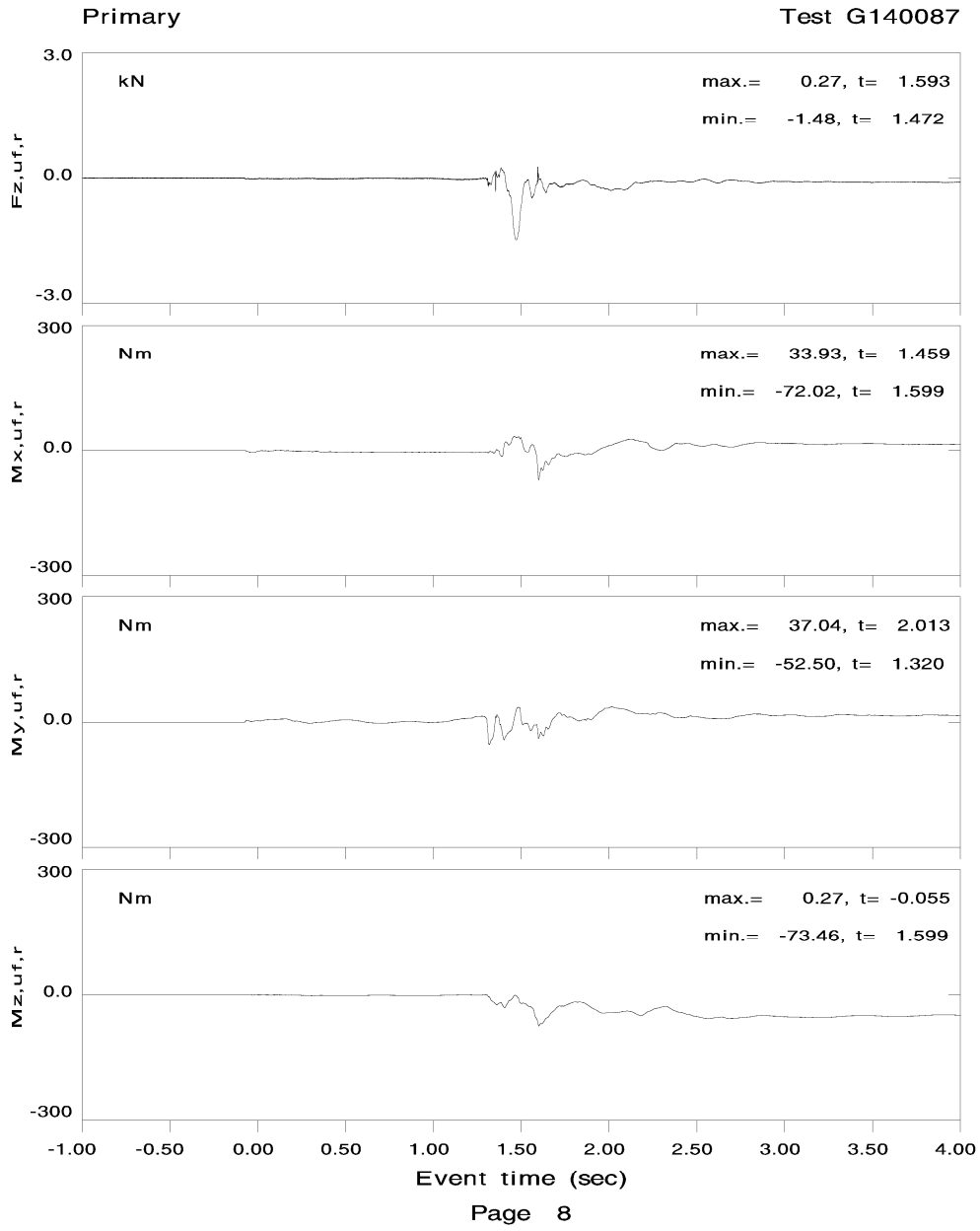
Primary Test G140087

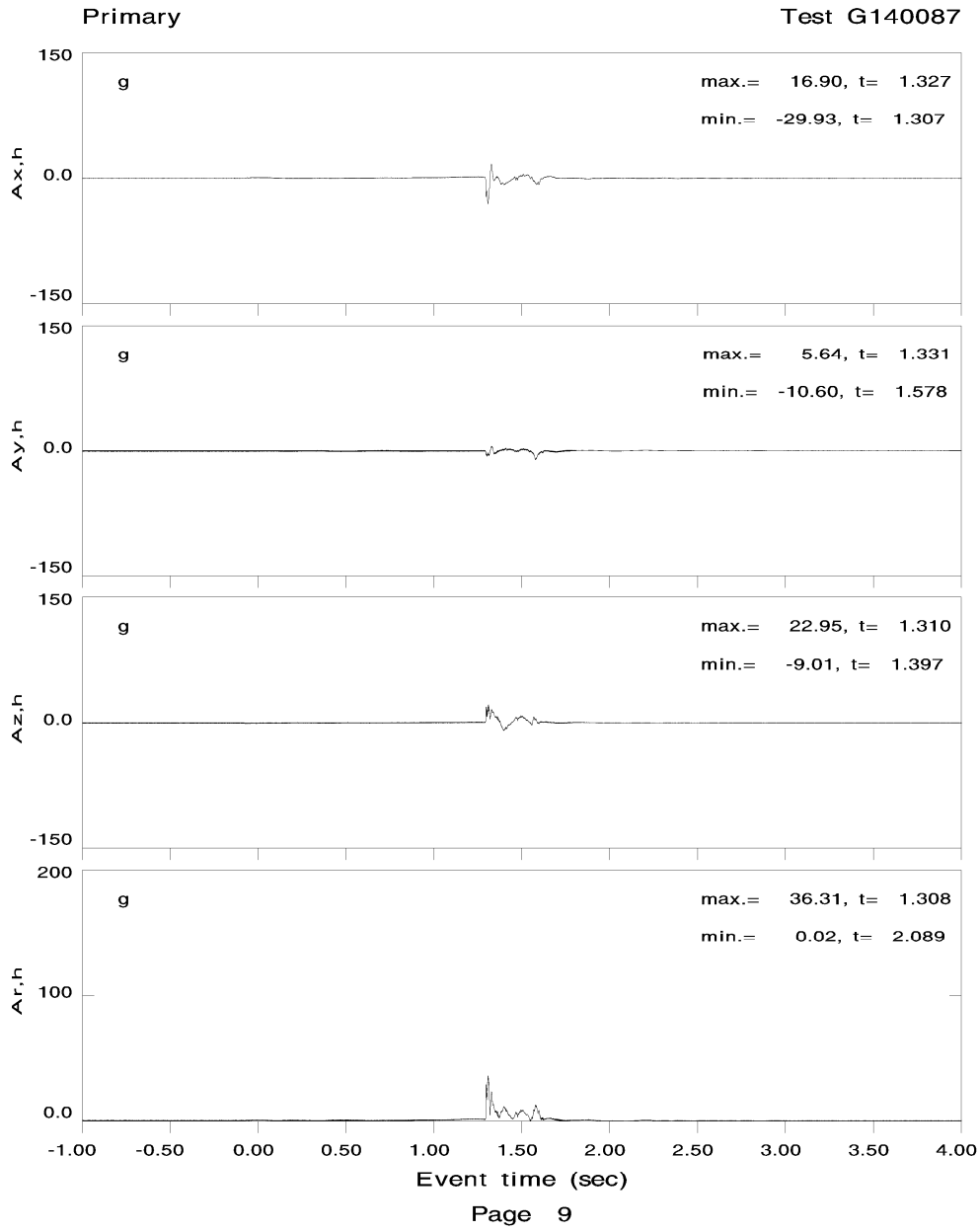


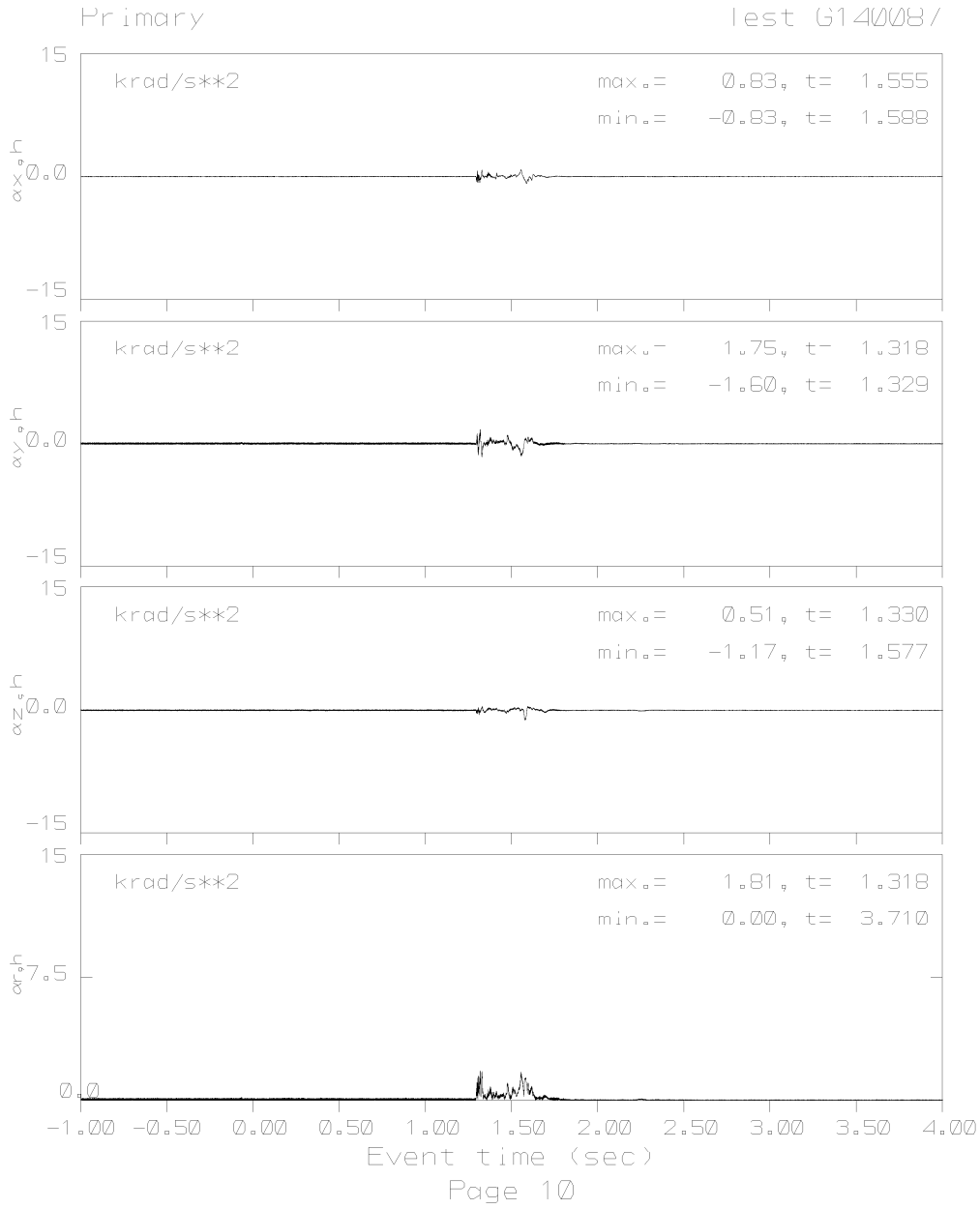
Page 5

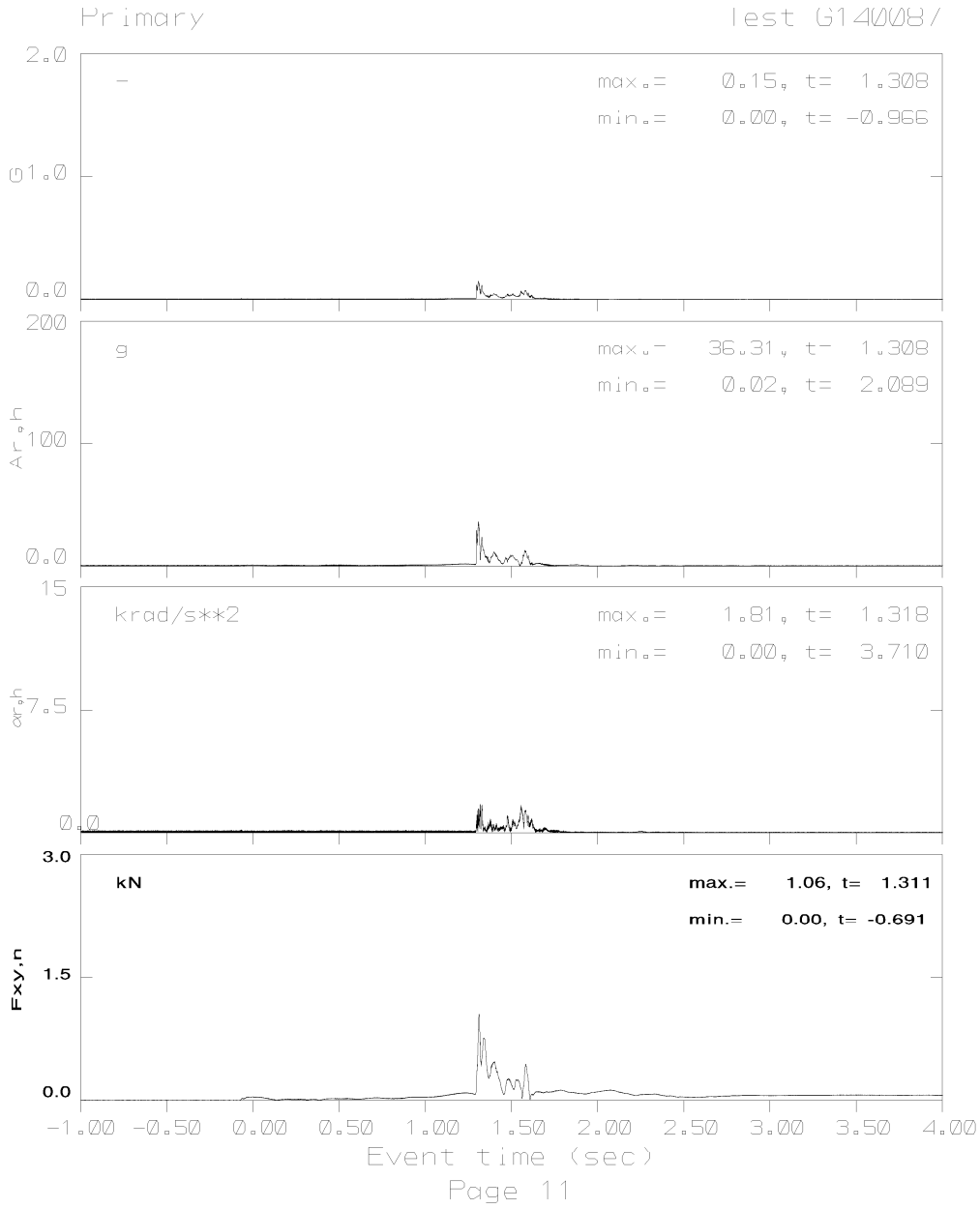

Primary
Test G140087
mm
max.= 2.18, t= 1.325
min.= -7.61, t= 1.569
L,ur
mm
max.= 5.20, t= 1.829
min.= -8.54, t= 1.553
L,ul
mm
max.= 4.69, t= 1.320
min.= -11.22, t= 1.569
L,lr
mm
max.= 4.25, t= 1.826
min.= -10.08, t= 1.554
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

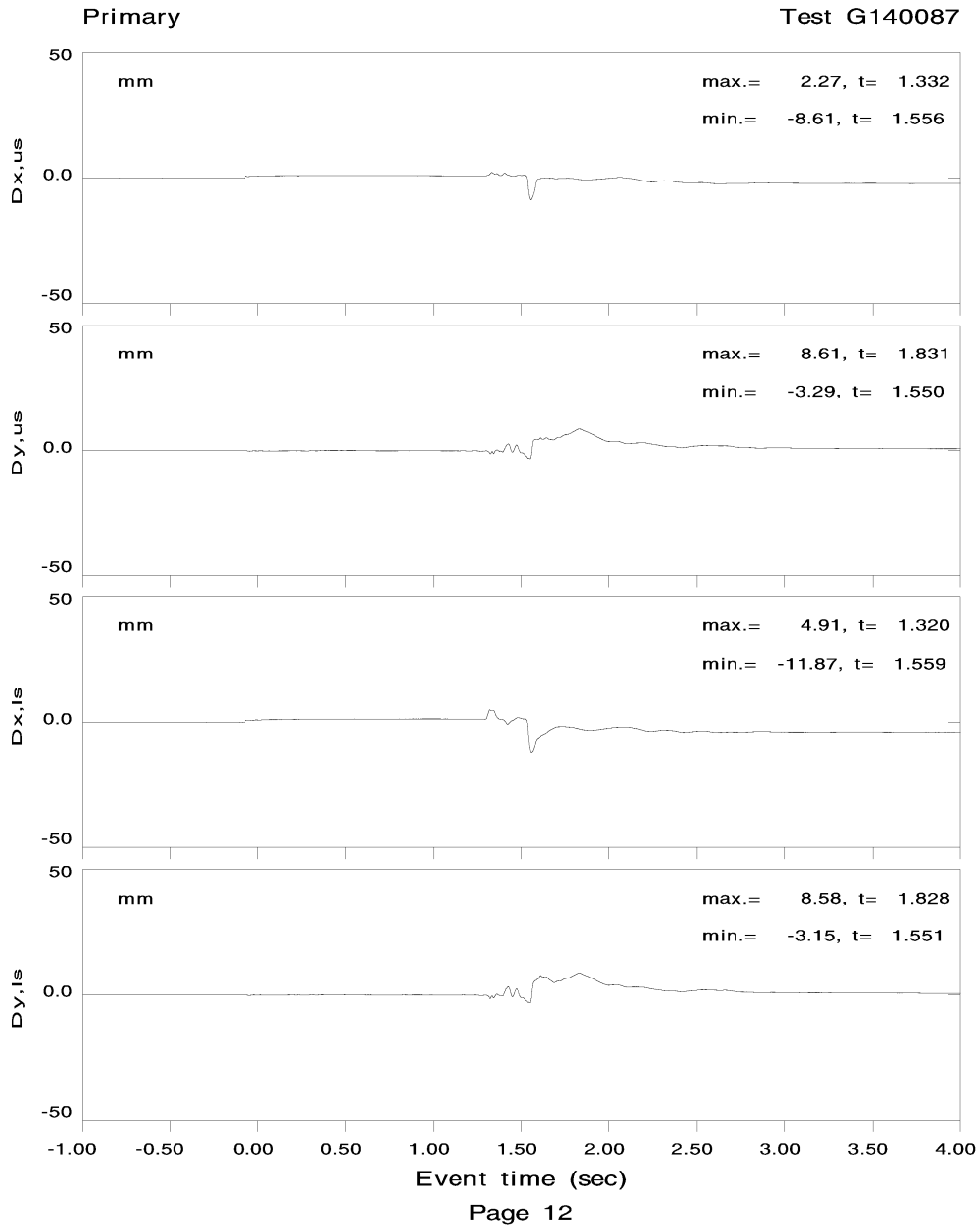

Primary
Test G140087
kN
max.= 0.40, t= 1.556
min.= -0.36, t= 1.597
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 14.16, t= 2.439
min.= -26.34, t= 1.404
Mx,uf,l
300
0.0
-300
Nm
max.= 13.85, t= 1.518
min.= -48.41, t= 1.402
My,uf,l
300
0.0
-300
Nm
max.= 19.11, t= 1.392
min.= -16.19, t= 1.478
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140087
kN
max.= 0.27, t= 1.593
min.= -1.48, t= 1.472
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 33.93, t= 1.459
min.= -72.02, t= 1.599
Mx,uf,r
300
0.0
-300
Nm
max.= 37.04, t= 2.013
min.= -52.50, t= 1.320
My,uf,r
300
0.0
-300
Nm
max.= 0.27, t= -0.055
min.= -73.46, t= 1.599
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

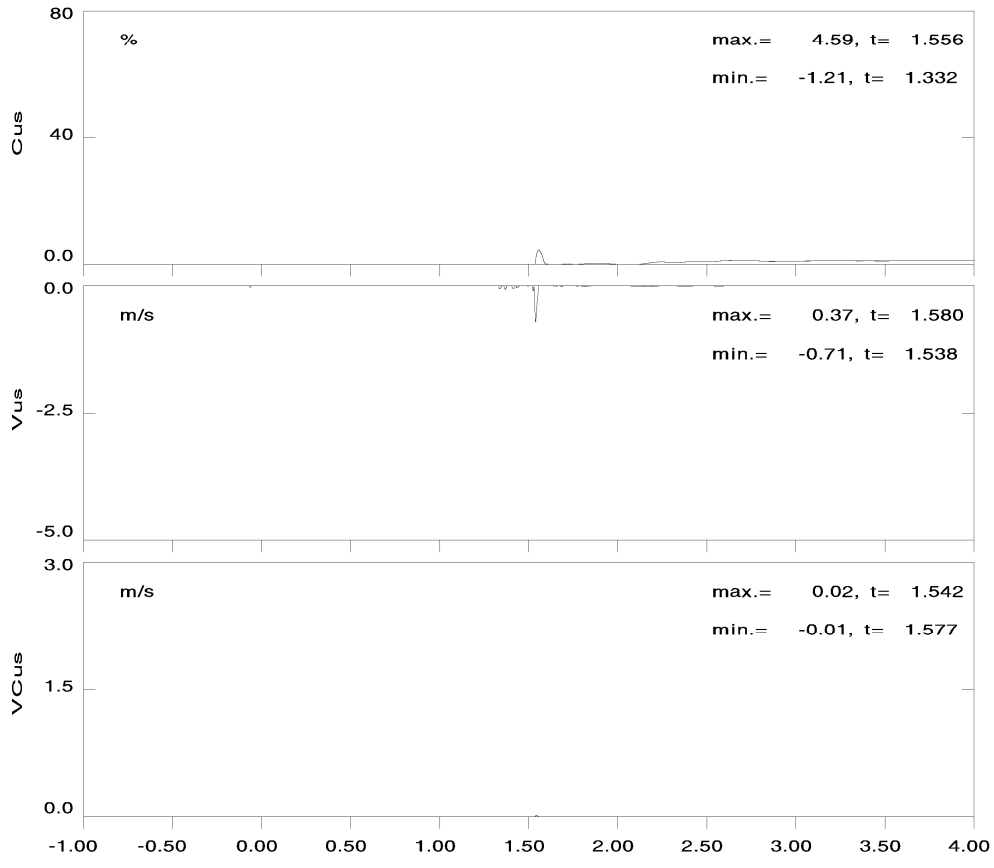

Primary
Test G140087
g
max.= 16.90, t= 1.327
min.= -29.93, t= 1.307
Ax,h
150
0.0
-150
g
max.= 5.64, t= 1.331
min.= -10.60, t= 1.578
Ay,h
150
0.0
-150
g
max.= 22.95, t= 1.310
min.= -9.01, t= 1.397
Az,h
150
0.0
-150
g
max.= 36.31, t= 1.308
min.= 0.02, t= 2.089
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G14008/
krad/s**2
max.= 0.83, t= 1.555
min.= -0.83, t= 1.588
ax,h
krad/s**2
max.= 1.75, t= 1.318
min.= -1.60, t= 1.329
ay,h
krad/s**2
max.= 0.51, t= 1.330
min.= -1.17, t= 1.577
az,h
krad/s**2
max.= 1.81, t= 1.318
min.= 0.00, t= 3.710
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G14008/
max.= 0.15, t= 1.308
min.= 0.00, t= -0.966
max.= 36.31, t= 1.308
min.= 0.02, t= 2.089
krad/s**2
max.= 1.81, t= 1.318
min.= 0.00, t= 3.710
kN
max.= 1.06, t= 1.311
min.= 0.00, t= -0.691
Fxy,n
Event time (sec)
Page 11

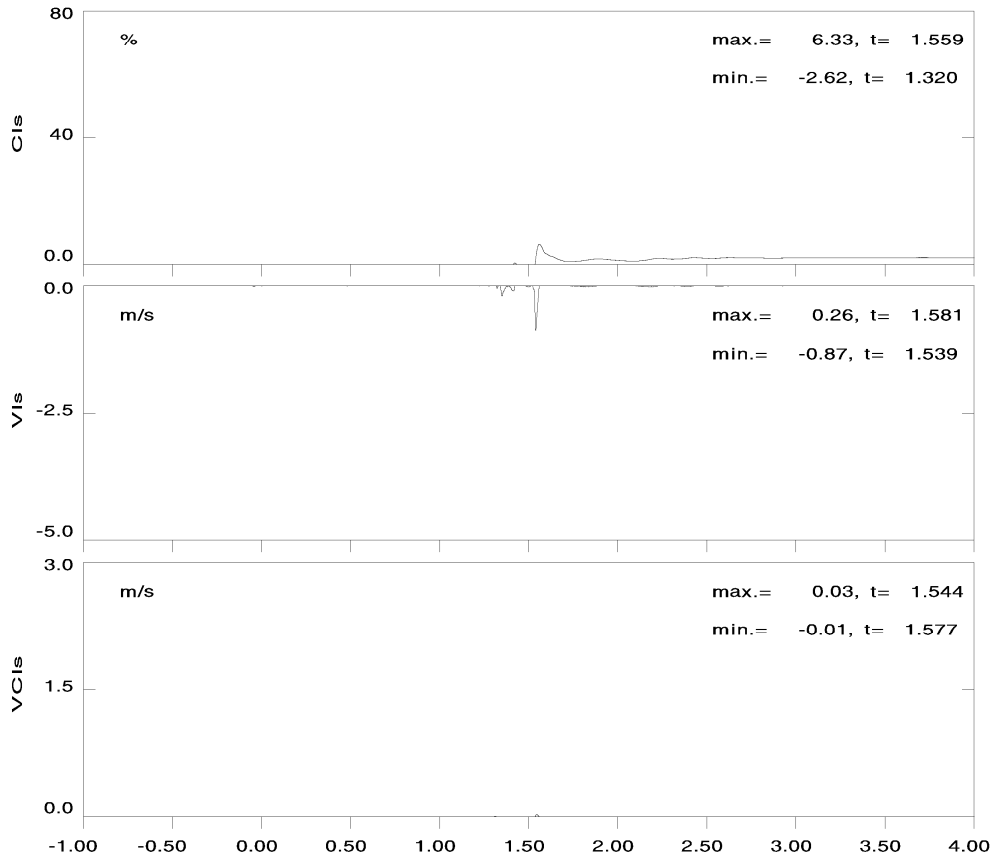

Primary
Test G140087
mm
max.= 2.27, t= 1.332
min.= -8.61, t= 1.556
Dx,us
mm
max.= 8.61, t= 1.831
min.= -3.29, t= 1.550
Dy,us
mm
max.= 4.91, t= 1.320
min.= -11.87, t= 1.559
Dx,ls
mm
max.= 8.58, t= 1.828
min.= -3.15, t= 1.551
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140087



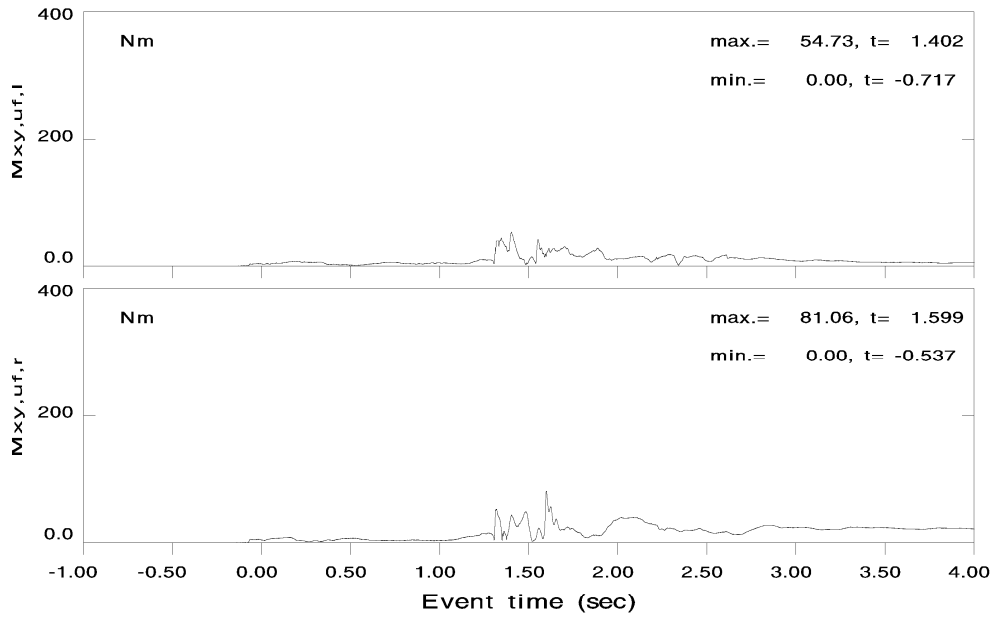
Page 13

Primary Test G140087

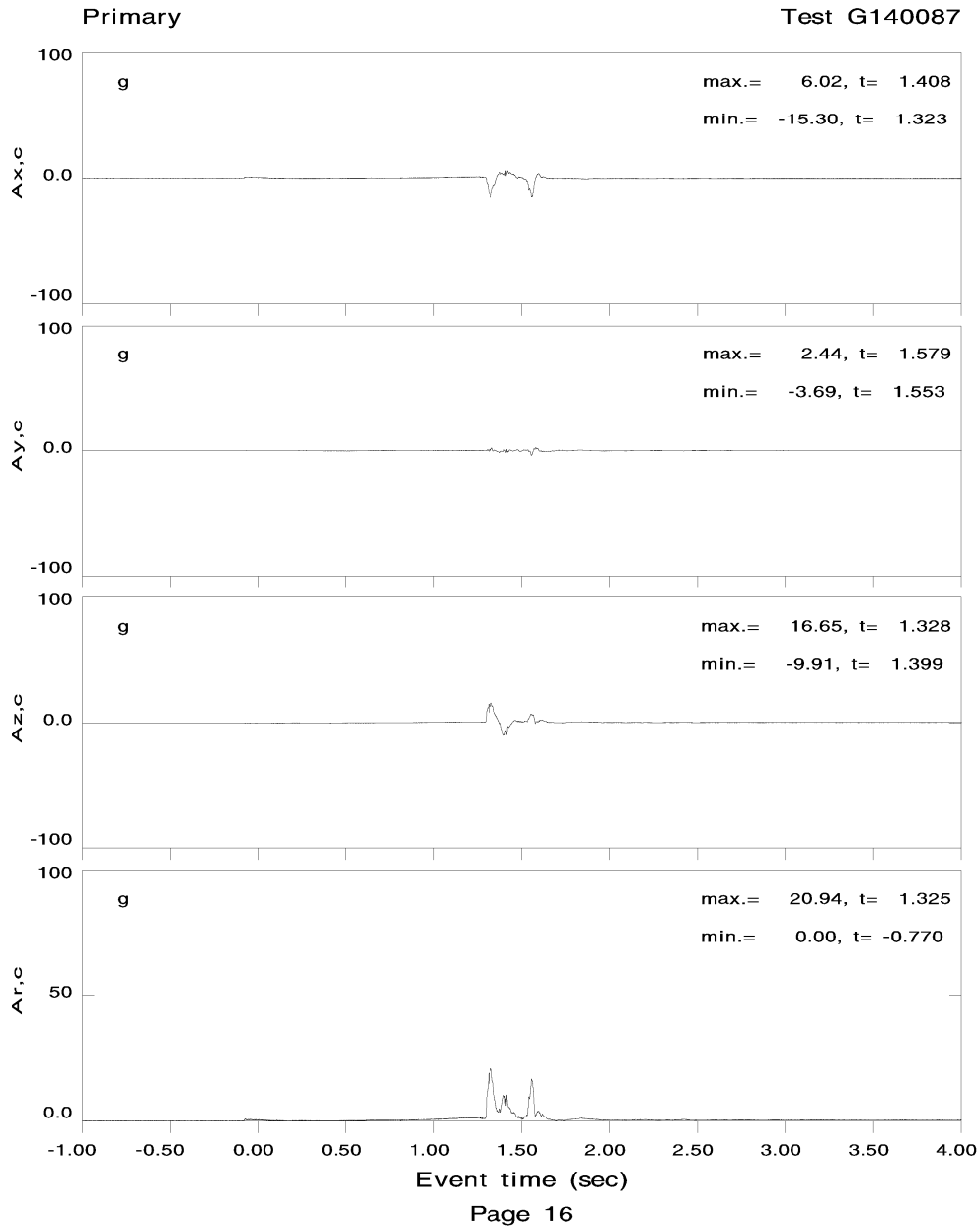


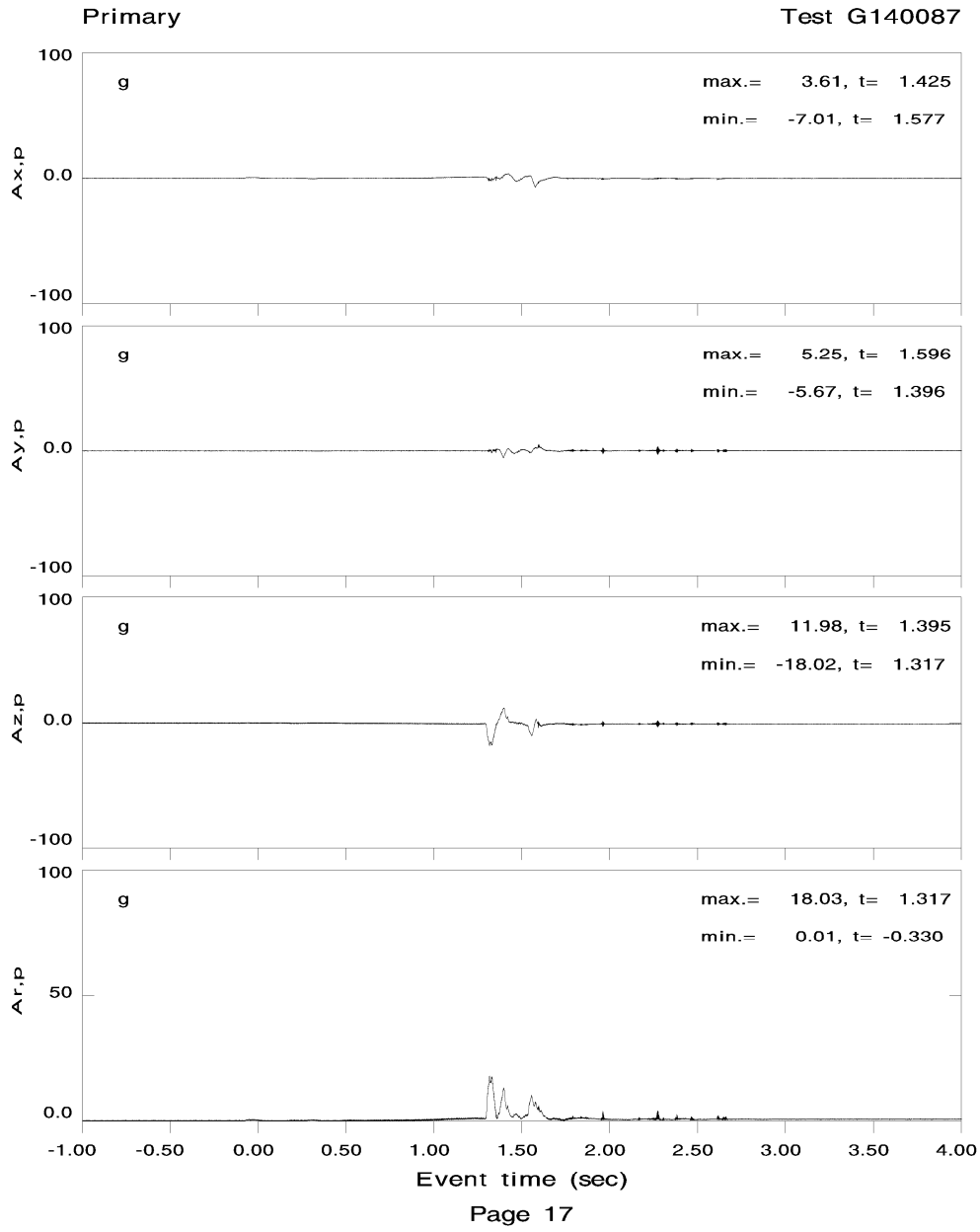
Page 14

Primary Test G140087

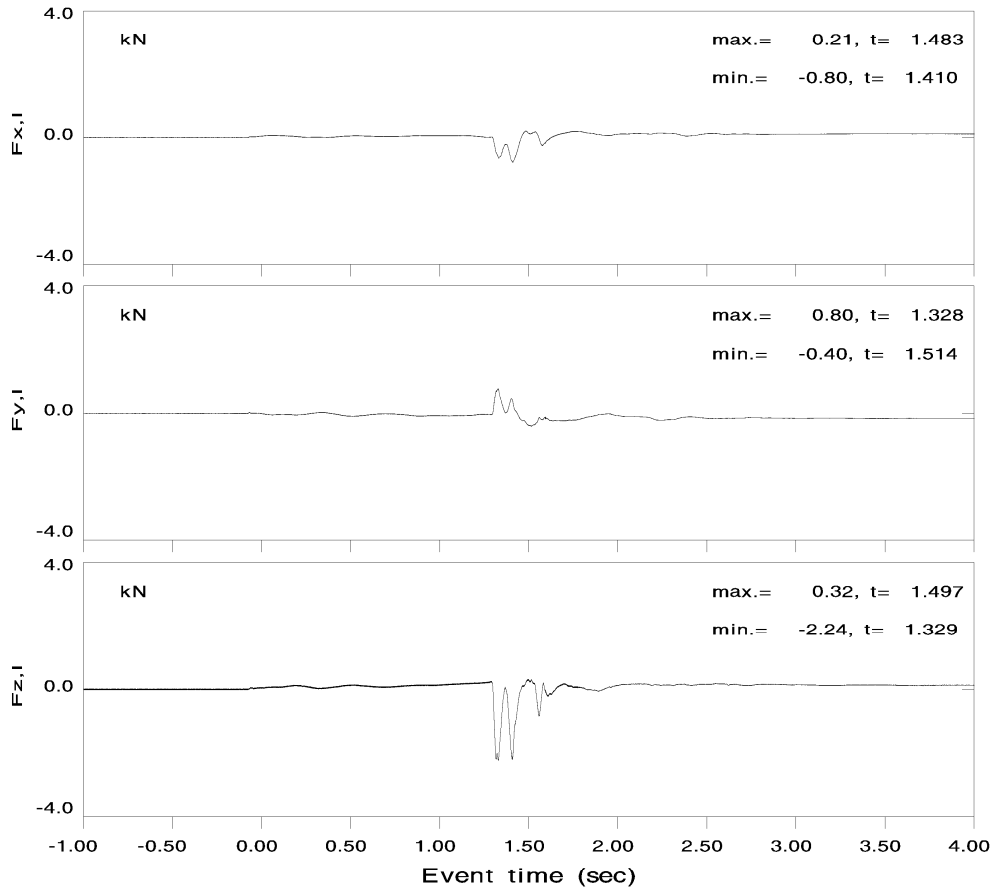


Page 15


Primary
Test G140087
g
max.= 6.02, t= 1.408
min.= -15.30, t= 1.323
Ax,c
100
0.0
-100
g
max.= 2.44, t= 1.579
min.= -3.69, t= 1.553
Ay,c
100
0.0
-100
g
max.= 16.65, t= 1.328
min.= -9.91, t= 1.399
Az,c
100
0.0
-100
g
max.= 20.94, t= 1.325
min.= 0.00, t= -0.770
Ar,c
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

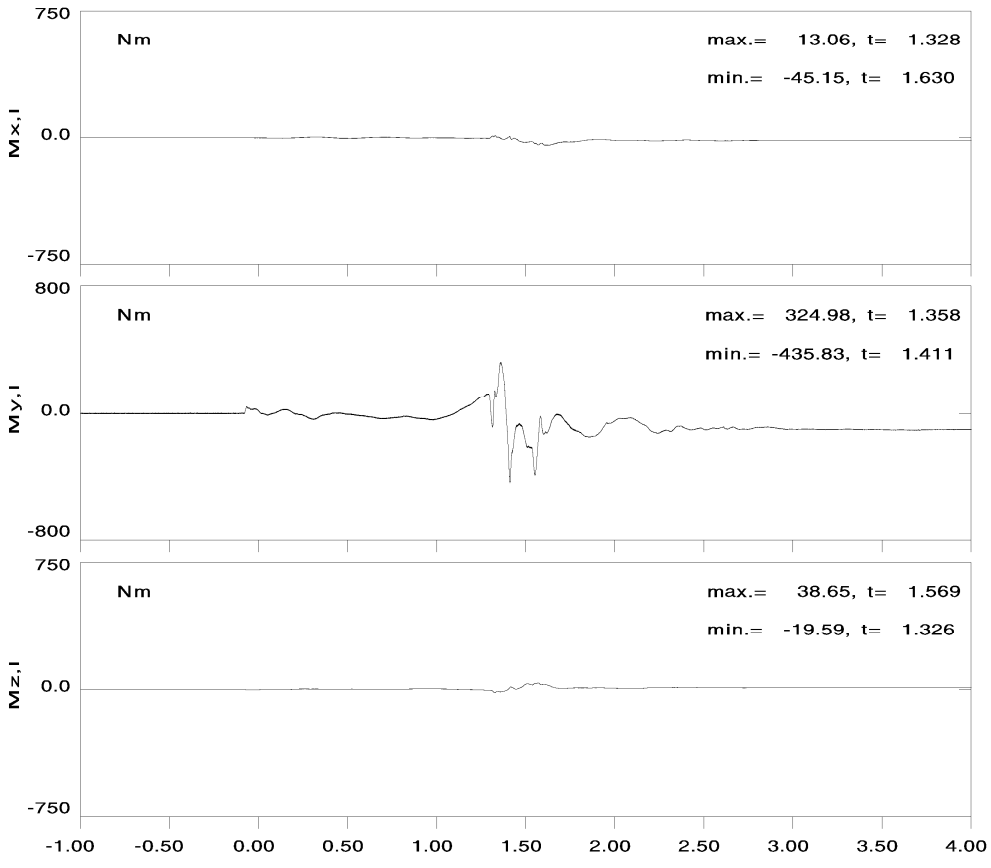

Primary
Test G140087
g
max.= 3.61, t= 1.425
min.= -7.01, t= 1.577
Ax,p
100
0.0
-100
g
max.= 5.25, t= 1.596
min.= -5.67, t= 1.396
Ay,p
100
0.0
-100
g
max.= 11.98, t= 1.395
min.= -18.02, t= 1.317
Az,p
100
0.0
-100
g
max.= 18.03, t= 1.317
min.= 0.01, t= -0.330
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140087

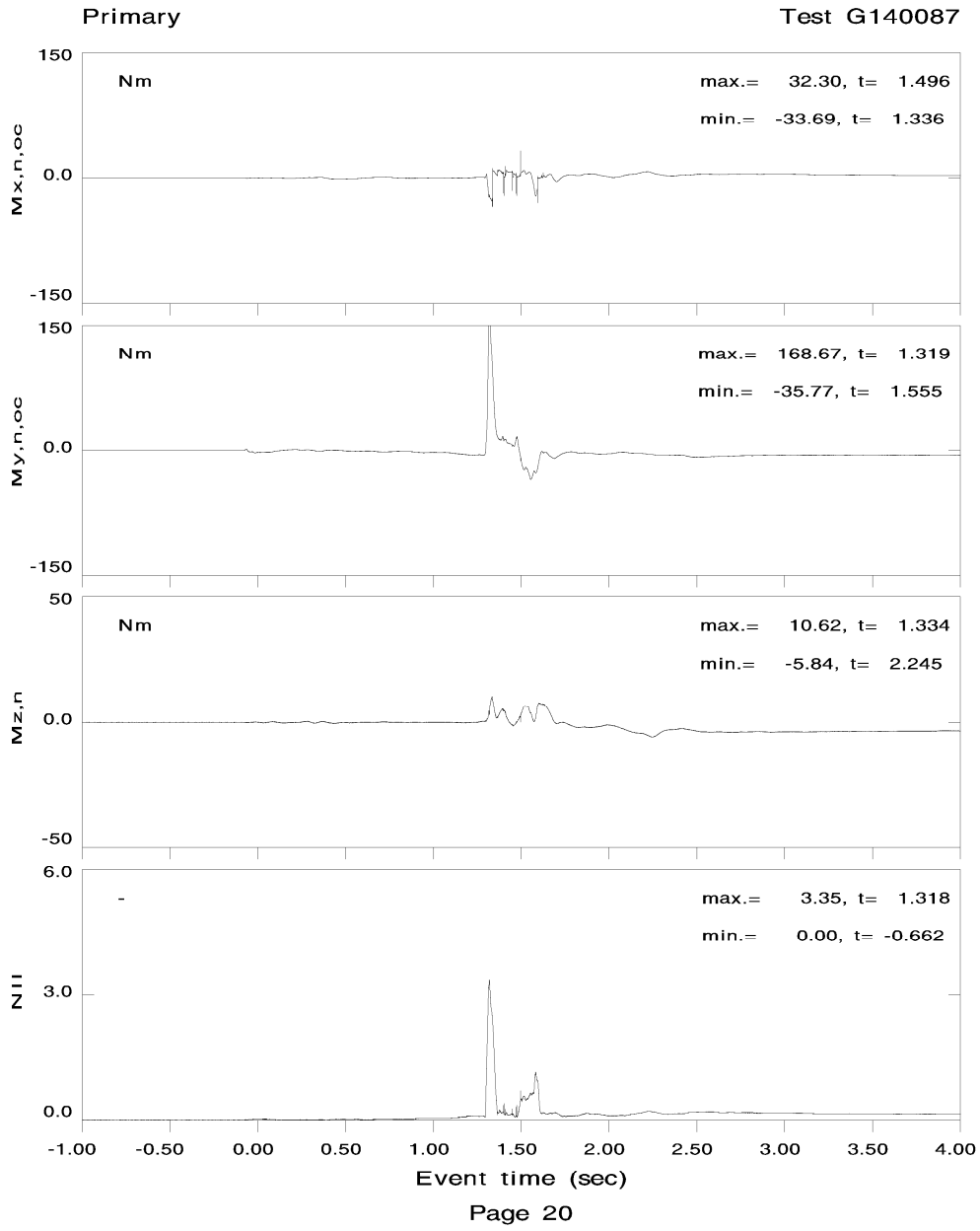


Page 18

Primary Test G140087



Page 19


Primary
Test G140087
Nm
max.= 32.30, t= 1.496
min.= -33.69, t= 1.336
Mx,n,oc
150
0.0
-150
Nm
max.= 168.67, t= 1.319
min.= -35.77, t= 1.555
My,n,oc
150
0.0
-150
Nm
max.= 10.62, t= 1.334
min.= -5.84, t= 2.245
Mz,n
50
0.0
-50
-
max.= 3.35, t= 1.318
min.= 0.00, t= -0.662
Nll
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.10 G140088

G140088_ICM.IC1

Test Number : G140088
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	2
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.150
Cmax	=	10.770
VCmax	=	0.000
HIC	=	87.1
NII (2002 MATD Neck)	=	3.1
Location of Cmax	:	lower sternum
Location of VCmax	:	lower sternum

* Hybrid III standard neck used for this test

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.000
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.996	0.933	0.997	1.000	1.000	0
1	0.000	0.055	0.003	0.000	0.000	0
2	0.000	0.009	0.000	0.000	0.000	0
3	0.004	0.003	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.012	0.081	0.003	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.000	0.001	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140088.rpt

Test G140088, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	22.69 g	1.660	-17.25 g	1.624
Ay,c	5.64 g	1.657	-6.07 g	1.683
Az,c	14.74 g	1.406	-7.57 g	1.493
Ax,p	7.10 g	1.484	-14.68 g	1.634
Ay,p	2.36 g	1.646	-2.83 g	1.419
Az,p	7.44 g	1.662	-18.51 g	1.391
spare	0.00 -	1.715	0.00 -	-0.443
spare	0.00 -	1.717	0.00 -	0.303
L,ur	6.00 mm	1.651	-15.68 mm	2.170
L,lr	5.14 mm	1.612	-16.99 mm	2.178
a1	18.84 g	1.387	-9.13 g	1.404
a2	19.44 g	1.383	-10.25 g	1.674
a3	21.20 g	1.387	-17.64 g	1.664
a4	26.24 g	1.384	-35.30 g	1.649
a5	27.30 g	1.387	-31.81 g	1.649
a6	29.20 g	1.388	-37.71 g	1.649
Mx,l	17.13 Nm	1.483	-40.11 Nm	2.084
My,l	144.07 Nm	1.423	-624.55 Nm	1.619
Mz,l	35.21 Nm	1.617	-20.52 Nm	1.400
Fx,l	0.33 kN	2.106	-0.87 kN	1.502
Fy,l	0.79 kN	1.402	-0.50 kN	1.664
Fz,l	0.91 kN	1.665	-2.25 kN	1.392
spare	0.00 -	-0.961	-0.03 -	1.659
spare	0.00 -	1.658	0.00 -	1.620
spare	0.05 -	3.999	0.00 -	-0.974
spare	0.00 -	-0.546	0.00 -	3.796
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	3.915	0.00 -	1.599
a7	23.01 g	1.386	-9.24 g	1.683
a8	24.43 g	1.385	-9.41 g	1.685
a9	23.03 g	1.384	-13.68 g	1.684
Fz,uf,r	0.34 kN	1.653	-1.03 kN	1.419
Mx,uf,r	31.79 Nm	1.490	-34.69 Nm	1.751
My,uf,r	31.08 Nm	1.679	-65.90 Nm	1.645
Mz,uf,r	0.68 Nm	1.668	-32.08 Nm	1.754
Fz,uf,l	0.55 kN	1.661	-0.44 kN	1.464
Mx,uf,l	30.21 Nm	1.533	-36.10 Nm	1.478
My,uf,l	20.18 Nm	1.609	-73.83 Nm	1.478
Mz,uf,l	18.94 Nm	1.432	-1.46 Nm	2.456
Fx,n	1.08 kN	1.386	-0.58 kN	1.422
Fy,n	0.67 kN	1.726	-0.18 kN	1.649
Fz,n	1.91 kN	1.682	-6.54 kN	1.393
Mx,n	8.51 Nm	1.653	-56.24 Nm	1.727
My,n	177.56 Nm	1.393	-16.34 Nm	1.657
Mz,n	20.04 Nm	1.653	-5.74 Nm	2.188
L,ul	9.21 mm	2.163	-28.28 mm	1.685
L,ll	8.00 mm	2.165	-28.86 mm	1.627
Ax,h	21.40 g	1.649	-31.46 g	1.383
Ay,h	28.55 g	1.649	-12.15 g	1.677
Az,h	23.02 g	1.386	-9.25 g	1.683
àx,h	1.15 krad/s**2	1.654	-3.51 krad/s**2	1.664
ày,h	2.06 krad/s**2	1.392	-1.95 krad/s**2	1.656
àz,h	0.80 krad/s**2	1.647	-1.02 krad/s**2	1.649
Ar,h	38.34 g	1.385	0.02 g	-0.993
àr,h	3.56 krad/s**2	1.663	0.00 krad/s**2	2.267
G	0.15 -	1.649	0.00 -	3.230
HIC	87.07	1.391	----	1.371
Fxy,n	1.11 kN	1.386	0.00 kN	-0.499
Dx,us	2.62 mm	1.408	-19.89 mm	1.687
Dy,us	19.06 mm	2.163	-20.59 mm	1.682

Page 1

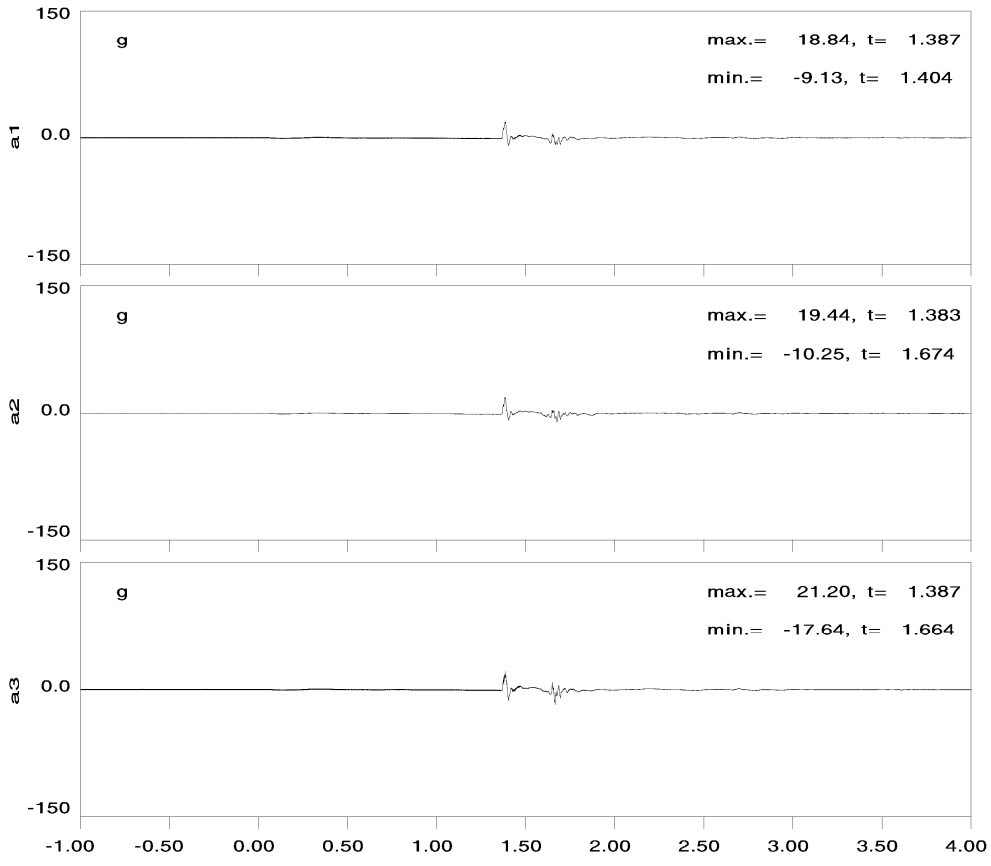
G140088.rpt

Cus	10.61	%	1.687	-1.40	%	1.408
Vus	0.61	m/s	1.701	-0.86	m/s	1.603
VCus	0.06	m/s	1.676	-0.05	m/s	1.700
Dx,ls	4.87	mm	1.394	-20.20	mm	1.685
Dy,ls	17.63	mm	2.166	-21.62	mm	1.635
Cls	10.77	%	1.685	-2.60	%	1.394
Vls	0.46	m/s	1.702	-0.88	m/s	1.603
VCls	0.06	m/s	1.627	-0.04	m/s	1.701
Mxy,uf,r	69.22	Nm	1.645	0.00	Nm	-0.229
Mxy,uf,l	82.18	Nm	1.478	0.00	Nm	-0.920
Mx,n,oc	10.27	Nm	1.566	-44.30	Nm	1.727
My,n,oc	167.48	Nm	1.393	-15.79	Nm	1.656
NII	3.10	-	1.393	0.00	-	-0.024
Ar,p	18.64	g	1.391	0.00	g	-0.613
Ar,c	23.26	g	1.660	0.00	g	-0.448

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

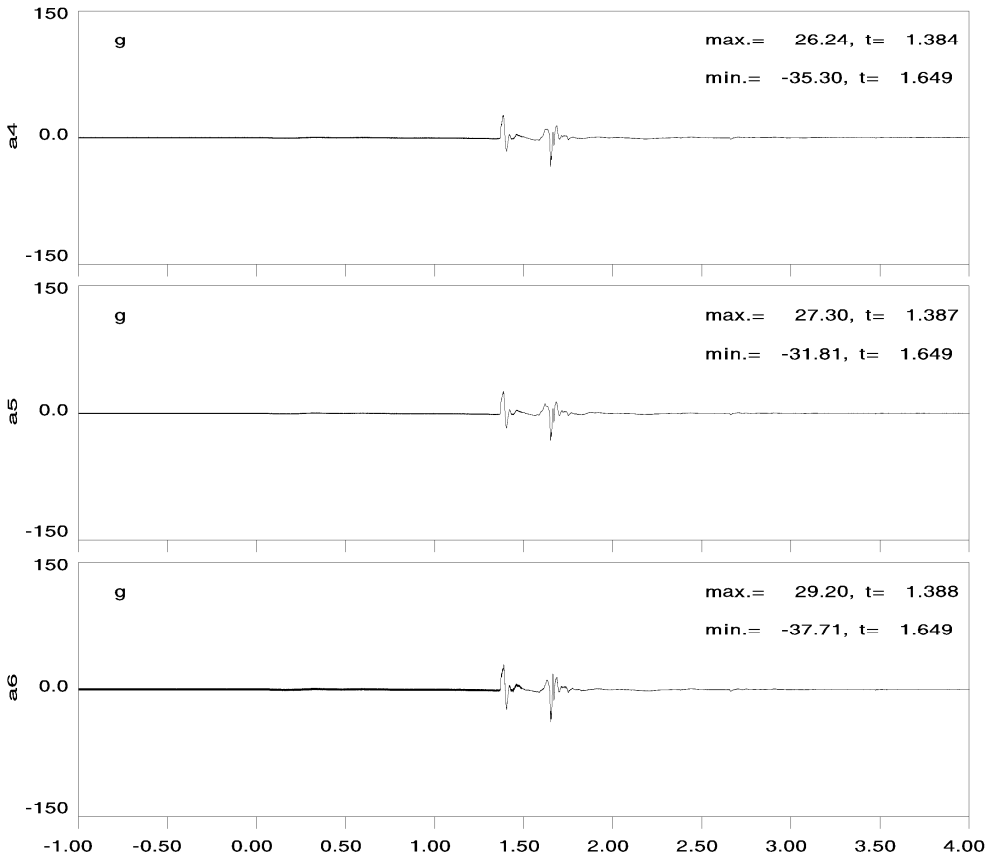
Page 2

Primary Test G140088



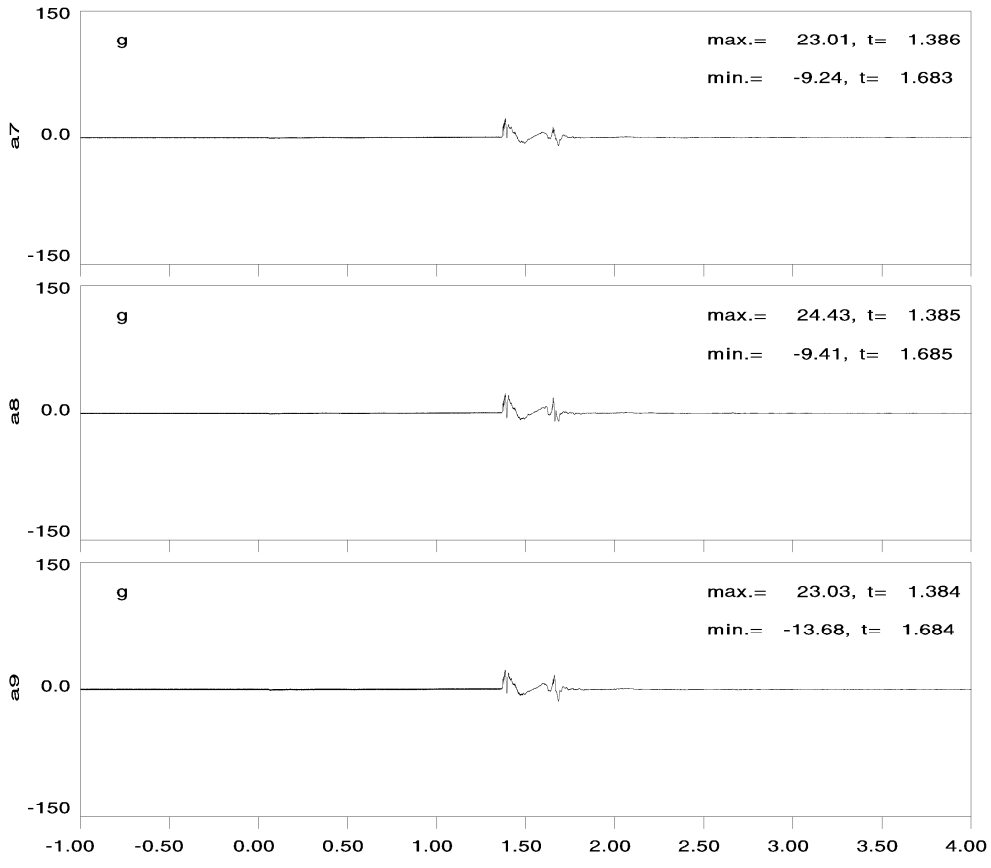
Page 1

Primary Test G140088



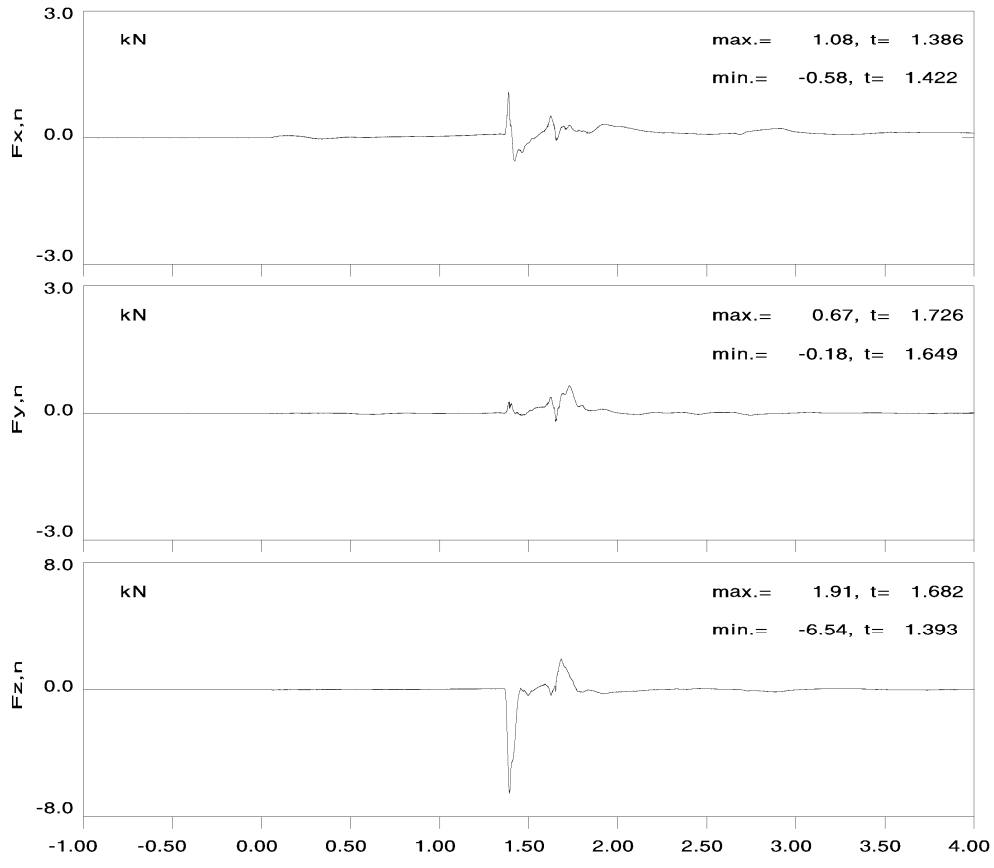
Page 2

Primary Test G140088



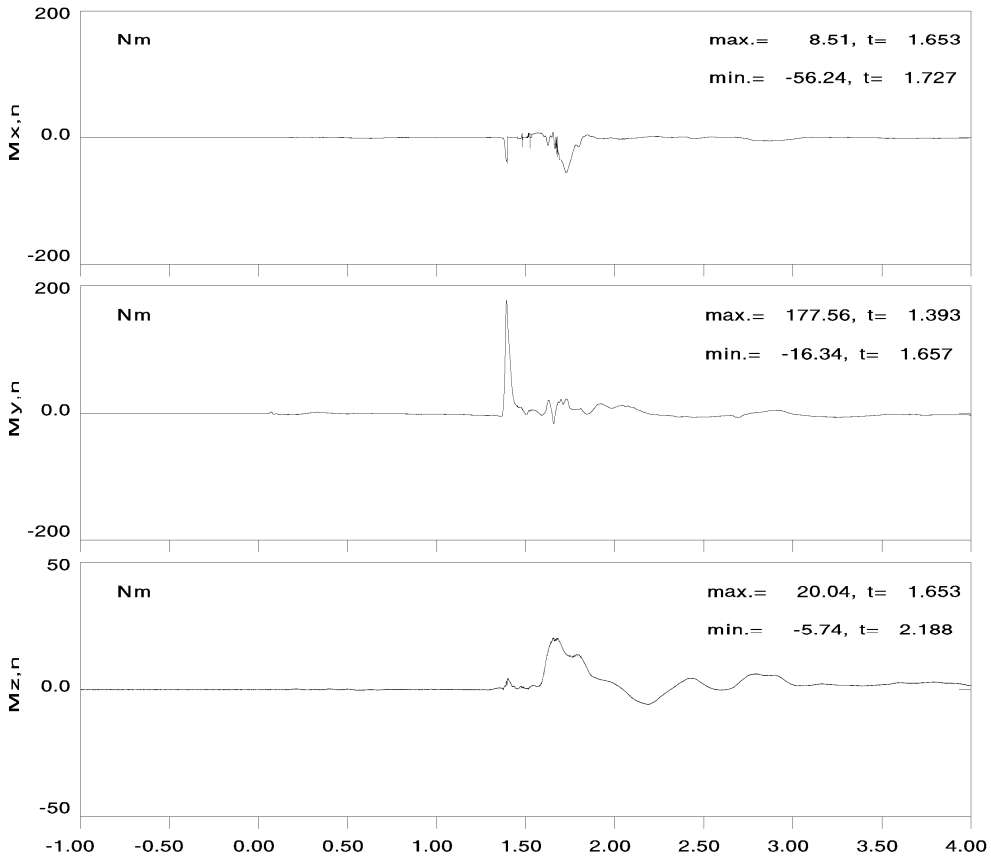
Page 3

Primary Test G140088

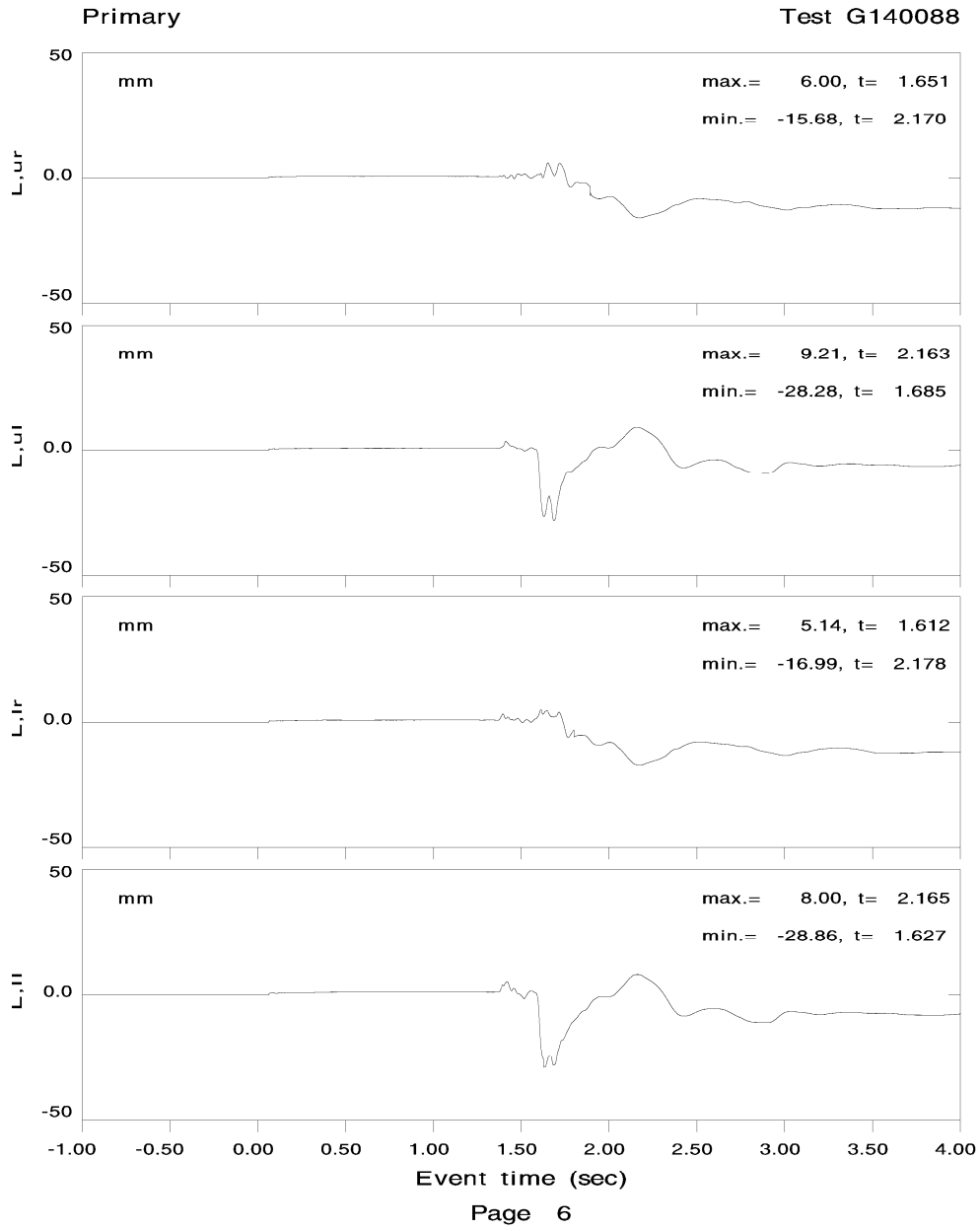


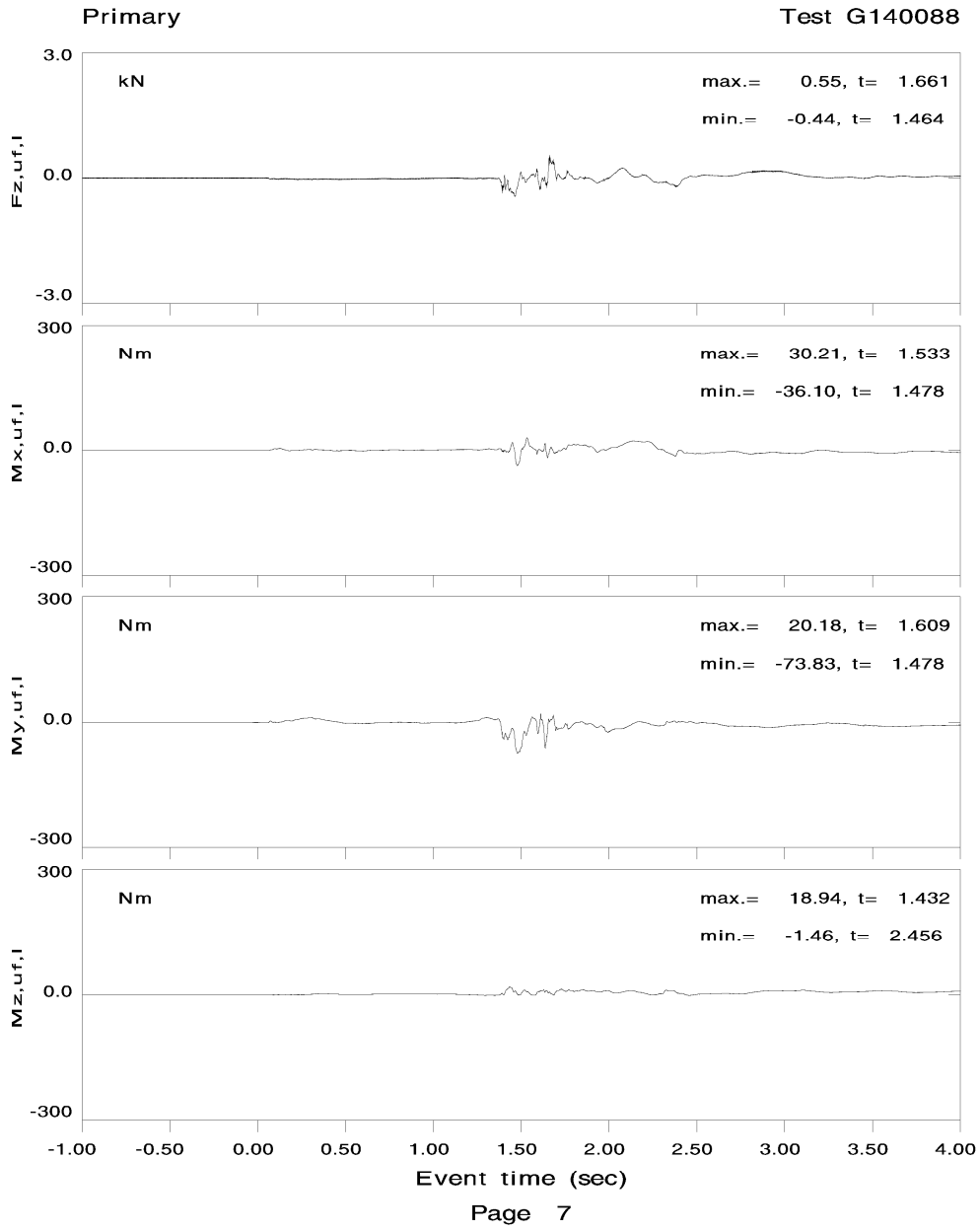
Page 4

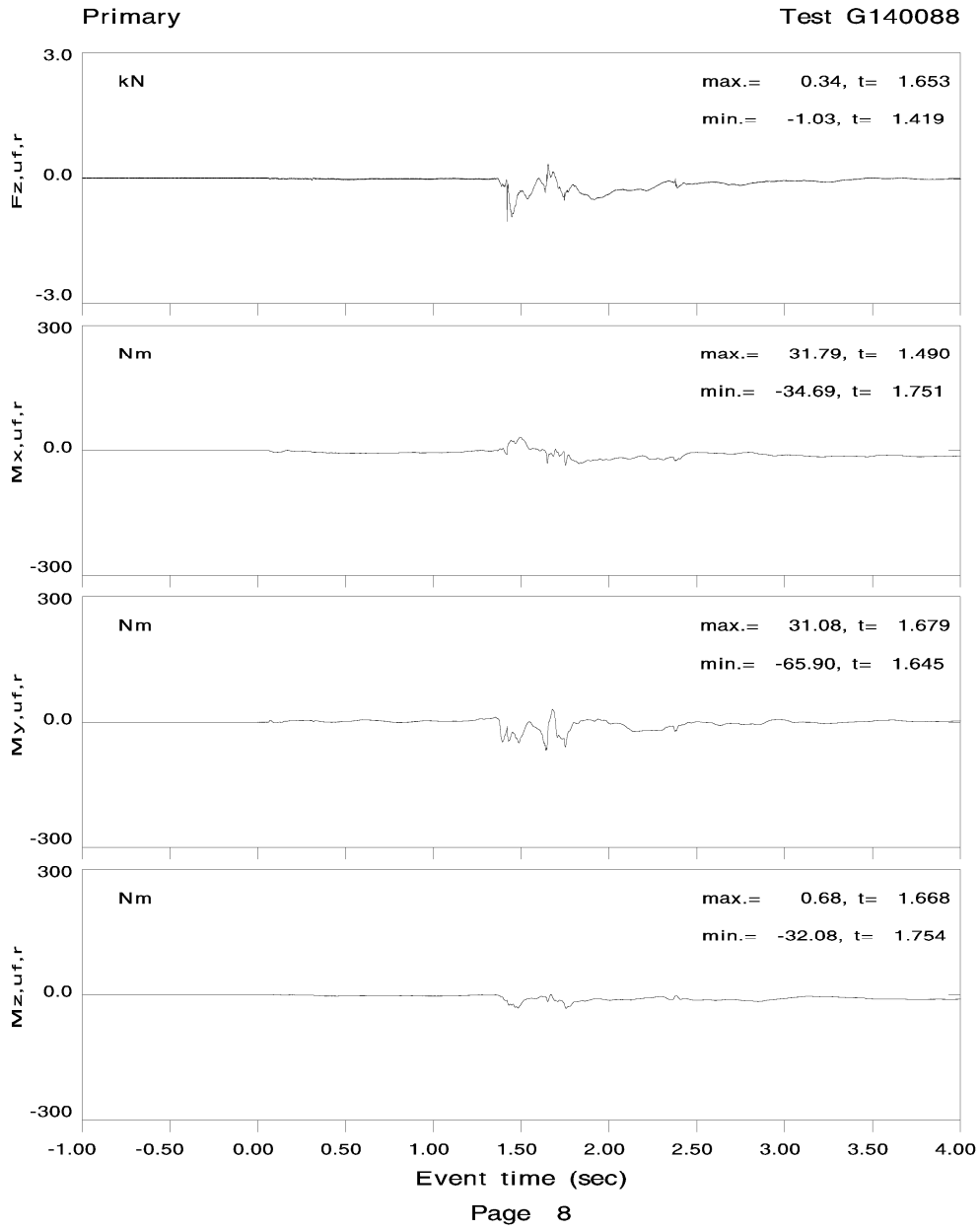
Primary Test G140088

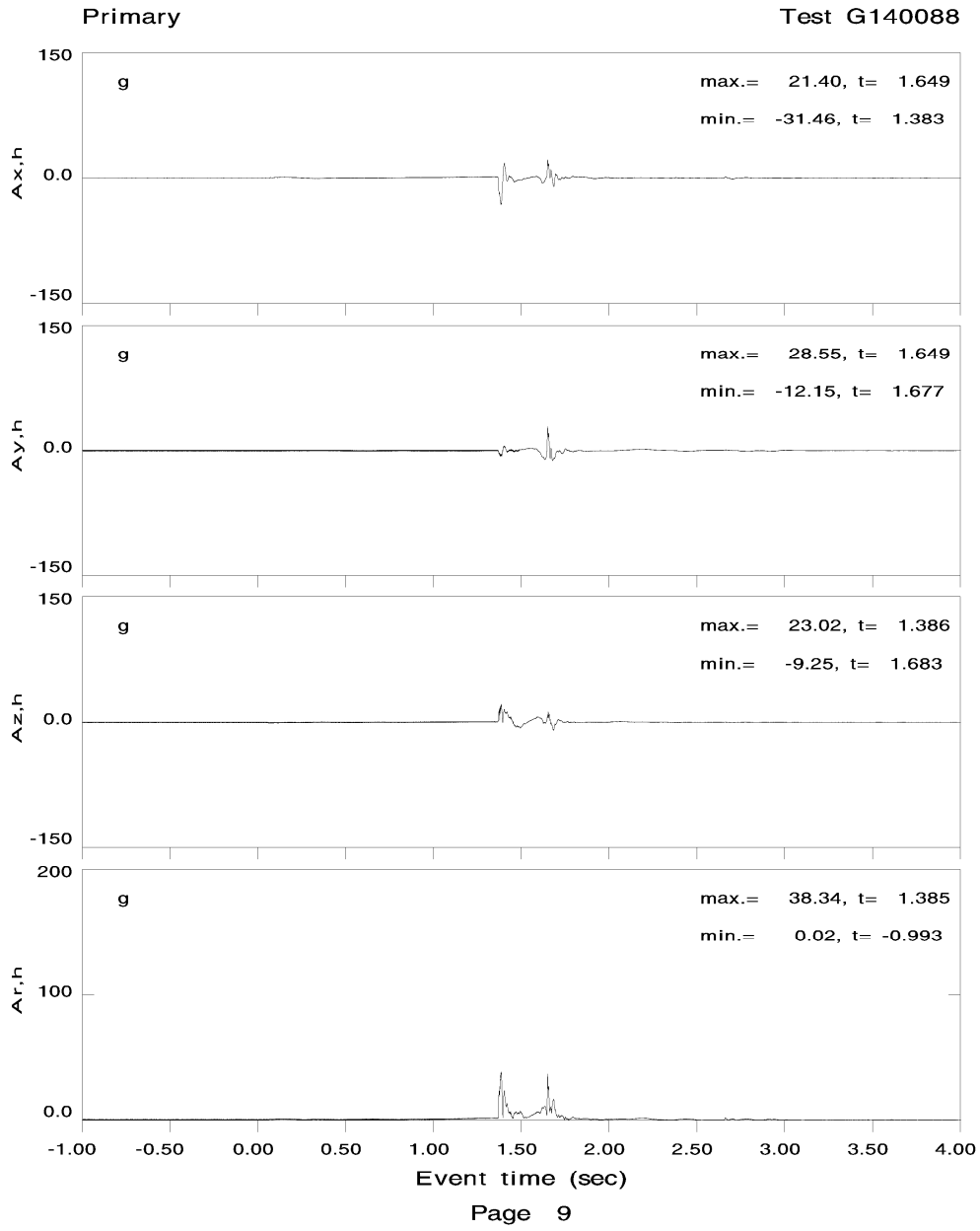


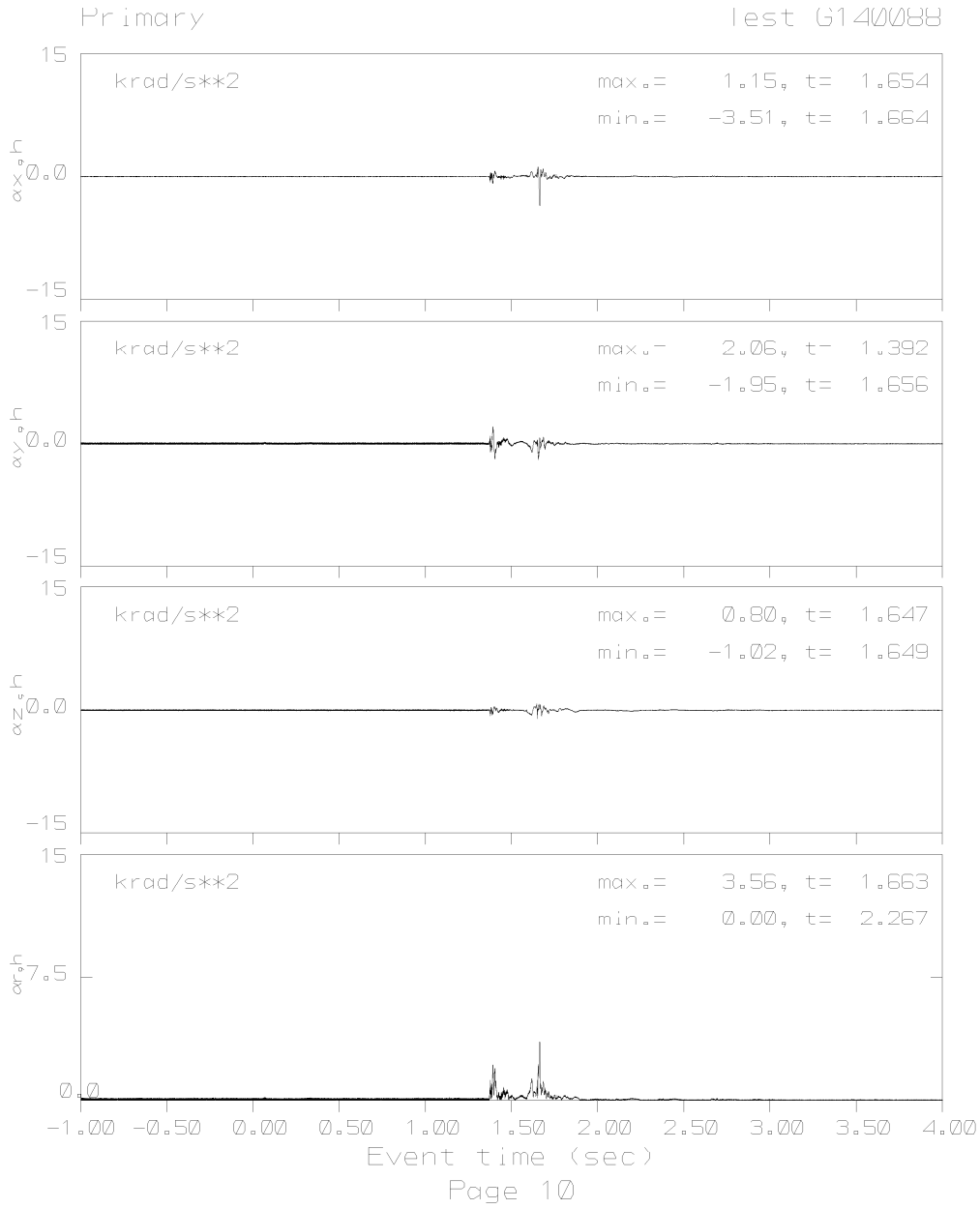
Page 5

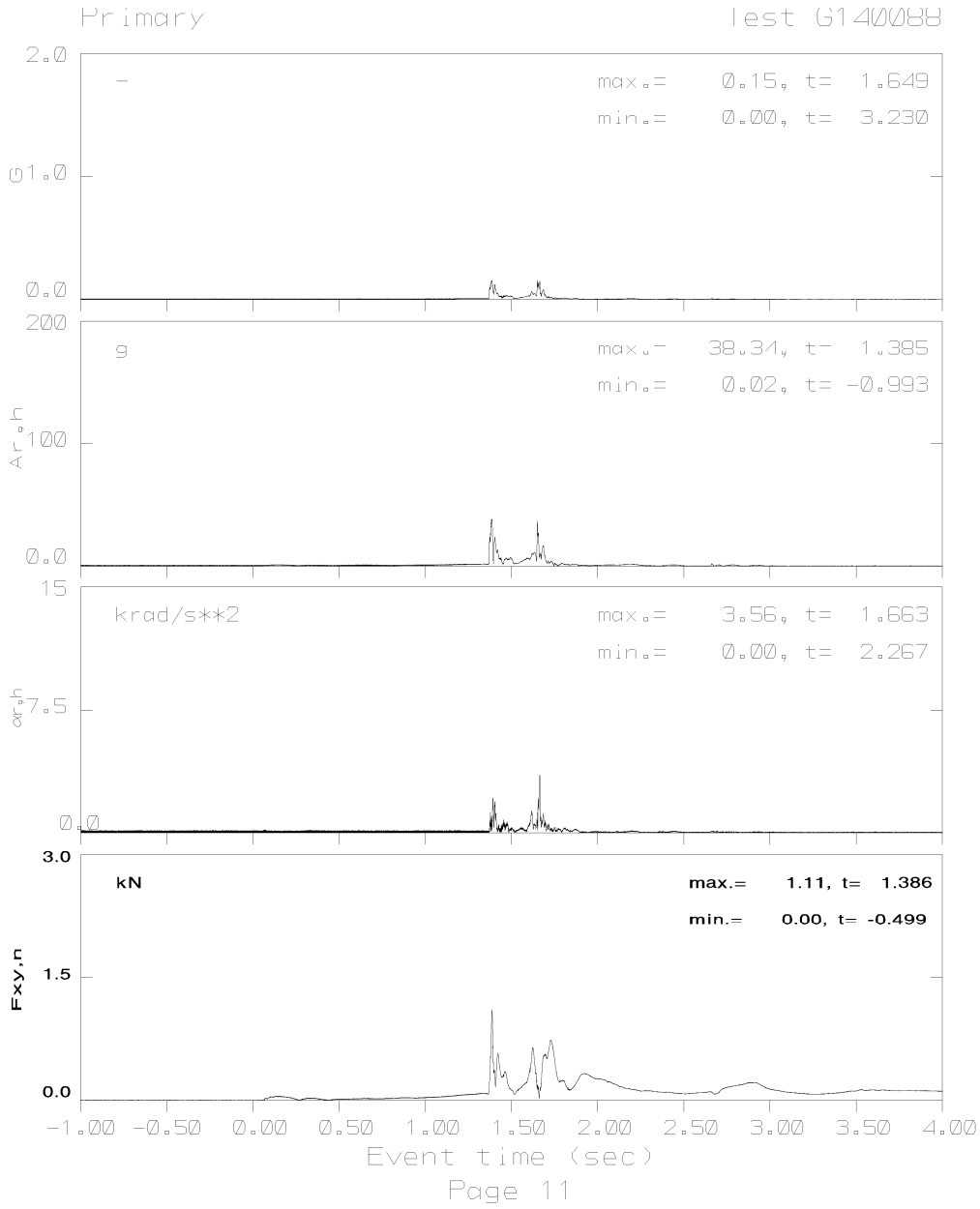

Primary
Test G140088
mm
max.= 6.00, t= 1.651
min.= -15.68, t= 2.170
L,ur
mm
max.= 9.21, t= 2.163
min.= -28.28, t= 1.685
L,ul
mm
max.= 5.14, t= 1.612
min.= -16.99, t= 2.178
L,lr
mm
max.= 8.00, t= 2.165
min.= -28.86, t= 1.627
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

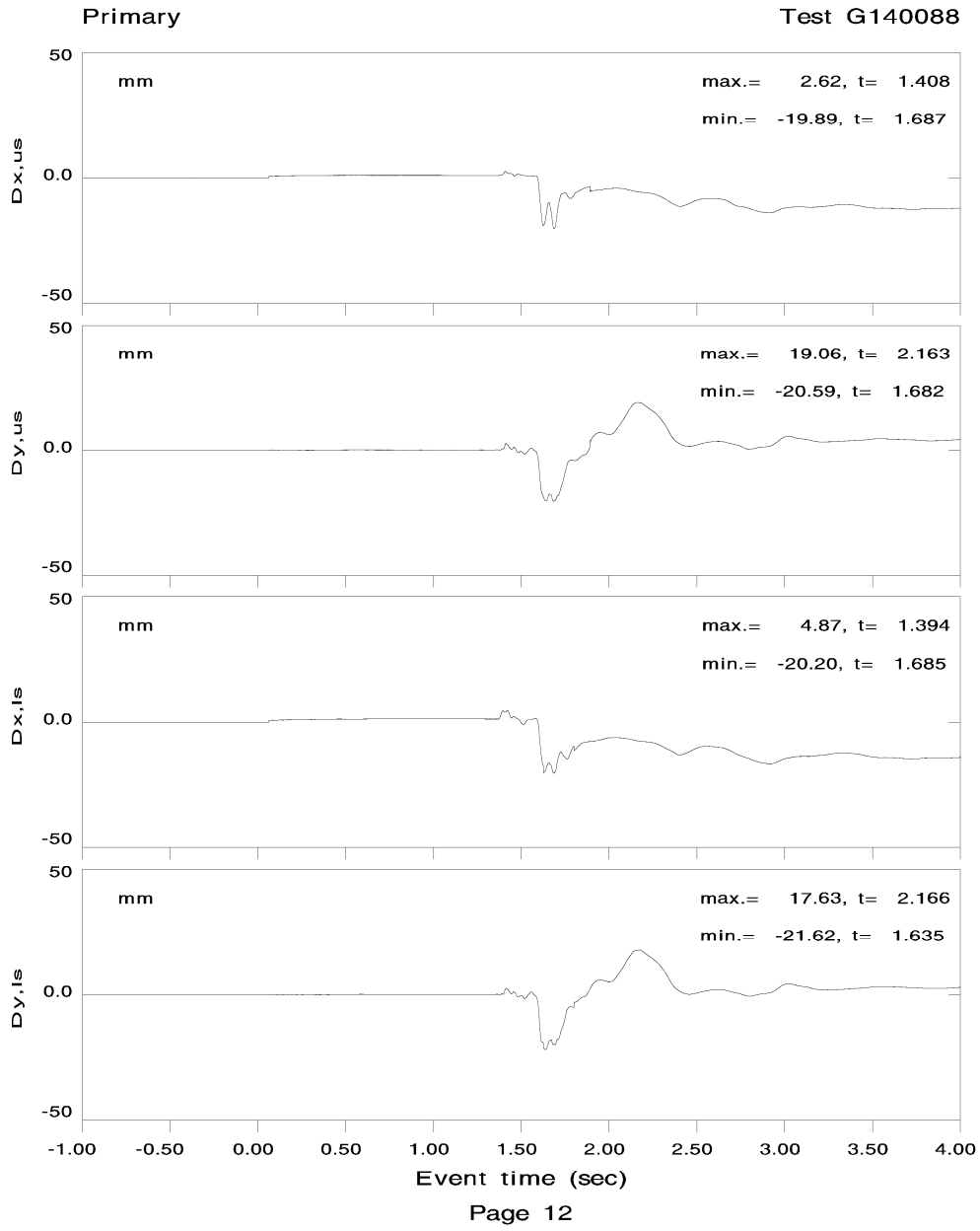

Primary
Test G140088
kN
max.= 0.55, t= 1.661
min.= -0.44, t= 1.464
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 30.21, t= 1.533
min.= -36.10, t= 1.478
Mx,uf,l
300
0.0
-300
Nm
max.= 20.18, t= 1.609
min.= -73.83, t= 1.478
My,uf,l
300
0.0
-300
Nm
max.= 18.94, t= 1.432
min.= -1.46, t= 2.456
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140088
kN
max.= 0.34, t= 1.653
min.= -1.03, t= 1.419
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 31.79, t= 1.490
min.= -34.69, t= 1.751
Mx,uf,r
300
0.0
-300
Nm
max.= 31.08, t= 1.679
min.= -65.90, t= 1.645
My,uf,r
300
0.0
-300
Nm
max.= 0.68, t= 1.668
min.= -32.08, t= 1.754
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

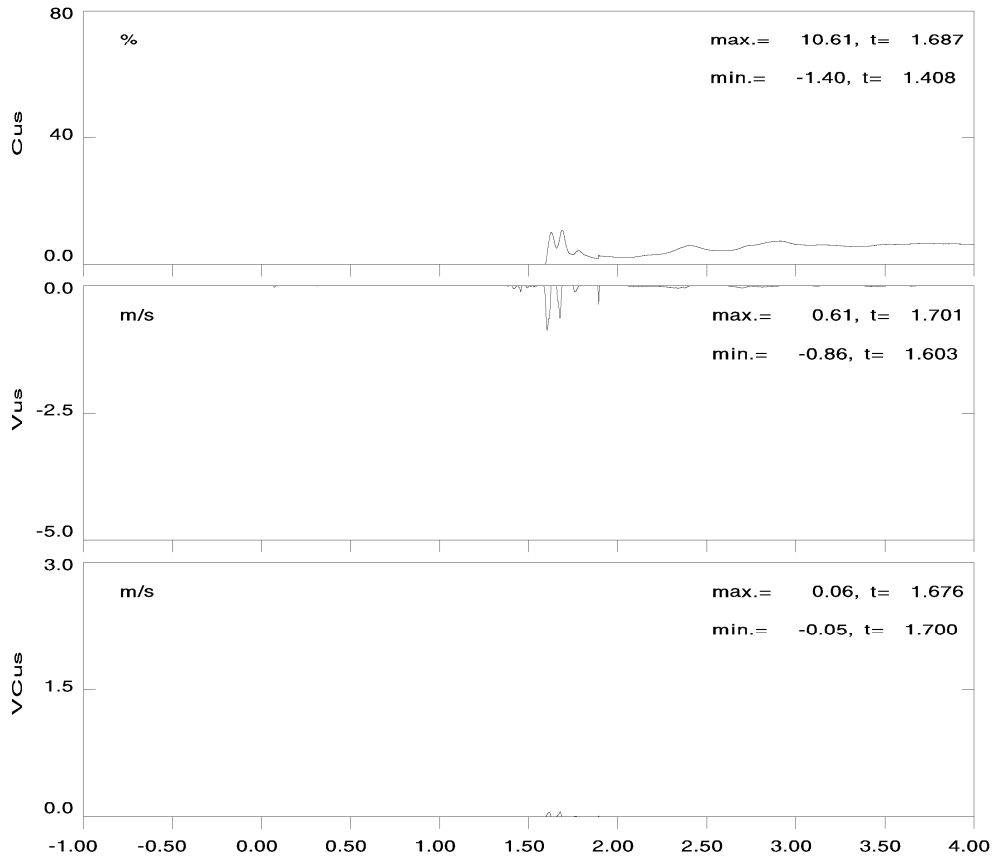

Primary
Test G140088
g
max.= 21.40, t= 1.649
min.= -31.46, t= 1.383
Ax,h
150
0.0
-150
g
max.= 28.55, t= 1.649
min.= -12.15, t= 1.677
Ay,h
150
0.0
-150
g
max.= 23.02, t= 1.386
min.= -9.25, t= 1.683
Az,h
150
0.0
-150
g
max.= 38.34, t= 1.385
min.= 0.02, t= -0.993
Ar,h
200
100
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 9


Primary
Test G140088
krad/s**2
max.= 1.15, t= 1.654
min.= -3.51, t= 1.664
ax,h
krad/s**2
max.= 2.06, t= 1.392
min.= -1.95, t= 1.656
ay,h
krad/s**2
max.= 0.80, t= 1.647
min.= -1.02, t= 1.649
az,h
krad/s**2
max.= 3.56, t= 1.663
min.= 0.00, t= 2.267
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140088
2.0
-
max.= 0.15, t= 1.649
min.= 0.00, t= 3.230
G1.0
0.0
200
g
max.= 38.34, t= 1.385
min.= 0.02, t= -0.993
Ar.h
100
0.0
15
krad/s**2
max.= 3.56, t= 1.663
min.= 0.00, t= 2.267
ar.h
7.5
0.0
3.0
kN
max.= 1.11, t= 1.386
min.= 0.00, t= -0.499
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

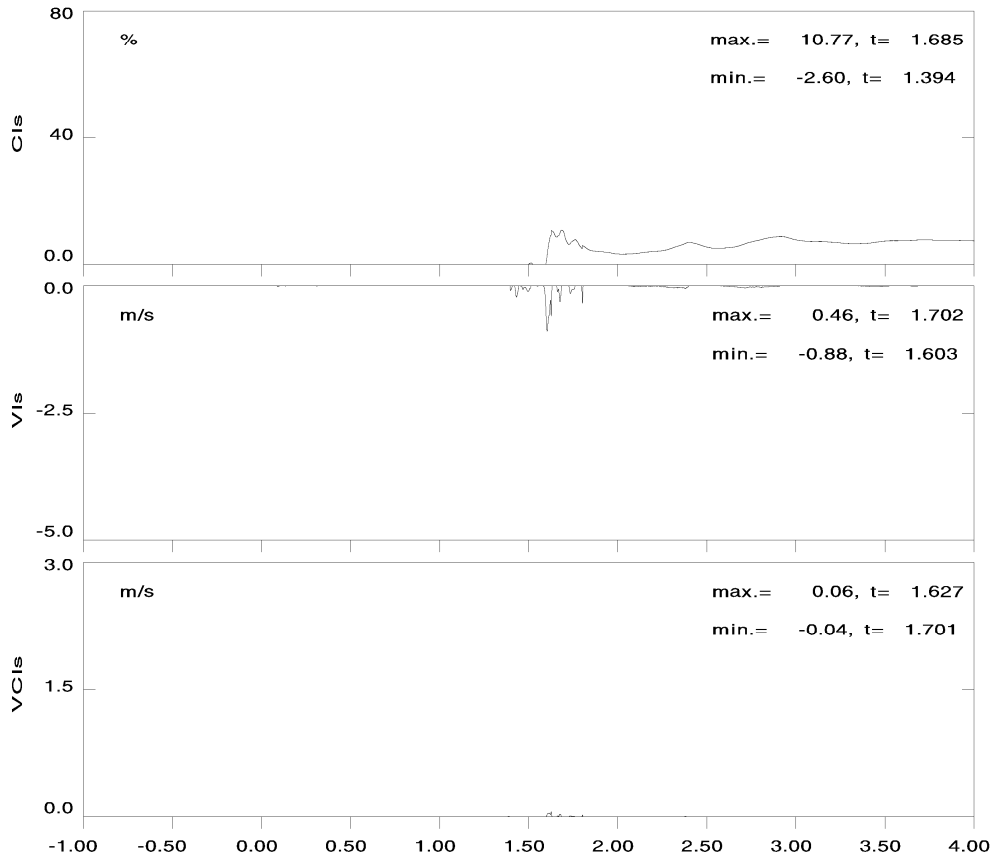

Primary
Test G140088
mm
max.= 2.62, t= 1.408
min.= -19.89, t= 1.687
Dx,us
mm
max.= 19.06, t= 2.163
min.= -20.59, t= 1.682
Dy,us
mm
max.= 4.87, t= 1.394
min.= -20.20, t= 1.685
Dx,ls
mm
max.= 17.63, t= 2.166
min.= -21.62, t= 1.635
Dy,ls
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140088



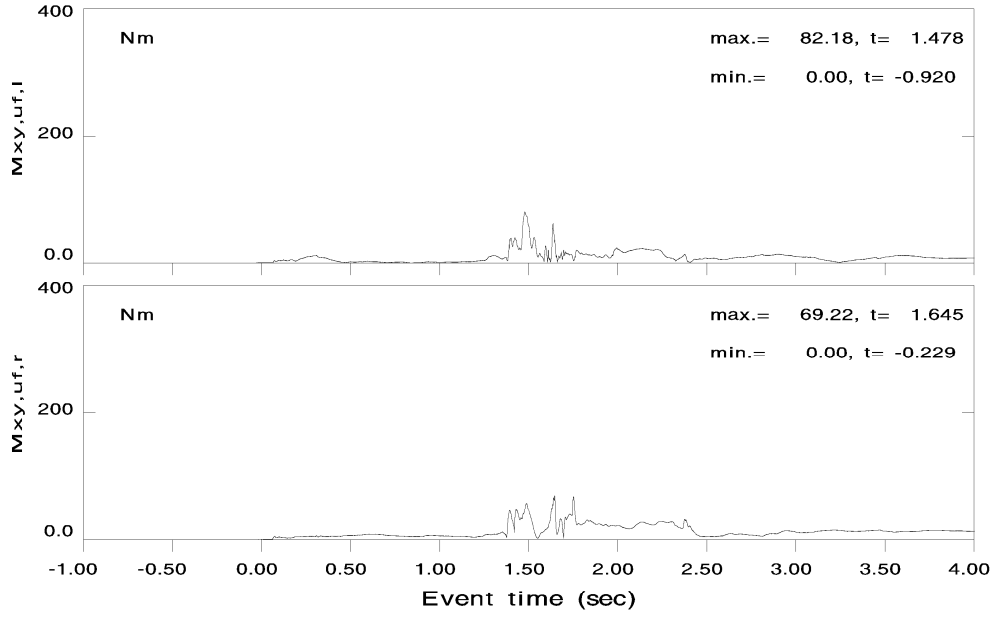
Page 13

Primary Test G140088

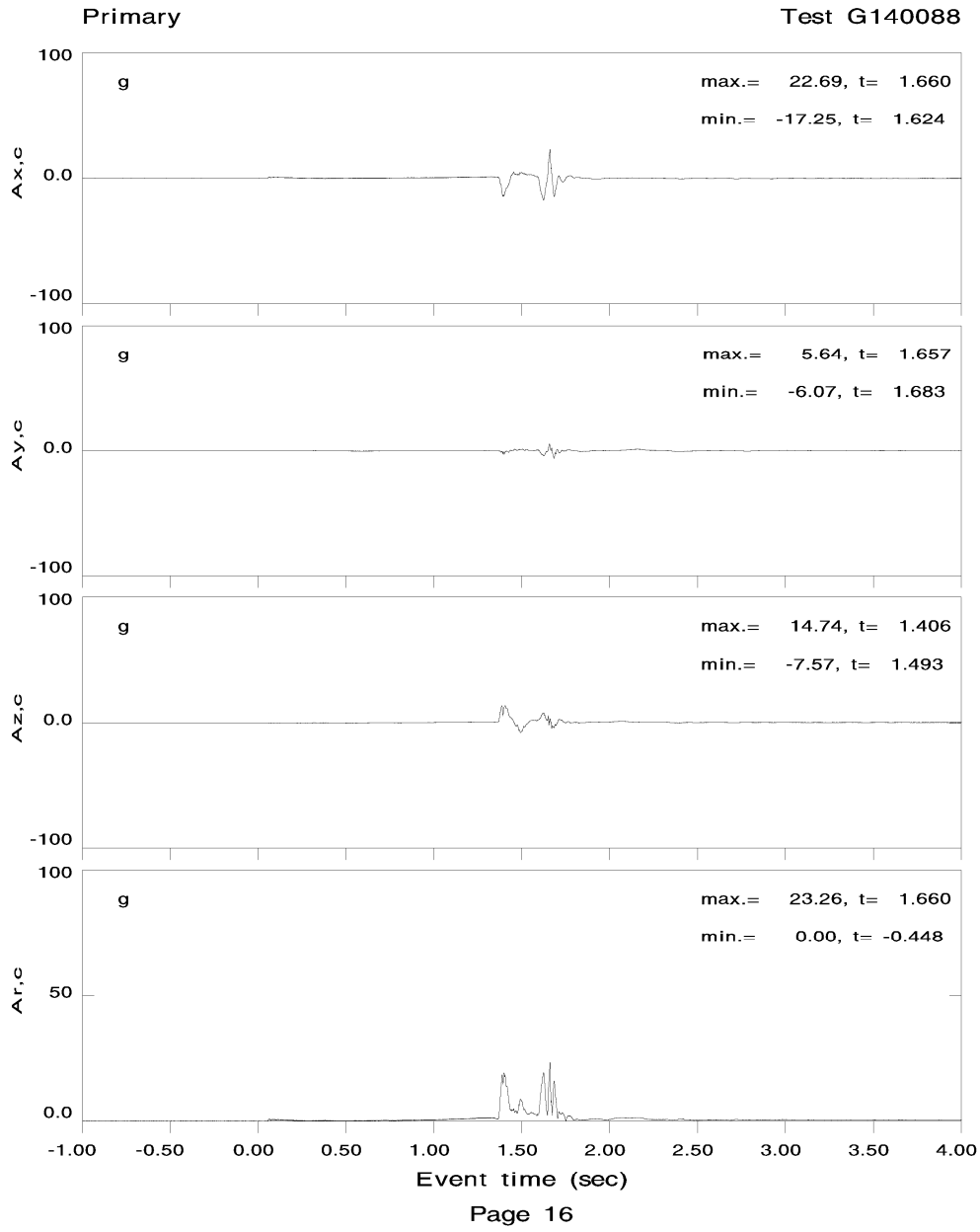


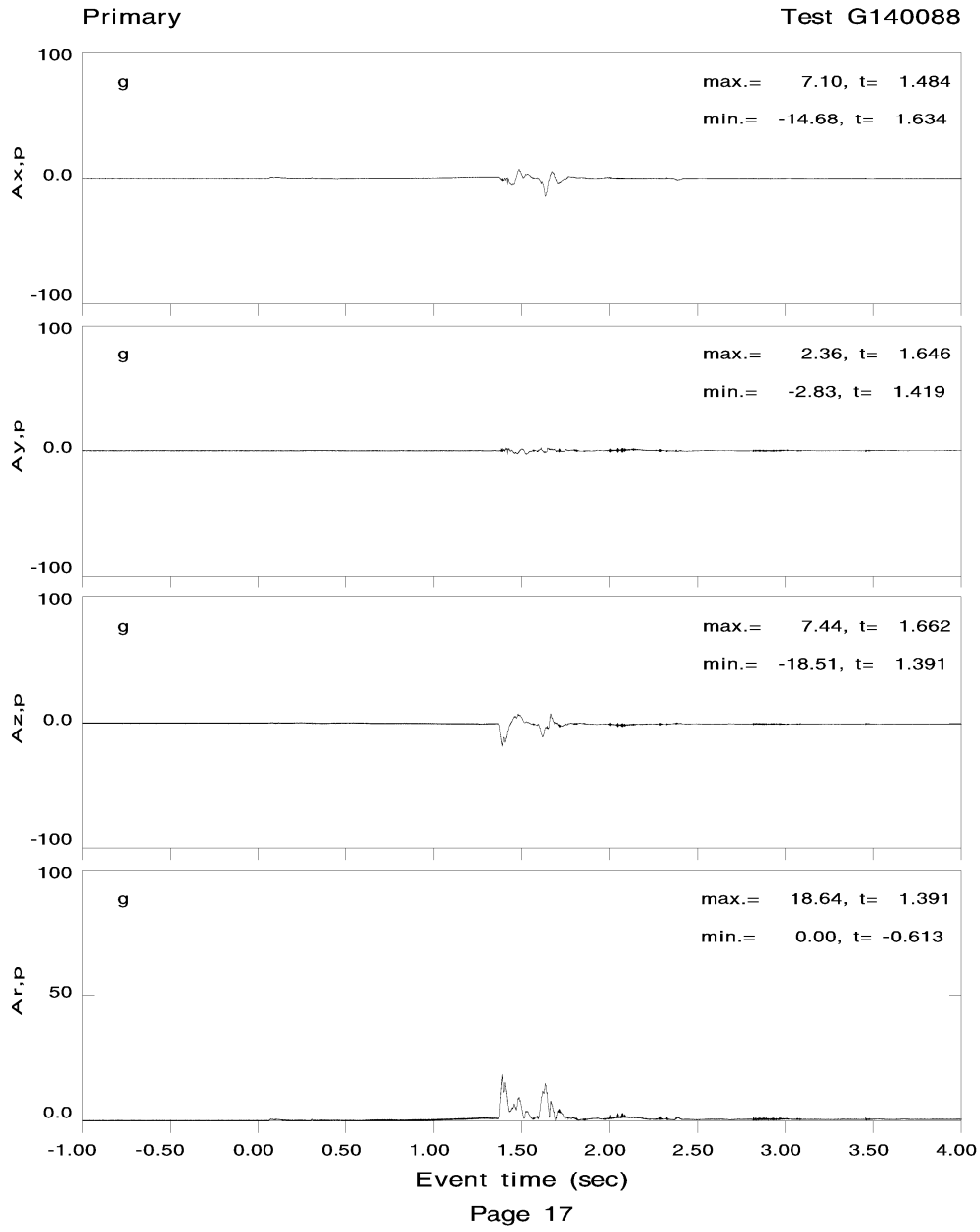
Page 14

Primary Test G140088

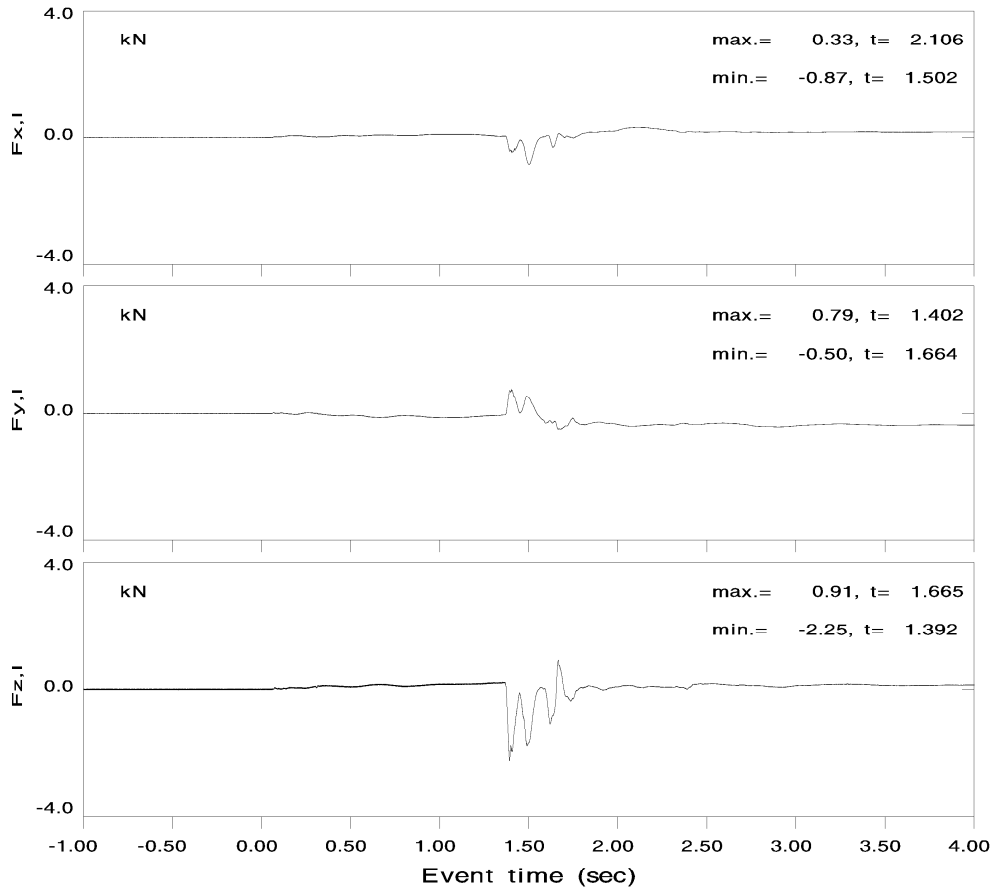


Page 15


Primary
Test G140088
g
max.= 22.69, t= 1.660
min.= -17.25, t= 1.624
Ax,c
100
0.0
-100
g
max.= 5.64, t= 1.657
min.= -6.07, t= 1.683
Ay,c
100
0.0
-100
g
max.= 14.74, t= 1.406
min.= -7.57, t= 1.493
Az,c
100
0.0
-100
g
max.= 23.26, t= 1.660
min.= 0.00, t= -0.448
Ar,c
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

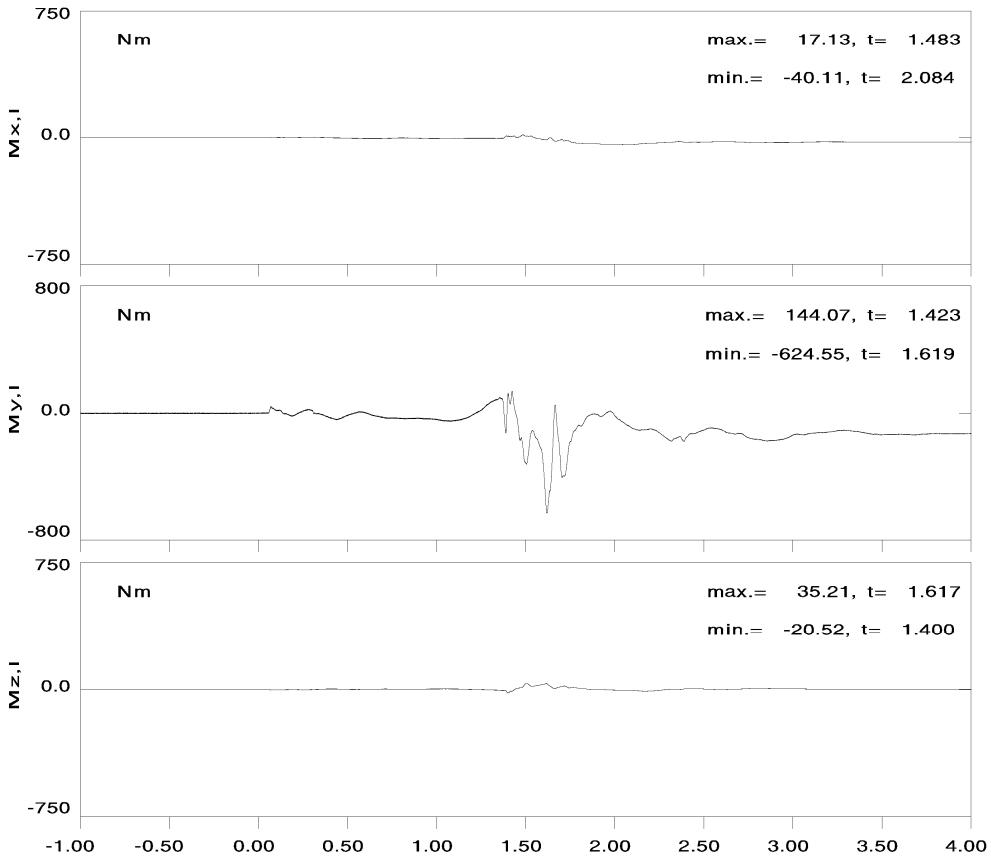

Primary
Test G140088
Ax,p
Ay,p
Az,p
Ar,p
g
max.= 7.10, t= 1.484
min.= -14.68, t= 1.634
max.= 2.36, t= 1.646
min.= -2.83, t= 1.419
max.= 7.44, t= 1.662
min.= -18.51, t= 1.391
max.= 18.64, t= 1.391
min.= 0.00, t= -0.613
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140088

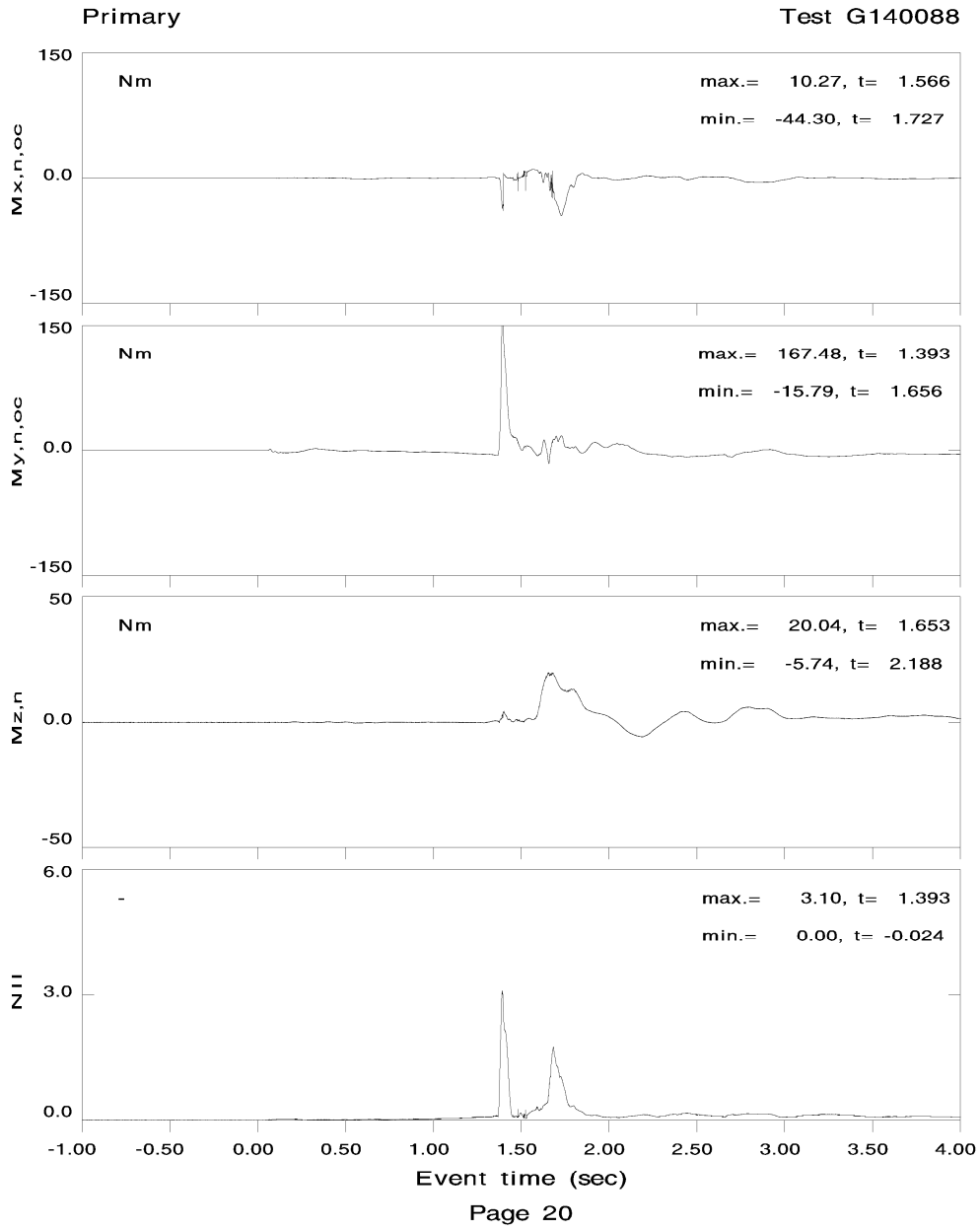


Page 18

Primary Test G140088



Page 19


Primary
Test G140088
Nm
max.= 10.27, t= 1.566
min.= -44.30, t= 1.727
Mx,n,oc
150
0.0
-150
Nm
max.= 167.48, t= 1.393
min.= -15.79, t= 1.656
My,n,oc
150
0.0
-150
Nm
max.= 20.04, t= 1.653
min.= -5.74, t= 2.188
Mz,n
50
0.0
-50
-
max.= 3.10, t= 1.393
min.= 0.00, t= -0.024
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.11 G140107

G140107_ICM.IC1

Test Number : G140107
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	= 0
Number of AIS 2 Tibia Fractures	= 0
Number of AIS 3 Tibia Fractures	= 0
Number of AIS 2 Knee Dislocation Injuries	= 0
Number of AIS 3 Knee Dislocation Injuries	= 0
Index for Cmax Location	= 1
Index for VCmax Location	= 2
maximum Abdomen Penetration	= 0.000
maximum GAMBIT	= 0.280
Cmax	= 1.580
VCmax	= 0.000
HIC	= 124.9
NII (2002 MATD Neck)	= 0.6
Location of Cmax	: upper sternum
Location of VCmax	: lower sternum

Injury Cost Model output:

MAIS	= 0.0
Total AIS	= 0.0
Normalized Injury Cost	= 0.001
Normalized Cost of Survival	= 0.001
Normalized Cost of Dying	= 0.000
Probability of Fatality	= 0.000
Probability of Fatality due to non AIS 6 injuries	= 0.000
Probability of Fatality due AIS 6 injuries	= 0.000
Permanent Partial Incapacity	= 0.000
Risk of life threatening brain injury (%)	= 0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.969	1.000	1.000	1.000	1.000	0
1	0.022	0.000	0.000	0.000	0.000	0
2	0.003	0.000	0.000	0.000	0.000	0
3	0.005	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.044	0.000	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140107.rpt

Test G140107, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	0.69 g	2.599	-5.25 g	2.547
Ay,c	1.75 g	2.638	-8.48 g	2.549
Az,c	11.19 g	2.556	-1.28 g	2.514
Ax,p	1.81 g	2.601	-6.70 g	2.550
Ay,p	1.40 g	3.160	-3.54 g	2.865
Az,p	1.16 g	2.516	-12.06 g	2.559
spare	0.00 -	3.490	0.00 -	3.941
spare	0.00 -	0.486	0.00 -	-0.393
L,ur	0.04 mm	0.195	-3.36 mm	2.559
L,lr	0.56 mm	2.645	-2.88 mm	2.522
a1	5.59 g	2.517	-38.30 g	2.503
a2	4.62 g	2.518	-38.31 g	2.503
a3	7.68 g	2.526	-46.94 g	2.502
a4	49.31 g	2.503	-4.73 g	2.518
a5	50.30 g	2.503	-5.27 g	2.519
a6	59.61 g	2.503	-7.05 g	2.525
Mx,l	16.06 Nm	3.157	-6.97 Nm	1.123
My,l	96.52 Nm	2.588	-66.98 Nm	2.666
Mz,l	5.38 Nm	2.665	-5.14 Nm	2.953
Fx,l	0.13 kN	2.554	-0.03 kN	2.780
Fy,l	0.18 kN	2.602	-0.12 kN	2.567
Fz,l	0.85 kN	2.567	-0.16 kN	2.508
spare	0.01 -	2.983	0.00 -	-0.076
spare	0.00 -	4.000	0.00 -	4.000
spare	0.02 -	2.811	-0.01 -	3.999
spare	0.00 -	2.404	0.00 -	2.129
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	4.000	0.00 -	4.000
a7	12.65 g	2.513	-4.11 g	2.509
a8	10.80 g	2.514	-7.26 g	2.508
a9	16.66 g	2.503	-5.01 g	2.508
Fz,uf,r	0.42 kN	2.560	-0.04 kN	2.605
Mx,uf,r	21.39 Nm	2.941	-55.53 Nm	2.544
My,uf,r	108.25 Nm	2.564	-5.51 Nm	2.750
Mz,uf,r	4.44 Nm	2.645	-17.72 Nm	2.540
Fz,uf,l	0.51 kN	2.572	-0.06 kN	2.717
Mx,uf,l	22.72 Nm	2.550	-36.46 Nm	2.592
My,uf,l	104.90 Nm	2.559	-4.29 Nm	2.694
Mz,uf,l	20.07 Nm	2.577	-3.80 Nm	2.784
Fx,n	0.16 kN	2.506	-0.11 kN	2.549
Fy,n	0.65 kN	2.508	-0.01 kN	2.643
Fz,n	0.59 kN	2.515	-0.78 kN	2.506
Mx,n	29.10 Nm	2.536	-23.06 Nm	2.512
My,n	9.92 Nm	2.508	-7.34 Nm	2.547
Mz,n	5.00 Nm	2.537	-4.31 Nm	2.585
L,ul	2.49 mm	2.523	-1.33 mm	2.565
L,ll	3.02 mm	2.523	-0.93 mm	2.566
Ax,h	2.62 g	2.543	-8.86 g	2.505
Ay,h	7.12 g	2.518	-61.72 g	2.503
Az,h	12.66 g	2.513	-4.11 g	2.509
ȧx,h	1.29 krad/s**2	2.524	-3.68 krad/s**2	2.501
ȧy,h	0.91 krad/s**2	2.513	-0.52 krad/s**2	2.545
ȧz,h	0.75 krad/s**2	2.541	-0.77 krad/s**2	2.500
Ar,h	62.85 g	2.503	0.01 g	-0.013
ȧr,h	3.75 krad/s**2	2.501	0.00 krad/s**2	1.544
G	0.28 -	2.503	0.00 -	-0.798
HIC	124.93	2.507	----	2.500
Fxy,n	0.66 kN	2.508	0.00 kN	0.294
Dx,us	0.20 mm	1.053	-2.97 mm	2.560
Dy,us	4.32 mm	2.522	-0.30 mm	2.646

Page 1

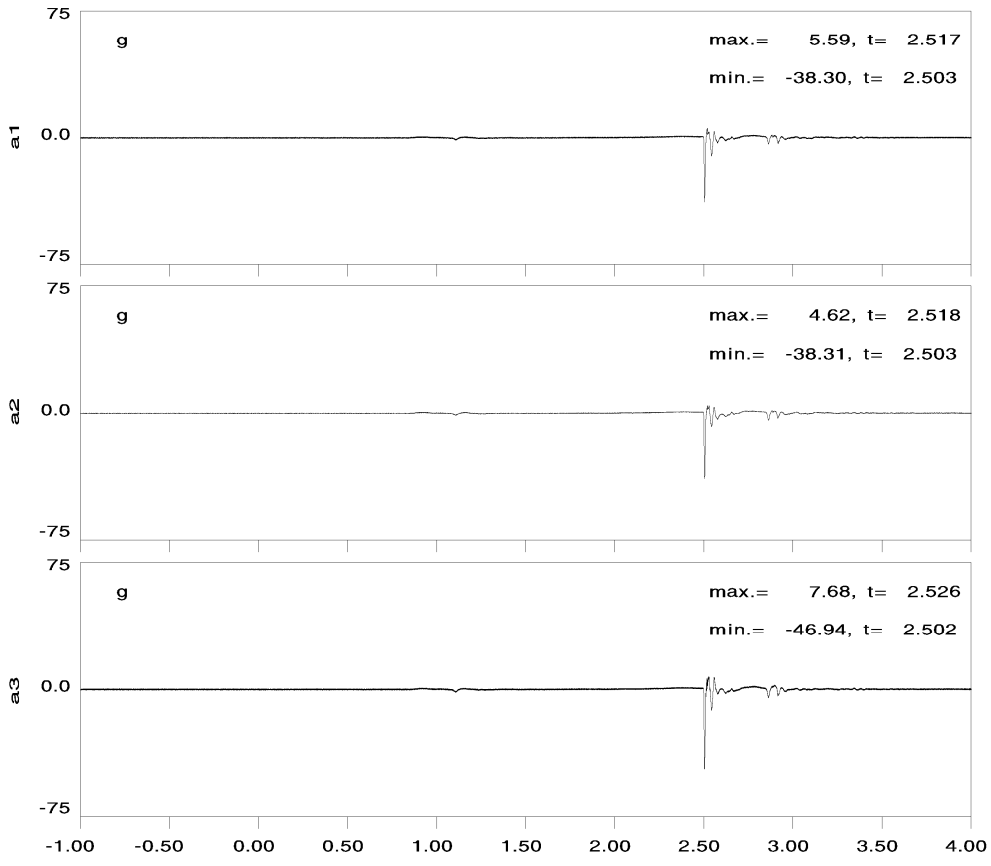
G140107.rpt

Cus	1.58	%	2.560	-0.11	%	1.053
Vus	0.09	m/s	2.570	-0.11	m/s	2.542
VCus	0.00	m/s	2.549	0.00	m/s	2.569
Dx,ls	0.72	mm	3.740	-2.29	mm	2.563
Dy,ls	4.35	mm	2.523	-0.45	mm	2.645
Cls	1.22	%	2.563	-0.38	%	3.740
Vls	0.09	m/s	2.574	-0.09	m/s	2.549
VCls	0.00	m/s	2.550	0.00	m/s	2.572
Mxy,uf,r	114.35	Nm	2.563	0.00	Nm	-0.816
Mxy,uf,l	105.54	Nm	2.559	0.00	Nm	-0.821
Mx,n,oc	34.80	Nm	2.536	-11.98	Nm	2.512
My,n,oc	7.83	Nm	2.509	-5.67	Nm	2.546
NII	0.63	-	2.536	0.00	-	-0.792
Ar,p	13.34	g	2.559	0.01	g	-0.188
Ar,c	14.10	g	2.553	0.00	g	-0.579

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

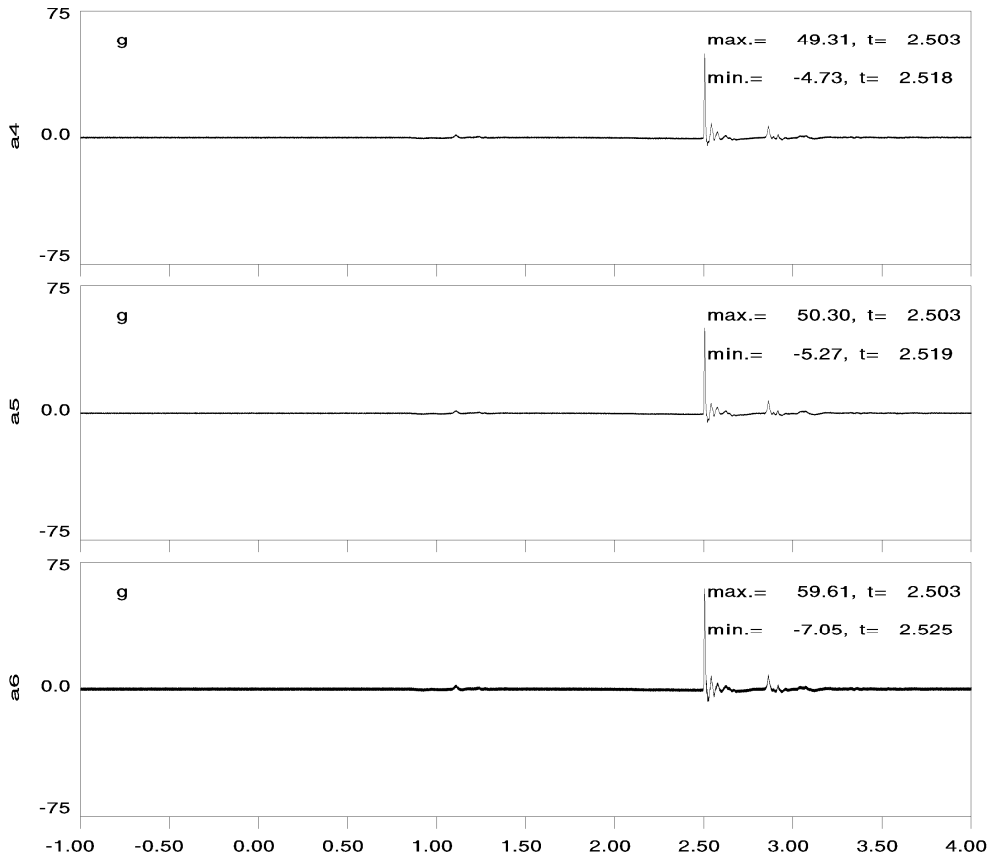
Page 2

Primary Test G140107



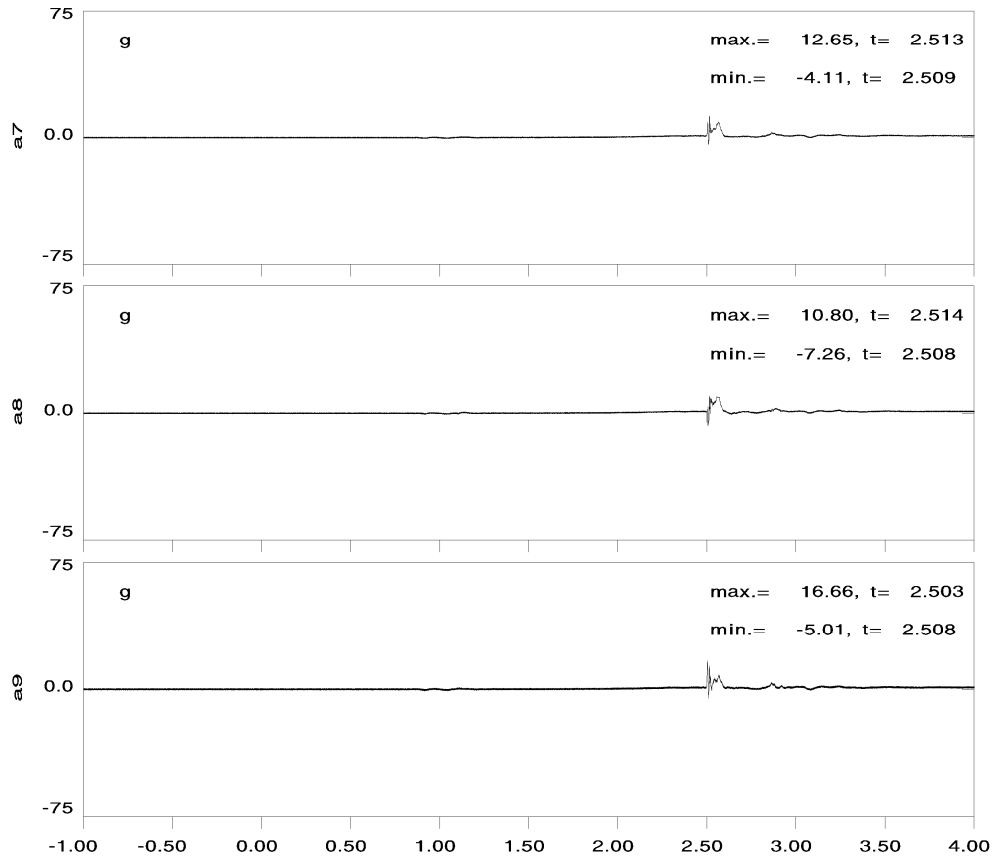
Page 1

Primary Test G140107



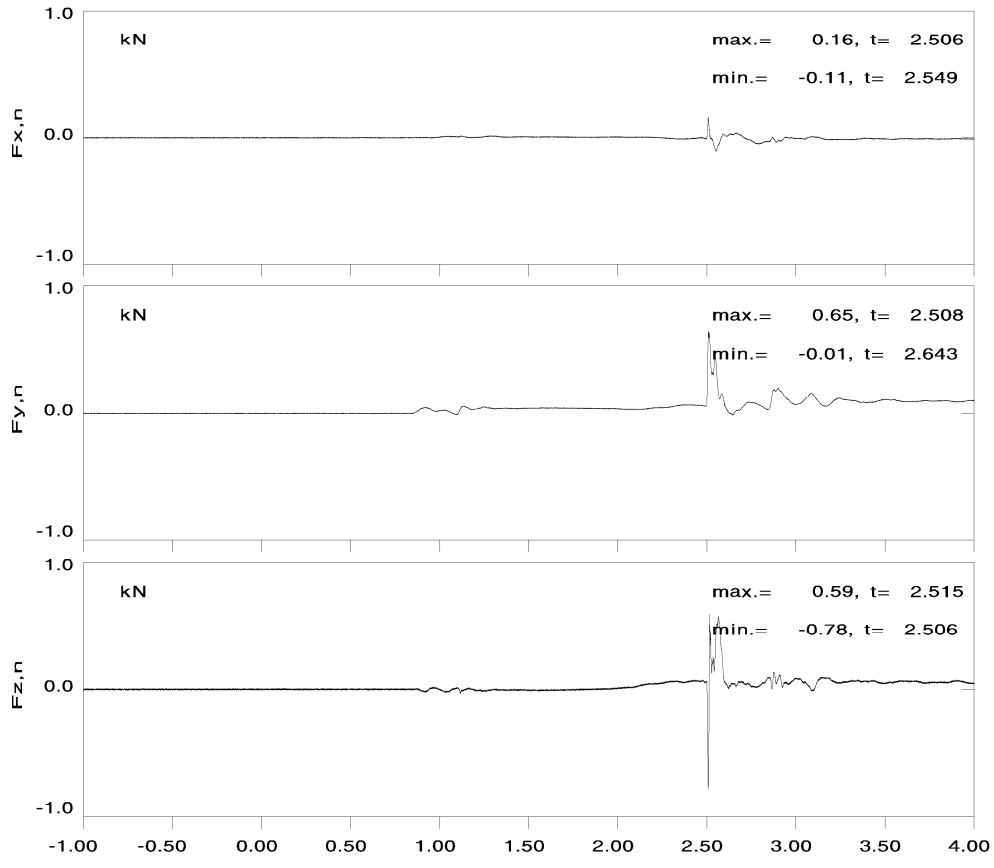
Page 2

Primary Test G140107



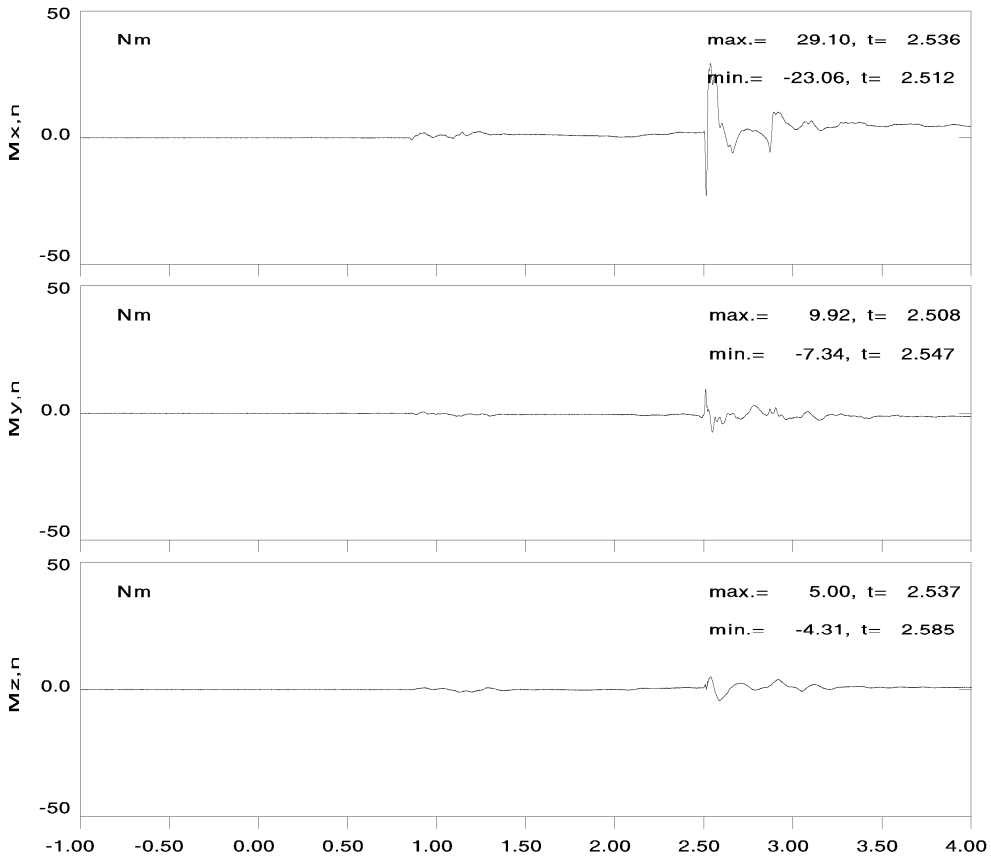
Page 3

Primary Test G140107

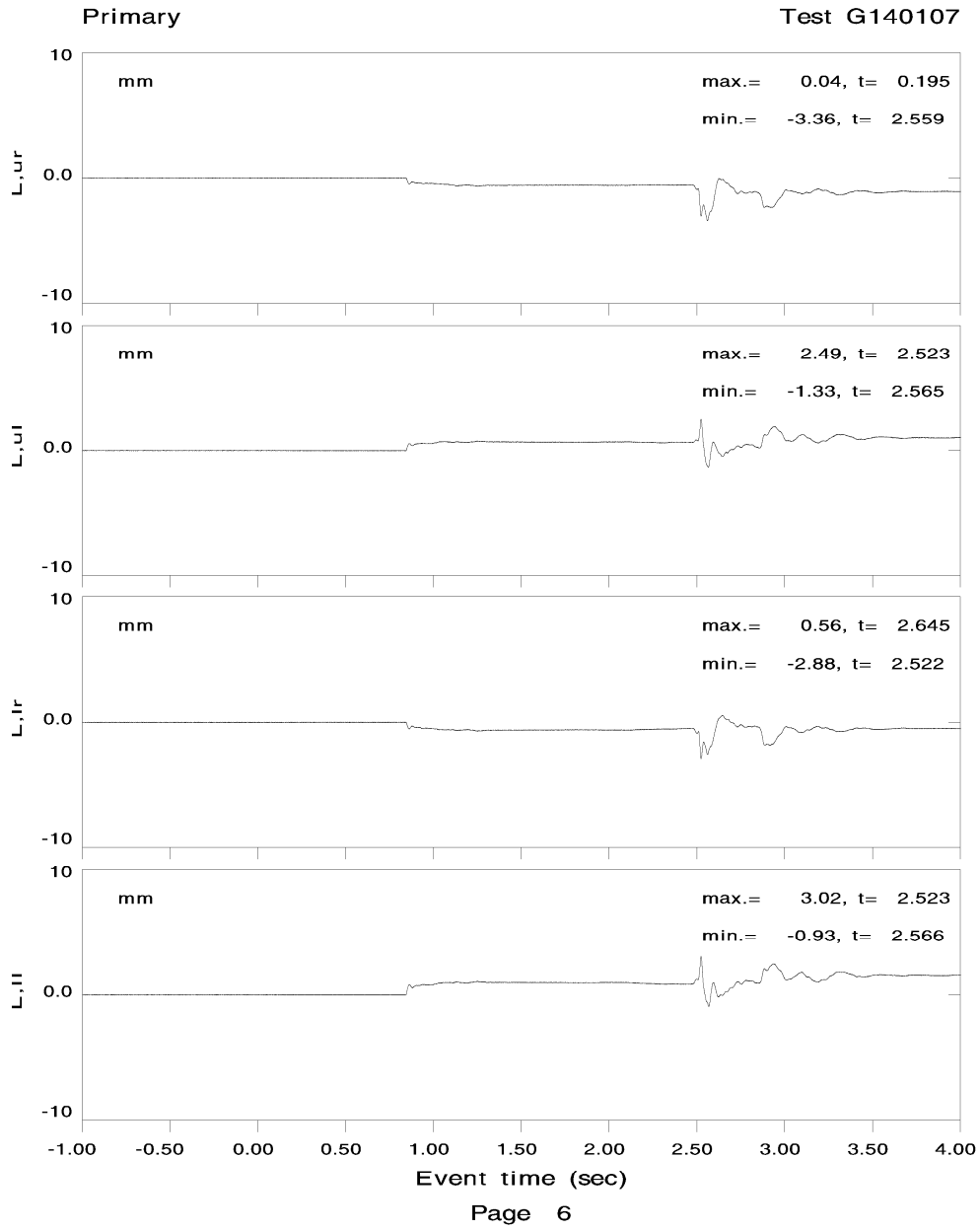


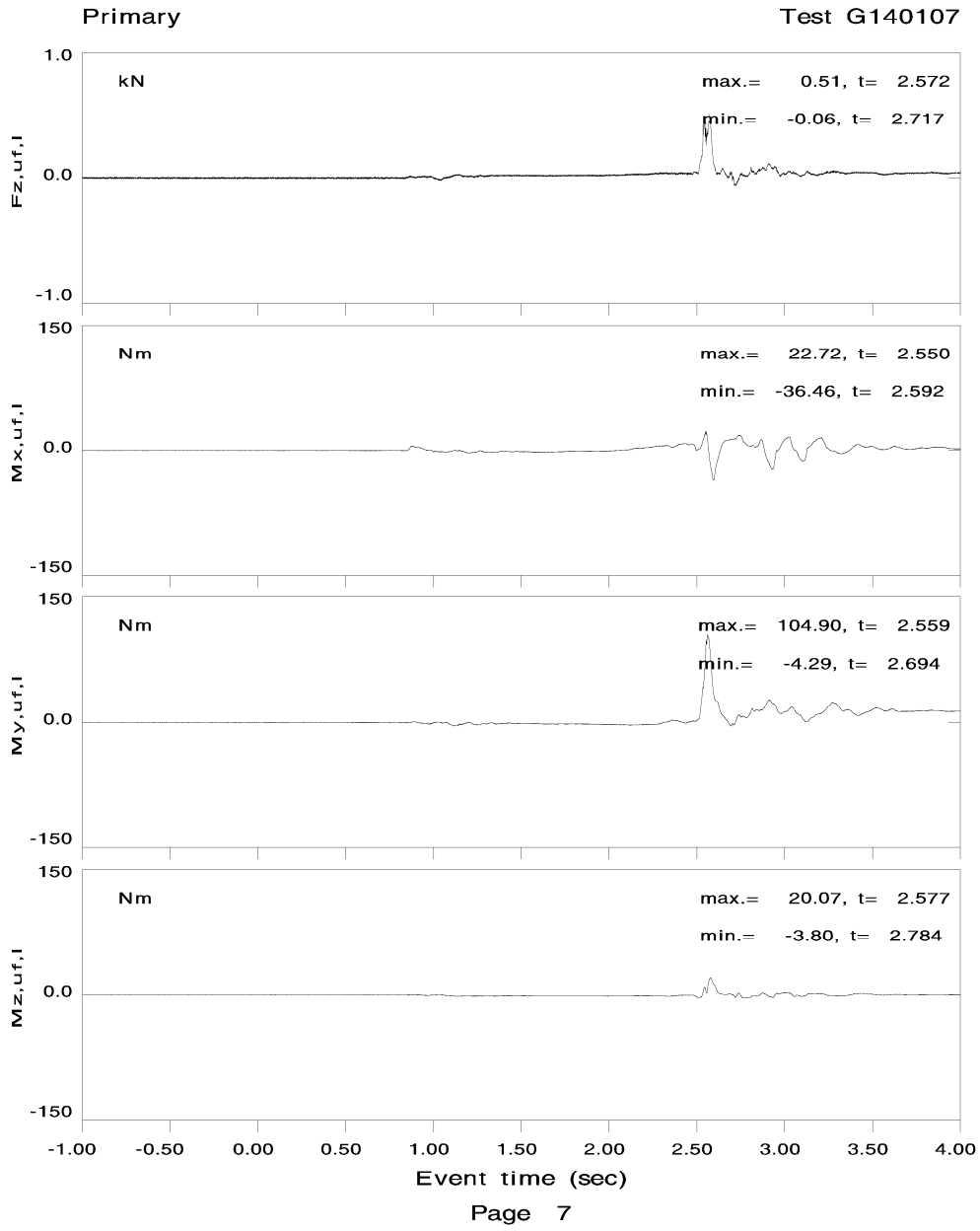
Page 4

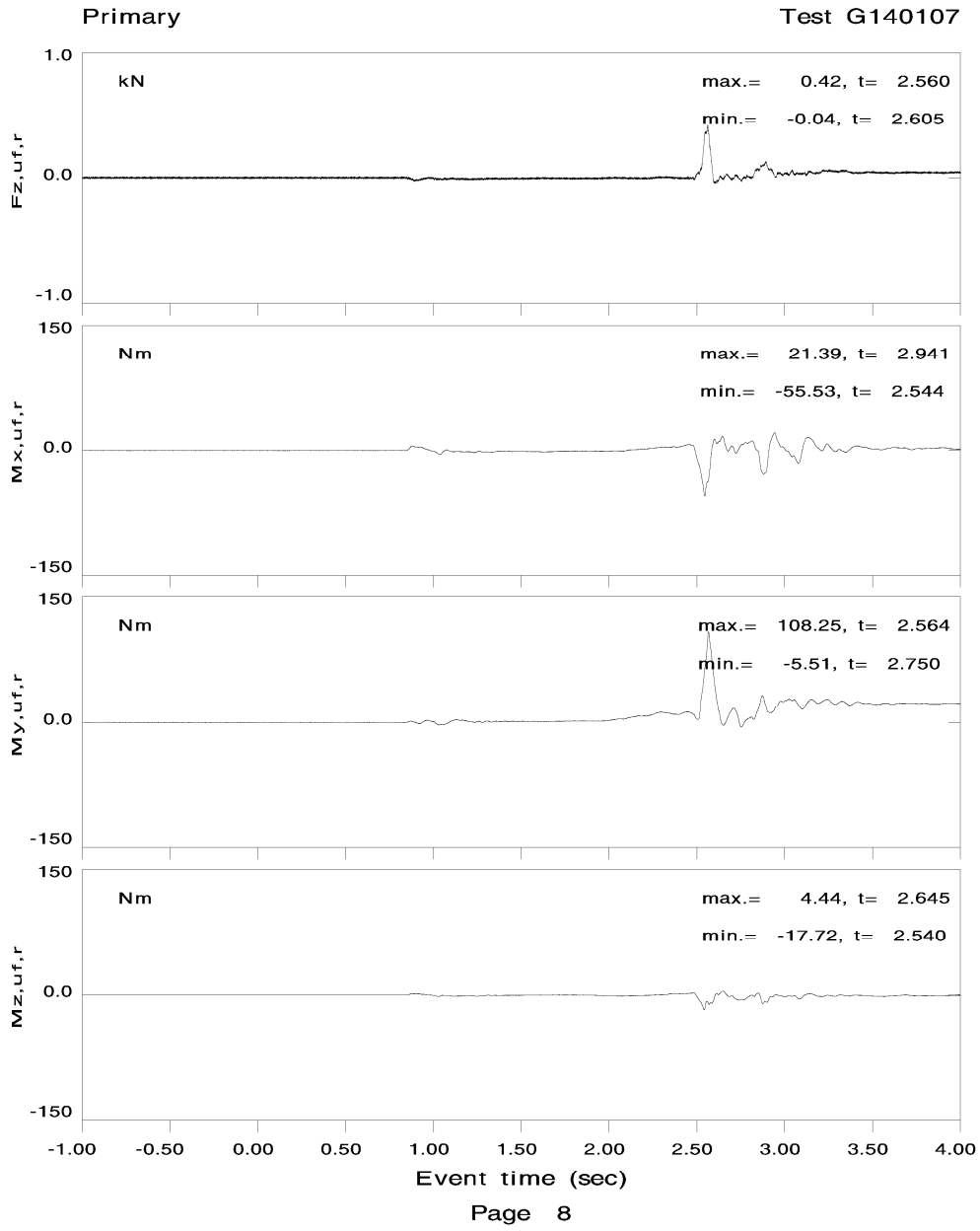
Primary Test G140107

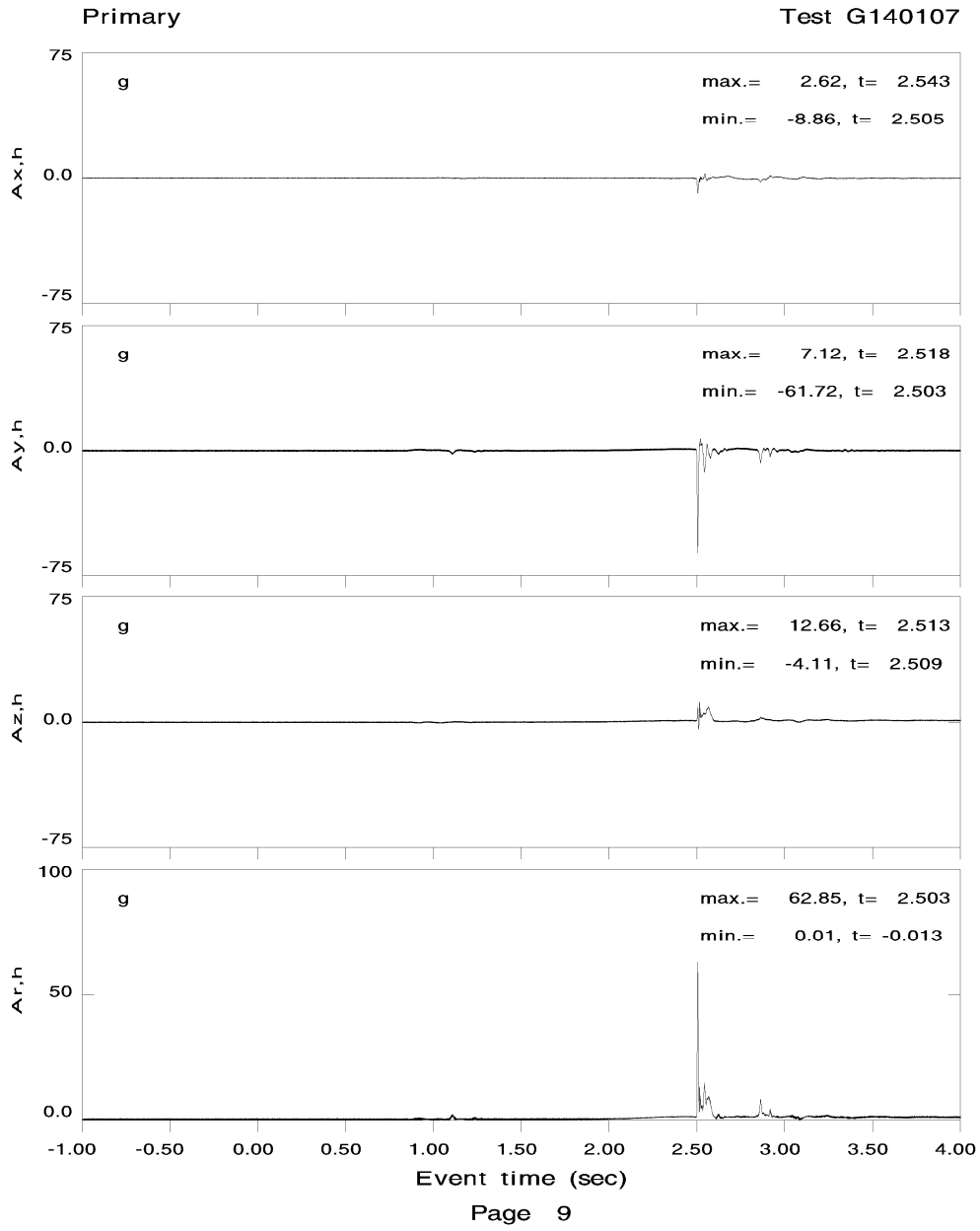


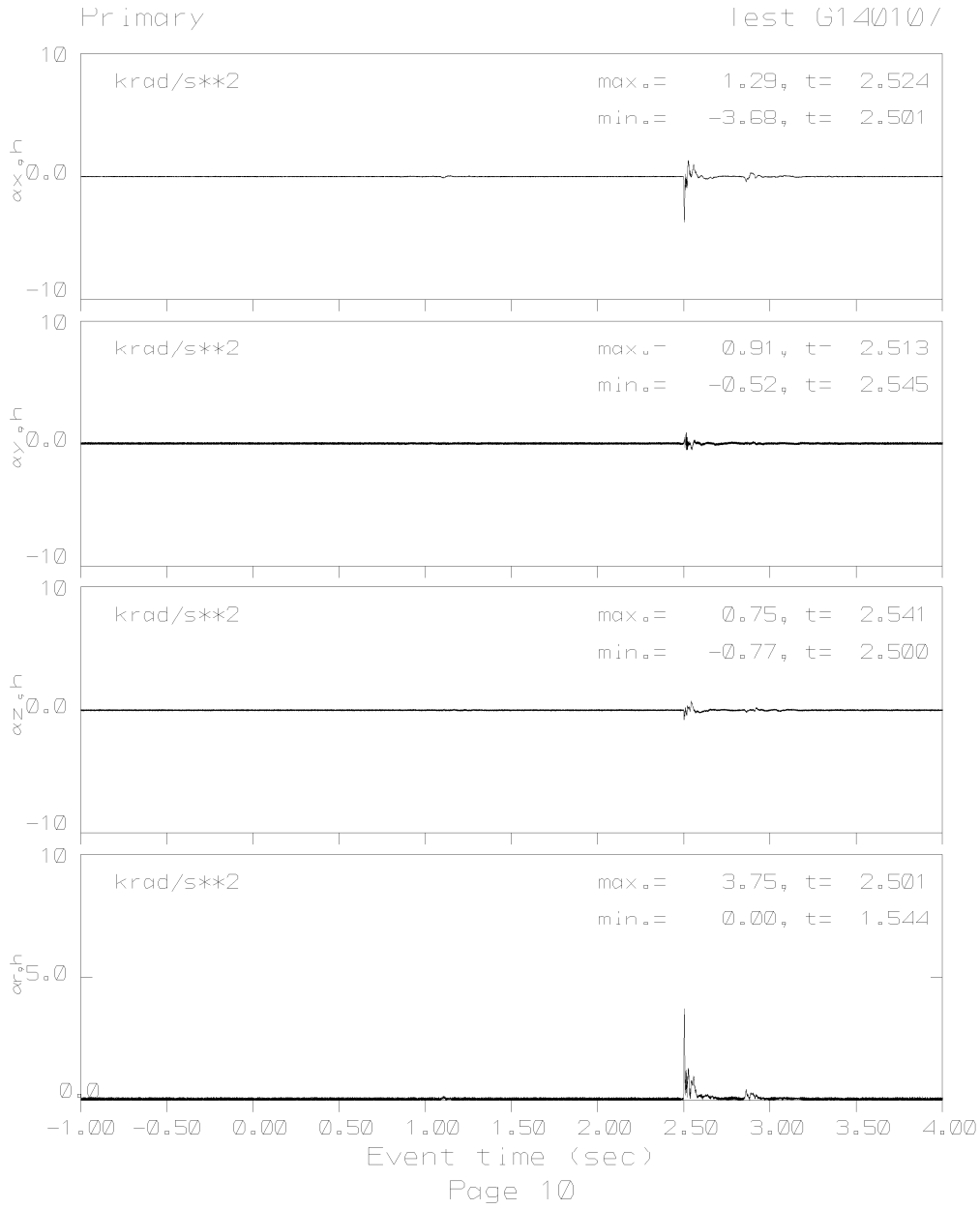
Page 5

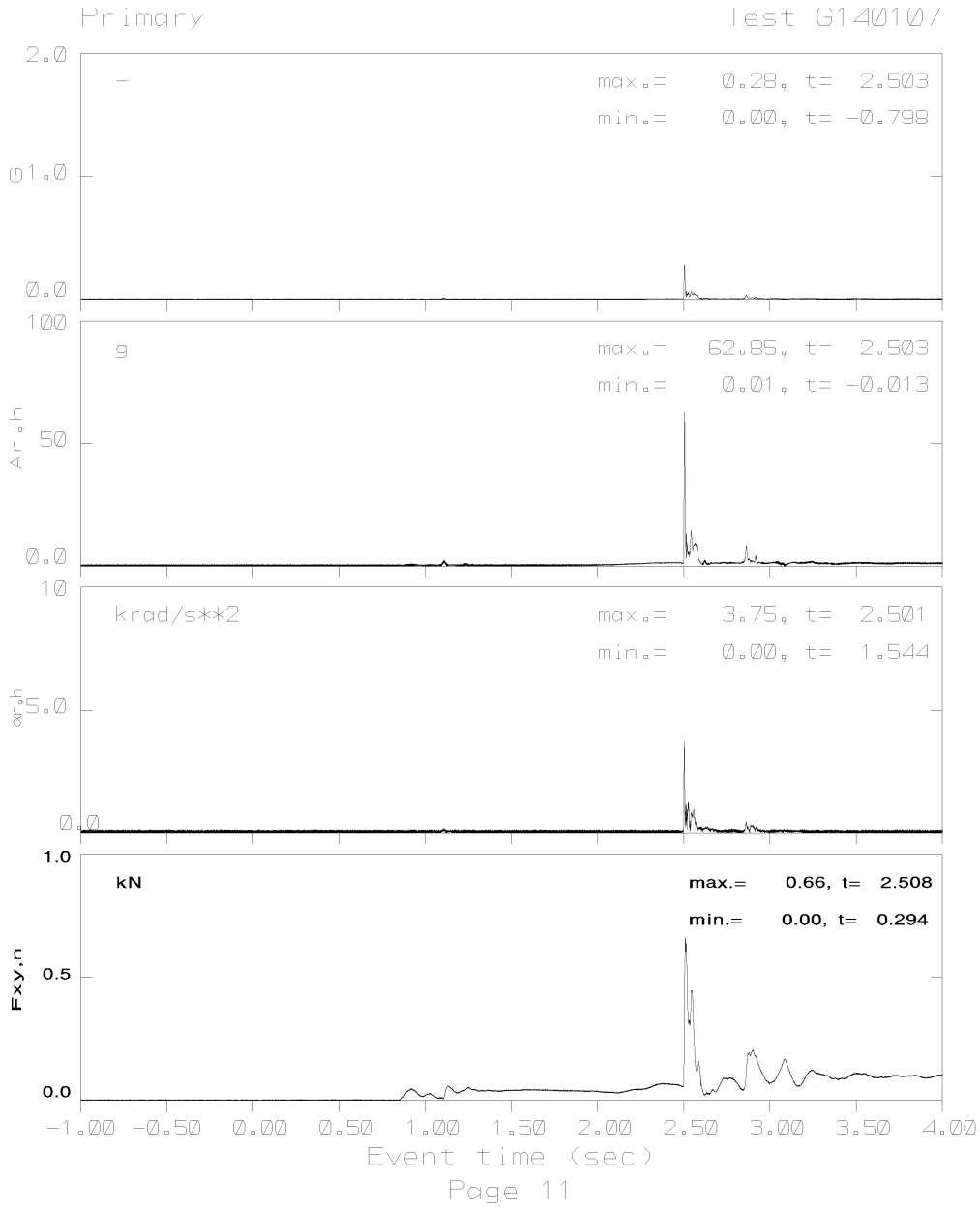

Primary
Test G140107
mm
max.= 0.04, t= 0.195
min.= -3.36, t= 2.559
L,ur
mm
max.= 2.49, t= 2.523
min.= -1.33, t= 2.565
L,ul
mm
max.= 0.56, t= 2.645
min.= -2.88, t= 2.522
L,lr
mm
max.= 3.02, t= 2.523
min.= -0.93, t= 2.566
L,ll
10
0.0
-10
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

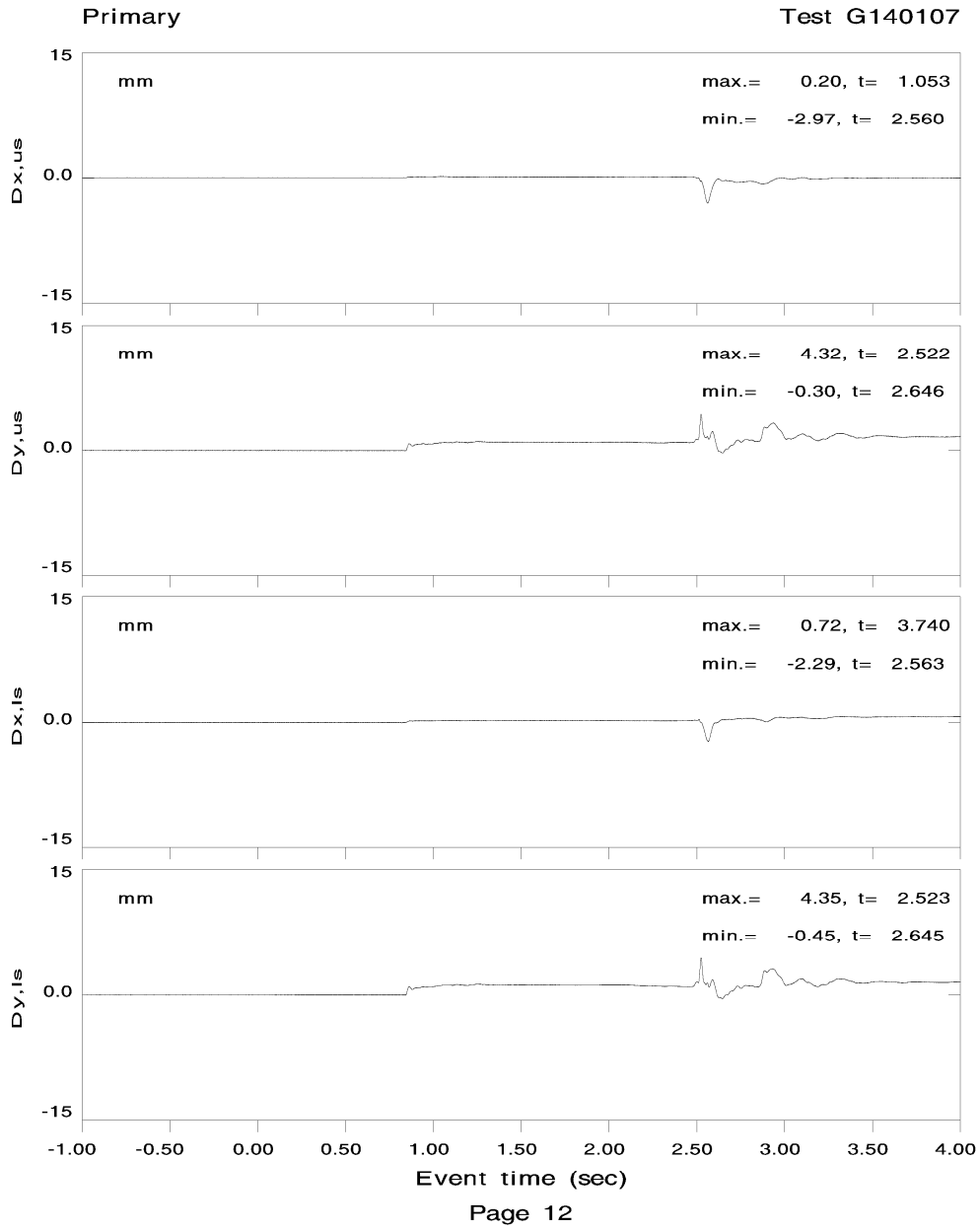

Primary
Test G140107
kN
max.= 0.51, t= 2.572
min.= -0.06, t= 2.717
Fz,uf,l
1.0
0.0
-1.0
Nm
max.= 22.72, t= 2.550
min.= -36.46, t= 2.592
Mx,uf,l
150
0.0
-150
Nm
max.= 104.90, t= 2.559
min.= -4.29, t= 2.694
My,uf,l
150
0.0
-150
Nm
max.= 20.07, t= 2.577
min.= -3.80, t= 2.784
Mz,uf,l
150
0.0
-150
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140107
kN
max.= 0.42, t= 2.560
min.= -0.04, t= 2.605
Fz,uf,r
1.0
0.0
-1.0
Nm
max.= 21.39, t= 2.941
min.= -55.53, t= 2.544
Mx,uf,r
150
0.0
-150
Nm
max.= 108.25, t= 2.564
min.= -5.51, t= 2.750
My,uf,r
150
0.0
-150
Nm
max.= 4.44, t= 2.645
min.= -17.72, t= 2.540
Mz,uf,r
150
0.0
-150
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

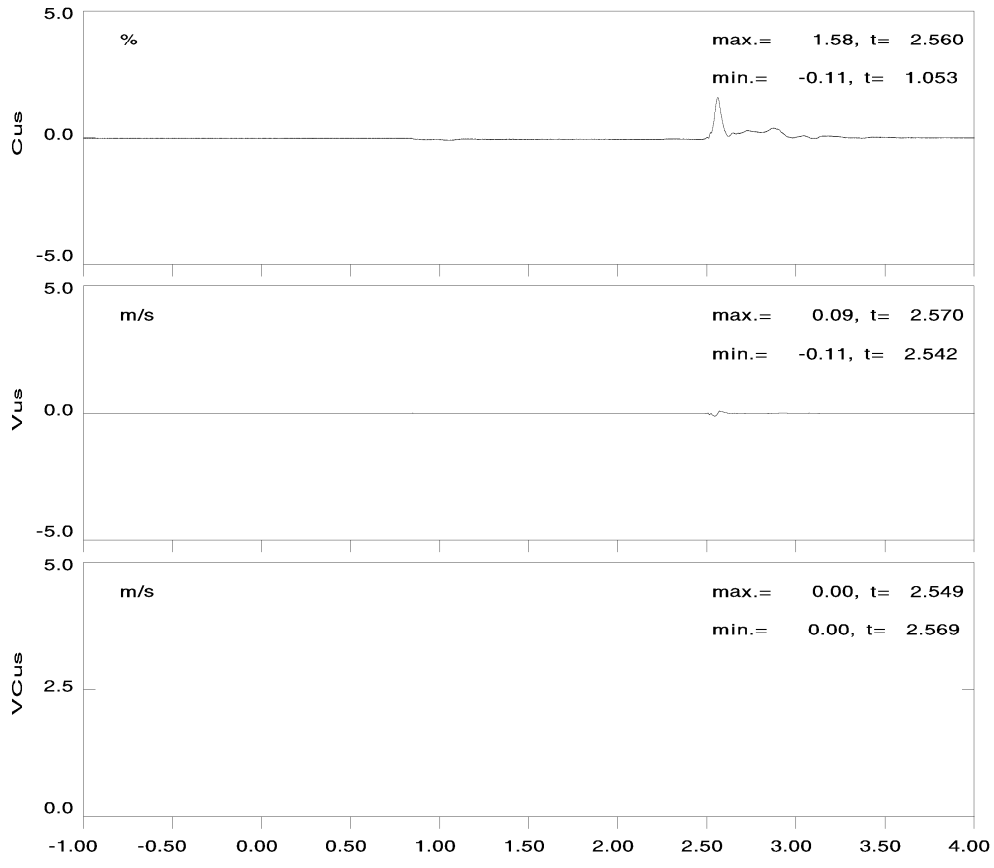

Primary
Test G140107
g
max.= 2.62, t= 2.543
min.= -8.86, t= 2.505
Ax,h
75
0.0
-75
g
max.= 7.12, t= 2.518
min.= -61.72, t= 2.503
Ay,h
75
0.0
-75
g
max.= 12.66, t= 2.513
min.= -4.11, t= 2.509
Az,h
75
0.0
-75
g
max.= 62.85, t= 2.503
min.= 0.01, t= -0.013
Ar,h
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test G14010/
krad/s**2
max.= 1.29, t= 2.524
min.= -3.68, t= 2.501
ax,h
krad/s**2
max.= 0.91, t= 2.513
min.= -0.52, t= 2.545
ay,h
krad/s**2
max.= 0.75, t= 2.541
min.= -0.77, t= 2.500
az,h
krad/s**2
max.= 3.75, t= 2.501
min.= 0.00, t= 1.544
ar,h
10
0.0
-10
5.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140107
2.0
-
max.= 0.28, t= 2.503
min.= 0.00, t= -0.798
G1.0
0.0
100
g
max.= 62.85, t= 2.503
min.= 0.01, t= -0.013
Ar.h
50
0.0
10
krad/s**2
max.= 3.75, t= 2.501
min.= 0.00, t= 1.544
ar.h
5.0
0.0
1.0
kN
max.= 0.66, t= 2.508
min.= 0.00, t= 0.294
Fxy,n
0.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

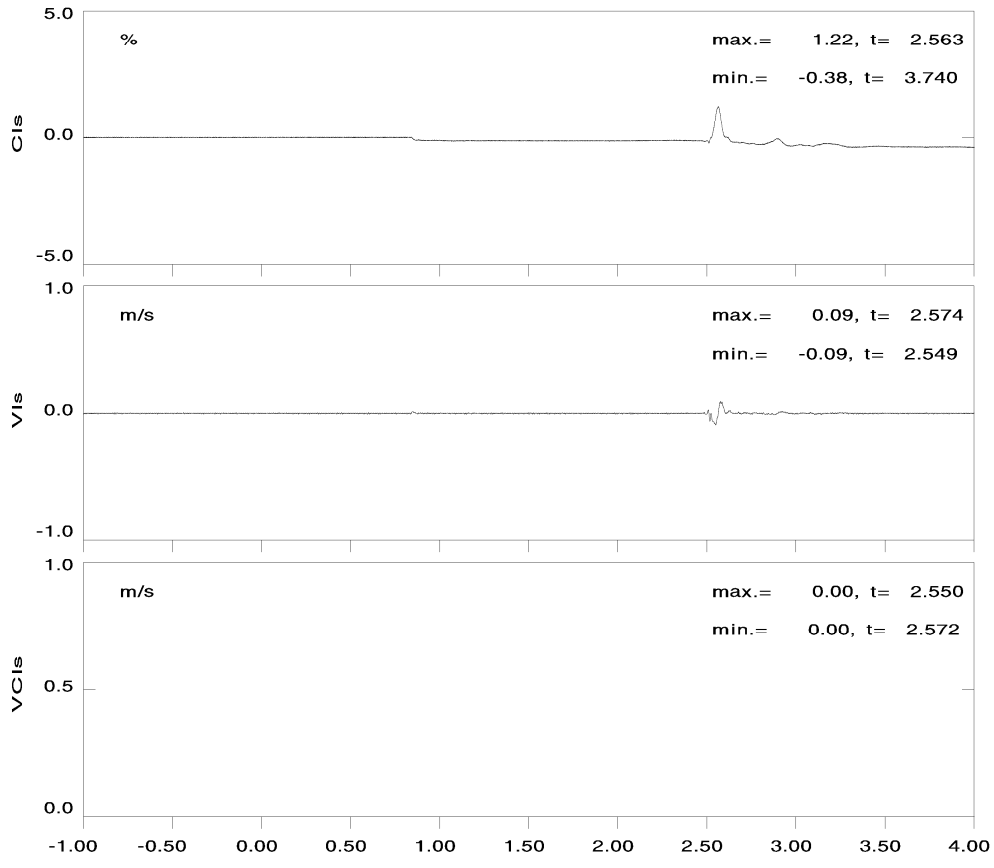

Primary
Test G140107
mm
max.= 0.20, t= 1.053
min.= -2.97, t= 2.560
Dx,us
mm
max.= 4.32, t= 2.522
min.= -0.30, t= 2.646
Dy,us
mm
max.= 0.72, t= 3.740
min.= -2.29, t= 2.563
Dx,ls
mm
max.= 4.35, t= 2.523
min.= -0.45, t= 2.645
Dy,ls
15
0.0
-15
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140107



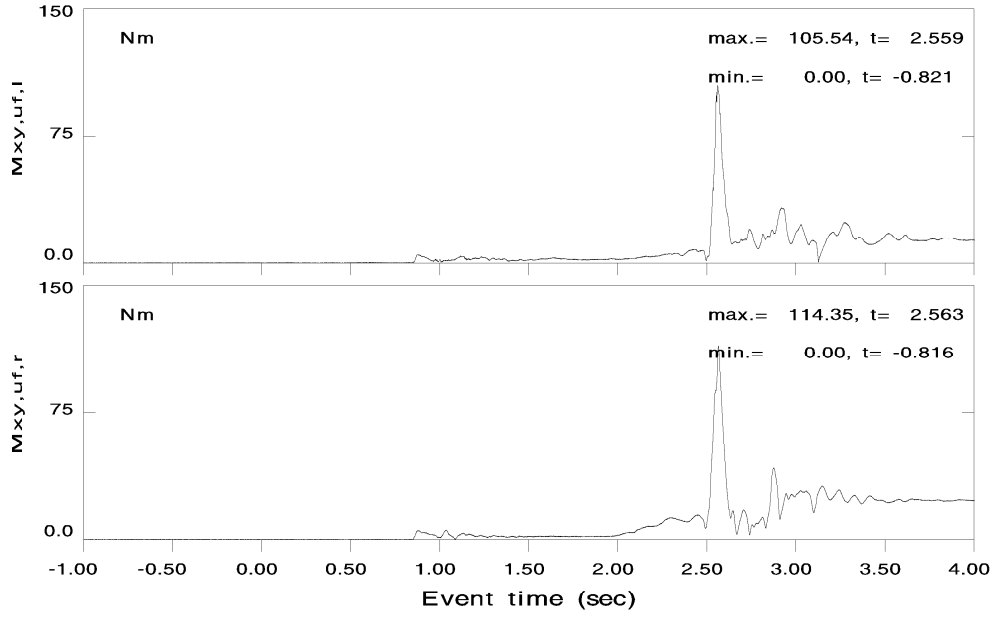
Page 13

Primary Test G140107

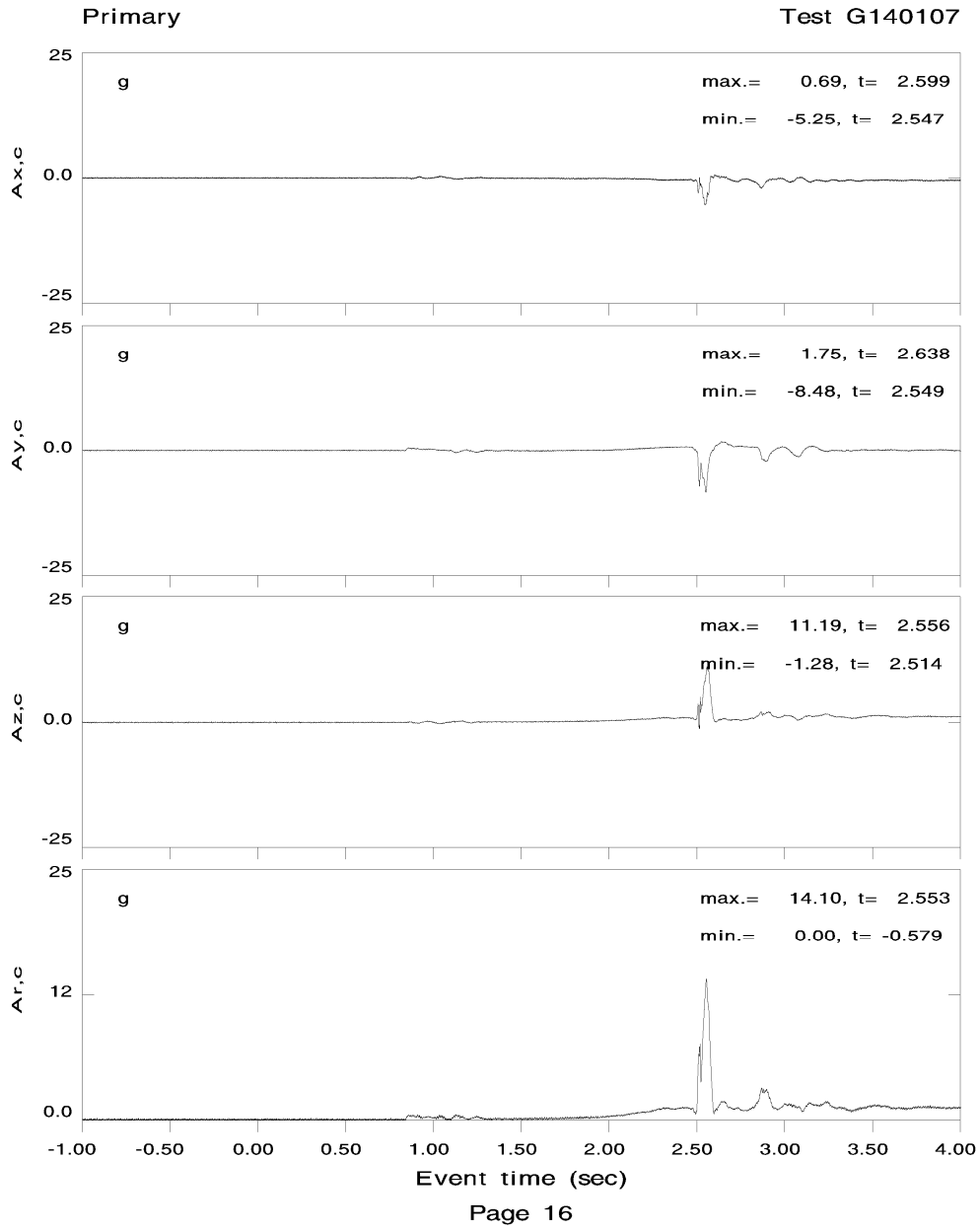


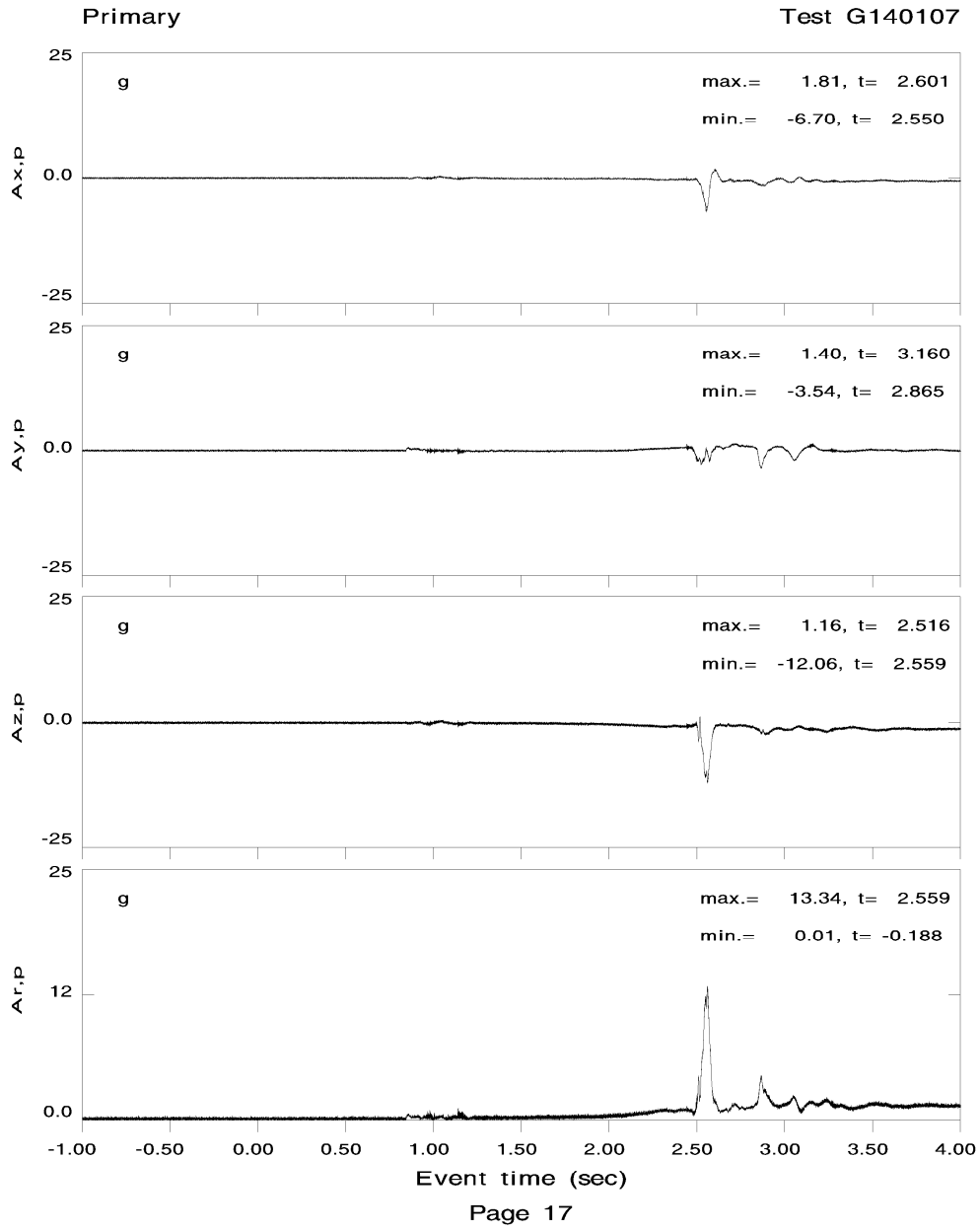
Page 14

Primary Test G140107

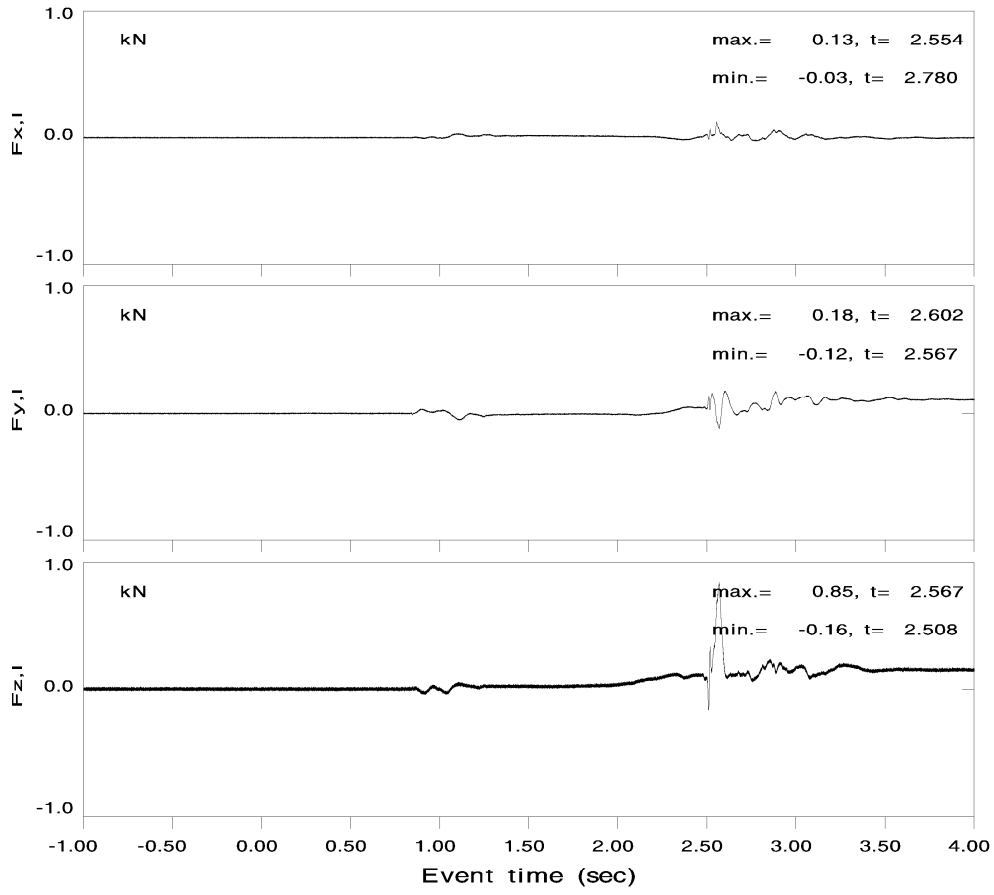


Page 15


Primary
Test G140107
g
max.= 0.69, t= 2.599
min.= -5.25, t= 2.547
Ax,c
25
0.0
-25
g
max.= 1.75, t= 2.638
min.= -8.48, t= 2.549
Ay,c
25
0.0
-25
g
max.= 11.19, t= 2.556
min.= -1.28, t= 2.514
Az,c
25
0.0
-25
g
max.= 14.10, t= 2.553
min.= 0.00, t= -0.579
Ar,c
25
12
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 16

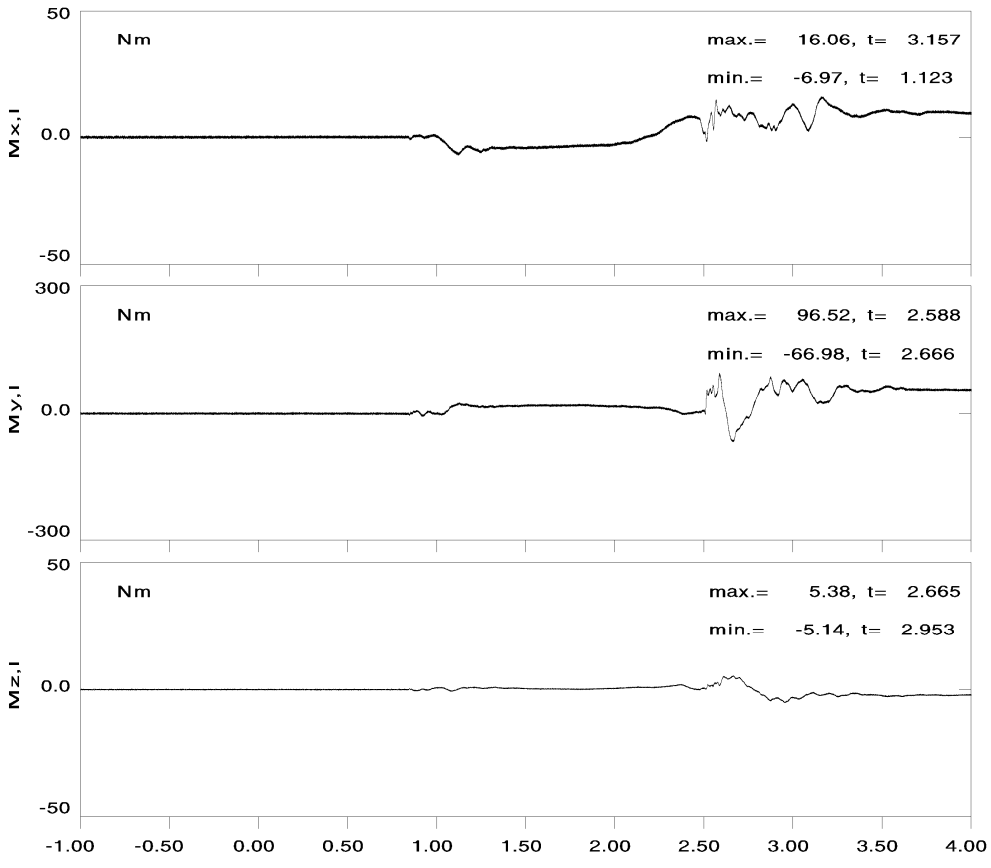

Primary
Test G140107
g
max.= 1.81, t= 2.601
min.= -6.70, t= 2.550
Ax,p
25
0.0
-25
g
max.= 1.40, t= 3.160
min.= -3.54, t= 2.865
Ay,p
25
0.0
-25
g
max.= 1.16, t= 2.516
min.= -12.06, t= 2.559
Az,p
25
0.0
-25
g
max.= 13.34, t= 2.559
min.= 0.01, t= -0.188
Ar,p
25
12
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140107

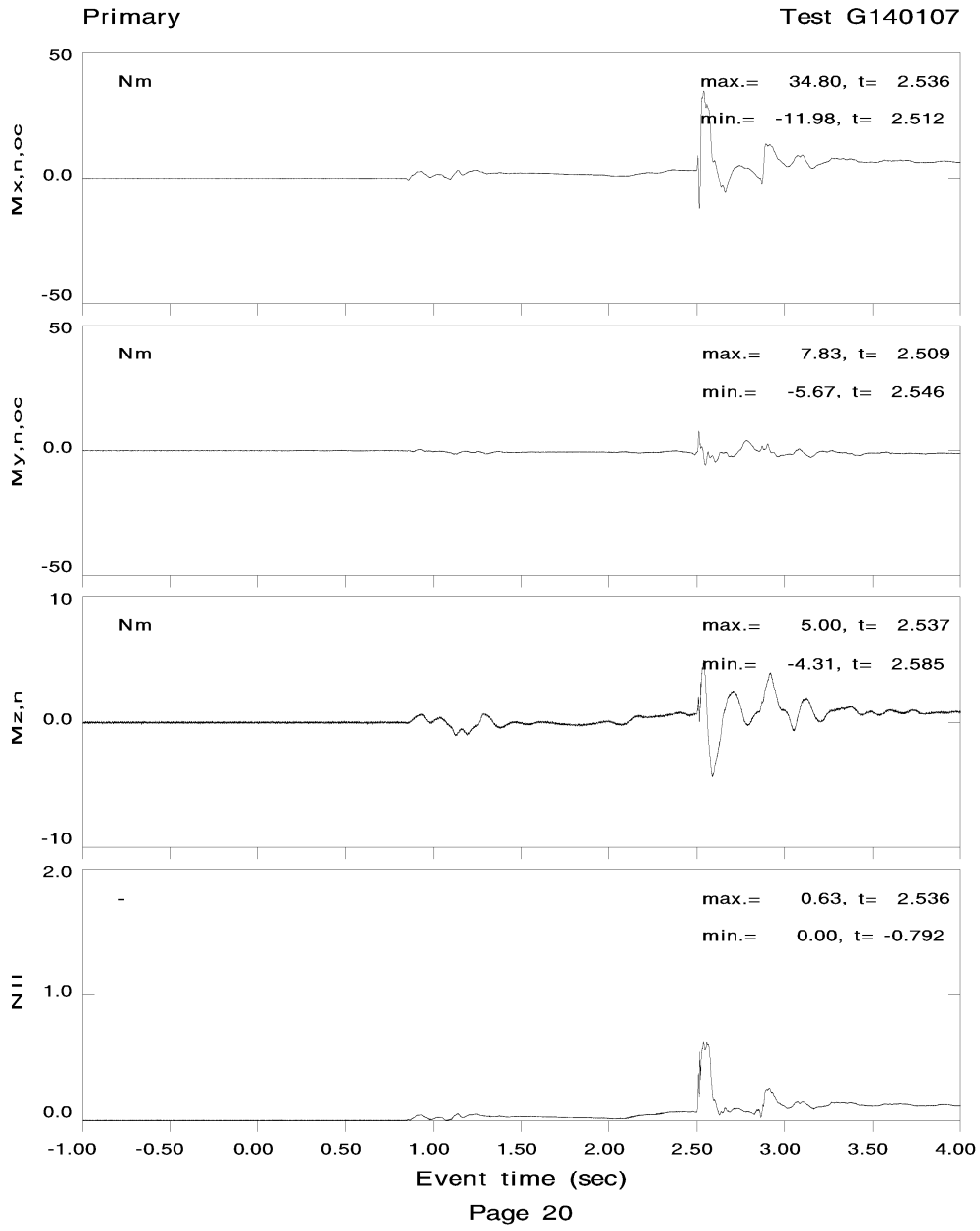


Page 18

Primary Test G140107



Page 19


Primary
Test G140107
Nm
max.= 34.80, t= 2.536
min.= -11.98, t= 2.512
Mx,n,oc
50
0.0
-50
Nm
max.= 7.83, t= 2.509
min.= -5.67, t= 2.546
My,n,oc
50
0.0
-50
Nm
max.= 5.00, t= 2.537
min.= -4.31, t= 2.585
Mz,n
10
0.0
-10
-
max.= 0.63, t= 2.536
min.= 0.00, t= -0.792
N II
2.0
1.0
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 20

2.12 G140108

G140108_ICM.IC1

Test Number : G140108
Analysis Window : 1

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	2
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.210
Cmax	=	0.880
VCmax	=	0.000
HIC	=	71.1
NII (2002 MATD Neck)	=	0.9
Location of Cmax	:	lower sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.000
Normalized Cost of Survival	=	0.000
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.989	1.000	1.000	1.000	1.000	0
1	0.008	0.000	0.000	0.000	0.000	0
2	-.001	0.000	0.000	0.000	0.000	0
3	0.004	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.018	0.000	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.000	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

G140108.rpt

Test G140108, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	1.05 g	1.084	-4.97 g	1.109
Ay,c	12.41 g	1.104	-1.97 g	1.222
Az,c	6.83 g	1.102	-0.86 g	1.080
Ax,p	1.09 g	1.086	-3.74 g	1.116
Ay,p	9.65 g	1.108	-2.58 g	1.176
Az,p	0.89 g	1.086	-6.99 g	1.119
spare	0.00 -	-0.851	0.00 -	1.465
spare	0.00 -	1.201	0.00 -	3.424
L,ur	8.63 mm	1.093	-0.04 mm	-0.381
L,lr	9.53 mm	1.091	-0.03 mm	-0.911
a1	27.22 g	1.055	-5.58 g	1.089
a2	26.47 g	1.065	-7.20 g	1.089
a3	40.45 g	1.055	-7.90 g	1.089
a4	4.65 g	1.089	-24.50 g	1.056
a5	3.87 g	1.115	-23.83 g	1.056
a6	8.32 g	1.108	-33.79 g	1.056
Mx,l	27.21 Nm	1.086	-34.49 Nm	1.203
My,l	255.74 Nm	1.164	-105.56 Nm	1.069
Mz,l	21.76 Nm	1.271	-17.23 Nm	1.160
Fx,l	0.23 kN	1.182	-0.14 kN	1.076
Fy,l	0.10 kN	0.311	-0.47 kN	1.206
Fz,l	0.66 kN	1.204	-0.60 kN	1.068
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
spare	0.01 -	0.236	-0.05 -	3.991
spare	0.00 -	3.725	0.00 -	1.179
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.00 -	4.000	0.00 -	4.000
a7	9.95 g	1.056	-7.86 g	1.109
a8	19.75 g	1.055	-11.60 g	1.108
a9	8.25 g	1.069	-4.71 g	1.066
Fz,uf,r	0.22 kN	1.121	-0.07 kN	1.067
Mx,uf,r	40.28 Nm	1.123	-20.24 Nm	1.287
My,uf,r	53.38 Nm	1.175	-7.08 Nm	1.110
Mz,uf,r	18.86 Nm	1.157	-12.36 Nm	1.262
Fz,uf,l	0.26 kN	1.148	-0.25 kN	1.088
Mx,uf,l	32.99 Nm	1.093	-21.65 Nm	1.188
My,uf,l	57.51 Nm	1.215	-14.82 Nm	1.076
Mz,uf,l	6.78 Nm	1.183	-9.90 Nm	1.218
Fx,n	0.04 kN	1.064	-0.11 kN	1.081
Fy,n	0.04 kN	1.239	-1.20 kN	1.077
Fz,n	0.33 kN	1.134	-1.91 kN	1.064
Mx,n	52.99 Nm	1.077	-46.93 Nm	1.102
My,n	12.57 Nm	1.093	-4.39 Nm	1.070
Mz,n	4.44 Nm	1.271	-7.68 Nm	1.180
L,ul	0.02 mm	-0.623	-8.14 mm	1.090
L,ll	0.03 mm	-0.450	-8.31 mm	1.092
Ax,h	3.01 g	1.269	-5.05 g	1.065
Ay,h	35.87 g	1.055	-7.24 g	1.089
Az,h	9.96 g	1.056	-7.87 g	1.109
àx,h	3.69 krad/s**2	1.055	-1.53 krad/s**2	1.096
ày,h	0.62 krad/s**2	1.076	-0.82 krad/s**2	1.072
àz,h	0.58 krad/s**2	1.066	-0.43 krad/s**2	1.056
Ar,h	37.22 g	1.055	0.02 g	-0.444
àr,h	3.71 krad/s**2	1.055	0.00 krad/s**2	-0.701
G	0.21 -	1.055	0.00 -	-0.548
HIC	71.13	1.074	----	1.053
Fxy,n	1.21 kN	1.077	0.00 kN	-0.537
Dx,us	0.62 mm	1.154	-0.44 mm	1.078
Dy,us	0.04 mm	-0.381	-13.21 mm	1.091

Page 1

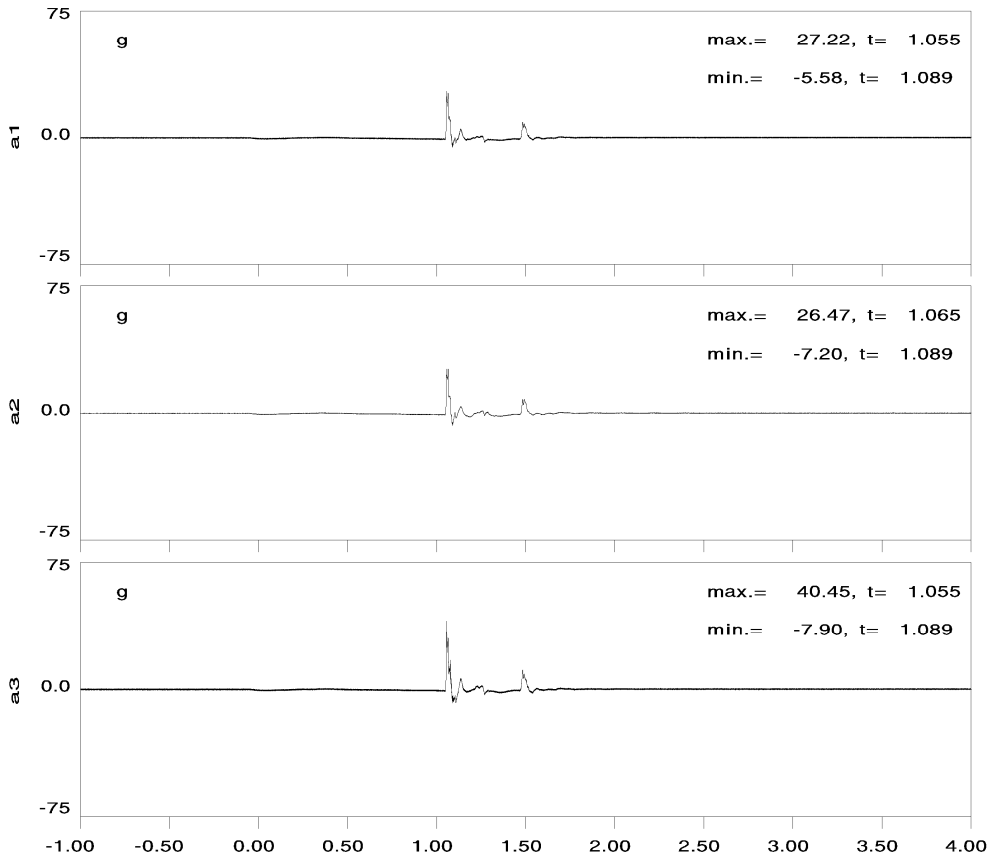
G140108.rpt

Cus	0.24	%	1.078	-0.33	%	1.154
Vus	0.08	m/s	1.095	-0.09	m/s	1.070
VCus	0.00	m/s	1.073	0.00	m/s	1.067
Dx,ls	1.65	mm	1.115	-0.05	mm	-0.145
Dy,ls	0.03	mm	-0.771	-13.21	mm	1.092
Cls	0.03	%	-0.145	-0.88	%	1.115
Vls	0.11	m/s	1.109	-0.10	m/s	1.083
VCls	0.00	m/s	1.111	0.00	m/s	1.081
Mxy,uf,r	54.03	Nm	1.175	0.00	Nm	-0.786
Mxy,uf,l	60.00	Nm	1.216	0.00	Nm	-0.191
Mx,n,oc	31.96	Nm	1.077	-55.80	Nm	1.102
My,n,oc	12.92	Nm	1.093	-3.71	Nm	1.202
NII	0.94	-	1.102	0.00	-	-0.428
Ar,p	11.02	g	1.108	0.02	g	0.247
Ar,c	13.43	g	1.104	0.00	g	-0.153

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

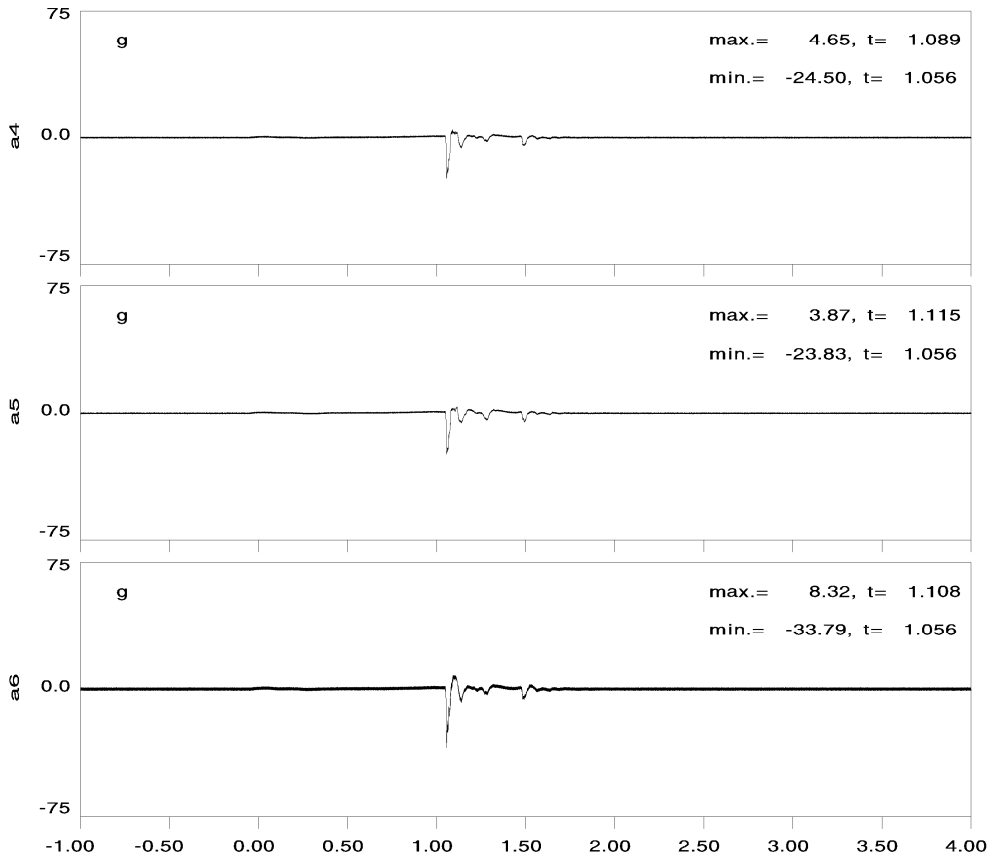
Page 2

Primary Test G140108



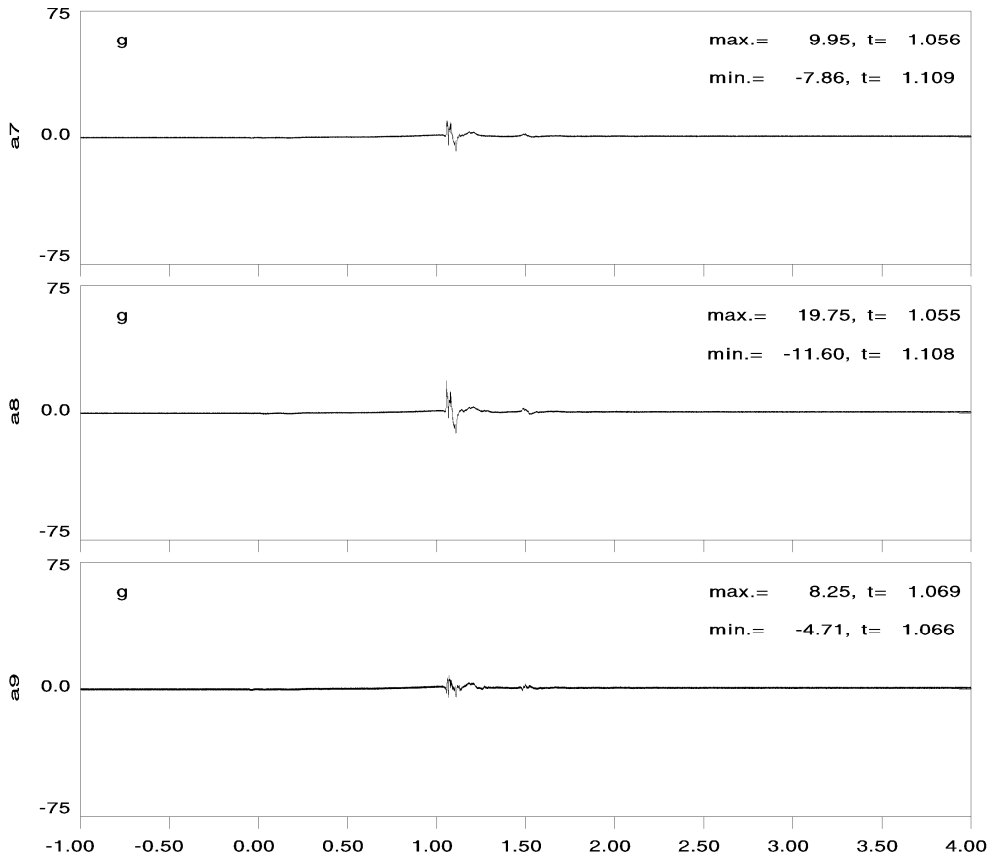
Page 1

Primary Test G140108



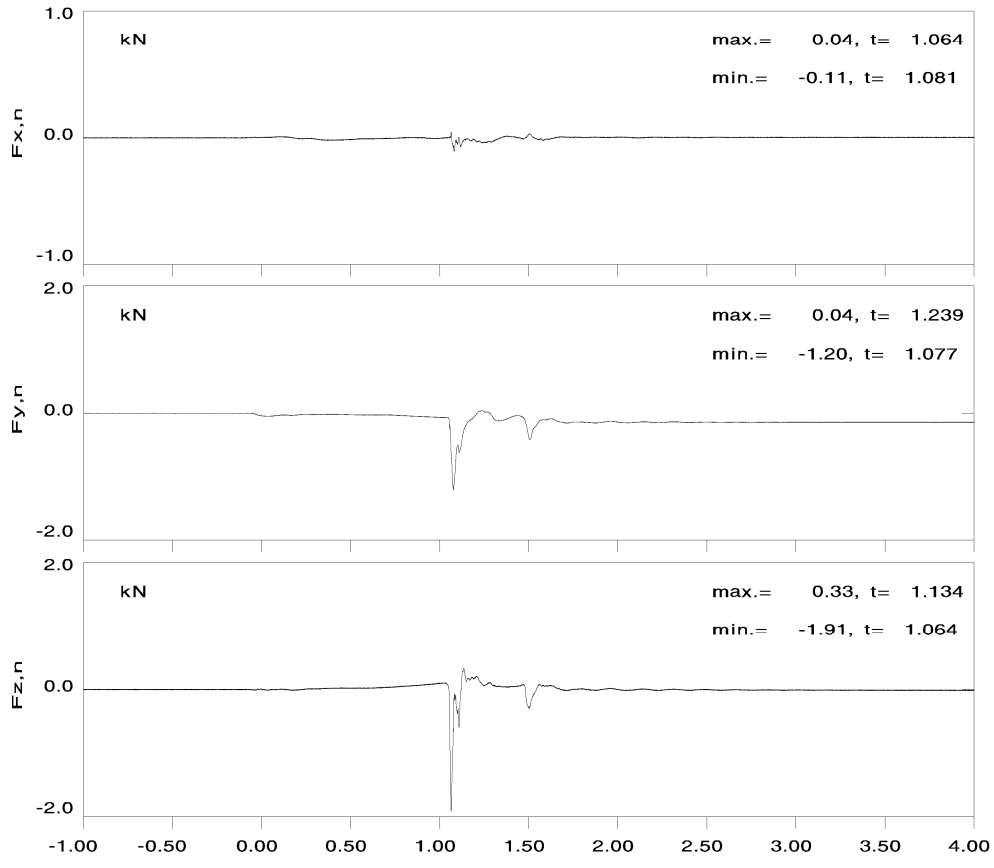
Page 2

Primary Test G140108



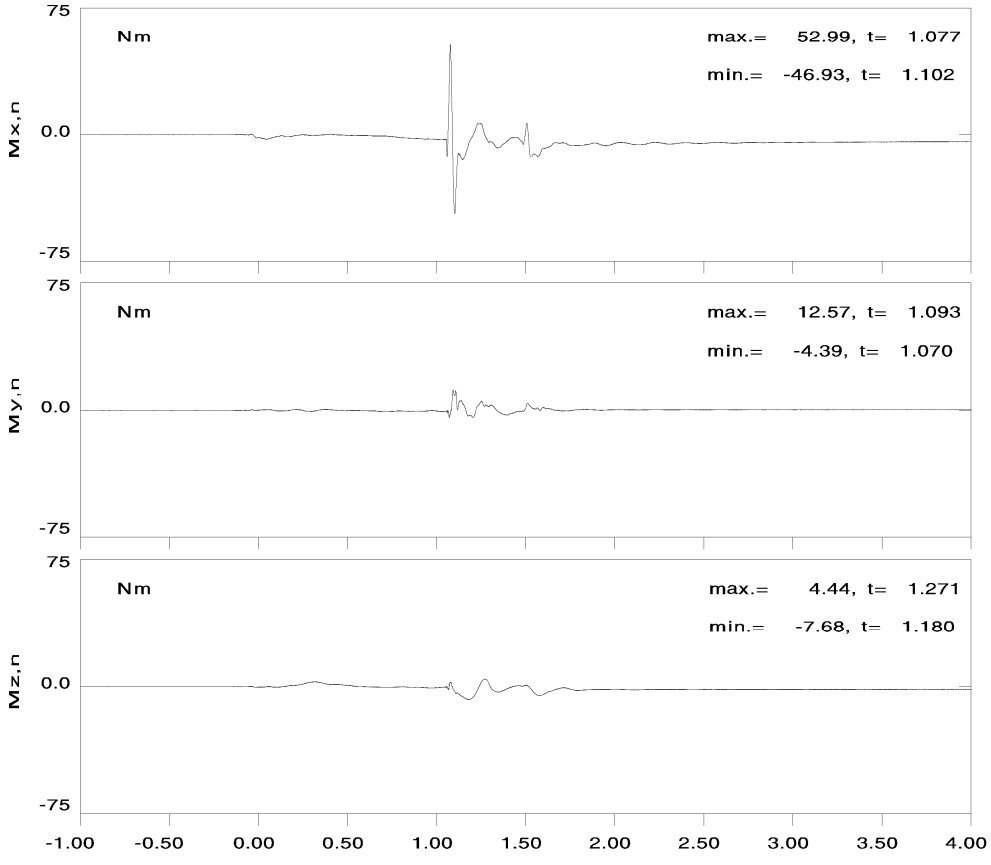
Page 3

Primary Test G140108

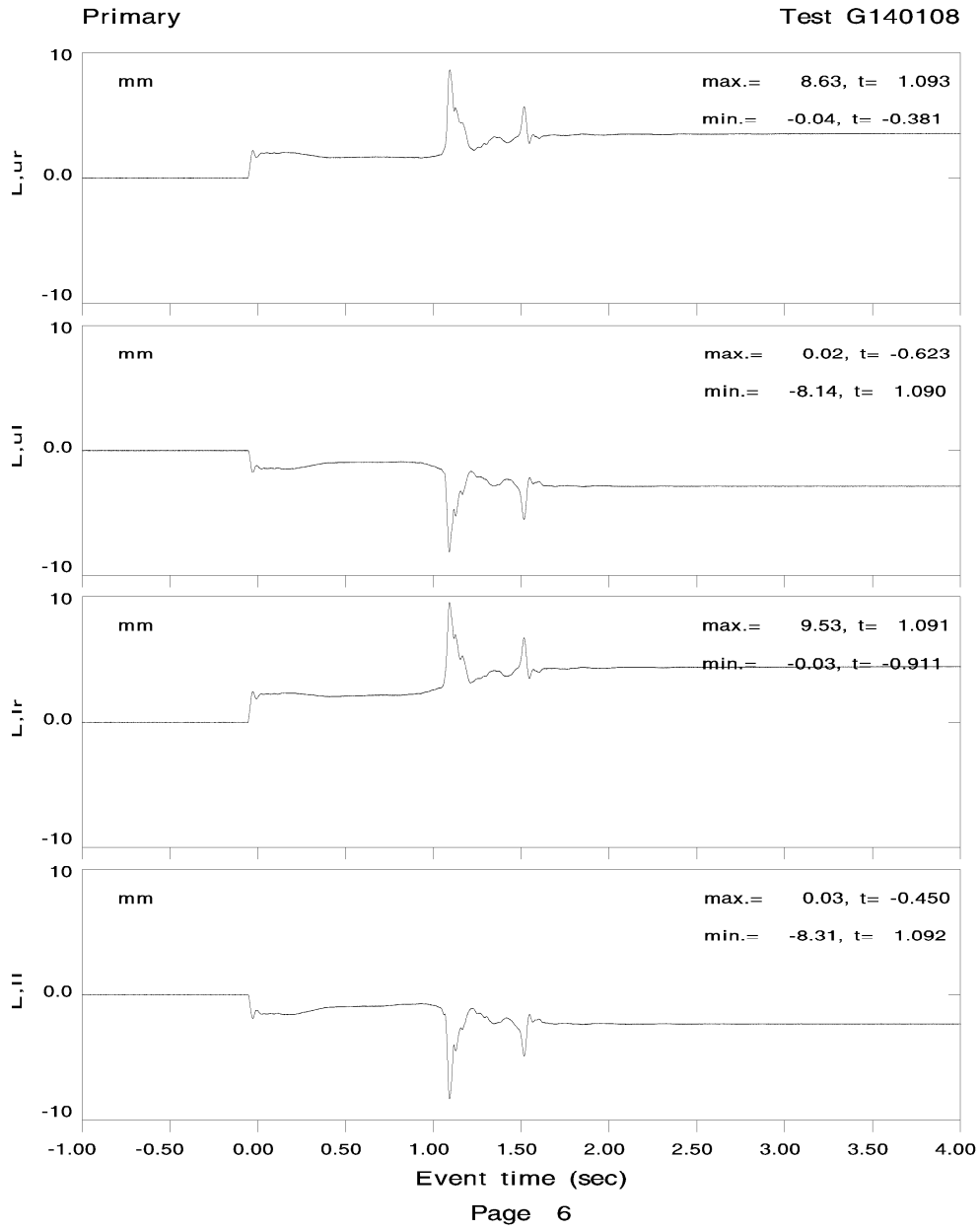


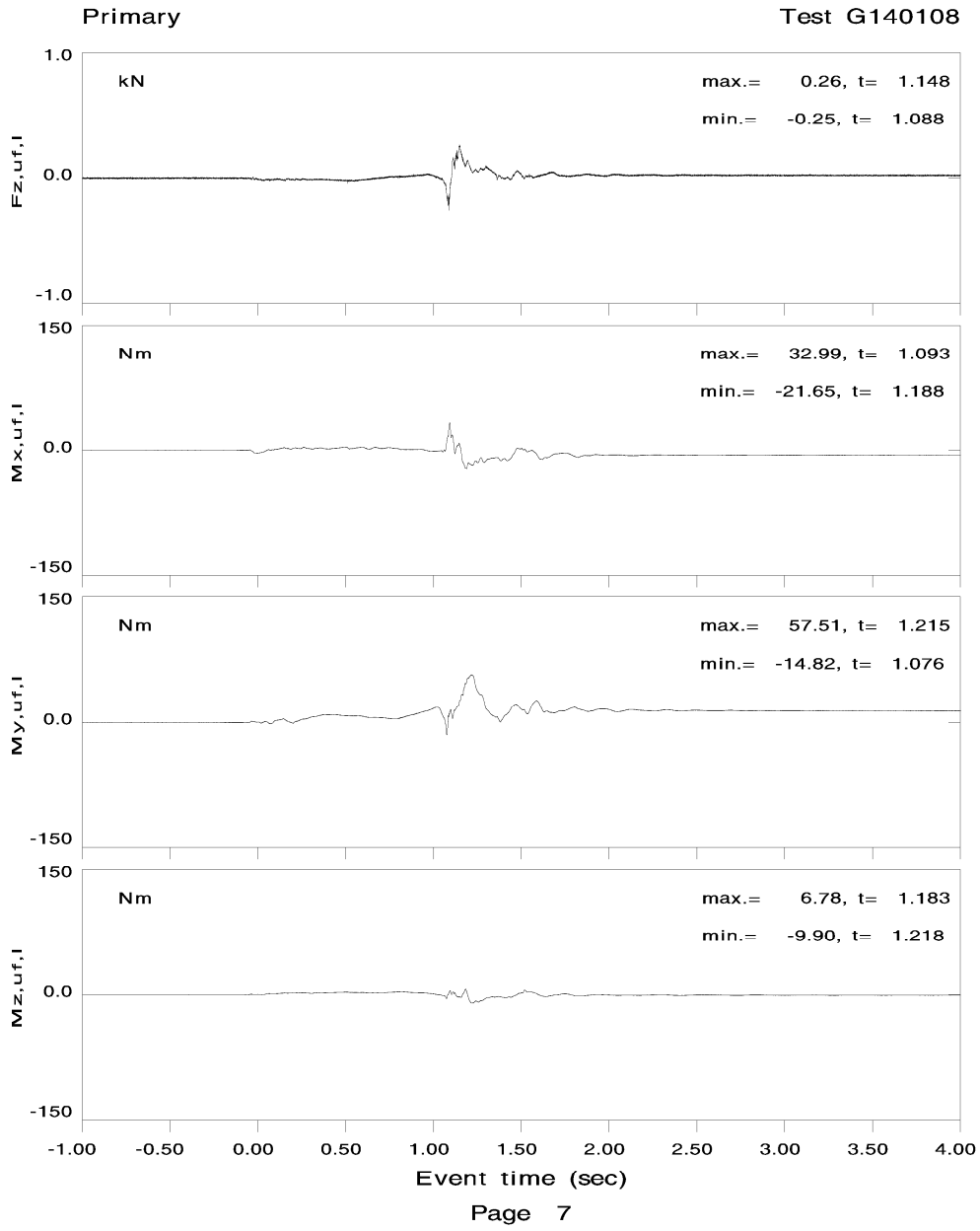
Page 4

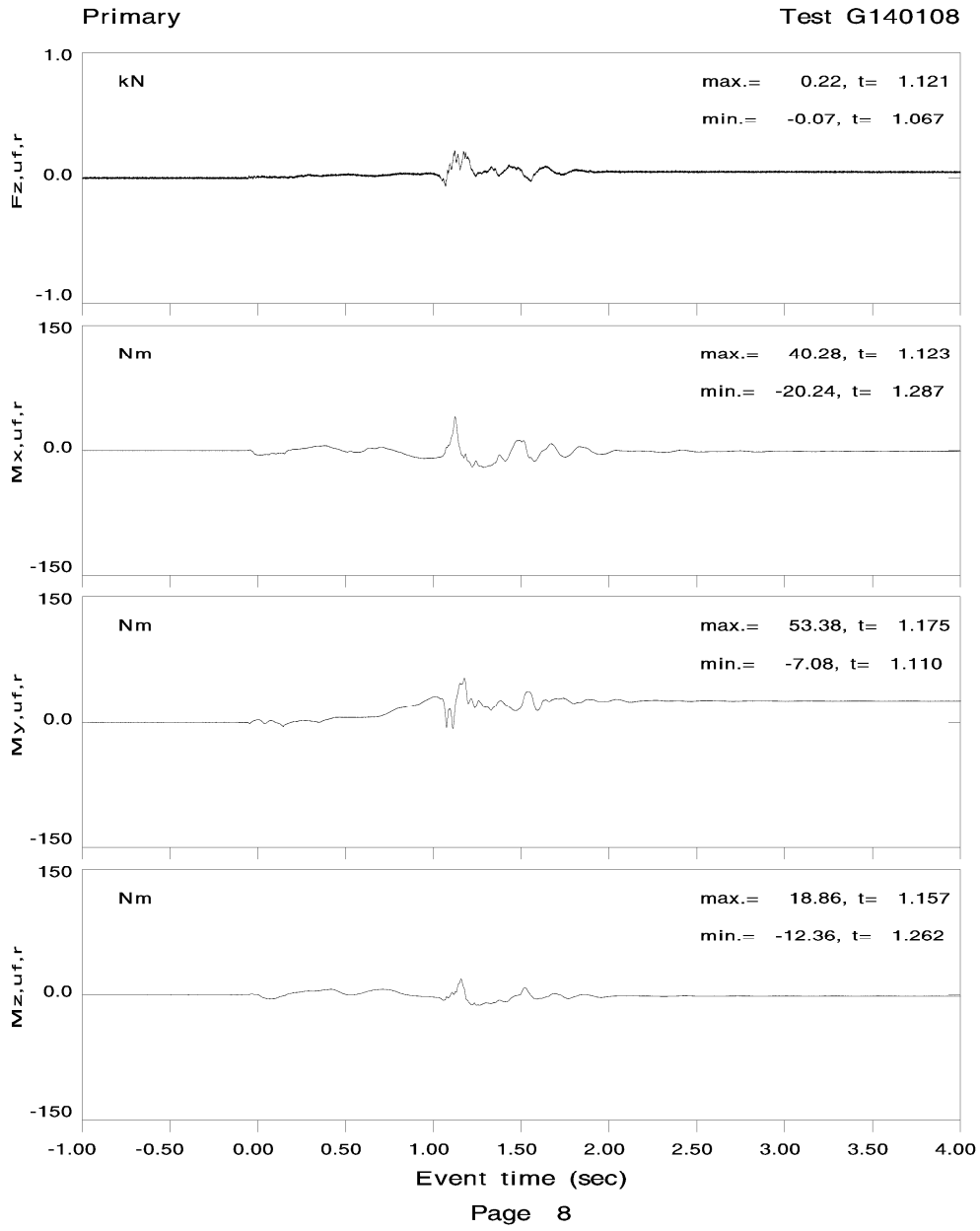
Primary Test G140108

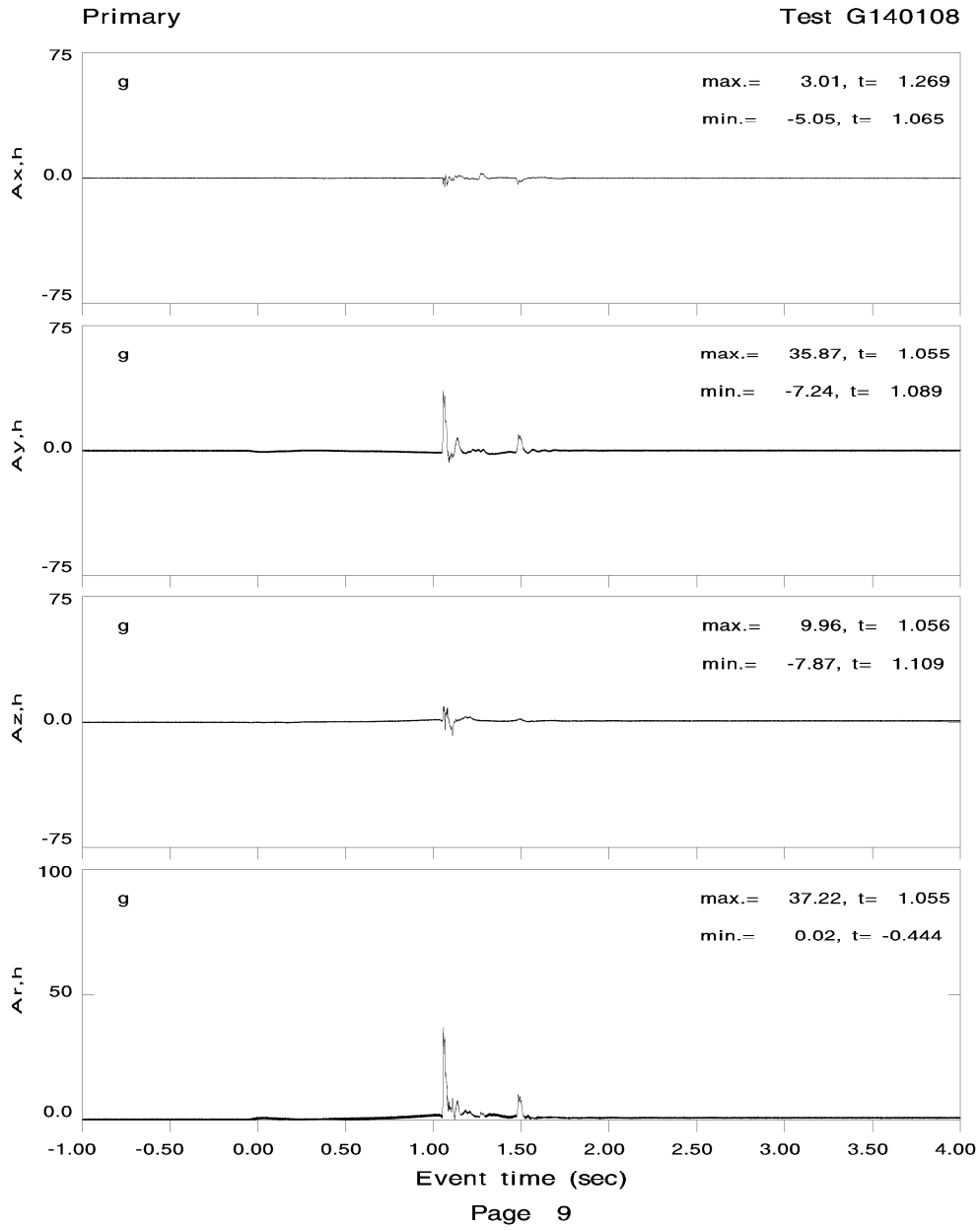


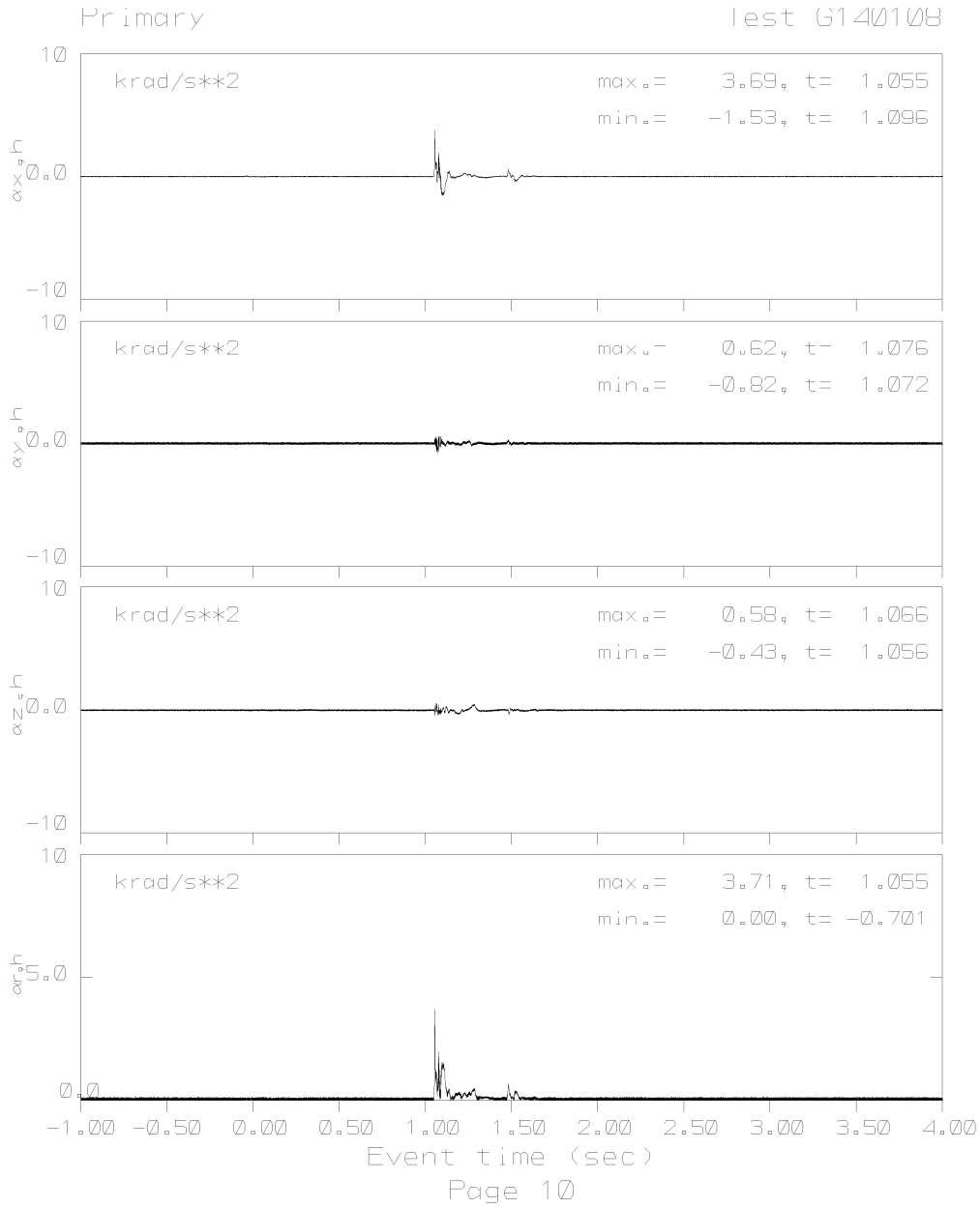
Page 5

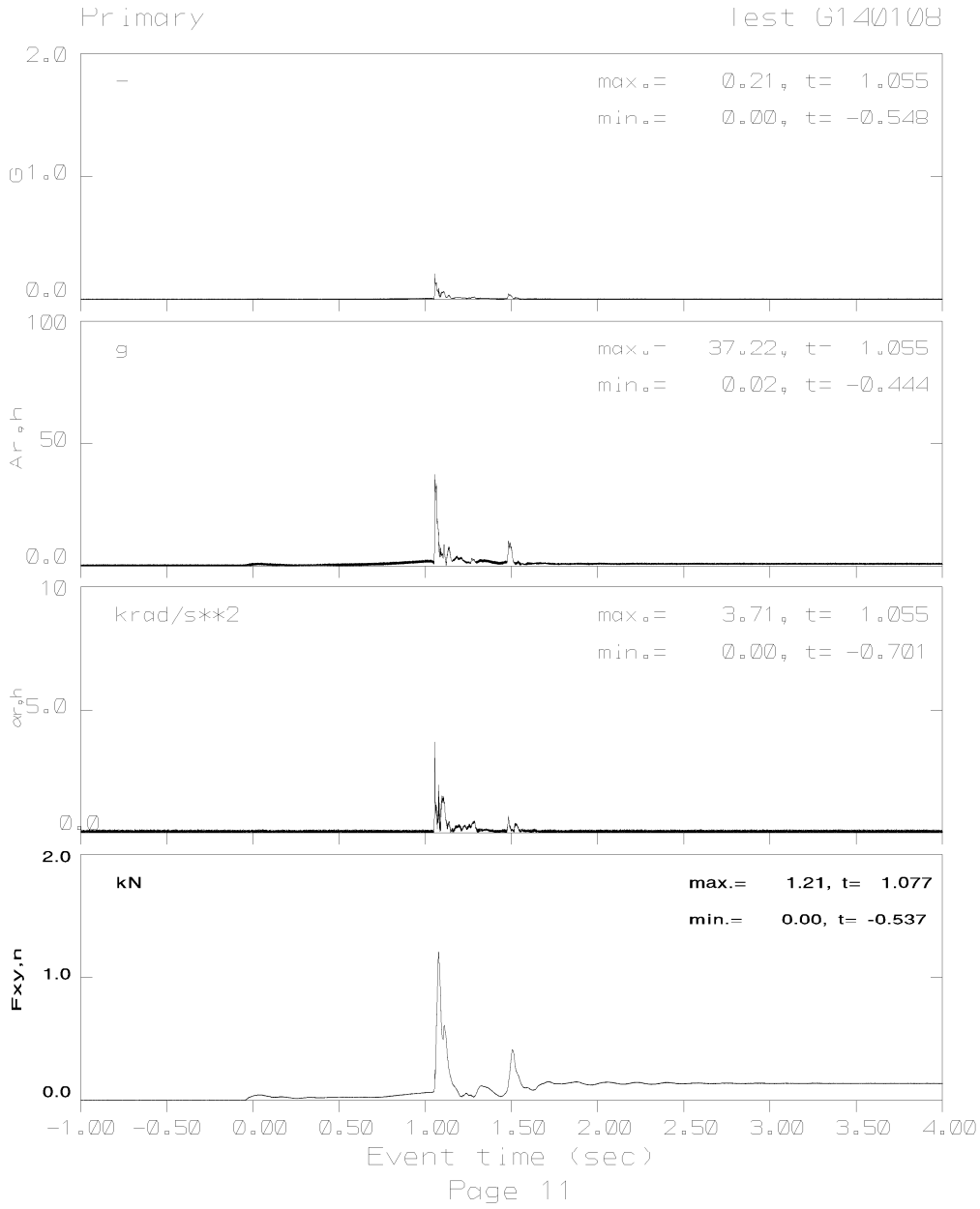

Primary
Test G140108
mm
max.= 8.63, t= 1.093
min.= -0.04, t= -0.381
L,ur
mm
max.= 0.02, t= -0.623
min.= -8.14, t= 1.090
L,ul
mm
max.= 9.53, t= 1.091
min.= -0.03, t= -0.911
L,lr
mm
max.= 0.03, t= -0.450
min.= -8.31, t= 1.092
L,ll
10
0.0
-10
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

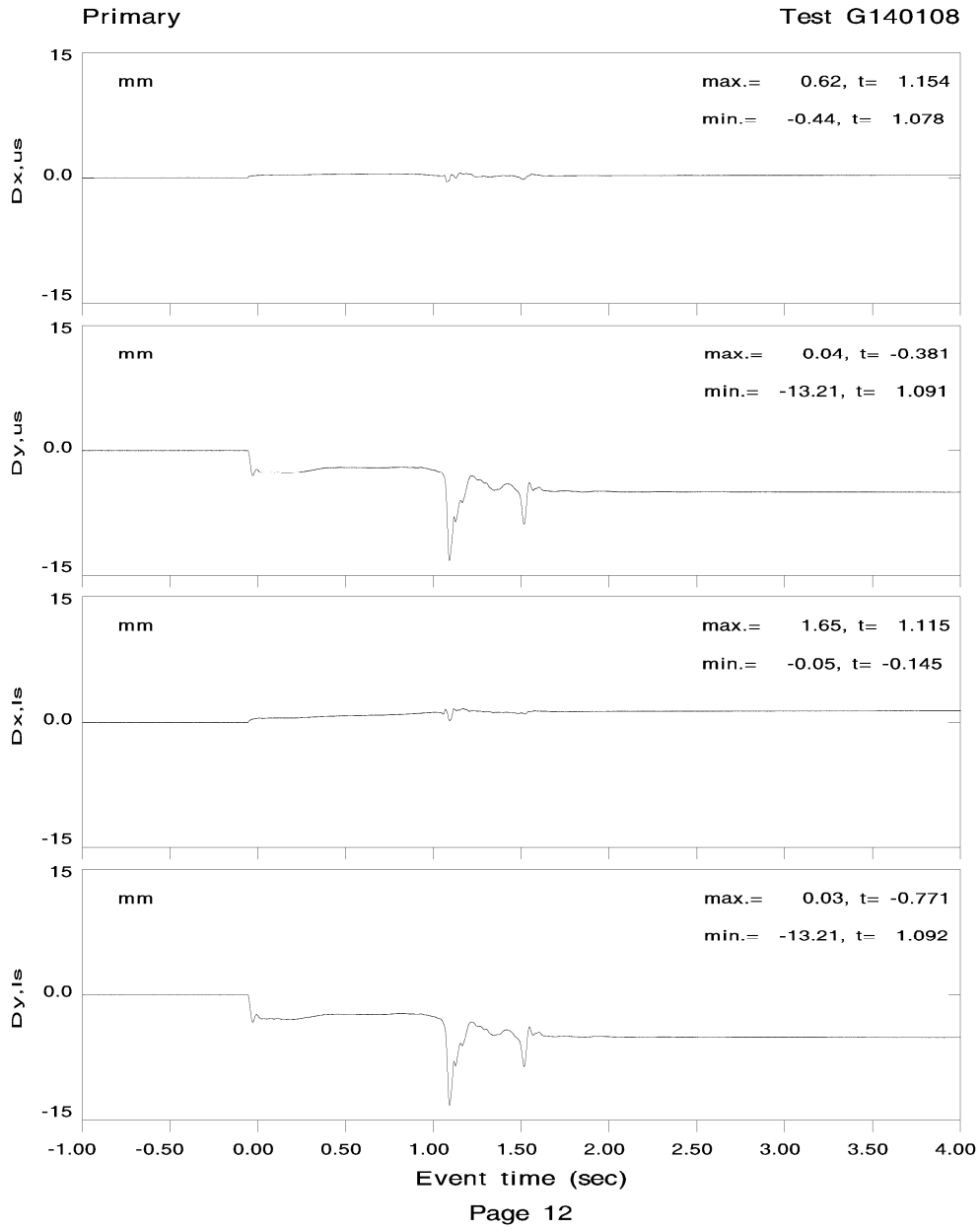

Primary
Test G140108
kN
max.= 0.26, t= 1.148
min.= -0.25, t= 1.088
Fz,uf,l
1.0
0.0
-1.0
Nm
max.= 32.99, t= 1.093
min.= -21.65, t= 1.188
Mx,uf,l
150
0.0
-150
Nm
max.= 57.51, t= 1.215
min.= -14.82, t= 1.076
My,uf,l
150
0.0
-150
Nm
max.= 6.78, t= 1.183
min.= -9.90, t= 1.218
Mz,uf,l
150
0.0
-150
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test G140108
kN
max.= 0.22, t= 1.121
min.= -0.07, t= 1.067
Fz,uf,r
1.0
0.0
-1.0
Nm
max.= 40.28, t= 1.123
min.= -20.24, t= 1.287
Mx,uf,r
150
0.0
-150
Nm
max.= 53.38, t= 1.175
min.= -7.08, t= 1.110
My,uf,r
150
0.0
-150
Nm
max.= 18.86, t= 1.157
min.= -12.36, t= 1.262
Mz,uf,r
150
0.0
-150
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

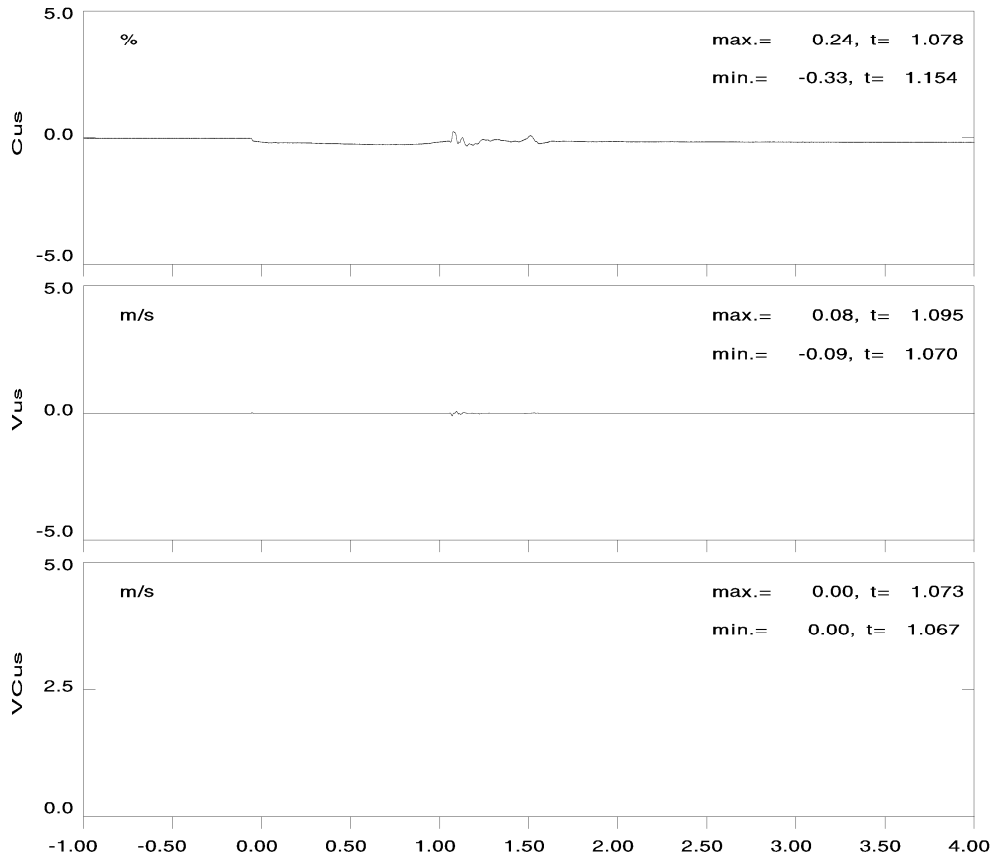

Primary
Test G140108
g
max.= 3.01, t= 1.269
min.= -5.05, t= 1.065
Ax,h
75
0.0
-75
g
max.= 35.87, t= 1.055
min.= -7.24, t= 1.089
Ay,h
75
0.0
-75
g
max.= 9.96, t= 1.056
min.= -7.87, t= 1.109
Az,h
75
0.0
-75
g
max.= 37.22, t= 1.055
min.= 0.02, t= -0.444
Ar,h
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test G140108
krad/s**2
max.= 3.69, t= 1.055
min.= -1.53, t= 1.096
ax,h
krad/s**2
max.= 0.62, t= 1.076
min.= -0.82, t= 1.072
ay,h
krad/s**2
max.= 0.58, t= 1.066
min.= -0.43, t= 1.056
az,h
krad/s**2
max.= 3.71, t= 1.055
min.= 0.00, t= -0.701
ar,h
10
0.0
-10
5.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test G140108
2.0
-
max.= 0.21, t= 1.055
min.= 0.00, t= -0.548
G1.0
0.0
100
g
max.= 37.22, t= 1.055
min.= 0.02, t= -0.444
Ar.h
50
0.0
10
krad/s**2
max.= 3.71, t= 1.055
min.= 0.00, t= -0.701
ar.h
5.0
0.0
2.0
kN
max.= 1.21, t= 1.077
min.= 0.00, t= -0.537
Fxy,n
1.0
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

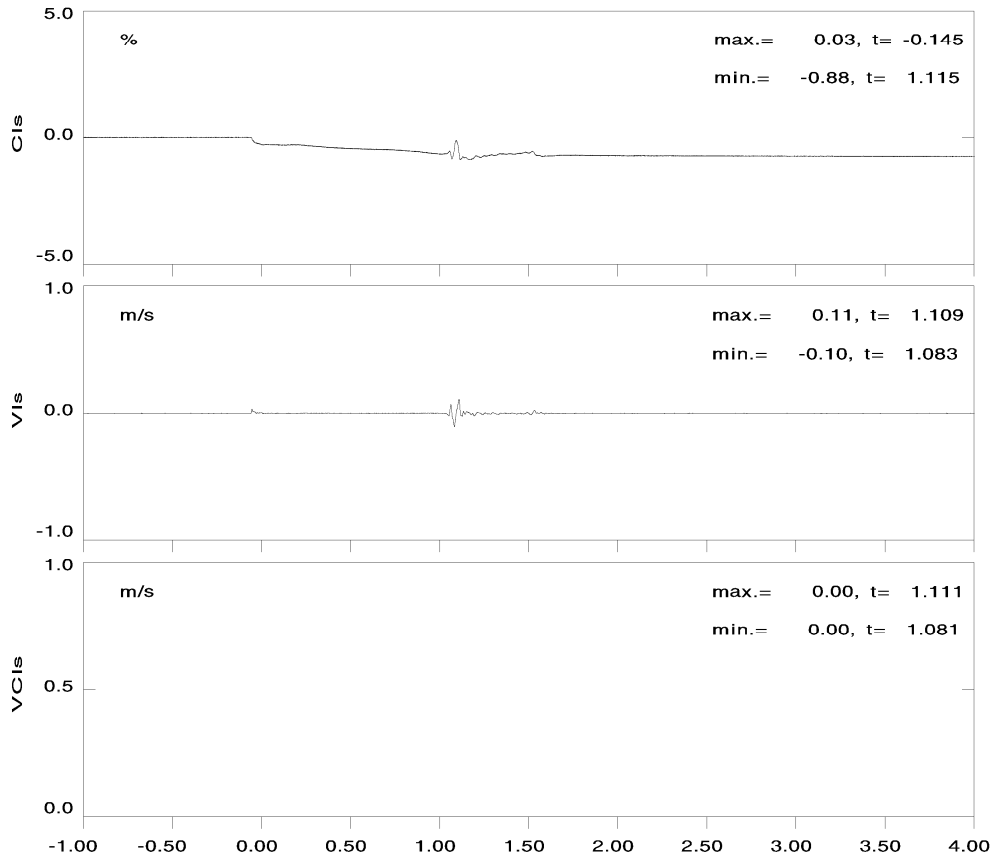

Primary
Test G140108
mm
max.= 0.62, t= 1.154
min.= -0.44, t= 1.078
Dx,us
mm
max.= 0.04, t= -0.381
min.= -13.21, t= 1.091
Dy,us
mm
max.= 1.65, t= 1.115
min.= -0.05, t= -0.145
Dx,ls
mm
max.= 0.03, t= -0.771
min.= -13.21, t= 1.092
Dy,ls
15
0.0
-15
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test G140108



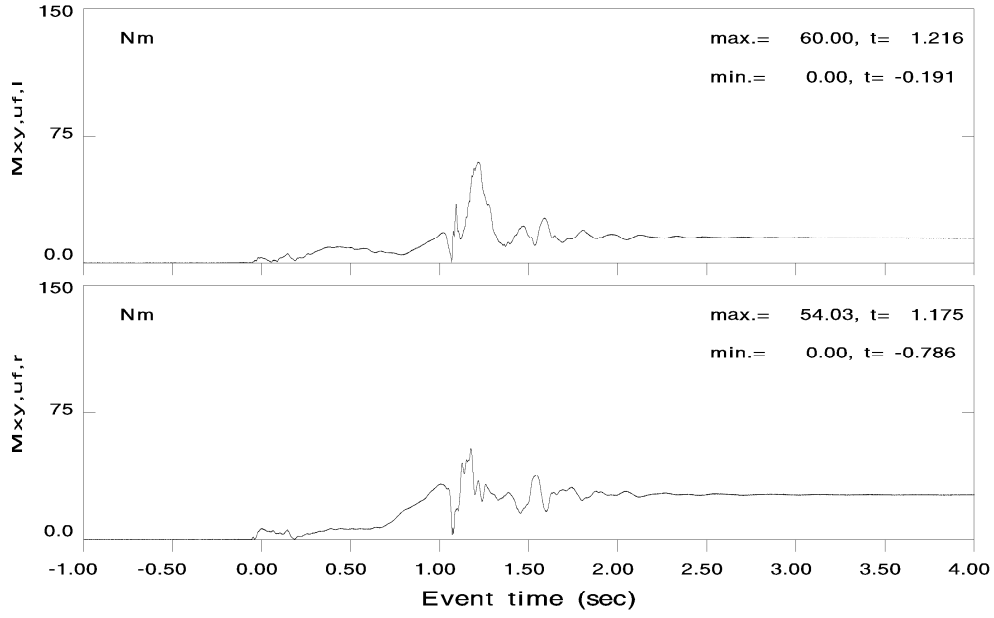
Page 13

Primary Test G140108

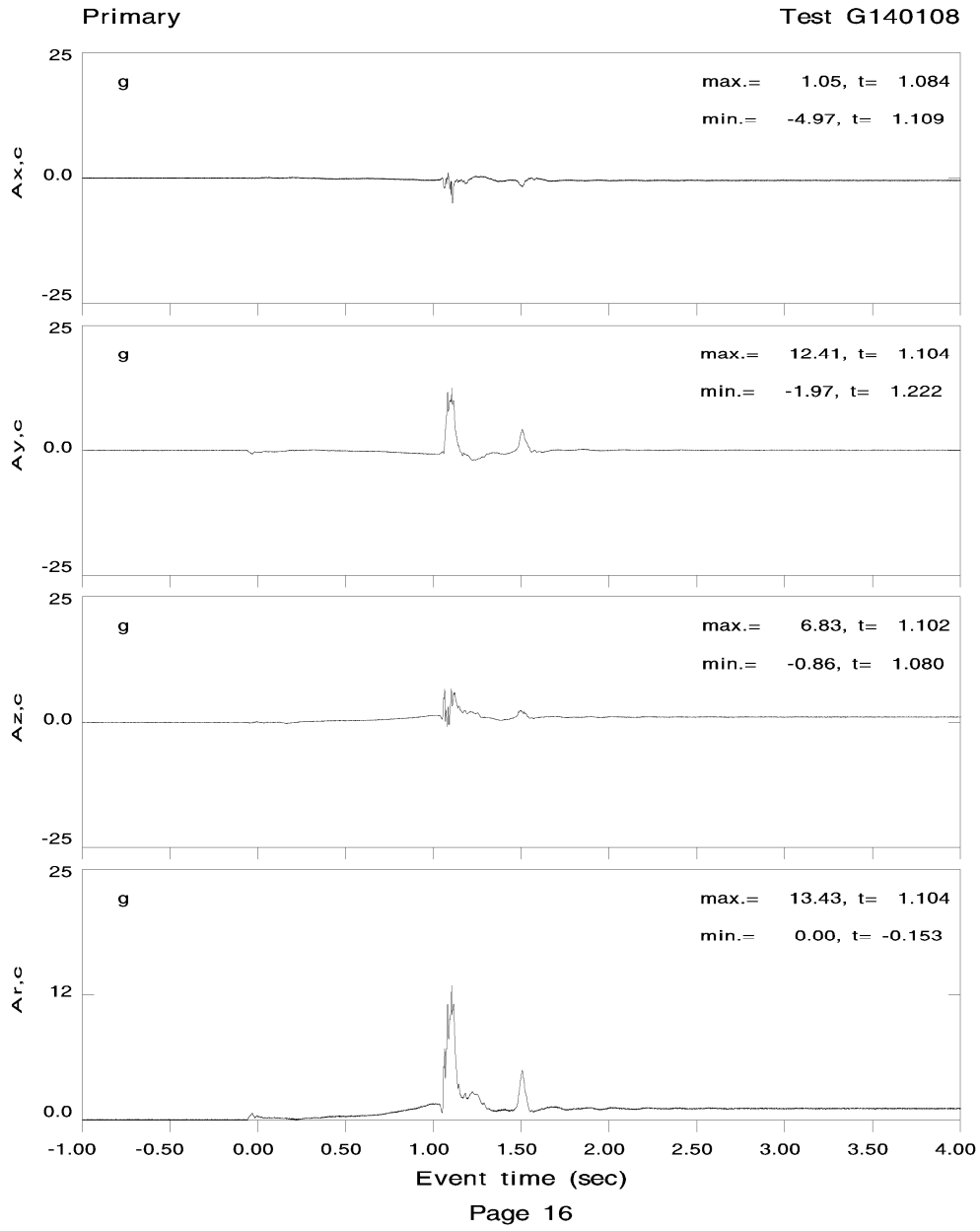


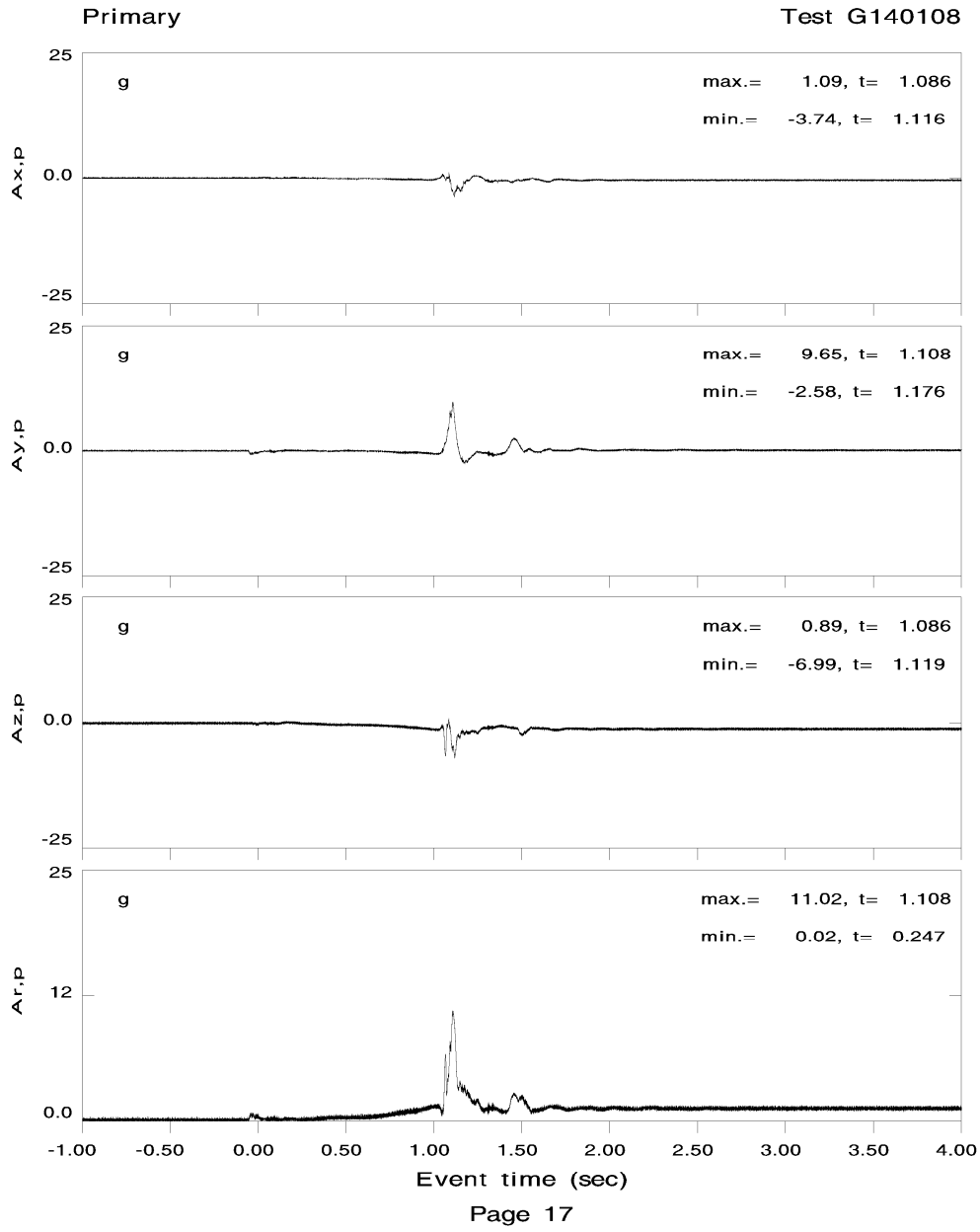
Page 14

Primary Test G140108

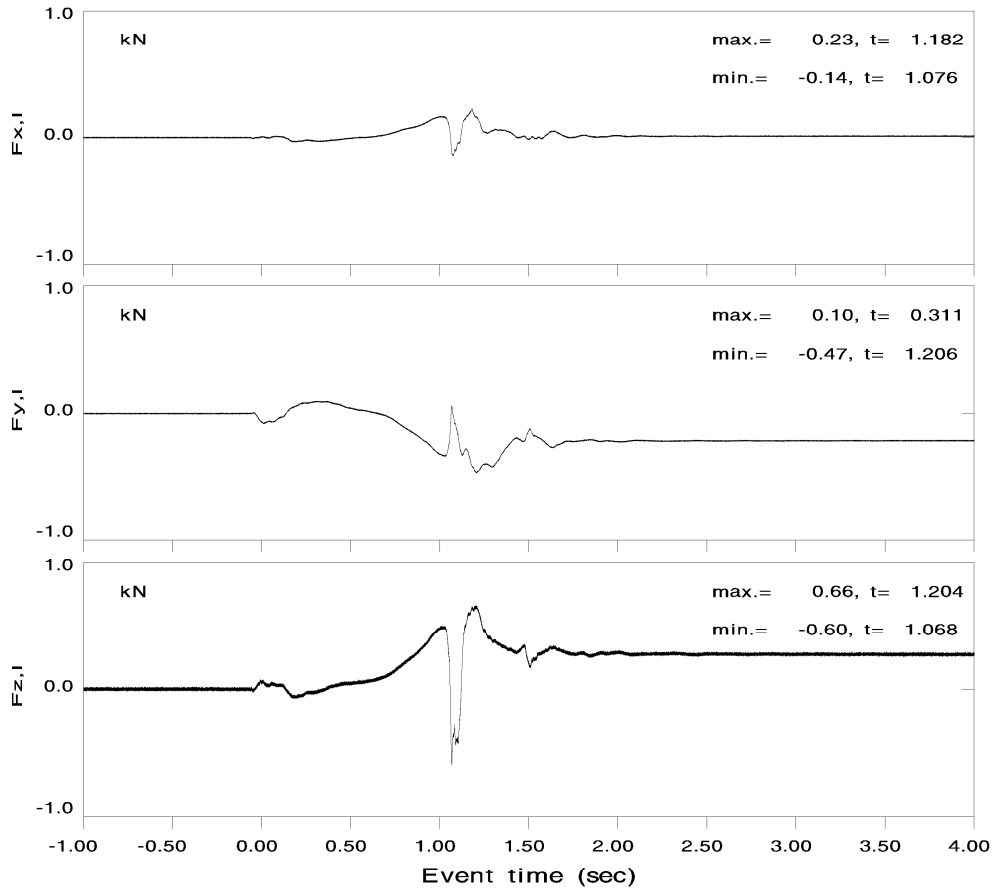


Page 15


Primary
Test G140108
g
max.= 1.05, t= 1.084
min.= -4.97, t= 1.109
Ax,c
25
0.0
-25
g
max.= 12.41, t= 1.104
min.= -1.97, t= 1.222
Ay,c
25
0.0
-25
g
max.= 6.83, t= 1.102
min.= -0.86, t= 1.080
Az,c
25
0.0
-25
g
max.= 13.43, t= 1.104
min.= 0.00, t= -0.153
Ar,c
25
12
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 16

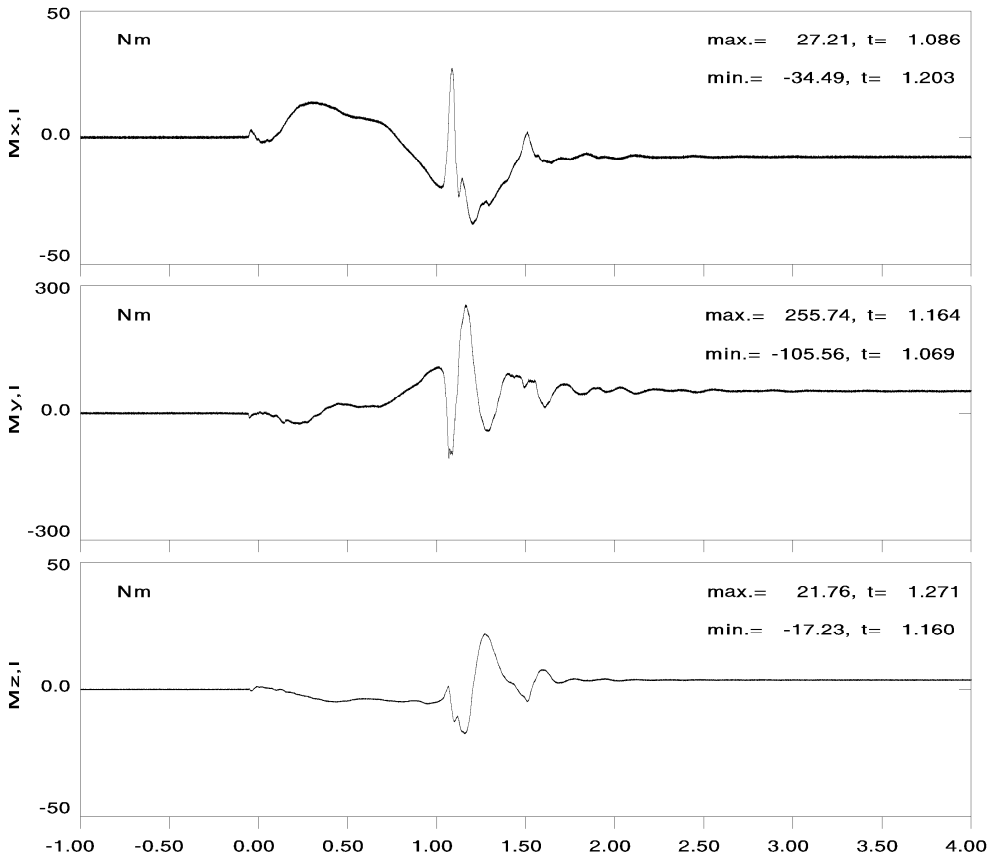

Primary
Test G140108
Ax,p
g
max.= 1.09, t= 1.086
min.= -3.74, t= 1.116
Ay,p
g
max.= 9.65, t= 1.108
min.= -2.58, t= 1.176
Az,p
g
max.= 0.89, t= 1.086
min.= -6.99, t= 1.119
Ar,p
g
max.= 11.02, t= 1.108
min.= 0.02, t= 0.247
25
0.0
-25
12
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test G140108

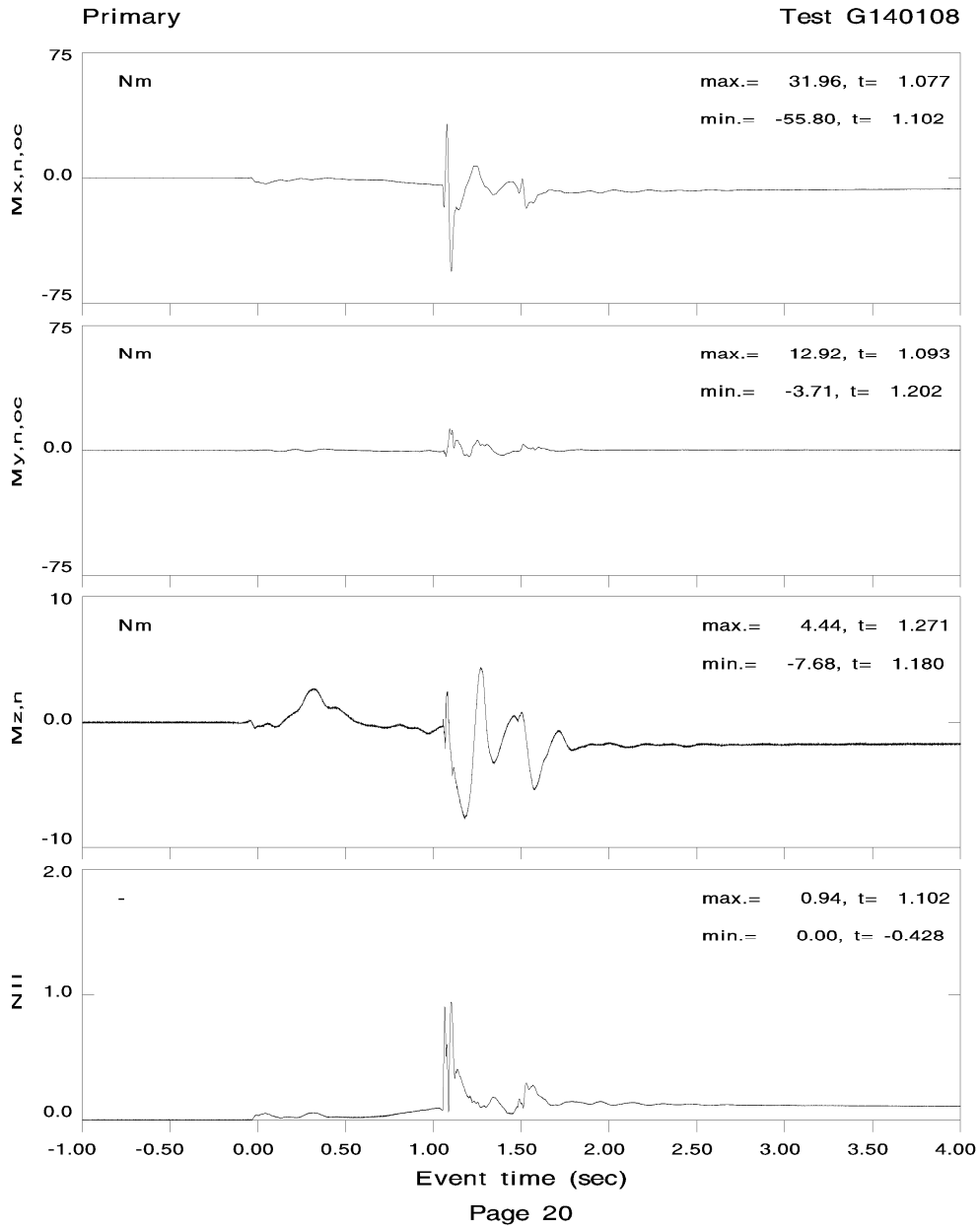


Page 18

Primary Test G140108



Page 19


Primary
Test G140108
Nm
max.= 31.96, t= 1.077
min.= -55.80, t= 1.102
Mx,n,oc
75
0.0
-75
Nm
max.= 12.92, t= 1.093
min.= -3.71, t= 1.202
My,n,oc
75
0.0
-75
Nm
max.= 4.44, t= 1.271
min.= -7.68, t= 1.180
Mz,n
10
0.0
-10
-
max.= 0.94, t= 1.102
min.= 0.00, t= -0.428
NII
2.0
1.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)

Page 20

2.13 Research & Development test latroll_00

ATV_Lateral_RHS_Roll_Low_Floor.ICE
Test Number : ATV_Lateral_RHS_Roll_Low_Floor
Analysis Window : Entire Run

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.310
Cmax	=	8.120
VCmax	=	0.000
HIC	=	209.9
NII (2002 MATD Neck)	=	1.9
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.002
Normalized Cost of Survival	=	0.002
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.948	0.997	1.000	1.000	1.000	0
1	0.024	0.003	0.000	0.000	0.000	0
2	0.019	0.000	0.000	0.000	0.000	0
3	0.010	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.091	0.003	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.002	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

12mar14_01.rpt

Test 12mar14_01, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	7.30 g	1.240	-8.42 g	1.166
Ay,c	10.11 g	1.228	-15.50 g	1.166
Az,c	23.69 g	1.168	-4.01 g	1.231
Ax,p	4.64 g	1.229	-8.30 g	1.170
Ay,p	14.91 g	1.170	-9.54 g	1.172
Az,p	8.88 g	1.230	-35.11 g	1.170
spare	0.00 -	3.115	0.00 -	1.176
spare	0.00 -	-0.893	-0.01 -	1.242
L,ur	0.03 mm	-0.565	-27.79 mm	1.240
L,lr	1.36 mm	1.133	-20.75 mm	1.241
a1	13.11 g	1.141	-39.57 g	1.120
a2	10.21 g	1.379	-38.36 g	1.122
a3	14.73 g	1.379	-43.04 g	1.113
a4	29.57 g	1.113	-8.36 g	1.426
a5	28.39 g	1.113	-6.97 g	1.413
a6	41.94 g	1.113	-9.31 g	1.158
Mx,l	39.43 Nm	1.170	-35.98 Nm	1.237
My,l	652.29 Nm	1.357	-199.95 Nm	1.125
Mz,l	16.90 Nm	2.203	-36.84 Nm	1.481
Fx,l	0.51 kN	1.863	-1.33 kN	1.189
Fy,l	0.89 kN	1.169	-0.31 kN	1.203
Fz,l	1.17 kN	1.230	-1.74 kN	1.187
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	0.685	0.00 -	3.457
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.01 -	2.821	0.00 -	-0.377
a7	48.88 g	1.114	-6.43 g	1.246
a8	37.20 g	1.114	-6.50 g	1.245
a9	53.57 g	1.114	-8.65 g	1.188
Fz,uf,r	0.38 kN	1.388	-0.34 kN	1.229
Mx,uf,r	22.51 Nm	1.666	-38.07 Nm	1.449
My,uf,r	78.78 Nm	1.309	-35.28 Nm	1.191
Mz,uf,r	35.71 Nm	1.206	-31.44 Nm	1.434
Fz,uf,l	1.42 kN	1.228	-0.14 kN	1.173
Mx,uf,l	49.63 Nm	1.460	-58.22 Nm	1.222
My,uf,l	271.14 Nm	1.223	-23.89 Nm	1.173
Mz,uf,l	34.53 Nm	1.521	-13.46 Nm	1.256
Fx,n	0.96 kN	1.127	-0.21 kN	1.161
Fy,n	1.13 kN	1.132	-0.07 kN	1.172
Fz,n	0.50 kN	1.454	-4.07 kN	1.123
Mx,n	27.19 Nm	1.163	-75.67 Nm	1.132
My,n	16.05 Nm	1.271	-24.14 Nm	1.145
Mz,n	3.30 Nm	1.667	-20.94 Nm	1.141
L,ul	14.02 mm	1.176	-0.03 mm	-0.299
L,ll	18.23 mm	1.186	-0.03 mm	-0.266
Ax,h	14.49 g	1.114	-10.50 g	1.381
Ay,h	9.91 g	1.141	-44.71 g	1.114
Az,h	48.91 g	1.114	-6.43 g	1.246
àx,h	2.19 krad/s**2	1.160	-3.69 krad/s**2	1.113
ày,h	2.05 krad/s**2	1.115	-1.25 krad/s**2	1.134
àz,h	1.68 krad/s**2	1.114	-0.82 krad/s**2	1.128
Ar,h	66.84 g	1.114	0.01 g	-0.799
àr,h	3.82 krad/s**2	1.113	0.00 krad/s**2	3.760
G	0.31 -	1.114	0.00 -	-0.948
HIC	205.22	1.130	----	1.111
Fxy,n	1.45 kN	1.132	0.00 kN	-0.431
Dx,us	1.77 mm	1.155	-14.81 mm	1.237
Dy,us	27.44 mm	1.242	-0.03 mm	-0.078

Page 1

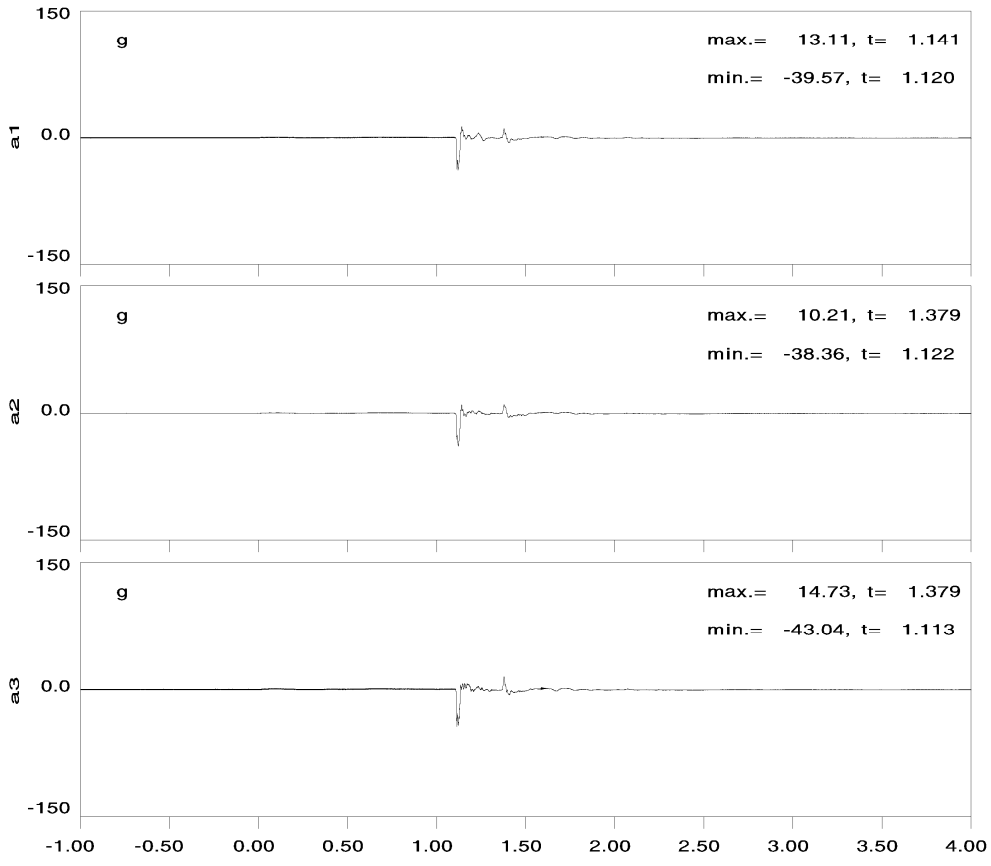
12mar14_01.rpt

Cus	7.90	%	1.237	-0.94 %	1.155
Vus	0.37	m/s	1.268	-0.94 m/s	1.222
VCus	0.05	m/s	1.225	-0.02 m/s	1.246
Dx,ls	5.64	mm	1.129	-7.21 mm	1.234
Dy,ls	25.25	mm	1.242	-0.03 mm	-0.970
Cls	3.85	%	1.234	-3.01 %	1.129
Vls	0.36	m/s	1.121	-0.46 m/s	1.222
VCls	0.01	m/s	1.224	-0.01 m/s	1.139
Mxy,uf,r	79.28	Nm	1.308	0.00 Nm	-0.195
Mxy,uf,l	277.20	Nm	1.223	0.00 Nm	-0.873
Mx,n,oc	26.98	Nm	1.163	-55.67 Nm	1.132
My,n,oc	14.35	Nm	1.272	-26.53 Nm	1.145
NII	1.93	-	1.123	0.00 -	-0.723
Ar,p	36.34	g	1.170	0.02 g	-0.558
Ar,c	26.11	g	1.168	0.00 g	-0.498

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

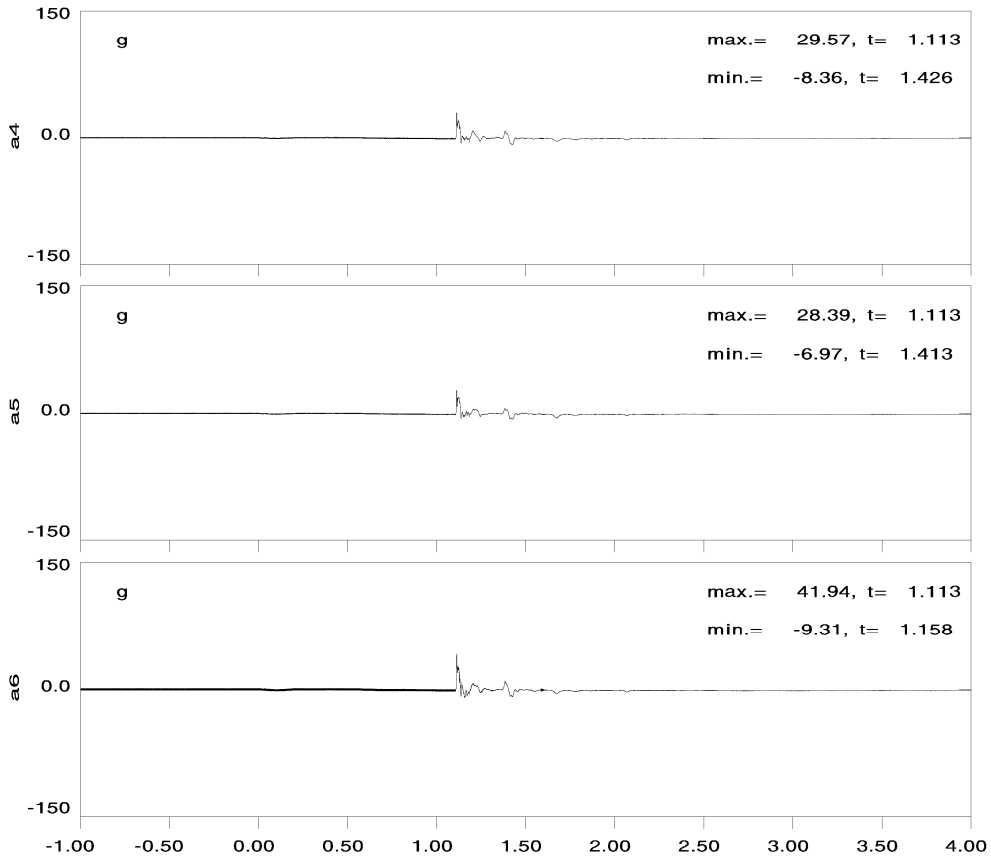
Page 2

Primary Test 12mar14_01



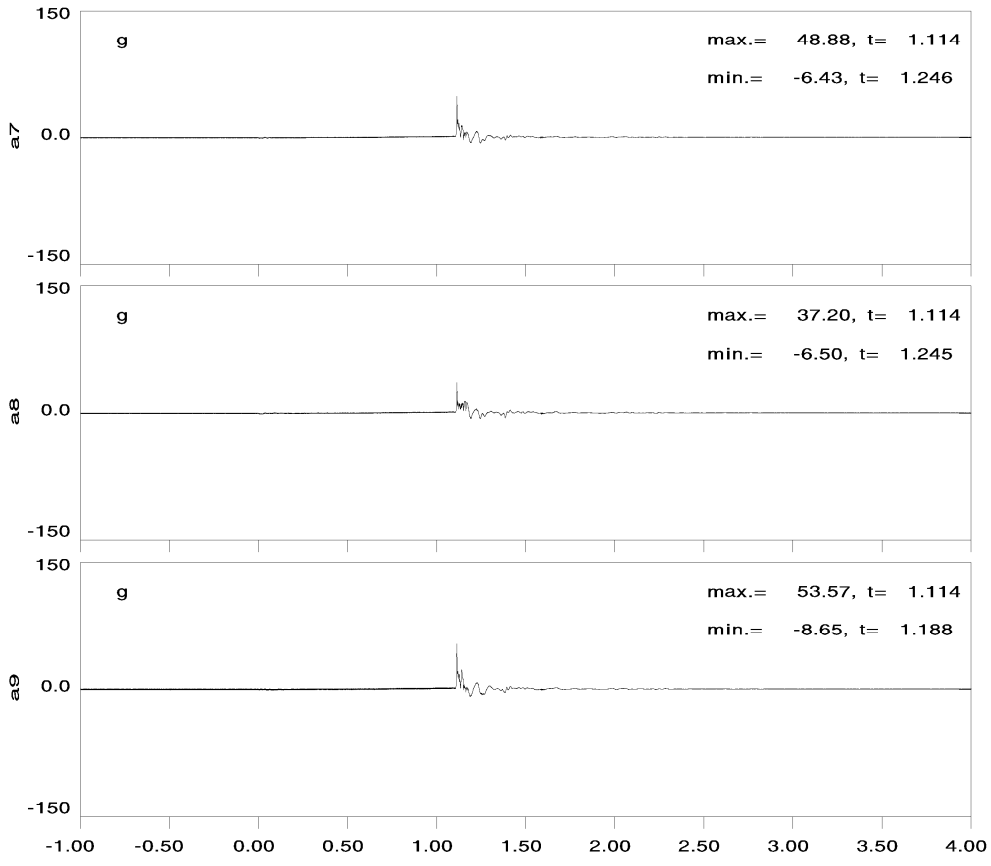
Page 1

Primary Test 12mar14_01



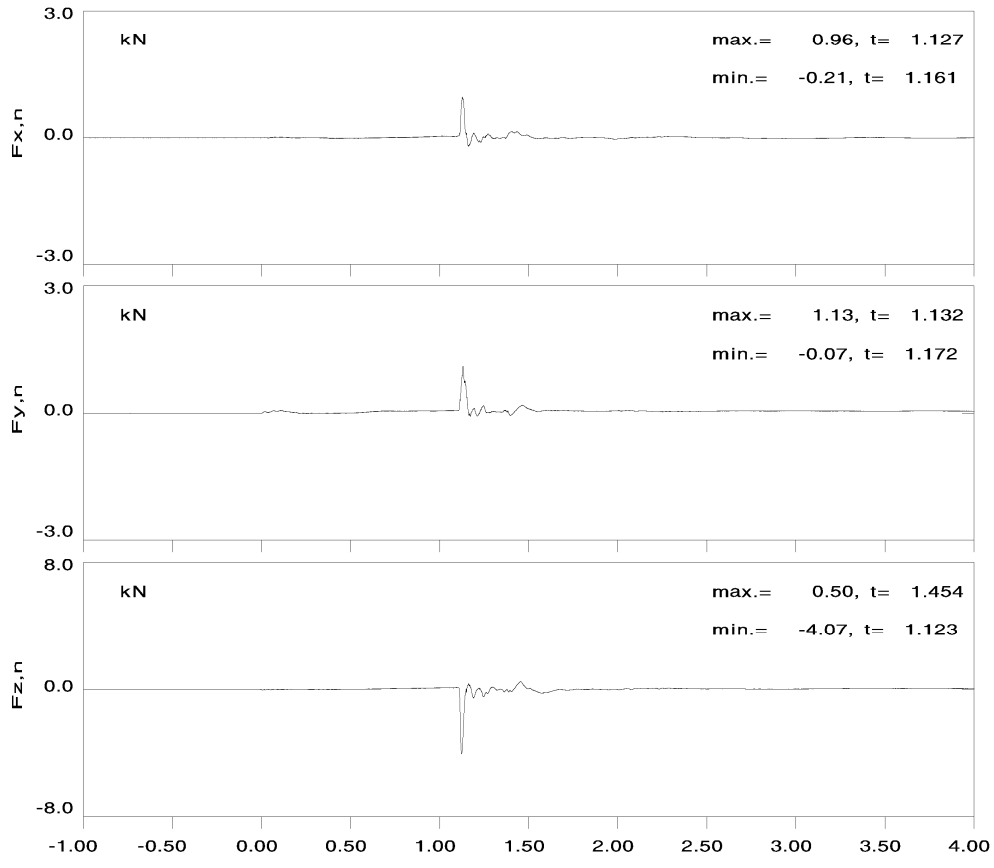
Page 2

Primary Test 12mar14_01



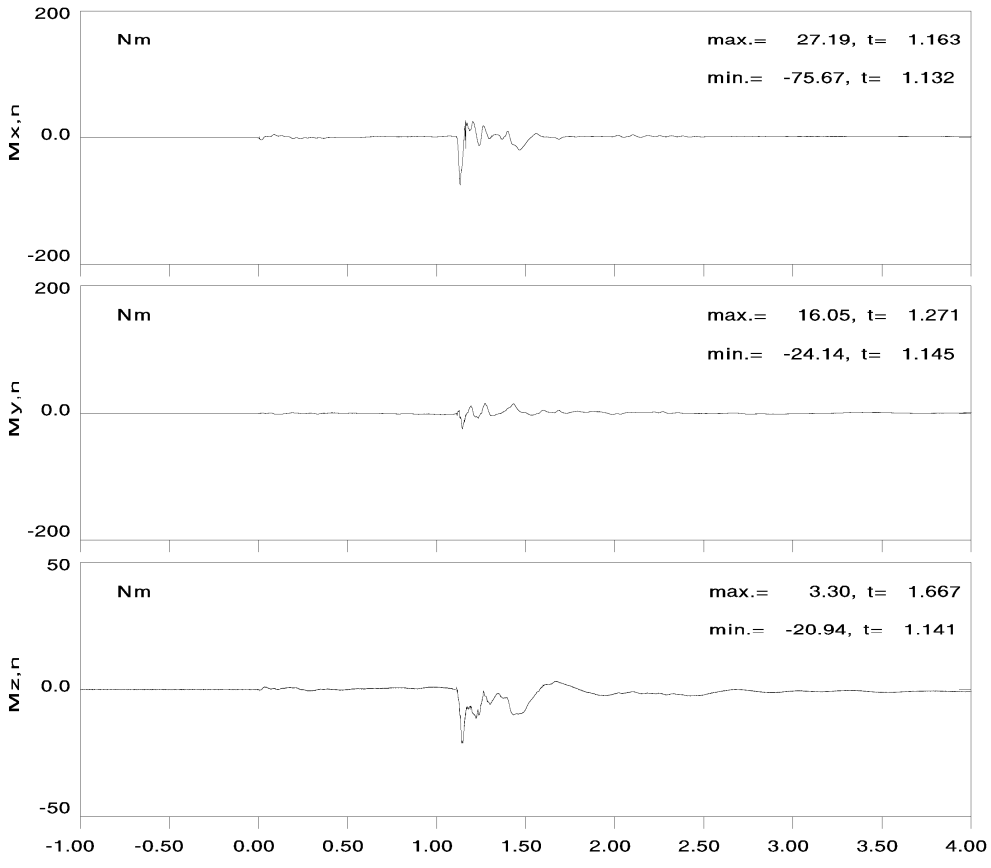
Page 3

Primary Test 12mar14_01

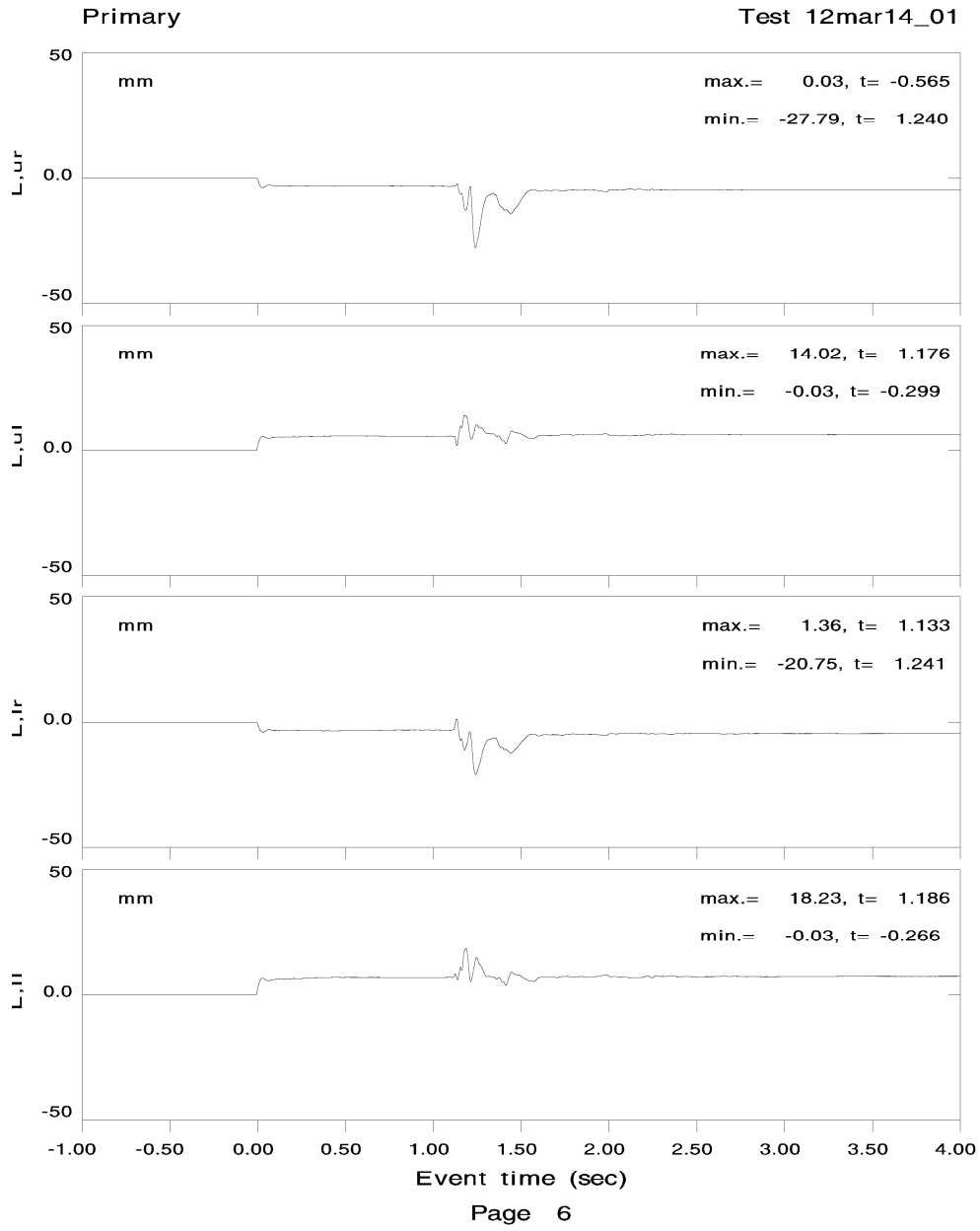


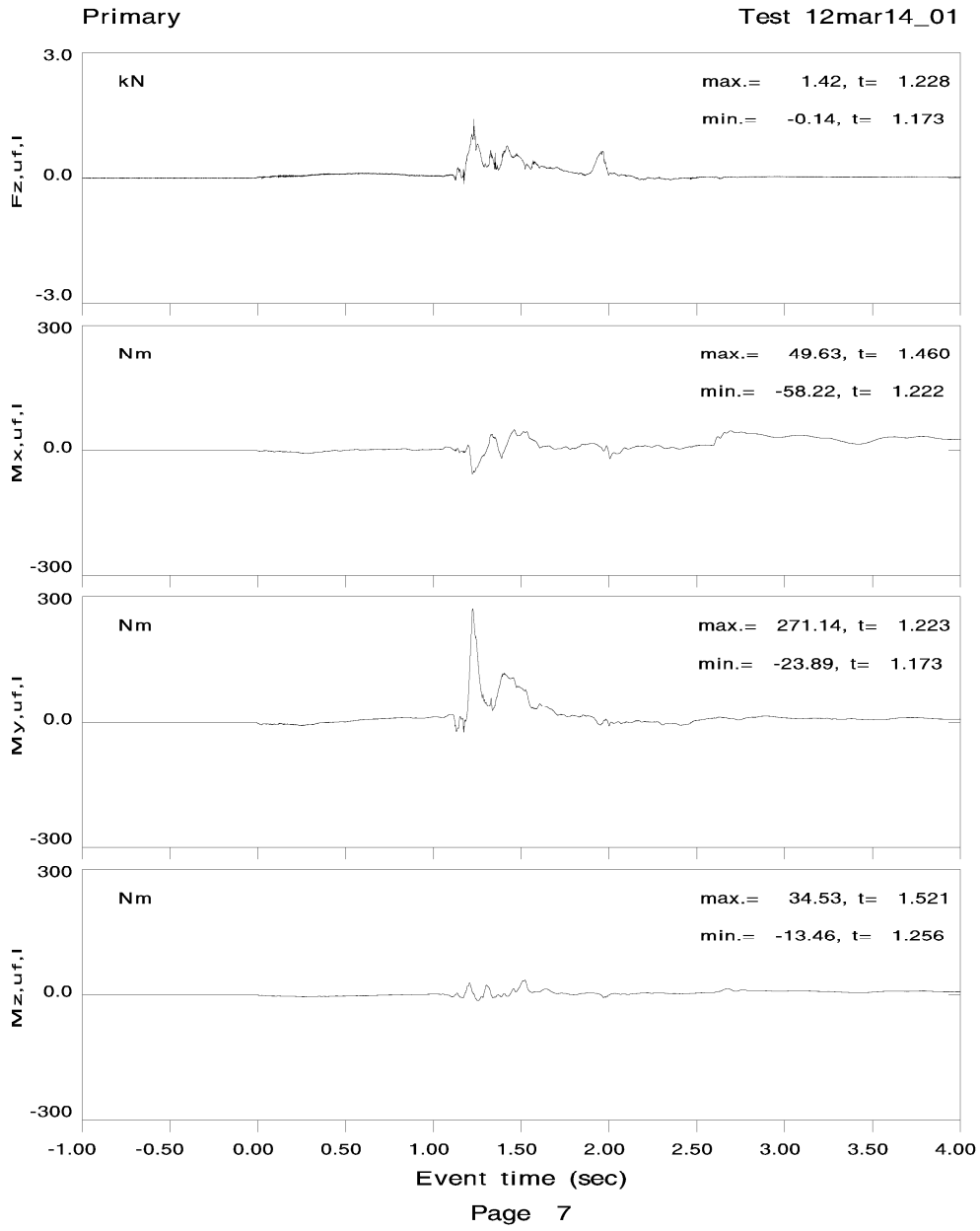
Page 4

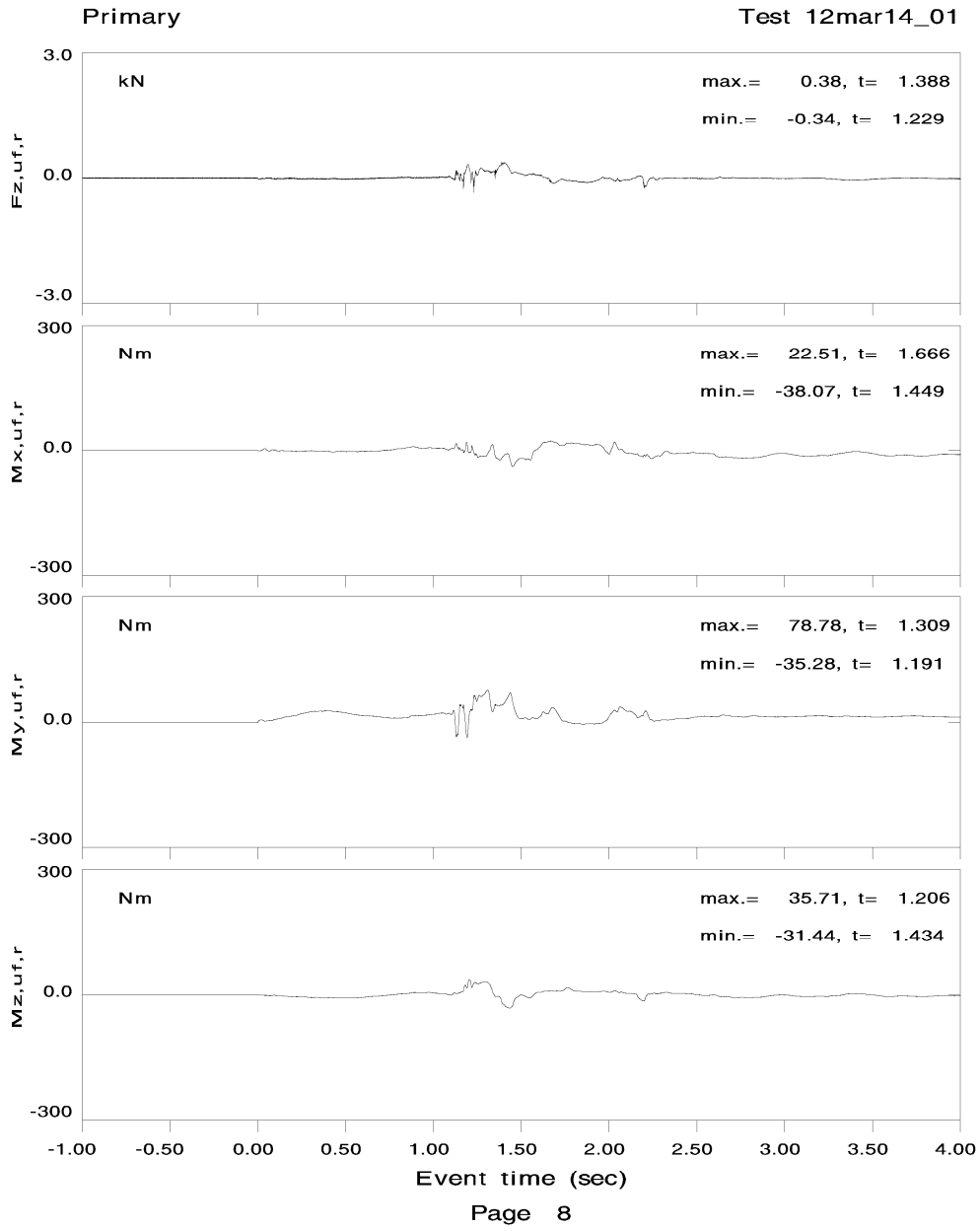
Primary Test 12mar14_01

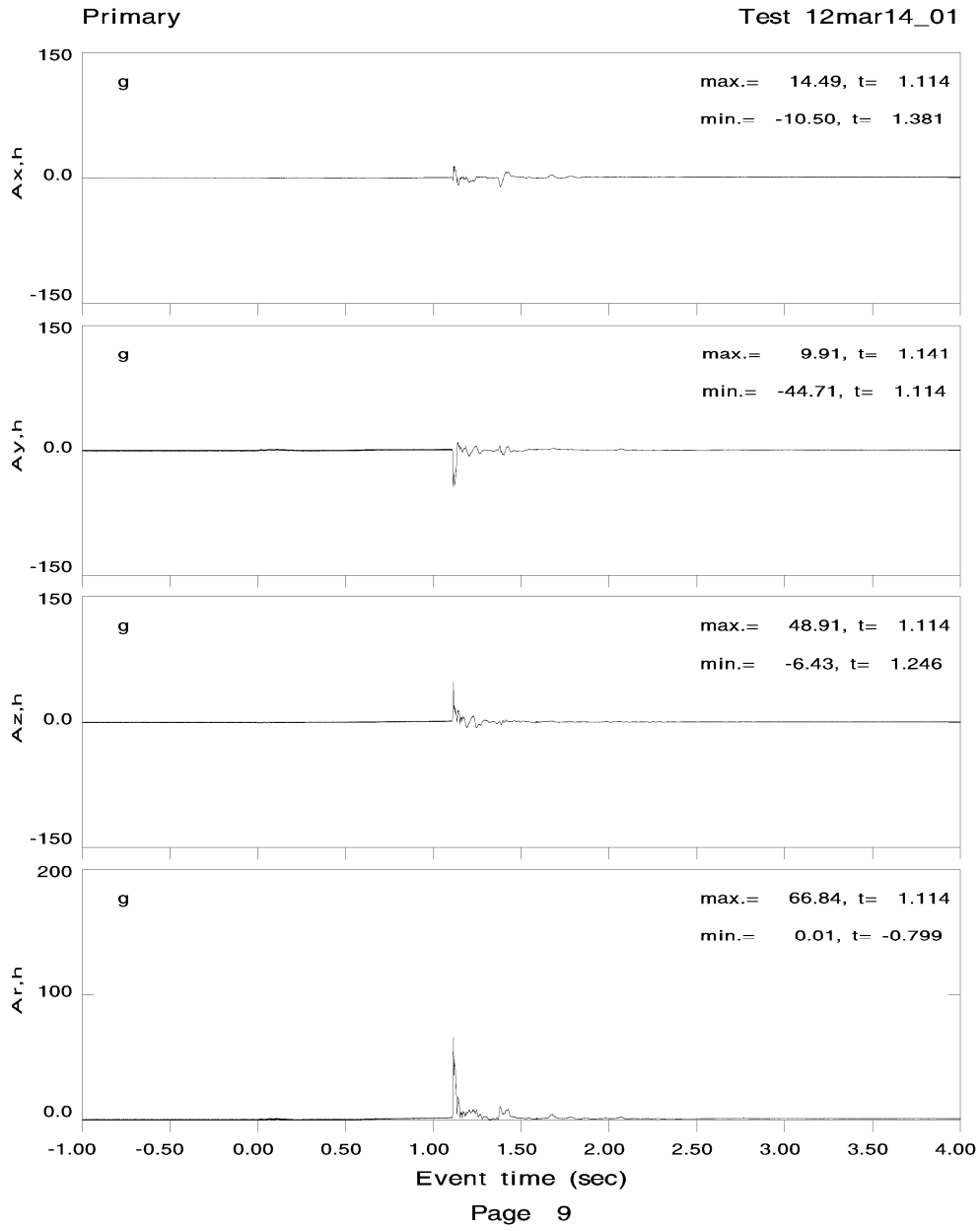


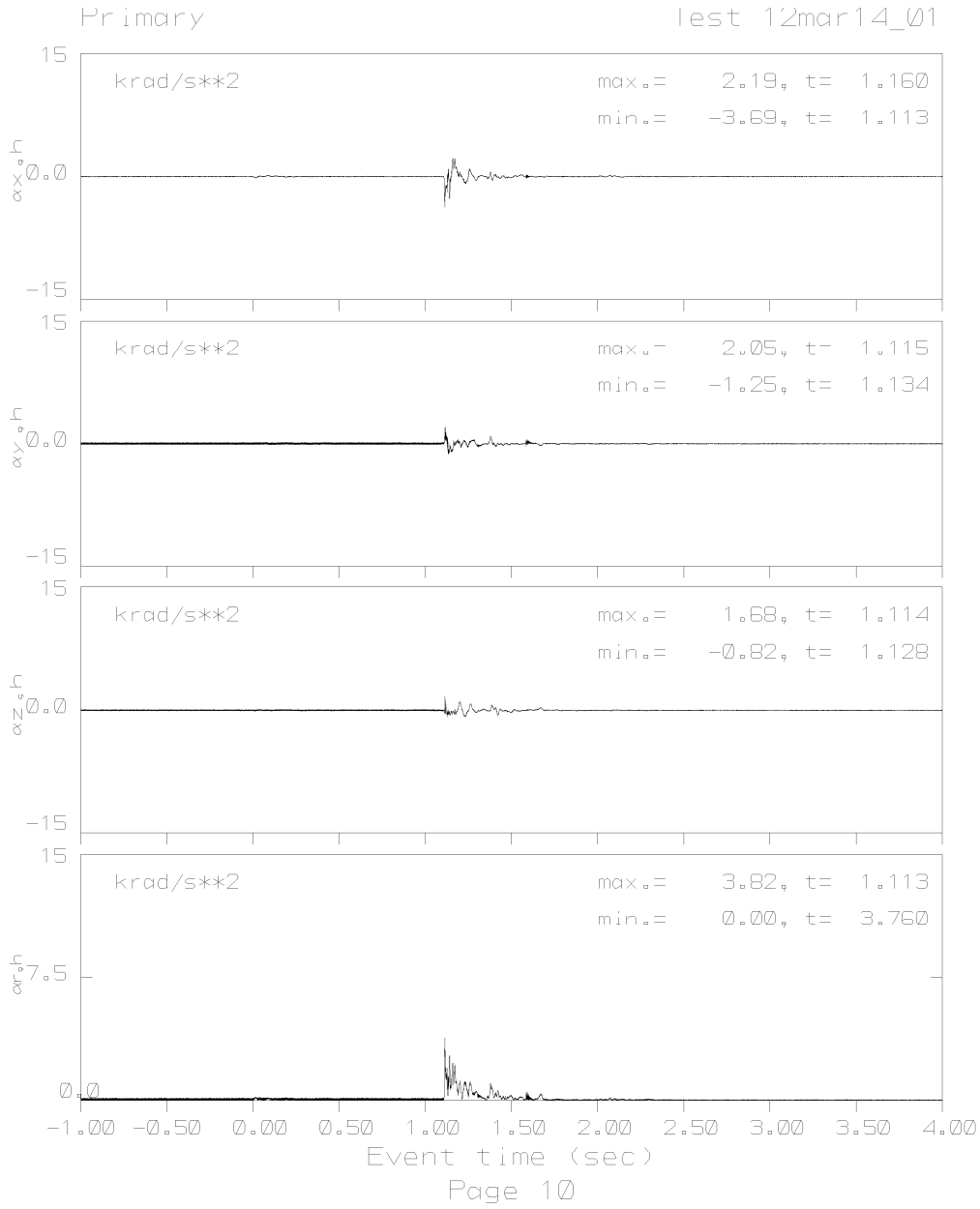
Page 5

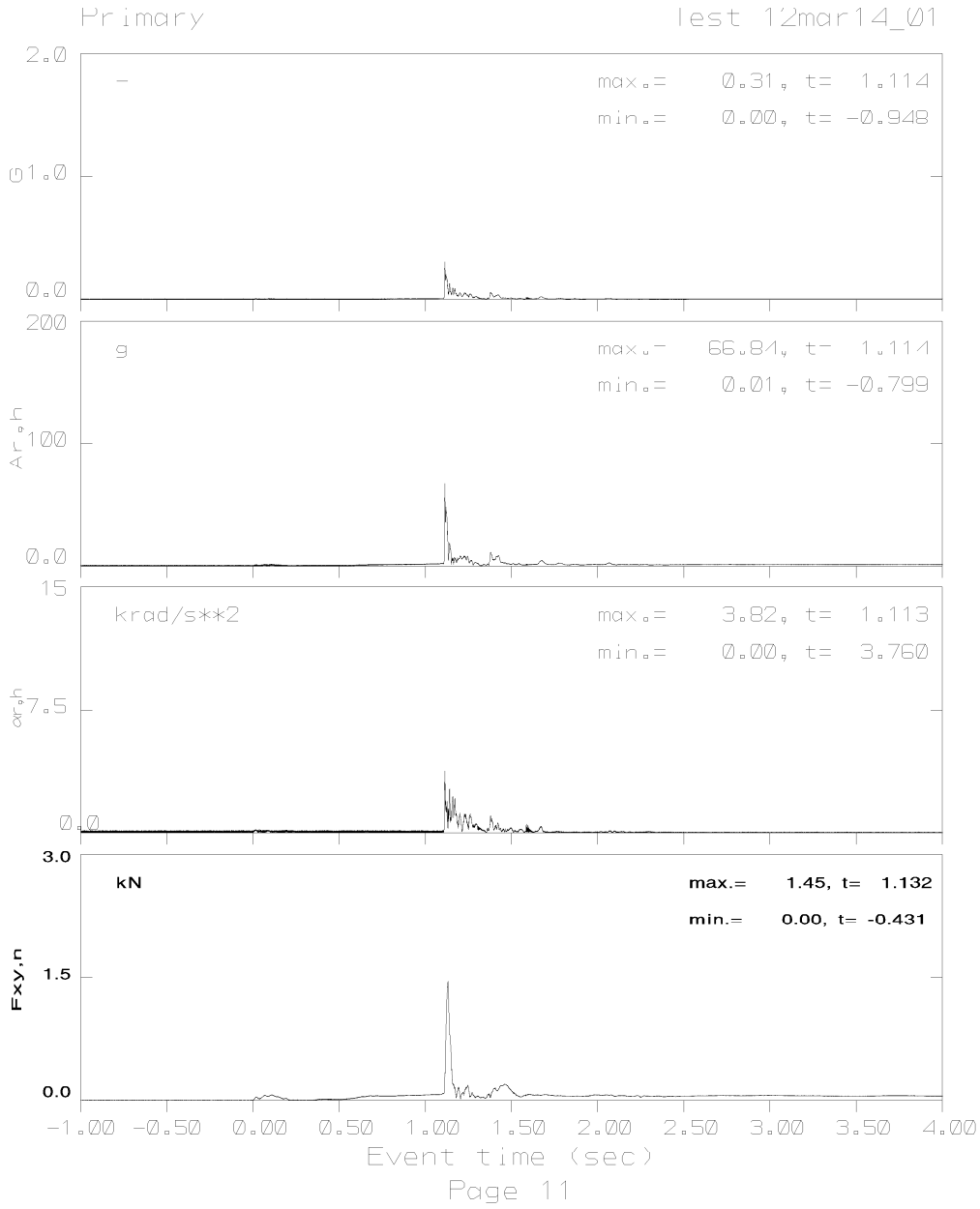

Primary
Test 12mar14_01
mm
max.= 0.03, t= -0.565
min.= -27.79, t= 1.240
L,ur
mm
max.= 14.02, t= 1.176
min.= -0.03, t= -0.299
L,ul
mm
max.= 1.36, t= 1.133
min.= -20.75, t= 1.241
L,lr
mm
max.= 18.23, t= 1.186
min.= -0.03, t= -0.266
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

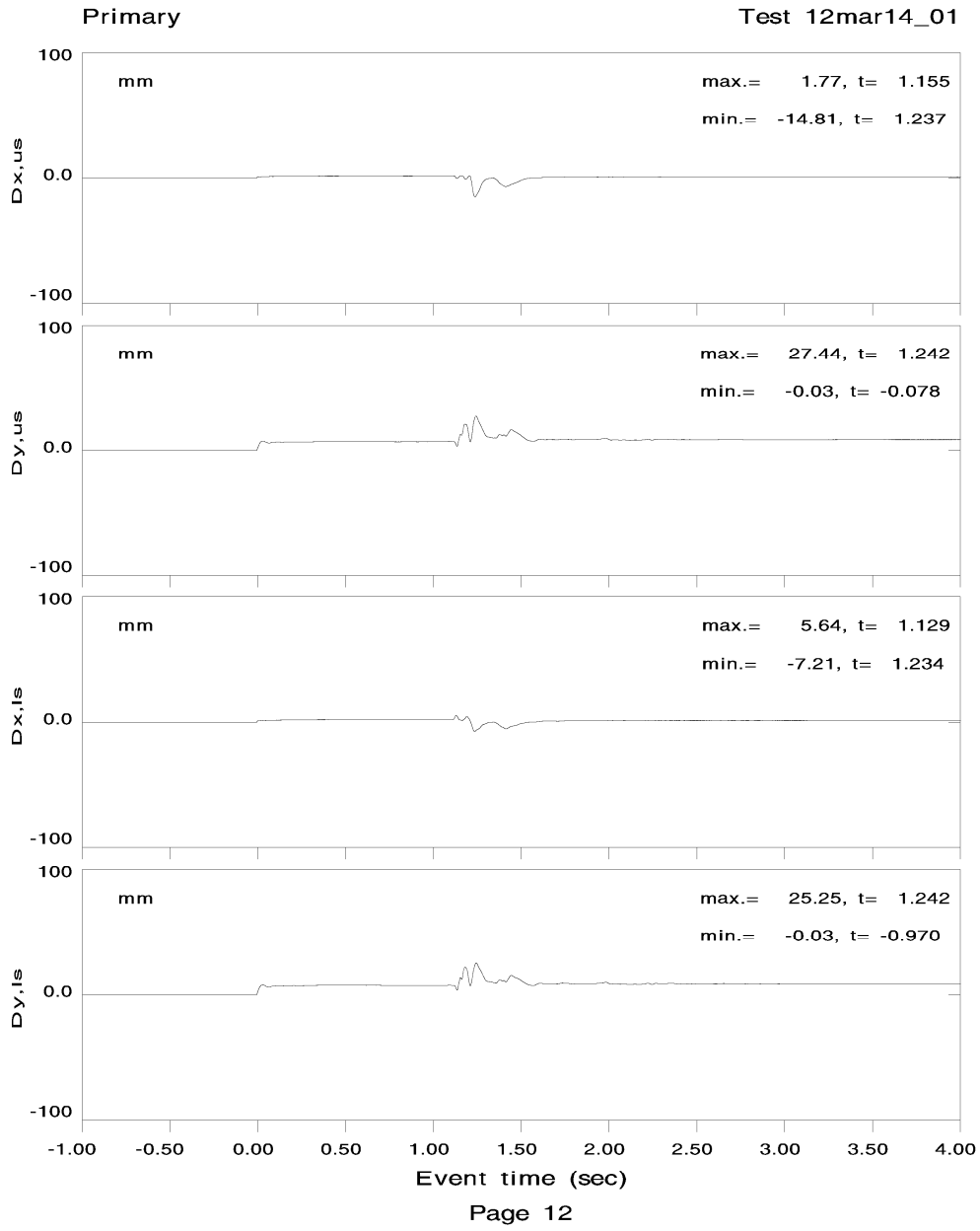

Primary
Test 12mar14_01
kN
max.= 1.42, t= 1.228
min.= -0.14, t= 1.173
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 49.63, t= 1.460
min.= -58.22, t= 1.222
Mx,uf,l
300
0.0
-300
Nm
max.= 271.14, t= 1.223
min.= -23.89, t= 1.173
My,uf,l
300
0.0
-300
Nm
max.= 34.53, t= 1.521
min.= -13.46, t= 1.256
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test 12mar14_01
kN
max.= 0.38, t= 1.388
min.= -0.34, t= 1.229
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 22.51, t= 1.666
min.= -38.07, t= 1.449
Mx,uf,r
300
0.0
-300
Nm
max.= 78.78, t= 1.309
min.= -35.28, t= 1.191
My,uf,r
300
0.0
-300
Nm
max.= 35.71, t= 1.206
min.= -31.44, t= 1.434
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

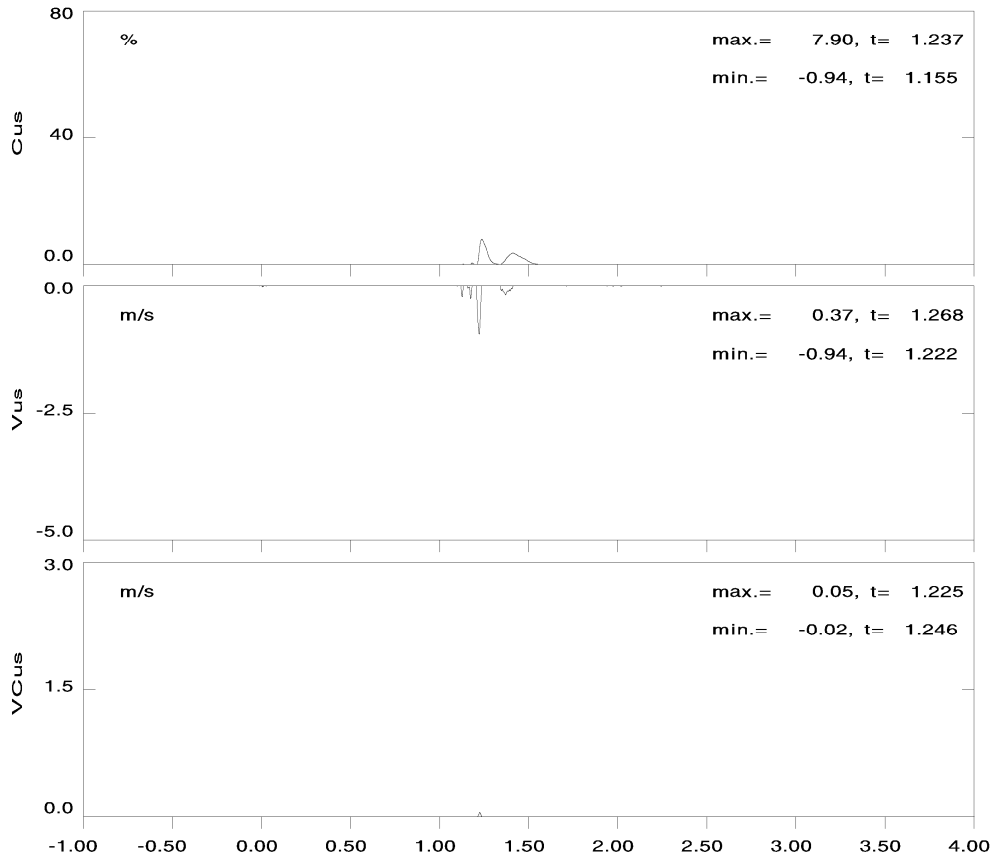

Primary
Test 12mar14_01
g
max.= 14.49, t= 1.114
min.= -10.50, t= 1.381
Ax,h
150
0.0
-150
g
max.= 9.91, t= 1.141
min.= -44.71, t= 1.114
Ay,h
150
0.0
-150
g
max.= 48.91, t= 1.114
min.= -6.43, t= 1.246
Az,h
150
0.0
-150
g
max.= 66.84, t= 1.114
min.= 0.01, t= -0.799
Ar,h
200
100
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test 12mar14_01
krad/s**2
max.= 2.19, t= 1.160
min.= -3.69, t= 1.113
ax,h
krad/s**2
max.= 2.05, t= 1.115
min.= -1.25, t= 1.134
ay,h
krad/s**2
max.= 1.68, t= 1.114
min.= -0.82, t= 1.128
az,h
krad/s**2
max.= 3.82, t= 1.113
min.= 0.00, t= 3.760
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
Test 12mar14_01
max.= 0.31, t= 1.114
min.= 0.00, t= -0.948
max.= 66.84, t= 1.114
min.= 0.01, t= -0.799
krad/s**2
max.= 3.82, t= 1.113
min.= 0.00, t= 3.760
kN
max.= 1.45, t= 1.132
min.= 0.00, t= -0.431
Fxy,n
Event time (sec)
Page 11

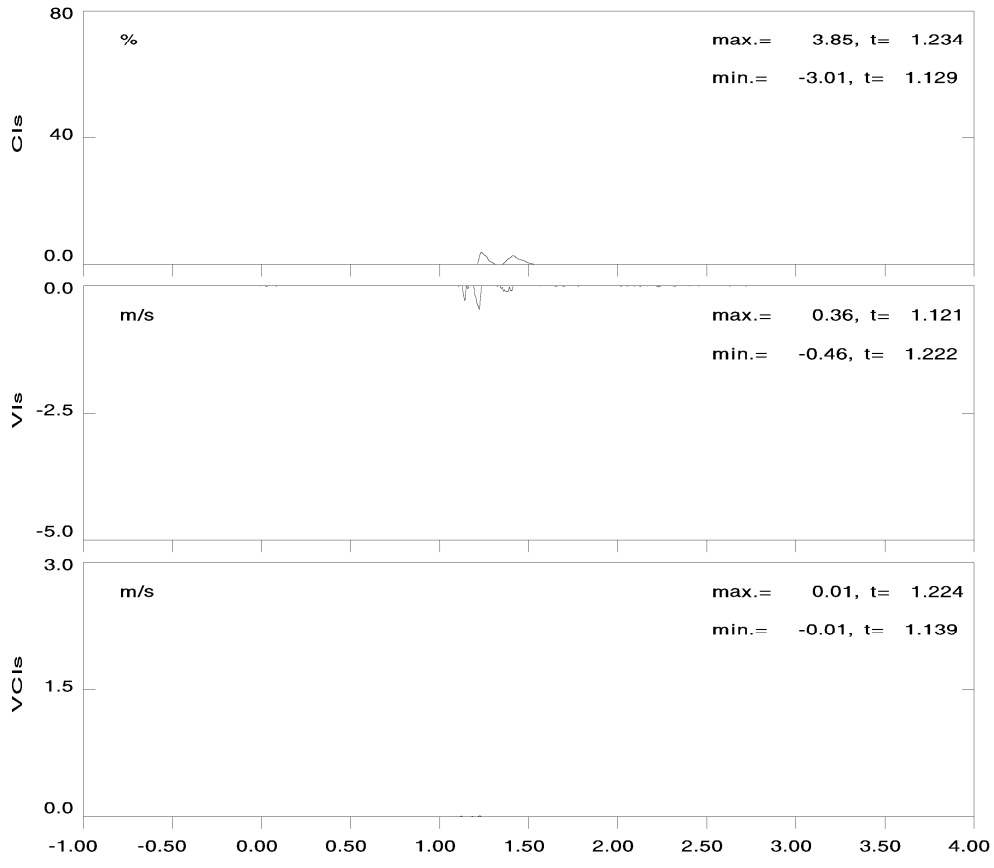

Primary
Test 12mar14_01
mm
max.= 1.77, t= 1.155
min.= -14.81, t= 1.237
Dx,us
mm
max.= 27.44, t= 1.242
min.= -0.03, t= -0.078
Dy,us
mm
max.= 5.64, t= 1.129
min.= -7.21, t= 1.234
Dx,ls
mm
max.= 25.25, t= 1.242
min.= -0.03, t= -0.970
Dy,ls
100
0.0
-100
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test 12mar14_01



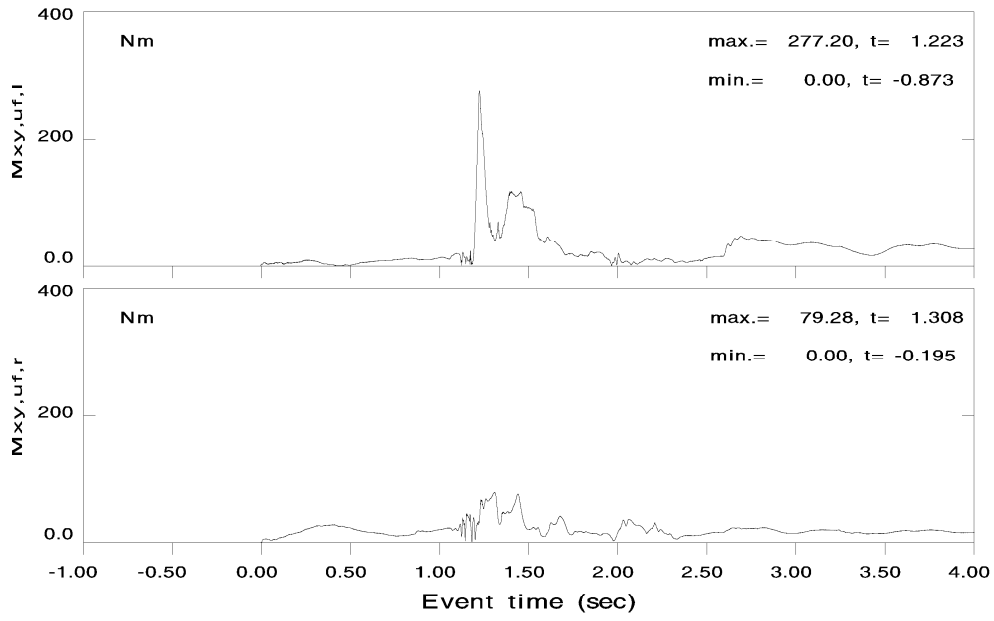
Page 13

Primary Test 12mar14_01

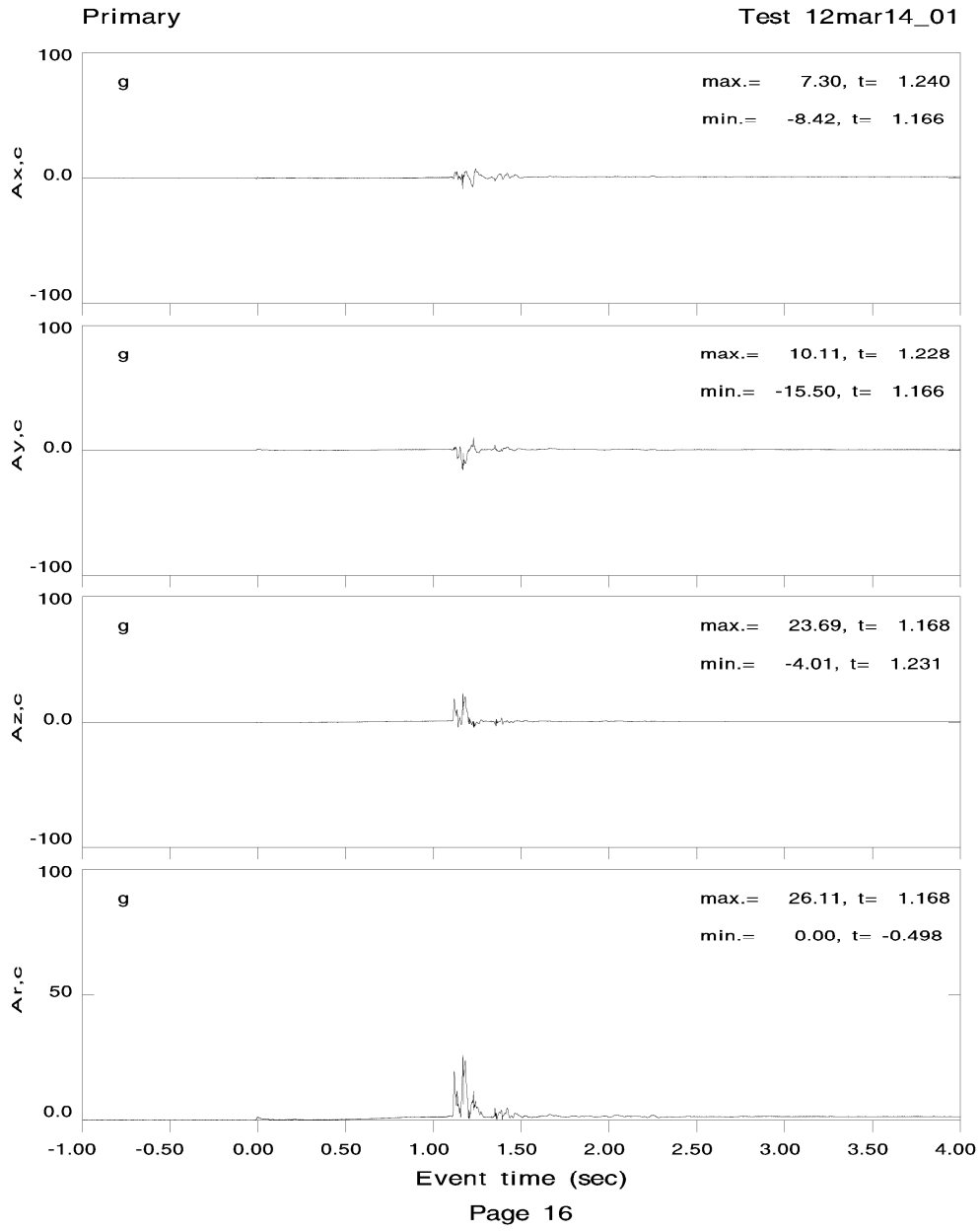


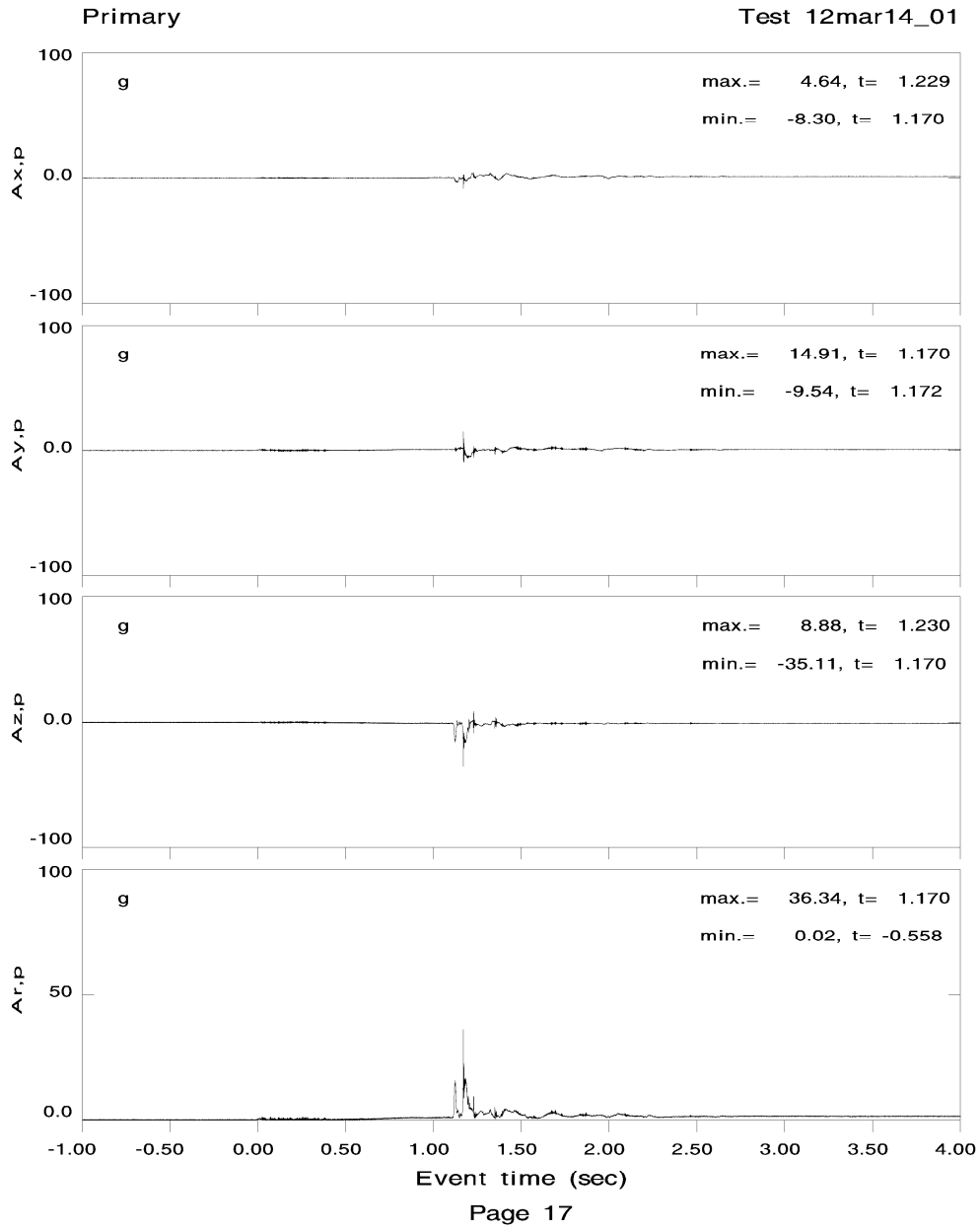
Page 14

Primary Test 12mar14_01

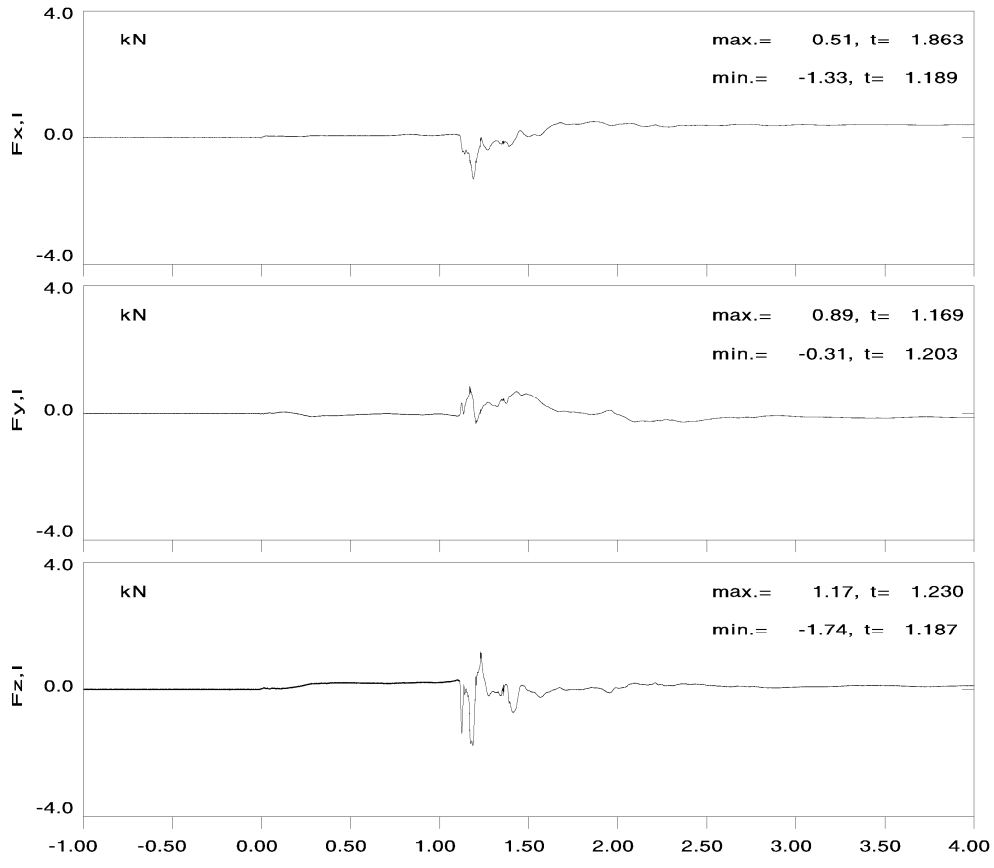


Page 15


Primary
Test 12mar14_01
g
max.= 7.30, t= 1.240
min.= -8.42, t= 1.166
Ax,c
g
max.= 10.11, t= 1.228
min.= -15.50, t= 1.166
Ay,c
g
max.= 23.69, t= 1.168
min.= -4.01, t= 1.231
Az,c
g
max.= 26.11, t= 1.168
min.= 0.00, t= -0.498
Ar,c
100
0.0
-100
50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

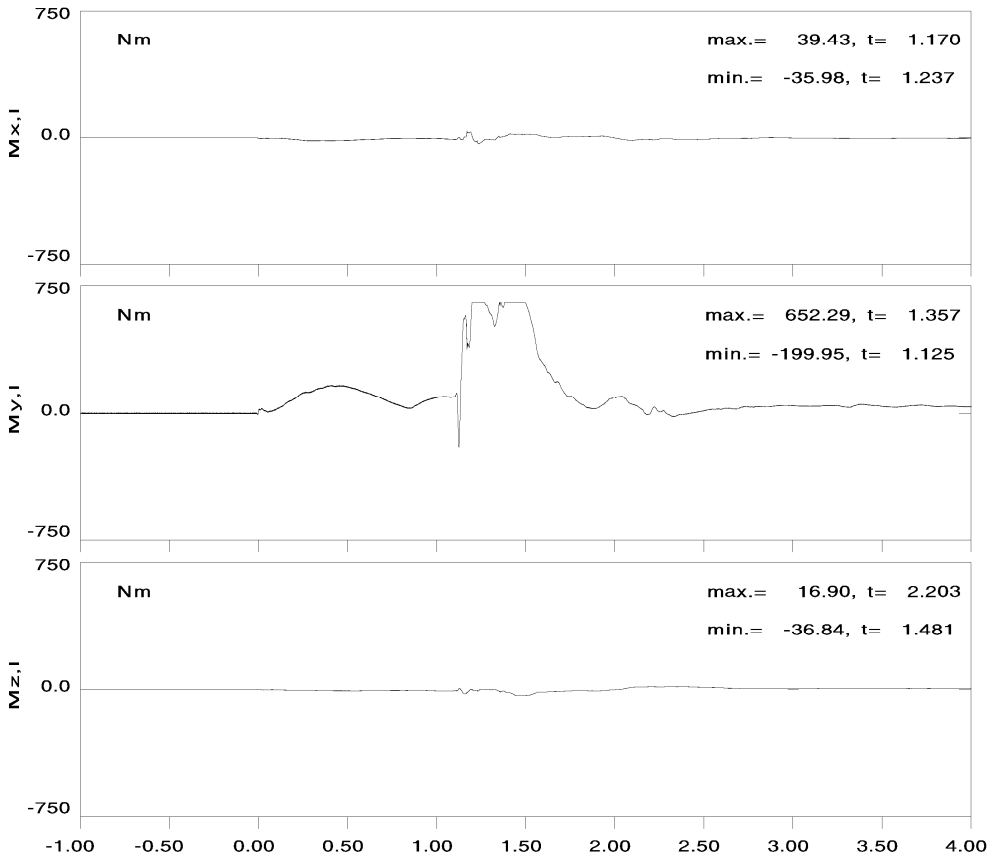

Primary
Test 12mar14_01
g
max.= 4.64, t= 1.229
min.= -8.30, t= 1.170
Ax,p
g
max.= 14.91, t= 1.170
min.= -9.54, t= 1.172
Ay,p
g
max.= 8.88, t= 1.230
min.= -35.11, t= 1.170
Az,p
g
max.= 36.34, t= 1.170
min.= 0.02, t= -0.558
Ar,p
Event time (sec)
Page 17

Primary Test 12mar14_01

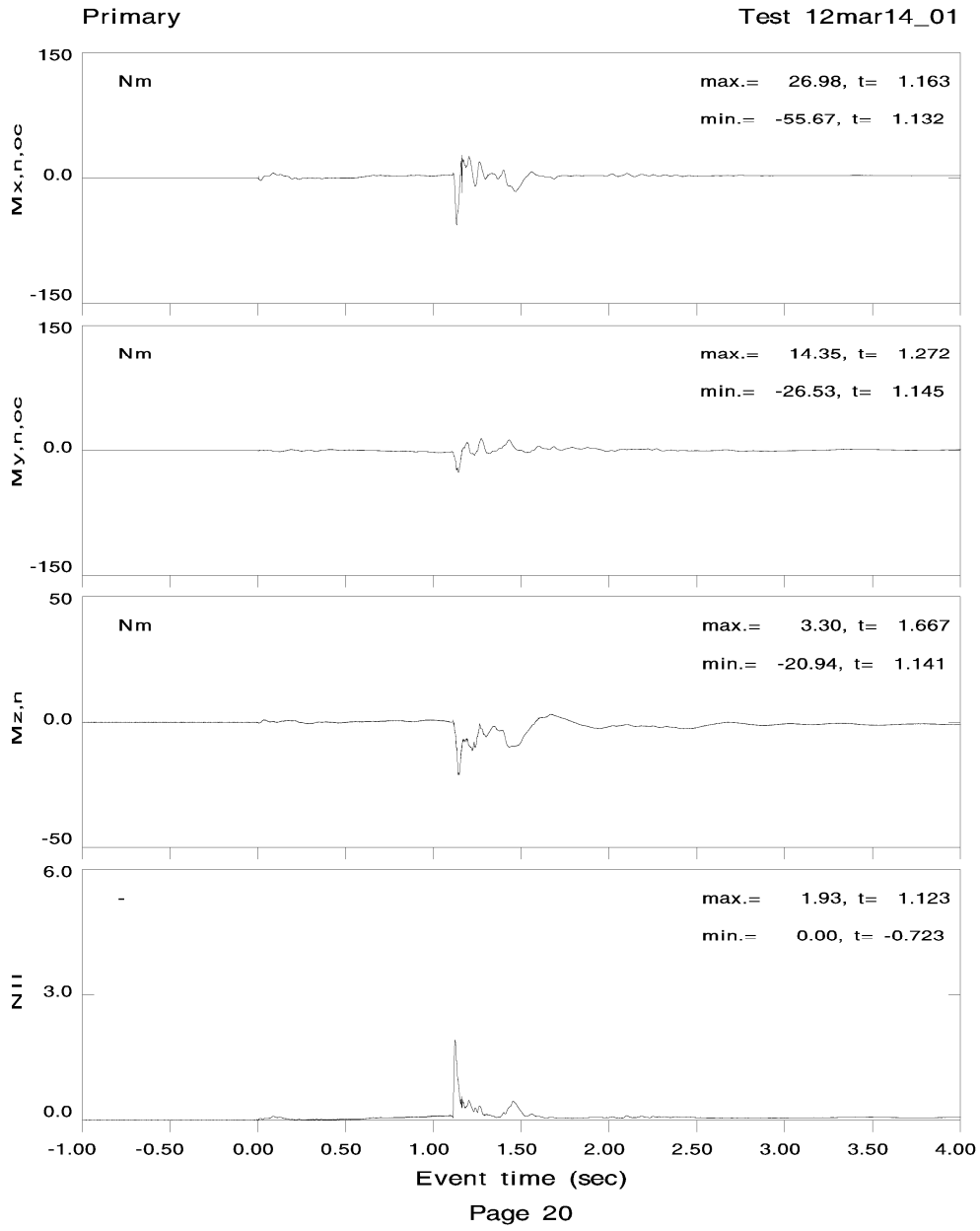


Page 18

Primary Test 12mar14_01



Page 19


Primary
Test 12mar14_01
Nm
max.= 26.98, t= 1.163
min.= -55.67, t= 1.132
Mx,n,oc
150
0.0
-150
Nm
max.= 14.35, t= 1.272
min.= -26.53, t= 1.145
My,n,oc
150
0.0
-150
Nm
max.= 3.30, t= 1.667
min.= -20.94, t= 1.141
Mz,n
50
0.0
-50
-
max.= 1.93, t= 1.123
min.= 0.00, t= -0.723
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.14 Research & Development test latroll_01

ATV_Lateral_RHS_Roll_Raised_Floor.ICE
Test Number : latroll_01
Analysis Window : Entire Run

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	1
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.760
Cmax	=	5.740
VCmax	=	0.000
HIC	=	621.8
NII (Hybrid III Neck [minus steel cable])	=	2.7
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	2.0
Total AIS	=	4.0
Normalized Injury Cost	=	0.160
Normalized Cost of Survival	=	0.108
Normalized Cost of Dying	=	0.051
Probability of Fatality	=	0.051
Probability of Fatality due to non AIS 6 injuries	=	0.025
Probability of Fatality due AIS 6 injuries	=	0.026
Permanent Partial Incapacity	=	0.150
Risk of life threatening brain injury (%)	=	3.2

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.255	0.966	1.000	1.000	0.000	0
1	0.236	0.031	0.000	0.000	0.000	0
2	0.353	0.003	0.000	0.000	1.000	1
3	0.059	0.000	0.000	0.000	0.000	0
4	0.059	0.000	0.000	0.000	0.000	0
5	0.011	0.000	0.000	0.000	0.000	0
6	0.026	0.000	0.000	0.000	0.000	0
PAIS	1.568	0.038	0.000	0.000	2.000	
PAIS	2	0	0	0	2	
Body Region NPIC	0.080	0.000	0.000	0.000	0.000 0.120 0.000 0.120	Femur Knee Tibia Leg

Page 1

latroll_01.rpt

Test latroll_01, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	6.92 g	1.413	-10.91 g	1.442
Ay,c	4.95 g	1.473	-25.59 g	1.439
Az,c	41.92 g	1.412	-11.91 g	1.419
Ax,p	4.56 g	1.528	-20.99 g	1.445
Ay,p	48.42 g	1.445	-19.43 g	1.447
Az,p	9.01 g	1.427	-66.57 g	1.445
spare	0.00 -	0.384	-0.01 -	1.447
spare	0.00 -	1.447	0.00 -	1.496
L,ur	3.54 mm	1.487	-14.65 mm	1.674
L,lr	4.71 mm	1.487	-13.52 mm	1.677
a1	11.25 g	1.425	-92.27 g	1.409
a2	11.87 g	1.427	-82.78 g	1.410
a3	14.54 g	1.554	-118.64 g	1.409
a4	89.27 g	1.409	-10.13 g	1.423
a5	75.30 g	1.409	-10.47 g	1.420
a6	128.29 g	1.409	-14.15 g	1.420
Mx,l	91.48 Nm	1.467	-33.69 Nm	1.630
My,l	654.73 Nm	1.603	-463.65 Nm	1.418
Mz,l	95.06 Nm	1.635	-4.08 Nm	1.431
Fx,l	1.07 kN	2.805	-0.82 kN	1.464
Fy,l	0.74 kN	1.556	-1.07 kN	1.480
Fz,l	1.23 kN	1.525	-2.24 kN	1.417
spare	0.00 -	4.000	0.00 -	4.000
spare	0.02 -	1.446	-0.07 -	1.449
spare	0.01 -	1.450	0.00 -	3.963
spare	0.00 -	1.617	0.00 -	1.235
spare	0.00 -	4.000	0.00 -	4.000
spare	0.00 -	4.000	0.00 -	4.000
Spare	0.01 -	1.445	0.00 -	1.451
a7	95.59 g	1.409	-16.18 g	1.415
a8	65.40 g	1.409	-16.44 g	1.414
a9	105.57 g	1.409	-19.34 g	1.414
Fz,uf,r	0.64 kN	1.450	-0.41 kN	1.510
Mx,uf,r	51.06 Nm	1.505	-30.46 Nm	2.084
My,uf,r	46.01 Nm	1.445	-70.19 Nm	1.423
Mz,uf,r	40.82 Nm	1.479	-27.45 Nm	2.091
Fz,uf,l	0.90 kN	1.528	-0.87 kN	1.446
Mx,uf,l	59.42 Nm	1.482	-105.77 Nm	1.542
My,uf,l	129.86 Nm	1.982	-58.78 Nm	1.448
Mz,uf,l	203.51 Nm	2.098	-7.89 Nm	2.806
Fx,n	0.76 kN	1.415	-0.27 kN	2.069
Fy,n	1.47 kN	1.420	0.00 kN	0.336
Fz,n	0.24 kN	1.499	-5.77 kN	1.413
Mx,n	42.39 Nm	1.449	-106.77 Nm	1.422
My,n	16.91 Nm	1.415	-18.14 Nm	1.410
Mz,n	4.12 Nm	1.712	-16.05 Nm	1.422
L,ul	17.82 mm	1.459	-2.87 mm	1.487
L,ll	19.51 mm	1.459	-4.14 mm	1.487
Ax,h	23.22 g	1.414	-9.87 g	1.555
Ay,h	14.00 g	1.424	-128.35 g	1.409
Az,h	95.66 g	1.409	-16.20 g	1.415
ȧx,h	2.72 krad/s**2	1.419	-10.45 krad/s**2	1.409
ȧy,h	4.98 krad/s**2	1.409	-1.58 krad/s**2	1.414
ȧz,h	3.86 krad/s**2	1.409	-2.62 krad/s**2	1.412
Ar,h	155.24 g	1.409	0.01 g	-0.244
ȧr,h	11.49 krad/s**2	1.409	0.00 krad/s**2	1.219
G	0.76 -	1.409	0.00 -	-0.683
HIC	622.47	1.412	----	1.407
Fxy,n	1.57 kN	1.419	0.00 kN	-0.228
Dx,us	2.53 mm	1.478	-10.77 mm	1.610
Dy,us	24.30 mm	1.459	-5.08 mm	1.487

Page 1

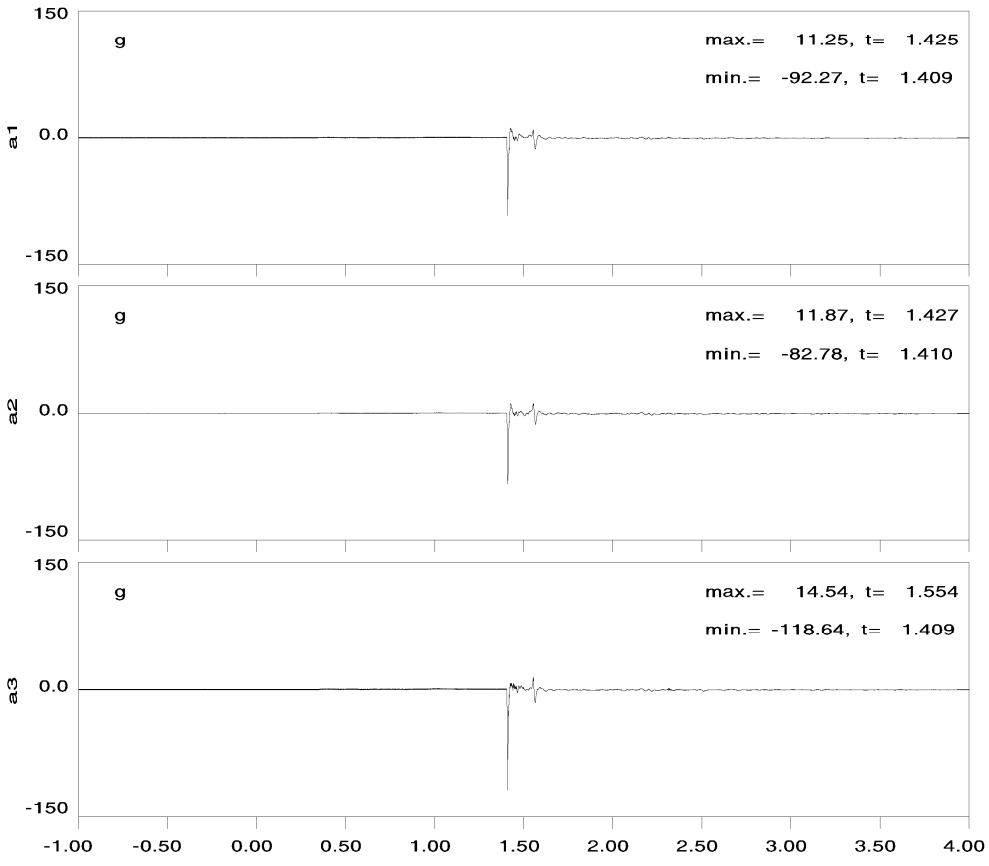
latroll_01.rpt

Cus	5.74	%	1.610	-1.35	%	1.478
Vus	0.36	m/s	1.474	-0.31	m/s	1.482
VCus	0.01	m/s	1.579	0.00	m/s	1.628
Dx,ls	5.59	mm	1.419	-6.89	mm	1.610
Dy,ls	23.77	mm	1.458	-6.52	mm	1.487
Cls	3.67	%	1.610	-2.98	%	1.419
Vls	0.63	m/s	1.415	-0.42	m/s	1.426
VCls	0.01	m/s	1.416	-0.01	m/s	1.424
Mxy,uf,r	70.47	Nm	1.423	0.00	Nm	0.180
Mxy,uf,l	155.50	Nm	1.540	0.00	Nm	0.034
Mx,n,oc	47.05	Nm	1.449	-83.54	Nm	1.423
My,n,oc	12.74	Nm	2.295	-20.01	Nm	1.410
NII	2.74	-	1.413	0.00	-	-0.323
Ar,p	79.22	g	1.445	0.00	g	-0.689
Ar,c	42.42	g	1.412	0.00	g	-0.664

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

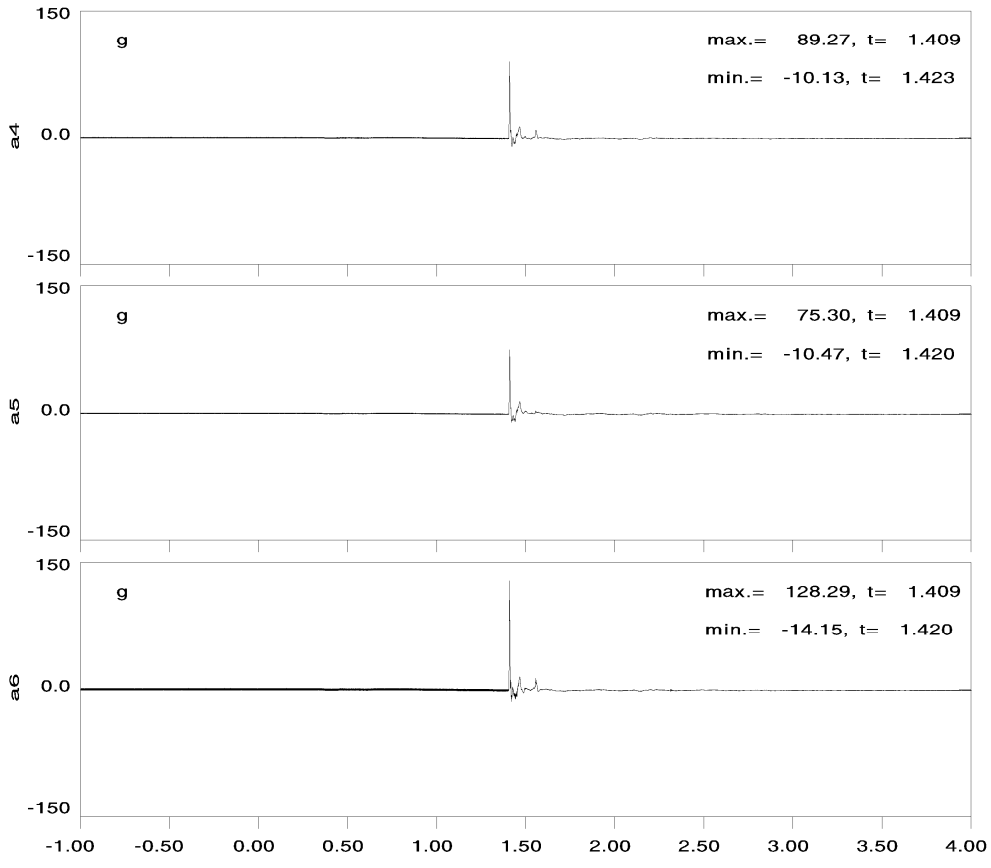
Page 2

Primary Test latroll_01



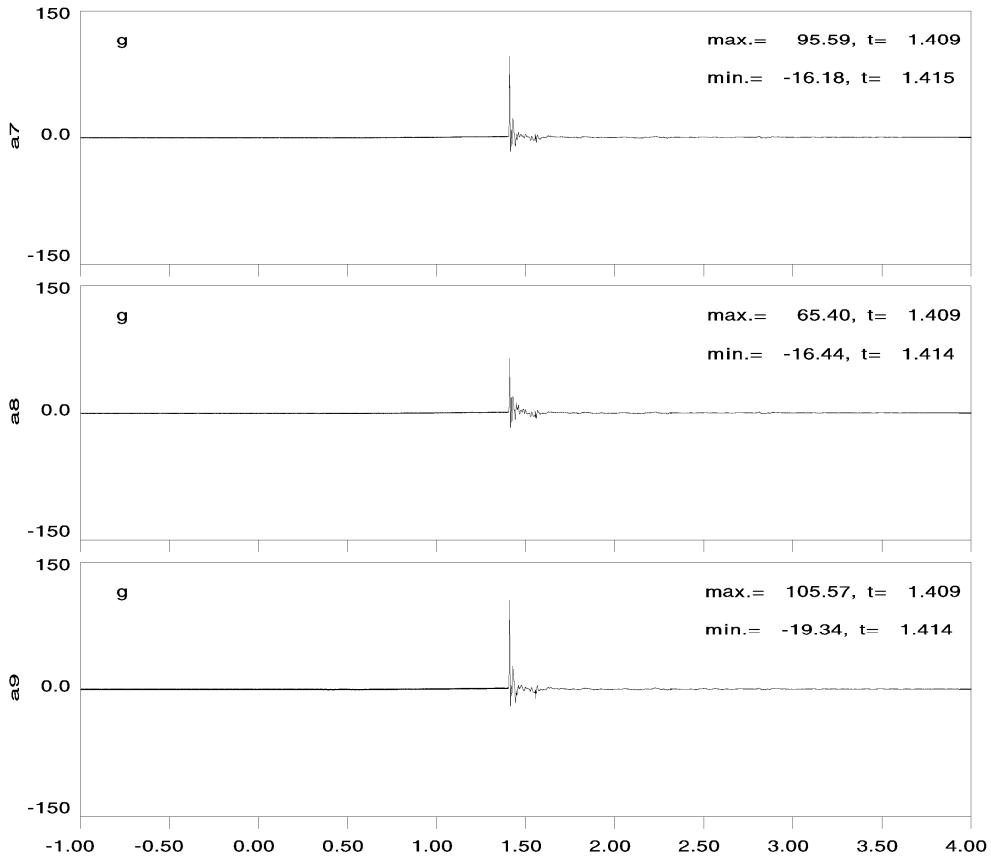
Page 1

Primary Test latroll_01



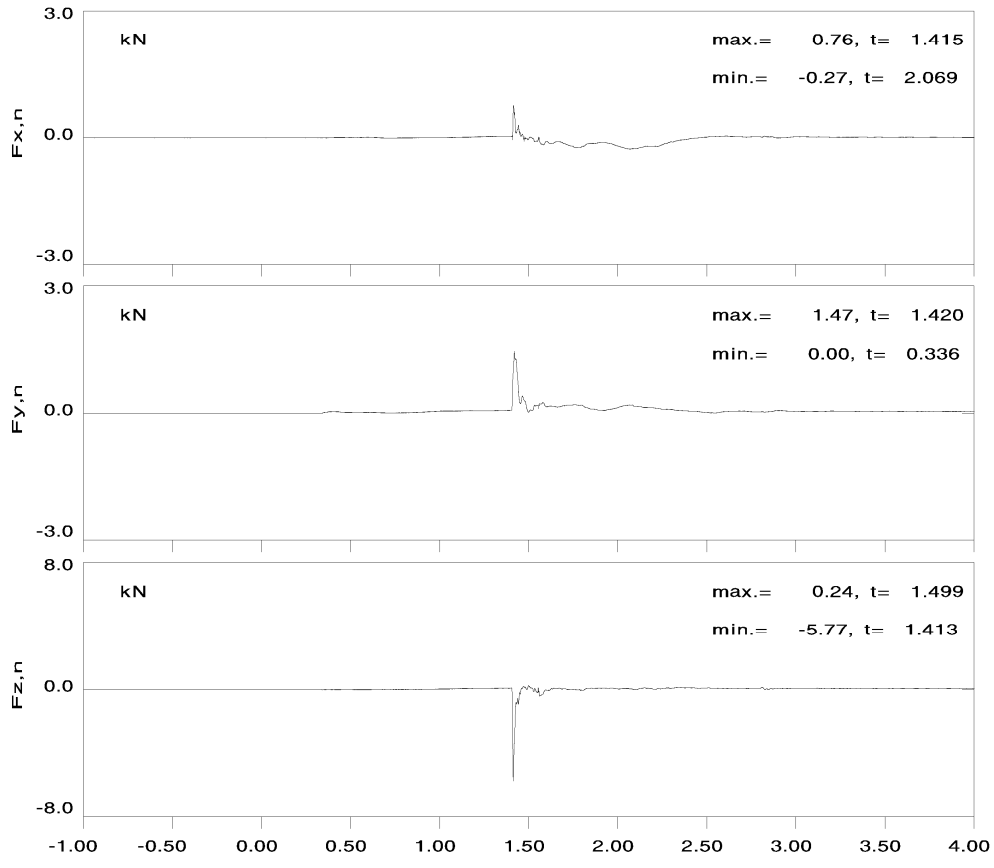
Page 2

Primary Test latroll_01



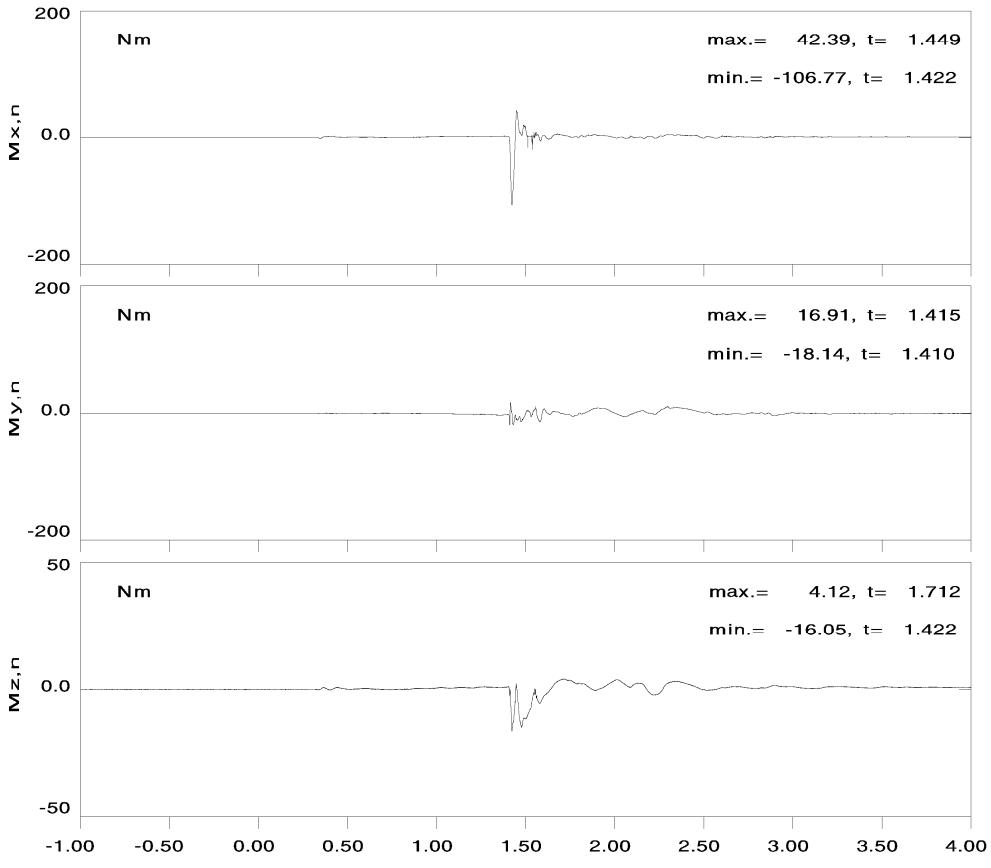
Page 3

Primary Test latroll_01

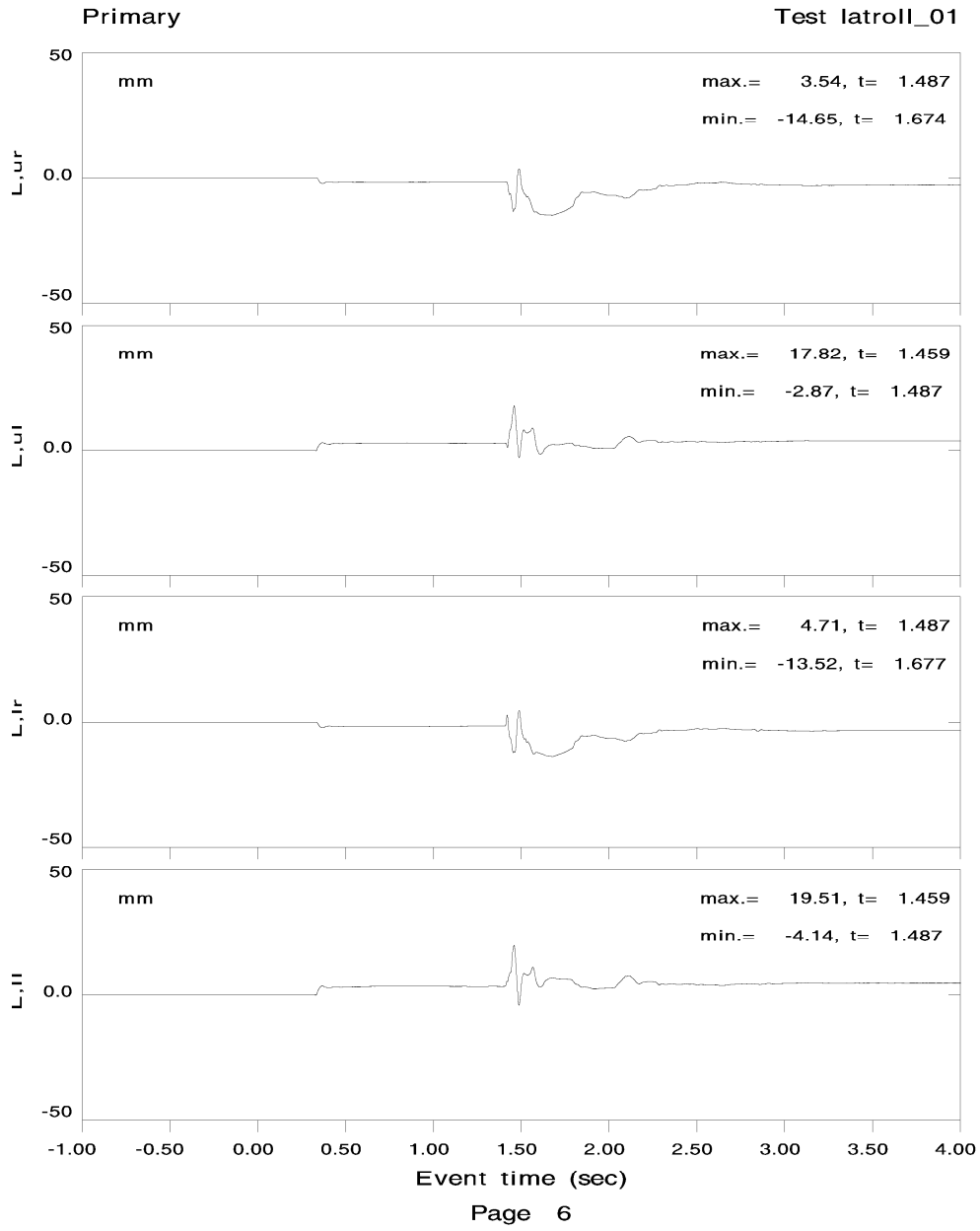


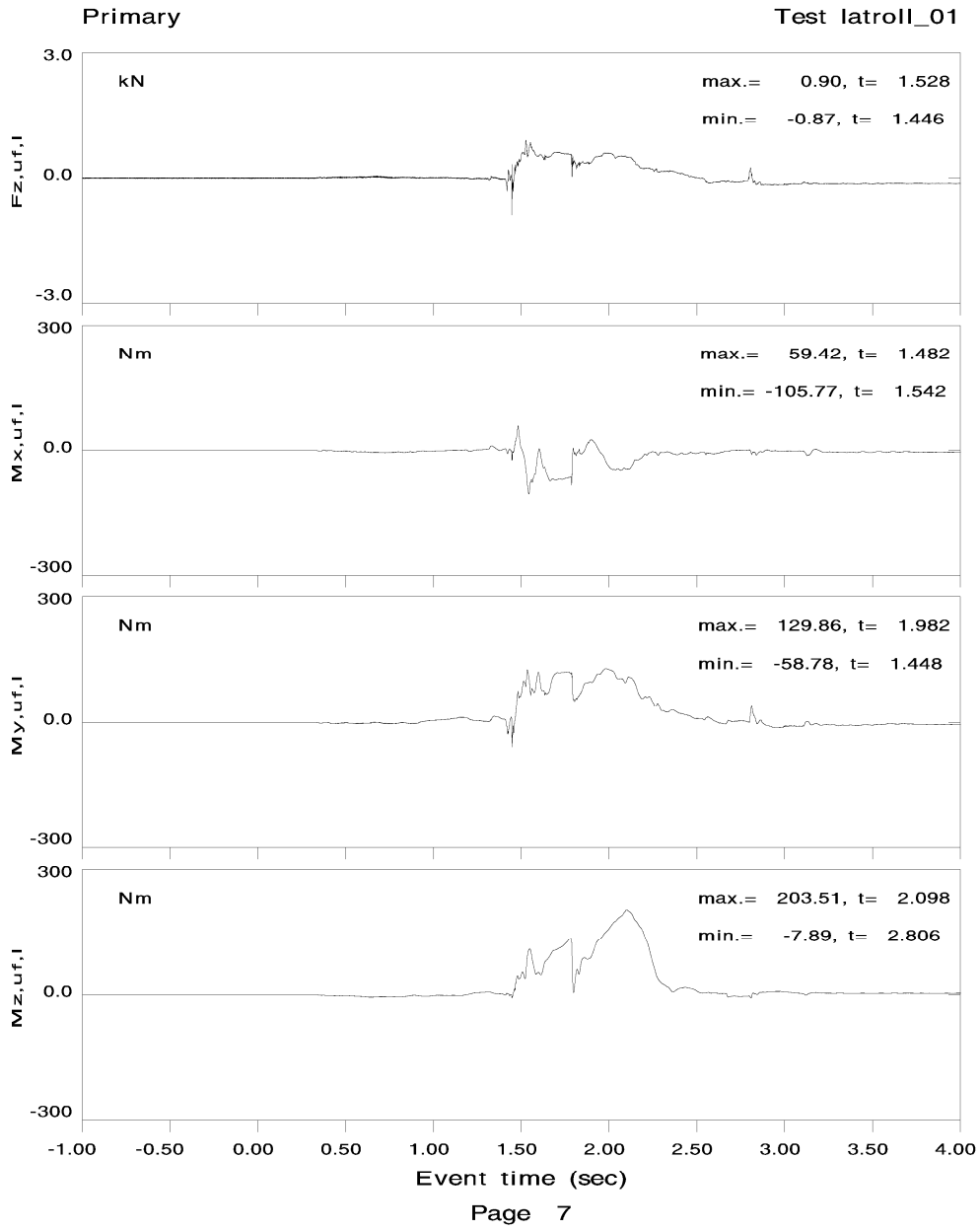
Page 4

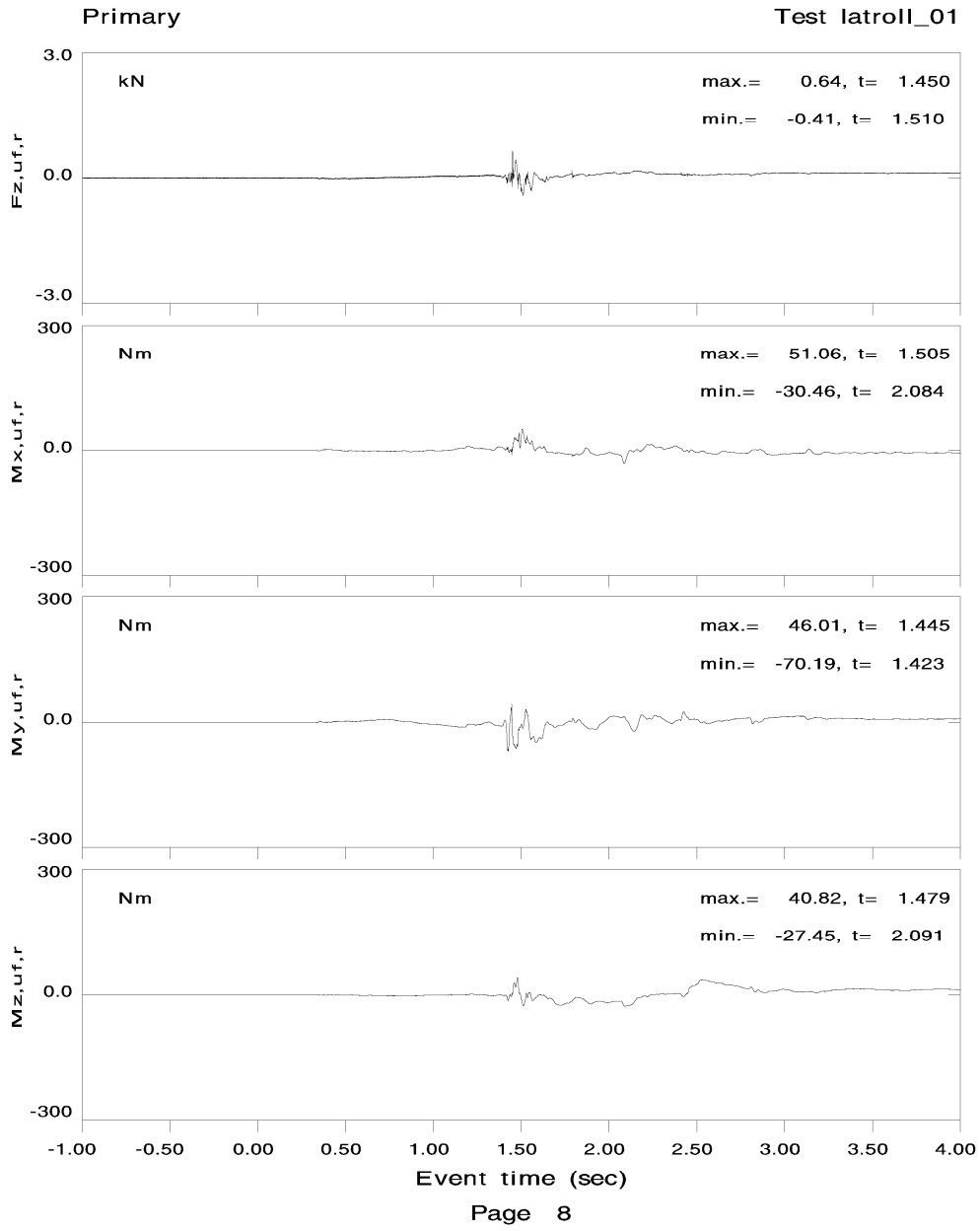
Primary Test latroll_01

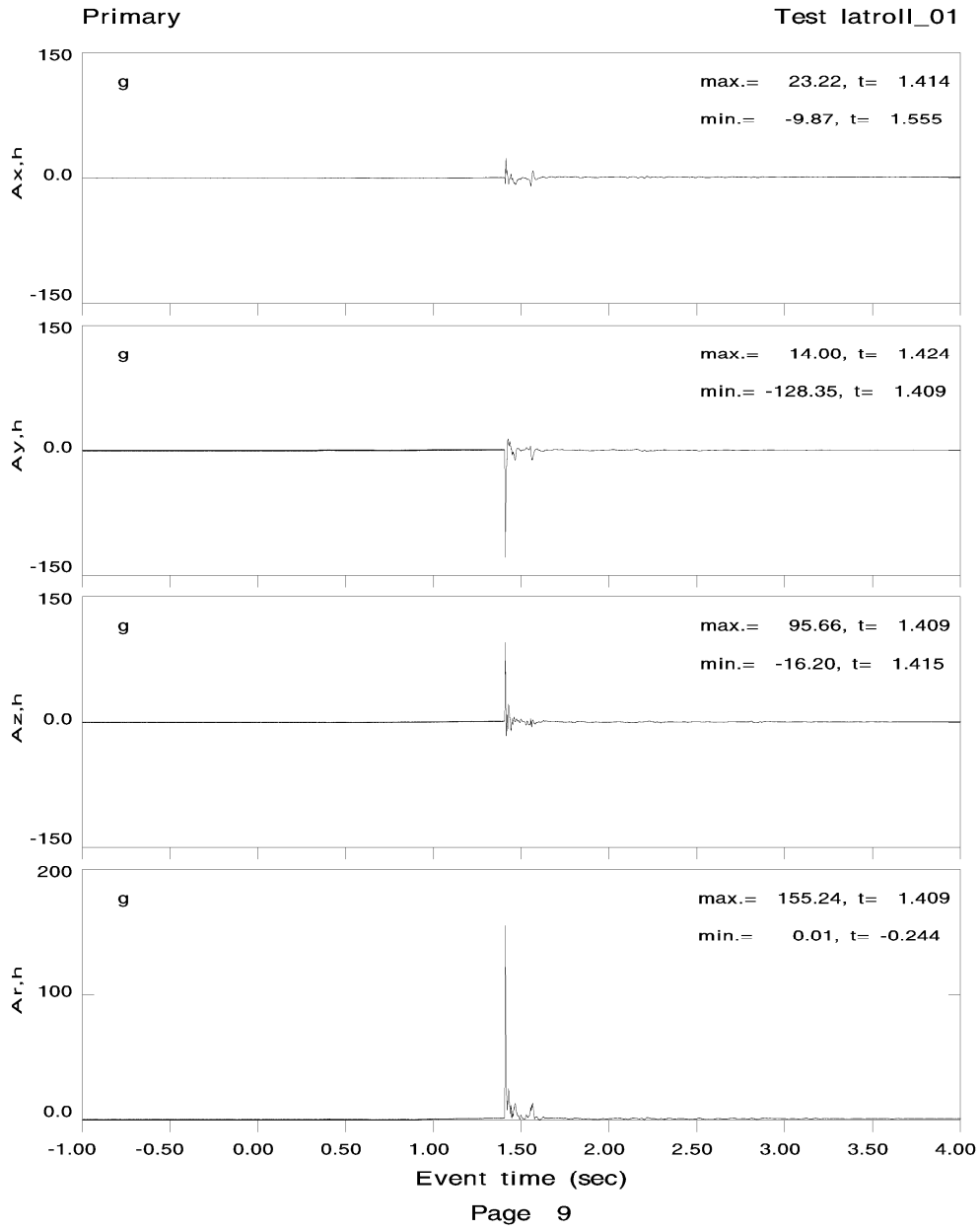


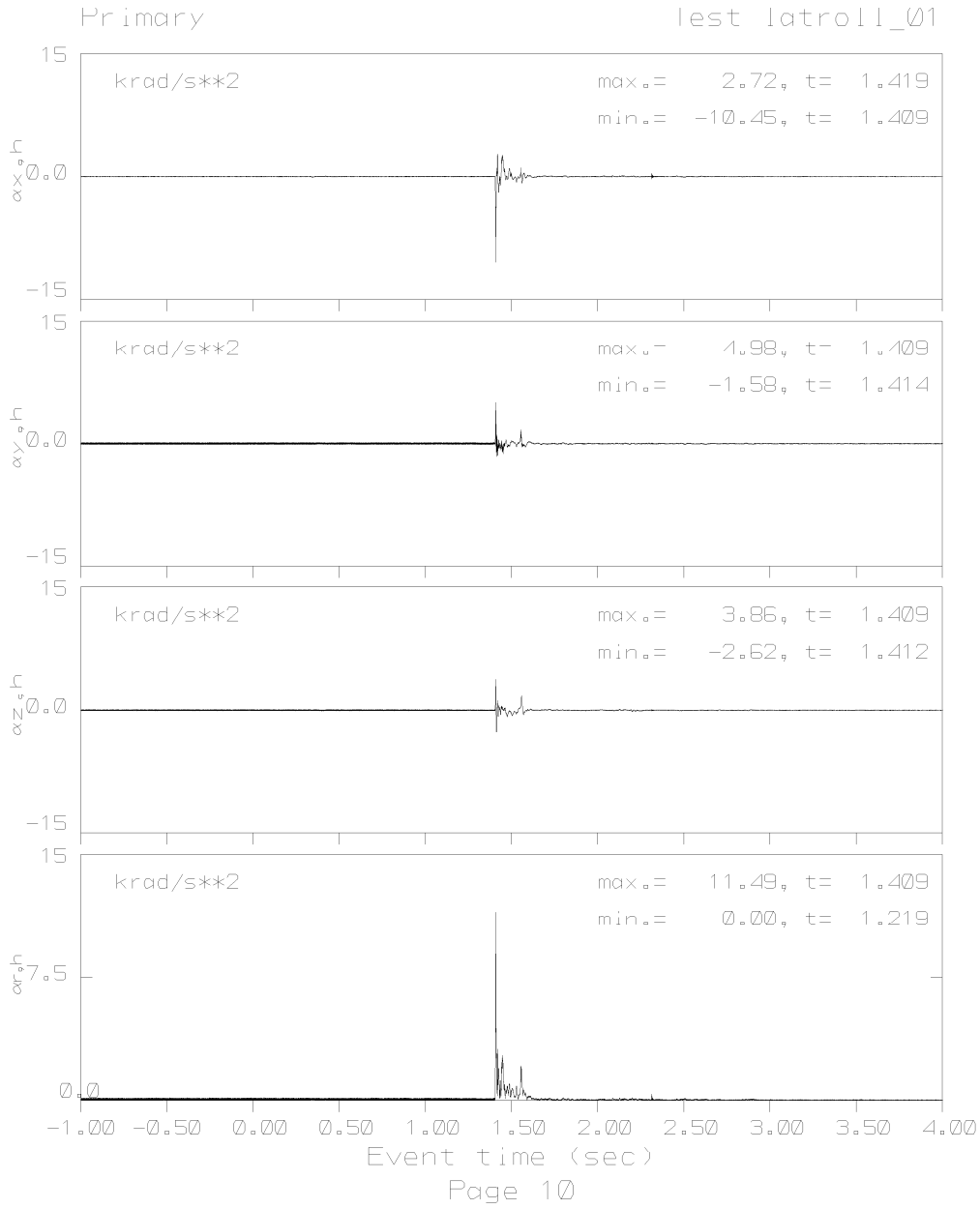
Page 5

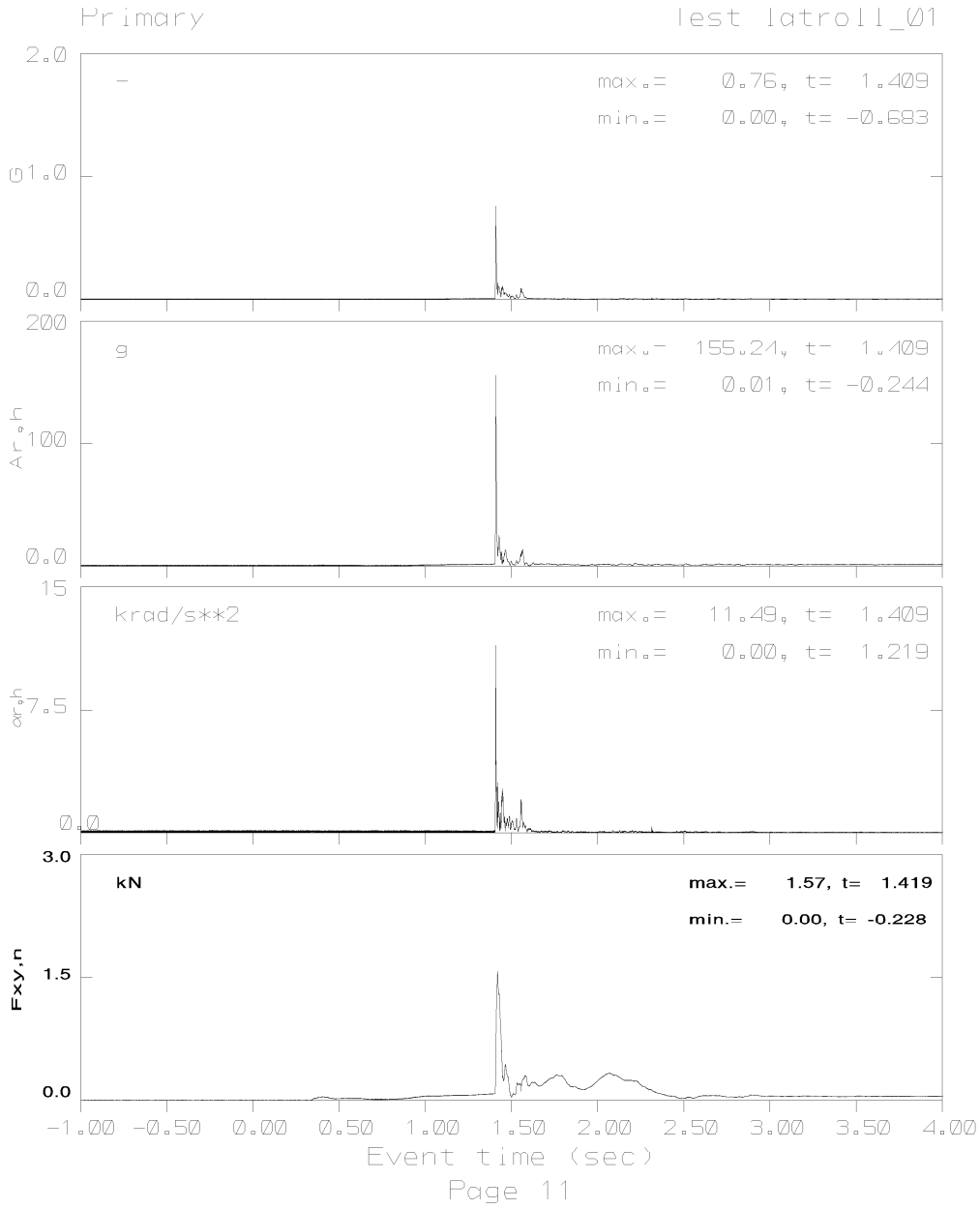

Primary
Test latroll_01
mm
max.= 3.54, t= 1.487
min.= -14.65, t= 1.674
L,ur
mm
max.= 17.82, t= 1.459
min.= -2.87, t= 1.487
L,ul
mm
max.= 4.71, t= 1.487
min.= -13.52, t= 1.677
L,lr
mm
max.= 19.51, t= 1.459
min.= -4.14, t= 1.487
L,ll
50
0.0
-50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 6

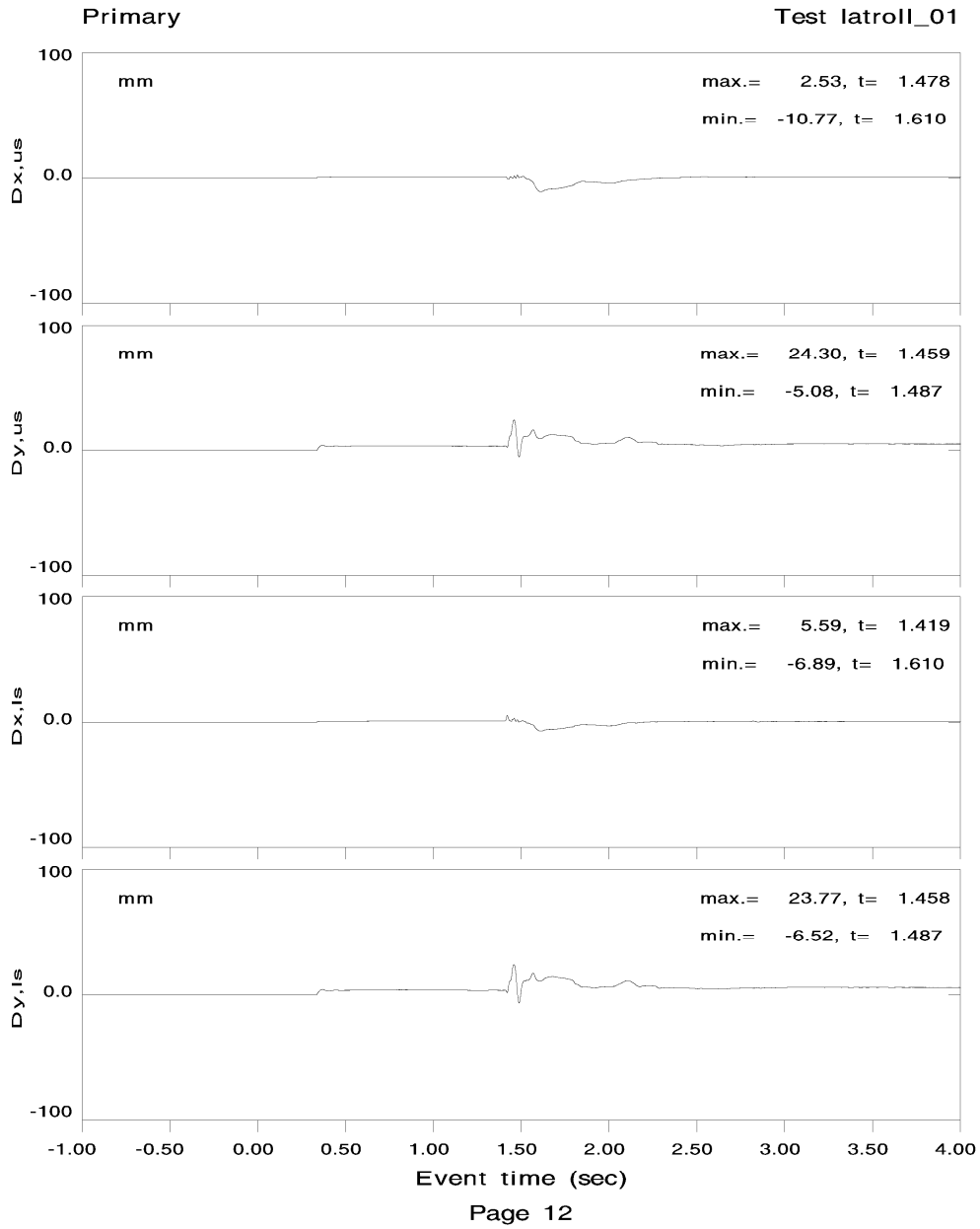

Primary
Test latroll_01
kN
max.= 0.90, t= 1.528
min.= -0.87, t= 1.446
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 59.42, t= 1.482
min.= -105.77, t= 1.542
Mx,uf,l
300
0.0
-300
Nm
max.= 129.86, t= 1.982
min.= -58.78, t= 1.448
My,uf,l
300
0.0
-300
Nm
max.= 203.51, t= 2.098
min.= -7.89, t= 2.806
Mz,uf,l
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 7


Primary
Test latroll_01
kN
max.= 0.64, t= 1.450
min.= -0.41, t= 1.510
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 51.06, t= 1.505
min.= -30.46, t= 2.084
Mx,uf,r
300
0.0
-300
Nm
max.= 46.01, t= 1.445
min.= -70.19, t= 1.423
My,uf,r
300
0.0
-300
Nm
max.= 40.82, t= 1.479
min.= -27.45, t= 2.091
Mz,uf,r
300
0.0
-300
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 8

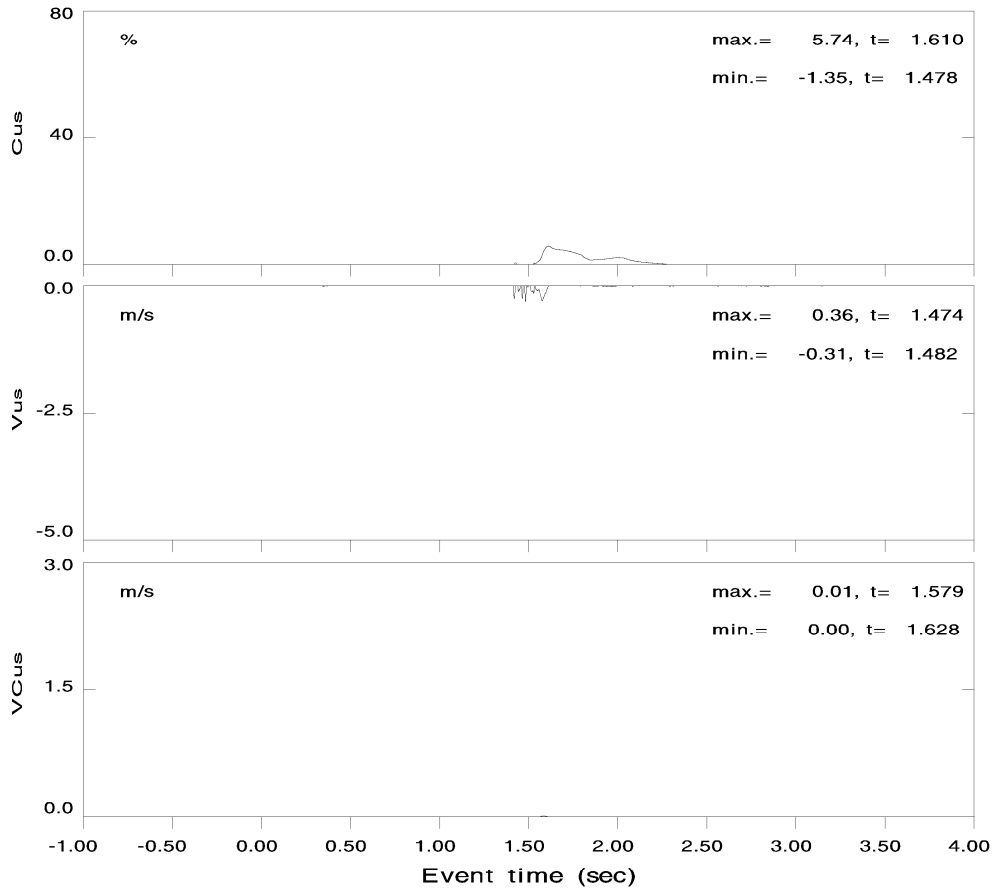

Primary
Test latroll_01
g
max.= 23.22, t= 1.414
min.= -9.87, t= 1.555
Ax,h
150
0.0
-150
g
max.= 14.00, t= 1.424
min.= -128.35, t= 1.409
Ay,h
150
0.0
-150
g
max.= 95.66, t= 1.409
min.= -16.20, t= 1.415
Az,h
150
0.0
-150
g
max.= 155.24, t= 1.409
min.= 0.01, t= -0.244
Ar,h
200
100
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 9


Primary
Test latroll_01
krad/s**2
max.= 2.72, t= 1.419
min.= -10.45, t= 1.409
ax,h
krad/s**2
max.= 1.98, t= 1.409
min.= -1.58, t= 1.414
ay,h
krad/s**2
max.= 3.86, t= 1.409
min.= -2.62, t= 1.412
az,h
krad/s**2
max.= 11.49, t= 1.409
min.= 0.00, t= 1.219
ar,h
15
0.0
-15
7.5
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 10


Primary
test latroll_01
2.0
-
max.= 0.76, t= 1.409
min.= 0.00, t= -0.683
G1.0
0.0
200
g
max.= 155.21, t= 1.409
min.= 0.01, t= -0.244
Ar.h
100
0.0
15
krad/s**2
max.= 11.49, t= 1.409
min.= 0.00, t= 1.219
ar.h
7.5
0.0
3.0
kN
max.= 1.57, t= 1.419
min.= 0.00, t= -0.228
Fxy,n
1.5
0.0
-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00
Event time (sec)
Page 11

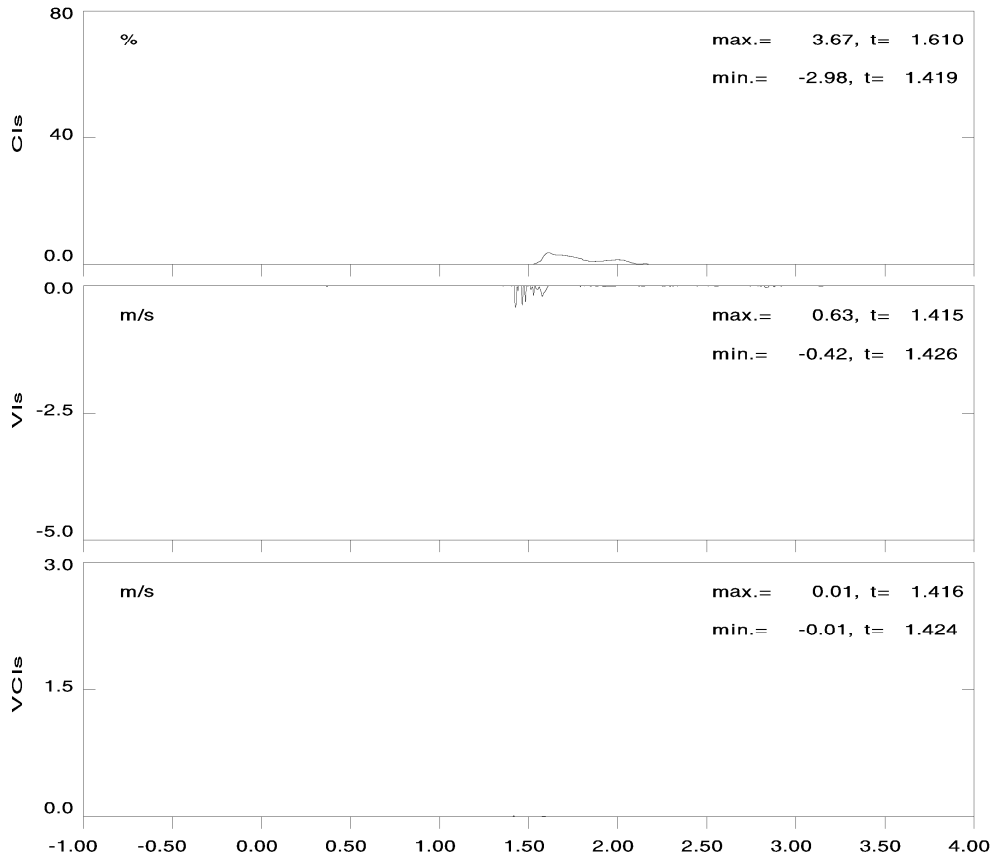

Primary
Test latroll_01
mm
max.= 2.53, t= 1.478
min.= -10.77, t= 1.610
Dx,us
mm
max.= 24.30, t= 1.459
min.= -5.08, t= 1.487
Dy,us
mm
max.= 5.59, t= 1.419
min.= -6.89, t= 1.610
Dx,ls
mm
max.= 23.77, t= 1.458
min.= -6.52, t= 1.487
Dy,ls
100
0.0
-100
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 12

Primary Test latroll_01



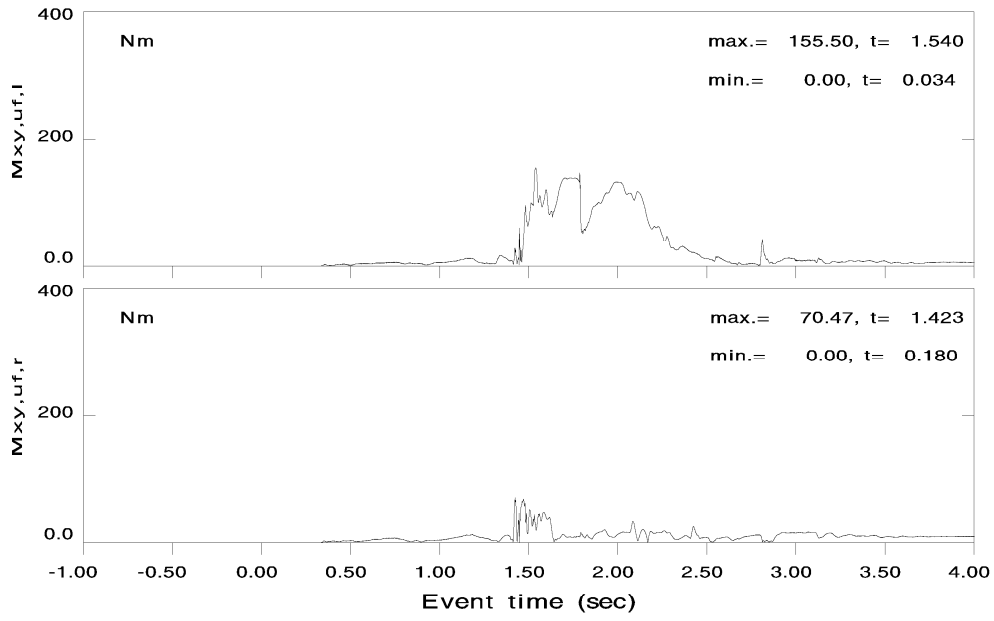
Page 13

Primary Test latroll_01

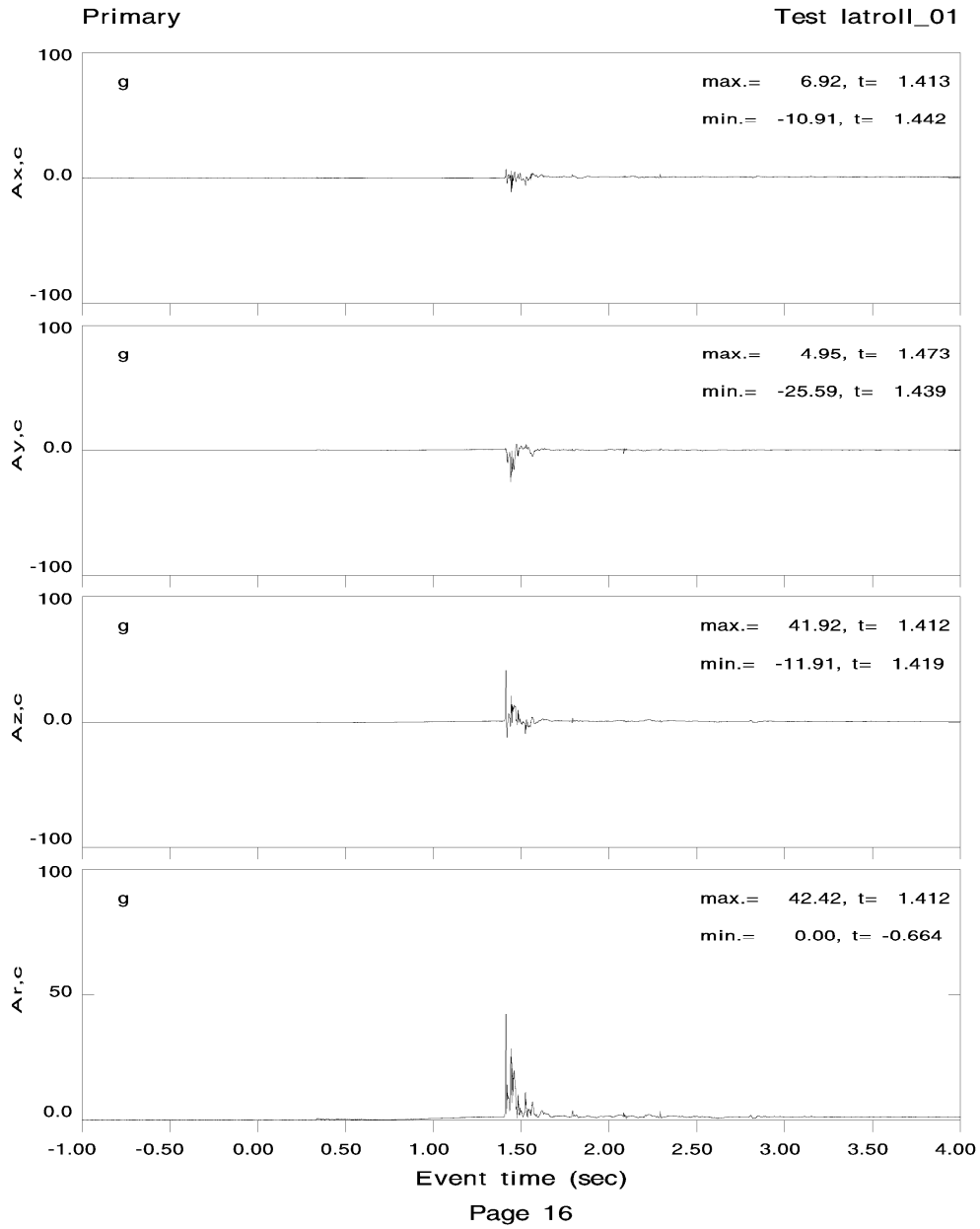


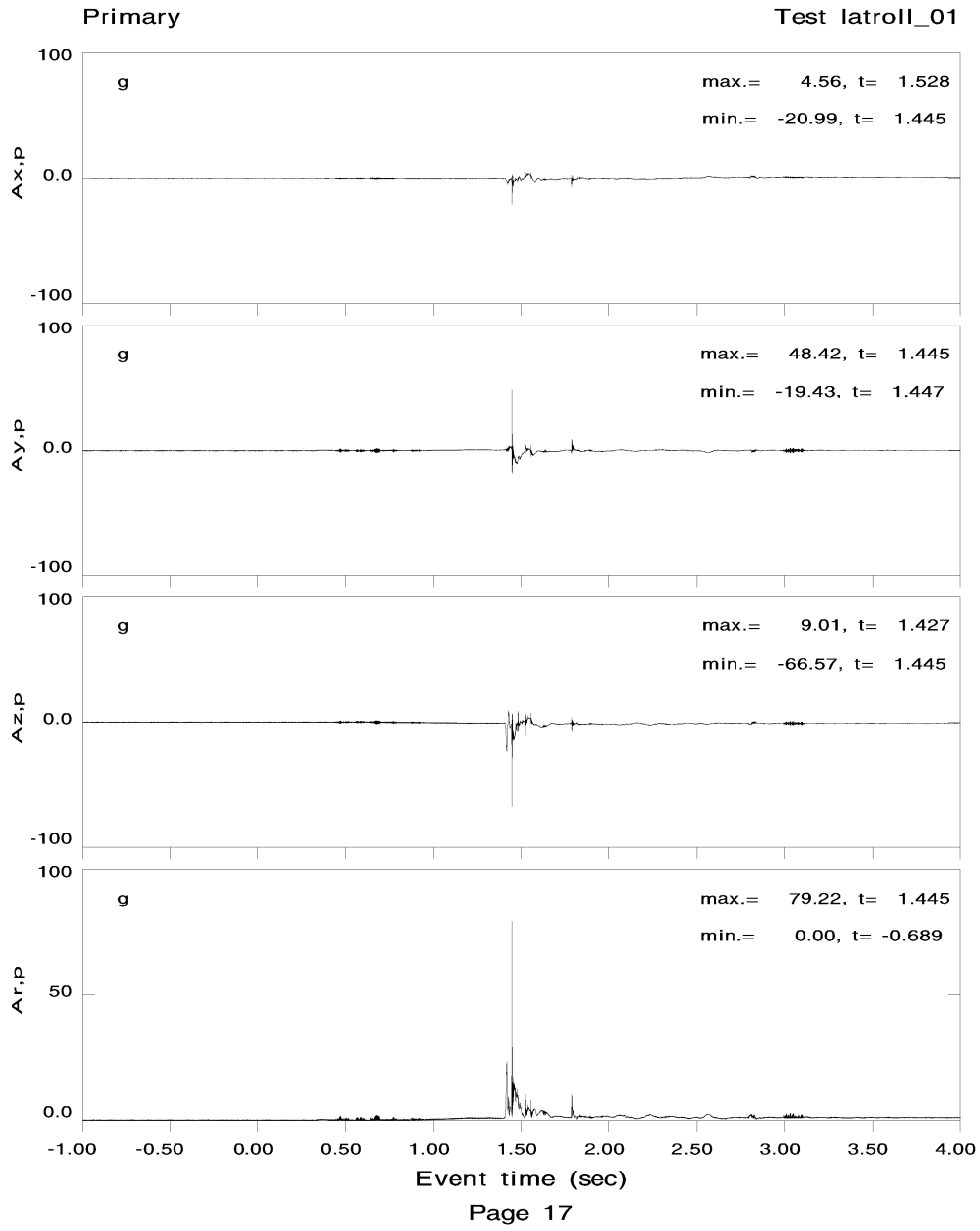
Page 14

Primary Test latroll_01

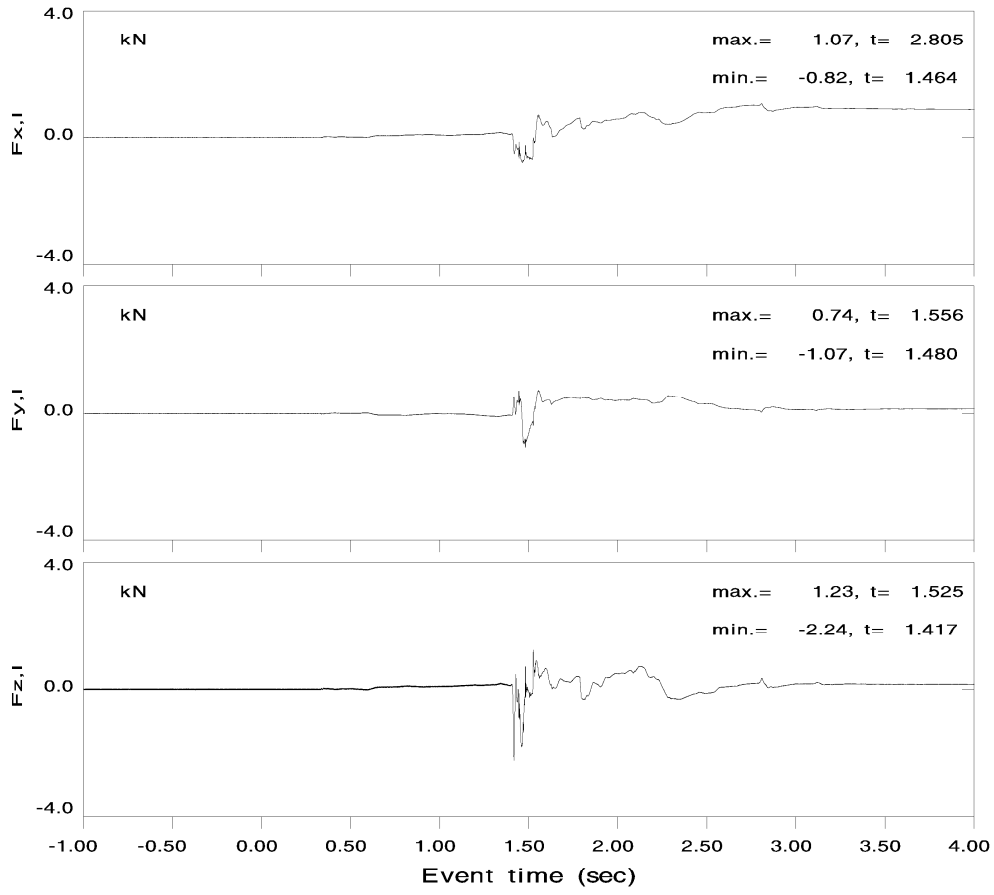


Page 15


Primary
Test latroll_01
g
max.= 6.92, t= 1.413
min.= -10.91, t= 1.442
Ax,c
100
0.0
-100
g
max.= 4.95, t= 1.473
min.= -25.59, t= 1.439
Ay,c
100
0.0
-100
g
max.= 41.92, t= 1.412
min.= -11.91, t= 1.419
Az,c
100
0.0
-100
g
max.= 42.42, t= 1.412
min.= 0.00, t= -0.664
Ar,c
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 16

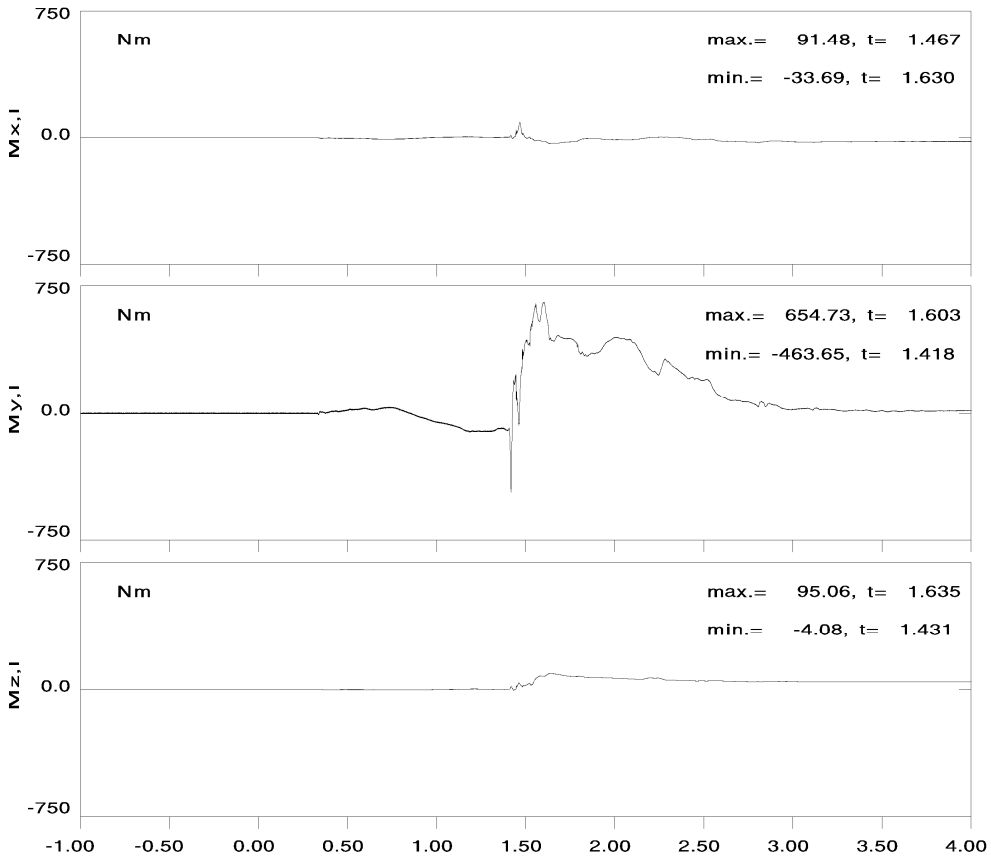

Primary
Test latroll_01
g
max.= 4.56, t= 1.528
min.= -20.99, t= 1.445
Ax,p
100
0.0
-100
g
max.= 48.42, t= 1.445
min.= -19.43, t= 1.447
Ay,p
100
0.0
-100
g
max.= 9.01, t= 1.427
min.= -66.57, t= 1.445
Az,p
100
0.0
-100
g
max.= 79.22, t= 1.445
min.= 0.00, t= -0.689
Ar,p
100
50
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 17

Primary Test latroll_01

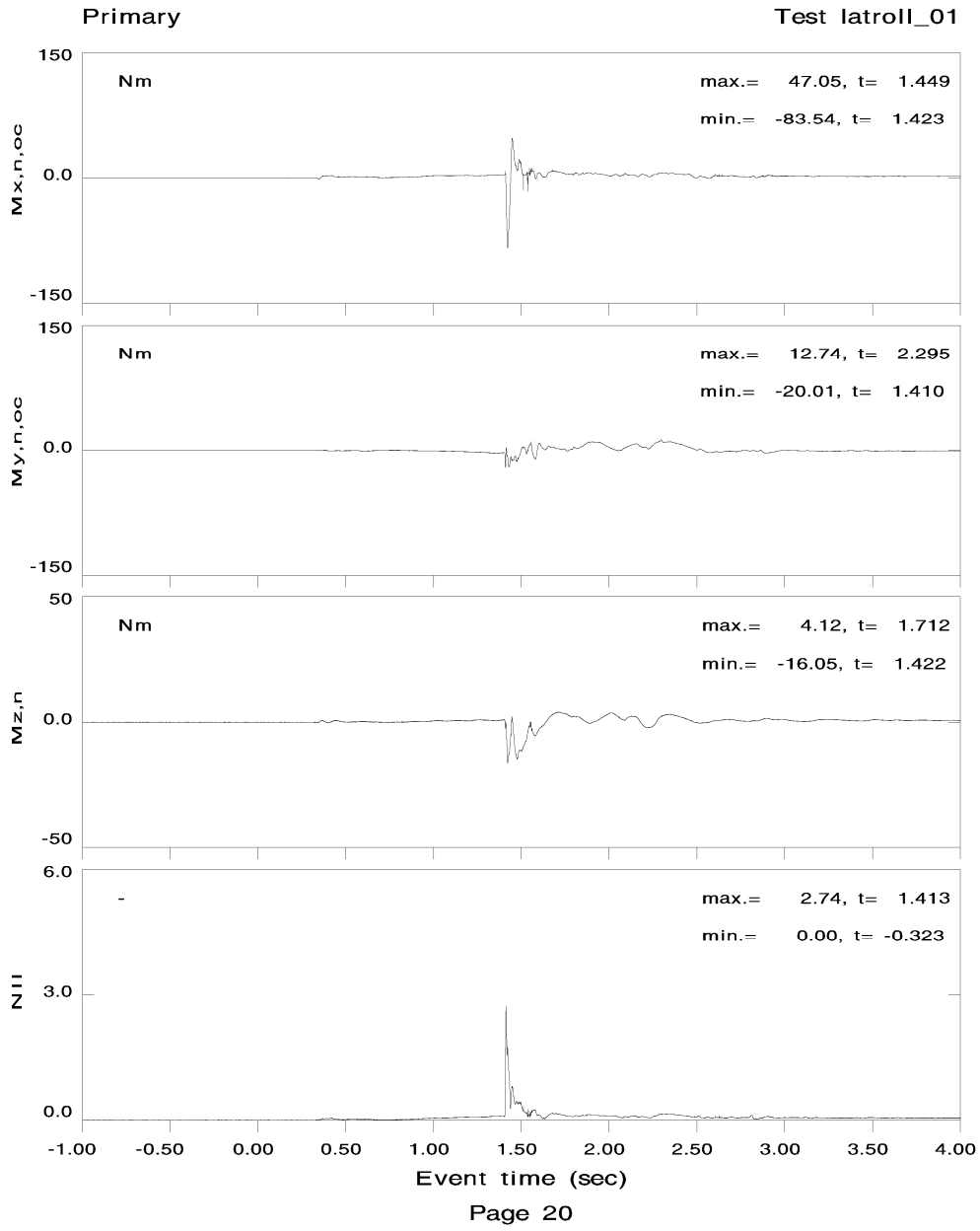


Page 18

Primary Test latroll_01



Page 19


Primary
Test latroll_01
Nm
max.= 47.05, t= 1.449
min.= -83.54, t= 1.423
Mx,n,oc
150
0.0
-150
Nm
max.= 12.74, t= 2.295
min.= -20.01, t= 1.410
My,n,oc
150
0.0
-150
Nm
max.= 4.12, t= 1.712
min.= -16.05, t= 1.422
Mz,n
50
0.0
-50
-
max.= 2.74, t= 1.413
min.= 0.00, t= -0.323
NII
6.0
3.0
0.0
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
Event time (sec)
Page 20

2.15 Research & Development test latroll_02

ATV_Lateral_RHS_Roll_Spraytank.ICE
Test Number : latroll_02
Analysis Window : Entire Run

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	1
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.000
Cmax	=	2.530
VCmax	=	0.000
HIC	=	0.0
NII (2002 MATD Neck)	=	0.0
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	2.0
Total AIS	=	2.0
Normalized Injury Cost	=	0.120
Normalized Cost of Survival	=	0.110
Normalized Cost of Dying	=	0.009
Probability of Fatality	=	0.009
Probability of Fatality due to non AIS 6 injuries	=	0.009
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.150
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	1.000	1.000	1.000	1.000	0.000	0
1	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	1.000	1
3	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.000	0.000	0.000	0.000	2.000	
PAIS	0	0	0	0	2	
Body Region NPIC	0.000	0.000	0.000	0.000	0.000 0.120 0.000 0.120	Femur Knee Tibia Leg

Page 1

latroll_02.rpt

Test latroll_02, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	8.16 g	1.090	-8.28 g	1.079
Ay,c	5.27 g	1.128	-26.21 g	1.065
Az,c	19.56 g	1.063	-8.70 g	1.132
Ax,p	5.19 g	1.161	-5.47 g	1.159
Ay,p	2.83 g	0.984	-8.26 g	1.106
Az,p	6.47 g	1.130	-17.27 g	1.079
spare	0.00 -	0.245	0.00 -	1.095
spare	0.00 -	1.534	0.00 -	1.888
L,ur	5.98 mm	0.279	-14.78 mm	1.073
L,lr	7.76 mm	0.281	-11.56 mm	1.137
a1	551.00 g	0.304	-28.23 g	0.304
a2	514.32 g	1.152	-528.70 g	1.052
a3	51.18 g	1.056	******* g	1.056
a4	28.10 g	1.042	-3.09 g	1.299
a5	24.17 g	1.051	-3.67 g	1.301
a6	38.72 g	1.042	-6.56 g	1.087
Mx,l	106.75 Nm	1.078	-11.38 Nm	3.500
My,l	661.22 Nm	1.145	-359.29 Nm	2.582
Mz,l	46.72 Nm	1.440	-0.43 Nm	-0.609
Fx,l	0.88 kN	1.157	-1.32 kN	1.090
Fy,l	0.62 kN	1.068	-0.87 kN	1.105
Fz,l	1.85 kN	1.130	-2.60 kN	1.077
spare	0.07 -	3.488	0.00 -	-1.467
spare	0.00 -	3.500	0.00 -	3.500
spare	0.12 -	3.404	-0.02 -	0.613
spare	0.00 -	-0.525	0.00 -	2.206
spare	0.00 -	3.500	0.00 -	3.500
spare	0.00 -	3.500	0.00 -	3.500
Spare	0.01 -	1.775	0.00 -	-0.149
a7	22.43 g	1.042	-4.57 g	1.158
a8	19.25 g	1.087	-6.73 g	1.133
a9	29.29 g	1.042	-7.53 g	1.173
Fz,uf,r	0.39 kN	1.079	-0.22 kN	1.116
Mx,uf,r	48.98 Nm	1.117	-26.22 Nm	2.606
My,uf,r	34.47 Nm	1.132	-67.93 Nm	1.106
Mz,uf,r	69.43 Nm	1.110	-24.17 Nm	2.367
Fz,uf,l	0.98 kN	1.131	-0.20 kN	1.074
Mx,uf,l	21.73 Nm	1.110	-202.95 Nm	1.157
My,uf,l	201.22 Nm	1.139	-37.65 Nm	1.079
Mz,uf,l	146.22 Nm	1.684	-6.76 Nm	1.905
Fx,n	0.30 kN	1.062	-0.55 kN	1.360
Fy,n	1.67 kN	1.061	-0.05 kN	1.577
Fz,n	0.37 kN	1.088	-3.10 kN	1.055
Mx,n	22.61 Nm	1.093	-127.25 Nm	1.061
My,n	22.64 Nm	1.175	-40.16 Nm	1.066
Mz,n	7.33 Nm	1.289	-22.59 Nm	1.061
L,ul	15.49 mm	1.074	-8.52 mm	0.268
L,ll	19.32 mm	1.074	-10.66 mm	0.276
Ax,h	20.31 g	0.304	-389.83 g	0.304
Ay,h	390.01 g	0.304	-24.64 g	1.044
Az,h	22.45 g	1.042	-4.84 g	1.158
ȧx,h	2.29 krad/s**2	0.304	-130.12 krad/s**2	1.056
ȧy,h	2.48 krad/s**2	0.304	-130.17 krad/s**2	1.056
ȧz,h	9.79 krad/s**2	1.152	-123.49 krad/s**2	1.084
Ar,h	551.43 g	0.304	0.01 g	-1.074
ȧr,h	219.37 krad/s**2	1.084	0.00 krad/s**2	-0.224
G	9.00 -	1.084	0.00 -	-0.851
HIC	*******	1.120	----	1.084
Fxy,n	1.69 kN	1.061	0.00 kN	-0.886
Dx,us	3.23 mm	1.084	-4.74 mm	1.297
Dy,us	23.85 mm	1.074	-11.31 mm	0.268

Page 1

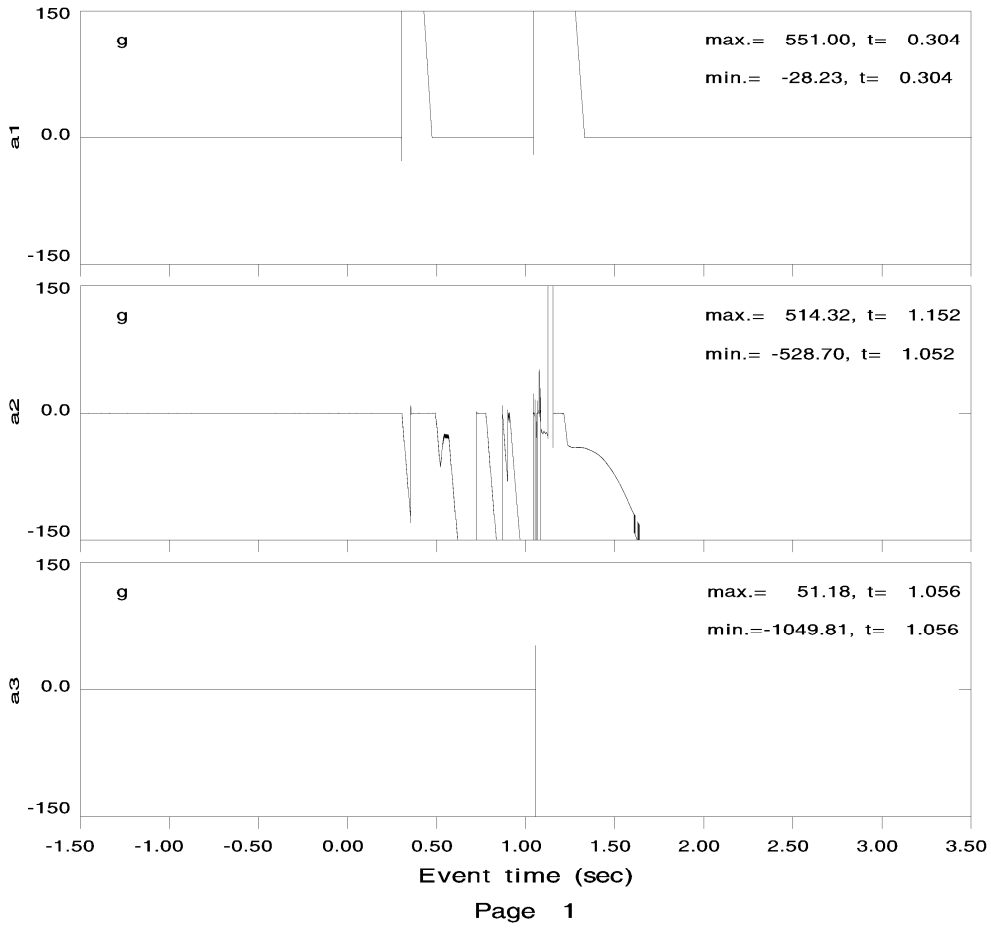
latroll_02.rpt

Cus	2.53	%	1.297	-1.72	%	1.084
Vus	0.61	m/s	1.080	-0.40	m/s	1.126
VCus	0.01	m/s	1.082	0.00	m/s	1.087
Dx,ls	4.60	mm	1.082	-2.91	mm	1.613
Dy,ls	23.48	mm	1.074	-13.39	mm	0.275
Cls	1.55	%	1.613	-2.45	%	1.082
Vls	0.24	m/s	1.117	-0.44	m/s	1.132
VCls	0.00	m/s	1.079	-0.01	m/s	1.085
Mxy,uf,r	76.36	Nm	1.106	0.00	Nm	-1.454
Mxy,uf,l	255.27	Nm	1.155	0.00	Nm	-1.130
Mx,n,oc	26.72	Nm	1.089	-97.59	Nm	1.061
My,n,oc	24.55	Nm	1.174	-40.98	Nm	1.066
NII	2.18	-	1.061	0.00	-	-1.235
Ar,p	17.64	g	1.079	0.01	g	-1.386
Ar,c	29.72	g	1.065	0.00	g	-1.072

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

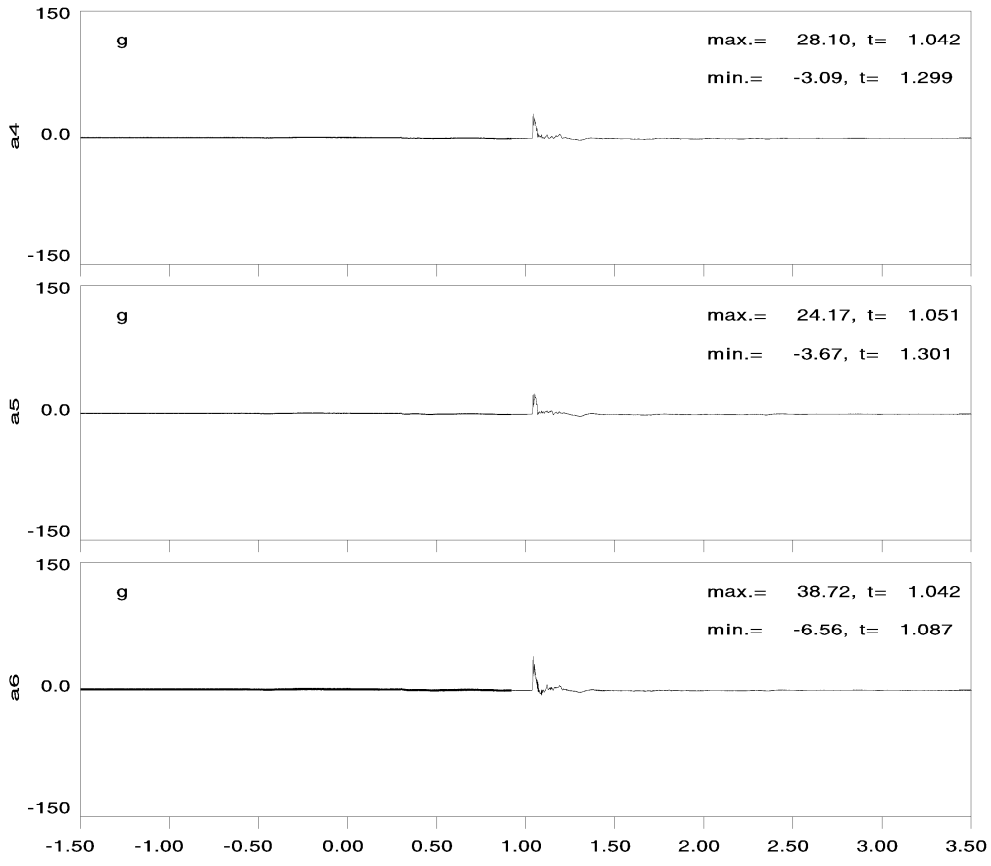
Page 2

Primary Test latroll_02



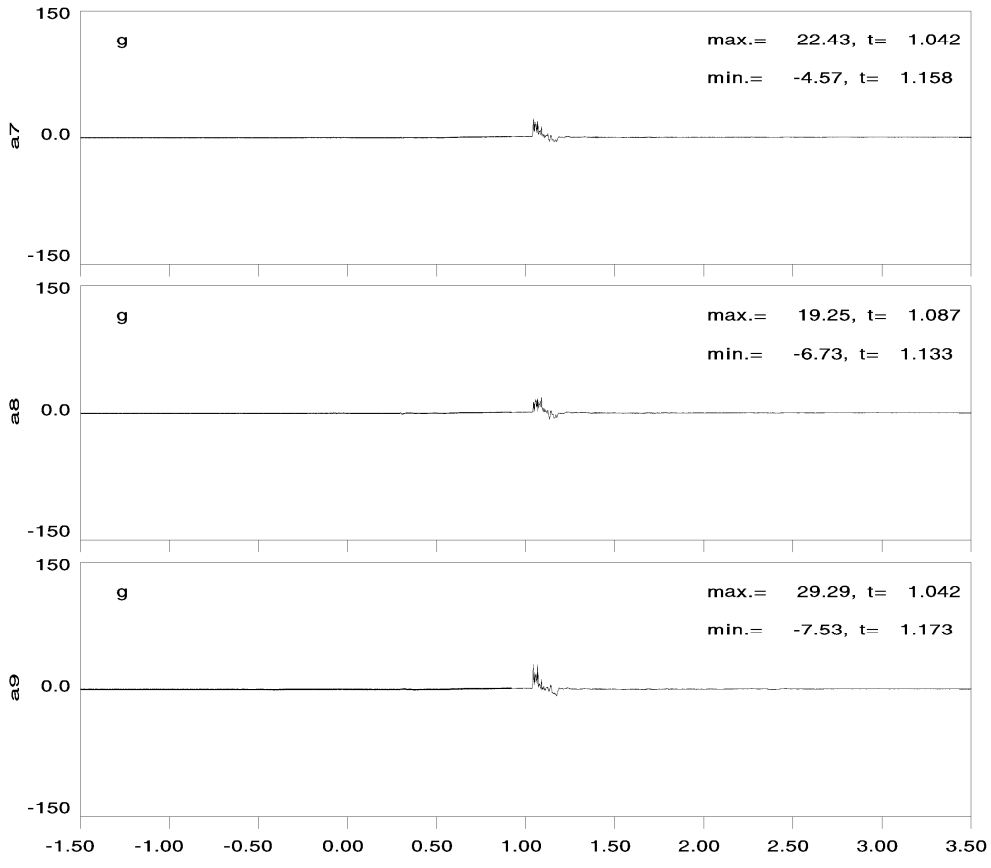
Page 1

Primary Test latroll_02



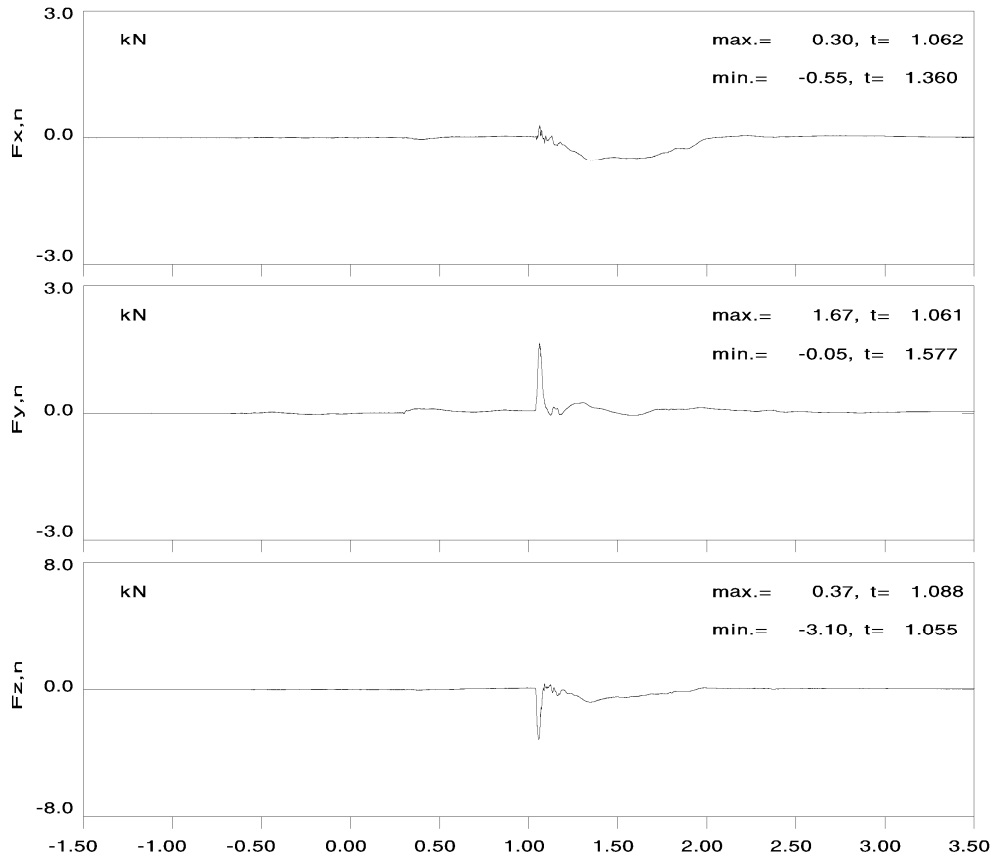
Page 2

Primary Test latroll_02



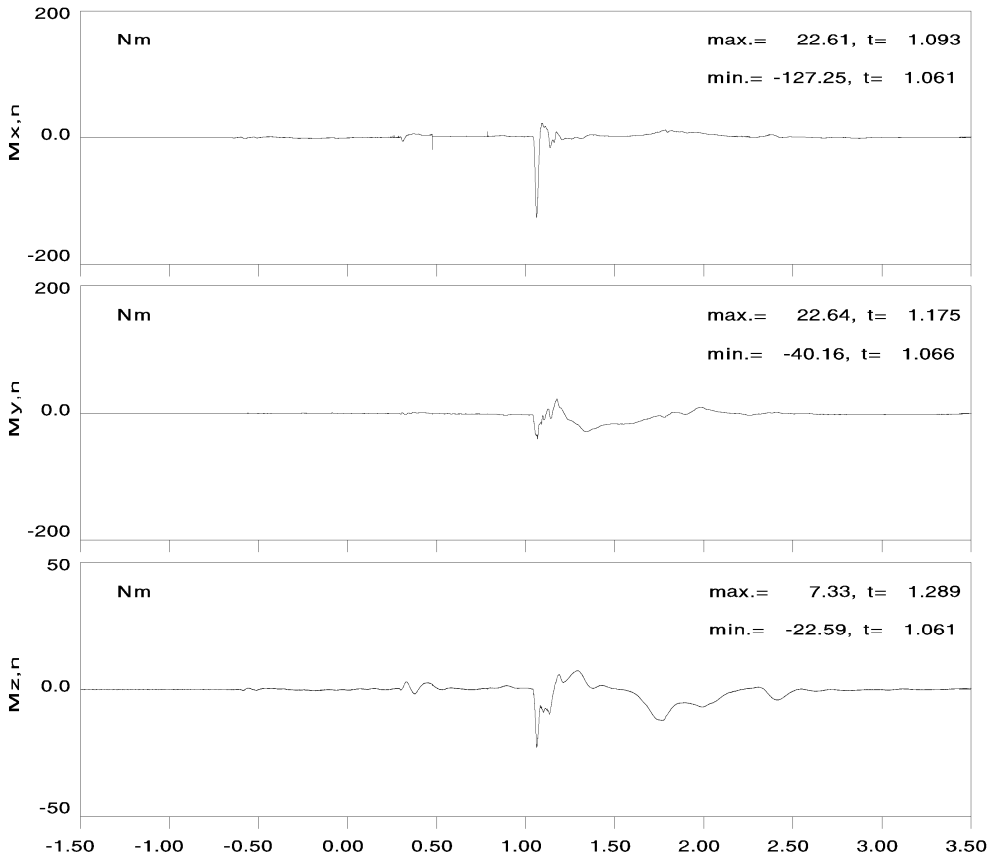
Page 3

Primary Test latroll_02

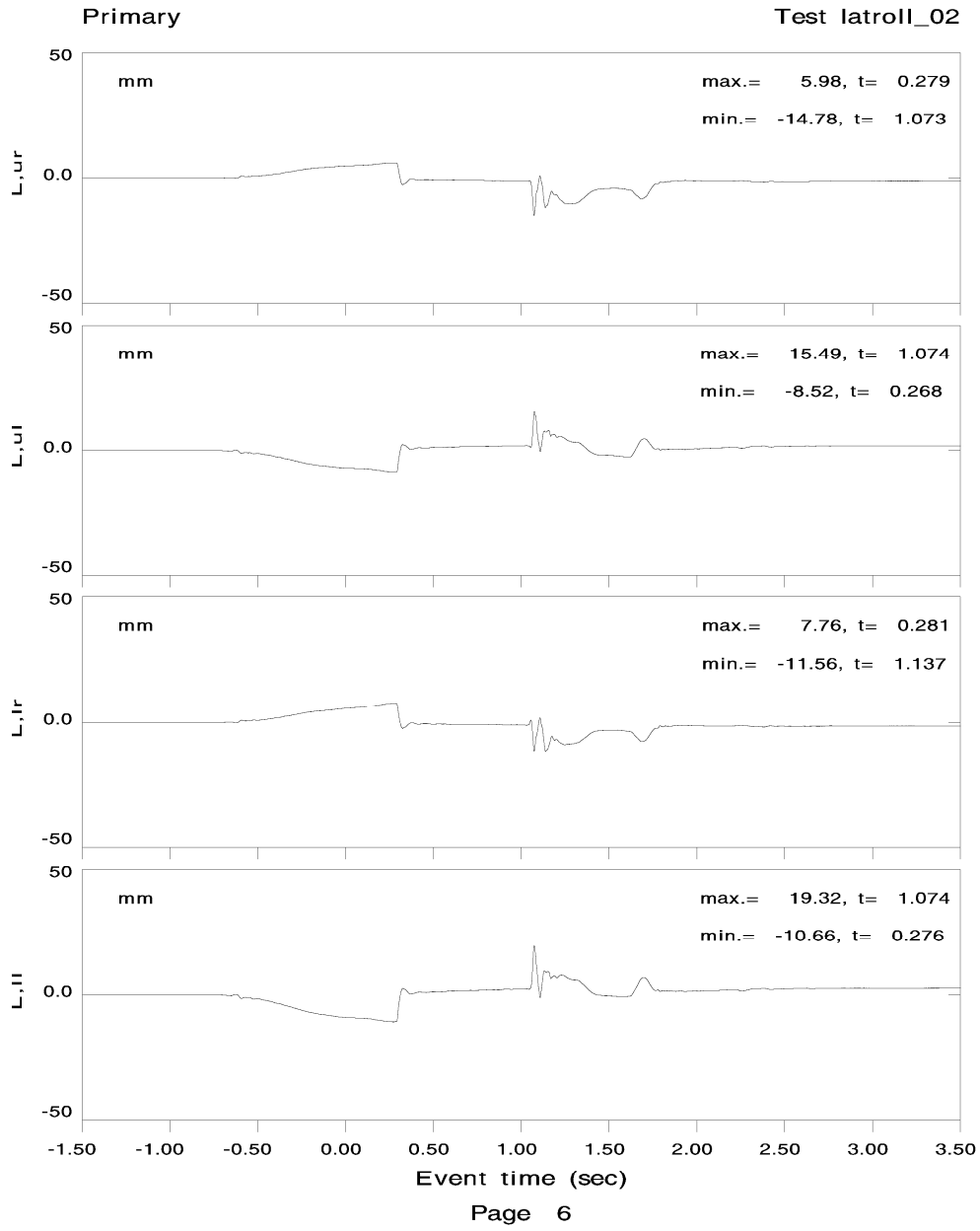


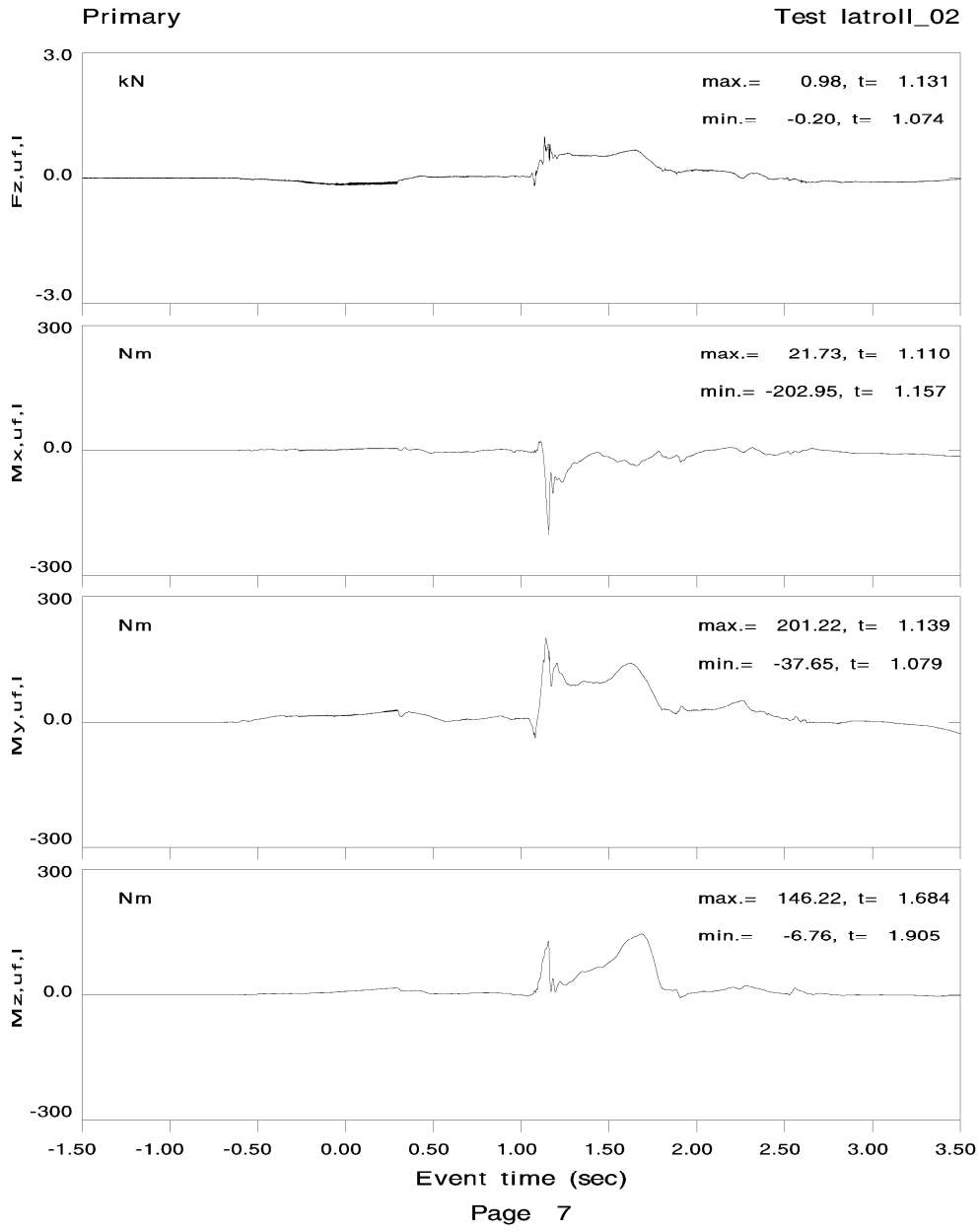
Page 4

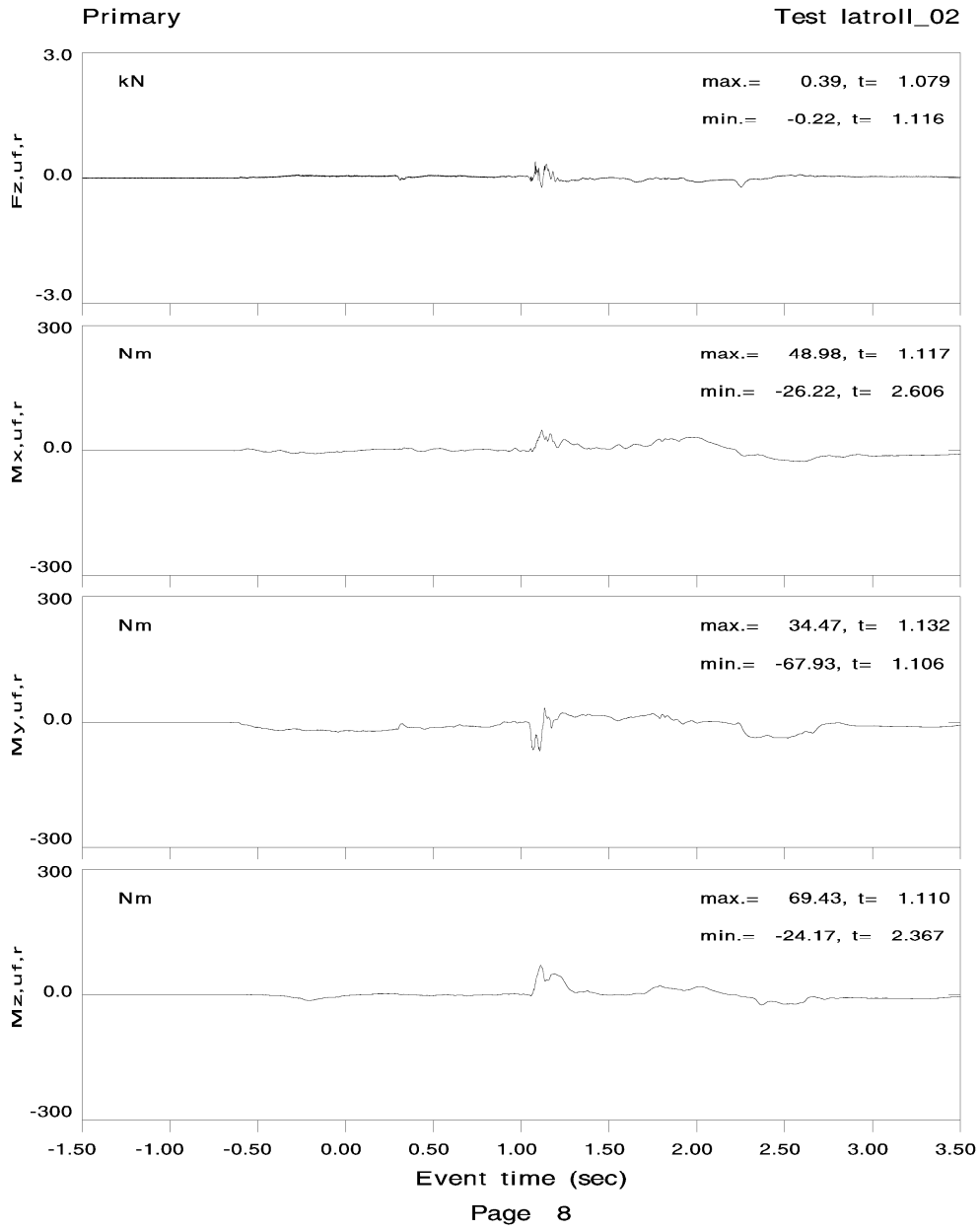
Primary Test latroll_02

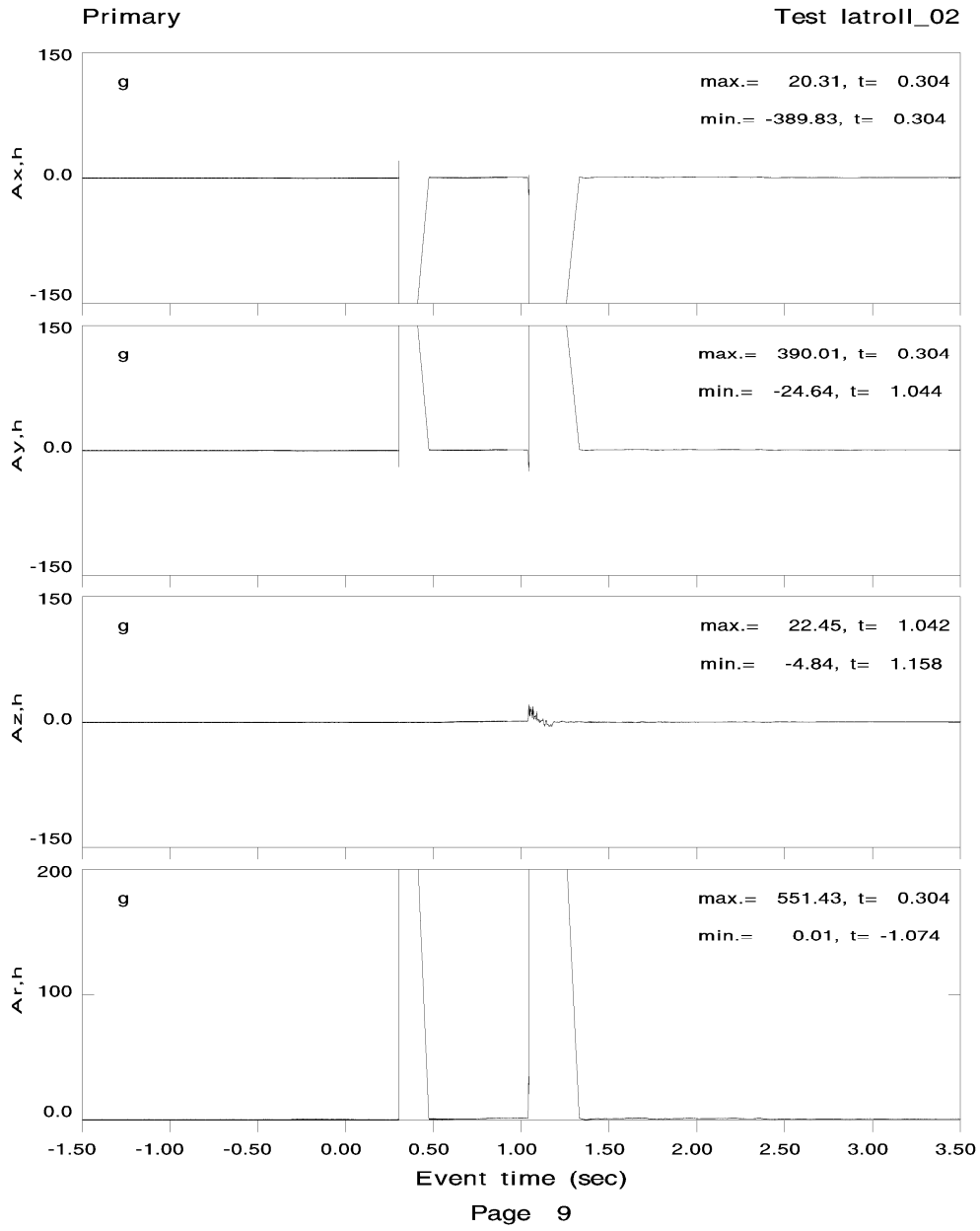


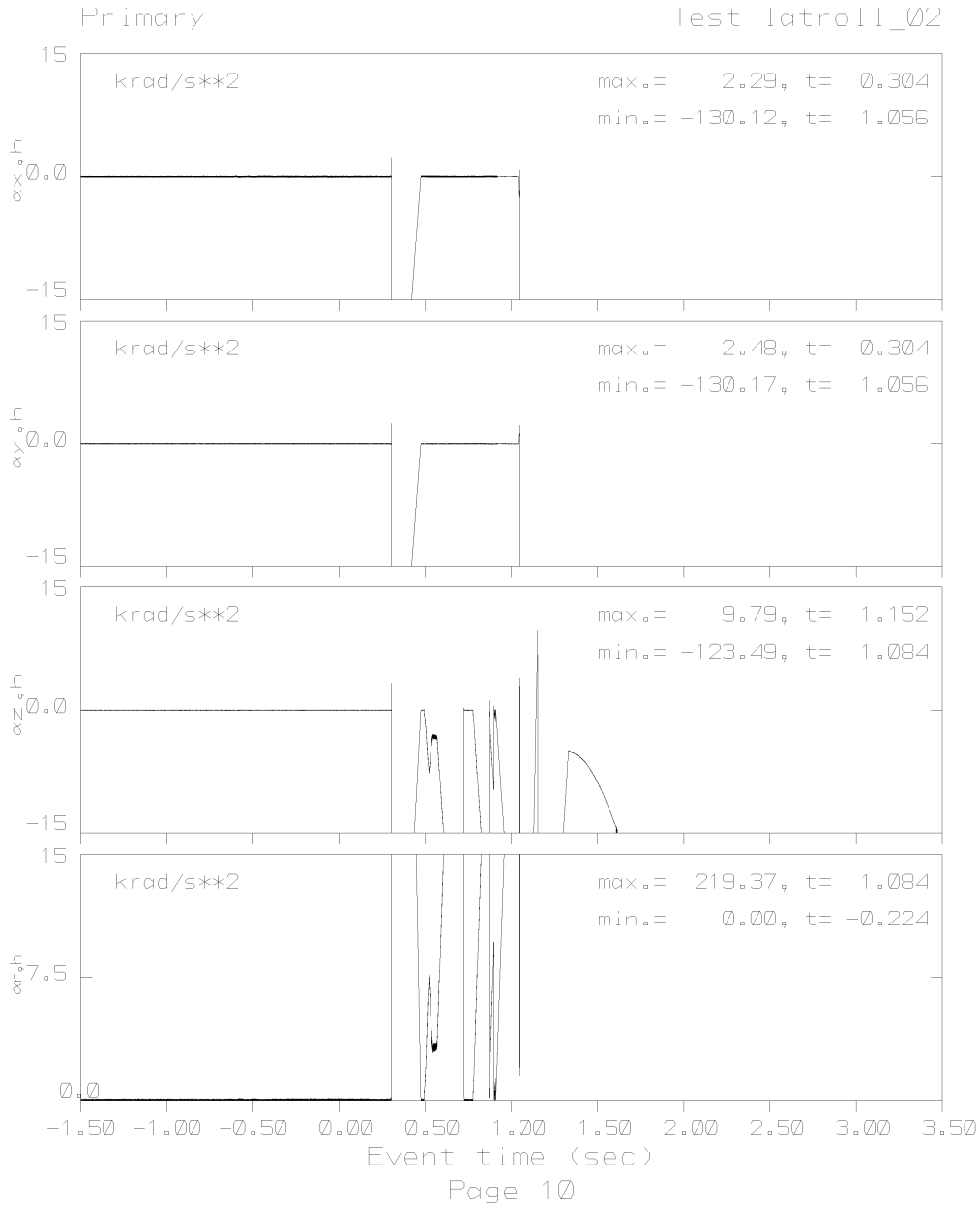
Page 5

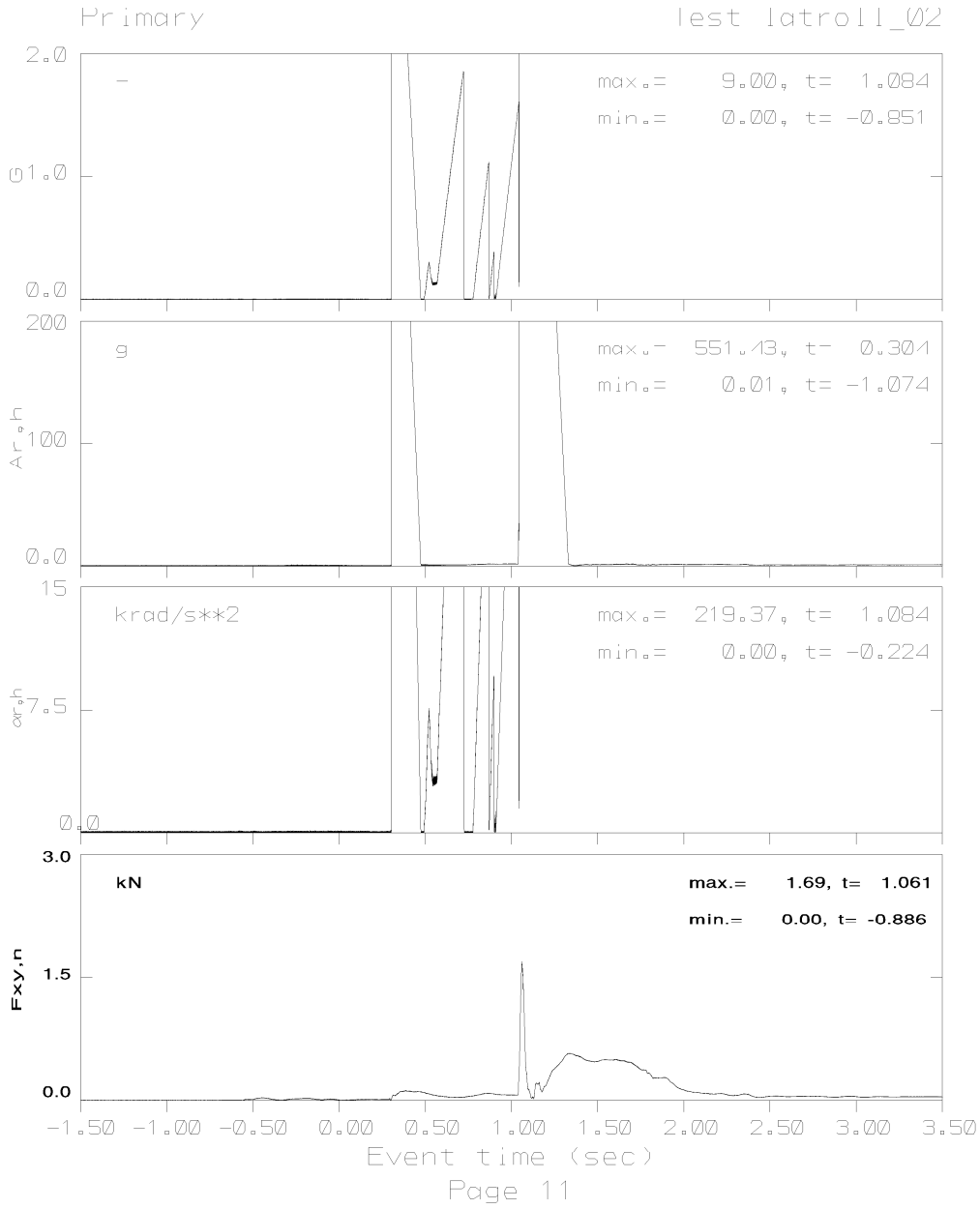

Primary
Test latroll_02
mm
max.= 5.98, t= 0.279
min.= -14.78, t= 1.073
L,ur
mm
max.= 15.49, t= 1.074
min.= -8.52, t= 0.268
L,ul
mm
max.= 7.76, t= 0.281
min.= -11.56, t= 1.137
L,lr
mm
max.= 19.32, t= 1.074
min.= -10.66, t= 0.276
L,ll
50
0.0
-50
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
Event time (sec)
Page 6

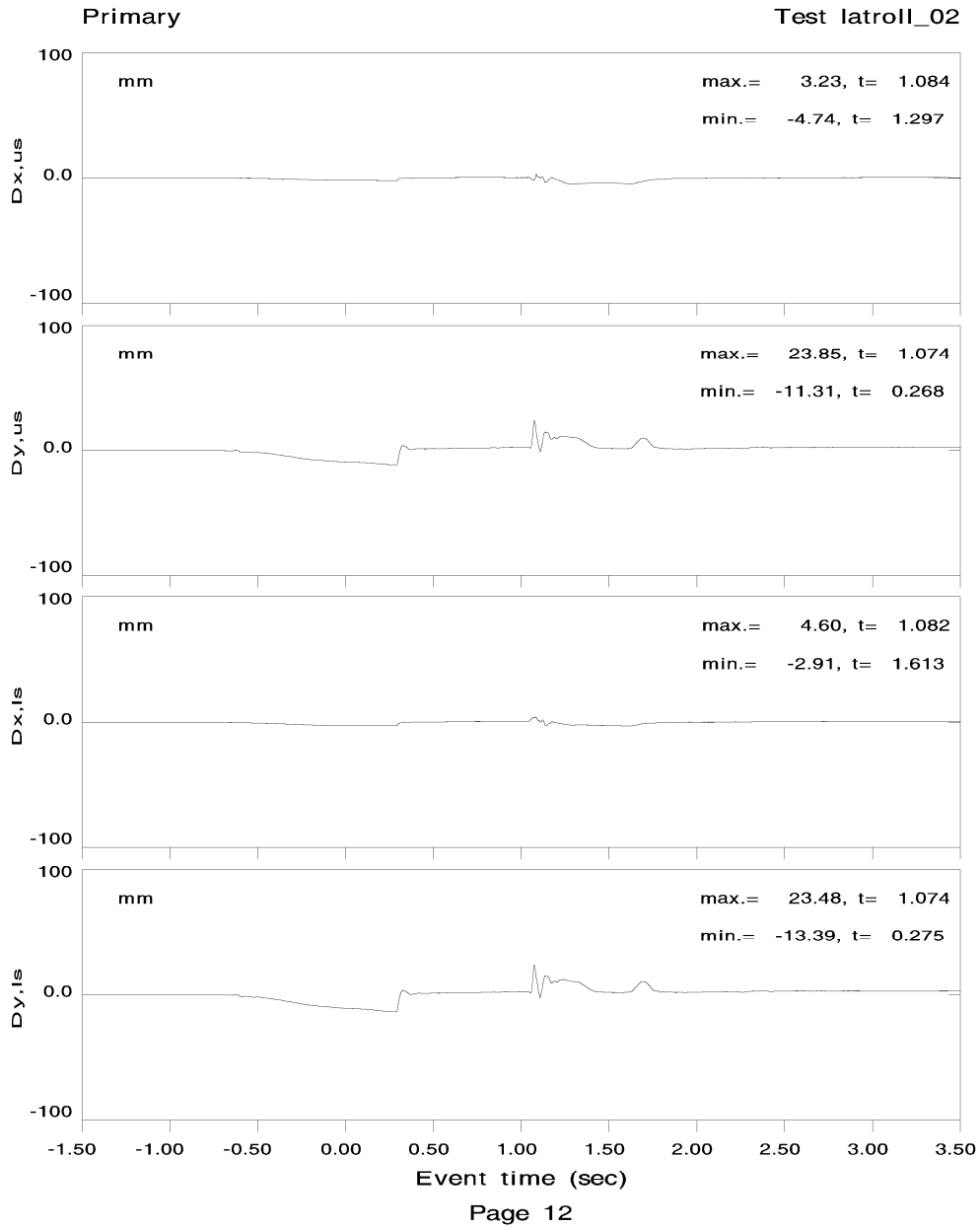

Primary
Test latroll_02
kN
max.= 0.98, t= 1.131
min.= -0.20, t= 1.074
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 21.73, t= 1.110
min.= -202.95, t= 1.157
Mx,uf,l
300
0.0
-300
Nm
max.= 201.22, t= 1.139
min.= -37.65, t= 1.079
My,uf,l
300
0.0
-300
Nm
max.= 146.22, t= 1.684
min.= -6.76, t= 1.905
Mz,uf,l
300
0.0
-300
-1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50
Event time (sec)
Page 7


Primary
Test latroll_02
kN
max.= 0.39, t= 1.079
min.= -0.22, t= 1.116
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 48.98, t= 1.117
min.= -26.22, t= 2.606
Mx,uf,r
300
0.0
-300
Nm
max.= 34.47, t= 1.132
min.= -67.93, t= 1.106
My,uf,r
300
0.0
-300
Nm
max.= 69.43, t= 1.110
min.= -24.17, t= 2.367
Mz,uf,r
300
0.0
-300
-1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50
Event time (sec)
Page 8

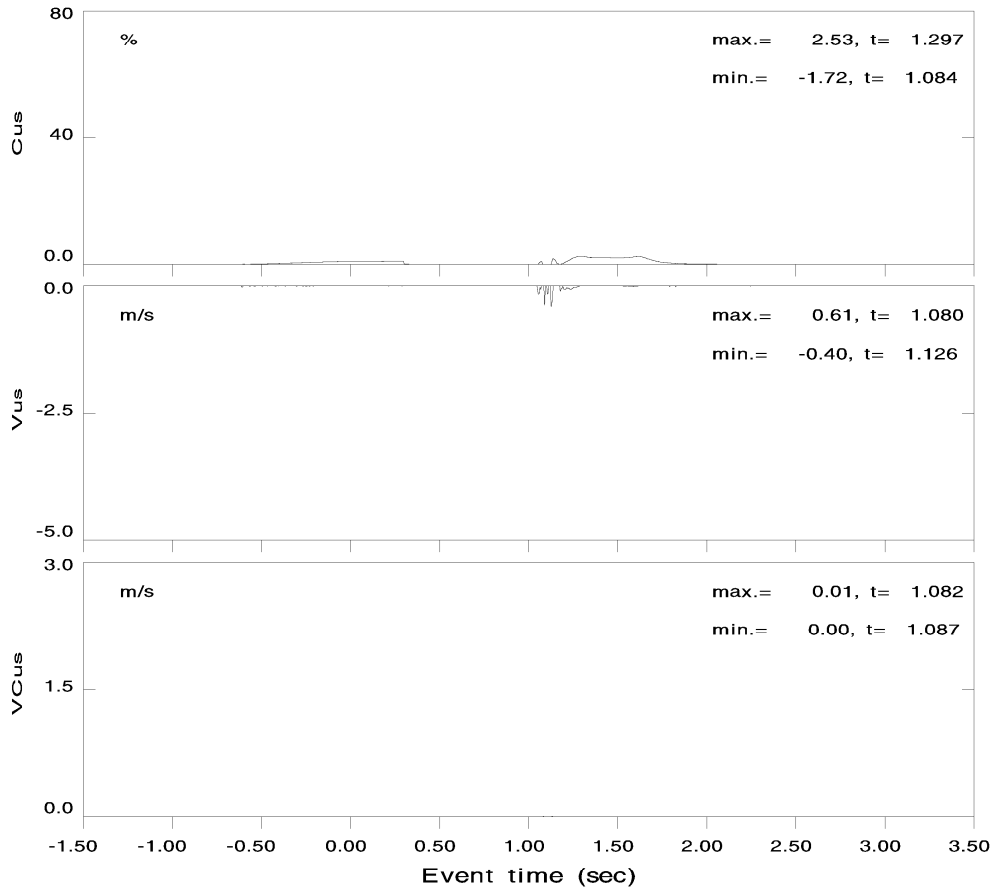

Primary
Test latroll_02
g
max.= 20.31, t= 0.304
min.= -389.83, t= 0.304
Ax,h
150
0.0
-150
g
max.= 390.01, t= 0.304
min.= -24.64, t= 1.044
Ay,h
150
0.0
-150
g
max.= 22.45, t= 1.042
min.= -4.84, t= 1.158
Az,h
150
0.0
-150
g
max.= 551.43, t= 0.304
min.= 0.01, t= -1.074
Ar,h
200
100
0.0
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
Event time (sec)
Page 9


Primary
test latroll_02
krad/s**2
max.= 2.29, t= 0.304
min.= -130.12, t= 1.056
krad/s**2
max.= 2.18, t= 0.301
min.= -130.17, t= 1.056
krad/s**2
max.= 9.79, t= 1.152
min.= -123.49, t= 1.084
krad/s**2
max.= 219.37, t= 1.084
min.= 0.00, t= -0.224
15
0.0
-15
7.5
-1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50
Event time (sec)
Page 10


Primary
Test latroll_02
max.= 9.00, t= 1.084
min.= 0.00, t= -0.851
max.= 551.13, t= 0.301
min.= 0.01, t= -1.074
krad/s**2
max.= 219.37, t= 1.084
min.= 0.00, t= -0.224
kN
max.= 1.69, t= 1.061
min.= 0.00, t= -0.886
Fxy,n
Event time (sec)
Page 11

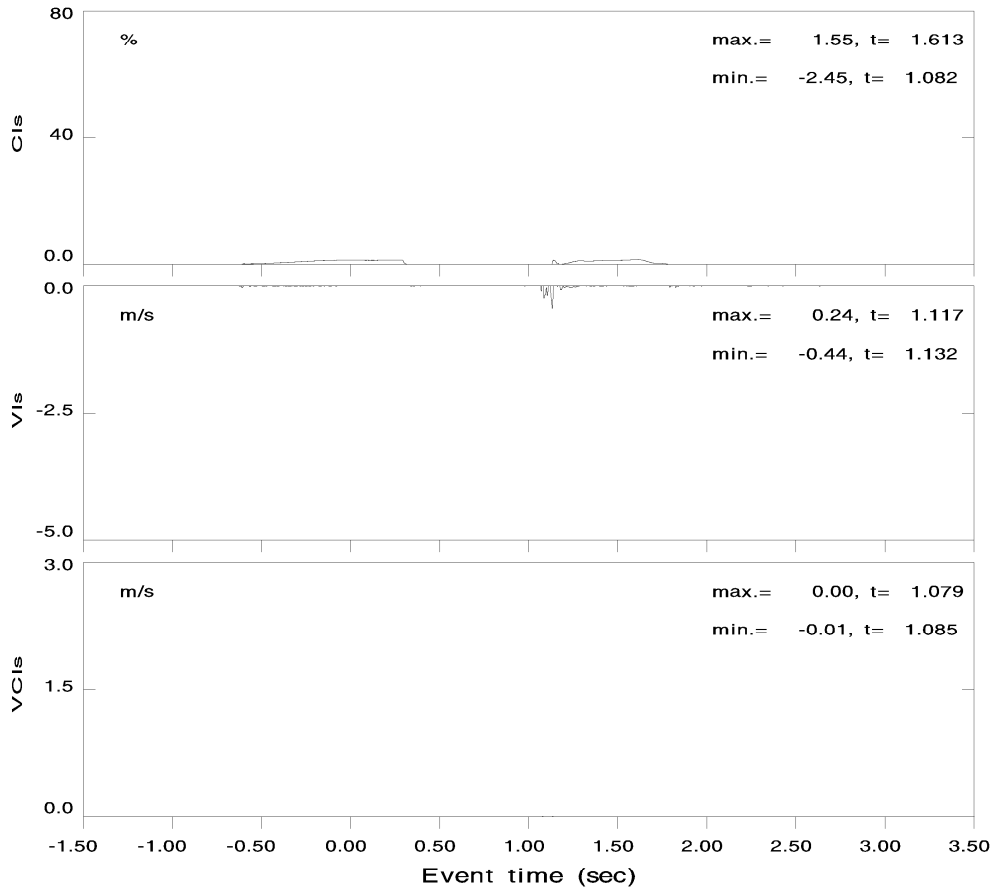

Primary
Test latroll_02
mm
max.= 3.23, t= 1.084
min.= -4.74, t= 1.297
Dx,us
mm
max.= 23.85, t= 1.074
min.= -11.31, t= 0.268
Dy,us
mm
max.= 4.60, t= 1.082
min.= -2.91, t= 1.613
Dx,ls
mm
max.= 23.48, t= 1.074
min.= -13.39, t= 0.275
Dy,ls
100
0.0
-100
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
Event time (sec)
Page 12

Primary Test Iatroll_02



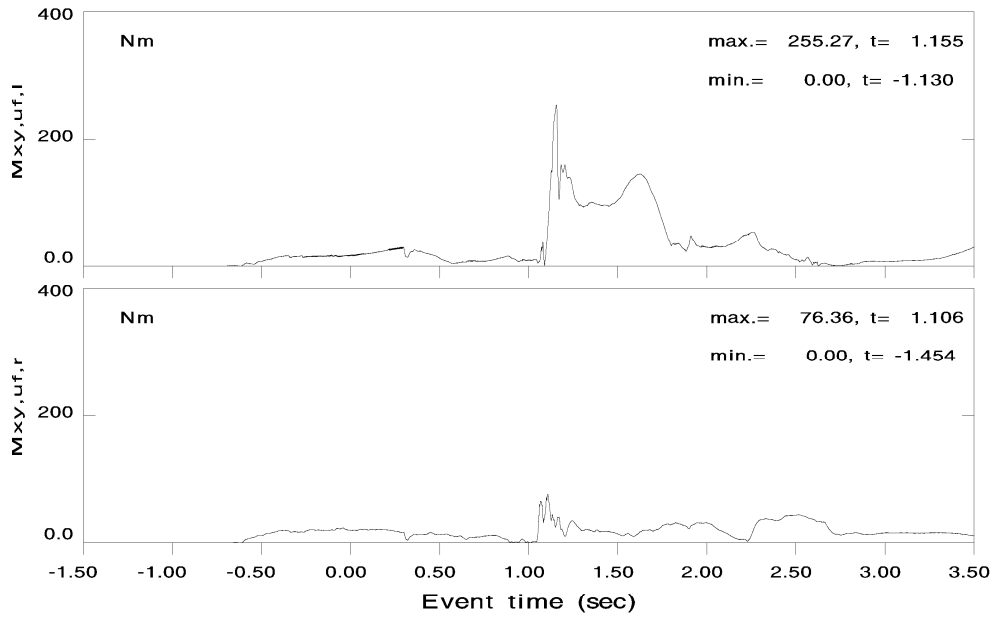
Page 13

Primary Test latroll_02

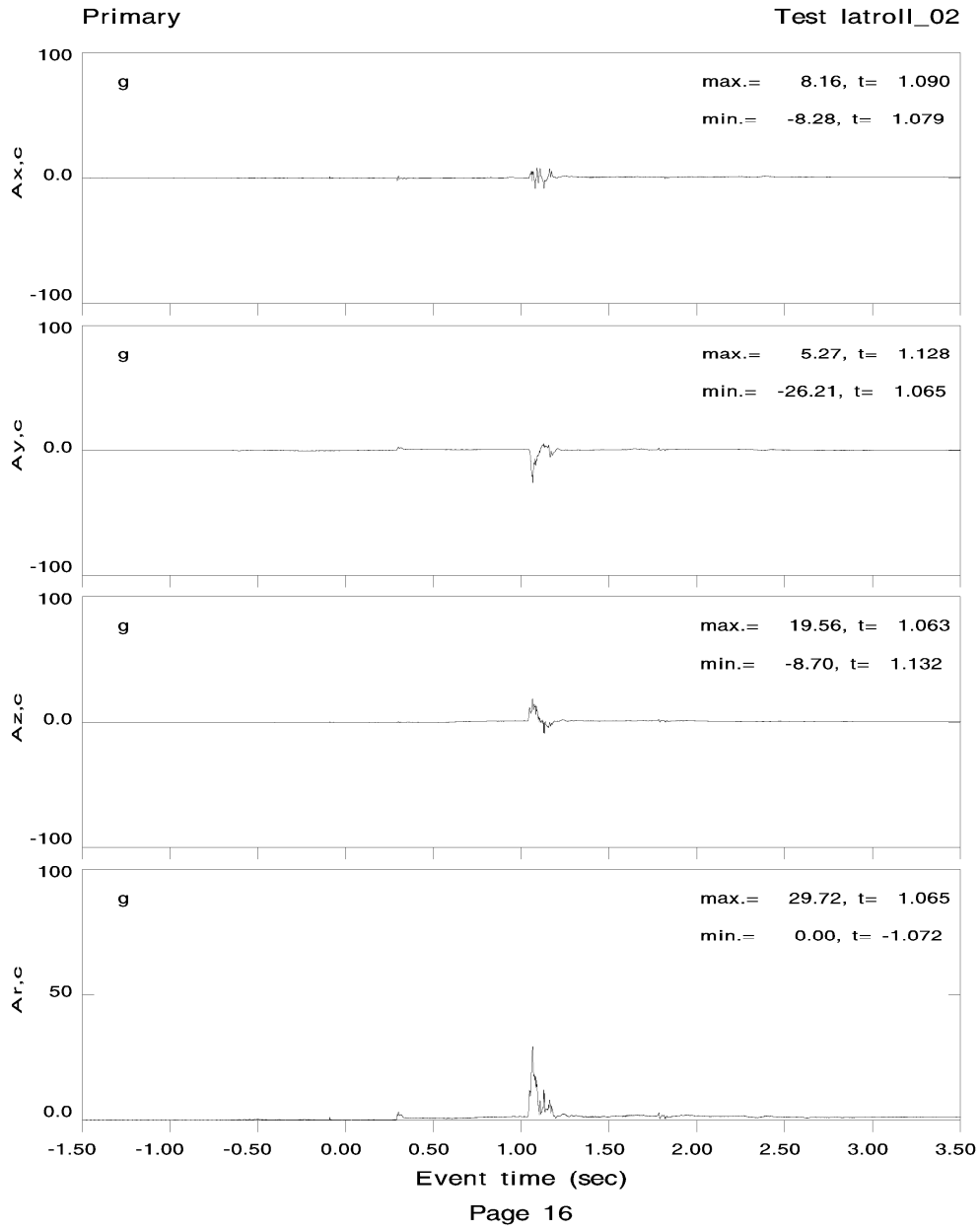


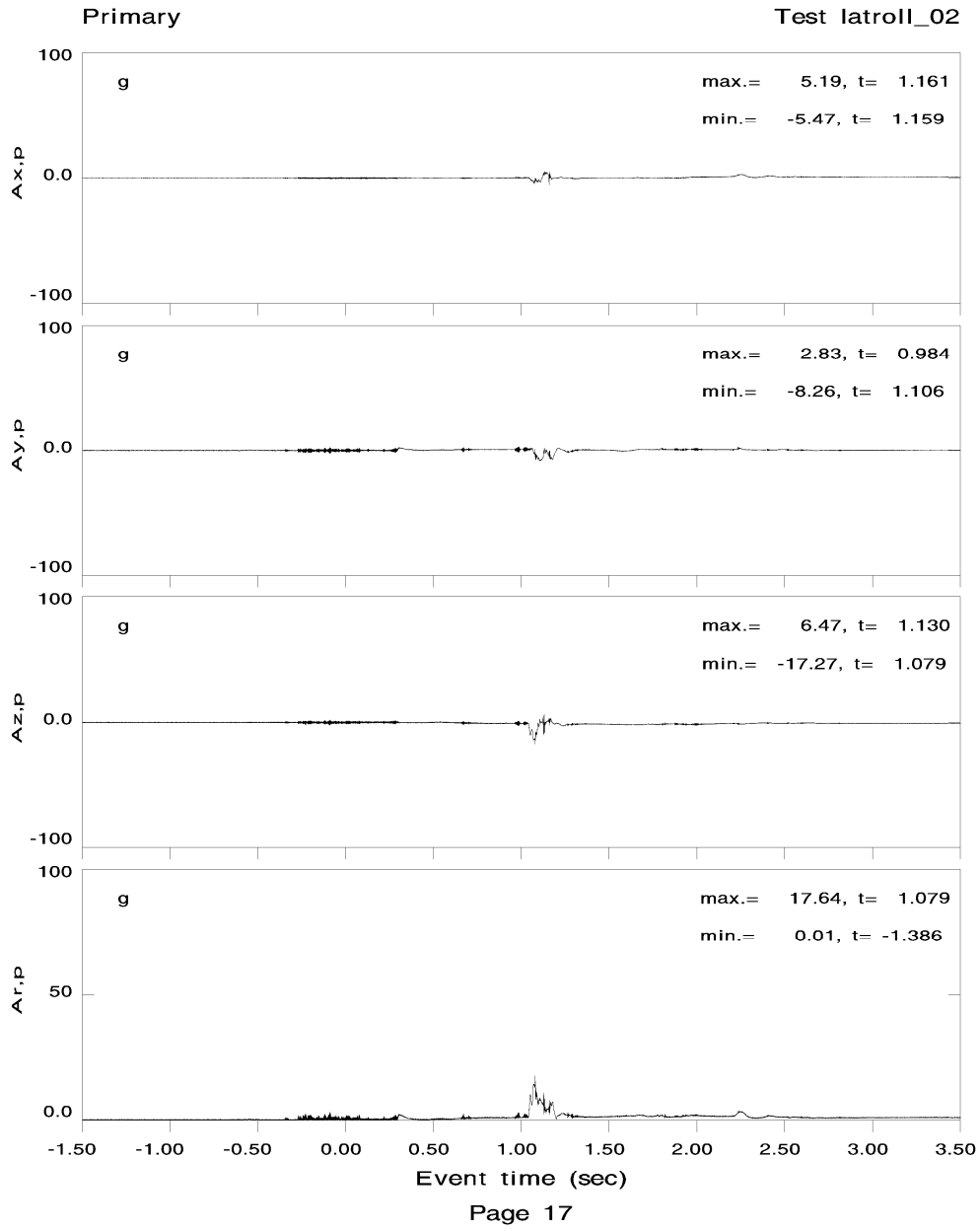
Page 14

Primary Test latroll_02



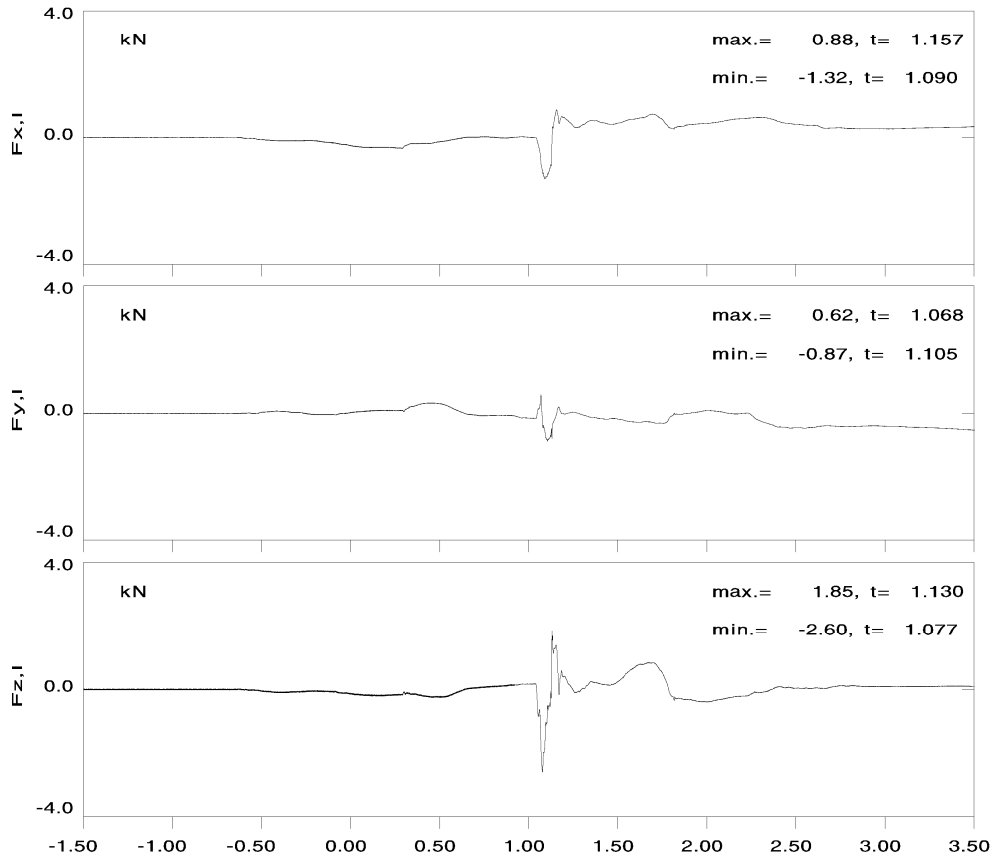
Page 15


Primary
Test latroll_02
g
max.= 8.16, t= 1.090
min.= -8.28, t= 1.079
Ax,c
100
0.0
-100
g
max.= 5.27, t= 1.128
min.= -26.21, t= 1.065
Ay,c
g
max.= 19.56, t= 1.063
min.= -8.70, t= 1.132
Az,c
g
max.= 29.72, t= 1.065
min.= 0.00, t= -1.072
Ar,c
50
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
Event time (sec)
Page 16


Primary
Test latroll_02
g
max.= 5.19, t= 1.161
min.= -5.47, t= 1.159
Ax,p
g
max.= 2.83, t= 0.984
min.= -8.26, t= 1.106
Ay,p
g
max.= 6.47, t= 1.130
min.= -17.27, t= 1.079
Az,p
g
max.= 17.64, t= 1.079
min.= 0.01, t= -1.386
Ar,p
Event time (sec)

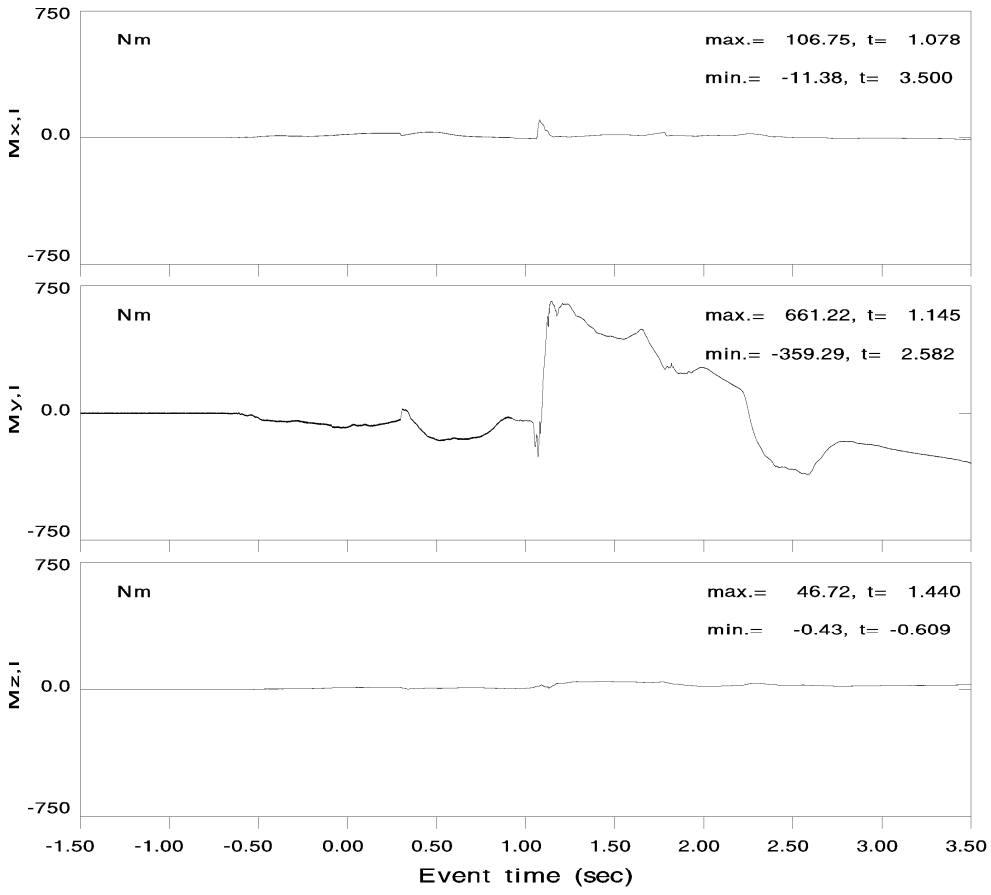
Page 17

Primary Test latroll_02

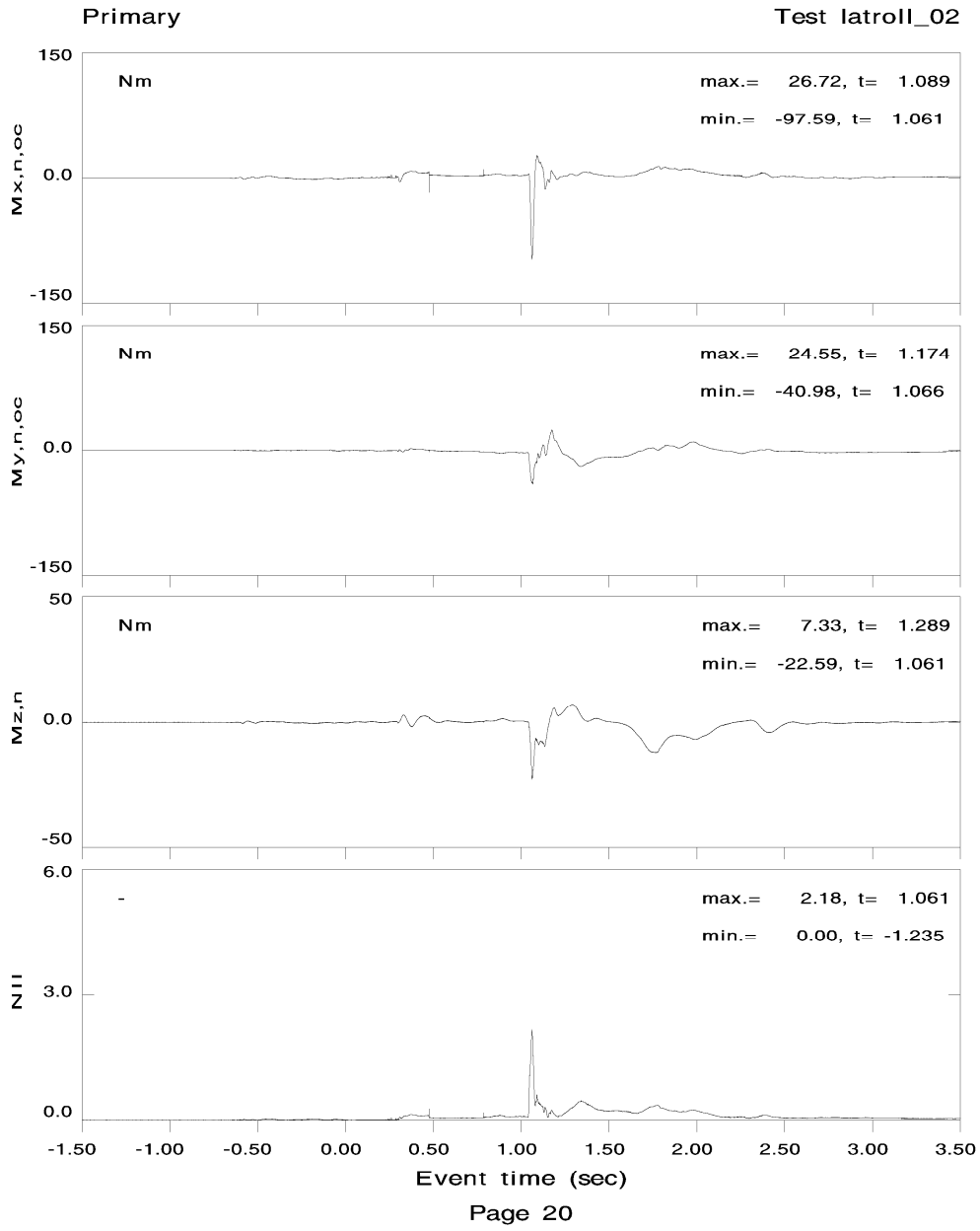


Page 18

Primary Test latroll_02



Page 19


Primary
Test latroll_02
Nm
max.= 26.72, t= 1.089
min.= -97.59, t= 1.061
Mx,n,oc
150
0.0
-150
Nm
max.= 24.55, t= 1.174
min.= -40.98, t= 1.066
My,n,oc
150
0.0
-150
Nm
max.= 7.33, t= 1.289
min.= -22.59, t= 1.061
Mz,n
50
0.0
-50
-
max.= 2.18, t= 1.061
min.= 0.00, t= -1.235
NII
6.0
3.0
0.0
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
Event time (sec)
Page 20

2.16 Research & Development test latroll_03

ATV_Lateral_RHS_Roll_Quadbar.ICE

Test Number : latroll_03
Analysis Window : Entire Run

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.270
Cmax	=	7.310
VCmax	=	0.000
HIC	=	145.4
NII (2002 MATD Neck)	=	2.5
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.973	0.978	1.000	1.000	1.000	0
1	0.016	0.020	0.000	0.000	0.000	0
2	0.005	0.001	0.000	0.000	0.000	0
3	0.006	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.045	0.023	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

latroll_03.rpt

Test latroll_03, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	4.90 g	0.465	-10.95 g	0.480
Ay,c	8.26 g	0.480	-14.21 g	0.476
Az,c	19.37 g	0.481	-8.04 g	0.480
Ax,p	7.21 g	0.482	-19.89 g	0.480
Ay,p	24.50 g	0.480	-17.22 g	0.481
Az,p	5.81 g	0.482	-59.81 g	0.480
spare	0.00 -	-1.532	-0.01 -	0.482
spare	0.00 -	0.474	0.00 -	0.481
L,ur	0.02 mm	-0.637	-27.83 mm	0.555
L,lr	0.03 mm	-0.638	-24.29 mm	0.563
a1	22.27 g	0.572	-36.37 g	0.447
a2	23.39 g	0.572	-36.74 g	0.447
a3	28.33 g	0.572	-42.20 g	0.441
a4	25.95 g	0.441	-7.13 g	0.466
a5	22.35 g	0.445	-7.59 g	0.470
a6	41.43 g	0.441	-6.23 g	0.480
Mx,l	42.02 Nm	0.480	-23.47 Nm	-0.194
My,l	738.54 Nm	0.537	-96.67 Nm	0.453
Mz,l	28.43 Nm	1.293	-11.23 Nm	0.542
Fx,l	0.14 kN	0.256	-1.06 kN	0.498
Fy,l	0.69 kN	0.479	-0.20 kN	1.668
Fz,l	0.95 kN	0.614	-1.50 kN	0.479
spare	0.00 -	3.000	0.00 -	3.000
spare	0.00 -	3.000	0.00 -	3.000
spare	0.00 -	-1.864	-0.01 -	2.922
spare	0.00 -	0.577	0.00 -	1.058
spare	0.00 -	3.000	0.00 -	3.000
spare	0.00 -	3.000	0.00 -	3.000
Spare	0.00 -	0.486	0.00 -	0.481
a7	29.22 g	0.441	-4.08 g	0.576
a8	17.48 g	0.446	-8.04 g	0.576
a9	36.19 g	0.441	-8.81 g	0.575
Fz,uf,r	0.33 kN	0.537	-0.31 kN	0.513
Mx,uf,r	58.61 Nm	0.545	-7.55 Nm	0.658
My,uf,r	44.53 Nm	0.568	-40.67 Nm	0.462
Mz,uf,r	28.17 Nm	0.501	-30.30 Nm	0.814
Fz,uf,l	0.94 kN	0.551	-0.24 kN	0.481
Mx,uf,l	26.51 Nm	0.520	-157.18 Nm	0.592
My,uf,l	212.14 Nm	0.545	-42.27 Nm	0.480
Mz,uf,l	137.93 Nm	0.608	-10.01 Nm	0.770
Fx,n	0.45 kN	0.461	-0.10 kN	0.556
Fy,n	1.47 kN	0.458	-0.05 kN	0.604
Fz,n	0.27 kN	0.593	-3.58 kN	0.455
Mx,n	11.49 Nm	0.565	-145.31 Nm	0.464
My,n	22.74 Nm	0.578	-40.77 Nm	0.468
Mz,n	9.40 Nm	0.758	-23.17 Nm	0.464
L,ul	12.87 mm	0.562	-4.51 mm	0.649
L,ll	17.48 mm	0.561	-4.44 mm	0.656
Ax,h	12.41 g	0.447	-16.07 g	0.572
Ay,h	15.73 g	0.572	-42.39 g	0.441
Az,h	29.24 g	0.441	-4.08 g	0.576
ȧx,h	1.29 krad/s**2	0.472	-3.99 krad/s**2	0.441
ȧy,h	1.49 krad/s**2	0.575	-1.13 krad/s**2	0.467
ȧz,h	1.73 krad/s**2	0.442	-1.22 krad/s**2	0.459
Ar,h	51.83 g	0.441	0.01 g	-0.666
ȧr,h	4.46 krad/s**2	0.441	0.00 krad/s**2	2.039
G	0.27 -	0.441	0.00 -	-1.023
HIC	145.44	0.458	----	0.439
Fxy,n	1.52 kN	0.458	0.00 kN	-0.678
Dx,us	0.82 mm	-0.088	-13.70 mm	0.553
Dy,us	29.61 mm	0.561	-0.06 mm	-0.633

Page 1

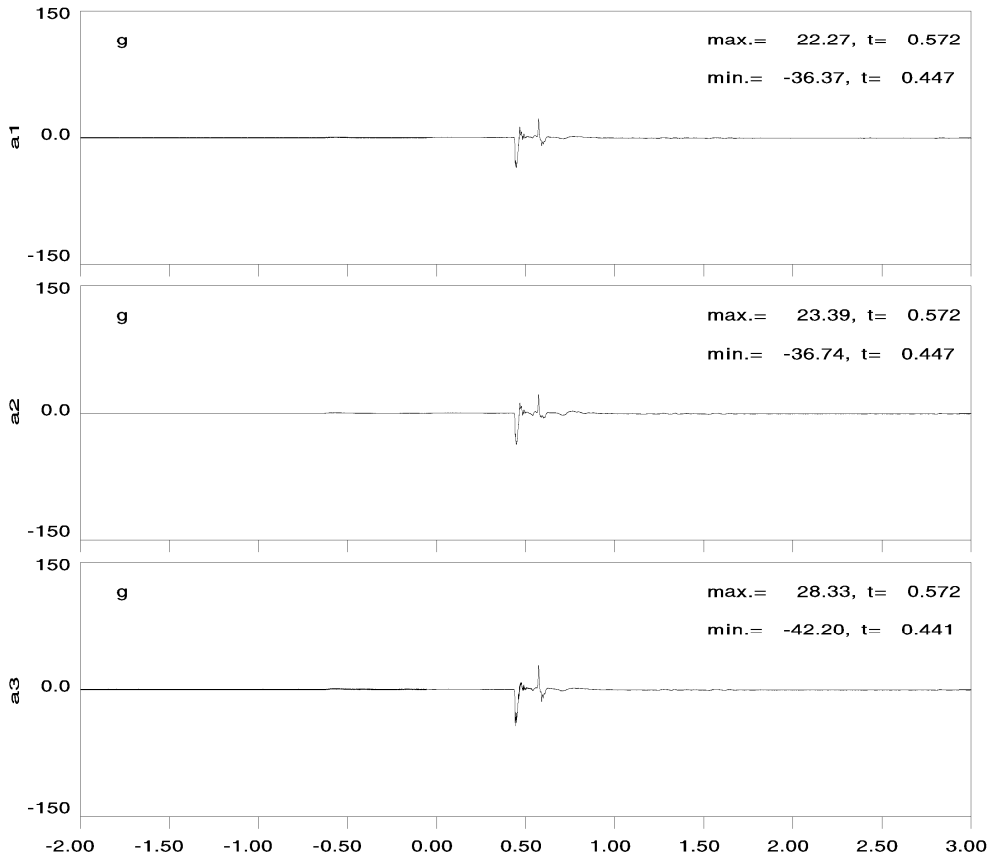
latroll_03.rpt

Cus	7.31	%	0.553	-0.44	%	-0.088
Vus	0.32	m/s	0.577	-0.79	m/s	0.541
VCus	0.04	m/s	0.544	-0.02	m/s	0.576
Dx,ls	4.19	mm	0.461	-8.49	mm	0.553
Dy,ls	29.74	mm	0.562	-0.07	mm	-0.633
Cls	4.53	%	0.553	-2.23	%	0.461
Vls	0.24	m/s	0.450	-0.54	m/s	0.541
VCls	0.02	m/s	0.544	-0.01	m/s	0.557
Mxy,uf,r	60.17	Nm	0.547	0.00	Nm	-1.388
Mxy,uf,l	222.95	Nm	0.594	0.00	Nm	-1.914
Mx,n,oc	12.12	Nm	0.445	-119.87	Nm	0.464
My,n,oc	22.02	Nm	0.577	-45.67	Nm	0.468
NII	2.53	-	0.464	0.00	-	-0.742
Ar,p	63.96	g	0.480	0.00	g	-1.061
Ar,c	21.42	g	0.481	0.00	g	-1.916

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

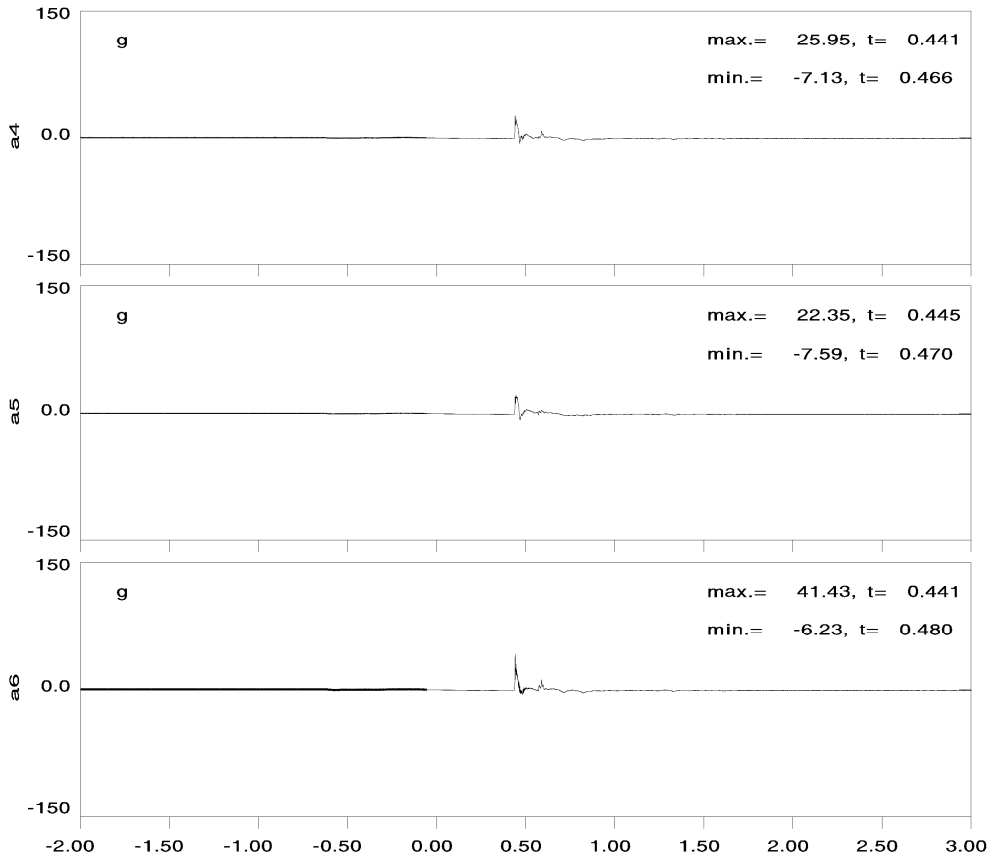
Page 2

Primary Test latroll_03



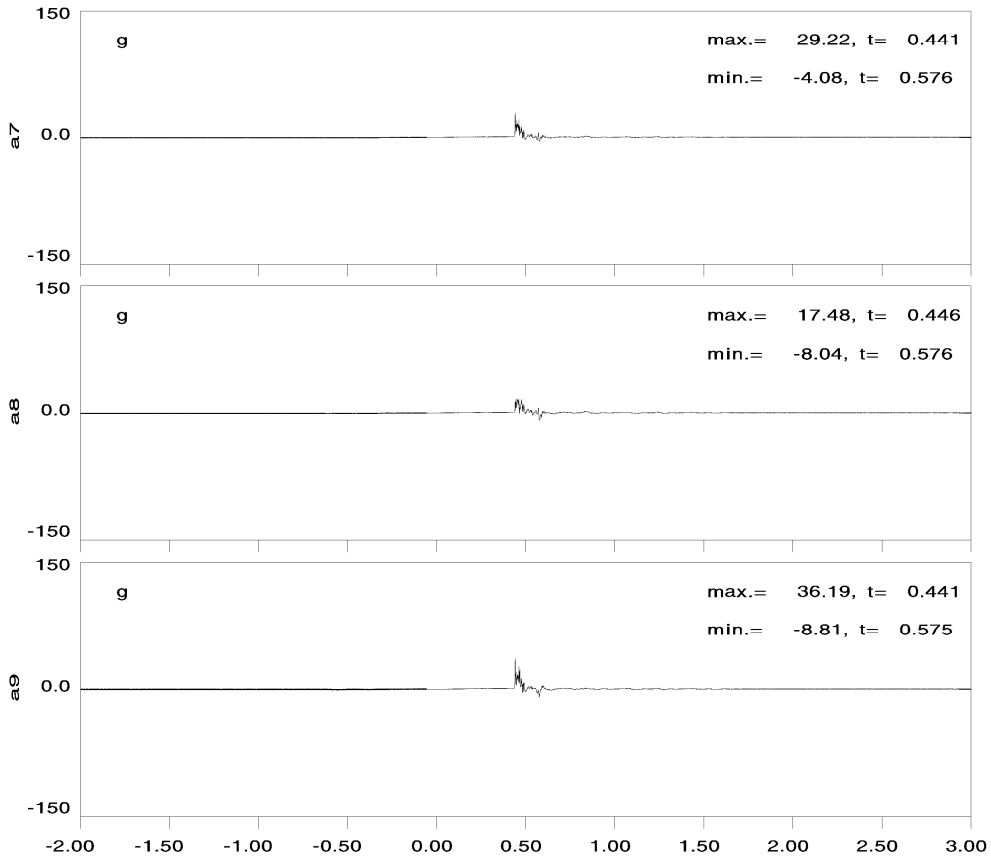
Page 1

Primary Test latroll_03



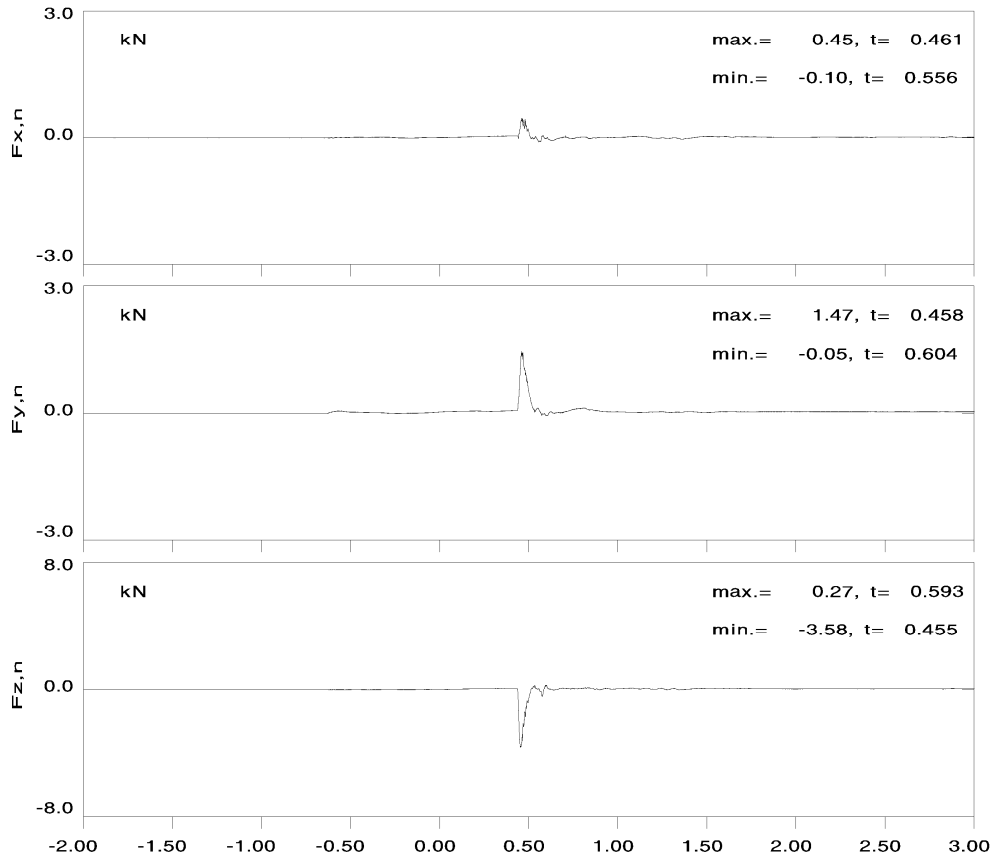
Page 2

Primary Test latroll_03



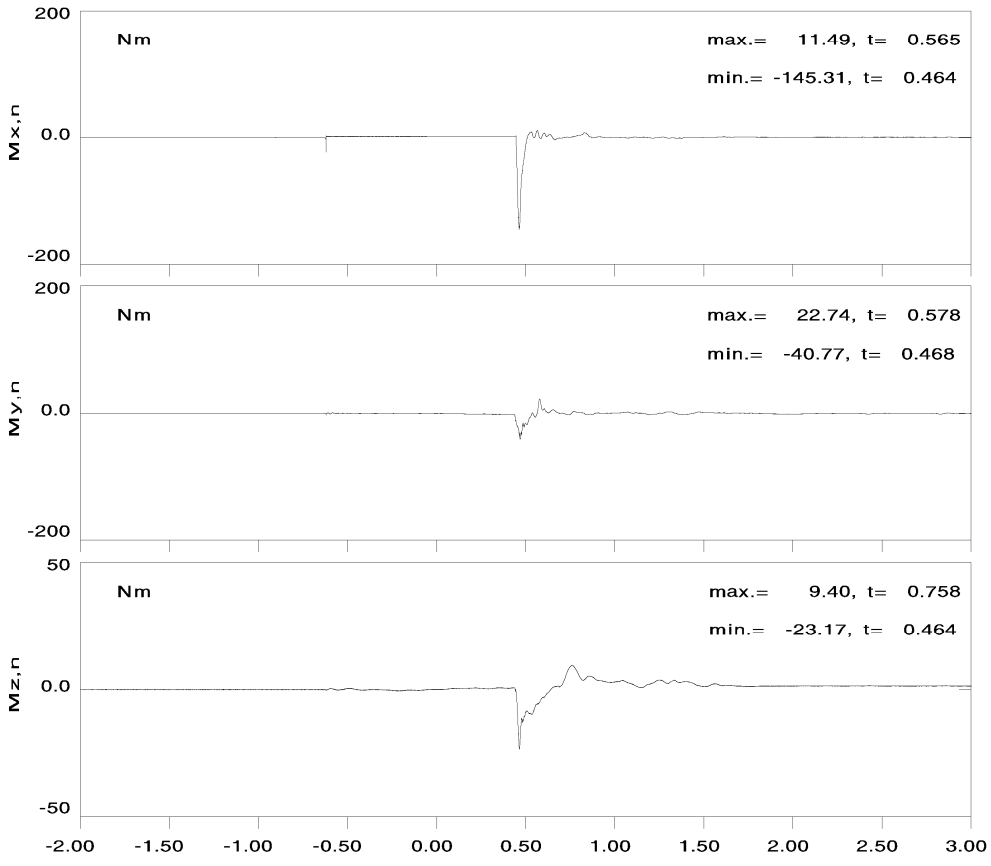
Page 3

Primary Test latroll_03

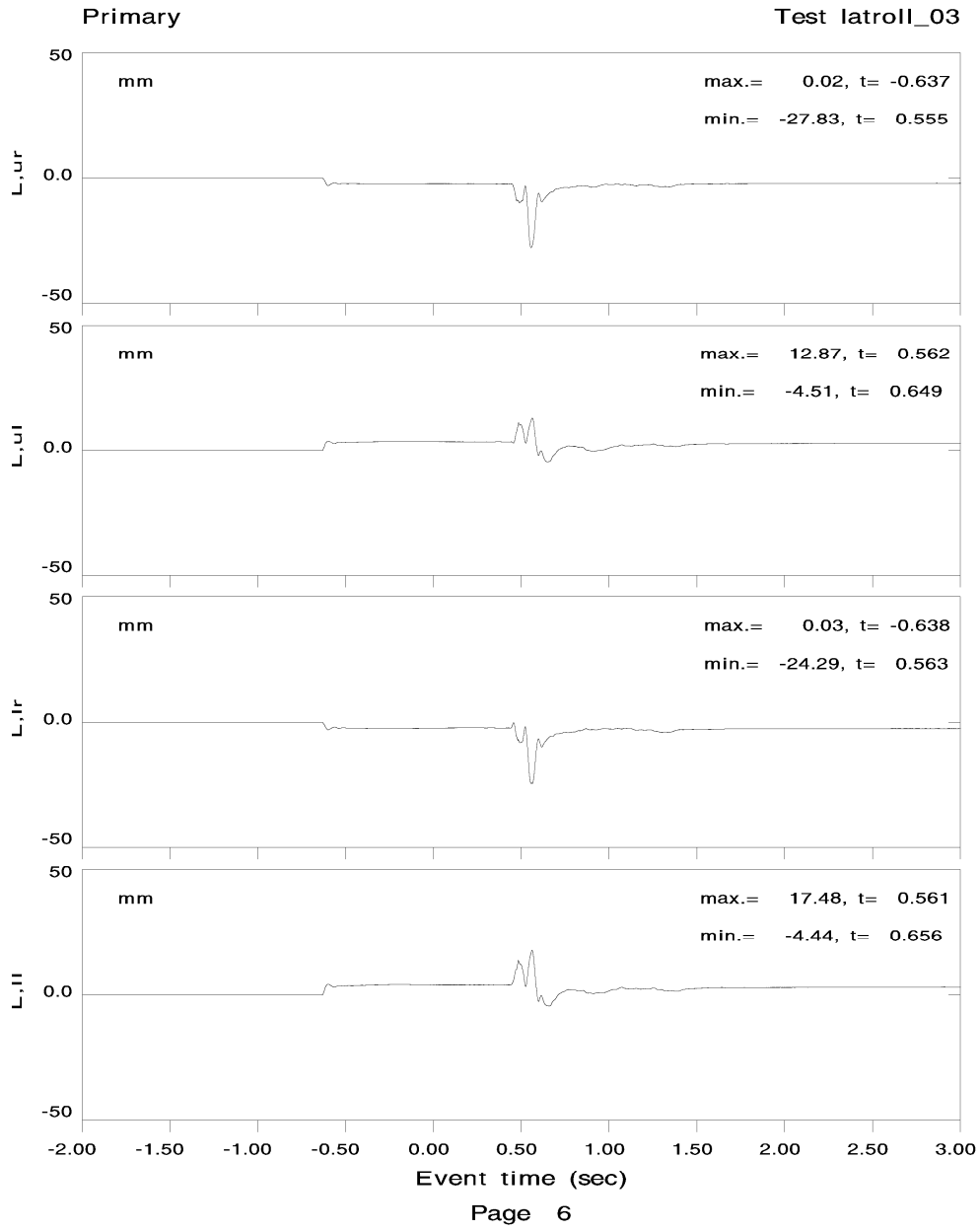


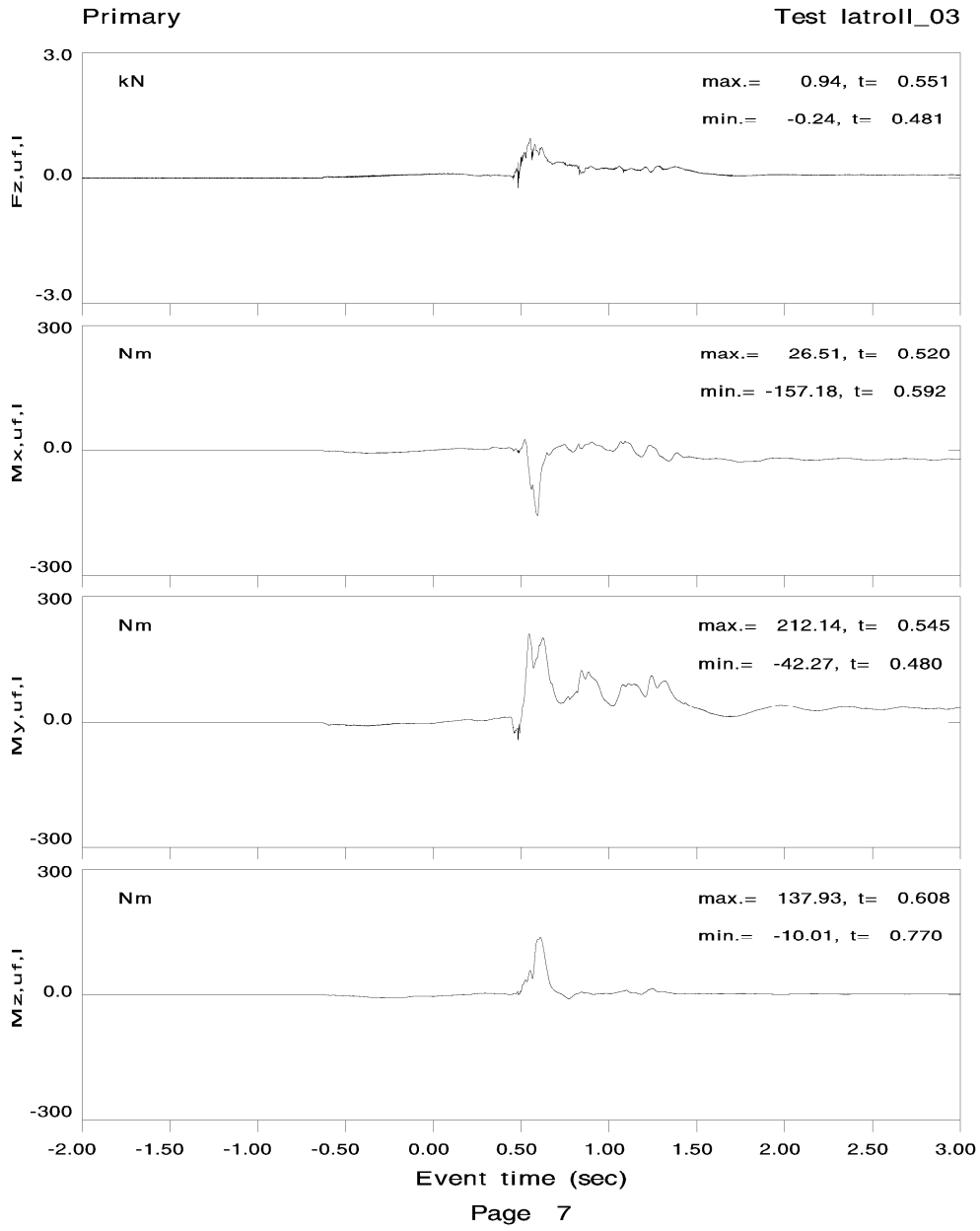
Page 4

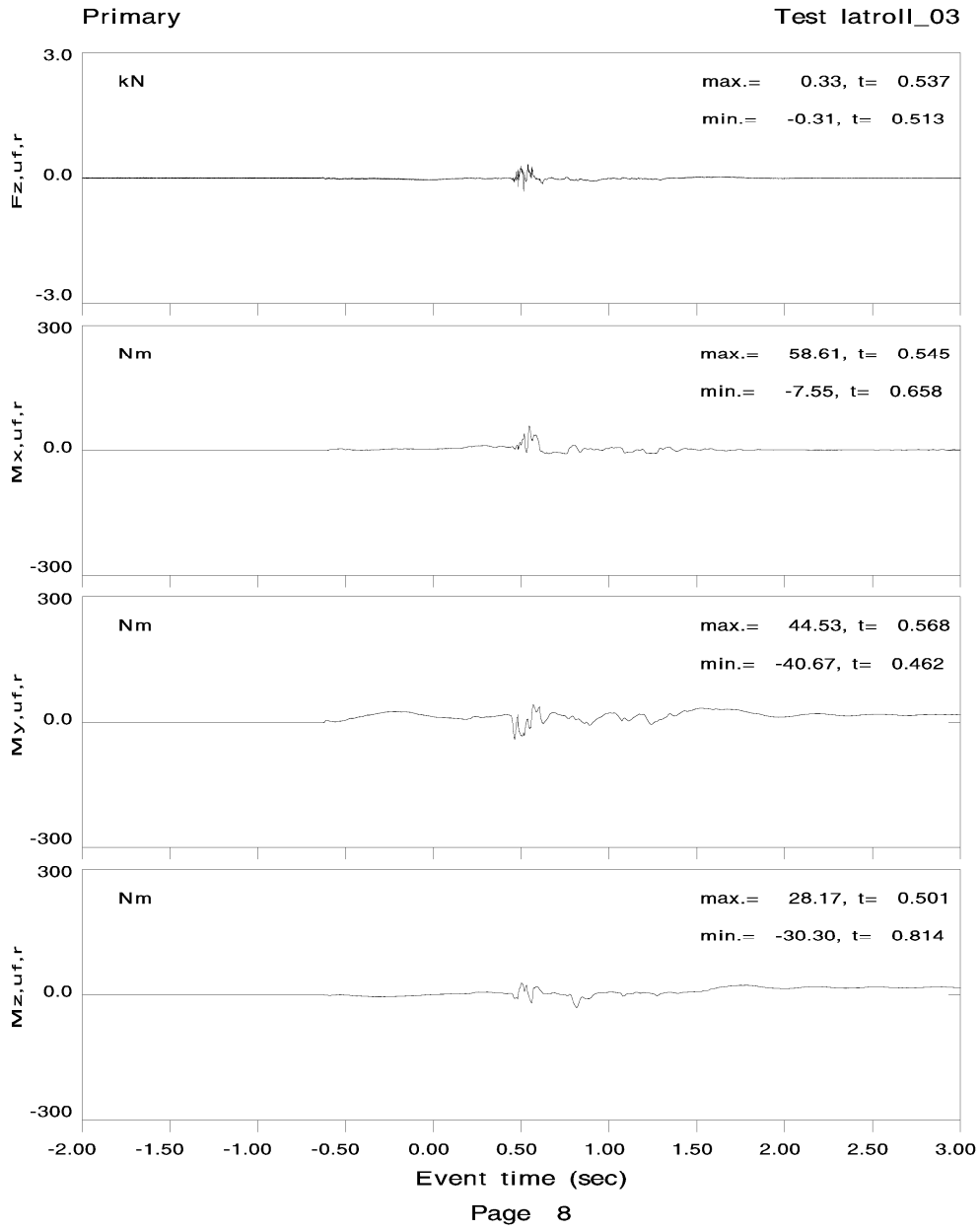
Primary Test latroll_03

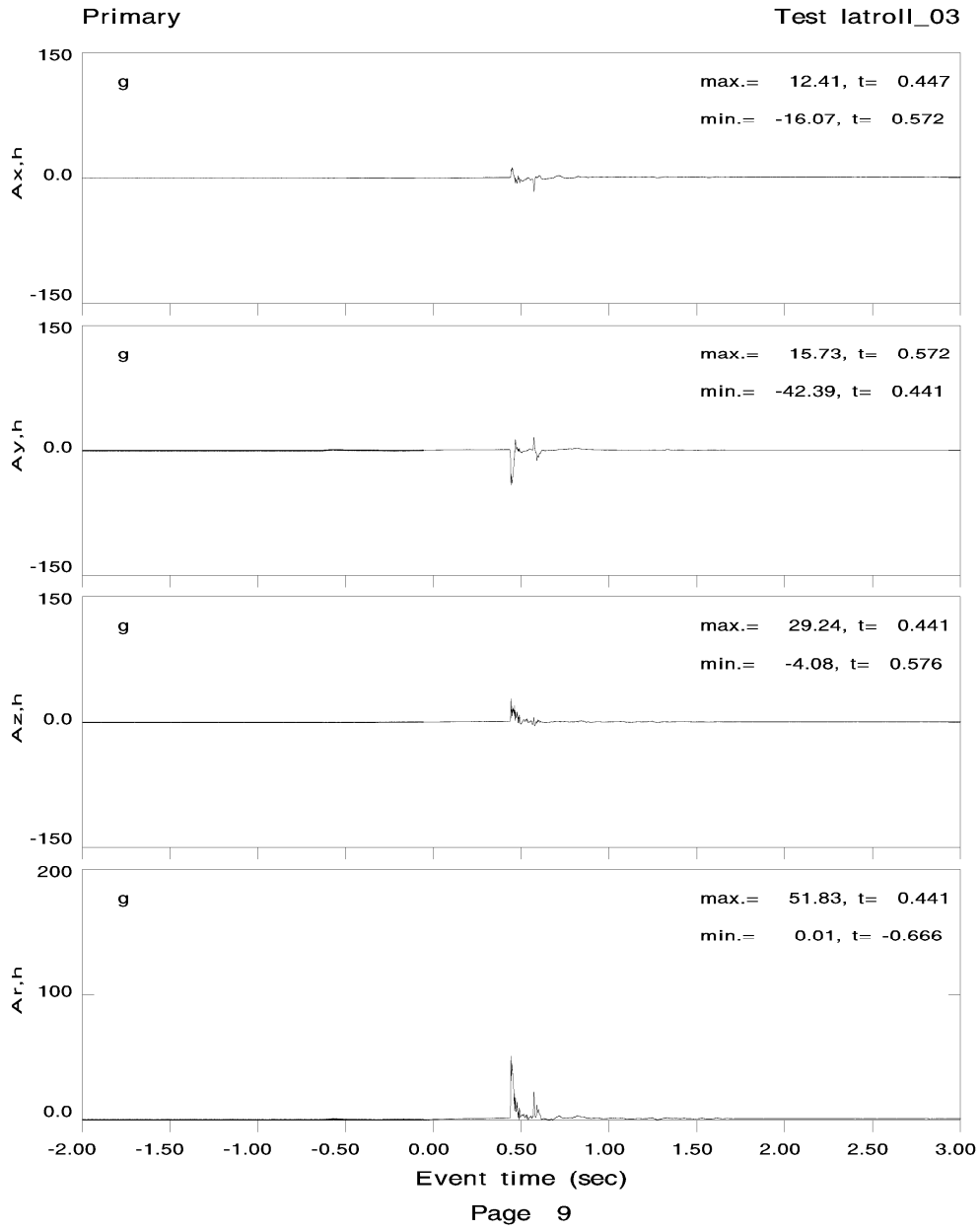


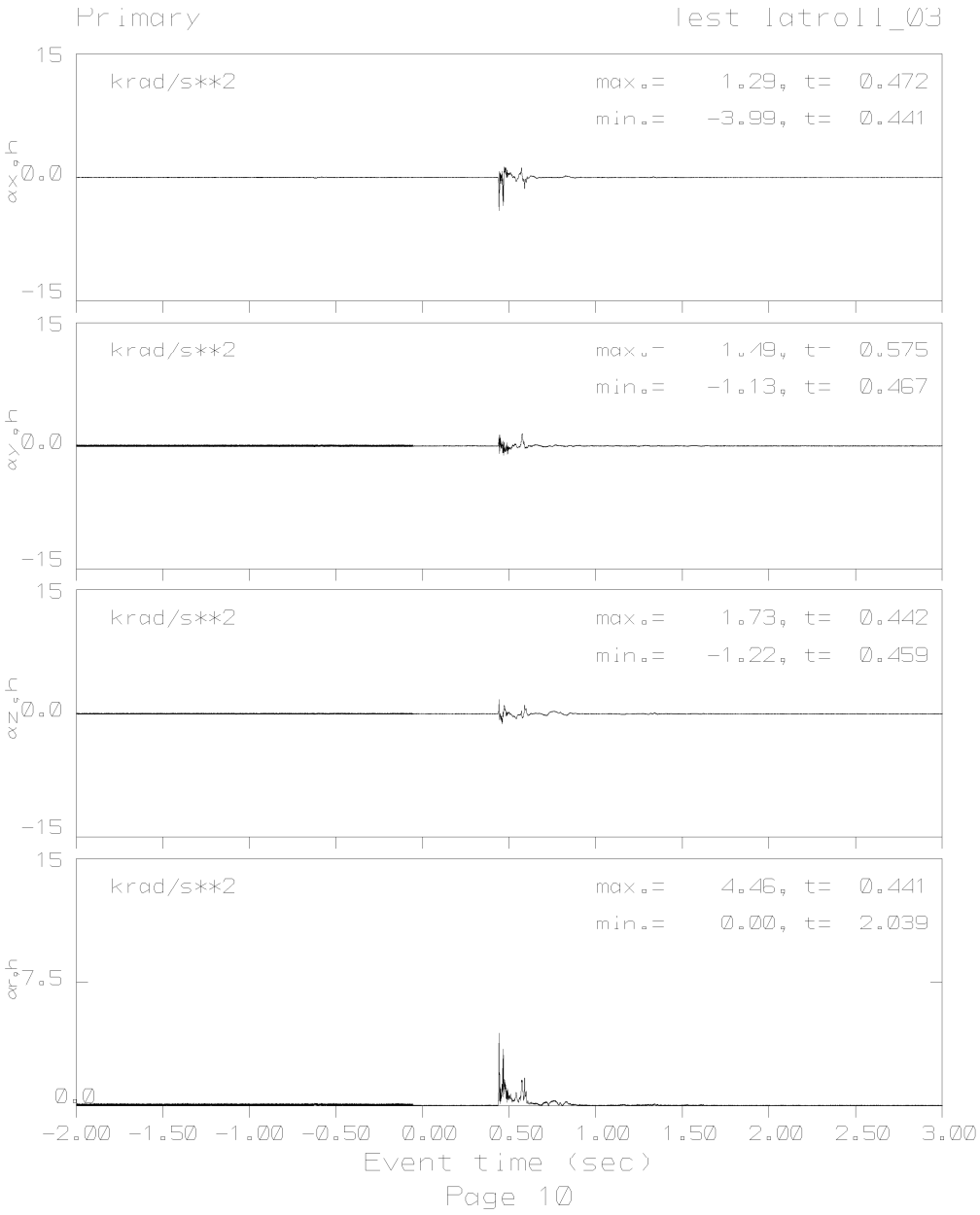
Page 5

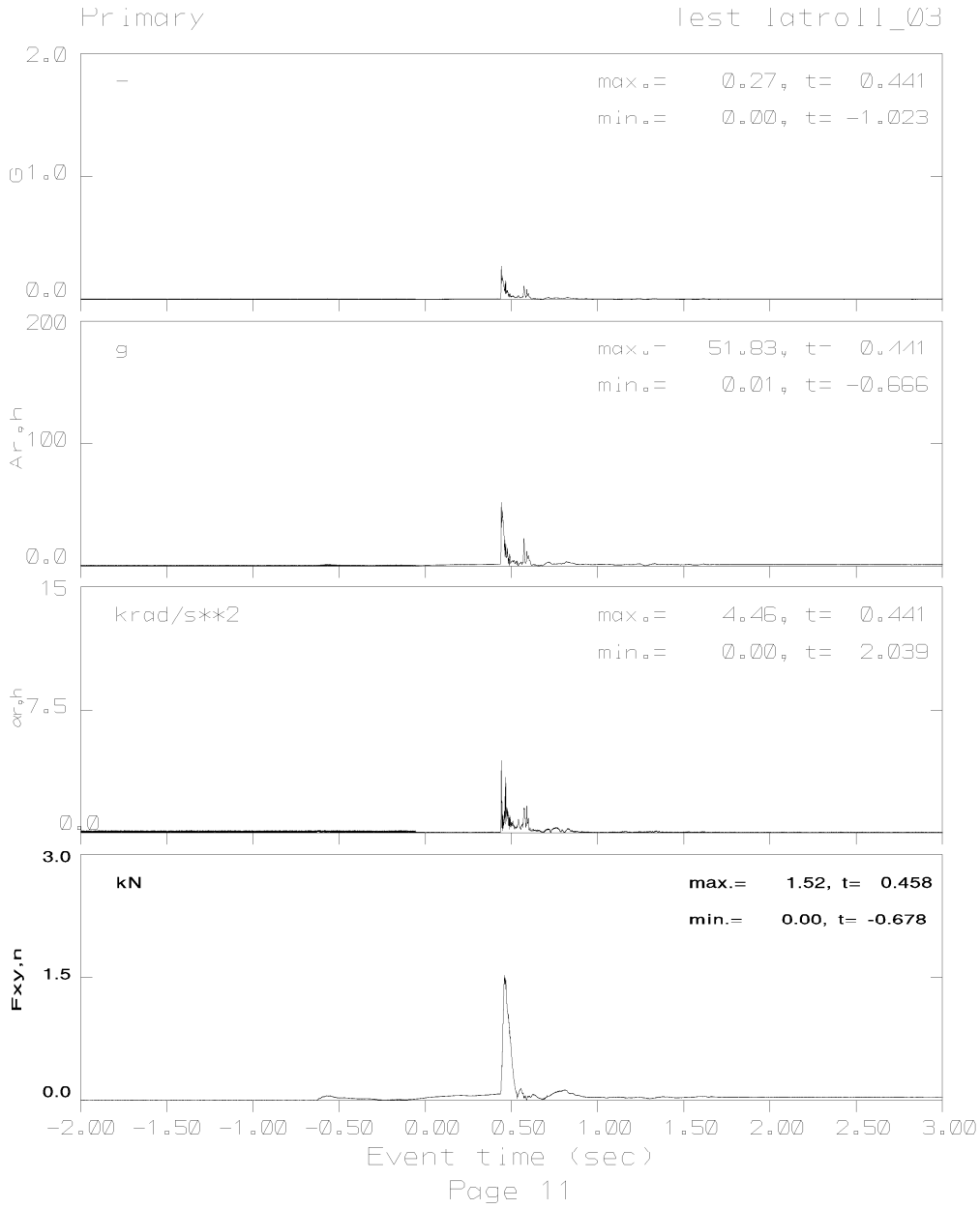

Primary
Test latroll_03
mm
max.= 0.02, t= -0.637
min.= -27.83, t= 0.555
L,ur
mm
max.= 12.87, t= 0.562
min.= -4.51, t= 0.649
L,ul
mm
max.= 0.03, t= -0.638
min.= -24.29, t= 0.563
L,lr
mm
max.= 17.48, t= 0.561
min.= -4.44, t= 0.656
L,ll
50
0.0
-50
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 6

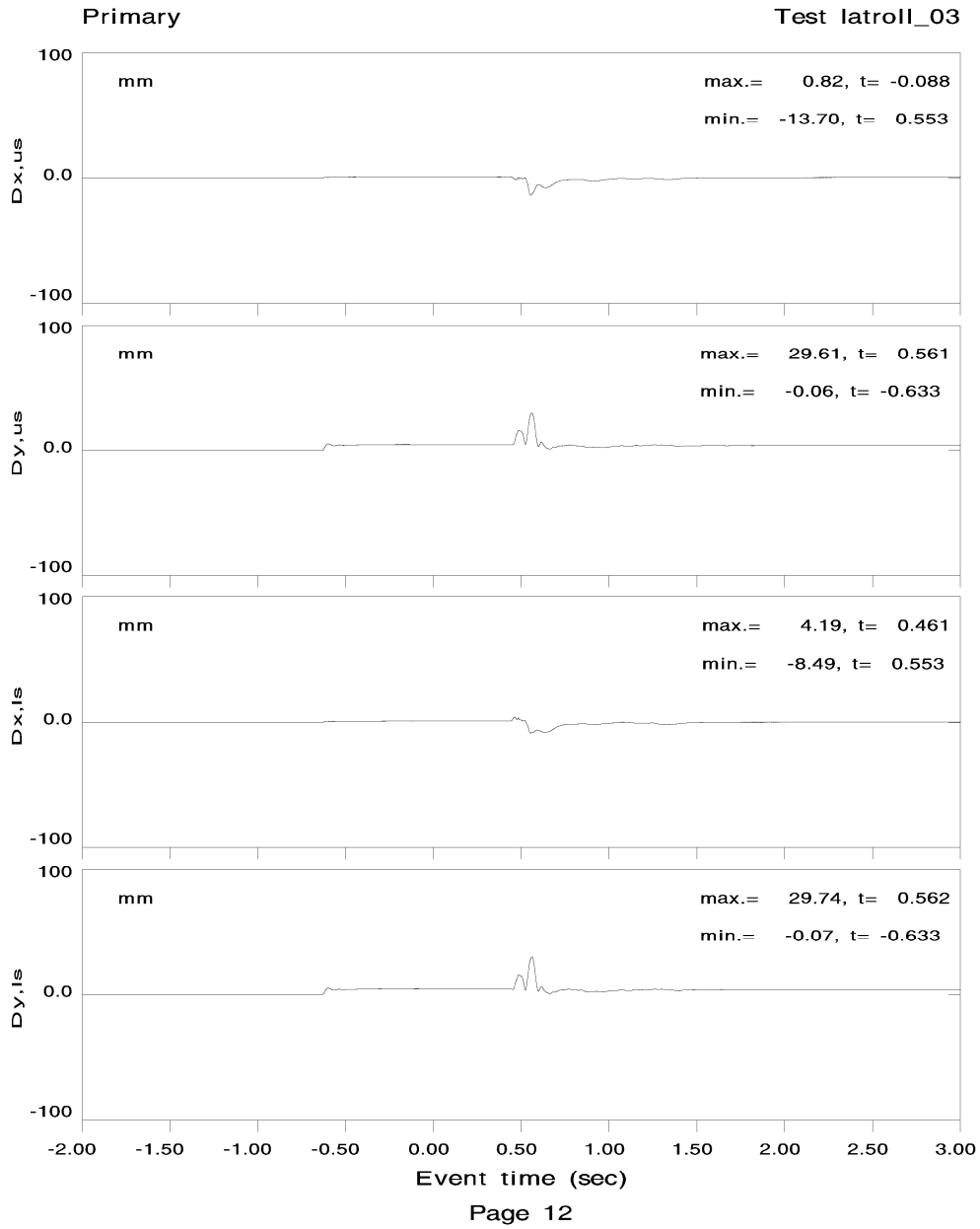

Primary
Test latroll_03
kN
max.= 0.94, t= 0.551
min.= -0.24, t= 0.481
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 26.51, t= 0.520
min.= -157.18, t= 0.592
Mx,uf,l
300
0.0
-300
Nm
max.= 212.14, t= 0.545
min.= -42.27, t= 0.480
My,uf,l
300
0.0
-300
Nm
max.= 137.93, t= 0.608
min.= -10.01, t= 0.770
Mz,uf,l
300
0.0
-300
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 7


Primary
Test latroll_03
kN
max.= 0.33, t= 0.537
min.= -0.31, t= 0.513
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 58.61, t= 0.545
min.= -7.55, t= 0.658
Mx,uf,r
300
0.0
-300
Nm
max.= 44.53, t= 0.568
min.= -40.67, t= 0.462
My,uf,r
300
0.0
-300
Nm
max.= 28.17, t= 0.501
min.= -30.30, t= 0.814
Mz,uf,r
300
0.0
-300
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 8

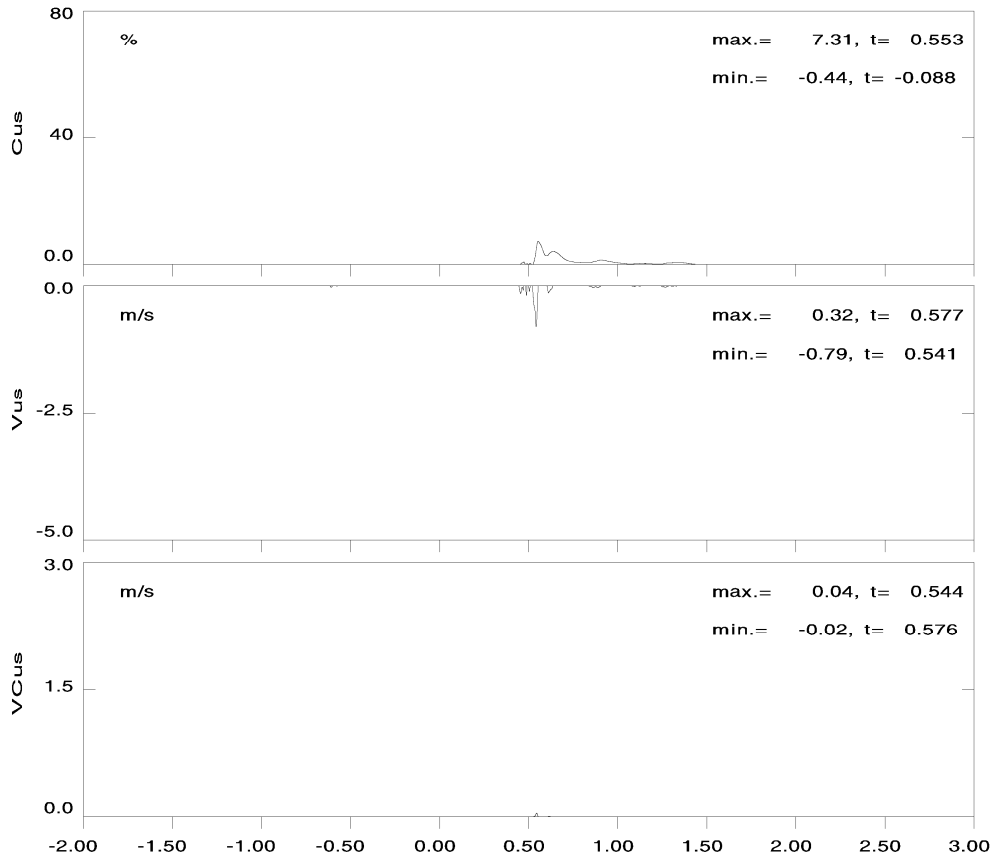

Primary
Test latroll_03
g
max.= 12.41, t= 0.447
min.= -16.07, t= 0.572
Ax,h
150
0.0
-150
g
max.= 15.73, t= 0.572
min.= -42.39, t= 0.441
Ay,h
150
0.0
-150
g
max.= 29.24, t= 0.441
min.= -4.08, t= 0.576
Az,h
150
0.0
-150
g
max.= 51.83, t= 0.441
min.= 0.01, t= -0.666
Ar,h
200
100
0.0
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 9


Primary
test latroll_03
krad/s**2
max.= 1.29, t= 0.472
min.= -3.99, t= 0.441
ax,h
krad/s**2
max.= 1.19, t= 0.575
min.= -1.13, t= 0.467
ay,h
krad/s**2
max.= 1.73, t= 0.442
min.= -1.22, t= 0.459
az,h
krad/s**2
max.= 4.46, t= 0.441
min.= 0.00, t= 2.039
ar,h
15
0.0
-15
7.5
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 10


Primary
test latroll_03
2.0
-
max.= 0.27, t= 0.441
min.= 0.00, t= -1.023
G1.0
0.0
200
g
max.= 51.83, t= 0.441
min.= 0.01, t= -0.666
Ar.h
100
0.0
15
krad/s**2
max.= 4.46, t= 0.441
min.= 0.00, t= 2.039
ar.h
7.5
0.0
3.0
kN
max.= 1.52, t= 0.458
min.= 0.00, t= -0.678
Fxy,n
1.5
0.0
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 11

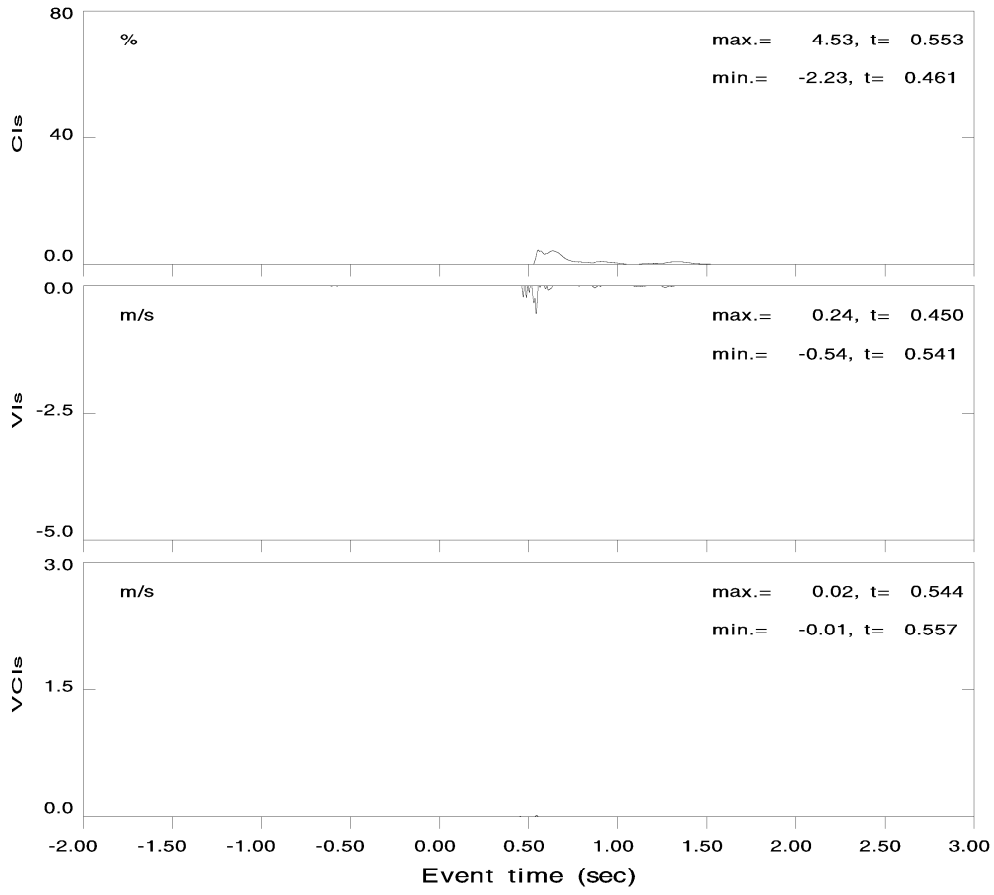

Primary
Test latroll_03
mm
max.= 0.82, t= -0.088
min.= -13.70, t= 0.553
Dx,us
mm
max.= 29.61, t= 0.561
min.= -0.06, t= -0.633
Dy,us
mm
max.= 4.19, t= 0.461
min.= -8.49, t= 0.553
Dx,ls
mm
max.= 29.74, t= 0.562
min.= -0.07, t= -0.633
Dy,ls
100
0.0
-100
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 12

Primary Test latroll_03



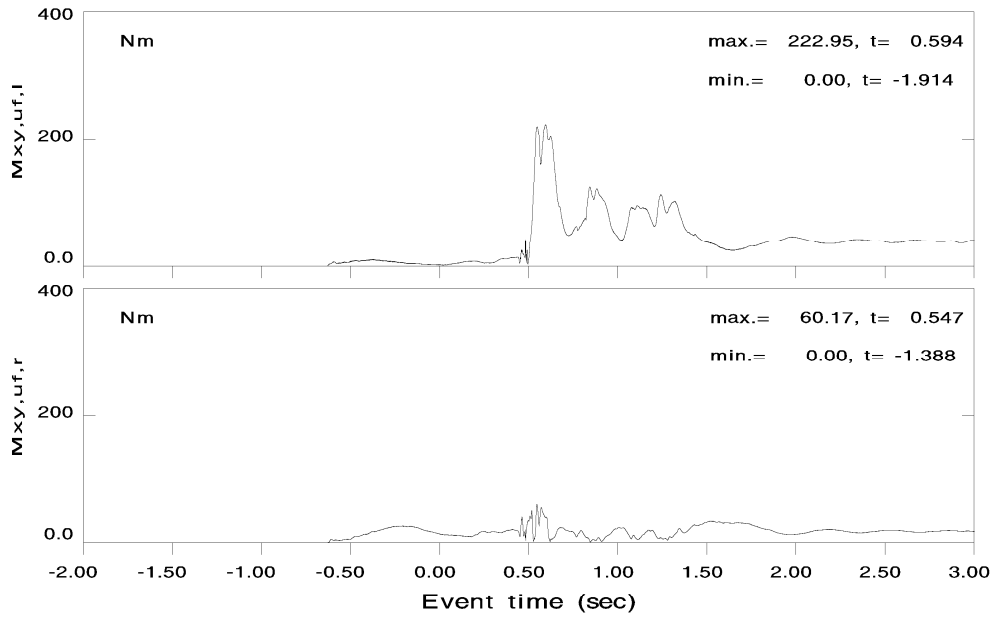
Page 13

Primary Test latroll_03

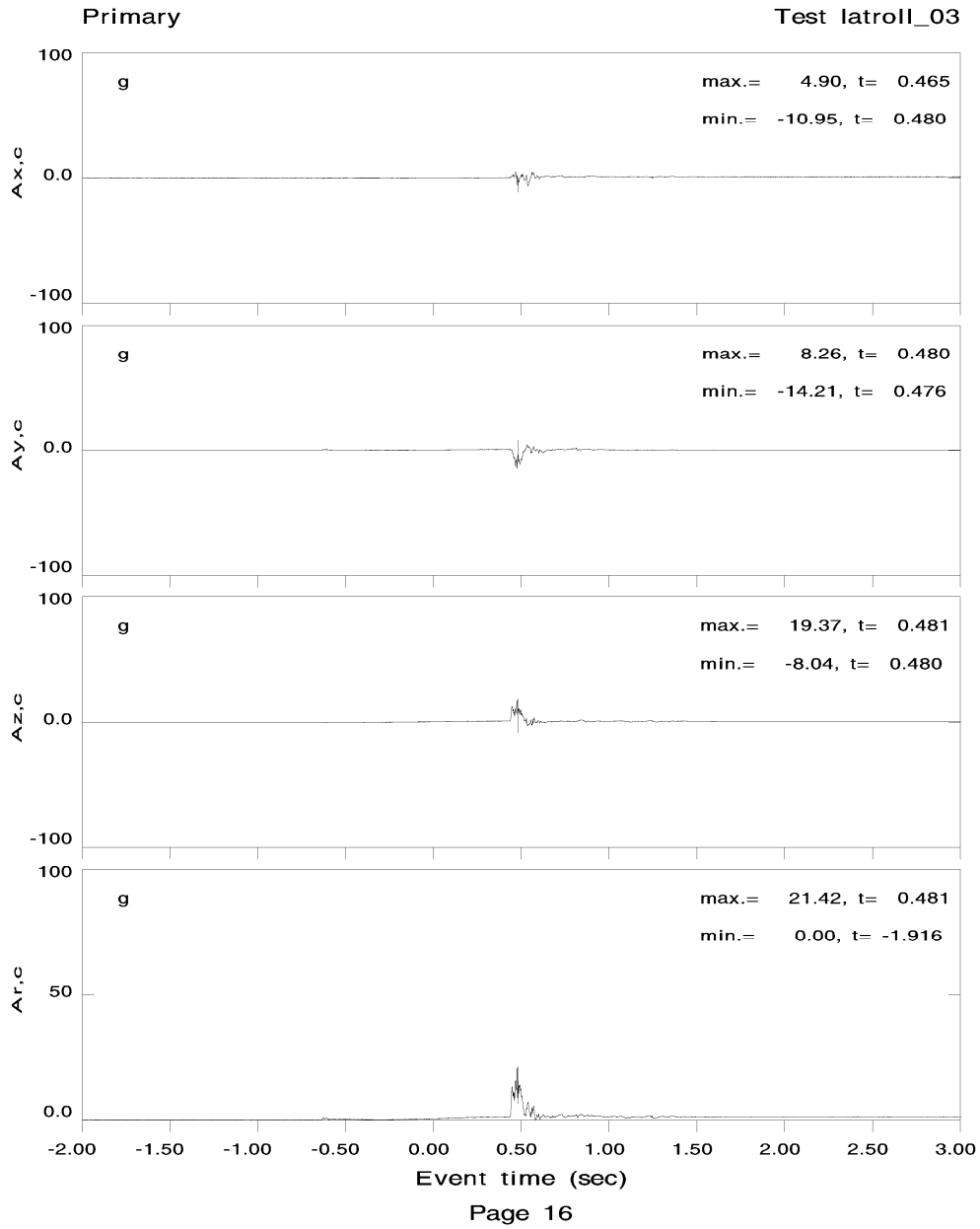


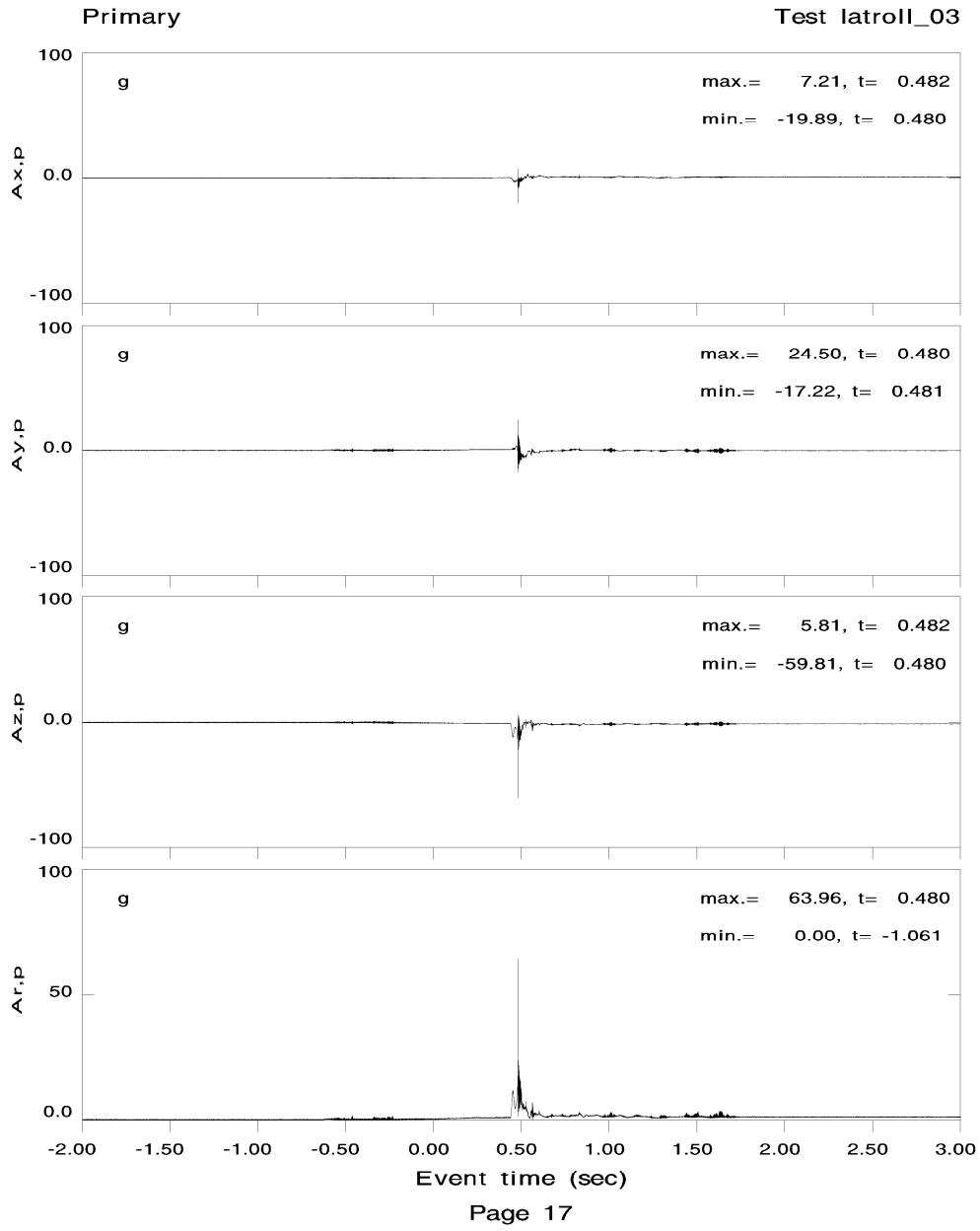
Page 14

Primary Test latroll_03

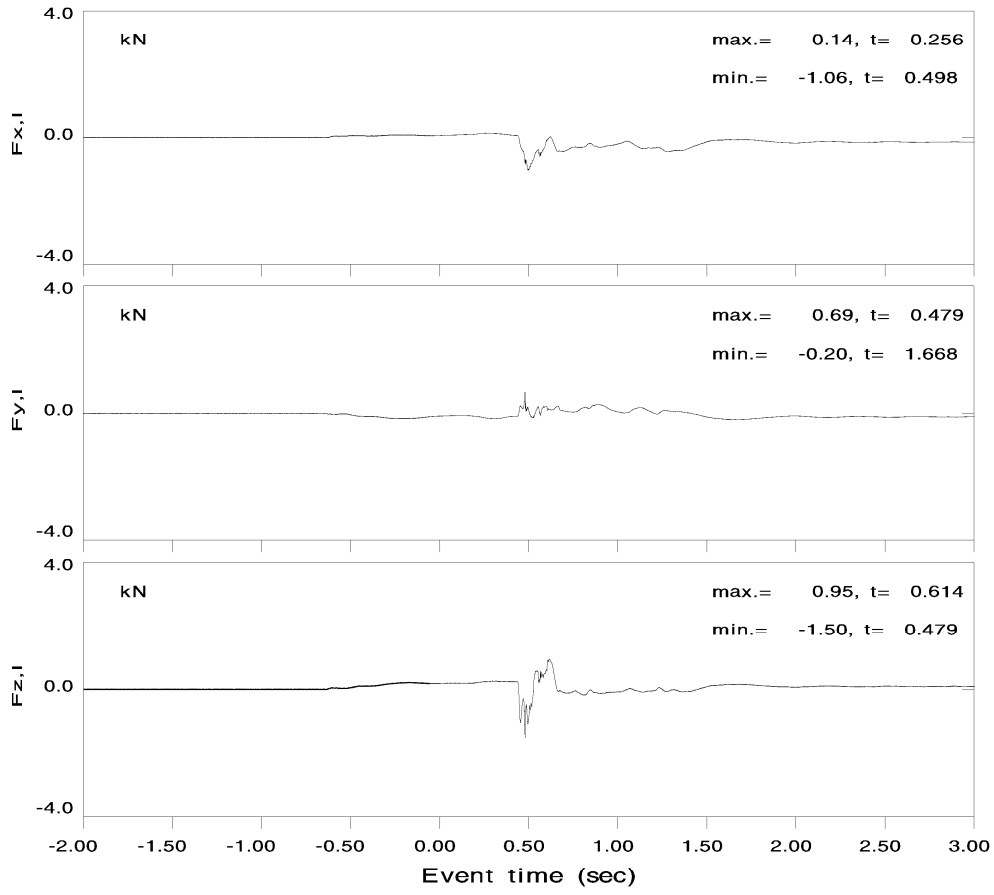


Page 15


Primary
Test latroll_03
g
max.= 4.90, t= 0.465
min.= -10.95, t= 0.480
Ax,c
100
0.0
-100
g
max.= 8.26, t= 0.480
min.= -14.21, t= 0.476
Ay,c
g
max.= 19.37, t= 0.481
min.= -8.04, t= 0.480
Az,c
g
max.= 21.42, t= 0.481
min.= 0.00, t= -1.916
Ar,c
50
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 16

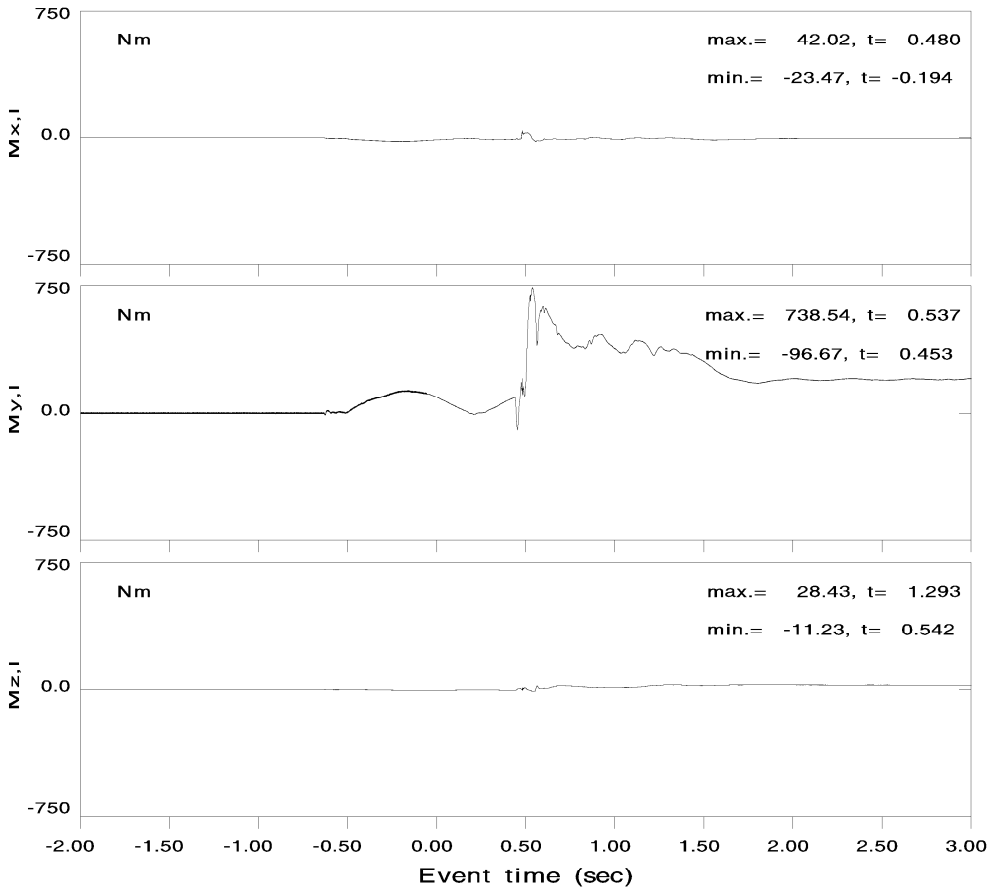

Primary
Test latroll_03
g
max.= 7.21, t= 0.482
min.= -19.89, t= 0.480
Ax,p
g
max.= 24.50, t= 0.480
min.= -17.22, t= 0.481
Ay,p
g
max.= 5.81, t= 0.482
min.= -59.81, t= 0.480
Az,p
g
max.= 63.96, t= 0.480
min.= 0.00, t= -1.061
Ar,p
Event time (sec)
Page 17

Primary Test latroll_03

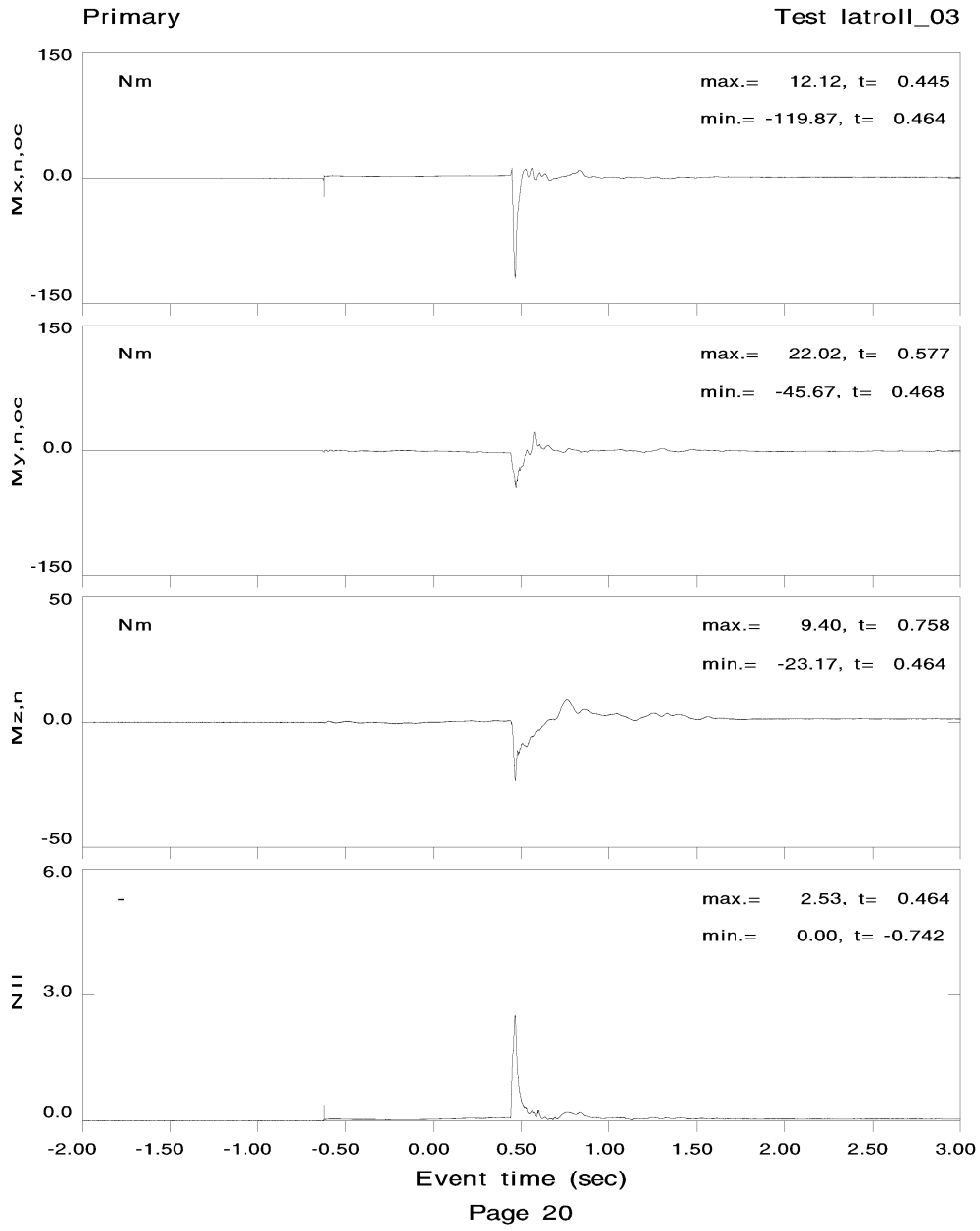


Page 18

Primary Test latroll_03



Page 19


Primary
Test latroll_03
Nm
max.= 12.12, t= 0.445
min.= -119.87, t= 0.464
Mx,n,oc
150
0.0
-150
Nm
max.= 22.02, t= 0.577
min.= -45.67, t= 0.468
My,n,oc
150
0.0
-150
Nm
max.= 9.40, t= 0.758
min.= -23.17, t= 0.464
Mz,n
50
0.0
-50
-
max.= 2.53, t= 0.464
min.= 0.00, t= -0.742
NII
6.0
3.0
0.0
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 20

2.17 Research & Development test rearpitch_01

ATV_Rearward_Roll_Quadbar.ICE

Test Number : rearpitch_01
Analysis Window : Entire Run

Injury Cost Model input:

Number of AIS 3 Femur Fractures	=	0
Number of AIS 2 Tibia Fractures	=	0
Number of AIS 3 Tibia Fractures	=	0
Number of AIS 2 Knee Dislocation Injuries	=	0
Number of AIS 3 Knee Dislocation Injuries	=	0
Index for Cmax Location	=	1
Index for VCmax Location	=	2
maximum Abdomen Penetration	=	0.000
maximum GAMBIT	=	0.230
Cmax	=	3.060
VCmax	=	0.000
HIC	=	140.1
NII (2002 MATD Neck)	=	1.9
Location of Cmax	:	upper sternum
Location of VCmax	:	lower sternum

Injury Cost Model output:

MAIS	=	0.0
Total AIS	=	0.0
Normalized Injury Cost	=	0.001
Normalized Cost of Survival	=	0.001
Normalized Cost of Dying	=	0.000
Probability of Fatality	=	0.000
Probability of Fatality due to non AIS 6 injuries	=	0.000
Probability of Fatality due AIS 6 injuries	=	0.000
Permanent Partial Incapacity	=	0.000
Risk of life threatening brain injury (%)	=	0.0

Injury Probability by Body Region Table:

AIS	BODY REGION					
	HEAD Probability	NECK Probability	CHEST Probability	ABDOMEN Probability	LEG Probability	# Injuries
0	0.984	0.997	1.000	1.000	1.000	0
1	0.005	0.003	0.000	0.000	0.000	0
2	0.004	0.000	0.000	0.000	0.000	0
3	0.006	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0
PAIS	0.033	0.003	0.000	0.000	0.000	
PAIS	0	0	0	0	0	
Body Region NPIC	0.001	0.000	0.000	0.000	0.000 0.000 0.000 0.000	Femur Knee Tibia Leg

Page 1

rearpitch_01.rpt

Test rearpitch_01, Primary

LABEL	MAX VALUE	MAX TIME	MIN VALUE	MIN TIME
Ax,c	15.07 g	0.637	-6.31 g	0.722
Ay,c	4.65 g	0.632	-3.85 g	0.633
Az,c	16.27 g	0.638	-8.61 g	0.644
Ax,p	13.76 g	0.709	-3.20 g	0.644
Ay,p	1.98 g	0.723	-5.00 g	0.701
Az,p	6.17 g	0.701	-8.98 g	0.674
spare	0.00 -	0.503	0.00 -	1.665
spare	0.00 -	1.650	0.00 -	-1.334
L,ur	0.34 mm	0.699	-10.92 mm	0.733
L,lr	0.60 mm	0.631	-8.83 mm	0.734
a1	7.89 g	0.636	-32.17 g	0.617
a2	8.28 g	0.649	-31.03 g	0.622
a3	7.04 g	0.659	-37.03 g	0.617
a4	6.92 g	0.636	-26.33 g	0.622
a5	7.74 g	0.648	-26.15 g	0.622
a6	4.98 g	0.659	-27.24 g	0.617
Mx,l	22.72 Nm	0.672	-18.73 Nm	1.942
My,l	758.25 Nm	0.686	-140.95 Nm	0.631
Mz,l	21.71 Nm	0.642	-32.82 Nm	0.711
Fx,l	0.20 kN	0.702	-0.74 kN	1.274
Fy,l	0.54 kN	0.664	-0.24 kN	0.637
Fz,l	0.98 kN	0.702	-1.63 kN	0.674
spare	0.00 -	3.000	0.00 -	3.000
spare	0.00 -	0.633	0.00 -	0.748
spare	0.00 -	1.389	0.00 -	-1.368
spare	0.00 -	2.857	0.00 -	-1.013
spare	0.00 -	3.000	0.00 -	3.000
spare	0.00 -	3.000	0.00 -	3.000
Spare	0.00 -	2.627	0.00 -	0.645
a7	32.81 g	0.632	-10.46 g	0.729
a8	37.54 g	0.635	-9.25 g	0.673
a9	35.91 g	0.635	-11.01 g	0.672
Fz,uf,r	0.30 kN	1.341	-0.23 kN	0.694
Mx,uf,r	23.75 Nm	0.695	-40.97 Nm	1.894
My,uf,r	160.54 Nm	0.713	-11.15 Nm	0.636
Mz,uf,r	24.96 Nm	0.696	-22.61 Nm	0.920
Fz,uf,l	0.46 kN	0.740	-0.25 kN	0.706
Mx,uf,l	40.09 Nm	1.816	-38.59 Nm	0.716
My,uf,l	265.73 Nm	0.712	-16.52 Nm	-0.200
Mz,uf,l	37.53 Nm	1.861	-16.53 Nm	0.586
Fx,n	0.09 kN	0.673	-1.42 kN	0.636
Fy,n	0.24 kN	0.633	-0.08 kN	1.462
Fz,n	0.66 kN	0.701	-1.74 kN	0.627
Mx,n	27.58 Nm	0.684	-21.88 Nm	0.726
My,n	53.53 Nm	0.670	-131.08 Nm	0.636
Mz,n	3.61 Nm	1.503	-7.14 Nm	0.684
L,ul	2.84 mm	0.733	-3.44 mm	0.700
L,ll	4.66 mm	0.733	-4.53 mm	0.702
Ax,h	40.53 g	0.622	-10.46 g	0.636
Ay,h	2.84 g	0.633	-5.81 g	0.617
Az,h	32.83 g	0.632	-10.47 g	0.729
àx,h	1.17 krad/s**2	0.634	-1.58 krad/s**2	0.633
ày,h	2.49 krad/s**2	0.673	-5.35 krad/s**2	0.636
àz,h	0.39 krad/s**2	0.617	-0.72 krad/s**2	0.633
Ar,h	45.34 g	0.617	0.01 g	-1.861
àr,h	5.36 krad/s**2	0.636	0.00 krad/s**2	2.136
G	0.23 -	0.636	0.00 -	-1.236
HIC	140.11	0.636	----	0.615
Fxy,n	1.42 kN	0.636	0.00 kN	-1.039
Dx,us	0.10 mm	-0.611	-5.75 mm	0.730
Dy,us	10.47 mm	0.733	-2.93 mm	0.699

Page 1

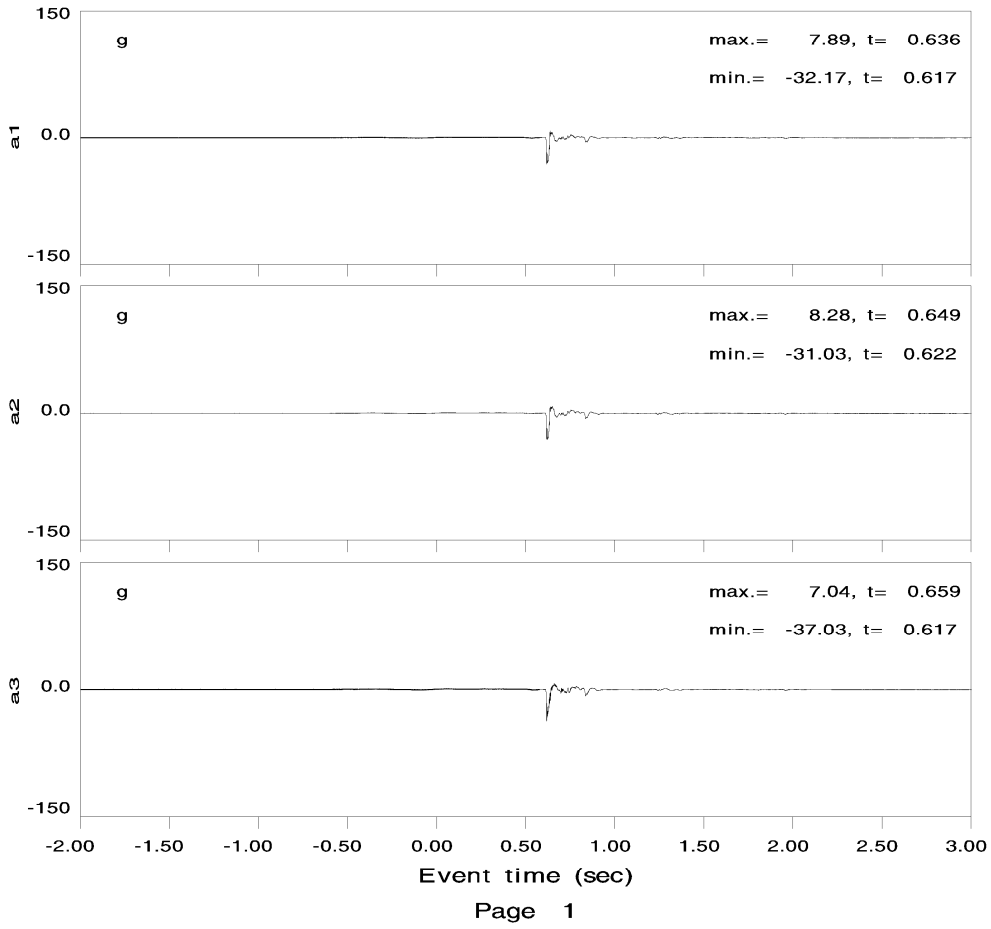
rearpitch_01.rpt

Cus	3.06	%	0.730	-0.05	%	-0.611
Vus	0.18	m/s	0.741	-0.24	m/s	0.719
VCus	0.01	m/s	0.722	0.00	m/s	0.741
Dx,ls	0.17	mm	0.632	-3.62	mm	0.705
Dy,ls	9.70	mm	0.733	-3.18	mm	0.699
Cls	1.93	%	0.705	-0.09	%	0.632
Vls	0.22	m/s	0.673	-0.27	m/s	0.651
VCls	0.00	m/s	0.654	0.00	m/s	0.709
Mxy,uf,r	160.54	Nm	0.713	0.00	Nm	-0.701
Mxy,uf,l	267.18	Nm	0.712	0.00	Nm	-1.464
Mx,n,oc	26.93	Nm	0.668	-22.63	Nm	0.726
My,n,oc	52.16	Nm	0.670	-106.39	Nm	0.636
NII	1.91	-	0.637	0.00	-	-0.612
Ar,p	15.14	g	0.704	0.01	g	-1.373
Ar,c	20.45	g	0.637	0.00	g	-1.943

Recorder 1&2 event time = 0.000 Recorder 3&4 event time = 0.000

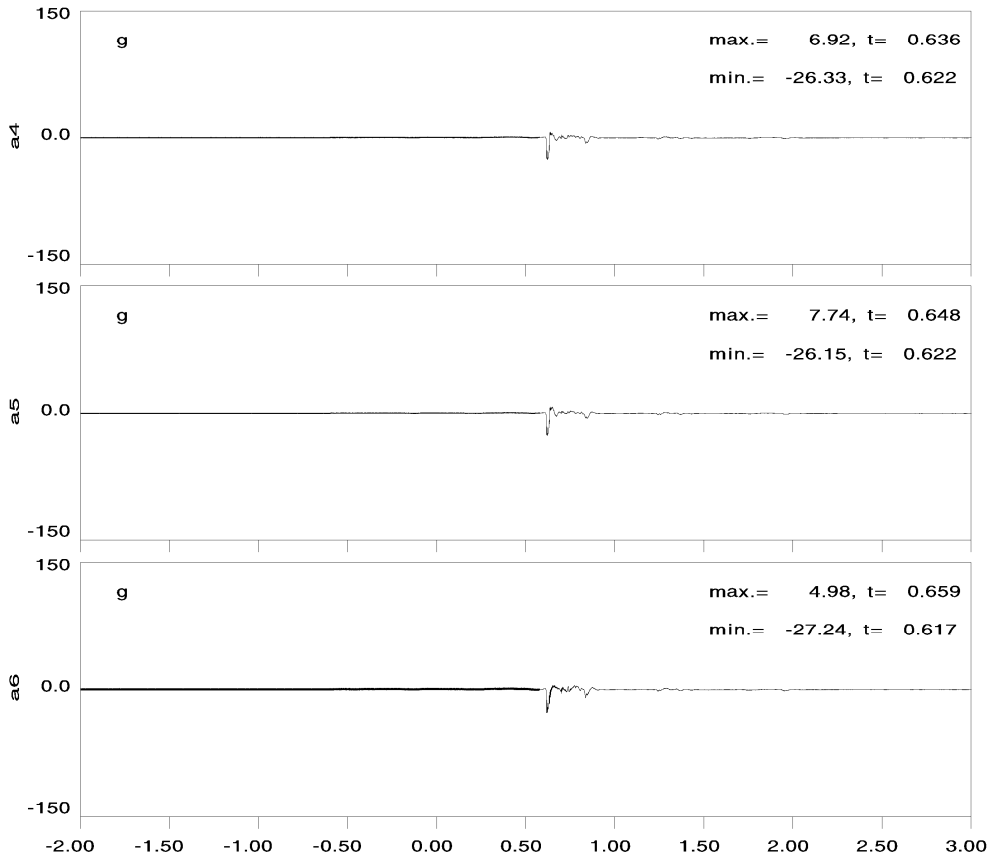
Page 2

Primary Test rearpitch_01



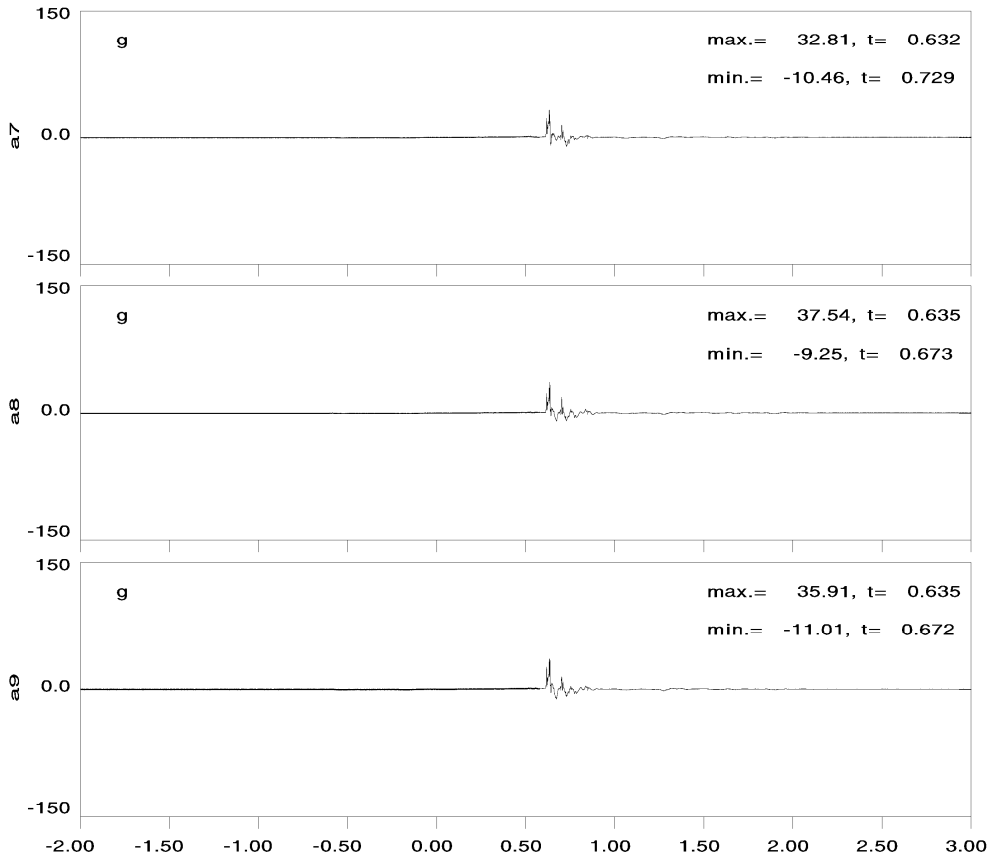
Page 1

Primary Test rearpitch_01



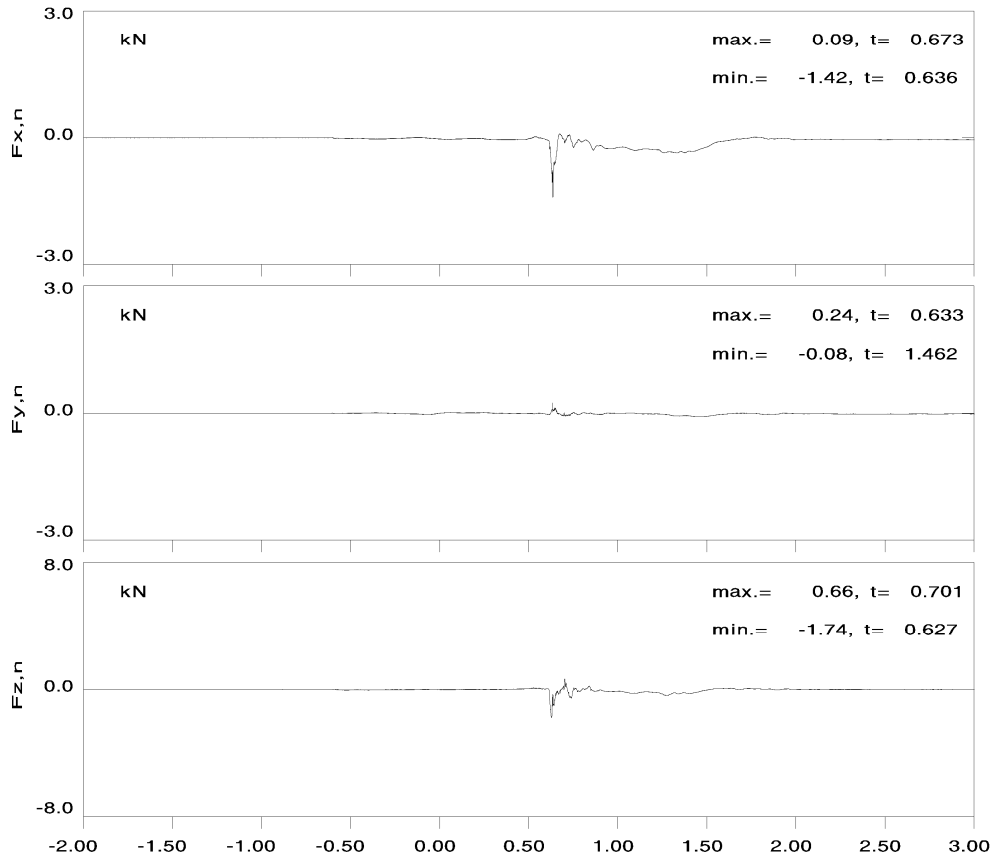
Page 2

Primary Test rearpitch_01



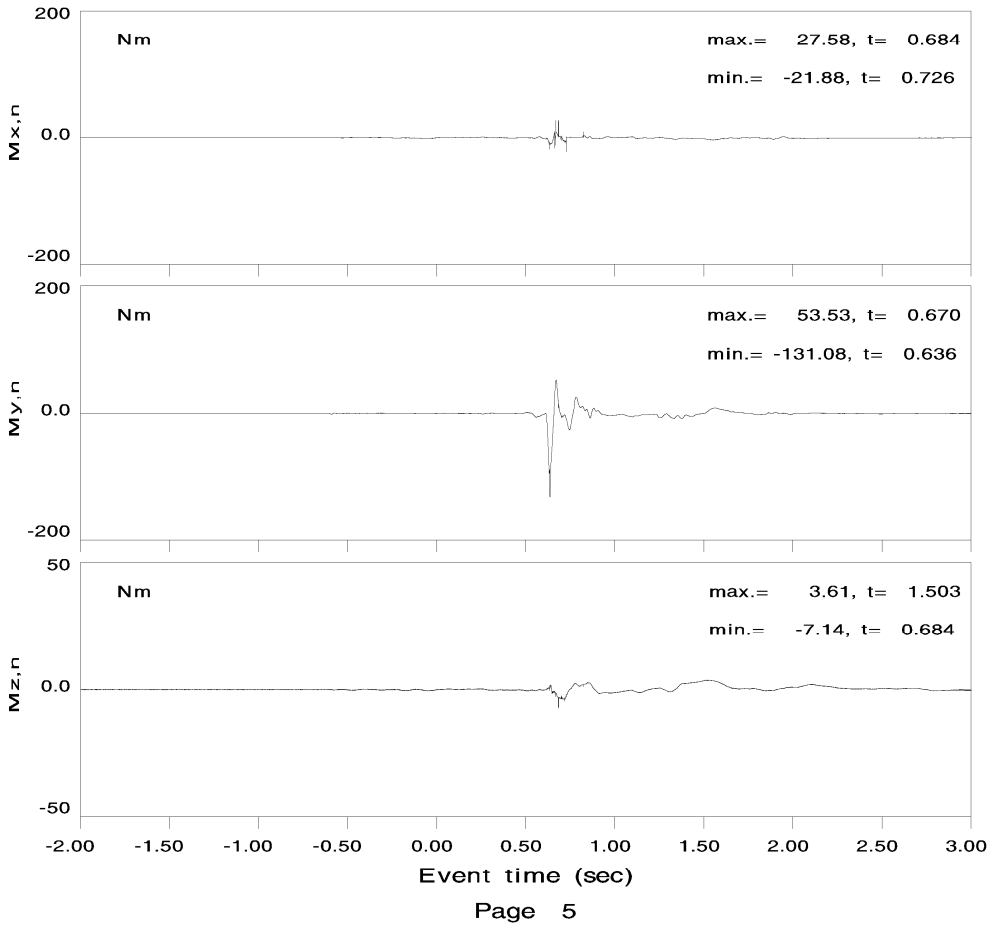
Page 3

Primary Test rearpitch_01

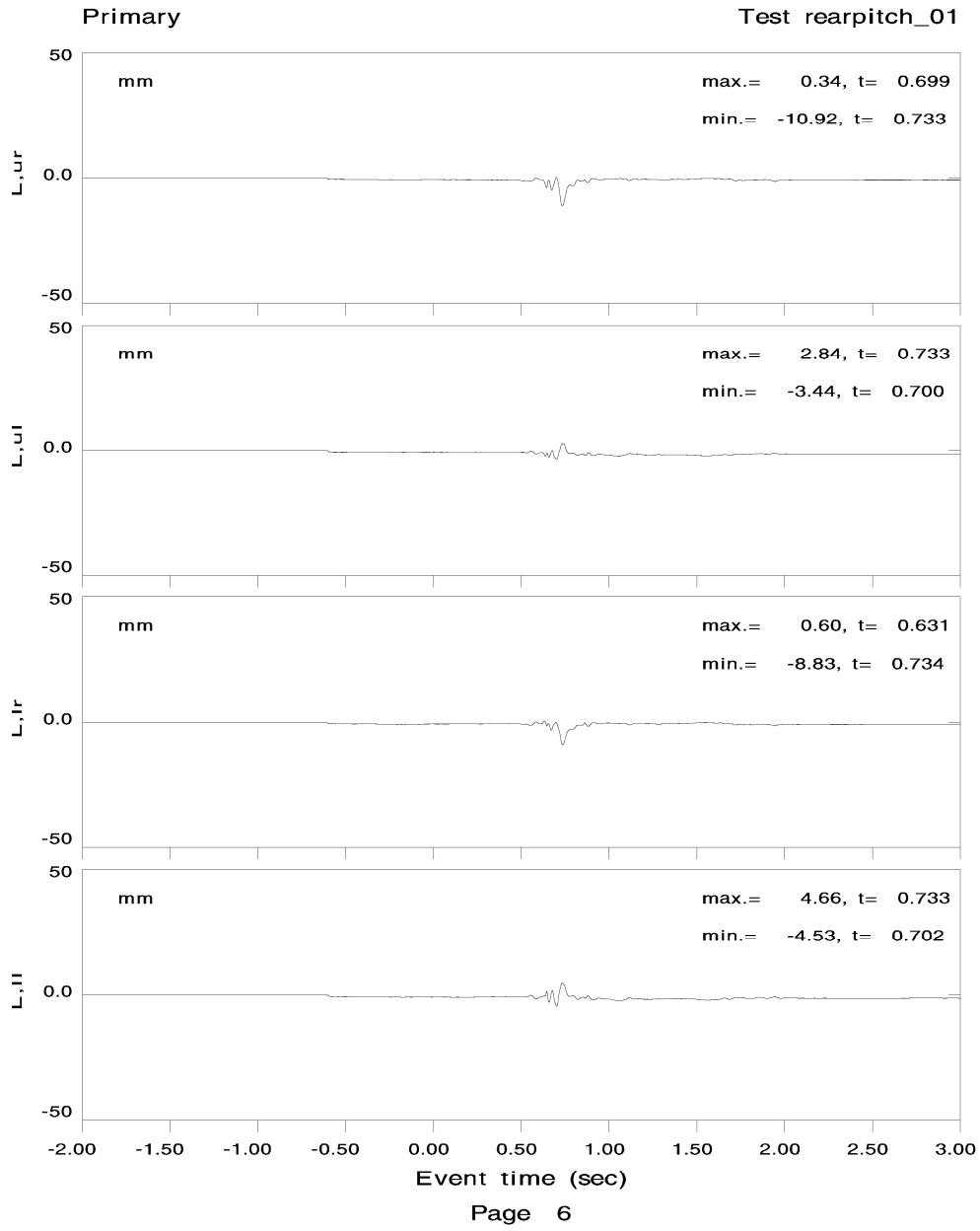


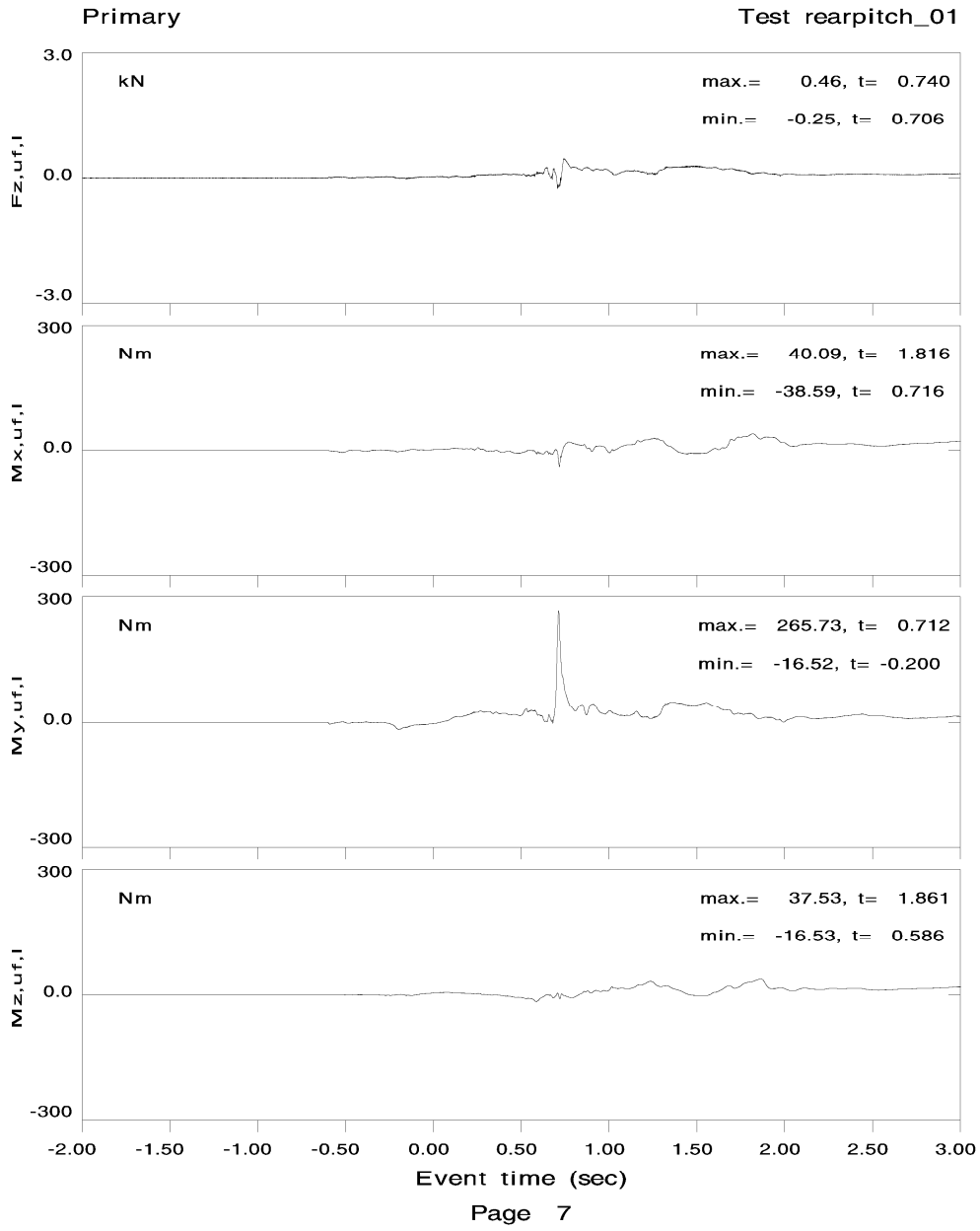
Page 4

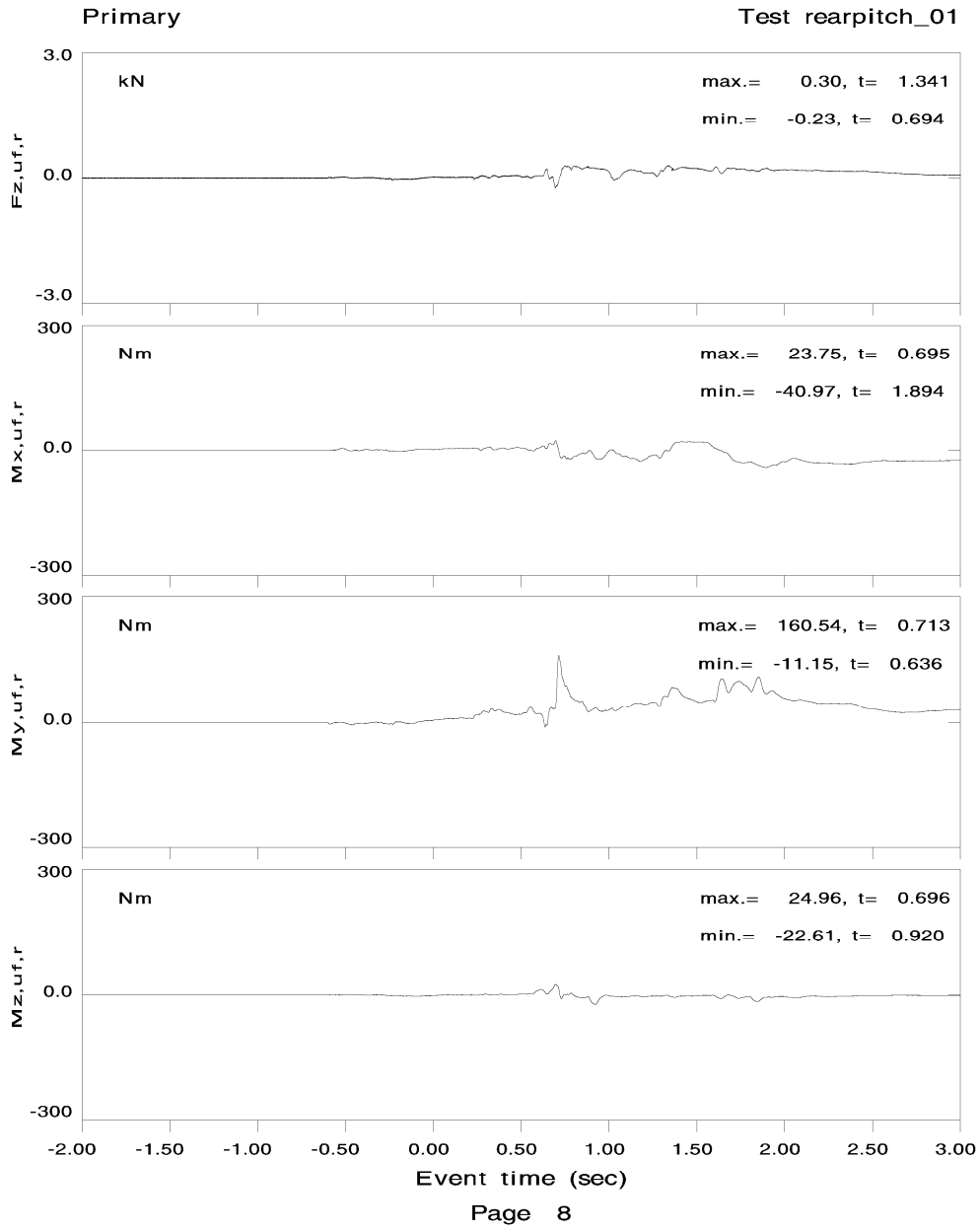
Primary Test rearpitch_01

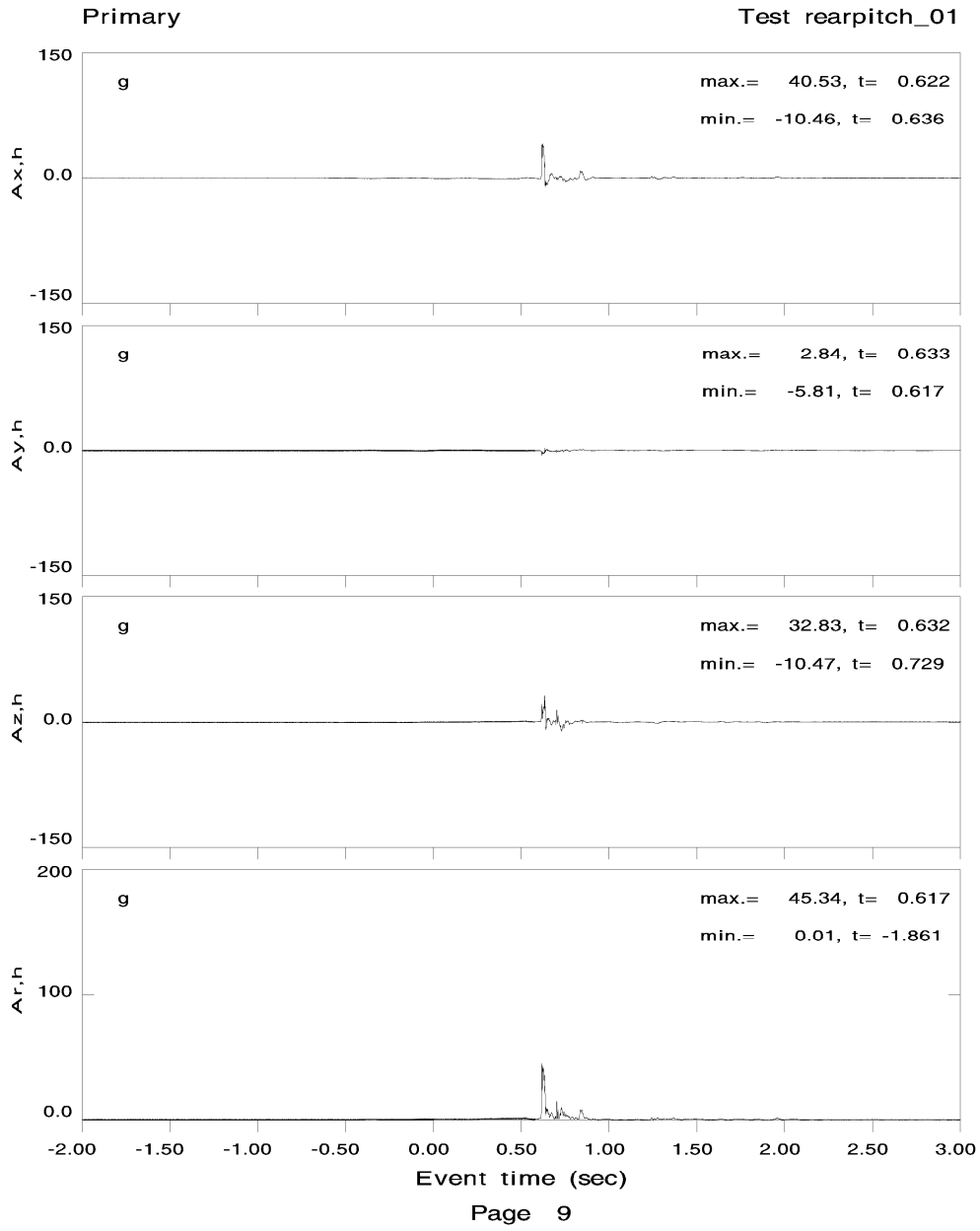


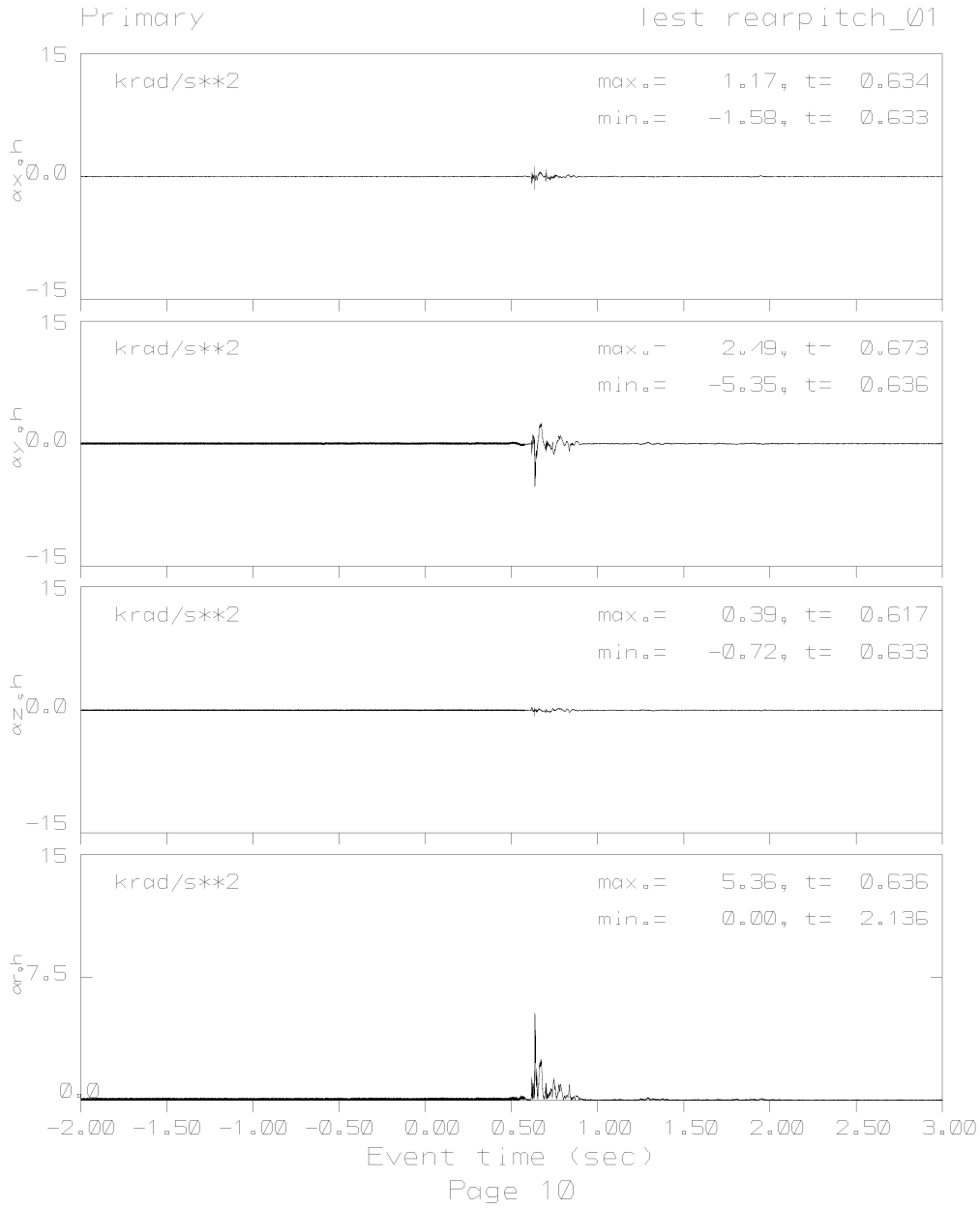
Page 5

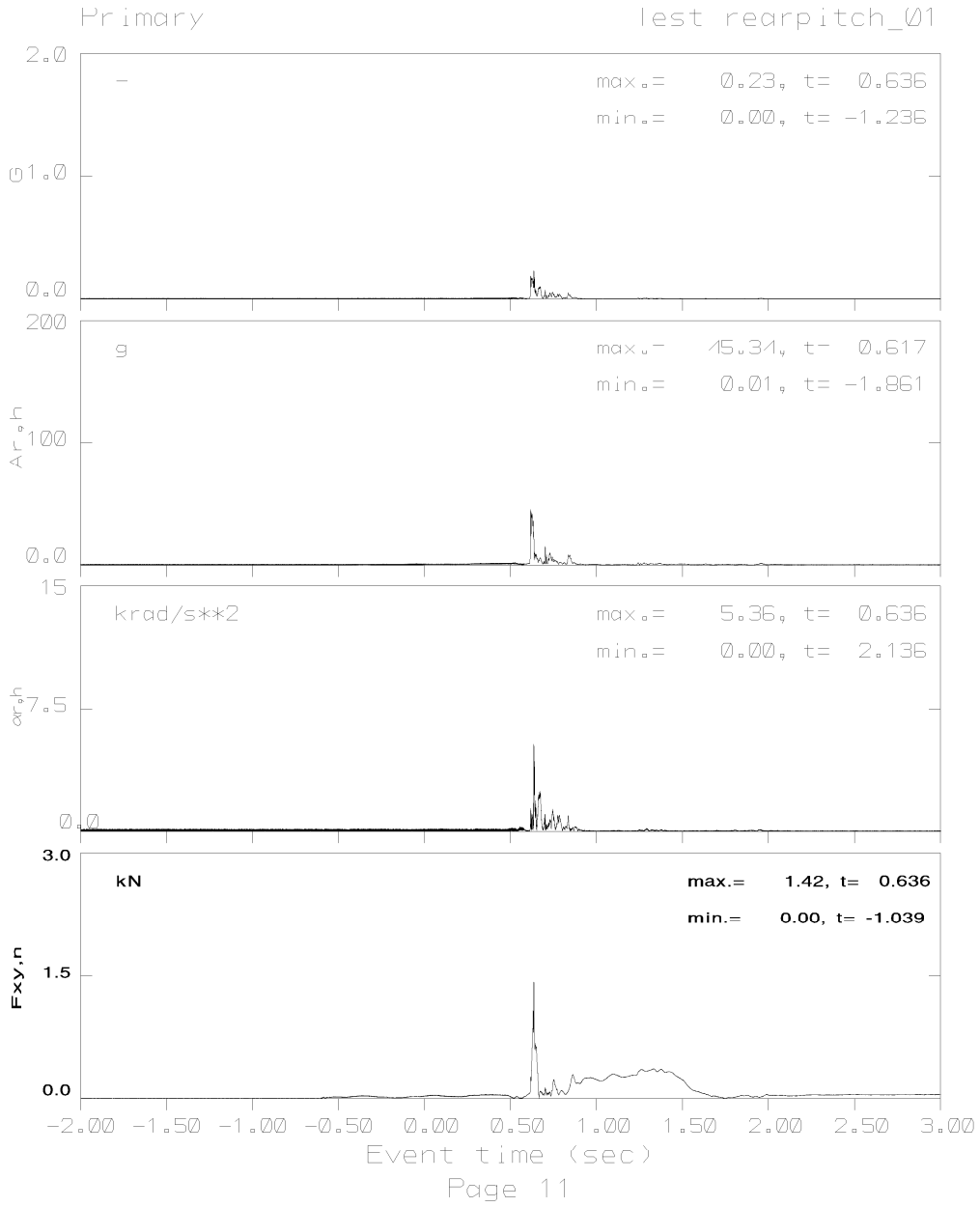

Primary
Test rearpitch_01
mm
max.= 0.34, t= 0.699
min.= -10.92, t= 0.733
L,ur
mm
max.= 2.84, t= 0.733
min.= -3.44, t= 0.700
L,ul
mm
max.= 0.60, t= 0.631
min.= -8.83, t= 0.734
L,lr
mm
max.= 4.66, t= 0.733
min.= -4.53, t= 0.702
L,ll
50
0.0
-50
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 6

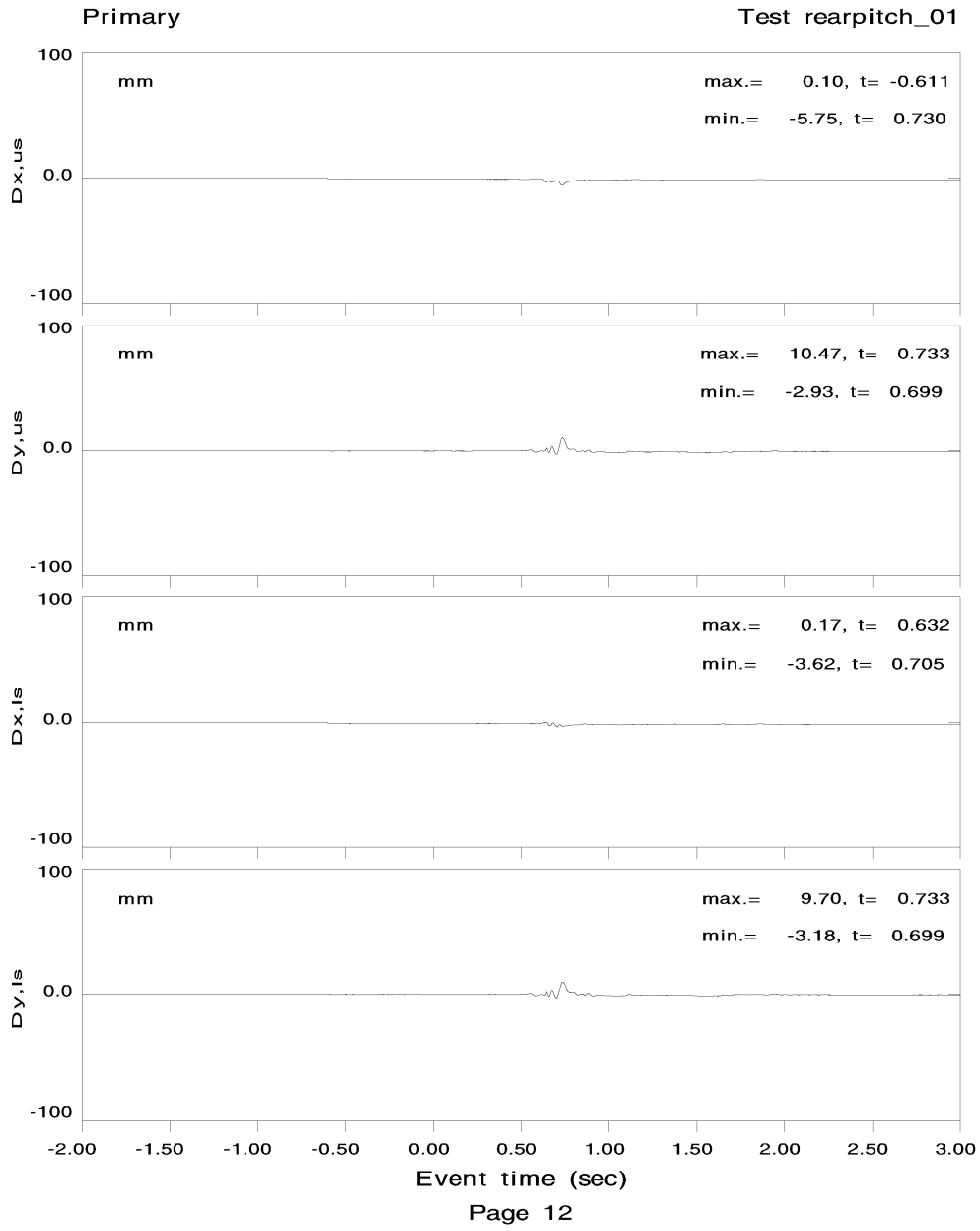

Primary
Test rearpitch_01
kN
max.= 0.46, t= 0.740
min.= -0.25, t= 0.706
Fz,uf,l
3.0
0.0
-3.0
Nm
max.= 40.09, t= 1.816
min.= -38.59, t= 0.716
Mx,uf,l
300
0.0
-300
Nm
max.= 265.73, t= 0.712
min.= -16.52, t= -0.200
My,uf,l
300
0.0
-300
Nm
max.= 37.53, t= 1.861
min.= -16.53, t= 0.586
Mz,uf,l
300
0.0
-300
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 7


Primary
Test rearpitch_01
kN
max.= 0.30, t= 1.341
min.= -0.23, t= 0.694
Fz,uf,r
3.0
0.0
-3.0
Nm
max.= 23.75, t= 0.695
min.= -40.97, t= 1.894
Mx,uf,r
300
0.0
-300
Nm
max.= 160.54, t= 0.713
min.= -11.15, t= 0.636
My,uf,r
300
0.0
-300
Nm
max.= 24.96, t= 0.696
min.= -22.61, t= 0.920
Mz,uf,r
300
0.0
-300
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 8

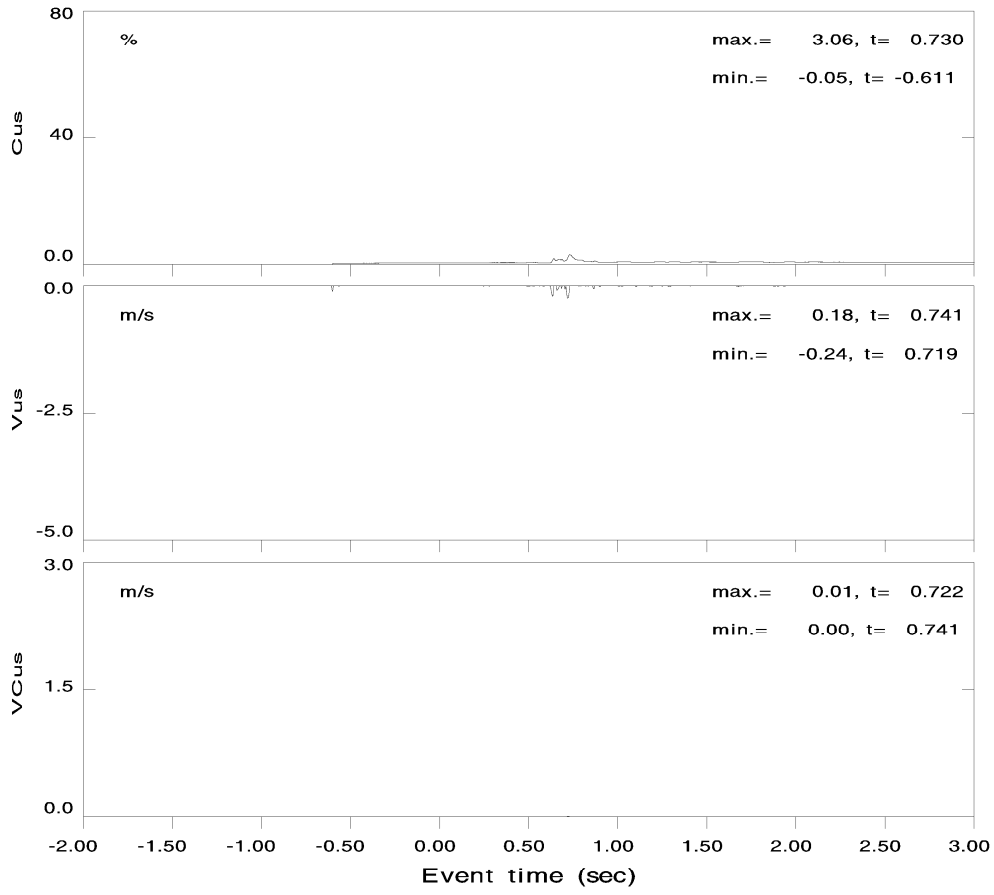

Primary
Test rearpitch_01
g
max.= 40.53, t= 0.622
min.= -10.46, t= 0.636
Ax,h
150
0.0
-150
g
max.= 2.84, t= 0.633
min.= -5.81, t= 0.617
Ay,h
150
0.0
-150
g
max.= 32.83, t= 0.632
min.= -10.47, t= 0.729
Az,h
150
0.0
-150
g
max.= 45.34, t= 0.617
min.= 0.01, t= -1.861
Ar,h
200
100
0.0
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 9


Primary
Test rearpitch_01
krad/s**2
max.= 1.17, t= 0.634
min.= -1.58, t= 0.633
krad/s**2
max.= 2.19, t= 0.673
min.= -5.35, t= 0.636
krad/s**2
max.= 0.39, t= 0.617
min.= -0.72, t= 0.633
krad/s**2
max.= 5.36, t= 0.636
min.= 0.00, t= 2.136
15
0.0
-15
7.5
-2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00
Event time (sec)
Page 10


Primary
Test rearpitch_01
max.= 0.23, t= 0.636
min.= 0.00, t= -1.236
max.= 15.31, t= 0.617
min.= 0.01, t= -1.861
krad/s**2
max.= 5.36, t= 0.636
min.= 0.00, t= 2.136
kN
max.= 1.42, t= 0.636
min.= 0.00, t= -1.039
Fxy,n
Event time (sec)
Page 11

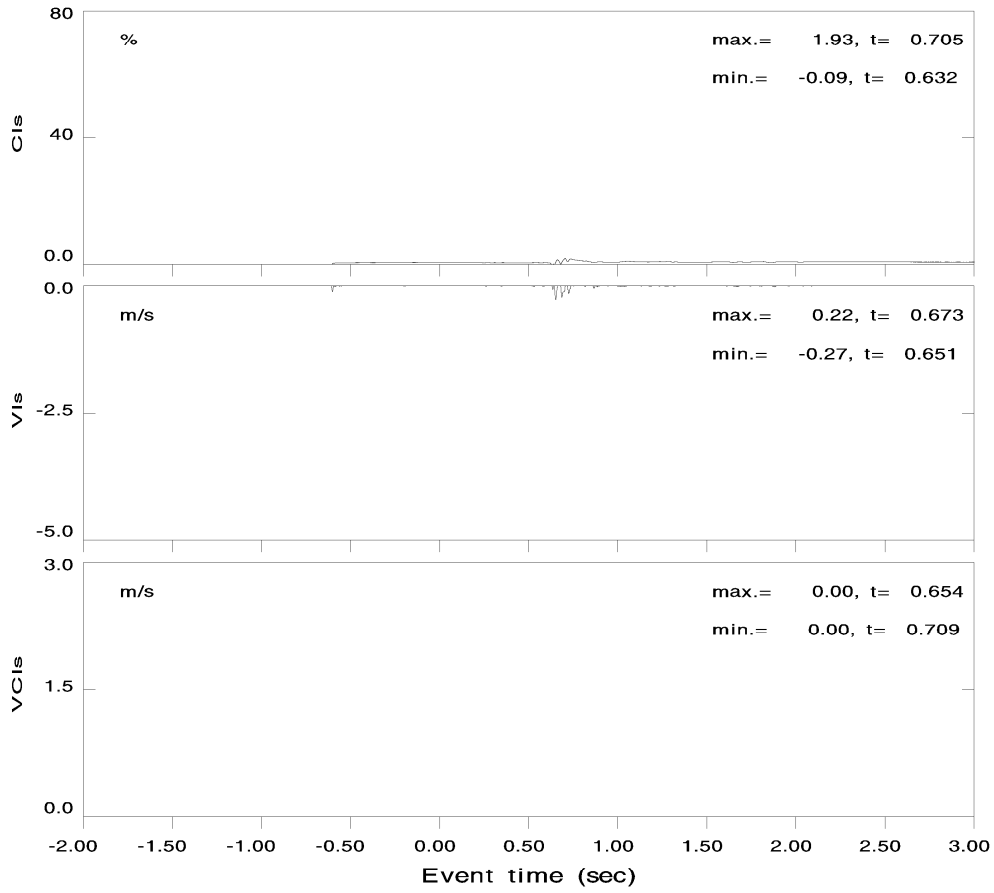

Primary
Test rearpitch_01
mm
max.= 0.10, t= -0.611
min.= -5.75, t= 0.730
Dx,us
mm
max.= 10.47, t= 0.733
min.= -2.93, t= 0.699
Dy,us
mm
max.= 0.17, t= 0.632
min.= -3.62, t= 0.705
Dx,ls
mm
max.= 9.70, t= 0.733
min.= -3.18, t= 0.699
Dy,ls
100
0.0
-100
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 12

Primary Test rearpitch_01



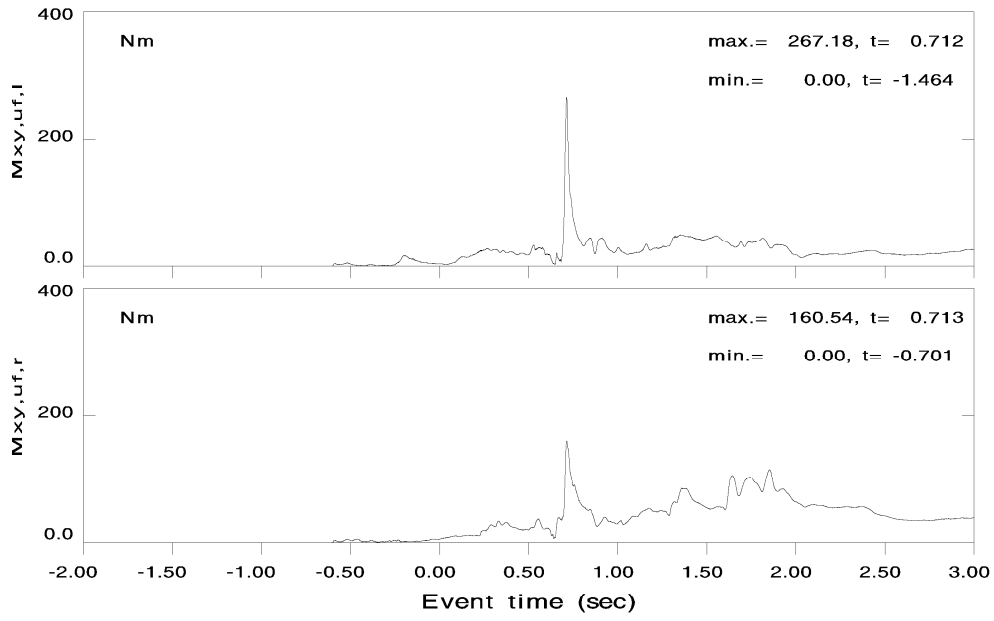
Page 13

Primary Test rearpitch_01

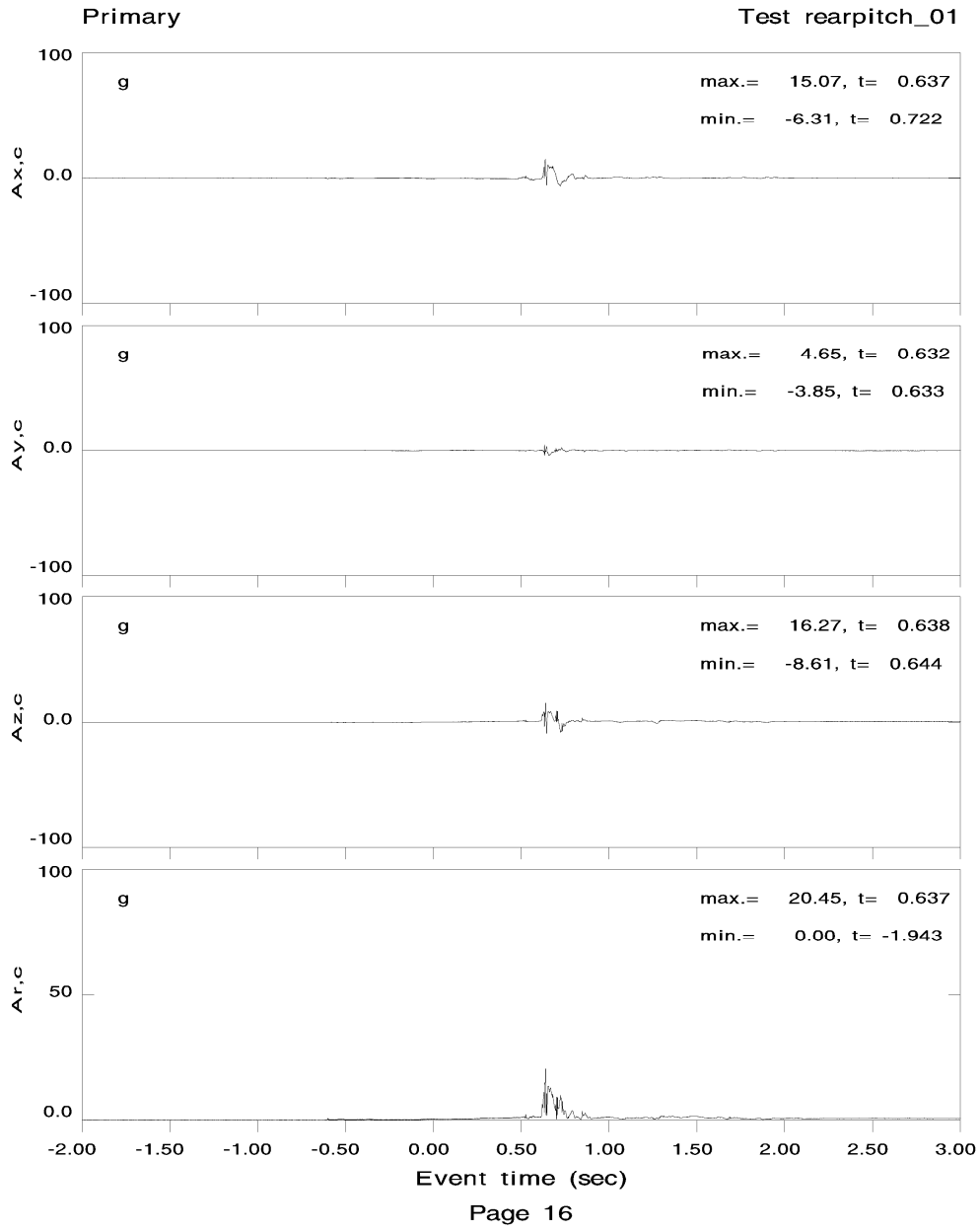


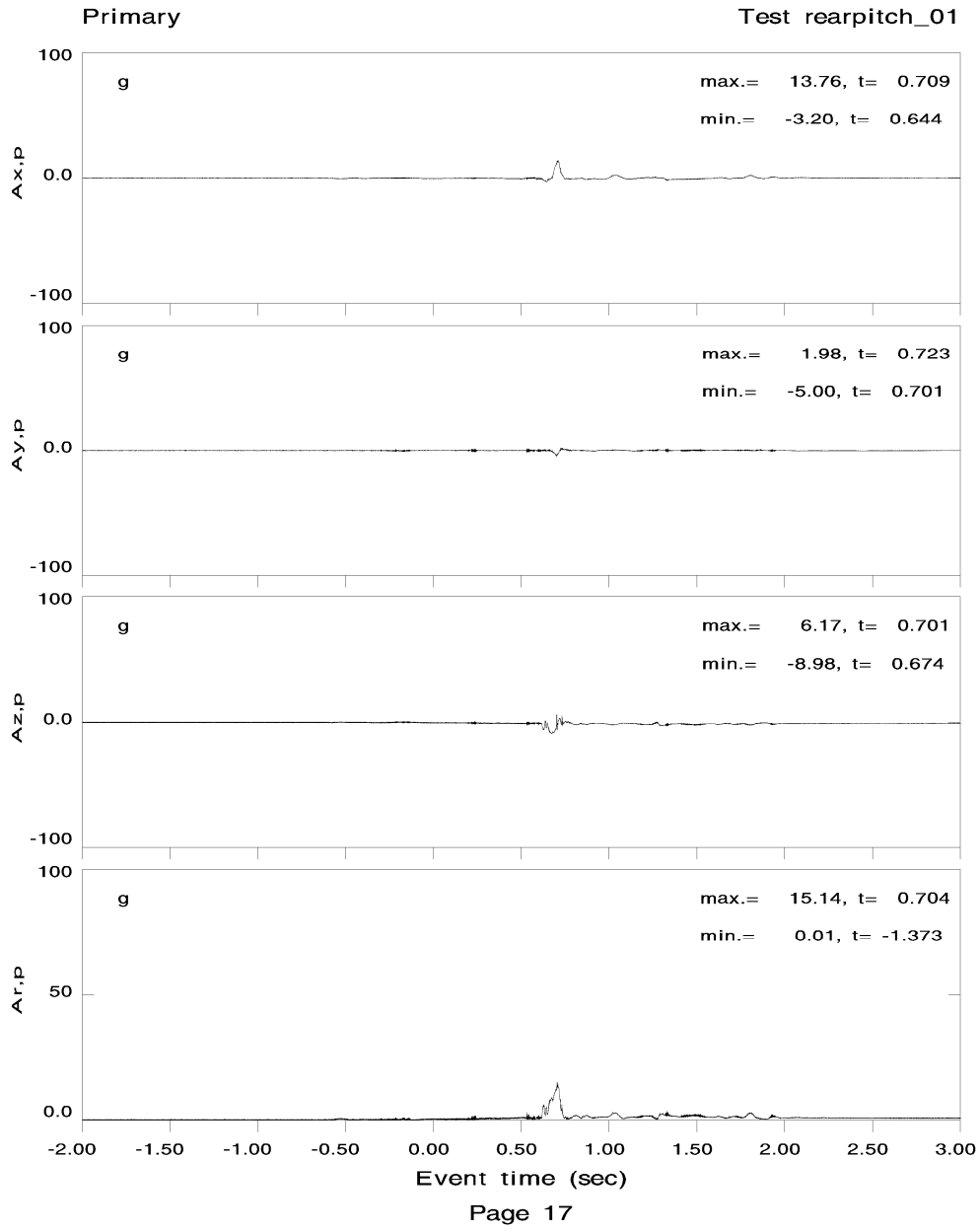
Page 14

Primary Test rearpitch_01

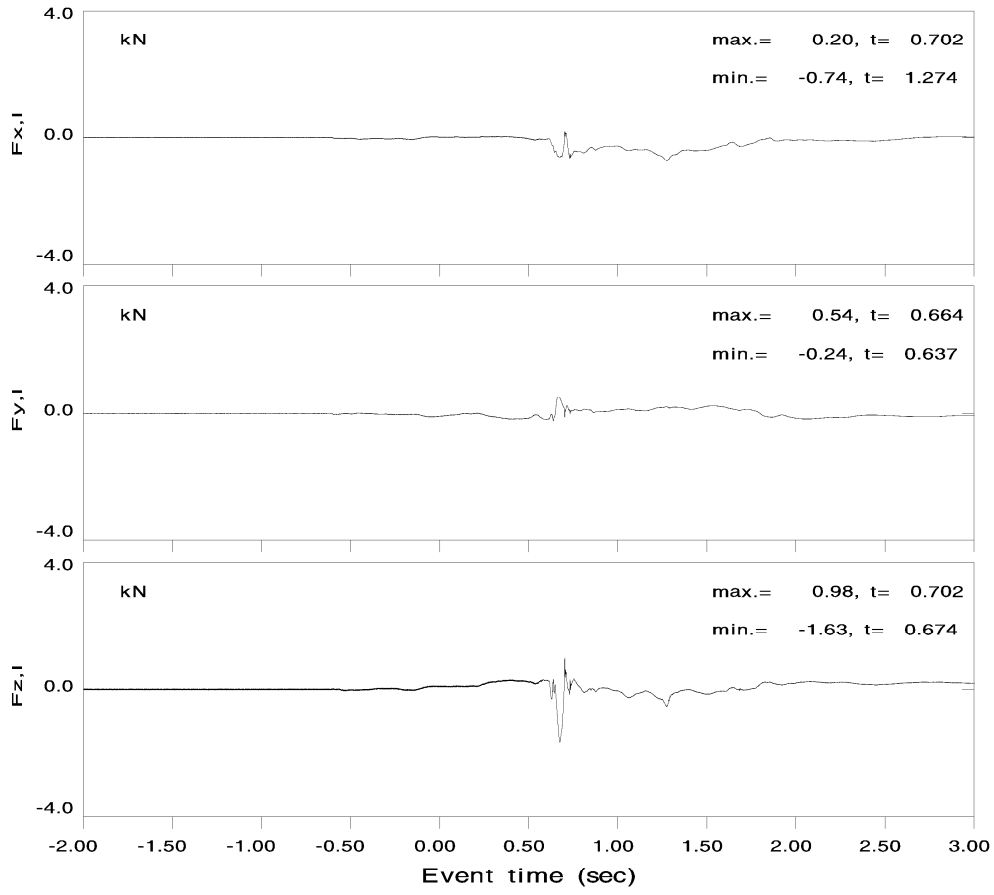


Page 15


Primary
Test rearpitch_01
g
max.= 15.07, t= 0.637
min.= -6.31, t= 0.722
Ax,c
g
max.= 4.65, t= 0.632
min.= -3.85, t= 0.633
Ay,c
g
max.= 16.27, t= 0.638
min.= -8.61, t= 0.644
Az,c
g
max.= 20.45, t= 0.637
min.= 0.00, t= -1.943
Ar,c
100
0.0
-100
50
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 16

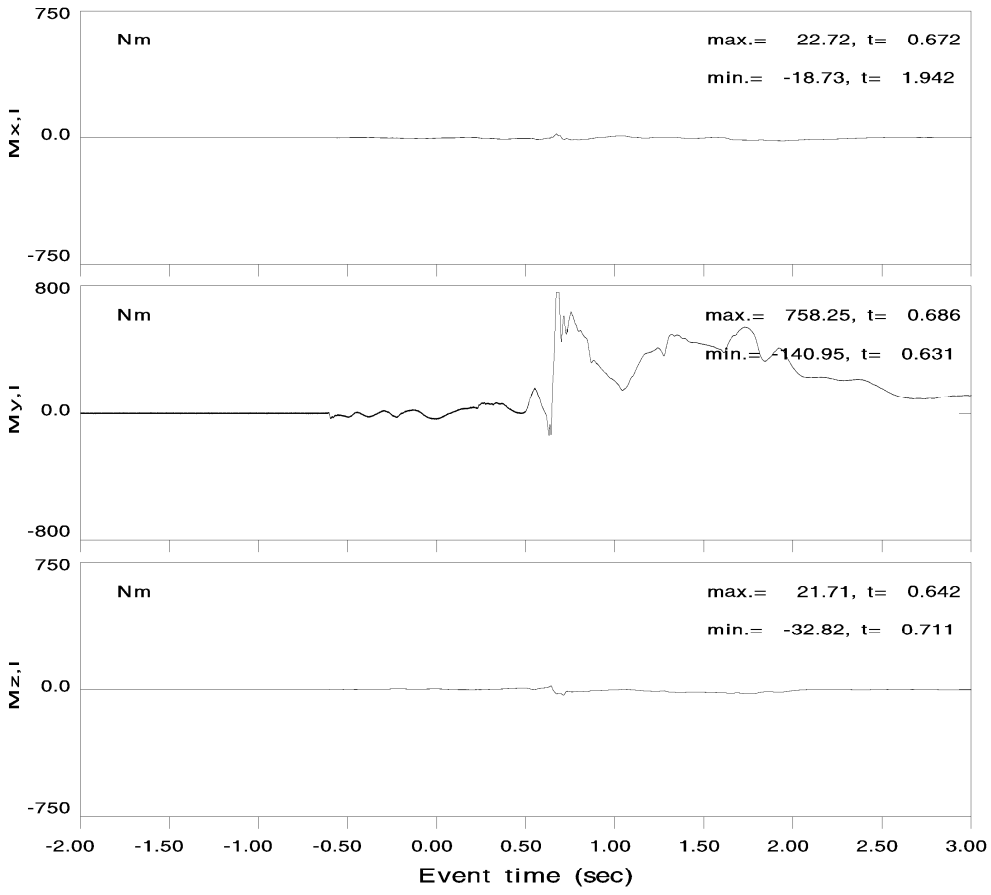

Primary
Test rearpitch_01
Ax,p
Ay,p
Az,p
Ar,p
g
max.= 13.76, t= 0.709
min.= -3.20, t= 0.644
max.= 1.98, t= 0.723
min.= -5.00, t= 0.701
max.= 6.17, t= 0.701
min.= -8.98, t= 0.674
max.= 15.14, t= 0.704
min.= 0.01, t= -1.373
100
0.0
-100
50
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 17

Primary Test rearpitch_01

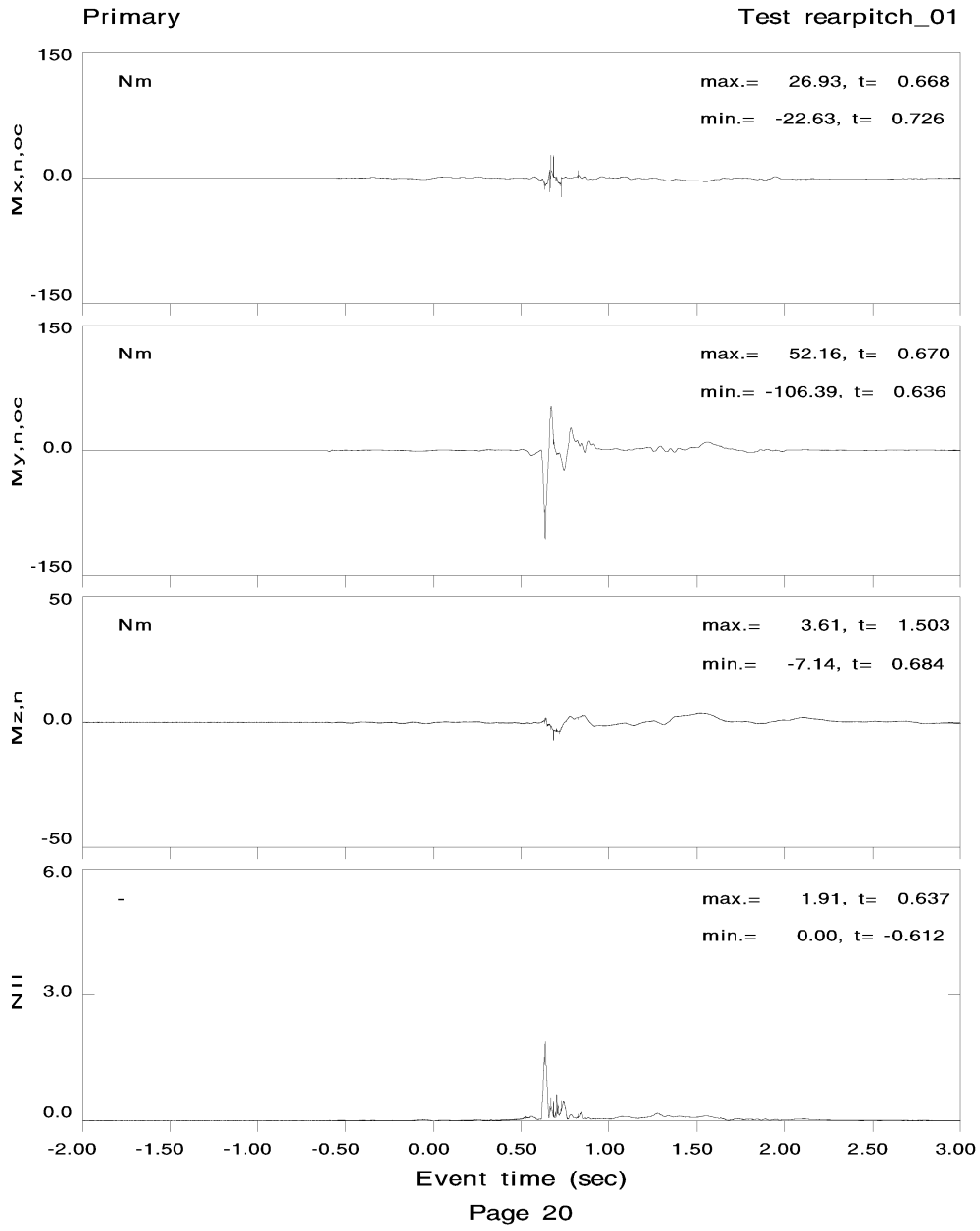


Page 18

Primary Test rearpitch_01



Page 19


Primary
Test rearpitch_01
Nm
max.= 26.93, t= 0.668
min.= -22.63, t= 0.726
Mx,n,oc
150
0.0
-150
Nm
max.= 52.16, t= 0.670
min.= -106.39, t= 0.636
My,n,oc
150
0.0
-150
Nm
max.= 3.61, t= 1.503
min.= -7.14, t= 0.684
Mz,n
50
0.0
-50
-
max.= 1.91, t= 0.637
min.= 0.00, t= -0.612
NII
6.0
3.0
0.0
-2.00
-1.50
-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Event time (sec)
Page 20