

picture only from the left side of the vehicle

#### General Main Locations

? ? AIRB ???? ?? Airbag  
? ? ABSE ???? ?? Airbag Sensor

#### Frontal Airbags

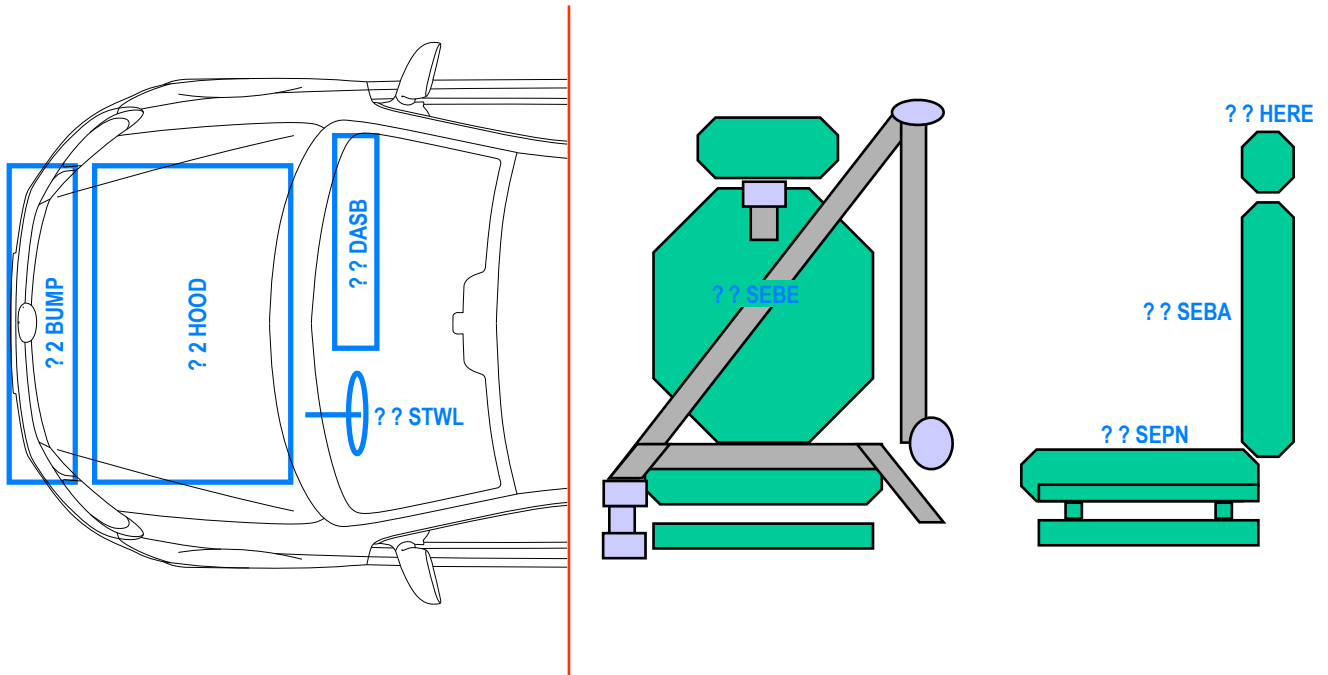
? ? KNBO ???? AF Knee Bolster Airbag  
? ? KNBO ???? GF Knee Bolster Generator  
? ? SEBA ???? AF Seat Back Knee Airbag  
? ? SEBA ???? GF Seat Back Knee Generator  
? ? FOWE ???? AF Footwell Airbag  
? ? FOWE ???? GF Footwell Generator

#### Side Airbags

? ? DOOR ???? AS Door Side Airbag  
? ? DOOR ???? GS Door Side Generator

#### Head Airbags

? ? DOOR ???? AH Door Head Airbag  
? ? DOOR ???? GH Door Head Generator  
? ? ROFR ???? AH Roof Frame Head Airbag  
? ? ROFR ???? GH Roof Frame Head Generator



#### Frontal Airbags

?? STWL ???? AF Steering Wheel Airbag  
?? STWL ???? GF Steering Wheel Gen.  
?? DASB ???? AF Dashboard Airbag  
?? DASB ???? GF Dashboard Generator

#### Pedestrian Airbags

?? 2 BUMP ???? AP Bumper Airbag  
?? 2 BUMP ???? GP Bumper Generator  
?? 2 HOOD ???? AP Hood Airbag  
?? 2 HOOD ???? GP Hood Generator

#### Frontal Airbags

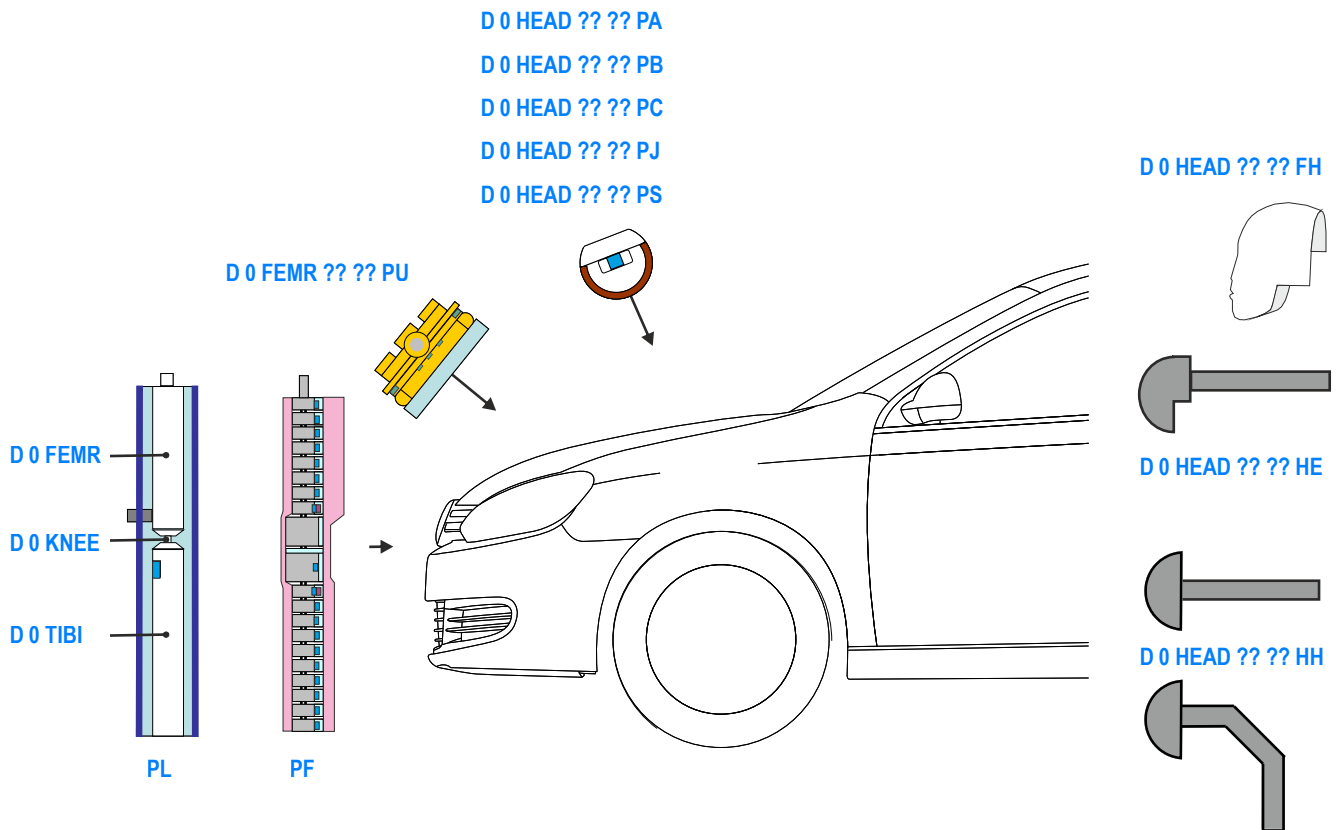
?? SEBE ???? AF Seat Belt Airbag  
?? SEBE ???? GF Seat Belt Generator

#### Side Airbags

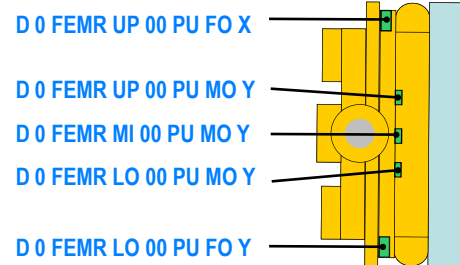
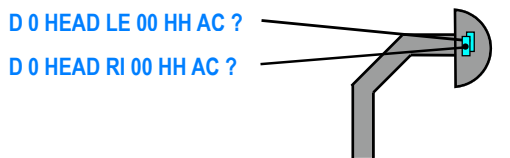
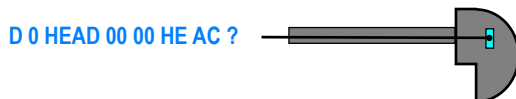
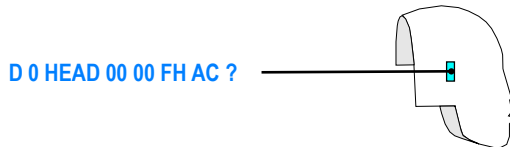
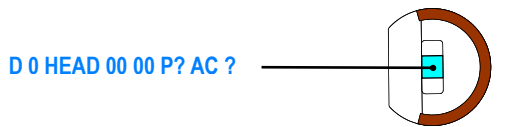
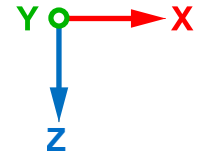
?? SEPN ???? AS Seat Pan Airbag  
?? SEPN ???? GS Seat Pan Generator  
?? SEBA ???? AS Seat Back Airbag  
?? SEBA ???? GS Seat Back Generator

#### Rear Airbags

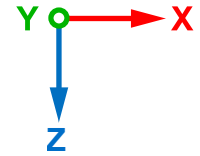
?? HERE ???? AR Head Restraint Airbag  
?? HERE ???? GR Head Restraint Gen.



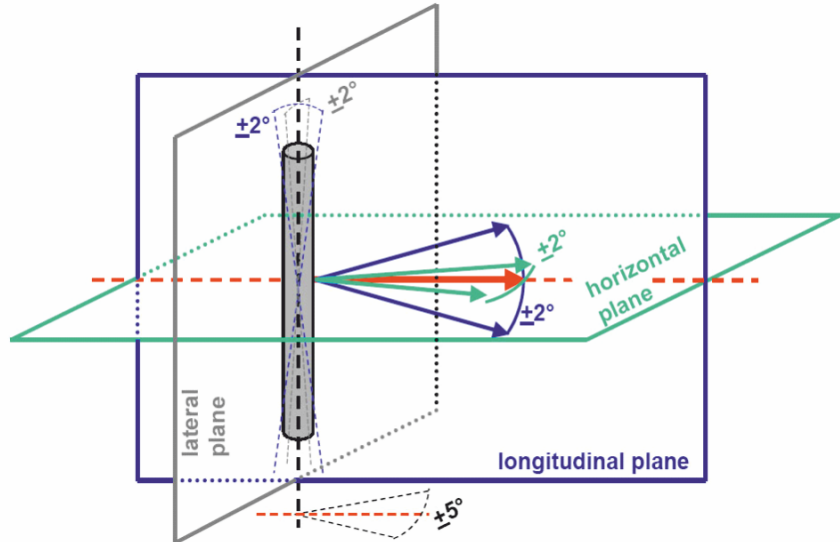
D 0 HEAD ??? FH	Free Motion Headform
D 0 HEAD ??? HE	Headform (e.g. Ejection Mitigation)
D 0 HEAD ??? HH	Hemisphere Headform (e.g. FMVSS201, FMVSS202a, ECE-R17, ECE-R21, GTR7)
D 0 HEAD ??? PA	Adult Headform
D 0 HEAD ??? PB	ACEA Headform
D 0 HEAD ??? PC	Child Headform
D 0 HEAD ??? PJ	JARI Headform
D 0 HEAD ??? PS	JARI Child Headform
D 0 FEMR ??? PU	Upper Legform Pedestrian Impactor
D 0 FEMR ??? PL	Legform Pedestrian Impactor (upper leg)
D 0 KNEE ??? PL	Legform Pedestrian Impactor (knee region)
D 0 TIBI ??? PL	Legform Pedestrian Impactor (lower leg)
D 0 FEMR ??? PF	Flexible Legform Impactor (upper leg)
D 0 KNEE ??? PF	Flexible Legform Impactor (knee region)
D 0 TIBI ??? PF	Flexible Legform Impactor (lower leg)



D 0 HEAD 00 00 FH AC X ?	Free Motion Headform Acceleration X	transducer
D 0 HEAD 00 00 FH AC Y ?	Free Motion Headform Acceleration Y	transducer
D 0 HEAD 00 00 FH AC Z ?	Free Motion Headform Acceleration Z	transducer
D 0 HEAD ?? 00 H? AC X ?	(Hemisphere) Headform Acceleration X	transducer
D 0 HEAD ?? 00 H? AC Y ?	(Hemisphere) Headform Acceleration Y	transducer
D 0 HEAD ?? 00 H? AC Z ?	(Hemisphere) Headform Acceleration Z	transducer
D 0 HEAD 00 00 P? AC X ?	Pedestrian Headform Acceleration X	transducer
D 0 HEAD 00 00 P? AC Y ?	Pedestrian Headform Acceleration Y	transducer
D 0 HEAD 00 00 P? AC Z ?	Pedestrian Headform Acceleration Z	transducer
D 0 HEAD 00 ?? ?? DS X V	Position X	filmanalysis
D 0 HEAD 00 ?? ?? DS Y V	Position Y	filmanalysis
D 0 HEAD 00 ?? ?? DS Z V	Position Z	filmanalysis
D 0 HEAD 00 ?? ?? AN X V	Rotation around X Axis	filmanalysis
D 0 HEAD 00 ?? ?? AN Y V	Rotation around Y Axis	filmanalysis
D 0 HEAD 00 ?? ?? AN Z V	Rotation around Z Axis	filmanalysis
D 0 FEMR UP 00 PU FO X ?	Upper Shear Force X	transducer
D 0 FEMR LO 00 PU FO X ?	Lower Shear Force X	transducer
D 0 FEMR UP 00 PU MO Y ?	Upper Bending Moment Y	transducer
D 0 FEMR MI 00 PU MO Y ?	Middle Bending Moment Y	transducer
D 0 FEMR LO 00 PU MO Y ?	Lower Bending Moment Y	transducer



D 0 FEMR 00 00 PL AN Y  
D 0 TIBI UP 00 PL AN Y  
D 0 TIBI UP 00 PL AC X



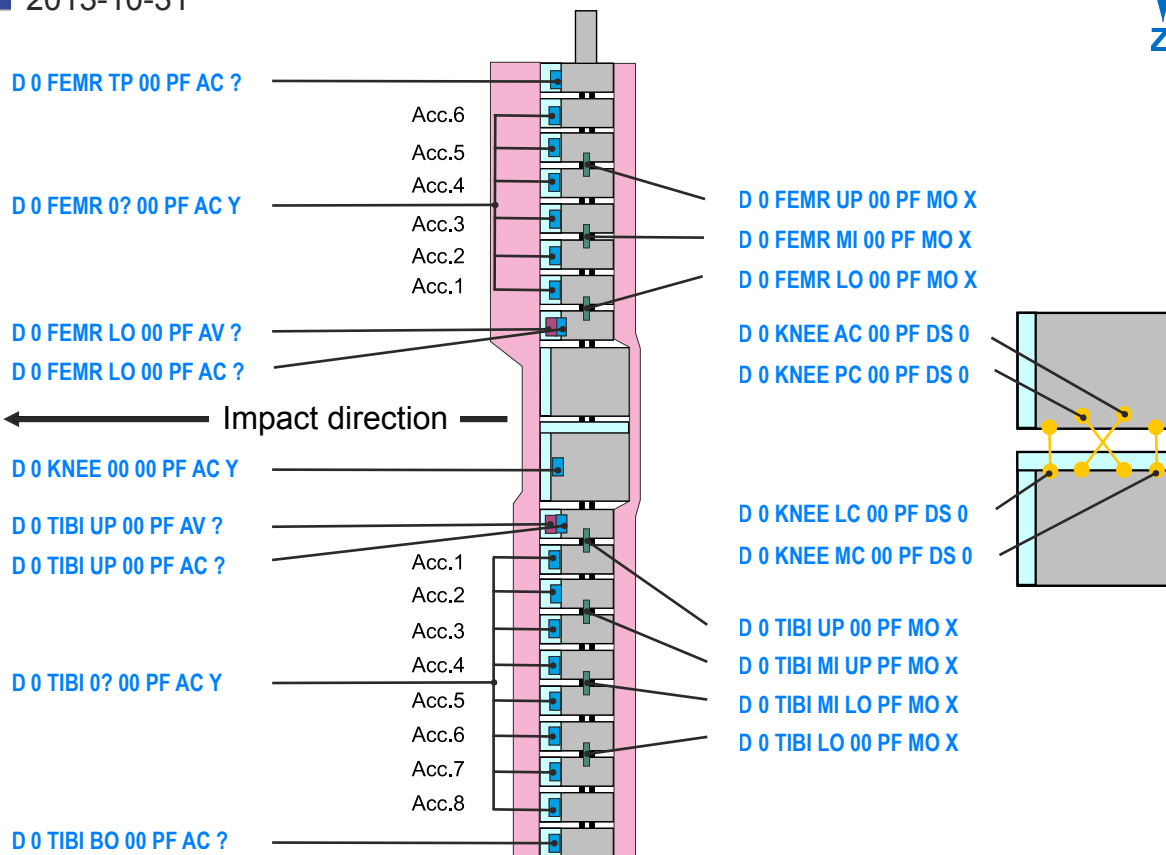
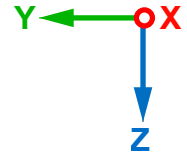
Impact direction →

D 0 TIBI UP 00 PL AC X ?	Tibia Acceleration X	transducer
D 0 TIBI UP 00 PL AN Y ?	Bending Angle Tibia Y	transducer
D 0 FEMR 00 00 PL AN Y ?	Bending Angle Femur Y	transducer
D 0 KNEE 00 00 PL AN Y ?	Bending Angle effective Y	calculation
D 0 KNEE 00 00 PL DS X ?	Shear Displacement X	calculation
negative shear displacement values if tibia is retained against femur		
D 0 FEMR 00 OR PL DS X V	Position X	filmanalysis
D 0 FEMR 00 OR PL DS Y V	Position Y	filmanalysis
D 0 FEMR 00 OR PL DS Z V	Position Z	filmanalysis
D 0 FEMR 00 OR PL AN X V	Orientation in lateral Plane YZ	filmanalysis
D 0 FEMR 00 OR PL AN Y V	Orientation in longitudinal Plane XZ	filmanalysis
D 0 FEMR 00 OR PL AN Z V	Orientation in horizontal Plane XY	filmanalysis
D 0 TIBI UP 00 PL DS X ?	Indentation at Hit Point X	calculation

For compatibility to existing data the impact direction for this impactor defines the X coordinate of the local system.

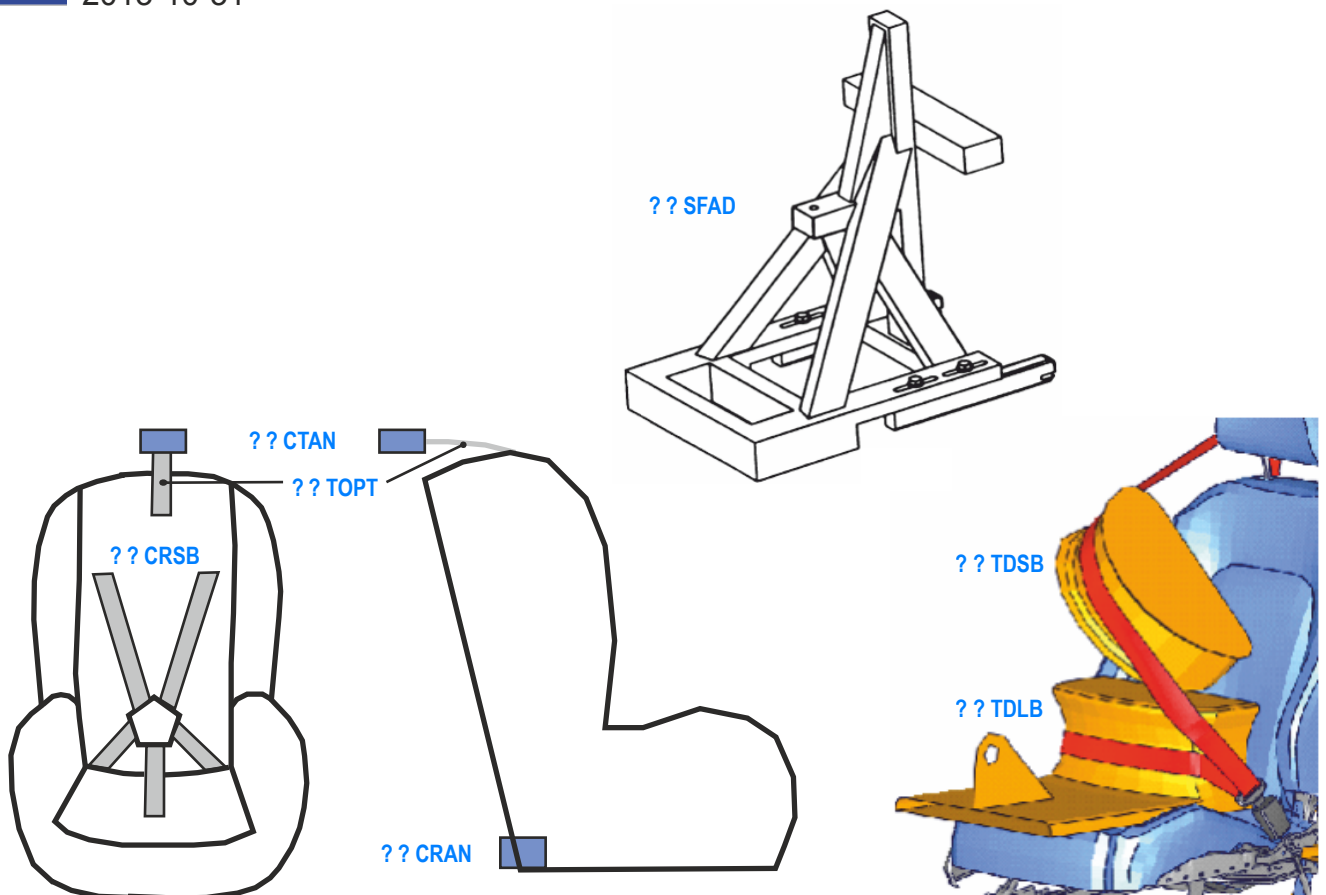


ISO/TS 13499 - RED C : 2013  
Impactors  
Pedestrian flexible legform impactor  
2013-10-31



D0FEMRUP00PFMOX	Femur Up Moment X	D0FEMRLO00PFACX	Femur Lo Acc X
D0FEMRMI00PFMOX	Femur Mi Moment X	D0FEMRLO00PFACY	Femur Lo Acc Y
D0FEMRLO00PFMOX	Femur Lo Moment X	D0FEMRLO00PFACZ	Femur Lo Acc Z
		D0FEMRLO00PFAVX	Femur Lo Ang Vel X
D0KNEELC00PFDS0	Knee LCL Elongation	D0FEMRLO00PFAVY	Femur Lo Ang Vel Y
D0KNEEAC00PFDS0	Knee ACL Elongation	D0FEMRLO00PFAVZ	Femur Lo Ang Vel Z
D0KNEEPC00PFDS0	Knee PCL Elongation		
D0KNEEMC00PFDS0	Knee MCL Elongation	D0TIBIUP00PFACX	Tibia Up Acc X
		D0TIBIUP00PFACY	Tibia Up Acc Y
D0TIBIUP00PFMOX	Tibia Up Moment X	D0TIBIUP00PFACZ	Tibia Up Acc Z
D0TIBIMIUPPFMOX	Tibia Mi Up Mom X	D0TIBIUP00PFAVX	Tibia Up Ang Vel X
D0TIBIMILOPFMOX	Tibia Mi Lo Mom X	D0TIBIUP00PFAVY	Tibia Up Ang Vel Y
D0TIBILO00PFMOX	Tibia Lo Moment X	D0TIBIUP00PFAVZ	Tibia Up Ang Vel Z
D0FEMRTP00PFACX	Femur Top Acc X	D0TIBI0100PFACY	Tibia Seg 1 Acc Y
D0FEMRTP00PFACY	Femur Top Acc Y	D0TIBI0200PFACY	Tibia Seg 2 Acc Y
D0FEMRTP00PFACZ	Femur Top Acc Z	D0TIBI0300PFACY	Tibia Seg 3 Acc Y
		D0TIBI0400PFACY	Tibia Seg 4 Acc Y
D0FEMR0600PFACY	Femur Seg 6 Acc Y	D0TIBI0500PFACY	Tibia Seg 5 Acc Y
D0FEMR0500PFACY	Femur Seg 5 Acc Y	D0TIBI0600PFACY	Tibia Seg 6 Acc Y
D0FEMR0400PFACY	Femur Seg 4 Acc Y	D0TIBI0700PFACY	Tibia Seg 7 Acc Y
D0FEMR0300PFACY	Femur Seg 3 Acc Y	D0TIBI0800PFACY	Tibia Seg 8 Acc Y
D0FEMR0200PFACY	Femur Seg 2 Acc Y		
D0FEMR0100PFACY	Femur Seg 1 Acc Y	D0TIBIBO00PFACX	Tibia Bo Acc X
		D0TIBIBO00PFACY	Tibia Bo Acc Y
		D0TIBIBO00PFACZ	Tibia Bo Acc Z



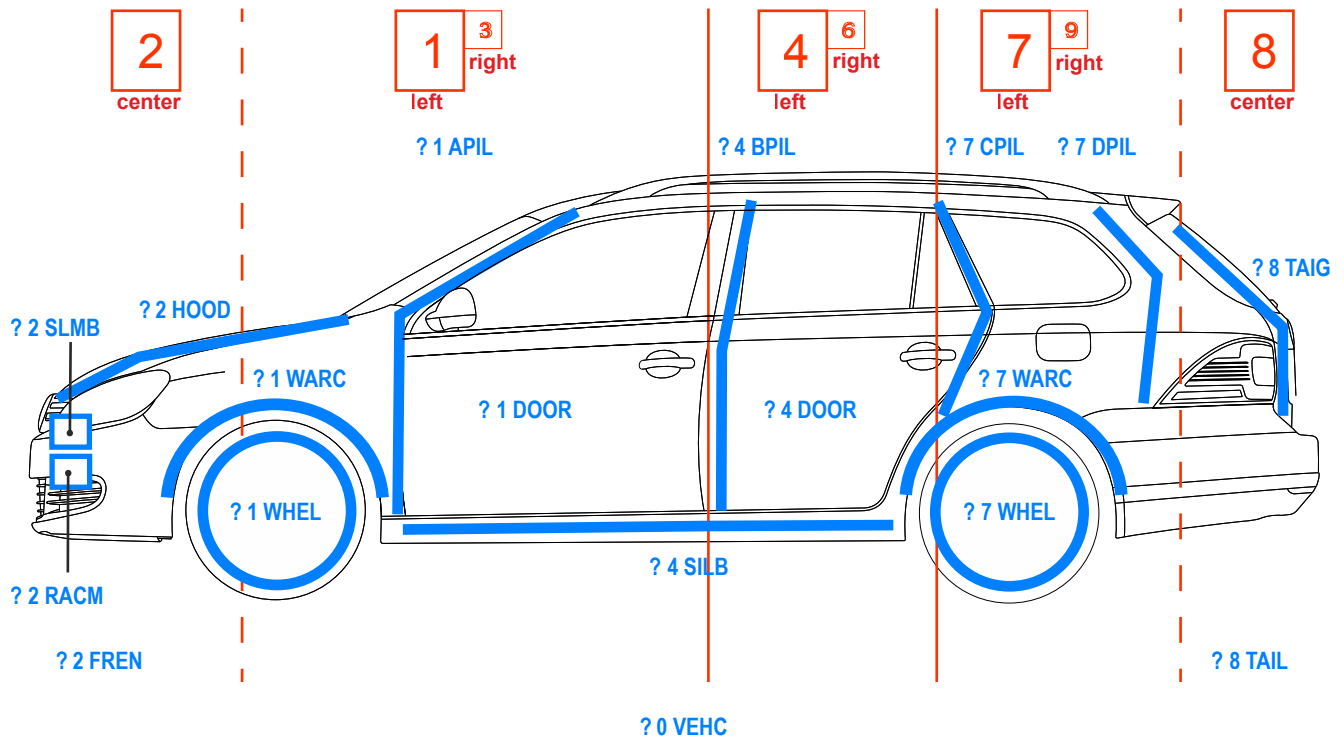
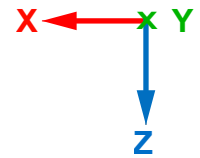


?? TDSB Traction Device Shoulder Belt  
?? TDLB Traction Device Lap Belt

?? CTAN Child Tether Anchorage  
?? CRAN Child Restraint Anchor  
?? CRSB Child Restraint Seat Belt  
?? TOPT Top Tether

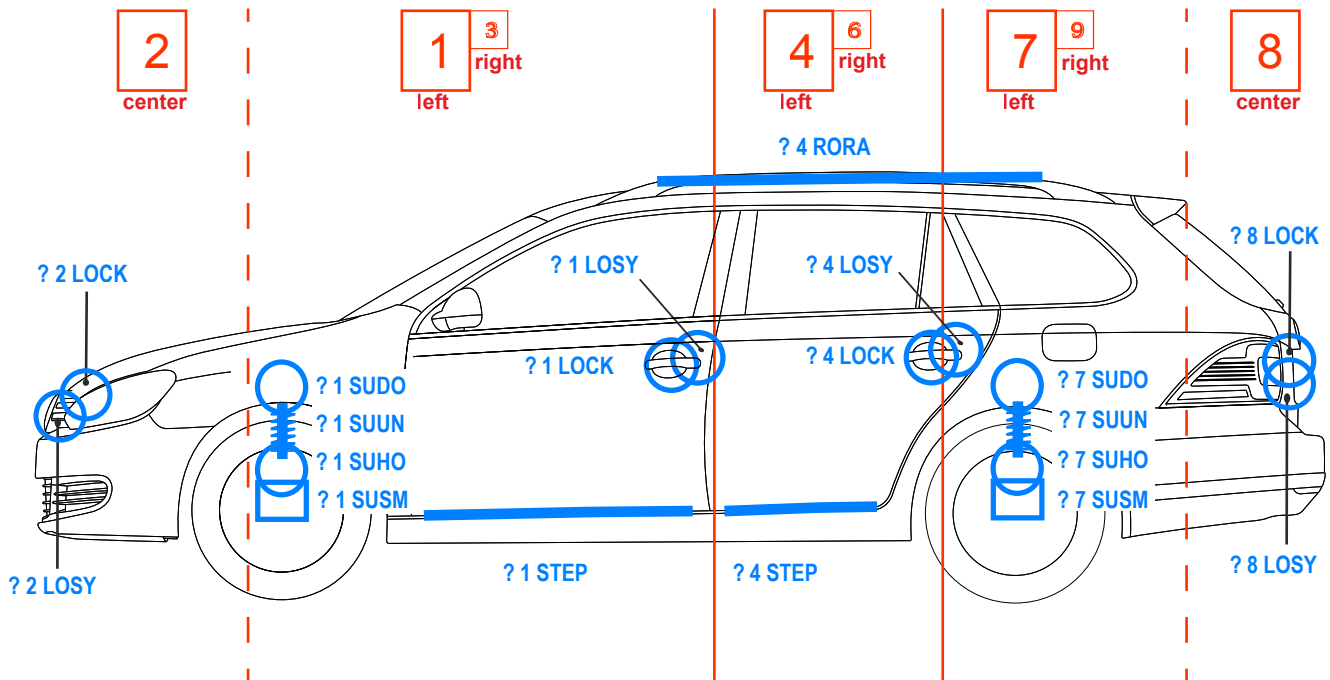
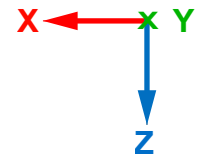
?? TOPT Top Tether





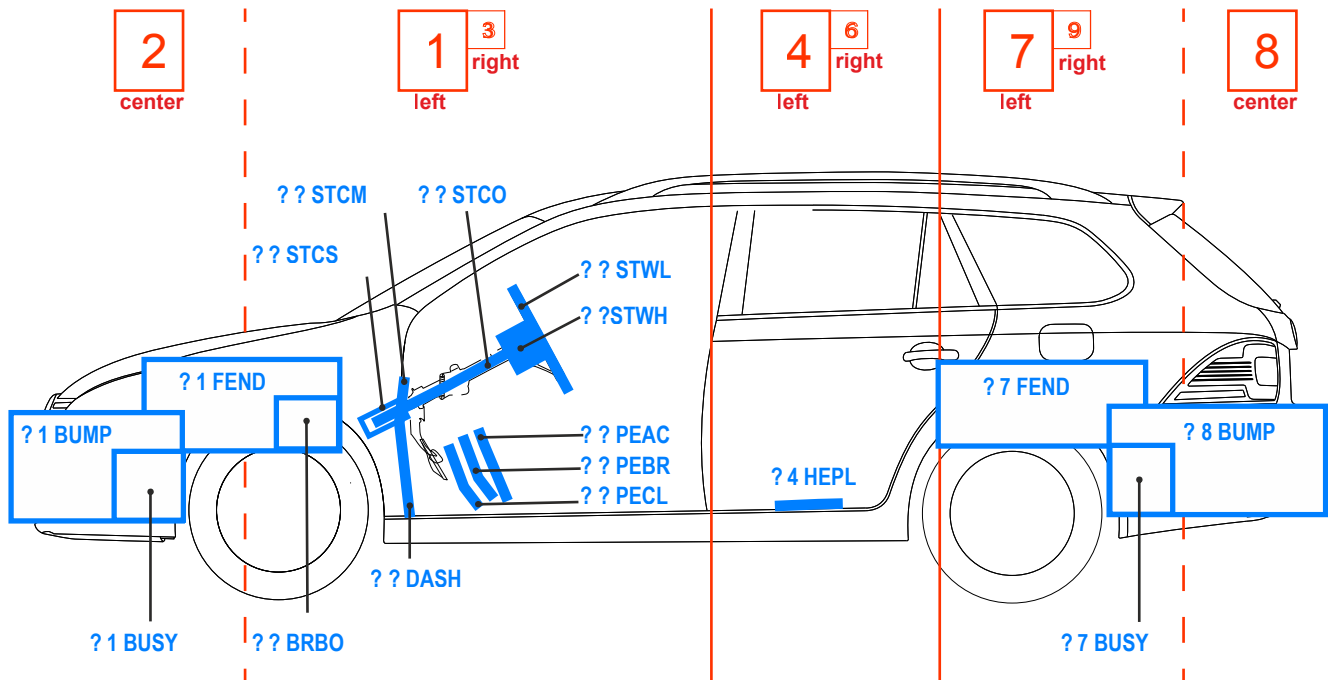
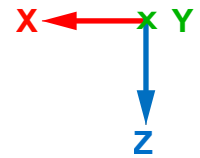
picture only from the left side of the vehicle

? 1 APIL	A-Pillar left	? 1 DOOR	Door front left
? 3 APIL	A-Pillar right	? 3 DOOR	Door front right
? 4 BPIL	B-Pillar left	? 4 DOOR	Door rear left
? 6 BPIL	B-Pillar right	? 6 DOOR	Door rear right
? 7 CPIL	C-Pillar left		
? 9 CPIL	C-Pillar right	? 2 HOOD	Hood
? 7 DPIL	D-Pillar left	? 8 TAIG	Tailgate
? 9 DPIL	D-Pillar right		
		? 0 VEHC	Vehicle
? 4 SILB	Sill Beam left	? 2 FREN	Frontend
? 6 SILB	Sill Beam right	? 8 TAIL	Tail
? 1 WHEL	Wheel front left	? 2 SLMB	Slam Beam
? 3 WHEL	Wheel front right	? 2 RACM	Radiator Cross Member
? 7 WHEL	Wheel rear left		
? 9 WHEL	Wheel rear right		
? 1 WARC	Wheel Arch front left		
? 3 WARC	Wheel Arch front right		
? 7 WARC	Wheel Arch rear left		
? 9 WARC	Wheel Arch rear right		



picture only from the left side of the vehicle

? 1 LOSY	Locking System front left	? 1 SUDO	Suspension Dome front left
? 3 LOSY	Locking System front right	? 3 SUDO	Suspension Dome front right
? 4 LOSY	Locking System rear left	? 7 SUDO	Suspension Dome rear left
? 6 LOSY	Locking System rear right	? 9 SUDO	Suspension Dome rear right
? 2 LOSY	Locking System front		
? 8 LOSY	Locking System rear		
		? 1 SUUN	Suspension Unit front left
		? 3 SUUN	Suspension Unit front right
? 1 LOCK	Lock front left	? 7 SUUN	Suspension Unit rear left
? 3 LOCK	Lock front right	? 9 SUUN	Suspension Unit rear right
? 4 LOCK	Lock rear left		
? 6 LOCK	Lock rear right	? 1 SUHO	Suspension. Housing front left
? 2 LOCK	Lock front	? 3 SUHO	Suspension. Housing front right
? 8 LOCK	Lock rear	? 7 SUHO	Suspension. Housing rear left
		? 9 SUHO	Suspension. Housing rear right
? 4 RORA	Roof Rack left		
? 6 RORA	Roof Rack right		
		? 1 SUSM	Suspension Mount front left
? 1 STEP	Step front left	? 3 SUSM	Suspension Mount front right
? 3 STEP	Step front right	? 7 SUSM	Suspension Mount rear left
? 4 STEP	Step rear left	? 9 SUSM	Suspension Mount rear right
? 7 STEP	Step rear right		



picture only from the left side of the vehicle

? ? STWL Steering Wheel  
? ? STWH Steering Wheel Hub  
? ? STCO Steering Column  
? ? STCM Steering Column Mount  
? ? STCS Steering Column Suspension

? ? DASH Dash Panel

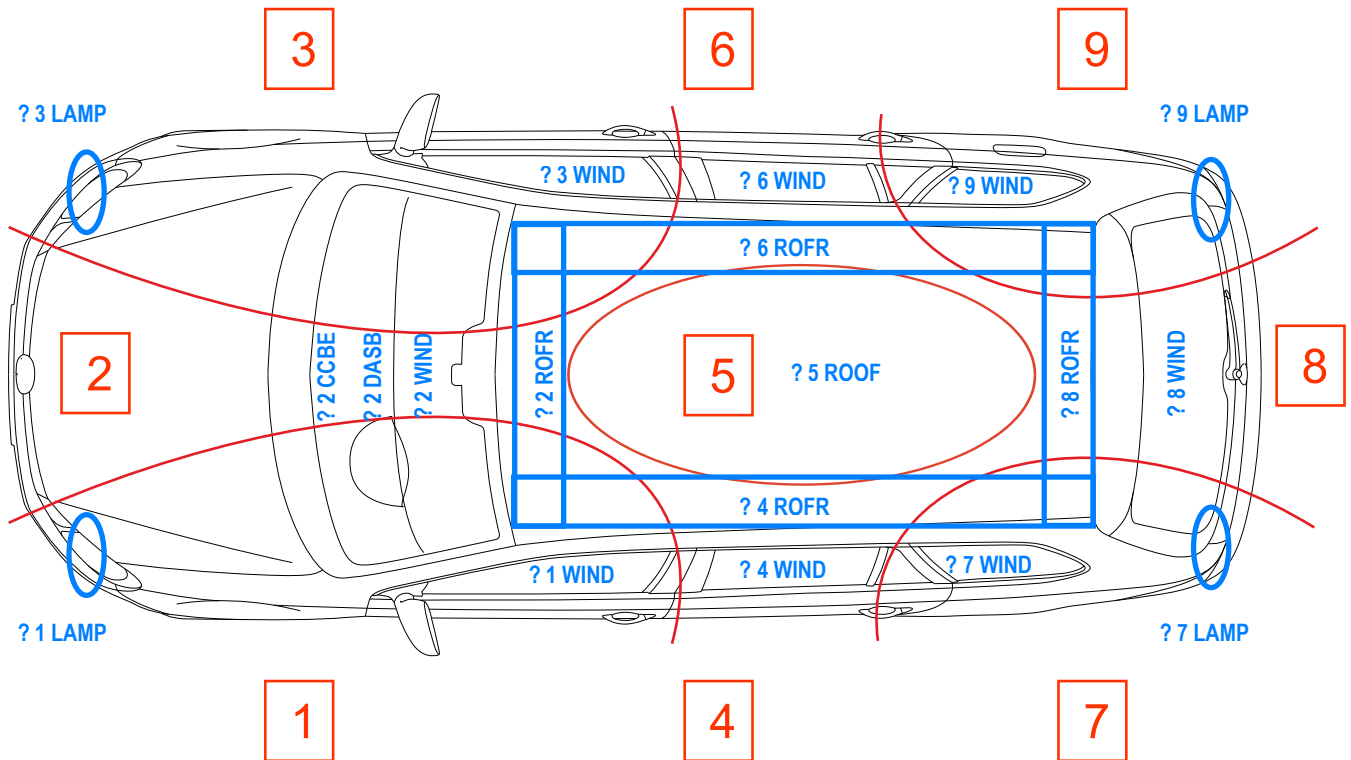
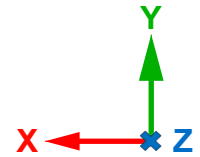
? ? PEAC Pedal Accelerator  
? ? PEBR Pedal Brake  
? ? PECL Pedal Clutch  
? ? BRBO Brake Booster

? 1 FEND Fender front left  
? 3 FEND Fender front right  
? 7 FEND Fender rear left  
? 9 FEND Fender rear right

? 2 BUMP Bumper front  
? 8 BUMP Bumper rear

? 1 BUSY Bumper System front left  
? 3 BUSY Bumper System front right  
? 7 BUSY Bumper System rear left  
? 9 BUSY Bumper System rear right

? 4 HEPL Heel Plate left  
? 6 HEPL Heel Plate right

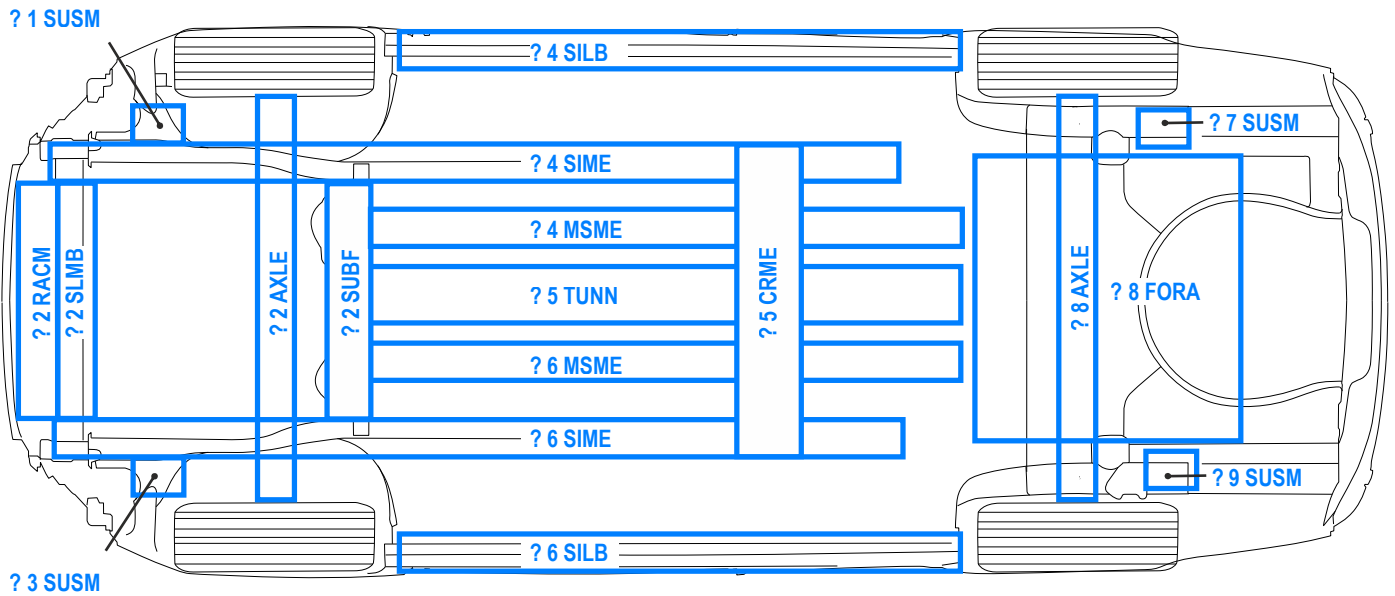
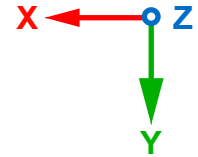


? 1 WIND Window front left  
 ? 2 WIND Window front  
 ? 3 WIND Window front right  
 ? 4 WIND Window middle left  
 ? 6 WIND Window middle right  
 ? 7 WIND Window rear left  
 ? 8 WIND Window rear  
 ? 9 WIND Window rear right

? 1 LAMP Headlamp left  
 ? 3 LAMP Headlamp right  
 ? 7 LAMP Taillight left  
 ? 9 LAMP Taillight right

? 5 ROOF Roof  
 ? 2 ROFR Roof Frame front  
 ? 4 ROFR Roof Frame left  
 ? 6 ROFR Roof Frame right  
 ? 8 ROFR Roof Frame rear

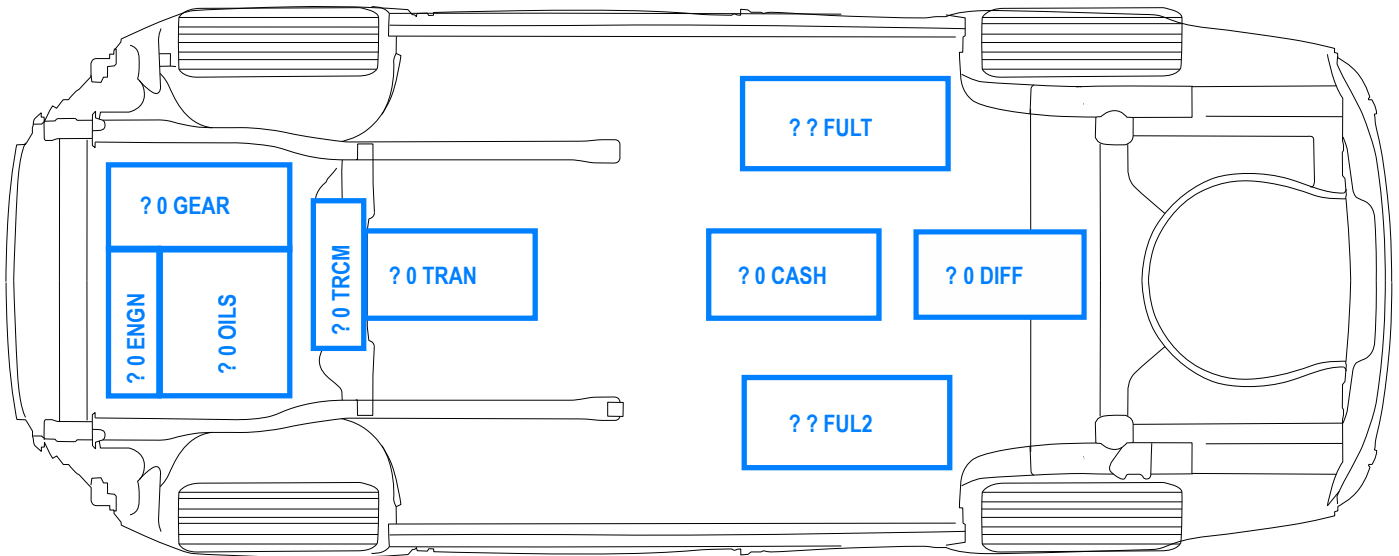
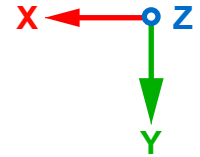
Below the windscreen  
 ? 2 DASB Dash Board  
 ? 2 CCBE Cross Car Beam



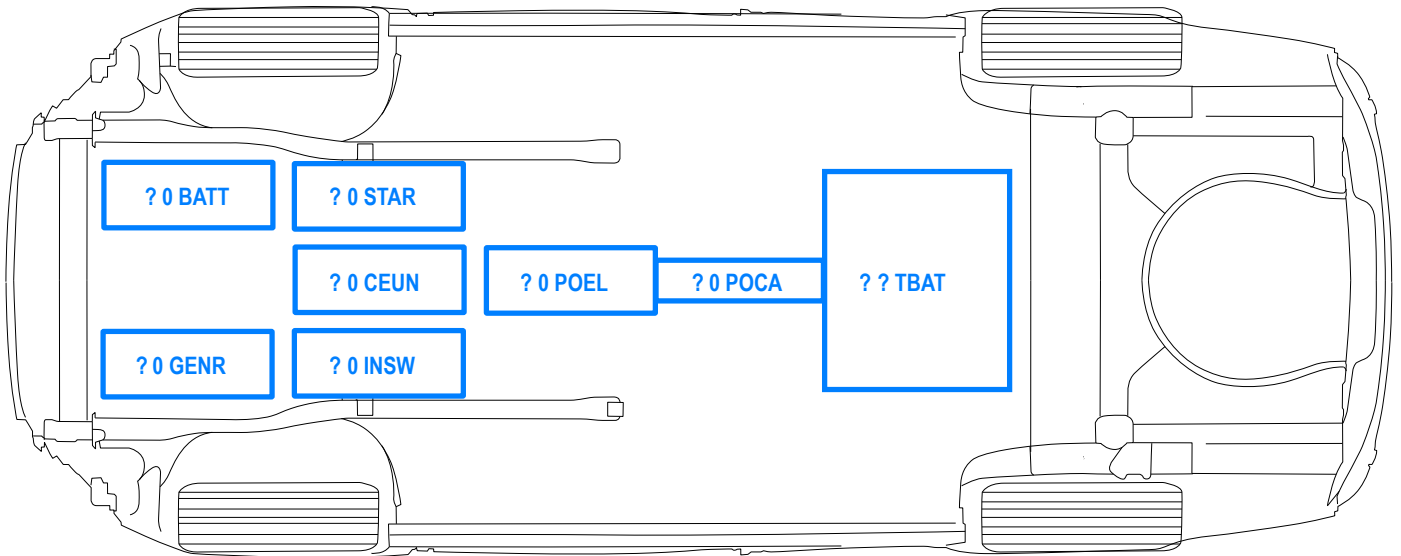
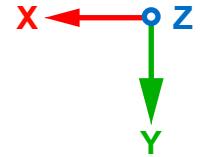
? 2 AXLE	Axle front
? 8 AXLE	Axle rear
? 8 FORA	Floor over Rear Axle
? 2 RACM	Radiator Cross Member
? 2 SLMB	Slam Beam
? 2 SUBF	Subframe
? 1 SUSM	Suspension Mount front left
? 3 SUSM	Suspension Mount front right
? 7 SUSM	Suspension Mount rear left
? 9 SUSM	Suspension Mount rear right
? 5 CRME	Cross Member
? 4 SILB	Sill Beam left
? 6 SILB	Sill Beam right
? 4 SIME	Side Member left
? 6 SIME	Side Member right
? 4 MSME	Main Side Member left
? 6 MSME	Main Side Member right
? 5 TUNN	Tunnel

#### General Main Location

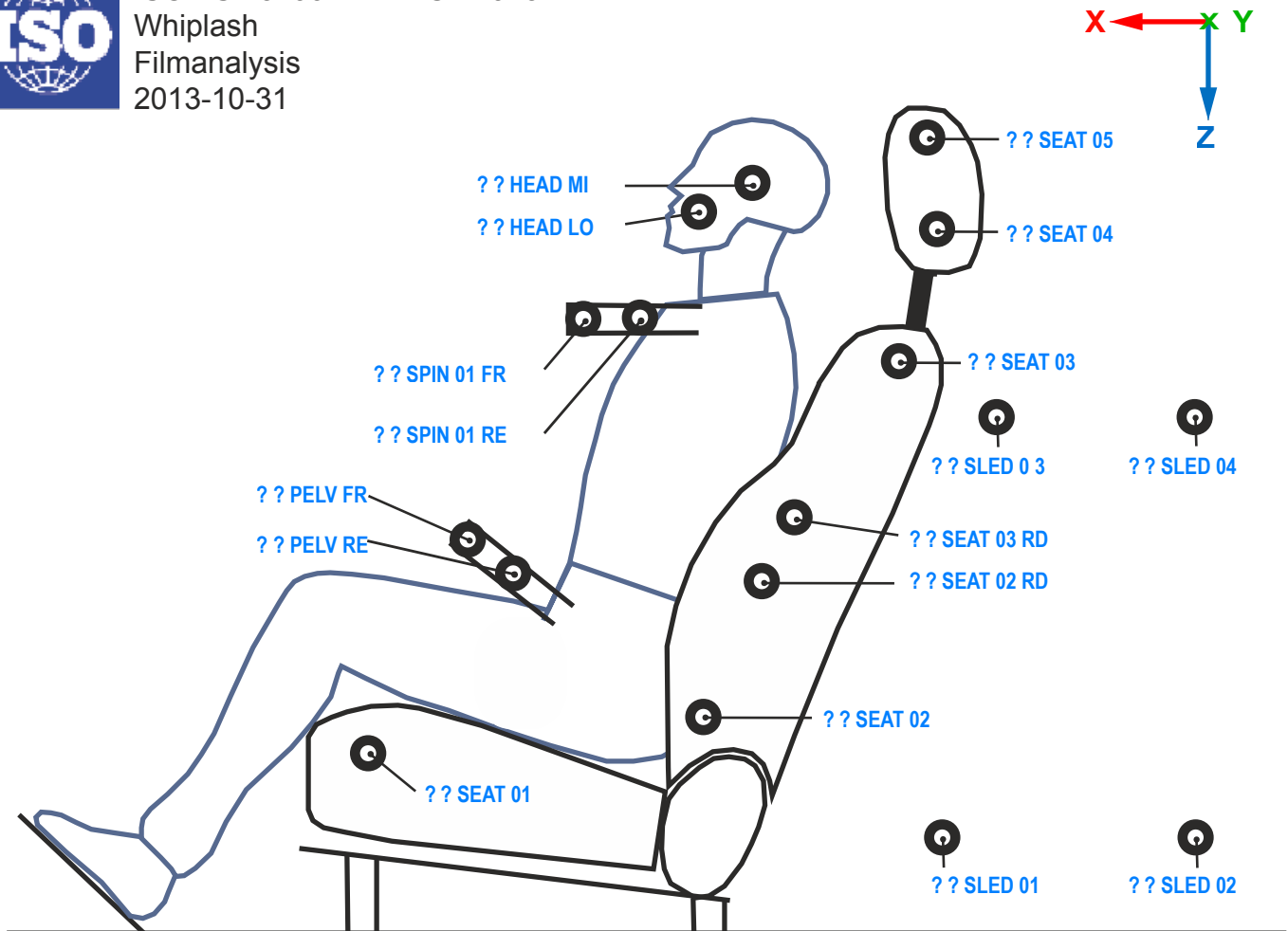
? ? FRAM	Frame
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? 0 ENGN	Engine
? 0 GEAR	Gearbox
? 0 OILS	Oil Sump
? 0 TRCM	Transmission Cross Member
? 0 TRAN	Transmission
? 0 DIFF	Differential
? 0 CASH	Cardan Shaft
?? FULT	Fuel Tank
?? FUL2	2. Fuel Tank



? 0 BATT	Battery
? 0 GENR	Generator
? 0 STAR	Starter
? 0 INSW	Inertia Switch
? 0 CEUN	Central Unit
? 0 POEL	Power Electronics
? 0 POCA	Power Cable
? ? TBAT	Traction Battery



S ? SEAT 01 00 00 DS ? V	ST1	Seat Base forward
S ? SEAT 02 00 00 DS ? V	ST2	Seat Back lower
S ? SEAT 02 RD 00 00 DS ? V	ST2'	Seat Back mid #1
S ? SEAT 03 00 00 DS ? V	ST3	Seat Back upper
S ? SEAT 03 RD 00 00 DS ? V	ST3'	Seat Back mid #2
S ? SEAT 04 00 00 DS ? V	ST4	Lower Head Restraint
S ? SEAT 05 00 00 DS ? V	ST5	Upper Head Restraint

S ? HEAD MI 00 BR DS ? V	DT6	Head CoG
S ? HEAD LO 00 BR DS ? V	DT7	Cheek
S ? SPIN 01 RE BR DS ? V	DT8	T1 Bracket proximal
S ? SPIN 01 FR BR DS ? V	DT9	T1 Bracket distal
S ? PELV RE 00 BR DS ? V	DT10	Pelvis Bracket proximal
S ? PELV FR 00 BR DS ? V	DT11	Pelvis Bracket distal

S 0 SLED 01 00 00 DS ? V	Ref1	Reference Point #1
S 0 SLED 02 00 00 DS ? V	Ref2	Reference Point #2
S 0 SLED 03 00 00 DS ? V	Ref3	Reference Point #3
S 0 SLED 04 00 00 DS ? V	Ref4	Reference Point #4

Possible values for the direction are X, Y, Z and R

S 0 HEAD 00 DI BR VE X V Rebound velocity of head relative to sled