

File Name : SAMPLE.SLM  
Project Name : Sample Problem #1  
Desc : Intersection Wreck

Date : 1/19/2001  
File Number : SLAM1

## WinCrash Project Report

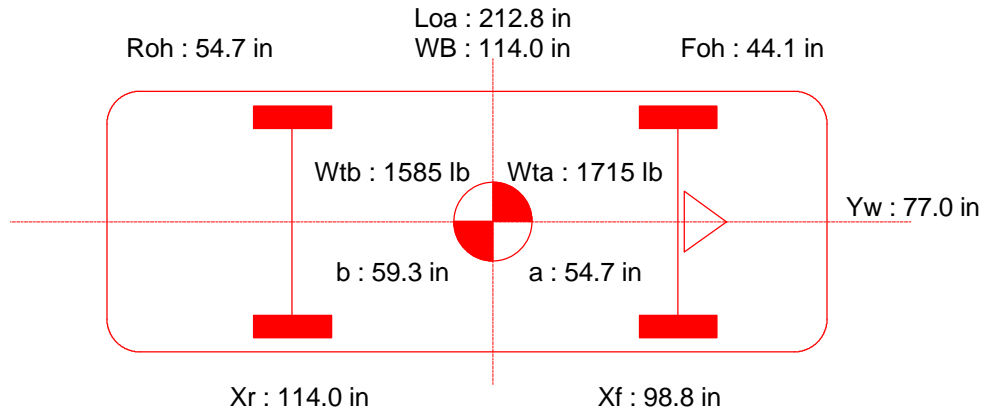
	Vehicle 1	Vehicle 2
	<b>OLDS98</b>	<b>FIRENZA</b>
Vehicle Description	85 Oldsmobile 98	85 Oldsmobile Firenza

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Serial Number : SW200-147-144-113899

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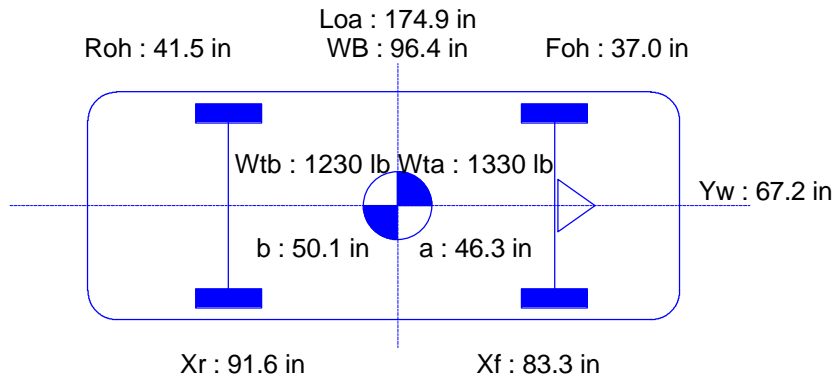
<b>VEHICLE 1</b>	<b>OLDS98</b>
Default Type	Front Wheel Drive
Collision Surface	Front
Weight	3300 lb
Radius of Gyration squared	3741 in <sup>2</sup>

**Vehicle Dimensions**



<b>VEHICLE 2</b>	<b>FIRENZA</b>
Default Type	Sub Compact
Collision Surface	Right
Weight	2560 lb
Radius of Gyration squared	2951 in <sup>2</sup>

**Vehicle Dimensions**



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**DAMAGE DATA**

**OLDS98**

**FIRENZA**

Profile		Variable		Standard	
Damage Width, L		77.0 in		95.0 in	
Profile Offset, D		0.0 in		16.8 in	
Damage Offset, LR		-38.5 in		-30.7 in	
Pdof		-40.0 deg		50.0 deg	
Force Location		Crush Centroid		Crush Centroid	
	Xp	93.8 in		17.9 in	
	Yp	-12.5 in		30.2 in	
Stiffness, A		373.0 lb/in		140.0 lb/in	
Stiffness, B		38.0 lb/in2		67.0 lb/in2	
Number of Coefficients		8		6	
Damage Dimensions		C	L	C	L
	1	15.0 in	0.0 in	1	0.0 in
	2	12.0 in	14.0 in	2	5.0 in
	3	10.0 in	28.0 in	3	10.0 in
	4	7.0 in	42.0 in	4	7.0 in
	5	3.0 in	56.0 in	5	5.0 in
	6	2.0 in	70.0 in	6	3.0 in
	7	2.0 in	74.0 in		
	8	1.0 in	77.0 in		

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**DAMAGE RESULTS**

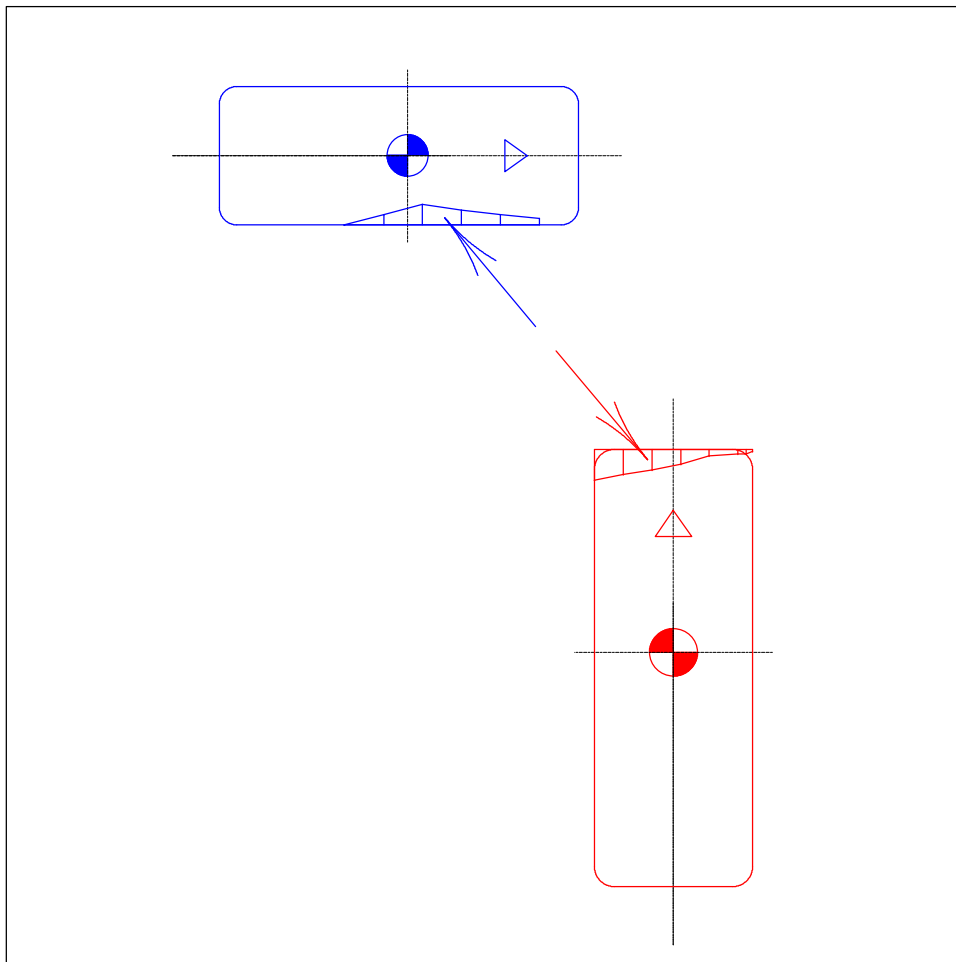
**OLDS98**

**FIRENZA**

Delta V	17.1 mph	22.0 mph
EBS	18.9 mph	18.7 mph
Force	66229 lb	64783 lb
Delta Omega	234 deg/sec	43 deg/sec
Moment Arm	50.7 in	5.7 in
Magnification Factor	1.70	1.70
Mass Ratio	0.59	0.99
Damage Energy	66250 ft-lb	30206 ft-lb

**COMMON RESULTS**

Impulse, IMP	2572.3 lb-sec
Collision Time, Dt	0.039 sec
Total Energy, Et	96455 ft-lb
Closing Speed, Vd	51.1 mph



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**TRAJECTORY DATA**

**OLDS98**

**FIRENZA**

Skidding Trajectory		Yes	Yes
Impact Coordinates	x	0.0 ft	10.0 ft
	y	3.0 ft	0.0 ft
	heading	0.0 deg	90.0 deg
SkidStop Before Path end		No	No
Skidend Coordinates	x	21.5 ft	32.0 ft
	y	16.5 ft	10.5 ft
	heading	39.0 deg	20.0 deg
Pathend Coordinates	x	21.5 ft	32.0 ft
	y	16.5 ft	10.5 ft
	heading	39.0 deg	20.0 deg
Path End Velocity		0.0 mph	0.0 mph
Approach Slip Angle		0.0 deg	0.0 deg
Curved Path		No	No
Point on Curve		No	No
Rotation Greater than 360		No	No
Sustained Contact		No	No
Rotation Direction		CW	CCW
Road Friction	muL	0.70	0.70
	muH	0.90	0.90
Wheel Lockup	LF	0.60	1.00
	RF	0.60	1.00
	RR	0.02	0.02
	LR	0.02	0.02

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## TRAJECTORY RESULTS

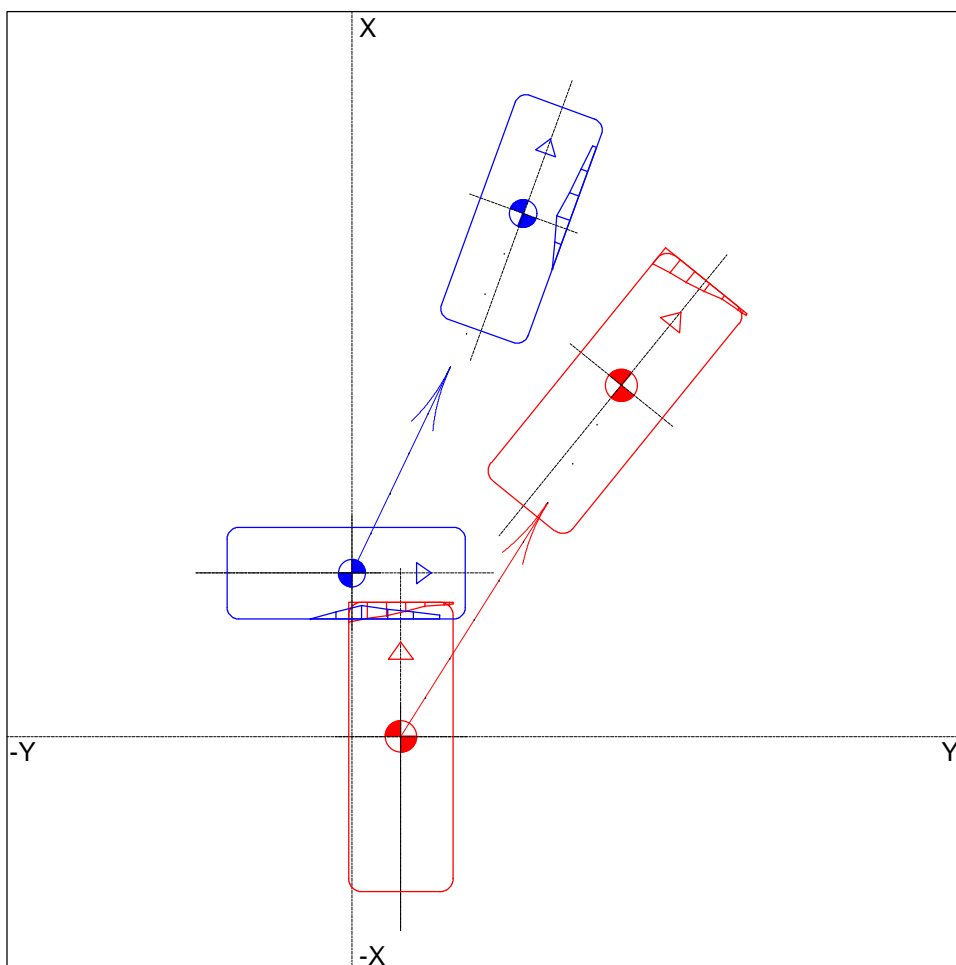
### OLDS98

### FIRENZA

Average Friction	0.80	0.80
Average Theta	0.31	0.51
Calculation Drag	0.60	0.58
Skid Distance	25.4 ft	24.4 ft
Roll Distance	0.0 ft	0.0 ft
Total Distance	25.4 ft	24.4 ft
Separation V	23.0 mph	19.1 mph
Skidend V	0.0 mph	0.0 mph
Pathend V	0.0 mph	0.0 mph
Omega	33 deg/sec	-80 deg/sec
Slip Angle	0.0 deg	0.0 deg
Total Rotation	39.0 deg	-70.0 deg

## COMMON RESULTS

Closing V 38.4 mph  
 Lateral V -13.5 mph



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**LINEAR MOMENTUM RESULTS**

**OLDS98**

**FIRENZA**

Vi	32.8 mph	24.0 mph
Psi	0.0 deg	90.0 deg
Vf	23.0 mph	19.1 mph
Theta	32.1 deg	25.5 deg
Omega	33 deg/sec	-80 deg/sec
DV	18.1 mph	23.4 mph
Pdof	-42.5 deg	47.5 deg
DVAng	137.5 deg	-42.5 deg
DOmega	33 deg/sec	-80 deg/sec

**DAMAGE MOMENTUM RESULTS**

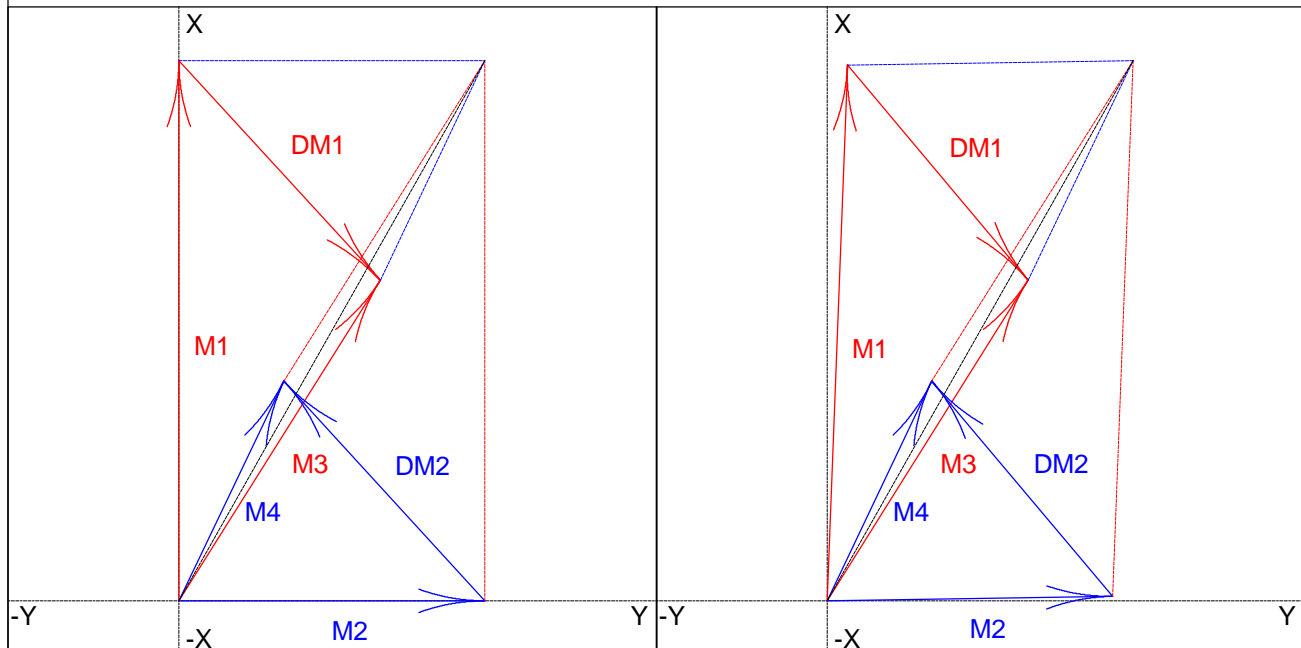
**OLDS98**

**FIRENZA**

Vi	32.6 mph	22.4 mph
Psi	2.2 deg	89.2 deg
Vf	23.0 mph	19.1 mph
Theta	32.1 deg	25.5 deg
Omega	33 deg/sec	-80 deg/sec
DV	17.1 mph	22.0 mph
Pdof	-40.0 deg	50.0 deg
DVAng	140.0 deg	-40.0 deg
DOmega	234 deg/sec	43 deg/sec

**Linear Momentum**

**Damage Momentum**



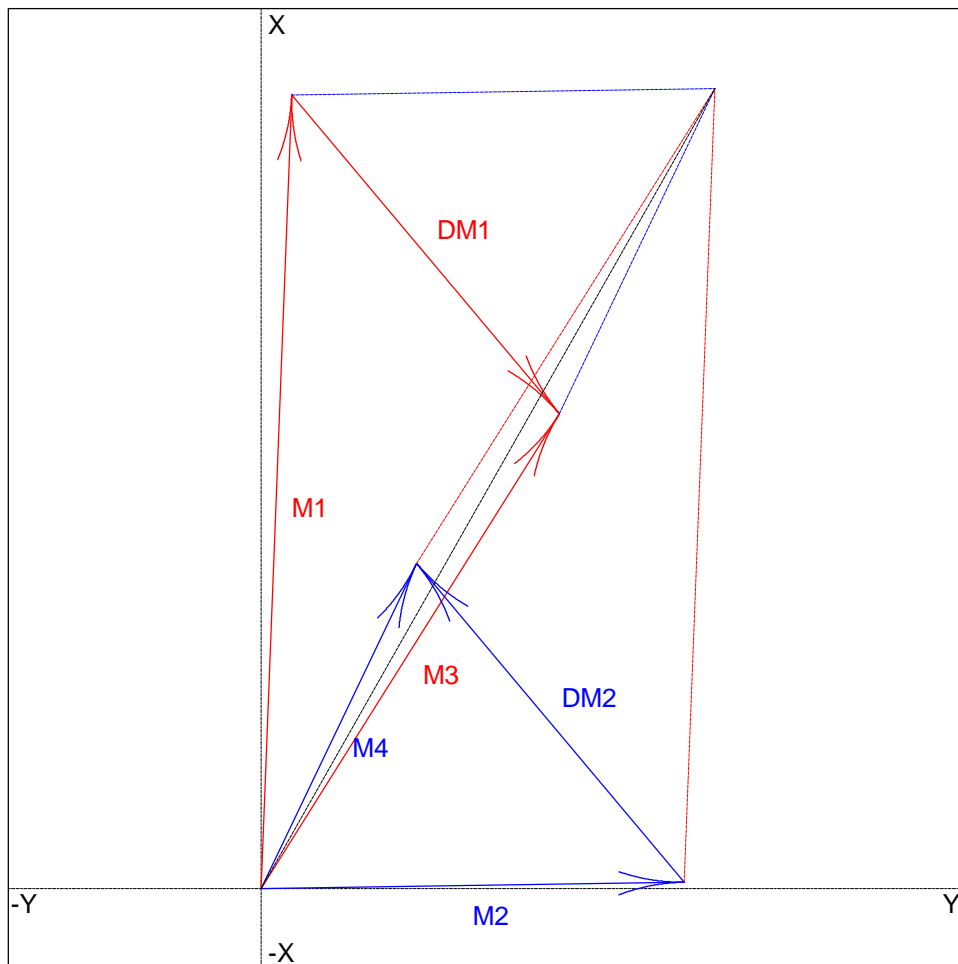
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## DAMAGE MOMENTUM RESULTS

**OLDS98**

**FIRENZA**

Vi	32.6 mph	22.4 mph
Psi	2.2 deg	89.2 deg
Vf	23.0 mph	19.1 mph
Theta	32.1 deg	25.5 deg
Omega	33 deg/sec	-80 deg/sec
DV	17.1 mph	22.0 mph
Pdof	-40.0 deg	50.0 deg
DVAng	140.0 deg	-40.0 deg
DOmega	234 deg/sec	43 deg/sec



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# Linear Momentum Results

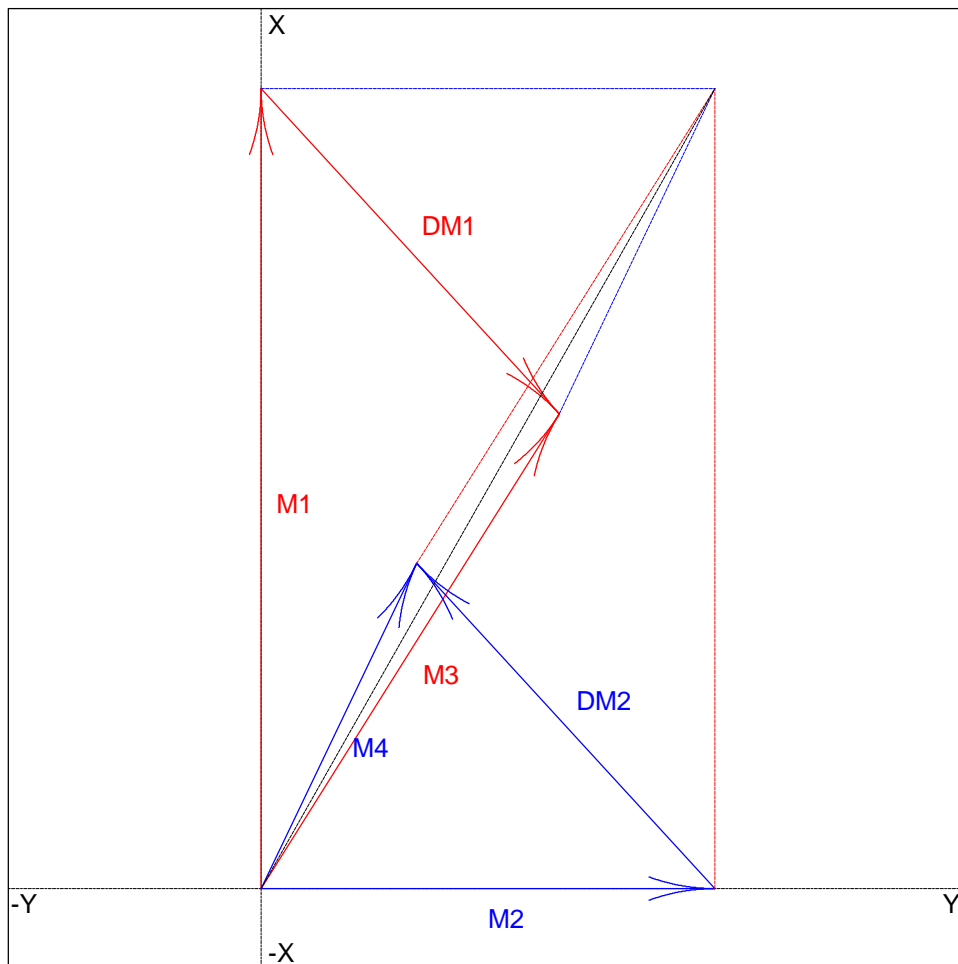
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## LINEAR MOMENTUM RESULTS

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**FIRENZA**

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Psi	0.0 deg	90.0 deg
Vf	23.0 mph	19.1 mph
Theta	32.1 deg	25.5 deg
Omega	33 deg/sec	-80 deg/sec
DV	18.1 mph	23.4 mph
Pdof	-42.5 deg	47.5 deg
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**Current Warning Flag Settings**

**Vehicle Warnings**

**OLDS98**

**FIRENZA**

Speed Adjustment

Yes

Yes

The separation speed was adjusted

**Project Warnings**

Common Velocity Warning

Yes

Speeds and Headings can be corrected to improve the damage solution.  
Any correction may affect the LM solution.

**Confidence levels**

A Stiffness Value	10.0 %
B Stiffness Value	10.0 %
Pdof Error	10.0 deg
Distance Error	10.0 %
Lockup Sensitivity	0.1
Separation Heading Error	5.0 deg
Approach Heading Error	5.0 deg

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