Correlation between MARC 1 modules and chapters of the 5th Edition of "Motor Vehicle Accident Reconstruction and Cause Analysis", published by Matthew Bender, Co.

Module:	Chapter:	Module:	Chapter:
A1 – A2	20	N	23
B1 – B3	20	O1 – O2	27
C1 – C6	31	P1 – P2	27
D1 – D2	31	Q	20
E1 – E3	20	R1 – R2	30
F1 – F7	36	S	24
G1 – G3	29	T1 – T4	35
H1 – H2	32	U1 – U6	37, 20, 26
I	20	V1 – V4	24
J1 – J2	20	W1 – W4	33/2005 Spplmt
K	20	X1 – X9	33
L	20	Y	33
M1 – M3	23		

All modules of MARC 1 are self-explanatory, particularly for those users who are familiar with the 5th edition of "Motor Vehicle Accident Reconstruction and Cause Analysis".

The module W4 on Low Speed Impact with braking or side forces requires some explanation as described below.

In the absence of braking forces in the case of an inline collision, Module W4 predicts the same velocities as Modules T4 or W2. In the case of a side impact, tire forces are always present due to the fact that tire side forces nearly always resist sideways pushing. As an inspection of Equations 43-5a and 43-5b of the Low Speed Impact Analysis of the 2005 Supplement shows, the compression and restitution times involve the square root with the maximum acceleration in the denominator. However, the maximum acceleration a_{m2} of vehicle 2 can become negative for EES^2/S_{St2} less than a_2. Under these conditions the program will crash, that is, the user must make minor adjustments to the input data. The same basic limitations apply to the restitution times where computed dynamic crush depth values must be larger than the static crush depth values. While this requirement makes total sense physically, the dynamic crush depth is computed from the stiffness value (Equations 43–12a and 43-12b), and therefore places certain limitations on the upper limit of the stiffness values. For most cases the user can assume a range between 20,000 and 55,000 lb/ft.