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% GenSUV2.M
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%
% This file represents a generic SUV.
%
% Edward M. Kasprzak, MRA      6/29/01

% List of Vehicle Parameters

%line 1--Axle or Independent Rear Suspension, Brake Proportion
ISUS = 0.0;          % unitless  0=ifs/ars, 1=ifs/irs, [2,3 not allowed (afs)]
BPROPF = .75;       % unitless  Brake Proportioning, Front (range 0 to 1)

%line 6--Wheelbase and CG Height
WB = 115.0;         % in        Wheelbase
HCGT = 27.0;        % in        Total CG Height

%line 7--Static Wheel Loads, unsprung masses
WGRNDLF = 1450.0;   % lb        LF Static Wheel Load
WGRNDRF = 1450.0;   % lb        RF Static Wheel Load
WGRNDLR = 1300.0;   % lb        LR Static Wheel Load
WGRNDRR = 1300.0;   % lb        RR Static Wheel Load
WTULF = 175.0;      % lb        LF unsprung weight
WTURF = 175.0;      % lb        RF unsprung weight
WTULR = 150.0;      % lb        LR unsprung weight
WTURR = 150.0;      % lb        RR unsprung weight

%line 8--Inertias
IX = 9000.0;        % lb-sec^2-in  Sprung Mass Roll Inertia
IY = 45000.0;       % lb-sec^2-in  Sprung Mass Pitch Inertia
IZ = 40000.0;       % lb-sec^2-in  Total Mass Yaw Inertia
IXZ = 0*12;         % lb-sec^2-in  Sprung Mass Product of Inertia about x-z axis
IFW = 3.0*12;       % lb-sec^2-in  Front Wheel Inertia about spin axis
IRW = 3.0*12;       % lb-sec^2-in  Rear Wheel Inertia about spin axis
IFS = 6.0*12;       % lb-sec^2-in  Front Wheel Inertia about steer axis

%lines 11&12--Aero (lines 13 and 14 not used--no yaw sensitivity)
FAREA = 35.0;       % ft^2        Frontal Area of Vehicle
RHOAIR = 0.0763;    % lb/ft^3     Air Density
CD = 0.4;           % unitless    Longitudinal Drag Coefficient
CLF = 0.0;          % unitless    Front Aero Lift Coefficient
CLR = 0.0;          % unitless    Rear Aero Lift Coefficient

%line 21--Front Track Width Data
TP2 = 32.0;         % in        Front Half Track, LF
TP1 = 32.0;         % in        Front Half Track, RF

%line 23--Front Roll and Ride Rates, Bump/Rebound Stop Locations
RAF = 1200.0;       % lb-ft/deg   Front Roll Rate (Total: Chassis to Ground)
KR2 = 250.0;        % lb/in       Ride Rate, LF (Total: Chassis to Ground)
DELBS2 = -3.0;      % in         Bump Stop Clearance (negative), LF
DELRS2 = 2.0;       % in         Rebound Stop Clearance (positive), LF
KR1 = 250.0;        % lb/in       Ride Rate, RF
DELBS1 = -3.0;      % in         Bump Stop Clearance (negative), RF
DELRS1 = 2.0;       % in         Rebound Stop Clearance (positive), RF

%line 24--Front Bump Stop Rates
KBS12 = 700.0;      % lb/in       Bump Stop Spring Rate, LF
KBS22 = 0.0;        % lb/in^2     Bump Stop Spring Rate, LF

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