TECHNICAL RECONSTRUCTION ATTACHMENT

Vehicle Specifications Report Lexus

Phoenix, Arizona

HWY21MH008

(4 pages)

Expert AutoStats®

Version 6.1.1

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NTSB - OFFICE OF HIGHWAY SAFETY
490 L'ENFANT PLAZA EAST SW
WASHINGTON DC 20594

4/28/2022

2013 LEXUS CT 200 H 4 DOOR HATCHBACK

Curb Weight:		3130	lbs.	1420	kg.
Curb Weight Distribution -	Front:	58	% Rear:	42	%
Gross Vehicle Weight Rating:		4057	lbs.	1840	kg.
Number of Tires on Vehicle:		4			
Drive Wheels:		FRONT			

Horizontal Dimensions	Inches	Feet	Meters
Total Length	170	14.17	4.32
Wheelbase:	102	8.50	2.59
Front Bumper to Front Axle:	37	3.08	0.94
Front Bumper to Front of Front Well:	22	1.83	0.56
Front Bumper to Front of Hood:	6	0.50	0.15
Front Bumper to Base of Windshield:	42	3.50	1.07
Front Bumper to Top of Windshield:	73	6.08	1.85
Rear Bumper to Rear Axle:	31	2.58	0.79
Rear Bumper to Rear of Rear Well:	18	1.50	0.46
Rear Bumper to Rear of Trunk:	4	0.33	0.10
Rear Bumper to Base of Rear Window:	10	0.83	0.25
Width Dimensions			
Maximum Width:	69	5.75	1.75
Front Track:	60	5.00	1.52
Rear Track:	60	5.00	1.52
Vertical Dimensions			
Height:	57	4.75	1.45
Ground to -			
Front Bumper (Top)	20	1.67	0.51
Headlight - center	29	2.42	0.74
Hood - top front:	31	2.58	0.79
Base of Windshield	39	3.25	0.99
Rear Bumper - top:	25	2.08	0.64
Trunk - top rear:	40	3.33	1.02
Base of Rear Window:	41	3.42	1.04

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Interior Dimensions

	Inches	Feet	Meters
Front Seat Shoulder Width	54	4.50	1.37
Front Seat to Headliner	39	3.25	0.99
Front Leg Room - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	53	4.42	1.35
Rear Seat to Headliner	37	3.08	0.94
Front Leg Room - seatback to floor (min)	33	2.75	0.84

Seatbelts: 3pt - front and rear

Airbags: FRONT SEAT AIRBAGS + SIDE AIRBAGS

Steering Data

Turning Circle (Diameter)	408	34	10.36
Steering Ratio:	:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	215/45R17		

Acceleration & Braking Information

Brake Type: ALL DISC

ABS System: ALL WHEEL ABS

Braking, 60 mph to 0 (Hard pedal, no skid, dry pavement):

d = 123.0 ft t = 2.8 sec a = -31.4 ft/sec² G-force = -0.98

Acceleration:

0 to 30mph	t =		sec	a =		ft/sec²	G-force =	
0 to 60mph	t =	10.1	sec	a =	8.7	ft/sec²	G-force =	0.27
45 to 65mph	t =	6.5	sec	a =	4.5	ft/sec²	G-force =	0.14

Transmission Type: AUTOMATIC

Notes:

Federal Bumper Standard Requirements: 2.5 mph

This vehicles Rated Bumper Strength: 2.5 mph

N.S.D.C = 2011 - 2013

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Other Information

Tip-Over Stability Ratio =	1.36	Stable
NHTSA Star Rating (calculated)		****

Center of Gravity (No Load):

		Inches	Feet	Meters
behind front axle	=	42.84	3.57	1.09
in front of rear axle	=	59.16	4.93	1.50
from side of vehicle	=	34.50	2.88	0.88
from ground	=	22.03	1.84	0.56
from front corner	=	86.98	7.25	2.21
from rear corner	=	96.54	8.04	2.45
from front bumper	=	79.84	6.65	2.03
from rear bumper	=	90.16	7.51	2.29

Moments of Inertia Approximations (No Load):

		lb*ft*sec²	kg*m*sec²
Yaw Moment of Inertia	=	2017.90	278.98
Pitch Moment of Inertia	=	1949.70	269.56
Roll Moment of Inertia	=	413.40	57.15

Front Profile Information

Angle Front Bumper to Hood Front	=	61.4	deg
Angle Front of Hood to Windshield Base	=	12.5	deg
Angle Front of Hood to Windshield Top	=	19.7	deg
Angle of Windshield	=	27.3	deg
Angle of Steering Tires at Max Turn	=	28.6	deg

First Approximation Crush Factors:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush of indentation may be evaluated using the following formula, the appropriated Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

$$V(mph) = \sqrt{(30 * CF * MID)}$$

KE Equivalent Speed (Front/Rear/Side) = 21 CF

Bullet vehicle IMPACT SPEED estimation
based on TARGET VEHICLE damage ONLY = 27 CF
(Tested for Rear/Side Impact only)

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independent evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The rear Impact data with more then 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, especially GM, you estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).