AMA Specifications – Passenger Car

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MANUFACTURER	FORD MOTOR COMPANY PRODUCT ENGINEERING OFFICE	CAR NAME THUNDERBIRD	
MAILING ADDRESS	P. O. BOX 2053 DEARBORN, MICHIGAN	MODEL YEAR 1963	ISSUED: 10-22-62 REVISED (•)

NOTES:

1. The Specifications herein are those in effect at date of compilation and are subject to change without notice by the manufacturer.
2. UNLESS OTHERWISE INDICATED:
   a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
   b. Nominal design dimensions are used throughout these specifications.

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BODY—TYPES AND STYLE NAMES—

Body type, number of passenger & style names; use manufacturer's code for series & body style.

Body Model	Passenger	Model Number
Thunderbird		
2-Door Hardtop	4	63A
2-Door Convertible	4	76A
Thunderbird Landau		
2-Door Hardtop	4	63B
Thunderbird Sports Roadster		
2-Door Convertible	4	76B

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GENERAL SPECIFICATIONS

(All dimensions in inches unless otherwise indicated)

MODEL		Additional Information Page No.:	63	76
			390 CID 4V	390 CID 6V
Wheelbase (L101)		23	113.	
Tread	Front (W101)	22	61.0	
	Rear (W102)	22	60.0	
Maximum Overall Dimensions	Length (L103)	23	205.0	
	Width (W103)	22	76.5	
	Height (H101)	24	52.5	53.3
Transmission—(Specify trade name - opt., not available)	Manual	15	None	
	Overdrive	16	None	
	Automatic	16	Dual Range Cruise-O-Matic (Standard)	
Axle ratio	Manual	17	None	
	Overdrive	17	None	
	Automatic	17	3.00:1	
Tire size		18	8.00 x 14	
Engine	Type, no. cyl., valve arr.	2	90°V, 8, OHV	
	Fuel system (Carb., other)	8	4V Carburetor	3-2V Carburetor
	Bore and stroke	2	4.05 x 3.78	
	Piston displ., cu.in.	2	390	
	Std. compression ratio	2	9.6:1	10.5:1
	Max. bhp at engine rpm	2	300 @ 4600	340 @ 5000
	Max. torque at rpm	2	427 @ 2800	430 @ 3200

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ALL MODELS

MODEL	390 CID 4V	390 CID 6V

ENGINE—GENERAL

Type, no. cyls., valve arr.		90°V, 8, OHV	
Bore and stroke (nominal)		4.05 x 3.78	
Piston displacement, cu. in.		390	
Bore spacing (C/L to C/L)		4.63	
No. system (front to rear)	L. Bank	5-6-7-8	
	R. Bank	1-2-3-4	
Firing order		1-5-4-2-6-3-7-8	
Compres. ratio (nominal)		9.6:1	10.5:1
Cylinder Head Material		Cast Iron	
Cylinder Block Material		Cast Iron	
Cylinder Sleeve-Wet, dry, none		None	
Number of mounting points	Front	Two	
	Rear	One	
Engine installation angle		1° 20'	
Taxable horsepower $\frac{Dia.^2 \times No. Cyl.}{2.5}$		52.49	
Published max. bhp* (@ eng. RPM		300 @ 4600	340 @ 5000
Published max. torque* (lb. ft. @ RPM)		427 @ 2800	430 @ 3200
Recommended fuel regular - premium		Premium	
Idle speed (spec. neutral or drive)	Manual	None	
	Automatic	475 - 500 Drive	

ENGINE—PISTONS

Material			Aluminum Alloy
Description and finish			Authothermic type, slipper skirt, tin plated
Weight (piston only) oz.			24.41 - 24.62
Clearance (limits)	Top land		.0180 - .0218 Radial
	Skirt	Top	.0020 - .0041 Diametral
		Bottom	.0015 - .0021 Diametral
Ring groove depth	No. 1 ring		.2040 - .2110 Radial
	No. 2 ring		.2040 - .2110 Radial
	No. 3 ring		.1855 - .1925 Radial
	No. 4 ring		None

* Max. bhp (brake horsepower) and max. torque corrected as defined by SAE Engine Test Code.

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POWER TEAMS
(Indicate whether standard or optional)

MODEL AVAILABILITY	ENGINE					TRANSMISSION	AXLE RATIO (Std. first)
	Displ. cu. in.	Carburetor	Compr. Ratio	BHP @ RPM	Torque @ RPM		
	Std.						
All	390	4V	9.6	300 @ 4600	427 @ 2800	Automatic	3.00
	Opt.						
All	390	3-2V	10.5	340 @ 4600	430 @ 3200	Automatic	3.00

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ENGINE—RINGS

Function (top to bottom)	No. 1, oil or comp.	Compression
	No. 2, oil or comp.	Compression
	No. 3, oil or comp.	Oil Control
	No. 4, oil or comp.	None
Compression	Description - material, type, coating, etc.	#1 Cast iron alloy, straight face, chrome plated #2 Cast iron alloy, straight face, scraper groove, phosphate coated
	Width	#1 .0774 - .0781 #2 .0930 - .0940
	Gap	.015 - .025
Oil	Description - material, type, coating, etc.	Multi-piece: Two rails and one spacer expander Rails - steel, chrome plated, oxide coated Spacer expander - blued steel SAE 1070
	Width	.1875 Nominal - snug groove
	Gap	.015 - .055
Expanders		Integral with oil ring assembly

ENGINE—PISTON PINS

Material			Alloy steel - SAE 5015 Steel
Length			3.156 - 3.170
Diameter			.9750 - .9753
Type	Locked in rod, in piston, floating, etc.		Full floating, tubular
	Bushing	In rod or piston	In rod
		Material	Bronze
Clearance	In piston		.0001 - .0003 select fit
	In rod		.0001 - .0003 select fit
Direction & amount offset in piston			Right .0575 - .0675

ENGINE—CONNECTING RODS

Material		Forged steel with separately forged caps
Weight (oz.)		26.8 - 27.2
Length (center to center)		6.486 - 6.490
Bearing	Material & Type	Steel backed, copper-lead alloy replaceable inserts
	Overall length	.736 - .746
	Clearance (limits)	.0010 - .0028
	End play	.006 - .016 (Two rods)

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ENGINE—CRANKSHAFT

Material			Alloy Cast Iron
Vibration damper type			Rubber floated inertia members
End thrust taken by bearing (No.)			Three
Crankshaft end play			.004 - .008
Main bearing	Material & type		Steel backed babbitt, replaceable inserts
	Clearance		.0010 - .0031
	Journal dia. and bearing overall length	No. 1	2.7488 x .907
		No. 2	2.7488 x .907
		No. 3	2.7488 x 1.119
		No. 4	2.7488 x .907
		No. 5	2.7488 x .907
		No. 6	None
		No. 7	None
	Dir. & amt. cyl. offset		None
Crankpin journal diameter			2.4380 - 2.4388

ENGINE—CAMSHAFT

Location			In block
Material			Cast Alloy Iron - Induction hardened
Bearings	Material		SAE 15 lead base babbitt on SAE 1010 steel back
	Number		Five
Type of Drive	Gear or chain		Chain
	Crankshaft gear or sprocket material		Sintered iron or steel
	Camshaft gear or sprocket material		Die cast aluminum with nylon overlay
	Timing chain	No. of links	48
		Width	.86
		Pitch	.50

ENGINE—VALVE SYSTEM

Hydraulic lifters (Std, opt, NA)		Standard
Valve rotator, type (intake, exhaust)		Ford free-turn (intake & exhaust)
Rocker ratio		1.76:1
Operating tappet clearance (indicate hot or cold)	Intake	Zero
	Exhaust	Zero
Timing marks on flywheel, damper, other		Pointer on front cover

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MODEL			ALL MODELS	
			390 CID 4V	390 CID 6V
ENGINE—VALVE SYSTEM (cont.)				
Timing	Intake	Opens (°BTC)	26°	28° 30'
		Closes (°ABC)	64°	77° 30'
		Duration - deg.	270°	286°
	Exhaust	Opens (°BBC)	67°	76° 30'
		Closes (°ATC)	23°	29° 30'
		Duration - deg.	270°	286°
	Valve opening overlap		49°	58°
Intake	Material		SAE 1047 steel - aluminized	
	Overall length		5.446	
	Actual overall head dia.		2.022 - 2.037	
	Angle of seat & face		45°	
	Seat insert material		None	
	Stem diameter		.3711 - .3718	
	Stem to guide clearance		.0010 - .0024	
	Lift (@ zero lash)		.408	.453
	Outer spring press. and length	Valve closed (lb. @ in.)	74 - 84 @ 1.82	80 - 90 @ 1.82
		Valve open (lb. @ in.)	190 - 208 @ 1.42	225 - 280 @ 1.32
	Inner spring press. and length	Valve closed (lb. @ in.)	Damper	
		Valve open (lb. @ in.)	None	
Exhaust	Material		Cast austenitic steel - aluminized head (a)	
	Overall length		5.426	
	Actual overall head dia.		1.551 - 1.566	
	Angle of seat & face		45°	
	Seat insert material		None	
	Stem diameter		.3693 - .3700	
	Stem to guide clearance		.0028 - .0042	
	Lift (@ zero lash)		.408	.453
	Outer spring press. and length	Valve closed (lb. @ in.)	78 - 84 @ 1.82	80 - 90 @ 1.82
		Valve open (lb. @ in.)	190 - 208 @ 1.42	225 - 208 @ 1.32
	Inner spring press. and length	Valve closed (lb. @ in.)	Damper	
		Valve open (lb. @ in.)	None	

ENGINE—LUBRICATION SYSTEM

Type of lubrication (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Oil Mist
	Camshaft bearings	Pressure
	Tappets	Pressure
	Timing gear or chain	Splash
	Cylinder walls	Indexed Pressure Stream

(a) 390 CID 6V Forged austentitic steel - aluminized head

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ENGINE—LUBRICATION SYSTEM (cont.)

Oil pump type	Rotor	
Normal oil pressure (lb. @ engine rpm)	52 - 62 @ 2000	62 psi Nom. @ 2000
Oil pressure sending unit (elect. or mech.)	Electrical	
Type oil intake (floating, stationary)	Stationary shrouded screen in sump	
Oil filter system (full flow, partial, other)	Full flow	
Filter replacement (element, complete)	Complete	
Capacity of crankcase, less filter-refill (qt.)	Five	
Oil grade recommended (SAE viscosity and temperature range)	90° F and above - SAE 30 or 10W-30 20° F to 90° F - SAE 20 or 20W or 10W-30 -10° F to 20° F - SAE 5W-20 or 10W or 10W-30 -10° F and below - SAE 5W-20	
Engine Service Requirement (MM, MS, etc.)	MS	

ENGINE—EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)		Single - Y Pipe (a)	Dual with crossover
Muffler No. & type (reverse flow, straight thru, separate resonator)		Single Oval - Reverse flow	Dual, Round, Reverse flow
Exhaust pipe dia. (O.D. & wall thickness)	Branch	1.88 x .084 laminated	2.00 x .084 laminated
	Main	2.25 x .084 laminated	2.00 x .075 solid
Tail pipe diameter (O.D. & wall thickness)		2.25 x .090 solid integral with muffler	2.00 integral with muffler

ENGINE—CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)		Standard	Induction System
		Optional	None
Control unit	Make and model		AC positive ventilation control valve
	Location		Rear of carburetor spacer
	Energy source (manifold vacuum, carburetor air stream, other)		Manifold vacuum
	Control method (variable orifice, fixed orifice, other)		Variable orifice
Complete system	Discharges (to Intake manifold, carb. air intake, air cleaner intake, other		Manifold riser via carburetor spacer
	Air inlet (breather cap, carburetor air cleaner, other)		Breather Cap
	Flame arrestor (screen, check valve, other)		Check Valve

(a) Dual exhausts standard on Model 76.

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ENGINE—FUEL SYSTEM

(See Supplement to Page 8 for Details of Fuel Injection, Supercharger, etc. If used)

Induction type: Carburetor, fuel injection, supercharger.			Carburetor	
Fuel Tank	Capacity (gals.)		20	
	Filler location		Rear - center of lower back panel	
Fuel Pump	Type (elec. or mech.)		Mechanical	
	Locations		Lower left front corner of engine	
	Pressure range		5 to 6 psi	
Vacuum booster (std., optional, none)			None	
Fuel Filter	Type		#1 Accreted cellulose (disposible) #2 Wire cloth, plastic (perm.	
	Locations		#1 Integral with fuel pump #2 In fuel tank	
Carburetor	Choke type		Automatic	
	Intake manifold heat control (exhaust or water)		Exhaust and water	Exhaust
	Air clnr. type	Standard	Dry replaceable element	
		Optional	None	

CARBURETOR SUPPLEMENTARY INFORMATION

Model Usage	Engine Displ.	Transmission	Carburetors		No. Used and Type	Barrel Size
			Make	Model		
All	390	Automatic	Ford	9510	1-4V	1.5625
All	390	Automatic	Holley	9510	3-2V	1.5000

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MODEL

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ENGINE—COOLING SYSTEM

Type system (pressure, pressure vented, atmospheric, other)			Pressure
Radiator cap relief valve pressure			12 to 15 lbs.
Circulation thermostat	Type (choke, bypass)		Choke, poppet type
	Starts to open at (°F)		185° - 192° F Fully open 212°
Water pump	Type (centrifugal, other)		Centrifugal
	GPM @ 1000 pump rpm		16.5
	Number of pumps		One
	Drive (V-belt, other)		V-Belt
	Bearing type		Double row, sealed ball
By-pass recirculation type (internal, external)			External
Radiator core type (cellular, tube and fin, other)			Cross-flow, tube and corrugated fin
Cooling system capacity	With heater (qt.)		20.5
	Without heater (qt.)		19.5
	Opt. equipment-specify (qt.)		None
Water jackets full length of cylinder (yes, no)			Yes
Water all around cylinder (yes, no)			Yes
Radiator hose	Lower	Number and type (molded, straight)	One, molded
		Inside diameter	1.75
	Upper	Number and type (molded, straight)	One, molded
		Inside diameter	1.75
	By-pass	Number and type (molded, straight)	One, straight
		Inside diameter	.82 - .87
Fan	Number of blades & Spacing		Five, uneven
	Diameter		18.5
	Ratio-fan to crankshaft rev.		.90:1 (1.25:1 with air conditioning)
	Fan cutout type		Thermo-viscous coupling (a)
	Bearing type		Double row, sealed ball
*Drive belts (indicate belt used by letter)	Fan		A Air Conditioning D Dual
	Generator (b)		A D Dual
	Water Pump		A D Dual
	Power Steering		B E
	Air Conditioning		C

* Drive Belt Dimensions	A	B	C	D	E
Angle of V	36°	36°	36°	36°	36°
Nominal length (SAE)	42.25	42.50	41.50	39.75	38.50
Width	.47	.50	.50	.47	.50

(a) Standard on all models with air conditioning.
(b) Alternator

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ELECTRICAL—SUPPLY SYSTEM

Battery	Make and Model		Autolite
	Voltage Rtg. & Total Plates		12 Volts 78 Plates
	SAE Designation & Amp Hr. Rtg		65
	Location		Engine Compartment Right Front
	Terminal grounded		Negative
Generator (a)	Make		Ford
	Model		--
	Type		Shunt
	Ratio—Gen. to Cr/s rev.		2.25:1
	Gen. cut-in (hot)—engine rpm		600
Regulator	Make		Ford
	Model		--
	Type		Three Coil
	Cutout relay	Closing voltage @ generator rpm	12.0 - 12.8 @ 1200
		Reverse current to open	6 - 9 Amp
	Regulated	Voltage	14.6 - 15.4 @ 75° F
		Current	28 - 32
	Voltage test conditions	Temperature	75°
		Load	5 Amperes
		Other	--

ELECTRICAL—STARTING SYSTEM

Starting motor	Make		Ford
	Model		FAR-11001-A
	Rotation (drive end view)		Clockwise
	Engine cranking speed		150 - 180 RPM
	Test conditions		85° F
	Lock test	Amps	580
		Volts	5
		Torque (lb. ft.)	14.8
	No load test	Amps	80 - 110
		Volts	12
		RPM (min.)	5200
Motor control	Switch (solenoid, manual)		Solenoid
	Starting procedure		

(a) Alternator

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ELECTRICAL—STARTING SYSTEM (cont.)

Motor Drive	Engagement type		Bendix Folo-Thru
	Pinion meshes (front, rear)		Rear
	Number of teeth	Pinion	9
		Flywheel	Cruise-O-Matic 153
	Flywheel tooth face width		.355 - .375

ELECTRICAL—IGNITION SYSTEM

AUTOMATIC TRANSMISSION

Coil	Make		Ford	
	Model		FAC-12029	
	Amps	Engine stopped	4.5	
		Engine idling	2.5	
Distributor	Make		Ford	
	Model		C2SF-12127-A	C2SF-12127-B
	Cent'fgal adv. in crankshaft degrees @ engine rpm (nominal)	Start (rpm)	$\angle$ 1° @ 750	$\angle$ 1° @ 750
		Intermediate points deg. @ rpm	14½ - 16½ @ 1250 26-29 @ 4000	14½ - 16½ @ 1250 22½ - 25½ @ 4000
		Max deg. @ rpm	29 @ 4000	25½ @ 4000
	Vacuum adv. in crankshaft degrees @ in. Hg. (nominal)	Start (in Hg)	0 - 2 @ 5	0 - 2 @ 5
		Intermediate points, deg @ in Hg	0 - 6 @ 6½ 7½ - 13½ @ 10 11 - 17 @ 12½	0 - 6 @ 6½ 7½ - 13½ @ 10 11 - 17 @ 12½
		Max. deg. in. Hg.	11 - 17 @ 20	
	Breaker gap (in.)		.014 - .016	
	Cam angle (deg.)		26° - 28.5°	
	Breaker arm tension (oz.)		17-20	
Timing	Crankshaft deg. @ rpm.		2°-11° @ 500	2° - 8°
	Mark location		Pointer on front cover	
	Cylinder numbering system (see page 2)		R-1-2-3-4 L-5-6-7-8	
	Firing order (see page 2)		1-5-4-2-6-3-7-8	
Spark Plug	Make and model		Autolite BF-42	
	Thread (mm)		18	
	Tightening torque (lb. ft.)		15 - 20	
	Gap		.032 - .036	
Cable	Conductor type		Resistance Core Cable	
	Insulation type		Neoprene Sheath	
	Spark plug protector		Hypalon Boot	

ELECTRICAL—SUPPRESSION

Locations & type	Capacitors at the generator and voltage regulator. Wheel static collectors in front wheel. Resistance core cable from the coil to the distributor and from the distributor to the spark plugs.

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ELECTRICAL—INSTRUMENTS AND SWITCHES

Speedometer	Make	King-Seeley
	Trip odometer (yes, no)	No
Charge indicator—type		Warning Light
Temperature indicator—type		Electric Gage
Oil pressure indicator—type		Warning Light
Fuel indicator—type		Electric Gage
Other		None
Ignition switch	Identify positions in order and circuits controlled	Four position switch (left to right) ACC CCW from TDC OFF Top Dead Center ON CW first position START CW second position
	Provision for illumination	None
	Location	Instrument Panel - Left of Steering Column
Main lighting switch	Identify positions and lamps controlled	Depressed - Off 1st position - Instrument panel, ash tray, glove box, parking, tail & license lights 2nd position - Instrument panel, ash tray, glove box, head, tail and license lights Rotate knob clockwise to dim & turn off instrument panel lights Rotate knob counterclockwise to turn on and brighten instrument panel lights and turn on dome light
Other light switches	Locations and lamps controlled	Toe panel - Headlight dimmer Front door hinge pillar - Courtesy lamp On steering column - P-R-N-D1-D2-L On steering column - Turn signal lamps On master cylinder - Stop lamps Instrument panel - Map lamp Luggage compartment - Trunk lamp
Other switches	Locations and devices controlled	Instrument panel - ignition, heater blower, windshield wipers, cigar lighter, convertible top Instrument panel - radio (a) Front seat shield - power front seat (a) LH frt door trim panel - power windows master switch, individual switches on each door on qtr. trim panel (a)
Windshield wiper	Make	Autolite
	Type	Electric, Two Speed (b)
	Vacuum booster provision	None
	Washer provision	Yes
Horn	Type	Air Electric
	Number used	Two
	Amp draw (each)	10

(a) Optional.
(b) Washer included.

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ELECTRICAL—LAMP BULBS

Give quantity used and trade number, e.g., Headlamp 2-5400 S, dual headlight 2-4001, 2-4002.
Indicate accessories which are not standard equipment by an asterisk following the numbers.

Headlamps & arrangement		Two # 4001 (Inboard) Two # 4002 (Outboard) Horizontal
Headlamp beam indicator		One # 1895
Parking		Two # 1157
Tail		Two # 1157
Stop		Two # 1157 Same as Tail Light
Direction signal	Front	Two # 1157 Same as Parking Light
	Rear	Two # 1157 Same as Stop Lights
	Indicator	Two # 1895
License plate		One # 1155
Instrument		Six # 1816 for speedometer & gauges Two # 1895 for oil and gen.
Ignition lock		None
Back up		Two # 1141
Dome		One # 1003
Clock		Two # 1816
Radio		One # 1893 *
Glove compartment		One # 1445
Spot Light		One # 4405 *
Parking Brake		One # 257
Courtesy Light		One # 1004
Heater Light		One # 1895
P-R-N-D1-D2-L		One # 1445
Air Conditioning		One # 1895 *
Map Light		One # 1004
Ash Tray Light		One # 1445
Luggage Compt.		One # 631
Windshield Wiper		One # 1895

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ELECTRICAL—FUSE & CIRCUIT BREAKER DATA

Use trade number of fuse, e.g., SFE-10. Indicate circuit breaker by ampere capacity suffixed by letters "C.B.", e.g., 30 C.B. Where fuse or circuit breaker protects multiple circuits indicate first use by a letter and repeat the same letter for all units protected by the same fuse or circuit breaker, e.g., Parking lamp SFE-10 (a), Direction indicator same as (a).

Headlamp	18 C. B. (a)
Headlamp beam indicator	18 C. B. (a)
Parking lamp	12 C. B. (b)
Tail lamp	12 C. B. (b)
Stop lamp	12 C. B. (b)
Direction indicator	12 C. B. (b)
License plate lamp	12 C. B. (b)
Instrument lamp	12 C. B. (b)
Ignition lamp	None
Back up lamp	SFE-7.5 (c)
Dome lamp	12 C. B. (b)
Clock	1AG-2
Clock lamp	
Radio	SFE-7.5
Glove compartment lamp	
Electric Wipers	12 C. B.
Heater Blower	20 C. B.
Air Conditioner	20 C. B.
Electric Seat	30 C. B.
Cigar Lighter	Reset Circuit Breaker - Cigar lighter feed circuit 3AG-15
Spotlight	SFE-7.5
Convertible Top	50 C. B. (Power Circuit) 10 C. B. (Control Circuit)
Electric Windows	20 C. B. (Power Circuit) C. B. Each Front & Rear Windows
Windshield Washer Pump	SFE-14
Luggage Compt. Lock	15 C. B. Upper back panel motor 15 C. B.

ELECTRICAL—LOCATION OF OUTSIDE LAMPS

Height above ground to center of bulb	Tail	Lowest	21.44
		Highest	--
	Stop		21.44
	Backup		17.9
	License, rear		19.19
	Directional	Front	16.45
		Rear	21.44
	Headlamp	Inside	23.03
		Outside*	23.03
Distance from C/L of car to center of bulb	Tail	Inside	31.13
		Outside	--
	Stop		31.13
	Backup		13.80
	License, rear		6.75 In Bumper 2 Req'd. Sym. About C/L
	Directionc	Front	28.16
		Rear	31.13
	Headlamp	Inside	21.43
		Outside*	28.00

* If single headlamps are used enter here.

AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-63 REVISED (•)

MODEL	ALL MODELS	
	390 CID 4V	390 CID 6V

DRIVE UNITS—CLUTCH (Manual Transmission)

Make & type		NONE
Type pressure plate springs		
Effective plate pressure (lb.)		
No. of clutch driven discs		
Clutch facing	Material	
	Outside & inside dia.	
	Total eff. area (sq.in.)	
	Thickness	
	Engagement cushioning method	
Release bearing	Type & method of lubrication	
Torsional damping	Methods: springs, friction material	

DRIVE UNITS—TRANSMISSIONS

Manual (std. or opt.)	None
Manual with overdrive (std. or opt.)	None
Automatic (std. or opt.)	Dual Range Cruise-O-Matic 3-Speed Standard

DRIVE UNITS—MANUAL TRANSMISSION

Number of forward speeds			NONE
Transmission ratios	In first		
	In second		
	In third		
	In fourth		
	In reverse		
Synchronous meshing, specify gears			
Shift lever location			
Lubricant	Capacity (pt.)		
	Type recommended		
	SAE viscosity number	Summer	
		Winter	
		Extreme cold	

AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD **MODEL YEAR** 1963 **DATE ISSUED** 10-22-62 **REVISED** (•)

MODEL

	ALL MODELS	
	390 CID 4V	390 CID 6V

DRIVE UNITS—MANUAL TRANSMISSION WITH OVERDRIVE

For transmission data see manual transmission section

Overdrive	Type (planetary or other)				
	Manual lockout (yes, no)				
	Downshift acelerator control (yes, no)				
	Minimum cut-in speed				
	Gear ratio				
	Lubricant	Capacity (pt.) (Overdrive only)		NONE	
		Separate filler (yes, no)			
		Type recommended			
		SAE viscosity number	Summer		
			Winter		
			Ext. cold		

DRIVE UNITS—AUTOMATIC TRANSMISSION

Trade name		Dual Range Cruise-O-Matic
Type describe		Torque Converter with 3-Speed Planetary Gears
Method of Selection (Lever, Push Button or other)		Lever
Selector Pattern		P-R-N-D1-D2-L
List gear ratios Selector Pattern and indicate which are used in each selector position		2.40:1 - Drive and Low 1.47:1 - Drive 1.00:1 - Drive 2.00:1 - Reverse
Max. upshift speeds—drive range		75 mph
Max. kickdown speeds—drive range		68 mph
Torque convertor	Number of elements	Three
	Max. ratio at stall	2.1:1
	Type of cooling (air, water)	Water Cooled
Lubricant	Capacity—refill (pt.)	19
	Type recommended	Type "A" Trans. Fluid (M2C33-D)
Special transmission features		Vacuum controlled throttle valve

DRIVE UNITS—PROPELLER SHAFT

Number used		One
Type (exposed, torque tube)		Exposed
Outer diameter x length* x wall thickness	Manual transmission	NONE
	Overdrive transmission	NONE
	Automatic transmission	2.75 x 51.93 x .065

*Center to center of universal joints, or to centerline of rear attachment.

(Continued)

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MODEL	ALL MODELS	
	390 CID 4V	390 CID 6

DRIVE UNITS—PROPELLER SHAFT (cont.)

Intermediate bearing	Type (plain, anti-friction)		None
	Lubrication (fitting, prepack)		None
Universal joints	Make		Spicer
	Number used		Two
	Type (ball and trunnion, cross, other)		Cross
	Bearing	Type (plain, anti-friction)	Needle
		Lubric. (fitting, prepack)	Pre-Packed
Drive taken through (torque tube or arms, springs)			Springs
Torque taken through (torque tube or arms, springs)			Springs

DRIVE UNITS—REAR AXLE

Description (see instructions)			Banjo type conventional solid housing
Limited Slip differential, type			Equa-lock, 4 Pinion, Friction disc (Optional)
Drive Pinion Offset			2.25
No. of differential pinions			Two
Gear ratios (Std. equip.)	Manual transmission		None
	Overdrive transmission		None
	Automatic transmission		3.00:1
Ring gear O.D. (std. ratio)			8.75
Pinion adjustment (shim, other)			Shims
Pinion bearing adj. (shim, other)			Collapsible spacer
Wheel bearing type			Single row, double sealed ball bearings
Lubricant	Capacity (pt.)		4.5
	Type recommended		Hypoid extreme pressure
	SAE viscosity number	Summer	SAE-90
		Winter	SAE-90
		Extreme cold	SAE-80

REAR AXLE RATIO TOOTH COMBINATIONS

(See page 3 for axle ratio usage)

Axle ratio		3.00
No. of teeth	Pinion	13
	Ring gear	39

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MODEL	ALL MODELS	
	390 CID 4V	390 CID 6V

DRIVE UNITS—WHEELS

Type & material			Stamped steel disc Spoke wheel (a)
Rim (size and flange type)		Std.	14 x 5.5J
		Opt.	
Attachment	Type (bolt or stud)		Stud
	Circle diameter		4.5
	Number and size		5 - .05-20 Hex Nuts

DRIVE UNITS—TIRES

Standard (List option below)	Size & ply	8.00 x 14-4 Ply
	Type - Nylon, etc.	Rayon Tubeless Nylon Tubeless (b)
Rev/mile at 50 mph.		
Inflation press.(cold)	Front	24-28
	Rear	24-28
Optional tires - size and ply		

BRAKES—SERVICE

Type (duo-servo, disc, balanced, etc.)			Duo-servo
Self adjusting (std., opt., N.A.)			Standard
Hydraulic system type (single, dual, etc.)			Single
Power brake make & type (remote, integral, etc.)			Bendix - Vacuum assist - integral
Effective area (sq. in.)*			208
Gross lining area (sq. in.)**			234
Swept drum area (sq. in.)***			381
Percent brake effectiveness—front			55.5%
Drum	Diameter	Front	11.03 x 3.0
		Rear	11.03 x 2.5
	Type and material		Composite, pressed steel disc and cast iron drums
Wheel cylinder bore	Front		1.094
	Rear		.938
Master cylinder bore			1.00
Available pedal travel			4.75
Line pressure at 100 lb. pedal load			920
Shoe clearance adjustment			.010 Controlled by automatic adjustors

(Continued)

* Excludes rivet holes, grooves, chamfers, etc.
** Includes rivet holes, grooves, chamfers, etc.
*** Total swept areas for four brakes:
Widest lining contact width for each brake x its drum circumference.

(a) Standard on Model 76B.
(b) Optional.

AMA Specifications–Passenger Car

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MODEL	ALL MODELS	
	390 CID 4V	390 CID 6V

BRAKES—SERVICE (cont.)

Brake lining	Bonded or riveted			Riveted
	Front Shoe	Material		Molded Asbestos
		Size (length x width x thickness)	Front wheel	9.35 x 3.0 x .219
			Rear wheel	9.35 x 2.5 x .219
		Segments per shoe		One
	Rear Shoe	Material		Molded Asbestos
		Size (length x width x thickness)	Front wheel	11.96 x 3.0 x .250
			Rear wheel	11.96 x 2.5 x .250
		Segments per shoe		One

BRAKES—PARKING

Type of control		Foot pedal with "Foot" release at left of pedal
Location of control		Suspended left of steering column
Operates on		Rear Service Brakes
If separate from service brakes	Type (internal or external)	None
	Drum diameter	None
	Lining size (length x width x thickness)	None

FRAME or UNITIZED CONSTRUCTION

Type and description

Unitized

SUSPENSION—GENERAL (See Supplemental page 19 for details on Air Suspension)*

Provision for car leveling		Stabilizer
Provision for brake dip control		Anti-dive front suspension
Provision for acc. squat control		Asymmetrical type rear spring mounting
Special provisions for car jacking		None
Shock absorber front & rear	Type	Direct acting
	Make	Gabriel
	Piston dia.	1.1875
Other special features		

SUSPENSION—FRONT

Type and description	Independent S. L. A. Suspension With Ball Joints and Coil Springs Compliance Link Design.

* Air Suspension:
Air spring type
Compressor data
type
make
drive ratio
Normal operating pressures
spring rates
leveling data

(Continued)

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MODEL	ALL MODELS	
	390 CID 4V	390 CID 6V

SUSPENSION FRONT (cont.)

Spring	Type	Coil
	Material	Steel SAE-9260 - 5160
	Size (coil design height & I.D.; bar length x dia.)	10.27 x 4.18 150.2 x .663
	Spring rate (lb. per in.)	295
	Rate at wheel (lb. per in.)	105
	Design load (lb. @ design height)	1930
Stabilizer	Type (link, linkless, frameless)	Link .66
	Material & bar diameter	SAE-1090 - Dia.

STEERING

Mechanical (std., opt., NA)				None
Power (std., opt., NA)				Standard
Wheel diameter				16.0
Turning diameter	Outside front	Wall to wall (l. & r.)		43.1
		Curb to curb (l. & r.)		40.2
	Inside rear	Wall to wall (l. & r.)		23.4
		Curb to curb (l. & r.)		24.0
Outside wheel angle with inside wheel at 20°				
Mechanical	Gear	Type		None
		Make		--
		Ratios	Gear	--
			Overall	--
	No. wheel turns			--
Power	Type (coxial, linkage, etc.)			Linkage Booster
	Make			Ford
	Trade name			Thunderbird Power Steering
	Gear	Type		Recirculating Ball and Nut
		Ratios	Gear	16.75
			Overall	20.31
	Pump driven by			Belt off Crankshaft Pulley
	Number wheel turns			3.6 Lock to Lock
Linkage	Type			Parallelogram
	Location (front or rear of wheels, other)			Rear
	Drag link (trans. or longit.)			Transverse
	Tie rods (one or two)			Two

(Continued)

AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•)

ALL MODELS

MODEL	390 CID 4V	390 CID 6V

STEERING (cont)

Steering Axis	Inclination at camber (deg.)		6° 45' With $\frac{1}{2}^{\circ}$ Camber (Curb Weight)
	Bearings (type)	Upper	Prelubricated - Ball Joint - Spring Loaded
		Lower	Prelubricated - Ball Joint - Spring Loaded
		Thrust	Upper Ball
Wheel alignment (range and preferred)	Caster (deg.)		$-.25^{\circ}$ to -1.25° (Curb)
	Camber (deg.)		0° to 1°
	Toe-in (outside tread-inches)		1/16 - 3/16
Steering spindle & joint type			Prelubricated - Ball Socket Joint
Wheel spindle	Diameter	Inner bearing	1.12 I. D.
		Outer bearing	.75 I. D.
	Thread size		3/4 - 16 NF3
	Bearing type		Tapered Roller

SUSPENSION—REAR

Type and description				Hotchkiss Drive
Drive and torq. taken through (see page 17)				Rear Spring
Spring	Type			Semi-Elliptic
	Material			SAE-Spring Steel - 5160
	Size (length x width, coil design height and I.D.; bar length & dia.)			60 x 2.50
	Spring rate (lb. per in.)			105 110 (a)
	Rate at wheel (lb. per in.)			105 110 (a)
	Design load (lb. at design height)			880 920 (a)
	Mounting insulation type			Rubber Bushed Shackles
	If leaf	No. of leaves		4
		Inserts	Type and size	Flat
			Material	Plastic
		Shackle (comp. or tens.)		Tension
Stabilizer	Type (link, linkless, frameless)			None
	Material			None
Track bar type				None

(a) Model 76.

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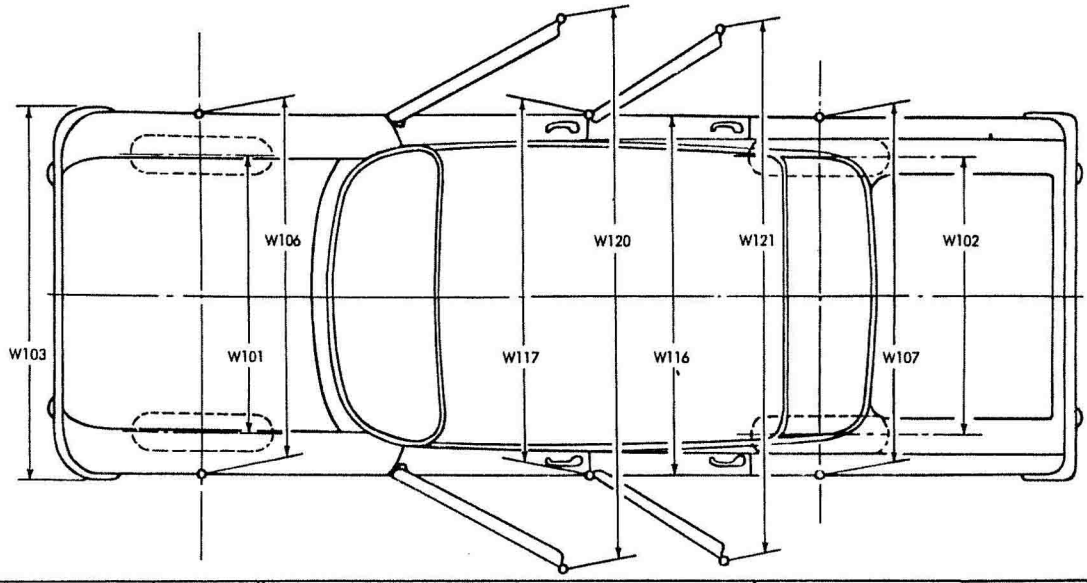
CAR AND BODY DIMENSIONS—GENERAL

NOTE: Included in the dimension definitions listed on pages 34-36 are those which have been adopted by SAE. These are indicated by a number following the type of dimension, e.g., L3. Additional dimensions have been added by the AMA Specifications Review Committee. These are shown by an additional letter, e.g., H67a. The symbol "a" has been added as a suffix to denote a dimension adopted by the AMA and submitted to the SAE for approval. The dimensions are developed from the following basic points:

1. Body dimensions are for all body styles.
2. All interior dimensions are taken with manikin 15.0 inches outboard of car centerline unless otherwise stated.
3. All interior dimensions are measured with the front seat in the lowest and rearmost position.
4. Unless otherwise specified, all exterior height dimensions are taken with a full design load which consists of 5 passengers, 300 lbs. front, 450 lbs. rear; includes spare wheel, tire and tools, and full complement of gas, oil, water and tires to recommended pressure, etc.
5. The SAE manikin with 90th percentile leg length will be used for recording purposes.
6. The H Point is the pivot center of the manikin's torso and thigh.
7. The Torso Line is a line parallel to the small of manikin's back and extending through the H Point.

EXTERIOR WIDTH DIMENSIONS



MODEL	Ref. No.	63	76
Tread - front	W101	61.0	61.0
Tread - rear	W102	60.0	60.0
Maximum overall car width	W103	76.5	76.5
Maximum overall body width	W116	76.5	76.5
Maximum body width at #2 pillar	W117	75.9	75.9
Front fender overall width	W106	76.3	76.3
Rear fender overall width	W107	75.8	75.8
Maximum overall car width - front doors open	W120a	170.3	170.3
Maximum overall car width - rear doors open	W121a	--	--

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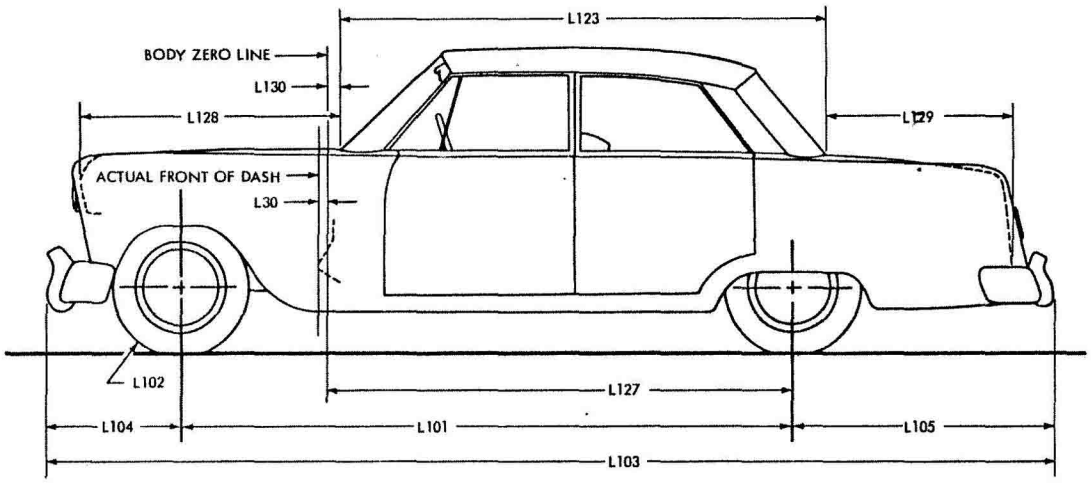
EXTERIOR LENGTH DIMENSIONS



MODEL	Ref. No.	63	76
Body zero line to actual front of dash	L30	3.2	3.2
Wheelbase	L101	113.2	113.2
Overhang – front	L104	38.2	38.2
Overhang – rear	L105	53.6	53.6
Overall length	L103	205.0	205.0
Hood length at car centerline	L128a	63.5	63.5
Body upper structure length at car centerline	L123	97.0	98.6
Deck length at car centerline	L129a	41.2	39.6
Body zero line to centerline of rear wheels	L127	92.3	92.3
Body zero line to windshield cowl point	L130a	5.7	5.7
Tire size	L102	8.00 x 14	8.00 x 14

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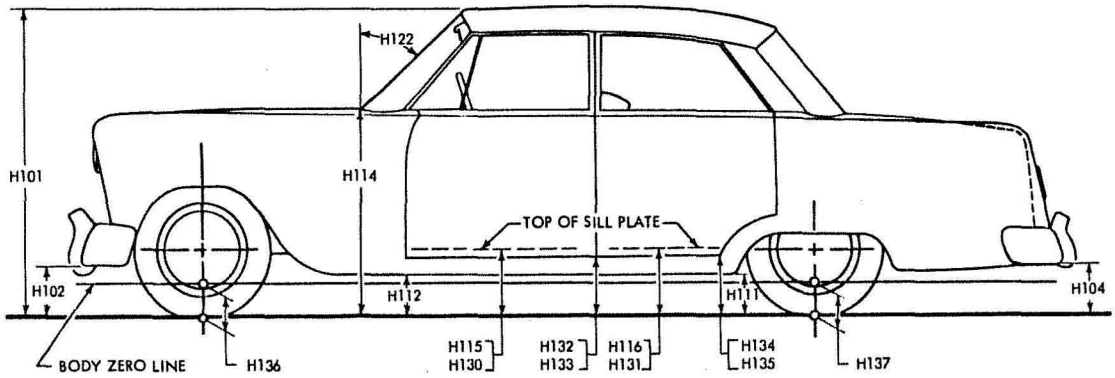
EXTERIOR HEIGHT DIMENSIONS



MODEL	Ref. No.	63	76
Overall height	H101	52.5	53.3
Hood at rear to ground	H114	35.9	35.9
Rocker panel to ground - front	H112a	6.6	6.6
Rocker panel to ground - rear	H111	6.4	6.4
Step height - front (design load)	H115	11.6	11.6
Step height - rear (design load)	H116	--	--
Step height - front (curb load)	H130	13.1	13.1
Step height - rear (curb load)	H131	--	--
Bottom of door to ground, open - front	H132	10.8	10.8
Bottom of door to ground, closed - front	H133	10.0	10.0
Bottom of door to ground, open - rear	H134	--	--
Bottom of door to ground, closed - rear	H135	--	--
Front bumper to ground	H102	9.1	9.1
Rear bumper to ground	H104	10.8	10.8
Windshield slope angle	H122	53°22'	53°22'
Body zero to ground - front	H136a	10.63	10.63
Body zero to ground - rear	H137a	10.63	10.63

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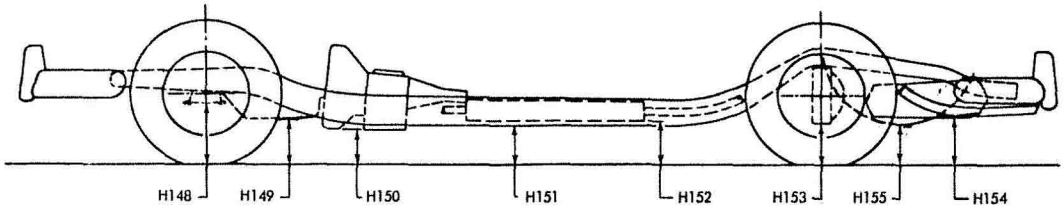
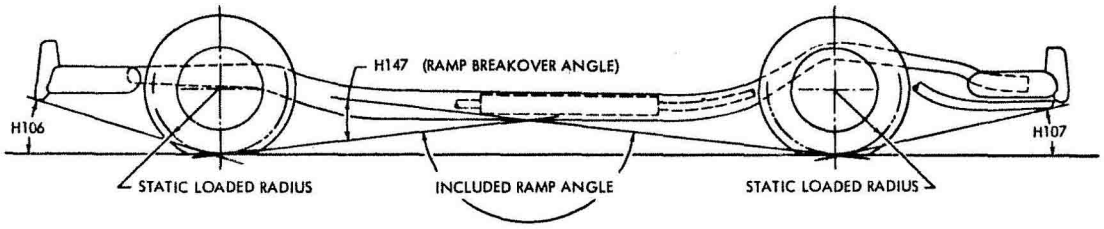
GROUND CLEARANCE DIMENSIONS





MODEL	Ref. No.	63	76
Angle of approach	H106	20.6°	20.6°
Angle of departure	H107	12.7°	12.7°
Ramp breakover angle	H147	11.9°	11.9°
Front suspension to ground	H148	6.3	6.3
Oil pan to ground	H149	6.5	6.5
Flywheel housing to ground	H150	6.4	6.4
Frame structure to ground	H151	5.8	5.8
Exhaust system to ground	H152	6.4	6.4
Rear axle differential to ground	H153	7.2	7.2
Fuel tank to ground	H154	7.6	7.6
Spare tire well to ground	H155	No Well	No Well
Minimum running ground clearance	H156	5.6	5.6

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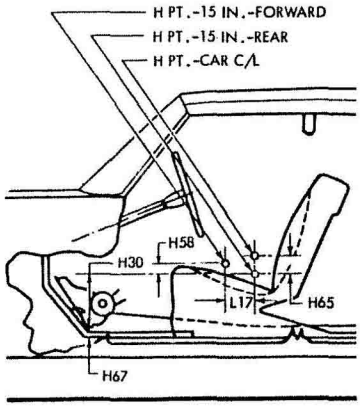
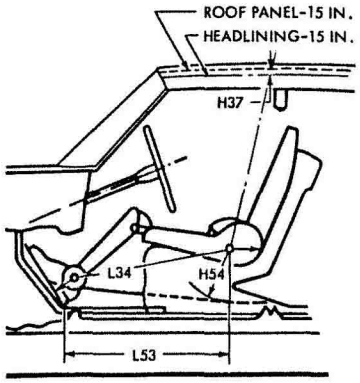
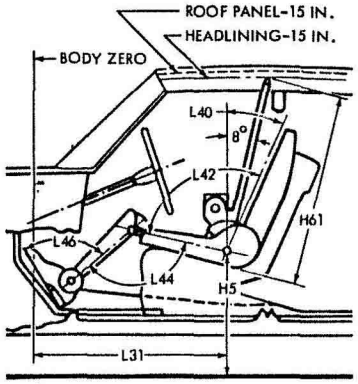
FRONT COMPARTMENT DIMENSIONS







MODEL	Ref. No.	63	76
H Point to body zero line	L31a	42.7	42.7
H Point to ground	H5a	17.9	17.9
Effective head room	H61a	37.7	39.4
Headlining to roof height	H37	.7	No Headlining
Maximum effective leg room - accelerator	L34a	40.6	40.6
H Point to heel point	H30a	10.2	10.2
Depressed floor covering thickness	H67a	.56	.56
Back angle	L40a	25°	25°
Hip angle	L42a	95.2°	95.2°
Knee angle	L44a	119.7°	119.7°
Foot angle	L46a	82.8°	82.8°
H Point differential, side to center	H65a	--	--
H Point to tunnel	H54a	--	--
H Point to accelerator floor point	L53a	32.4	32.4
H Point travel	L17a	4.4	4.4
H Point rise	H58a	.7	.70

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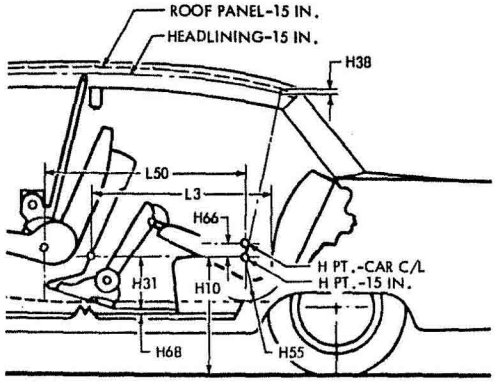
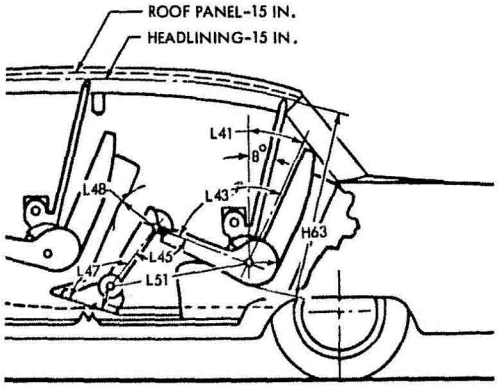
REAR COMPARTMENT DIMENSIONS





MODEL	Ref. No.	63	76
H Point couple distance	L50a	29.5	29.5
H Point to ground	H10a	17.0	17.0
Effective head room	H63a	37.5	38.2
Headlining to roof height	H38	.7	None
Minimum effective leg room	L51a	32.2	32.2
H Point to heel point	H31a	9.5	9.5
Depressed floor covering thickness	H68a	.56	.56
Minimum knee room	L48a	2.2	2.2
Rear compartment room	L3	25.4	25.4
Back angle	L41a	26.5°	26.5°
Hip angle	L43a	79.4°	79.4°
Knee angle	L45a	77.6°	77.6°
Foot angle	L47a	117.7°	117.7°
H Point differential, side to center	H66a	--	--
H Point to tunnel	H55a	--	--

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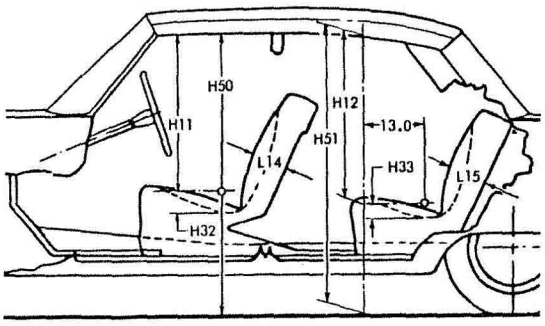
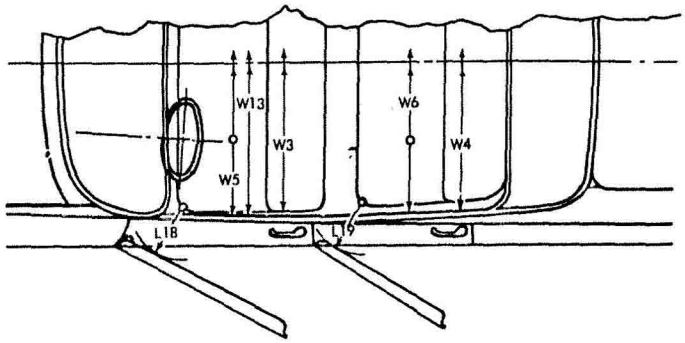
SEAT AND ENTRANCE DIMENSIONS

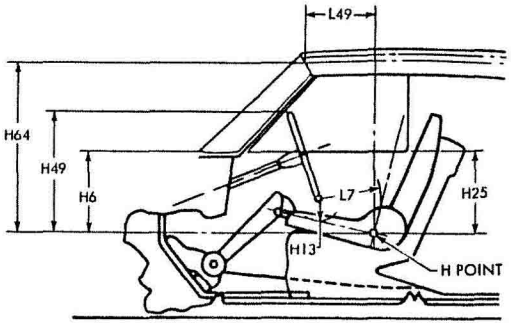


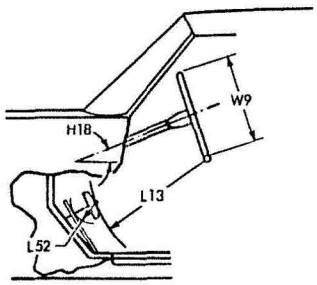


MODEL	Ref. No.	63	76
Shoulder room – front	W3a	58.1	58.1
Hip room – front	W5a	58.8	58.8
Seat width – front	W16a	--	--
Upper body opening to ground – front	H50a	48.2	48.1
Entrance height – front	H11a	30.3	30.2
Entrance foot clearance – front	L18	14.9	14.9
Seat cushion deflection – front	H32a	3.2	3.2
Seat back thickness – front	L14	4.3	4.3
Shoulder room – rear	W4a	55.6	55.6
Hip room – rear	W6a	52.3	52.3
Upper body opening to ground – rear	H51a	--	--
Entrance height – rear	H12a	--	--
Entrance foot clearance – rear	L19	10.8	10.8
Seat cushion deflection – rear	H33a	4.5	4.5
Seat back thickness – rear	L15	5.1	5.1

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•)

VISION AND CONTROL DIMENSIONS





MODEL	Ref. No.	63	76
H Point to windshield bottom DLO	H6a	17.9	17.9
H Point to windshield upper DLO	H64a	31.8	31.8
H Point to windshield upper DLO	L49a	11.3	11.3
Belt height – front	H25a	16.5	16.5
Steering wheel center to centerline of car	W7	16.6	16.6
Steering wheel maximum outside diameter	W9	16.0	16.0
Steering column angle – horizontal	H18	19.8°	19.8°
H Point to top of steering wheel	H49a	22.3	22.3
Steering wheel torso clearance	L7a	11.2	11.2
Steering wheel thigh clearance	H13a	3.9	3.9
Brake pedal knee clearance	L13	26.6	26.6
Brake pedal to accelerator	L52a	1.7	1.7
Tumble-home	W122a	22°	22°

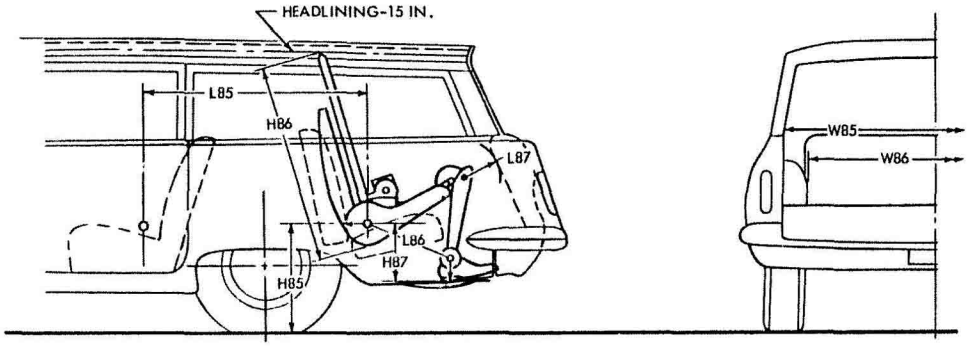
AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•) _____

LUGGAGE COMPARTMENT

MODEL	Ref. No.	63	76
Usable luggage capacity (See instructions)		12.2	7.6
Liftover height*	H301a	24.2	32.8
Position of spare tire storage		Front of trunk on floor	
Method of holding lid open		Counterbalance spring	

THIRD SEAT DIMENSIONS



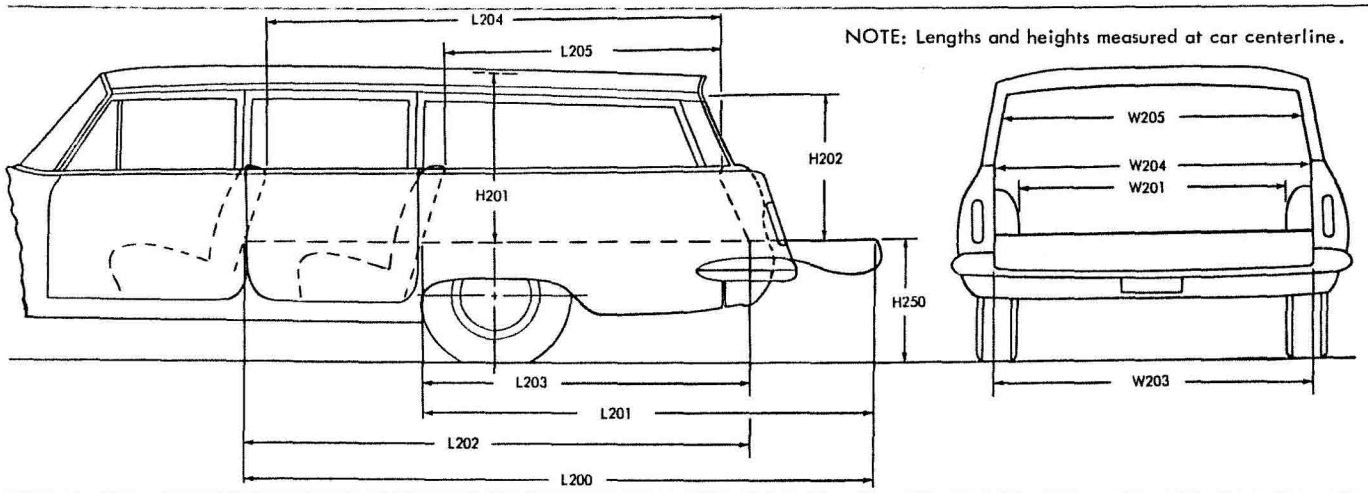
MODEL	Ref. No.	
Seat facing direction		
Shoulder room	W85a	
Hip room	W86a	
H Point couple distance	L85a	
H Point to ground	H85a	
Effective head room	H86a	STATION WAGON MODEL NOT AVAILABLE
Effective leg room	L86a	
H Point to heel point	H87a	
Knee room	L87a	
Back angle	L88a	
Hip angle	L89a	
Knee angle	L90a	
Foot angle	L91a	

* Vertical dimension from luggage compartment lower opening to ground.

AMA Specifications–Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•)

STATION WAGON—CARGO SPACE DIMENSIONS



NOTE: Lengths and heights measured at car centerline.

MODEL	Ref. No.	
Floor length from back of front seat at floor level to end of lowered tail gate or floor	L200	
Floor length from back of second seat at floor level to end of lowered tail gate or floor	L201	
Floor length from back of front seat at floor level to inside of closed tail gate	L202	
Floor length from back of second seat at floor level to inside of closed tail gate	L203	
Minimum horizontal distance from top rear of front seat back to inside of tail gate at belt	L204	
Minimum horizontal distance from top rear of second seat back to inside of tail gate at belt	L205	
Maximum width of cargo space at floor - specify location	W200a	
Minimum distance between wheel houses at floor level	W201	STATION WAGON MODEL NOT AVAILABLE
Rear end opening width at floor	W203	
Rear end opening width at belt	W204	
Maximum width of rear opening above belt	W205	
Maximum height - floor covering to headlining at centerline of rear axle	H201	
Maximum height of rear opening - tail and lift gates open	H202	
Platform height from ground to top of tail gate floor covering at rear most edge of tail gate - curb weight	H250	
Rear end closure (e.g., one piece door, hinged left - sliding glass, drop tail gate)		
Cargo volume index (cu. ft.) $\frac{W4 \times L204 \times H201}{1728}$		

AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•)

MODEL	63	76

BODY—MISCELLANEOUS INFORMATION

Drs. hinged (front, rear)	Front doors	Front	
	Rear doors	--	
Type of finish (lacquer, enamel, other)		Enamel	
Hood hinge location (front, rear)		Rear	
Hood counterbalanced (yes, no)		Yes	
Hood release control (internal, external)		External	
Vehicle (Serial) No. Location		Left door face	
Engine No. Location		Front of block	
Theft protection - type		Door locks, ignition key start, theft retarder ignition switch.	
Vent window control method (crank, friction pivot)	Front	Friction pivot	
	Rear	None	
Seat cushion type	Front	Formed wire and coil with foam pad	
	Rear	Formed wire and coil with foam pad	
Seat back type	Front	Formed wire and coil with foam pad	
	Rear	Formed wire and coil with foam pad	
Windshield type (single curved, compound curved, other)		Compound curve	
Rear window type (flat, curved, one piece, three piece)		Curved one piece	
Side glass type (curved, flat)		Curved	
Side glass exposed surface area		1177.3	1177.3
Windshield glass exposed surface area		1472.3	1472.3
Backlight glass exposed surface area		1163.8	825.0
Total glass exposed surface area		3813.4	3474.6

AMA Specifications – Passenger Car

MAKE OF CAR THUNDERBIRD MODEL YEAR 1963 DATE ISSUED 10-22-62 REVISED (•) 7-1-63

WEIGHTS

Model		CURB WEIGHT - POUNDS Front	Rear	Total	% PASS. WEIGHT DISTRIBUTION Pass. In Front Front	Pass. In Front Rear	Pass. In Rear Front	Pass. In Rear Rear	SHIPPING * WEIGHT	
2-Door Hardtop	63A	2377	1978	4355	45	55	18	82	4195	
2-Door Convertible	76A	2353	2132	4485	45	55	18	82	4320	(•)
Landau Hardtop	63B	2381	1984	4365	45	55	18	82	4205	(•)
Sports Roadster	76B	2371	2189	4560	45	55	18	82	4395	

Accessories & Equipment Differential Weights				Remarks
390 CID 6V Engine	- 30	13	- 17	Includes dual exhausts
Air Conditioner	92	0	92	
Battery, Heavy Duty	9	0	9	
Power Seat, Driver	9	11	20	
Power Seat, Passenger	9	11	20	
Power Windows	9	12	21	
Radio	6	3	9	
Steering Column Movable	7	3	10	
Fender Shields	0	8	8	
Vacuum Door Locks	9	0	9	
Wire Wheels	13	19	32	

* These are weights that are reported to states for licensing purposes.

Form Rev. 5-63

DIMENSION DEFINITIONS

W3a SHOULDER ROOM - FRONT. The minimum lateral dimension between the door garnish moldings or nearest interference. Measured at H Point station.

W4a SHOULDER ROOM - REAR. Measured in the same manner as W3a.

W5a HIP ROOM - FRONT. The lateral dimension through H Point to trimmed surfaces.

W6a HIP ROOM - REAR. Measured in the same manner as W5a.

W7 STEERING WHEEL CENTER TO CENTERLINE OF CAR. Measured horizontally from steering wheel center to centerline of car. The point at steering wheel center is located in the surface plane of wheel.

W9 STEERING WHEEL MAXIMUM OUTSIDE DIAMETER. Define if other than round.

W16a SEAT WIDTH - FRONT. The maximum trimmed width of front seat cushion.

W85a SHOULDER ROOM - THIRD SEAT. Measured in the same manner as W3a.

W86a HIP ROOM - THIRD SEAT. Measured in the same manner as W5a.

W101 TREAD - FRONT. Measured at centerline of tires, with nominal camber, at ground.

W102 TREAD - REAR. Measured at centerline of tires at ground.

W103 MAXIMUM OVERALL CAR WIDTH. Include bumpers, moldings, or sheet metal protrusions.

W106 FRONT FENDER OVERALL WIDTH. Measured at centerline of front wheels, excluding moldings.

W107 REAR FENDER OVERALL WIDTH. Measured at centerline of rear wheels, excluding moldings.

W116 MAXIMUM OVERALL BODY WIDTH. Measured across body, excluding hardware and applied moldings, but including fenders when integral with body.

W117 MAXIMUM BODY WIDTH AT #2 PILLAR. Measured across body at #2 pillar, excluding hardware and applied moldings.

W120a MAXIMUM OVERALL CAR WIDTH, FRONT DOORS OPEN. Measured with front doors in maximum hold-open position.

W121a MAXIMUM OVERALL CAR WIDTH, REAR DOORS OPEN. Measured in same manner as W120a.

W122a TUMBLE-HOME. The angle from vertical to the front door glass outer surface or the chord of a curved door glass, measured at the front H Point station.

L3 REAR COMPARTMENT ROOM. The horizontal dimension from the back of front seat to front of rear seat back at a height tangent to the top of rear seat cushion.

L7a STEERING WHEEL TORSO CLEARANCE. The minimum distance from the back edge of steering wheel, in straight-ahead position, to the Torso Line.

L13 BRAKE PEDAL KNEE CLEARANCE. The minimum dimension from the lower edge of the steering wheel to the brake pedal face centerline.

L14 SEAT BACK THICKNESS - FRONT. The maximum thickness of the seat back, excluding bolsters.

L15 SEAT BACK THICKNESS - REAR. Measured in the same manner as L14.

L17a H POINT TRAVEL. The horizontal dimension between the H Point in the most forward and rearward seat positions.

L18 ENTRANCE FOOT CLEARANCE - FRONT. The minimum horizontal dimension between seat and normal line of door or pillar at a height between the sill plate bead and 4.0 inches above the bead. Door should be in the maximum hold-open position.

L19 ENTRANCE FOOT CLEARANCE - REAR. Measured in the same manner as L18 on four-door models. On two-door styles, the minimum dimension between rear corner of front seat, with front seat back tilted forward, and trimmed lock pillar, built-in quarter armrest panel, or rear seat cushion at a height between the sill plate bead and 4.0 inches above the bead.

L30 BODY ZERO LINE TO ACTUAL FRONT OF DASH. If actual Front of Dash is to the rear of Body Zero Line, it is identified by a minus (-) sign.

L31a H POINT TO BODY ZERO LINE - FRONT. Horizontal dimension.

L34a MAXIMUM EFFECTIVE LEG ROOM - ACCELERATOR. Measured along a diagonal line from ankle pivot center to H Point plus a constant of 10.0 inches. Measured with the right foot on accelerator pedal.

L40a BACK ANGLE - FRONT. The angle between a vertical line through the H Point and the Torso Line.

L41a BACK ANGLE - REAR. Measured in the same manner as L40a.

L42a HIP ANGLE - FRONT. The angle between Torso Line and a line extending from knee pivot center to H Point.

L43a HIP ANGLE - REAR. Measured in the same manner as L42a.

L44a KNEE ANGLE - FRONT. The angle between a line from H Point to knee pivot center and a line from the knee pivot center to the ankle pivot center.

L45a KNEE ANGLE - REAR. Measured in the same manner as L44a.

L46a FOOT ANGLE - FRONT. The angle between a line extended from the knee pivot center through the ankle pivot center and a line tangent to the sole and heel of manikin bare foot.

L47a FOOT ANGLE - REAR. Measured in the same manner as L46a.

L48a MINIMUM KNEE ROOM - REAR. The minimum dimension from the knee pivot center to the back of front seat back.

L49a H POINT TO WINDSHIELD UPPER DLO. The horizontal dimension from H Point to the point of tangency of horizontal line of vision (described in dimension H64a) with body upper structure.

DIMENSION DEFINITIONS (cont.)

L50a H POINT COUPLE DISTANCE. The horizontal dimension from the front seat H Point to the rear seat H Point.

L51a MINIMUM EFFECTIVE LEG ROOM - REAR. Measured along a diagonal line from ankle pivot center to H Point plus a constant of 10.0 inches. Measured with the foot positioned to nearest interference between seat structure and toe, instep or lower leg.

L52a BRAKE PEDAL TO ACCELERATOR. The minimum dimension from center of brake pedal face to accelerator. Measured in the side view.

L53a H POINT TO ACCELERATOR FLOOR POINT. The horizontal dimension from intersection of accelerator and depressed floor covering to the H Point.

L85a H POINT COUPLE DISTANCE - THIRD SEAT. The horizontal dimension from the second seat H Point to the third seat H Point.

L86a EFFECTIVE LEG ROOM - THIRD SEAT. Measured in the same manner as L51a. With rear-facing third seat,foot is positioned in foot well or to nearest interference with rear end or rear closure.

L87a KNEE ROOM - THIRD SEAT. Measured in the same manner as L48a. With rear-facing third seat,dimension is measured to rear closure.

L88a BACK ANGLE - THIRD SEAT. Measured in the same manner as L40a.

L89a HIP ANGLE - THIRD SEAT. Measured in the same manner as L42a.

L90a KNEE ANGLE - THIRD SEAT. Measured in the same manner as L44a.

L91a FOOT ANGLE - THIRD SEAT. Measured in the same manner as L46a.

L101 WHEELBASE.

L102 TIRE SIZE.

L103 OVERALL LENGTH. Include bumper guards if standard equipment.

L104 OVERHANG - FRONT. Measured from C/L of front wheels to front of car, including bumper guards if standard equipment.

L105 OVERHANG - REAR. Measured from C/L of rear wheels to rear of car, including bumper guards if standard equipment.

L123 BODY UPPER STRUCTURE LENGTH AT CAR CENTERLINE. The horizontal dimension from the theoretical intersection of extended windshield glass plane and normal cowl surface to the theoretical intersection of extended back window glass plane and normal deck surface; or in the case of a Fastback roof or Station Wagon, to back glass lower reveal molding, or rubber when molding is not used.

L127 BODY ZERO LINE TO CENTERLINE OF REAR WHEELS. A horizontal dimension.

L128a HOOD LENGTH AT CAR CENTERLINE. The horizontal dimension from the foremost point on sheet metal hood surface, excluding series identification or ornamentation, to the theoretical intersection of extended windshield glass plane and normal cowl surface.

L129a DECK LENGTH AT CAR CENTERLINE. The horizontal dimension from the rearmost point of the body sheet metal (visible above bumper), excluding series identification or ornamentation, to the theoretical intersection of extended back window glass plane and normal deck surface.

L130a BODY ZERO LINE TO WINDSHIELD COWL POINT. The horizontal dimension from body zero line to the theoretical intersection of extended windshield glass plane and normal cowl surface.

H5a H POINT TO GROUND - FRONT. Vertical dimension.

H6a H POINT TO WINDSHIELD BOTTOM DLO. Vertical dimension.

H10a H POINT TO GROUND - REAR. Vertical dimension.

H11a ENTRANCE HEIGHT - FRONT. The vertical dimension from H Point to upper trimmed body opening.

H12a ENTRANCE HEIGHT - REAR. The vertical dimension from H Point to the upper trimmed body opening at a section 13.0 inches forward of the H Point.

H13a STEERING WHEEL THIGH CLEARANCE. The minimum dimension from the bottom of steering wheel, in straight-ahead position, to centerline of thigh.

H18 STEERING COLUMN ANGLE - HORIZONTAL. The angle the centerline of steering column makes with the horizontal.

H25a BELT HEIGHT - FRONT. The vertical dimension from H Point to bottom of side window DLO.

H30a H POINT TO HEEL POINT - FRONT. The vertical dimension from the H Point to the manikin accelerator heel point on the depressed floor covering.

H31a H POINT TO HEEL POINT - REAR. The vertical dimension from the H Point to the manikin heel point on the depressed floor covering.

H32a SEAT CUSHION DEFLECTION - FRONT. The vertical dimension from a point on the undepressed seat cushion to the depressed seat cushion. Measured at the H Point station.

H33a SEAT CUSHION DEFLECTION - REAR. Measured in the same manner as H32a.

H37 HEADLINING TO ROOF HEIGHT - FRONT. The dimension from the intersection of the headlining and the extended effective head room line to the roof panel. Measured perpendicularly to the roof panel.

H38 HEADLINING TO ROOF HEIGHT - REAR. Measured in the same manner as H37.

H49a H POINT TO TOP OF STEERING WHEEL. The vertical dimension from the H Point to top of steering wheel, in straight-ahead position.

H50a UPPER BODY OPENING TO GROUND - FRONT. The vertical dimension from a point on the trimmed body opening to the ground. Measured at the H Point station.

DIMENSION DEFINITIONS (cont.)

H51a UPPER BODY OPENING TO GROUND - REAR. The vertical dimension from a point on the trimmed body opening to the ground. Measured 13.0 inches forward of the H Point.

H54a H POINT TO TUNNEL - FRONT. The minimum dimension from the H Point, at car centerline, to top of tunnel.

H55a H POINT TO TUNNEL - REAR. Measured in the same manner as H54a.

H58a H POINT RISE. The vertical dimension between the H Point in the most forward and rearward seat positions.

H61a EFFECTIVE HEAD ROOM - FRONT. The dimension from H Point to the headlining, plus a constant of 4.0 inches. Measured along a line 8° to rear of vertical.

H63a EFFECTIVE HEAD ROOM - REAR. Measured in the same manner as H61a.

H64a H POINT TO WINDSHIELD UPPER DLO. Vertical dimension from H Point to highest horizontal line of vision through windshield at 15 inch section.

H65a H POINT DIFFERENTIAL, SIDE TO CENTER - FRONT. The vertical dimension from side occupant H Point to center occupant H Point.

H66a H POINT DIFFERENTIAL, SIDE TO CENTER - REAR. Measured in the same manner as H65a.

H67a DEPRESSED FLOOR COVERING THICKNESS - FRONT. The vertical dimension from manikin accelerator heel point normally to underbody sheet metal immediately below heel point.

H68a DEPRESSED FLOOR COVERING THICKNESS - REAR. Measured same as H67a.

H85a H POINT TO GROUND - THIRD SEAT. Vertical dimension.

H86a EFFECTIVE HEAD ROOM - THIRD SEAT. Measured in the same manner as H61a.

H87a H POINT TO HEEL POINT - THIRD SEAT. Measured in the same manner as H31a.

H101 OVERALL HEIGHT. Measured with full design load.

H102 FRONT BUMPER TO GROUND. Minimum dimension.

H104 REAR BUMPER TO GROUND. Minimum dimension.

H106 ANGLE OF APPROACH. Minimum angle between ground and a line tangent to arc of front tire static loaded radius and touching the limiting point of interference on front bumper, bumper guard, or gravel deflector.

H107 ANGLE OF DEPARTURE. Minimum angle between ground and a line tangent to arc of rear tire static loaded radius and touching the limiting point of interference on rear bumper, bumper guard, gravel deflector, tail pipe, fender or other interfering structure.

H111 ROCKER PANEL TO GROUND - REAR. The vertical dimension from ground to bottom of rocker panel, excluding flanges. Measured at front of rear wheel opening.

H112a ROCKER PANEL TO GROUND - FRONT. The vertical dimension from ground to bottom of rocker panel, excluding flanges. Measured at foremost point of rocker panel.

H114 HOOD AT REAR TO GROUND. Measured from hood opening line on shroud, exclusive of moldings.

H115 STEP HEIGHT - FRONT (DESIGN LOAD). The vertical dimension from top of sill plate bead, at C/L of front door sill plate, to ground.

H116 STEP HEIGHT - REAR (DESIGN LOAD). Measured in same manner as dimension H115.

H122 WINDSHIELD SLOPE ANGLE. The angle between a vertical line and the windshield surface at car centerline. On compound-curved windshields the chord of the arc is used and limited to that section of the windshield comprehended by an 18-inch chord.

H130 STEP HEIGHT - FRONT (CURB LOAD). The vertical dimension from top of sill plate, at C/L of front door sill plate, to ground.

H131 STEP HEIGHT - REAR (CURB LOAD). Measured in same manner as H130.

H132 BOTTOM OF DOOR TO GROUND, OPEN - FRONT. Measured from bottom outside corner of door with door in maximum hold-open position.

H133 BOTTOM OF DOOR TO GROUND, CLOSED - FRONT. Same point on door as H132 dimension, with door closed.

H134 BOTTOM OF DOOR TO GROUND, OPEN - REAR. Measured in same manner as H132.

H135 BOTTOM OF DOOR TO GROUND, CLOSED - REAR. Measured in same manner as H133.

H136a BODY ZERO TO GROUND - FRONT. A vertical dimension measured at front wheel centerline.

H137a BODY ZERO TO GROUND - REAR. A vertical dimension measured at rear wheel centerline.

H147 RAMP BREAKOVER ANGLE. Supplement of included ramp angle (180° minus included ramp angle) over which car can pass without interference; measured with car sitting on a level surface, using lines tangent to arcs of front and rear static loaded radii and intersecting at point on underside of car which defines the smallest angle.

H148 FRONT SUSPENSION TO GROUND. Minimum clearance measured from lower control arm inner shaft or lowest point on the car centerline.

H149 OIL PAN TO GROUND. Minimum clearance measured from sheet metal or drain plug.

H150 FLYWHEEL/CONVERTER HOUSING AND TRANSMISSION ASSEMBLY TO GROUND. Minimum clearance.

H151 FRAME STRUCTURE TO GROUND. Minimum clearance measured approximately midway between front and rear axles. In this measurement, cross bars and X-members shall be considered part of frame.

H152 EXHAUST SYSTEM TO GROUND. Minimum clearance. Specify location.

H153 REAR AXLE DIFFERENTIAL SYSTEM TO GROUND. Minimum clearance.

H154 FUEL TANK TO GROUND. Minimum clearance measured from sheet metal or drain plug, but excluding supports or straps.

H155 SPARE TIRE WELL TO GROUND. Minimum clearance.

H156 MINIMUM RUNNING GROUND CLEARANCE. Location of measurement on the car is to be clearly recorded.

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