

AMA-40A  
1970

# AMA Specifications—Passenger Car

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MANUFACTURER	Pontiac Motor Division General Motors Corporation	CAR NAME	Pontiac - Tempest, LeMans, LeMans Sport and GTO
MAILING ADDRESS	Pontiac, Michigan 48053	MODEL YEAR	1970
		ISSUED:	9-3-69
		REVISED (•)	3-31-70

**NOTES:**

1. The General 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, style names; use manufacturer's code for series & body style.			
	Body Style Number			
Body Type	Tempest	LeMans	LeMans Sport	GTO
4-Door Sedan	23369	23569		
4-Door Hardtop		23539	23739	
Coupe	23327	23527	23727	
Hardtop Coupe		23537	23737	24237
Convertible			23767	24267
Station Wagon - 4-Door 2-Seat		23535(a)	23736	

(a) Bottom hinged tailgate standard - 23536 (dual hinged tailgate) optional.

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## CAR AND BODY DIMENSIONS

See Pages 25, 26 for SAE Dimension Definitions

(All dimensions in inches unless otherwise indicated)

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for:  
4-Dr. Sedan, 2-Dr. H.T., 4-Dr. H.T., Convertible and Station Wagon.

MODEL	SAE Ref. No.	TEMPEST	LEMANS	LEMANS SPORT	GTO	
<b>WIDTH</b>						
Track - Front	W101		61			
Track - Rear	W102		60			
Maximum overall car width	W103		76.7			
Body width at No. 2 pillar	W117		74.1			
<b>LENGTH</b>						
Body "O" to front of dash	L 30		0			
Wheelbase	L101		116(a)		112	
Overall car length	L103		206.5(b)		202.9	
Overhang - front	L104		41.2		41.6	
Overhang - rear	L105		49.3(c)		49.3	
Body upper structure length	L123	27&37) 96.5	(35&36) 130.8	(39&69) 102.1	(67) 94.9	
Body "O" line to $\text{C}$ of rear wheel	L127		99.5		95.5	
Body "O" line to w/s cowl point	L130		10.4			
<b>HEIGHT</b>						
Passenger Distribution (front & rear)			2-3			
Trunk/Cargo load (lbs.)			0			
Overall height	H101	(27&37) 52.0,	(39&69) 52.6,	(67) 52.3,	(35&36) 54.5 (d)	
Cowl height	H114	(35 & 36) 38.6	(27, 37, 39 & 69) 37.4	(e)		
Deck height	H138	(27 & 37) 38.1,	(35 & 36) 38.9,	(39) 37.4,	(67) 37.3,	(69) 37.6 (g)
Rocker panel - front	H112	To ground	(35 & 36) 9.0	(All Others) 7.8	8.0	
From front wheel $\text{C}$		32.0				
Rocker panel - rear	H111	To ground	(35 & 36) 8.5	(39&69) 6.5,	(27, 37&67) 6.4	6.8
From rear wheel $\text{C}$		23.0 with Long Wheelbase,	19.0 with Short W.B.			
Windshield slope angle	H122		53.0			
<b>GROUND CLEARANCE</b>						
Bumper to ground - front	H102	(35) 15.1	(36) 15.4	(39 & 69) 14.9	(27, 37 & 67) 15.0	15.2
Bumper to ground - rear	H104	10.7	11.0	13.7	13.6	14.0
Angle of approach	H106	21.3	21.9	20.7	21.0	23.1
Angle of departure	H107	12.6	12.9	14.8	14.6	15.2
Ramp breakover angle	H147	12.6	13.2	9.7	10.0	10.7
Min. running clearance (Specify)	H156	5.0 (f)		4.0 (f)	4.1 (f)	4.4 (f)

- (a) 112 on 2-door styles  
 (b) 202.5 on 2-door styles, 210.6 on station wagons  
 (c) 53.4 on station wagons  
 (d) Except GTO - 24237 is 52.3, 24267 is 52.6  
 (e) Except GTO - 24237 and 24267 are 37.6  
 (f) Exhaust system  
 (g) Except GTO - 24237 is 37.7, 24267 is 36.9

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## CAR AND BODY DIMENSIONS

See Pages 25, 26 for SAE Dimension Definitions  
(All dimensions in inches unless otherwise indicated)

MODEL	SAE Ref. No.	Spts. Cpe.	HT Cpe	4-Dr. HT	4-Dr. Sedan	Conv. Cpe.	Station Wagon
		23527*	23537	23539*	23569*	23767*	23535*
<b>FRONT COMPARTMENT</b>							
Effective head room	H61	37.9 (a)	37.9 (b)	38.5 (c)	38.5	38.5	38.4
Max. eff. leg room - accelerator	L34	42.4 (d)	42.4	42.4 (e)	42.4 (f)	42.4	42.6
H Point to Heel point	H30	7.9 (g)	7.9 (h)	7.9 (i)	7.9 (j)	8.0	7.7
H Point travel	L17	4.8	4.8	4.8	4.8	4.8	4.7 (k)
Shoulder room	W 3	58.4	58.4	58.4	58.4	58.4	58.3
Hip room	W 5	59.7 (l)	59.6 (m)	59.4 (n)	59.4 (p)	59.7	59.7
Upper body opening to ground	H50	47.0	47.6	48.7	47.7	47.7 (5)	49.6
<b>REAR COMPARTMENT</b>							
H Point couple distance	L50	30.6 (q)	30.6 (r)	32.8	32.8	30.7	32.8
Effective head room	H63	36.3	36.3	37.1	37.1	36.9	38.3
Min. effective leg room	L51	32.2 (s)	32.2 (t)	34.8	34.8	31.6	34.6
H Point to Heel point	H31	10.0 (u)	10.0	10.6	10.6 (v)	10.0	10.6
Min. knee room	L48	.7 (w)	.7 (x)	2.3	2.3	1.6	2.3
Rear Compartment room	L 3	24.0 (y)	24.0 (z)	25.8	25.8	24.2	26.1
Shoulder room	W 4	57.0	57.0	57.5	57.5	47.9	57.4
Hip room	W 6	58.1 (1)	58.1 (2)	59.4	59.4	58.3	59.4
Upper body opening to ground	H51	--	--	48.5	47.3	--	48.7
<b>LUGGAGE COMPARTMENT</b>							
Usable luggage capacity	V 1	14.6	14.6 (3)	14.6	14.6	10.0 (4)	--
Liftover height	H195	27.1	27.1	26.6	26.5	27.1	--
Position of spare tire storage		Flat-Exc. SW & Opt. Space Saver Which Are Vertical					
Method of holding lid open		Torsion Bar					
<b>STATION WAGON - THIRD SEAT</b>							
Shoulder Room	W85	Not Offered					
Hip room	W86						
Effective leg room	L86						
Effective head room	H86						
Seat facing direction							
<b>STATION WAGON - CARGO SPACE</b>							
Cargo length at floor - front seat	L202	90.9					
Cargo length at belt - front seat	L204	79.9					
Cargo width - Wheelhouse	W201	44.5					
Opening width at belt	W204	49.6					
Maximum cargo height	H201	31.5 on 23535 & 36, 31.3 on 23736					
Rear opening height	H202	28.6 on 23535 & 36, 28.4 on 23736					
Cargo volume index (cu. ft.) W4 x L204 x H201 1728	V2	83.6**					

\* Dimensions apply to all models of the body type in addition to the specific body style number shown unless otherwise specified.

\*\* Add 10.0 cu. ft. for compartment under load floor.

(a) 37.7 on 237	(g) 8.1 on 233, 8.0 on 237	(m) 59.7 on 237 & 242	(u) 9.9 on 233	(1) 58.4 on 233
(b) 37.7 on 237 & 242	(h) 8.0 on 237 & 242	(n) 59.5 on 237	(v) 10.5 on 233	58.3 on 237
(c) 38.5 on 237	(i) 8.3 on 237	(p) 59.8 on 233	(w) 1.6 on 237	(2) 58.3 on 237 & 242
(d) 42.3 on 233	(j) 8.1 on 233	(q) 30.7 on 237	(x) 1.6 on 237 & 242	(3) 14.0 on 242
(e) 42.5 on 237	(k) 4.8 on 237	(r) 30.7 on 237 & 242	(y) 24.2 on 237	(4) 10.3 on 242
(f) 42.3 on 233	(l) 59.5 on 233	(s) 31.6 on 237	(z) 24.2 on 237 & 242	(5) 47.5 on 242
		(t) 31.6 on 237 & 242		

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## POWER TEAMS

(Indicate whether standard or optional)

MODEL AVAILABILITY	ENGINE					TRANSMISSION	AXLE RATIO (Std. first) (Indicate A C ratio)
	Displ. cu. in.	Carburetor	Compr. Ratio	BHP RPM	Torque RPM		
<u>STANDARD ENGINES</u>							
233, 235 & 237	250	1 bbl.	8.5:1	155 @ 4200	235 @ 1600	Manual (3-Sp.) Automatic Turbo Hydra-Matic	3.23:1 (a) 3.08:1, 2.56:1, 3.23:1 (d) 3.08:1, 2.56:1, 3.23:1 (a)
242	400	4 bbl.	10.25:1	350 @ 5000	445 @ 3000	Manual (3-Sp.)(f)(g) Turbo Hydra-Matic	3.55:1, 3.23:1 (a) 3.55:1, 3.23:1 (a)
<u>OPTIONAL ENGINES</u>							
<u>350 V-8 Engine</u>							
233, 235 & 237	350	2 bbl.	8.8:1	255 @ 4600	355 @ 2800	Manual (3-Sp.) (f) Automatic Turbo Hydra-Matic	3.23:1, 3.08:1 (a)(i) 2.56:1, 3.08:1 (c) 2.56:1, 3.08:1 (c)
<u>400 Regular Fuel Engine</u>							
233, 235 & 237	400	2 bbl.	8.8:1	265 @ 4600	397 @ 2400	Turbo Hydra-Matic	2.56:1, 3.08:1 (c)
<u>400 4 Bbl. Engine</u>							
233, 235 & 237	400	4 bbl.	10.0:1	330 @ 4800	445 @ 2900	Turbo Hydra-Matic	3.08:1 (b)
<u>455 4 Bbl. Engine</u>							
242	455	4 bbl.	10.25:1	360 @ 4600	500 @ 3100	Manual (3-Sp.) (g) Turbo Hydra-Matic	3.31:1 (e) 3.07:1 (h)
<u>400 Ram Air</u>							
242	400	4 bbl.	10.5:1	366 @ 5100	445 @ 3600	Manual (3-Sp.)(f)(g) Turbo Hydra-Matic	3.55:1 (a) 3.55:1 (a)
<u>400 Ram Air IV</u>							
242	400	4 bbl.	10.5:1	370 @ 5500	445 @ 3900	Manual (4-Sp. Close Ratio) Turbo Hydra-Matic	3.90:1 (d) 3.90:1 (d)

- (a) 3.23:1 with air conditioning  
 (b) 3.08:1 with air conditioning  
 (c) 2.78:1 with air conditioning  
 (d) Air conditioning not available  
 (e) 3.31:1 with air conditioning  
 (f) 4-Speed manual optional  
 (g) Close ratio 4-speed optional  
 (h) 3.07:1 with air conditioning  
 (i) 3.08:1 not available with 4-sp. option



## AMA Specifications—Passenger Car

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MODEL	Standard 250 L6 Engine	Optional 350 V8 Engine
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## ENGINE - GENERAL

Type, no. cyls., valve arr.	Line, 6, In-Head	90°V, 8, In-Head
Bore and stroke (nominal)	3.8750 x 3.525 3.8774 x 3.535	3.8750 x 3.746 3.8774 x 3.754
Piston displacement, cu. in.	250	350
Bore spacing (♣ to ♣)	4.4	4.62
No. system	1-2-3-4-5-6 (In-Line)	1-3-5-7
(front to rear)	L. Bank R. Bank	2-4-6-8
Firing order	1-5-3-6-2-4	1-8-4-3-6-5-7-2
Compres. ratio (nominal)	8.5:1	8.8:1
Cylinder Head Material	Alloy Cast Iron	
Cylinder Block Material	Alloy Cast Iron	
Cyl. Sleeve-Wet, dry, none	None	
Number of mtg. points	Frnt Rear	2 1
Engine installation angle	4.6°	4.7°
Taxable horsepower	$\frac{\text{Dia}^2 \times \text{No. Cyl.}}{2.5}$ 36.0	48.0
Publishing max. bhp* @ eng. RPM	155 @ 4200	255 @ 4600
Publishing max. torque* (lb. ft. @ RPM)	235 @ 1600	355 @ 2800
Recommended fuel regular - premium	Regular	Regular

## ENGINE - PISTONS

Material	Aluminum Alloy	
Description and finish	Cam Ground Slipper Type - Tin Plated	
Weight (piston only) oz.	24.16	21.010 - 21.190
Clearance (limits)	Top land	.0345 - .0435
	Skirt	Top .0005 - .0011 (a)
		Bottom - .0020 - .0038 (b)
Ring groove depth	No. 1 ring	.2185
	No. 2 ring	.2185
	No. 3 ring	.2125
	No. 4 ring	None

\* Max. bhp (brake horsepower) and max. torque corrected to 60° F and 29.92 in. Hg atmospheric pressure.

(a) Measured 2.44 from top of piston.

(b) Pistons selected for clearance at 1.110 below top of piston.

## AMA Specifications—Passenger Car

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	400 cu. in. Engines	455 cu. in. Engine
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## MODEL

## ENGINE - GENERAL

Type, no. cyls., valve arr.	90° V, 8, In-Head	
Bore and stroke (nominal)	4.1200 X 3.746	4.1510 X 4.206
	4.1224 X 3.754	4.1534 X 4.214
Piston displacement, cu. in.	400	455
Bore spacing (C to C)	4.62	
No. system	1-3-5-7	
(front to rear)	2-4-6-8	
Firing order	1-8-4-3-6-5-7-2	
Compres. ratio (nominal)	10.25:1 (a)	10.25
Cylinder Head Material	Alloy Cast Iron	
Cylinder Block Material	Alloy Cast Iron	
Cyl. Sleeve-Wet, dry, none	None	
Number of	2	
mtg. points	1	
Engine installation angle	4.7° (a)	
Taxable $\frac{\text{Dia}^2 \times \text{No. Cyl.}}{\text{horsepower } 2.5}$	54.3	55.2
Publishing max. bhp* @ eng. RPM	350 @ 5000 (a)	360 @ 4600
Publishing max. torque* (lb. ft. @ RPM)	445 @ 3000 (a)	500 @ 3100
Recommended fuel regular - premium	Premium (a)	Premium

## ENGINE - PISTONS

Material	Aluminum Alloy		
Description and finish	Cam Ground Slipper Type - Tin Plated		
Weight (piston only) oz.	22.070 - 22.250	20.515 - 20.695	
Clearance (limits)	Top land	.017 - .021	
	Skirt	Top	.0025 - .0033 (b)
		Bottom	.0020 - .0038
Ring groove depth	No. 1 ring	.2230	
	No. 2 ring	.2230	
	No. 3 ring	.2215	
	No. 4 ring	None	

\* Max. bhp (brake horsepower) and max. torque corrected to 60° F and 29.92 in. Hg atmospheric pressure.

- (a) 8.8:1 on regular fuel engine, 10.0:1 on 400 4-bbl. engine and 10.5:1 on 400 Ram Air and 400 Ram Air IV engines - See page 3 for horsepower and torque figures.
- (b) Pistons selected for clearance at 1.110 below top of piston.
- (c) Pistons selected for clearance at 1.08 below top of piston.

# AMA Specifications—Passenger Car

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<b>MODEL</b>	Standard 250 L6 Engine	Optional 350 V8 Engine
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### ENGINE – RINGS

<b>Function</b> (top to bottom)	No. 1, oil or comp.	Compression	
	No. 2, oil or comp.	Compression	
	No. 3, oil or comp.	Oil	
	No. 4, oil or comp.	None	
<b>Compression</b>	Description - material, coating, etc.	Cast Iron Reverse Twist (a)	
		No. 1 (b)	Moly Channel Barrel Face
	No. 2 Taper Face - Lubrite		Taper Face - Tin Plated
	Width	No. 1 .0630, No. 2 .0628	.0778
Gap	.015	.019	
<b>Oil</b>	Description - material, coating, etc.	Multi-Piece (2 Rails and 1 Spacer Expander)	
		Rails: Steel with Chrome Plated O.D. Expander: Stainless Steel	
	Width	.188	.186
	Gap	.035	
<b>Expanders</b>		In Oil Ring Assembly	

### ENGINE – PISTON PINS

<b>Material</b>	Chromium Steel	SAE 1016
<b>Length</b>	3.00	3.25
<b>Diameter</b>	.9272	.9802
<b>Type</b>	Locked in rod, in piston, floating, etc.	
	Locked in Rod	
	Bush- ing	None
<b>Clearance</b>	In piston	.00015 - .00025
	In rod	.0005 - .0007
<b>Direction &amp; amount offset in piston</b>	To Right .060	Press Fit
	To Right .063	

### ENGINE – CONNECTING RODS

<b>Material</b>	Forged Steel	Arma Steel
<b>Weight (oz.)</b>	20.0	31.7
<b>Length (center to center)</b>	5.700	6.625
<b>Bearing</b>	<b>Material &amp; Type</b>	(c) (d)
	Overall length	.807
	Clearance (limits)	.0007 - .0027
	End play	.009 - .013
		Moraine 100-A(d)
		.88
		.0005 - .0025
		.012 - .017 (Total for two)

- (a) Except L6 No. 1 ring has inside bevel.  
 (b) Barrel face chrome plated  
 (c) Sintered copper lead alloy  
 (d) Steel backed removable precision

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED 6MODEL 400 cu. in. Engines | 455 cu. in. Engine

## ENGINE - RINGS

Function (top to bottom)	No. 1, oil or comp.	Compression
	No. 2, oil or comp.	Compression
	No. 3, oil or comp.	Oil
	No. 4, oil or comp.	None
Compression	Description - material, coating, etc.	Cast Iron Reverse Twist - No. 1 Barrel Face Moly Channel, No. 2 Taper Face Tin Plated (a)
	Width	.0778 (b)
	Gap	No. 1 - .019 (c), No. 2 - .015
Oil	Description - material, coating, etc.	Multi-Piece (2 Rails and 1 Spacer Expander) Rails - Steel with Chrome Plated O.D. Expander - Stainless Steel
	Width	.186
	Gap	.035
Expanders		In Oil Ring Assembly

## ENGINE - PISTON PINS

Material	SAE 1016 Steel		
Length	3.25		
Diameter	.9802		
Type	Locked in rod, in piston, floating, etc.	Locked in Rod	
	Bush- ing	In rod or piston	None
		Material	None
Clearance	In piston	.0005 - .0007	
	In rod	Press Fit	
Direction & amount offset in piston	To Right - .063		

## ENGINE - CONNECTING RODS

Material	Arma Steel	
Weight (oz.)	31.7	
Length (center to center)	6.625	
Bearing	Material & Type	Moraine 400-A (d) (e).
	Overall length	.88
	Clearance (limits)	.0005 - .0026 (f)   .0010 - .0031
	End play	.012 - .017 (Total for Two)

- (a) Optional 455 cu. in. engine uses taper face moly channel rings in No. 2 location.  
 (b) No. 2 .0623 on 455 cu. in. engine  
 (c) No. 1 .021 on 455 cu. in. engine  
 (d) Steel backed removable precision  
 (e) Material is Moraine 100-A on optional 400 regular fuel engine and 4-bbl. option engine for 233, 235, 237.  
 (f) Clearance is .0015 - .0031 on Ram Air IV Engine.

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<b>MODEL</b>	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
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### ENGINE - CRANKSHAFT

Material		Nodular Iron		
Vibration damper type		Rubber Floated Weight		
End thrust taken by bearing (No.)		7	4	
Crankshaft end play		.002 - .006	.0035 - .0085	
Main bearing	Material & type		Durex 100-A** Steel Backed, Removable - Precision	
	Clearance		.0003 - .0029	
	Journal dia. and bearing overall length	No. 1	2.30 x .752	3.00 x .94
		No. 2	2.30 x .752	3.00 x .94
		No. 3	2.30 x .752	3.00 x .94
		No. 4	2.30 x .752	3.00 x 1.13
		No. 5	2.30 x .752	3.00 x 1.59
		No. 6	2.30 x .752	None
No. 7		2.30 x .760	None	
Dir. & amt. cyl. offset		None		
Crankpin journal diameter		2.00	2.25	

### ENGINE - CAMSHAFT

Location		Right Side	Between Cylinder Banks
Material		Hardened Alloy Cast Iron	
Bearings	Material	High Lead Babbitt on Steel	
	Number	4	5
Type of Drive	Gear or chain		Chain
	Crankshaft gear or sprocket material		Steel
	Camshaft gear or sprocket material		Hardened Sintered Iron
	Timing chain		Aluminum Alloy With Nylon Covered Teeth
	No. of links	None	60
Width	None	.88 (Morse) - 1.00 (Link Belt)	
Pitch	None	.375	

### ENGINE - VALVE SYSTEM

Hydraulic lifters (Std., opt., NA)		Standard	
Valve rotator, type (intake, exhaust)		None	
Rocker ratio		1.75:1	1.5:1
Operating tappet clearance (indicate hot or cold)	Intake	0	
	Exhaust	0	

(Continued)

\*\* Material Changes to Moraine 400-A As Follows:

#4 Lower of 350 2-BBL Engine and 4-BBL option engine for 233, 235 and 237.

#1, 2, 3, and 4 lower locations of 400 4-BBL engine.

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 MODEL Optional 400 cu. in. Engines Optional 455 cu. in. Engine

## ENGINE - CRANKSHAFT

Material		Nodular Iron		
Vibration damper type		Rubber Floated Weight		
End thrust taken by bearing (No.)		4		
Crankshaft end play		.0035 - .0085		
Main bearing	Material & type	Durex 100-A* Steel Backed, Removable - Precision		
	Clearance	.0002 - .0017**		
	Journal dia. and bearing overall length	No. 1	3.00 x .94	3.25 x .94
		No. 2	3.00 x .94	3.25 x .94
		No. 3	3.00 x .94	3.25 x .94
		No. 4	3.00 x 1.13	3.25 x 1.19
		No. 5	3.00 x 1.59	3.25 x 1.59
No. 6		None		
No. 7		None		
Dir. & amt. cyl. offset		None		
Crankpin journal diameter		2.25		

## ENGINE - CAMSHAFT

Location		Between Cylinder Banks		
Material		Hardened Alloy Cast Iron		
Bearings	Material	High Lead Babbitt on Steel		
	Number	5		
Gear or chain		Chain		
Type of Drive	Crankshaft gear or sprocket material	Hardened Sintered Iron		
	Camshaft gear or sprocket material	Aluminum Alloy with Nylon Covered Teeth		
	Timing chain	No. of links	60	
		Width	.88 (Morse) - 1.00 (Link Belt)	
Pitch		.375		

## ENGINE - VALVE SYSTEM

Hydraulic lifters (Std., opt., NA)		Standard	
Valve rotator, type (intake, exhaust)		None	
Rocker ratio		1.5:1	
Operating tappet clearance (indicate hot or cold)	Intake	0	
	Exhaust	0	

(Continued)

\* Material changes to Moraine 400-A as follows:

#4 lower of 400 regular fuel engine

#1, 2, 3, and 4 lower locations of 400 4-BBL Engine

#1, 2, 3, and 4 upper and lower locations of Ram Air and Ram Air IV Engines

All locations (except #5 upper) of 455 Engine

\*\* .0005 - .0021 on 455 Engine

.0007 - .0023 on 1, 2, 3 and 4 of 400 Ram Air III

.0012 - .0028 on 1, 2, 3 and 4; .0007 - .0022 on 5 of Ram Air IV

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (\*)3-31-70

MODEL		TEMPEST	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
ENGINE - VALVE SYSTEM (cont.)			Man. & Auto. Trans.	Man. & Auto. Trans.	Auto. Trans.
Timing (based on top of ramp points)	Intake	Opens (°BTC)	16	22	23
		Closes (°ABC)	48	67	70
		Duration - deg.	244	269	273
	Exhaust	Opens (°BBC)	46.5	72	78
		Closes (°ATC)	17.5	25	31
		Duration - deg.	244	277	289
Valve opening overlap		33.5°	47°	54°	
Material		Alloy Stl. Aluminized	GM 8440 Aluminized — Fl. Cr. Plate on Stem		
Overall length		4.912	4.993	5.073	
Actual overall head dia.		1.725 - 1.715	1.963 - 1.957	2.113 - 2.107	
Angle of seat & face		46° Seat - 45° Face	45° Seat-44° Face	30° Seat-29° Face	
Seat insert material		Not Used			
Stem diameter		.3410 - .3417	.3419 - .3412		
Stem to guide clearance		.0010 - .0027	.0016 - .0033		
Lift (@ zero lash)		.388	.376 ±.011	.410 ±.011	
Intake	Outer spring press. & length	Valve closed (lb. @ in.)	56 64 @ 1.66	59.6 65.6 @ 1.5823	63.3 69.3 @ 1.5613
		Valve open (lb. @ in.)	180 192 @ 1.27	122.5 132.5 @ 1.2063	132.0 142.0 @ 1.1513
	Inner spring press. & length	Valve closed (lb. @ in.)	None	31.7 37.7 @ 1.5423	35.0 41.0 @ 1.5213
		Valve open (lb. @ in.)	None	88.8 98.8 @ 1.1663	97.4 107.4 @ 1.1113
	Material		21-4N Aluminized	21-2 Aluminized - Fl. Cr. Plate on Stem	
	Overall length		4.923	4.982	5.082
Actual overall head dia.		1.505 - 1.495	1.663 - 1.657	1.773 - 1.767	
Angle of seat & face		46° Seat-45° Face	45° Seat-44° Face		
Seat insert material		None			
Stem diameter		.3417 - .3410	.3419 - .3412		
Stem to guide clearance		.0010 - .0027	.0021 - .0038		
Lift (@ zero lash)		.388	.412 ±.011	.413 ±.011	
Exhaust	Outer spring press. & length	Valve closed (lb. @ in.)	56 64 @ 1.66	59.6 65.6 @ 1.5823	63.3 69.3 @ 1.5613
		Valve open (lb. @ in.)	180 192 @ 1.27	128.7 138.7 @ 1.1703	132.5 142.5 @ 1.1483
	Inner spring press. & length	Valve closed (lb. @ in.)	None	31.7 37.7 @ 1.5423	35.0 41.0 @ 1.5213
		Valve open (lb. @ in.)	None	94.4 104.4 @ 1.1303	97.9 107.9 @ 1.1083

### ENGINE - LUBRICATION SYSTEM

Type of lubrica- tion (splash, pressure, nozzle)		Pressure	Pressure	Pressure
	Main bearings			
	Connecting rods			
	Piston pins			
	Camshaft bearings			
	Tappets			
	Timing gear or chain	Nozzle		Metered Jet
	Cylinder walls	Splash		Metered Jet

(Continued)

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (\*)3-31-70

MODEL		TEMPEST	400 cu. in. V8 Engines			
			Regular Fuel	4-bbl. Prem. Fuel	Standard GTO	
ENGINE - VALVE SYSTEM (cont.)			Auto. Trans.	Auto. Trans.	Man. Trans.	
Timing (based on top of ramp points)	Intake	Opens (-BTC)	22	30	23	
		Closes (-ABC)	67	63	70	
		Duration - deg.	269	273	273	
	Exhaust	Opens (-BBC)	72	77	78	
		Closes (-ATC)	25	25	31	
		Duration - deg.	277	282	289	
Valve opening overlap		47°	55°	54°		
Material		GM8440 w/Alum. Treatment on Face and Fl.Cr. Plated Stem				
Overall length		4.993	5.068	5.093		
Actual overall head dia.		1.963 - 1.957		2.113 - 2.107		
Angle of seat & face		45° Seat - 44° Face		30° Seat - 29° Face		
Seat insert material		Not Used				
Stem diameter		.3419 - .3412				
Stem to guide clearance		.0016 - .0033				
Intake	Lift (- zero lash)		.376 ± .011	.410 ± .011	.410 ± .011	
	Outer spring press. & length	Valve closed (lb. @ in.)	59.6 @ 1.5823	59.6 @ 1.5823	56.1 @ 1.5913	
		Valve open (lb. @ in.)	122.5 @ 1.2063	128.4 @ 1.1723	127.4 @ 1.1813	
	Inner spring press. & length	Valve closed (lb. @ in.)	31.7 @ 1.5423	31.7 @ 1.5423	54.2 @ 1.5213	
		Valve open (lb. @ in.)	88.8 @ 1.1663	94.1 @ 1.1323	117.8 @ 1.1113	
	Material		21-2 Steel W/Alum. Treatment on Face & Fl.Cr. Plated Stem			
	Overall length		4.982	5.078	5.082	
	Actual overall head dia.		1.663 - 1.657		1.773 - 1.767	
	Angle of seat & face		45° Seat - 44° Face			
	Seat insert material		Not Used			
Stem diameter		.3414 - .3407				
Stem to guide clearance		.0021 - .0038				
Exhaust	Lift (- zero lash)		.412 ± .011	.414 ± .011	.413 ± .011	
	Outer spring press. & length	Valve closed (lb. @ in.)	59.6 @ 1.5823	59.6 @ 1.5823	56.1 @ 1.5913	
		Valve open (lb. @ in.)	128.7 @ 1.1703	129.1 @ 1.1683	125.4 @ 1.1783	
	Inner spring press. & length	Valve closed (lb. @ in.)	31.7 @ 1.5423	31.7 @ 1.5423	54.2 @ 1.5213	
		Valve open (lb. @ in.)	94.4 @ 1.1303	94.7 @ 1.1283	118.4 @ 1.1083	

### ENGINE - LUBRICATION SYSTEM

Type of lubrica- tion (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Splash
	Camshaft bearings	Pressure
	Tappets	Pressure
	Timing gear or chain	Metered Jet
	Cylinder walls	Metered Jet

(Continued)



# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a) 3-31-70

MODEL		TEMPEST	400 Ram Air Engines	400 Ram Air IV Engines	
ENGINE - VALVE SYSTEM (cont.)		Man. & Auto. Trans.		Man. & Auto. Trans.	
Timing (based on top of ramp points)	Intake	Opens (°BTC)	31	42	
		Closes (°ABC)	77	86	
		Duration - deg.	288	308	
	Exhaust	Opens (°BBC)	90	95	
		Closes (°ATC)	32	45	
		Duration - deg.	302	320	
	Valve opening overlap		63°	87°	
Intake	Material		GM 8440 Aluminized (a)	GM 8440 Aluminized (b)	
	Overall length		5.093	5.207	
	Actual overall head dia.		2.113 - 2.107		
	Angle of seat & face		30° Seat - 29° Face		
	Seat insert material		Not Used		
	Stem diameter		.3419 - .3412		
	Stem to guide clearance		.0016 - .0033		
	Lift (at zero lash)		.414 ± .011	.527 ± .011	
	Outer spring press. & length	Valve closed (lb. @ in.)	56.1 @ 1.5913 66.1	70.5 @ 1.8183 80.5	
		Valve open (lb. @ in.)	129.5 @ 1.1773 139.5	216.4 @ 1.2913 230.4	
	Inner spring press. & length	Valve closed (lb. @ in.)	54.2 @ 1.5213 60.2	37.2 @ 1.7483 43.2	
		Valve open (lb. @ in.)	118.6 @ 1.1073 128.6	106.2 @ 1.2213 116.2	
	Exhaust	Material		21-2 Aluminized (a)	21-2 Aluminized (b)
		Overall length		5.082	5.206
Actual overall head dia.		1.773 - 1.767			
Angle of seat & face		45° Seat - 44° Face			
Seat insert material		Not Used			
Stem diameter		.3414 - .3407			
Stem to guide clearance		.0021 - .0038			
Lift (at zero lash)		.413 ± .011	.527 ± .011		
Outer spring press. & length		Valve closed (lb. @ in.)	56.1 @ 1.5913 66.1	70.5 @ 1.8183 80.5	
		Valve open (lb. @ in.)	125.4 @ 1.1783 135.4	216.4 @ 1.2913 230.4	
Inner spring press. & length		Valve closed (lb. @ in.)	54.2 @ 1.5213 60.2	37.2 @ 1.7483 43.2	
		Valve open (lb. @ in.)	118.4 @ 1.1083 128.4	106.2 @ 1.2213 116.2	

### ENGINE - LUBRICATION SYSTEM

Type of lubrica- tion (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Splash
	Camshaft bearings	Pressure
	Tappets	Pressure
	Timing gear or chain	Metered Jet
	Cylinder walls	Metered Jet

- (a) Flash chrome plated stem  
 (b) Thick chrome plated stem - swirl polished under head.

(Continued)

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (6)3-31-70

TEMPEST

Optional 455 cu. in. V8 Engine

## MODEL

## ENGINE - VALVE SYSTEM (cont.)

## Manual Transmission

## Automatic Transmission

Timing (based on top of ramp points)	Intake	Opens (+BTC)	31	23	
		Closes (+ABC)	77	70	
		Duration - deg.	288	273	
	Exhaust	Opens (+BBC)	90	78	
		Closes (+ATC)	32	31	
		Duration - deg.	302	289	
Valve opening overlap		63°	54°		
Intake	Material		GM-8440 W/Alum. Treatment on Face & Fl.Cr.Plated Stem		
	Overall length		4.992		
	Actual overall head dia.		2.113 - 2.107		
	Angle of seat & face		30° Seat - 29° Face		
	Seat insert material		Not Used		
	Stem diameter		.3419 - .3412		
	Stem to guide clearance		.0016 - .0033		
	Lift (- zero lash)		.414 ± .011	.410 ± .011	
	Outer spring press. & length	Valve closed (lb. @ in.)	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613	
		Valve open (lb. @ in.)	132.7 142.7 @ 1.1473	132.0 142.0 @ 1.1513	
	Inner spring press. & length	Valve closed (lb. @ in.)	35.0 41.0 @ 1.5213	35.0 41.0 @ 1.5213	
		Valve open (lb. @ in.)	118.6 128.6 @ 1.1073	97.4 107.4 @ 1.1113	
	Exhaust	Material		21-2 Steel W/Alum. Treat. on Face & Fl.Cr.Plated Stem	
		Overall length		4.991	
Actual overall head dia.		1.773 - 1.767			
Angle of seat & face		45° Seat - 44° Face			
Seat insert material		Not Used			
Stem diameter		.3414 - .3407			
Stem to guide clearance		.0021 - .0038			
Lift (- zero lash)		.413 ± .011			
Outer spring press. & length		Valve closed (lb. @ in.)	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613	
		Valve open (lb. @ in.)	132.5 142.5 @ 1.1483	132.5 142.5 @ 1.1483	
Inner spring press. & length		Valve closed (lb. @ in.)	35.0 41.0 @ 1.5213	35.0 41.0 @ 1.5213	
		Valve open (lb. @ in.)	97.9 107.9 @ 1.1083	97.9 107.9 @ 1.1083	

## ENGINE - LUBRICATION SYSTEM

Type of lubrica- tion (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Splash
	Camshaft bearings	Pressure
	Tappets	Pressure
	Timing gear or chain	Metered Jet
	Cylinder walls	Metered Jet

(Continued)

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a)

MODEL	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
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## ENGINE – LUBRICATION SYSTEM (cont.)

Oil pump type	Spur Gear		
Normal oil pressure (lb. engine rpm)	30-45 @ 1500	30-40 Above 2600	55-60 Above 2600
Oil press. sending unit (elect. or mech.)	Electric		
Type oil intake (floating, stationary)	Stationary Screen		
Oil filter system (full flow, part., other)	Full Flow		
Filter replacement (element, complete)	Complete		
Capacity of oil case, less filter-refill (qt.)	4	5	
Oil grade recommended (SAE viscosity and temperature range)	Above 20°F.: 20W, 10W-30, 10W-40, 20W-40 (d) From 0° to 60°F.: 10W, 5W-30, 10W-30, 10W-40 (d) Below 0°F.: 5W, 5W-20, 5W-30 (d)		
Engine Service Reqmt. (MM, MS, etc.)	MS		

## ENGINE – EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)	Single	Single (a)	Dual
Muffler No. & type (reverse flow, straight thru, separate resonator)	One - Reverse Flow		Two-Reverse Flow
Exhaust pipe dia. (O.D., wall thick.)	Not Used	2.00 x .076 (a)	Not Used
Branch			
Main	2.00 x .057-.071	2.25 x .076 (a)	2.00 x .060 (c)
Tail pipe dia. (O.D. & wall thickness)	1.88 x .062-.075	2.00 x .048 (b)	2.25 x .048 (b)

## ENGINE – CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)	Standard	Induction System
	Optional	None
Control Unit	Make and model	AC Type CV-679 C
	Location	Push Rod Cover
	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)	Intake Manifold
	Air inlet (breather cap, carburetor air cleaner, other)	Through Filter In Carburetor Air Cleaner
	Flame arrester (screen, check valve, other)	Check Valve

- (a) Optional dual system for 350 V-8 uses 2 reverse flow mufflers, 2.00 x .060 exhaust pipes (no crossover) and 2.25 x .048 aluminized tailpipes.  
 (b) Aluminized  
 (c) 2.25 x .060 with 400 Ram Air and 400 Ram Air IV engine options.  
 (d) All except Ram Air engines, Ram Air engines require use of SAE 30 or 10W-40 oil at all times.

## AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac	MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED	(a)
MODEL		Optional 400 4-Bbl. Engine		Optional 455 4-Bbl. Engine			

## ENGINE – LUBRICATION SYSTEM (cont.)

Oil pump type	Spur Gear
Normal oil pressure (lb. engine rpm)	30-40 Above 2600 (c)
Oil press. sending unit (elect. or mech.)	Electric
Type oil intake (floating, stationary)	Stationary Screen
Oil filter system (full flow, part., other)	Full Flow
Filter replacement (element, complete)	Complete
Capacity of oil case, less filter-refill (qt.)	5
Oil grade recommended (SAE viscosity and temperature range)	Above 20°F.: 20W, 10W-30, 10W-40, 20W-40 From 0° to 60°F.: 10W, 5W-30, 10W-30, 10W-40 Below 0°F.: 5W, 5W-20, 5W-30
Engine Service Reqmt. (MM, MS, etc.)	MS

## ENGINE – EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)	Single (a)	Dual	
Muffler No. & type (reverse flow, straight thru, separate resonator)	One - Reverse Flow	Two - Reverse Flow	
Exhaust pipe dia. (O.D., wall thick.)	Branch	2.00 x .076 (a)	Not Used
	Main	2.25 x .076 (a)	2.00 x .060
Tail pipe dia. (O.D. & wall thickness)	2.00 x .048 (b)	2.25 x .048 (b)	

## ENGINE – CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)	Standard Optional	Induction System None
Control Unit	Make and model	AC Type CV-679C
	Location	Push Rod Cover
	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)	Intake Manifold
	Air inlet (breather cap, carburetor air cleaner, other)	Through Filter in Carburetor Air Cleaner
	Flame arrester (screen, check valve, other)	Check Valve

(a) Optional dual system for 400 4-bbl. option is same as dual system used on 455 4-bbl. option.

(b) Aluminized

(c) 55-60 above 2600 on optional 455 4-bbl. engine

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (\*)

MODEL	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
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## ENGINE - EXHAUST EMISSION CONTROL

Type (Air injection, engine modifications, other)		
Air Injection Pump	Type	
	Displacement	
	Drive ratio	
	Drive type	
	Relief valve (type)	
	Filter (describe)	
Air Injection System	Air distribution (head, manifold, etc.)	
	Point of entry	
	Injection tube I.D.	
	Check valve type	
	Backfire protection (type)	
Carburetor	Make	
	Model	
	Barrel size	
	Idle speed	Drive Neutral
	Idle A/F mixture	
Distributor	Aux. Adv. Systems (type)	
	Make	
	Model	
	Cent'fgal adv. in crank degrees @ eng. rpm	Start (rpm) Intermed. points deg. @ rpm Max. deg. @ rpm
	Vacuum adv. in crank degrees @ eng. rpm	Start (in Hg) Intermed. points deg. @ in. Hg Max. deg. @ in.
	Vacuum Source	
Timing - Crank degrees @ rpm		
Cooling System		
Exhaust System		

STANDARD ENGINE PROVIDES EXHAUST EMISSION CONTROL

# AMA Specifications—Passenger Car

MAKE OF CAR		Pontiac		MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED (*)
MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO				
ENGINE - FUEL SYSTEM		Standard 250 I.6 Engine		Optional 350 V8 Engine	Standard GTO 400 V8 Engine			
Induction type: Carburetor, fuel injection, supercharger.		Carburetor						
Fuel Tank	Refill capacity (U.S. gals.)	20 (b)						
Fuel Tank	Filler location	Center Rear						
Fuel Pump	Type (elec. or mech.)	Mechanical						
Fuel Pump	Locations	Right Front of Eng.		Left Front of Engine				
Fuel Pump	Pressure range	4.0-5.0 P.S.I.		5.0-6.5 P.S.I.				
Vacuum booster (std., optional, none)		None						
Fuel Filter	Type and Locations	Plastic Fabric In Fuel tank and Sintered Bronze In Carburetor Inlet (a)						
Fuel Filter	Choke type	Automatic						
Fuel Filter	Intake manifold heat control (exhaust or water)	Exhaust						
Carburetor	Air cleaner type	Standard	Oil Wetted Paper Element					
	Air cleaner type	Optional	Two Stage-Wetted Plastic Foam Over Paper Element					
	Idle speed (spec. neutral or drive)	Manual N	700	800	950 (1000 Ram Air)			
		Automatic D	550	650	650 (750 Ram Air)			
		N   D	Idle A F mix. Not Specified					

### CARBURETOR SUPPLEMENTARY INFORMATION

Model Usage	Engine Displ.	Transmission	Carburetors		No Used and Type	Barrel Size
			Make	Model		
233, 235 & 237 Std	250	Manual	Rochester	7040017	1,1-Bbl.	1.69
		Automatic	Rochester	7040014	1,1-Bbl.	1.69
350 V8 Opt.	350	Manual	Rochester	7040071	1,2-Bbl.	1.69
		Automatic	Rochester	7040062	1,2-Bbl.	1.69
400 Reg. Fuel 4-Bbl. Opt.	400	Automatic	Rochester	7040060	1,2-Bbl.	1.69
		Automatic	Rochester	7040264	1,4-Bbl.	P. 1.38 S. 2.25
242 Std.	400	Manual	Rochester	7040263	1,4-Bbl.	P. 1.38
		Automatic	Rochester	7040264	1,4-Bbl.	S. 2.25
Ram Air Opt.	400	Manual	Rochester	7040273	1,4-Bbl.	P. 1.38
		Automatic	Rochester	7040270	1,4-Bbl.	S. 2.25
Ram Air IV Opt.	400	Manual	Rochester	7040273	1,4-Bbl.	P. 1.38
		Automatic	Rochester	7040270	1,4-Bbl.	S. 2.25
455 Eng. Opt.	455	Manual	Rochester	7040267	1,4-Bbl.	P. 1.38
		Automatic	Rochester	7040268	1,4-Bbl.	S. 2.25
455 Eng. with Ram Air Inlet	455	Manual	Rochester	7040273	1,4-Bbl.	P. 1.38
		Automatic	Rochester	7040270	1,4-Bbl.	S. 2.25

- (a) Carburetor Inlet Filter Is Pleated Paper In 4 BBL And 1 BBL Rochester carburetors. Form Rev. 3-67
- (b) Exc. station wagon, 22.5. Reduce by one gallon for all California cars.

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a)

<b>MODEL</b>	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
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**ENGINE - COOLING SYSTEM**

Type system (pressure, pressure vented, atmospheric, other)		Pressure Vented	
Radiator cap relief valve pressure		14-17 P.S.I.	
Circulation thermostat	Type (choke, bypass)	Choke	
	Starts to open at (° F)	195	190
Water pump	Type (centrifugal, other)	Centrifugal	
	GPM @ 1000 pump rpm	60 @ 4400	16
	Number of pumps	One	
	Drive (V-belt, other)	V-Belt	
Bearing type		Sealed Ball Bearing	
By-pass recirculation type (inter., ext.)		Internal	
Radiator core type (cellular, tube and fin, other)		Tube and Center	
Cooling system capacity	With heater (qt.)	13	19.9
	Without heater (qt.)	18.3(c)	
	Opt. equipment-specify (qt.)	Heater Standard Equipment	
Water jackets full length of cyl. (yes, no)		Yes	
Water all around cylinder (yes, no)		Yes	

Radiator hose	Lower	Number and type (molded, straight)	One, Molded	
		Inside diameter	1.50	
	Upper	Number and type (molded, straight)	One, Molded	
		Inside diameter	1.50	
	By-pass	Number and type (molded, straight)	None	
		Inside diameter	None	

Fan	Number of blades & spacing	4 - 65° & 115° (b)	4 - 65° & 115° (a) (b)
	Diameter	17.62	19.0
	Ratio-fan to crankshaft rev.	1.15:1 (1.25:1A/C)	.91:1 (1.25:1 With A/C)
	Fan cutout type	Fluid Clutch - Thermostatic Control	
	Bearing type	See Water Pump	

* Drive belts (indicate belt used by letter)	Fan	A	A, B	A, C	B, C	E	E, F	E	H, I
	Generator or alternator	A	A, B	A	B, D	E	E	E	H
	Water Pump	A	A, B	A, C	B, C	E	E, F	E	H, I
	Power Steering		B		B		F		I
	Air Conditioning			C	C			G	G
----- L6 Engine -----					----- V8 Engine -----				

* Drive Belt Dimensions	A	B	C	D	E	F	G	H	I	J	K
Angle of V	36°	36°	36°	36°	36°	36°	36°	36°	36°		
Nominal length (SAE)	39.0	50.0	53.8	31.0	47.5	52.0	59.2	48.0	53.0		
Width	.38	.38	.47	.38	.38	.47	.47	.38	.47		

(a) 5 Blade 19 Dia. Power-Flex Fan Standard on GTO

(b) Fan Capacity Increases on A/C Cars.

(c) 17.5 qts. with 455 V-8 Engine Option.

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a)

	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine
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## ELECTRICAL – SUPPLY SYSTEM

Battery	Make and Model		Delco Y-55 (a)	Delco Y-59 (a)	Delco R-59
	Voltage Rtg. & Total Plates		12-54	12-54	12-66
	SAE Designation & Amp. Hr. Rtg.		17 MI-44 Amp.Hr.	2 SM-53 Amp.Hr.	2 SM-61 Amp.Hr.
	Location		Under Hood R. H. Side	Under Hood L. H. Side	
Terminal grounded			Negative		
Generator or Alternator	Make		Delco Remy		
	Model		1100905	1100704	
	Type and rating		37 AMP.		
	Output at engine idle (neutral)		13 AMPS	5-10 AMPS	
	Ratio-Gen. to Cr.'s rev.		2.87	2.74:1 (3.02:1 With A/C)	
Regulator	Make		Delco Remy		
	Model		1119515		
	Type		Regulating Contacts		
	Cutout relay	Closing voltage generator rpm	Cutout Relay Not Required		
		Reverse current to open	Cutout Relay Not Required		
	Regu- lated	Voltage	13.8		
		Current	Alternator Self Regulating		
	Voltage test conditions	Temperature	125°F		
Load		10 AMPS.			
Other		Cycle Regulator Before Final Setting			

## ELECTRICAL – STARTING SYSTEM

Starting Motor	Make		Delco Remy		
	Model		1108439	1108434	1108435
	Rotation (drive end view)		Clockwise		
Motor control	Switch (solenoid, manual)		Solenoid		
	Starting procedure		Place gearshift lever in neutral and depress clutch.* With cold engine, depress accelerator pedal to floor and release. With warm engine, hold accelerator pedal about halfway down, turn ignition key clockwise to engage starter, release key as soon as engine starts. *Use neutral or park with automatic transmission (No clutch).		
Motor Drive	Engagement type		Sliding Gear - Overrunning Clutch		
	Pinion meshes (front, rear)		Rear	Front	
	Number of teeth	Pinion	9	9	
		Flywheel	Manual	153	166
			Auto.	153	166
	Flywheel tooth face width	Manual	.41	.40	
		Auto.	.41	.40	

(a) Delco R-59 Used With A/C or H.D. Battery Option.

(b) Delco R-59S (78 Plate, 62 Amp. Hr.) Available as H.D. Battery Option.



## AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac	MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED (*)
MODEL	Standard 250 L6 Engine	Optional 350 V8 Engine	Standard (GTO) 400 V8 Engine			

## ELECTRICAL - IGNITION SYSTEM

Type	Conventional - Std., Opt., N.A.	Standard					
	Transistorized - Std., Opt., N.A.	Not Offered					
	Other (specify)						
Coil	Make	Delco Remy					
	Model	1115414				1115410	
	Amps	Engine stopped	3.4				
	Engine idling	2.1					
Distributor	Make	Delco Remy					
	Model	1110463 (a)	1110464 (b)	1112008 (c)	1111176 (d)	1111148 (e)	
	Cent'fgal adv. in c/shaft degrees @ engine rpm (nominal)	Start (rpm)	900	900	1100	1100	800
		Intermediate points deg. @ rpm	19-23@1950	15-19@1950	10-14@1900	10-14 @ 1900	
		Max. deg. @ rpm	30-34@4200	26-30@4200	24-28@4700	24-28@4700	24-28@4600
	Vacuum adv. in c/shaft degrees @ in. Hg. (nominal)	Start (in. Hg.)	6 - 8	6 - 8	6 - 8	8 - 10	8 - 10
		Intermediate points, deg. @ in. Hg.	None				
		Max. deg. in. Hg.	23 @ 15-17		20 @ 13- 15	20 @ 15 - 17	
		Breaker gap (in.)	.019		.016		
		Cam angle (deg.)	31 - 34		28 - 32		
Timing	Breaker arm tension (oz.)	19 - 23			28 - 32		
	Crankshaft deg. @ rpm	TDC @ 700	4° BTDC @ 550	9° BTDC at Idle			
	Mark location	Torsional Damper		Crankshaft Pulley Hub			
Spark Plug	Make	AC					
	Model	R 46 T	R 46 S	R 45 S			
	Thread (mm)	14 mm					
	Tightening torque (lb. ft.)	15-25					
	Gap	.033 - .038					
Cable	Conductor type	Distributed Resistance					
	Insulation type	Neoprene					
	Spark plug protector	Neoprene Boot	Hypalon Boot				

## ELECTRICAL - SUPPRESSION

Locations & type	See Below
------------------	-----------

Internal distributor point shielding, wide gap distributor rotor, resistor spark plugs (5000 OHMS), distributed resistance secondary cables, hood ground clip and 0.3 MFD ignition coil by-pass capacitor.

- (a) Used on 250 L-6 engine with manual transmission.
- (b) Used on 250 L-6 engine with automatic transmission.
- (c) Used on all 350 V-8 engines.
- (d) Used on GTO standard engine with man. trans.
- (e) Used on GTO standard engine with Turbo Hydra-Matic trans.

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a)

MODEL

ELECTRICAL - IGNITION SYSTEM

Optional 400 and 455 Cu. In. Engines

Type	Conventional - Std., Opt., N.A.		Standard				
	Transistorized - Std., Opt., N.A.		Not Offered				
	Other (specify)		---				
Coil	Make		Delco Remy				
	Model		1115410				
	Amps	Engine stopped	3.4				
		Engine idling	2.1				
Distributor	Make		Delco Remy				
	Model		1112007 (a)	1112009 (b)	1112010 (c)	1112011 (d)	1112012 (g)
	Cent. fgal. adv. in c. shaft degrees engine rpm (nominal)	Start (rpm)	800	800	1100	1200	800
		Intermediate points deg. rpm	10-14 @ 1900	9-13 @ 2200	9-13 @ 2200	10-14 @ 2100	None
		Max. deg. rpm	24-28 @ 4600	20-24 @ 4600	20-24 @ 4600	26-30 @ 6100	14-18 @ 4400
	Vacuum adv. in c. shaft degrees in. Hg. (nominal)	Start (in. Hg.)	8-10				
		Intermediate points, deg. in. Hg.	None				
		Max. deg. in. Hg.	20 @ 15-17				
		Breaker gap (in.)	.016				
		Cam angle (deg.)	28-32				
Timing	Breaker arm tension (oz.)		19-23	28-32			
	Crankshaft deg. rpm		9° BTDC Idle (e)				
	Mark location		Crankshaft Pulley Hub				
Spark Plug	Make		AC				
	Model		R 46S (f)				
	Thread (mm)		14mm				
	Tightening torque (lb. ft.)		15-25				
	Gap		.033 - .038				
Cable	Conductor type		Distributed Resistance				
	Insulation type		Neoprene				
	Spark plug protector		Hypalon Boot				

ELECTRICAL - SUPPRESSION

Locations & type (See Page 13)

- (a) Used on 400 cu. in. reg. fuel (2-bbl.) and prem. fuel (4-bbl.) engine options.
- (b) Used on auto. transmission 400 Ram Air optional engines.
- (c) Used on man. trans. 400 Ram Air optional engines.
- (d) Used on 400 Ram Air IV optional engines.
- (e) Except 15° on Ram Air IV optional engines.
- (f) R 44S used on optional 455, 400 Ram Air and 400 Ram Air IV engines; R 45S used on optional 400 cu. in. 4-bbl.
- (g) Used on 455 cu. in. optional engines.

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (\*)

MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO
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## ELECTRICAL - INSTRUMENTS AND EQUIPMENT

Speed-ometer	Type	Mechanical		
	Trip odometer (yes, no)	No		
Charge indicator - type		Telltale Lamp		
Temperature indicator - type		Telltale Lamp		
Oil pressure indicator - type		Telltale Lamp		
Fuel indicator - type		Electric Gage		
Other:		Optional instrument cluster with temperature and oil pressure telltales replaced with gages		
Wind shield wiper	Type - Standard	2-Sp. Electric, Concealed Park, L.H. Arm Articulated		
	Type - Optional	None		
Wind-shield washer	Type - Standard	Electric - Pump Is Integral With Wiper Motor		
	Type - Optional	None		
Horn	Type	Solenoid		
	Number used	1 Std. (a)		2 Std.
	Amp draw (each)	4.3 - 5.9 @ 12.5V		

DRIVE UNITS - CLUTCH (Manual Transmission) 250 L6 Engine | V8 Engines

Make & type		Own - Dry	
Type pressure plate springs		Disc Spring	
Total spring load (lb.)	1740		2050 (b)
No. of clutch driven discs		One	
Clutch facing	Material	Woven Molded Asbestos	
	Outside & inside dia.	9.12 x 6.12	10.4 x 6.5
	Total eff. area (sq. in.)	71.82	85.56
	Thickness	.135	.140
	Engagement cushioning method	Driven Plate Waved Spoke Springs	
Release bearing	Type & method of lubrication	Ball Thrust - Prepacked & Sealed	
Torsional damping	Methods: springs, friction material	Coil Springs & Metal To Metal Friction	

(a) Second Horn Optional

(b) 2350 # On GTO

# AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac	MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED (*)	
MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO			

### DRIVE UNITS – TRANSMISSIONS

Manual 3-speed (std. or opt.)	Standard
Manual 4-speed (std. or opt.)	Optional on V8 Only
Manual with overdrive (std. or opt.)	Not Offered
Automatic (std. or opt.)	Optional

### DRIVE UNITS – MANUAL TRANS.

		3-Sp. 250 L6	3-Sp. 350 V8	3-Sp. V8 (a)	4-Sp. V8 (b)	4-Sp. V8 (c)
Transmission ratios	In first	2.85:1	2.54:1	2.42:1	2.52:1	2.20:1
	In second	1.68:1	1.50:1	1.58:1	1.88:1	1.64:1
	In third	1.00:1	1.00:1	1.00:1	1.46:1	1.28:1
	In fourth	-	-	-	1.00:1	1.00:1
	In reverse	2.95:1	2.63:1	2.41:1	2.59:1	2.27:1
Synchronous meshing, specify gears		All Forward				
Shift lever location		Steering Column		Floor		
Capacity (pt.)		3.5		2.8	2.5	
Type recommended		Type A ~ Extreme Pressure				
Lubricant	SAE vis- cosity number			80 or 90		
	Summer			80 or 90		
	Winter			80 or 90		
	Extreme cold			80 or 90		

### DRIVE UNITS – MANUAL TRANS. W/OVERDRIVE

(For transmission data see manual transmission section)

Type (planetary or other)	Not Offered	
Manual lockout (yes, no)		
Downshift accelerator control (yes, no)		
Minimum cut-in speed		
Gear ratio		
Lubricant	Capacity (pt.) (Overdrive only)	
	Separate filler (yes, no)	
	Type recommended	
	SAE vis- cosity number	
	Summer	
Winter		
	Extreme cold	

- (a) Standard 3-speed for 400 and 455 V-8 Engines - Heavy Duty Option for 350 V-8 Engine.
- (b) 4-speed option for 350 V-8 and 400 V-8 except Ram Air IV Option.
- (c) Close ratio 4-speed - optional on 455 4-bbl. Engine and 400 4-bbl. engines with 3.90 or 4.33 axle ratios. Only manual available for 400 Ram Air IV engine.

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (\*)  
 MODEL TEMPEST, LE MANS OR LE MANS SPORT WITH STANDARD 250 L6 OR OPTIONAL 350 V8 ENGINE

### DRIVE UNITS – AUTOMATIC TRANSMISSION

Trade name		Automatic			Turbo Hydra-Matic								
Type describe		Torque Converter											
Selector location		Steering Column (a)											
List gear ratios Selector Pattern and indicate which are used in each selector position		P	R	N	D	L	P	R	N	D	S	L	
			1.76		1.76	1.76		1.92		2.52	2.52	2.52	
					1.00					1.52	1.52		
										1.00			
		250 L6			350 V8			250 L6		350 V8			
Max. upshift speed—drive range (b)		56			76			70		86			
Max. kickdown speed—drive range (b)		50			70			66		82			
Torque converter		Number of elements Three											
		Max. ratio at stall 2.2						2.3:1		2.0:1			
		Type of cooling (air, liquid) Water											
		Nominal diameter 11.75											
Lubricant		Capacity—refill (pt.) 6						6					
		Type recommended GM Dexron Automatic Transmission Fluid											
Special transmission features													

### DRIVE UNITS – PROPELLER SHAFT

Number used		One	
Type (straight tube, tube-in-tube, internal-external damper, etc.)		Straight Tube	
Outer diam. x length* x wall thickness	Manual 3-speed trans.	3.25 x 60.0 x .065 (116 W.B.)	
		3.25 x 56.0 x .065 (112 W.B.)	
	Manual 4-speed trans.	3.25 x 60.0 x .065 (116 W.B.)	
		3.25 x 56.0 x .065 (112 W.B.)	
Overdrive transmission	Not Offered		
Automatic transmission	3.25 x 60.0 x .065 (116 W.B.)		
	3.25 x 56.0 x .065 (112 W.B.)		

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

(Continued)

(a) On Console of LeMans Sport 2 Dr. Models With Bucket Seats and Option Console.

(b) Based On Non-A/C Car With Std. Axle For Engine Indicated.

## AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac		MODEL YEAR	1970		DATE ISSUED	9-3-69		REVISED <sup>(a)</sup>
MODEL	233, 235 & 237 WITH 400 V8 ENGINE								
DRIVE UNITS – AUTOMATIC TRANSMISSION	400 Reg. Fuel Eng.			400 4-Bbl. Prem. Fuel Eng.					
Trade name	Turbo Hydra-Matic								
Type describe	Torque Converter								
Selector location	Steering Column (a)								
List gear ratios Selector Pattern and indicate which are used in each selector position	<u>P</u>	<u>R</u>	<u>N</u>	<u>D</u>	<u>S</u>	<u>L</u>			
		2.08		2.48	2.48				
				1.48	1.48				
				1.00					
Max. upshift speed—drive range	91			75					
Max. kickdown speed—drive range	85			69					
Torque converter	Number of elements	Three							
	Max. ratio at stall	2.0:1							
	Type of cooling (air, liquid)	Water							
Lubricant	Nominal diameter	12.5							
	Capacity—refill (pt.)	7.5							
	Type recommended	GM Dexron Automatic Transmission Fluid							
Special transmission features									

## DRIVE UNITS – PROPELLER SHAFT

Number used	One	
Type (straight tube, tube-in-tube, internal-external damper, etc.)	Straight Tube	
Outer diam. x length* x wall thickness	Manual 3-speed trans.	3.25 x 60.0 x .065 (116 W.B.)
		3.25 x 56.0 x .065 (112 W.B.)
	Manual 4-speed trans.	3.25 x 60.0 x .065 (116 W.B.)
		3.25 x 56.0 x .065 (112 W.B.)
Overdrive transmission	Not Offered	
Automatic transmission	3.25 x 59.34 x .065 (116 W.B.)	
	3.25 x 55.34 x .065 (112 W.B.)	

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

(Continued)

(a) On Optional Console of Cars With Bucket Seats (GTO &amp; LeMans Sport 2-door styles).

# AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED <sup>(\*)</sup>

MODEL GTO WITH 400 & 455 V8 ENGINE

## DRIVE UNITS – AUTOMATIC TRANSMISSION

Trade name	Turbo Hydra-Matic					
Type describe	Torque Converter					
Selector location	Steering Column (a)					
List gear ratios Selector Pattern and indicate which are used in each selector position	<u>P</u>	<u>R</u>	<u>N</u>	<u>D</u>	<u>S</u>	<u>L</u>
		2.08		2.48 1.48 1.00	2.48 1.48	
	Std. 4-Bbl.	455 4-Bbl.	400 Ram Air	400 Ram Air IV		
Max. upshift speed—drive range	70	75	76	69		
Max. kickdown speed—drive range	64	69	70	63		
Torque converter	Number of elements	Three				
	Max. ratio at stall	2.3:1		2.0:1		
Lubricant	Type of cooling (air, liquid)	Water				
	Nominal diameter	12.5				
Special transmission features	Capacity—refill (pt.)	7.5				
	Type recommended	GM Dexron Automatic Transmission Fluid				

## DRIVE UNITS – PROPELLER SHAFT

Number used	One	
Type (straight tube, tube-in-tube, internal-external damper, etc.)	Straight Tube	
Outer diam. x length* x wall thickness	Manual 3-speed trans.	3.25 x 60.0 x .065 (116 W.B.) 3.25 x 56.0 x .065 (112 W.B.)
	Manual 4-speed trans.	3.25 x 60.0 x .065 (116 W.B.) 3.25 x 56.0 x .065 (112 W.B.)
	Overdrive transmission	Not Offered
	Automatic transmission	3.25 x 59.34 x .065 (116 W.B.) 3.25 x 55.34 x .065 (112 W.B.)

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

(Continued)

(a) On Optional Console of Cars With Bucket Seats (GTO & LeMans Sport 2-door styles.)

## AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac			MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED (a)
MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO				

## DRIVE UNITS – PROPELLER SHAFT (cont.)

Inter-mediate bearing	Type (plain, anti-friction)	Not Used	
	Lubrication (fitting, prepack)	Not Used	
Slip Yoke	Type	Splined	
	Number of teeth	28	
	Spline O.D.	1.166	
Universal joints	Make and Mfg. No.	Saginaw - Size 44 (Regular)	
	Number used	Two	
	Type (ball and trunion, cross)	Cross	
	Rear attach. (u-bolt, clamp, etc.)	U-Bolt	
	Bearing	Type (plain, anti-friction)	Anti-Friction
Lubric. (fitting, prepack)		Prepacked	
Drive taken through (torque tube or arms, springs)		Control Arms	
Torque taken through (torque tube or arms, springs)		Control Arms	

## DRIVE UNITS – AXLE

Type (front, rear)	Rear		
Description	Semi-Floating Hypoid		
Limited Slip differential, type	Spring Loaded Clutch (Opt.)		
Drive Pinion Offset	1.50		
No. of differential pinions	2		
Pinion adjustment (shim, other)	Shim		
Pinion bearing adj. (shim, other)	Collapsible Spacer		
Wheel bearing type	Roller Bearing		
Lubricant	Capacity (pt.)	3 (a)	
	Type recommended	MIL-L-2105B (b)	
	SAE viscosity number	Summer	80 or 90
		Winter	80 or 90
		Extreme cold	80 or 90

## AXLE RATIO TOOTH COMBINATIONS

(See page 3 for axle ratio usage)

Axle ratio	3.31:1	2.56:1	2.78:1	3.08:1	3.23:1	3.55:1	3.90:1	4.33:1
No. of teeth	Pinion	13	16	14	13	13	11	9
	Ring gear	43	41	39	40	42	39	39
Ring Gear O.D.	8.875	8.125						

(a) Capacity Increases 5 Pts. With 8.875 Dia. Ring Gear

(b) Special Lubricant Required With Limited Slip Differential.



## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (e)MODEL TEMPEST | LE MANS | LE MANS SPORT | GTO

## DRIVE UNITS - WHEELS

Type & material		Disc - Steel
Rim (size & flange type)	Std.	14 x 6 JJ
	Opt.	
Attachment	Type (bolt or stud)	Bolt
	Circle diameter	4.75
	Number and size	5, 7/16-20

MODEL \_\_\_\_\_

## DRIVE UNITS - TIRES

Standard	Size, ply rating, & ply	F78 - 14 (b) (c)	G70 - 14 (c)	
	Type (bias, radial, etc.)	Bias Belted		
	Full rated Inflation Press.	Front	24	
		Rear	28 - Except 32 on Station Wagons	
	Rev./Mile at 50 MPH	F78-14-787, G70-14-778, G78-14-775		
Optional	Size, ply rating, & ply	G78 -14 (c) (e) G78 -14 Load Range D, 6 Ply Tread-4 Ply Body (T.P.) G70 -14 (c) F78 -14 (d)		

## BRAKES - PARKING

Type of control		Foot Lever Application - Hand Pull Release
Location of control		Below Instrument Panel at Left
Operates on		Rear Service Brakes
If separate from service brakes	Type (internal or external)	Not Separate
	Drum diameter	Not Separate
	Lining size (length x width x thickness)	Not Separate

(b) Std. On 6 Cyl. Engine Models Except Station Wagons - G78-14 Std. With V-8 Engine Option. H78-14 on all station wagons. G78-14 standard on 6 cylinder 23739 when equipped with air conditioning.

(c) Load Range B, 4 Ply Tread - 2 Ply Body.

(d) Space Saver Spare, Load Range B, 3 Ply Tread - 2 Ply Body (N.A./Sta.Wgn.)

(e) Not Available on GTO.

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED <sup>(\*)</sup>

	TEMPEST	LE MANS	LE MANS SPORT	GTO
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## MODEL \_\_\_\_\_

## BRAKES—SERVICE

Type (drum) or (disc & no. of pistons)		Drum - Standard		Front Disc-Single, Opt. (a)		
Self adjusting (std., opt., N.A.)		Standard		Standard		
Special Valving	Type (proportion, delay, metering, other)	--		Metering Type - Delay		
Power brake make & type (remote, int., etc.)	Std. Opt.	Delco Moraine, Integral Type, Vacuum Suspended (b)		--		
Effective area (sq. in.) *		149.4		103.6		
Gross lining area (sq. in.) **		155.5		110.6		
Swept area (sq. in.) ***		269.2		350.9		
Front to Rear Effectiveness Relationship		62.6		62.6		
Drum	Diameter (nominal)	Front	9.5	Rear	--	
	Type and material	Cast Alloy Iron (c)		--		
Rotor	Outer working diameter		--	10.94		
	Inner working diameter		--	6.88		
	Working width		--	1.00		
	Material & type (vented/solid)		--	Cast Alloy Iron - Vented		
Wheel cylinder bore	Front		1.125		2.9375	
	Rear		.875			
Master Cylinder	Bore		1.00		1.125	
	displacement distribution	Front	%	59	63	
		Rear	%	41	37	
Pedal arc ratio		6.15:1 Manual - 3.36:1 Power (e)				
Line pressure at 100 lb. pedal load		700 Manual, 900 Power-Drum, 800 Power-Disc				
Shoe Clearance	Front		(d)		None	
	Rear		(d)			
Brake lining	Bonded or riveted		Riveted			
	Front Wheel	Material		Molded Asbestos		
		Size (length x width x thickness)	Prim. or out-board	7.6 x 2.5 x .196		5.40 x 1.93 x .41
			Second. or in-board	9.85 x 2.5 x .265		5.40 x 1.93 x .44
		Segments per shoe		One		
	Rear Wheel	Material		Molded Asbestos		
		Size (length x width x thickness)	Prim. or out-board	7.6 x 2.0 x .196		
			Second. or in-board	9.85 x 2.0 x .265		
Segments per shoe		One				

\* Excludes rivet holes, grooves, chamfers, etc. \*\* Includes rivet holes, grooves, chamfers, etc.

\*\*\* Total swept area for four brakes. (Widest lining contact width for each brake x its contact circumference.)

(a) Included with power brake option on GTO series.

(b) Optional with Drum Brakes. Included with front disc brake opt. all series

(c) Front - finned 1 pc. casting, rear - finned composite.

(d) Tighten drum brakes to heavy drag then back off 26 notches.

(e) At 0.5 in. push rod travel.

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED <sup>(\*)</sup>

MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO
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## STEERING

Manual (std., opt., NA)		Standard	
Power (std., opt., NA)		Optional	
Adjustable steering wheel (tilt, swing, other)	Type and description	Tilting Wheel, Adjusts Vertically - Seven Positions	
	(std., opt., NA)	Optional	
Wheel diameter	Manual	14.75 x 15.25	
	Power	14.75 x 15.25	
Turning diameter (feet)	Outside front	Wall to wall (l. & r.)	40.5 (112 W.B.) 41.7 (116 W.B.)
		Curb to curb (l. & r.)	37.4 (112 W.B.) 38.6 (116 W.B.)
	Inside rear	Wall to wall (l. & r.)	23.1 (112 W.B.) 24.3 (116 W.B.)
		Curb to curb (l. & r.)	23.7 (112 W.B.) 24.9 (116 W.B.)
Manual	Gear	Type	Recirculating Ball Bearing
		Make	Saginaw
	Ratios	Gear	24:1
		Overall	28.3:1
	No. wheel turns (stop to stop)		5.6
Power	Type (coaxial, linkage, etc.)	Coaxial	
	Make	Saginaw	
	Gear	Type	Recirculating Ball Bearing
		Ratios	16.0 to 12.4:1
	Overall	18.9 to 14.6:1	
		Pump driven by	Belt From Crankshaft
No. wheel turns (stop to stop)		3.5	
Linkage	Type	Link Parallelogram	
	Location (front or rear of wheels, other)		Front of Wheels
	Drag link (trans. or longit.)		Trans.Strg.Rod Connects Tie Rods,Pitman & Idler Arms
	Tie rods (one or two)		Two
Steering Axis	Inclination at camber (deg.)		9° 0' @ 0° Camber
	Bearings (type)	Upper	Ball Joint
		Lower	Ball Joint
		Thrust	Spring Load Taken by Lower Ball Joint
Whl. Align. (range at curb wt. & preferred)	Caster (deg.)		1° 30' Negative ± 30'
	Camber (deg.)		0° 15' Positive ± 30'
	Toe-in (outside track inches)		0 to .125 Toe-in Measured 9 Inches Above Floor
Steering spindle & joint type		Reverse Elliott - Ball Joint	
Wheel Spindle	Diameter	Inner bearing	1.249
		Outer bearing	.749
	Thread size		3/4 - 20
	Bearing type		Taper Roller

## AMA Specifications—Passenger Car

MAKE OF CAR Pontiac MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (e)

MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO
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## SUSPENSION - GENERAL

(See Supplement page for details on Air Suspension)

Provision for car leveling	None			
Provision for brake dip control	Compound Anti-Dive Control & Anti-Rise Rear Susp.			
Provision for acc. squat control	Geometry of Rear Links			
Special provisions for car jacking	Jack Locating Provisions on Front & Rear Bumpers			
Shock absorber front & rear	Type	Direct Acting - Two Way		
	Make	Delco		
	Piston dia.	1.00		
Other special features				

## SUSPENSION - FRONT

Type and description		Ball Joint Independent Front Suspension With Upper & Lower Control Arms Mounted on Rubber Bushings		
Spring	Type	Coil		
	Material	SAE 9260		
	Size (coil design height & I.D. bar length x dia.)	11.30 x 3.6		
	Spring rate (lb. per in.)	250 Std. on 23369 - 280, 310 & 335 (a)	310(a)	
	Rate at wheel (lb. per in.)	74 Std. on 23369 - 82, 91 & 99(a)	91(a)	
Stabilizer	Type (link, linkless, frameless)	Link		
	Material & bar diameter	SAE 9260, .937 (Exc. .907 on Sta.Wgn. 1.125 on GTO)		

## SUSPENSION - REAR

Type and description		Four Link Pivoted Control Arm Control Arms		
Drive and torque taken through		Control Arms		
Spring	Type	Coil		
	Material	SAE 9260		
	Size (length x width, coil design height & I.D., bar length & dia.)	7.76 x 5.50		
	Spring rate (lb. per in.)	106 Std. on 23369 - 122, 144, 150 & 200(a)	122(a)	
	Rate at wheel (lb. per in.)	96 Std. on 23369 - 110, 130, 136 & 180(a)	110(a)	
	Mounting insulation type	None		
If leaf	No. of leaves	None		
	Shackle (comp. or tens.)	None		
Stabilizer	Type (link, linkless, frameless)	Not Used	Linkless	
	Material	None	1070 (.875)	
Track bar type		Not Used		

(a) Alternate springs used as required for body styles and optional equipment.

## AMA Specifications—Passenger Car

MAKE OF CAR	Pontiac	MODEL YEAR	1970	DATE ISSUED	9-3-69	REVISED (a)
MODEL	TEMPEST	LE MANS	LE MANS SPORT	GTO		
FRAME						

Type and description (Separate frame, unitized frame, partially - unitized frame)

Perimeter Type With Swept Hips - Boxed on Convertible

## BODY - MISCELLANEOUS INFORMATION

Drs. hinged (front, rr.)	Front doors	Front
	Rear doors	Front
Type of finish (lacquer, enamel, other)	Acrylic Lacquer	
Hood counterbalanced (yes, no)	Yes	
Hood release control (internal, external)	External	
Vehicle Ident. No. location	Left Front Edge of Instrument Panel - Visible Through Windshield	
Engine No. location	Top of Cyl. Block on R.H. Side Near Oil Filler (a)	
Theft protection - type	*	
Vent window control method (crank, friction pivot)	Front	Crank - Exc. 37 & 67 Styles Which Are W/O Vent
	Rear	---
Seat cushion type	Front	(b)   (c)
	Rear	(d)
	3rd seat	None
Seat back type	Front	(d)   (c)
	Rear	(d)
	3rd seat	None
Windshield glass type (i.e., single curved - laminated plate)	Single Curved Laminated Safety Plate	
Side glass type (i.e., curved - tempered plate)	Curved Tempered Safety Plate	
Backlight glass type (i.e., compound curved - tempered plate, three piece)	Curved Tempered Safety Plate (e)	
	<b>BODY STYLE</b>	69      39      27      37      67      35 & 36
Windshield glass exposed surface area	1249.6	1249.6    1208.7    1208.7    1211.8    1249.6
Side glass exposed surface area	1197.0	1303.6    1198.8    1295.5    1186.6    2419.9
Backlight glass exposed surface area	1032.2	1032.2    1083.9    1083.9    539.7    757.0
Total glass exposed surface area	3478.8	3585.4    3491.4    3588.1    2938.1    4426.5

(a) Front of R.H. Cylinder Bank on V-8 Engine.

(b) Zig-zag Spring With Foam Pad.

(c) Zig-zag Spring With Contour Molded Foam Pad - Except 23739 & 23736 are same as Tempest.

(d) Zig-zag Spring With Cotton Pad.

(e) Compound Curved Tempered Safety Plate on 35, 36, and 39 Styles.

\* Anti-theft steering column lock: Locks ignition switch, steering gear and gearshift (in Reverse with manual, Park with automatic transmission), key removable in locked position only and opening driver's door operates "key-in-lock" buzzer. Interior front door locking knobs moved forward to deter theft.

# AMA Specifications—Passenger Car

<b>MAKE OF CAR</b> Pontiac	<b>MODEL YEAR</b> 1970	<b>DATE ISSUED</b> 9-3-69	<b>REVISED</b> (*)
<b>MODEL</b>	TEMPEST	LEMANS	LEMANS SPORT
			GTO

## CONVENIENCE EQUIPMENT

(Indicate whether standard, optional or NA on each series)

Power windows	Side windows	Optional
	Vent windows	Not Offered
	Backlight or tailgate	Optional on Station Wagon
Power seats (specify type as well as availability)		Power Tilt Seat (Fore and Aft Plus Elevation at Rear Edge) Optional on All Bench Seats and L.H. Bucket Seats
Reclining front seat back (R-L or both)		Optional on R.H. Side With Bucket Seats
Front seat head restrainer (R-L or both)		Standard L & R On All Front Seats
Radios (specify type as well as availability)		Optional: AM, AM-FM, AM-FM Stereo - All Push Button Type
Rear seat speaker		Optional
Power antenna		Not Offered - Windshield Antenna Standard
Clock		Optional on All Except With Panel Mounted Tachometer
Air conditioner (specify type and availability)		Reheat Cycle - Optional
Speed warning device		Safeguard Speedometer - Optional
Speed control device		Optional on Cars With V-8 Engine and Turbo Hydra-Matic Transmission Combination
Ignition lock lamp		Not Offered
Dome lamp		Standard Except Convertible
Glove compartment lamp		Standard on 237 and 242 Series - Optional on Others
Luggage compartment lamp		Optional
Underhood lamp		Optional
Courtesy lamp		Standard on Convertible - Not Offered on Others
Map lamp		Not Offered
Auto. trans. quad. lamp		Standard
Cornering light lamp		Not Offered
Low Fuel Warning Lamp		Optional - Included With Safeguard Speedometer
Tachometer		Optional With V-8 - Hood Mounted or in Rally Gage Cluster
Stereo Tape Player		Optional in Combination With Any Radio
Elec. Luggage Compt. Lid Release		Optional
Dome and Reading Lamp		Optional - All Except Convertible
Rear Compartment Courtesy Lamp		Optional on Station Wagons
Cigar Lighter and Ash Tray Light		Standard on LeMans Sport and GTO - Optional on Others

## LAMP HEIGHT AND SPACING

CURB LOAD Height above ground to center of bulb or marker	Headlamp	Highest *	27.4 (Except Station Wagon 27.9)	26.3
		Lowest	27.4 (Except Station Wagon 27.9)	26.3
	Tail	Highest	21.4 (Except Station Wagon 29.5)	21.4
		Lowest	21.4 (Except Station Wagon 29.5)	21.4
	Sidemarker	Front	16.6 (Except Station Wagon 17.1)	20.8
		Rear	21.3 (Except Station Wagon 29.5)	21.3
Distance from C L of car to center of bulb	Headlamp	Inside	24.1	22.3
		Outside *	31.3	30.3
	Tail	Inside	24.2 (Except Station Wagon 33.7)	24.2
		Outside	30.3 (Except Station Wagon 33.7)	30.3
	Directional	Front	27.4	26.5
		Rear	Same as Tail Lamp	

\* If single headlamps are used enter here.

## AMA Specifications—Passenger Car

MAKE OF CAR PONTIAC MODEL YEAR 1970 DATE ISSUED 9-3-69 REVISED (a)

## WEIGHTS (ESTIMATED)

Model	CURB WEIGHT * POUNDS			% PASS. WEIGHT DISTRIBUTION				LIQUID WEIGHT	
	Fron.	Rear	Total	Pass. In Front		Pass. In Rear		Fuel	Coolant
				Front	Rear	Front	Rear		
			Est.						
TEMPEST									
4-Dr. Sedan	23369		3396	50.0	50.0	20.0	80.0	122	25
Coupe	23327		3336	47.4	52.6	19.7	80.3	122	25
Le Mans									
4-Dr. Sedan	23569		3451	50.0	50.0	20.0	80.0	122	25
Coupe	23527		3377	47.4	52.6	19.7	80.3	122	25
4-Dr. Hardtop	23539		3512	50.0	50.0	20.0	80.0	122	25
Hardtop Coupe	23537		3401	47.4	52.6	19.7	80.3	122	25
Sta.Wgn. -2 Seat	23535		3718	51.0	49.0	22.0	78.0	137	25
LEMANS SPORT									
4-Dr. Hardtop	23739		3551	50.0	50.0	20.0	80.0	122	25
Coupe	23727		3407	47.4	52.6	19.7	80.3	122	25
Hardtop Coupe	23737		3456	47.4	52.6	19.7	80.3	122	25
Convertible	23767		3463	47.4	52.6	19.7	80.3	122	25
Sta.Wgn.-2 Seat	23736		3812	51.0	49.0	22.0	78.0	137	25
GTO									
Hardtop Coupe	24237		3781	47.4	52.6	19.7	80.3	122	38
Convertible	24267		3821	47.4	52.6	19.7	80.3	122	38
Accessories & Equipment Differential Weights									Remarks
Automatic Trans.	- 3	- 2	- 5						L-6 and 350 V-8 Engine
Turbo H-M Trans.	+ 16	+ 7	+ 23						L-6 and 350 V-8 Engine
Turbo H-M Trans.	+ 20	+ 9	+ 29						All
Air Conditioning	+109	+ 4	+113						L6 Engine
Air Conditioning	+104	+ 6	+110						V8
350 V-8 Engine	+209	+ 17	+226						233, 235 and 237
400 V-8 4-bbl. Engine	+228	+ 17	+245						233, 235 and 237
455 V-8 4-bbl. HO Eng.	+ 39	+ 9	+ 48						242 Series only
400 Ram Air Engine	+ 22	+ 4	+ 26						242 Series only
400 Ram Air IV Engine	+ 1	+ 12	+ 13						242 Series only
Power Steering	+ 33	- 2	+ 31						
Power Brakes (Drum Frt)	+ 8	+ 1	+ 9						All except 242 series
Power Brakes (Disc Frt)	+ 20	+ 1	+ 21						All Series
Radio & Man. Antenna	+ 6	+ 2	+ 8						

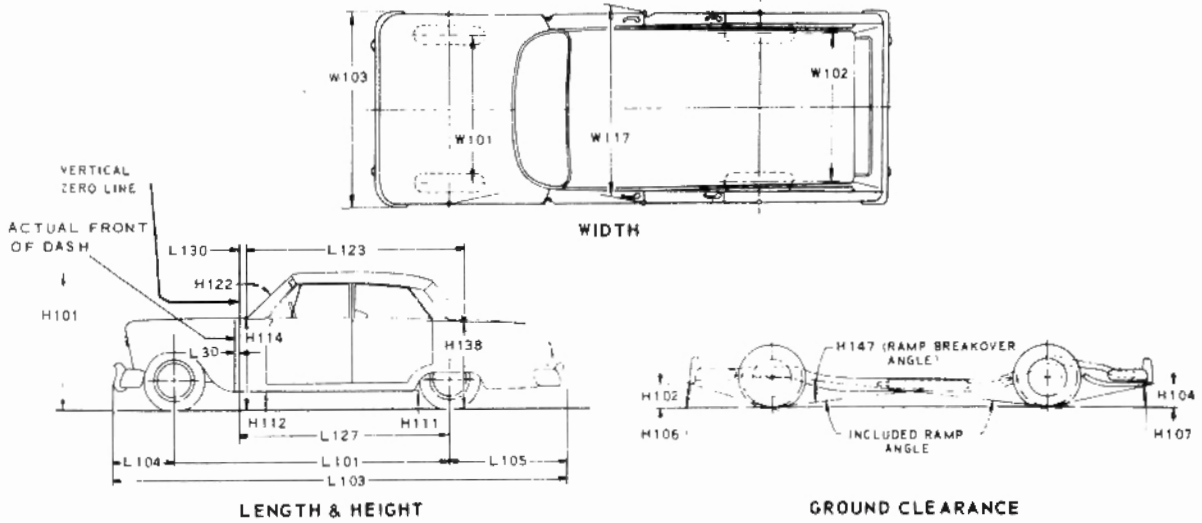
\*Reference - SAE Aerospace-Automotive drawing standards, Section E 1.02 (d).

# AMA Specifications—Passenger Car

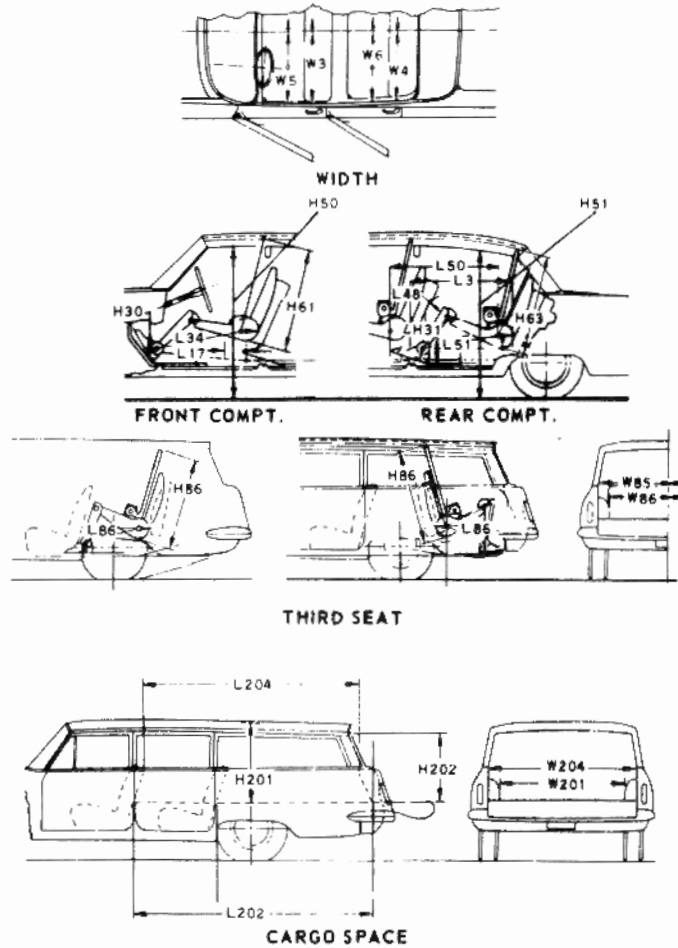
## CAR AND BODY DIMENSIONS

### KEY SHEET

#### EXTERIOR CAR AND BODY DIMENSIONS



#### INTERIOR CAR AND BODY DIMENSIONS





## CAR AND BODY DIMENSIONS

## KEY SHEET

## DIMENSION DEFINITIONS

## EXTERIOR WIDTH DIMENSIONS

- W101 WHEEL TREAD - FRONT. Measured at centerline of tires, with nominal camber, at ground.  
 W102 WHEEL TREAD - REAR. Measured at centerline of tires at ground.  
 W103 MAXIMUM OVERALL CAR WIDTH. Include bumpers, moldings, or sheet metal protrusions. Measured to outside of metal.  
 W117 MAXIMUM BODY WIDTH AT #2 PILLAR. Measured across body at #2 pillar, excluding hardware and applied moldings.

## EXTERIOR LENGTH DIMENSIONS

- L 30 VERTICAL 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.  
 L101 WHEELBASE.  
 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 Cowl Point to the Deck Point.  
 L127 VERTICAL ZERO LINE TO CENTERLINE OF REAR WHEELS. A horizontal dimension.  
 L130 VERTICAL ZERO LINE TO WINDSHIELD COWL POINT. The horizontal dimension from the vertical zero line to the theoretical intersection of extended windshield glass plane and normal cowl surface.

## EXTERIOR HEIGHT DIMENSIONS

- H101 OVERALL HEIGHT - DESIGN. Measured with the vehicle in Manufacturer's Design Weight attitude.  
 H114 COWL POINT TO GROUND. Measured at vehicle centerline.  
 H138 DECK POINT TO GROUND. Measured at vehicle centerline.  
 H112 ROCKER PANEL TO GROUND - FRONT. The vertical dimension from ground to bottom of rocker panel, excluding flanges. Measured to the outside of sheet metal at foremost point of rocker panel.  
 H111 ROCKER PANEL TO GROUND - REAR. The vertical dimension from ground to bottom of rocker panel, excluding flanges. Measured to the outside of sheet metal at front of rear wheel opening.  
 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.

## GROUND CLEARANCE DIMENSIONS

- H102 BUMPER TO GROUND - FRONT. Minimum dimension, includes bumper guards.  
 H104 BUMPER TO GROUND - REAR. Minimum dimension, includes bumper guards.  
 H106 ANGLE OF APPROACH. The angle between ground and a line tangent to the front tire static loaded radius arc and the first point of interference, i.e., bumper, guard, gravel deflector, fender or other component, excluding license plate. This dimension may be determined graphically for reporting purposes.  
 H107 ANGLE OF DEPARTURE. The angle between ground and a line tangent to the rear tire static loaded radius arc and the first point of interference, i.e., bumper, guard, gravel deflector, tail pipe, fender or other component, excluding license plate. This dimension may be determined graphically for reporting purposes.  
 H147 RAMP BREAKOVER ANGLE. The 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.  
 H156 MINIMUM RUNNING GROUND CLEARANCE. Location of measurement on the car is to be clearly recorded.

## FRONT COMPARTMENT DIMENSIONS

- H 61 EFFECTIVE HEAD ROOM - FRONT. The dimension from H Point to the headlining, plus a constant of 4.0 inches, measured along a line  $B^{\circ}$  to rear of vertical.  
 L 34 MAXIMUM EFFECTIVE LEG ROOM - ACCELERATOR. Measured along a diagonal line from the Manikin ankle pivot center to the H Point plus a constant of 10.0 inches. For treadle type accelerator pedals, the leg room is measured with the Manikin's right foot on the accelerator pedal and the Manikin Heel Point at Accelerator Heel Point. All other types of accelerator pedals will be measured with the Manikin foot angle set at 87° and the shoe touching the pedal.  
 H 30 H POINT TO HEEL POINT - FRONT. The vertical dimension from the H Point to the Accelerator Heel Point.  
 L 17 H POINT TRAVEL. The horizontal dimension between the H Point in the most forward and rearward seat positions.

## FRONT COMPARTMENT DIMENSIONS (Cont.)

- W 3 SHOULDER ROOM - FRONT. The minimum lateral dimensions between the door garnish moldings or nearest interference, measured at the H Point station.  
 W 5 HIP ROOM - FRONT. The lateral dimension through the H Point to trimmed body surfaces. Depress loose side wall cloth to trim foundation or other obstruction if such construction exists.  
 H 50 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.

## REAR COMPARTMENT DIMENSIONS

- L 50 H POINT COUPLE DISTANCE. The horizontal dimension from the front seat H Point to the rear seat H Point.  
 H 63 EFFECTIVE HEAD ROOM - REAR. The dimension from the H Point to the headlining, plus a constant of 4.0 inches, measured along a line  $B^{\circ}$  to rear of vertical.  
 L 51 MINIMUM EFFECTIVE LEG ROOM - REAR. Measured along a diagonal line from the ankle pivot center to the H Point plus a constant of 10.0 inches, with the foot positioned to the nearest interference between the seat structure and toe, instep or lower leg.  
 H 31 H POINT TO HEEL POINT - REAR. The vertical dimension from the H Point to the Manikin Heel Point on the depressed floor covering.  
 L 48 MINIMUM KNEE ROOM - REAR. The minimum dimension from the Manikin knee pivot center to the back of the front seat back.  
 L 3 REAR COMPARTMENT ROOM. The horizontal dimension from the back of front seat to front of rear seat back at height tangent to the top of rear seat cushion.  
 W 4 SHOULDER ROOM - REAR. The minimum lateral dimension between the door garnish molding or nearest interference. Measured at H Point station.  
 W 6 HIP ROOM - REAR. The lateral dimension through H Point to trimmed body surfaces. Depress loose side wall cloth to trim foundation or other obstruction when such construction exists.  
 H 51 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.

## LUGGAGE COMPARTMENT DIMENSIONS

- V 1 LUGGAGE CAPACITY - USABLE. The total luggage compartment luggage capacity in cubic feet with the tire and tools in place.  
 H195 LIFTOVER HEIGHT. Vertical dimension from the highest point on the luggage compartment lower opening to ground, excluding corner radii.

## STATION WAGON - THIRD SEAT DIMENSIONS

- W 85 SHOULDER ROOM - THIRD SEAT. The minimum lateral dimension between the door garnish moldings or nearest interference. Measured at H Point station.  
 W 86 HIP ROOM - THIRD SEAT. The lateral dimension through H Point to trimmed surfaces.  
 L 86 EFFECTIVE LEG ROOM - THIRD SEAT. Measured along a diagonal line from ankle pivot center to H Point plus a constant of 10.0 inches. With rear-facing third seat, foot is positioned in foot well or to nearest interference with rear end or rear closure.  
 H 86 EFFECTIVE HEAD ROOM - THIRD SEAT. The dimension from H Point to the headlining, plus a constant of 4.0 inches. Measured along a line  $B^{\circ}$  to rear of vertical.

## STATION WAGON - CARGO SPACE DIMENSIONS

- L202 CARGO LENGTH AT FLOOR - FRONT SEAT. The horizontal dimension, measured at the floor level from the rear of the front seat back to the normal inside limiting interference on the tailgate, on the car centerline.  
 L204 CARGO LENGTH AT BELT - FRONT SEAT. The horizontal dimension measured from the top rear of front seat back to a vertical extension line from the normal inside limiting interference at the top of the tailgate, on the car centerline.  
 W201 CARGO WIDTH - WHEELHOUSE. The minimum horizontal dimension, measured between wheelhouses at floor level.  
 W204 OPENING WIDTH AT BELT. The minimum horizontal dimension, measured between the nearest normal inside limiting interferences of the rear opening at the top of the tailgate.  
 H201 MAXIMUM CARGO HEIGHT. The maximum vertical dimension, measured from the top of the floor covering to the headlining, on the car centerline.  
 H202 REAR OPENING HEIGHT. The vertical dimension measured from the top of the floor covering to the normal inside limiting interference at the top of the rear opening, on the car centerline, with both tail- and liftgates fully open.  
 V 2 CARGO VOLUME INDEX BEHIND FRONT SEAT. The total volume in cubic feet above the normal load floor and behind the front seat with the liftgate and tailgate closed.

W4xL204xH201

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