AMA–40A

AMA Specifications—Passenger Car

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MANUFACTURER	CAR NAME	
Pontiac Motor Division General Motors Corporation	Firebird	
MAILING ADDRESS	MODEL YEAR	ISSUED: 8-23-67
Pontiac, Michigan 48053	1968	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 Type	Number of Passengers	Body Style Number
Hardtop Coupe	5*	22337
Convertible	5	22369

*6 passengers with optional bench type front seat - available for 22337 style only.

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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 and are shown with vehicle load of two passengers in front and three in rear, except where otherwise noted.

MODEL		SAE Ref. No.	FIREBIRD 22337
WIDTH			
Track – Front		W101	60
Track – Rear		W102	60
Maximum overall car width		W103	72.8
Body width at No. 2 pillar		W117	--
LENGTH			
Body "O" to front of dash		L 30	0.5
Wheelbase		L101	108.1
Overall car length		L103	188.8
Overhang – front		L104	40.4
Overhang – rear		L105	40.3
Body upper structure length		L123	95.4
Body "O" line to ℄ of rear wheel		L127	90.0
Body "O" line to w/s cowl point		L130	9.5
HEIGHT			
Overall height		H101	50.0
Cowl height		H114	36.0
Deck height		H138	N.A.
Rocker panel – front	To ground	H112	7.0
	From front wheel ℄		33.1
Rocker panel – rear	To ground	H111	6.2
	From rear wheel ℄		20.0
Windshield slope angle		H122	52.4
GROUND CLEARANCE			
Bumper to ground – front		H102	16.9
Bumper to ground – rear		H104	14.4
Angle of approach		H106	29.9
Angle of departure		H107	23.5
Ramp breakover angle		H147	10.2
Min. running clearance (Specify)		H156	4.3

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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.	FIREBIRD 22337
FRONT COMPARTMENT		
Effective head room	H61	37.0
Max. eff. leg room – accelerator	L34	42.5
H Point to Heel point	H30	7.7
H Point travel	L17	4.0
Shoulder room	W 3	56.7
Hip room	W 5	56.3
Upper body opening to ground	H50	45.4
REAR COMPARTMENT		
H Point couple distance	L50	27.4
Effective head room	H63	36.7
Min. effective leg room	L51	29.5
H Point to Heel point	H31	9.4
Min. knee room	L48	0.5
Rear Compartment room	L 3	22.5
Shoulder room	W 4	53.6
Hip room	W 6	54.6
Upper body opening to ground	H51	--
LUGGAGE COMPARTMENT		
Usable luggage capacity	V 1	9.9 (a)
Liftover height	H195	28.0
Position of spare tire storage		Flat on Floor
Method of holding lid open		Torsion Bar Counterbalance
STATION WAGON – THIRD SEAT		
Shoulder Room	W85	Not Offered
Htp room	W86	
Effective leg room	L86	
Effective head room	H86	
Seat facing direction		
STATION WAGON – CARGO SPACE		
Cargo length at floor – front seat	L202	Not Offered
Cargo length at belt – front seat	L204	
Cargo width – wheelbase	W201	
Opening width at belt	W204	
Maximum cargo height	H201	
Rear opening height	H202	
Cargo volume index (cu. ft.) $\frac{W4 \times L204 \times H201}{1728}$	V2	

(a) With standard Space Saver Spare Tire - 7.1 cu. ft. with optional E70 x 14 spare tire.

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POWER TEAMS

MODEL AVAILABILITY

(Indicate whether standard or optional)

FIREBIRD 223	ENGINE					TRANSMISSION	AXLE RATIO (Std. first) (Indicate A/C ratio)
	Displ. cu. in.	Carburetor	Compr. Ratio	BHP RPM	Torque RPM		
Standard Engine							
Firebird	250	1 bbl.	9.0:1	175 @	240 @	Manual (3-sp.)(b)	3.55:1, 3.08:1 (a) (g)
	250	1 bbl.	9.0:1	4800	2600	Automatic (2-sp.)	3.23:1, 2.41:1 (a)
Optional Engines							
Firebird Sprint	250	4 bbl.	10.5:1	215 @	255 @	Manual (3-sp.)(b)	3.55:1 (e)
	250	4 bbl.	10.5:1	5200	3800	Automatic (2-sp.)	3.23:1, 2.78:1, 3.55:1 (c)
Firebird 350	350	2 bbl.	9.2:1	265 @	355 @	Manual (3-sp.)(b)	3.23:1, 3.08:1 (e)
	350	2 bbl.	9.2:1	4600	2800	Automatic (2-sp.)	2.56:1, 2.93:1 (d)
Firebird H.O.	350	4 bbl.	10.5:1	320 @	380 @	Manual (3-sp.)(b)	3.36:1 (e)
	350	4 bbl.	10.5:1	5100	3200	Automatic (2-sp.)	3.23:1 (d)
Firebird 400	400	4 bbl.	10.75:1	330 @	430 @	Manual (3-sp.)(b)	3.36:1, 3.55:1 (e)
	400	4 bbl.	10.75:1	4800	3300	Turbo Hydra-Matic	3.08:1, 3.23:1 (f)
Firebird 400 H.O.	400	4 bbl.	10.75:1	335 @	430 @	Manual (3-sp.)(b)	3.36:1, 3.55:1 (e)
			10.75:1	5000	3400	Turbo Hydra-Matic	3.08:1, 3.55:1 (f)
Firebird 400 - Ram Air Option	400	4 bbl.	10.75:1	335 @	430 @	Manual (4-sp.)	3.90:1 (e)
	400	4 bbl.	10.75:1	5300	3600	Turbo Hydra-Matic	3.90:1 (e)

(a) 3.23:1 With air conditioning
(b) 3-spd. standard - 4-spd. optional
(c) 3.08:1 With air conditioning
(d) 2.78:1 With air conditioning
(e) Air conditioning not available
(f) 2.56:1 With air conditioning
(g) 3.08:1 Not available with 4-speed manual transmission

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ENGINE – GENERAL

MODEL		FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
Type, no. cyls., valve arr.		Line, 6, Overhead Cam		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		4.1200 x 3.746 4.1224 x 3.754
Piston displacement, cu. in.		250		350		400
Bore spacing (℄ to ℄)		4.4		4.62		
No. system (front to rear)	L. Bank	1-2-3-4-5-6 (In-Line)		1-3-5-7		
	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)		9.0:1	10.5:1	9.2:1	10.5:1	10.75:1
Cylinder Head Material		Alloy Cast Iron				
Cylinder Block Material		Alloy Cast Iron				
Cyl. Sleeve-Wet, dry, none		None				
Number of mtg. points	Front	2				
	Rear	1				
Engine installation angle		3° 35'				
Taxable horsepower $\frac{Dia^2 \times No.\ Cyl.}{2.5}$		36.0		48.0		54.3
Publishing max. bhp* @ eng. RPM		175 @ 4800	215 @ 5200	265 @ 4600	320 @ 5100	330 @ 4800
Publishing max. torque * (lb. ft. @ RPM)		240 @ 2600	255 @ 3800	355 @ 2800	380 @ 3200	430 @ 3300
Recommended fuel regular – premium		Regular	Premium	Regular	Premium	

ENGINE – PISTONS

			FIREBIRD, FIREBIRD SPRINT, FIREBIRD 350, FIREBIRD H.O.	FIREBIRD 400
Material			Aluminum Alloy	
Description and finish			Cam Ground Slipper Type - Tin Plated	
Weight (piston only) oz.			19.740 - 19.920 / 21.010 - 21.190	22.070 - 22.250
Clearance (limits)	Top land		.024 - .029	.017 - .021
	Skirt	Top	.0022 - .0028 (a)	.0025 - .0031 (a)
		Bottom	.0017 - .0033	.0020 - .0036
Ring groove depth	No. 1 ring		3.427 - 3.437	3.667 - 3.677
	No. 2 ring		3.427 - 3.437	3.667 - 3.677
	No. 3 ring		3.446 - 3.456	3.670 - 3.680
	No. 4 ring		None	

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

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

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MODEL	FIREBIRD 250 cu. in. Engines	FIREBIRD 350 cu. in. Engines	FIREBIRD 400 cu. in. Engines

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 With -			
		(a)	(b)	(c)	#1 & #2 Taper Face Moly Channel
	Width	.0778		No. 1 .0778, No. 2 .0775	
	Gap	.015		.019	
Oil	Description - material, coating, etc.	Multi-Piece (2 Rails & 1 Expander) Rails: Steel with Chrome Plated O. D. Expander: Stainless Steel			
	Width	.136			
	Gap	.035			
Expanders		In Oil Ring Assembly			

ENGINE – PISTON PINS

Material		SAE 5015	SAE 1016	
Length		3.00	3.25	
Diameter		.9272	.9802	
Type	Locked in rod, in piston, floating, etc.	Locked in Rod		
	Bushing – In rod or piston	None		
	Bushing – Material	None		
Clearance	In piston	.0003 - .0005	.0005 - .0007	
	In rod	Press Fit		
Direction & amount offset in piston		To Right - .063		

ENGINE – CONNECTING RODS

Material		SAE 1037, 1038 or 1141	Arma Steel	
Weight (oz.)		23.9	31.7	
Length (center to center)		5.70	6.625	
Bearing	Material & Type	Moraine 100-A (d)(e)(f)		Moraine 400-A (d)
	Overall length	.837	.88	
	Clearance (limits)	.0007 - .0027 (g)	.0005 - .0025	.0005 - .0026
	End play	.0085 - .0135	.006 - .011 (Total for Two)	

(a) 250 1 bbl. Engine: #1 - Barrel Face Moly Channel
#2 - Barrel Face Tin Plated

(b) 250 4 bbl. Engine: #1 - Barrel Face Moly Channel
#2 - Taper Face Moly Channel

(c) 350 2 bbl. Engine: #1 - Taper Face Moly Channel
#2 - Taper Face Tin Plated

(d) Steel backed removable precision.

(e) Moraine 400-A on 4 bbl. 250 cu. in. engines.

(f) Moraine 400-A on 4 bbl. 350 cu. in. engines.

(g) .0007 - .0028 on 4 bbl. 250 cu. in. engines.

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MODEL			FIREBIRD 250 cu. in. Engines	FIREBIRD 350 cu. in. Engines	FIREBIRD 400 cu. in. Engines
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 (b)		
	Clearance		.0003 - .0019	.0002 - .0017	
	Journal dia. and bearing overall length	No. 1	2.30 x .80	3.00 x .94	
		No. 2	2.30 x .80	3.00 x .94	
		No. 3	2.30 x .80	3.00 x .94	
		No. 4	2.30 x .80	3.00 x 1.13	
		No. 5	2.30 x .80	3.00 x 1.59	
		No. 6	2.30 x .80	None	
		No. 7	2.30 x 1.01	None	
	Dir. & amt. cyl. offset		None		
Crankpin journal diameter			2.00	2.25	
ENGINE – CAMSHAFT					
Location			Overhead	Between Cylinder Banks	
Material			Hardened Alloy Cast Iron		
Bearings	Material		Aluminum Alloy	Hight Lead Babbit on Steel	
	Number		7	5	
Type of Drive	Gear or chain		Belt (a)	Chain	
	Crankshaft gear or sprocket material		Hardened Cast Iron	Carburized and Hardened Steel	
	Camshaft gear or sprocket material		Hardened Cast Iron	Aluminum Alloy with Nylon Covered Teeth	
	Timing chain	No. of links	98 Teeth	60	
		Width	1.031 - .954	.88 (Morse) - 1.00 (Link Belt)	
		Pitch	.500	.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)

* M-400 in lower half of No. 1, 2, 3 & 4 locations of 4 bbl. 350 cu. in. and 400 cu. in. engines.

(a) Neoprene with fibre glass cord reinforcement.

(b) M-400 in all locations of option 6 cylinder 4 bbl. engine.

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MODEL — FIREBIRD

			6 Cyl. 1-bbl.	6 Cyl. 4-bbl.
ENGINE – VALVE SYSTEM (cont.)				
Timing (based on top of ramp points)	Intake	Opens (°BTC)	14	14
		Closes (°ABC)	46	50
		Duration - deg.	240	244
	Exhaust	Opens (°BBC)	46	52
		Closes (°ATC)	14	12
		Duration - deg.	240	244
	Valve opening overlap		28°	25°
Intake	Material		SAE-1041 with Alum. Treatment on Face & Flash Chrome Plated Stem	
	Overall length		4.810	4.902
	Actual overall head dia.		1.923 - 1.917	
	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)		.400 ± .011	.438 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	94.6 100.6 @ 1.6298	62.4 68.4 @ 1.6298
		Valve open (lb.@in.)	165.6 @ 1.2298 175.6	116.2 @ 1.1918 128.2
	Inner spring press. & length	Valve closed (lb.@in.)	----------	30.5 36.5 @ 1.5898
		Valve open (lb.@in.)	----------	59.4 65.4 @ 1.1518
Exhaust	Material		21-2 Steel with Alum. Treatment on Face & Flash Chrome Plated Stem	
	Overall length		4.799	4.891
	Actual overall head dia.		1.603 - 1.597	
	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)		.400 ± .011	.438 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	94.6 @ 1.6298 100.6	62.4 @ 1.6298 68.4
		Valve open (lb.@in.)	165.6 175.6 @ 1.2298	116.2 128.2 @ 1.1918
	Inner spring press. & length	Valve closed (lb.@in.)	----------	30.5 36.5 @ 1.5898
		Valve open (lb.@in.)	----------	59.4 65.4 @ 1.1598

ENGINE – LUBRICATION SYSTEM

Type of lubrication (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Splash
	Camshaft bearings	Pressure
	Tappets	Pressure
	Timing gear or chain	Belt - Not Lubricated
	Cylinder walls	Metered Jet

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MODEL

			FIREBIRD		
			V-350 2-bbl.	V-350 4-bbl. H.O.	
				Manual Trans.	Auto. Trans.
ENGINE – VALVE SYSTEM (cont.)					
Timing (based on top of ramp points)	Intake	Opens (°BTC)	22	23	30
		Closes (°ABC)	67	70	63
		Duration - deg.	269	273	273
	Exhaust	Opens (°BBC)	72	78	77
		Closes (°ATC)	25	31	25
		Duration - deg.	277	289	282
	Valve opening overlap		47°	54°	55°
Intake	Material		SAE-1041 with Alum. Treatment on Face & Flash Chrome Plated Stem		
	Overall length		5.026	5.122	5.122
	Actual overall head dia.		1.963 - 1.957		
	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)		.376 ± .011	.410 ± .011	.410 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	59.6 @ 1.5823 65.6	59.6 @ 1.5823 65.6	59.6 @ 1.5823 65.6
		Valve open (lb.@in.)	122.5 @ 1.2063 132.5	128.4 @ 1.1723 138.4	128.4 @ 1.1723 138.4
	Inner spring press. & length	Valve closed (lb.@in.)	31.7 @ 1.5423 37.7	31.7 @ 1.5423 37.7	31.7 @ 1.5423 37.7
		Valve open (lb.@in.)	88.8 @ 1.1663 98.8	94.1 @ 1.1323 104.1	94.1 @ 1.1323 104.1
Exhaust	Material		21-2 Steel with Alum. Treatment on Face & Flash Chrome Plated Stem		
	Overall length		5.015	5.111	5.111
	Actual overall head dia.		1.663 - 1.657		
	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)		.412 ± .011	.413 ± .011	.414 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	59.6 @ 1.5823 65.6	59.6 @ 1.5823 65.6	59.6 @ 1.5823 65.6
		Valve open (lb.@in.)	128.7 @ 1.1703 138.7	128.9 @ 1.1693 138.9	129.1 @ 1.1683 139.1
	Inner spring press. & length	Valve closed (lb.@in.)	31.7 @ 1.5423 37.7	31.7 @ 1.5423 37.7	31.7 @ 1.5423 37.7
		Valve open (lb.@in.)	94.4 @ 1.1303 104.4	94.6 @ 1.1293 104.6	94.8 @ 1.1283 104.8

ENGINE – LUBRICATION SYSTEM

Type of lubrication (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

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MODEL FIREBIRD

			V-400 4-bbl.		V-400 H.O. 4-bbl.	
			Man. Trans.	Auto. Trans.	Man. Trans.	Auto. Trans.
ENGINE – VALVE SYSTEM (cont.)						
Timing (based on top of ramp points)	Intake	Opens (°BTC)	23		31	23
		Closes (°ABC)	70		77	70
		Duration - deg.	273		288	273
	Exhaust	Opens (°BBC)	78		90	78
		Closes (°ATC)	31		32	31
		Duration - deg.	289		302	289
	Valve opening overlap		54°		63°	54°
Intake	Material		GM-8440 with Alum. Treatment on Face & Flash Chrome Plated Stem			
	Overall length		5.093			
	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)		.410 ± .011		.414 ± .011	.410 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613
		Valve open (lb.@in.)	132 142 @ 1.1513	132 142 @ 1.1513	132.7 142.7 @ 1.1473	132 142 @ 1.1513
	Inner spring press. & length	Valve closed (lb.@in.)	54.7 59.7 @ 1.5213	35 41 @ 1.5213	54.7 59.7 @ 1.5213	35 41 @ 1.5213
		Valve open (lb.@in.)	117.9 127.9 @ 1.1113	97.4 107.4 @ 1.1113	118.6 128.6 @ 1.1073	97.4 107.4 @ 1.1113
Exhaust	Material		21-2 Steel with Alum. Treatment on Face & Flash Chrome Plated Stem			
	Overall length		5.082			
	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		.413 ± .011	.413 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	63.3 69.3 @ 1.5613	63.3 69.3 @ 1.5613	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	132.5 142.5 @ 1.1483	132.5 142.5 @ 1.1483
	Inner spring press. & length	Valve closed (lb.@in.)	54.7 59.7 @ 1.5213	35 41 @ 1.5213	54.7 59.7 @ 1.5213	35 41 @ 1.5213
		Valve open (lb.@in.)	118.4 128.4 @ 1.1083	97.9 107.9 @ 1.1083	118.4 128.4 @ 1.1083	97.9 107.9 @ 1.1083

ENGINE – LUBRICATION SYSTEM

Type of lubrication (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

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MODEL FIREBIRD
V-400 4-bbl. "RAM AIR"
Man. Trans. | Auto. Trans.

ENGINE – VALVE SYSTEM (cont.)

Timing (based on top of ramp points)	Intake	Opens (°BTC)	38	32
		Closes (°ABC)	83	77
		Duration - deg	301	289
	Exhaust	Opens (°BBC)	93	90
		Closes (°ATC)	38	32
		Duration - deg.	313	302
	Valve opening overlap		76°	63°
Intake	Material		CM Steel with Alum. Treatment on Face & Chrome Plated Stem	
	Overall length		5.093	
	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)		.413 ± .011	.414 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	71 @ 1.7123 81	71 @ 1.7123 81
		Valve open (lb.@in.)	182.2 @ 1.2993 198.2	182.5 @ 1.2983 193.5
	Inner spring press. & length	Valve closed (lb.@in.)	39.9 @ 1.6423 45.9	39.9 @ 1.6423 45.9
		Valve open (lb.@in.)	88.1 @ 1.2293 98.1	88.3 @ 1.2283 98.3
Exhaust	Material		21-2 Steel with Alum. Treatment on Face & Chrome Plated Stem	
	Overall length		5.082	
	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	.413 ± .011
	Outer spring press. & length	Valve closed (lb.@in.)	71 @ 1.7123 81	71 @ 1.7123 81
		Valve open (lb.@in.)	182.2 @ 1.2993 198.2	182.2 @ 1.2993 198.2
	Inner spring press. & length	Valve closed (lb.@in.)	39.9 @ 1.6423 45.9	39.9 @ 1.6423 45.9
		Valve open (lb.@in.)	88.1 @ 1.2293 98.1	88.1 @ 1.2293 98.1

ENGINE – LUBRICATION SYSTEM

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

(Continued)

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.

ENGINE – LUBRICATION SYSTEM (con.)

Oil pump type	Spur Gear			
Normal oil pressure (lb. engine rpm)	26 - 36 @ 2800 RPM		30 - 40 above 2600 RPM (f)	
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 c'case, less filter-refill (qt.)	5			
Oil grade recommended (SAE viscosity and temperature range)	Anticipated Lowest Temp.	Single Viscosity SAE Number	Acceptable Alternate	
	Above Freezing (+32°F.)	20W	10W - 30	
	Below Freezing (0°F. to +32°F.)	10W	10W - 30	
	Below Zero	5W	5W - 20	
Engine Service Reqmt. (MM, MS, etc.)	MS			

ENGINE – EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)		Single (a)			
Muffler No. & type (reverse flow, straight thru, separate resonator)		One - Reverse Flow			(b)
Exhaust pipe dia. (O.D., wall thick.)	Branch	None (c)		2.00 x .060	None
	Main	2.00 x .060	2.25 x (d)	2.25 x .070	2.00 x .060 (e)
Tail pipe dia. (O.D. & wall thickness)		Muffler Outlet Spout (or Spouts) 2.00 x .060			

ENGINE – CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)	Standard	Induction System		
	Optional	None		
Control Unit	Make and model	AC Type CV-735C	AC Type CV-679C	
	Location	Intake Manifold	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 the Carburetor Air Cleaner		
	Flame arrestor (screen, check valve, other)	Check Valve		

(a) Dual system standard on H.O., "Y" pipe joins dual outlet manifold to single exhaust pipe on Sprint, Crossover pipe used on 350.
(b) One crossflow muffler with dual inlets and outlets, reverse flow resonator ahead of muffler in each pipe.
(c) Sprint "Y" pipe legs 2.00 x .060.
(d) .076 - front section, .070 - rear section.
(e) Front section, 2.25 x .070 rear section.
(f) Except 350 HO engine which is same as Firebird 400 - see page 8a.

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MODEL FIREBIRD 400

ENGINE – LUBRICATION SYSTEM (cont.)

Oil pump type	Spur Gear
Normal oil pressure (lb. engine rpm)	55-60 Above 2600 RPM
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 c'case, less filter-refill (qt.)	5

Oil grade recommended (SAE viscosity and temperature range)

Anticipated Lowest Temp.	Single Viscosity SAE Number	Acceptable Alternate
Above Freezing (+32°F.)	20W	10W - 30
Below Freezing (0°F. to +32°F.)	10W	10W - 30
Below Zero	5W	5W - 20

Engine Service Reqmt. (MM, MS, etc.)	MS

ENGINE – EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)		Dual
Muffler No. & type (reverse flow, straight thru, separate resonator)		One - Crossflow with Dual Inlets & Outlets (a)
Exhaust pipe dia. (O.D., wall thick.)	Branch	Not Used
	Main	Front: 2.00 x .060 (b) Rear 2.25 x .070
Tail pipe dia. (O.D. & wall thickness)		2.00 x .060 Muffler Outlet Spouts

ENGINE – CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)	Standard	Induction System
	Optional	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 arrestor (screen, check valve, other)	Check Valve

(a) Reverse flow resonator ahead of muffler in each pipe.
(b) 2.25 x .076 with Ram Air Option.

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MODEL			FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD H.O.
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 (describe changes)							
Exhaust System (describe changes)							

Standard engine provides exhaust emission control

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
ENGINE – FUEL SYSTEM	6 Cyl. Engines		V-8 Engines		
Induction type: Carburetor, fuel injection, supercharger.	Carburetor				
Fuel Tank — Refill capacity (U.S. gals.)	18.5				
Fuel Tank — Filler location	Center Rear				
Fuel Pump — Type (elec. or mech.)	Mechanical				
Fuel Pump — Locations	Right Front of Engine		Left Front of Engine		
Fuel Pump — Pressure range	4.0 - 5.5		5.0 - 6.5		
Vacuum booster (std., optional, none)	None				
Fuel Filter — Type	Plastic Fabric in Fuel Tank and Sintered				
Fuel Filter — Locations	Bronze in Carburetor Inlet (a)				
Carburetor — Choke type	Automatic				
Carburetor — Intake manifold heat control (exhaust or water)	Exhaust				
Carburetor — Air cleaner type (d) — Standard	Oil Wetted Paper				
Carburetor — Air cleaner type (d) — Optional	Two Stage - Wetted Plastic Foam Over Paper Element				
Carburetor — Idle speed (spec. neutral N. or drive D.) — Manual N.	700	800	700	850	850**
Carburetor — Idle speed (spec. neutral N. or drive D.) — Automatic D.	600	600	600	650	650
Carburetor — Idle A/F mix.					

CARBURETOR SUPPLEMENTARY INFORMATION

Model Usage	Engine Displ.	Transmission	Carburetors Make	Carburetors Model	No. Used and Type*	Bbl. Size	No. of Bbls.
Firebird	250	Manual	Rochester	7028065 (b)	One	1.69	1
		Automatic	Rochester	7028168	One	1.75	1
Firebird Sprint	250	Manual	Rochester	7028261	One	(c)	4
		Automatic	Rochester	7028260	One	(c)	4
Firebird 350	350	Manual	Rochester	7028071	One	1.69	2
		Automatic	Rochester	7028062	One	1.69	2
Firebird H.O.	350	Manual	Rochester	7028269	One	(c)	4
		Automatic	Rochester	7028266	One	(c)	4
Firebird 400	400	Manual	Rochester	7028265	One	(c)	4
		Turbo H-M	Rochester	7028264	One	(c)	4
Firebird 400 H.O.	400	Manual	Rochester	7028271	One	(c)	4
		Turbo H-M	Rochester	7028264	One	(c)	4
Firebird 400 Ram Air	400	Manual	Rochester	7028277	One	(c)	4
		Turbo H-M	Rochester	7028276	One	(c)	4

(a) Pleated paper instead of sintered bronze in the 1-bbl. carb. for manual transmission and all 4-bbl. carburetors.
(b) 7028067 with A/C.
(c) 1.38 Primary, 2.25 Secondary.
(d) Includes provisions for thermostatic control of carburetor inlet air temperature.
* All downdraft type
** 1000 With Ram Air Option.

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
ENGINE – COOLING SYSTEM	6 Cyl. Engines		V-8 Engines		
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				
Circulation thermostat – Starts to open at (°F)	190°				
Water pump – Type (centrifugal, other)	Centrifugal				
Water pump – GPM @ 1000 pump rpm	16		17		
Water pump – Number of pumps	One				
Water pump – Drive (V-belt, other)	V-Belt				
Water pump – Bearing type	Sealed Ball Bearing				
By-pass recirculation type (inter., ext.)	External		Integral		
Radiator core type (cellular, tube and fin, other)	Tube and Center				
Cooling system capacity – With heater (qt.)	12.1		18.6 (350		17.8 (400)
Cooling system capacity – Without heater (qt.)	Heater Standard Equipment				
Cooling system capacity – Opt. equipment-specify (qt.)	12.7 with Air Cond.		20.2 (350), 19.4 (400) with A/C		
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				
Radiator hose – Lower – Inside diameter	1.75				
Radiator hose – Upper – Number and type (molded, straight)	One Molded				
Radiator hose – Upper – Inside diameter	1.50				
Radiator hose – By-pass – Number and type (molded, straight)	One - External		One - Internal		
Radiator hose – By-pass – Inside diameter	5/16		Hose Not Used		
Fan – Number of blades & spacing	4 - 76° & 104° (a)(b)				
Fan – Diameter	17.62		19.0		
Fan – Ratio-fan to crankshaft rev.	.95:1 (1.08:1 with A/C)		.91:1 (1.25:1 with A/C)		
Fan – Fan cutout type	Fluid Clutch - Thermostatically Controlled V-8 A/C Only)				
Fan – Bearing type	See Water Pump				

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

* 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	51.5	58.0	27.6	54.0	50.0	52.0	59.0	53.5		
Width	.38	.47	.47	.38	.38	.38	.47	.47	.47		

(a) 7 blade 18 dia. Power-Flex fan on 6 cyl. with A/C.
(b) 7 blade 19.5 dia. fan on all V-8 with A/C. - 5 blade 19 dia. Power-Flex std. on 400 V-8 except std. 4 blade fan used with Ram Air Option.

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MODEL	FIREBIRD 250 Cu. In. Engines	FIREBIRD 350 Cu. In. Engines	FIREBIRD 400 Cu. In. Engine

ELECTRICAL – SUPPLY SYSTEM

Battery	Make and Model		Delco Y-55 (a)	Delco Y-59 (b)	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		1100761 (c)	1100704 (d)	
	Type and rating		37 Amp. (e)	37 Amp. (e)	
	Output at engine idle (neutral)		5-10 Amps.		
	Ratio-Gen. to Cr/s rev.		2.74:1 (3.02:1 With A/C)		
Regulator	Make		Delco-Remy		
	Model		1119515 (f)		
	Type		Regulating Contacts in Standard Type		
	Cutout relay	Closing voltage generator rpm	Cutout Relay Not Required		
		Reverse current to open	Cutout Relay Not Required		
	Regulated	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		1108329	1108328	1108335
	Rotation (drive end view)		Clockwise		
Motor control	Switch (solenoid, manual)		Solenoid		
	Starting procedure		Place gearshift lever in neutral and depress clutch. *With cold engine depres 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)		Front		
	Number of teeth	Pinion	9		
		Flywheel - Manual	155	166	
		Flywheel - Auto.	155	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) With regular fuel engine - Delco R-59 with prem. fuel engine or H.D. battery option.
(c) 1100760 (55 amp.) with A/C.
(d) 1100700 (55 amp.) with A/C.
(e) Diode rectified, 3-phase alternating current.
(f) 1116368 transistor regulator optional.

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ELECTRICAL – IGNITION SYSTEM

MODEL			6 Cyl. Engines		350 Cu. In. V-8 Engines				
Type	Conventional – Std., Opt., N.A.		Standard						
	Transistorized – Std., Opt., N.A.		Not Offered						
	Other (specify)		--						
Coil	Make		Delco-Remy						
	Model		1115290		1115288				
	Amps	Engine stopped	3.5		3.4				
		Engine idling	2.8		2.1				
Distributor	Make		Delco-Remy						
	Model		(a)	(b)	(c)	(d)	(e)		
	Cent'fgal adv. in c/shaft degrees @ engine rpm (nominal)	Start (rpm)	900	900	800	800	1100		
		Intermediate points deg. @ rpm	15 - 19 @ 1250	12 - 16 @ 1650	13 - 17 @ 1950	8 - 12 @ 2000	7 - 11 @ 1900		
		Max. deg. @ rpm	26-30 @ 4400	24-28 @ 5000	22-26 @ 4800	16-20 @ 5000	16-20 @ 4800		
	Vacuum adv. in c/shaft degrees @ in. Hg. (nominal)	Start (in. Hg.)	4 - 6	4 - 6	8 - 10	8 - 10	8 - 10		
		Intermediate points, deg. @ in. Hg.	None						
		Max. deg. in. Hg.	15° @ 9.5 - 10.5		20° @ 15 - 17				
	Breaker gap (in.)		.016						
	Cam angle (deg.)		31 - 34		28 - 32				
	Breaker arm tension (oz.)		19 - 23						
Timing	Crankshaft deg. @ rpm		TDC (f)	5° BTDC (g)	9° BTDC				
	Mark location		On Balancer		On Crankshaft Pulley Hub				
Spark Plug	Make		AC						
	Model		AC 44N		AC 45S				
	Thread (mm)		14 mm						
	Tightening torque (lb. ft.)		15 - 25						
	Gap		.033 - .038						
Cable	Conductor type		Carbonized Thread						
	Insulation type		Neoprene						
	Spark plug protector		Hypalon Boot						

ELECTRICAL – SUPPRESSION

Locations & type	

Carbonized thread core secondary cables and engine to dash ground strap on all cars. Radio equipped cars have an additional engine to dash ground strap, a fender skirt to frame ground strap plus a condenser on the regulator and another on the coil.

(a) 1110430 Used on 250 cu. in. 1-bbl. carb. engines
(b) 1110431 Used on 250 cu. in. 4-bbl. carb. engine with manual transmission - 1110449 with automatic transmission
(c) 1111281 Used on 350 cu. in. 2-bbl. carb. engines
(d) 1111282 Used on 350 cu. in. 4-bbl. with automatic transmission
(e) 1111447 Used on 350 cu. in. 4-bbl. with manual transmission
(f) 250 cu. in. 1-bbl. carb. engines
(g) 250 cu. in. 4-bbl. carb. engines

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MODEL 400 Cu. In. V-8 Engines

ELECTRICAL – IGNITION SYSTEM

Type	Conventional – Std., Opt., N.A.		Standard	
	Transistorized – Std., Opt., N.A.		Not Offered	
	Other (specify)		--	
Coil	Make		Delco-Remy	
	Model		1115288	
	Amps	Engine stopped	3.4	
		Engine idling	2.1	
Distributor	Make		Delco-Remy	
	Model		1111449 (a)	1111270 (b)
	Cent'fgal adv. in c/shaft degrees@ engine rpm (nominal)	Start (rpm)	1100	800
		Intermediate points deg.@rpm	10 - 14 @ 2000	10 - 14 @ 2000
		Max. deg.@rpm	18-22 @ 4600	18-22 @ 4600
	Vacuum adv. in c/shaft degrees@ in. Hg. (nominal)	Start (in. Hg.)	8 - 10	10 - 12
		Intermediate points, deg.@in. Hg.	None	
		Max. deg. in. Hg.	20° @ 17-19	20° @ 15-17
	Breaker gap (in.)		.016	
	Cam angle (deg.)		28 - 32	
	Breaker arm tension (oz.)		19 - 23	
Timing	Crankshaft deg.@rpm		9° BTDC	
	Mark location		On Crankshaft Pulley Hub	
Spark Plug	Make		AC	
	Model		AC - 44S	
	Thread (mm)		14 mm	
	Tightening torque (lb. ft.)		15 - 25	
	Gap		.033 - .038	
Cable	Conductor type		Carbonized Thread	
	Insulation type		Neoprene	
	Spark plug protector		Hypalon Boot	

ELECTRICAL – SUPPRESSION

Locations & type	Same as shown on page 13

(a) With manual transmission
(b) With automatic transmission

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

ELECTRICAL – INSTRUMENTS AND EQUIPMENT

Speedometer	Type	Mechanical
	Trip odometer (yes,no)	No
Charge indicator – type		Telltale Lamp
Temperature indicator – type		" "
Oil pressure indicator – type		" "
Fuel indicator – type		Electric Gage
Other		Optional instrument cluster with temperature, ammeter & oil pressure telltales replaced with gages plus a tachometer.
Windshield wiper	Type – Standard	Two-Speed Electric
	Type – Optional	None
Windshield washer	Type – Standard	Electric - Pump Integral with Wiper Motor
	Type – Optional	None
Horn	Type	Solenoid
	Number used	1 Std. (a)
	Amp draw (each)	4.3 to 5.9 @ 12.5 V.

DRIVE UNITS – CLUTCH (Manual Transmission)

		6-Cyl. Engines	V-8 Engines
Make & type		Own-Dry	
Type pressure plate springs		Disc Spring	
Total spring load (lb.)		2050 (b)	
No. of clutch driven discs		One	
Clutch facing	Material	Woven Molded Asbestos	
	Outside & inside dia.	10.0 x 6.0 (c)	10.4 x 6.5
	Total eff. area (sq.in.)	82.93 (c)	85.56
	Thickness	.135 (c)	.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 and Metal to Metal Friction	

(a) Second horn included with Custom Trim option.

(b) 2350# pressure on Firebird Sprint and Firebird 400.

(c) Firebird Sprint uses 10.4 x 6.5 driven plate with 80.56 effective area and .140 facing thickness.

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

DRIVE UNITS – TRANSMISSIONS

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

DRIVE UNITS – MANUAL TRANS.

			3-Speed			4-Speed	
Number of forward speeds			6-Cyl. (a)	350 V-8(b)	All V-8(c)	6 Cyl.	All V-8(d)
Transmission ratios	In first		2.85:1	2.54:1	2.42:1	2.85:1	2.52:1
	In second		1.68:1	1.50:1	1.61:1	2.02:1	1.88:1
	In third		1.00:1	1.00:1	1.00:1	1.35:1	1.46:1
	In fourth		--	--	--	1.00:1	1.00:1
	In reverse		2.95:1	2.63:1	2.33:1	2.85:1	2.59:1
Synchronous meshing, specify gears			All Forward				
Shift lever location			(a)	(b)	Floor Shift		
Lubricant	Capacity (pt.)		3.5		2.8	3.5	2.5
	Type recommended		Type A - Extreme Pressure				
	SAE viscosity number	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 viscosity number — Summer	
	SAE viscosity number — Winter	
	SAE viscosity number — Extreme cold	

(a) Column shift standard - floor shift optional (standard on Firebird Sprint).
(b) Available with standard column shift only.
(c) Standard on 400 cu. in. V-8 includes floor shift - optional on 350 cu. in. V-8.
(d) Special order close ratio transmission (2.20:1, 1.64:1, 1.28:1, 1.00:1 and 2.27:1 R) available with 3.9:1 rear axle ratio on Firebird 400 only.

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MODEL	Firebird with 250 and 350 cu. in. Engine	Firebird with 400 cu. in. Engine

DRIVE UNITS – AUTOMATIC TRANSMISSION

Trade name		Automatic		Turbo Hydra-Matic				
Type describe		Torque Converter						
Selector location		Steering Column (c)						
List gear ratios Selector Pattern and indicate which are used in each selector position		R 1.76	D 1.76 1.00	L 1.76 (a)	R 2.08	D 2.48 1.48 1.00	S 2.48 1.48	L 2.48 (b)
		6 Cyl. Engines	V-8 Engines		400 cu. in. V-8 Engines			
Max. upshift speed–drive range		80 mph	73 mph		78 mph			
Max. kickdown speed–drive range		75 mph	68 mph		3-2 @ 70, 3-1 @ 29 mph			
Torque convertor	Number of elements	Three						
	Max. ratio at stall	2.8:1	2.5:1		2.3:1			
	Type of cooling (air, liquid)	Water						
	Nominal diameter	11.75			12.5			
Lubricant	Capacity–refill (pt.)	15 (Approx.)			19 (Approx.)			
	Type recommended	GM Dexron Automatic Transmission Fluid						
Special transmission features		Shift lever must be lifted over stop to enter "Park", "Reverse" and "Low" ("S" on 400) positions. Engine starting on "Neutral" and "Park" positions provided for.						

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.	2.75 x 49.96 x .065	
	Manual 4-speed trans.	2.75 x 49.96 x .065	
	Overdrive transmission	Not Available	
	Automatic transmission	2.75 x 49.96 x .065	2.75 x 49.30 x .065

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

(Continued)

(a) Total transmission torque multiplication in first gear is 4.93:1 with 6 cyl. and 350 HO engine, 4.4:1 with 350 cu. in. 2 bbl. carburetor engine.

(b) Total transmission torque multiplication in first gear is 5.7:1.

(c) Floor - with optional console.

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

DRIVE UNITS – PROPELLER SHAFT (cont.)

Intermediate bearing	Type (plain, anti-friction)		Not Used
	Lubrication (fitting, prepack)		Not Used
Slip Yoke	Type		Splined
	Number of teeth		27
	Spline O.D.		1.175
Universal joints	Make and Mfg. No.		Saginaw - Size 44 (Regular)
	Number used		Two
	Type (ball and trunnion, 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)			Springs
Torque taken through (torque tube or arms, springs)			Springs

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			Single Row Ball Bearing
Lubricant	Capacity (pt.)		3
	Type recommended		A-9 Hypoid (a)
	SAE viscosity number	Summer	80-90
		Winter	80-90
		Extreme cold	80-90

AXLE RATIO TOOTH COMBINATIONS

(See page 3 for axle ratio usage)

Axle ratio		2.41:1	2.56:1	2.78:1	2.93:1	3.08:1	3.23:1	3.36:1	3.55:1	3.90:1	4.3
No. of teeth	Pinion	17	16	14	14	13	13	11	11	10	9
	Ring gear	41	41	39	41	40	42	37	39	39	39
Ring Gear O.D.		8.125									

(a) Special lubricant required with limited slip differential.

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

DRIVE UNITS – WHEELS

Type & material		Disc - Steel
Rim (size & flange type)	Std.	14 x 6 (a)
	Opt.	None
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		E70 x 14 (b)	F70 x 14 (b)
	Type (bias, radial, etc.)		Bias	
	Full rated Inflation Press.	Front	24 (Full Load) - 24 (Reduced Load)	
		Rear	28 (Full Load) - 24 (Reduced Load)	
	Rev./Mile at 50 MPH		807	790
Optional	Size, ply rating, & ply		F70 x 14 (b) 195 R x 14 Radial, 2 Ply Carcass - 4 Ply Tread, Type A	

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

(a) On four road wheels - std. Space Saver Spare tire is on 14 x 5 rim wheel.
(b) 2 Ply - 4 Ply rated. Std. spare tire size is 7.35 x 14 - space saver type.

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BRAKES – SERVICE

MODEL				FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
Type (drum or disc)				Drum - Std.			Front Disc - Opt.	
Self adjusting (std., opt., N.A.)				Standard				
Power brake make & type (remote, int., etc.)			Std.	--				
			Opt.	Delco-Moraine, Integral Type, Vacuum Suspended				
Effective area (sq. in.)*				149.4			101.9	
Gross lining area (sq. in.)**				155.5			109.1	
Swept area (sq. in.)***				269.2			323.6	
Percent brake effectiveness – front				62.6			62.6	
Drum or Disc	Diameter (nominal)		Front	9.5			11.12	
			Rear	9.5				
	Type and material			Cast Alloy Iron				
	Disc (vented or solid)			--			Vented	
	No. pistons per caliper			--			4	
Wheel cylinder bore	Front			1.125			2.062	
	Rear			.875				
Master Cylinder	Bore			1.00			1.125	
	displacement distribution		Front %	59			69	
			Rear %	41			31	
Disc Brk. Valve	Type (proportion, delay, metering, other)			--			Metering-Type Delay	
Pedal arc ratio				6.3:1 (Manual) - 3.4:1 (Power)				
Line pressure at 100 lb. pedal load				700 Manual, 900 Power Opt.			575 Manual, 800 Power Opt.	
Shoe clearance adjustment				(a)			Spring Loaded	
Brake lining	Drum or Disc			Drum			Disc Front - Drum Rear	
	Bonded or riveted			Riveted				
	Front Wheel	Material		Molded Asbestos				
		Size (length x width x thickness)	Prim. or outboard	7.6 x 2.5 x .196			5.95 x 1.75 x .40	
			Second. or inboard	9.85 x 2.5 x .265			5.95 x 1.75 x .40	
		Segments per shoe		One				
	Rear Wheel	Material		Molded Asbestos				
		Size (length x width x thickness)	Prim. or outboard	7.6 x 2.0 x .196				
			Second. or inboard	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) Tighten drum brakes to heavy drag then back off 26 notches.

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STEERING

MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
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				
Adjustable steering wheel (tilt, swing, other) — (std., opt., NA)	Optional				
Wheel diameter — Manual	15.25 x 16.0				
Wheel diameter — Power	15.25 x 16.0				
Turning diameter (feet) — Outside front — Wall to wall (l. & r.)	40.8				
Turning diameter (feet) — Outside front — Curb to curb (l. & r.)	38.5				
Turning diameter (feet) — Inside rear — Wall to wall (l. & r.)	22.5				
Turning diameter (feet) — Inside rear — Curb to curb (l. & r.)	23.0				
Outside whl. angle with inside whl. at 20°					
Manual — Gear — Type	Recirculating Ball Bearing				
Manual — Gear — Make	Saginaw				
Manual — Gear — Ratios — Gear	24:1 (a)				
Manual — Gear — Ratios — Overall	24:1 (a)				
Manual — No. wheel turns	4.7 - Lock to Lock				
Power — Type (coaxial, linkage, etc.)	Coaxial				
Power — Make	Saginaw				
Power — Gear — Type	Recirculating Ball Bearing				
Power — Gear — Ratios — Gear	17.5:1				
Power — Gear — Ratios — Overall	17.5:1				
Power — Pump driven by	Belt from Crankshaft				
Power — Number wheel turns	3.4 - Lock to Lock				
Linkage — Type	Link Parallelogram				
Linkage — Location (front or rear of wheels, other)	Rear of Wheels				
Linkage — Drag link (trans. or longit.)	Transverse Strg. Rod Connects Tie Rods, Pitman & Idler Arms				
Linkage — Tie rods (one or two)	Two				
Steering Axis — Inclination at camber (deg.)	8 1/4 to 9 1/4				
Steering Axis — Bearings (type) — Upper	Ball Joint				
Steering Axis — Bearings (type) — Lower	Ball Joint				
Steering Axis — Bearings (type) — Thrust	Spring Load Taken By Lower Ball Joint				
Whl. Align. (range at curb wt. & preferred) — Caster (deg.)	0 to 1° Pos.				
Whl. Align. (range at curb wt. & preferred) — Camber (deg.)	1/4° Neg. to 3/4° Pos.				
Whl. Align. (range at curb wt. & preferred) — Toe-in (outside track inches)	1/8 to 1/4				
Steering spindle & joint type	Reverse Elliott - Ball Joint				
Wheel Spindle — Diameter — Inner bearing	1.249				
Wheel Spindle — Diameter — Outer bearing	.749				
Wheel Spindle — Thread size	3/4 - 20				
Wheel Spindle — Bearing type	Taper Roller				

(a) 28:1 with combined V-8 engine and air conditioning (5.4 turns lock to lock).

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

SUSPENSION – GENERAL

(See Supplement page for details on Air Suspension)

Provision for car leveling		None
Provision for brake dip control		Front Suspension Geometry
Provision for acc. squat control		Rear Suspension Geometry
Special provisions for car jacking		Jack Locating Provisions on Front and Rear Bumpers
Shock absorber front & rear	Type	Direct Acting - Two Way
	Make	Delco
	Piston dia.	1.00
Other special features		Firm Control Shock Absorbers Included in Firm Ride and Handling Option

SUSPENSION – FRONT

Type and description		Ball joint independent front suspension with upper and lower control arms mounted on rubber bushings.
Spring	Type	Coil
	Material	Alloy Steel
	Size (coil design height & I.D. bar length x dia.)	11.40 x 3.60
	Spring rate (lb. per in.)	275 Std. 22337 - 320 & 345 (a)
	Rate at wheel (lb. per in.)	73 Std. 22337 - 85 & 92 (a)
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	Alloy Steel, .6875

SUSPENSION – REAR

Type and description			Hotchkiss Drive
Drive and torque taken through			Rear Springs
Spring	Type		Multi-Leaf
	Material		Alloy Steel
	Size (length x width, coil design height & I.D.; bar length & dia.)		56.0 x 2.50
	Spring rate (lb. per in.)		82 Std. 22337 - 79, 89, 99, 118 & 122 (a)
	Rate at wheel (lb. per in.)		83 Std. 22337 - 80, 90, 100, 119 & 123 (a)
	Mounting insulation type		Rubber Bushings
	If leaf	No. of leaves	4 & 5
		Shackle (comp. or tens.)	Compresssion
Stabilizer	Type (link, linkless, frameless)		Not Used
	Material		None
Track bar type			Not Used

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

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MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400

FRAME

Type and description (Separate frame, unitized frame, partially - unitized frame)	Integal Body - Frame Combination with Separate Ladder Type Front Frame Section

BODY – MISCELLANEOUS INFORMATION

Drs. hinged (front, rr.)	Front doors	Front
	Rear doors	--
Type of finish (lacquer, enamel, other)		Acrylic Lacquer
Hood counterbalanced (yes, no)		Yes
Hood release control (internal, external)		External
Vehicle Indent. No. location		Left Front Edge of Instrument Panel - Visible Through Windshield
Engine No. location		Top of Cylinder Block on R.H. Side Near Oil Filler (a)
Theft protection - type		Door locks, ign. sw. terminals covered by locked-on conn. body, key in lock warning signal, key starter control with in-harness wiring from sw. to starter and coil.
Vent window control method (crank, friction pivot)	Front	No Vent Window
	Rear	No Vent Window
Seat cushion type	Front	Zig-Zag Spring with Foam Pad
	Rear	Zig-Zag Spring with Cotton Pad
	3rd seat	--
Seat back type	Front	Zig-Zag Spring with Foam Pad
	Rear	Zig-Zag Spring with Cotton Pad
	3rd seat	--
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 (b)

BODY STYLE	22337	22367
Windshield glass exposed surface area	1032.6	990.5
Side glass exposed surface area	673.9	744.3
Backlight glass exposed surface area	819.2	834.0
Total glass exposed surface area	2525.7	2568.8

(a) Front of R.H. cylinder bank on V-8 engines.

(b) Flexible plastic on convertible.

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CONVENIENCE EQUIPMENT

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

MODEL	FIREBIRD	FIREBIRD SPRINT	FIREBIRD 350	FIREBIRD H.O.	FIREBIRD 400
Power windows — Side windows	Optional				
Power windows — Vent windows	Not Offered				
Power windows — Backlight or tailgate	Not Offered				
Power seats (specify type as well as availability)	Not Offered				
Reclining front seat back (R-L or both)	Not Offered				
Front seat head restrainer (R-L or both)	Optional				
Radios (specify type as well as availability)	Optional: AM Push Button, AM-FM Push Button				
Rear seat speaker	Optional				
Power antenna	Not Offered				
Clock	Optional				
Air conditioner (specify type and availability)	Optional: Reheat Cycle with Bi-Level Air Distribution System				
Speed warning device	Safeguard Speedometer - Optional				
Speed control device	Optional on cars with V-8 Engine and Auto. Trans. Comb.				
Ignition lock lamp	Optional				
Dome lamp	Standard on Hardtop Coupe - Not Offered on Conv.				
Glove compartment lamp	Standard				
Luggage compartment lamp	Optional				
Underhood lamp	Optional				
Courtesy lamp	Standard				
Map lamp	Not Offered				
Auto. trans. quad. lamp	Standard				
Cornering light lamp	Not Offered				
Stereo Tape Player	Available with all Radio Installations (a)				
Manual Antenna	Front Mounted: Included with Radio, Rear Mounted - Optional				
Power Operated Top	Optional on Convertible				
Rear Window Defogger	Optional				
Tachometer	Hood Mounted: Optional				

LAMP HEIGHT AND SPACING

Height above ground to center of bulb or marker	Headlamp	Highest *	24.4
		Lowest	24.4
	Tail	Highest	25.6
		Lowest	25.6
	Sidemarker	Front	16.9
		Rear	20.9
Distance from C/L of car to center of bulb	Headlamp	Inside	17.9
		Outside *	24.2
	Tail	Inside	15.25
		Outside	25.25
	Directional	Front	25.52
		Rear	Same as Tail Lamps

* If single headlamps are used enter here.

(a) Not available with console together with air conditioning.

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ESTIMATED 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
FIREBIRD								
Hardtop Coupe 22337								3032
Convertible 22367								3294
FIREBIRD SPRINT								
Hardtop Coupe 22337								3087
Convertible 22367								3349
FIREBIRD 350								
Hardtop Coupe 22337								3188
Convertible 22367								3460
FIREBIRD 350 HO								
Hardtop Coupe 22337								3226
Convertible 22367								3498
FIREBIRD 400								
Hardtop Coupe 22337								3303
Convertible 22367								3575

Accessories & Equipment Differential Weights				Remarks
Automatic Trans.			-10	With OHC L-6 Engines
Automatic Trans.			- 4	With 350 V-8 Engines
Automatic Trans.			+32	With 400 V-8 Engines
400 HO Engine Opt.			+ 0	Increase over Firebird 400
400 Ram Air Eng. Opt.			+ 0	Increase over Firebird 400
Power Steering			+29	
Power Brakes			+10	
Air Conditioning			+117	With OHC L-6 Engines
Air Conditioning			+123	With 350 & 400 V-8 Engines
Radio & Man. Antenna			+ 9	