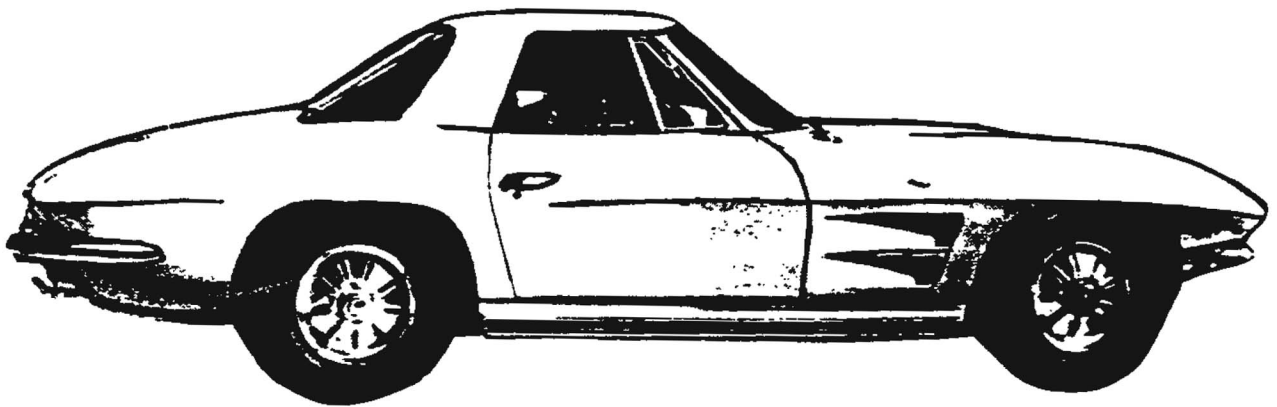


1964

CORVETTE

SPECIFICATIONS



1964 CORVETTE

Production: 8,304 coupe, 13,925 convertible, 22,229 total.

1964 NUMBERS

Vehicle: 40837S100001 through 40837S122229

• For convertibles, fourth digit is a 6.

Suffix: RC: 327ci, 250hp, mt RT: 327ci, 365hp, mt, ig
 RD: 327ci, 300hp, mt RU: 327ci, 365hp, mt, ac, ig
 RE: 327ci, 365hp, mt RX: 327ci, 375hp, mt, ig
 RF: 327ci, 375hp, mt SC: 327ci, 250hp, at
 RP: 327ci, 250hp, mt, ac SD: 327ci, 300hp, at
 RQ: 327ci, 300hp, mt, ac SK: 327ci, 250hp, at, ac
 RR: 327ci, 365hp, mt, ac SL: 327ci, 300hp, at, ac

Block: 3782870: All

Head: 3782461: 327ci, 300hp, 365hp, 375hp

3795896: 327ci, 250hp

Carburetor: Carter 3696S #3846246: 327ci, 250hp, at
 Carter 3697S #3846247: 327ci, 250hp, mt
 Carter 3720S/SA/SB #3851762: 327ci, 300hp, at
 Carter 3721S/SA/SB #3851761: 327ci, 300hp, mt
 Holley R2818A #3849804: 327ci, 365hp

Fuel Injection: Rochester 7017375, ep Rochester 7017380, lp
 Rochester 7017375R, lu

Distributor: 1111024: 327ci, 250hp, 300hp 1111064: 327ci, 375hp, ig
 1111060: 327ci, 365hp, ig 1111069: 327ci, 365hp, lp
 1111062: 327ci, 365hp, ep 1111070: 327ci, 375hp, lp
 1111063: 327ci, 375hp, ep

Alternator: 1100628: 327ci, ep, lu
 1100665: 327ci, 250hp, 300hp, 365hp, ac
 1100668: 327ci
 1100669: 327ci, 365hp, 375hp, ig
 1100684: 327ci, 365hp, ac, ig

Ending Vehicle: Sep 63: 101741 Jan 64: 110297 May 64: 118805
 Oct 63: 104045 Feb 64: 112322 Jun 64: 120920
 Nov 63: 106063 Mar 64: 114570 Jul 64: 122229
 Dec 63: 108091 Apr 64: 116865

Abbreviations: ac=air conditioning, at=automatic transmission,
 ci=cubic inch, ep=early production, hp=horsepower, ig=transistor
 ignition, lp=late production, lu=limited use, mt=manual transmission.

1964 FACTS

- Visible styling clues for 1964 included removal of the window split (coupes) and removal of the hood trim panels. Hood recesses remained.
- A three-speed fan was added to the rear of coupes to help ventilation. The fan pulled air through vents added to the driver side roof panel. The control switch was mounted under the driver's side of the instrument panel.
- Seats in 1964s looked similar to 1963, but 1964 backs were thicker and more square at the top; also, 1964 seats didn't have tilting mechanisms.
- Delivery of the knock-off wheel option during 1964 was certain. Only three-bar spinners were offered and the finish between fins was natural.
- Center recess areas of 1964 instruments were finished in black.
- Steering wheels in all 1964 Corvettes were walnut-grained plastic.
- The exterior door surface of 1964 models had a raised "pad" for the door handle to mount (except for late 1964s).
- Starting in 1964 (through 1967), some Corvette bodies were supplied by Dow-Smith, Ionia, Michigan, a division of A. O. Smith Company.

1964 OPTIONS

RPO #	DESCRIPTION	QTY	RETAIL \$
837	Base Corvette Sport Coupe	8,304	\$4,252.00
867	Base Corvette Convertible	13,925	4,037.00
—	Genuine Leather Seats	1,334	80.70
A01	Soft Ray Tinted Glass, all windows	6,031	16.15
A02	Soft Ray Tinted Glass, windshield	6,387	10.80
A31	Power Windows	3,706	59.20
C07	Auxiliary Hardtop (for convertible)	7,023	236.75
C48	Heater and Defroster Deletion (credit)	60	-100.00
C60	Air Conditioning	1,988	421.80
F40	Special Front and Rear Suspension	82	37.70
G81	Positraction Rear Axle, all ratios	18,279	43.05
G91	Special Highway Axle, 3.08:1 ratio	2,310	2.20
J50	Power Brakes	2,270	43.05
J56	Special Sintered Metallic Brake Package	29	629.50
J65	Sintered Metallic Brakes, power	4,780	53.80
K66	Transistor Ignition System	552	75.35
L75	327ci, 300hp Engine	10,471	53.80
L76	327ci, 365hp Engine	7,171	107.60
L84	327ci, 375hp Engine (fuel injection)	1,325	538.00
M20	4-Speed Manual Transmission	19,034	188.30
M35	Powerglide Automatic Transmission	2,480	199.10
N03	36 Gallon Fuel Tank (for coupe)	38	202.30
N11	Off Road Exhaust System	1,953	37.70
N40	Power Steering	3,126	75.35
P48	Cast Aluminum Knock-Off Wheels (5)	806	322.80
P91	Blackwall Tires, 6.70x15 (nylon cord)	372	15.70
P92	Whitewall Tires, 6.70x15 (rayon cord)	19,977	31.85
T86	Back-up Lamps	11,085	10.80
U69	AM-FM Radio	20,934	176.50

- A 327ci, 250hp engine, 3-speed manual transmission, vinyl interior trim, and a soft top (convertible) were included in the base price.
- The 7,023 C07 quantity included 1,220 in lieu of soft tops at no extra cost.
- The 1,998 C60 quantity was split 1,069 coupe, 919 convertible.
- The 19,034 M20 quantity was split 10,538 with wide ratio 250hp and 300hp engines; 8,496 with close ratio 365hp and 375hp engines
- The 2,480 M35 quantity was split 904 with 250hp, 1,576 with 300hp .

1964 COLORS

CODE	EXTERIOR	QTY	SOFT TOP	WHEELS	INTERIORS
900	Tuxedo Black ...	1,897	Bk-W-Bg	Black	Bk-R-Si-W
912	Silver Blue	3,121	Bk-W-Bg	Black	Bk-B-W
916	Daytona Blue ...	3,454	Bk-W-Bg	Black	B-Si-W
923	Riverside Red ...	5,274	Bk-W-Bg	Black	Bk-R-W
932	Saddle Tan	1,765	Bk-W-Bg	Black	S-W
936	Ermine White ...	3,909	Bk-W-Bg	Black	Bk-B-R-S-Si-W
940	Satin Silver	2,785	Bk-W-Bg	Black	Bk-B-R-Si-W

- Suggested interiors shown. Other combinations were possible.
- In 1964, 24 Corvettes had non-standard paint, or primer.

Interior Codes: Std=Bk/V, 898A=Bk/L, 490AA/AB/G/H=R/V, 898FA/EA/L/M=R/L, 490BA/BB/J/K=B/V, 898JA/KA/N/P=B/L, 490CA/CB/L/M=S/V, 898CA/DA/G/H=S/L, 491AA/AE=Si+Bk/V, 899AA/AE=Si+Bk/L, 491BA/BE/M/N=Si+B/V, 899BA/BE/M/N=Si+B/L, 491CA/CB/CE=W+Bk/V, 899CA/CB/CE=W+Bk/L, 491GA/GE/R/S=W+B/V, 899GA/GE/R/S=W+B/L, 491DA/DE/P/Q=W+R/V, 899DA/DE/P/Q=W+R/L, 491HA/HE/T/U=W+S/V, 899HA/HE/T/U=W+S/L

- With the exception of "std" for black vinyl, 1964 interior codes consisted of three numbers followed by a one or two alpha-character suffix. In some cases, the suffix differentiated coupe from convertible and/or A. O. Smith body build from St. Louis in-house body build.

Abbreviations: B=Blue, Bg=Beige, Bk=Black, L=Leather, R=Red, S=Saddle, Si=Silver, V=Vinyl, W=White.

CORVETTE

1964 MODEL CORVETTE WITH STANDARD EQUIPMENT (250-hp Corvette V8 Engine—98" Wheelbase)

Model Description	Price at which Dealer is Invoiced (List Price less 23%)*	Factory D & H	List Price	Mfr's Suggested Dealer D & H	Mfr's Suggested Retail Price*	Destination Charge	Total
837 Corvette Sport Coupe 2-door—2-passenger.....	\$3012.24	\$300.00	\$3912.00	\$40.00	\$4252.00		
867 Corvette Convertible—2-passenger With manually operated soft top.....	2858.24	285.00	3712.00	40.00	4037.00		

* Base discount is 25% with the 2% difference retained for dealer's account in accordance with Dealer Price List.
* Manufacturer's Suggested Retail Price does not include state and local taxes, license fees, options or accessories.

FACTORY INSTALLED REGULAR PRODUCTION TUBELESS TIRES

Description	Option Number	Dealer Net	Factory D & H	List Price	Mfr's Suggested Retail Delivered Price*
(S) 6.70-15/4-ply Regular Highway Blackwall.....	Std	N.C.	N.C.	N.C.	N.C.
(S) 6.70-15/4-ply Regular Highway Whitewall.....	P92	\$22.80	\$1.85	\$30.00	\$31.85
(S) 6.70-15/4-ply Nylon Highway Blackwall.....	P91	11.40	.70	15.00	15.70

* State and local taxes not included.

OPTIONS AND ACCESSORIES WHEN INSTALLED BY CHEVROLET

Description	Option Number	Dealer Net	Factory D & H	List Price	Mfr's Suggested Retail Delivered Price*
Air Conditioning, Four Season: With 250-hp, 300-hp or 365-hp engine only	C60	\$297.92	\$29.80	\$392.00	\$421.80
Axle, Rear: 3.08 ratio (4-spd trans with 250-hp or 300-hp engine).....	G91	1.52	.20	2.00	2.20
Axle, Positraction Rear: See Power Teams chart for availability					
3.08 ratio.....	G81	30.40	3.05	40.00	43.05
3.36 ratio.....	G81	30.40	3.05	40.00	43.05
3.55 ratio.....	G81	30.40	3.05	40.00	43.05
3.70 ratio.....	G81	30.40	3.05	40.00	43.05
4.11 ratio.....	G81	30.40	3.05	40.00	43.05
4.56 ratio.....	G81	30.40	3.05	40.00	43.05
Brakes, Special: Metallic facings, also includes vacuum power brakes. Not available when special performance package is ordered.....	J65	38.00	3.80	50.00	53.80
Brakes: Vacuum power. Not available when special performance package or special metallic brakes are ordered.....	J50	30.40	3.05	40.00	43.05
Engine: 327-cu-in displacement					
300-hp Corvette V8—large 4-barrel carburetor (Regular camshaft).....	L75	38.00	3.80	50.00	53.80
365-hp Corvette V8—large 4-barrel carburetor (High-lift camshaft).....	L76	76.00	7.60	100.00	107.60
375-hp Corvette V8—Fuel Injection (High-lift camshaft).....	L84	380.00	38.00	500.00	538.00
Exhaust: Off-road service. (With 300-hp, 365-hp or 375-hp engine). Not available with Powerglide transmission.....	N11	26.60	2.70	35.00	37.70
Glass, Soft Ray Tinted: Windshield only.....	A02	7.60	.80	10.00	10.80
All windows.....	A01	11.40	1.15	15.00	16.15
Heater and Defroster Deletion: Not available with air conditioning.....	C48	69.75 CR.	7.00 CR.	93.00 CR.	100.00 CR.
Ignition System: (Full-transistor) 365-hp or 375-hp engine required; for detailed description see 1964 Finger-Tip Facts book.....	K66	53.20	5.35	70.00	75.35
Lamps, Back-Up.....	T86	7.60	.80	10.00	10.80
Paint, Exterior: Solid colors only. See Color and Trim chart.....		N.C.	N.C.	N.C.	N.C.
Radio, AM-FM: Fully Transistorized: Pushbutton control.....	U69	124.64	12.50	164.00	176.50
Steering: Power. With 250-hp engine or 300-hp engine only.....	N40	60.80	6.10	80.00	86.10
Tank, Fuel: Model 837 only (Capacity 36.5 gal).....					
Also includes wheelhouse filler panel.....	N03	142.88	14.30	188.00	202.30
Top, Auxiliary: Hard top; Model 867 only					
In place of folding top.....	C07	N.C.	N.C.	N.C.	N.C.
In addition to folding top.....	C07	167.20	16.75	220.00	236.75
Top, Folding: Model 867 only. White or beige (Standard color is black).....	C05	N.C.	N.C.	N.C.	N.C.
Transmission: See Power Teams chart for availability					
4-Speed Synchro-Mesh.....	M20	133.00	13.30	175.00	188.30
Powerglide (With 250-hp or 300-hp engine only).....	M35	140.60	14.10	185.00	199.10
Trim Combinations: See Color and Trim chart					
Genuine leather seats.....	898/899	57.00	5.70	75.00	80.70
All other trims.....	490/491	N.C.	N.C.	N.C.	N.C.
Wheels: Five cast aluminum 15 x 6L quick knock-off type.....	P48	228.00	22.80	300.00	322.80
Windows, Power: Electric control.....	A31	41.80	4.20	55.00	59.20

* State and local taxes not included.

December 2, 1963

Section 11—Page 32

SPECIAL BRAKE SYSTEM	J56	444.60	44.50	585.00	629.50
SPECIAL FRONT SPRING SUSPENSION	F40	161.60	16.75	150.00	177.70

* Larger RPS J56 & F40 Require Use of Options G81, L84 & M20!

CORVETTE POWER TEAMS

ENGINE, TRANSMISSION & REAR AXLE COMBINATIONS

ENGINE			REAR AXLE RATIOS			
TRANSMISSION			Standard	Optional		
Option Number	Description		General Purpose▲	Special Purpose or Mountain★	Performance Cruise	High Performance★
Standard	250 HP 327-cu-in displacement 4-barrel carburetor Hydraulic lifters 10.5:1 compression ratio	3-speed	3.36:1		3.08:1 (RPO G91)▲	
		4-speed Wide-Range				
		Powerglide				
L75	300 HP 327-cu-in displacement Large 4-barrel carburetor Hydraulic lifters 10.5:1 compression ratio	3-speed	3.36:1		3.08:1 (RPO G91)▲	
		4-speed Wide-Range				
		Powerglide				
L76	365 HP 327-cu-in displacement Large 4-barrel carburetor Special camshaft Mechanical lifters 11.25:1 compression ratio	4-speed Close-Ratio	3.70:1	3.36:1 3.55:1	3.08:1★	4.11:1 4.56:1
L84	375 HP 327-cu-in displacement Fuel injection Special camshaft Mechanical lifters 11.25:1 compression ratio	4-speed Close-Ratio	3.70:1	3.36:1 3.55:1	3.08:1★	4.11:1 4.56:1

★ Available as Positraction only (RPO G81)

▲ Also available as Positraction (RPO G81)

COLOR AND TRIM COMBINATIONS

OPT. NO.		898	898	898	898	899	899	899	899	899	899	STD	490	490	490	491	491	491	491	491	FOLDING TOP COLORS	
COLUMN 25	CODE	K	M	N	J	P	R	T	S	U	W	E	D	B	C	Y	A	Q	F	H	G	
		BLACK	RED	BLUE	SADDLE	SILVER/BLACK	SILVER/BLUE	WHITE/RED	WHITE/BLACK	WHITE/BLUE	WHITE/SADDLE	BLACK	RED	BLUE	SADDLE	SILVER/BLACK	SILVER/BLUE	WHITE/RED	WHITE/BLACK	WHITE/BLUE	WHITE/SADDLE	BLACK WHITE BEIGE
EXTERIOR COLOR & OPTIONAL HARDTOP	OPT NO	BLACK	RED	BLUE	SADDLE	SILVER/BLACK	SILVER/BLUE	WHITE/RED	WHITE/BLACK	WHITE/BLUE	WHITE/SADDLE	BLACK	RED	BLUE	SADDLE	SILVER/BLACK	SILVER/BLUE	WHITE/RED	WHITE/BLACK	WHITE/BLUE	WHITE/SADDLE	
TUXEDO BLACK	900	X	X			X			X			X	X			X			X			ALL TOPS AVAILABLE WITH ANY COLOR
SILVER BLUE (MED)	912	X		X						X		X		X						X		
DAYTONA BLUE (DK)	916			X			X			X				X		X				X		
RIVERSIDE RED	923	X	X			X	X					X	X			X						
SADDLE TAN	932				X						X				X						X	
ERMINES WHITE	936	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SATIN SILVER	940	X	X	X		X	X		X			X	X	X		X	X		X			

▲ LEATHER SEATS ONLY

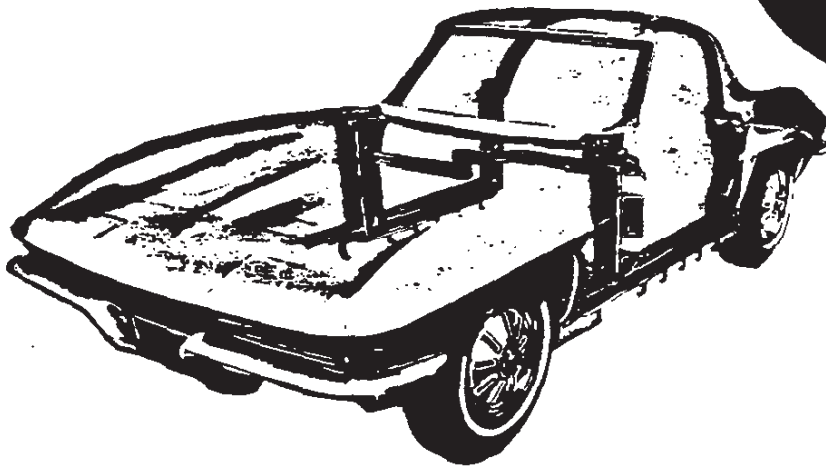
NOTE: THE INSTRUMENT PANEL AND CARPETING ARE COLOR KEYED AS SHOWN IN CHART BELOW.

INTERIOR TRIM	COLOR OF INSTRUMENT PANEL AND CARPETING
BLACK OR WHITE/BLACK	BLACK INSTRUMENT PANEL AND BLACK CARPETING
RED OR WHITE/RED	RED INSTRUMENT PANEL AND RED CARPETING
BLUE OR WHITE/BLUE	BLUE INSTRUMENT PANEL AND BLUE CARPETING
SADDLE OR WHITE/SADDLE	SADDLE INSTRUMENT PANEL AND SADDLE CARPETING
SILVER/BLACK	BLACK INSTRUMENT PANEL AND GRAY CARPETING
SILVER/BLUE	BLUE INSTRUMENT PANEL AND GRAY CARPETING

NOTE: IT IS MOST IMPORTANT THAT DEALERS CLEARLY SPECIFY ON ORDER FORM THE COLOR AND TRIM COMBINATION DESIRED.

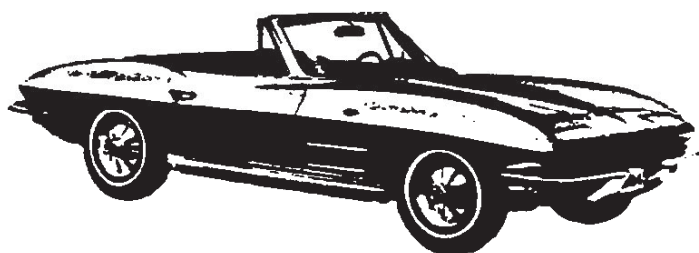
ORIGINAL COPY

GENERAL



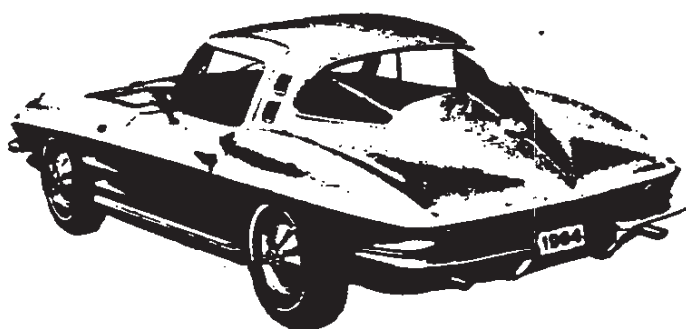
MODEL IDENTIFICATION	2
SERIAL NUMBERS AND IDENTIFICATION	3
REGULAR EQUIPMENT - INTERIOR	4
REGULAR EQUIPMENT - EXTERIOR	5
REGULAR PRODUCTION OPTIONS	5
DEALER INSTALLED ACCESSORIES	5
INTERIOR DIMENSIONS	6
EXTERIOR DIMENSIONS	7
VEHICLE WEIGHTS	8
EXTERIOR PAINT PROCESS	8
EXTERIOR-INTERIOR COLOR COMBINATIONS	9
BODY GLASS	10
BODY CONSTRUCTION	10

MODEL IDENTIFICATION



MODEL 867

2-PASSENGER CONVERTIBLE



MODEL 837

2-PASSENGER SPORT COUPE

SERIAL NUMBERS AND IDENTIFICATION

● VEHICLE SERIAL NUMBER

Description ----- The vehicle serial number describes four aspects of the automobile - the year it was built, the model, where it was built, and the number of the unit built. Every Corvette is built in St. Louis.

Description symbols

Production year symbol for 1964 ----- 4
 Model symbol ----- 0837 or 0867
 Assembly plant code (for St. Louis) ----- S
 Number of unit built ----- In numerical sequence beginning with 100001

Example: The 2000th, 1964 Corvette produced, if it was a model 867, the serial number would be 40867S102000.

● ENGINE IDENTIFICATION

Description ----- Engine identification describes three aspects - where the engine was built, and the type of engine. Every Corvette engine is assembled in Flint.

Description symbols

Assembly plant code (for Flint) ----- F
 Month and day code ----- To be designated as numerals ("O" before any month or day not two numerals)

Engine type code

Regular production engine ----- RC
 RPO 2-L75 engine ----- RD
 RPO 2-L76 engine ----- RE
 RPO 2-L84 engine ----- RF
 Regular production engine with Powerglide ----- SC
 RPO 2-L75 engine with Powerglide ----- SD

Example: A RPO2-L84 Corvette engine built December 10th would bear engine identification F1210RF; if an RPO 2-L75 engine with Powerglide built June 1st the engine identification would be F0601SD.

● REAR AXLE IDENTIFICATION

Description ----- Rear axle identification is achieved with a two-letter code to identify the production plant followed by 4 numerals to indicate the month and day (in that sequence) axle was produced. All 1964 Corvette axles, including positraction, are produced in Warren.

Description symbols

Assembly plant code

Regular axles

3.08:1 ----- CZ
 3.36:1 ----- CA
 3.70:1 ----- CX

Positraction axles

3.08:1 ----- CJ
 3.36:1 ----- CB
 3.55:1 ----- CC
 3.70:1 ----- CD
 4.11:1 ----- CE
 4.56:1 ----- CF

Month and day code ----- To be designated as numerals ("O" before any month or day not two numerals)

Example: A Corvette positraction axle with a 4.11:1 ratio, built December 10th would bear the identification CF1210; a regular 3.08:1 axle built June 1st would bear identification CZ0601.

REGULAR EQUIPMENT - INTERIOR

	Bucket seats with seat belts; individual fore-aft adjustment	
	Arm rest on each door and between seats	
	Door locking knob (upper reflector on sidewall trim)	
	Twin reflectors on doors	
	Door side window crank handle	
	Door vent window crank handle	
	Door opening handle with ball-shaped knob	
	Compound curved door glass	All
	Passenger compartment carpeting	
	Rear compartment carpeting	
	Cowl vents with bowden cable controls	
	Hood release control	
	Direction signal control	
	Heater controls (on instrument panel console)	
	Parking brake control	837
	Roof blower motor with exhaust vents	
	Heater and defroster	
	Padded sun shades	
	Rear view mirror	
	Ash tray (on seat separator)	
	Electric clock with second hand (on instrument panel console)	
	Transmission shift pattern diagram (on seat separator)	
	Steering wheel with competition type 3-spoke design, and horn button	
	Two-speed electric windshield wiper with washer	
	Vinyl covered instrument panel hoods; passenger assist in right hood	
	Glove compartment with trim panel and emblem, and key lock	
	Simulated vinyl instrument cluster	All
Instrument Cluster	Speedometer (160 MPH) with odometer	
	Trip odometer with reset stem	
	Tachometer (7000 RPM)	
	Ammeter	
	Oil pressure gage	
	Fuel gage	
	Temperature gage	
	Ignition switch (5-position)	
	Main light switch	
	Windshield washer and wiper control switch	
	Roof blower motor switch	837
	Headlamp rotation switch	
	Headlamp position warning indicator	
	Headlamp hi-beam indicator	All
Interior Lighting	Direction signal indicators	
	Parking brake alarm	
	Cigarette lighter	
	Clock	837
Interior Lighting	Dome	
	Glove compartment	
	Heater controls	All
	Instrument cluster controls and gages	
Bright Metal Surfaces	Instrument panel courtesy	
	Rear compartment courtesy	
	Transmission shift lever bezel, ash tray door and shift pattern diagram	
	Transmission shift lever and knob	
	Floor tunnel cover plate moulding	
	Instrument panel console control knobs	
	Instrument cluster trim and control knobs	
	Glove box door trim plate, emblem and moulding	All
	Seat adjustment handle	
	Seat backrest side trim	
	Side door hardware and panel moulding	
	Direction signal control lever and knob	
	Parking brake handle	
	Steering wheel spokes and horn button bezel	
	Rear view mirror and support	
	Top header release latches	867
	Sill plates	All
	Windshield upper and side garnish mouldings	867

INTERIOR DIMENSIONS

	Code *	Description *	Models		
			837	867 Soft-top	867 Hardtop
FRONT COMPARTMENT	L31	Body zero line to H point		44.9	
	H70	Body zero line to H point		8.3	
	H61	Effective head room	36.3	37.1	36.9
	H37	Headlining to roof height	.18	—	.18
	L34	Maximum effective leg room - accelerator		43.1	
	H30	H point to heel point		8.2	
	H67	Depressed floor covering thickness		.4	
	L40	Back angle (degrees)		25	
	L42	Hip angle (degrees)		105	
	L44	Knee angle (degrees)		139	
	L46	Foot angle (degrees)		83	
	H65	D point differential, side to center		—	
	H54	D point to tunnel		1.56	
	L53	I point to accelerator floor point		35.7	
	L17	H point travel		4.0	
	H58	H point rise		.32	
	H5	H point to ground		15.8	
SEAT AND ENTRANCE - FRONT	W3	Shoulder room		48.2	
	W5	Hip room		52.4	
	W16	Seat width (each seat)		20.8	
	H50	Upper body opening to ground	46.7		41.8
	H11	Entrance height	30.7		25.8
	H115	Step height (design load)		14.0	
	H130	Step height (curb load)		16.2	
	L18	Entrance foot clearance		16.6	
	H32	Seat cushion deflection		3.2	
	L14	Seat back thickness		4.0	
	W1	Hat room	44.8	42.7	
	H3	Seat chair height		8.9	
	H26	Interior body height, M/M @ car Centerline	36.1	36.9	35.8
	H27	Interior body, M/M @ C/LO	40.2	41.6	40.6
VISION AND CONTROL	H6	H point to W/S bottom DLO		19.5	
	H64	H point to W/S upper DLO		31.0	
	L49	H point to W/S upper DLO		15.9	
	H25	Belt height		17.3	
	W7	Steering wheel center to car Centerline		12.9	
	W9	Steering wheel maximum OD		16.0	
	H18	Steering column angle (degrees) - horizontal		16.45	
	H49	H point to top of steering wheel		22.7	
	L7	Steering wheel torso clearance		15.2	
	H13	Steering wheel thigh clearance		4.5	
	L13	Brake pedal knee clearance		24.6	
	L52	Brake pedal to accelerator		1.4	
	W122	Tumble-home (degrees)		14.25	

* - Code and description conform generally to AMA Specifications. ●

REGULAR EQUIPMENT - EXTERIOR

Exterior Lighting	Headlamps, dual, retractable		All	
	Parking and direction signal lamps (amber lenses)			
	Rear license lamp			
	Tail, stop and direction signal lamps, dual			
Emblems	Crossed Flags	Body front panel		
		Front fender side		
		Wheel disc ornaments		
		Gas filler door		
	Nameplate	Rear deck		
Integral front and rear bumper guards				
Manual folding top			867	
Spare tire well cover lock			All	
Bright Metal Surfaces	Body sill mouldings			
	Bumpers, front and rear			
	License plate frame front support			
	License plate frames			
	License plate bezel, rear			
	Grille			
	Parking and direction signal lamp bezels			
	Door handles and key locks			
	Vent window frames			867
	Windshield reveal mouldings			All
	Rear window reveal			837
	Tail, stop and direction signal lamp bezels			
	Tail pipe extensions and bezels			
	Gas filler door and bezel			
	Outside rear view mirror, left hand door			
Wheel discs and ornaments		All		

REGULAR PRODUCTION OPTIONS

Body	Air conditioning		C60	All models
	Backup lamps		T86	Model 867
	Auxiliary top equipment		C07	
	Folding top colors		C05	
	Less heater equipment		C48	All models
	Power windows		A31	
	Radio, AM-FM		U69	
	Tinted body glass		A01	
	Tinted windshield		A02	
	Brakes	Metallic	J65	
		Heavy-duty	J56 ●	
		Power	J50	
Chassis	Rear axles	Positraction	G81	
		3.08:1	G91	
	Tires	6.70 x 15 Nylon	P91	
		6.70 x 15 Rayon, whitewall	P92	
	Transmissions	4-Speed	M20	
		Powerglide	M35	
	Power steering		N40	
Engine	Special front and rear suspension equipment		F40 ●	
	15 x 6L wheel (quick take off)		P48	
	Engine, 300 HP		L75	
	Engine, 365 HP		L76	
	Engine, 375 HP		L74	
	Gasoline tank, 36 gallon		N03	Model 857
	Off road exhaust equipment		N11	All models
	Transistor ignition equipment		K66	

DEALER INSTALLED ACCESSORIES

Antenna, radio	All
Fire extinguisher	
Floor mat (clear vinyl)	
Gas cap, locking	
Mirror, (glare proof) rear view	
Radio, AM-FM	
Radio shielding installation unit	
Spotlamp, portable	
Tool kit	

VEHICLE WEIGHTS

VEHICLE WEIGHTS, LB

Weight of basic vehicle - 250 HP engine and
3-speed transmission

Model 867 soft top	
Shipping weight	
Front	1500
Rear	1445
Total	2945
Curb weight	
Front	1505
Rear	1605
Total	3110
Design weight	
Front	1580
Rear	1825
Total	3405
Model 837 Sport Coupe	
Shipping weight	
Front	1510
Rear	1450
Total	2960
Curb weight	
Front	1510
Rear	1615
Total	3125
Design weight	
Front	1590
Rear	1835
Total	3425
Model 867 hardtop	
Add 8 lb to soft top values	
Powerglide transmission	
Add 23.3 lb	

EXTERIOR PAINT PROCESS

- 1. PRIMARY SANDING...** All body panels and bonded joints that receive acrylic lacquer are dry sanded to prepare surfaces for painting. A filler material, called putty rub, is applied to the entire body to fill minor imperfections.
- 2. PRIMER...** Two coats of primer are applied -- the first red and the second gray -- and are oven baked for 60 minutes at 280 degrees F.
- 3. WET SANDING...** The body is wet sanded to provide a smooth surface for the sealers. Most of the gray primer coat is removed with the red primer acting as a depth signal for the sanding operation. The body is dried to remove all moisture.
- 4. SEALERS...** One coat of sealer and one coat of color acrylic lacquer are applied and baked.
- 5. DRY SANDING...** The body is dry sanded to prepare surfaces for the final acrylic lacquer.
- 6. LACQUERING...** Three coats of acrylic lacquer are sprayed on the body to build up the required paint thickness. The paint is "rested" for eight minutes to permit it to partially set up and to remove excess volatile paint vehicle.
- 7. INITIAL BAKING...** The body is oven baked for 30 minutes at 140 degrees F to harden the paint which permits the subsequent operation. Small interior and exterior parts are painted to complete the body paint schedule.
- 8. FINAL BAKING...** To assure a durable, hard, high luster finish the lacquer is oven baked for 45 minutes at 250 degrees F. Reheating the lacquer permits the paint film to soften and allows surface blemishes and sanding scratches to disappear during the thermo-reflow process.
- 9. FINAL SANDING AND POLISHING...** The body is lightly oil sanded and polished to bring painted surfaces to a high luster finish.

EXTERIOR DIMENSIONS

	CODE *	DESCRIPTION *	Models		
			837	867 Soft Top	867 Hardtop
WIDTH	W101	Tread - front		56.3	
	W102	Tread - rear		57.0	
	W103	Max. overall car width		69.2	
	W116	Max. overall body width		(see W106)	
	W106	Front fender overall width		69.6	
	W107	Rear fender overall width		67.3	
	W120	Max. overall width - doors open		139.3	
HEIGHT	H101	Overall height	49.6	49.8	
	H114	Hood at rear to ground		34.8	
	H112	Rocker panel to ground - front		7.95	
	H111	Rocker panel to ground - rear		7.95	
	H132	Bottom of door to ground, open		13.5	
	H133	Bottom of door to ground, closed		12.3	
	H122	W/S slope angle (degrees)		36.5	
	H136	Body zero to ground - front		7.7	
	H137	Body zero to ground - rear		7.7	
	H125	Headlamp to ground		24.36	
	H126	Tail lamp to ground		21.76	
	H158	Roof thickness	2.7	5.7	3.6
	H159	DLO height	13.4		12.2
	H160	Body thickness			
LENGTH	L30	Body zero line to actual front of dash		2.37 fore of dash	
	L101	Wheelbase		98.0	
	L104	Overhang - front		52.0	
	L105	Overhang - rear		45.3	
	L103	Overall length		175.3	
	L128	Hood length at car C/L		46.7	
	L123	Body upper structure length @ car C/L	77.9	66.8	69.2
	L129	Deck length @ car C/L	28.6	39.7	37.3
	L127	Body zero line to C/L rear wheels		72.0	
	L130	Body zero line to W/S cowl point		9.0	
CLEARANCE AND GLASS AREA - HEIGHT	L102	Tire size		6.70 X 15	
	H102	Front bumper to ground		18.0	
	H104	Rear bumper to ground		16.6	
	H106	Angle of approach (degrees)		26.65	
	H107	Angle of departure (degrees)		17.35	
	H147	Ramp breakover angle (degrees)		11.75	
	H148	Front suspension to ground		8.0	
	H149	Oil pan to ground		6.0	
	H150	Flywheel housing to ground		5.9	
	H151	Frame structure to ground		5.5	
	H152	Exhaust system to ground		5.0	
	H153	Rear axle differential to ground		7.3	
	H154	Fuel tank to ground		—	
	H155	Spare tire well to ground		6.1	
	H156	Minimum running ground clearance		5.0 (see H152)	
	E1	Windshield glass area (sq. inches)		789.7	

* - Code and description conform generally to AMA Specifications.

BODY GLASS

BODY GLASS	
Type -----	Solid safety plate except: windshield, laminated safety plate; soft top backlight, flexible plastic; hardtop backlight, Plexiglass.
Shape	
Windshield -----	Single curved, 1 piece
Backlight -----	
Soft top -----	Flat, 1 piece
Hardtop -----	Curved, 1 piece
Sport Coupe -----	Compound curved, 1 piece
Side door glass	
Door glass -----	Compound curved
Ventipane -----	Compound curved
Area, sq. inches	
Windshield -----	789.7
Backlight -----	
Soft top -----	440.5
Hardtop -----	
Sport Coupe -----	821.5
Side door glass	
Door glass -----	
Soft top and hardtop -----	442.8
Sport Coupe -----	528.3
Ventipanes	
Soft top and hardtop -----	107.3
Sport Coupe -----	91.8
Total glass area	
Soft top -----	1780.3
Hardtop -----	
Sport Coupe -----	2231.3

BODY CONSTRUCTION.

GENERAL

Construction ----- Uniconstruction: fiber glass reinforced plastic body backboned by a steel cage outlining the passenger compartment. Principal members - underbody, front and rear end assemblies, dash panel, roof (Model 837) and hinge pillars are bonded, riveted, or bolted together and to each other. Hood is plastic with bonded plastic reinforcement.

DOOR AND LOCKS

Construction ----- Plastic, double paneled, reinforced with steel at hinge and lock locations. Front hinged.

Door handles ----- Push button with rotary type latches. Inside door locking knob on each door (upper reflector on side wall trim)

Door ventipanes operation ----- Crank

HOOD

Operation ----- Internal release lever. Front hinged with telescoping link on right side. Ratchet-type lock for hold open.

VENTILATION

Type ----- "Saddlebag" - cowl top air inlets channel air to cowl side kick panel outlets controlled by bowden cable operated valves. Water drainage at base of "saddlebag" plenum chambers.

SEATS

Type and construction ----- Bucket; leather grained vinyl covering over polyurethane padding

WINDSHIELD WIPERS

Type ----- Dual, two-speed, electric; washer provided
Linkage ----- Parallel acting

SPARE TIRE

Location ----- In well under fuel tank; accessible from underside of car. Cover with key lock provided.

TOOLS

Type ----- Scissors jack, and combination jack handle and lug wrench

Stowage ----- In well in luggage area directly behind drivers seat; carpeted cover over well.

EXTERIOR-INTERIOR COLOR COMBINATIONS

INTERIOR TRIM COLORS - SOLID			Black	Red	Blue	Saddle
			Model 867			
RPO	All Vinyl Interior	Reg. Prod.	490AB	490BB	490CB	
RPO	Genuine Leather Seat Trim	898A	898FA	898KA	898DA	
			Model 837			
RPO	All Vinyl Interior	Red. Prod.	490AA	490BA	490CA	
RPO	Genuine Leather Seat Trim	898A	898EA	898JA	898CA	
EXTERIOR COLORS						
RPO	Color	Sales Name				
900	Black-Reg. Prod.	Tuxedo Black	X	X		
912	Med. Blue	Silver Blue	X		X	
916	Dark Blue	Daytona Blue			X	
923	Red	Riverside Red	X	X		
932	Lgt. Saddle	Saddle Tan				X
936	White	Ermine White	X	X	X	X
940	Silver	Satin Silver	X	X	X	

Black Interu. panel, med. gray carpet

Dark blue Interu. panel, med. gray carpet

Black Interu. panel and carpet

Dark blue Interu. panel and carpet

Red Interu. panel and carpet

Saddle Interu. panel and carpet

INTERIOR TRIM COLORS - TWO-TONE			Silver	Silver	White	White	White	White
			Model 867					
RPO	All Vinyl Interior	491AE	491BE	491CA	491GE	491DE	491HE	
RPO	Genuine Leather Seat Trim	899AE	899BE	899CA	899GE	899DE	899HE	
			Model 837					
RPO	All Vinyl Interior	491AA	491BA	491CA	491GA	491DA	491HA	
RPO	Genuine Leather Seat Trim	899AA	899BA	899CA	899GA	899DA	899HA	
EXTERIOR COLORS								
RPO	Color	Sales Name						
900	Black-Reg. Prod.	Tuxedo Black	X		X			
912	Med. Blue	Silver Blue				X		
916	Dark Blue	Daytona Blue		X		X		
923	Red	Riverside Red					X	
932	Lgt. Saddle	Saddle Tan						X
936	White	Ermine White	X	X	X	X	X	X
940	Silver	Satin Silver	X	X	X			

SPECIAL PERFORMANCE EQUIPMENT

SPECIAL FRONT AND REAR SUSPENSION EQUIPMENT

RPO 2-F40

Same as regular production specifications except as follows

FRONT SUSPENSION

SHOCK ABSORBERS

Piston travel (unassembled) ----- 5.00

STABILIZER BAR

Diameter ----- .940

SPRING

Part number ----- 3832518

Type ----- Right hand helix

Cut-off length ----- 100.16

Number of coils (active, total) ----- 5.67, 7.093

Wire diameter ----- .680

OD ----- 5.160

PD ----- 4.480

Height

Free ----- 10.842

Working (inches @ lb) ----- 8.56 @ 1255

Deflection rate lb per inch, between

At spring ----- 350

At wheel (ride rate)

REAR SUSPENSION

REAR SPRING

Type ----- Multi-leaf, 7 leaves

Design load, lb @ - camber ----- 1325 @ .290

Deflection rate, lb per inch, @ design load

@ Spring ----- 305

@ Wheel (wheelrate)

Spring liners

Number ----- 5

Location ----- Between all leaves except numbers 6 and 7

SHOCK ABSORBERS

Piston diameter and travel (unassembled) ----- 1.575, 4.75

HEAVY-DUTY BRAKES RPO 2-J56

Same as regular production specifications except as follows

BRAKES

SERVICE BRAKES

General

Type ----- Duo servo, 4-wheel
Hydraulic, forward self-adjusting. Also features provisions for cooling, and master cylinder assisted by vacuum power unit

Line pressure, psi, @ 100 lb pedal load, stabilized ----- Approximately 1200

Braking ratios

Pedal ----- 3.43

Hydraulic ----- 4.82

Overall ----- 16.53

Pedal effort ----- Approximately _____% less than regular production brakes at same deceleration rate

Brake drum

Construction --- Composite, web cast into rim, finned

Web thickness, front and rear ----- .1295

Swept drum area (sq. in.) ----- 334.3

Diameter, front and rear ----- 11.2

Brake linings

Material ----- Sintered iron
Size

Front wheel segments

Primary and secondary ----- 1.64 x 1.37 x .388

Rear wheel segments

Primary and secondary ----- 2.00 x 1.00 x .388

Segments per shoe

Primary, front and rear ----- 6

Secondary

Front ----- 12

Rear ----- 10

Method of attachment ----- Welded

Total effective area (sq. in.) ----- 145.2

Gross lining area (sq. in.) ----- 145.2

Master cylinder

Type ----- Divided output

Diameter of pistons ----- 1.00

Piston travel (with available pedal travel) ----- 1.20

Foot pedal

Travel ----- 4.12

Cooling ----- Achieved with finned drums, vented backing plates, and a cooling fan mounted inside each brake drum; also by air scoop attached to each front brake

POWER TEAM COMBINATIONS

327 CUBIC INCH V-8 ENGINES	TRANSMISSION	REGULAR PRODUCTION AXLES	LIMITED SLIP AXLES
REGULAR PRODUCTION ENGINE, 250 HP	3-SPEED 4-SPEED AUTOMATIC	3.36:1 (3.08:1 AVAILABLE OPTIONALLY WITH 4-SPEED)	3.36:1 (3.08:1 WHERE APPLICABLE)
RPO 2-L75 ENGINE, 300 HP	3-SPEED 4-SPEED AUTOMATIC		
RPO 2-L76 ENGINE, 365 HP	● 4-SPEED	3.70:1	3.08:1 3.36:1 3.55:1 3.70:1 4.11:1 4.56:1
RPO 2-L84 ENGINE, 375 HP (FUEL INJECTION)	● 4-SPEED	3.70:1	3.08:1 3.36:1 3.55:1 3.70:1 4.11:1 4.56:1

● MANUAL TRANSMISSION MULTIPLICATION FACTORS

Engine	Transmission	Axle ratio	Total gear reduction					* Max. axle torque - low gear (lb-ft)
			Low	Second	Third	Fourth	Reverse	
250 HP	3-speed	3.36:1	8.67	5.64	3.36		8.67	2321
300 HP	(2.58:1 low)							
250 HP	4-speed	3.36:1	8.60	6.42	4.97	3.36	8.87	2303
300 HP	(2.56:1 low)							
365 HP	4-speed	3.70:1	8.14	6.07	4.74	3.70	8.40	
375 HP	(2.20:1 low)							

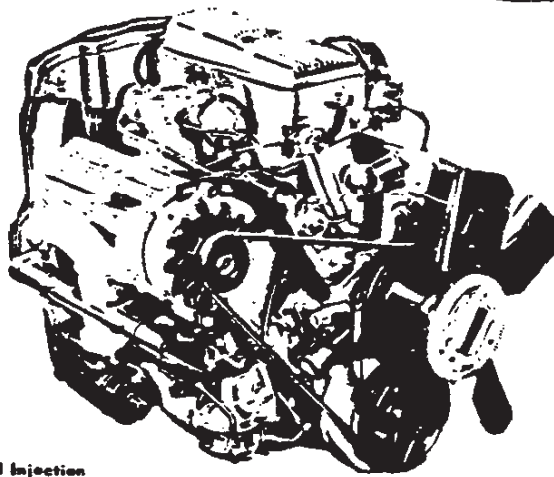
AUTOMATIC TRANSMISSION MULTIPLICATION FACTORS

Engine	Transmission	Selector Position	**Total Torque Multiplication	Axle Ratio
250 HP	Powerglide	Drive	12.43:1-3.36:1	3.36:1
300 HP		Low and reverse	12.43:1-5.93:1	

* - Gear reduction x maximum net engine torque x efficiency (.9 direct drive, .85 all others).

** - Axle ratio x transmission ratio.

POWER TRAINS



Fuel Injection

POWER TEAM COMBINATIONS	2
327 CUBIC INCH ENGINES	3
PRINCIPAL COMPONENTS	7
FUEL SYSTEM	10
EXHAUST AND VENTILATION SYSTEMS	10
LUBRICATION SYSTEM	11
COOLING SYSTEM	11
ELECTRICAL SYSTEM	12
FUEL INJECTION SYSTEM	13
CLUTCHES	15
TRANSMISSIONS	16

ENGINES - Continued

ADVERTISED CAR PERFORMANCE FACTORS MODEL 267 SOFT TOP

Engine, gross horsepower	250 HP	300 HP	365 HP	375 HP
--------------------------	--------	--------	--------	--------

3.36:1 AXLE

3-Speed transmission

Performance weight, lb	3410	3410
Performance weight per gross HP	13.64	11.38
Performance weight per cu. in. displ.	10.42	10.44
Gross HP per cu. in. displ.	.765	.917
Power displacement, cu. ft. per mile	241.6	
Displacement factor, cu. ft. per ton per mile	141.7	141.4

3.36:1 AXLE

3.78:1 AXLE

4-Speed transmission

Performance weight, lb	3410	3410	3400	3420
Performance weight per gross HP	13.64	11.37	9.32	9.12
Performance weight per cu. in. displ.	10.42	10.43	10.40	10.46
Gross HP per cu. in. displ.	.765	.917	1.116	1.146
Power displacement, cu. ft. per mile	241.6		266.1	
Displacement factor, cu. ft. per ton per mile	141.7	141.7	156.5	155.6

3.36:1 AXLE

Automatic transmission

Performance weight, lb	3435	3435
Performance weight per gross HP	13.74	11.45
Performance weight per cu. in. displ.	10.50	
Gross HP per cu. in. displ.	.765	.917
Power displacement, cu. ft. per mile	241.6	
Displacement factor, cu. ft. per ton per mile	140.7	140.6

Performance weight	Curb Weight plus 300 Lb (weight of two 150 lb passengers)
Power displacement	$\frac{\text{Crankshaft revs./mi} \times \text{piston displacement}}{2 \times 1728}$
Displacement factor	$\frac{\text{Power displacement}}{\text{Performance wt (tons)}}$

327 CUBIC INCH V-8 ENGINES

GENERAL ENGINE DATA

ENGINE		TRANSMISSION		
		3-Speed	4-Speed	Automatic
Displacement, cubic inches		327		
Type		V-8, valve in head		
Bore and stroke		4.00 x 3.25		
Compression ratio		10.5:1, 250 and 300 HP; 11.0 for 365 and 375 HP		
SAE taxable horsepower		51.2		
Idle speed (RPM)		500 in neutral (a)		475 in drive
Compression pressure, psi, cranking speed, engine hot		160 (b)		
Crankshaft inclination		plus 3 degrees		
Lubrication		Full pressure		
Power plant mounting		Three point, two front, one rear (at transmission); compression type		
Overall measurements	Length (without transmission)			
	Width			
	Height			
Cylinder	Designation	FRONT	2-4-6-8	Right bank
			1-3-5-7	Left bank
	Firing order	1-8-4-3-6-5-7-2		

(a) - 800 in neutral for 365 HP engine; 850 for 375 HP engine.

● (b) - 150 for 365 and 375 HP engines.

ADVERTISED ENGINE RATINGS

Engine		Standard	300 HP	365 HP	375 HP
Brake	Net	210 @ 4400 RPM			
Horsepower	Gross	250 @ 4400 RPM	300 @ 5000 RPM	365 @ 6200 RPM	375 @ 6200 RPM
Torque	Net	315 @ 2600 RPM			
(lb-ft)	Gross	350 @ 2800 RPM	360 @ 3200 RPM	350 @ 4000 RPM	350 @ 44-4800 RPM

ENGINE SPEED AND PISTON TRAVEL

Transmission		3-Speed	Powerglide*	4-Speed (2.56 Low)	
Rear axle ratio		3.36:1	3.36:1	3.08:1	3.36:1
Tire size and rev/mile		6.70 x 15.760			
Crankshaft rev/mile in direct drive		2553.6	2553.6	2347.0	2553.6
Crankshaft rev/min @ 1 mile/hr	Low	109.8	77.5	99.9	109.0
	Second	71.5		74.5	81.3
	Third	42.6	direct 42.6	57.7	63.0
	Fourth			39.0	42.6
	Reverse	109.8	77.5	103.0	123.6
Piston travel ft/mile in direct drive		1383.3	1383.3	1271.4	1383.3

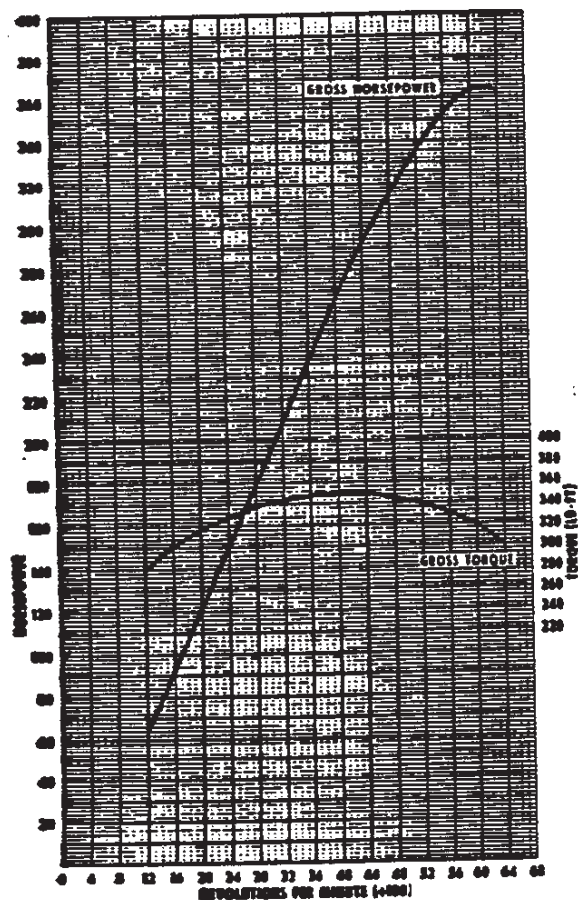
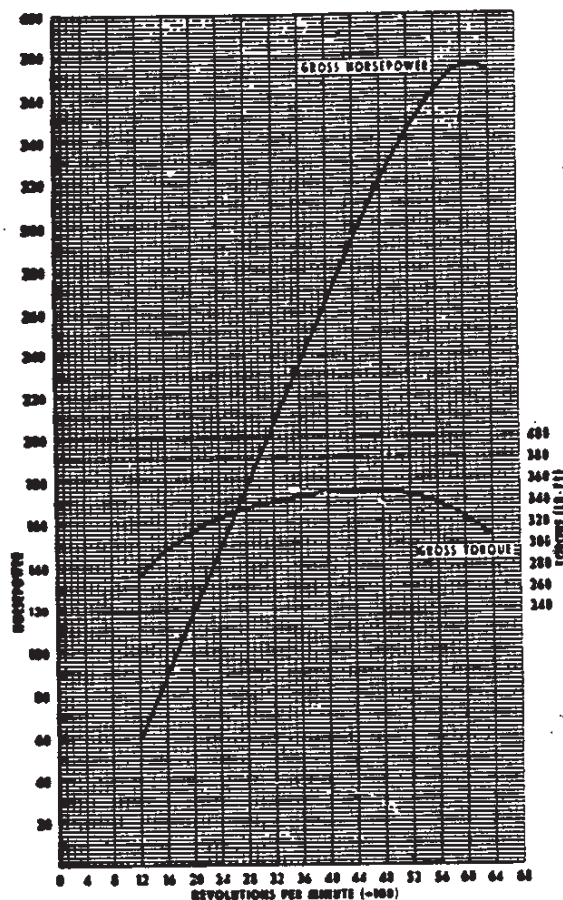
Transmission		4-Speed (2.20 Low)					
Rear axle ratio		3.08:1	3.36:1	3.55:1	3.70:1	4.11:1	4.56:1
Tire size and rev/mile		6.70 x 15.760					
Crankshaft rev/mile in direct drive		2347.0	2553.6	2698.0	2812.0	3123.6	3465.6
Crankshaft rev/min @ 1 mile/hour	Low	85.8	93.4	98.9	103.1	114.6	127.1
	Second	64.0	69.8	73.7	76.9	85.4	94.7
	Third	49.9	54.5	57.6	60.0	66.6	73.9
	Fourth	39.0	42.6	45.0	46.9	52.1	57.8
	Reverse	88.6	96.6	102.1	106.4	118.2	131.1
Piston travel ft/mile in direct drive		1271.4	1384.1	1461.5	1523.3	1692.1	1877.3

* Zero slippage assumed

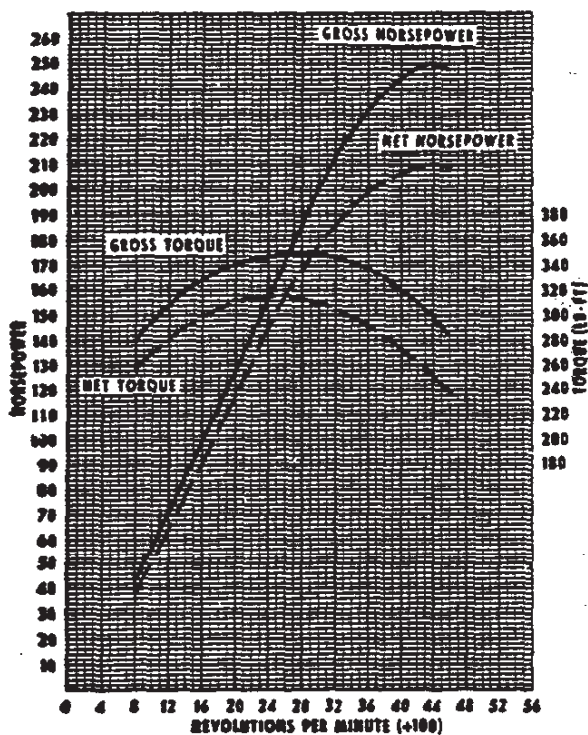
ENGINES - Continued

POWER CURVES

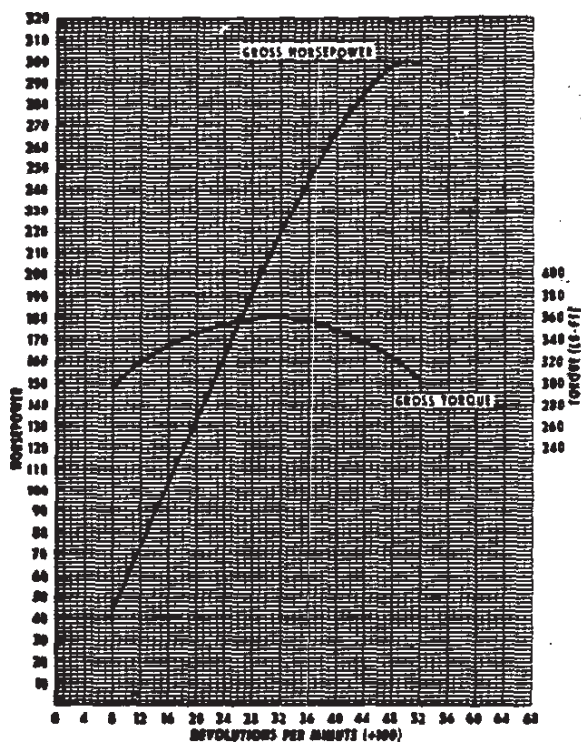
RPO 2-L84
375 HP
FUEL INJECTION



RPO 2-L76
365 HP



**RPO 2.175
300 HP**



The engine performance curves represent full throttle performance as obtained from dynamometer test data corrected to standard barometric pressure 29.92 inches of mercury and standard temperature of 60 degrees F.

GROSS POWER and TORQUE were obtained in a regular dynamometer test with the dynamometer exhaust system,

no fan, generator not charging, optimum spark advance, and optimum fuel setting.

NET POWER and TORQUE were obtained from a dynamometer test simulating actual operating conditions when the engine is in its vehicle, except the generator is not charging.

Continued on page 6

ENGINES - Continued

VALVE TRAIN

Type ----- Individual mounted, push rod
operated overhead rocker arms

Lifters

250 and 300 HP engines ----- Hydraulic
365 and 375 HP engines ----- Mechanical

Push rods

Material

Shank ----- Hollow steel

Shank ends

250 and 300 HP engines ----- Hardened
● 365 and 375 HP engines ----- Rocker arm end
has brazed or welded on hardened tip

Rocker arms

Type ----- Stamping

Material ----- Steel

Ratio ----- 1.5:1

VALVE SPRINGS

ID ----- .872-.888

Installed length, inches @ lb

Valve closed ----- 1.66 @ 78-86

Valve open ----- 1.26 @ 170-180

Free length ----- 2.03

Damper

Type ----- 4 coils

Material ----- Steel

Oil shields

Type ----- Steel cups

VALVE TRAIN LASH

Inlet

250 and 300 HP engines ----- Zero

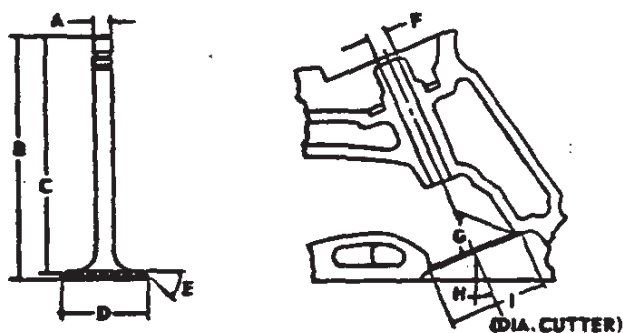
365 and 375 HP engines ----- .025

Exhaust

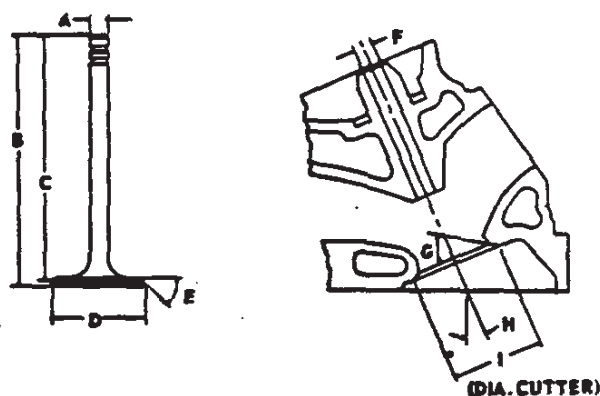
250 and 300 HP engines ----- Zero

365 and 375 HP engines ----- .025

INTAKE VALVE



EXHAUST VALVE



ENGINE	250 HP	300 HP	365 HP	375 HP
A		3404-3417		
B	4.9024-4.9224		4.8704-4.8894	
C		4.7854-4.7954		
D	1.715-1.725	1.935-1.945	2.017-2.023	
E	45 degrees plus or minus one-fourth degree			
F		3427-3437		
G	46 degrees plus or minus one-half degree			
H	25 degrees			
I	1.770-1.790	1.990-2.010	2.020	

ENGINE	250 HP	300 HP	365 HP	375 HP
A		3404-3417		3410-3417
B	4.913-4.933		4.891-4.910	
C		4.781-4.791		
D	1.495-1.505		1.595-1.605	
E	45 degrees plus or minus one-fourth degree			
F		3427-3437		
G	46 degrees plus or minus one-half degree			
H	24 degrees			
I	1.55-1.57		1.600	

PRINCIPAL COMPONENTS

CYLINDER BLOCK

Material	Cast iron alloy
Bore	
Diameter	4.0
Spacing, ϕ to ϕ	4.4
Number of bulkheads	5
Water jackets	Full length around each cylinder
Cylinder numbering arrangement (front to rear)	
Left bank	1-3-5-7
Right bank	2-4-6-8

CYLINDER HEAD

Material	Cast iron alloy (high chrome)
Bolts	
Number	16 short, 14 long, 4 medium
Thread size	7/16-14 UNC-3A
Combustion chamber volume, cubic inches	
250 HP engine	4.43
300 HP engine	4.49
365 and 375 HP engines	3.98

INLET MANIFOLD

Material	
250 and 300 HP engines	Cast iron alloy
365 and 375 HP engines	Aluminum
Type	
250, 300 and 365 HP engines	Individual passages, 2 decks of 4 each
375 HP engine	Chamber
Method of heating	
250, 300 and 365 HP engines	Exhaust gas passages
375 HP engine	None

EXHAUST MANIFOLD

Material	Cast iron alloy
Type	Low resistance flow
Outlet diameter, nominal	
250 HP engine, all transmissions, and 300 HP engine with Powerglide	2.00
300 HP, 365 HP and 375 HP engines with 3- and 4-speed transmissions	2.50

CRANKSHAFT (See COOLING SYSTEM for pulley)

Material	Forged steel
End play	.002-.006
Number of counterweights	6
Crank arm length	1.625
Type of vibration damper	Rubber mounted inertia
Timing gear	
Type	Sprocket (and chain)
Material	Steel

MAIN BEARINGS

Material	
All except upper rear	Premium aluminum
Upper rear	Steel backed babbit
Type	Precision removable
End thrust taken by	Number 5 bearing
Clearance	
Bearing numbers 1 through 4	.0006-.0034
Bearing number 5	.0010-.0036
Dimensions	
Inner diameter (theoretical)	
Bearing numbers 1 through 4	2.3009
Bearing number 5	2.3006
Effective length	
Bearing numbers 1 through 4	.752
Bearing number 5	1.1824
Projected area	
Bearing numbers 1 through 4	1.7303
Bearing number 5	2.7202

CAMSHAFT

Material	Cast iron alloy
Lobe lift	
250 and 300 HP engines	
Inlet	.2658
Exhaust	.2658
365 and 375 HP engines	
Inlet	.32336
Exhaust	.32336
Bearings	
Material	Extra-life steel backed babbit

CAMSHAFT

FUEL PUMP
DRIVE ECCENTRIC

ALL CAMSHAFT BEARING
JOURNAL DIAMETERS - 1.8682-1.8692



BEARING JOURNALS

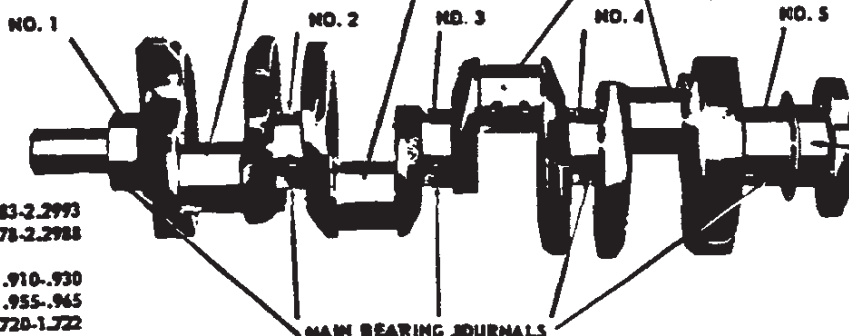
DISTRIBUTOR AND OIL
PUMP DRIVE GEAR

FRONT

CRANKSHAFT

MAIN BEARING JOURNALS

DIAMETER	
NOS. 1 TO 4	2.2983-2.2993
NO. 5	2.2978-2.2988
WIDTH	
NO. 1	.910-.930
NOS. 2 TO 4	.955-.965
NO. 5	1.720-1.722



MAIN BEARING JOURNALS

CONNECTING ROD BEARING JOURNALS
DIAMETER 1.999-2.000
WIDTH 1.898-1.902

REAR MAIN
BEARING OIL
SEAL AREA

Continued on page 8

ENGINES - Continued

FUEL SYSTEM

FUEL TANK

Capacity (gallons)	20
Location	In body cavity at rear of deck lid
Filler location	Center of deck lid at rear; cap secured directly to tank, accessible through door affixed to deck lid
Gage	Electric

FUEL FILTER

Tank unit	Plastic mesh strainer
Carburetor unit	
250 HP engine	Sintered bronze element in carburetor inlet
300 and 365 HP engines	In-line can (between fuel pump and carburetor) with paper element
375 HP engine	In-line can (between fuel pump and fuel meter assembly) with paper element

FUEL PUMP

Type	Diaphragm
Drive	Camshaft eccentric
Location	Lower right front of engine
Shut off pressure, psi @ RPM	
250 and 300 HP	5.25 to 6.5 @ 1800
365 and 375 HP	6 to 7.5 @ 1800

EXHAUST AND VENTILATION SYSTEMS

EXHAUST SYSTEM

Type	Dual with no resonators
Exhaust pipes	
OD	
250 HP engine, all transmissions, and 300 HP engine with Powerglide	2.00
300, 365 and 375 HP engines with 3- and 4-speed transmissions	2.50
Wall thickness	
Front section	
250 HP engine, all transmissions, and 300 HP engine with Powerglide067-.081
300, 365 and 375 HP engines with 3- and 4-speed transmissions073-.092
Intermediate section076-.092
Tail pipes	
Material	Stainless Steel
OD	2.00
Wall thickness023
Mufflers	
Type	Reverse flow
Construction	Oval, heads and body joined by rolled lock seam; insulator of em- bossed asbestos crepe
Dimensions	
Length	17.00
Width (approx.)	9.32
Height (approx.)	8.32

AIR CLEANER

250 and 300 HP engines	Low silhouette with forward-directed snouts extending from opposite sides; oil-wetted, polyurethane element
365 HP engine	Low silhouette, lower, chrome-plated canister; oil-wetted, poly- urethane element
375 HP engine	Conical, located in air intake ducting; oil-wetted polyurethane element

CARBURETOR

Type	
250 and 365 HP engines	4-bbl downdraft
300 HP engine	Aluminum 4-bbl downdraft
SAE carburetor size (throttle body)	1.50
Venturi diameter	
250 HP engine	
Primary	1.06
Secondary	1.25
300 HP engine	
Primary	1.25
Secondary	1.56
365 HP engine	
Primary	1.25
Secondary	1.3125
Throttle bore	
250 HP engine	
Primary	1.44
Secondary	1.44
300 HP engine	
Primary	1.56
Secondary	1.69
365 HP engine	
Primary	1.56
Secondary	1.56
Secondary throttle actuation	Linkage, approx- imately when primary valves are open half way between closed and full open

MUFFLER ANTI-CORROSIVE MEASURES

Left hand muffler	
Aluminized parts	
All	
Right hand muffler	
Aluminized parts	
Front pipe baffle	
Front tube	
Front pipe	
Front resonator	
Center resonator	
Rear tube resonator	
Rear baffle	
Shell	
Cover	
Stainless steel parts	
Front head	
Front outer baffle	
Rear outer baffle	
Rear tube	
Rear head	

ENGINE VENTILATION

Type	Closed-positive featuring an orifice restriction. Scavenging path is from filtered side of air cleaner to crankcase road draft exit, and from oil filler tube to intake manifold
------------	--

VALVE TRAIN TIMING

	Excluding ramps	Including ramps
Inlet valve		
250 and 300 HP engines		
Opens (degrees)	12-1/2 BTC	32-1/2 BTC
Closes (degrees)	57-1/2 ABC	87-1/2 ABC
Duration (degrees)	250	300
365 and 375 HP engines (.025 lash)		
Opens (degrees)	60-5/6 BTC	156 BTC
Closes (degrees)	105-23/60 ABC	198 ABC
Duration (degrees)	346-13/60	534
Exhaust valve		
250 and 300 HP engines		
Opens (degrees)	54-1/2 BTC	74-1/2 BBC
Closes (degrees)	15-1/2 ATC	45-1/2 ATC
Duration (degrees)	250	300
365 and 375 HP engines (.025 lash)		
Opens (degrees)	108-5/6 BBC	204 BBC
Closes (degrees)	57-23/60 ATC	150 ATC
Duration (degrees)	346-13/60	534

PISTON

Material	
250 and 300 HP engines	Aluminum alloy, cast
365 and 375 HP engines	Aluminum alloy, impact extruded
Head type	
250 and 300 HP engines	Flat, notched
365 and 375 HP engines	Domed
Skirt type	
250 and 300 HP engines	Slipper
365 and 375 HP engines	Slipper
Top land clearance (on diameter)	.0365-.0455
Skirt clearance (on diameter)	
250 and 300 HP engines	.0005-.0011
365 and 375 HP engines	.0039-.0045
Compression ring groove depth	.2218-.2283
Oil ring groove depth	.2038-.2103
Pin bore offset	
250 and 300 HP engines	.055-.065 (major thrust side)
365 and 375 HP engines	On center
Compression height	
250 and 300 HP engines	1.674-1.676
365 and 375 HP engines	1.673-1.677

COMPRESSION RING, UPPER

Construction	
Regular production and RPO 2-L75 engines	Beveled OD and ID at bottom of ring; ring face slightly tapered and chrome flashed.
RPO 2-L76 and 2-L84 engines	Beveled OD and ID at bottom of ring; ring face slightly tapered and molybdenum coated.
Material	
Cast iron alloy	
Dimensions	
Width (ground)	.0775-.0780
Wall thickness	.190-.200
Gap @ 4.00 OD	.013-.023

COMPRESSION RING, LOWER

Construction	
Regular production and RPO 2-L75 engines	Beveled ID at top of ring; ring face slightly tapered and provided with wear resistant surface.

RPO 2-L76 and 2-L84 engines ----- Beveled ID at top of ring; ring face slightly tapered and molybdenum coated.

Material	
Cast iron alloy	
Dimensions	
Width (max. after coating)	.0780
Wall thickness	.164-.170
Gap @ 4.00 OD	.013-.025

EXPANDER, FOR 250 AND 300 HP ENGINES

Construction	
Crimped	
Material	
Heat treated steel	
Dimensions	
Width	.068-.074
Wall thickness	.02075
Gap @ 3.551 OD	.25-.50

OIL CONTROL RINGS

Construction	
Multi-piece unit consisting of 2 rails and 1 spacer	
Rails	
Curved OD and ID, wear resistant coating	
Spacer	
Humped and vented	
Material	
Flat spring steel	
Rails	
Steel alloy (high chrome)	
Spacer	
Steel alloy (high chrome)	
Assembled dimensions	
Width (maximum)	.189
Wall thickness (maximum)	.166
Gap @ 4.00 OD	.015-.055

PISTON PIN

Material	
Steel alloy (high chrome)	
Dimensions	
Length	2.990-3.010
Diameter	.9270-.9273
Clearance in piston	None; locked in rod by shrink fit

CONNECTING RODS

Material	
Drop forged steel	
Length, center to center	5.699-5.701

CONNECTING ROD BEARINGS

Type	
Precision removable	
Material	
Precision aluminum	
Clearance between bearings and crankshaft	.0007-.0028
ID (theoretical)	2.0017
Effective length	.807
End play	.009-.013

LUBRICATION SYSTEM

GENERAL

System type	Controlled pressure, full flow
Camshaft bearings	Pressure
Connecting rod bearings	Pressure
Cylinder walls	Pressure, jet cross sprayed
Main bearings	Pressure
Piston Pins	Splash
Rocker arms	Pressure
Timing gears	Nozzled sprayed
Valve lifters	Pressure
Capacity (qts)	
250 and 300 HP engines	
Refill	4
Refill with filter	5
365 and 375 HP engines	
Refill	5
Refill with filter	6
Lubricant grades and temperatures (degrees, Fahrenheit)	
32 and warmer	SAE 20W, SAE 20, SAE 10W-30
0 and warmer	SAE 10W, SAE 10W-30
Colder than 0	SAE 5W, SAE 5W-20
Sustained high speed warmer than 90	SAE 30
Oil pressure sending unit	
Type	Bourdon tube
Actuation	Oil pressure

Oil filler

Cap	Solid
Location	Intake manifold at front

OIL PUMP

Type	Gear
Capacity	Delivery 4.3 gpm at 2000 engine rpm with nominal spring force of 60 lb
Brake type	Fixed
Regulator valve	Opens at 40-45 lb

OIL FILTER

Type	Full flow, replacement element
Location	Left rear underside of engine
Capacity (qts)	1
By-pass valve	Opens at 9-11 psi drop in Pressure

OIL PAN DRAIN SCREW

Type	Hex head
Specifications	
Hex size, across flats	.860-.875
Thread	1/2-20 UNF-2A
Length, from under head	.81
Location	Rear of pan

COOLING SYSTEM

GENERAL

Type	Liquid, pressurized. Internal by-pass for 250 & 300 HP engines; external for 365 & 375 HP engines.
Capacity, qts	
With heater	19.0
Without heater	18.0
Drains	
Location	
Engine block	Right and left side, center
Type	Plug
Radiator	Left side, bottom tank
Type	Patcock

RADIATOR

Type	Cross flow
Material	Aluminum
Core constant	.18 x .556
Front area, sq. inches	315.4
Cap relief valve characteristics	Opens at 13 psi
Hose ID's	
Outlet	1.75
Inlet	1.50

FAN

Description	5 bladed, staggered
OD	17.12
Drive	
Type	Thermo modulated fluid coupling
Performance	At 4000 rpm input and 135 to 150 degrees Fahrenheit ambient, fan speed 3200 to 3500 rpm; at 120 degrees Fahrenheit ambient and cooler, fan speed 800 to 1600 rpm.

WATER PUMP

Type	Centrifugal
● Capacity (GPM @ engine RPM)	55 @ 4000

Bearing	Permanently lubricated double row ball
---------	--

PULLEYS

250 and 300 HP engines	
Type	Single
PD	
Crankshaft	6.64
Water pump and fan	7.00
Generator	2.70
Width at PD	.38
Ratio	
Water pump and fan to engine speed, rpm	.94:1
Generator to engine speed, rpm	2.46:1
365 and 375 HP engines	
Type	
Crankshaft, water pump and fan	Dual
Generator, (water pump and fan) idler	Single
PD	
Crankshaft	
Actual	6.64
Effective	6.27
Water pump and fan	
Actual	7.00
Effective	6.63
Water pump and fan idler	
Actual	3.62
Effective	3.25
● Generator	
Actual	3.50
Effective	3.13
Width at PD	.50
Ratio	
Water pump and fan to engine speed, rpm	.94:1
● Generator to engine speed, rpm	2.00:1

Continued on page 12

ENGINES - Continued

FUEL INJECTION ENGINE - Continued

GENERAL

Make ----- Rochester Products
Model ----- 7017380
Type ----- Mass air flow with
continuous fuel injection

AIR INDUCTION

Description ----- Outside air ducted
thru air cleaner to air meter
Outside air ducting
Location ----- Left side of engine compartment
Air cleaner
Type ----- Oil-wetted, polyurethane element; conical
Air meter
Flow control ----- Throttle valve
Flow measurement ----- Angular venturi
Cold enrichment
Type ----- Choke
Action ----- Automatic, bi-metallic
spring and exhaust heat

FUEL METER

Flow control ----- Continuous flow pump
with diaphragm controlled bypass;
system feeds measured amounts of
fuel directly to intake ports where
orifice injection nozzles direct fuel
to intake valves
Pump
Type ----- Gear
Drive ----- Flexible shaft from distributor
Output psi, maximum ----- 200
Bypass system
Control ----- Diaphragm controlled spill
valve - by vacuum from air meter angular venturi
Injection nozzles
Quantity ----- 8
Type ----- Continuous flow
Material ----- Brass
Location ----- On intake manifold
above intake ports
Orifice diameter ----- .0118
Insulation ----- Bakelite block

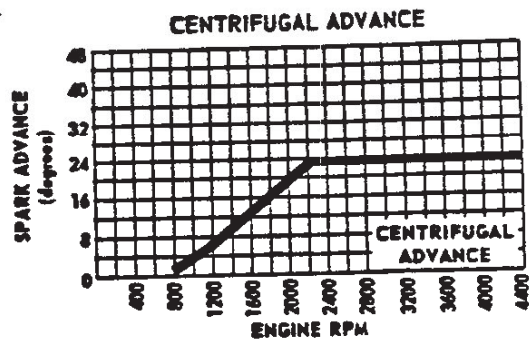
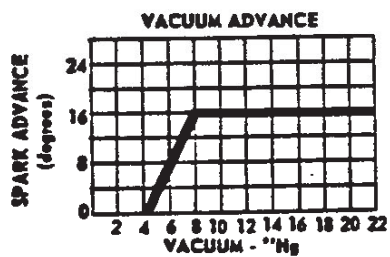
DISTRIBUTION SYSTEM

Intake manifold
Type ----- Integral plenum chamber
Material ----- Aluminum
Intake manifold adapter
Material ----- Aluminum
Ram pipes
Quantity ----- 8
Length ----- 12.0
Construction ----- Integral with intake manifold

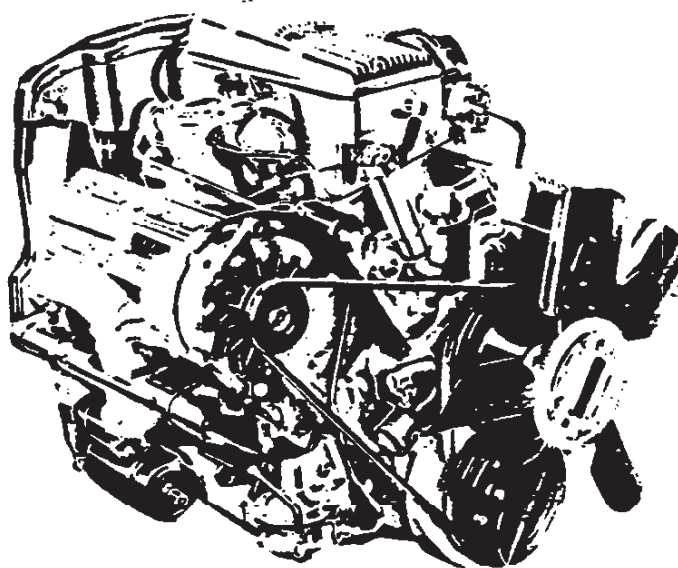
STARTING

Description ----- Fuel channeled
directly from fuel pump thru distribution
spider into intake ports thru bypass valve;
valve actuated by solenoid energized thru
ignition switch

DISTRIBUTOR CHARACTERISTICS FOR RPO 2-L76 AND 2-L84 ENGINES

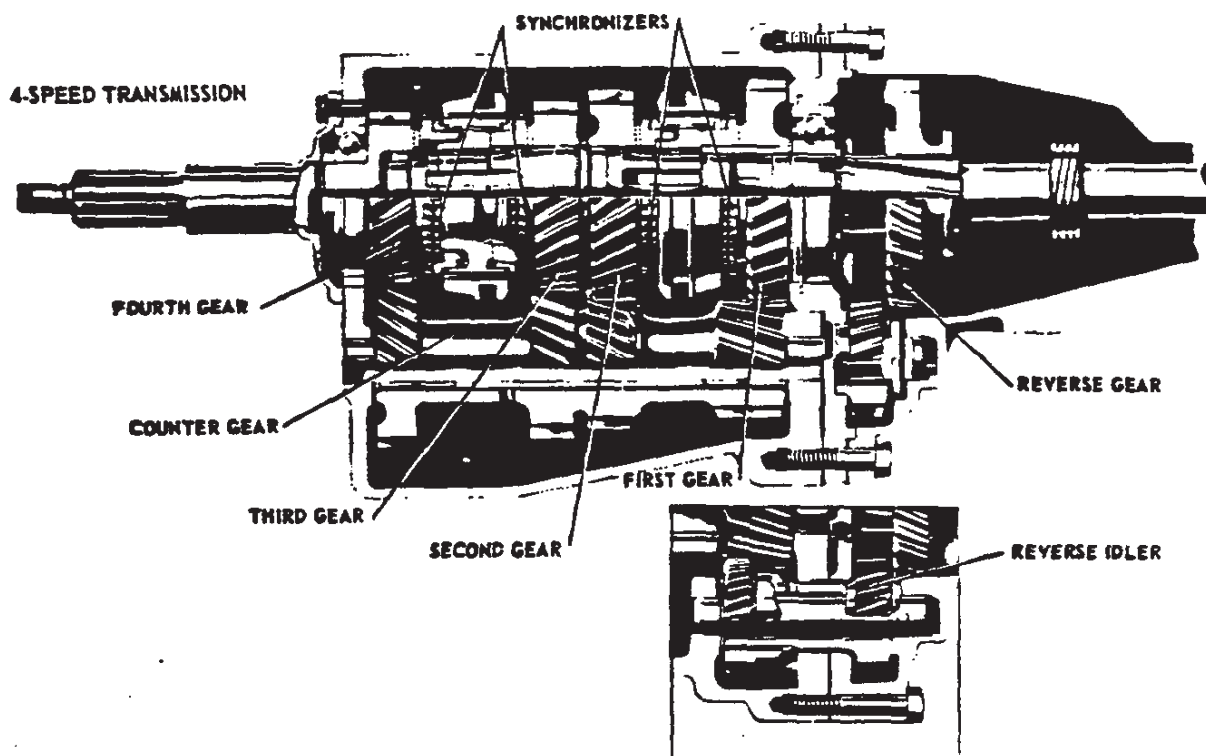


FUEL INJECTION ENGINE



Continued on
page 14

TRANSMISSIONS



3-AND 4-SPEED TRANSMISSIONS

CASE

Material	-----	Cast iron
3-Speed	-----	Aluminum
4-Speed	-----	

GEARSHIFT

Type	-----	Lever
Location	-----	Floor mounted between seats
Control	-----	Remote

LUBRICANT

Type	-----	Military MIL-L-2105-B
Viscosity	-----	SAE 80
Capacity, pts	-----	
3-Speed	-----	2
4-Speed	-----	2.5

EXTENSION

Material	-----	Aluminum
Oil seal	-----	Steel encased double seal of spring loaded rubber or felt

GEARS

Type	-----	Helical
Material	-----	Forged steel, hardened
Synchronization	-----	
3-Speed	-----	Second and third
4-Speed	-----	All forward gears
Constant mesh gears	-----	
3-Speed	-----	Second
4-Speed	-----	All forward gears and reverse idler
Sliding gears	-----	
3-Speed	-----	First and reverse
4-Speed	-----	Reverse
Ratios	-----	
3-Speed	-----	
First	-----	2.58:1
Second	-----	1.48:1
Third	-----	1.00:1
Reverse	-----	2.58:1

4-Speed

250 and 300 HP engines

First	-----	2.56:1
Second	-----	1.91:1
Third	-----	1.48:1
Fourth	-----	1:1
Reverse	-----	2.64:1

365 and 375 HP engines

First	-----	2.20:1
Second	-----	1.64:1
Third	-----	1.38:1
Fourth	-----	1:1
Reverse	-----	2.27:1

CLUTCHES

FOR 3-AND 4-SPEED TRANSMISSIONS

General

Type ----- Single disk, dry centrifugal
 Clutch cover and pressure plate assembly
 Effective plate load, lb ----- 2100-2300
 Type of drive ----- Steel straps
 Pressure plate
 Material ----- Nodular iron ●
 OD ----- 10.48
 Clutch spring
 Type ----- Circular plate diaphragm,
 bent finger design
 Material ----- Spring steel, heat treated
 Attachment to flywheel --- 6 bolts, 3/8-16 UNC 3A,
 1.00 long

Driven plate assembly

Type ----- Single disk, dual friction rings
 Cushions ----- Flat spring steel
 between friction rings
 Dampers ----- 10 springs, 5 sets of 2
 Friction rings
 OD ----- 10.0
 ID ----- 0.5
 Total (sq. inches) ----- 90.7
 Material ----- Premium woven asbestos

Flywheel assembly

Flywheel
 Material ----- Cast iron
 OD ----- 12.34
 Ring gear
 Material ----- HR steel, heat treated
 No. of teeth ----- 153
 Width ----- .4010-.4130
 PD ----- 12.73
 Attachment ----- Shrink fit

Bearings

Release
 Type ----- Single row ball
 Lubrication ----- Packed with high temperature,
 high viscosity grease

Pilot

Type ----- Sintered powdered bronze bushing
 Lubrication ----- Oil impregnated

Controls

Clutch fork ----- Drop forged steel, pivot
 mounted on ball
 Pedal mounting ----- Pendant, from brace on dash

Clutch housing

Material ----- Aluminum alloy
 Attachment to engine ----- 6 bolts, 3/8-16 UNC-
 2A, 1.25 long

Lubrication ----- Crossover shaft ●

FRAME

BODY MOUNTS →

GENERAL

Description ----- All welded, full length, ladder constructed frame with 5 crossmembers. Side rails and intermediate crossmembers box section; rear crossmember C section; front crossmember box-girder section.

Overall dimensions

Length ----- 149.9

Width ----- 54.5

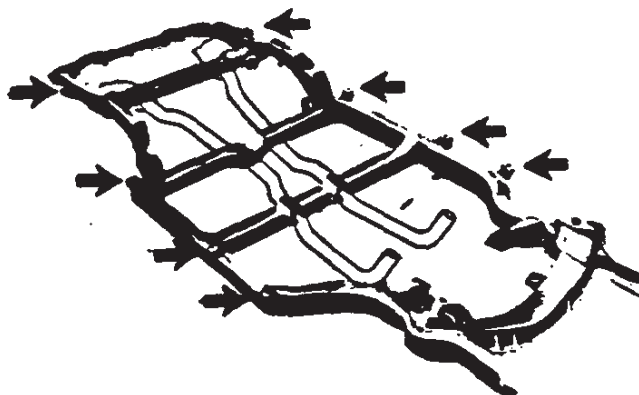
Height ----- 18.2

Mounting points

For body ----- 8

For engine ----- 3

Crossmember exhaust pipe holes diameter ----- 1.58



FRONT SUSPENSION

UPPER CONTROL ARM

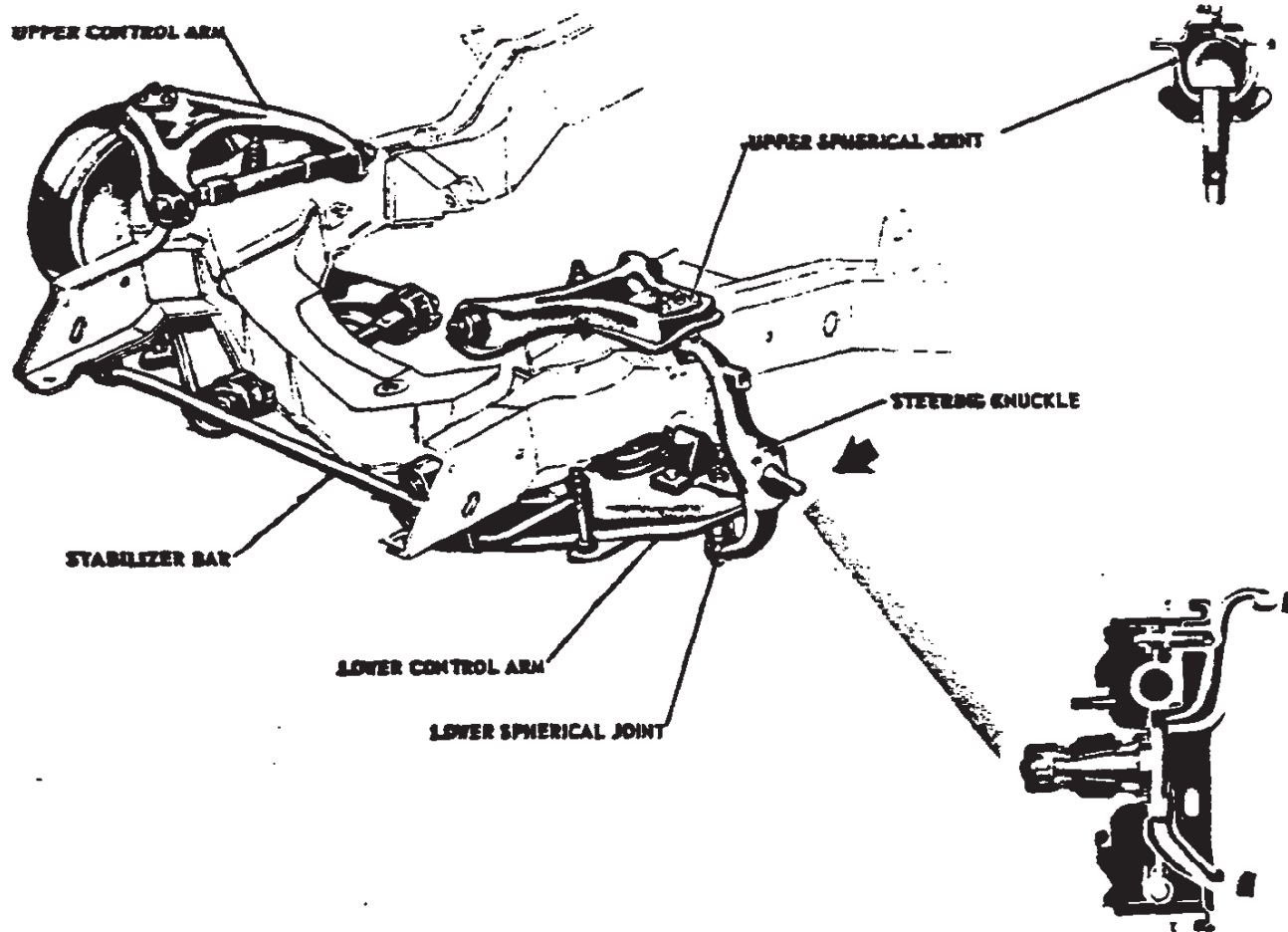
UPPER SPHERICAL JOINT

STEERING KNUCKLE

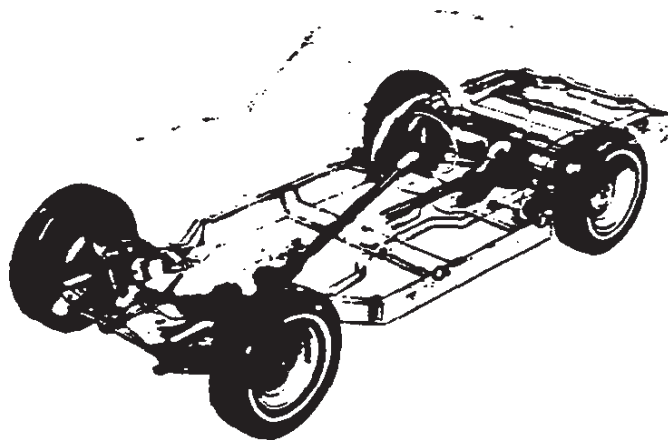
STABILIZER BAR

LOWER CONTROL ARM

LOWER SPHERICAL JOINT



CHASSIS



FRAME	2
FRONT SUSPENSION	2
STEERING	4
DRIVELINE	5
REAR SUSPENSION	5
REAR AXLE	6
DIFFERENTIAL CARRIER AND AXLE SHAFT ..	6
REAR WHEEL AND AXLE	7
BRAKES	8
WHEELS AND TIRES	9
ELECTRICAL	10
● SPECIAL PERFORMANCE EQUIPMENT	11

GENERAL

Description ----- Independent, SLA type with coil spring and concentric shock absorber, and spherically-jointed steering knuckle, for each wheel. Adjustments to front suspension are achieved with shims at pivot shafts.

Wheel travel, from design attitude

Jounce ----- 3.75

Rebound ----- 4.00

Wheel to spring ratio ----- 1.80

CONTROL ARMS

Description ----- Each is stamped A frame rubber-bushed at pivots.

Upper and lower -----

Bushings -----

Type ----- Pre-loaded, steel encased rubber.

STEERING KNUCKLES

Description ----- Forged steel with integral brake cylinder mounting, and detachable steering knuckle arm.

Spindle diameters

At inner bearing ----- 1.2493-1.2498

At outer bearing ----- .7492-.7497

Spindle thread size ----- 3/4-20 NEF-3 (modified)

● FRONT SPRING

Part number ----- 3851100

Type ----- Right hand helix, variable rate

Material ----- AISI A-5160, heat treated

Cut-off length ----- 168.50

Number of coils (active, total) ----- 10.67, 12.00

Wire dia (theoretical) ----- .600

Outside dia, max. at ends (theoretical) ----- 5.19

Pitch dia (theoretical) ----- 4.40

Height

Free ----- 15.40

Working (inches @ lb) ----- 6.58 @ 1957, 8.56 @ 1340 (design load), 10.65 @ 932

Deflection rate (lb per inch) @ design load

@ Spring ----- 195

@ Wheel (wheel rate) ----- 80

FRONT WHEEL ALIGNMENT

Design

Camber (degrees) ----- 0 to P1

Caster (degrees) ----- P1-1/2 to P2-1/2

Toe-in, per wheel ----- 1/16

Curb

Camber (degrees) ----- P1/4 to P1-1/4

Caster (degrees) ----- P1-1/4 to P2-1/4

Toe-in, per wheel ----- 3/32-S/32

Steering axis inclination (degrees) ----- 6-1/2 to 7-1/2

WHEEL BEARINGS

Type ----- Taper roller

Quantity ----- Two per spindle

SPHERICAL JOINTS

Type ----- Ball studs, upper self-adjusting for wear.

Quantity ----- Two per steering knuckle

Bearing surfaces

Material

Upper ----- Two surfaces, both non-metallic; the upper surface, a teflon-coated phenolic; the lower surface, a teflon-cotton composition

Lower ----- One Upper surface, a teflon-cotton composition

Seals

Description

Upper ----- Reinforced neoprene secured by retainer

Lower ----- Neoprene secured by retainer

Lubrication

Upper and lower ----- High pressure grease fitting

SHOCK ABSORBERS

Type ----- Direct, double-acting, hydraulic; freon filled envelope in reservoir

Secured (through coil spring) to ----- Lower control arm and front suspension crossmember

Piston diameter and travel (unassembled) -- 1.00; 5.25

Piston rod plating ----- Chrome

STABILIZER BAR

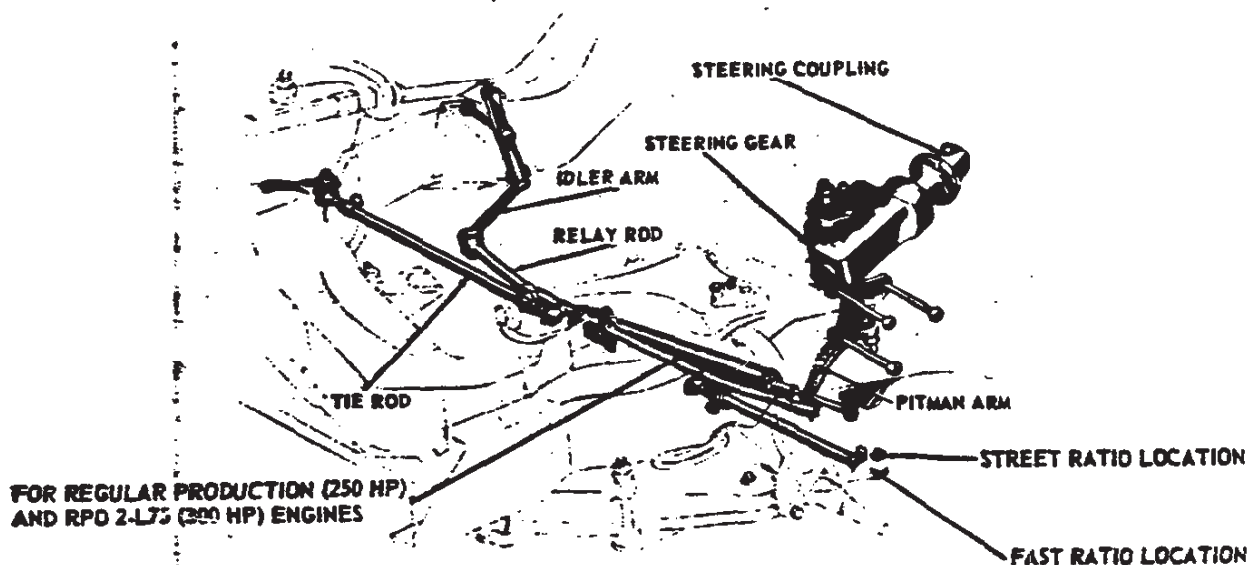
Type ----- Link

Material ----- HR steel

Diameter ----- .6875

Bushing material ----- Natural or synthetic rubber

STEERING



GENERAL

Description ----- Semi-reversible, recirculating ball and nut steering gear with three-inch axial column adjustment. Manual steering standard; power optional with 250 and 300 HP engines. Two-location steering arm-tie rod connection for street and fast ratio; adjustment available only with manual steering.

Steering gear
Gear ratio ----- 16:1
Overall ratio
 Manual
 Street ----- 20.2:1
 Fast ----- 17.6:1
 Power ----- 17.6:1

Turning characteristics

Turning diameters (ft)

Outside front
 Wall to wall
 Right ----- 41.9
 Left ----- 41.3
 Curb to curb
 Right ----- 40.4
 Left ----- 39.4

Inside rear

Wall to wall
 Right ----- 26.2
 Left ----- 25.1
 Curb to curb
 Right ----- 26.2
 Left ----- 25.1

Number of wheel turns, lock to lock

Manual
 Street ----- 3.4
 Fast ----- 2.92
 Power ----- 2.92

Outside wheel angle with inside wheel @ 20 degrees ----- 18.47

Steering shaft
 Number ----- 1
 Diameter ----- .73
Steering wheel
 Type ----- Deep dished
 Diameter ----- 16.0
Linkage
 Type ----- Relay
 Location ----- Rear of wheels
 Number of tie rods ----- 2
 Lubrication points ----- 5: one at each tie rod; one at pitman arm-relay rod connection

POWER STEERING, RPO 2-N40

Description ----- Hydraulic; pump powered cylinder assisting linkage.

Drive

Type ----- V-belt from crankshaft

Pump pulley

PD ----- 5.60

"v" angle (degrees) ----- 36

Width @ PD ----- .38

Crankshaft pulley

PD ----- 6.64

"v" angle (degrees) ----- 36

Width @ PD ----- .38

Belt

Pitch line length ----- 35.0

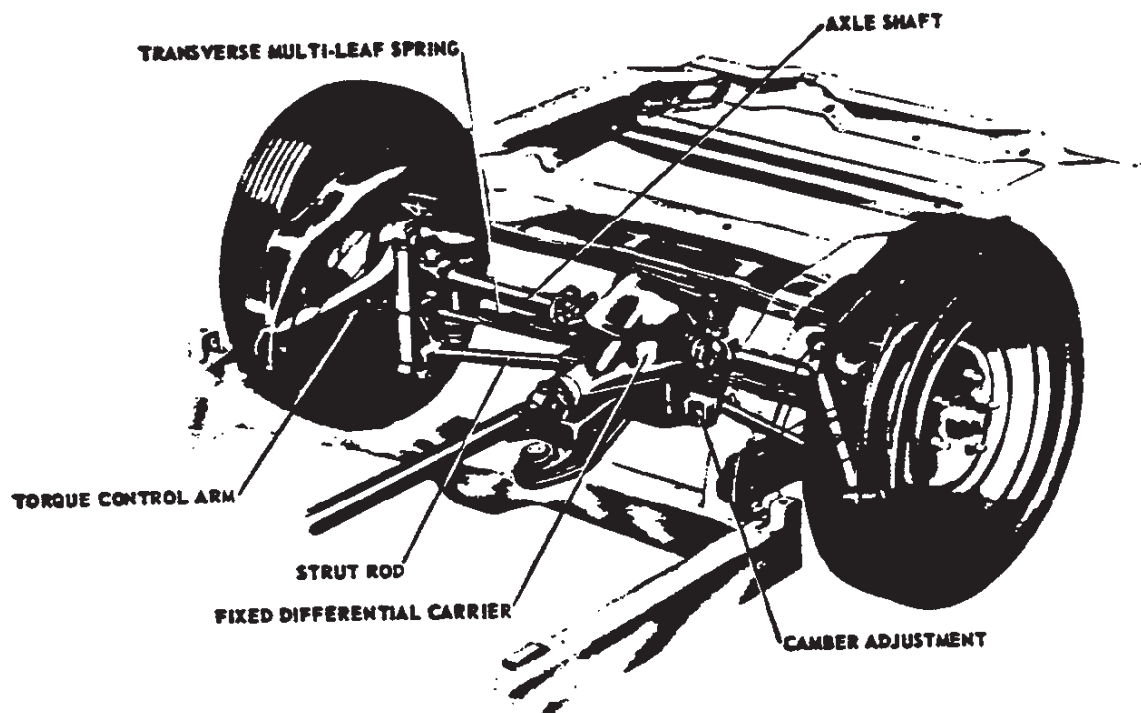
● **Lubrication** ----- Two additional fittings, at cylinder piston rod ball stud, and at valve adapter

DRIVELINE

PROPELLER SHAFT

Type	Exposed, unsupported
Quantity	1
Construction	Welded steel tubing incorporating yoke at each end
Tube	
OD	1.995-2.003
Length	26.52
Wall thickness092-.097
Length between axis of yoke bores	29.90

REAR SUSPENSION



GENERAL

Description Full independent with frame-anchored differential. Locus of each wheel established by 3 links: universally-jointed axle drive shaft and adjacent strut, and torque control arm pivoted at frame side rail. Vertical suspension loads taken by shock absorbers and transversely-positioned leaf spring. Built-in camber adjustment at struts

● Wheel travel, from design height	3.17
Jounce	4.00
Rebound	
Wheel to spring ratio	

● REAR SPRING

Type	Multi-leaf, 9 leaves
Material	Chrome carbon steel, heat treated
Length (developed) between eye centers	46.36
Width	2.25
Design load, lb @ - camber	1360 @ .352
Deflection rate, lb per inch, @ design load	
@ Spring	140
@ Wheel (wheel rate)	123
Spring liners	
Number	7
Location	Between all leaves except numbers 6 and 7
Material	Polyethylene with graphite

Continued on page 6

SHOCK ABSORBER

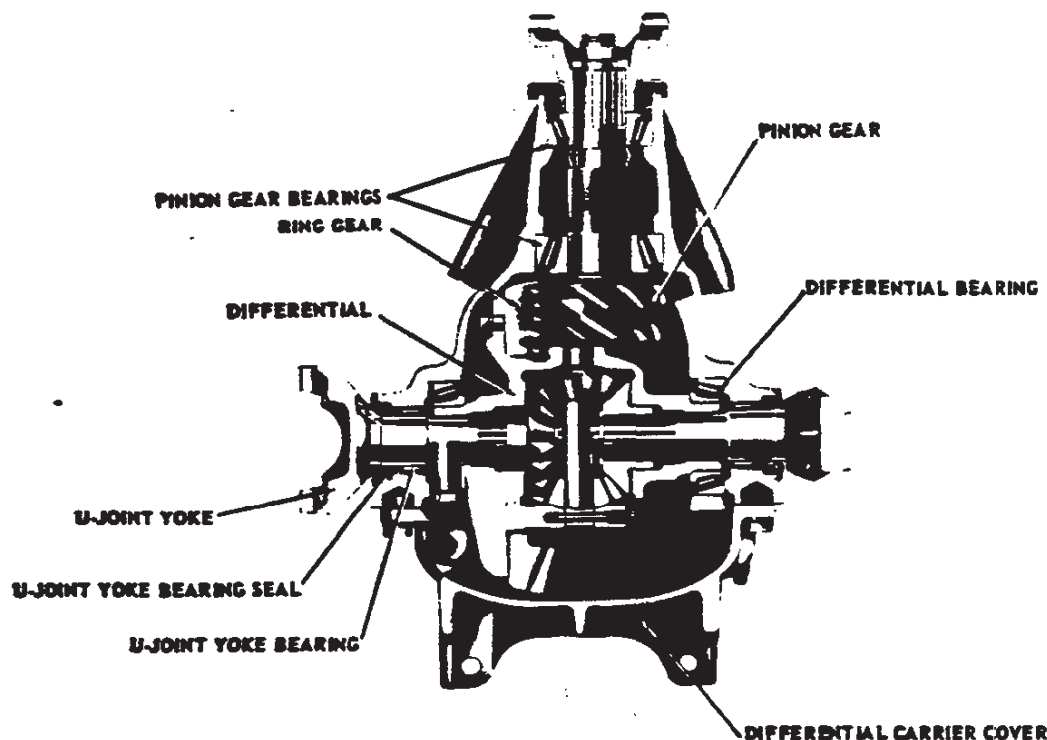
Type ----- Direct, double acting, hydraulic, freon filled envelope in reservoir
 Secured between ----- Bracket welded to underside of frame rail and strut shaft at wheel spindle support
 Piston diameter and travel (unassembled) --- 1.00, 5.00
 Piston rod plating ----- Chrome

STRUT

Material ----- Forged steel
 Diameter ----- .75
 Length between attaching centers ----- 16.58
 Bushings
 Description ----- Rubber on steel serrated at each end

REAR WHEEL ALIGNMENT

Design
 Camber (degrees) ----- N1 to N2
 Toe-in, per wheel ----- 1/16
 Curb
 Camber (degrees) ----- P 1/6 to N3/6
 Toe-in, per wheel ----- 0-1/16

DIFFERENTIAL CARRIER AND AXLE SHAFT**GENERAL**

Description ----- Semi-floating with overhung pinion gear supported by two taper roller bearings.
 Lubricant
 Type ----- Military MIL-L-2105-B
 Capacity (qts) ----- 3.7
 Filler plug ----- 1-3/8 hex, 1-20 AN thread
 Viscosity ----- SAE 80
 Regular production ratio ----- 3.36:1
 Teeth combination
 Pinion gear ----- 11
 Hypoid gear ----- 37

DIFFERENTIAL CARRIER

General
 Offset
 Vertical ----- 1.5
 Horizontal ----- .575
 Differential
 Type ----- Two pinion in cast nodular iron case

Differential continued	
Bearings	
Type -----	Taper roller
OD -----	3.0625-3.0626
Hypoid drive (ring) gear	
PD and OD -----	8.375
Number of teeth -----	37

U joint yoke
Material ----- Forged steel, heat treated
Diameter at bearing ----- 1.3745-1.3750

U joint yoke bearing
Type ----- Needle
OD ----- 1.7495-1.7505

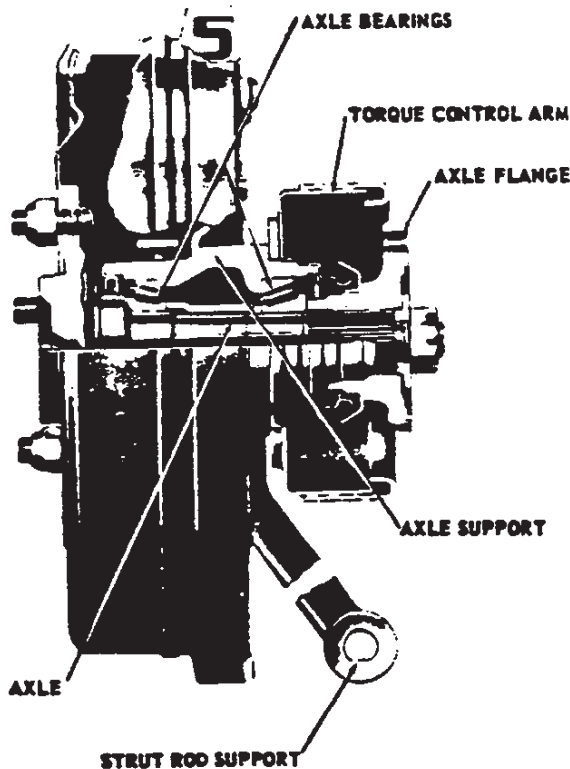
U joint yoke bearing seal
Type ----- Spring loaded rubber
encased in steel

OD ----- 2.002-2.006
Cover
Material ----- Cast iron

AXLE SHAFT

Type ----- Tubular, exposed
 ----- incorporating universal joint at each end
 Length between yoke bores ----- 13.833
 Tubing
 Material ----- Welded steel tubing
 OD ----- 2.495-2.503
 Wall thickness ----- .117-.123

REAR WHEEL AND AXLE



GENERAL

GENERAL Description	
Brake drum flange	integral with axle which is universally-jointed (thru splined axle flange) to axle shaft; torque control arm bolted to axle support. Axle supported by two taper roller bearings.

AXLE

Material	-----	Steel forging, heat treated
Diameter at outer bearing	-----	1.5743-1.5748
Diameter at inner bearing	-----	1.1868-1.1873

AXLE BEARINGS

AXLE BEARINGS

Type -----	Taper roller
Quantity -----	2
Bearing seals	
Description, outer and inner----	Steel encased rubber

AXLE FLANGE

MATERIAL ----- Cast nodular iron

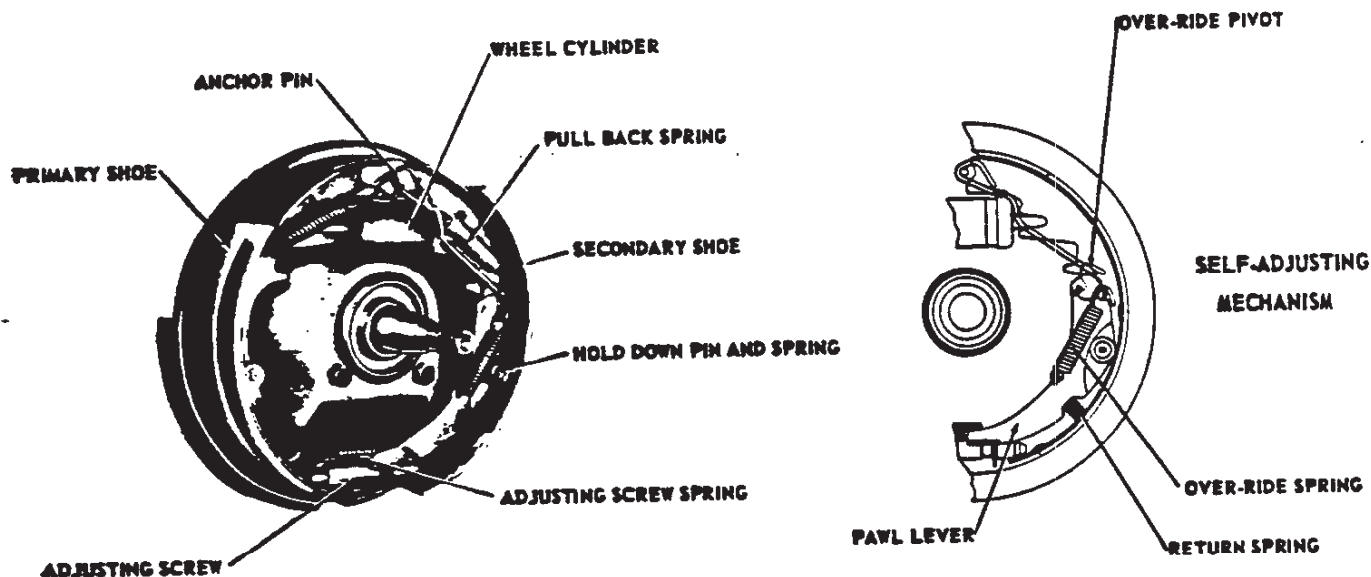
AXLE SUPPORT

AXLE SUPPORT	
Material -----	Cast nodular iron

TORQUE CONTROL ARM

TORQUE CONTROL ARM	
Description -----	Box section, welded
Material -----	Steel
Length between attaching centers -----	17.37

BRAKES



SERVICE BRAKES, Regular Production

General

Type	Duo servo, 4-wheel hydraulic, reverse self-adjusting
Brake system fluid capacity (pts)	.6
Line pressure, psi, @ 100 pedal load	750
Braking ratios	
Pedal	4.54
Hydraulic	6.30
Overall	28.60
Distribution of braking effort (theoretical, percent)	
Front wheels	58.5
Rear wheels	41.5
Clearance adjustment	Self-adjusting
Brake drum	
Construction	Composite, web cast into rim
Material	
Web	HR steel
Rim	Cast iron alloy
Web thickness	
Front	.109-.119
Rear	.095-.105
Swept drum area, sq. inches	328
Diameter, front and rear	11.0
Brake lining	
Material	Full molded asbestos composition
Length	
Per wheel	21.09
Primary shoe	9.34
Secondary shoe	11.75
Width	
Front shoes	2.75
Rear shoes	2.00
Thickness, minimum @ centerline	.168

Method of attachment	Bonded
Total effective area, sq. inches	185.2
Gross lining area, sq. inches	200.4
Master Cylinder	
Location	Engine compartment on dash panel
Piston diameter	.875
Piston travel (with available pedal travel)	1.10
Wheel cylinders	
Location	
Front	Steering knuckle
Rear	On backing plate
Piston diameter	
Front	1.1875
Rear	1.00
Foot pedal	
Type	Pendant
Travel	5.00
Mounting	On dash brace

PARKING BRAKE

Type	Mechanical pull rods and cables operate two rear service brakes
Total effective area, sq. inches	77
Control	Apply and release by pawl-type lever at right of steering column under instrument panel. Axial clockwise turning of T handle releases brake.

STOPLIGHT SWITCH

Type	Mechanical, make-break, normally on
Location	On dash panel brace
Activation	Brake pedal

● SERVICE BRAKES, METALLIC, RPO 2-J65 •

same as service brake, regular production, except as follows

General	
Braking ratios	
Pedal	3.43
Hydraulic	6.30
Overall	21.60
Brake Drum	
Web thickness	
Front	.125-.135
Brake lining	
Material Sintered iron segments	
Size	
From wheel segments	
Primary	1.64 x 1.37 x .175
Secondary	1.64 x 1.37 x .295
Rear wheel segments	
Primary	2.00 x 1.00 x .175
Secondary	2.00 x 1.00 x .295
Segments per shoe	
Primary, front and rear	6
Secondary	
Front	12
Rear	10
Method of attachment	Welded
Total effective area, sq. inches	145.2
Master cylinder	
Piston travel (with foot pedal)	1.20
Foot pedal	
Travel	4.12

POWER BRAKES, RPO 2-J50

Same as service brakes, regular production, except as follows

General	
Type	Vacuum power unit added to assist regular production master cylinder; integral
Pedal effort	Approximately 30% less than regular production brakes at same deceleration rate
Braking ratios	
Pedal	3.43
Hydraulic	6.30
Overall	21.60
Master cylinder	
Piston travel (with foot pedal)	1.20
Foot pedal	
Travel	4.12

WHEELS AND TIRES •

WHEELS, Regular Production

Type	Short spoke spider
Attachment to hub	5 hex nuts, 7/16-20 UNF-2B, arranged on a 4.75 diameter bolt circle
Offset	.44
Rim size	15 x 5.5K

WHEEL, RPO 2-P48

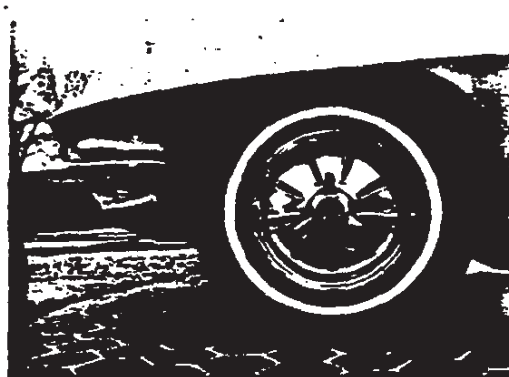
Type	Quick take-off
Material	Cast aluminum
Rim size	15 x 6L
Offset	.61
Method of retention	Adapter and lock nut (2-5/8 - 8 UN 2B)

TIRES, Regular Production

Type	Rayon tubeless, blackwall
Construction	4 ply
Size and ply rating	6.70 x 15-4
Specifications	
Loaded rolling radius	13.40
Loaded rev/mi	760
Capacity (lb @ psi)	1065 @ 24
Recommend inflation, all tires, psi	24

SPARE TIRE

Location	Under gasoline tank, accessible from underside of vehicle, shielded with cover.
----------	---



REGULAR PRODUCTION WHEEL DISC AND ORNAMENT

• Available with power brakes only

ELECTRICAL

LAMPS	NO. REQUIRED	TRADE NO.	CANDLE POWER PER LAMP
Air conditioning controls	1	1893	2
Back up	2	1156	32
Cigarette lighter	1	1445	1
Clock	2	1816	3
Courtesy			
Instrument panel	2	90	6
Rear compartment (867)	1	90	6
Direction signal indicators	2	1816	3
Dome (837)	1	90	6
Glove compartment	1	1893	2
Headlamps			
Outer	2	4002	High beam - 37.5 W Low beam - 55.0 W
Inner	2	4001	High beam - 37.5 W
Headlamp hi-beam indicator	1	1445	1
Headlamp warning indicator	1	257	2
Heater controls	1	1893	2
Ignition switch	1	1445	1
Instrument cluster	7	1816	3
License plate, rear	1	1155	4
Parking			
Park	2	1157	4
Direction signal			32
Parking brake alarm	1	257	2
Radio	1	1893	2
Tail			
Tail	4 without		4
Stop	backup lamps	1157	32
Direction signal			32

DEVICE PROTECTED

TYPE OF PROTECTION

LOCATION AND CIRCUIT

Air conditioning circuit	2 AGC 30 fuses	In line
Air conditioning controls lamp	AGC 4 fuse	Fuse panel (f)
Backup lamps	AGC 10 fuse	Fuse panel (d)
Cigarette lighter	AGC 10 fuse	Fuse panel (b)
Cigarette lighter lamp	AGC 4 fuse	Fuse panel (b)
Clock	AGC 15 fuse	Fuse panel (d)
Clock lamps	AGC 4 fuse	Fuse panel (c)
Courtesy lamps	AGC 15 fuse	Fuse panel (d)
Dome lamp	AGC 5 fuse	Fuse panel (c)
Fuel gage	AGC 10 fuse	Fuse panel (g)
Glove compartment lamp	AGC 15 fuse	Fuse panel (c)
Headlamps	15 amp CB	Light switch (a)
Headlamp hi-beam indicator lamp	15 amp CB	Light switch (a)
Headlamp motors	40 amp CB	Hinge pillar (n)
Headlamp warning indicator lamp	40 amp CB	Hinge pillar (n)
Heater circuit	AGC 10 fuse	Fuse panel (f)
Heater controls lamp	AGC 4 fuse	Fuse panel (d)
Ignition switch lamp	AGC 4 fuse	Fuse panel (d)
Instrument cluster lamps	AGC 4 fuse	Fuse panel (d)
License lamp	AGC 10 fuse	Fuse panel (b)
Parking brake alarm lamp	AGC 10 fuse	Fuse panel (g)
Parking lamps	15 amp CB	Fuse panel (g)
Power windows	40 amp CB	Light switch (a)
Radio and radio lamp	AGC 2.5 fuse	Hinge pillar (i)
Roof blower motor circuit	Fuse panel (e)	Fuse panel (f)
Stop lamps	AGC 10 fuse	Fuse panel (c)
Tail lamps	AGC 15 fuse	Fuse panel (b)
Temperature gage	AGC 10 fuse	Fuse panel (g)
Windshield wiper motor circuit	14 amp CB	Motor switch

● - Letter suffix indicates same circuit

SECTION 0

GENERAL INFORMATION AND LUBRICATION

GENERAL INFORMATION

The 1964 Corvette fastback and convertible coupe will remain basically the same as the 1963 models except for minor styling changes and product improvements. The pillar dividing the rear window has been removed and a new, one piece rear window has been added to improve rear visibility.

New, improved 3 and 4-speed transmissions will also be part of the 1964 Corvette package. Revised gear ratios for the new transmissions are called out in the following chart.

3-Speed Transmission	
GEAR	RATIO
1st	2.58:1
2nd	1.48:1
3rd	1.00:1
Reverse	2.80:1

4-Speed Transmission		
GEAR	RATIO	CLOSE RATIO
1st	2.56:1	2.20:1
2nd	1.91:1	1.64:1
3rd	1.48:1	1.28:1
4th	1.00:1	1.00:1
Reverse	2.64:1	2.27:1

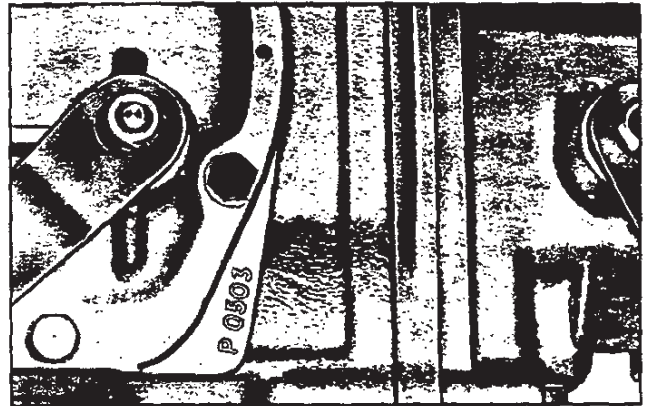


Fig. 1—4-Speed Transmission Source Data Code Location

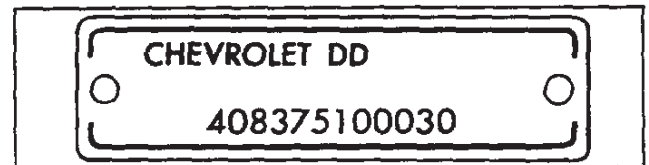


Fig. 2—Vehicle Serial Number Tag

The new 4-speed transmission source data code is stamped on the left side, lower cover flange of the case as shown on Figure 1.

The serial number identification tag has been revised, as shown on Figure 2, to provide a space for dealer delivery date.

LUBRICATION

Lubrication information for the 1964 Corvette remains basically the same as called out in the 1963 Corvette Shop Manual except for the following revisions:

STEERING GEAR

Every 36,000 miles check to see that lubricant is at level of filler plug hole. If necessary, add steering gear lubricant.

REAR WHEEL SPINDLE BEARINGS

No periodic lubrication recommended—Lube for life feature.

CRANKCASE VENTILATION

Fixed Orifice

Check every 6000 miles or at every oil change. If dirty or plugged, clear with drill. Twist drill by hand to remove any sludge or carbon formation.

CLUTCH CROSS SHAFT

Periodic lubrication of the clutch cross shaft is not required. At 36,000 miles or sooner, if necessary, remove plug, install lubrication fitting and lubricate with water resistant EP lube.

SELF ADJUSTING BRAKES

Brake linings should be inspected periodically. Frequency of inspection will depend upon traffic conditions and personal driving habits.

AIR CONDITIONING

Every 6,000 miles check sight glass under the hood after the system has been in operation for several minutes. Sight glass should be clear. Bubbles or dirt indicate a leak which should be corrected immediately.

Every week—during winter months—run the system for 10 to 15 minutes to insure proper lubrication of the seals and moving parts.

SECTION 2

FRAME

The service operations for the 1964 Corvette frame remain the same as outlined in the 1963 Corvette Shop Manual. Because of new, lower frame body mounting

brackets to accommodate new body mounts, alignment reference dimensions were revised at these locations on fig. 1.

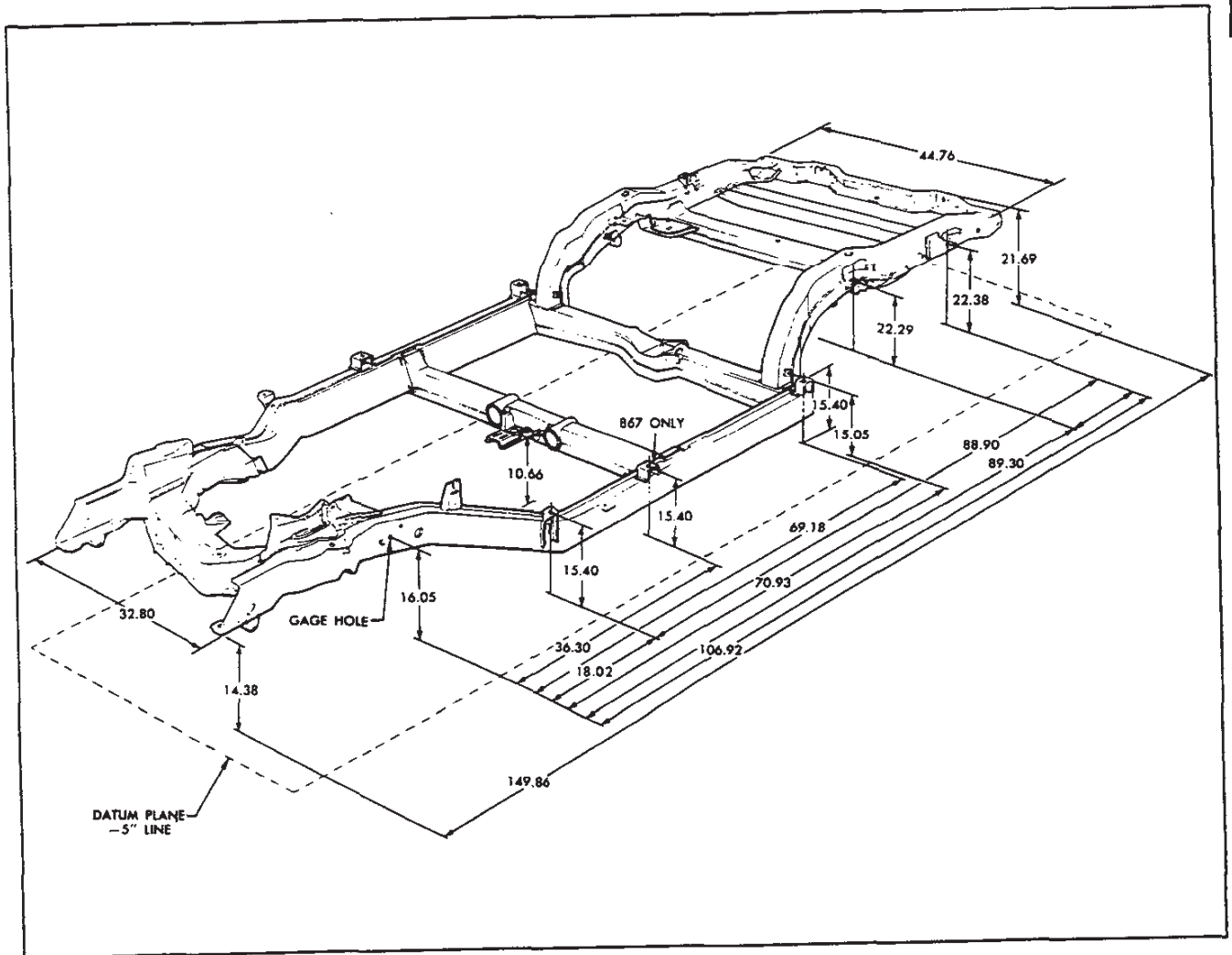


Fig. 1—Frame Dimensioned Drawing

SECTION 3

FRONT SUSPENSION

No changes affecting service procedures have been made on the front suspension. The information included in the 1963 Corvette Shop Manual will apply to 1964 except for Front Wheel Alignment as follows:

STEERING AXIS INCLINATION

The correct steering axis inclination should be $7^\circ \pm \frac{1}{2}$.

TOE-IN ADJUSTMENT

Toe-in, or the inward pointing of both front wheels, is checked with the wheels in a straight ahead position. It is the difference of the distance measured between the extreme front of both front wheels and the distance measured between the extreme rear of the wheels. Correct total toe-in should be $\frac{3}{16}$ " to $\frac{5}{16}$ ".

If the equipment being used measures the toe-in of each wheel individually, the following procedure should be used:

1. Set steering gear on high point mark, 12 o'clock

position on steering shaft, and position steering wheel for straight ahead driving.

2. Loosen clamp bolt at each end of each tie rod and adjust each wheel to $\frac{1}{16}$ " to $\frac{3}{16}$ " toe-in, to obtain total toe-in of $\frac{3}{16}$ " to $\frac{5}{16}$ ".
3. Position inner tie rod clamps with bolt horizontal and down. Position outer clamps with bolt vertical and to the rear, to avoid stabilizer link bolt interference.

If a tram gauge is used, the following procedure should be used:

1. Set front wheels in a straight ahead position.
2. Loosen clamp bolts on both tie rods and adjust for $\frac{3}{16}$ " to $\frac{5}{16}$ " total toe-in.
3. Turn both rods the same amount and in the same direction to keep the steering gear on its high point and position the steering wheel for straight ahead driving.
4. Position inner tie rod clamps with bolt horizontal and down. Position outer clamps with bolt vertical and to the rear.



CHEVROLET

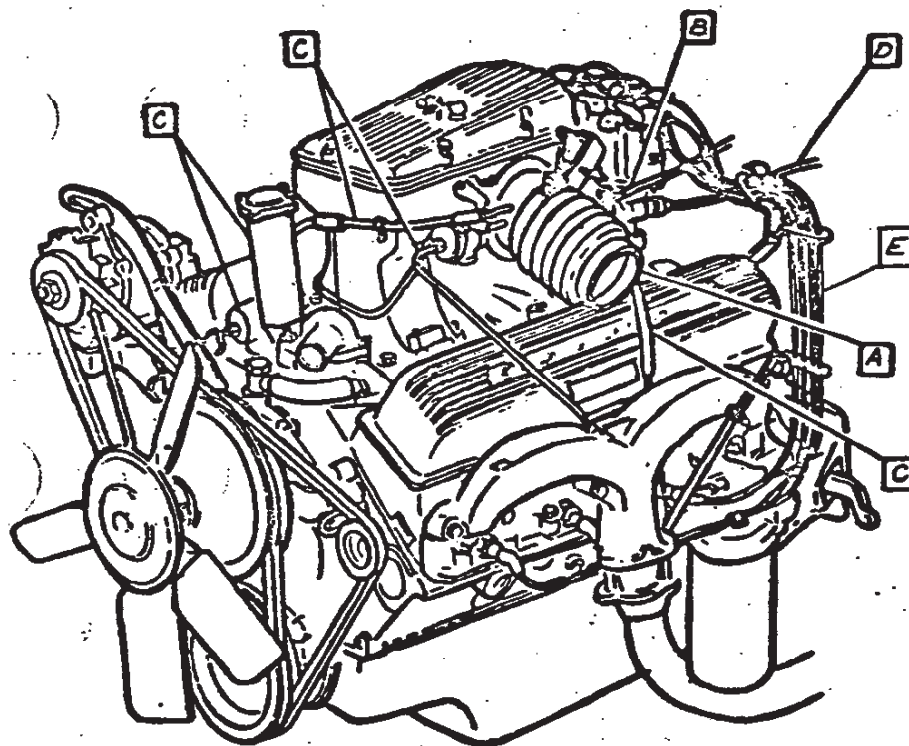
ASSEMBLY INSTRUCTIONS

3865300

CORVETTE 19000 SERIES

SHEET	TITLE
1.	CONTENTS-FUEL INJECTION
2.	NON-ILLUSTRATED PARTS
A	3. AIR CLEANER
B	4. ACCELERATOR LINKAGE & SPARK CONTROL ROSE
C	5. CARB. CHOKE PIPE, FUEL FILTER PIPE & POSITIVE VENTILATION

SHEET	TITLE
D	6. NAME PLATE & WIRE ASM - SOLENOID
E	7. SPARK PLUG WIRE ROUTING

1 3864821 ENGINE ASM (AS SHIPPED)

CHEVROLET MOTOR DIVISION, GMC				UPC	DATE	SYM	REVISION RECORD		AUTH.	DR	CK
FUEL INJECTION-CONTENTS				L84							
19000				1.							
DWG	DATE REL 6-4	REF: 1.00	L-	L-							
		L-	L-	L-	SHEET	X					



CHEVROLET

ASSEMBLY INSTRUCTION

3865300

CORVETTE 19000

- ① THE FOLLOWING PARTS ARE INSTALLED SAME AS REGULATOR PRODUCTION

3827368 HOSE - RADIATOR - INLET
3861974 GAGE ASM - OIL LEVEL
6455364 CLUSTER ASM - INSTRUMENT

①

- THE FOLLOWING PARTS ARE INSTALLED SAME AS UPC L-75

3849861 PIPE ASM - EXHAUST FRT LH
3849862 -RH
3851673 SHIELD ASM - EXHAUST FRT, LH
3851674 -RH
3796797 SPACER - EXHAUST PIPE TO MANIFOLD
1345198 GASKET
3767556 PACKING
3853725 CLAMP
3853726 BOLT
3859561 MUFFLER & EXHAUST PIPE ASM, LH
3859562 -RH
9985020 SEALING COMPOUND - FRT. EXH. PIPE TO MUFFLED (3/4 OZ. PER JOB)
L385666 CLAMP

- THE FOLLOWING PARTS ARE INSTALLED SAME AS UPC L-76

3854796 PIPE ASM - FUEL PUMP TO FUEL FILTER
187343 CONNECTOR
142558 ELBOW
8650703 FILTER ASM - FUEL
3834122 BRACKET
120394 WASHER
124829 NUT
3840344 SCREW - CLAMPING
3855147 CONNECTOR
3770245 PULLEY ASM - W/PUMP
3766987 PULLEY ASM - C/SHAFT
3815933 BOLT
131718 LWASHER
3739422 SPL. WASHER
② 3871242 PULLEY - GENERATOR
3829191 PULLEY ASM - IDLER
3793288 STUD - W/PUMP
446212 PWASHER
120377 NUT
122126 BOLT
103321 LWASHER
3843162 BELT - FAN & GENERATOR
3843164 BELT - W/PUMP & FAN
6440883 FUEL PUMP
181629 BOLT
③ 103321 L. WASHER
1115203 COIL ASM.



CHEVROLET MOTOR DIVISION, GMC

UPC

DATE SYM

REVISION RECORD

AUTH. DR. CK.

FUEL INJECTION - NON-ILLUSTRATED PARTS

L84

9-15-64	1	1931385 RESISTOR REMOVED	66061 RAC
10-1-64	2	WAS 3829193 PULLEY	64515 BR CI
11-9-64	3	WAS 138542 WASHER	67483 BY CI

19000

2.

DWG 19000
DATE REL 6-4

15/CI

REF. 2.00.

L-

L-

L-

X SHEET



CHEVROLET

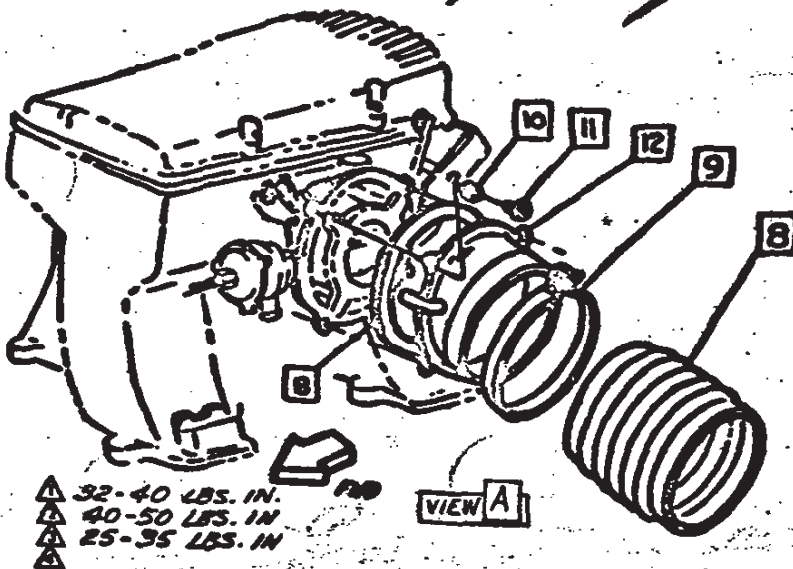
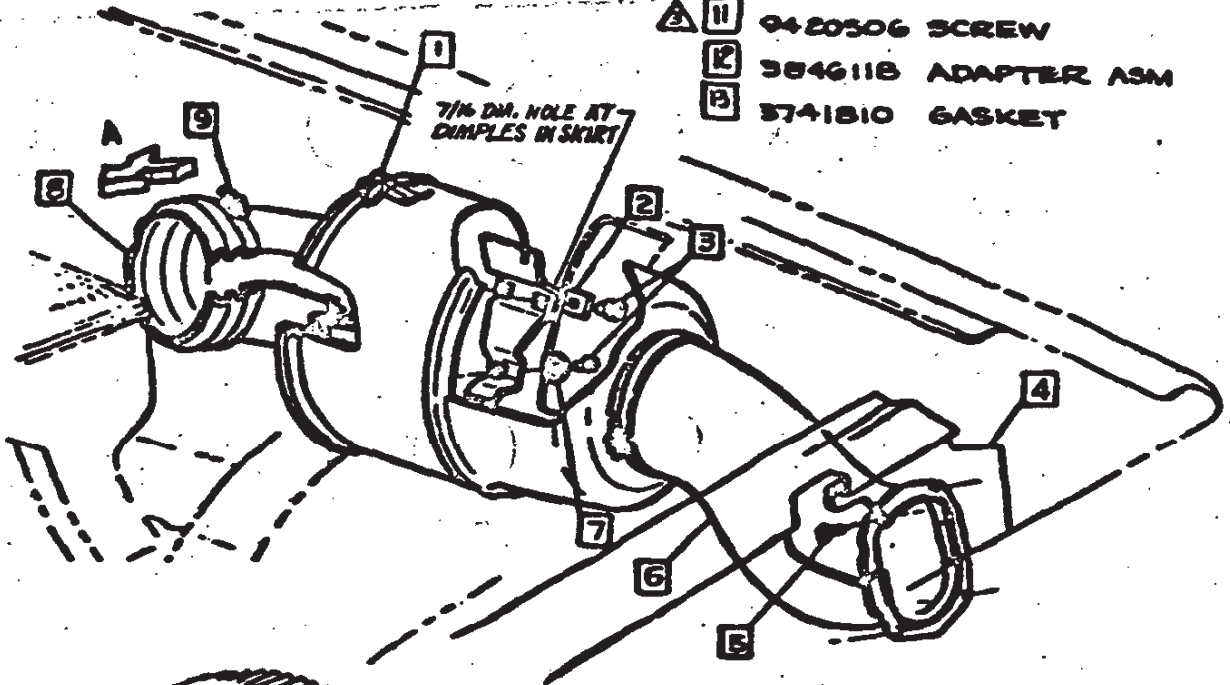
ASSEMBLY INSTRUCTION

3865300

CORVETTE 19000 SER

- 1 6418094 AIR CLEANER ASM
- 2 3825657 REINFORCEMENT
- △ 3 9417692 BOLT
- ① 4 3858963 SUPPORT ASM
- △ 5 9417226 SCREW

- 6 3825660 TUBE ASM
- 7 3704579 P.WASHER
- 8 3853879 HOSE
- △ 9 3749810 CLAMP
- 10 138473 L.WASHER
- △ 11 9420506 SCREW
- 12 3846118 ADAPTER ASM
- 13 3741810 GASKET



- △ 32-40 LBS. IN.
- △ 40-50 LBS. IN.
- △ 25-35 LBS. IN.

CHEVROLET MOTOR DIVISION, GMC		UFC	DATE	BY	REVISION	RECORD	AUTH.	DR	CK
FUEL INJECTION - AIR CLEANER		L84							
19000		3.							
DWG 4-30-64	REV REF: 3.00	L-71164							
DATE REL 6-4									
		SHEET IX							



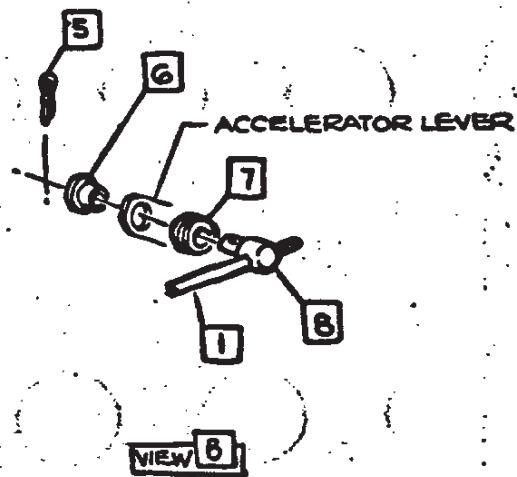
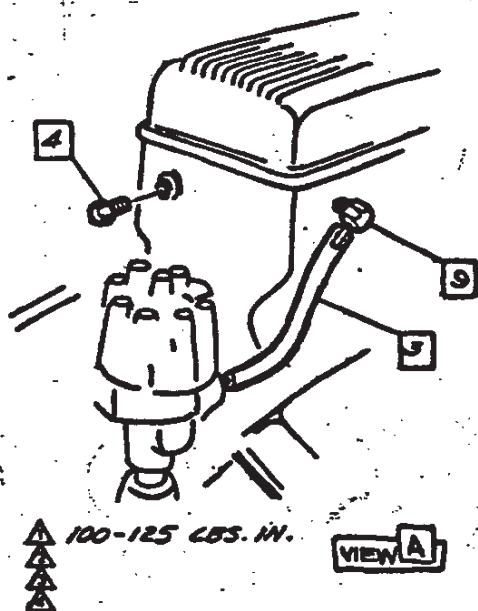
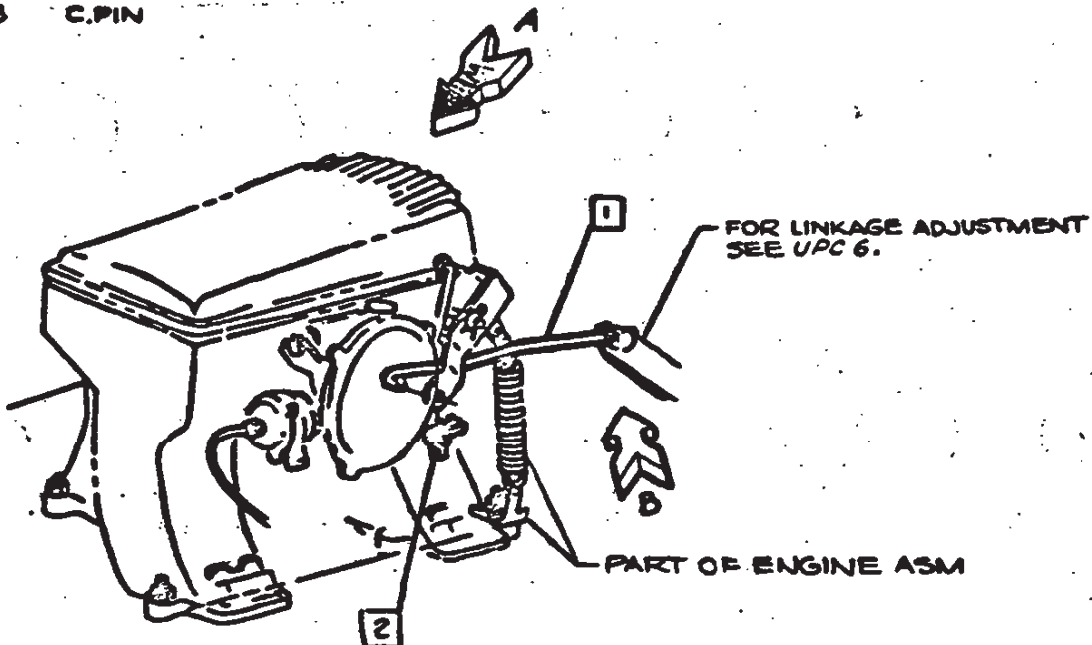
CHEVROLET

ASSEMBLY INSTRUCTIONS

3865300

CORVETTE 19000 SERIES

- | | | | | | |
|-----|---------|--------------------|-----|---------|-----------|
| 1 | 3828224 | ROD | 6 | 3707713 | SLEEVE |
| 2 | 3700188 | CLIP | 7 | 3054399 | BUSHING |
| 3 | 3813024 | HOSE-SPARK CONTROL | 8 | 3758592 | SWIVEL |
| ⚠ 4 | 444819 | PLUG | ⚠ 9 | 3750029 | CONNECTOR |
| 5 | 103373 | C.PIN | | | |



CHEVROLET MOTOR DIVISION, GMC		UPC	DATE	SYM	REVISION RECORD	AUTH	DR	CR
FUEL INJECTION - ACCELERATOR LINKAGE & SPARK CONTROL HOSE		L84						
19000		4.						
DWG 4-30-64	RS/CI	REF: 4.00	L-63450	L-62424				
DATE REL 6-4		L-	L-	L-	X SHEET 1			



CHEVROLET

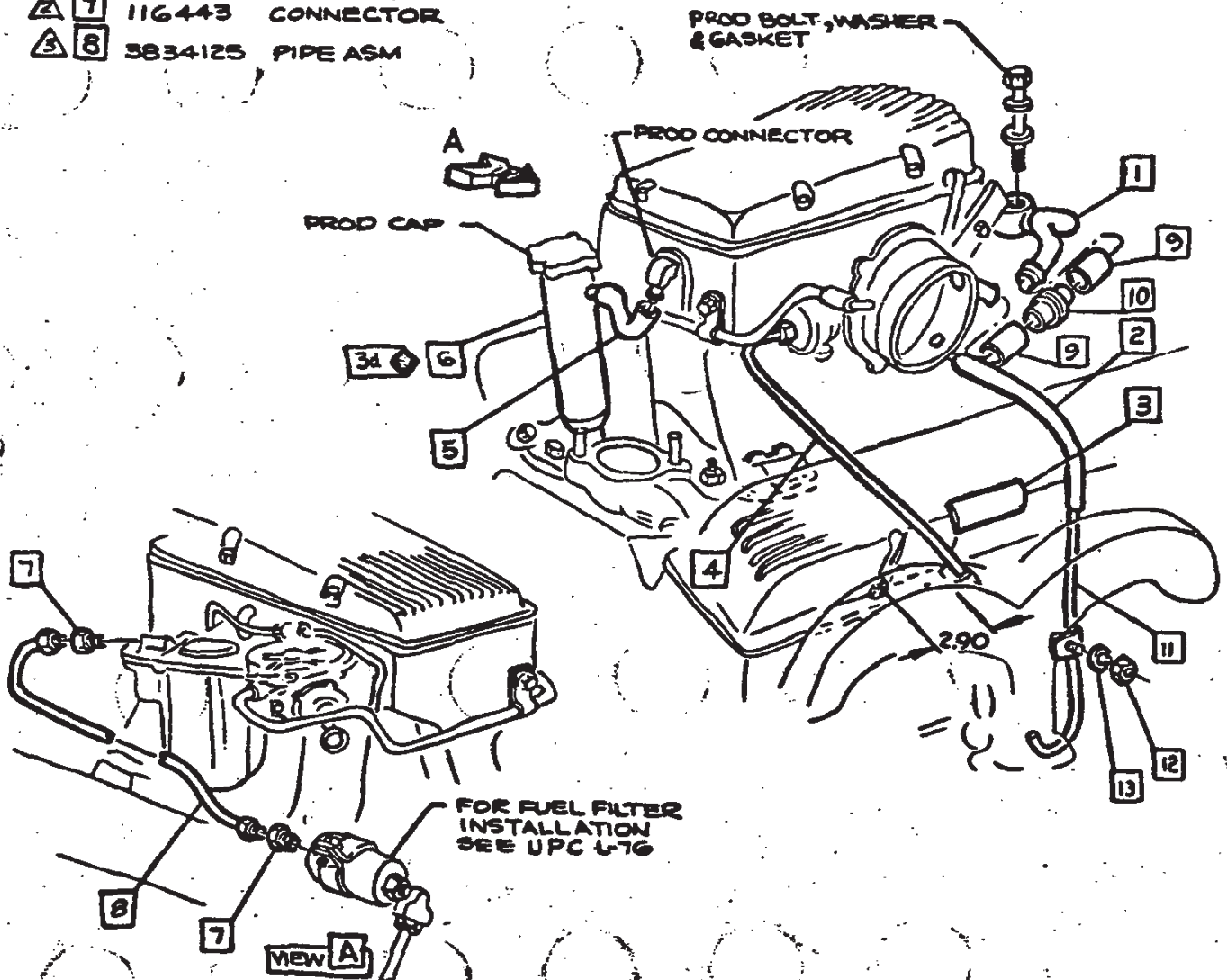
ASSEMBLY INSTRUCTION

3865300

CORVETTE 19000 SERI

- 1 3857477 TUBE ASM
- 2 3828404 HOSE
- 3 3853877 DECALCOMANIA
- 4 3834121 PIPE ASM
- 5 3854238 HOSE
- 6 3846102 TUBE ASM-OIL FILLER
- 7 116443 CONNECTOR
- 8 3834125 PIPE ASM

- 9 3850370 HOSE
- 10 3857476 FLAME ARRESTOR
- 11 3817306 PIPE ASM - AIR INTAKE
- 12 124829 NUT
- 13 120394 L WASHER



- 75-175 LBS. IN.
- 100-125 LBS. IN.
- 115-135 LBS. IN.
- 25-30 LBS. FT.

CHEVROLET MOTOR DIVISION, GMC				UPC	DATE	BY	REVISION RECORD	AUTH	DR	CK
FUEL INJECTION - CARB CHOKE PIPE, FUEL FILTER PIPE & POS/VENTILATION				L84						
19000				5.						
DWG # 30-64 RS/CY REF. 5.00 L-7/1/64 L-				SHEET X						
DATE REL 6-4										

- 20-30 LBS. IN.

• CHEVROLET MOTOR DIVISION, GMC •		UPC	DATE	SYM	REVISION RECORD	AUTH	DR	EX
FUEL INJECTION-NAME PLATE & WIRE ASM.-SOLENOID		L84	5-23-64	1	EMBLEM REMOVED	59670	BY	
				2	FENDER DWG. REVISED			CI
		6.	7-24-64	3	DIH. REVISED (2 PLACES)	65588	DR	CI
			10-16-64	4	STUD NOTE ADDED	67027	BR	CI
			11-20-64	5	9-219756 NUT120-30 LBS. IN.)	67626	BR	
19000					REMOVED			
DWG PREL. 5-21 (PS) REF. PREL. 1. L-5800B L-					6 WAS ITEM 1			CI
DATE REL 5-21 L- L- L-		X SHEET						



CHEVROLET

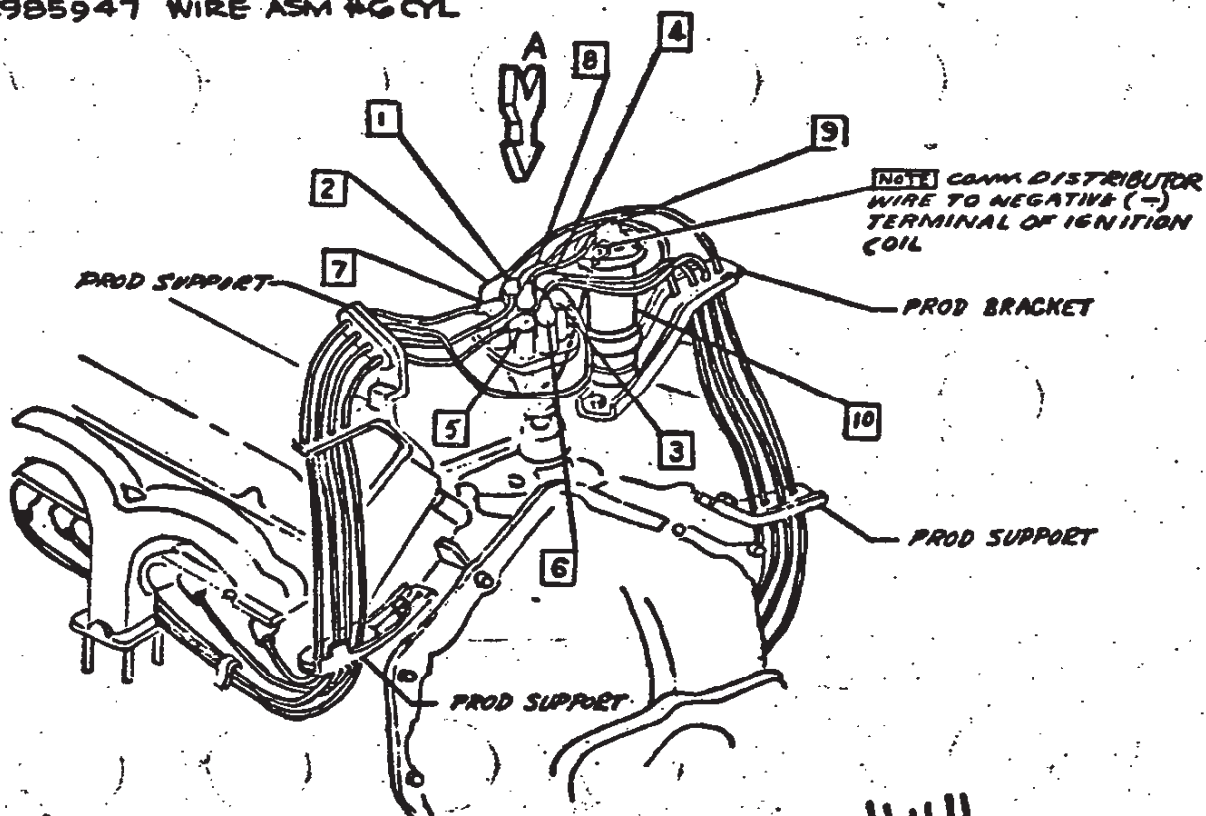
ASSEMBLY INSTRUCTIONS

3865300

CORVETTE 19000 SERIES

- 1 2985949 WIRE ASM #1 CYL
- 2 2985949 WIRE ASM #2 CYL
- 3 2985949 WIRE ASM #3 CYL
- 4 2985948 WIRE ASM #4 CYL
- 5 2985947 WIRE ASM #5 CYL
- 6 2985947 WIRE ASM #6 CYL

- 7 2985946 WIRE ASM #7 CYL
- 8 2985946 WIRE ASM #8 CYL
- 9 2985975 WIRE ASM - HI TENSION
- 10 1115091 COIL ASM



FORWARD

VIEW A



CHEVROLET MOTOR DIVISION, GMC				UPC	DATE	SYM	REVISION RECORD		AUTH	DR	CK
FUEL INJECTION - SPARK PLUG WIRE ROUTING				L84							
19000				7.							
DWG F-30-64 R/C/ REF: 7.00 L- L-											
DATE REL 6-4 L- L- L-				SHEET 1							

SECTION 6

ENGINE MECHANICAL

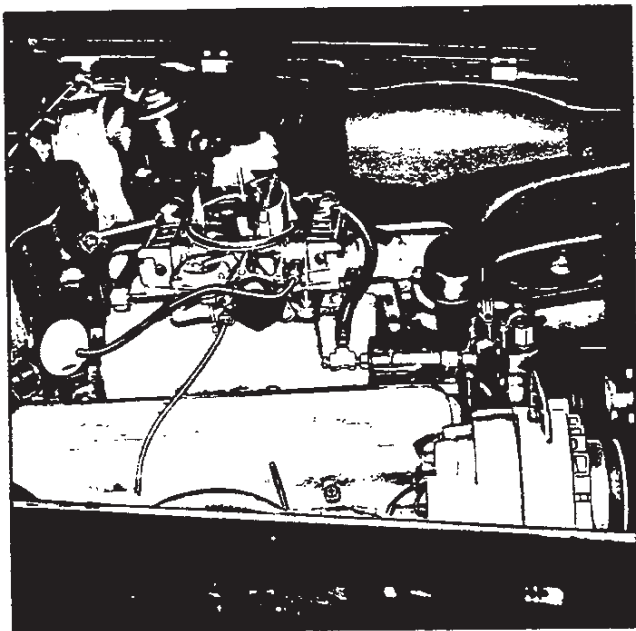


Fig. 1—Corvette High Performance Engine

Three 327 cubic inch V-8 engines are available on the 1964 Corvette:

1. The base 250 H.P. engine with WCFB carburetor and hydraulic lifters;
2. A 300 H.P. engine with AFB carburetor and hydraulic lifters; and
3. A 365 H.P. engine (Fig. 1) equipped with a Holley 4-Bbl. carburetor, special camshaft and solid valve lifters.

All engines are equipped with positive crankcase ventilation, Delcotron AC charging system, thermo-modulated fan hub and dual exhaust system.

The 250 and 300 H.P. engines are available teamed with 3-Speed, 4-Speed or Powerglide transmissions while the 365 is available with manual transmission only.

Service operations and tune-up procedures remain essentially the same as those outlined in the 1963 Shop Manual except as follows:

TUNE UP

CRANKCASE VENTILATION (FIG. 2 and 3)

Crankcase ventilation is closed positive through a fixed metered orifice at the carburetor base and air is routed from the clean air side of the air cleaner, to the

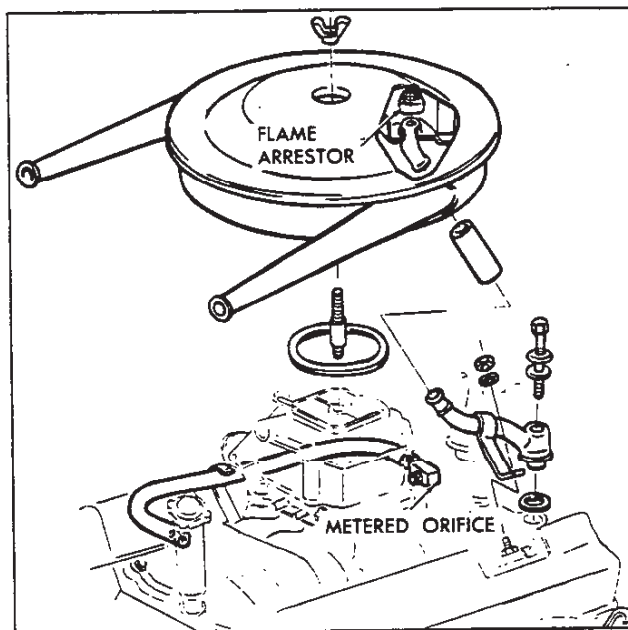
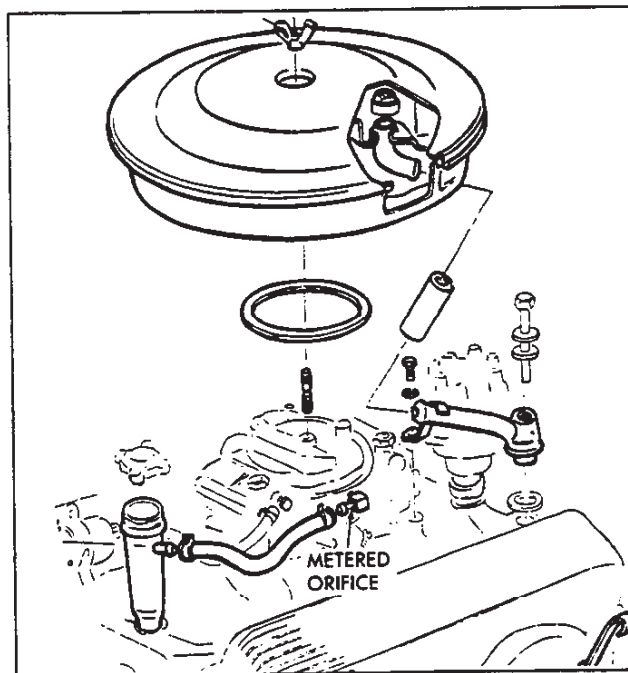


Fig. 2—Crankcase Ventilation—250 and 300 H.P. Engines



ENGINE MECHANICAL 6-2

cap is non-vented. The orifice should be cleaned at each tune-up period and can be tested in the same manner as the valve was in 1963 if desired.

VALVE ADJUSTMENT

Before adjusting the valve stem to rocker arm clearance, it is extremely important that the engine be thoroughly warmed up to normalize the expansion of all parts. This is very important because during the warm-up period, the valve clearances will change considerably. To adjust the valves during or before this warm-up period will produce clearances which will be far from correct after the engine reaches normal operating temperature.

Tests have shown that valve clearances will vary as much as .005" from a cold check through the

normalizing range; consequently the engine should be run approximately 30 minutes to properly normalize all parts.

Covering the radiator will not materially hasten this normalizing process because even with the water temperature quickly raised, it does not change the rate at which the oil temperature increases or the engine parts become normalized.

The actual temperature of the oil is not as important as stabilizing the oil temperature. The expansion or contraction of the valves, rocker arm supports, push rods, cylinder head and cylinder block are relative to this oil temperature. Therefore, only after the oil temperature is stabilized, do these parts stop expanding and valve clearance changes cease to take place.

1. Normalize the engine.
2. Remove rocker arm covers and gaskets.
3. Tighten all head bolts (see engine torque specifications chart).

1964 ENGINE TUNE-UP SPECIFICATIONS

ENGINE		327	327	327
H.P.		250	300	365
Carburetors		WCFB	AFB	Holley
Compression PSI		160*	160*	150*
SPARK PLUGS	Make and No.	Colder	AC—43	
		STD.	AC—44	
		Hotter	AC—45	
	Gap	.035"		
Ignition Distributor	Point Dwell	28°—32°		
	Point Gap	.019" New—.016" Used		
	Point Arm Spring Tension	Preset at 19—23 oz.		
	Condenser	.18—.25 Microfarad		
	Fan Belt	75 ± 5 Lbs. Using Strand Tension Gauge		
Air Cleaner		Polyurethane Element***		
TAPPET CLEARANCE	Inlet	Hydraulic—One Turn to Center Plunger		Mech.—.030" Hot
	Exhaust	Hydraulic—One Turn to Center Plunger		Mech.—.030" Hot
Ignition Timing** (BTDC)°		4° Nominal 4°—10° Range	8° Nominal 6°—12° Range	10°
Engine Idle RPM	Syn.	475-500		800
	Auto. (In Drive)	450-475		
FUEL PUMP	Press.	5¼ to 6½ PSI @ idle to 1000 RPM		
	Vol.	One Pint in 30 to 45 Seconds		
Cooling System Radiator Pressure		13 PSI		
Crankcase Vent Valve ; Metered orifice—clean at each tune-up				

*At cranking speed with throttle open and all plugs removed —15 psi. max. variation between cylinders.

1963 ENGINE TUNE-UP SPECIFICATIONS

TURBO-FIRE 327 CU. IN. V-8 ENGINES		250 HP (Base Engine)	300 HP (RPO L75)	340 HP (RPO L76)	360 HP (RPO L84)
Carburetor		4 BBL Carter "WCFB"	4 BBL Carter "AFB"		Fuel Injection
Firing Order		1-8-4-3-6-5-7-2			
Test Compression		160 psi.*		150 psi.*	
Normal Idle Speed	Manual Trans.	475 rpm		750 rpm	850 rpm
	Auto. (In Drive)	450 rpm		—	
Spark Plugs Gap and Torque		AC-44			
		.035"—25 ft. lbs.			
Distributor Dwell		28° to 32°			
Point Gap		.019" (New) .016" (Use)			
Point Tension		19-23 oz.			
Ignition Timing** (BTDC Settings at Normal Idle)		4° (Prod.) 4°-10° Range	8° (Prod.) 6°-12° Range	10°	
Tappet Adjustment		Hydraulic— 1 turn down from "no lash"		Mechanical Inlet .008"—hot Exh. .018"—hot	
Fuel Pressure		5½-6½ psi. (at idle to 1000 rpm)			
Crankcase Capacity		5 qts. (with filter change)		6 qts. (with filter change)	
		4 qts. (without filter change)		5 qts. (without filter change)	

**Range depends on locality, driving conditions, and grade of fuel. When setting, disconnect vacuum advance line and cap vacuum opening.

***Polyurethane wash and re-oil each 12,000 miles.

4. Use a socket wrench on self-locking rocker arm stud nut and adjust as needed to obtain valve lash (see tune-up charts) measured between rocker arm and valve stem with a leaf type feeler gauge.

NOTE: Individual rocker arm splash shields are available commercially.

5. Stop engine and install rocker covers with new gaskets.

PISTON CLEANING AND INSPECTION

Clean varnish from piston skirts and pins with a cleaning solvent. **DO NOT WIRE BRUSH THE PISTON SKIRT.** Clean the ring grooves with a groove cleaner and make sure oil ring holes and slots are clean.

Inspect the piston for cracked ring lands, skirts or pin bosses, wavy worn ring lands, scuffed or damaged skirts, eroded areas at top of the piston. Replace pistons that are damaged or otherwise show signs of excessive wear.

Replacement pistons are available in standard and in .020", .030" and oversizes. Each available size piston

is supplied with 4 pistons to cover the size range (Example: High limit standard pistons). When pistons are being replaced and minimum cylinder honing is necessary, measure (mike) the cylinder bore and refer to the selection chart (Fig. 4) to obtain the closest clearance, then check the fit using the feeler strip method. When boring to oversize piston, fit the cylinder to the piston by honing the last .002", and checking fit with feeler method.

CORVETTE SERVICE PISTON SELECTION CHART	HIGH PERF. 250 & 300		PISTON MARKED											
			54 55 56 57											
			1 2 3 4											
			3.9995	.001	.002	.003	.004	.005	.020"	.021	.022			
			CYLINDER OVERSIZE											
CORVETTE SERVICE PISTON SELECTION CHART	HIGH PERF. 250 & 300		PISTON MARK											
			1 2 3 4											
			.030"	.031	.032	.033	.034	.035						
			CYLINDER OVERSIZE											

Fig. 4—Piston Selection Chart

1964 ENGINE SPECIFICATIONS

ENGINE	DISPLACEMENT	327	327	327
	EQUIPMENT	WCFB	AFB	HOLLEY & SPEC. CAM
GENERAL DATA:				
Horsepower @ rpm		250 @ 4400	300 @ 5000	365 @ 6200
Torque @ rpm		350 @ 2800	360 @ 3200	360 @ 4000
Type		V-8 Valve-in-Head		
Number of Cylinders		8		
Bore		4.00		
Stroke		3.25		
Taxable Horsepower (A.M.A.)		51.2		
No. System (Front to Rear)	Left Bank	1-3-5-7		
	Right Bank	2-4-6-8		
Firing Order		1-8-4-3-6-5-7-2		
Compression Ratio		10.5:1		11.0:1

SPECIFICATIONS 6-4

ENGINE		DISPLACEMENT		327	327	327		
		EQUIPMENT		WCFB	AFB	HOLLEY & SPEC. CAM		
PISTONS:								
Clearance Limits	Top Land					.036-.046		
	Skirt					.0005-.0011	.0039-.0045	
Ring Groove Depth	Compression					.2055-.2135		
	Oil					.1875-.1955		
PISTON RINGS:								
Compression	Width					.077-.078		
	Gap					.013-.023		
Oil Ring	Width					.184-.188		
	Gap					.015-.055		
Expanders						Integral with Spacer		
PISTON PINS:								
Length							2.990-3.010	
Diameter							.9270-.9273	
Clearance	In Piston	New					.00015-.00025	.00045-.00055
		Wear Limit					.001	
	In Rod						Press Fit	
CONNECTING RODS:								
Bearing	Clearance					.0007-.0028		
	End Play					.0017-.0038		
CRANKSHAFT:								
End Play							.002-.006	
End Thrust Taken by							Rear Main	
Main Bearing	Journal Diameter					2.2978-2.2988		
	Clearance					.0008-.0034		
Crankpin Journal Diameter							1.999-2.000	
CAMSHAFT:								
Lobe Lift Measured at Push Rod	Intake					.2658	.2625	
	Exhaust					.2658	.2665	
Cam Bearings	Journal Diameter					1.8682-1.8692		
Type of Drive							Timing Chain	
VALVE SYSTEMS:								
Lifters Type						Hydraulic	Mechanical	
Rocker Arm Ratio							1.5:1	
Valve Lash	Intake (Hot)					Zero	.030	
	Exhaust (Hot)					Zero	.030	
Intake	Face Angle						45°	
	Seat Angle						46°	
	Stem to Guide Clearance						.0010-.0027	
	Lift (Meas. at Valve Stem)					.3987	.3937	
Exhaust	Face Angle						45°	
	Seat Angle						46°	
	Stem to Guide Clearance						.0016-.0033	
	Lift (Meas. at Valve Stem)					.3987	.3997	
Valve Springs	Outer Spring Press. and Length	Free Length					2.08	
		Pressure lb. @ in.					78-86 @ 1.66"	
		Pressure lb. @ in.					170-180 @ 1.26"	
	Inner Spring Damper	Free Length					2.00	
		No. of Coils					Approx. 4	
Recommended Valve Seat Width	Intake						1/16	
	Exhaust						1/32	
COOLING SYSTEM:								
Type							Liquid	
Radiator Cap Pressure							13 PSI	
Cooling System Capacity	W/Heater					Approx. 17		
	W/O Heater					Approx. 16		

SECTION 6M

ENGINE FUEL

The base (250 H.P.) and the 300 H.P. engines use the WCFB and the AFB carburetors respectively. These carburetors are basically carry over for 1964.

The air cleaners and fuel pump are also basically the same. Refer to the 1963 Corvette Shop Manual for service procedures involving these items.

HOLLEY MODEL 4150 4-BBL.

INDEX

	<i>Page</i>		<i>Page</i>
General Description.....	6M-1	Removal and Installation.....	6M-4
Maintenance and Adjustments.....	6M-3	Disassembly into Subassemblies.....	6M-4
Accelerator Linkage.....	6M-3	Cleaning and Inspection.....	6M-4
Idle Speed and Mixture.....	6M-3	Subassembly Overhaul.....	6M-6
Choke Adjustment.....	6M-3	Fuel Bowls.....	6M-6
Float Level Adjustment.....	6M-3	Metering bodies.....	6M-7
Accelerator Pump Adjustment.....	6M-4	Main body.....	6M-7
Unloader Adjustment.....	6M-4	Throttle body.....	6M-7
Fast Idle Adjustment.....	6M-4	Carburetor Assembly.....	6M-8
Service Operations.....	6M-4	Specifications.....	6M-10

GENERAL DESCRIPTION

A Holley 4 barrel carburetor (fig. 1) is used on the high performance Corvette V-8 in 1964. This carburetor is a 4 barrel downdraft type providing the advantages of a dual 2 barrel installation in one compact unit. This carburetor is used in conjunction with a dual exhaust system, special camshaft and solid valve lifters.

A clean air choke system to the automatic choke housing minimizes any tendency toward sticking parts due to dirt. Clean air is drawn from the air cleaner, through a tube to the exhaust manifold heat passage and to the choke housing via another tube.

The Holley carburetor breaks down into four sub

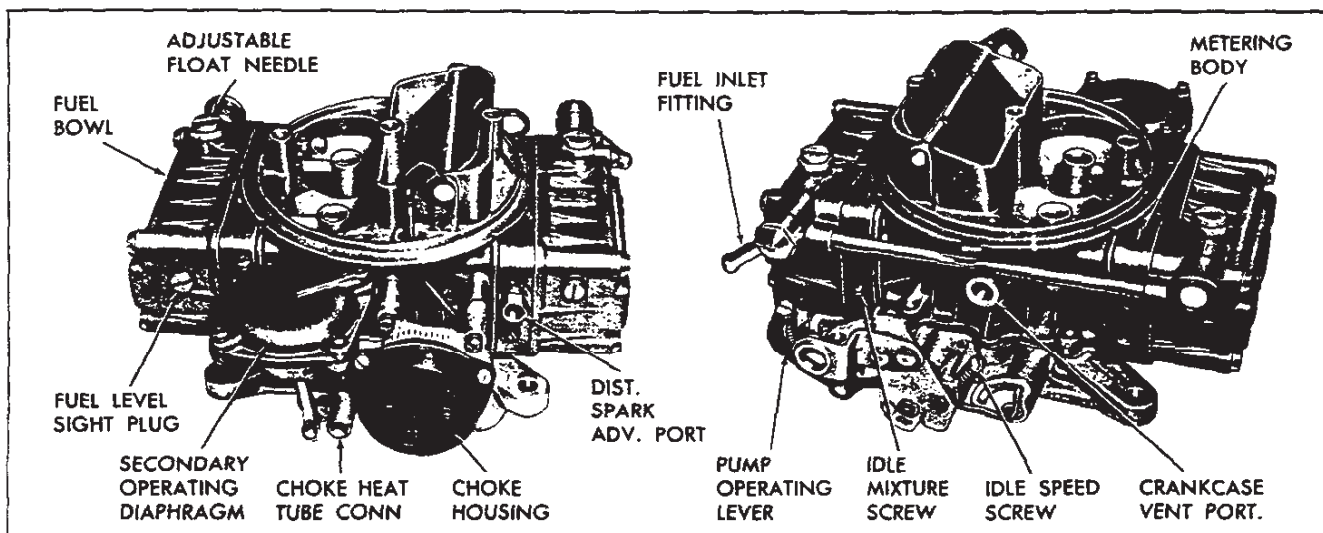


Fig. 1—Holley 4 Bbl Carburetor

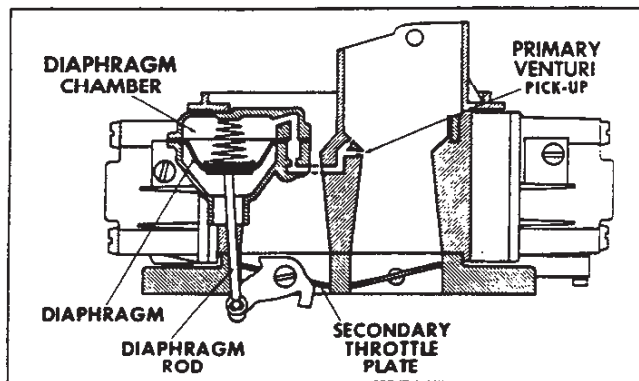


Fig. 2—Secondary Throttle Operating System

assemblies; (1) throttle body, (2) main body, (3) metering bodies and (4) the fuel bowls. The throttle body consists of primary and secondary throttles, shafts and levers. The main body consists of venturi choke valve, choke housing assembly, secondary throttle operating diaphragm and the accelerating pump discharge nozzles and check valve. The metering bodies contain the idle jets, idle needles, main metering jets, power jet (economizing valve), and their corresponding passages. The fuel bowls contain the fuel inlet fitting, needle, seat and screen as well as the float and float spring. The primary fuel bowl also houses the accelerating pump diaphragm and inlet check valve. A fuel line tube connects the two fuel bowl assembly inlet areas.

The operation of each carburetor system is similar to other carburetors as follows:

1. The Float (fuel inlet) System consists of an inlet fitting (hose connection type), inlet screen, adjustable-caged needle and seat assembly, spring assisted float assembly to maintain fuel at the proper level, and the fuel level sight plug.
2. The Idle System (fig. 3) is an inverted "U" passage with an idle well (fed by the main jets), an idle feed restriction (jet), two air bleeds (to inside of air horn area), an idle transfer passage (slotted for off-idle operation) and a needle adjusted (idle mixture screw) idle discharge passage. The mixture needle and feed restriction are located in the metering body. The secondary idle

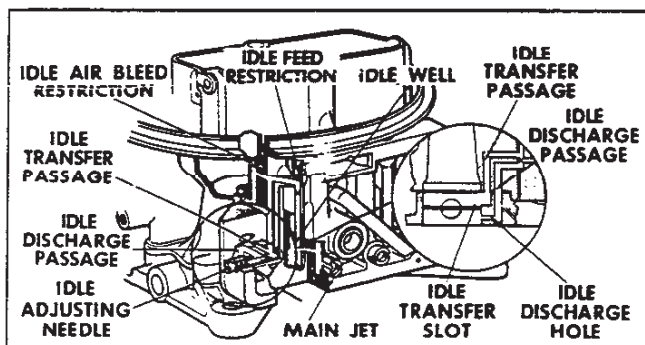


Fig. 3—Idle Speed System

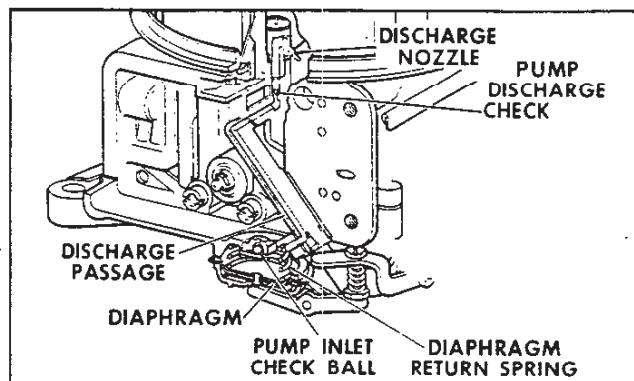


Fig. 4—Accelerator Pump System

system discharge opening has no mixture screws, but is controlled by the primary needles.

3. The Accelerating Pump System (fig. 4) has a diaphragm type pump (located on the bottom of the primary float chamber), an inlet check ball (held in place by a brass pin swedged into the casting), and a discharge needle check valve under the pump nozzle in the venturi area. The pump is lever actuated by a cam on the throttle shaft. A spring loaded screw between pump link and actuating lever provides pump duration.
4. Main Metering System (fig. 5) consists of the

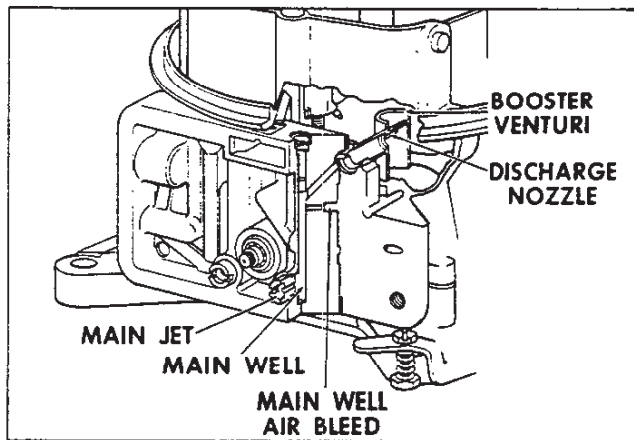


Fig. 5—Main Metering System

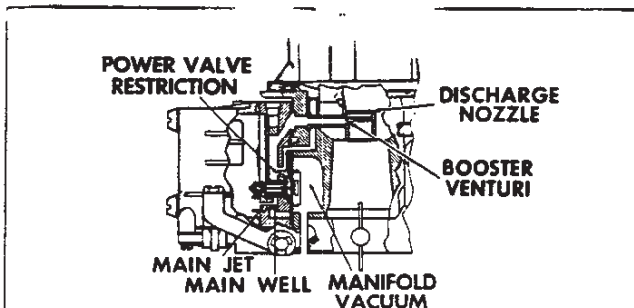


Fig. 6—Power Enrichment System

main jets, main well, a main well air bleed, the discharge nozzle (jet) and the passage to the nozzle located in the boost venturi.

5. Power Enrichment System (fig. 6) consists of a vacuum operated valve (threaded into the meter-

ing body) which supplies added fuel into the main well area during periods of low vacuum.

6. The Choke System is a conventional valve, fast idle cam, and thermostatic coil set up; varied by a vacuum operated piston and engine heat.

MAINTENANCE AND ADJUSTMENTS

Maintenance and adjustments consists of those adjustments done on the car. All adjustments, to be accurate must be made with the vehicle on level ground.

ACCELERATOR LINKAGE

The length of the throttle linkage is adjustable to assure wide-open throttle with full accelerator pedal depression. To check, depress accelerator pedal fully and check to see if throttle is wide open. If not, adjust threaded swivel at throttle lever to suit. With the accelerator pedal fully depressed and the carburetor throttle valve fully open the threaded swivel should be adjusted for free entry into the throttle lever. The swivel should then be turned two full turns to shorten the control rod.

IDLE SPEED AND MIXTURE ADJUSTMENT (VACUUM SPARK ADVANCE CONNECTED)

1. Remove air cleaner.
2. Turn the idle mixture screws lightly to their seat, then back off one full turn on each screw to provide an initial adjustment.

CAUTION: Do not turn the screw tightly against its seat, as a smooth idle cannot be obtained the needle becomes grooved.

3. Connect tachometer and vacuum gauge to engine. Set parking brake and place transmission lever in neutral.
4. Start the engine, allow time to reach normal operating temperature then check to see that the choke is fully open and carburetor is on slow (curb) idle speed.
5. Adjust the idle speed screw to give the proper idle speed (see tune-up chart).
6. Adjust each idle mixture screw (one-at-a-time) to get highest steady vacuum reading and correct idle speed screw setting as speed changes.
7. Repeat steps 5 and 6 as needed to obtain highest steady vacuum at specified RPM.
8. Stop engine, remove instruments and install air cleaner.

CHOKE ADJUSTMENT

The choke adjustment is accomplished by loosening the choke coil cover screws and aligning the cover

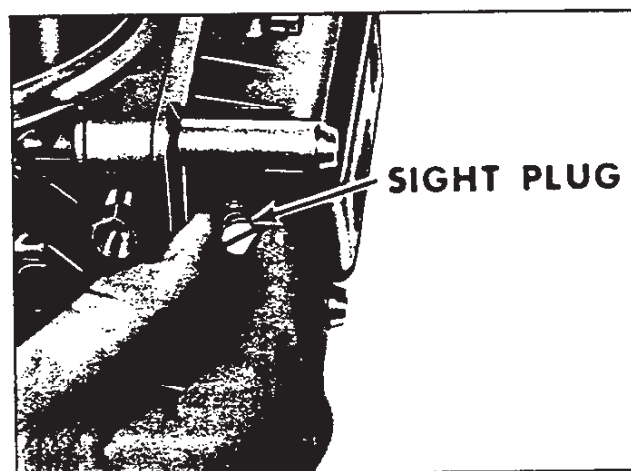


Fig. 7—Fuel Level Sight Plug

scribe mark with notch mark specified in tune-up chart, then tighten the screws.

FLOAT LEVEL ADJUSTMENT (fig. 7)

1. Remove air cleaner then remove the sight plugs.
2. With parking brake on, and transmission in neutral, start the engine and allow it to idle.
3. With the car on a level surface, the fuel level should be on a level with the threads at the bottom of the sight plug port (plus or minus $\frac{1}{32}$ inch).
4. If necessary to adjust (either or both bowls), loosen inlet needle lock screw and turn the adjusting nut clockwise to lower or counterclockwise to raise fuel level, then tighten lock screw.

NOTE: 1/6 turn of adjusting nut equals approximately 1/16" fuel level change.

5. Allow a minute for fuel level to stabilize then recheck the level at sight plug.
6. Readjust, if necessary, until proper level is obtained, then install sight plug.

NOTE: To assure proper secondary float level setting it is advisable to accelerate primary throttles slightly and hand operate secondary throttle. This assures a stabilized secondary fuel level.

NOTE: No float drop adjustment is required on this carburetor.

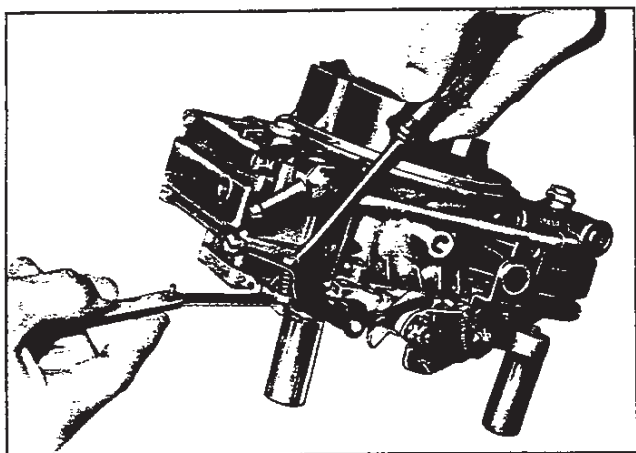


Fig. 8—Accelerator Pump Adjustment

ACCELERATOR PUMP ADJUSTMENT (override spring) Figure 8

1. With engine stopped—remove air cleaner.
2. Block throttle lever in wide open position and hold pump lever fully compressed (down), then measure the clearance between spring adjusting nut and arm of the pump lever.
3. Clearance should be .015"; adjust by turning nut or screw as required while holding opposite end. (The pump operating lever is not threaded.)
4. After adjustment is made, rotate the throttle lever to fully closed and partly open again. Any move-

ment of the throttle lever should be noticed at operating lever spring end, indicating correct pump tip-in.

5. Install air cleaner.

UNLOADER ADJUSTMENT

1. Engine stopped—remove air cleaner.
2. Hold throttle lever in wide open throttle position.
3. Hold choke valve toward closed position against unloader tang of throttle shaft, then measure opening between choke valve lower edge and air horn with a drill rod (see specifications).
4. If necessary to adjust, bend choke rod (at off-set bend) using Tool J-4552. Recheck after adjusting.

FAST IDLE ADJUSTMENT

The fast idle is controlled by predetermined steps on the fast idle cam as they contact fast idle screw. Adjust as follows:

1. With engine normalized—remove air cleaner.
2. Set parking brakes, incl. handbrake, and chock wheels then start engine.
3. Open primary throttle slightly, and lift fast idle cam up and let throttle close with fast idle screw on high step of cam.
4. Adjust fast idle screw (¼ open end wrench) to obtain specified engine R.P.M. (see specifications). Then repeat step three to check setting.

SERVICE OPERATIONS

REMOVAL AND INSTALLATION

1. Remove air cleaner, gasket and stud.
2. Disconnect
 - a. Accelerator return spring.
 - b. Accelerator linkage at throttle lever.
 - c. Fuel line at carburetor.
 - d. Choke heat tube at choke housing.
 - e. Spark advance line at carburetor.
 - f. Crankcase vent line at carburetor fitting.
3. Remove mounting nuts and lift carburetor from manifold—cover manifold opening with a rag to prevent foreign material entry.
4. Reverse removal procedure to install using new manifold flange gasket.

DISASSEMBLY

INTO SUBASSEMBLIES (fig. 9)

1. Remove secondary fuel bowl screws (4) and lift off fuel bowl, metering body and gaskets, then remove fuel tube from either bowl it remained in.
2. Remove primary fuel bowl screws (4) and remove

fuel bowl, metering body and gaskets.

3. Remove secondary throttle operating diaphragm rod retainer clip and disconnect rod at throttle lever.
4. Remove throttle body to main body screws, then remove throttle body and gasket.

CLEANING AND INSPECTION

The most frequent causes of carburetor mal-function are gum, carbon, and water. Carefully clean and inspect all parts and castings as the carburetor is being serviced as follows:

1. Clean throttle flange, coil housing and all other non-metallic parts, in alcohol or gasoline.
- NOTE: Secondary throttle shaft bushings are delrin.
2. Wash all other parts in cleaning solvent.
3. Inspect holes in all operating levers and castings for excessive wear.
4. Inspect bearing surfaces of all shafts for excessive clearance (side play—slop). It is not necessary to remove shafts and plate to inspect.

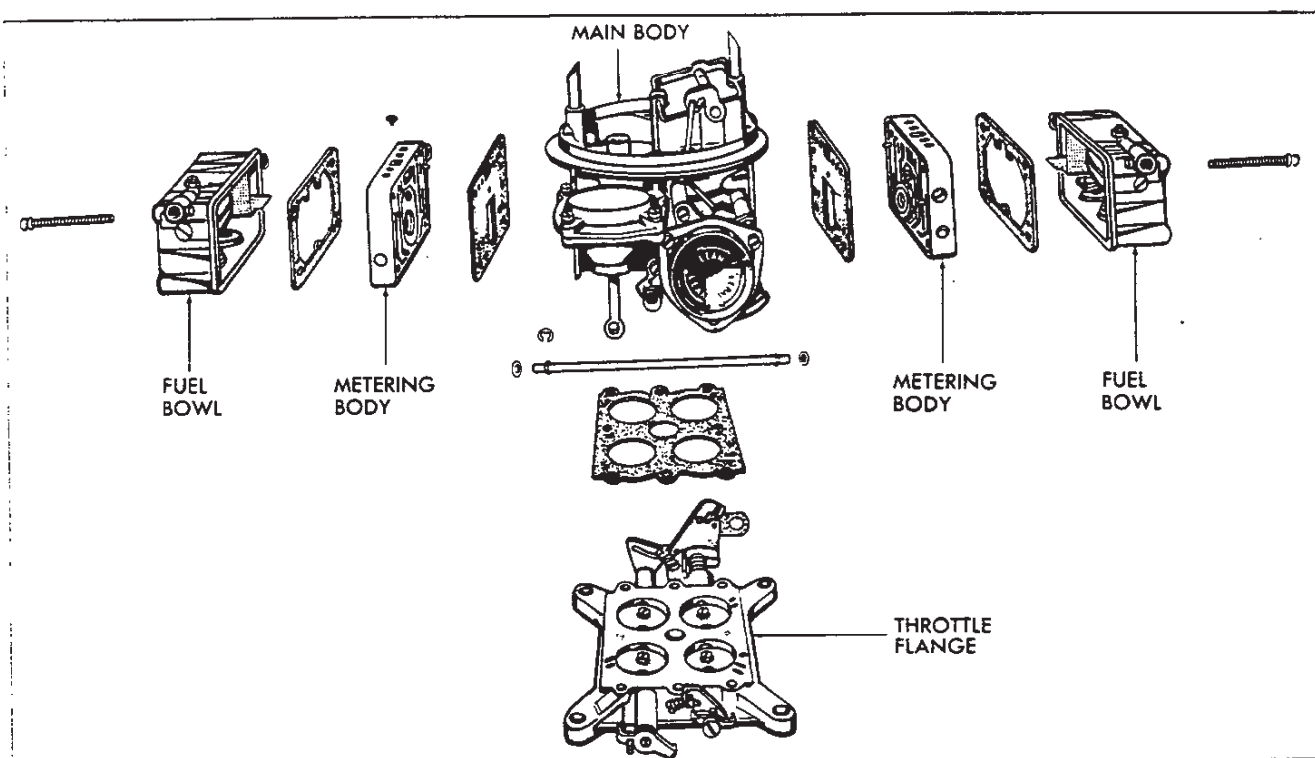


Fig. 9—Subassembly Removal

NOTE: If wear is excessive to the extent of improper operation of the carburetor, the worn parts should be replaced.

5. Inspect floats and bad dents and/or possible leaks.
6. Inspect pump diaphragm for damage.
7. If choke piston sticks in cylinder, remove piston and link assembly, wash piston and housing in solvent and blow dry. If washing does not clear up problem replace housing and/or piston and link assembly.
8. Inspect float needles and seats for burrs and ridges. If present, replace both the needle and seat; never replace either alone as these are an assembly.
9. Inspect edges of primary and secondary throttle valves for gouges and other deformations. If these or any other conditions exist which would prevent full seating, replace the faulty valve.
10. Inspect all mating surfaces of choke housing, fuel bowl, carburetor body, and throttle flange for burrs, gouges, or other surface irregularities. All surfaces must be smooth and square to prevent leaks.
11. Check secondary throttle operating diaphragm for free operation and leakage by moving diaphragm rod to the up position then covering vacuum passage opening in housing with thumb. The diaphragm should hold upward. Remove thumb from vacuum passage and diaphragm rod should move down readily.

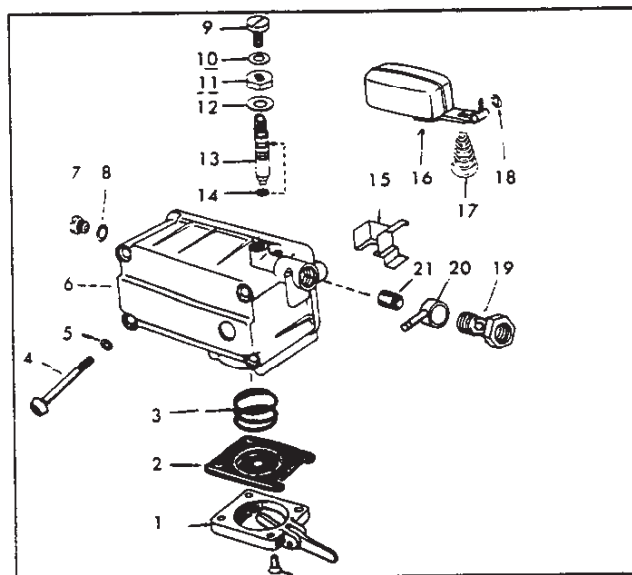


Fig. 10—Fuel Bowl—Exploded View

- | | |
|---------------------------|---------------------------|
| 1. Pump Diaphragm Cover* | 12. Gasket |
| 2. Pump Diaphragm* | 13. Inlet Needle and Seat |
| 3. Pump Diaphragm Spring* | 14. "O" Ring Seal |
| 4. Fuel Bowl Screw (4) | 15. Fuel Baffle |
| 5. Gasket (4) | 16. Float |
| 6. Fuel Bowl | 17. Float Spring |
| 7. Fuel Level Sight Plug | 18. Float Retainer Clip |
| 8. Gasket | 19. Inlet Nut* |
| 9. Lock Screw | 20. Inlet Fitting* |
| 10. Gasket | 21. Inlet Screen* |
| 11. Adjusting Nut | |

*Primary Side Only

ENGINE FUEL 6M-6

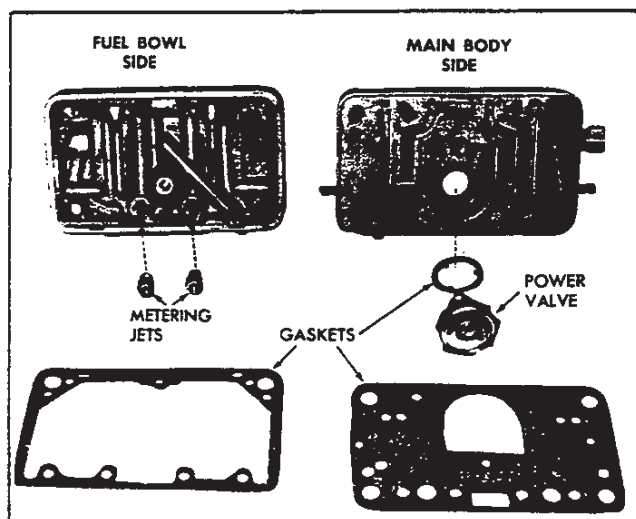


Fig. 11—Metering Body and Gaskets

12. After washing in solvent, clear all passages in the metering body and main body with compressed air. If passages or welsh plugs in either body are damaged, the body must be replaced.

SUBASSEMBLY OVERHAUL

FUEL BOWLS (fig. 10)

1. Remove float hinge pin retainer and slide float from bowl, then remove spring from float assembly if necessary.
2. Slide the inlet baffle out of bowl.
3. Loosen inlet needle and seat lock screw, then turn adjusting nut counterclockwise to remove the assembly.
4. Remove sight plug and gasket.
5. PRIMARY BOWL ONLY—

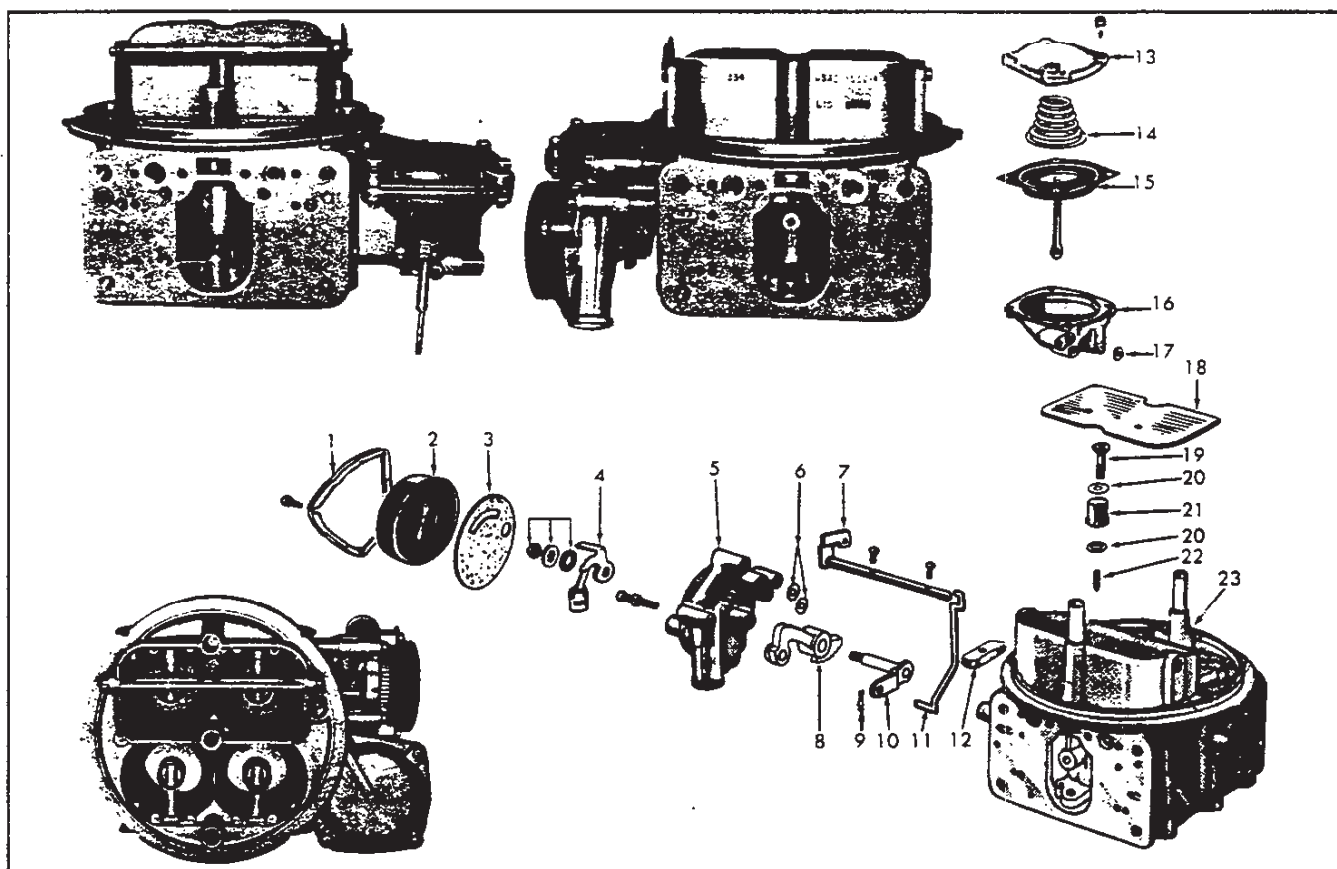


Fig. 12—Main Body—Disassembled

- | | | |
|------------------------------------|-----------------------------------|---------------------------|
| 1. Retainer | 9. Retainer Clip | 17. Gasket |
| 2. Choke Coil Housing | 10. Choke Housing Shaft | 18. Choke Valve |
| 3. Gasket | 11. Choke Rod | 19. Gasket |
| 4. Choke Piston and Lever Assembly | 12. Seal | 21. Pump Discharge Nozzle |
| 5. Choke Housing | 13. Diaphragm Cover | 22. Pump Discharge Needle |
| 6. Gasket | 14. Diaphragm Spring | 23. Main Body |
| 7. Choke Valve Shaft | 15. Secondary Operating Diaphragm | |
| 8. Fast Idle Cam | 16. Diaphragm Housing | |

- a. Remove inlet fitting assembly and filter screen.
- b. Remove pump diaphragm screws and lift pump housing, diaphragm and spring from fuel bowl.
6. Check pump inlet ball for free movement and damage. Damage to ball, passage or retainer requires new fuel bowl assembly.
7. After cleaning and inspection, reverse the above procedure to assemble. Use new gaskets at needle and seat adjustment, inlet fitting, and sight plug. Replace all necessary parts.

METERING BODIES (fig. 11)

1. Remove main metering jets with a wide blade screw driver (a small screw driver will damage the jets).

NOTE: Primary and secondary jets are different size (secondary larger)—keep them separated.

2. PRIMARY SIDE ONLY

- a. Remove vacuum fitting.
- b. Remove idle mixture screws and seals.
- c. Remove bowl vent splash shield.
- d. Remove the power valve using a 1" 12 pt. socket.

3. After cleaning and inspection—reverse the above procedure to assembly—USE NEW IDLE MIXTURE SCREW SEALS, AND POWER VALVE GASKETS. Replace parts as needed.

MAIN BODY (fig. 12)

1. Remove and disassemble choke housing as follows:
 - a. Remove hairpin retainer from choke rod at lower end.
 - b. Remove choke thermostat housing screws, retainer, housing and housing gasket.
 - c. Remove choke housing mounting screws and housing from main body—catch the gasket.
 - d. Remove choke housing shaft nut, washer, and spacer then slide shaft from housing.
 - e. Remove choke piston and fast idle cam from choke housing.
 - f. After cleaning and inspection assemble in reverse of above, using new gaskets—guide lever onto choke rod during assembly to main body.
2. Remove and disassemble secondary throttle shaft operating diaphragm as follows:
 - a. Remove diaphragm housing mounting screws, diaphragm housing and gasket.
 - b. Remove diaphragm housing cover screws, cover and spring, then slide diaphragm assembly up out of housing.

- c. After cleaning and inspection, reverse steps A and B, using new gasket at vacuum port to assemble.
3. Remove pump discharge nozzle screw, gasket, nozzle and gasket, then up-end the body assembly to remove pump discharge needle valves.
4. File off the staked ends of shaft screws then remove screws.
5. Remove valve from shaft slot and slide shaft from air horn.
6. Remove choke rod (upward through seal) and seal from main body.
7. Reverse steps 4-6 to install and center the valve on choke shaft by holding the valve closed while tightening screws.
8. Peen the screw ends with pliers.

NOTE: The choke valve is offset and should fall freely to wide open position from its own weight.

9. Reverse Disassembly procedure to assemble.

NOTE: Use needle nose pliers to install pump discharge valve (fig. 13).

THROTTLE BODY (fig. 14)

Ordinarily the throttle body need not be disassembled for cleaning and inspection purposes. If necessary, disassemble for part replacement as follows:

1. Remove pump operating lever retaining clip and lever assembly. Disassemble spring, bolt and nut if needed.
2. Remove idle speed screw and spring.

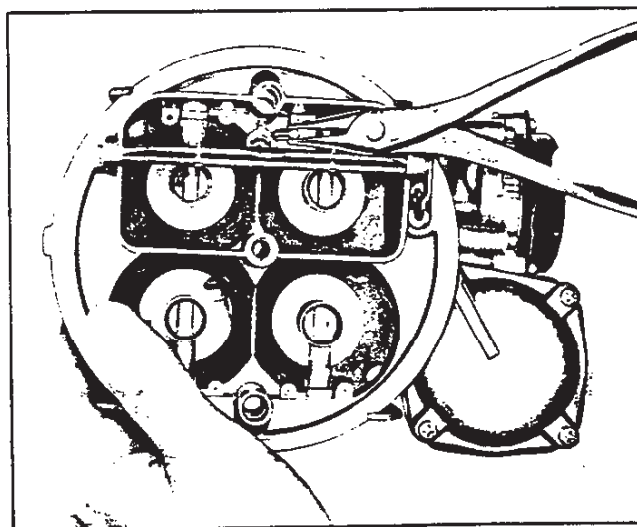


Fig. 13—Installing Pump Discharge Valve

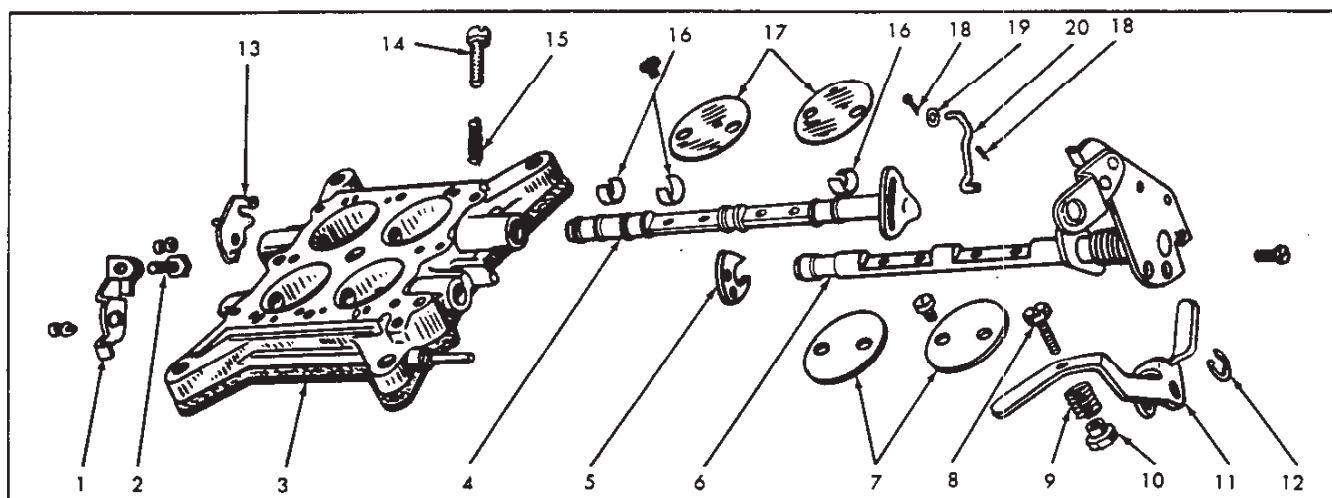


Fig. 14—Throttle Flange—Exploded View

- | | | | |
|----------------------------------|-------------------------------|------------------------------|-------------------------------|
| 1. Fast Idle Cam Lever | 6. Primary Throttle Shaft | 11. Pump Operating Lever | 16. Throttle Shaft Bushings |
| 2. Fast Idle Cam Adjusting Screw | 7. Primary Throttle Plates | 12. Lever Retaining Clip | 17. Secondary Throttle Plates |
| 3. Throttle Flange | 8. Pump Lever Adjusting Screw | 13. Diaphragm Lever Assembly | 18. Cotter Pin |
| 4. Secondary Throttle Shaft | 9. Spring | 14. Idle Speed Screw | 19. Washer |
| 5. Accelerator Pump Cam | 10. Pump Adjusting Nut | 15. Spring | 20. Throttle Connector Link |

- Remove diaphragm lever from secondary throttle shaft and fast idle cam lever from primary throttle shaft.
- Remove cotter keys and disconnect throttle connecting (secondary lockout) link from shaft levers.
- File off the staked ends of the throttle plate attaching screws, then remove the screws and throttle plates. Slide the shaft out of flange.

NOTE: The secondary throttle shaft has teflon bushings. Roll new bushing between thumb and first finger to help shape the bushing on the shaft for easier installation.

- If flange is being replaced, remove secondary throttle stop screw with a small screwdriver.
- Reverse removal procedure to install—support the throttle shaft while staking the screws.

NOTE: The throttle valves are installed with identification numbers down (to manifold side).

CARBURETOR ASSEMBLY FROM SUBASSEMBLIES

(Refer to Figure 9)

- Invert the main body, align new throttle body to main body gasket, then position throttle flange assembly and install the six screws.
- Connect secondary operating diaphragm rod at secondary lever and install retainer.
- Lay flange and main body on secondary side then install primary metering body (with new gasket)

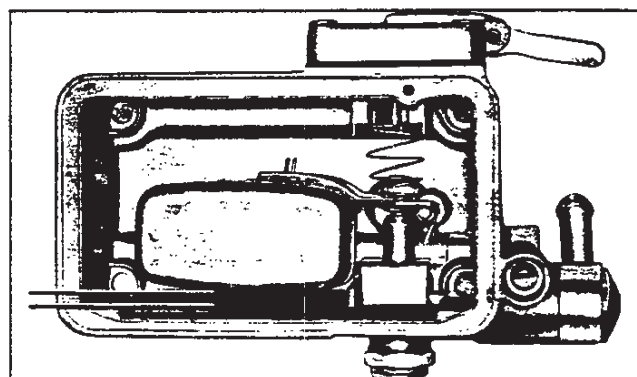


Fig. 15—Preliminary Float Adjustment

onto main body aligning dowel pins and holes.

- Make a preliminary float adjustment (fig. 15) by inverting fuel bowl and turning adjustable needle-seat until top of float is parallel with top of fuel bowl.
- Install new gasket and primary fuel bowl—align pump lever under operating lever duration spring, then install retaining screws with gaskets under heads.
- Lay assembly on primary bowl then install secondary metering body and gasket on main body.
- Lubricate "O" ring seals and install on fuel tube at very end—they will roll into position during installation.
- Install fuel tube into primary bowl inlet.
- Make preliminary float setting then install secondary bowl (with new gaskets), aligning fuel tube

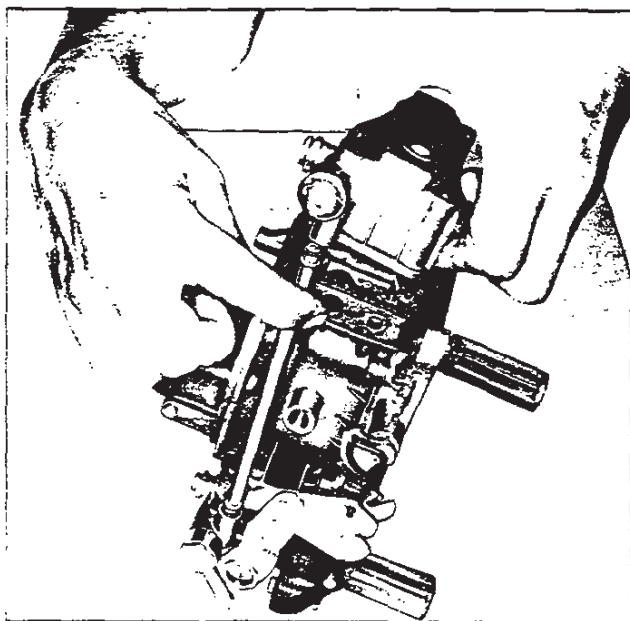


Fig. 16—Installing Fuel Bowl and Fuel Tube

(fig. 16) into inlet, then install retaining screws and gaskets.

10. Perform the following adjustments:

- a. Secondary throttle valve stop screw (fig. 17). Back-off on adjustment screw until throttle plates are closed fully, then turn screw until it just touches the throttle lever and turn one-half turn more to position the valves.
- b. Make preliminary fast idle adjustment as follows:
 1. Open throttle slightly allowing choke plate

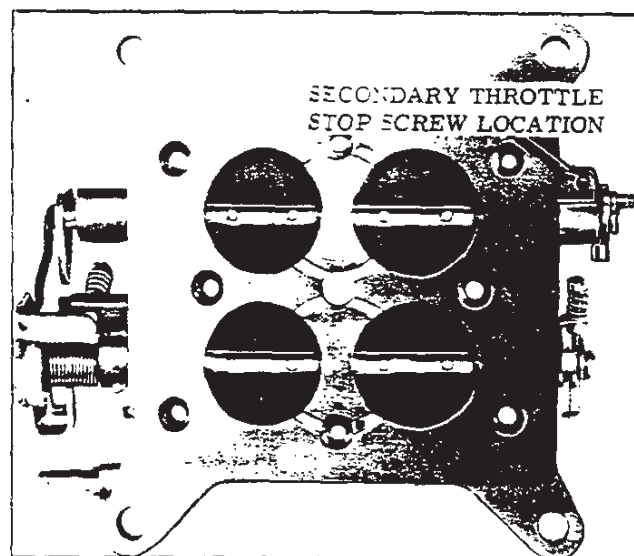


Fig. 17—Adjusting Secondary Throttle Stop Screw

to close throttle putting fast idle screw against top step of cam.

2. Adjust fast idle screw to give specified opening of throttle plates on idle transfer slot side of carb (see specifications).
- c. Make preliminary adjustment of idle mixture screws by turning lightly to seat and back out one turn. Do not turn screw tightly against seat as a smooth idle cannot be obtained if the needle becomes grooved.
- d. Make accelerator pump override spring adjustment, and unloader adjustment (see maintenance and adjustment section).

SPECIFICATIONS

CARBURETOR MODEL	WCFB				AFB		AFB	
	250-H.P.—SYN.		250-H.P.—P.G.		300-H.P.—SYN.		300-H.P.—P.G.	
	3826003 (3501S)		3826005 (3500S)		3851761 (3721S)		3851762 (3720S)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
Float Level*	1/32"	1/4"	1/32"	1/4"	1/32"	1/32"	1/32"	1/32"
Float Drop*	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Pump Rod	1/2"	—	1/2"	—	1/2"	—	1/2"	—
Idle Vent	3/32"	—	3/32"	—	—	—	—	—
Automatic Choke Setting	Index	—	Index	—	1 Lean	—	1 Lean	—
Unloader	3/16"	—	3/16"	—	1/4"	—	1/4"	—
Fast Idle Setting	1750 RPM Hot on Car	—	1750 RPM Hot on Car	—	1750 RPM Hot on Car	—	1750 RPM Hot on Car	—
Throttle Lockout Adj.	.020	—	.020	—	.020	—	.020	—
Bowl Vents	5 Inside—1 External Idle		5 Inside—1 External Idle		1 Outside, 4 Inside		1 Outside, 4 Inside	
Choke Piston Vacuum Break Adj.	.060	—	.035	—	.070	—	—	—
Main Metering Jet	.086	.0635	.086	.0635	.104	.0689	.104	.0689
Metering Rod (Sizes)	.042 .067	—	.042 .067	—	.060 .069	—	.060 .069	—
Throttle Bore	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"
Main Venturi	1 1/16"	1 1/4"	1 1/16"	1 1/4"	1 1/4"	1 1/16"	1 1/4"	1 1/16"
Pump Discharge Jet	.021	—	.021	—	.028	—	.028	—
Idle Speed Jet	.031	—	.031	—	.035	—	.035	—

*Top of Float to Cover without Gasket

CARBURETOR MODEL		HOLLEY	
		365 H.P.	
		3849804 (R-2818-A)	
		Primary	Secondary
Float Level		Use Sight Plug	
Pump Lever		.015	—
Automatic Choke Setting		1 Lean	—
Unloader		.180 min (3/16 drill)	
Fast Idle Setting	bench	.028"	
	on car	22-2300 R.P.M.	
Bowl Vents		2 internal	

CARBURETOR MODEL		HOLLEY	
		365 H.P.	
		3849804 (R-2818-A)	
		Primary	Secondary
Main Metering Jet		.065"	.076"
Power Valve Jets		≈ 60 drill .040" (2)	—
Throttle Bore		1 1/16"	1 1/16"
Main Venturi		1 1/4"	1 1/16"
Pump Discharge Jet		.025" (2)	—
Idle Speed Jet		≈ 68 drill .031"	≈ 70 drill .028"

SECTION 7

TRANSMISSIONS

CONTENTS OF THIS SECTION

	Page
Three-Speed Transmission.....	7-1
Four-Speed Transmission.....	7-3
Powerglide Transmission.....	7-19

THREE-SPEED TRANSMISSION

Although the three speed transmission has been improved for 1964, the basic design, operation and service procedures remain the same as covered in the 1963 Corvette Shop Manual.

A brief description of what is new is given below.

GEARS

All gears are wider with greater helix angles.

CLUTCH SLEEVE AND MAINSHAFT

The mainshaft, and the second and third speed clutch sleeve are new with a change in clutch sleeve spline angles to match with the greater helix angle of the gear teeth. The output end of the mainshaft is changed from a 16 tooth to a 27 tooth spline.

CASE AND THRUST WASHERS

The case machining is changed and the thrust washers made thinner to provide room for the wider gears.

CLUTCH GEAR BEARING

The large diameter bearing retainer, formerly used with 409 V-8 engines, is now used.

SHIFT LINKAGE ADJUSTMENT

1. Set Transmission Levers (K) and (L) in neutral detent position.
2. Move Transmission Control Lever (A) to neutral detent and insert Locating Pin (D) into notch of Lever and Bracket Assembly.

3. Install Nut (N) and Clevis (M) on Rod (J) loosely, attach Rod to Lever (B) and secure with retainer.
4. With Lever (B) against Locating Pin, adjust Clevis at Lever (L) until Clevis pin passes freely through holes and secure with washer and cotter pin. Tighten Nut (N).
5. Install Nuts (E) and (G) and Swivel (F) loosely on Rod (H), attach Rod to Lever (K) and secure with retainer.
6. With Lever (C) against Locating Pin, attach Swivel to lever and secure with retainer. Run Nut (G) against Swivel then tighten Nut (E) against Swivel.
7. Remove Locating Pin and check shifts to insure proper operation. Readjust clevis and swivel if necessary.

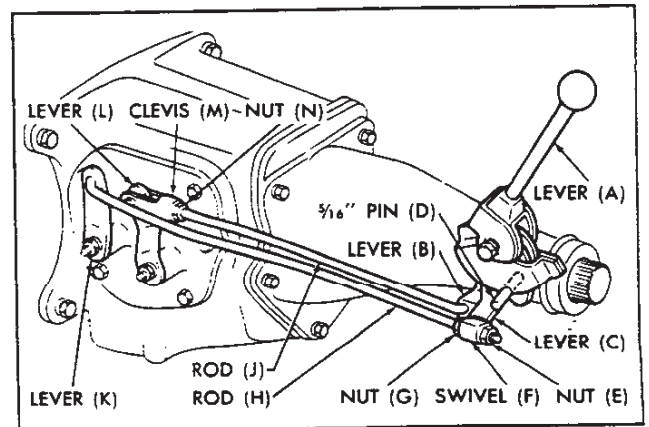


Fig. 1—Shift Linkage Adjustment

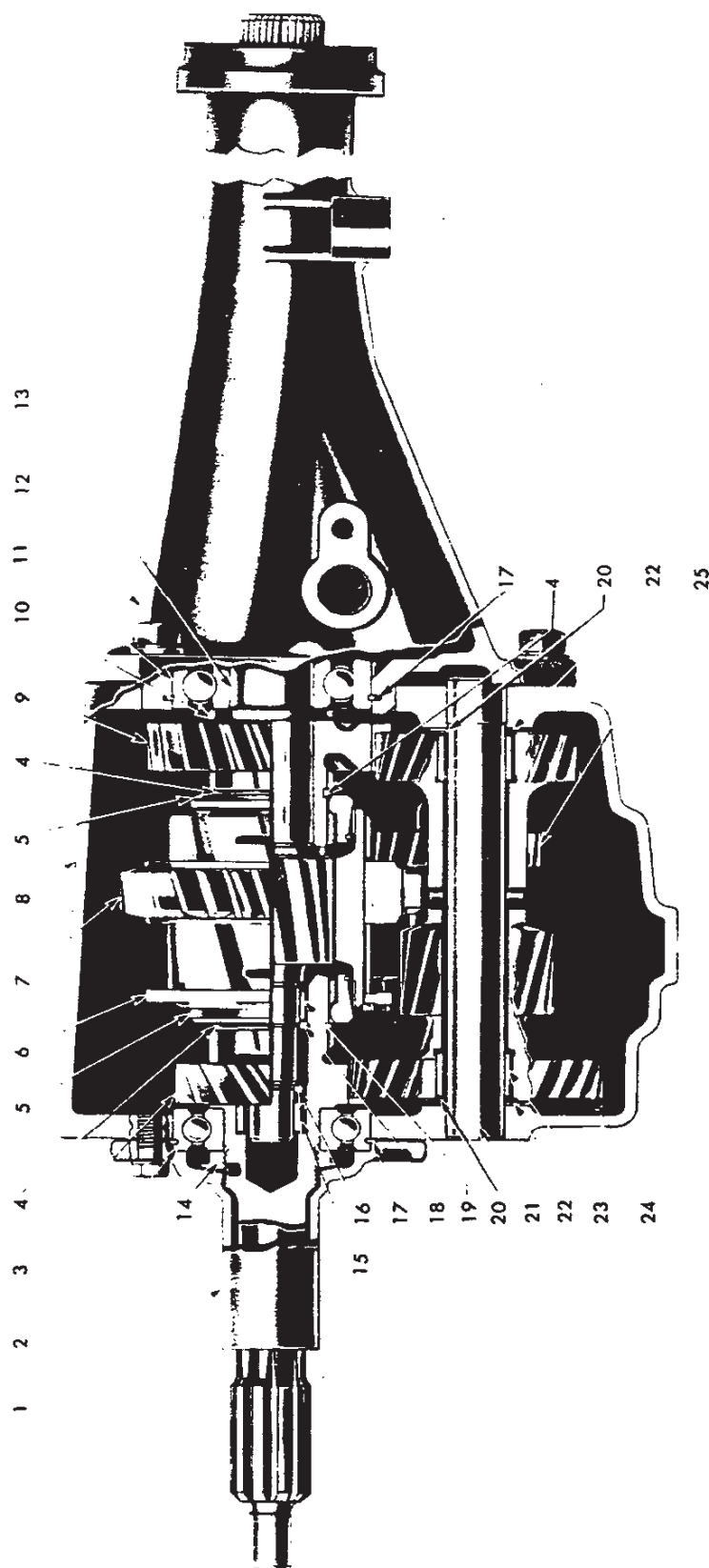


Fig. 2—Three-Speed Transmission Cross Section (Typical side View)

1. Clutch Gear Bearing Retainer
2. Clutch Gear Bearing
3. Clutch Gear
4. Energizing Spring
5. Synchronizer Ring
6. Second and Third Speed Clutch
7. First and Reverse Sliding Gear
8. Transmission Case
9. Second Speed Gear
10. Thrust Washer
11. Mainshaft or Bearing
12. Extension
13. Mainshaft
14. Clutch or Bearing Nut
15. Front Pilot Bearing Rollers
16. Thrust Washer
17. Snap Ring
18. Thrust Washer
19. Rear Pilot Bearing Rollers
20. Roller Thrust Washer
21. Countershaft
22. Thrust Washer
23. Roller Bearing
24. Countergear
25. Reverse Idler Gear

FOUR-SPEED TRANSMISSION

INDEX

	Page		Page
General Description.....	7-4	Disassembly.....	7-6
Maintenance and Adjustments.....	7-4	Cleaning and Inspection.....	7-10
Gearshift Linkage.....	7-4	Repairs.....	7-10
Speedometer Driven Gear and Oil Seal.....	7-4	Assembly.....	7-11
Transmission Side Cover.....	7-4	Installation.....	7-14
Extension Oil Seal.....	7-6	Troubles and Remedies.....	7-15
Service Operations.....	7-6	Special Tools.....	7-17
Removal.....	7-6	Specifications.....	7-18

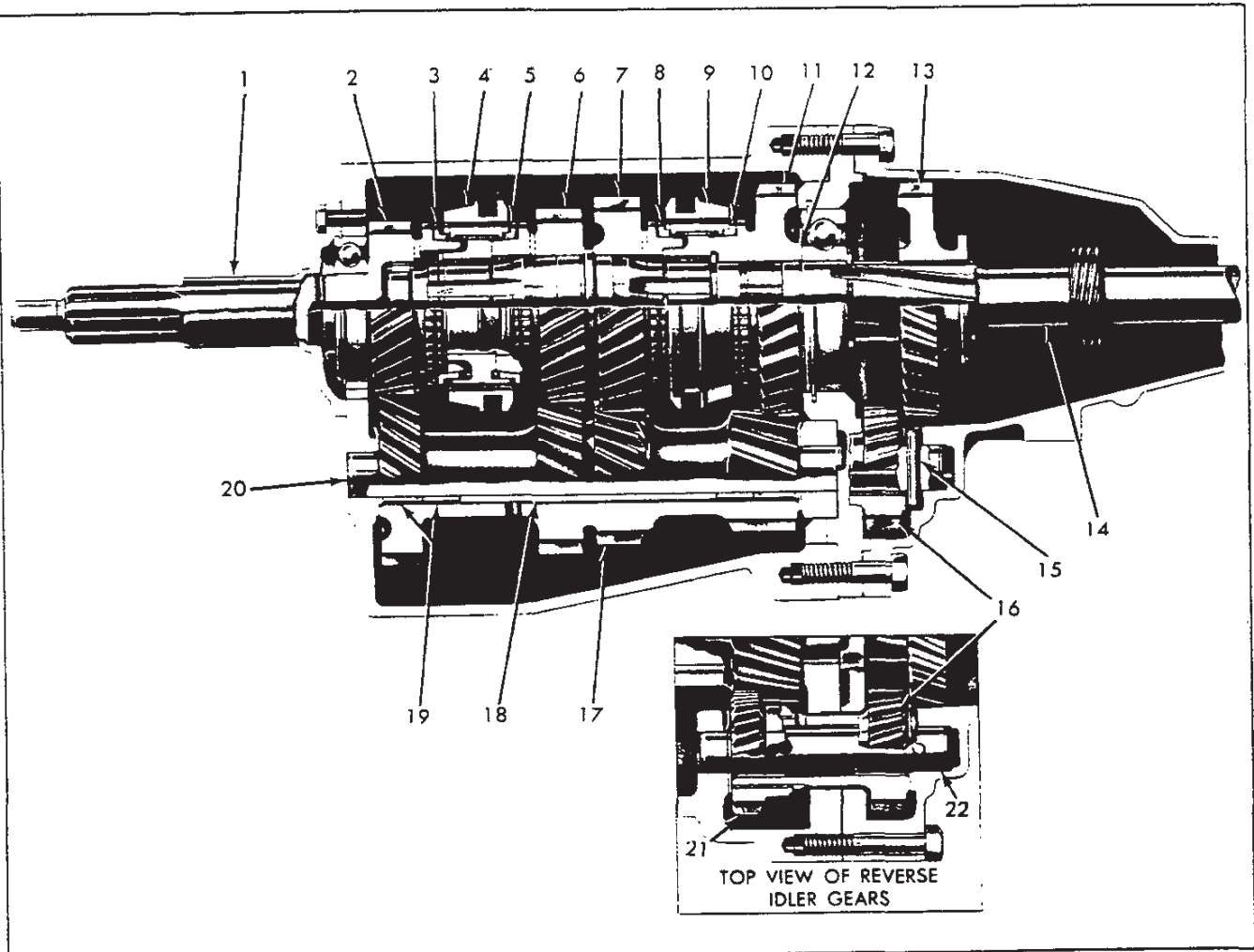


Fig. 1M—Four-Speed Transmission Cross Section

- | | | | |
|---|---|----------------------------------|---------------------------------|
| 1. Bearing Retainer | 6. Third Speed Gear | 11. First Speed Gear | 18. Countershaft Bearing |
| 2. Main Drive Gear | 7. Second Speed Gear | 12. Thrust Washer | Roller Spacer |
| 3. Fourth Speed Synchronizing Ring | 8. Second Speed Synchronizing Ring | 13. Reverse Gear | 19. Countershaft Bearing Roller |
| 4. Third and Fourth Speed Clutch Assembly | 9. First and Second Speed Clutch Assembly | 14. Mainshaft | 20. Countershaft |
| 5. Third Speed Synchronizing Ring | 10. First Speed Synchronizing Ring | 15. Reverse Idler Shaft Roll Pin | 21. Reverse Idler Gear (Front) |
| | | 16. Reverse Idler Gear (Rear) | 22. Reverse Idler Shaft |
| | | 17. Countergear | |

GENERAL DESCRIPTION

The four-speed synchromesh transmission (fig. 1M), incorporates helical gears throughout specially designed to provide high torque capacity without additional weight, and gear teeth proportioned to operate at high speeds with neither excessive heat generation or excessive frictional losses. Shafts, bearings, high capacity clutches and other precision parts are held to close limits, providing proper clearances necessary for durability during extended heavy usage.

The main drive gear is supported by a heavy-duty ball bearing at the front end of the transmission case and is piloted at its front end in an oil impregnated bushing mounted in the engine crankshaft. The front end of the main-shaft is piloted in a row of roller bearings set into the hollow end of the main drive gear and the rear end is carried by a heavy-duty ball bearing mounted at the rear end of the transmission case in a retainer casting.

The counter gear is carried on a double row of rollers at both ends while thrust is taken on thrust

washers located between the ends of the gear and the thrust bosses in the case.

The two-piece reverse idler gear is carried on bronze bushings while thrust is taken on thrust washers located between the front of the gear and the back of the reverse idler thrust boss and between the rear of the gear and the reverse idler shaft boss in the case extension.

Gearshifting is manual through shift control rods to the transmission cover shifter levers for first through fourth gears, and to the reverse lever located in the case extension. The shifter lever to the rear of the transmission cover controls first and second gears while the lever to the front controls third and fourth gears. All four forward gears are fully synchronized. The transmission may be used as an aid in deceleration by downshifting in sequence without double clutching or gear clashing. Reverse is not synchronized, however it is a helical gear to insure quiet operation.

MAINTENANCE AND ADJUSTMENTS

SHIFT LINKAGE ADJUSTMENT (Fig. 2M)

1. Set Transmission Levers (M) (P) and (S) in neutral detent position.
2. Move Shift Lever Stud (A) to neutral detent position and insert a $\frac{3}{16}$ " Locating Pin (B) into Control Lever Bracket Assembly.
3. Install Rod (V) with retainer on Lever (D).
4. Maintaining Lever (D) against Locating Pin, adjust Clevis (T) at Lever (S) until clevis pin freely passes through holes in Clevis and Lever.
5. Install clevis pin, washer, and cotter pin. Tighten Jam Nut (U) against Clevis.
6. Install Rod (H) with retainer on Lever (W).
7. With Jam Nuts (J) and (L) and Swivel (K) loose on Rod (H), insert and attach Swivel with washer and retainer to Lever (M).
8. Maintaining Lever (W) against Locating Pin (B) and while holding Swivel (K), run Jam Nut (J) against Swivel until Nut contacts Swivel. Then tighten Jam Nut (L) against Swivel.
9. Install Rod (R) with retainer on Lever (P).
10. With Jam Nuts (E) and (G) and Swivel (F) loose on Rod (R), insert and attach Swivel with retainer to Lever (C).
11. Maintaining Lever (C) against Locating Pin (B) and while holding Swivel (F), run Jam Nut (G)

against Swivel. Then tighten Jam Nut (U) against Clevis.

12. Remove Locating Pin and check shifts to insure proper operation. Readjust clevis and swivels if necessary.

SPEEDOMETER DRIVEN GEAR AND OIL SEAL

Replacement

Disconnect speedometer cable, remove retainer to housing bolt and lock washer and remove retainer. Insert screwdriver in slot in fitting and pry fitting, gear and shaft from housing. Pry "O" ring from groove in fitting.

Install new "O" ring in groove and insert shaft. Hold the assembly so slot in fitting is toward boss on housing and install in housing. Push fitting into housing until retainer can be inserted in groove and install retainer lock washer and bolt.

TRANSMISSION SIDE COVER

Removal

1. Disconnect control rods from levers.
2. Shift transmission into second speed **before** removing cover, by moving 1-2 (Rear Cover) shifter lever into forward detent position.
3. Remove cover assembly from transmission case carefully and allow oil to drain.

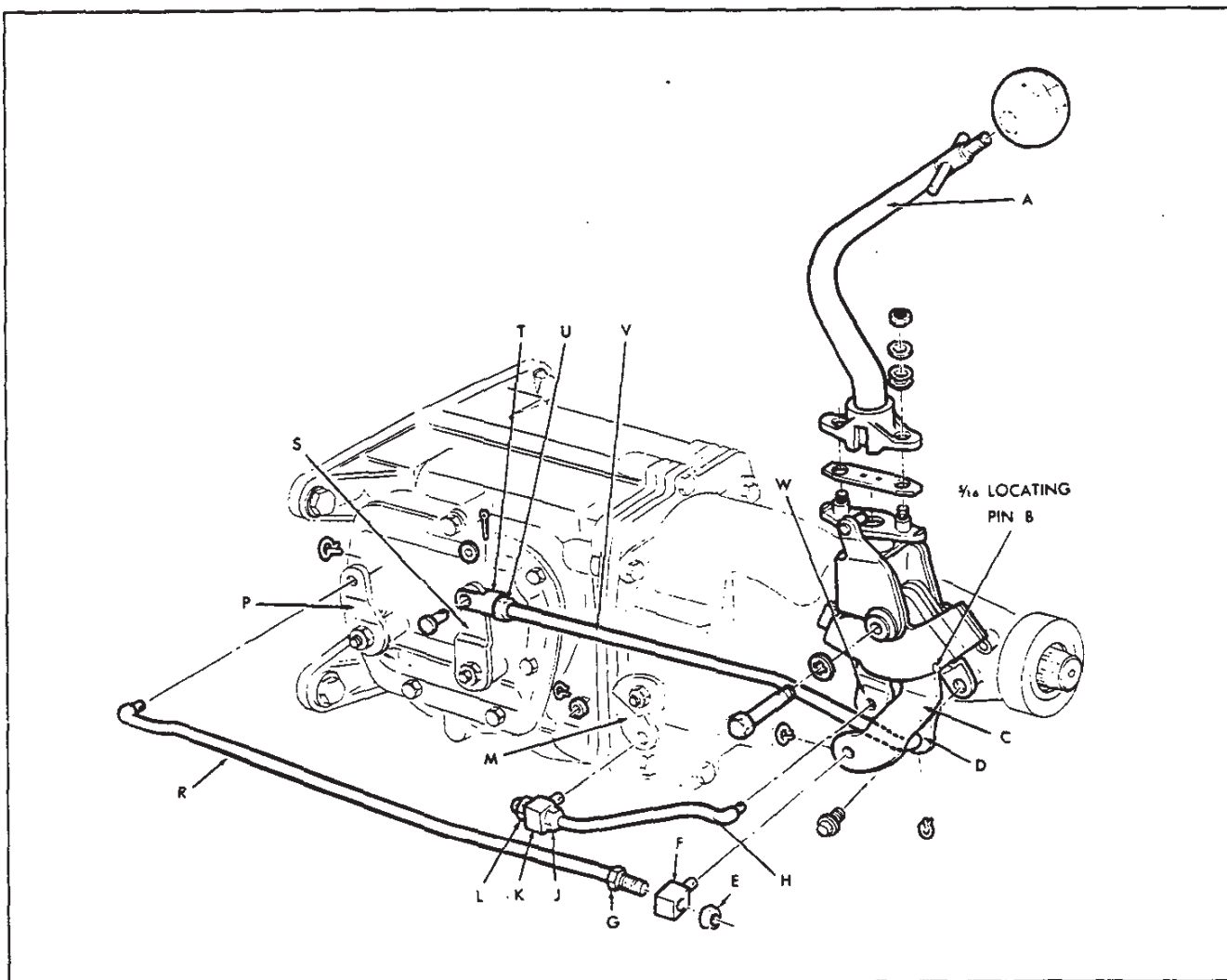


Fig. 2M—Four-Speed Transmission Gearshift Linkage

Disassembly (fig. 3M)

1. Remove the outer shifter lever nuts, lock washers and flat washers. Pull levers from shafts.
2. Remove both shift forks from shifter shaft and detent plate assemblies. Remove both shifter shaft assemblies from cover. Lip seals in side cover may now be pryed out if replacement is required because of damage.
3. Remove detent cam spring and pivot retainer "C" ring. Remove both detent cams.
4. Replace necessary parts.

Assembly (fig. 3M)

1. Install 1-2 detent cam to cover pivot pin first, then install 3-4 detent cam so the detent spring notches

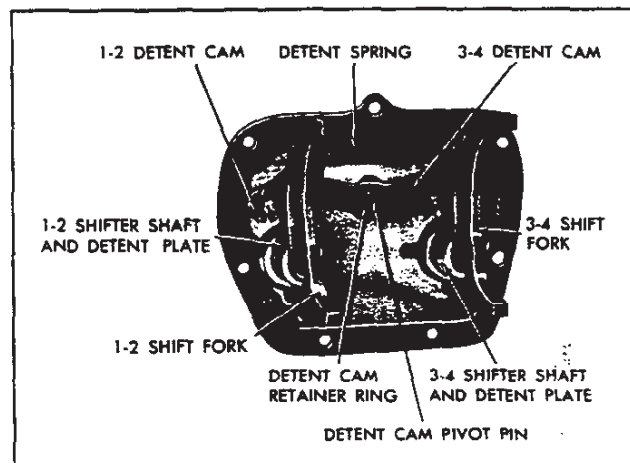


Fig. 3M—Transmission Side Cover, Shift Fork and Detent Assembly

TRANSMISSION—4-SPEED 7-6

are offset or opposite each other. Detent cam notches must be facing downward.

2. Install detent cam retaining "C" ring to pivot shaft, and hook spring into detent cam notches.
3. Install both shifter shaft assemblies in cover being careful not to damage lip seals. Install both shift forks to detent plates, lifting up on detent cam to allow forks to fully seat into position.
4. Install outer shifter levers, flat washers, lock washers and nuts.

Installation (fig. 4M)

1. Shift 1-2 shifter lever into second speed (forward) position. Position cover gasket on case.
2. Carefully position side cover into place making sure the shift forks are aligned with their respective mainshaft clutch sliding sleeves.
3. Install cover attaching bolts and tighten evenly to 15-20 ft. lbs. torque.
4. Remove filler plug and add lubricant to level of filler plug hole.

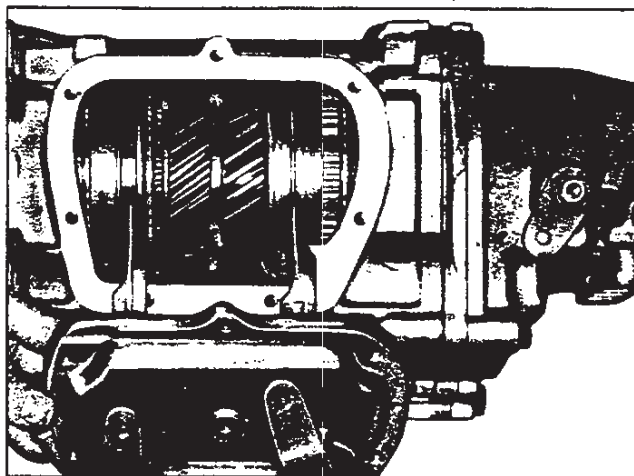


Fig. 4M—Installing Side Cover Assembly

EXTENSION OIL SEAL

Replacement

1. Remove propeller shaft.
2. Pry out the extension oil seal.
3. Press new oil seal carefully into place in extension using J-5154 or similar tool.

CAUTION: Do not use excessive force to force the seal against the seat in the extension.

SERVICE OPERATIONS

REMOVAL FROM VEHICLE

1. Remove shift lever knob.
2. Remove shift lever trim plate and dust boot.
3. Raise vehicle to desired working height.
4. Disconnect the speedometer cable from speedometer driven gear fitting.
5. Remove propeller shaft, then support engine at the oil pan rail with a jack or other suitable support capable of supporting the engine when transmission is removed.
6. Disconnect shift lever bracket assembly from extension housing (3 bolts) and remove all 3 transmission shifter levers to shifter shafts, (leave linkage connected to levers) and remove bracket assembly levers and linkage.
7. Remove extension mount-to-center cross-member attaching bracket.

8. Lower engine as far as possible and remove both exhaust pipe heat shields.
9. Remove the transmission-to-clutch housing retaining bolts.
10. Slide the transmission straight back until the input shaft is free of splines in the clutch disc.

NOTE: Turn transmission clockwise so the case-to-clutch housing attaching lugs on the right side of the case will straddle the right exhaust pipe to aid removal.

11. Slide the transmission rearward to allow sufficient clearance of input shaft and clutch housing. Then tilt input shaft end of transmission downward and withdraw transmission from vehicle.

DISASSEMBLY

1. Remove transmission side cover as outlined under "Maintenance and Adjustments."
2. Remove four bolts from front bearing retainer and remove retainer and gasket.

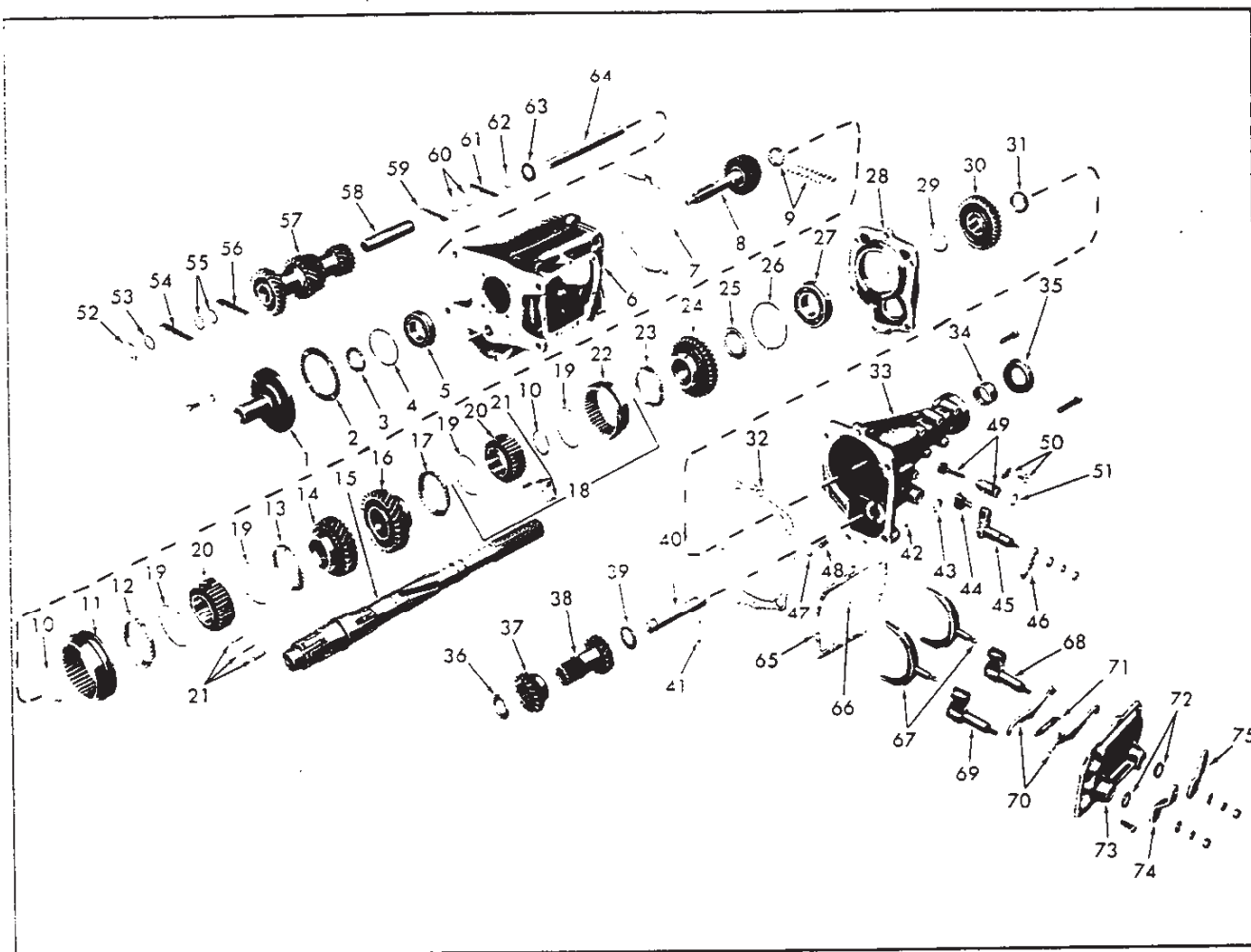


Fig. 5M—Four-Speed Transmission—Exploded View

- | | | | |
|--------------------------------|--------------------------------|-------------------------------|-------------------------------|
| 1. Bearing Retainer | 20. Clutch Hub | 40. Reverse Idler Shaft | 58. Countergear Roller Spacer |
| 2. Gasket | 21. Clutch Keys | 41. Reverse Idler Shaft | 59. Bearing Rollers (20) |
| 3. Bearing Retaining Nut | 22. First and Second Speed | 42. Reverse Shifter Shaft | 60. Spacers (2—.050") |
| 4. Bearing Snap Ring | Clutch Sliding Sleeve | 43. Reverse Shifter Shaft | 61. Bearing Rollers (20) |
| 5. Main Drive Gear Bearing | 23. First Speed Gear | Lock Pin | 62. Spacer (.050") |
| 6. Transmission Case | Synchronizing Ring | 44. Reverse Shift Fork | 63. Tanged Washer |
| 7. Rear Bearing | 24. First Speed Gear | Lip Seal | 64. Countershaft |
| Retainer Gasket | 25. First Speed Gear Thrust | 45. Reverse Shifter Shaft and | 65. Gasket |
| 8. Main Drive Gear | Washer | Detent Plate | 66. Detent Cams Retainer Ring |
| 9. Bearing Rollers (17) & Cage | 26. Rear Bearing Snap Ring | 46. Reverse Shifter Lever | 67. Forward Speed Shift Forks |
| 10. Snap Ring | 27. Rear Bearing | 47. Reverse Shifter Shaft | 68. First and Second Speed |
| 11. Third and Fourth Speed | 28. Rear Bearing Retainer | Detent Ball | Gear Shifter Shaft and |
| Clutch Sliding Sleeve | 29. Selective Fit Snap Ring | 48. Reverse Shifter Shaft | Detent Plate |
| 12. Fourth Speed Gear | 30. Reverse Gear | Ball Detent Spring | 69. Third and Fourth Speed |
| Synchronizing Ring | 31. Speedometer Drive Gear | and Fitting | Gear Shifter Shaft and |
| 13. Third Speed | 32. Rear Bearing Retainer to | 50. Retainer and Bolt | Detent Plate |
| Synchronizing Ring | Case Extension Gasket | 51. "O" Ring Seal | 70. Detent Cams |
| 14. Third Speed Gear | 33. Case Extension | 52. Tanged Washer | 71. Detent Cam Spring |
| 15. Mainshaft | 34. Extension Bushing | 53. Spacer (.050") | 72. Lip Seals |
| 16. Second Speed Gear | 35. Rear Oil Seal | 54. Bearing Rollers (20) | 73. Transmission Side Cover |
| 17. Second Speed Gear | 36. Reverse Idler Front Thrust | 55. Spacers (2—.050") | 74. Third and Fourth Speed |
| Synchronizing Ring | Washer (Tanged) | 56. Bearing Rollers (20) | Shifter Lever |
| 18. First and Second Speed | 37. Reverse Idler Gear (Front) | 57. Countergear | 75. First and Second Speed |
| Clutch Assembly | 38. Reverse Idler Gear (Rear) | | Shifter Lever |
| 19. Clutch Key Spring | 39. Flat Thrust Washer | | |

TRANSMISSION 7-18

SPECIFICATIONS

MANUAL TRANSMISSION

Number of forward speeds			3-Speed	4-Speed for 250 & 300 HP	4-Speed for 340 & 360 HP
Transmission ratios	In first		2.58	2.56	2.20
	In second		1.48	1.91	1.64
	In third		1.00	1.48	1.28
	In fourth		—	1.00	1.00
	In reverse		2.58	2.64	2.27
Synchronous meshing, specify gears			2nd & 3rd	All forward gears	
Shift lever location			Floor		
Lubricant	Capacity (pt.)		2	2.5	
	Type recommended		Meeting specifications of Mil-L-2105-B		
	SAE viscosity number	Summer	SAE 80		
		Winter	SAE 80		
		Extreme cold	SAE 80		

AUTOMATIC TRANSMISSION

Trade name		Powerglide	
Type describe		Torque converter with planetary gears	
Method of Selection (Lever, Push Button or other)		Lever (floor-mounted)	
Selector Pattern		P R N D L	
List gear ratios Selector Pattern and indicate which are used in each selector position		Drive Low and Reverse	1.76:1 & 1:1 1.76:1
Torque converter	Number of elements	3	
	Max. ratio at stall	2.10:1	
	Type of cooling (air, water)	Air	
Lubricant	Capacity—refill (pt.)	3	
	Type recommended	Type A Suffix A	

POWERGLIDE

The service procedures for the Powerglide remain as described in the 1963 Corvette Shop Manual except as noted below:

- **LUBE PRESSURE RELIEF VALVE**, spring and seat have been eliminated from the front cover assembly.
- **HIGH CLUTCH PACKS** incorporate 5 plates instead of 4 for added durability in 1964. Also 24 return springs are now used instead of the 21 used in 1963.
- **REVERSE CLUTCH PACK** no longer contains a selective thickness spacer plate and the checking of this running clearance is not required.

The cushion spring is now a wave spring rather than a dished belleville type.

- **THE CARRIER ASSEMBLY** now has the pinion shafts flared at each end for retention into the carrier. At the time of this printing no approved method of service has been released for the carrier assembly.
- **THE LOW SUN GEAR THRUST WASHER** has been replaced by a needle thrust bearing.
- **THE VALVE BODY** to case attaching bolt torque is now 13-15 ft. lbs.
- **AN OIL COOLER** has been added to help reduce the operating temperature of the transmission oil. The cooler is mounted by 2 brackets to the lower front side of the radiator support.

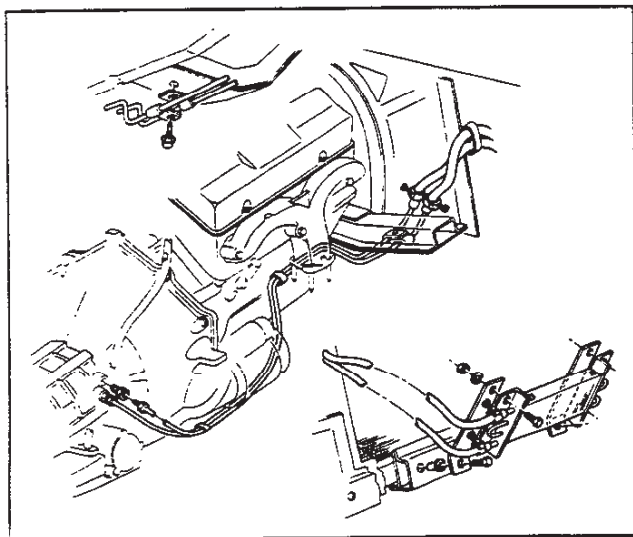


Fig. 1PG—Oil Cooler and Pipes

DIAGNOSIS

- The following basic pressure check mainline pressures have been revised:

- **Wide Open Throttle Upshift Pressure Check**

Wide open throttle upshift should occur at 106-117 psi as indicated on the low servo apply (main line) gauge. On Hi Performance Models upshift should occur between 86-105 psi.

- **Idle Pressure in "Drive" Range**

In addition to the oil pressure gauge, a vacuum gauge is needed for this check.

With the parking brake applied and the shift selector lever in "Drive," low servo apply (main line) pressure should be as follows:

Vacuum	Low Servo Apply (Mainline) Pressure
16" Hg.	63-72
10" Hg.	90-99

- **Manual "Low" Range Pressure Check**

Connect a tachometer, apply the parking brake, place the selector lever in "Low" range, and adjust the engine speed to 1000 rpm. with the car stationary.

Low servo apply (main line) pressure should be 127-136 psi.

- **Drive Range Overrun (Coast) Pressure**

With the vehicle coasting in "Drive" range at 20-25 mph with engine vacuum at approximately 20" Hg., low servo apply (main line) pressure should be 49-53 psi.

POWERGLIDE SHIFT POINTS

327 CU. IN. ENGINE	3.36:1	AXLE
Throttle Position	Up	Down
Closed	14-17	13-16
Detent Touch	48-61	17-24
Through Detent	61-69	58-65

NOTE: Shift points as indicated on the speedometer are not affected by tire size.



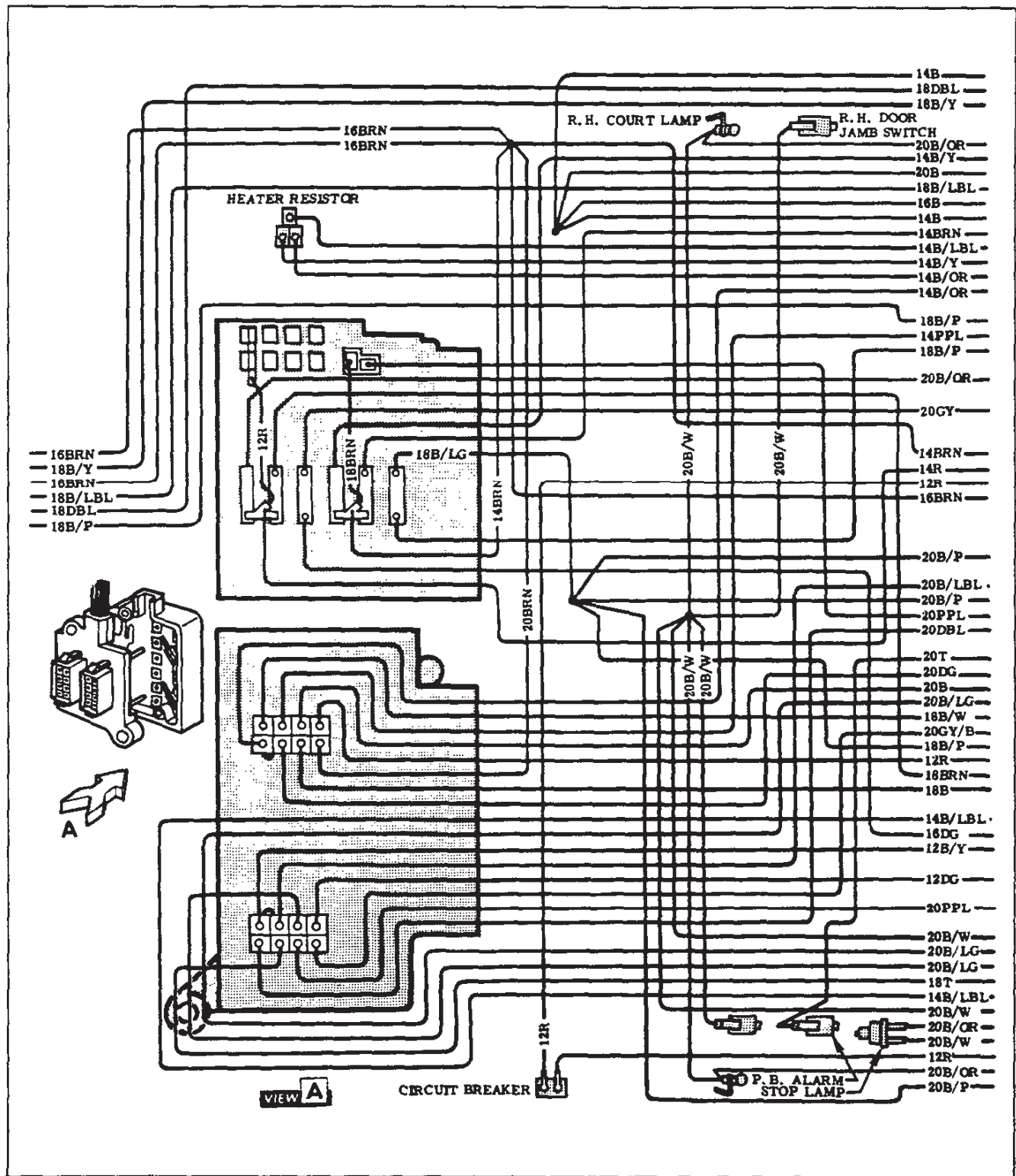


Fig. 8—Fuse Panel Wiring

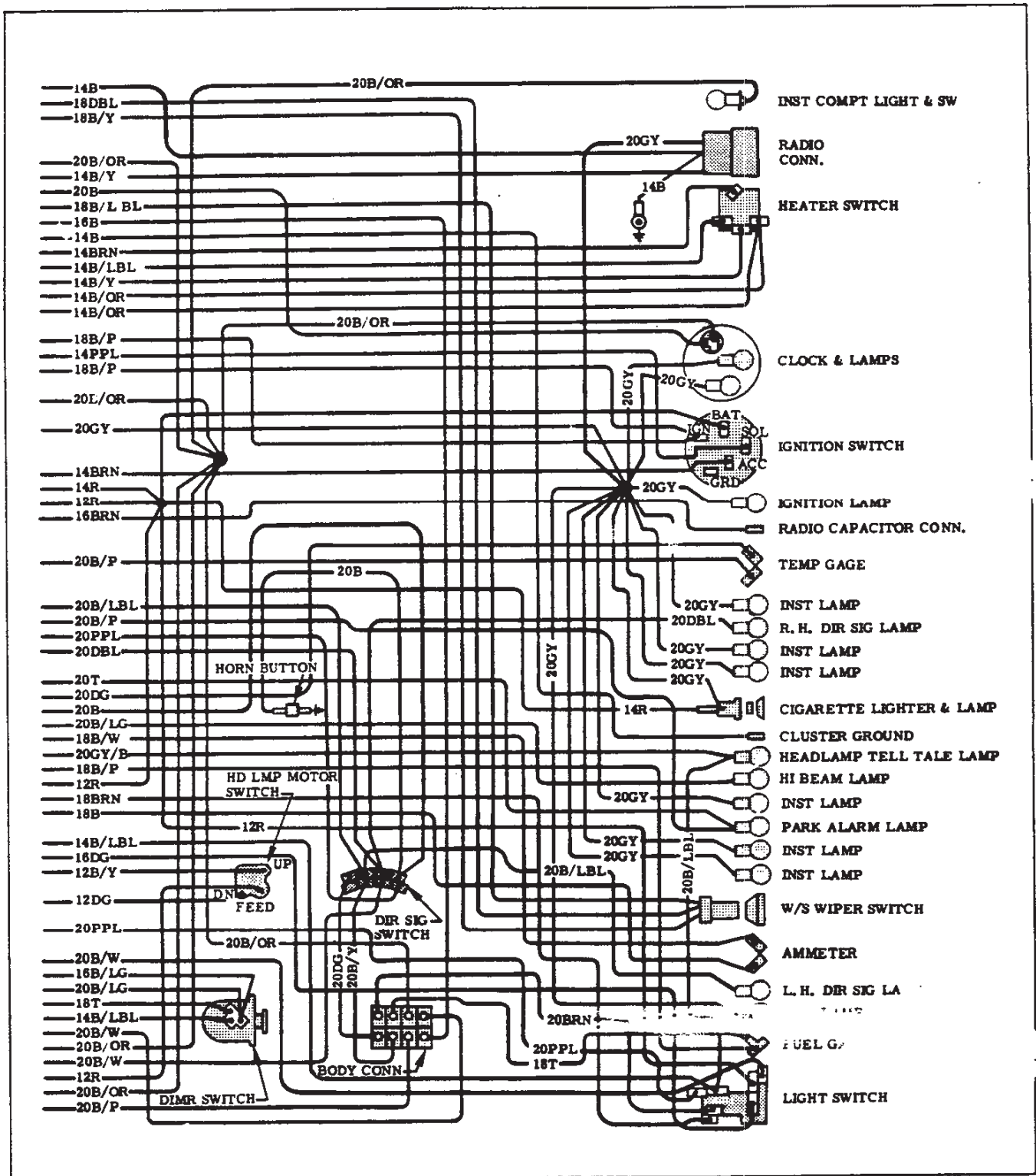


Fig. 9—Instrument Panel Wiring

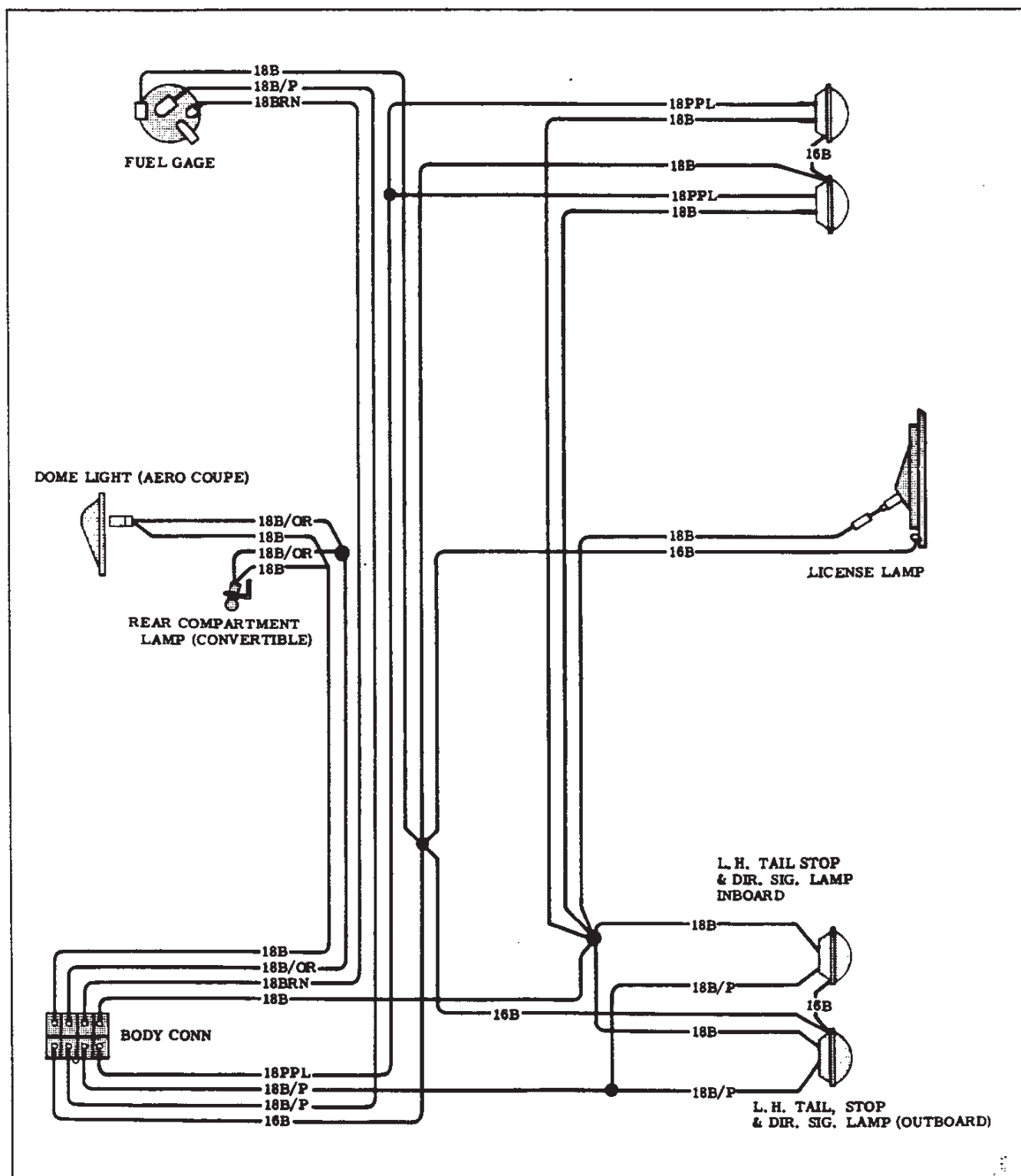


Fig. 10—Body and Tail Lamp Wiring