GENERAL

MODEL IDENTIFICATION

CORVAIR 500—10100 SERIES

MODEL 10137 2-DOOR SPORT COUPE, 5-PASSENGER

CORVAIR MONZA—10500 SERIES

MODEL 10537 2-DOOR SPORT COUPE, 4-PASSENGER
MODEL 10567 2-DOOR CONVERTIBLE, 4-PASSENGER

ONLY BASIC DESIGNATIONS SHOWN

VEHICLE SERIAL NUMBER

6-Cylinder Example:

Model	Model Year	Assembly Plant	Unit Number
	1968	(Willow Run)	(25th unit)
10137	8	W	100025

Thus: The 25th model built at Willow Run would be serial number 101378W100025

ASSEMBLY PLANTS

W - Willow Run

Starting unit number ---------- 100001 and up at each assembly plant regardless of series

● Location ---------- Stamped on plate attached to top left hand of instrument panel

ENGINE IDENTIFICATION

Example: F1210RS

Source Designation	Production* Month & Date	Type Designation
T (Tonawanda)	0212	RS

164 Cubic Inch 6-Cylinder, P-6

RS - Regular engine, 3 or 4-speed
RV - Regular engine, Powerglide

164 Cubic Inch 6-Cylinder, P-6 (RPO-L62)

RU - Optional engine, 3 or 4-speed
RW - Optional engine, Powerglide

● 164 Cubic Inch 6-Cylinder, P-6 (RPO-L63)

RY - Optional engine, 3 or 4-speed
RZ - Optional engine, Powerglide

Location ---------- Stamped on top of crankcase at rear of engine rear center, right of generator.

* - Month: February, 02; 12th day of February, 12.

TRANSMISSION IDENTIFICATION

Example: ZAS8E01D

Type Designation	Source Designation	Model Year 1968	Production* Month & Date
ZA	S (Saginaw)	8	EOID*

ZA	3-Speed	P-6 engine	S - Saginaw
ZC	4-Speed	P-6 engine	R - Saginaw
ZG	Powerglide	P-6 engine	T - Toledo

Location:
3-Speed & 4-speed ---------- Stamped on right hand side of the case in the upper forward corner.
Powerglide ---------- Stamped on the top of the case at the rear.

o-Month: E denotes May; (see below) 01 denotes 1st day
Alpha Characters used in identifying the Calendar Month

A - January	D - April	K - July	R - October
B - February	E - May	M - August	S - November
C - March	H - June	P - September	T - December

*-The letter "D" or "N" following the date numerals — indicates day or night shift.

REAR AXLE IDENTIFICATION

Example: AC0212W

Type Designation	Production* Month & Date	Source¢ Designation
AC	0212	W (Warren)

AC ----- 101-10500, 3-speed, 4-speed ---------- 3.27:1
AG ----- 101-10500, Powerglide ---------- 3.27:1
AA ----- (RPO-L62 & L63) 3-speed, 4-speed, Powerglide ---------- 3.27:1
AF ----- 101-10500, 3-speed, 4-speed, Powerglide & (RPO L62 & L63) --- 3.55:1

Location ---------- Number stamped on lower left side of differential carrier

* - Month: February, 02; 12th day of February, 12.
¢ - G-Gear & Axle, B-Buffalo, W-Warren

REGULAR EQUIPMENT—EXTERIOR

		500 10100	MONZA 10500	
		67	67	67
Bright Trim And Ornamentation	Windshield reveal moldings	X	X	X
	Windshield pillar and header scalp moldings			X
	Roof drip gutter moldings		X	
	Roof rail weatherstrip retainer moldings	X	X	
	Folding top perimeter molding			X
	Rear window reveal molding	X	X	
	Front end panel molding and emblem (with key lock)	X	X	X
	Headlamp and parking lamp bezels	X	X	X
	Front end panel nameplate "Corvair"	X	X	X
	Front and rear side marker lamp bezels	X	X	X
	Front and rear wheelhouse moldings		X	X
	Rocker panel moldings	X	X	X
	Front fender nameplates (500)	X		
	Front fender emblems (Monza)		X	X
	Outside rear view mirror	X	X	X
	Hub caps	X		
	Wheel trim covers		X	X
	Front door ventipane frame, channel and post	X	X	X
	Rear deck nameplate "Corvair"	X	X	X
	Rear end panel cove molding		X	X
	Tail and back-up lamp bezels	X	X	X
	Two-speed windshield wipers (satin finish)	X	X	X
Engine exhaust grille (silver painted on Monza)		X	X	X
Horn - single high note		X		
Horn - dual low note			X	X
Folding top - manual (vinyl rear window)				X

		500 10100	MONZA 10500	
		37	37	67
Bright Trim And Ornamentation	Sunshade supports	X	X	X
	Front seat adjuster handle	X	X	X
	Door and window control handles	X	X	X
	Instrument panel control knobs	X	X	X
	Instrument panel lights and wiper bezel	X	X	X
	Rear view mirror	X	X	X
Instrument Panel	Panel and glove box door trim plates (black crackle)		X	X
	Glove box door nameplate - "Monza"		X	X
	Ash tray-padded	X	X	X
	Ignition lock and starter switch - "4-position"	X	X	X
	Cigarette lighter, lights and wiper controls	X	X	X
	Heater controls	X	X	X
Lamps And Switches	Glove box lamp		X	X
	Dome lamp	X	X	
	Main light and dome light switch	X	X	X
	Front door jamb switch with key buzzer for L.H. door		X	X
Steering Wheel	3-Spoke oval with horn button	X	X	X
Armrests	Front door armrest (with molding on Monza)	X	X	X
	Rear quarter armrest and ash tray			X
Spatter paint - luggage compartment		X	X	X
Floor carpet			X	X
Floor mat - black rubber		X		
Bucket front seat			X	X
Bench front seat		X		
Folding rear seat			X	
Sunshades, dual padded		X	X	X

Equipment	RPO	ACC	Models
Air cleaner, pre-oil bath	K47		10000
Appearance Guard Group (Items available as a group or as separate options) - Group 1			
Door edge guards			10000
Front bumper guards			10000
Rear bumper guards			10000
Twin front and rear floor mats			10000
Auxiliary Lighting (Items available as a group) - RPO ZJ9			
Ash tray light			10000
Courtesy lights			10000 exc conv
Glove box light			10100
Luggage light			10000
Underhood light			10000
Axle Ratios			
3.55 ratio	G95		10000
Positraction (all ratios)	G81		10000
Battery, heavy duty	T60		10000
Belts and Harnesses			
Deluxe front and rear seat belts	A39		10567
Deluxe front seat shoulder harnesses	A85		10567
Deluxe rear seat shoulder harnesses	AS4		10000
Seat belt retractor		ACC	10000
Standard front seat shoulder harnesses	AS1		10567
Standard rear seat shoulder harnesses	AS5		10000
Carrier, deck lid luggage		ACC	10000
Carrier, ski (deck lid)		ACC	10000
Clock, electric	U35	ACC	10000
Compass, auto		ACC	10000
Defroster, rear window	C50	ACC	10000 exc conv
Emergency road kit		ACC	10000
Engines			
110 hp Turbo-Air 164 cu.in. P-6	L62		10000
140 hp Turbo-Air 164 cu.in. P-6	L63		10000
Fire extinguisher		ACC	10000
Fire extinguisher refill cartridge		ACC	10000
Floor Mats			
Full width front mats		ACC	10000
Twin front and rear mats	B37		10000
Twin front mats		ACC	10000
Glass, tinted window	A01		10000
Glass, tinted windshield	A02		10000
Guard, gas filler door		ACC	10000
Guards			
Door edge guards	B93	ACC	10000
Fuel door edge guard		ACC	10000
Front bumper guards	V31	ACC	10000
Rear bumper guards	V32	ACC	10000
Head restraint, standard front seat	A82		10100
Head restraint, special contour front seat	AS2		10500
Lights			
Ash tray light	U28	ACC	10000
Courtesy lights	U29	ACC	10000 exc conv
Glove box light	U27	ACC	10100
Hand portable spotlight		ACC	10000
Luggage light	U25	ACC	10000
Underhood light	U26	ACC	10000
Litter container, saddle type		ACC	10000
Lock, gas cap		ACC	10000
Lock, spare wheel	P19	ACC	10000
Mirrors			
Remote control outside mirror	D33		10000
Right hand outside mirror (standard type)		ACC	10000
Visor vanity mirror		ACC	10000

Equipment	RPO	/ACC	Models
Convenience Group (Items available as a group or as separate options) Group 4			
Electric clock			10000
Rear window defroster			10000 exc conv
Remote control outside mirror			10000
Radio Antennas			
Front fixed height antenna		ACC	10000
Front manual antenna		ACC	10000
Rear manual antenna	U73	ACC	10000
Radios			
Push-button AM radio with front antenna	U63	ACC	10000
Push-button AM-FM radio with fixed height antenna	U69	ACC	10000
Rear speaker	U80	ACC	10000
Radio stereo		ACC	10000
Seat, child restraint		ACC	10000
Seat, folding rear	A67		10100
Seat pad, ventilated		ACC	10000
Speed warning indicator	U15		10000
Steering			
Deluxe steering wheel	N30		10000
Special steering	N44		10000
Telescopic steering shaft	N36		10000
Wood-grained plastic steering wheel	N34		10000
Stereo tape player	U57	ACC	10000
Suspension, special performance front and rear	F41		10000
Tires			
7.00-13-4pr whitewall	P54		10000
Tissue dispenser, instrument panel mounted		ACC	10000
Top, folding convertible	C05		10567
Top, power convertible	C06		10567
Trailer hitch		ACC	10000
Trailer wiring harness		ACC	10000
Transmissions			
4-speed transmission	M20		10000
Powerglide transmission	M35		101-10500
Wheel covers	P01	ACC	10100
Wheel covers, mag-style	N96	ACC	10000
Wheel covers, simulated wire	N95	ACC	10000

DIMENSIONS AND WEIGHTS

INTERIOR DIMENSIONS

FRONT COMPARTMENT

CODE	DESCRIPTION	SPORT COUPES		CONVERTIBLE
		BENCH	BUCKET	
H3	Seat cushion height	9.9	9.1	
H11	Entrance height	30.2	29.8	30.1
H13	Steering wheel thigh clearance	2.8	2.6	2.5
H30	H point to heel point	7.2	7.5	
H32	Seat cushion deflection	4.0	3.3	
H50	Upper body opening to ground	47.9		
H58	H point rise	0.5	0.6	
H61	Effective headroom	37.9	37.6	38.3
H70	H point to body O line	11.6	12.0	
H75	Effective 'T' point headroom	37.8	38.0	38.8
W3	Shoulder room	54.6	54.7	
W5	Hip room	56.1		
L7	Steering wheel torso clearance	11.8		
L17	H point travel	3.9	4.0	
L34	Effective leg room	40.9		

REAR COMPARTMENT

H8	Seat cushion height	9.7	9.8	
H31	H point to heel point	8.8	8.9	8.8
H33	Seat cushion deflection	4.3		4.2
H63	Effective headroom	36.4	36.5	38.0
H71	H point to body O line	10.1		
H76	Effective 'T' point headroom	36.1	36.3	37.9
W4	Shoulder room	52.6		48.2
W6	Hip room	54.9		
L3	Rear compartment room	23.8	24.5	25.2
L50	H point couple distance	28.7		28.8
L51	Effective leg room	30.7	32.2	32.4

LUGGAGE COMPARTMENT

---	Opening width	47.8
---	Interior height	22.0
---	Interior width	67.5
---	Interior length	35.5
H195	Liftover height	28.6
V1	Usable luggage capacity (cu.ft.)	7.0
---	Total volume (cu.ft.)	13.3

LENGTHS

CODE	DESCRIPTION	SPORT COUPE	CONVERTIBLE
L101	Wheelbase	108.0	
L102	Tire size (standard)	7.00 x 13	
L103	Overall length	183.3	
L104	Overhang - front	33.0	
L105	Overhang - rear	42.3	
----	Overall length - less bumpers	179.7	
L127	Body O line to C/L of rear wheels	99.0	
L128	Hood length at centerline	51.6	

WIDTHS

W101	Tread - front	55.0	
W102	Tread - rear	56.6	
W103	Maximum overall width of car (W107)	69.7	
W106	Front fender overall width	69.3	
W107	Rear fender overall width	69.7	
W120	Overall car width, front doors open	149.4	

HEIGHTS

H101	Overall height (design)	51.3	51.5
----	Overall height (curb)	52.8	53.0
H102	Front bumper to ground	16.8	
H104	Rear bumper to ground	16.6	
H111	Rocker panel to ground - rear	7.6	
H112	Rocker panel to ground - front	8.0	
H114	Hood at rear to ground	35.8	
H115	Step height - front (design)	13.4	
H125	Headlamp to ground	23.5	
H126	Tail lamp to ground	24.7	
H130	Step height - front (curb)	14.8	
H136	Body O line to ground - front	6.0	
H137	Body O line to ground - rear	6.0	

CLEARANCES

H106	Angle of approach (degrees)	26
H107	Angle of departure (degrees)	16
H147	Ramp breakover angle (degrees)	14
H148	Front suspension to ground	7.0
H149	Oil pan to ground	6.8
H150	Flywheel housing to ground	6.5
H151	Frame to ground	6.8
H152	Exhaust system to ground	6.5
H153	Rear axle to ground	6.5
H154	Fuel tank to ground	7.4
H155	Tire well to ground	Mounted over engine
H156	Minimum ground clearance (H150-2-3)	6.5

VEHICLE WEIGHTS

CORVAIR 500

MODEL SYMBOL	VEHICLE TYPE	SHIPPING WEIGHT			CURB WEIGHT		
6 Cyl.	Description	Front	Rear	Total	Front	Rear	Total
10137	2-Door Sport Coupe	830	1635	2465	910	1645	2555

MONZA

10537	2-Door Sport Coupe	840	1655	2495	920	1665	2585
10567	2-Door Convertible	945	1780	2725	1025	1785	2810

SHIPPING WEIGHT: Weight of basic vehicle with regular equipment and grease and oil. Weight of gasoline and water not included.

CURB WEIGHT: Weight of empty vehicle ready to drive. Shipping weight plus the weight of gasoline and water.

For total shipping, and curb, weights of vehicles equipped with the following options, add to, or deduct from, the base vehicle weight (lbs).

RPO	Option	Weight
A67	Folding Rear Seat	+ 21
C06	Folding Top Power Lift	+ 8
L62	High Performance Engine	+ 3
L63	Engine	+ 35
M20	4-Speed Transmission	+ 1
M35	Powerglide Transmission	- 18
T60	Heavy Duty Battery	+ 16
U57	Tape Player	+ 21
U63	Radio- Push-Button	+ 9
U69	Radio- AM/FM Push-Button	+ 10

BODY

EXTERIOR PAINT PROCESS

1. RUSTPROOFING. Assembled car bodies are chemically sprayed to clean and etch the metal surfaces for corrosion resistance and paint adhesion. Unassembled sheet metal parts follow the same process.

2. BODY AND SHEET METAL PRIMERS. Four corrosion resistant primers, specially formulated, are hand sprayed on the body in areas where rust might develop. Lower areas considered especially vulnerable are coated with another rust inhibiting compound.

3. PRIMER COAT is applied to all outside and inside surfaces of front fenders and hoods. The parts are mechanically dipped or flow-coated to insure coating in all seams and secluded areas, and baked at 390 degrees F. for 30 minutes. A coat of sealer is then applied by hand spray to all surfaces requiring another coat of lacquer.

4. FLASH PRIMER AND PRIMER-SURFACER COATS. An air-dry flash primer coat is hand sprayed on surfaces below the body belt line. Then a gray primer-surfacer coat is hand sprayed on all outside surfaces of the body and oven baked for 45 minutes at 285 degrees F.

5. INITIAL SANDING. Power wet sanding, followed by hand sanding, is done on all body surfaces requiring lacquering. This insures a smooth surface for the lacquer finish. To remove the water, the body is wiped and run through an infra-red oven.

6. LACQUERING. Three coats of acrylic lacquer are spread on the exterior surfaces of the body and sheet metal parts to build up a finish of the required thickness for each color.

7. INITIAL BAKING. To harden the paint for final sanding, the body and sheet metal parts are baked for approximately 10 minutes at 200 degrees F.

8. FINAL SANDING. To remove body surface defects, power and hand sanding is done with fine grit sandpaper and mineral spirits as a wetting agent. Sanded areas are wiped to insure a clean surface before final baking.

9. FINAL BAKING. To assure a durable, hard, high luster finish the lacquer is baked for 30 minutes at 275 degrees F. Reheating the lacquer after final sanding permits paint film to soften, allowing surface blemishes and sanding scratches to disappear during the thermo-reflow process.

10. UNDERCOATING. To block out road noise, an asbestos fiber sound deadener with asphalt base is sprayed inside the wheel housings and on the bottom of the underbody at designated areas.

11. PAINT REPAIR AND PROTECTION. Mars, nicks, or scratches that occur during final assembly are corrected at the factory before shipment. When required, light "slush" polishing brings painted surfaces to a high luster finish. Wax is applied to all horizontal surfaces of each vehicle and polished out for protection during shipment. The wax contains no silicones, thus eliminating any paint contamination problem.

CORVAIR 500—10100 SERIES

CORVAIR MONZA—10500 SERIES

SERIES	MODELS		TRIM	INTERIOR COLORS AND RPO NUMBERS		
	37	67		Black	Blue	Gold
500	X		Vinyl	703	706	709
Monza	X	X	Vinyl-Bucket	704	707	710
RPO	EXTERIOR COLOR					
AA	Black			X	X	X
CC	White			X	X	X
DD	Medium Blue			X	X	-
EE	Dark Blue			X	X	-
FF	Medium Teal			X	-	-
GG	Ivory Gold			X	-	X
HH	Medium Green			X	-	-
KK	Turquoise			X	-	-
LL	Dark Teal			X	X	-
NN	Maroon			X	-	-
PP	Silver Green			X	-	-
RR	Red			X*	-	-
TT	Ivory			X*	-	X
VV	Dark Green			X	-	X
YY	Yellow			X	-	X

Convertible top: White (regular production) - Black or Blue (RPO C05) with any exterior color.

BODY CONSTRUCTION AND GLASS AREA

GENERAL

Type ---------- Integral, with step-down underbody floor, front and rear side rail type members, front and rear end sheet metal components welded to the body assembly, and protective inner fender skirts.

DOORS AND LOCKS

Door construction ---------- Two full steel welded panels hinged at front.

Door handles ---------- Push-button with fork type door latches. Inside push-button locks and 2-position free-wheeling inside door handles on all doors.

Door ventipanes ---------- Friction type

VENTILATION

High level for passenger compartment ---------- With double wall plenum chamber, providing washing and air drying of rocker panels for corrosion resistance. Air and water travel through rocker panels and drain at ends of rocker inner panels.

HOOD AND DECK LID

Type ---------- Dual panel construction, torsion rod counterbalanced luggage compartment lid with external keylock release, telescoping link engine compartment lid with external release lever. Engine compartment air intake beneath rear window providing plenum chamber arrangement with air to engine compartment and water separation and drain off.

WINDSHIELD WIPERS

Type ---------- Positive action dual 2-speed electric.

Linkage ---------- Parallel acting

SEAT CONSTRUCTION

Type ----- Front seat cushion

1.25 poly foam ---------- 10100

1.50 foam rubber ---------- 10500

Rear seat cushion

Jute and cotton ---------- 10100,10537,67

SPARE TIRE MOUNT

Location ---------- Right rear corner in engine compartment. Tools consist of scissors jack and combination wheel nut wrench and lever handle stored under tire.

BODY GLASS VISIBILITY AREA

LOCATION		MODELS 37	67
Windshield		1009.1	
Front door	Ventipane	51.6	
	Window	821.1	
Rear quarter window		443.9	244.2
Back window		1224.7	865.0
Total area (sq.in.)		3550.4	2991.0

CHASSIS

FRAME AND FRONT SUSPENSION

FRAME
- Description ---------- Integral, with step down underbody floor, front and rear side rail-type members, and front and rear end sheet metal components welded to body assembly

FRONT SUSPENSION
- Description ---------- Independent SLA type, with coil springs and concentric shock absorbers, and spherically jointed steering knuckle for each wheel.
- Wheel travel, design height
  - Total ---------- 7.15
  - Jounce ---------- 3.70
  - Rebound ---------- 3.45
- Wheel to spring travel ratio ---------- 1.63:1

CONTROL ARMS
- Description ---------- Reinforced steel stamping with pre-loaded, steel-enclosed rubber bushings at pivot

STEERING KNUCKLES
- Description ---------- Forged steel with integral brake cylinder mounting, and detachable steering knuckle arm
- Spindle diameters
  - Inner bearing ---------- 1.2493-1.2498
  - Outer bearing ---------- .7492-.7497
- Spindle thread size ---------- 3/4-20 NEF-3 (mod.)
- Wheel bearings ------- Taper roller, two per spindle

SPHERICAL JOINTS
- Type ---------- Ball studs, lower self-adjusting for wear
- Bearing surfaces
  - Upper ---------- Two bearings; upper surface teflon coated phenolic; lower surface teflon cotton composition.
  - Lower ---------- One upper surface; teflon coated phenolic

SHOCK ABSORBERS
- Type ---------- Direct, double acting; hydraulic
- Piston diameter ---------- 1.00

STABILIZER BAR
- Type ---------- Link
- Material ---------- HR steel
- Diameter ---------- .812

FRONT WHEEL ALIGNMENT
- Camber (degrees) ---------- P1/2 to P1-1/2
- Caster (degrees) ---------- P1-3/4 to P2-3/4
- Toe-in (total) ---------- 3/16 to 5/16
- SAI (degrees) ---------- 6 to 7

GENERAL SUSPENSION PROVISIONS
- Car leveling ---------- Front stabilizer bar
- Anti-dive control --- Angle of front upper control arm

● FRONT SPRINGS
(3-Speed, 4-Speed or Powerglide)

Part Number	Ref.	Type	Material	Cut-off Length	Wire Dia.	Inside Dia.	Heights		Deflection rate (lbs per inch)	
							Free	Working (In. @ lbs)	@ Spring	@ Wheel
3857688	A	Coil Right Hand Helix	Steel Alloy	101.42	.447	3.453	12.57	6.42 @ 800	130	73
3857690	B			101.88	.465	3.453	12.28	6.42 @ 880	150	80

Engine	164 Cu.In. 6-Cylinder		
Models	10100	10500	
	37	37	67
Ref.	A	A	B

MANUAL STEERING
- Description ---------- Semi-reversible, recirculating ball nut gear; collapsible, energy absorbing column featured. Telescoping steering available optionally.
- Ratio ---------- Gear, 18:1, overall, 23.3:1
  - RPO N44 fast ratio ------ Gear, 14:1, overall, 18.1:1
- Turning diameters (ft)
  - Outside front, wall to wall ---------- 39.3
  - Outside front, curb to curb ---------- 37.0
  - Inside rear, wall to wall ---------- 19.2
  - Inside rear, curb to curb ---------- 20.1
- Number of wheel turns, lock to lock ---------- 4.50
- Outside wheel angle with inside wheel @ 20° ------- 18.0
- Linkage ---------- Parallelogram, front of wheels, 2 tie rods

DRIVELINE ---------- Shaft common to transmission and differential carrier

WHEELS
- Type ---------- Short spoke, full disk
- Attachment to hub -------- 5 hex nut, 7/16-20 UNF-2B arranged on a 4.75 dia. bolt circle
- Offset ---------- 1.00
- Size ---------- 13 x 5.5J

TIRES
- Construction ---------- 2 ply
- Rating ---------- 4 ply rated (4PR)
- Size
  - 7.00 x 13 (All Models)
    - Static loaded radius ---------- 11.7
    - Loaded rev/mi @ 50 MPH ---------- 840
    - Capacity @ 24 psi ---------- 1080
    - Standard tire pressure (cold, psi)
      - 10137 ---------- F-15, R-30
      - 10537 and 10567 ---------- F-15, R-28

SERVICE BRAKES (Regular Production)
- Type ---------- *Duo-servo 4-wheel hydraulic*; dual circuit hydraulic system with warning lamp, and reverse self-adjusting feature.
- Line pressure (psi @ 100 lb pedal load) ---------- 856
- Braking ratios
  - Pedal ---------- 6.72
  - Hydraulic ---------- 3.29
  - Overall ---------- 22.11
- *Wheel cylinder* area distribution (percent) -- 53.0F;47.0R
- Brake drum
  - Diameter ---------- 9.50
  - Construction---------Composite, web cast into rim
  - Material
    - Web ---------- HR steel
    - Rim ---------- Cast iron alloy
  - Swept drum area ---------- 268.6
- Brake lining
  - Material -- Compression molded asbestos composition
  - Length ---------- Primary shoe, 9.01 Secondary shoe, 9.75
  - Width ---------- Front, 2.00; rear, 2.50
  - Thickness, minimum @ C/L ---------- Primary .17 Secondary .20
  - Method of attachment ---------- Bonded
  - Total effective area ---------- 168.9
  - Gross lining area ---------- 168.9
- Master cylinder
  - Piston diameter ---------- 1.00
  - Piston travel (with available pedal travel) ----- 1.08
- Wheel cylinder
  - Piston diameter ---------- Front, .875; rear .938
- Foot pedal travel ---------- 7.24

PARKING BRAKE
- Type ---------- Mechanical; pull rods and cables operate rear service brakes
- Total effective area (sq.in.) ---------- 93.8
- Control ---------- Hand-grip ratchet-type handle with trigger-release in grip; located under *instrument* panel to left of steering column

REAR AXLE AND SUSPENSION

REAR AXLE
- Description ---------- Semi-floating, straddle mounted hypoid gear with differential carrier mounted to engine. Differential carrier contains hypoid gear with overhung pinion gear supported by two taper roller bearings
- Pinion offset ---------- (Vert) 1.75
- Pinion bearing adjustment ---------- Shim
- Hypoid gear PD ---------- 6.750
  - Type ---------- Military Spec. MIL-L-2105-B
  - Viscosity ---------- SAE 80
  - Filler plug ---------- 3/4 pipe plug
  - Capacity (pts) ---------- 4.0
- Differential type ---------- 2 pinion

AXLE SHAFT
- Type ---------- Welded steel tubing incorporating universal joint at each end. Brake drum flange integral with axle which is universally-jointed to axle shaft.
- Axle bearings
  - Type ---------- Tapered roller, 2 per wheel; inner and outer bearing seals steel encased rubber

HYPOID AND PINION GEAR TOOTH COMBINATIONS
- 3.27 (6.75 hypoid gear) ---------- 36,11
- 3.55 (6.75 hypoid gear) ---------- 32,9

POSITRACTION DIFFERENTIAL (see Power Trains)
- Type ---------- Two pinion, disc clutch at one side

REAR SUSPENSION
- Description ---------- Fully independent with engine mounted differential. Locus of each wheel established by three links; universally-jointed axle drive shaft and adjacent strut, and torque control arm pivoted at frame side rail. Vertical suspension loads taken by shock absorber and coil spring attached to each torque control arm
- Wheel travel, (design)
  - Total ---------- 7.47
  - Jounce ---------- 3.02
  - Rebound ---------- 4.45
- Wheel to spring travel ratio ---------- 1.1:1

SHOCK ABSORBERS
- Type ---------- Direct, double-acting, hydraulic
- Piston diameter ---------- 1.00

REAR WHEEL ALIGNMENT
- Curb
  - Camber (degrees) ---------- P1/2 to P1-1/2
  - Toe-in (total) ---------- 3/16 to 5/16

● REAR SPRINGS
(3-Speed, 4-Speed or Powerglide)

Part Number	Ref.	Type	Material	Cut-off Length	Wire Dia.	Inside Dia.	Heights		Deflection rate (lbs per inch)	
							Free	Working (In. @ lbs)	@ Spring	@ Wheel
3859201	A	Coil Right Hand Helix	Steel Alloy	117.53	.538	4.20	15.79	7.78 @ 1070	160	
3859202	B			117.53	.538	4.20	16.16	7.78 @ 1130	160	

Engine	164 Cu.In. 6-Cylinder		
Models	10100	10500	
	37	37	67
Ref.	A	A	B

BULBS AND LAMPS	NUMBER REQUIRED AND TRADE NUMBER	CANDLE POWER PER LAMP
Ash tray	1-1445	.7
Automatic transmission position pattern	1-1445	.7
Back-up	2-1156	32
Brake warning	1-1895	2
Courtesy	2-631	6
Direction signal indicators	2-1445	.7
Dome	1-211	12
Generator (and fan) indicator	1-1895	2
Glove compartment	1-1895	2
Headlamps Outer	2-4002	High beam 37.5W Low beam 55.0W
Headlamps Inner	2-4001	High beam 37.5W
Headlamps hi-beam indicator	1-1445	.7
Heater controls	1-1445	.7
Instrument cluster	4-1895	2
License plate, rear	1-67	4
Luggage compartment	1-1003	15
Oil pressure and temperature indicator	1-1895	2
Parking Park	2-1157	4
Parking *Turn*		32
Radio	1-1893	2
Side Marker - Front	2-194A	2
Side Marker - Rear	2-194	2
Spot lamp, portable	1-4416	30W
Tail Tail	2-1157	4
Tail Stop and turn		32
Underhood	1-93	15

FUSES AND CIRCUIT BREAKERS

CIRCUIT	TYPE OF PROTECTION	LOCATION AND CIRCUIT*
Air conditioning	2 AGC 25 fuses	Fuse panel (g)
Ash tray lamp	AGC 4 fuse	Fuse panel (c)
Auto. trans. position pattern lamp	AGC 4 fuse	Fuse panel (c)
Back-up lamps	AGC 10 fuse	Fuse panel (d)
Cigarette lighter	AGC 20 fuse	Fuse panel (b)
Clock	AGC 20 fuse	Fuse panel (b)
Courtesy lamps	AGC 20 fuse	Fuse panel (b)
Defogging unit	AGC 20 fuse	Fuse panel (e)
Direction signal indicator lamps	AGC 20 fuse	Fuse panel (c)
Dome lamp	AGC 20 fuse	Fuse panel (b)
Folding top motor	40 amp CB	Instrument panel
Fuel gage	AGC 10 fuse	Fuse panel (d)
Generator (and fan) indicator lamp	AGC 10 fuse	Fuse panel (d)
Glove compartment lamp	AGC 20 fuse	Fuse panel (b)
Headlamps	15 amp CB	Light switch
Headlamps hi-beam indicator lamp	15 amp CB	Light switch
Heater	AGC 25 fuse	Fuse panel (g)
Heater control lamp	AGC 4 fuse	Fuse panel (c)
Instrument cluster lamp	AGC 4 fuse	Fuse panel (c)
License plate, rear	AGC 20 fuse	Fuse panel (a)
Luggage compartment lamp	AGC 20 fuse	Fuse panel (b)
Oil press. and temp. indicator lamp	AGC 10 fuse	Fuse panel (d)
Parking lamps	15 amp CB	Light switch
Brake warning lamp	AGC 10 fuse	Fuse panel (d)
Radio and radio lamp	AGC 10 fuse	Fuse panel (e)
Side Marker lamp - Front	AGC 20 fuse	Light switch
Side Marker lamp - Rear	AGC 20 fuse	Light switch
Speed warning device	AGC 20 fuse	Fuse panel (b)
Spot lamp, portable	AGC 20 fuse	Fuse panel (b)
Tachometer gage	AGC 10 fuse	Fuse panel (d)
Tail, stop and turn lamps	AGC 20 fuse	Fuse panel (a)
Traffic hazard switch	AGC 20 fuse	Fuse panel (b)
Underhood lamp	AGC 4 fuse	In line
Windshield wiper, two-speed	SAE 20 fuse	Fuse panel (f)
	14 amp CB	Switch

* Letter suffix indicates same circuit

POWER TRAINS

POWER TEAM COMBINATIONS

ENGINE	TRANSMISSION	MODEL APPLICATION	AXLE RATIOS*	
			3.27:1	3.55:1
164 Cubic Inch P-6 Turbo-Air 164 95 HP Standard	3-Spd (3.11:1 low) & 4-Spd (3.11:1 low)	All Models		Std.
	Powerglide	All Models	Std.	Perf.
164 Cubic Inch P-6 Turbo-Air 164 110 HP RPO L62	3-Spd (3.11:1 low) & 4-Spd (3.11:1 low)	All Models	Std.	Perf.
	Powerglide	All Models		Std.
164 Cubic Inch P-6 Turbo-Air 164 140 HP RPO L63	3-Spd (3.11:1 low) & 4-Spd (3.11:1 low)	All Models		Std.
	Powerglide	All Models		Std.

* Positraction axles available optionally for all ratios

Std. - Standard
Perf.- Performance (optional)

MULTIPLICATION FACTORS

with MANUAL TRANSMISSIONS

ENGINE	TRANSMISSION	TOTAL GEAR REDUCTION					AXLE RATIO
		1st	2nd	3rd	4th	Rev	
95 HP Standard	3-Speed	11.04	6.53	3.55		11.43	3.55:1
	4-Speed	11.04	7.81	5.22	3.55	11.04	3.55:1
110 HP RPO L62	3-Speed	10.17	6.02	3.27		10.53	3.27:1
	4-Speed	10.17	7.19	4.81	3.27	10.17	3.27:1
140 HP RPO L63	3-Speed	11.04	6.53	3.55		11.43	3.55:1
	4-Speed	11.04	7.81	5.22	3.55	11.04	3.55:1

with AUTOMATIC TRANSMISSIONS

ENGINE	TRANSMISSION	SELECTOR POSITION	TOTAL TORQUE MULTIPLICATION	AXLE RATIO
95 HP Standard	Powerglide	Drive	14.29:1 - 3.27:1	3.27:1
		Low & Reverse	14.29:1 - 5.95:1	
110 HP RPO L62	Powerglide	Drive	15.51:1 - 3.55:1	3.55:1
		Low & Reverse	15.51:1 - 6.46:1	
140 HP RPO L63	Powerglide	Drive	15.51:1-3.55:1	3.55:1
		Low & Reverse	15.51:1-6.46:1	

GENERAL DATA

		Synchromesh	Powerglide
Piston Displacement		164	
Type		Horizontal opposed OHV	
Number Cylinders		6	
Bore and Stroke (nominal)		3.438 x 2.94	
Compression Ratio		8.25:1 (a)	
Taxable (SAE) Horsepower		28.4	
Firing Order		1-4-5-2-3-6	
Idling Speed (RPM)	Synchromesh	700; 650 on 140 HP	
	Powerglide		600; 550 on 140 HP
Compression Press. (PSI) @ Cranking Speed, Engine Hot		140	
Lubrication		Full pressure	
Power Plant Mounting		Two front and one rear, shear type	
Measurements	Width (over carburetors)	30.66	
	Length (inc. clutch housing & oil filter)	28.55	
	Height (top air cleaner to bottom oil pan)	23.57	

(a) On 110 HP and 140 HP engine C.R. is 9.25:1.

ADVERTISED ENGINE RATING

Engine Designation	P6 - 95 HP Turbo-Air 164	P6 - 110 HP Turbo-Air 164	P6 - 140 HP Turbo-Air 164
Availability	Standard	RPO L62	RPO L63
Carburetor	Two - Single barrel (one for each cylinder bank)		Four - Single barrel (two for each bank)
Gross Brake HP @ RPM	95 @ 3600	110 @ 4400	140 @ 5200
Gross Torque @ RPM (lb-ft)	154 @ 2400	160 @ 2800	160 @ 3600

ENGINE SPEED AND PISTON TRAVEL

Transmission		3-Speed		4-Speed		Powerglide	
Rear Axle Ratio		3.27:1	3.55:1	3.27:1	3.55:1	3.27:1	3.55:1
Tire Size		7.00 x 13					
Crankshaft Revolutions per Mile		2691.2	2921.7	2691.2	2921.7	2691.2	2921.7
Crankshaft RPM@1 MPH	Low	139.5	151.4	139.5	151.4	81.6	88.6
	Second	82.5	89.6	98.7	107.1		
	Third	44.9	48.7	65.9	71.6	44.9 (direct)	48.7 (direct)
	Fourth			44.9	48.7		
	Reverse	144.4	156.8	139.5	151.4	81.6	88.6
Piston Travel (ft/mile)		1318.7	1431.6	1318.7	1431.6	1318.7	1431.6

VEHICLE PERFORMANCE FACTORS

ENGINE -- 164 CU.IN.	BASE 95 HP	RPO L62 110 HP	RPO L63 140 HP
MODEL	10137	10137	10137

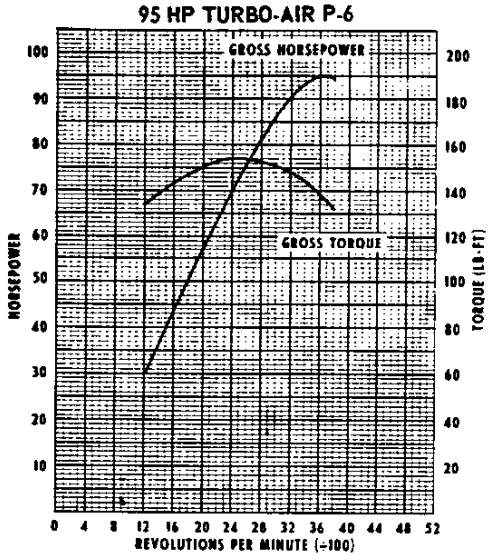
3-SPEED TRANSMISSION			
Performance Weight (pounds)	3155	3158	3190
Pounds per Gross Horsepower	33.21	28.71	22.79
Pounds per Cu.In. Displacement	19.24	19.26	19.45
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	138.69	127.07	138.64
Displacement Factor (cu.ft./ton mile)	87.92	80.88	86.92

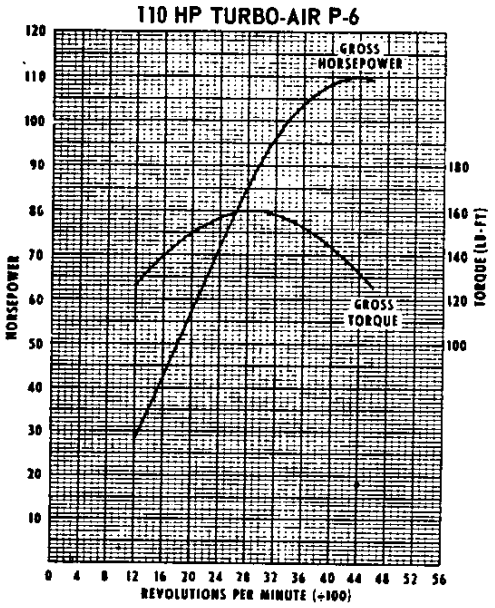
4-SPEED TRANSMISSION			
Performance Weight (pounds)	3156	3159	3191
Pounds per Gross Horsepower	33.22	28.72	22.79
Pounds per Cu.In. Displacement	19.24	19.26	19.46
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	138.69	127.07	138.64
Displacement Factor (cu.ft./ton mile)	87.89	80.83	86.92

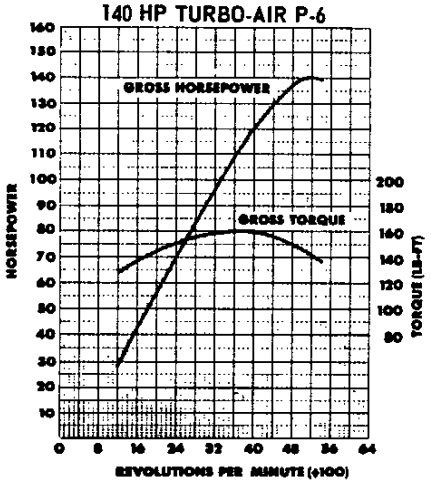
POWERGLIDE*			
Performance Weight (pounds)	3137	3140	3172
Pounds per Gross Horsepower	33.02	28.55	22.66
Pounds per Cu.In. Displacement	19.13	19.15	19.34
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	138.69	138.64	138.64
Displacement Factor (cu.ft./ton mile)	81.42	88.31	87.42

* Data computed assuming zero slippage in torque converter.

GLOSSARY	
Performance Weight	Curb Weight plus 600 Lb (weight of four 150 lb passengers)
Power Displacement	$\frac{\text{Crankshaft Revs/Mi x Piston Displacement}}{2 \times 1728}$
Displacement Factor	$\frac{\text{Power Displacement}}{\text{Performance Wt (tons)}}$







The engine output 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.

PRINCIPAL COMPONENTS

CRANKCASE
- Material ---------- Cast Aluminum
- Type ---------- Cast into left and right halves
- No. of Bulkheads ---------- 4
- Bolt No. & Size ---------- 8; .4375 dia., 20 UNF-2A
- Studs (cyl. & cyl. head assy.) --- 12 left & 12 right half
- Bore Spacing (centerline to centerline) --------- 4.85

CYLINDERS
- Material ---------- Cast iron
- Type ---------- Individually cast with integral cooling fins
- Bore Diameter ---------- 3.4370-3.4400
- Numbering Arrangement (front to rear)
  - Left bank ---------- 6-4-2
  - Right bank ---------- 5-3-1

CYLINDER HEADS
- Material ---------- Permanent mold cast aluminum with integral cooling fins

COMBUSTION CHAMBER VOLUME
(Total chamber volume of assembled engine with piston at top center)
- 95 HP Engine ---------- 4.03 Cu.In.
- 110 HP Engine ---------- 3.44 Cu.In.
- 140 HP Engine ---------- 3.42 Cu.In.

CRANKSHAFT
- Material ---------- Forged alloy steel
- End Play ---------- .002-.007
- Counterweights ---------- None
- Crank Arm Length ---------- 1.47
- Vibration Damper ---------- All engines except 95 HP engine with synchromesh trans.
- Timing Gear & Material ---------- Helical cut, steel
- Pulley Pitch Diameter ---------- 6.64

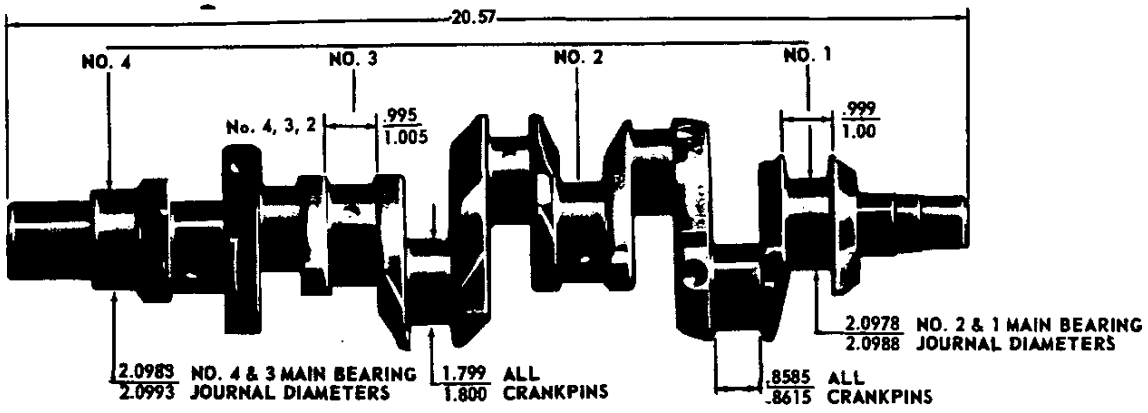
INLET MANIFOLD
- Type ---------- Cast integral with cylinder head

EXHAUST MANIFOLD
- Material ---------- Cast alloy iron
- Type ---------- Straight-fitted to three steel sleeves pressed into cyl. head exhaust ports

MAIN BEARINGS
- Material ---------- Premium aluminum
- Type ---------- Precision, removable
- Thrust Against Bearing No. ---------- 1
- Dimensions

Bearing	Clearance	Theoretical Inner Dia.	Effective Length	Projected Area
1	.0005-.0020	2.0996	.7874	1.6532
2	.0002-.0013	2.0991	.7520	1.5785
3	.0005-.0010	2.0996	.7520	1.5789
4	.0003-.0013	2.0996	.7520	1.5789

CRANKSHAFTS AND BEARINGS



CAMSHAFT

Material	Cast alloy iron
Lobe Lift - Inlet & Exhaust	
Base 95 HP Engines	.2567
RPO L62 (110 HP) & L63 (140 HP) Engines	.2605
Bearings	No inserts aluminum crankcase machined for bearing surface

VALVE TRAIN

Type	Individually mounted rocker arms, push rod actuated
Lifters	Hydraulic
Push Rods	
Type & Material	Hollow, steel
Ends	Hardened
Housing	Welded steel tubes
Rocker Arms	
Type & Material	Stamped steel
Ratio	1.57:1

VALVE SPRINGS

Diameter (I.D.)	.872-.888
Installed Length (Lb. @ In.)	
Valves Closed	78-86 @ 1.66
Valves Opened	170-180 @ 1.26
Free Length	2.08
Valve Spring Dampers	Flat steel coil

VALVE TRAIN LASH

Inlet	Zero
Exhaust	Zero

VALVE LIFT

Inlet & Exhaust

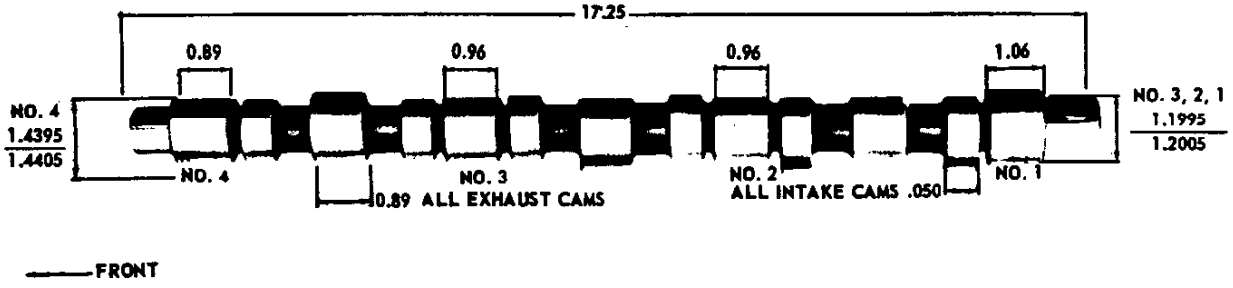
Base 95 HP Engines	.4030
RPO L62-110 HP Engines	.4090
RPO L63-140 HP Engines	.4090

VALVE TIMING (Crankshaft degrees)

95 HP Engines	Excluding Ramps	Including Ramps
Inlet valve		
Opens - BTC	26°	44°
Closes - ABC	60°	88°
Duration	266°	312°
Exhaust valve		
Opens - BBC	60°	78°
Closes - ATC	26°	54°
Duration	266°	312°

110 HP & 140 HP Engines	Excluding Ramps	Including Ramps
Inlet valve		
Opens - BTC	37°	55°
Closes - ABC	81°	105°
Duration	298°	340°
Exhaust valve		
Opens - BBC	79°	97°
Closes - ATC	39°	63°
Duration	298°	340°

CAMSHAFT AND BEARINGS



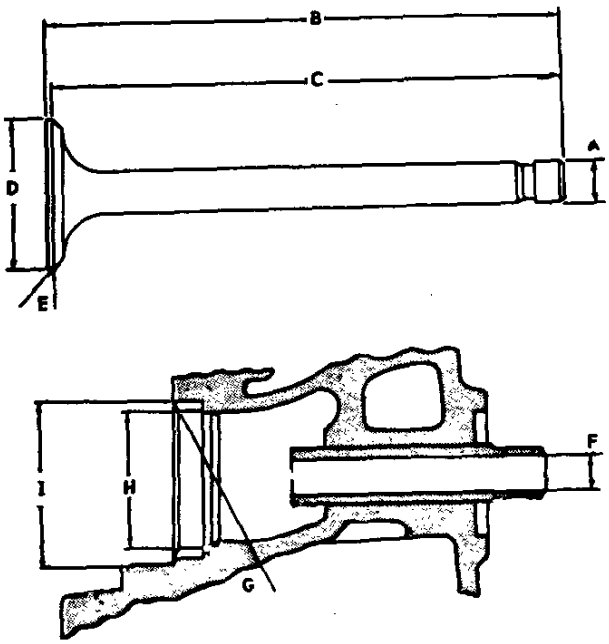
PRINCIPAL COMPONENTS—Cont'd.

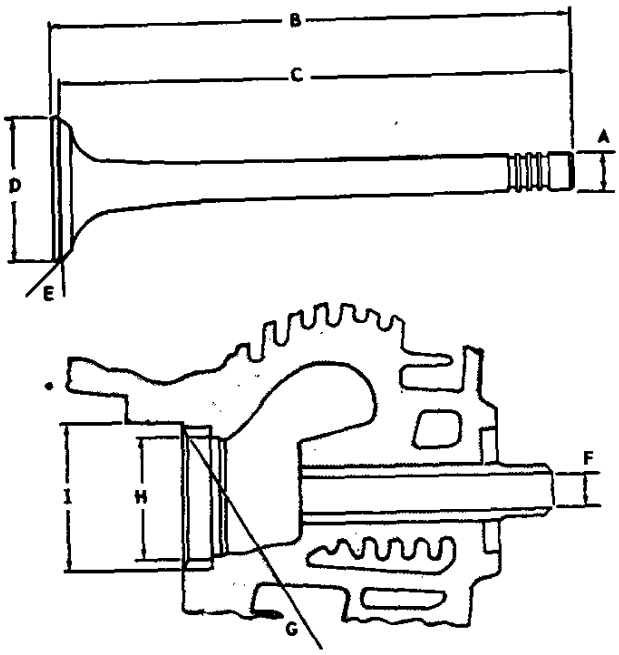
INLET VALVES

Material	High alloy steel
Coating	Aluminized face
Valve Guide Material	Cast alloy iron
Valve Seat Material	Sintered alloy iron

EXHAUST VALVES

Material	High alloy steel with "cobalt-based" alloy face
Valve Guide Material	Cast alloy iron
Valve Seat Material	Cast chromium steel alloy





A - Stem Diameter	.3414-.3422
B - Overall Length	
95 HP & 110 HP engines	4.4891-4.5091
140 HP engine	4.5342-4.5542
C - Gage length	
95 HP & 110 HP engines	4.3921-4.4021
140 HP engine	4.4712-4.4812
D - Overall head diameter	
95 HP & 110 HP engines	1.335-1.345
140 HP engine	1.715-1.725
E - Angle of face	44 degrees
F - Guide diameter	.3432-.3442
G - Angle of seat	45 degrees
H - Valve seat (ID)	
95 HP & 110 HP engines	1.223-1.233
140 HP engine	1.603-1.613
I - Valve seat (OD)	
95 HP & 110 HP engines	1.4285-1.4295
140 HP engine	1.8085-1.8095

A - Stem diameter	.3407-.3418
B - Overall length	
95 HP & 110 HP engines	4.4941-4.5141
140 HP engine	4.4891-4.5091
C - Gage length	
95 HP & 110 HP engines	4.3871-4.3971
140 HP engine	4.4134-4.4234
D - Overall head diameter	
95 HP & 110 HP engines	1.235-1.245
140 HP engine	1.355-1.365
E - Angle of face	44 degrees
F - Guide diameter	.3432-.3442
G - Angle of seat	45 degrees
H - Valve seat (ID)	
95 HP & 110 HP engines	1.081-1.091
140 HP engine	1.201-1.211
I - Valve seat (OD)	
95 HP & 110 HP engines	1.2865-1.2875
140 HP engine	1.4065-1.4075

PISTON

Material	Cast aluminum alloy
Head Type	Flat
Skirt Type	Slipper, autothermic
Top Land Clearance	.0210-.0320
Skirt Clearance	.0011-.0017
Compression Ring Groove Depth	.1925-.1990
Oil Control Ring Groove Depth	.1860-.1925
Pin Bore Offset	.055-.065
Compression Height	1.589-1.591

PISTON PINS

Material	Chromium steel
Length	2.630-2.650
Diameter	.7999-.8002
Clearance in Piston	.00015-.00025
Pin Mounting	Pressed in rod

COMPRESSION RINGS - UPPER

Material	
95 HP & 110 HP engines	Cast iron alloy
140 HP engines	High strength ductile iron
Inside Bevel	Bottom edge 30 degrees to piston vertical axis
Ring Face	Tapered
Coating	
95 HP & 110 HP engines	Chrome plated
140 HP engines	Molybdenum
Width	.0620-.0625
Wall Thickness	
95 HP & 110 HP engines	.162-.172
140 HP engines	.145-.155
Gap	.010-.020

COMPRESSION RING - LOWER

Material	Cast alloy iron
Inside Bevel	Top edge 30 degrees to piston vertical axis
Ring Face	Tapered
Coating	Wear resistant
Width	.0620-.0625
Wall Thickness	.162-.172
Gap	.010-.020

OIL CONTROL RINGS

Type	Multi-piece (two rails and one spacer)
Material	
Rails	Steel
Spacer	Alloy steel
Width	.1215-.1255 assembled
Wall Thickness	.135-.141
Gap (Rails)	.015-.055
Rails Coating	Chrome plate

CONNECTING RODS

Material	Drop forged steel
Length (Center to Center)	4.719-4.721

CONNECTING ROD BEARINGS

Material	Premium aluminum
Type	Precision removable
Clearance	.0007-.0028
Theo. I. D.	1.8018
Effective Length	.639
End Play	.0055-.0105

FUEL—EXHAUST AND VENTILATION SYSTEM

FUEL SYSTEM

FUEL TANK
- Capacity ---------- 14 (Approximately)
- Location ---------- Upper front compartment floor
- Filler Location ---------- Left front fender crown

FUEL FILTER, DUAL
- In Fuel Tank ---------- Mesh strainer
- In Carburetor Inlet ---------- Sintered bronze

FUEL PUMP ASSEMBLY
- Drive ---------- Eccentric on rear end of crankshaft
- Type ---------- Mechanical
- Location ---------- Mounted on rear engine housing
- Pressure Range ---------- 5.50-6.75

AIR CLEANERS
- Type
  - 95 HP & 110 HP Engines --- One, with single air horn centrally mounted on tubular crossover duct
  - 140 HP Engines ---------- One: with dual air horns centrally mounted on splayed tubular arms, chrome plated cover
- Element ---------- Oil wetted paper

CARBURETORS
- Make & Number
  - 95 HP & 110 HP Engines ---------- Rochester, two; one for each cylinder bank
  - 140 HP Engines --------- Rochester, four; set of one primary and one secondary for each cylinder bank
- Type ---------- Single barrel downdraft
- SAE Flange Size ---------- .075
- Throttle Bore ---------- 1.25
- Venturi Diameter ---------- 1.00
- Choke ---------- Automatic

EXHAUST AND VENTILATION SYSTEM

TYPE
- 95 HP & 110 HP Engines ---------- Single
- 140 HP Engines ---------- Dual

MUFFLER
- Type ---------- Oval, reverse flow
- Construction ---------- Heads and body joined by rolled lock seam construction
- Shell ---------- .036 cold rolled steel
- Wrap ---------- .030 indented asbestos sheet
- Cover ---------- .018 sheet steel, aluminum coating
- Heads ---------- .060 sheet steel, aluminum coating
- Baffles ---------- 3
  - #1 & 2 ---------- .036 cold rolled steel
  - #3 ---------- .060 cold rolled steel
- Length ---------- 17.76
- Height (I.D.) ---------- 5.00
- Width (I.D.) ---------- 9.25

EXHAUST PIPE
- Dimensions (O.D.) ---------- 1.875
  - 95 HP & 110 HP Engines ---------- 1.875
  - 140 HP Engines (Dual) ---------- 1.625

TAIL PIPE
- Dimensions (O.D.)
  - 95 HP & 110 HP Engines ---------- 1.50
  - 140 HP Engine ---------- 1.75
- Wall Thickness ---------- .042-.052
- Coating ---------- Aluminum

ENGINE VENTILATION
- Type ---------- Closed-positive

AIR INJECTION REACTOR EQUIPMENT
- Type ---------- Air injected into exhaust ports by crankshaft driven pump

COOLING SYSTEM

GENERAL
- Type ---------- Forced air cooling. Engine enclosed by sheet metal shrouds to direct air over engine components. Cooling controlled by thermostatically regulated air exhaust doors at rear of each lower shroud

ENGINE BLOWER
- Type ---------- Centrifugal
- Location ---------- Mounted horizontally on top center of engine
- Material ---------- Magnesium
- Diameter ---------- 11.20
- Number of Vanes ---------- 11
- Drive ---------- By "V" belt from crankshaft over idler and generator pulleys
- Air Flow ---------- 1460 CFM @ 4000 Engine RPM
- Blower Pulley PD ---------- 4.1875
- Ratio (Blower to Engine Speed) ---------- 1.58:1
- Idler Pulley PD ---------- 3.32
- Belt ---------- "V"
  - Pitch Line ---------- 55.74
  - Width ---------- .380
  - Angle of "V" ---------- 40°

ENGINE COOLING AIR THERMOSTATS
- Type ---------- Bellows (seamless)
- Make ---------- Harrison
- Bellows Start to Open at ---------- 205° F

LUBRICATION SYSTEM

GENERAL
- Type ---------- Controlled full pressure
  - Main Bearings ---------- Pressure
  - Connecting Rods ---------- Pressure
  - Piston Pins ---------- Splash
  - Cylinder Walls ------- Conn. rod bearing throw-off
  - Camshaft Bearings ---------- Pressure
  - Valve Lifters ---------- Pressure
  - Rocker Arms ---------- Pressure
  - Timing Gears ------ Main & cam bearing throw-off
- Oil Pressure Sending Unit
  - Type ---------- Electric
  - Actuation ----- Opens or closes circuit @ 2 to 6 PSI
- Oil Filler
  - Cap ---------- Pressure, twist type
  - Location ---------- Top rear of engine

CRANKCASE CAPACITY (Qt)
- Refill ---------- 4.0
- Refill with Filter Change ---------- 4.5

OIL PUMP
- Type ---------- Gear
- Driven By ---------- Distributor
- Regulator Valve ---------- Opens between 40-45 lbs
- Oil Pressure (No-Flow Conditions) - 30 PSI @ 2000 RPM
- Intake Type ---------- Fixed
- Capacity (GPM @ Eng RPM) ---------- 9 @ 4000

OIL FILTER
- Type ---------- Full flow throwaway canister
- Location ---------- Rear section of engine
- Capacity (pts) ---------- 1.0
- By-pass Valve ---------- Opens between 9 to 11 PSI

OIL COOLER
- Material ---------- Aluminum
- Location ---------- Left bank of cylinder to rear
- By-pass Valve ---------- Opens between 9 to 11 PSI drop in pressure
- No. of Plates ---------- Twelve

LUBRICANT GRADES AND TEMPERATURES
- 32° F and Above ---------- SAE20W or SAE10W-30
- 0° F to 32° F ---------- SAE10W or SAE10W-30
- Below 0° F ---------- SAE5W or SAE5W-20
- Alternate ---------- SAE5W-30 can be used at temperatures below freezing

OIL PAN DRAIN SCREW
- Type ---------- Hex head
- Location ---------- Lower front edge of oil pan
- Size Hex Head ---------- .860-.875
- Thread ---------- 1/2-20 UNF 2A
- Length ---------- 0.81
- Diameter ---------- .410-.430

ELECTRICAL SYSTEM

SUPPLY SYSTEM
BATTERY
Voltage Rating ---------- 12
Cranking Power @ 0° F ---------- 2300 watts
Total Number of Plates ---------- 54
Number of Cells ---------- 6
Terminal Grounded ---------- Negative
Location ---------- Left hand side engine compartment

GENERATOR
Type ---------- Diode rectified
Rating
Amps ---------- 9-37
Volts ---------- 12-15
Drive ---------- Blower belt
Pulley Pitch Diameter ---------- 2.88
Ratio (Gen. to Engine Speed) ---------- 2.30:1

REGULATOR
Type ---------- Two unit, vibrator
Voltage Regulator
Voltage ---------- 13.8-14.8 @ 85°F
Field Relay (Combination Light and Field Relay)
Closing Voltage ---------- 1.3 Volts @ 80° F
Location ---------- Left front engine compartment

STARTING SYSTEM
STARTING MOTOR
Make ---------- Delco-Remy
Rotation (Drive End View) ---------- Clockwise
Test Condition ---- Engine at operating temperature
No Load Test
Amps ---------- 58-80
Volts ---------- 10.6
RPM ---------- 6750-10700

Motor Drive
Engagement ---------- Solenoid
Pinion Meshes at ---------- Rear
Pinion Tooth No. ---------- 9
Starter Ring Gear Tooth No. ---------- 147
Mounting ---------- Bolted to clutch housing

IGNITION SYSTEM
DISTRIBUTORS ---------- Refer to chart below

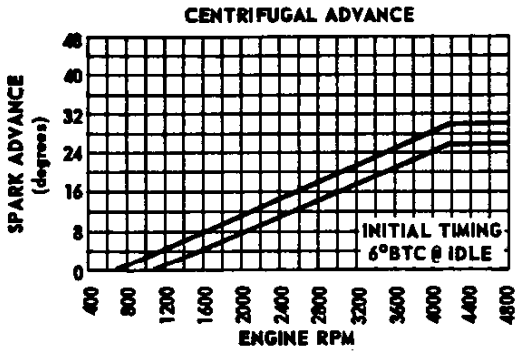
COIL
Make ---------- Delco-Remy
Type ---------- 12 Volt
Amperes Drawn
Engine Stopped ---------- 4.0
Engine Idling ---------- 1.8

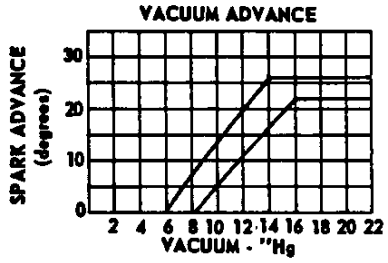
SPARK PLUGS
Make ---------- AC
Type
95 HP Engines ---------- 46FF
110 HP & 140 HP Engines ---------- 44FF
Thread Size (mm) ---------- 14
Gap ---------- .033-.038; .028-.033 on 110 HP
Torque ---------- 25 lb ft

CABLE ---------- Linen core impregnated with electrical conducting material and insulation of rubber with neoprene jacket

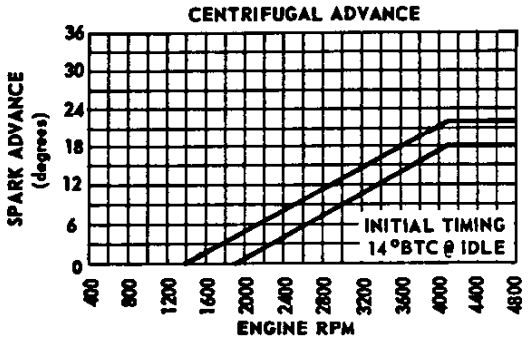
DISTRIBUTORS	95 HP Standard		110 HP RPO L62		140 HP RPO L63	
Transmission	Manual	Auto	Manual	Auto	Manual	Auto
Model	110434	1110311	1110389	1110319	1110371	
Type	Single breaker					
Cam Angle	31° - 34°					
Breaker Gap	.019 (new)					
Breaker Arm Tension	19 - 23 oz					
Centrifugal Advance Begins (RPM)	900	1700	900	800	900	
Max Degrees @ RPM	28 @ 4200	20 @ 4200	26 @ 4400	20 @ 4800	32 @ 3000	
Vacuum Advance Begins (In. Hg)	7.00		7.00		6.00	
Max Degrees @ In. Hg	24 @ 15		24 @ 15		22 @ 14	
Timing (Initial Design Setting)	6 BTC	14 BTC	4 BTC	12 BTC	4 BTC	4 BTC
Crankshaft Degrees @ RPM (with vacuum spark line disconnected)	@ 700	@ 600	@ 700	@ 600	@ 650	@ 550
Timing Mark Location	Torsional damper					

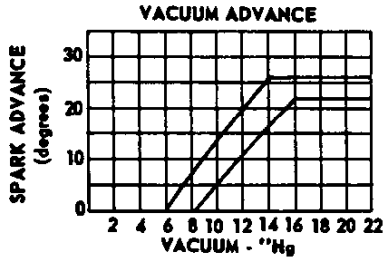
95 HORSEPOWER ENGINE



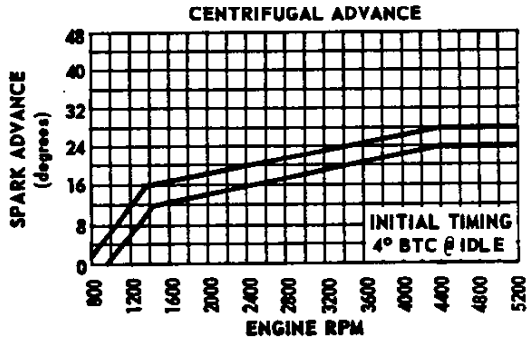


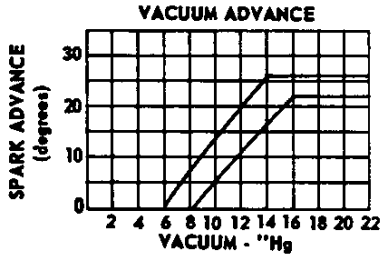
95 HORSEPOWER ENGINE AUTOMATIC TRANSMISSION



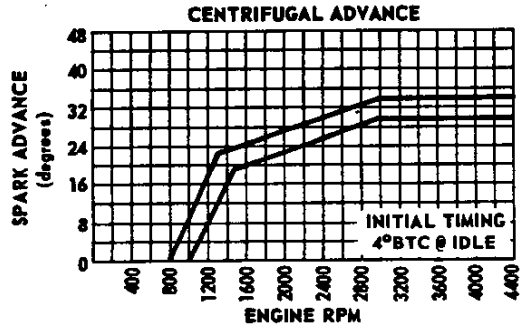


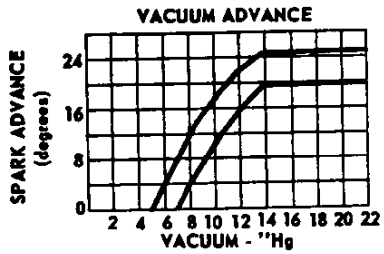
110 HORSEPOWER ENGINE



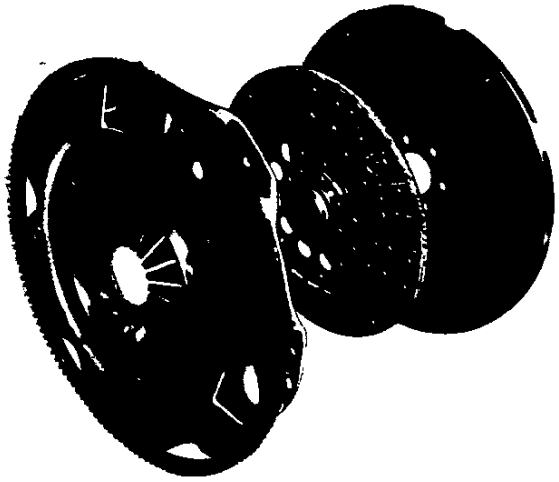


140 HORSEPOWER ENGINE

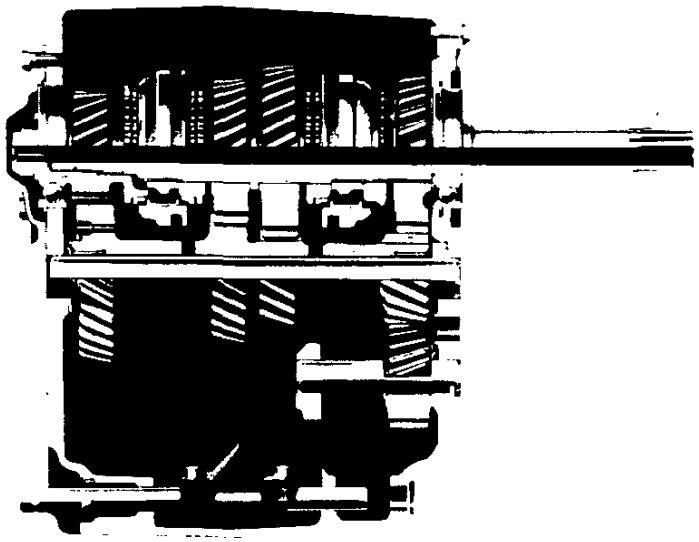




CLUTCHES



Engine	Model Application		10100 and 10500	
	Availability		95HP & 110HP engines	140HP engines
Clutch for			3-Speed & 4-Speed	
Type			Chevrolet dry disc, semi-centrifugal	
Clutch cover and pressure plate	Eff. plate load, lbs		1250-1450	1275-1475
	Press. plate material		Cast iron	Nodular iron
	Clutch spring type		Diaphragm with bent finger design	
	Clutch spring material		HR spring steel	
	Ring gear	Material	HR steel	
		No. of teeth	147	
		PD	12.25	
		Attachment	Welded to clutch cover	
Driven plate	Type		Single dry disc	
	Cushions		Flat spring steel between springs	
	Friction rings	OD	8.0	9.12
		ID	6.0	6.12
		Total area (sq.in.)	44.0	71.8
		Material	Woven type asbestos	
Flywheel	Material		Cast iron	
Bearings	Release	Type	Single row ball	
		Lubrication	None required, prepacked	
	Pilot	Type	Bronze bushing	
		Lubrication	None, sintered and oil impregnated	
Controls	Clutch fork		Drop forged steel, pivot mounted on ball	
	Pedal mounting		Pendant from brace on dash	
Clutch housing material			Aluminum alloy	



4-SPEED TRANSMISSION (RPO M20)

3-SPEED AND 4-SPEED TRANSMISSIONS

Transmission Type			3-Speed			4-Speed		
Engine Application	Type		95 HP	110 HP	140 HP	95 HP	110 HP	140 HP
	Availability		Standard	RPO L62	RPO L63	Standard	RPO L62	RPO L63
Case material			Cast iron alloy					
Gear Shift	Type		Remote					
	Control		Lever					
	Location		Floor					
Gears	Type		Helical			Helical except spur for reverse		
	Material		Forged steel, hardened					
	Synchronization		All forward gears					
	Constant mesh gears		All gears			All forward gears		
	Sliding gears		None			Reverse		
	Ratios	First	3.11:1			3.11:1		
		Second	1.84:1			2.20:1		
		Third	1.00:1			1.47:1		
		Fourth				1.00:1		
		Reverse	3.22:1			3.11:1		
Lubricant	Type		Meeting Military Specification MIL-L-2105-B					
	Capacity (pts)		3.1			3.5		

AUTOMATIC TRANSMISSION (RPO M35)

GENERAL DATA
- Type ---------- Automatic hydraulic torque converter with planetary gear system for low and reverse
- Selector lever
  - Location ---------- Instrument panel
  - Operation ---------- Actuates manual valve in hydraulic control system
  - Quadrant positions ---------- R-N-D-L
- Method of cooling ---------- Air cooling shroud welded to converter pump housing
- Flywheel ---------- Ring gear welded to converter housing

HYDRAULIC CONTROLS
- Manual valve type ---------- Spool
- Pressure regulator valve type ---------- Spool
- Pressure range, psi @ idle
  - Drive
    - Minimum and maximum ---------- 37.0 to 45.0
  - Low
    - Minimum and maximum ---------- 37.0 to 45.0
  - Reverse
    - Minimum and maximum ---------- 70.3 to 86.0

CONVERTER ASSEMBLY
- Type ---------- Three element
- Pump
  - Description ---------- Multi-vane sheet steel construction rigid in converter housing
- Turbine
  - Description ---------- Multi-vane sheet steel construction supported in converter housing
- Stator
  - Description -------- Aluminum air foil supported on stationary sleeve by an overrunning clutch
- Stall torque ratio ---------- 2.40:1
- Diameter (nominal) ---------- 10.0

PLANETARY GEAR SET
- Type ---------- Compound planetary
- Range
  - Drive ---------- 1.82:1 to 1.0:1.0
  - Low ---------- 1.82:1
  - Reverse ---------- 1.82:1
- Low band ---------- Three linked circular segments
- Low band servo ---------- Piston with release spring and inner cushion spring

OUTPUT SHAFT RPM (VEHICLE SPEED MPH)

	Base	RPO L62	RPO L63
N/V factor	45.0	48.7	48.7
Upshift			
Closed throttle	677(14)	677(14)	677(14)
Detent touch	1880(42)	1880(39)	2130(44)
Full detent	2230(50)	2230(46)	2530(52)
Downshift			
Closed throttle	606(13)	606(12)	606(12)
Detent touch	1345(30)	1345(28)	1300(27)
Full detent	2055(46)	2055(42)	2315(47)

CASE
- Material ---------- Aluminum

HIGH CLUTCH
- Type ---------- Multi-disc
- Drive plates
  - Description ---------- Waved steel with bonded organic facings
  - Number ---------- 2
- Driven plates
  - Description ---------- Flat steel
  - Number ---------- 3

REVERSE CLUTCH
- Type ---------- Multi-disc
- Drive plates
  - Description ---------- Flat steel with bonded organic facings
  - Number ---------- 3
- Driven plates
  - Description ---------- Waved steel
  - Number ---------- 3

TORQUE MULTIPLICATION
- Maximum overall ratio ---------- 4.37:1
- Low and reverse ---------- 4.37:1 to 1.82:1

LUBRICANT
- Type ---------- A suffix A
- Capacity (pts.)
  - Dry ---------- 13
  - Refill ---------- 4.6

GOVERNOR
- Type ---------- Centrifugal
- Operation ---------- Regulates oil pressure to automatic shift control valve
- Drive ---------- Transmission output shaft
- Location ---------- External, upper left side of case

OIL PUMPS
- Type ---------- Internal-external gear
- Number ---------- Two, front and rear
- Function ---------- To supply pressure
- Front pump
  - Drive ---------- Converter pump
  - Function ---------- Supply main system pressure at low vehicle speeds
- Rear pump
  - Drive ---------- Output shaft
  - Function ---------- Supply main system pressure at high vehicle speeds and during push starts