

GENERAL

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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

SERIAL NUMBERS AND IDENTIFICATION

ONLY BASIC DESIGNATIONS SHOWN

VEHICLE SERIAL NUMBER

6-Cylinder Example:

Model	1969	Assembly Plant (Willow Run)	Unit Number (25th unit)
10137	9	W	700025

Thus: The 25th model built at Willow Run would be serial number 101379W700025

ASSEMBLY PLANTS

W - Willow Run

Starting unit number ----- 700001 and up at
each assembly plant regardless of series
Location ----- Stamped on plate attached
to top left hand of instrument panel

TRANSMISSION IDENTIFICATION

Example: ZAS9E01D

Type Designation	Source Designation	Model Year 1969	Production* Month & Date
ZA	S(Saginaw)	9	E01D*
ZA	3-Speed	P-6 engine	S - Saginaw
AC	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.

*-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.

ENGINE IDENTIFICATION

Example: T0212AC

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

164 Cubic Inch 6-Cylinder, P-6

AC - Regular engine, 3 or 4-speed
AE - Regular engine, Powerglide

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

AD - Optional engine, 3 or 4-speed
AF - Optional engine, Powerglide

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

AG - Optional engine, 3 or 4-speed
AH - Optional engine, Powerglide

Location ----- Stamped on engine block
in front of oil filler tube.

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

REAR AXLE IDENTIFICATION

Example: AB0212W

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

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

STANDARD EXTERIOR EQUIPMENT

		10100	10500
FRONT	Windshield Reveal Molding — Bright		X
	Front End Panel Molding — Bright		X
	Front End Panel Emblem and Lock Cylinder		X
	Front End Panel Nameplate — "Corvair"		X
	Headlamp Bezels — Bright		X
	Parking Lamps — Amber Lens		X
SIDE	Front Fender and Rear Quarter Marker Lamps		X
	Front Fender Ornament — "Monza"	--	X
	Front Fender Nameplate — "500"	X	--
	Front and Rear Wheel Opening Moldings	--	X
	Windshield Pillar and Header Scalp Molding	--	67
	Roof Drip Gutter Molding	--	37
	Rocker Panel Molding	--	X
	Outside Rear View Mirror		X
	Hub Caps	X	--
	Wheel Trim Covers	--	X
REAR	Rear Window Reveal Molding		37
	Folding Top Perimeter Molding	--	67
	Rear End Panel and Rear Quarter Cove Molding	--	X
	Rear Panel Mounted Tail Lamps		X
	Back-up Lamps Mounted in Tail Lamp Bezel		X
	Engine Compartment Exhaust Grille — Silver Painted on 10500		X

REGULAR EQUIPMENT—INTERIOR

STANDARD INTERIOR EQUIPMENT

		10100	10500
ROOF AND PILLARS	Headlining, Vinyl Coated — Regent Fabric		37
	Windshield and Rear Window Trim Lace — Trim Color		37
	Side Roof Rail Trim Lace — Trim Color		37
	Rear View Mirror, 10" Prismatic, Painted, Gray Padded Edges		X
	Rear View Mirror Support, Painted Plastic Cover — Trim Color	X	--
	Rear View Mirror Support — Bright, Plastic Cover — Trim Color	--	X
	Sunshades, Padded, Vinyl Coated, Bright Supports		X
	Windshield Pillars, Painted		X
	Coat Hooks, Plastic — Trim Color		37
	Center Dome Lamp — Gray Bezel	X	--
	Center Dome Lamp — Bright Bezel	--	37
	Pillar Mounted Shoulder Harness Retainer — Trim Color		37
	Shoulder Harness Anchor Cover, Plastic — Trim Color		37
	Front Door Jamb Switch	--	X
SEATS AND FLOOR COVERING	Bucket Front Seats — All-Vinyl, 1.50 Foam Rubber	--	X
	Bench Front Seat — Pattern Vinyl, 1.25 Poly Foam	X	--
	Bench Rear Seat — Stationary Back	X	--
	Bench Rear Seat — Folding Back	--	37
	Front Seat Adjuster Handle — Bright		X
	Front Seat Back Rest Locks — Bright		X
	Seat Belts, 2 Front, 3 Rear	--	X
	Seat Belts, 3 Front, 2 Rear	X	--
	Shoulder Harness — 2 Front	X	37
	Luggage Compartment Floor Mat — Rubber, Sparter Paint		X
	Passenger Compartment Floor Covering — Carpet	--	X
	Passenger Compartment Floor Covering — Black Rubber	X	--
	Transmission Control Lever and Knob — Black		X
	Front Seat Head Restraint — Conventional Bench	X	
DOORS AND QUARTER PANELS	Front Seat Head Restraint — Bucket Seat		X
	All-Vinyl Door and Quarter Panel Trim		X
	Front Door Padded Armrest		X
	Rear Quarter Panel Armrest and Ash Tray (Built-in)	--	X
	Door Remote Control Handles — Bright		X
	Door Window Control Handles — Bright-Trim Color Plastic Knobs		X
	Door Lock Buttons — Trim Color (Plastic)		X
	Door Trim Panel Nameplate		X
	Instrument Panel Compartment Door	X	--
	Instrument Panel Compartment Door Trim Plate Black Wrinkle	--	X
INSTRUMENT PANEL AND STEERING WHEEL	Instrument Panel Compartment Door Nameplate — "Monza"	--	X
	Instrument Panel Compartment Lamp	--	X
	Instrument Panel Upper and Center Trim Pad — Trim Color		X
	Cowl Kick Pad Vent Control Plastic Knobs — Trim Color		X
	Steering Wheel, Oval Rubber — Horn Button	X	--
	Steering Wheel, Oval Rubber — Deluxe Horn Button — Dull Chrome Spoke	--	X
	Cigarette Lighter		X
	Radio Hole Cover Plate — Painted		X
	Instrument Panel Control Knobs — Dull Chrome		X
	Windshield and Washer, Two-Speed — Bright Trim Plate		X
	Instrument Panel Courtesy Lamps — Two	--	67
	Heater Control — Black Levers — Bright Bezel		X
	Oil Pressure, Generator and Temperature Warning Lights		X
	Windshield, Laminated Safety Plate		X
GLASS	Rear Window, Safety Solid Plate		37
	Door Windows, Safety Solid Sheet		X
	Rear Quarter Windows, Safety Solid Sheet		X
	Convertible Rear Window, Vinyl	--	67

REGULAR PRODUCTION OPTIONS AND DEALER INSTALLED ACCESSORIES

Equipment	RPO/ACC	Models
Air cleaner, pre-oil bath	K47	10000
Appearance Guard Group (Items available as a group or as separate options)		
Door edge guards (RPO B93)		10000
Front bumper guards (RPO V31)		10000
Rear bumper guards (RPO V32)		10000
Twin front and rear floor mats (RPO B37)		10000
Visor vanity mirror (RPO D34)		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
Deluxe seat belts and front seat shoulder harnesses	ZK3	101-10537
Seat belt retractor (rear)	ACC	10000
Standard front seat shoulder harnesses	AS1	10567
Standard rear seat shoulder harnesses	AS5	10000
Carrier, deck lid luggage	ACC	10000
Carrier, ski (clamp-on type)	ACC	10000
Clock, electric	U35	10000
Compass, auto	ACC	10000
Defroster, rear window	C50	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
Glass, tinted window	A01	10000
Glass, tinted windshield (fleet use only)	A02	10000
Guards		
Door edge guards	B93	10000
Fuel door edge guard	ACC	10000
Front bumper guards	V31	10000
Rear bumper guards	V32	10000
Lights		
Courtesy lights	ACC	10000 exc conv
Glove box light	ACC	10100
Hand portable spotlight	ACC	10000
Luggage light	ACC	10000
Underhood light	ACC	10000
Litter container, saddle type	ACC	10000
Lock, gas cap	ACC	10000
Lock spare wheel	P19	10000
Mirrors		
Remote control outside mirror	D33	10000
Right hand outside mirror	ACC	10000
Visor vanity mirror	D34	10000

REGULAR PRODUCTION OPTIONS AND DEALER INSTALLED ACCESSORIES

Equipment	RPO/ACC		Models
Operating Convenience Group (Items available as a group or as separate options)			
Electric clock (RPO U35)			10000
Rear window defroster (RPO C50)			10000 exc conv
Remote control outside mirror (RPO D33)			10000
Radio Antennas			
Front fixed height antenna	U73	ACC	10000
Front manual antenna		ACC	10000
Rear manual antenna		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
Speed warning indicator	U15		10000
Steering			
Special steering	N44		10000
Telescopic steering shaft	N36		10000
Suspension, special performance front and rear	P41		10000
Tires			
7.00-13-4pr whitewall	P54		10000
Tissue dispenser		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-5 spoke	N96	ACC	10000
Wheel covers, simulated wire	N95	ACC	10000

DIMENSIONS AND WEIGHTS

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INTERIOR DIMENSIONS

FRONT COMPARTMENT

CODE	DESCRIPTION	SPORT COUPES		CON- VERTIBLE
		BENCH	BUCKET	
H3	Seat cushion height	9.9	10.2	
H11	Entrance height	30.2	29.8	30.1
H13	Steering wheel thigh clearance		8.0	
H30	H point to heel point		7.5	
H32	Seat cushion deflection	4.0		3.7
H50	Upper body opening to ground		46.8	47.1
H58	H point rise		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	37.7	38.5
W3	Shoulder room		54.7	
W5	Hip room		56.1	
L7	Steering wheel torso clearance		12.1	
L17	H point travel		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	
H33	Seat cushion deflection		4.3	
H63	Effective headroom	36.5	36.6	38.2
H71	H point to body O line		10.1	
H76	Effective 'T' point headroom	36.0	36.2	38.1
W4	Shoulder room		52.6	48.2
W6	Hip room		54.9	48.1
L3	Rear compartment room	23.8	24.5	25.2
L50	H point couple distance	28.7	28.6	28.8
L51	Effective leg room	30.7	32.2	34.0

LUGGAGE COMPARTMENT

---	Opening width	
---	Interior height	
---	Interior width	
---	Interior length	
H195	Liftover height	27.5
V1	Usable luggage capacity (cu.ft.)	7.0
---	Total volume (cu.ft.)	

EXTERIOR DIMENSIONS

LENGTHS

CODE	DESCRIPTION	SPORT COUPE	CONVERTIBLE
L101	Wheelbase		108.0
L102	Tire size (standard)		7.00 x 13
L103	Overall length		183.2
L104	Overhang - front		32.9
L105	Overhang - rear		42.3
----	Overall length - less bumpers		
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)	70.0
W106	Front fender overall width	69.2
W107	Rear fender overall width	69.7
W120	Overall car width, front doors open	149.4

HEIGHTS

H101	Overall height (design)	51.2	51.5
----	Overall height (curb)		
H102	Front bumper to ground	16.8	
H104	Rear bumper to ground	16.6	
H111	Rocker panel to ground - rear	6.6	
H112	Rocker panel to ground - front	7.1	
H114	Hood at rear to ground		
H115	Step height - front (design)	12.4	
H125	Headlamp to ground	23.5	
H126	Tail lamp to ground	24.7	
H130	Step height - front (curb)		
H136	Body O line to ground - front	5.6	
H137	Body O line to ground - rear	5.8	

CLEARANCES

H106	Angle of approach (degrees)	26.0	
H107	Angle of departure (degrees)	16.0	
H147	Ramp breakover angle (degrees)	14.0	
H148	Front suspension to ground		
H149	Oil pan to ground	6.8	
H150	Flywheel housing to ground		
H151	Frame to ground		
H152	Exhaust system to ground		
H153	Rear axle to ground	6.6	6.4
H154	Fuel tank to ground	7.4	
H155	Tire well to ground		
H156	Minimum ground clearance	6.5 (H-153)	

VEHICLE WEIGHTS

CORVAIR 500

MODEL SYMBOL	VEHICLE TYPE	SHIPPING WEIGHT			CURB WEIGHT		
		Front	Rear	Total	Front	Rear	Total
6 Cyl.	Description						
10137	2-Door Sport Coupe	855	1660	2515	920	1665	2585

MONZA

10537	2-Door Sport Coupe	865	1680	2545	930	1680	2610
10567	2-Door Convertible	970	1800	2770	1030	1805	2835

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	+ 10
L62	High Performance Engine	+ 1
L63	Engine	+ 29
M20	4-Speed Transmission	+ 1
M35	Powerglide Transmission	- 18
T60	Heavy Duty Battery	+ 15
U63	Radio-Push-Button	+ 9
U69	Radio-AM/FM Push-Button	+ 10

BODY

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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.** Marks, 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.

EXTERIOR-INTERIOR COLORS

CORVAIR 500-10100 SERIES CORVAIR MONZA-10500 SERIES

SERIES	MODELS		TRIM	INTERIOR COLORS AND RPO NUMBERS		
	57	67		Black	Dark Blue	Med. Green
500	X		Vinyl	700	703	708
Monza	X	X	Vinyl - Bucket	701	704	707

RPO EXTERIOR COLOR

10	Tuxedo Black	X	X	X
50	Dover White	X	X	X
71	Le Mans Blue	X		
51	Dusk Blue	X	X	
69	Cortez Silver	X	X	
65	Olympic Gold	X		
57	Fathom Green	X		X
55	Azure Turquoise	X		
53	Glacier Blue	X	X	
67	Burgundy Maroon	X		
59	Frost Lime	X		X
52	Garnet Red	X		
63	Champagne	X		
61	Burnished Brown	X		
40	Buttermilk Yellow	X		

Convertible Folding Top Colors:

White - Production
Black - RPO

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 air intake 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	2
STEERING, WHEELS AND TIRES, BRAKES	3
REAR AXLE AND SUSPENSION	4
BULBS AND LAMPS	5
FUSES AND CIRCUIT BREAKERS	6

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	Steel	101.42	.447	3.453	12.57	6.42 @ 800	130	73
3857690	B	Hand Helix	Alloy	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

STEERING, DRIVELINE, WHEELS AND TIRES, BRAKES

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	Steel	117.53	.538	4.20	15.79	7.78 @ 1070	160	
3859202	B	Hand Helix	Alloy	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

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
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		3
Turn	2-1157	32
Radio	1-1893	2
Side Marker - Front	2-194	2
Side Marker - Rear	2-194	2
Spot lamp, portable	1-4416	30W
Tail		
Tail		3
Stop and turn	2-1157	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

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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	

ENGINE DATA AND RATINGS

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)	3-Speed & 4-Speed (in neutral)	700; 650 on 140 HP	
	Powerglide (in drive)		600; 550 on 140 HP
Compression Press. (PSI) @ Cranking Speed, Engine Hot		140; 150 for 110 & 140 HP	
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	134.5	151.4	134.5	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)	3180	3183	3215
Pounds per Gross Horsepower	33.47	28.94	22.96
Pounds per Cu.In. Displacement	19.40	19.41	19.60
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	138.64	127.71	138.64
Displacement Factor (cu.ft./ton mile)	87.19	80.27	86.27

4-SPEED TRANSMISSION

Performance Weight (pounds)	3181	3184	3216
Pounds per Gross Horsepower	33.48	28.94	22.97
Pounds per Cu.In. Displacement	19.40	19.41	19.61
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	138.64	127.71	138.64
Displacement Factor (cu.ft./ton mile)	87.198	80.27	86.27

POWERGLIDE*

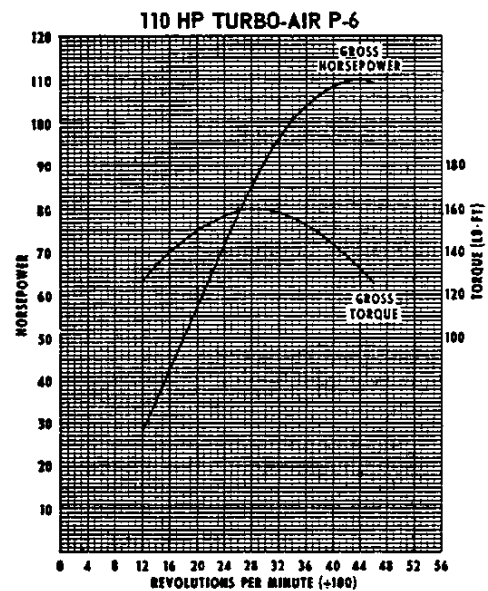
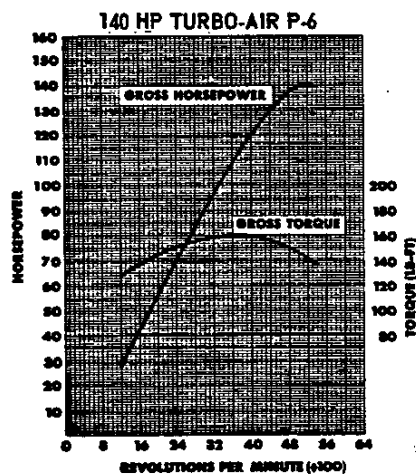
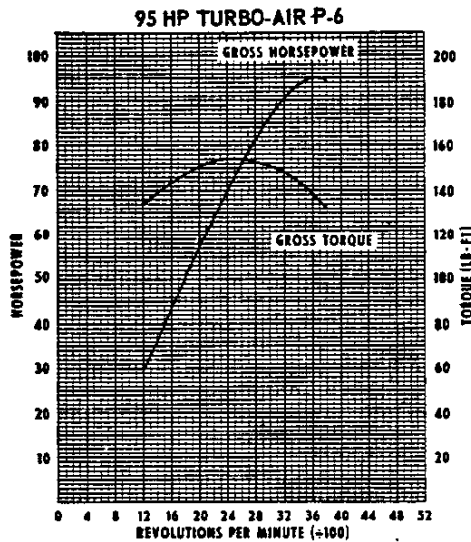
Performance Weight (pounds)	3162	3165	3197
Pounds per Gross Horsepower	33.28	28.78	22.84
Pounds per Cu.In. Displacement	19.40	19.30	19.49
Gross HP per Cu.In. Displacement	.579	.671	.853
Power Displacement (cu.ft./mile)	127.71	138.64	138.64
Displacement Factor (cu.ft./ton mile)	80.83	87.63	86.75

* Data computed assuming zero slippage in torque converter.

GLOSSARY

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

ENGINE OUTPUT CURVES



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

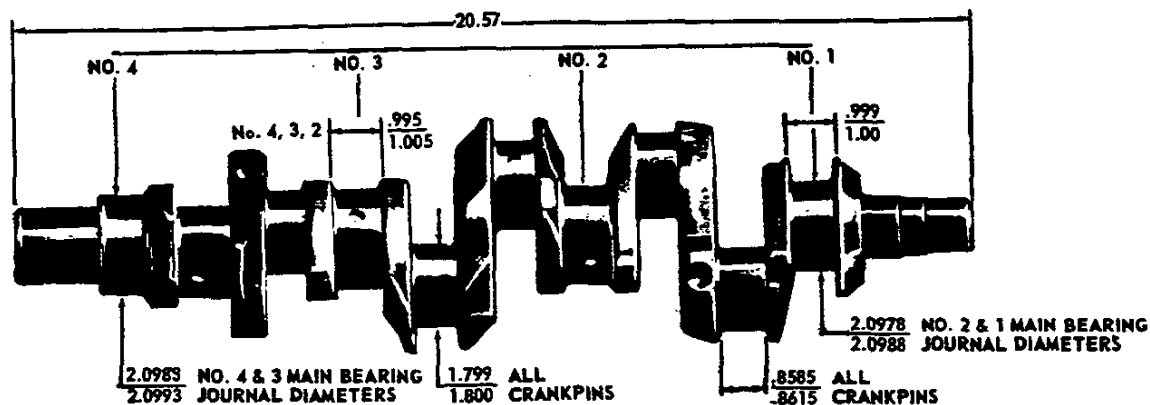
Material ----- Cast alloy iron
 Type ----- Straight-fitted to three steel
 sleeves pressed into cyl. head exhaust ports

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 & RPO L63 (140 HP) Engines ----- .2567
RPO L62 (110 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

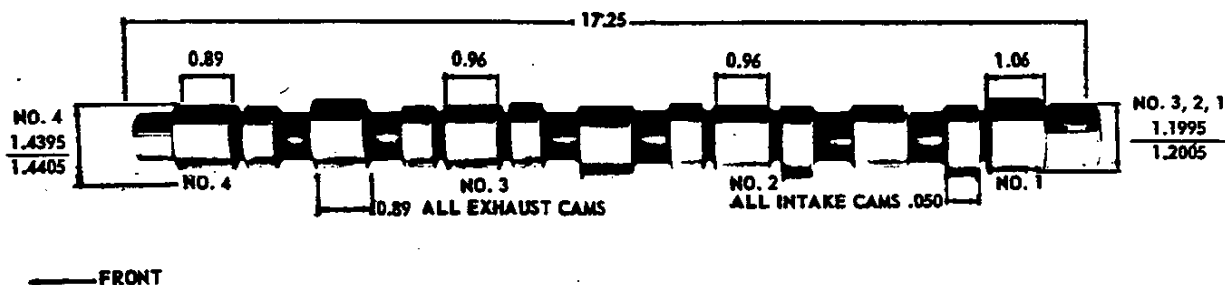
Inlet & Exhaust
Base 95 HP Engines ----- .4030
RPO L62-110 HP Engines ----- .4090
RPO L63-140 HP Engines ----- .4030

VALVE TIMING (Crankshaft degrees)

95 HP & 140 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 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°

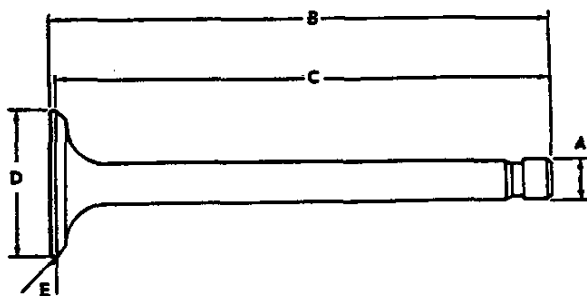
CAMSHAFT AND BEARINGS



PRINCIPAL COMPONENTS—Cont'd.

INLET VALVES

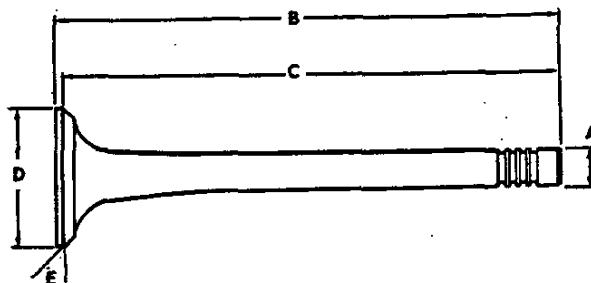
Material	High alloy steel
Coating	Aluminized face
Valve Guide Material	Cast alloy iron
Valve Seat Material	Sintered alloy iron



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

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	.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 ----- .048 sheet steel, aluminum coating
Wrap ----- .030 indented asbestos sheet
Cover ----- .018 sheet steel, aluminum coating
Heads
Base & RPO L62 -- .048 sheet steel, aluminum coating
RPO L63 ----- .060 sheet steel, aluminum coating
Baffles ----- 3; .060 sheet steel, aluminum coating
Length ----- 17.76
Height (I.D.) ----- 5.00
Width (I.D.) ----- 9.25

EXHAUST PIPE

Dimensions (O.D.)
95 HP & 110 HP Engines ----- 1.875
140 HP Engines (Dual) ----- 1.625
Wall Thickness ----- .067-.081

TAIL PIPE

Dimensions (I.D.) ----- 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 AND LUBRICATION

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

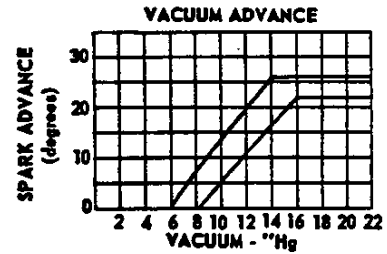
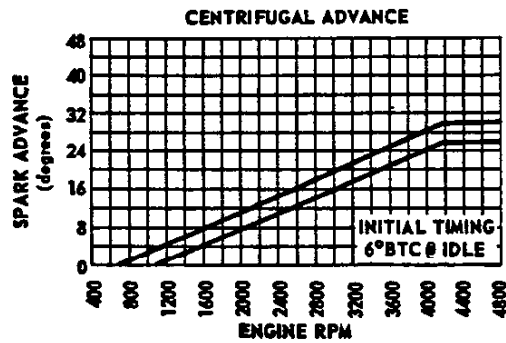
SPARK PLUGS

Make ----- AC
Type ----- R44PF
Thread Size (mm) ----- 14
Gap ----- .028-.033
Torque ----- 25 lb.ft.

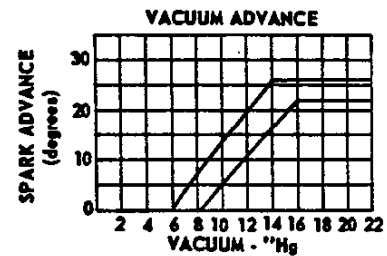
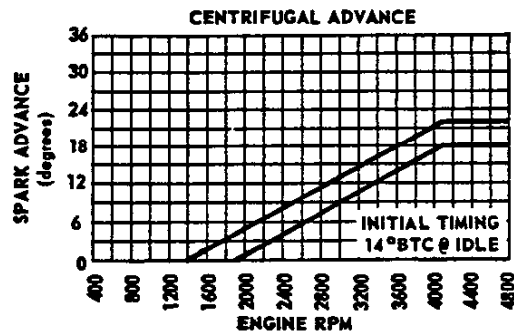
CABLE ----- Linen core impregnated
with electrical conducting material and
insulation of rubber with neoprene jacket

DISTRIBUTORS	95 HP		110 HP		140 HP	
	Standard		RPO L62		RPO L63	
Transmission	Manual	Auto	Manual	Auto	Manual	Auto
Model	1110452	1110453	1110454	1110455	1110454	
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	26 @ 4400	
Vacuum Advance Begins (in. Hg)	7.00		7.00		7.00	
Max Degrees @ in. Hg	24 @ 15		24 @ 15		24 @ 15	
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					

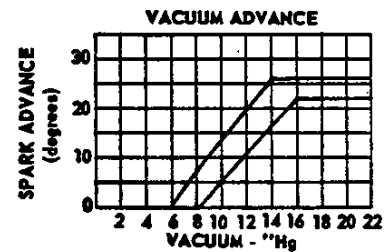
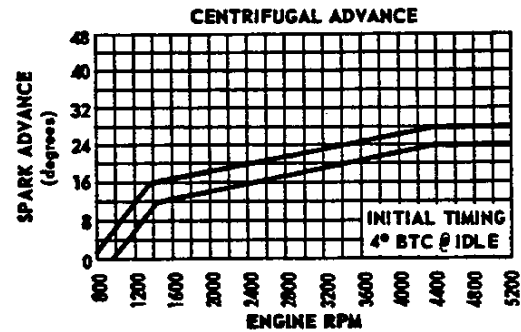
95 HORSEPOWER ENGINE



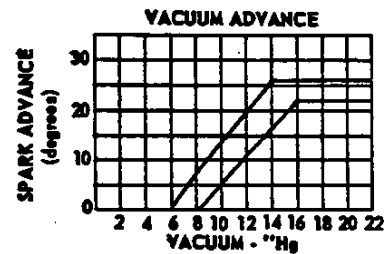
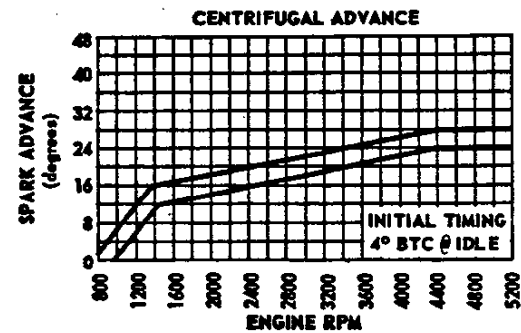
95 HORSEPOWER ENGINE AUTOMATIC TRANSMISSION



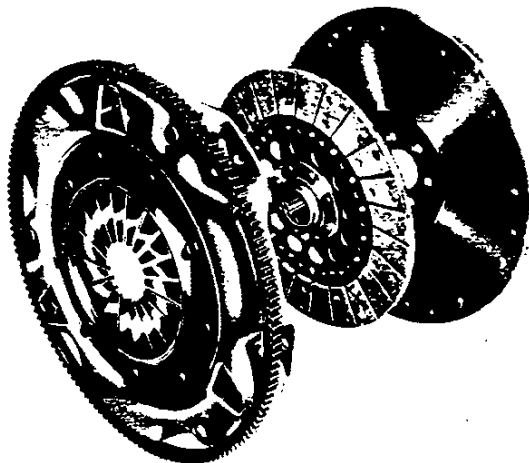
110 HORSEPOWER ENGINE



140 HORSEPOWER ENGINE

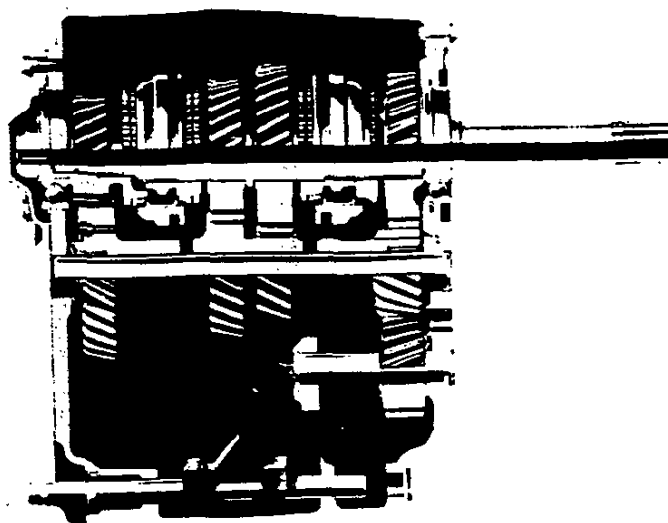


CLUTCHES



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	

TRANSMISSIONS



4-SPEED TRANSMISSION

3-SPEED AND 4-SPEED TRANSMISSIONS

Transmission Type		3-Speed			4-Speed			
Engine	Type	95 HP	110 HP	140 HP	95 HP	110 HP	140 HP	
Application	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			

TRANSMISSIONS—Cont'd.

AUTOMATIC TRANSMISSION (RPO M35)

GENERAL DATA

Type ----- Automatic hydraulic torque converter
with planetary gear system for low and reverse
Selector lever ----- Instrument panel
Location -----
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