

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 | Model Year | Assembly Plant (Willow Run) | Unit Number (25th unit) |
|-------|------------|--------------------------------|----------------------------|
| 10137 | 1968 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 EOID* |
|---------------------|-----------------------|--------------------|--------------------------------------|
| 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 | | MONZA | |
|--|--|-------|-----|-------|-----|
| | | 10100 | | 10500 | |
| | | \$7 | \$7 | \$7 | \$7 |
| Bright Trim And Ornamentation | Windshield reveal moldings | X | X | X | X |
| | Windshield pillar and header scalp moldings | | | X | 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 | X |
| | Headlamp and parking lamp bezels | X | X | X | X |
| | Front end panel nameplate "Corvaire" | X | X | X | X |
| | Front and rear side marker lamp bezels | X | X | X | X |
| | Front and rear wheelhouse moldings | | X | X | X |
| | Rocker panel moldings | X | X | X | X |
| | Front fender nameplates (500) | X | | | |
| | Front fender emblems (Monza) | | X | X | X |
| | Outside rear view mirror | X | X | X | X |
| | Hub caps | X | | | |
| | Wheel trim covers | | X | X | X |
| | Front door ventipane frame, channel and post | X | X | X | X |
| | Rear deck nameplate "Corvaire" | X | X | X | X |
| | Rear end panel cove molding | | X | X | X |
| | Tail and back-up lamp bezels | X | X | X | X |
| | Two-speed windshield wipers (satin finish) | X | X | X | X |
| | Engine exhaust grille (silver painted on Monza) | X | X | X | X |
| | Horn - single high note | X | | | |
| | Horn - dual low note | | X | X | X |
| | Folding top - manual (vinyl rear window) | | | X | X |

REGULAR EQUIPMENT—INTERIOR

| | | 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 |

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) - 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 |
| Auto Service | | |
| 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 | 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 |
| 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 |

REGULAR PRODUCTION OPTIONS AND DEALER INSTALLED ACCESSORIES

| Equipment | RPO/ACC | Models |
|--|---------|----------------|
| Operating 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 |
| Radio | | |
| 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 |

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DIMENSIONS AND WEIGHTS

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|---------------------------|---|
| INTERIOR DIMENSIONS | 2 |
| LUGGAGE CAPACITY | 2 |
| EXTERIOR DIMENSIONS | 3 |
| VEHICLE WEIGHTS | 4 |

INTERIOR DIMENSIONS

FRONT COMPARTMENT

| CODE | DESCRIPTION | SPORT COUPES | | CON- VERTIBLE |
|------|--------------------------------|--------------|--------|------------------|
| | | 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 |

EXTERIOR DIMENSIONS

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 Description | SHIPPING WEIGHT | | | CURB WEIGHT | | |
|--------------|-----------------------------|-----------------|------|-------|-------------|------|-------|
| | | 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 |
| L42 | 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 | 2 |
| EXTERIOR-INTERIOR COLORS | 3 |
| BODY CONSTRUCTION AND GLASS AREA | 4 |

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 | | |
|--------|----------------|----|--------------|---------------------------------|------|------|
| | 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 |

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|--|---|
| 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 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 |

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 Alloy | 117.53 | .538 | 4.20 | 15.79 | 7.78 @ 1070 | 160 | |
| 3859202 | B | Hand Helix | | 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 | | 4 |
| Turn | 2-1157 | 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 | | 4 |
| 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) | 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*

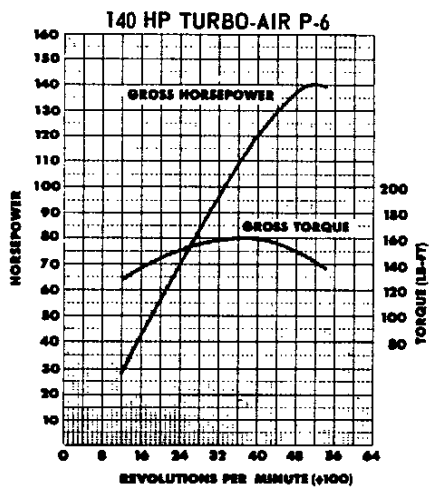
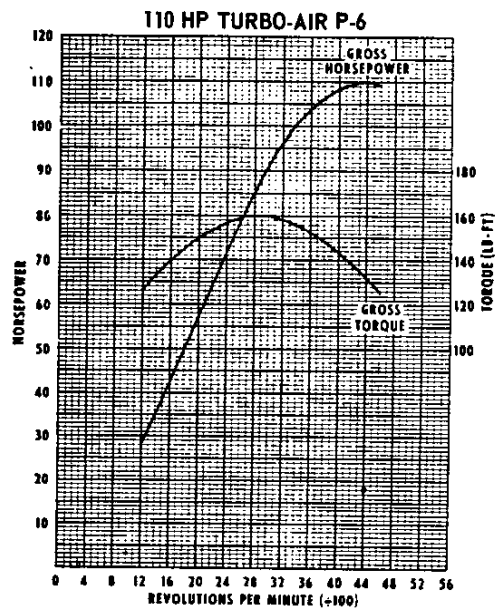
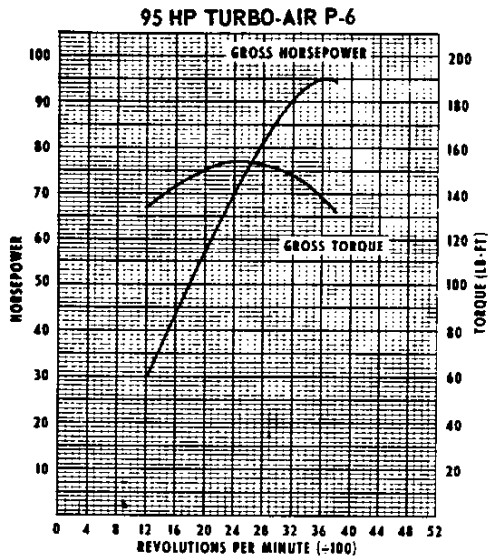
| | | | |
|---------------------------------------|--------|--------|--------|
| Performance Weight (pounds) | 3137 | 3140 | 3172 |
| Pounds per Gross Horsepower | 33.02 | 28.55 | 22.66 |
| Pounds per Cu.In. Displacement | 19.13 | 19.15 | 19.34 |
| Gross HP per Cu.In. Displacement | .579 | .671 | .853 |
| 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 | $\frac{\text{Crankshaft Revs/Mi} \times \text{Piston Displacement}}{2 \times 1728}$ |
| 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

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

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

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

CYLINDER HEADS

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

MAIN BEARINGS

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

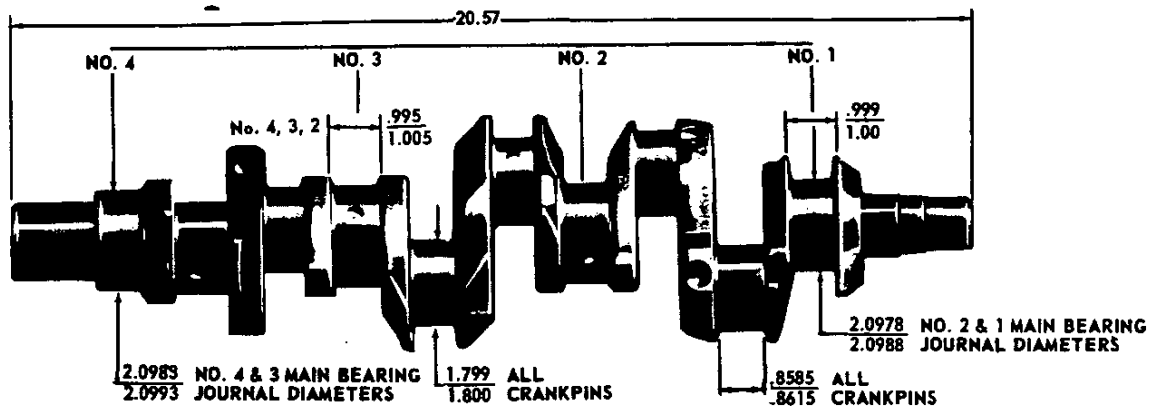
| Bearing | Clearance | Theoretical Inner Dia. | Effective Length | Projected Area |
|---------|-------------|------------------------|------------------|----------------|
| 1 | .0005-.0020 | 2.0996 | .7874 | 1.6532 |
| 2 | .0002-.0013 | 2.0991 | .7520 | 1.5785 |
| 3 | .0005-.0010 | 2.0996 | .7520 |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

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.

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 LIFT

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

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 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° |

VALVE SPRINGS

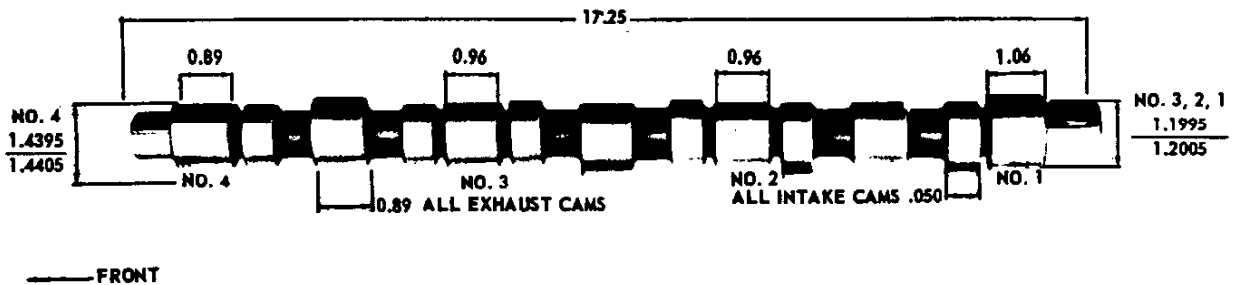
Diameter (I.D.) ----- .872-.888
 Installed Length (Lb. @ In.) -----
 Valves Closed ----- 78-86 @ 1.66
 Valves Opened ----- 170-180 @ 1.26
 Free Length ----- 2.08
 Valve Spring Dampers ----- Flat steel coil

| 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° |

VALVE TRAIN LASH

Inlet ----- Zero
 Exhaust ----- Zero

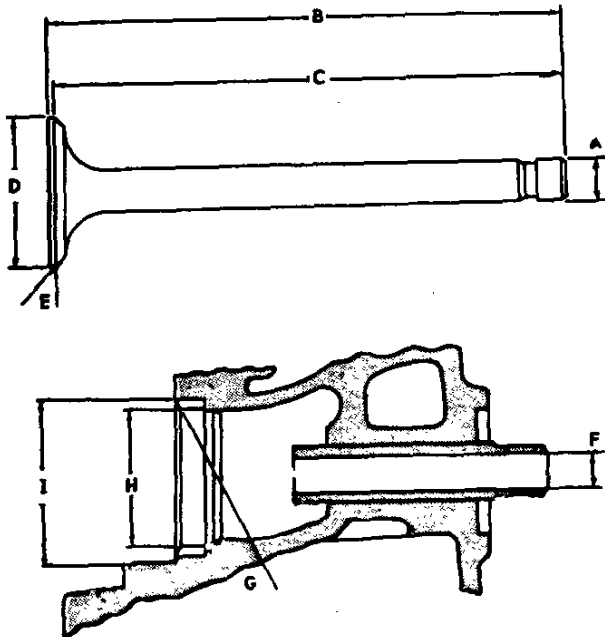
CAMSHAFT AND BEARINGS



PRINCIPAL COMPONENTS—Cont'd.

INLET VALVES

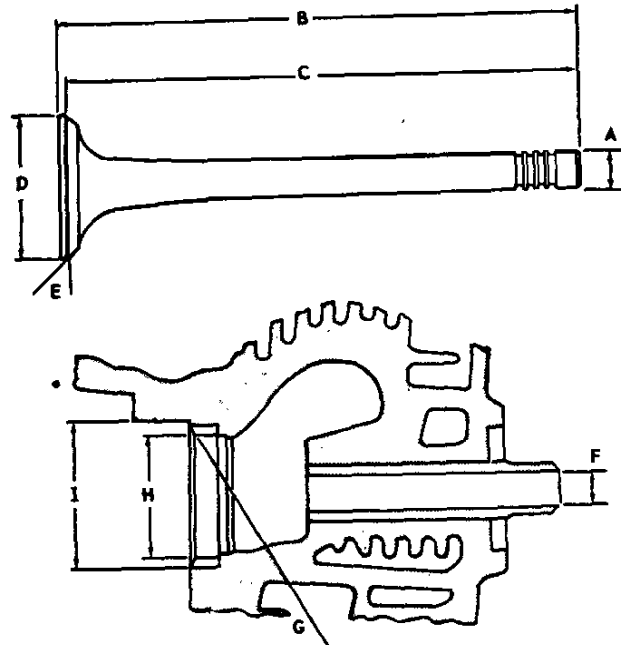
| | |
|----------------------|--------------------|
| Material | High alloy steel |
| Coating | Aluminized face |
| Valve Guide Material | Cast alloy iron |
| Valve Seat Material | Stirred alloy iron |



| | |
|---------------------------|---------------|
| 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 ----- .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 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

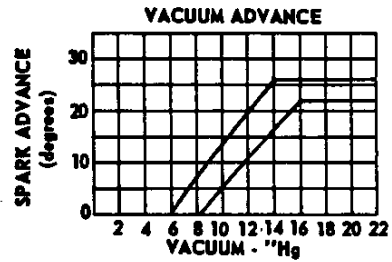
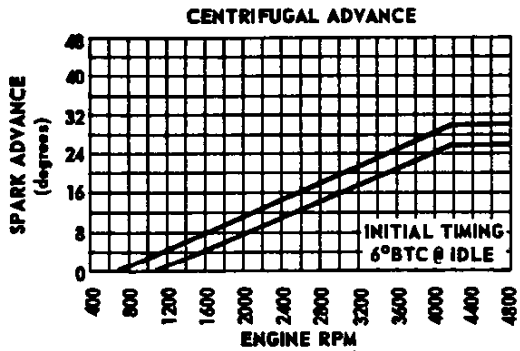
SPARK PLUGS

Make ----- AC
 Type
 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

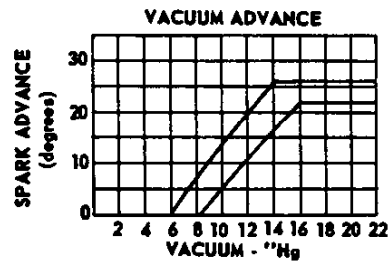
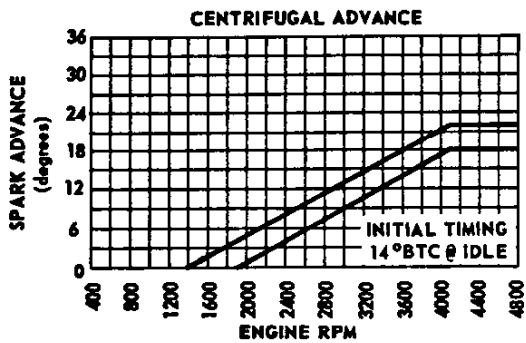
CABLE ----- Linen core impregnated
 with electrical conducting material and
 insulation of rubber with neoprene jacket

| DISTRIBUTORS | 95 HP Standard | | 110 HP RPO L62 | | 140 HP RPO L63 | |
|--|-------------------|-----------|-------------------|-----------|-------------------|----------|
| | Manual | Auto | Manual | Auto | Manual | Auto |
| Transmission | | | | | | |
| 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 | | | | | |

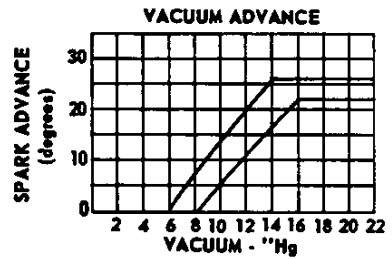
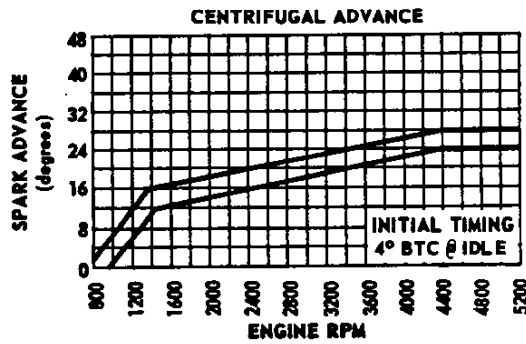
95 HORSEPOWER ENGINE



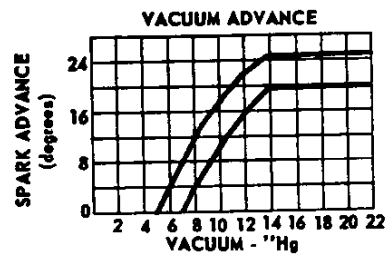
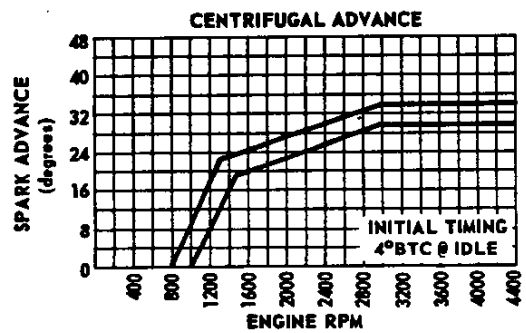
95 HORSEPOWER ENGINE AUTOMATIC TRANSMISSION



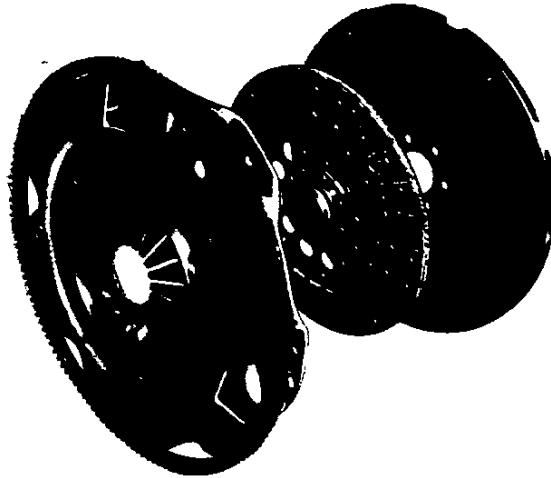
110 HORSEPOWER ENGINE



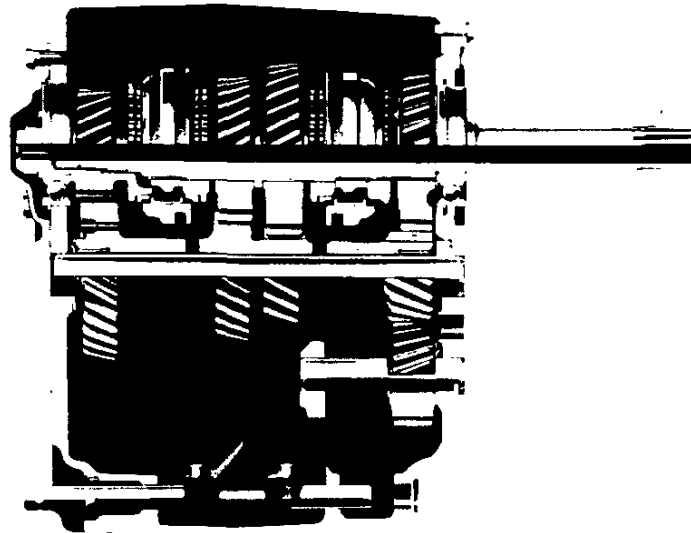
140 HORSEPOWER ENGINE



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 | | |
| | 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 | 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
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

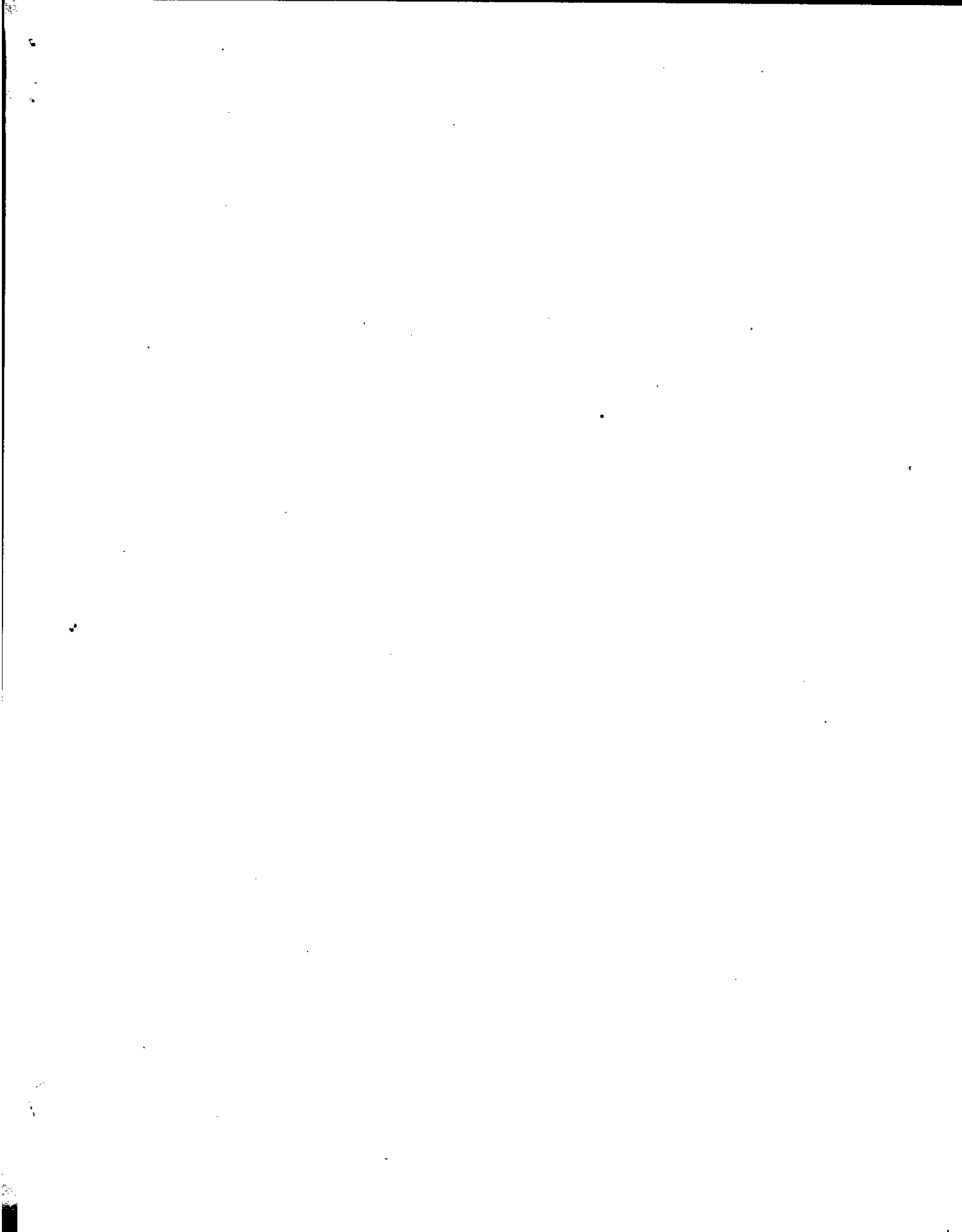
Type ----- A suffix A
Capacity (pts.)
Dry ----- 13
Refill ----- 4.6

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





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