CHEVROLET

SERVICE NEWS

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1961 CHEVROLET FEATURES

This issue outlines new product features and changes in service procedures for the 1961 Chevrolet Passenger Car, Corvair, Truck and Corvette. It can be used to augment the 1961 Passenger Car Shop Manual, 1961 Corvair Shop Manual and 1961 Truck Supplement. The Carvoir Shop Manual includes the L.D.F.C. models.

This publication is divided into four parts (1) Passenger Car (2) Corvair (3) Truck and (4) Corvette. Each part is subdivided into sections numbered the same as the Chevrolet Shop Manuals. Major constructional changes, theory of operation of new units, and related service procedures are described. Complete service procedures are covered in the Shop Manuals. Sections that contain no major changes for 1961 are not included in this issue.

PART 1—PASSENGER CAR

SECTION 1—GENERAL INFORMATION

The 1961 model line-up consists of 20 models grouped into 5 series. Series names are carried the same as in 1960, as are all model designations except for 4-door sedans. With the elimination of the rear quarter windows, 4-door sedans are now designated 69 rather than 19.

Added to the Impala Series is a new 2-Door Sedan. This now gives the Impala line a full complement of models with 2 and 4-Door Sedans, Sport Coupe, Sport Sedan, and Convertible.

The Station Wagon Series is expanded for 1961 to include 9-passenger options for all models. Six models are now offered: 6 and 9-Passenger Brookwood, 6 and 9-Passenger Parkwood, and 6 and 9-Passenger Nomad models. Eliminated from the line is the 2-Door, 6-Passenger Brookwood and the 9-Passenger Kingswood.

Engine Line-Up

The 1961 engine line-up for both base and optional engines is the same as in 1960 except for

MODEL IDENTIFICATION CHART

Series	Model Number	Body Style
Biscayne	1111-1211	2-Dr. Sedan
	1121-1221	2-Dr. Utility Sedan
	1169-1269	4-Dr. Sedan
Biscayne Fleetmaster	1311-1411	2-Dr. Sedan
	1369-1469	4-Dr. Sedan
Bel Air	1511-1611	2-Dr. Sedan
	1569-1669	4-Dr. Sedan
	1537-1637	2-Dr. Sport Coupe
	1539-1639	4-Dr. Sport Coupe
Impala	1711-1811	2-Dr. Sedan
	1769-1869	4-Dr. Sedan
	1737-1837	2-Dr. Sport Coupe
	1739-1839	4-Dr. Sport Sedan
	1967-1867	Convertible
Station Wagon	1135-1235	4-Dr., 6-Pass. (Brookwood)
	1145-1245	4-Dr., 9-Pass. (Brookwood)
	1535-1635	4-Dr., 6-Pass. (Parkwood)
	1545-1645	4-Dr., 9-Pass. (Parkwood)
	1735-1835	4-Dr., 6-Pass. (Nomad)
	1745-1845	4-Dr., 9-Pass. (Nomad)

changes outlined below (refer to Power Train Chart).

The 305 HP Turbo-Thrust Special now has a 9.5:1 compression ratio using a fitted block similar to the 250 HP Turbo-Thrust (hydraulic lifters, standard pistons and camshaft), but also utilizing an AFB type carburetor, large diameter valves, high performance valve train, large smooth wall intake and exhaust systems.

The regular Powerglide transmission is no longer available for Turbo-Thrust engines. The 3 or 4 speed transmissions, as well as the Heavy Duty Powerglide, may now be used with the 305 HP Turbo-Thrust Special.

1961 PASSENGER POWER TRAINS

Engine	G.H.P. / Comp.	Transmission	Axle
WITH BASE ENGINES			
Hi-Thrift Six	135 @ 4000	3-Spd. Exc/Wagon	3.36
		" Sta. Wagon	3.55
235.5 cu. in.		Overdrive	3.70
1-Bbl. Carb.	8.25:1	Powerglide	3.36
283 V-8	170 @ 4200	3-Speed	3.36
Economy Turbo-Fire		Overdrive	3.70
		Powerglide	3.08
2-Bbl. Carb.	8.5:1	Turboglide	3.36
WITH OPTIONAL ENGINES			
283 V-8 Super Turbo-Fire (RPO 410)	230 @ 4800	3-Speed	3.36
		Overdrive	3.70
		Powerglide	3.08
4-Bbl. Carb.	9.5:1	Turboglide	3.36
348 V-8 Turbo-Thrust (RPO 576)	250 @ 4400	3-Speed	3.36
		4-Speed	3.08
4-Bbl. Carb.	9.5:1	Turboglide	3.08
Turbo-Thrust Spec. (RPO 590)	340 @ 5800	3-Speed	3.70
4-Bbl. Spec. Cam	11.25:1	4-Speed	3.70
Turbo-Thrust Spec. (RPO 572)	305 @ 5200	3 (or) 4-Speed	3.36
4-Bbl. Carb.	9.5:1	H.D. Powerglide	3.55
Super Turbo-Thrust (RPO 573A)	280 @ 4800	3-Speed	3.36
		4-Speed	3.36
3X2-Bbl.	9.5:1	Turboglide	3.08
Super Turbo-Thrust Spec. (RPO 573B)	350 @ 6000	3-Speed	3.70
		4-Speed	3.70
3X2-Bbl.	11.25:1		

SECTION 3—FRAME AND SUSPENSION

Frame

Except for refinements in the frame, the 1961 frame is basically the same as the 1960 design. The sidemember length is shorter due to less rear overhang. The height of the frame sidemembers forward of the tunnel is decreased.

Wheels and Bearings

Wheel rim width on 9-passenger station wagons is increased to 6 inches replacing the 5.5 inch rims previously used. The wider rims increase vehicle stability by reducing tire deflection and the tendency to oversteer when loaded.

The front wheel bearings (Fig. 1) are tapered roller bearings, replacing the ball type bearings.

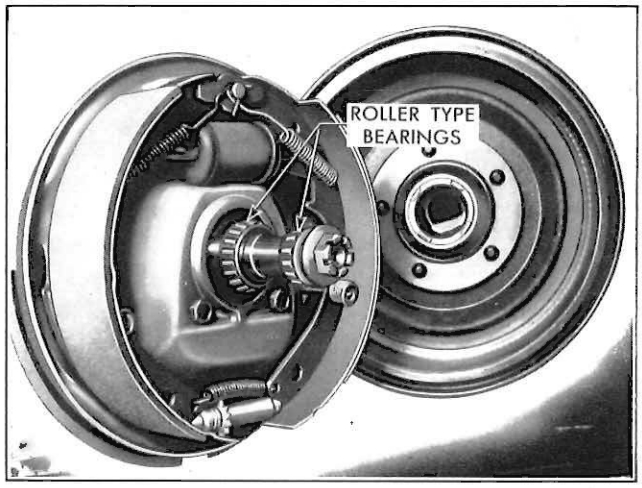


Fig. 1—Roller Type Front Wheel Bearings

To properly adjust the front wheel bearings the adjusting nut should be tightened to 10 ft/lbs. torque, while rotating the wheel. If cotter pin does not line up, continue to back off the adjusting nut an additional ½ flat or less as required to install the cotter pin. These tapered bearings should have zero preload and .000 to .005 end play when properly adjusted.

NOTE: *The revised bearing adjustment procedure, shown above, supersedes all sections of previously published instructions that may now be in conflict.*

To properly install front wheel inner and outer bearings use new installer tool J8849 for the outer bearing and J8850 for the inner bearing. Driver handle J8092 should be used with the installers to assist in accurately positioning the new bearings into the hub (Fig. 2).

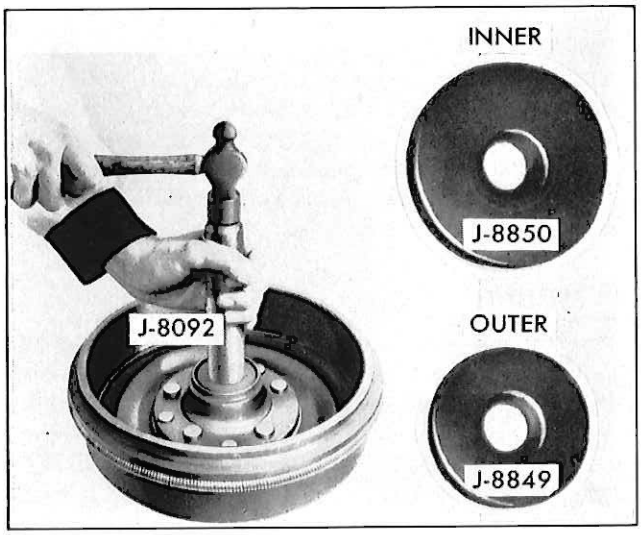


Fig. 2—Front Wheel Bearing Installers

SECTION 4—STEERING

The 1961 Passenger Car and Conventional Truck Power Steering Pump (Fig. 3) incorporates some significant constructional changes. The changes include (1) two new filters and pressure relief valve (2) relocation of the return oil hose (3) two mounting studs replacing the mounting bolts and (4) higher pump pressures.

The operation of the pump remains the same as the 1960 pump with the exception of a pressure relief valve and higher pump pressures.

A return oil filter located in the pump body will help to minimize pump failures caused by dirt

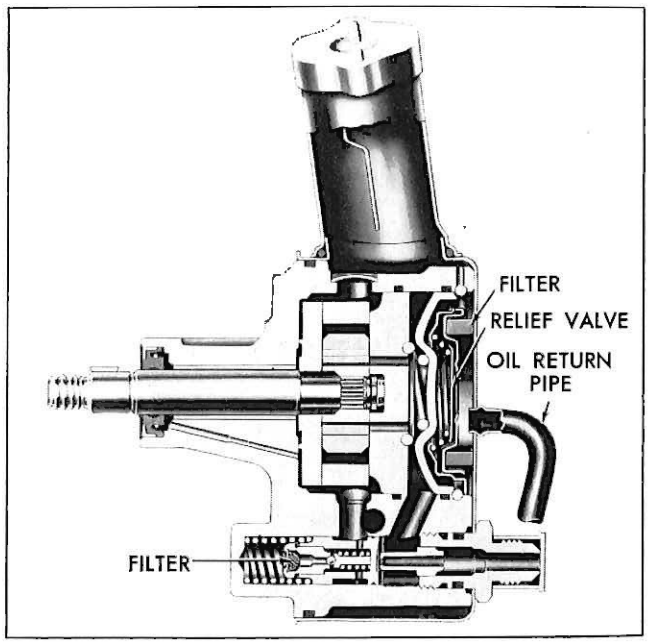


Fig 3—Power Steering Pump

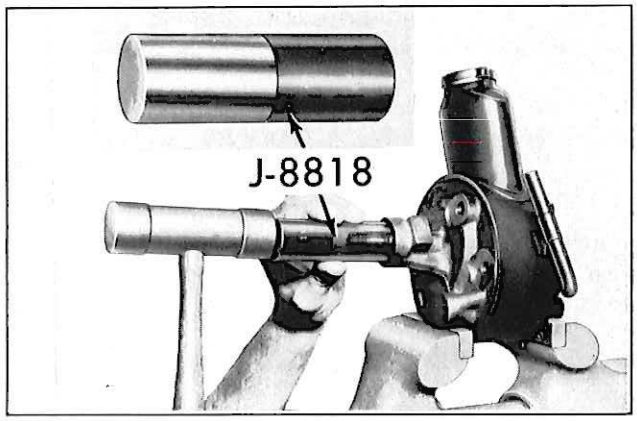


Fig. 4—Pump Seal Installer

in the system. If the filter should become plugged, oil can bypass the filter through a spring loaded by-pass valve.

Use of the second filter involved elimination of the filter in the fitting assembly and the addition of a filter to the flow control valve.

The oil return line has been relocated to the center of the pump body back cover which helps direct oil flow to both sides of the pump equalizing the oil level at the inlet ports.

Oil pressure for the 1961 power steering pumps has been increased to reduce parking effort. The Passenger Car pressure has been increased from 770-900 psi to 870-1000 psi, with 1961 Truck power steering pump pressure being 900-1000 psi.

A new power steering seal installer is available for power steering pumps (fig. 4). The seal can be driven with pump shaft in place. This tool J8818 makes certain the driving force is properly applied to the seal to prevent seal distortion and possible oil leaks.

Tool J8937, shown in Fig. 5, is used to remove and install ball seats in the ends of the power

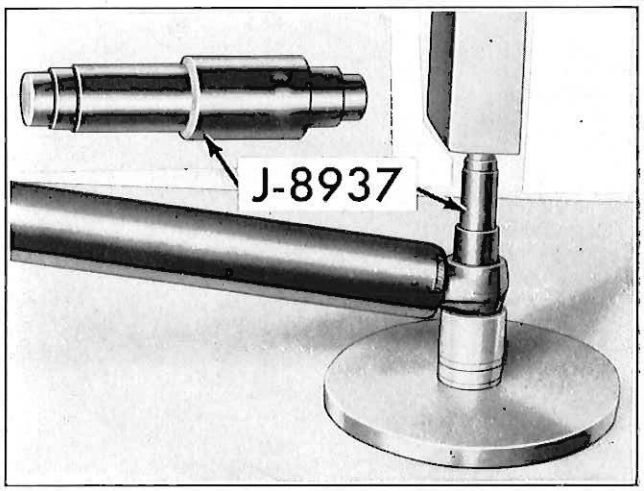


Fig. 5—Steering Cylinder Seat Installer

steering cylinder. This tool will properly install the ball seat without damage to adjacent cylinder parts.

SECTION 8—ENGINE COOLING

The radiators used with the 235 and 2 barrel 283 V-8 engines are new for 1961 models. By increasing the number of fin per square inch of core area, additional metal surface is placed in the air stream (Fig. 6). This improves the radiator

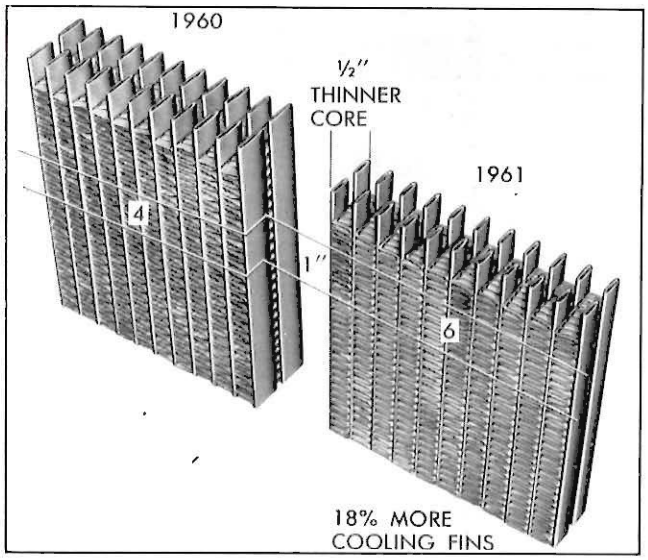


Fig. 6—Change In Radiator Construction

transfer of heat sufficiently to permit a reduction of core thickness from 1¾ inches to 1¼ inches. The frontal area and cooling system fluid capacity are the same as the 1960 models.

SECTION 9—ELECTRICAL

Gasoline Gauge

A new gasoline gauge tank unit with a cam locking attachment is used on all 1961 Passenger

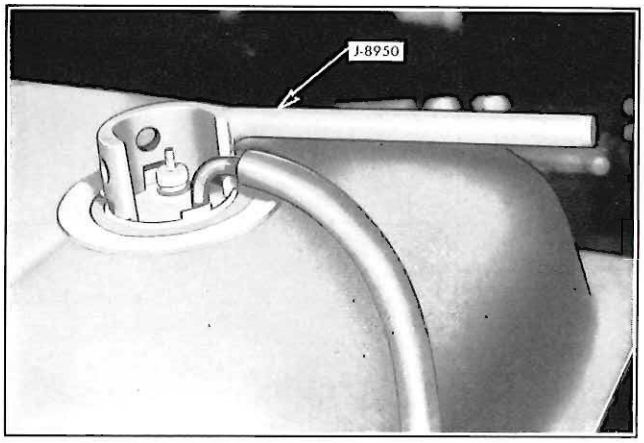


Fig. 7—Gas Gauge Removing Tool

Car and Corvair models including the L.D.F.C.

A new tool J-8950 Gas Tank Gauge Remover is designed to remove and install the gauge (Fig.7). When the gauge is either being removed or installed, it is necessary to properly position and firmly hold the tool against the gas gauge cam locking ring with one hand and turn the tool handle at least 100 degrees with the other hand.

Ignition Switch

A new position "ACC" has been added to the ignition switch which provides accessory and turn signal operation separate from the ignition system.

A new theft resistant electrical connector is used in conjunction with the five position switch. The connector is a one piece plastic unit, which snaps onto the switch body. The connector cannot be removed unless the switch and connector assembly are removed from the instrument console and the connector locking arms, then spread apart.

SECTION 10—FUEL TANK

Fuel Tank

For Passenger Car models other than station wagons, the underbody kick-up over the rear axle has been extended rearward to provide room for the rectangular shaped fuel tank which is positioned laterally across the vehicle (Fig. 8).

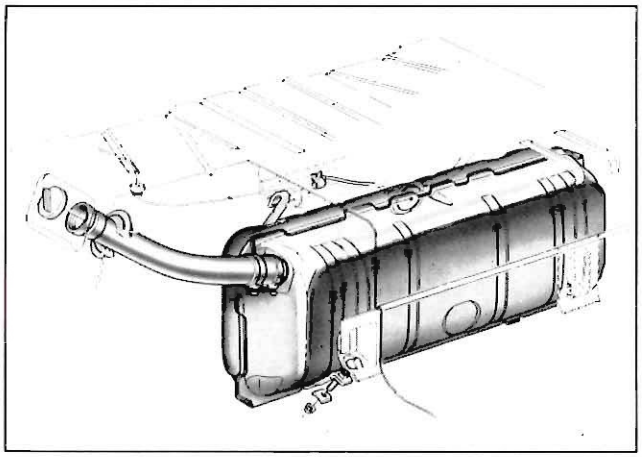


Fig. 8—Passenger Car Fuel Tank Mounting

Fuel tanks for station wagon models are located high in the left rear quarter panel behind the rear wheel (Fig. 9).

All except station wagon models utilize a fuel tank filler neck with inner and outer concentric pipes to provide rapid, splash-free filling. Fuel is directed down the inner pipe while vented air escapes via the passage between the pipes. At the upper end of the inner pipe, holes are added which

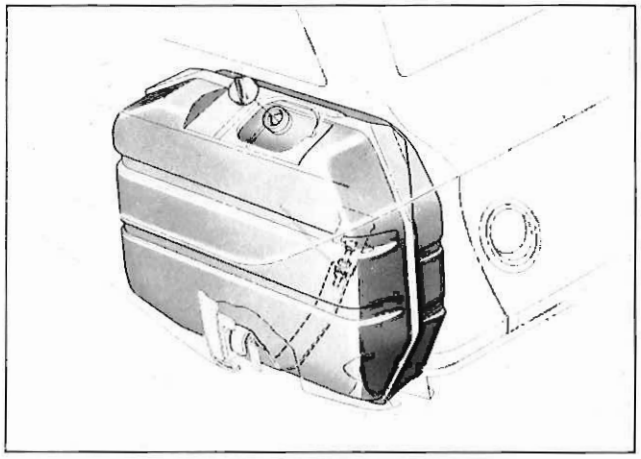


Fig. 9—Station Wagon Fuel Tank Mounting

permit a slight build-up of vented air to supply back-pressure necessary to shut off automatic pump nozzles.

When removing the gas tank from a Passenger Car, loosen filler neck hose clamp, disconnect the gas gauge ground wire, gas gauge lead and fuel supply hose. After the two supporting strap nuts are removed the tank can be lowered. When installing the tank position the two support strap upper nuts to 1⅛" from the upper end of the support bolts. This will insure proper seating of the tank into the underbody. The only differences in removing a Station Wagon gas tank is that the filler is an integral part of the Station Wagon gas tank, and only one strap is used.

SECTION 11—CLUTCH

All Passenger Car engines use diaphragm spring type clutches, of two basic designs. The clutch used with the six cylinder engines and the two-barrel equipped 283 cu. in. V-8 engine has straight diaphragm spring fingers. The clutch used on 4-barrel carburetor 283 cu. in. engines and 348 cu. in. engines has 6 of the 18 spring fingers bent upward, with weights attached to provide additional high-rpm capacity.

For 1961 two-barrel equipped 283 cu. in. V-8 engines, the clutch cover and pressure plate assembly has a spring load of 1700 and 1875 lbs.—compared with a spring load for 1960 of 1575 to 1700 lbs.

SECTION 12, 13—TRANSMISSIONS

Five different transmissions are again available for 1961. The 3-speed transmission continues as standard equipment with the Overdrive, 4-speed, Powerglide and Turboglide available optionally. The standard Powerglide transmission for 1961 is available only with the L-6, Turbo-Fire V-8 and Super Turbo-Fire V-8 engines. A heavy-duty Powerglide is available with the Turbo-Thrust Special.

Powerglide

The 1961 Powerglide shift linkage will be of the cordon shaft type, similar to that used on the 1960 Turboglide.

The high clutch drive discs are now slightly waved to prevent plate burning during neutral or reverse over-speed conditions. The driven clutch discs are now flat. There is no special procedure for installing clutch discs.

Note: Formerly the drive discs were flat and the driven discs were waved.

The clutch hub thrust washer Part No. 3737901, used in service back to 1950, has been replaced for 1961 by Part No. 3783286, to provide a more positive locating pilot. Instead of a washer- shaped disc, the new washer has an extruded center section, which projects into a counterbored low sun gear. Thrust washer Part No. 3783286 will not fit past models.

New low sun gear and clutch flange assemblies (Part No. 3787219 for regular Powerglide, and Part No. 3787220 for high performance Powerglide) replace the old Part Nos. 3758505 and 3765058 for both production and service. Either type thrust washer could be used with the new flange assemblies; however, use of the later thrust washer is preferred.

The welded torque converter has been revised

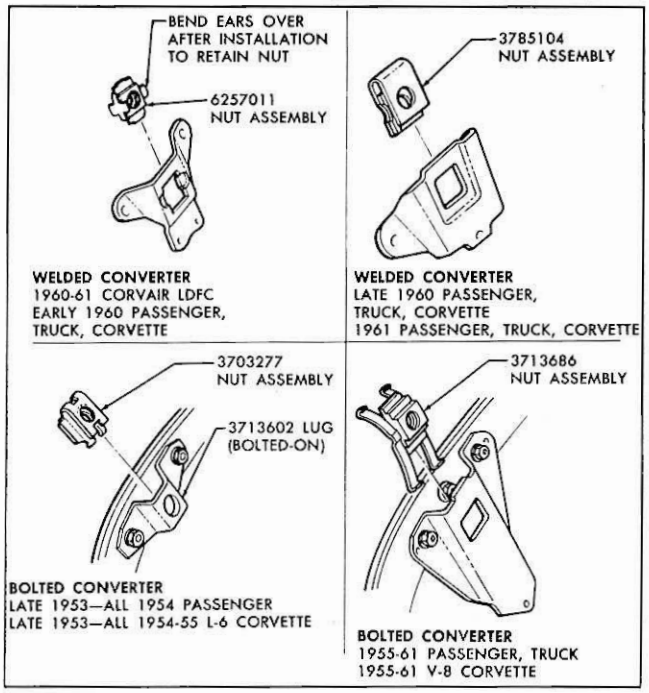


Fig. 10—Power Glide Converter Drive Lugs

to incorporate better flywheel attaching lugs, and nut and retainer assemblies. The new parts are not interchangeable with past models. Refer to Figure 10 for identification of lug types and corresponding nut and retainer assemblies for all Powerglide transmissions using 3/8 inch flywheel attaching bolts.

Turboglide

Torrington thrust washers are eliminated at the following locations in the 1961 Turboglide: stator-to-third turbine, third turbine to second turbine, the Torrington and race at the forward end of the sprag, at the rear of the sprag, and the Torrington and two races forward of the rear planetary gearset. For reference, these items are shown in cross section in Figure 9, Section 13, of the 1959-60 Passenger Car Shop Manual Supplement, as items 4 (the two inboard washers), 62, 61, and 55.

The accumulator of the hydraulic modulator valve body is deleted for 1961 (entered production during 1960). Refer to Figure 68, Section 13 of the 1959-60 Passenger Car Shop Manual Supplement. All components there illustrated are eliminated in the 1961 design, except the hydraulic modulator valve and the hydraulic modulator valve body.

Three Speed and Overdrive

No further periodic oil change required, replenish as necessary with specified lubricant.

Four Speed

New gear ratios in the first three gears are: 2.54:1 in first, 1.92:1 in second, 1.51:1 in third.

The first speed gear bushing on the mainshaft is eliminated in the 1961 transmission. This sleeve bushing is shown as item 28, Figure 5, in Section 12 of the 1959-60 Passenger Car Supplement.

SECTION 14—BODY

A wide air inlet is located above the 1961 grille, which permits additional air to be directed to the radiator.

The front pillars are redesigned for all models in 1961. The lower portion is further forward which changes the shape of the windshield and ventipane.

A change in the body structure for 1961 4-door sedan models is the elimination of the small rear quarter windows.

The Sport Coupe roof is slightly shorter. The upper portion of the rear window extends further into the roof.

Rear lock pillars on the Sport Sedan models are increased in width.

The rear of the 1961 Station Wagon roof sweeps upward and projects outward, forming a canopy to minimize water leaks at the rear window.

Rear Lights

Three tail lights are used on each side for the Impala models, with two tail lights used for the Bel Aire and Biscayne models. Station Wagons use two tail lights.

When three tail lights are used the outer and inner lights of each panel serve as the stop, tail and directional signal lights, with the center light used as a back-up light. For models with two tail lights, the outboard lights are the stop, tail and directional signal lights, while the inboard lamp housings on Biscayne and Brookwood models are intended RPO back-up light. The inner lights for Bel-Air and Parkwood models serve only as supplementary tail lights. The inner lights are back-up lights on the Nomad models.

Optional back-up lights are installed in the supplementary inner tail light locations for the Bel-Air and Parkwood models.

Tailgate

The Station Wagon tailgate body opening is increased approximately 9½" in width and 3½" in height. The opening is approximately 3.7" higher at the center. Load height of the cargo floor is decreased one inch.

A single torque bar is now integrated with a new design concealed tailgate hinge (Fig. 11). The strap shaped torque bar is supported by a

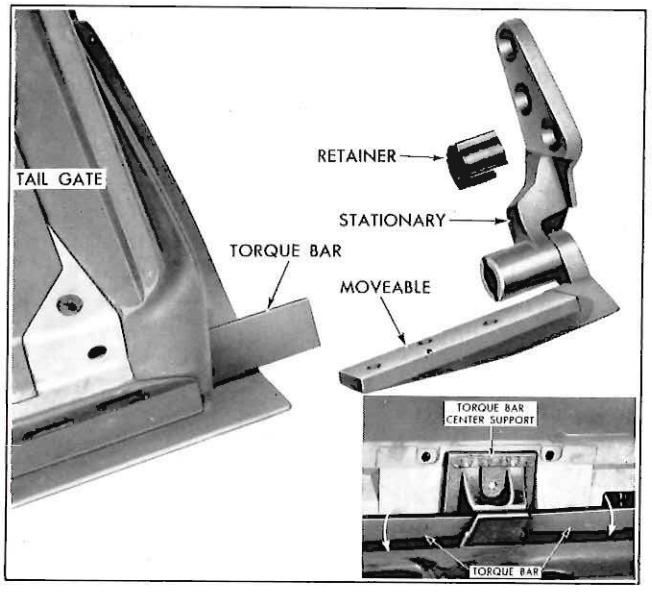


Fig. 11—Tailgate Hinge and Torque Bar

bracket at the center of the tailgate and slides into a slot in both of the tailgate hinges.

Power operated rear window and third seat courtesy light are standard equipment on all nine Passenger Station Wagon models. For all six-passenger Station Wagon models manual operated rear window is standard with power operated window available as an option.

Windshield Wiper

The new windshield wiper system utilizes a direct-link parallel acting mechanism. Electrically operated, the blades wipe in an overlapping pattern to provide a larger wiped area.

Glass

All 1961 Passenger Car models use solid safety plate glass in all windows except the windshield. All windshields are laminated safety plate glass. In 1960 Sport models and Convertibles used laminated safety plate glass in all side roll down windows, and also in some ventipanes.

A single curved windshield rather than a compound curved windshield is used in all 1961 models with one exception. The Convertible retains a compound curved windshield.

Instrument Console

A new type of instrument mounting is featured in the 1961 models. In the past, instruments and controls were attached directly to the full width non-removable instrument panel. The new arrangement utilizes a console to which all dials, telltale lights and instruments are mounted–also houses the ash tray, glove compartment, radio and speaker.

Individual instruments are easily removed without removal of the console, however, the console should always be removed to facilitate speedometer servicing.

To remove the instrument console two clamps must be loosened and slipped up the mast jacket.

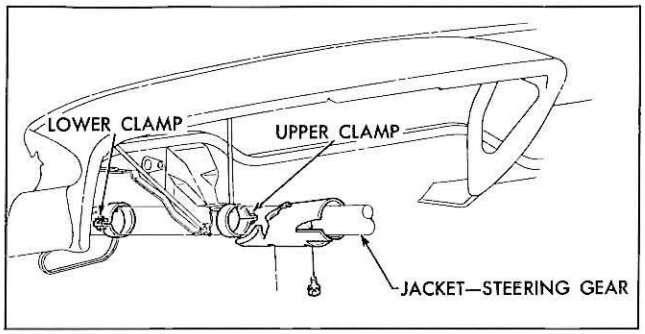


Fig. 12–Mast Jacket Clamp

The upper clamp connects the mast jacket to the instrument panel support and the lower clamp connects the lower end of the mast jacket to the dash support (Fig. 12).

The steering wheel and mast jacket assembly can then be lowered to provide the necessary clearance for removing the instrument console.

Removal of six screws placed around the perimeter of the console (Fig. 13) will then permit lowering the console for servicing components.

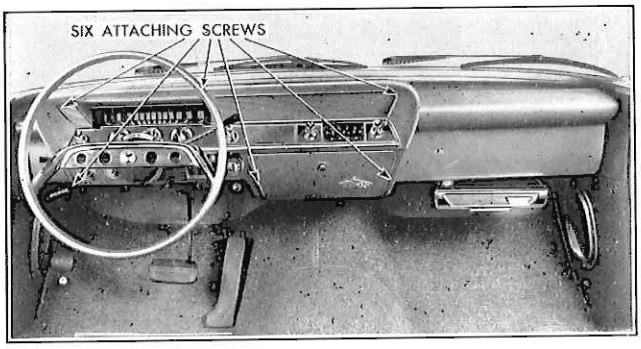


Fig. 13–Instrument Console

Luggage Compartment

Passenger Car luggage compartment loading height is decreased up to 10½ inches as compared to the height of the 1960 deck lid bottom sill.

A completely concealed stowage compartment is featured for all Station Wagons. The 10.5 cubic foot capacity storage well for the 6-passenger models is hidden under a cover in the rear cargo deck and is accessible from the rear.

Hidden stowage space is available in the nine passenger wagon with the third seat up or down. The rear facing third seat arrangement is continued but with the addition of storage space under the seat. The third cushion and back hinges are of the quick release pin type to permit complete removal of the unit. With the third seat up, part of the well serves as a foot compartment with the portion under the cushion available for stowage.

An optional key type lock for the concealed compartment is offered for all station wagons. A split type second seat is also available as an option on wagons.

Body Exterior Colors

Fifteen solid colors and ten 2-tone combinations are offered for the 1961 models. Ten colors are new with black, white, silver, red and gray carried over from 1960. For 2-tone combinations, the roof is painted one color with the remainder of the vehicle painted a second color. The roof color is also used in the insert area between the body side moldings for the Impala, Nomad, Bel Air and Parkwood models.

1961 CHEVROLET REFINISH PAINT CHART

Passenger Car Exterior Colors

Combination Number			ACRYLIC LACQUER			REGULAR LACQUER	
Pass. & Corvair	Corvette	Color	Lucite® Stock No.	R-M Stock No.	Ditzler Code No.****	"Duco"***	R-M Stock No.***
900	503-A	*Tuxedo Black	88-L	A-946	DDL 9300	44	400
903	—	Seafoam Green	4148-L	A-1391	DDL 42838	94296	1391
905	—	Arbor Green Met.	4142-L	A-1394	DDL 42837	94694	1394
912	502-A	Jewel Blue Met.	4143-L	A-1396	DDL 12398	94696	1396
914	—	Midnight Blue Met.	4147-L	A-1393	DDL 12397	94693	1393
915	—	Twilight Turq. Met.	4141-L	A-1395	DDL 12396	94695	1395
917	—	Seamist Turquoise	4149-L	A-1392	DDL 12401	94324	1392
920	501-A	Fawn Beige Met.	4146-L	A-1397	DDL 22005	94697	1397
923	506-A	*Roman Red	2931-LH	A-1138R	DDL 70961	2967-H	1138R
925	—	Coronna Cream	4151-L	A-1390	DDL 81271	94079	1390
936	510-A	*Ermine White	4024-L	A-1199	DDL 8259	94001	1199
938	—	Almond Beige	2964-L	A-1133	DDL 21733	93110	1133
940	509-A	*Sateen Silver Met.	4023-L	A-1203	DDL 31928	93988	1203
941**	—	*Shadow Gray Met.	4027-L	A-1202	DDL 31905	93989	1202
948	523-A	Honduras Maroon Met.	4034-LH	A-1221R	DDL 50568	4066-H	1221R

*Repeat from previous production.
**This combination not used on the Corvair.
***Passenger Car Bumper Valances, Gravel Shields and Wheels are factory finished in Baked Enamel. Apply Enamel or regular Lacquer for refinishing.
****For Ditzler Regular Lacquer, use DAL prefix, for enamel use DQE prefix.

Passenger Car Interior Colors

Color	Duco®**	R-M Stock No.	Ditzler Code No.	Code
*Black	44	400	9248	P-H-C
*Red	2967-H	59C51	70961	P-H-C
*Dark Gray Metallic	93989	61V11	31905	P-H
*Inca Silver	94260	61V12	31425	H
Dark Green Metallic	94298	61V31	42857	P
Dark Turquoise Metallic	94350	61V21	12419	P
Dark Blue Metallic	94693	61V22	12420	P-H
Med. Dark Fawn Metallic	94677	61V81	22029	P
Med. Green Metallic	94694	61V32	42837	H
Med. Blue Metallic	94696	61V23	12398	H-C
Med. Turquoise Metallic	94695	61V33	12396	H
Med. Fawn Metallic	94697	61V82	22005	H-C

*Repeat from previous production.
**To reduce gloss add Dupont 4528 "Duco" Lacquer Flattening Compound or equivalent.
Passenger Car instrument panel is painted with Acrylic Lacquer with Regular Lacquer used on the instrument console.
NOTE: Car code: P—Passenger, H—Corvair, C—Corvette.

Truck Exterior Colors

Combination Number Truck including Tilt Cab and all L.D.F.C. Models	Color	Duco® Stock No.	Dulux® Stock No.	R-M Stock No.	Ditzler Code
700-A	*Jet Black	44	93-005	P-403	DQE 9000
703-A	*Neptune Green	4052	93-76550	U-3621	DQE 42698
705-A	Woodland Green	4190	93-77161	U-3692	DQE 42850
707-A	*Brigade Blue	4050	93-76548	U-2473	DQE 12233
708-A	Balboa Blue	4191	93-77162	U-2522	DQE 12409
710-A	Tampico Turq. Met.	4188	181-25804	U-3691	DQE 12410
714-A	*Cardinal Red	2411-H	93-58209-H	U-5625-R	DQE 70704
716-A	*Omaha Orange	31	93-082	U-7119	DQE 60156
718-A	Flaxen Yellow	4192	93-77164	U-7213	DQE 81276
719-A	*Yukon Yellow	174	93-6578	U-7161	DQE 80028
721-A	*Pure White	817	93-21667	U-951	DQE 8080
723-A	Woodsmoke Blue	4194	93-77204	U-2523	DQE 32102
724-A	Romany Maroon	4193-H	93-77203-H	U-655	DQE 50598
725-A	Tahiti Coral Met.	4189	181-25805	U-7212	DQE 71210
726-A	**Cameo White	4195	93-93774	U-970	DQE 8290

*Repeat from previous production.
**Also used as upper color on all two-tone combinations.

Truck Interior Colors

Color	"Duco"*	R-M Stock No.	Ditzler Code
Silver Gray	4227	U-1154	DL-32103
Charcoal Gray	4228	U-1325	DL-32104

*To reduce gloss add DuPont 4528 "Duco" lacquer flattening compounds.

SECTION 15—ACCESSORIES

Heaters

The air recirculating type heater is unchanged for 1961. However, a new Deluxe Heater which is offered features a more accurate air temperature control and quicker response.

When the Deluxe Heater is operated on outside air, air enters the cowl plenum chamber through louvers located at the base of the windshield. A three-speed centrifugal blower takes air from the plenum and circulates it through the air shut-off door that is then open into the heater body.

Opening of the air-door (Fig. 14) is controlled by the heater "Air" control lever. The heater case incorporates a second door and by-pass duct in addition to the heater core. The second door is linked directly to the "Heat" control lever and directs incoming air flow.

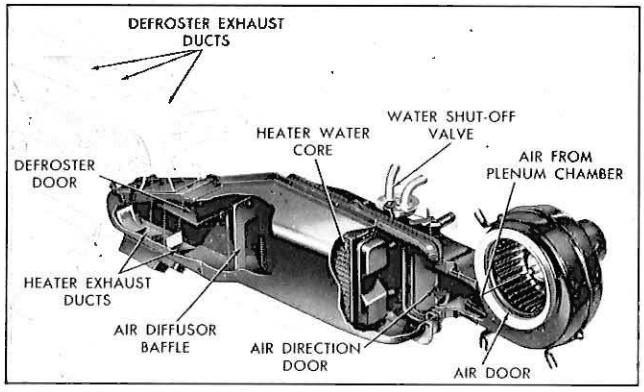


Fig. 14—Deluxe Heater—Cutaway View

When the "Heat" control lever is in the off position, all air is directed to the duct which by-passes the heater core therefore the temperature of air entering the passenger compartment is that of the incoming air. When the "Heat" control lever is placed in the full on position, all incoming air is directed to pass through the heater core before entering the distributor to the passenger compartment. Upon selecting an intermediate control position, incoming air flow is split by the air direction door, with air flowing through the heater core and the remainder throngh the core by-pass air duct, then both air streams converge within the heater case where hot and cold air blending occurs. Since the volume of air passing through the heater core is proportional to the door angle, an infinite temperature range is produced by varying the "Heat" control lever setting.

Water flow through the heater core is controlled by a shut-off valve actuated in conjnnction with the air direction door. Linkage is designed so that with the "Heat" control lever in the off position the valve is completely closed. As the air direction door is opened to allow air to pass over the heater core, the valve opening is sufficient to provide full water flow after the first 1/4 inch of door travel. Thus, for all practical purposes the hot water valve is full on or off so the incoming air temperature change is not dependent upon changing amounts of liquid flow through the heater core, but upon the proportions of hot and cold air blended.

Improved windshield defrosting is provided for both Deluxe and Recirculating heaters by the use of newly designed duct and defroster outlet nozzles. Outlets for the new system consist of three rows of louvers grouped in the center of the instrument panel. Approximately, the rear two thirds of the louver group serve as the radio speaker grille while the forward one third is the defroster section.

Air Conditioning

Both the All-Weather and the Cool Pack Air Conditioning Units are basically unchanged from 1960, except for styling changes in the main control panel and the outboard air outlet nozzles.

The All-Weather system retains the Deluxe heater design used last year. Consequently, to start and operate the unit, controls of both heater and cooler systems are utilized as before.

All air conditioning assemblies are made lighter by approximately 18 pounds due to the use of aluminum condenser cores.

Air Conditioner Compressor (Fig. 15)

Changes incorporated in the 1961 compressor assembly are related to the use of a new design drive clutch that is outlined below.

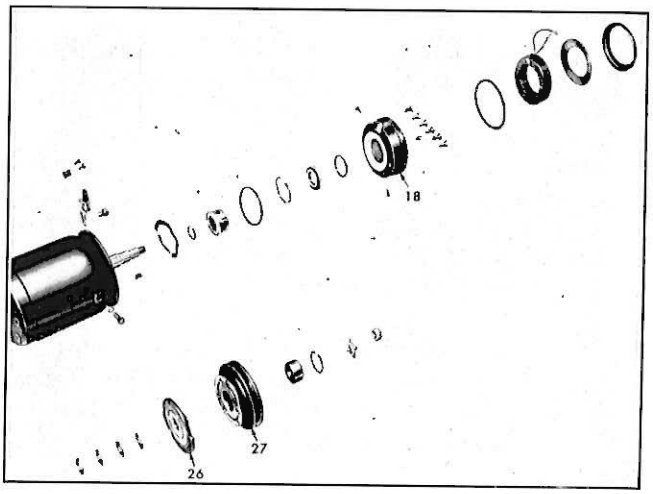


Fig. 15—Air Conditioner Compressor—Exploded View

The rotor plate (26) for 1961 is a solid steel plate with no facing material. It is pressed onto the compressor shaft using J-8446 Installer previously used for installing the clutch plates. This rotor plate replaces the double disc ball ramp clutch assembly previously used.

An armature plate is attached to the pulley (27) by three strap type drive springs. The springs disengage the armature plate from the rotor plate when the magnetic field is eliminated. This unit is serviced only as an assembly.

When the air conditioning controls are set for "Cooling" and the clutch coil is energized, the revolving armature plate is then pulled rearward by the electro-magnetic force created by the coil until it is held in solid drive contact with the front face of the rotor plate, which is keyed to the compressor shaft.

The pulley will "free-wheel" on the ball bearing contained in the pulley, when the engine is in operation and the air conditioning system controls are not turned ON or cooling is not required.

The 1961 coil-seal housing (18) mounted to the front of the compressor does not contain a secondary or auxiliary shaft seal. Elimination of the seal and oil drain-back passage was possible due to the new design clutch.

Service Tips

- J-8433 pulley remover should be used to remove the new type pulley. Refer to 1961 Passenger Car Shop Manual for complete service procedures.
- The pulley bearing and armature plate assembly are pressed onto the shaft using tool J-8446 and washer J-6322-5.
- The same assembly tools for the rotating member of the shaft seal that have been used in the past can be used for 1961 compressors.
- Spacers and various thickness shims are used to adjust the air gap to obtain .025" to .035" between the face of the outer rim of the coil-seal housing and the face of the rotor plate when the coil is energized. Air gap should be checked with non-magnetic feeler gauge J-7151-02.
- 1961 compressor pulley and clutch assemblies are not serviceable for 1960 or earlier model compressors. However, a conversion kit may be available to facilitate installing 1961 pulley and clutch assemblies on some previous model compressors.

PART 2—CORVAIR

SECTION 1—GENERAL INFORMATION

The Corvair model line-up for 1961 is expanded to include standard and deluxe models of the new 4-door, 6-passenger Lakewood Station Wagon.

Another addition to the Corvair line is a special 95-inch wheelbase Station Wagon called the Greenbrier with a series designation of R-1206. The following chart lists models offered in the Corvair line.

MODEL IDENTIFICATION CHART

Series	Model Number	Body Style
500	527	2-Dr. Coupe, 5-Passenger
	569	4-Dr. Sedan, 6-Passenger
	535	4-Dr. Sta. Wagon, 6-Pass. (Lakewood)
700	727	2-Dr. Coupe, 5-Passenger
	769	4-Dr. Sedan, 6-Passenger
	735	4-Dr. Sta. Wagon, 6-Pass. (Lakewood)
R-12	R1206 (Deluxe*)	4-Dr. Sta. Wagon, 6-Pass.
900	927	2-Dr. Coupe, 4-Passenger

**Custom package available as (RPO 431).*

SECTION 3—SUSPENSION

The 1960 Corvair suspension is retained for 1961. Lakewood Station Wagon front and rear suspensions are the same as those used on the other models, except for spring rates and shock absorber calibration.

NOTE: *Front wheel bearing on Corvair coupes, 4-door sedans and the Lakewood Station Wagon should be torqued to 7 ft. lbs. while slowly rotating the wheel. The cotter pin should be inserted through the spindle nut with minimum nut back-off for hole alignment.*

SECTION 6A & B — ENGINE

All Corvair type air-cooled engines for 1961 have a displacement of 145 cubic inches, compared with 140 cubic inches for the 1960 models. This is accomplished by increasing the cylinder bore from 3.375" to 3.435". The stroke remains the same at 2.6"; consequently neither the crankshaft or connecting rods have changed. Piston diameter is slightly larger and combustion chamber size is increased. The compression ratio is not changed.

All changes listed below have been incorporated

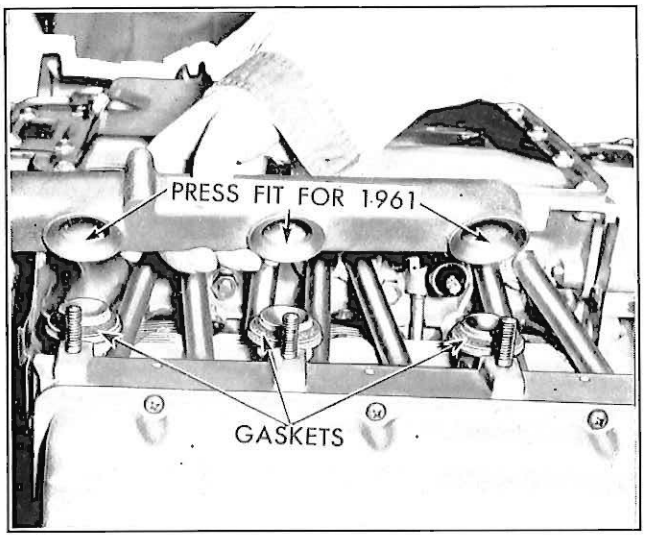


Fig. 16—Exhaust Manifold and Sleeve

in both the Turbo-Air and Super Turbo-Air engines for all vehicles.

- An oil slinger and retainer at both the front and rear ends of the crankshaft have been omitted.
- The exhaust sleeves for 1961 are now a press fit into the exhaust manifold (Fig. 16). Refer to 1961 Corvair Shop Manual for service procedure.
- The No. 4 main bearing is constructed to lower the centerline of the crankshaft in that area. The bearing is identified by a brown dye spot.
- Cylinder air cooling fin configuration has been changed to eliminate pass-thru of the cylinder head bolts.
- Engine lower shrouds and exhaust ducts are combined to form one piece. The perimeter of the lower shroud is completely sealed with sponge rubber.

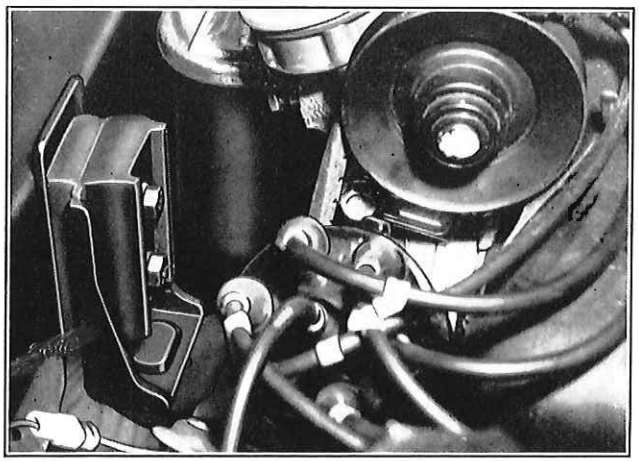


Fig. 17—Engine Rear Mount

- Non-metallic suppressor type spark plug wires are now used for all 1961 Corvair engines.
- A new "L" shaped engine rear mount (Fig. 17) is used on all except L.D.F.C. models.
- A 3/8" engine vacuum balance tube replaces the larger tube used for 1960.

Manual Choke

A manual choke, used on each carburetor, is operated by a single instrument panel pull knob mounted to the left of the steering column. The single cable from the instrument panel control is attached to a crossover cable that connects to each carburetor choke.

Choke linkage is devised so that the first portion of travel opens the throttle to increase engine speed, before moving the choke valve. Therefore, when a vehicle is stopped for a period of time during adverse weather conditions, the new choke control can be set to increase engine speed reducing the possibility of carburetor icing.

Choke adjustment procedure is detailed on page 9-8 of the 1961 Corvair Shop Manual.

Carburetors

The carburetor float bowl is now vented by an air balance tube within the air horn. This eliminates the external bowl vent previously used.

Also contributing to fuel economy, the venturi cluster is modified so that the short extension of the lower nozzle has been removed. With this arrangement, the fuel outlet is moved closer to the point of maximum venturi restriction.

Air Cleaner

Flat, wedge-shaped ducts extend forward from each carburetor to separate air cleaners, which house oil-wetted polyurethane elements. Although the new elements are smaller, usable filtering surface is doubled. A cross-over duct connects the two cleaners and provides an air inlet which projects rearward to pick up preheated air from the engine blower.

Engine Cooling System

The cooling air damper ring and its operating thermostat have been eliminated from the 1961 Corvair engine.

The engine cooling air is now controlled by separate exhaust duct damper doors. The doors are located on the rear of the engine lower shrouds (Fig. 18). A bellows type thermostat is mounted in the front portion of each lower shroud. An actuating rod is attached between each bellows thermostat and its exhaust duct damper door. With this

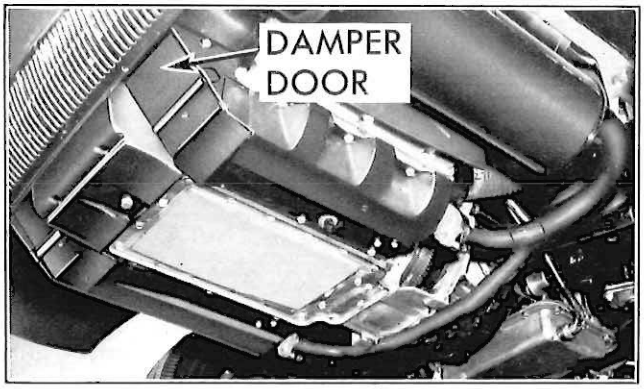


Fig. 18—Cooling Air Damper Doors Closed

arrangement, as the engine warms up the timing and degree of each door opening will automatically be in accordance with the cooling requirements of the cylinder bank being controlled.

The engine blower at all times recirculates a small volume of engine compartment air over the engine. Completion of this air circuit is made possible by small slotted openings into the engine compartment located in the top of the exhaust air ducts (Fig. 19).

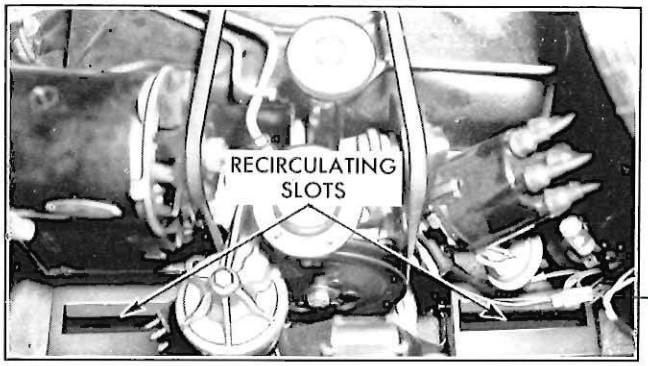


Fig. 19—Recirculating Air Bleed Slots

When starting a cold engine and during the warm up period, the exhaust doors are held closed by the thermostats. Design of the bellows thermostats is such that the exhaust doors start to open when cooling air temperature reaches 200-210 degrees Fahrenheit, and are full open at 225-230 degrees. In normal operation, exhaust doors angle will vary between full open and closed to provide the volume of cooling air necessary to maintain the engine within its most efficient operating temperature range.

NOTE: *In the event of thermostat failure the affected damper door will remain fully open.*

To properly check and adjust the air duct damper doors, with the shroud attached to the engine, refer to the following procedure:

1. Clamp vise grip pliers on actuating rod, through lower portion of door opening. Pull rod rearward until a slight resistance is felt as the thermostat contacts its mounting bracket at the door open position. With the thermostat held against its stop, if the door opening, measured at the upper edge, is not within $2\frac{5}{16}$"-$2\frac{3}{8}$", adjust as shown below.
2. Remove swivel retaining clip and disconnect swivel from damper door.
3. Place the exhaust door in the full open position ($2\frac{11}{32}$", measured at upper edge); then adjust swivel to enter the bracket slot. Install retaining clip.

Engine Tell-Tale Lamps

Engine over-heat for 1961 is detected electrically by a disc-type temperature sensitive sending unit located on the underside of the right hand cylinder head, near number three cylinder (Fig. 20).

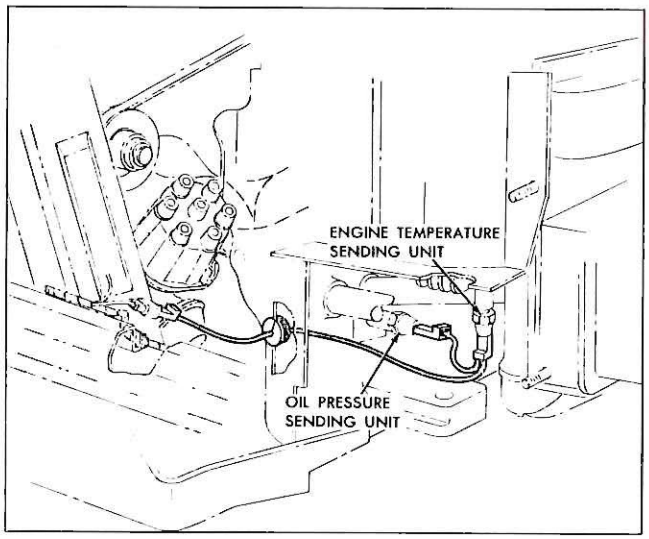


Fig. 20—Location of Engine Sending Units

This unit, which replaces the oil over-heat warning unit, is electrically connected to a tell-tale light in the instrument panel. Should the cylinder head temperature reach 450 degrees F., the tell-tale lamp will light. This instrument panel lamp serves the dual purpose of also indicating low oil pressure.

Lakewood & L.D.F.C. Engines

Generally speaking, engines used for Lakewood station wagons and L.D.F.C. models are the same design as those used for sedans and coupes except for relocation of some external units.

The ignition coil, which is mounted to the engine right rear face below the distributor for sedans and coupes, is mounted on the body in the

center of the rear access door. The oil filler tube projects from the lower right side of the crankcase, ending just below the distributor. Oil level is checked by a bayonet-type gauge attached to the filler tube cap. The current and voltage regulator is moved from the rear body panel to the rear of the engine compartment left side.

Super Turbo-Air Engine

For 1961 the high performance engine, called the Super Turbo-Air (Fig. 21), is again offered for Corvair models including the Lakewood Station Wagon model, but not the Greenbrier.

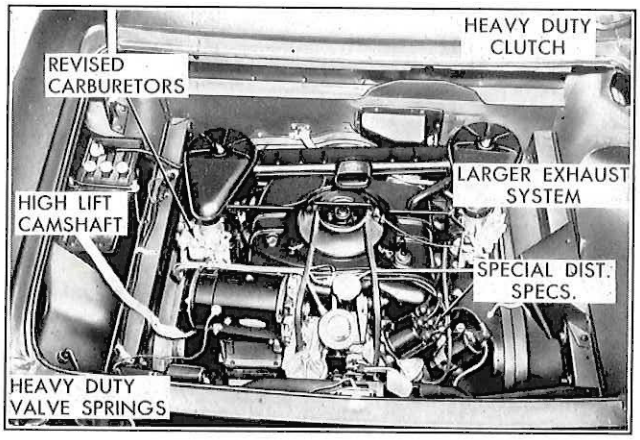


Fig. 21—Super Turbo-Air Engine

The basic engine is the same as the regular production engine, with the increase in horsepower attained by improving the "breathing" efficiency of the engine, plus modifications in the carburetors and distributor.

A distributor with a copper colored oiler is used with the Super Turbo-Air engine. The ignition timing at idle is now 13° BTDC. The centrifugal advance curve is 0° at 700 rpm, 6.5° at 1200 RPM, 24° at 4800 RPM. The vacuum advance curve is 0° at 6" hg. and 23° at 15.2" hg.

The idle speed has been increased to 800 RPM for this engine. The spark plugs recommended for use with this engine are AC-46FF. When the vehicle is used for extended periods of high speed driving use AC-44FF spark plugs.

The diameter of the engine clutch driven disc, used with the 1961 Super Turbo-Air engine, has decreased to assist high speed shifting. The inside diameter of the clutch facing material is reduced to 6 inches from 6⅛ inches and the outside diameter is decreased to 8 inches from 9⅛ inches.

Volumetric efficiency on the 1961 Turbo-Air engine is increased specifically by used the following:

- New high performance camshaft with increased valve overlap.
- Larger valve springs and valve spring caps and new valve spring shims. (The cylinder heads are machined to permit installation of the larger valve springs.)
- Tube diameters of the muffler and tailpipe have been increased from 1½ to 2 inches.
- Size of the carburetor idle tube increased to .001" larger than that of the Turbo-Air 3 speed transmission model carburetors. The restriction in the idle channel has also been increased .001". (When a vehicle is to be used for extended high speed operation, the main metering jet should be replaced with one that is .001" larger.)

1961 ENGINE SPECIFICATIONS

Engine	Disp.	Gross H.P.	G. Torque
Turbo-Air	145	80 @ 4400	128 @ 2300
Super Turbo-Air	145	98 @ 4600	132 @ 2900

SECTIONS 6C, D & E— REAR AXLE & TRANSMISSIONS

The Corvair transmission-axle combinations are extended for 1961 with the introduction of a new 4-speed transmission. The basic design and operation of the standard 3-speed and optional Powerglide transmissions are carried over from 1960. More economical axle ratios and revised 3-speed transmission gear ratios are now used.

Rear Axle

The standard axle ratio for Corvair coupe and sedan models is reduced to 3.27-to-1 from 3.55-to-1, with the optional axle ratios being 3.55:1 and 3.89:1. A 3.55:1 ratio is standard in the new Corvair Lakewood Station Wagon, with 3.89:1 available as an option.

A rear axle ratio of 3.89-to-1 is used with the Greenbrier when equipped with the standard 3-speed or Powerglide automatic transmissions, while a ratio of 3.27-to-1 is used with the 4-speed unit.

The Greenbrier's axle is similar to that of the Corvair passenger car except for gear ratios and heavier axle components to accommodate the van-type vehicle's capacity and 58 inch tread width.

Rear axle hypoid drive pinion design is revised to incorporate a pressed-on speedometer drive gear. The splined area of the pinion shaft is now just forward of the pinion gear—to receive the longer three or four speed transmission output shaft used in 1961.

The differential assembly is redesigned to accommodate equal width side gears. Because of this change, the 1961 U joint trunnions are unequal

in length. The shaft for the differential pinion gears now has flats on both sides to insure clearing the new longer U joint trunnion.

Three Speed Transmission

Standard equipment is the 1960 type 3-speed synchromesh transmission which now has gear ratios of 3.50-to-1 for first, 1.99-to-1 for second, 1.00-to-1 for third, and 3.97-to-1 for reverse. Powerglide and the new 4-speed transmission are available as options.

Transmission case is cast iron for 1961 (some cast iron cases were used in late 1960 production). Rear of the transmission case is redesigned to provide piloting on the differential carrier pinion front adjusting sleeve.

The transmission mainshaft is lengthened at the output end.

Powerglide

The line pressure limiting valve is not used in the 1961 transmission. This valve assembly was referenced as items 17, 19, and 20, in Figure 6E-12, of the 1960 Corvair Shop Manual.

Facing material is no longer used on the reverse clutch thick reaction ring. The 1961 ring has the same cross section but is solid steel.

Front pump cover and body are the only differences when a 1961 Corvair Powerglide is used in L. D. F. C. models. This is necessary to provide attachment for the transmission oil cooler lines. Cooler "out" is immediately inboard from TV pressure tap which is located at the 8 o'clock position. Cooler "in" is above and slightly to the left of the front pump pressure tap which is located at the 6 o'clock position. The front pump body for L. D. F. C. Powerglide incorporates a cooler bypass valve. This valve opens in the event of a restriction in the cooler or lines.

The L. D. F. C. type front pump cover and body will be used as service parts for all 1961 Corvair Powerglides. When used without a cooler, cooler tap plugs should be left installed. It is not necessary to remove the cooler bypass valve should tbe front pump body be used in vehicles without oil cooler.

4-Speed Transmission

The optional 4-speed transmission (Fig. 22) is an entirely new unit for all 1961 Corvair models, including the Corvair 95 series. It is available with either the standard or high performance engines to give the vehicles greater performance and flexibility of operation.

The gear set, housed in a cast iron case, has a concentric input and output shaft. An engine driven clutch gear drives a counter-gear in a manner similar to the Corvair 3-speed unit. Forward driving gears are helically cut, in constant mesh, and utilize two blocker-ring type synchronizers.

The synchronizer hubs are splined to the transmission mainshaft, which is spline-connected to the hypoid pinion shaft. Engagement of the mainshaft gears to the mainshaft, or of the clutch shaft to the mainshaft is attained by selector fork actuation of the sliding clutch sleeve in the synchronizer assemblies.

The reverse idler gear slides on a bronze bushing and is supported by a reverse idler gear shaft. To keep the reverse idler shaft from moving toward the front, the shaft is undercut providing a shoulder to butt against the case. Rearward movement is prevented by the rear end of the shaft butting against the axle housing face. Shaft rotation is prevented by a pin installed in the shaft at the rear end.

Similar in construction, the reverse idler shifter shaft is prevented from moving in the same manner as the reverse idler gear shaft except no pin is installed to prevent shaft rotation. The rear end of both shafts should be re-staked after transmission overhaul.

A spring loaded reverse inhibitor is utilized. This reduces the possibility of accidentally shifting into reverse. One spring is used in the inhibitor on Corvair Passenger Cars and two springs are installed in the transmission used on Corvair 95 series.

Detent balls and springs are used with each of the three shifter shafts to keep the transmission in gear. A double poppet with sliding pin interlock arrangement prevents engagement of two gear sets at once.

Neutral Power Flow

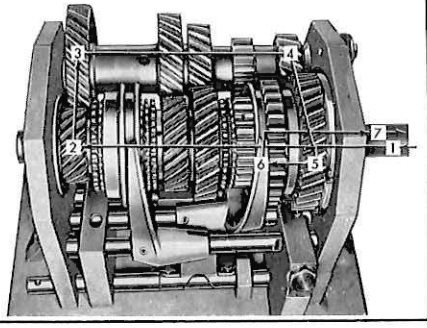
When shifting into neutral, the 1-2 synchronizer and 3-4 synchronizer shift collars are positioned at center of their travel. They do not lock the clutch gear, 3rd speed gear, 2nd speed gear or 1st speed gear to the mainshaft. This means that in neutral with these gears driven, the power will terminate at these points.

1ST Speed Powerflow (Fig. 22)

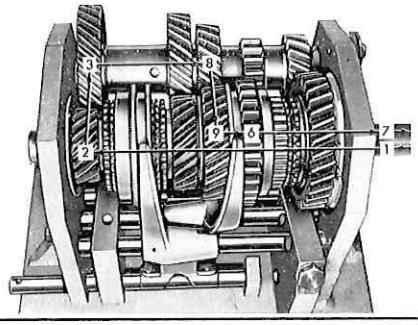
When shifting into 1st gear, the 1-2 synchronizer assembly is moved towards the rear of the transmission case and the 1-2 sliding sleeve locks the 1st speed gear to the mainshaft. The powerflow is from (1) clutch shaft (2) clutch gear (3) clutch gear on countergear (4) 1st gear on countergear (5) 1st speed gear (6) 1-2 sliding sleeve and out the (7) mainshaft.

2ND Speed Powerflow

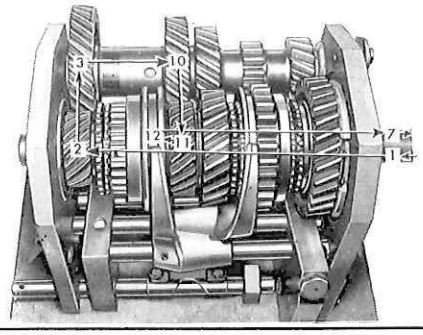
When shifting into 2nd gear, the 1-2 synchronizer assembly is moved toward the front of the transmission case and the 1-2 sliding sleeve locks



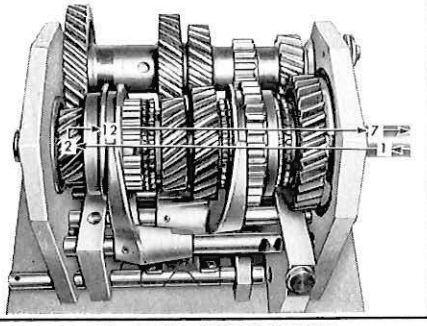
1ST GEAR POWERFLOW



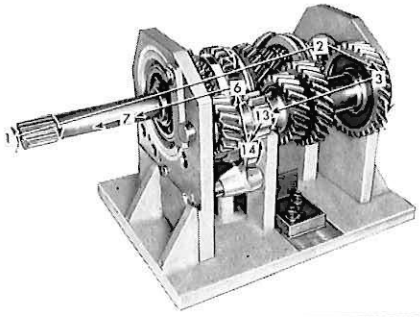
2ND GEAR POWERFLOW



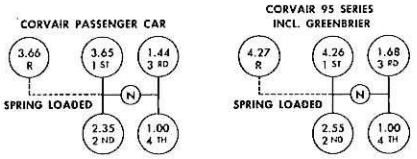
3RD GEAR POWERFLOW



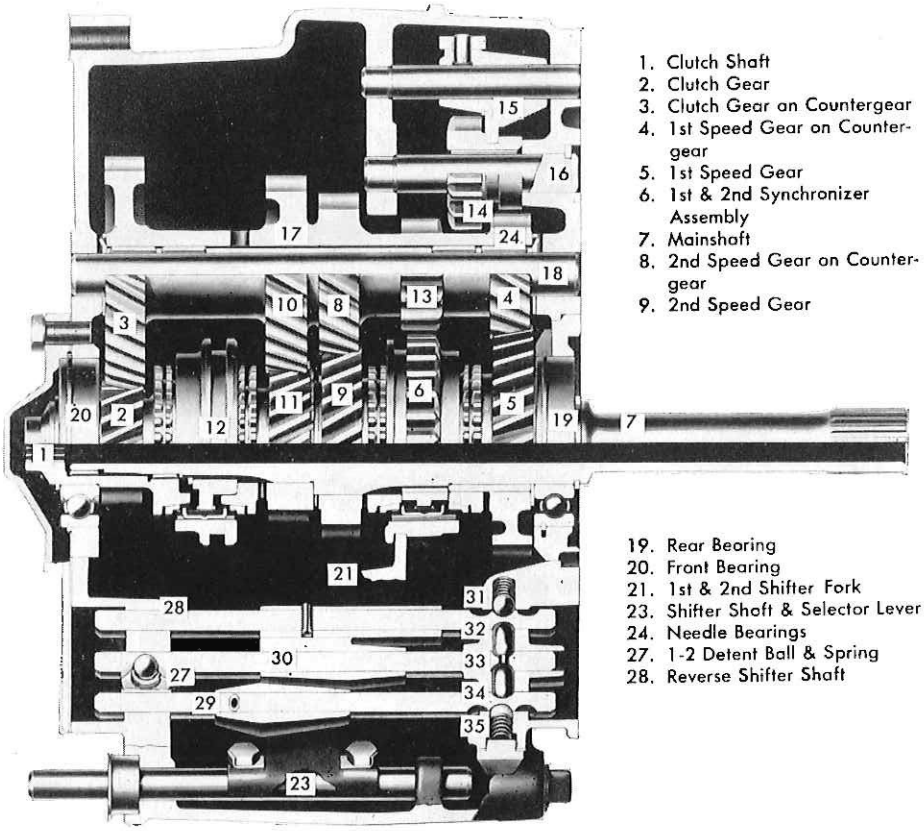
4TH GEAR POWERFLOW



REVERSE POWERFLOW



PATTERN AND GEAR RATIOS



1. Clutch Shaft
2. Clutch Gear
3. Clutch Gear on Countergear
4. 1st Speed Gear on Countergear
5. 1st Speed Gear
6. 1st & 2nd Synchronizer Assembly
7. Mainshaft
8. 2nd Speed Gear on Countergear
9. 2nd Speed Gear
10. 3rd Speed Gear on Countergear
11. 3rd Speed Gear
12. 3rd & 4th Synchronizer Assembly
13. Reverse Idler Gear on Countergear
14. Reverse Idler Gear
15. Reverse Idler Gear Shifter Fork
16. Reverse Idler Shaft
17. Countergear
18. Countershaft
19. Rear Bearing
20. Front Bearing
21. 1st & 2nd Shifter Fork
23. Shifter Shaft & Selector Lever
24. Needle Bearings
27. 1-2 Detent Ball & Spring
28. Reverse Shifter Shaft
29. 3-4 Shifter Shaft
30. 1-2 Shifter Shaft
31. Reverse Detent Ball & Spring
32. Reverse Interlock Pin
33. 1-2 Sliding Pin
34. 3-4 Interlock Pin
35. 3-4 Detent Ball & Spring

Fig. 22—Corvair Four Speed Transmission

the 2nd speed gear to the mainshaft. The powerflow is from (1) clutch shaft (2) clutch gear (3) clutch gear on countergear (8) 2nd gear on countergear, 2nd speed gear (9) 1-2 sliding sleeve and out the (7) mainshaft.

3RD Speed Powerflow

When shifting into 3rd gear, the 3-4 synchronizer assembly is moved towards the rear of the transmission case and the 3-4 sliding sleeve locks the 3rd speed gear to the mainshaft. The powerflow is from (1) clutch shaft (2) clutch gear (3) clutch gear on countergear (10) 3rd gear on countergear (11) 3rd speed gear (12) 3-4 sliding sleeve and out the (7) mainshaft.

4TH Speed Powerflow

When shifting into 4th speed, the 3-4 synchronizer assembly is moved towards the front of the transmission case and the 3-4 sliding sleeve ties the clutch gear to the mainshaft. The powerflow is from (1) clutch shaft (2) clutch gear (12) 3-4 sliding sleeve and out the (7) mainshaft.

Reverse Powerflow

Reverse gear operation in this transmission is somewhat unusual. The first and second gear synchronizer assembly has a spur tooth reverse gear on its O. D. A smaller spur reverse gear is located on the countergear and is in line with the above mainshaft gear, whenever the 1-2 synchronizer is in neutral position.

The above gears are never in direct mesh with each other. However, when shifting into reverse, a sliding reverse idler gear, acting as an intermediate gear, is moved into mesh with the reverse gear on the countergear and the reverse gear on 1st and 2nd synchronizer assembly. This movement ties the reverse gear on countergear to the mainshaft and causes the mainshaft to rotate in a reverse direction.

Reverse powerflow is from (1) clutch shaft (2) clutch gear (3) clutch gear on countergear (13) reverse gear on countergear (14) reverse idler gear (6) reverse gear on 1-2 synchronizer assembly and out the (7) mainshaft.

New Service Tool

A new service tool, J-8880, Transmission Clutch Bearing Remover, is available for both Corvair and LDFC 4-speed transmissions. This tool (Fig. 23) removes the clutch gear bearing from the clutch gear to permit disassembly of the transmission. The tool is required because pulling reaction must be against the clutch gear rather than the case.

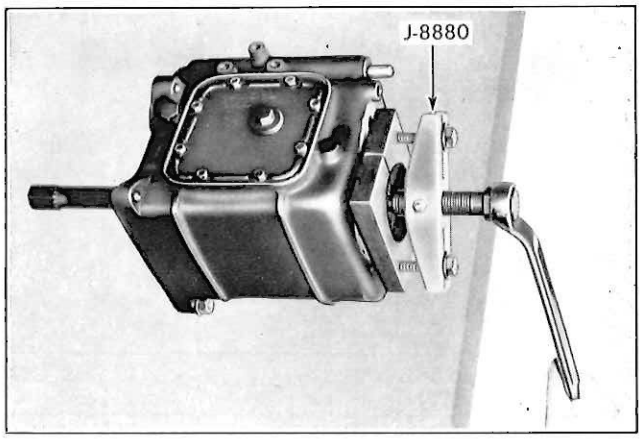


Fig. 23—Transmission Clutch Bearing Remover

SECTION 10—BODY

Two Station Wagon models are added to the Corvair line. One, the Lakewood, is constructed from front to rear of the rear doors virtually as 4-door sedan models, but from this point to the rear of the wagon it carries conventional station wagon body structures. Second is the Greenbrier, which has a totally new body structure.

Body construction features peculiar to the Lakewood and Greenbrier are covered later in this section. The complete Corvair 95 series body structure is presented in Part 3—Trucks.

The construction of the 1961 Corvair body for 2- and 4-door models is essentially the same as the body frame integral construction of the 1960 models.

Relocation of the spare tire to the right rear portion of the engine compartment for coupe and sedan models increases the luggage capacity of the front stowage compartment and permits the use of the larger 14 gallon fuel tank. A portion of the spare tire overhangs into the engine compartment making it necessary to relocate the battery and modify the deck lid inner panel to provide the required clearance. A key-type lock is attached to the spare to minimize the possibility of tire theft. The jack and lug wrench are stowed in the luggage compartment.

Additional safety and convenience are provided in 4-door models with the use of rear door lock remote control buttons.

The new Direct Air Heater-defroster assembly for 1961 Corvair models is located forward of the engine under the rear package shelf. Consequently the shelf is raised several inches and several body panels have been redesigned to accommodate ducts extending forward.

Lakewood Station Wagon

The Lakewood station wagon roof is 1½ inches higher than the sedan, which means the windshield

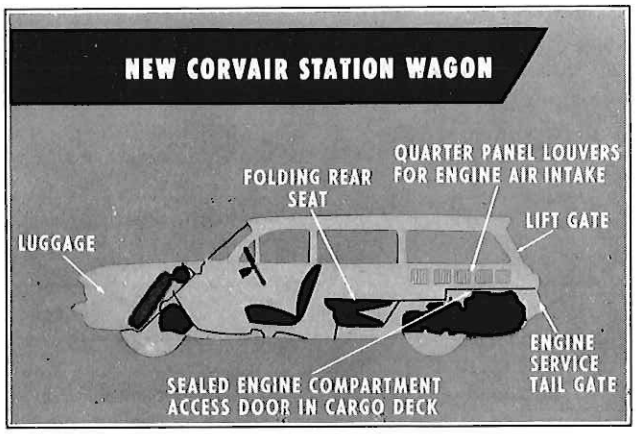


Fig. 24—Lakewood Station Wagon

and side windows are larger. The rear window glass is fixed in a top hinged liftgate.

Vertical inlet louvers, which admit cooling air to the engine compartment, are located on each side of the Station Wagon beneath the fixed rear quarter windows (Fig. 24).

The rear door is top hinged and opens from the bottom in one upward swinging arc.

The engine compartment is accessible for service through a large rectangular panel in the rear cargo deck. Battery service is through a separate smaller door to the left of the engine door.

Periodic servicing of the engine is performed through an exterior bottom hinged door, placed between the liftgate and the rear bumper (Fig. 25).

The rear folding seat is standard equipment for the Lakewood. The folding and locking mechanism, and the deck portion of the back are similar to that used in the 1961 regular Passenger Car Station Wagon models.

With the second seat folded down, the cargo deck is 71 inches long. This dimension with a wide 53 inch deck and 27 inch height gives over 60 cubic feet of cargo space behind the front seat. With an addition of over 11 cubic feet of concealed and locked storage space under the hood, the total cargo capacity of the Lakewood Station Wagon is nearly 72 cubic feet.

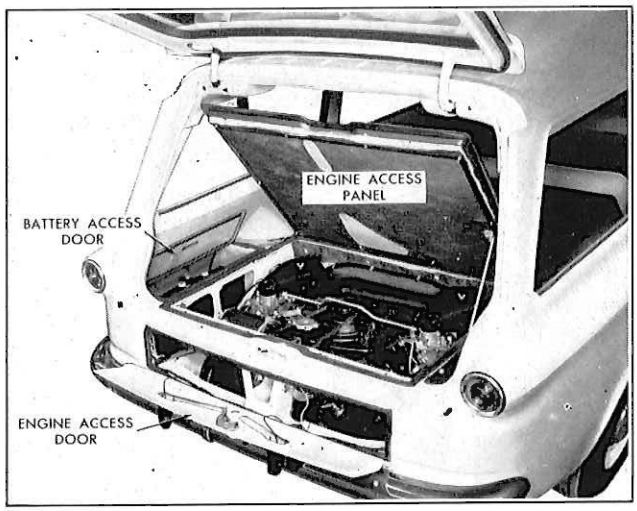


Fig. 25—Engine Service Doors

Greenbrier Sports Wagon

The Corvair 95 Greenbrier, series R1206 is a compact, sports wagon with a van-type body constructed to give the utmost utility in an economy vehicle (Fig. 26). It incorporates Corvair features

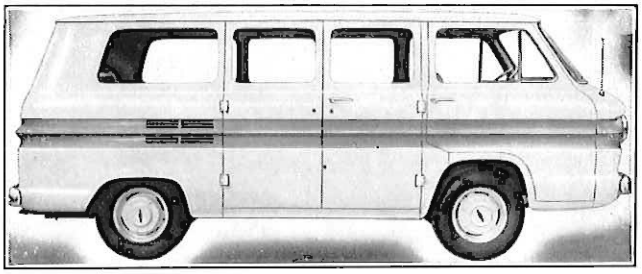


Fig. 26—Greenbrier Sports Wagon

of rear engine-transaxle power train, four wheel independent suspension, and frame-integral body structure with a new feature of forward control.

The frame-body shell is constructed of five subassemblies: the underbody, the front end structure, the right and left hand side panels, and the roof panel. Addition of front doors, double right hand side doors, and double rear doors complete the body structure of the standard vehicle. These subassemblies are common in varying degrees to the four models offered in the Corvair 95 series which are merchandised as trucks; except the Greenbrier which is merchandised as a Passenger Car.

Six passengers can sit comfortably in two full width seats which are standard equipment. The front seat is mounted over and forward of the front axle and is adjustable for maximum comfort.

The full width second seat is normally mounted facing forward against the rear kickup and can be easily removed without tools by unscrewing "wing-type" screws. The seat can be installed facing either towards the vehicle front or rear. When positioning the seat towards the rear, floor mat plugs must be removed before attaching the "wing" screws.

A third seat, available as an option, provides 9-passenger seating. The seat mounts only in the number three position facing forward.

An interesting feature of the standard Greenbrier is that it is equipped with six doors arranged for maximum passenger and cargo accessibility. Passengers gain entrance through right and left front doors and large double side doors on the right (curb-side). Double doors on the left side of

the vehicle are available as a regular production option. Access to the rear cargo deck is through rear double doors. All doors are held in the open position by 2-position door checks. Front doors open a full 90 degrees, while the double side and rear doors open 95 degrees. In addition, side and rear doors can be opened 180 degrees by simply releasing the checks (Fig. 27).

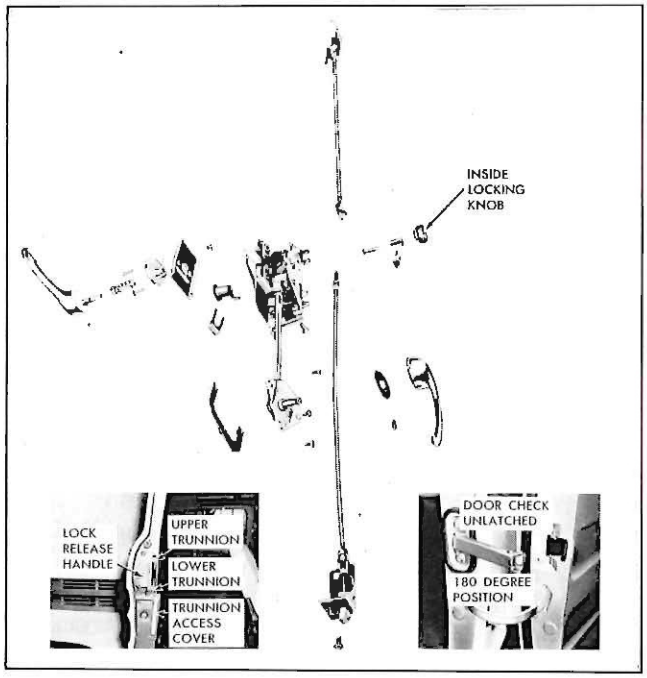


Fig. 27—Side Double-Door Mechanism

Both the standard right hand and optional left hand double side doors use the strap-type hinge, 2-position check, and upper and lower wedge features of the double rear doors. Both doors are retained positively with spring-loaded, slam-type bolt locks located at the top and bottom of each door. The locking mechanisms are contained entirely within the door structures.

Both an inside and outside release handle are provided for the front side door. The inside release handle is identified to that used for the front doors, while the outside release is a 2-position lever-type handle. In the "closed-door" position, the handle is horizontal; to open the door, the handle is turned downward 45 degrees; after the door is opened, the handle automatically moves upward to the horizontal position, setting tbe lock bolts so the door can be closed. The rear side door release handle, located on the door inner side face, is of a lever-type.

A separate key lock below the front side door handle locks both side doors since the front side door laps over the rear side door. Both doors can be locked from the inside with a locking knob located on the inner panel of the front side door. Should the doors be locked from the outside, they cannot be unlocked from the inside since the inside and outside locks operate independently of each other.

A central lock of the fork cam type, identical to that of regular truck panel models, retains the right hand rear door to the left hand rear door. A key lock is incorporated in the push-button release used with the horizontally-positioned outside handle.

Front doors are equipped with pivot-type ventipanes which use a friction catch. The balance of side window glass except the fixed rear quarter window rolls down with crank-type window regulators. Rear door glass is fixed.

All window glass in the Greenbrier is solid safety sheet from the front side doors rearward. The two front side doors, including the ventipanes, are laminated safety sheet glass with the windshield being laminated safety plate glass.

The Greenbrier is nominally rated as a 1600 pound capacity vehicle. When used with the front seat only, the Greenbrier's volume capacity is over 175 cubic feet.

The wheelbase is 95 inches with the tread being 58-inches front and rear. The tread is 4" wider than the regular Corvair passenger car. The weight distribution is relatively equal and constant with approximately 40 percent front and 60 percent rear, whether loaded or unloaded. This is possible because of the drop-center underbody, which supports the majority of the load between the front and rear wheels.

SECTION II—ACCESSORIES

Direct Air Heater

A completely new heater is available as a factory installed option for all 1961 Corvair models and L.D.F.C. models. The Direct Air Heater uses the engine cooling air to provide fast heating through outlets located around the passenger compartment perimeter. The new design provides more complete air distribution and desirable temperature from floor to shoulder level. An outstanding feature of this system is that windshield defogging or de-icing can be achieved almost immediately after the engine is started.

The operation of the Direct Air Heater system necessitates damper doors at the rear end of the exhaust shrouds. Two flexible rubber hoses connect the front end of each exhaust shroud to a rectangular air mixing chamber (Fig. 28). This chamber is also connected by means of flexible

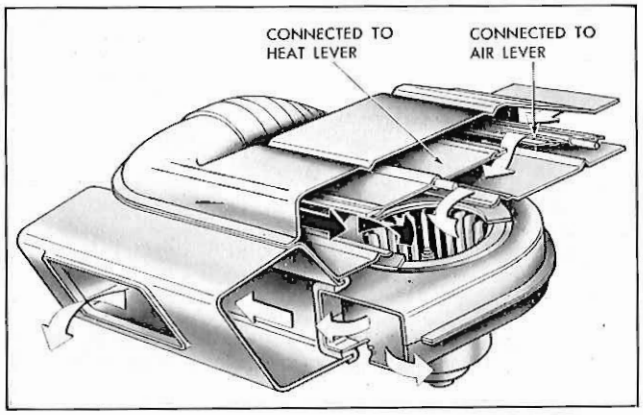


Fig. 28—Direct Air Heater Mixing Chamber

hose to the engine top cover. The heater blower is mounted below the rectangular air mixing chamber.

The heater blower housing is connected to air passages within each rocker panel by two heater ducts which have flexible hose take-offs to the rocker panels. Two additional openings in these ducts are located under the rear seat for heat distribution into the rear compartment area. Two flexible rubber hoses connect the front end of the rocker panels to the defroster ducts. In all, seven flexible hoses are used in the perimeter heater system.

One outlet duct is located on each side of the front compartment for heat distribution. A damper door at each front compartment opening directs the air flow to either the front compartment or defroster.

With warm air being supplied to the passenger compartment through the opening at the base of the rear seat, through outlets located forward of the front seat at either side, and through windshield defroster nozzles, a full perimeter system is realized.

In operation, the engine blower delivers cool air through the flexible hose, which connects the engine top cover to the firewall, to the mixing chamber. Engine cooling air also passes through the engine to the lower shrouds. From the two lower shrouds heated air passes through the two flexible rubber hoses to the rectangular mixing chamber. This chamber, above the blower, serves as a mixing point for cool air from under the engine cover and hot air from the engine lower shrouds. A pivoting door directly above the center of the blower regulates the portions of cool and hot air permitted to enter the blower (fig. 40).

When the pivoting door directly above the blower is in the full up position only the heated air from the engine lower shroud is directed into the blower. With this door in the middle position both heated air and cool air from under the engine top cover are mixed together as it flows into the blower. Positioning the door directly above the blower in the full down position, prevents heated air from flowing into the blower. The only air to the blower is then from the duct connecting the firewall to the engine top cover.

The air flow from under the engine top cover is controlled by a smaller damper door located in a separate passage in the mixing chamber. By varying the damper door position the volume of cool air to the heater blower is controlled.

To summarize, the two damper doors in the mixing chamber control in varying degrees the volume of either heated or cool air supplied to the heater blower. This gives the operator an accurate means to control the temperature of the incoming air.

The smaller damper door also serves as a controlling device of incoming cool air when the heater blower is off. By positioning this door in the open position with the larger damper door closed, cool air is forced through the direct air heating system by means of the engine blower.

The Direct Air heater control panel linkage operates as described below. The horizontal top lever controls the heater blower speed. Full left position is "off" with three speeds available by moving the lever from the left to right. The lever marked "H" controls the position of the larger damper door directly above the heater blower. The lever marked "A" controls the position of the smaller damper door in the duct from the engine top cover. The lever marked "D" controls the position of the two diverter doors located at each of the front compartment outlet ducts. These doors direct air either into the front compartment or to the defroster nozzles.

Gasoline Heater

The gasoline heater is available in 1961 only as a dealer installed accessory on regular Corvair passenger cars, and as both factory and dealer installed on the Greenbrier and Corvair 95 series models.

All modifications made to improve performance and durability of the gasoline heater, during 1960 model year, are incorporated in the 1961 unit.

Note: Many 1960 heater modifications are detailed in the September, 1960 issue of Service News.

Heater control levers and their location have not changed. The "FAN" lever, however, is now a 3-position control, providing an intermediate blower speed in addition to the high and low speeds previously supplied.

Windshield Wiper and Washer

The windshield wiper system for all 1961 Corvair models is the same in construction as that of 1960 models.

Supplementing the standard equipment single electric wiper; for 1961, as an extra cost option, a 2-speed windshield wiper is available in combination with windshield washer equipment. This package is very similar to the 2-speed wiper-washer combination available for regular passenger cars.

Push-Button Radio

The list of accessories available for 1961 Corvair models now includes a push-button radio in addition to the manually tuned unit offered previously. Controls for both the regular and push-button radios are supported by a rectangular housing and attached to the instrument panel lower flange as for the 1960 models.

PART 3—TRUCKS

SECTION 1—GENERAL INFORMATION

The 1961 truck program provides 189 models on 18 wheelbases, which includes three new 4-wheel drive units and three new light-duty forward control models. The Sedan Delivery and Sedan Pickup are discontinued. Regular truck models represent a continuation of the 1960 program with identifying styling changes and several body and chassis revisions. The big story for 1961 is the addition of the three new light-duty forward control models to the line. Designated as the R1200 or Corvair 95 Series, the new models are tailored to compete in the fast-growing light-duty delivery vehicle market.

Corvair 95 Series

The new Corvair 95 Series is comprised of model R1205, a panel delivery called the Corvan; model R1244, a pickup called the Loadside; and model R1254, a pickup with a rampgate called the Rampside. (The Corvair 95 series also includes model R1206, a station wagon called the Greenbrier. Model R1206, however, is not a part of the 1961 truck lineup since it will be merchandised as a passenger car.)

All Corvair 95 models are built on a 95-inch wheelbase and are nominally rated at ½-ton. They utilize the Corvair type rear-mounted horizontally-opposed, 6-cylinder, air-cooled engine. All models feature body-frame integral construction (Fig. 29); truck-type chassis components with coil spring independent suspension, front and rear; relay-type steering linkage; 18½ gallon fuel tank; transaxle with the standard 3-speed or optional 4-speed or Powerglide transmission; large, 11-inch brakes; and a hefty 4600 pound maximum GVW rating.

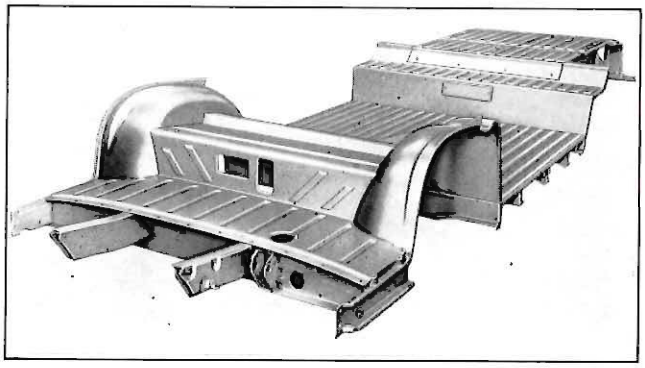


Fig. 29—Corvair 95 Underbody

NOTE: *Front wheel bearings on the Corvair 95 Series should be torqued to 10 ft. lbs. with the wheel rotating slowly. Insert the cotter pin through the spindle nut with minimum nut back-off for hole alignment.*

Regular Truck Line

The new 4-wheel drive units, which are 127-inch wheelbase, ½-ton vehicles, include model K1503, a cab-chassis; model K1504, a Stepside pickup; and model K1534, a Fleetside pickup. Gross vehicle weight ratings range from 4900 to 5600 pounds.

4-wheel drive models in both the ½ and ¾-ton categories are production equipped with a 3-speed transmission in place of the 4-speed transmission used previously. Also, ½-ton Suburban Carryall models and ½-ton 4-wheel drive models utilize 7.10-15-4 ply tires as base equipment in place of the 6.70-15-6 ply tires fomerly used.

Styling refinements for the conventional line include a new front end appearance and eight new exterior colors. In addition, the previous Custom option has been divided into four separate options.

SECTION 4—STEERING

Corvair 95 Series

The Corvair 95 linkage, from the steering gear to the relay rod, is the same basic design as the Tilt Cab models, with the remainder of the linkage resembling the regular Corvair.

The steering gear is a double row ball-type which entered production for the regular Corvair during a 1960 mid-season change. The steering shaft is one piece, consisting of one shaft from the steering wheel to the worm gear (which is an inte-

LIGHT AND MEDIUM-DUTY TRUCKS

Vehicle Type	½-Ton	¾-Ton	1-Ton	1½-Ton
L.D.F.C. Pickup	R1244			
L.D.F.C. Pickup Rampside	R1254			
L.D.F.C. Panel	R1205			
Flat Face Cowl	C1402	C2502	C3602	C4102 C4302
Windshield Cowl	C1412	C2512	C3612	C4112 C4312
Canventional Cab Chassis	C1403 C1503 K1403 K1503	C2503 K2503	C3603	C4130 C4303
Stepside Pickup	C1404 C1504 K1404 K1504	C2504 K2504	C3604	
Fleetside Pickup	C1434 C1534 K1434 K1534			
Panel	C1405 K1405		C3605	
Suburban Carryall	C1406 C1416 K1406 K1416			
Conventional Stake		C2509	C3609	C4109 C4309
Forward Control		P2342 P2542 P2642	P3342 P3542 P3642	
Step Van		P2345 P2545 P2645	P3345 P3545 P3645	

MEDIUM AND HEAVY-DUTY MODELS

Vehicle Type	2-Ton (See Note)		2½-Ton	
Flat Face Cowl	C5102 C5202 C5302 C5502	C6102 C6302 C6502		
Windshield Cowl	C5112 C5212 C5312 C5512	C6112 C6312 C6512		
L.C.F. Cab Chassis	L5203 L5303 L5603	L6103 L6203 L6303 L6603 L6903	L7103 L7203 L7303 L7603	L8103 L8203 L8303 L8603
Tilt Cab Chassis		T6203 T6303 T6603 T6803	T7203 T7303 T7603 T7803	T8203 T8303 T8603 T8803
Conventional Cab Chassis	C5103 C5203 C5303 C5503	C6103 C6203 C6303 C6503 C6803	C7103 C7203 C7303 C7503 C7803	C8103 C8203 C8303 C8503 C8803
Conventional Stake	C5109 C5309			
L.C.F. Stake	L5309			
Tandem				M7303 M7503 M7803
School Bus	S5302	S6202 S6402 S6702		S7702 S7902

NOTE: On 2-Ton models except schoolbus, addition of suffix "S" to the model number would designate "1½ Ton Special" rating. Suffix "H" would designate "2 Ton Heavy" rating.

1961 TRUCK POWER TRAINS

Truck Series / Engine	Transmission	Rear Axle Capacity	Rear Axle Ratio
R12 145 Turbo-Air	3-Speed 4-Speed Powerglide	1600	3.89:1 or 3.27:1
C10 235 Thriftmaster 283 Trademaster	3-Speed 3-Spd Hd. 4-Speed Powerglide	3500 3500	3.90:1 3.38:1
K10 235 Thriftmaster 283 Trademaster	3-Spd Hd. 4-Speed	3300* 3500	3.90:1
C20 235 Thriftmaster 283 Trademaster	3-Speed 3-Spd Hd. 4-Speed Powerglide	5200	4.57:1
K20 235 Thriftmaster 283 Trademaster	3-Spd Hd.	3500* 5200	4.57:1
P20 235 Thriftmaster Special	3-Speed 3-Spd Hd. 4-Speed Hydramatic	5200	5.14:1
C30 235 Thriftmaster 283 Trademaster	4-Speed 3-Spd Hd.	7200	5.14:1
P30 235 Thriftmaster Special	4-Speed 3-Spd Hd. Hydramatic	7200	5.14:1
C40 235 Thriftmaster 283 Trademaster	4-Speed	11000	6.17:1
C, L-50 235 Thriftmaster 283 Trademaster	4-Speed	13000	6.60:1
S50 235 Thriftmaster 283 Trademaster	4-Speed	13500	6.60:1
C, L, T-60 261 Jobmaster § 283 Taskmaster	4-Speed 5-Spd N./Proc. 5-Spd N./Proc. Powermatic	15000 15000	7.20:1 6.40/8.72:1
S62, S64 261 Jobmaster 283 Taskmaster	4-Speed 5-Spd N./Proc. Powermatic	13500 15000 15000	6.60:1 7.20:1 6.40/8.72:1
S67 261 Jobmaster 348 Workmaster Special	4-Speed 5-Spd Clark 265V Powermatic	15000 15000	7.20:1 6.40/8.72:1
C, L, T-70 348 Workmaster Special	5-Spd Clk. 5V 5-Spd Clk. 7V Powermatic	16000 16000 16000	7.17:1 6.50/9.04:1 7.17/9.97:1
S70 348 Workmaster Special	5-Spd Clark 265V	15000 15000 16000 16000	7.20:1 6.40/0.72 7.17:1 6.50/9.04:1
M70 348 Workmaster	5-Spd Spicer 3-Spd "Aux." Powermatic	16000 each	7.17:1
C, L, T-80 348 Workmaster	5-Spd Spicer 3152 5-Spd Spic. 2A Powermatic	18500 ¶	7.17:1▼ 7.67:1 6.50/8.87 7.17/9.77

*—*Front Axle capacity on four wheel drive.*
§—*Not used with Powermatic on Tilt models.*
▼—*For use with Powermatic only on this series.*
¶—*Rated at 18000 pounds for "off-road" operations.*

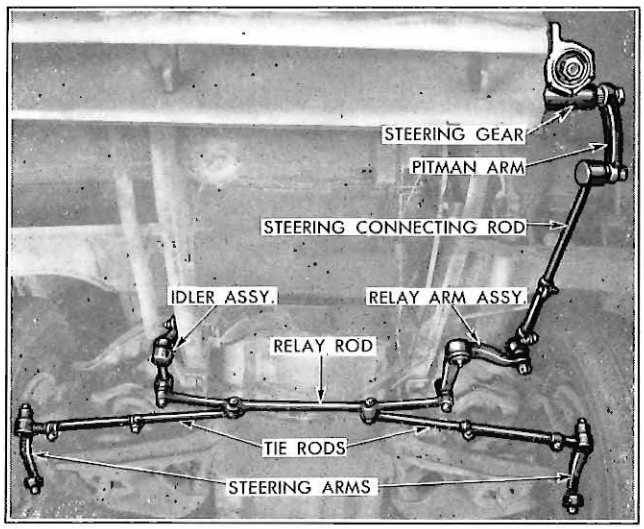


Fig. 30—Corvair 95 Steering System

gral part of the steering shaft). The mast jacket is a press fit into the steering gear housing.

The steering gear and linkage (Fig. 30) are positioned forward of the front wheels and are attached to the underbody. The pitman arm is linked to the relay rod by the connecting rod and the 90 degree relay arm assembly. Equal length tie rods connect the relay rod with the steering arms which extend forward from each wheel spindle. The length of the tie rods can be altered, in the conventional manner, to provide proper toe-in. Adjusting the steering connecting rod controls the position of the steering wheel.

The end of the relay rod opposite the relay arm assembly is supported by the idler arm assembly which contains non-lubricated nylon bushings. Nylon bushings are also used at the relay rod end of the relay arm assembly. The tie rods and steering connecting rods are equipped with self-tensioning spring loaded ball and socket joints which automatically compensate for normal internal wear.

There are two steering gear adjustments necessary to insure proper steering gear operation. (1) Preloading the worm gear thrust bearings insures properly seating of the bearings for long life. (2) Adjusting the steering gear at "high point" to minimize lash during "straight ahead" driving. Refer to the 1961 Corvair Shop Manual; page 4-16 covers these adjusting procedures in detail. On pages 4-17 of the Manual, steering wheel alignment adjusting procedure is presented.

To remove the steering gear, first remove the bumper and left front outer extension panel. Then disconnect the steering connecting rod from the pitman arm and remove the steering wheel, directional signal assembly and mast jacket to dash clamp. After removing the three bolts holding the steering gear to the body rail, the steering gear and mast jacket assembly can be lowered from the body.

The Corvair 95 series models have the same steering linkage lubrication requirements as the regular Corvair, plus the relay arm pivot must be lubricated every 1000 miles.

SECTION 5—REAR AXLE

A 3.38-to-1 rear axle assembly, which replaces the former 3.90-to-1 ratio, is released as regular production equipment for Series C10 models. The lower ratio of engine rpm to vehicle speed afforded by the new axle assembly provides a slight improvement in fuel economy.

The 3.38-to-1 ratio axle is released for use with all synchromesh transmissions. When the Powerglide option is used, however, the 3.90-to-1 axle ratio is mandatory.

SECTION 6—BRAKES

Air Brake Compressor Assemblies for the air-hydraulic and full-air brake systems are modified to improve braking efficiency. These compressors incorporate a new governor which increases reservoir tank pressure from the former 85-105 psi to 100-125 psi. The higher reservoir tank pressures not only produce greater breaking forces but also permit more stops per tank.

R.P.O. 414, Heavy-Duty Vacuum Power Brake Equipment is released for C, L, S-50 and C, L, S, T-60 models. This option consists of a 11½-inch diameter vacuum cylinder (Midland Ross) and a 1¼ inch diameter main cylinder. The 11½ inch vacuum assist unit is now mandatory with the 7000 pound heavy-duty front suspension (RPO 219).

SECTION 8—ENGINE

The 283 cubic inch Taskmaster V-8 engine is replaced by the 348 cubic inch Workmaster Special V-8, as an option for Series 60 models.

The valve rocker shaft end supports in the 261 cubic inch 6-cylinder engine are modified to increase shaft durability. A ⅛ inch slot is cut horizontally through one side of the bearing boss to reduce localized shaft stress.

Cylinder heads of the 261 cubic inch Jobmaster and 283 cubic inch Taskmaster engines have been improved by increasing the chrome content. This change in material specifications provides a less ductile head with improved valve seating.

Durability of the 348 cubic inch engine pistons is improved by increasing the cross-sectional area near the lower part of the skirt. The new pistons are identified by the letter "T" on the piston head.

The exhaust cross-over holes in the inlet mani-

TRUCK ENGINE OUTPUT RATINGS

Engine Name	Gross		Net	
	HP	Torque (lbs. ft.)	HP	Torque (lbs. ft.)
Thriftmaster 235 cu. in.	135 @ 4000	217 @ 2000	115 @ 3600	195 @ 2000
Thriftmaster Econ. Option	110 @ 3200	210 @ 1600	95 @ 3200	190 @ 1600
Thriftmaster Special	135 @ 4000	217 @ 2000	110 @ 3600	192 @ 2000
Jobmaster 261 cu. in.	150 @ 4000	235 @ 2000	130 @ 3800	218 @ 2000
Trademaster 283 cu. in.	160 @ 4200	270 @ 2000	137 @ 4000	250 @ 2000
Workmaster Special	185 @ 4000	315 @ 2200	160 @ 3600	285 @ 1800
Workmaster 348 cu. in.	230 @ 4400	335 @ 2800	194 @ 3800	302 @ 2600

fold to cylinder head gasket of 348 cubic inch V-8 engines have been enlarged to permit more exhaust gas to flow through the inlet manifold heat riser passages.

A new carburetor-to-manifold gasket is used with the 283 cubic inch Trademaster V-8 engine. The gasket has three small cut out areas to increase heat transfer to the carburetor.

Higher net engine power results from a new, optional air temperature-modulated viscous fan drive for Series 10-40 models with the Trademaster V-8 engine.

SECTIONS 11, 12 AND 13—CLUTCH AND TRANSMISSIONS

Regular Truck Line

A 10 inch diameter Belleville clutch replaces the former 11 inch diameter clutch.

Durability on the Heavy Duty 3-speed and the 5-speed transmissions has been improved through the use of a redesigned clutch gear bearing retainer which embodies a lip seal (Fig. 31). The new design eliminates a bearing retainer washer on the H.D. 3-speed and in both Clark 5-speed transmissions. In the 5-speed New Process transmission, a retainer nut and oil return groove on the clutch gear stem have been eliminated.

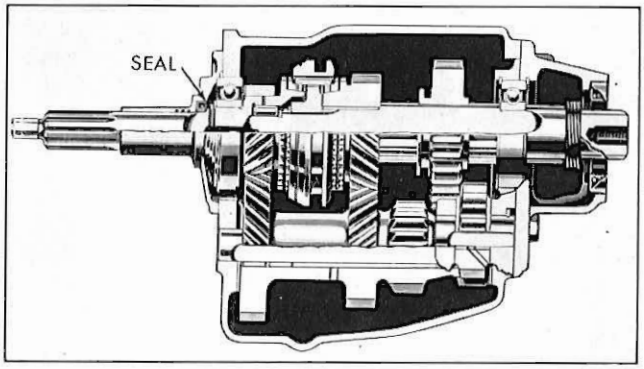


Fig. 31—Redesigned Clutch Gear Bearing Retainer

The reverse idler gear in the regular truck 3-speed transmission has been made more durable. The gear for 1961 has 15 teeth.

The parking brake drum, on trucks equipped with auxiliary transmission, was formerly mounted on the auxiliary transmission. Applying the parking brake then held the output shaft of the auxiliary transmission. For 1961 the parking brake mounting is on the main transmission. It is now necesary to have the auxiliary transmission in gear to hold the vehicle when the parking brake is applied.

Corvair 95

The clutch used on the Corvair 95 Series, when equipped with either 3- or 4-speed synchromesh transmission, is basically similar to the clutch used in Corvair passenger cars. Clutch disc facing diameter is 9.12 inches (O.D.) and 6.12 inches (I.D.).

Corvair 95 models may be optionally equipped with a Powerglide transmission. Although basic

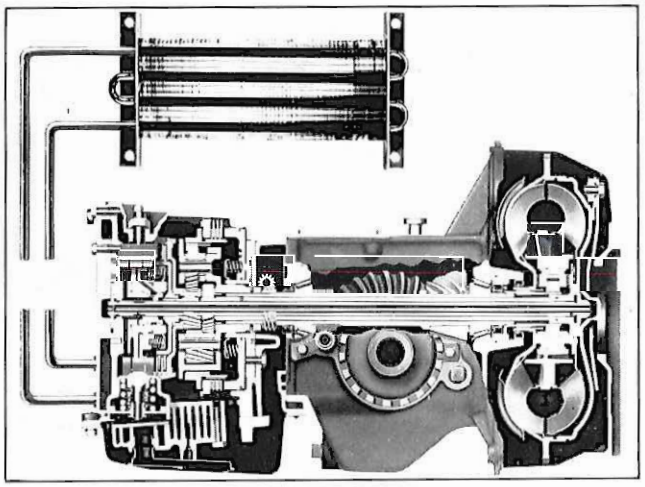


Fig. 32—Corvair 95 Powerglide

design is similar to the passenger car Powerglide, the transmission has one unique feature. A transmission oil cooler is used with the Corvair 95 Powerglide (Fig. 32). The oil cooler is mounted in the left rear wheelhouse compartment.

SECTION 14—BODY

Regular Truck Line

Regular line Chevrolet truck bodies for 1961 are carried forward from 1960 essentially unchanged except for front-end appearance and as noted below.

Drastic reductions in floor tunnel size of vehicles equipped with either the 3-speed, 3-speed H.D. (without transmission-mounted parking brake) or Powerglide transmission afford increased front compartment roominess.

Comparison with the 1960 tunnel shows a decrease in tunnel width of $4\frac{11}{16}$ inches at heel point, and a decrease in heighth of $3\frac{3}{4}$ inches (measured at front of seat cushion).

Corvair 95

The body for the Corvair 95 Series utilizes body-frame integral construction, which is a variation of the basic Corvair body. Integration of frame and drop-center underbody into a single unit produces an excellent combination of interior-exterior dimensions, strength, and volume capacity.

Corvair 95 models are designed for a 1600 pound load (including driver), which compares favorably with load capacities of other ½-ton nominally rated vehicles.

Measuring only 70.0 inches wide and 179.1 inches long, the new trucks are easy to park and maneuver. Overall height at design load is a low 68.5 inches for the panel and 69.0 inches for pickups. Despite the compact exteriors, cargo capacities range up to 191 cubic feet.

Large door and tailgate openings facilitate loading and unloading. A crate as large as 49.0 inches high by 53.5 inches wide can be loaded through the double side doors of panel models. The rear door opening of panel models measures 36.0 inches high by 44.6 inches wide, while the tailgate opening on pickups measure 44.8 inches wide. The Rampside pickup (Fig. 33) has a ramp-gate opening width of 47.5 inches.

From the ground at design load, side door load height is less than 14.0 inches. Rear door or tailgate load height is only 26.5 inches.

Fig. 33—Model R1254 Rampside

Unusually good forward visibility is afforded with the high, wide windshield having a daylight opening area of 1170.5 square inches. The 15 inch blades of the tandem-acting wipers provides a wiped area of approximately 748 square inches.

Baked enamel is used for the exterior color coat on all Corvair 95 Series bodies. Color choice is identical to that of the regular truck line.

The frame-body shell is made up of five subassemblies. They are: (1) the underbody, (2) the front end structure, (3 & 4) the right and left hand side panels, and (5) the roof panel. The construction of these subassemblies relating to the Corvair 95 series are as follows:

Underbody

The underbody is built up from two subassemblies welded and bolted together at the back of the front kickup (Fig. 34). Two full length longitudinal sills, box sectioned front and rear and of

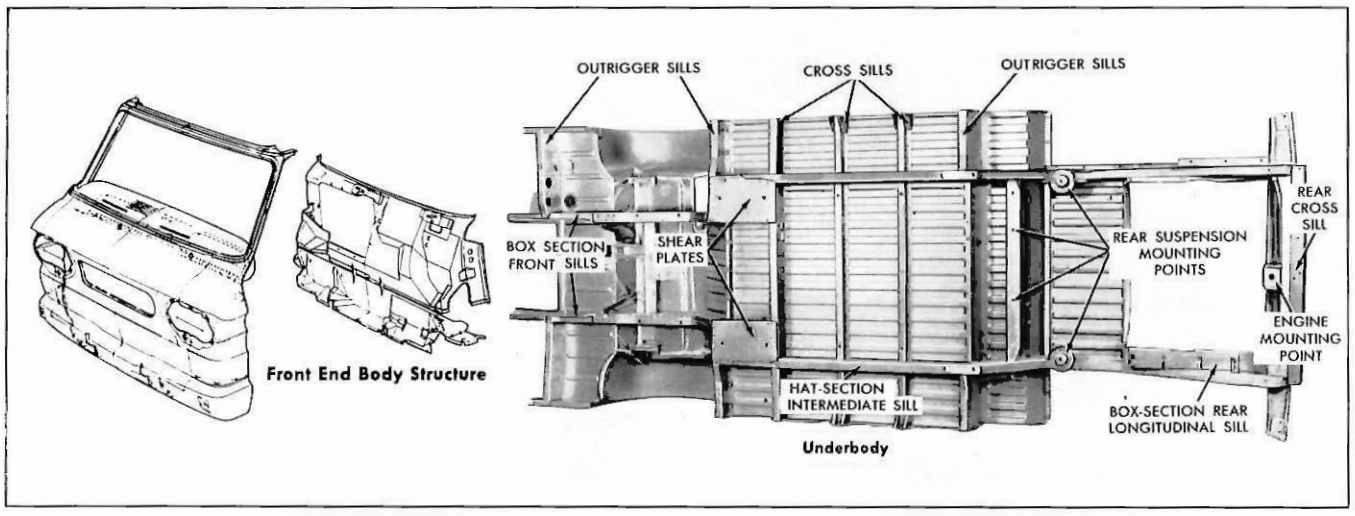


Fig. 34—Front End and Underbody Construction

the hat section in the central portion support the ribbed floor. They are widely spaced at the rear and center and are further inboard in the forward portion to provide clearance for the front suspension. Heavy shear plates spot welded to lateral supports tie the offset sills together.

Lateral support is provided through variously shaped cross and outrigger sills; all the sills are reinforced with braces and gussets. An extra-heavy gauge portion of the rear kickup floor panel serves as the front bulkhead for the engine compartment and as a structural crossmember.

For convenient vehicle jacking, left and right side jacking pads are provided on the foremost and rearmost outrigger sills (Fig. 35). Provisions are made on the sills for mounting chassis components. Two holes are pierced in each front underbody longitudinal sill for the front suspension assembly, and a total of five mounting points are provided for the rear suspension, transaxle, and engine.

Anti-corrosion measures are taken to protect the undersurface of the body. The entire lower surface of the underbody is sprayed with a high zinc content chromate primer. Enclosed areas where moisture may collect are sealed with a compound consisting of aluminum particles suspended in a wax base. In addition, before welding all underbody flanges are treated with a special rust inhibiting compound. As a final preventative measure, all wheelhouses are sprayed with undercoating.

Front End

The front end consists of several sheet metal subassemblies rigidly welded together. The unit consists primarily of inner and outer front end panels, toe pan, instrument panel, hinge pillars, and windshield header rail.

Fresh air for the vehicle interior is provided by the ram effect of a plenum chamber incorporated in the front end structure. Outside air enters the plenum through an inlet grille located below the windshield.

The front underbody is made up of a slightly crowned floor panel and a seat riser flanked with wheelhouses. The rear underbody, or load compartment, is comprised of a straight floor panel and a raised floor panel on two levels. When the two underbodies are joined, the straight floor panel of the rear underbody becomes the "dropped-center" of the underbody assembly.

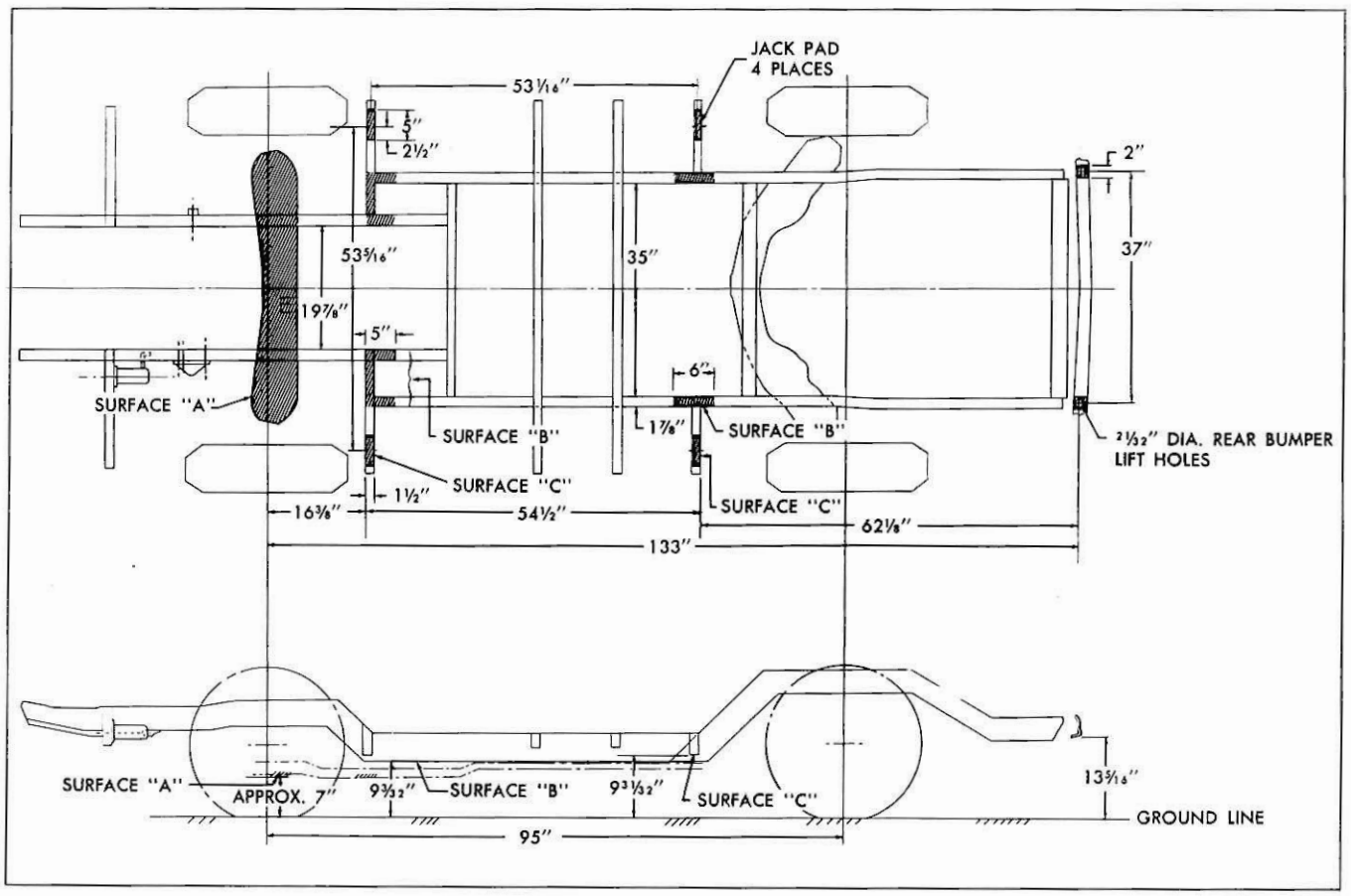


Fig. 35—Corvair 95 Series Lifting Locations

Since the largest load area is at the center of the vehicle, weight distribution between the front and rear wheels remains relatively unchanged when the vehicle is loaded, thus not adversely affecting vehicle ride and handling. The underbody configuration also provides a low vehicle center of gravity, which contributes to good vehicle ride and handling.

Roof

Because of the roof length extra-heavy gauge steel is used for the roof panel. Rails, welded to the roof panel perimeter, provide additional strength. Unlike passenger car construction, main attachments of this assembly to the balance of the body is with bolts on all edges except over the front and rear doors. Here portions of the roof rail form part of the upper door framing, and are welded together. Added rigidity is afforded with seven triple-channeled roof bows which are slightly overcrowned so they butt tightly against the roof panel.

Side Structure

Addition of right and left hand side panel assemblies complete the body shell. Formed with integral rear quarters wrapping around to the double rear door body pillars, these units include the rear wheelhouse and an air intake for the air-cooled engine (Fig. 36).

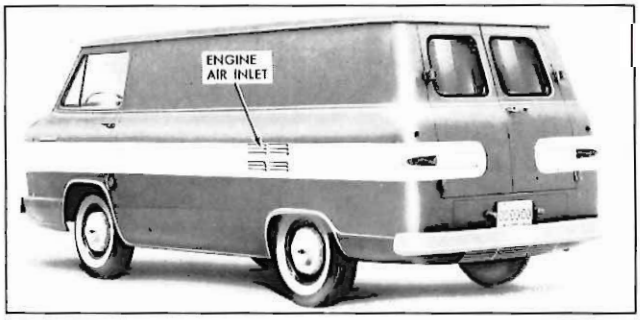


Fig. 36—Corvan

Engine Access Panel

Access to the engine for all 1961 Corvair 95 models is through a removable panel at the rear end of the underbody assembly. Attached to the panel undersurface on panel delivery and station wagon models is a 5/8 inch thick blanket to insulate against engine heat and noise.

Closed cell sponge rubber surrounds the perimeter of the removable panel, providing an efficient seal against moisture, dirt, and fumes. The panel is retained with spring-loaded screw-type fasteners which permit easy and rapid panel removal and replacement.

Engine Access Door—Periodic Maintenance

Below the double rear doors on Van type models and tailgate on Pickup models, a heavy-gauge metal door provides access to the engine oil filler tube and other components such as the distributor, coil, generator, and oil filter. The door is hinged at the bottom with a piano hinge, and supported in the open position with slotted links. Retention of the door is through a slam-type lock, which is disengaged by a lift handle located above the license plate.

Closed cell sponge rubber seal around the door opening assures rattle-free retention of the door and a positive seal against road dirt and moisture.

Battery Access Door

Battery accessibility for all Corvair 95 models is provided with a hinged door in the top surface of the left hand rear wheelhouse. The door is retained with a slam-type lock. The battery is positively retained within the compartment. Ventilation in this area is provided by the engine air induction system.

Spare Tire & Jack Storage

The spare tire assembly for Greenbrier and Corvan models is stowed vertically inside the body atop the right hand wheelhouse where it is easily accessible through the rear doors. Retention of the assembly is with a wing-type bolt and spacer, the bolt screws into a bracket welded to the rearmost side panel vertical support.

The jack and combination jack handle and wheel wrench are stowed behind the spare wheel and tire assembly. They are mounted on two slotted brackets bolted to the body side panel. The brackets are located approximately mid-way between the horizontal centerline of the wheel and tire assembly and the top of the wheelhouse, thereby permitting the spare wheel and tire assembly to butt against the jack, holding the jack securely in position.

The spare tire assembly for the Rampside and Pickup is stowed behind the front seat. Retention of the assembly is with a wing-type bolt and spacer,

the bolt entering a bracket welded to the rear panel.

Seats

Seat construction for Corvair 95 models is essentially the same as that for standard models in the regular truck line, with spring wire elements employed for cushions and coil springs for backrests. Seat padding also is identical to standard models in the regular truck line except a 1¼ inch rather than a one inch thick urethane foam pad is used in the seat cushion. For Custom models, a 1½ inch thick urethane foam pad is used in the seat cushion and a ¾ inch thick urethane foam pad is added to the backrest.

Unlike regular truck models where seat cushions and backrests are trimmed separately then mounted to the frames, Corvair 95 seat cushions and backrests are trimmed directly to the frame. Woven cloth trim with a nylon fill is used for deluxe seat coverings, while custom coverings are of nylon-faced woven cloth. Durable vinyl is used for the seat facings, seat bolsters, and backrest rear faces.

A single driver's seat is provided for the panel delivery, and a full-width front seat is available as a regular production option (RPO 482). All other models have the full-width front seats as regular production equipment. As with regular truck models, maximum front seat comfort is assured with smooth-operating seat adjusters and easily adjusted backrests. A retention device prevents Corvair 95 front seats from falling forward on sudden stops.

PART 4—CORVETTE

SECTION 1—GENERAL INFORMATION

Corvette engine design, power ratings and drive train combinations for 1961 remain unchanged. As indicated by the following chart, base equipment is the 283 cubic inch V-8 engine with a 4-barrel carburetor, 3-speed synchromesh transmission and 3.36 to 1 ratio rear axle. Optional 4-speed and Powerglide transmissions are available as are the four ratios of the Positraction rear axle used with manual transmissions.

SECTION 8—ENGINE

Presented in mid-season 1960 and continued for 1961 models are oil-wetted polyurethane cleaner elements which replace the aluminum mesh type units. They are provided for engines with single and dual 4-barrel carburetors.

Cooling System

Increased cooling capacity, over copper cored radiators, is provided by the use of light weight aluminum cross flow radiators for all Corvette engines. Core structure is the sturdy drawn cup design used for models equipped with special camshafts last year. Core dimensions remain approximately the same providing 315.4 square inches of frontal area. With a 13 pound pressure cap and thicker core, a 10 percent increase in cooling capacity is achieved.

The coolant supply tank provides the one noticeable change, for it no longer is on top of the core. A new short circular tank is mounted on the left hand front fender skirt, and contains a short filler neck and pressure cap (Fig. 37).

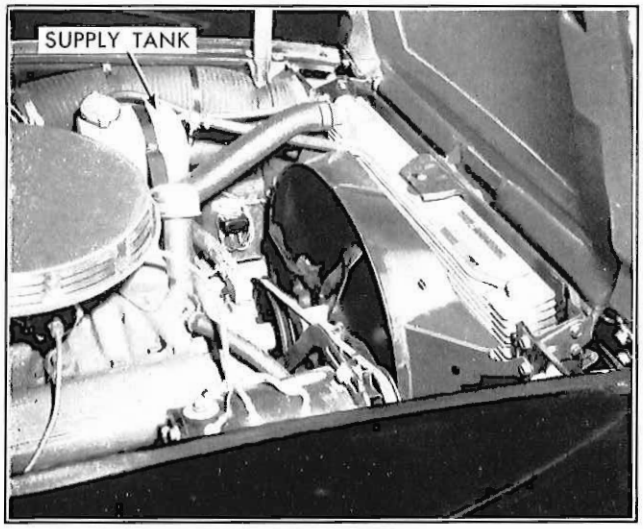


Fig. 37—Aluminum Radiator and Supply Tank

Tachometer

All Corvettes will feature a tachometer which is driven by the ignition distributor. Previously, only vehicles having the Fuel Injection option with special camshaft utilized this arrangement. Other Corvettes had the tachometer driven by the generator.

SECTION 12—TRANSMISSION

The chassis components for the 1961 Corvette are the same as those of the previous model, with revisions in transmission controls to suit the new underbody configuration.

The optional 4-speed transmission, RPO 685,

1961 CORVETTE POWER TRAINS

Engine	Gross Horse-power	Gross Torque (lb.-ft.)	Identifying Equipment	Comp. Ratio	Transmission	Axle Ratio	Positraction Axle Ratio
Base Prod. 283 Cu. In. V-8	230 at 4800 rpm	300 at 3000 rpm	4-bbl. carb.	9.5-to-1	3-Speed	3.36	3-spd. trans. available with 3.36, 4.11 & 4.56. 4-spd. trans. available with 3.70, 4.11 & 4.56. None available with Powerglide
					4-Speed	3.70	
					Powerglide	3.55	
Optional 283 Cu. In. V-8	245 at 5000 rpm	300 at 3800 rpm	2, 4-bbl. carbs.	9.5-to-1	3-Speed	3.36	
					4-Speed	3.70	
					Powerglide	3.55	
	270 at 6000 rpm	285 at 4200 rpm	2, 4-bbl. carbs. and spec. cam.	9.5-to-1	3-Speed	3.36	
					4-Speed	3.70	
	275 at 5200 rpm	305 at 4400 rpm	Fuel Injection	11.0-to-1	3-Speed	3.36	
					4-Speed	3.70	
	315 at 6200 rpm	295 at 47-5100 rpm	F.I. and spec. cam	11.0-to-1	3-Speed	3.36	
					4-Speed	3.70	

has a new aluminum case resulting in a weight saving of approximately 15 pounds over the previously used cast iron case.

SECTION 14—BODY

While the 1961 Corvette has a new front grille and new exterior rear end panels to effect a styling change, basic structure of the vehicle remains unchanged.

New body-to-roof sealing, for hard and convertible tops, combined with improved door sealing, introduced in mid-season 1960, should make the interior compartment weather tight.

A revised underbody accommodates the new car rear panels and reduces the transmission tunnel width approximately 20 percent. In addition to an area reduction, new tunnel lines present a smoother cockpit appearance.

To suit the customer's individual requirements, an alternate seat track location is provided in the underbody. The new attaching point will position the seat one inch rearward.

A newly styled radiator grille (Fig. 38) creates a new front end appearance for the 1961 Corvette. From the lock pillars rearward, styling is entirely different from previous models. The new lattice-type main radiator grille consists of ten vertical and fifteen horizontal bars of bright anodized aluminum. The simulated air inlets at either side of the grille are unchanged.

The slope of the rear deck rearward is shallower and terminates in a pronounced horizontal body line at the rear of the body. From this line, the body rear panel slopes down and forward toward the wheelhouse. Dual, horizontally arranged rear lamps are placed above the bumper at either side of the vehicle. All function for stop, tail, and direction signal lights.

Corvette exhaust system tail pipes no longer project through rear bumper panels. The new tail pipes extend down and slightly outward ending approximately five inches behind the rear wheels.

Eight colors are offered and method of 2-toning is retained from the previous year. For specific colors refer to the 1961 Chevrolet Paint Chart shown in this issue. Six interior colors, black, blue, red, green, fawn, and maroon are offered.

Fig. 38—1961 Corvette