1955 PONTIAC
SHOP MANUAL

GENERAL

This shop manual supersedes the 1955 model preliminary manuals, Books I, II and III dated September, 1954 and includes all pertinent subject matter published in Service Craftsman News issues up to and including the June, 1955 issue.

CONTENTS

Arrangement of the material is shown by the table of contents on the right-hand side of this page. Black tabs on the first page of each section can be seen on the edge of the book below the section title. More detailed table of contents precedes each section, and an index is included in the back of the manual.

BODY–HYDRA-MATIC–AIR CONDITIONING

Detailed information on body service appears in applicable issues of the Fisher Body Service News. Complete information on Hydra-Matic Drive and Air Conditioning is published in separate manuals.

CRAFTSMAN NEWS REFERENCES

Future issues on the Service Craftsman News will carry information which may supplement this manual. To make the manual a complete source of information, make notations of pertinent "News" items in the text.

AIR CONDITIONING CAUTION

Before attempting any service work requiring the disconnecting of units of the air conditioning system, check the information published concerning air conditioning service. It is extremely important that proper methods and precautions be observed when disconnecting any refrigerant lines or units. Failure to properly perform these operations can result in injury to personnel and the necessity of expensive repair work on the air conditioning system.

PONTIAC MOTOR DIVISION
GENERAL MOTORS CORPORATION
PONTIAC 11, MICHIGAN

S-5504 JUNE, 1955 Litho in U.S.A.

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PONTIAC SERVICE CRAFTSMEN ACTIVITY

For the personal development and progress of a select group of Pontiac Service Men.

ELIGIBILITY

If you are a Mechanic, Body Man, Shop Foreman, Service Salesman, or Service Manager in the employ of a Pontiac Dealer, you are eligible to enroll in the Pontiac Service Craftsman Activity.

REQUIREMENTS

To become a Pontiac Service Craftsman, and remain in good standing, you must:

1. Maintain a continuous average of 80 per cent or better on five examinations mailed from your Zone Office each year.
2. Attend all Factory Service Schools.
3. Live up to the Pontiac Service Integrity Code.
4. Remain in the employ of a Pontiac dealer.

WHAT THE PONTIAC SERVICE CRAFTSMAN RATING MEANS TO YOU

A better knowledge of the product will be gained through attendance at each Service School and constant study of the shop manuals and factory bulletins. You will keep well informed on current changes, improvements and latest service methods.

This training will enable you to improve the quality of your work, increase your efficiency, thus placing you in a position to increase your earning power.

Your Service Craftsman Training will result in increased owner good will, more new and used car sales for your dealer, increased customer labor sales and increased earning potential.

This training not only will give recognition to the greater knowledge and skill of those men who attain the rating of Pontiac Service Craftsman, but will offer greater opportunities for advancement.

HOW TO ENROLL

Simply fill out the Service Craftsman enrollment card Form 700, included at the top of the second page of each Service Craftsman examination. Mail this to your Zone Office, attention of the Service Manager, who will automatically enroll you. Further details may be obtained from your District Manager.

AWARDS

All dealers who have Craftsmen in their employ receive a plaque, embodying the Craftsman crest. Provision is made for attaching names of Craftsmen to the plaque.

When you have fulfilled the requirements, you are eligible to receive the following awards at the end of the indicated periods.

FIRST YEAR

You will be presented with a silver Pontiac Service Craftsman pin. You will also be given a Service Craftsman Card each year you qualify, to be carried as proof that you are a Pontiac Service Craftsman in good standing. A nameplate with your name embossed is presented to the dealer for attachment to the Craftsmen's plaque on display in the dealership.

TWO YEARS

A serviceable, 8½" x 11", black three-ring book embossed with the Craftsman crest in gold foil, will be presented at the end of the second year. This book has been designed to allow you to maintain a complete up-to-date file of Service Craftsman News you receive.

THREE YEARS

You will receive a handsome silver Pontiac Service Craftsman ring.

FIVE YEARS

You will receive a pen and pencil set marked with the Service Craftsman crest.

EIGHT YEARS

You will receive an attractive electric clock with the Service Craftsman crest attached.

TEN YEARS

At the end of ten years, you will receive a beautiful gold Service Craftsman pin with the words "10 Years" engraved at the bottom. You will also receive a framed certificate, inscribed "Senior Service Craftsman," denoting ten years of Service Craftsman participation.

ELEVEN YEARS

You will receive a gold Service Craftsman pin with "11 Years" engraved at the bottom.

TWELVE YEARS

You will receive a gold Service Craftsman pin with "12 Years" engraved at the bottom.

THIRTEEN YEARS

You will receive a gold Service Craftsman pin with "13 Years" engraved at the bottom.

FOURTEEN YEARS

You will receive a gold Service Craftsman pin with "14 Years" engraved at the bottom.

FIFTEEN YEARS

A beautiful silver ring with a black onyx set and Service Craftsman emblem is available to those craftsmen who have completed fifteen years active participation.

THE PONTIAC

Service Integrity Code

1. I will take advantage of every opportunity to increase my knowledge concerning the work I am doing.

2. I will use only those materials that have been proven to be safe.

3. I will strive to produce nothing but first class workmanship.

4. I will keep clean, neat and presentable when on duty in any service station.

5. I will recommend to an owner only that work on his car which I believe to be necessary.

6. I will treat an owner's car as I would have my own car treated.

7. I will attempt to correct any honest mistake made by another service man, without creating a bad impression in the mind of the owner.

8. I will not make disparaging remarks concerning another service man or service station.

9. I will conduct myself so as to maintain and increase the public respect for all service men.

10. I will practice Service Integrity, which means that to the best of my ability, I will always work for the best interest of the owner, my employer and myself.

1955 CAR MODEL IDENTIFICATION

General specifications appear below. Detailed specifications are given on major units at the end of each section of this manual.

Series identification can be made by the car serial number embossed on a metal strip fastened to the left front hinge pillar post which is visible when the left door is open (Fig. 1-1). Information as to body style, etc., is stamped on a plate attached to the right side of the cowl just under the rear edge of the hood (Fig. 1-2).

Certain publications carry "series" numbers to identify models and others carry sales department names. The following table lists both methods of identification.

Year	Cylinder	Series	Sales Model Name
1955	8	28	Star Chief
1955	8	27	Chieftain Eight Seventy (870)
1955	8	27	Chieftain Eight Sixty (860)

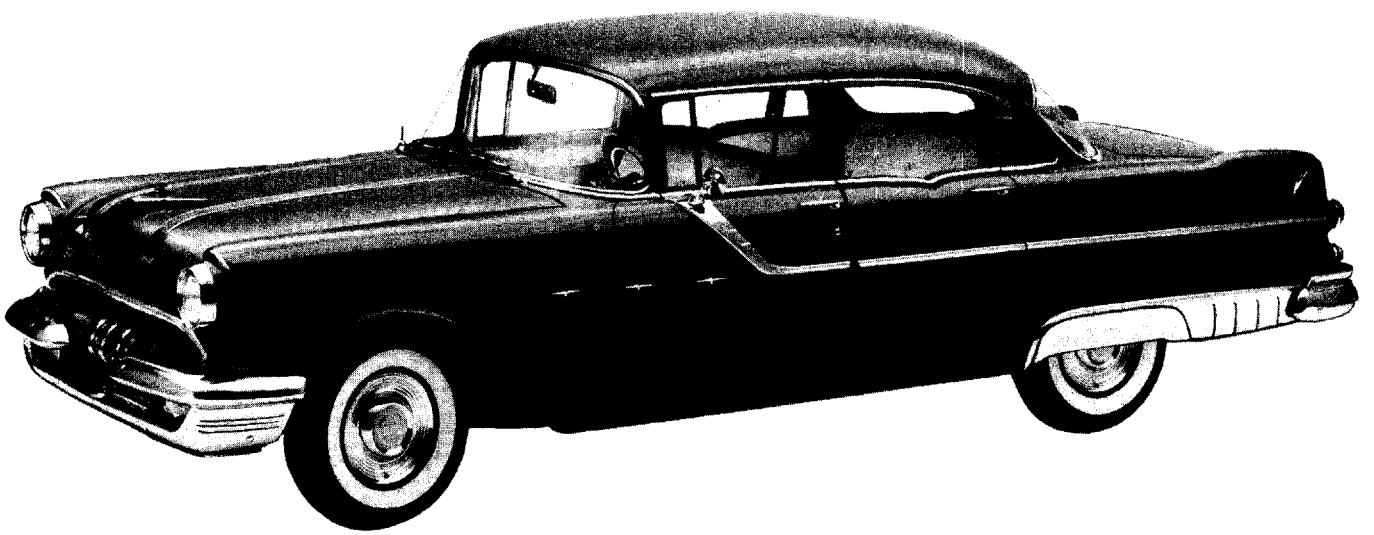


Fig. 00-1 1955 4-Door Star Chief, Series 28

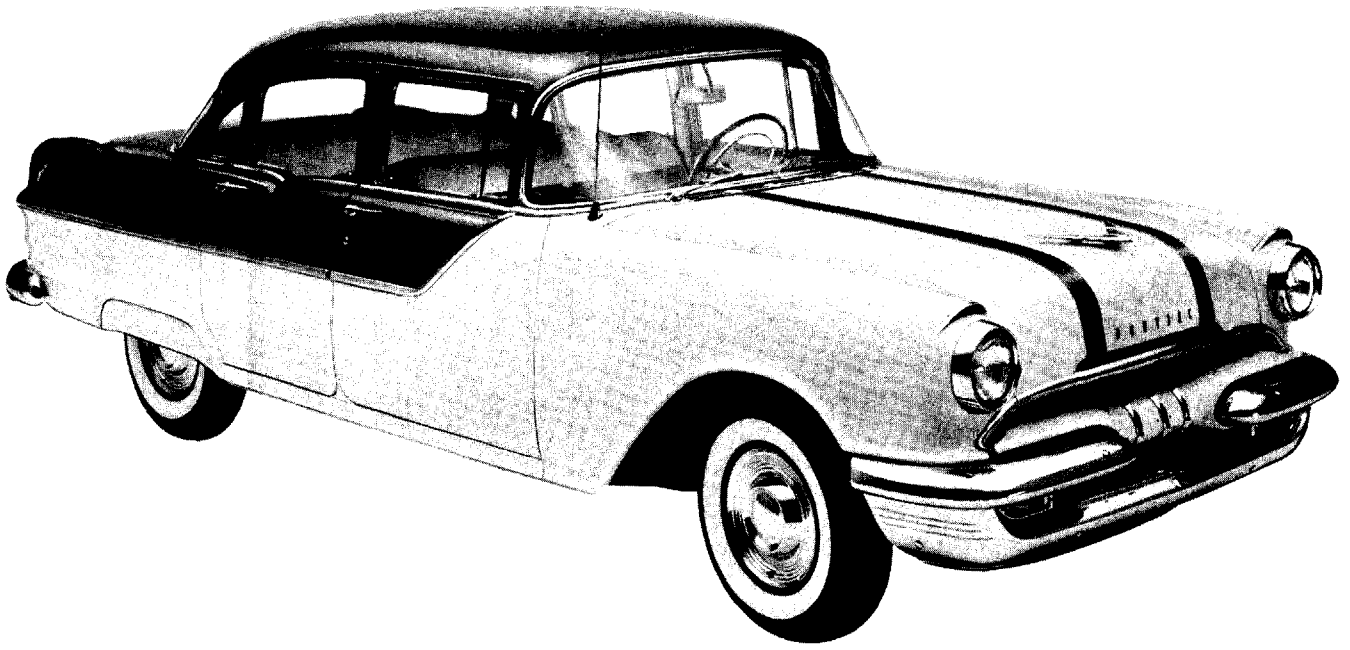


Fig. 00-2 1955 4-Door Chieftain Eight Seventy (870)

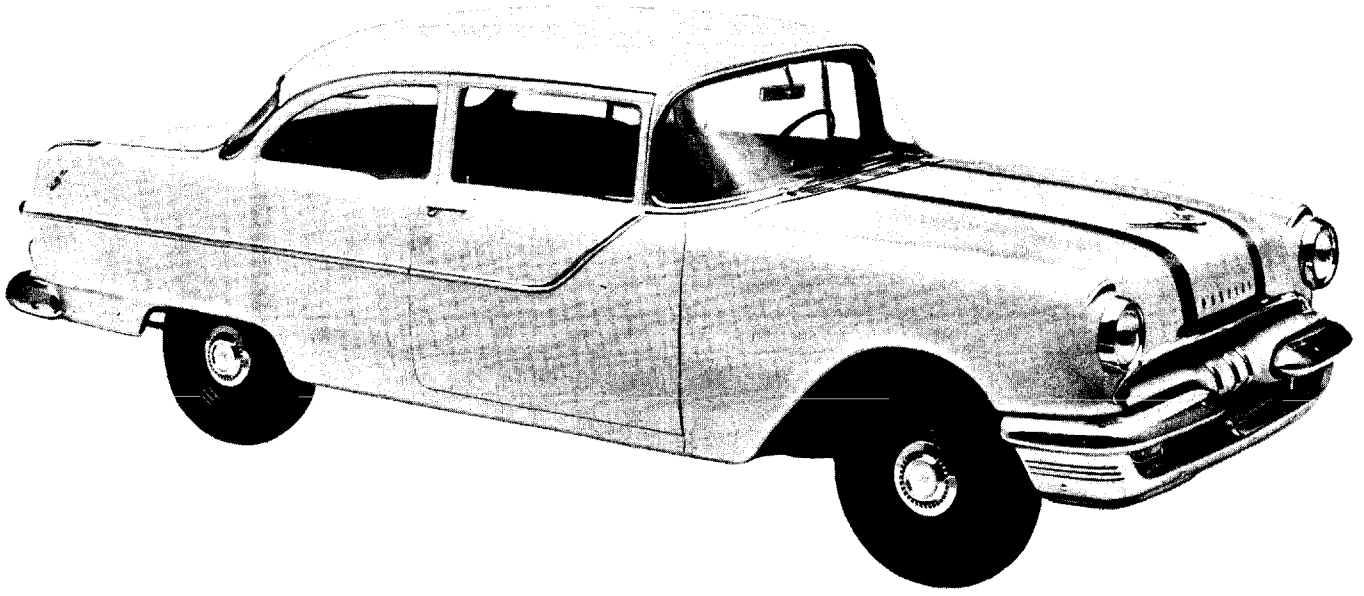
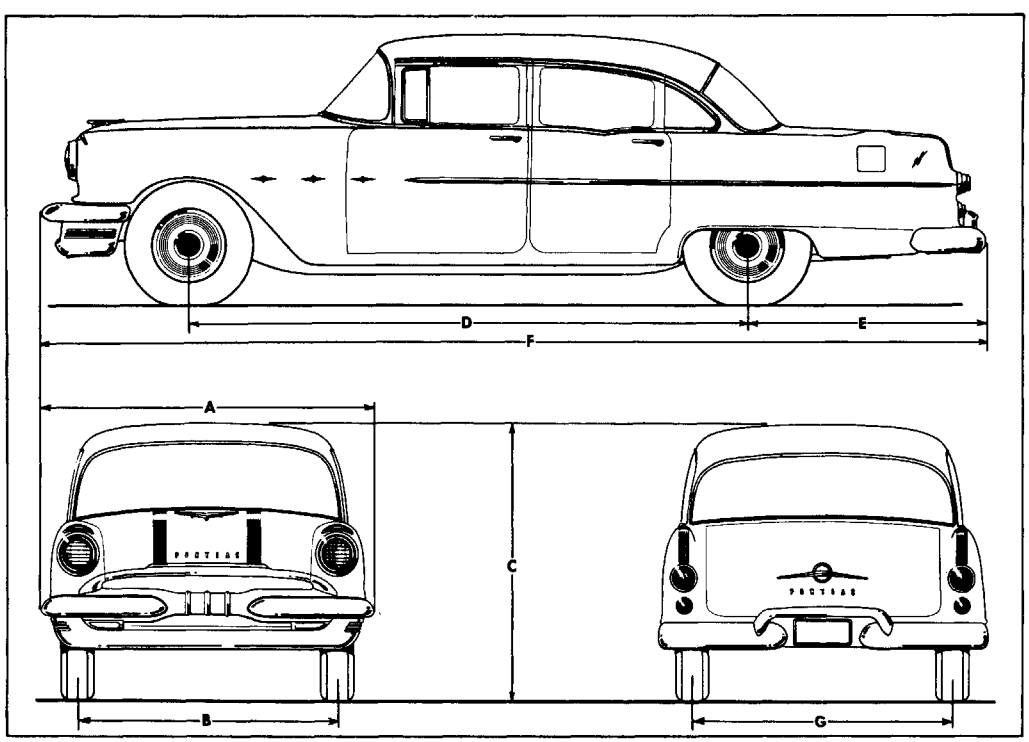


Fig. 00-3 1955 2-Door Chieftain Eight Sixty (860)

GENERAL SPECIFICATIONS

DIMENSION	KEY	28 SERIES	27 SERIES
Over-All Length			
All except station wagon	F	210.2″	203.2″
860 and 870 station wagon	F	—	206.6″
Star Chief station wagon	F	—	204.3″
Width (Maximum)	A	75.4″	75.4″
Height (with Passengers)			
Four-Door Sedan	C	60.5″	60.5″
Convertible	C	59.0″	—
Catalina	C	59.1″	59.1″
860 and 870 station wagon	C	—	61.0″
Star Chief station wagon	C	—	59.6″
Wheelbase (Nominal)	D	124″	122″
Tread			
Front	B	58.65″	58.65″
Rear	G	59.05″	59.05″
Turning Circle			
Curb to Curb (Left)		42.11″	42.6″
(Right)		42.11″	42.4″
Wall to Wall (Left)		45.6″	45.1″
(Right)		45.5″	44.10″
Road Clearance (Minimum) (7.10 Tires)		6.7″	6.7″
Overhang (Rear)			
All except station wagon	E	53.5″	48.5″
860 and 870 station wagon	E	—	48.9″
Star Chief station wagon	E	—	49.6″



RELATION OF SPEED TO RPM

CAR SPEED MPH	REAR WHEEL RPM		ENGINE RPM							
			AXLE RATIOS–TIRES							
			3.08		3.23		3.64		3.9	
	7.10	7.60	7.10	7.60	7.10	7.60	7.10	7.60	7.10	7.60
10	122	120	377	370	395	388	445	438	477	469
20	245	241	754	741	790	777	891	876	954	939
30	367	361	1130	1112	1185	1170	1336	1314	1431	1408
40	489	481	1507	1482	1581	1555	1781	1752	1908	1877
50	612	602	1884	1853	1976	1943	2226	2190	2385	2346
60	734	722	2261	2224	2371	2332	2672	2628	2862	2816
70	856	842	2638	2594	2766	2721	3117	3066	3340	3285
80	979	963	3014	2965	3161	3109	3562	3504	3817	3754
90	1101	1083	3391	3336	3556	3498	4008	3942	4294	4224
100	1223	1203	3768	3706	3951	3887	4453	4380	4771	4693

DATA

Tire Size	7:10-15	7:60-15
Rolling Circumference	86.32″	87.76″
Rolling Radius	13.74″	13.97″
Generator to Engine Ratio (2 7/8″ Pulley)	2.47:1	2.47:1
Fan to Engine Ratio	.88:1	.88:1

AXLE RATIO	N/V RATIO* TIRE SIZE	
	7:10-15	7:60-15
3.08	37.7	37.0
3.23	39.5	38.8
3.64	44.5	43.8
3.9	47.7	46.9

*N=engine rpm: V=car speed, mph

SERVICE CRAFTSMAN NEWS REFERENCE

News Year	News No.	Page No.	Subject

ENGINE DETONATION OR SPARK KNOCK

There are three principal factors affecting combustion knock. These are (1) octane rating of the gasoline, (2) combustion chamber deposits and (3) timing of the ignition spark.

OCTANE RATING OF THE GASOLINE

The octane rating of a gasoline is the index of its knocking tendency. The octane rating of gasolines available throughout the country varies with different fuel refiners, and also varies when going into different areas of the U. S. Most refiners offer a Premium and a Regular grade of fuel. The variation in fuel octane throughout the country is so great that the Regular fuel octane in some areas is as high as Premium fuel in other areas. (High altitude sections of the U. S. are excluded in this comparison as their octane values are consistently low.)

Other than the fact that heavy knocking produces power loss in an engine, the octane rating of the gasoline will affect nothing in the operation of the car except the knocking tendency of the engine. Under conditions of slight or no knock, and all other things being equal, the octane rating of a fuel will not change starting ability, fuel economy, accelerating ability, idling characteristics or vapor locking tendencies.

The 1955 Pontiac V-8 engine at 8 to 1 compression ratio is designed to operate without knock on Premium fuels with a basic spark setting of 5° B.T.C. Any retard of the spark from the basic 5° setting will produce a loss in power and under no circumstances should the spark be retarded later than 0° T.C. as these settings will produce serious power loss and promote engine overheating.

COMBUSTION CHAMBER DEPOSITS

Combustion chamber deposits are the result of the burning of fuel and lubricating oil in the chambers. Fuel and oil are primarily organic* chemical compounds known as hydrocarbons. Several metallic and inorganic compounds are included in both the fuel and oil as additives to produce finished products which better satisfy the requirements of the engine. The resultant deposits are composed of the residues of all these various compounds, both organic and inorganic. Different makes of fuel and oil have different kinds and proportions of these additives.

The rate of accumulation and the nature of the deposits, therefore, are affected by the composition of the base fuel and oil and the nature of their additives. Another important factor affecting rate and nature of deposits is the type of driving, with fast driving producing the minimum of deposits and moderate and slow driving causing heavier deposits. The car that is frequently driven at high speeds rarely knocks due to combustion chamber deposits, but the slower schedules, either from driver preference or enforced by road and traffic conditions, may form knock-producing deposits in the chambers. It is permissible to retard ignition timing to 0° T.C. to reduce or eliminate knock due to deposits, but some performance will be sacrificed. If a setting later than 0° T.C. is required to eliminate objectionable knock, the combustion chamber deposit must be removed.

TIMING OF THE IGNITION SPARK

The correct timing for the 1955 Pontiac V-8 engine is 5° B.T.C. This setting will be ideal for the great majority of cars. Settings greater than 5° B.T.C. may produce spark knock and will tend to make a rough idle. Power and fuel economy will not be noticeably improved. In cases where objectionable spark knock is evident at a setting of 5° B.T.C., it is permissible to retard to 0° Top Center. A moderate performance loss will occur at the retarded setting and retard later than 0° T.C. will produce an excessive loss in power and promote engine overheating. Under no circumstances should the timing be set later than 0° T.C.

*Organic compounds have their origin in plant or animal life. Inorganic elements and compounds are of inanimate origin, such as metals, stone, etc.