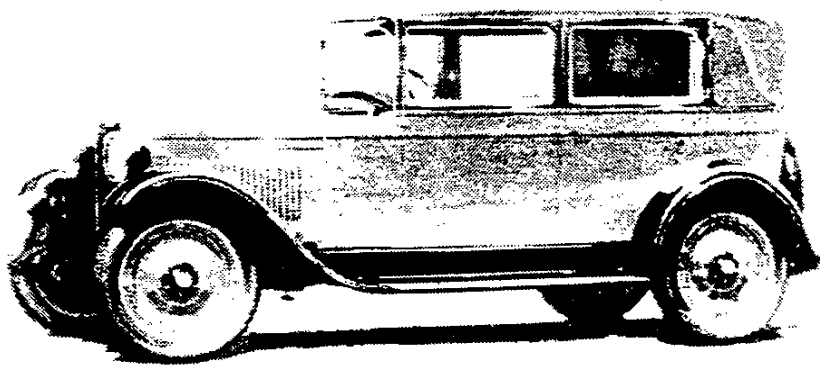


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# CHEVROLET

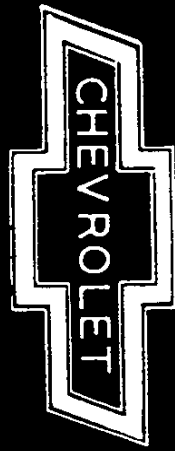


1928 Chevrolet. National. Imperial landau. HAC

**1928**



ORIGINAL



# SPECIFICATIONS

## 1928

NATIONAL MODELS

JAN.-1



# 1928 COMPLETE CAR SPECIFICATIONS

MODEL	CAPACITY	DRIVE	CURB WEIGHT & OIL (GASOLINE & WATER)			SHIPPING WEIGHT	ROAD CLEARANCE	MIN. TURNING RADIUS	TOP MATERIAL	OVERALL DIMENSIONS		
			FRONT	REAR	TOTAL					LENGTH TOP DOWN	WIDTH	HEIGHT TOP UP
NATIONAL TOLUENE	5 PASSENGER	RIGHT AND LEFT	1040	1125	2165	2090				156 <sup>1</sup> / <sub>16</sub>		72 <sup>13</sup> / <sub>16</sub>
NATIONAL 4-DOOR	2 PASSENGER		1040	1065	2105	2030				152 <sup>1</sup> / <sub>16</sub>		69 <sup>11</sup> / <sub>16</sub>
NATIONAL SEDAN	5 PASSENGER		1130	1380	2510	2435				152 <sup>1</sup> / <sub>16</sub>		72
NATIONAL COACH	5 PASSENGER		1120	1215	2435	2360				152 <sup>1</sup> / <sub>16</sub>	66 <sup>1</sup> / <sub>2</sub>	72 <sup>1</sup> / <sub>8</sub>
NATIONAL COUPE	2 PASSENGER		1120	1190	2310	2235				152 <sup>1</sup> / <sub>16</sub>		70 <sup>5</sup> / <sub>16</sub>
NATIONAL CAB	2 PASSENGER		1110	1235	2345	2270				152 <sup>1</sup> / <sub>16</sub>		71 <sup>7</sup> / <sub>16</sub>
NATIONAL IMP.	5 PASSENGER		1135	1345	2480	2405				152 <sup>1</sup> / <sub>16</sub>		71 <sup>3</sup> / <sub>8</sub>
NATIONAL SED. CHASSIS	1000											
NATIONAL TOUR CHASSIS	1000											
NATIONAL COM. CHASSIS	1000			770	1770	1695						
CAPITOL UT. EXP. TRUCK	2000		1010	1065	2135	2060	8 <sup>1</sup> / <sub>2</sub>	24 <sup>1</sup> / <sub>16</sub>				

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# 1928 CHASSIS SPECIFICATIONS

MODEL	CAPACITY OF GASOLINE TANK	GHS FEED	GROSS SECTION OF TANK	FRONT SPRING			REAR SPRING			NO OF LEAVES						
				TYPE	LENGTH EYE TO EYE	WIDTH	NUMBER OF LEAVES	TYPE	LENGTH EYE TO EYE		WIDTH					
NATIONAL TOURING	10 GALLONS	VACUUM TANK SYSTEM	□	SEMI-ELLIPTIC				SEMI-ELLIPTIC			7					
NATIONAL ROADSTER											36	1 3/4	7	54	1 3/4	8
NATIONAL SEDAN											36	1 3/4	7	54	1 3/4	8
NATIONAL COACH											36	1 3/4	7	54	1 3/4	8
NATIONAL COUPE											36	1 3/4	7	54	1 3/4	8
NATIONAL CAB											36	1 3/4	7	54	1 3/4	8
NATIONAL 171P											36	1 3/4	7	54	1 3/4	8
NATIONAL SED. CHASSIS											36	1 3/4	7	54	1 3/4	8
NATIONAL TOUR. CHASSIS											36	1 3/4	7	54	1 3/4	8
NATIONAL COY CHASSIS											36	1 3/4	7	54	1 3/4	8
CAPITOL V7 EXP TRUCK	10 1/4 GALLONS		▨			8			45	2 1/2	13					

# 1928 CHASSIS SPECIFICATIONS

MODEL	SERVICE BRAKE				EMERGENCY BRAKE			
	TYPE OF BRAKE	DIA. OF DRUM	WIDTH OF LINING	EFFECTIVE AREA SQ. INCHES	TYPE OF REAR WHEEL BRAKE	DIA. OF DRUM	WIDTH OF LINING	AREA SQ. INCHES
NATIONAL TOURING	EXTERNAL CONTRACTING - REAR INTERNAL EXPANDING - FRONT	11 REAR 10 1/2 FRONT	2" REAR 1 1/2" FRONT	131 35/64 - REAR 54 11/16 - FRONT	INTERNAL EXPANDING	12	1 3/4	116 25/64
NATIONAL ROADSTER								
NATIONAL SEDAN								
NATIONAL COACH								
NATIONAL COUPE					10 11/16	1 1/4	70	
NATIONAL CAB								
NATIONAL IMP.								
NATIONAL SED. CHASSIS								
NATIONAL TOUR CHASSIS								
NATIONAL COM. CHASSIS								
CAPITOL UT GIP TRUCK		12 3/8	2	140 29/32				

# 1928 CHASSIS SPECIFICATIONS

MODEL	DIFFERENTIAL	REAR AXLE				TYPE OF DRIVE
		WHEEL SPACING	DIAMETER	PROPELLOR SHAFT	REAR BEARING	
NATIONAL TOURING	NEW DEPARTURE # 901307	NEW DEPARTURE # 901307	1 1/8	NEW DEPARTURE # 901307	NEW DEPARTURE # 901307	EXTRA HEAVY SPIRAL CUT BEVEL GEAR
NATIONAL ROADSTER						
NATIONAL SEDAN						
NATIONAL WAGON						
NATIONAL COUPE						
NATIONAL CAB						
NATIONAL LTP						
NATIONAL SED. CHASSIS						
NATIONAL TOUR CHASSIS						
NATIONAL COM. CHASSIS						
CAPITOL UTILITY TRUCK	N.O. # 902211	N.O. # 901309	1 1/2	N.O. # 900307	N.O. # 901407	





# 1928 CHASSIS SPECIFICATIONS

MODEL	FRONT AXLE					REAR AXLE							
	SECTION	STEER-ING	NO. OF SPIRALS	DIA. OF KING BOLT	WHEEL BEARINGS	TYPE	RATIO	TEETH RING	PINION	PITCH PITCH	AXLE ENDS		
NATIONAL TOURING	1 BEAM	FORE AND AFT	3 1/16	3 3/4	INNER	SEMI FLOATING	4.8-1	46	11	4.94	18 1/8	18 1/8	
NATIONAL ROADSTER					OUTER								NEW DEPARTURE # 909002
NATIONAL SEDAN					NEW DEPARTURE # 909001								
NATIONAL COACH													
NATIONAL COUPE													
NATIONAL CAB													
NATIONAL IMP													
NATIONAL SED. CHASSIS													
NATIONAL TOUR CHASSIS													
NATIONAL COM. CHASSIS													
CAPITOL UT. EXP. TRUCK													

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# 1928 CHASSIS SPECIFICATIONS

MODEL	WHEEL BASE	TREAD	TIRES	WHEELS	FRAME				STEERING WHEEL					
					OVERALL WIDTH	OVERALL LENGTH	SECTION	KICK UP	TYPE	ANGLE OF POST	DIA. OF POST	DIA. OF WHEEL		
NATIONAL TOURING														
NATIONAL ROADSTER														
NATIONAL SEDAN														
NATIONAL COACH														
NATIONAL COUPE			30 X 4.50 BALCOON	DISC										
NATIONAL CAB	106 1/2	56												
NATIONAL IMP														
NATIONAL SED. CHASSIS														
NATIONAL TOUR CHASSIS														
NATIONAL COM. CHASSIS														
CAPITOL UT. EXP. TRUCK	124		30 X 5.5 J.C.	ARTILLECT DEF. RIM 30 X 3.50 MOTOR RIM	FRONT 25 5/8 REAR 44 3/16	26 1/2	37	176 25/32	6 1/4 X 5/32	2 1/4			46 1/2	49

(9)

(8)

# 1928 TRANSMISSION SPECIFICATIONS

MODEL	TYPE OF TRANSMISSION	TYPE OF CLUTCH	AREA OF CLUTCH SURFACE	RATIO OF TRANS. GEAR SPEED			GEAR TEETH		DRIVE SHAFT END			
				FIRST	SECOND	THIRD	REVERSE	PITCH	WIDTH OF FACE	AL. PASS CORNER	TYPE	AL. PASS FLATS
NATIONAL TOURING	SELECTIVE SLIDING GEAR 3 - SPEEDS FORWARD - 1 REVERSE	SINGLE PLATE - DRY	65.87	3.32-1	1.77-1	1-1 (DIRECT DRIVE)	4.2-1	7-9	5	1/16	SQUARE	7/8
NATIONAL ROADSTER												
NATIONAL SEDAN												
NATIONAL COACH												
NATIONAL COUPE												
NATIONAL CAB												
NATIONAL IMP.												
NATIONAL SED. CHASSIS												
NATIONAL TOUR. CHASSIS												
NATIONAL COM. CHASSIS												
CAPITOL												
UT. EXP. TRUCK												





# 1928 TRANSMISSION SPECIFICATIONS

MODEL	COUNTERSHAFT BEARING			IDLER GEAR BEARING	CLUTCH GEAR BEARING	MAIN BEARING		HAND CONTROL	DIMENSIONS (IN.)	
	DIA	LENGTH OF EACH	OVERALL			FRONT	REAR		DIA OF PINS	LUBRICATION
NATIONAL TOURING										
NATIONAL ROADSTER										
NATIONAL SEDAN										
NATIONAL COACH										
NATIONAL COUPE										
NATIONAL CAB.										
NATIONAL IMP.										
NATIONAL SED. CHASSIS										
NATIONAL TOUR. CHASSIS										
NATIONAL COM. CHASSIS										
CAPITO-UT. TRUCK										

DIA: 1 1/8  
 LENGTH OF EACH: 1 1/2  
 OVERALL: 3  
 IDLER GEAR BEARING: 4 x 3 1/2  
 CLUTCH GEAR BEARING: NEW DEPARTURE # 901207  
 MAIN BEARING FRONT: 4 x 1 1/2  
 MAIN BEARING REAR: NEW DEPARTURE # 901306  
 HAND CONTROL: GEAR SHIFT AND EMERGENCY BRAKE  
 DIMENSIONS: 11 1/16  
 LUBRICATION: OIL

# 1928 MOTOR SPECIFICATIONS

MODEL	CAMSHAFT BEARING		CRANKSHAFT BEARING			CRANKSHAFT CENTER TO TOP OF CYLINDERS	OIL CAPACITY QUARTS	OIL SYSTEM	OIL CAPACITY QUARTS	TYPE OF WATER PUMP	WATER CAPACITY QUARTS
	FRONT	CENTER	REAR	FRONT	CENTER						
NATIONAL TOURING											
NATIONAL ROADSTER											
NATIONAL SEDAN											
NATIONAL COACH	$\frac{7}{16} \times \frac{13}{16}$	$\frac{11}{32} \times 2$	$\frac{1}{4} \times \frac{7}{16}$	$\frac{3}{8} \times 2\frac{1}{2}$	$\frac{11}{16} \times \frac{11}{16}$	$\frac{3}{4} \times 3$	12 8		5	CENTRIFUGAL	8 8
NATIONAL COUPE											
NATIONAL CAB											
NATIONAL IMP											
NATIONAL SED. CHASSIS											
NATIONAL TOURCHASSIS											
NATIONAL COM. CHASSIS											
CAPITOL UT. EXP. TRUCK								SPLASH SYSTEM OIL CIRCULATED BY ROTOR PUMP IN CRANKCASE			

7 13  
7 16





# 1928 MOTOR SPECIFICATIONS

## VALVES

MODEL	BORE OF THROAT	LIFT	LASH	TAPPET	TIMING DIAGRAM
NATIONAL TOURING	$\frac{29}{64}$	$\frac{9}{32}$	EXH. .008 AT VALVE  INTAKE .006 AT VALVE		
NATIONAL ROADSTER					
NATIONAL SEDAN					
NATIONAL COACH					
NATIONAL COUPE					
NATIONAL CBL					
NATIONAL IMP.					
NATIONAL SED. CHASS.					
NATIONAL TOUR. CHASSIS					
NATIONAL COM. CHASS.					
CAPITOL UT. EXP. TRUCK					

ROCKER ARM RATIO · 1.5 TO 1

③

⑦

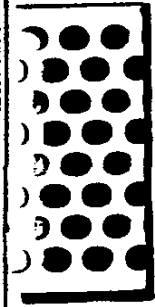
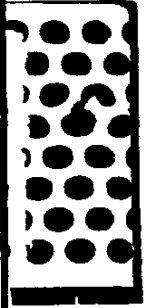
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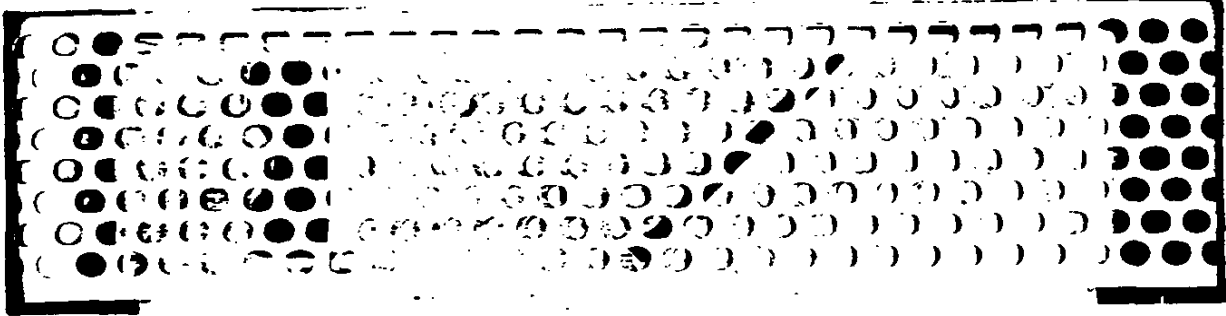
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# 1928 MOTOR SPECIFICATIONS

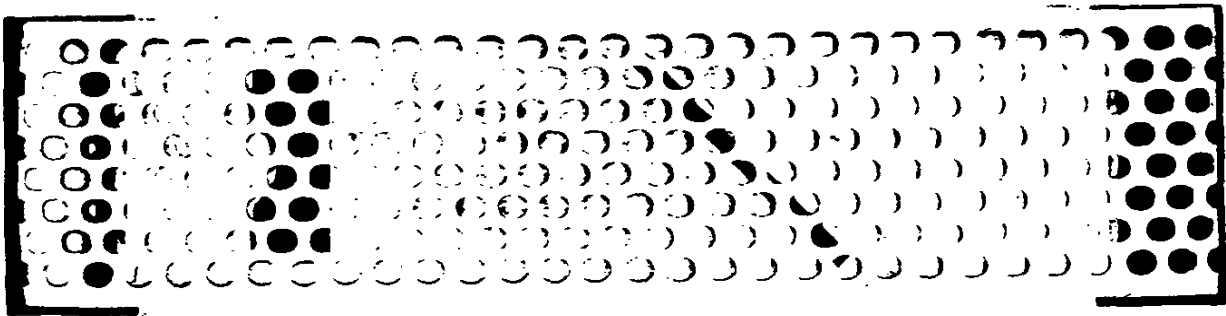
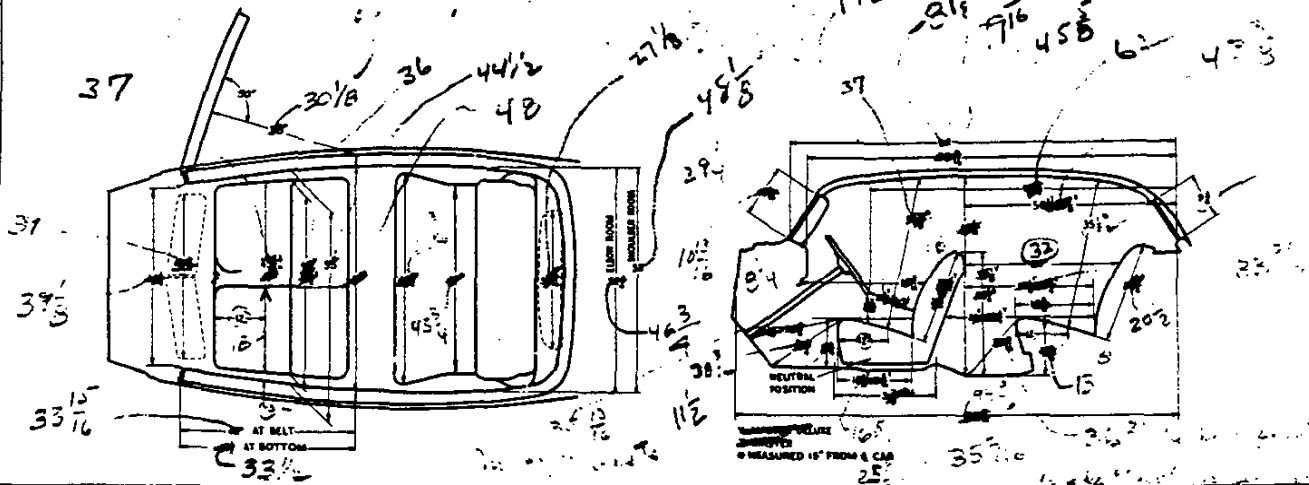
MODEL	CYLINDERS						WATER JACKET		CYLINDER OFF-SET	PISTON PIN OFFSET	TYPE OF MOTOR	CARBUR ETOR INTAKE	PISTONINGS	
	BORE	STROKE	NO.	HEAD	CAST	TOP WIDTH	HEIGHT	NO					WIDTH	
NATIONAL TOURING														
NATIONAL ROADSTER														
NATIONAL SEDAN														
NATIONAL COACH														
NATIONAL COUPE														
NATIONAL CAB.	$3 \frac{11}{16}$	4	4	SEPARATE	EN-BLOC	$\frac{9}{16}$	$3 \frac{3}{8}$	$\frac{3}{8}$	NONE	VALVE IN HEAD	DOMESTIC-CARTER EXPORT-CARTER	3	$5 \frac{5}{32}$	
NATIONAL IMP.														
NATIONAL SED CHASSIS														
NATIONAL TOUR CHASSIS														
NATIONAL COM. CHASSIS														
CAPITOL VIT. EXP. TRUCK														(4)







COACH & TOWN SEDAN

1928



# 1928 CHASSIS SPECIFICATIONS

MODEL	CAPACITY OF GASOLINE TANK	GHS FEED	GROSS SECTION OF TANK	FRONT SPRING			REAR SPRING				
				TYPE	LENGTH EYE TO EYE	WIDTH	NUMBER OF LEAVES	TYPE	LENGTH EYE TO EYE	WIDTH	NO OF LEAVES
NATIONAL TOURING	10 GALLONS	VACUUM TANK SYSTEM		SEMI-ELLIPTIC	36	1 3/4	7	SEMI-ELLIPTIC	54	1 1/4	7
NATIONAL ROADSTER											6
NATIONAL SEDAN											8
NATIONAL COACH											8
NATIONAL COUPE											6
NATIONAL CAB											7
NATIONAL H.P.											8
NATIONAL SED. CHASSIS											8
NATIONAL TOUR CHASSIS											7
NATIONAL COM CHASSIS											8
CAPITOL UT-EXP TRUCK	10 1/4 GALLONS						8		45	2 1/2	13

⑤



for Economical Transportation

# Over 3,000,000 Miles of Testing

driving than a car would ever receive in the hands

of any owner!

And that is the reason why Chevrolet quality

stands supreme in the field of low-priced cars—

why every feature of Chevrolet design is def-

initely proved before it is ever offered to the public—

why Chevrolet performance and comfort and

driving ease are the finest ever offered in a low-

priced automobile!

Go to your Chevrolet dealer—and make your

own inspection of Chevrolet quality. Then you'll

know why millions have acclaimed Chevrolet as

the world's finest low-priced car.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN, Division of General Motors Corporation

The General Motors Proving Ground—1245 acres

located at Milford, Michigan—is the greatest out-

door laboratory ever devised for testing and prov-

ing automotive products.

Here, over roads and hills of every type, Chevrolet

cars are driven day and night—through zero cold

and blistering heat. Month after month the cruel-

ling grind goes on. Every car is under the close

supervision of General Motors engineers—and

all results are recorded with scientific accuracy.

Already, Chevrolet cars have traveled more than

3,000,000 test miles on the Proving Ground roads—

—three million miles of harder, rougher, faster

## The COACH

# \$595

The Sport

Cabaret . . . 715

The Touring

Model . . . 525

The

Standard

Model . . . 525

The

Master

Model . . . 745

The

Imperial

Model . . . 745

The

Landau

Model . . . 525

The

4-Door

Model . . . 625

The

1-Ton Truck

(Closed Cab) . . . 495

1-Ton Truck

(Open Cab) . . . 695

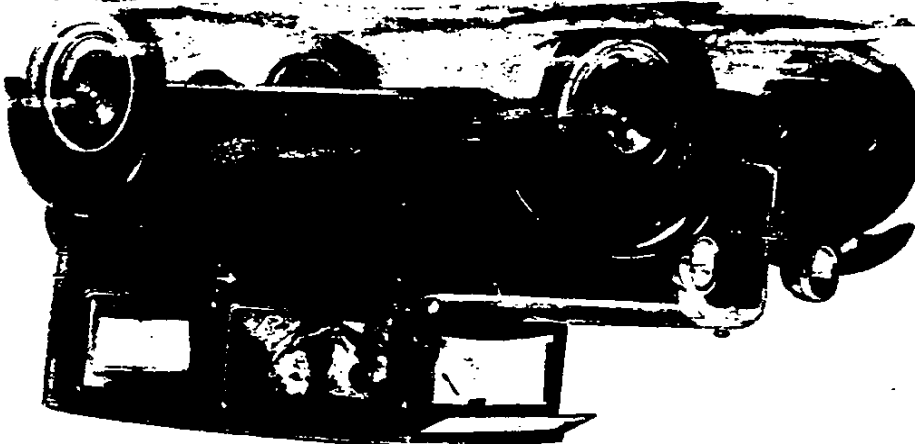
All prices f.o.b. Flint, Michigan.

Check Chevrolet Dealer's Prices

They include the lowest handling and financing

charges available.

The illustration be-  
low shows a bird's-  
eye view of the  
General Motors  
Proving Ground at  
Milford, Michigan.



CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
Division of General Motors Corporation

new alloy "Invar stud" constant clearance pistons... new mushroom type valve tappets... new non-locking four-wheel brakes... new semi-elliptic shock absorber springs... new worm and gear ball-bearing steering mechanism... and a complete new steel motor enclosure!

So many vital contributions have been made to every phase of motoring luxury, that only a close personal inspection can convey an adequate impression of the fine car quality provided in the Bigger and Better Chevrolet.

In beauty, in comfort and in performance, it climaxes every previous Chevrolet achievement in the development of luxurious transportation at low cost!

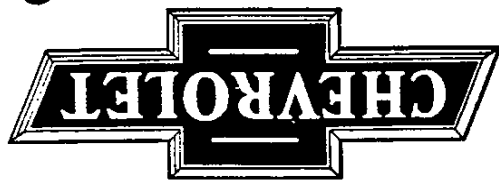
And never has this progressive policy been better exemplified than in the Bigger and Better Chevrolet—with its numerous noble mechanical advancements. Built on a 107-inch wheelbase, 4 inches longer than before—and offering marvelous new bodies by Fisher... this great new car is everywhere hailed as an amazing revelation in automobile value! Among the vital engineering advancements it incorporates, are

For years, Chevrolet has pioneered into the low-price field the features of advanced design found on the world's finest automobiles. As a result, Chevrolet cars have always provided modern appearance, modern comfort and modern performance.



that set a new standard in automobile value

# New Features



for Economical Transportation



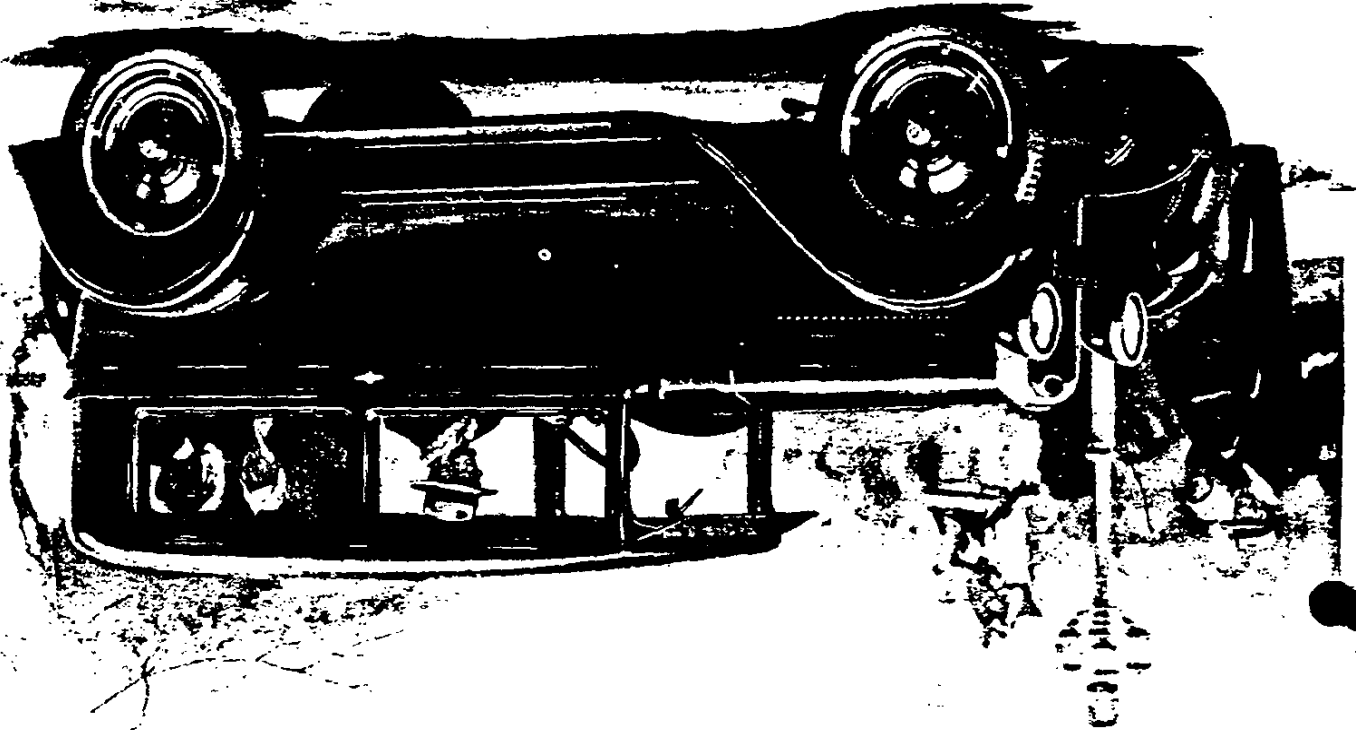
Ball-type headlamps and parking lights.  
 Sealed disc wheels.  
 Gasoline gauge.  
 Klixon motor-driven horn.  
 "V" type long life fan belt.  
 Underwriters' approval gives lowest fire insurance rates.  
 Independent emergency brake—70 additional square inches of braking surface.

AC air cleaner.  
 Single-plate dry disc-clutch.  
 Oil pump for efficient lubrication.  
 New crankcase breathing system.  
 New two-port exhaust.  
 Heavy one-piece full-crowned fenders.  
 Aluminite pressure lubrication.  
 Vacuum tank fuel supply.  
 Improved Delco-Remy distributor.  
 Ignition.  
 Combination oil and stop light.  
 New hydro-laminated camshaft gears.  
 Improved mushroom valve tappets.  
 Large 17" steering wheel with spark and throttle levers located on top.  
 Rear vision mirror.  
 Fisher "VV" one-piece windshield on closed models.  
 Automatic windshield wiper on closed models.  
 Semi-floating rear axle.  
 One-piece steel rear axle housing.

Improved fully enclosed valve-in-head motor.  
 3-Point motor suspension.  
 Stronger frame 4" longer; wheelbase 107".  
 Larger, deeper Harrison honeycomb radiator.  
 Thermostat control cooling system.  
 Centrifugal water pump.  
 New alloy "invar strut" pistons.  
 New instrument panel indirectly lighted.  
 New ball-bearing worm and gear steering.  
 Semi-elliptic shock absorber springs.  
 84% of wheelbase.  
 New wind-tunnel type fan shroud.  
 Safety gasoline tank at rear.  
 Larger balloon tires 30" x 4.50".  
 New streamline bodies by Fisher.  
 New genuine Duco colors.  
 Theft-proof steering and ignition lock.  
 AC oil filter.

A Partial List of Chevrolet Quality Features

Here is a low-priced car with every quality feature and all the completeness of detail demanded in the world's finest automobiles! Go see your Chevrolet dealer to learn why the Bigget and Better Chevrolet is everywhere hailed as an automobile sensation—why everyone value that it represents. Get behind the wheel and go for a drive—as far as priced automobile!



The Roadster . . . \$495  
 The Touring . . . \$495  
 The Coupe . . . \$595  
 The 4-Door Sedan . . . \$675  
 The Sport Cabriolet . . . \$665  
 The Imperial Landau . . . \$715  
 Utility Truck (Closed Only) . . . \$495  
 Light Delivery (Closed Only) . . . \$375

**Reduced Prices!**  
 The COACH \$585

Check Chevrolet Delivered Prices  
 All prices f. o. b. Flint, Michigan (Closed Only)

They include the lowest handling and financing charges available.

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1928

# CHEVY PARTS and CARS

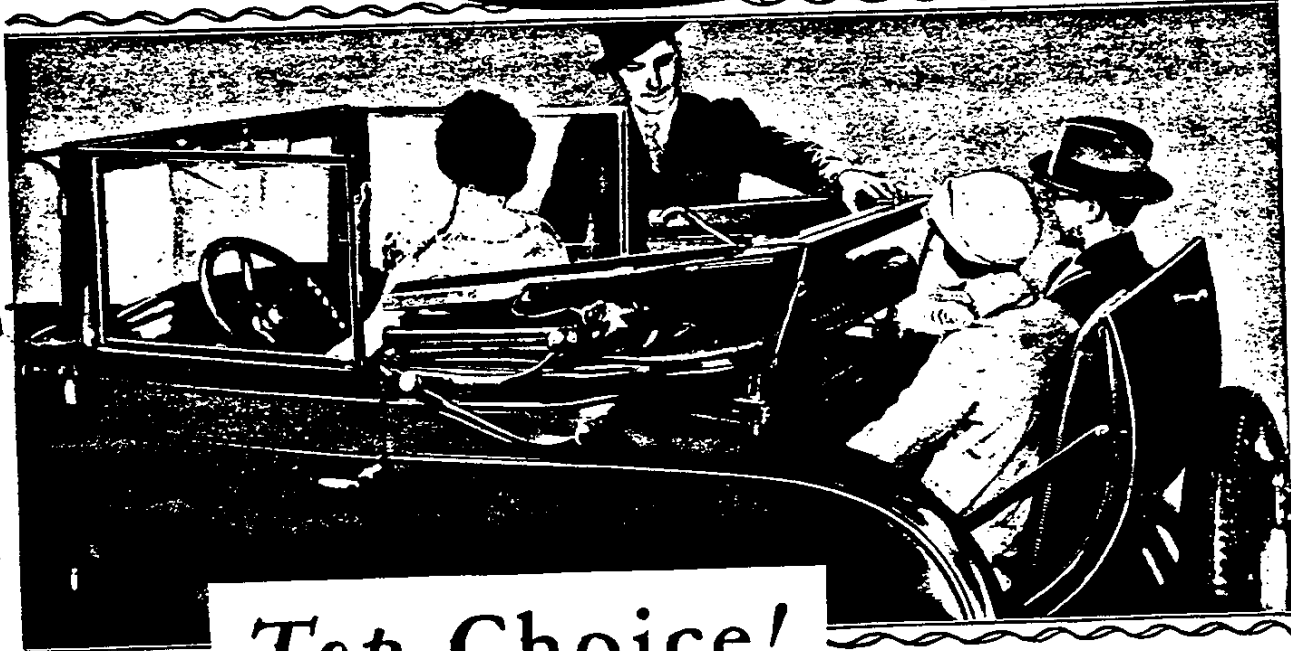
VOL. 2 NO. 3

RECEIVED  
MAY 25 9 08 AM '64  
SURVEILLANCE  
DEPARTMENT

MAY-JUNE, 1964

## Textileather

"THE CUSTOM BUILT COATED FABRIC"  
Copyrighted

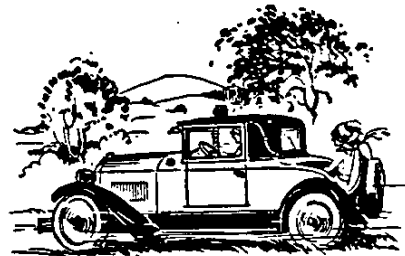


### Top Choice!



The continued lowering and raising of collapsible tops puts top coverings to a severe test. Under this gruelling treatment *Textileather* proves its qualities and its worth. It always comes up smiling — without crinkles, wrinkles or breaks.

*Textileather* is rain-proof and heat-proof. It never fades — it never fails. Through years of service on, and in, many thousands of motor cars, it has met every requirement — has demonstrated its superior beauty and serviceability.



*Textileather: For lasting beauty . . . satisfying service . . . wise economy.*





for Economical Transportation



# CONSTANT EXPANSION

— to serve Chevrolet owners better

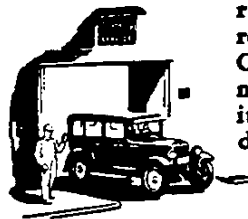


**S**INCE January 1st, Chevrolet dealers have delivered more than a million new Chevrolets into the hands of owners—making the Chevrolet Motor Company, for the second consecutive year, the world's largest builder of automobiles!

This outstanding achievement has been attained not only because Chevrolet cars have consistently provided the utmost in beauty, performance and quality at the lowest possible price—

—but also because there has been a constant expansion of facilities and personnel to render efficient, economical service to the ever-growing army of Chevrolet owners.

In order to bring the mammoth resources of the Chevrolet factories to Chevrolet dealers and owners everywhere, there have been erected 26 huge parts warehouses in the principal centers of distribution. This expansion program is continually going on—for four great additional warehouses will be in operation by January first and seven more by the summer of 1929.



Into the service departments of all Chevrolet dealers, Chevrolet has brought special tools and shop equipment—designed under the supervision of Chevrolet engineers. This equipment definitely assures maximum speed and precision and the lowest possible cost in the performance of every service and repair operation.

Furthermore, all of these tremendous facilities have been made available to 15,000 authorized service stations, manned by skilled mechanics—over 25,000 of whom have been factory trained to efficiently handle every repair operation on a Chevrolet car. In addition, there are over 4,000 other points where genuine Chevrolet parts may be obtained.

Uniformly efficient, uniformly reliable and within easy reach of everybody everywhere—this great service organization is assuring continued satisfaction to millions of Chevrolet owners. It is maintaining at peak efficiency the fine performance for which Chevrolet cars have always been renowned. And it is giving to Chevrolet dealers one of the most vital selling advantages it would be possible for any dealer organization to enjoy.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
Division of General Motors Corporation

Q U A L I T Y   A T   L O W   C O S T



# CHEVY PARTS and CARS

Editor - Paul A. Peterson

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CHEVY PARTS and CARS is published bi-monthly by the BIG SEVEN RESTORERS CLUB for the members of the National Chevrolet Restorers Club. Dues are \$ 5.00 per year. All club members are entitled to 20 words of classified advertising each issue. When writing for restoration assistance—leave room below your questions for us to write an answer. National Chevrolet Restorers club, Box 311, La Mirada, Calif. 90638

## EDITOR'S COLUMN

Several members have written to club headquarters and asked why the magazine says "Published by the BIG SEVEN RESTORERS CLUB for the members of the National Chevrolet Restorers Club". The reason our seven "one-car" clubs joined forces under the name of Big Seven Restorers Club was to save money on printing costs by getting a quantity discount. Savings are also made on our advertising costs. This method of operation means that each club member receives a lot more restoration data for his dues money.

We wish to thank the many members who have helped us by getting another new member. All dues money received by our club is used to improve our club magazine and to pay for the other services for our members. Therefore, the more new members we receive, the larger our magazine will be.

This issue features the famous 1928 Chevrolet - the last four cylinder model and probably the best Chevrolet ever manufactured. How wonderful it would have been if Chevy had kept on with their wonderful four cylinder and improved it with some kind of rubber engine mountings and with a synchro-mesh transmission instead of starting the horsepower race by putting out a six-cylinder car.

We have reprinted another bulletin in the series on the wood in the Fisher Body. This bulletin covers the construction and service of Coupe Decks and Rear Belt Rails. There is also one page of typical questions and answers on this same subject.

I recently purchased a small book which was given to each Chevy mechanic who attended the five day mechanic's class conducted by Chevrolet Motor Company in 1929. It thoroughly covers the 1929 model in its 56 pages. How many members would like for us to reprint this book in Chevy Parts and Cars?

## CLASSIFIED

### PARTS FOR SALE

New parts for many models of Chevrolet cars & trucks. Send a stamped, self-addressed envelope with your want list. Reasonable prices. C. A. JONES, Jr., P. O. Box 398, Nashville, Georgia

Many new engine and chassis parts for Chevies. SSAE, please with your want list. Lee Carlson, 1309 W. Devon, Chicago 26, Ill.

Hundreds of new parts for Chevrolet-1925 thru 1948. SSAE, pls. GARTON'S AUTO PARTS, 5th & Vine St., Millville, New Jersey

New 1936 Std. Chevy Hub caps, 1930-31 gas gauges, 1937-38 tail-lights, 1927 wooden spoke wheel with hub cap. Have many other new Chevy parts. I need a 1929-1938 parts book. Have other books to trade or will buy. Wellman S. M. Lehman, 313 East Oak Street, Orrville, Ohio

New parts for Chevrolet's. Send stamped, self-addressed envelope with your want list. Satisfaction guaranteed. JAMES E. MELEAR, P. O. Box 53342, Houston, Texas.

Chevrolet parts from 1925 through 1941-fenders, bumpers, grilles, hub caps and running boards. SSAE, please. ANN DOWDY, 1504 Tyler St., Janesville, Wisc. 53545

New balls installed on your pitman and spindle arms. \$ 5.00 per ball. F. M. Teston, Jr., 4707 Oakview Dr., Savannah, Georgia

## ADVERTISING

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1926 Chevrolet Coupe. Two passenger, four cylinder. Needs only a new battery to run. Mrs. Emma L. Sheridan, Post Office Box 14, Milnor, North Dakota

Antique, Classic, Vintage cars for sale—minimum of 30 cars on display at all times. Roaring 20 Autos, Beachwood Plaza Shopping Center, Rt. # 9 Box 323, Toms River, N. J. 201 - 349 - 0790

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Need 1932 Chevy coupe bumpers, horn, cowl lights & 1 headlight in mint condition or re-chromeable condition. GEORGE NOVAK, 587 Michigan Avenue, Mansfield, Ohio

### CARS WANTED

I want a restorable Chevrolet with good upholstery and paint. LOUI NOVAK, 5105 Knox Lane, Madison, Wisc. 53711

I want a 1928 to 1934 Chevrolet Roadster restored to A-1 cond. Send picture and details in first letter. I will return pictures. DAVID A. BORTNER, Box 707, Janesville, Wisconsin

Now is the time to clean out your garage & tool shed—free ad's!



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# National Series AB Chevrolet

## A Brief List of 1928 Chevrolet Changes That Service Men Should Know at Once

### Frame 107"

**Wheelbase**—Lengthened from 102 $\frac{5}{8}$ " to 107"

**Side Members**—Strengthened, increased size.

**Front Cross Member**—Strengthened, increased size.

**Rear Cross Member**—Strengthened, increased size.

### Springs

**Front and Rear**—Redesigned with snubber plates.

### Front Axle

**Front Axle**—Redesigned with front wheel brakes, ball bearing knuckles and better lubrication.

### Rear Axle

**Rear Axle**—Rear wheel service brake changed.

### Motor

**Camshaft**—Cams redesigned—larger front and center bearings.

**Valve Rocker**—Redesigned to increase valve lift.

**Valve Lifter**—Redesigned for quietness and longer life.

**Carburetor**—New.

**Intake Manifold**—Increased size.

**Camshaft Gear**—Fabric.

**Valve Push Rod Covers**—New feature.

**Crankcase Breathing System**—New feature.

**Exhaust Manifold**—Redesigned—2-port.

**Thermostat Water Control**—New feature.

**Pistons**—New type alloy—Invar Strut.

### Clutch and Brake Pedals

**Pedals**—Strengthened.

### Steering Gear

**Steering Gear**—Ball bearings added—ratio changed.

### Wheels

**Front and Rear**—Size changed—30" x 4.50" tires.

### Radiator

**Radiator**—New mounting design.

**Drain Cock**—Conveniently located.

### Electrical

**Instrument Panel**—Redesigned.

**Stop Light Switch**—Relocated on transmission cross member.

**Spark Plug Wires**—Inclosed in conduit.

### ALSO

There are many other desirable and important features in this new car. We have only attempted to furnish such information at this time as is of immediate importance to service men.

## Balanced Tires

### A Feature of the National Chevrolet

With the tires used on the National Chevrolet we can obtain a much better balanced wheel than heretofore. This is a decided advantage and should be remembered whenever making a tire change.

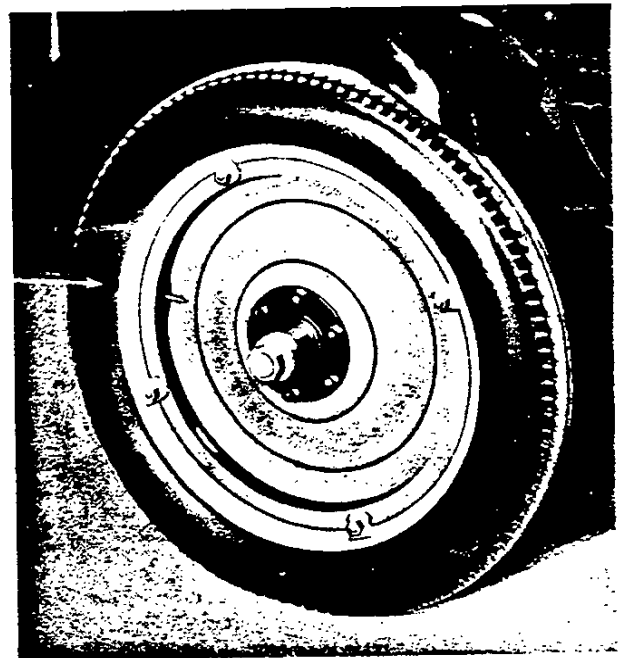


Figure 1

As illustrated in Fig. 1 each casing is marked with a small red line vulcanized into the bead, which indicates the light side of the casing. When inserting tube in casing place the valve adjacent to this mark. The weight of the valve will just about balance out the light side of the casing and the result is a balanced tire. The advantage of balancing is noticeable, particularly at high speeds.

Each new car owner should be acquainted with this point so he will not overlook it when changing tires.



# Four-Wheel Brakes

## How They Operate, and Correct Method of Adjustment

One of the most important new features of the National Chevrolet is the addition of a four-wheel service braking system. Being entirely new to Chevrolet service men it is essential that everyone understand the operation and adjustment of these new brakes.

The emergency hand brakes have been improved but the type of design remains the same, so we will not consider them further at this time.

Chevrolet four-wheel service brakes are mechanically operated. They are so designed that a predetermined ratio of braking effect is ap-

plied to front and rear wheels, which is most effective in making a quick and safe stop.

The manner in which these brakes function is easily understood and the actual adjustment is surprisingly simple.

It is essential, however, that the adjustment operations be performed exactly as outlined and in proper sequence.

For convenience of explanation we split the entire system into three divisions—chassis linkage, front service brakes and rear service brakes. The explanation and adjusting operations of each are covered under respective headings.

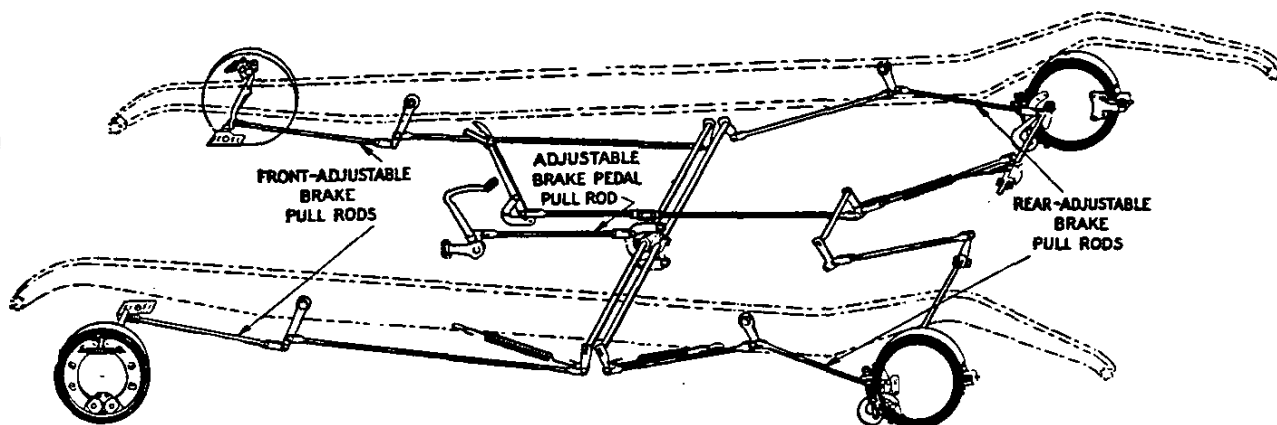


Figure 2

### Chassis Linkage

What we classify as chassis linkage is the complete brake hook-up from brake pedal to brake operating levers.

Fig. 2 shows this linkage and its simplicity is quickly appreciated. Only three points are adjustable.

1. Brake pedal pull rod.
2. Front brake pull rods.
3. Rear brake pull rods.

The manner in which the ratio of braking is distributed to front and rear wheels is controlled by the linkage at center of brake cross shaft.

### Detail of Cross Shaft Links with Adjusting Gauge in Place

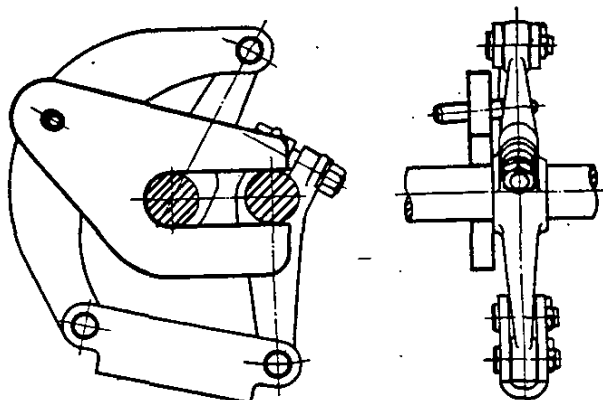


Figure 3





## ADJUSTMENT OF CHASSIS LINKAGE

1. Disconnect brake pedal pull rod at clevis end (A).
2. Disconnect both front service brake pull rods at clevis end (B).
3. Disconnect both rear service brake pull rods at clevis end (C).
4. Fit gauge on brake cross shaft as shown in Figs. 3 and 5. (One gauge has been sent to every direct and associate dealer.)
5. Adjust front brake pull rods at (B) so that brake operating lever is against stop (D) and reconnect.
6. Adjust rear brake pull rods at (C) so that rear brake operating lever is against stop (E). (This stop is formed by emergency brake shaft.)
7. Remove gauge and adjust pedal pull rod at (A) until pedal is against stop at (F).

These operations will correctly adjust the service brake chassis linkage.

The adjustment of chassis linkage is not necessary at each brake adjustment. It need only be adjusted in such cases where it has been tampered with or changed through damage or accident.

Before adjusting brakes, however, always make the following check which will take but a few minutes and quickly show whether chassis linkage is correct or not.

Check distance between pin centers of brake cross shaft end levers as shown in Fig. 6. The correct distance is  $3\frac{5}{8}$ " and is taken on a line parallel to frame.

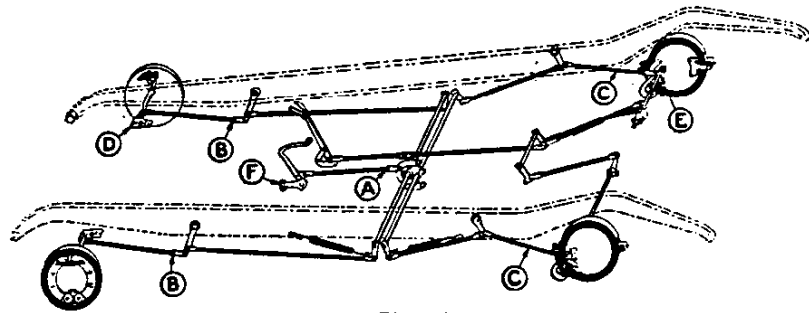


Figure 4

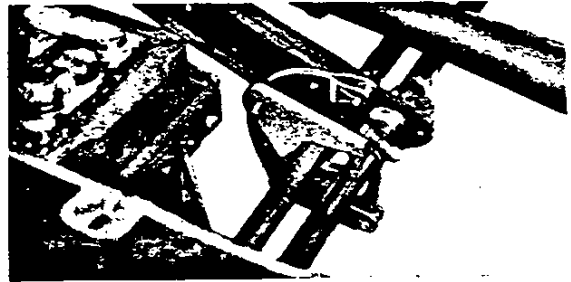


Figure 5

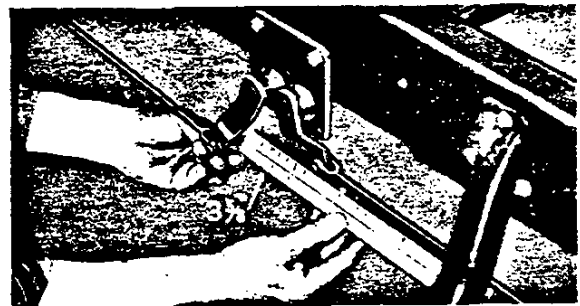


Figure 6

## Front Service Brakes

Chevrolet front wheel brakes are of a two-shoe, cam operated, self-centering, internal expanding type. Illustration 7 shows this brake with hub and drum removed.

The two shoes (A) are hinged at (B) and operated by cam at top. This cam is actuated by the lever on axle.

The brake operating cam is supported in an assembly that is called a centralizer. This centralizer (C) is an assembly of a bronze bushing supported in rubber and allows a universal action of the cam and its shaft, permitting both brake shoes to centralize within the drum.

This construction makes it unnecessary for any individual shoe adjustment to cause equal braking of each shoe. This bushing is self-lubricating. Do not apply oil as it will rot the rubber.

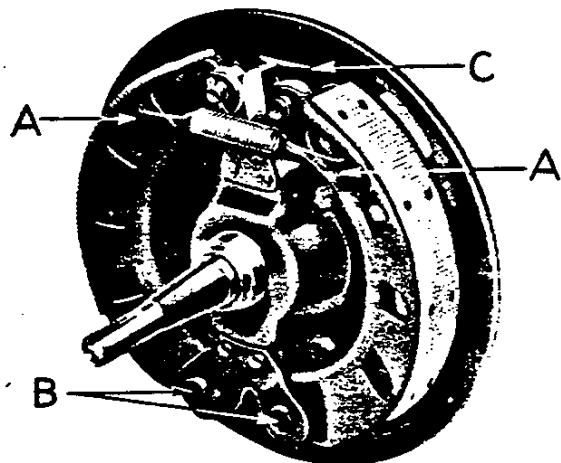


Figure 7



ADJUSTING FRONT SERVICE BRAKES

Providing the chassis linkage is correctly adjusted, jack up front end and check front wheel bearings. *Perfect front wheel brake adjustment cannot be obtained with loose front wheel bearings.* Make sure of this point and then proceed as follows:

1. Make sure brake operating lever is against stop on axle as in Fig. 8.
2. Loosen adjusting lock nut (Fig. 8) and turn the adjusting nut to left until a slight drag is felt when turning wheel by hand.
3. Depress brake pedal two or three times to centralize brake shoes in drum and repeat Operation 2.
4. Give adjusting nut a one-half turn to right and tighten lock nut. *Be careful not to change the adjustment when setting up lock nut and be sure lock nut is tight.*

Proceed in same manner with other front wheel.

Note that in adjusting front brakes a right-hand turn of adjusting nut loosens and a left-hand turn tightens brake.

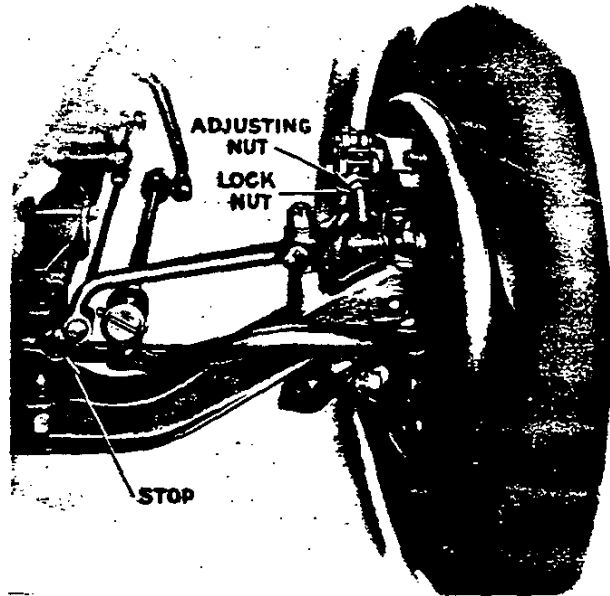


Figure 8

Rear Service Brakes

We need not say much in the way of explanation of rear service brakes as their construction is already familiar to Chevrolet service men.

They are external flexible band type and operate the same as Capitol AA brakes. They work in unison with front service brakes.

ADJUSTING REAR SERVICE BRAKES

After checking or adjusting chassis linkage jack up rear end and proceed as follows:

1. With operating lever against stop (Fig. 9) adjust lower adjusting nut for a 1/32" band clearance at A in Fig. 10.
2. Slide locking plate on saddle as shown in Fig. 9 and adjust guide pin for a 1/32" band clearance at B in Fig. 10.
3. Adjust upper adjusting nut (Fig. 10) for a 1/32" band clearance at C.

This method will provide for a 1/32" band clearance for entire length of brake band, providing band is shaped to drum. If band is bent remove and form to shape. The familiar hacksaw blade clearance is just about correct for these brakes.

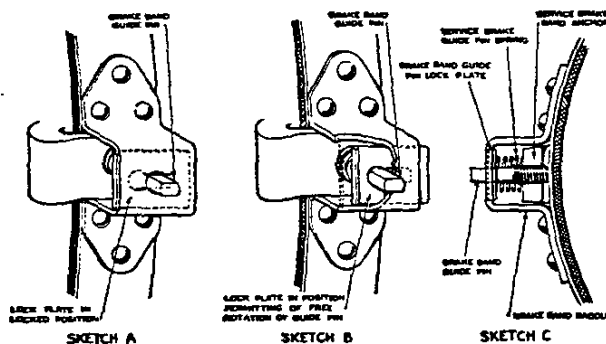


Figure 9

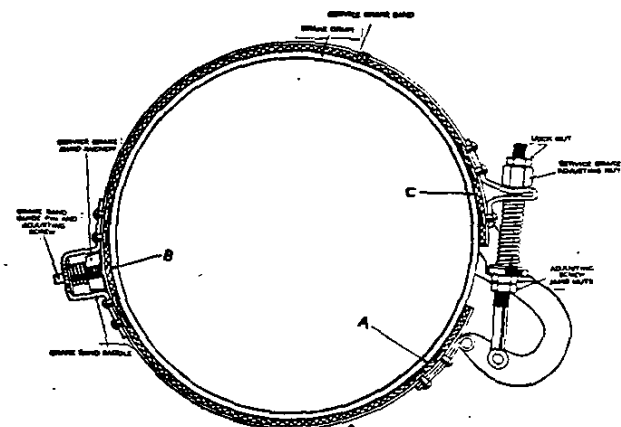


Figure 10



### Alloy Pistons In National Models

National Chevrolet motors are equipped with a light weight alloy piston known as the Invar Strut type. There are many types of aluminum alloy pistons but none possess the valuable features of the Invar Strut. This piston is illustrated in Fig. 11.

That you may better understand what is meant by Invar Strut let us describe it as a brace or strut of special alloy metal which is cast into the piston between pin boss and side wall. This strut is made of an alloy metal called "Invar" which expands and contracts less when heated than any other metal known.

In examining this piston note that the head is completely separated from side wall by a machine cut just below bottom ring groove. The heat from the piston head therefore cannot take this passage but must travel down through pin boss. As stated before, this

heat has practically no effect on the Invar Strut and, therefore, in reaching the side walls the heat must travel to bottom of skirt and back up side wall.

From this you can see there will be but very little expansion take place in this piston when heated, and that is why it is called a constance clearance type.

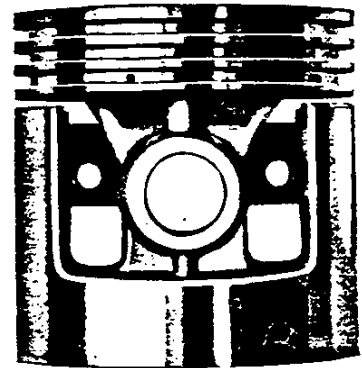


Figure 11

### Fitting Invar Strut Pistons

In fitting Invar Strut pistons do not let experience with any other type of piston guide you. As stated these pistons have been called a constant clearance type and for this reason they may be fitted tighter than other alloy pistons. There are no special operations necessary in preparing cylinder walls for these pistons. Standard practice may be followed except that in all cases the walls should be polished with a hone to remove all reamer marks. In checking the fit, bear in mind the fact that with these pistons there is only one surface on side wall that can be used for checking. This surface is illustrated in Fig. 12.

That you may better understand this point we have shown in Fig. 13 a piston being checked in cylinder with long feeler gauge. Insert piston as shown with .002 feeler along side opposite to slotted skirt. Also be sure piston is far enough in cylinder to bring checking surface previously mentioned below the relief. Fig. 14 illustrates this operation in a line drawing. A correct fit on Invar Strut pistons checked in this manner is free on .001 and bind on .002. By this we

mean that the fit should be tight enough to prevent pulling out a .002 feeler and yet be free on a .001 feeler. We might further say that it should be impossible to insert the piston with a .003 feeler whereas the piston will go in tight with .002 feeler and be just tight enough to prevent pulling out the .002 feeler alone. A common way of expressing this is "no-go on two thousandths."

Bear in mind that these statements are made assuming that piston and cylinder block are at normal room temperature. Fitting to such close limits it is not practical to fit these pistons hot as was done with other types of alloy pistons.

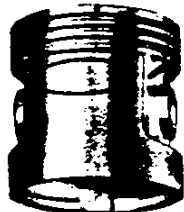


Figure 12



Figure 13

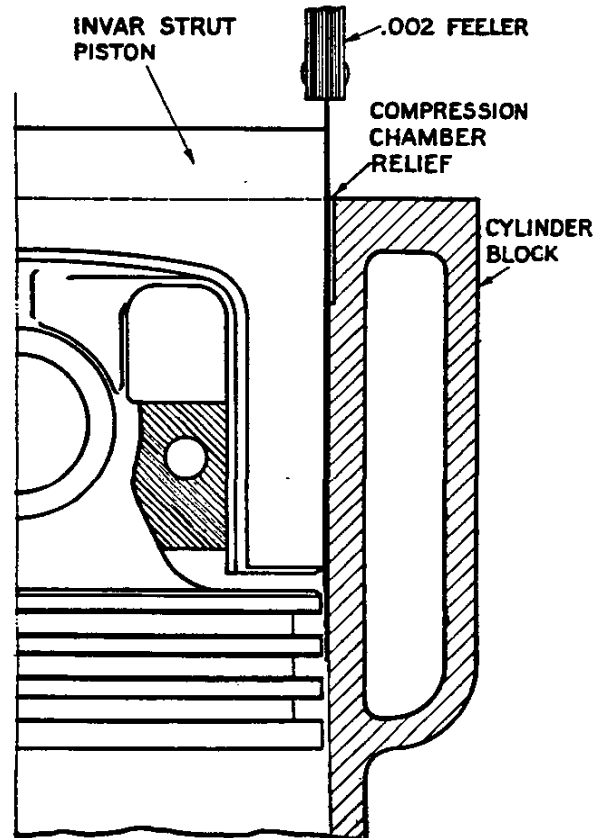


Figure 14



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### Fitting Piston Pins in Invar Strut Pistons

It is very essential that we correctly fit piston pins in these new pistons. The correct clearance is too slight to be considered in thousandths of an inch.

Fit piston pins tighter in Invar Strut pistons than you would in cast-iron pistons.



Figure 15

Figure 15 best describes what is considered a correct fit. Hold piston with pin just entering hole in hands as illustrated. Held in this position you should just be able to push pin through both holes with considerable effort. Understand, this is with the piston at normal room temperature.

At this point we recommend clamping pin in K-268 Piston Pin Burnishing Tool and burnishing slightly with oil before assembling. This will wear down any high spots and loosen tight fit slightly.

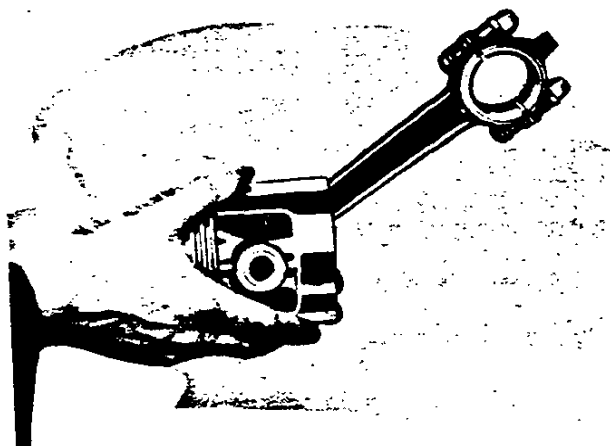


Figure 16

In Fig. 16 we have illustrated a correct fit with connecting rod assembled. Holding piston as shown the fit should be tight enough to hold weight of rod, but by two or three vigorous shakes you should be able to "flop" rod down. Understand that this is with piston at normal room temperature. If you heat the piston in hot water you will find pin perfectly free.

### Piston Rings

The piston rings used with Invar Strut pistons are different than on past models in respect to width. They are narrower, being  $\frac{1}{8}$ " in width, whereas the previous rings were  $\frac{1}{4}$ " wide. Otherwise there is no change.

### Invar Strut Pistons Can Be Used On Past Model Motors

When desired the new Invar Strut pistons can be successfully installed in past motors. Of course they must be used in sets.

The advantages of a light weight piston are well known and the price of these pistons is low enough to make their use in past models interesting to many car owners.

### Carburetor

A new carburetor known as the RAKKO is used on National models. This is illustrated in Fig. 17.

The most important change is the opening in air intake for ventilator tube. There are other internal changes within the carburetor such as the "economizer," a device providing for fuel economy at high speeds. In a future issue we will completely describe this carburetor.

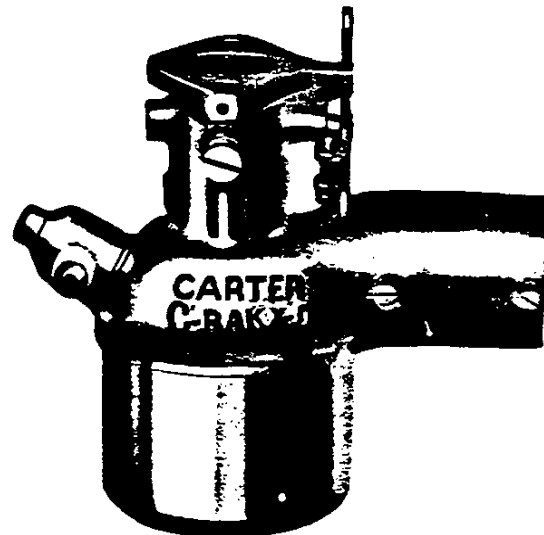


Figure 17

### Fabric Camshaft Gear

The camshaft gear on National motor is now fabric. The crankshaft gear is, of course, steel. The pair are shown in Fig. 18. This gear is but one of three different makes used in these motors. They are, however, interchangeable.

Nothing more need be said concerning these gears except that, if desired, they can be installed in pairs on Series V and Capitol AA motors.

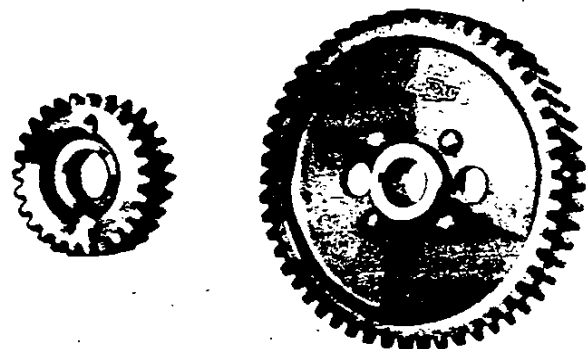


Figure 18



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### Valve Lifters

An entirely new "Bigger and Better" valve lifter is a part of the new Chevrolet.

The new lifter and push rod are shown in Fig. 20. They are considerably larger in diameter and the bottom is now flat except for a slight chamfer at edges. This provides much additional wearing surface at camshaft contact and on sides in cylinder block.

The push rod hole in this lifter is much larger than the rod, no change being made in rod except for length. This allows for quite a pocket of oil at contact of lifter and rod which aids in quietness.



Figure 19



Figure 20

### Valve Push Rod Covers

By adding valve push rod covers to the National Chevrolet, we have a more quiet and much cleaner motor. See Fig. 21.

The two covers are identical and are each held in place by a single cap screw through center. When necessary they can be quickly removed or replaced. They do not, however, interfere with valve adjustment.

Between the covers and cylinder block are cork gaskets. In replacing the gasket shellac it to cover, not to the block.

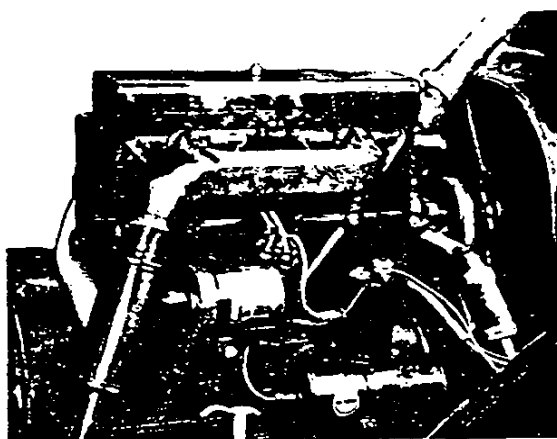


Figure 21

### Valve Rocker Arm

The National valve rocker arm has been changed to give greater valve lift. The two rocker arms are illustrated in Fig. 23, wherein "A" is the new arm and "B" past model arm.

This change in design has increased the valve lift from  $\frac{3}{32}$ " to  $\frac{3}{16}$ " which means additional power and better motor performance.

### Thermostatic Water Control

Mounted in a new water outlet casting on cylinder head is a thermostatic control. It is very simple and is purely automatic. Fig. 22 is a drawing of thermostat mounted in outlet. When motor is cold the valve is closed and will remain so until temperature of water reaches approximately 120 degrees. At this point the thermostat starts to open and at about 150 degrees is wide open.

This feature will be particularly valuable in winter in that the motor will reach an efficient temperature very quickly. This unit is held in place by a clamp and two machine screws and can be easily replaced if necessary.

You will be interested in knowing that this thermostat and outlet assembly can be installed on past model cars. No doubt many such installations will be made in the next few months.

To install thermostatic water control feature on past models the following parts are necessary.

1—348617 Water outlet.....	\$ .55
2—108619 Hex. head cap screw ( $\frac{7}{16}$ "-14x $2\frac{3}{4}$ " ).....	.05
2—345545 Water outlet screw gasket.....	.01
1—353208 Thermostat.....	2.25
1—348599 Thermostat gasket.....	.05
1—348596 Thermostat support.....	.05
2—114367 Fill. head mach. screw ( $\frac{1}{4}$ "-20x $\frac{5}{8}$ " ).....	.01

Cut radiator hose to length.

There should be a very great demand for these among present owners and we suggest that you have plenty in stock.

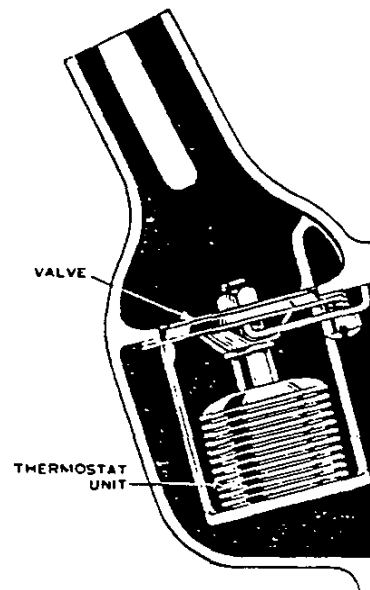


Figure 22

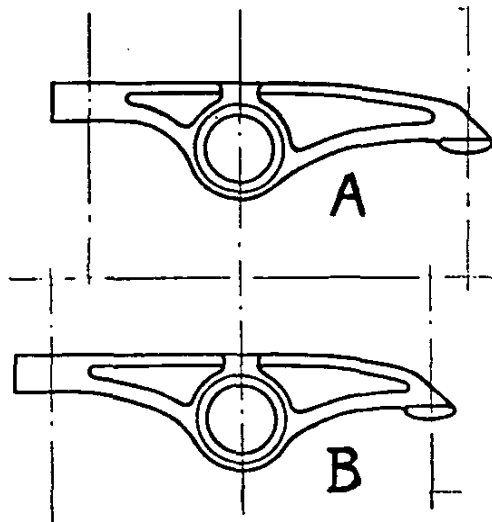


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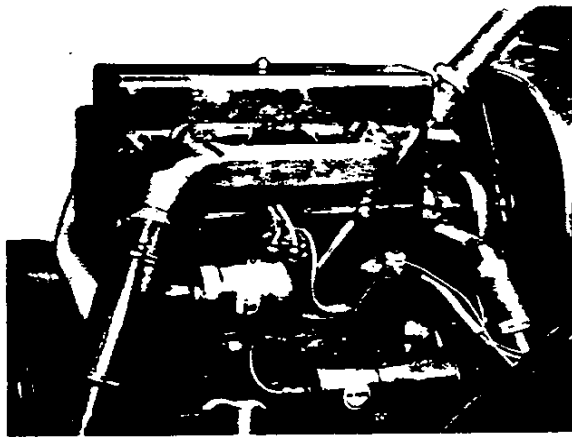


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Cut radiator hose to length.

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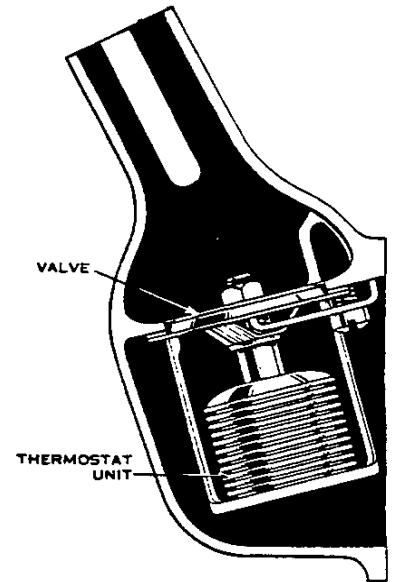


Figure 22

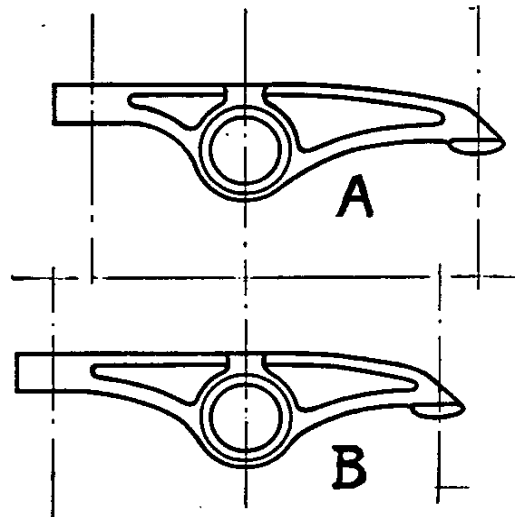


Figure 23

### Crankcase Breather System

The National Chevrolet motor has a ventilated crankcase. This is illustrated in Fig. 24.

Connecting front end of crankcase with air intake of carburetor is the new breather tube. What was formerly the breather tube on past motors and had a perforated cap now is used only as an oil filler tube and is equipped with a solid cap.

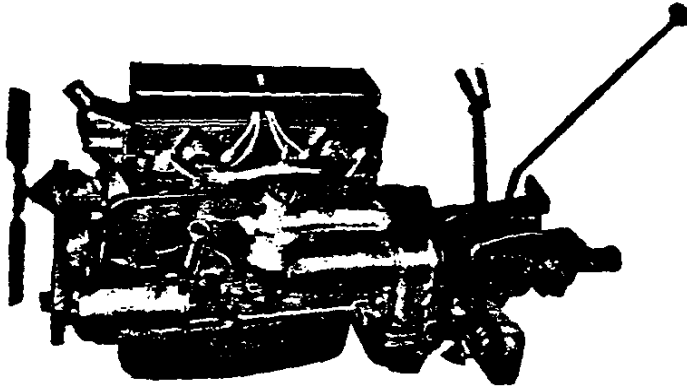


Figure 24

All breather action is through the breather tube and, due to suction in the carburetor intake, unburned gases in crankcase are drawn through breather tube into carburetor and back into motor to be burned. Baffles correctly located in front end of crankcase prevent oil splash from being drawn up breather tube.

There is nothing in this breathing system demanding any particular attention—but owing to the use of a perforated breather tube cap on previous motors we must be careful not to put a perforated cap on National motor oil filler tube. To do so would prevent ventilation. Likewise do not make the mistake of putting a solid cap on breather tube of past motors.

### Chassis Springs

The front and rear chassis springs used on the National Chevrolet are illustrated in Figs. 25 and 26.



Figure 25



Figure 26

As seen, each spring is equipped with a rebound leaf at each end and held in place by a clip. These leaves are very effective in producing a snubber action. At extreme flexing of the spring, such as occurs on rough roads, these extra leaves come into play and cause inter-leaf friction, resisting the rebound.

No special attention need be given these springs except that too much oil will reduce their effectiveness. Only sufficient oil or graphite should be applied to these springs to prevent squeaking.

### Front Axle

The National front axle has been completely re-designed. In addition to including front wheel brakes the new axle is equipped with ball thrust bearings on knuckles. This has increased the ease of steering considerably. Better lubrication is also provided by addition of extra Alemite fittings.

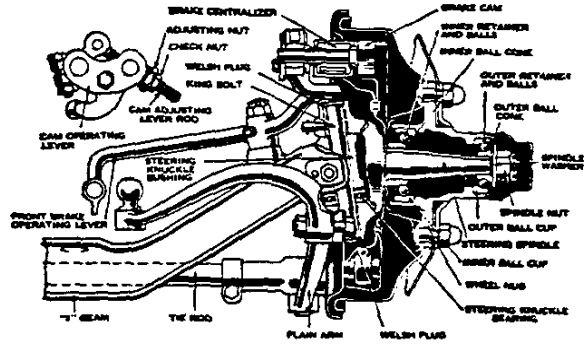


Figure 27

By referring to Fig. 27 you will note that in assembling, the king pin is clamped in axle "I" beam by means of a slotted stud. After assembling, two welch plugs are inserted in knuckle, one each at top and bottom. This keeps the bearing surfaces tight and dirt free.

To remove knuckle it is necessary to drill upper welch plug and pry out. Then by removing pin clamping stud, the pin and bottom plug may be driven out. In reassembling use new welch plugs.

### Steering Gear

A new steering gear with additional features is a part of the National Chevrolet. Fig. 28 is a drawing of this assembly.

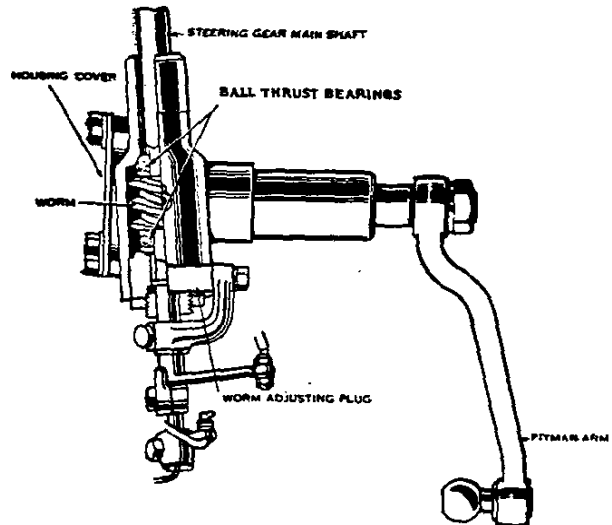


Figure 28

Ball thrust bearings have taken the place of plain washers and the gear ratio has been changed. These two changes have helped considerably in the easy steering of this new car.

A change service men will welcome is in method of mounting lower spark and throttle rod bracket. This is now independent of the housing cover screws. The balance of this assembly is practically the same.

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## A "Bigger and Better" Genuine Chevrolet Bumper

The new Chevrolet Bumper, in beauty of design and finish, is a most fitting complement

beauty and harmony of design, the strength, resilience and durability required for the assured safety of Chevrolet owners.

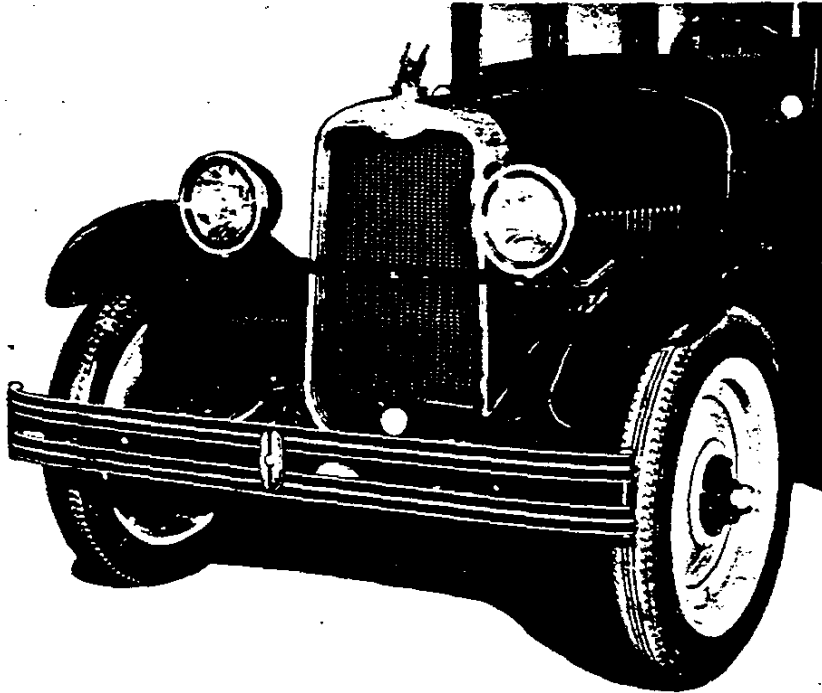


Figure 29

to the Bigger and Better Chevrolet car with which it blends in perfect harmony.

Following the modern style trend, the collision bars of this bumper are of ribbed steel, with heavily chromium plated ribs against a hard black enamel background; a color combination that merges in utmost good taste with the standard finish of all National models of Chevrolet cars.

The new bumper was designed by Chevrolet engineers.

It is essentially a Chevrolet Bumper in that it combines, with its perfect

Because we have been able to offer all these features at a much lower price than that at which any deluxe type of bumper has ever been offered before, the sales volume on this new Chevrolet Bumper will be enormous.

Production and distribution have been arranged to properly handle the expected demand and dealers who are

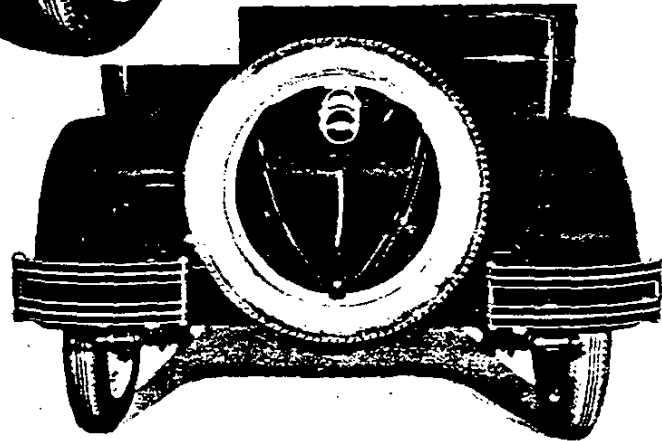


Figure 30

properly stocked and who concentrate their selling effort on this new Chevrolet Bumper will profit as never before.

Equip all cars on the display floor with the new Chev-

rolet Bumper and be prepared for 100% sales.

**\$22.50**  
**Installed**



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## Two New Genuine Chevrolet Accessories

### An Ornamental Radiator Cap

A distinctive radiator cap for the Bigger and Better Chevrolet car.

The Chevrolet Griffon is the creation of one of the foremost sculptural artists in the industry, and it was selected from the numerous designs offered us, because it not only typifies the modern spirit in which the new Chevrolet car was conceived, but it also blends very pleasingly with the appearance of the car. The Chevrolet Griffon Radiator Cap is heavily nickeled and is furnished with a locking device which we believe is theft proof.

To install: The brass expanding ring as shown in Fig. 33 is inserted in filler neck so that hinge is toward the rear of the car with the groove in expanding ring fitting properly into the filler neck. Expansion plug is tightened with wrench,

thus expanding ring which must be kept down as low in the filler neck as possible, while keeping the filler neck always in the groove in ring. When expanding plug has been sufficiently tightened the head of the plug will

break off and cap may then be screwed into the filler neck until tight, and with the wings pointing to the rear. If the expanding ring will not readily fit into filler neck, check the ring diameter to see that it measures  $2\frac{1}{8}$ " ; if below this size, file the filler neck to proper dimension.

In servicing radiators the cap may be removed, if necessary, by filing off the head of the hinge pin and punching it out.

The new Chevrolet car deserves this artistic and distinctive touch.

Give the buyer an opportunity to add this finishing touch to his new car.



Figure 31

**\$3.90**  
List



Figure 32



Figure 33

### And a Car Heater

The Chevrolet Motor Company has decided that the interests of both dealer and owner can best be served by making available a heater especially designed by its own engineers for operation with the National Chevrolet car. This heater has accordingly been designed, tested for efficiency against known standards, and against many of the more popular makes and types, and placed in production. Heaters are now coming through at a

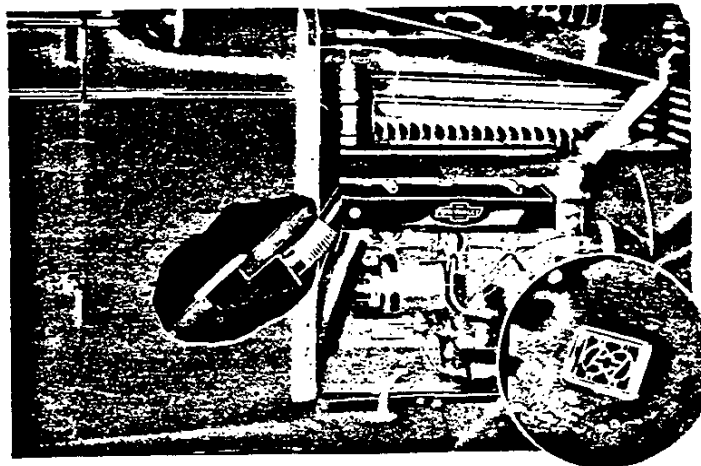


Figure 34

**\$7.00** | **\$8.50**  
List | Installed

satisfactory rate and we expect to have sufficient stocks at all warehouses to cover each dealer's requirements.

The heater is an exceptionally neat and attractive job, easily installed and competitively priced. It is a highly efficient producer of warm air, the supply of which may be regulated, or shut off entirely through

the operation of an ingenious shutter valve built into the register box, and it need not be removed for summer driving.



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for Economical Transportation



# New Features



## that set a new standard in automobile value



For years, Chevrolet has pioneered into the low-price field the features of advanced design found on the world's finest automobiles. As a result, Chevrolet cars have always provided modern appearance, modern comfort and modern performance.

And never has this progressive policy been better exemplified than in the Bigger and Better Chevrolet—with its numerous notable mechanical advancements.

Built on a 107-inch wheelbase, 4 inches longer than before—and offering marvelous new bodies by Fisher... this great new car is everywhere hailed as an amazing revelation in automobile value!

Among the vital engineering advancements it incorporates, are

new alloy "invar strut" constant clearance pistons... new mushroom type valve tappets... new non-locking four-wheel brakes... new semi-elliptic shock absorber springs... new worm and gear ball-bearing steering mechanism... and a complete new steel motor enclosure!

So many vital contributions have been made to every phase of motoring luxury, that only a close personal inspection can convey an adequate impression of the fine car quality provided in the Bigger and Better Chevrolet.

In beauty, in comfort and in performance, it climaxes every previous Chevrolet achievement in the development of luxurious transportation at low cost!

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
Division of General Motors Corporation

Q U A L I T Y   A T   L O W   C O S T



## How to Lower Convertible Cabriolet Top

Lowering of top on new cabriolet is a simple operation, but in order to protect the top material from damage it is necessary that it be carefully performed. We suggest that you see that every owner of one of these new cabriolets is properly instructed how to lower top. The following illustrations describe these operations in detail.

1. Unbutton the four glove fasteners that are located on outside of top and immediately above the door glass. (Figure 1.)



Figure 1

2. Release the top from the windshield by unscrewing the two butterfly nuts located on inside at the top of windshield.

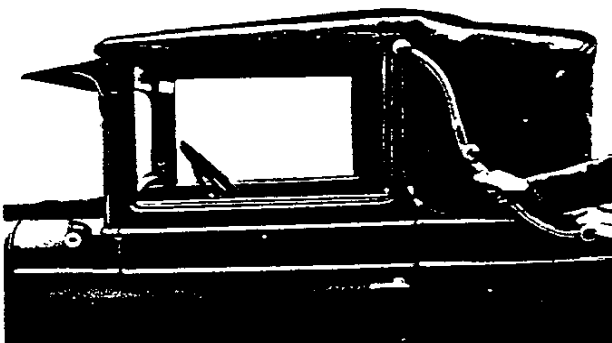


Figure 2

3. Break the landau joint—keep hand below joint to prevent injury. (Figure 2.)

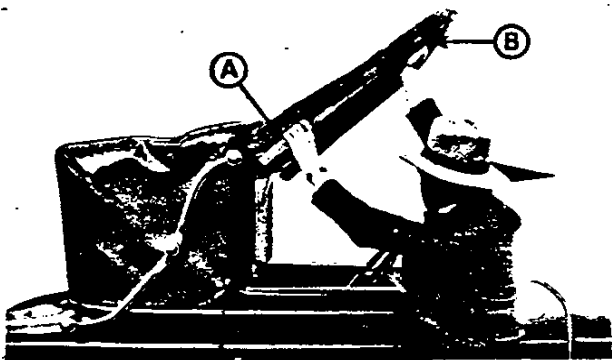


Figure 3

4. Pull down on front bow at point "A" at same time pushing up on same bow at point "B" (Figure 3), and fold top material neatly to outside and back. (Figure 4.)

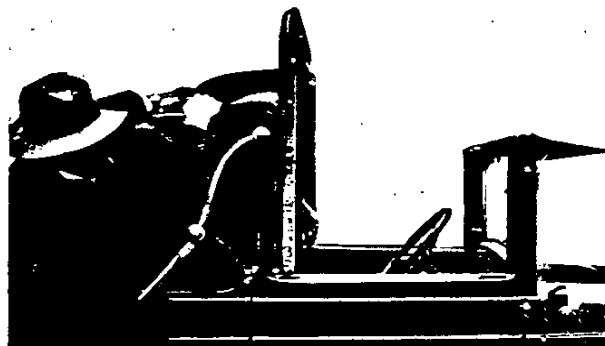


Figure 4

5. Move front bow to position shown in Figure 4.



Figure 5

6. Tuck back top material neatly between the bows, at same time lower the top and tuck back curtain and side quarter in. (Figure 5.) Front top material should fold to back.



Figure 6

7. Insert top rests in rear deck fixture and strap top down. (Figure 6.)

It is very important that this operation be carefully performed and the top material folded exactly as outlined. This will prevent undue injury. For this reason we included these instructions in *Service News* so that every member of the Service Department will immediately become familiar with the correct method.



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# Important Clutch Information

## Clutch Disc

A recent investigation has revealed to us that very few of the clutch disc reforming dies are being used.

After a period of use, clutch disc may become flat, which results in either grabbing or slipping. Providing the discs have not been burned and temper lost, they may be reshaped by the use of clutch disc reforming die as explained below.

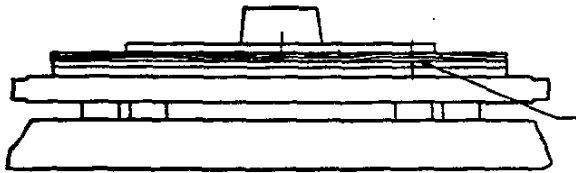


Figure 7

In Figure 7 is illustrated a disc being checked by laying on a standard pressure plate No. 344454.

If discs are flat, but have not been burned, they may be reformed by the use of die No. 343920 illustrated in Figure 8. In case you do not have one, order from your zone. These reforming dies are furnished, no charge, by your parts shipping zone.

Spring die over segment as shown in Figure 9, piloting inner portion on hub. Be sure to place die on segment so that "A" and "B" are equal.

Then place clutch disc with die in a vise as in Figure 10.

The vise must have jaws at least  $4\frac{1}{2}$ " wide to cover segment and die.

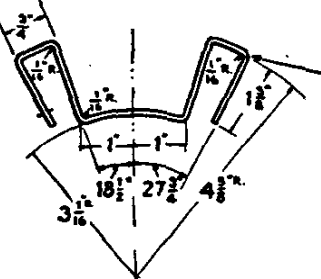


Figure 8

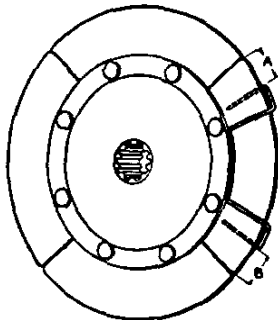


Figure 9

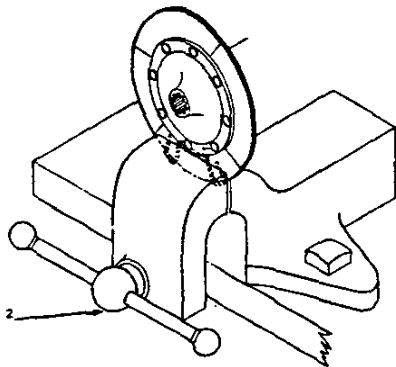


Figure 10

Tighten vise to give segment proper shape. The amount of offset must not exceed .040". From .030" to .040" is best.

**NOTE:** The offset on adjacent discs should be in the same direction with the offset toward the front.

## Adjustment

Gradual wear on throwout bearing and other clutch parts will necessitate a clutch pedal adjustment. Correct pedal adjustment is a very simple operation.

With the clutch fully engaged, pedal should be at least  $\frac{3}{4}$ " from floor board. See Figure 11. The clutch and brake pedal stop controls this distance and should be adjusted accordingly.

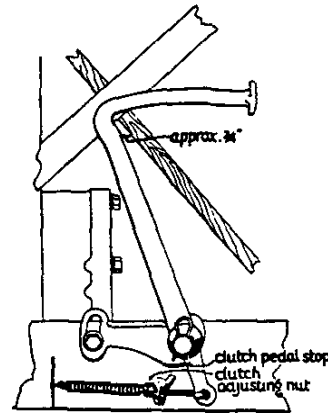


Figure 11

The next operation is the adjustment of the clutch adjusting nut. This nut should be tightened or loosened so that by depressing pedal with hand it will travel from  $\frac{1}{2}$ " to  $\frac{3}{4}$ " before clutch starts to disengage. Let us sum this up in two statements:

1. Clutch pedal should clear floor board by  $\frac{3}{4}$ " or more when against clutch pedal stop.
2. Clutch adjusting nut should be so adjusted that pedal can be depressed approximately  $\frac{1}{2}$ " to  $\frac{3}{4}$ " before clutch starts to disengage. Also—when pedal is fully disengaged pad must clear floor board by  $\frac{3}{4}$ ".

Many cars are allowed to operate with improper clutch pedal adjustment with the result that in time serious clutch wear will take place, necessitating expensive repair jobs. We suggest that every service inspector check each car coming into his shop as outlined in the above two statements and if clutch needs adjustment call it to the owner's attention.

## Friction Rings

We find that many clutch friction rings are replaced because the joint has separated. These two ends are only lightly wired together and may separate with but little use. This has no effect on clutch operation and, if friction rings do not show excessive wear, replacement is not necessary because of joint separation.

## SHOP HINTS

Last month we asked mechanics to contribute to this department such ideas as they had developed and believed would prove useful to other Chevrolet mechanics.

Many were received.

This was a good start. Let's have more. Watch next issue for the first idea.



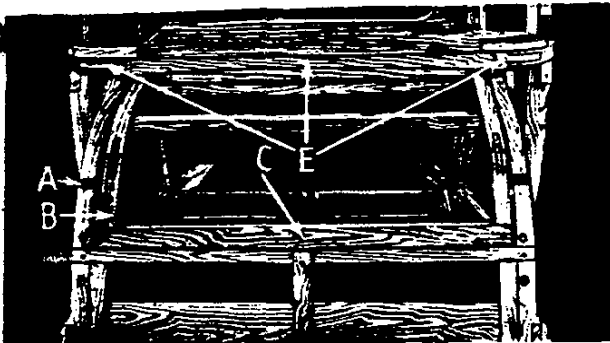


ILLUSTRATION NO. 139

Top—Rear view of business coupe deck

ILLUSTRATION NO. 140

Bottom—Same view of sport coupe showing difference in construction

deck lid swings on a pivot hinge (at B) which is bolted to an iron bracket (C) attached to the deck side rail and main side sill. These brackets also act as braces. The deck lid assembly is still further braced at the four corners by triangular blocks of wood glued and screwed to the frame of the lid (at I).

The deck lid lock bar is attached to the deck side rails by an open mortise (D in Illustration No. 138) and is braced at the center by a wood strainer to the back window frame. At the rear of the floor boards is nailed a metal drain pan (H) which extends to the rear cross sill.

Steel braces (at E in Illustration No. 138) that also serve as stops for the deck lid, are bolted to the deck side rails and lock bar. A striker plate for the deck lid lock is located at the center of the lock bar (at F). A metal section is nailed to the bottom of the deck as a flooring for the side compartment (at G). Metal, especially shaped, is used instead of boards to permit clearance for certain cross members of the chassis.

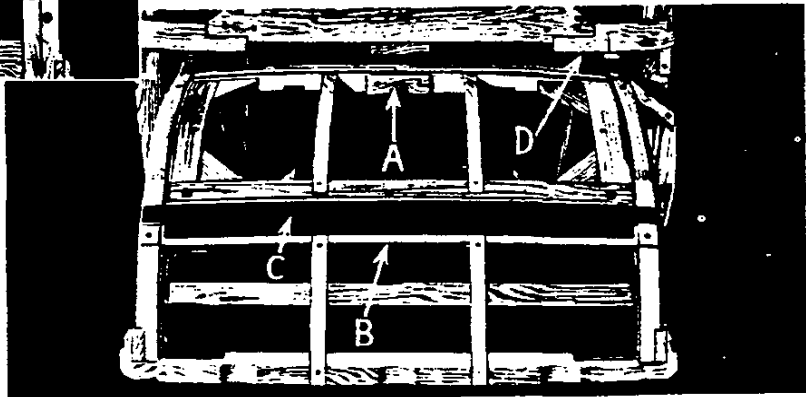
### THE REAR OF THE DECK STRUCTURE

**BUSINESS COUPE BODY.** A rear view of the deck assembly of the business coupe is shown in Illustration No. 139. Here may be seen clearly the dovetail joint (at A) in the deck side rail construction. Additional strength is acquired by having this type of joint, because the grain of the wood runs the entire length of the rail. A spline

performs a like function at approximately the same point in the deck lid side rail (at B). At C is shown the deck lid lock bar.

Illustration No. 139 also shows the construction of the back of the rear belt rail assembly (E) and its joints with the side rails.

**SPORT COUPE BODY.** Illustration No. 140 shows a rear



view of the sport coupe body which reveals several differences in construction with that of the business coupe body. The deck side rail is similar in construction to that of the business coupe body. But in this type the deck lock bar is at the top (A) and the deck lower bar (B) is covered by a flange iron (at C) over which the deck panel lower is flanged. The construction of the rear belt rail (D) is different, as the lower section of the back window frame in this assembly takes the place of the back section of the rear belt rail.

### JOINT OF THE REAR BELT RAIL AND DECK SIDE RAIL

Illustration No. 141 shows a close-up of the joint and the bolts that connect the deck side rail with the curved section of the rear belt rail assembly. The connecting members of the rear belt rail are joined solidly by a spline (A) by which the straight grain of the wood is preserved throughout this assembly.

A reinforcing member (C) is glued and bolted at this point, thereby doubling the strength of the rear belt rail.

The deck side rail is secured to these two wood members of the rear belt rail assembly by means of heavy bolts (at B).





# Fisher Body Service Bulletin

VOLUME 2



Number 17

## The Construction and Service of Coupe Decks and Rear Belt Rails

Having covered in the previous bulletin the foundation of the coupe wood structure, namely, the body sills and their adjoining members, the present number follows in logical order with a description of the deck and rear belt rail construction.

As the deck of the business coupe body is used exclusively for storage, whereas that of the sport coupe body may be used either for storage or for the accommodation of passengers, there are necessarily several differences in the construction of the two types, which are separately described and illustrated in this bulletin.

### THE BUSINESS COUPE DECK

*Illustration No. 137*, looking from the left into the deck assembly of the business coupe, shows the construction of the deck side rail (A) bolted to the rear belt rail assembly (at B); the deck lid (C) with its side rails and three cross bars, the lock bar (at D) being joined to the deck lid side rail by a lap joint, the center bar (at E) by a mortise-and-tenon joint, and the hinge bar (at F) by a

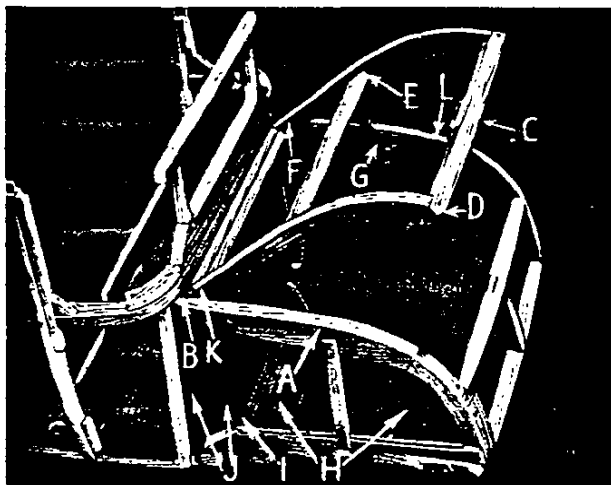


ILLUSTRATION NO. 137

*View of deck from the left side of business coupe*

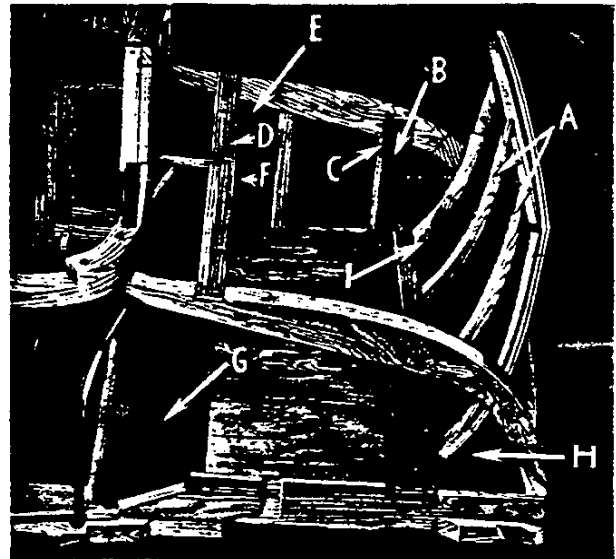


ILLUSTRATION NO. 138

*View of deck from the left side of sport coupe*

lap joint. The deck lid hinge is screwed to the upper end of the deck side rail (at K). Near the center of the deck lid side rails, supporting arms are attached to brackets on the deck lid and the deck side rail (at G). A small metal stamping (at L) acts as a stop for the deck lid.

The floor boards (at H) are fitted together by lap joints and screwed to the main side sills. Two sheet metal floor pans (at J) are nailed across the bottom of the deck compartment in the space directly back of the seat assembly. These allow clearance as well as convenient access to certain parts of the chassis.

### THE SPORT COUPE DECK

*Illustration No. 138*, photographed in the same relative position as *No. 137*, shows clearly the differences in the deck construction between the sport coupe body and the business coupe body. This combination lid and rumble seat back has two supporting strainers (at A). The



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## THE RIGHT SIDE DECK COMPARTMENT

An assembly that is also used exclusively in the construction of the sport coupe is the right side deck compartment (see *Illustration No. 142*). The compartment lock pillar (A) and its corresponding door lock pillar (B) are composed of two sections, each of which are screwed together in a lap joint, and shaped so as to permit clearance for the wheel housing. The lock pillar, the hinge pillar, and the header bar of the compartment frame are mortised, glued, and screwed together (see *points E*). The lock pillar of the compartment frame is supported to the deck side rail by a wood strainer (at C). The hinge pillar of the compartment frame is screwed to the lock pillar of the body (D). "Concealed" type hinges are used. The casings of the hinge (*points F*) are screwed to the compartment hinge pillar, then the hinge is bolted through the door hinge pillar. The wood members of the compartment door are connected by open mortise joints glued and then screwed together.

## SERVICE REQUIREMENTS

**BUSINESS COUPE BODY. (Deck hinges loose)**—Remove hinge pivot screws, lift off deck lid, and tighten hinges by installing larger wood screws. If the pivot screws are frozen by rust they may be started with a punch and hammer.

**Noise in the rear belt rail.** If a noise appears to come from the rear of a coupe body, at either corner, examine the joint between the deck side rail and the rear belt rail. If this joint seems to be loose remove the bolt at

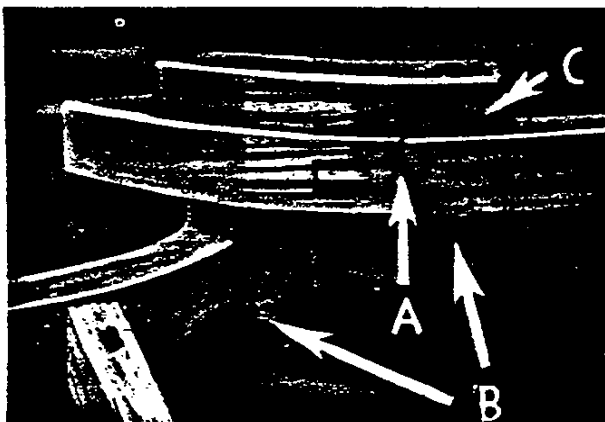


ILLUSTRATION NO. 141

Shows a close up of rear belt rail and deck side rail joint

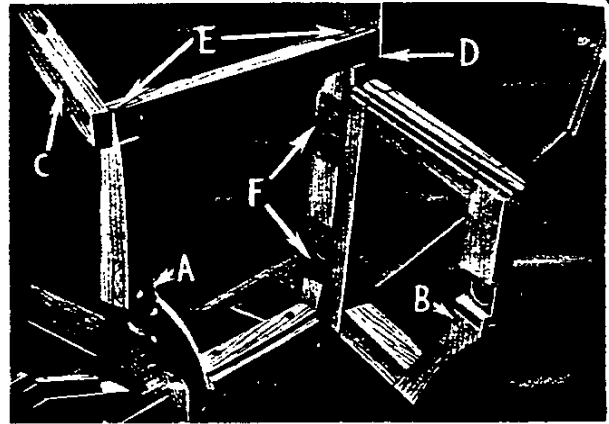


ILLUSTRATION NO. 142

Showing construction of right side compartment frame and door

this point. Separate the joint and insert friction tape between the deck side rail and the rear belt rail, then reinstall the bolt, being sure to draw the nut up tightly. The bolt should be dipped in R & M compound before reinstalling. (Noise such as described above may also have its source in the metal panels.)

## SPORT COUPE BODY

**ADJUSTMENT OF DECK LID.** If the deck lid rubs at either upper corner, remove the bolts of the hinge bracket (at B in *Illustration No. 138*) and change its position so that the lid will clear the framework. Reinstall the bolts, filling up the old holes with wood plugs or plastic wood.

**DECK LID STRIKING FLANGE IRON.** If the rear edge of the deck lid, when being opened, strikes the flange iron of the deck lower bar, insert several small wooden wedges between the inside of the flange and the wooden bar until the flange iron is forced upward to its original shape. This will allow the proper clearance for the deck lid.

**LOOSE HINGE PIVOT.** To tighten hinge pivot of deck lid loosen the safety set screw at the top of the hinge pivot. Then tighten the pivot hinge screw, inserting fibre washer between the hinge pivot and bracket if necessary.

**DECK COMPARTMENT DOOR SWELLING.** Remove the door and, with a rabbit plane or wood chisel, remove sufficient wood to allow clearance at that portion of the door which binds.



## Questions and Answers

**Question**—What causes the outside door handle and the inside safety screw to become loose?

**Answer**—Care should be taken when removing the inside safety screw so as not to allow the inner washer to drop down into the door bottom. This inside washer is found between the trim and the locking mechanism and can easily be held in place with a screwdriver while the replacement is being made. The absence of this washer is the immediate cause for the handle and safety screw to become loose.

**Question**—What is the best method of tightening the bolts in the front roof rail corner bracket if the nuts, which are under the front roof rail cover panel, turn with the bolts?

**Answer**—Drill through the bracket and the front roof rail in such a manner as to hit the washer on the bolt. Insert a nail or some pointed instrument and press firmly against this washer, turning the bolt head at the same time with a screwdriver. If this method fails because of the nut being frozen to the bolt, it may be necessary to make a small crosscut in the panel, folding back the four corners of the metal to uncover the nut. After the bolt is removed the metal may be pressed back in place, soldered, and refinished. No difficulty will be experienced on the present type of bodies, as an anchor plate, set in the wood, has been substituted for the nut that was formerly used.

**Question**—How is the window regulator handle removed?

**Answer**—There are three types of regulators and remote control handles. The one most commonly used today is removed in the following manner: press the escutcheon plate firmly against the upholstery of the door. This will reveal a small U-shaped retainer spring which may be removed by using a small pointed tool. The handle may then be pulled from the shaft but care should be taken not to lose the coil tension spring that is contained within the handle.

Another type of handle screws directly on to the shaft. A small notch is cut into the edge of the metal base. To remove, insert the special wrench which is contained in

the Emergency Tool and Repair Kit and turn the base until it is free of the threads on the shaft.

The third type is applied with a screw which goes directly through the face of the handle. Simply remove the screw and the handle may be slipped from its position.

**Question**—What causes windows to lower of their own accord when the car is in motion?

**Answer**—This condition may result from the teeth of the regulator gear being worn or sheared, permitting the mechanism to jump several teeth before again engaging. Replacement of the regulator is the quickest and most satisfactory method of correction.

A weak or broken spring in the regulator will usually permit the weight of the window to carry the glass downward for an inch or more, particularly if the position of the regulator handle is to the front of the car when the window is tightly closed. It is a false economy to attempt to replace the regulator spring. Replacement of the entire regulator assembly is always advisable.

**Question**—What may cause water to leak in over the top of a front door?

**Answer**—The drip moulding sometimes becomes loose, permitting water to enter behind it and be blown into the opening at the top of the door. If this should happen the over door weather strip, if properly adjusted, will prevent entrance of the water into the car. It is always possible for a water leak to occur if the over door weather strip is installed too high above the door opening. Refer to Vol. 1, Bulletin No. 15 for complete instructions in setting this weather strip lower to overcome the condition described.

**Question**—Should hinge pins be oiled?

**Answer**—The proper oiling of hinge pins at regular intervals is important. A small slot is provided for this purpose on the inside of the hinge, which is revealed when the door is open. Light lubricating oil should be applied regularly at this point in order to prevent the hinge pins from sticking or freezing in the hinges. This will allow the door to operate more easily.



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# Fisher Body Service Bulletin

*Proper Information and Tools make Fisher Servicing easy*

## Proper Names of Wood Parts and Panels (Continued)

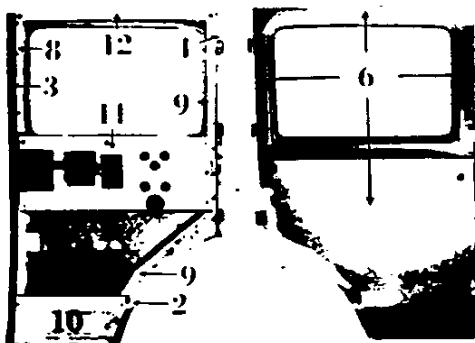
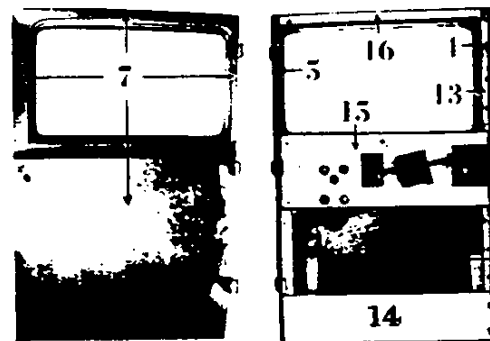


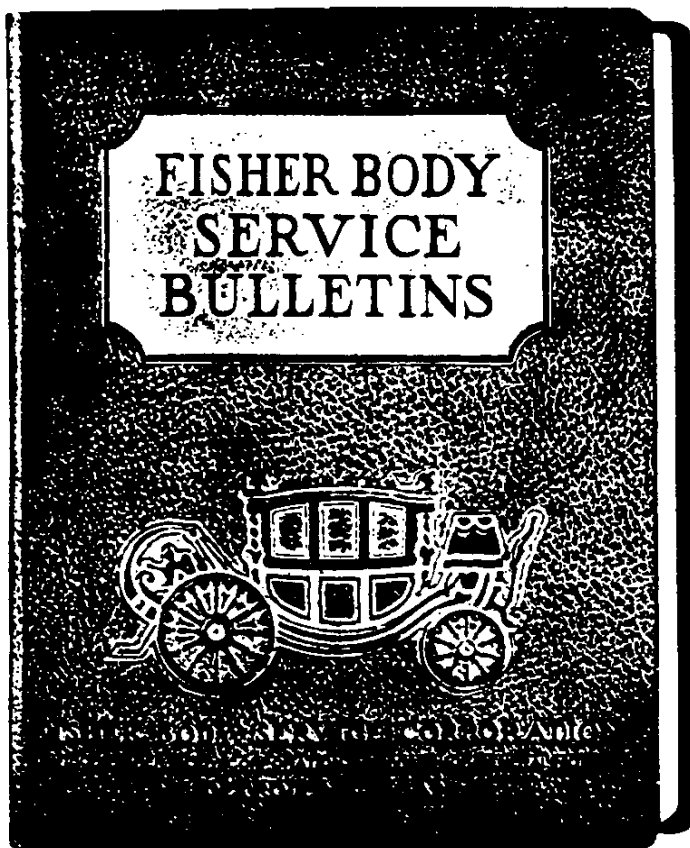
Illustration No. 71

### DOORS



1. Rear Door Hinge Pillar Facing—Upper Right and Left
2. Rear Door Hinge Pillar Facing—Lower Right and Left
3. Rear Door Lock Pillar Facing—Right and Left
4. Front Door Lock Pillar Facing—Right and Left
5. Front Door Hinge Pillar Assembly—Right and Left
6. Rear Door Panel Assembly—Right and Left
7. Front Door Panel Assembly—Right and Left
8. Rear Door Lock Pillar Assembly—Right and Left
9. Rear Door Hinge Pillar Assembly—Right and Left

10. Rear Door Bottom Board—Right and Left
11. Rear Door Lock Board—Right and Left  
Lock Board obscures view of door belt bar which joins lock and hinge pillars
12. Rear Door Header Bar—Right and Left
13. Front Door Lock Pillar Assembly—Right and Left
14. Front Door Bottom Board—Right and Left
15. Front Door Lock Board—Right and Left
16. Front Door Header Bar—Right and Left



## The Fisher Body Service Bulletin Covers

Throughout the country there has been constant application on the part of dealers and their service departments for a suitable, proper and permanent cover for the Service Bulletins.

The illustration to the left shows an imitation leather cover that has received endless praise for its beauty of design.

The words "Fisher Body Service Bulletins" are embossed on a gold panel on the upper half of the front cover. Below is embossed the Fisher emblem.

The Fisher Body Service Corporation has purchased these in a competitive market and is passing the price on to you, intact.

Our cost is 80 cents per cover and you are urged to order at once and keep these Service Bulletins in the permanent file this container provides. Price to you 80 cents.

FISHER BODY SERVICE CORPORATION  
900 Harper, Detroit, Mich.

### A CORRECTION

The spring for correcting rattles in door handles was given the wrong part number in Bulletin No. 10. Instead of A 8403, it should be A 8312.



# Fisher Body Service Bulletin

*Proper Information and Tools make Fisher Servicing easy*

## Proper Names of Wood Parts and Panels (Continued)

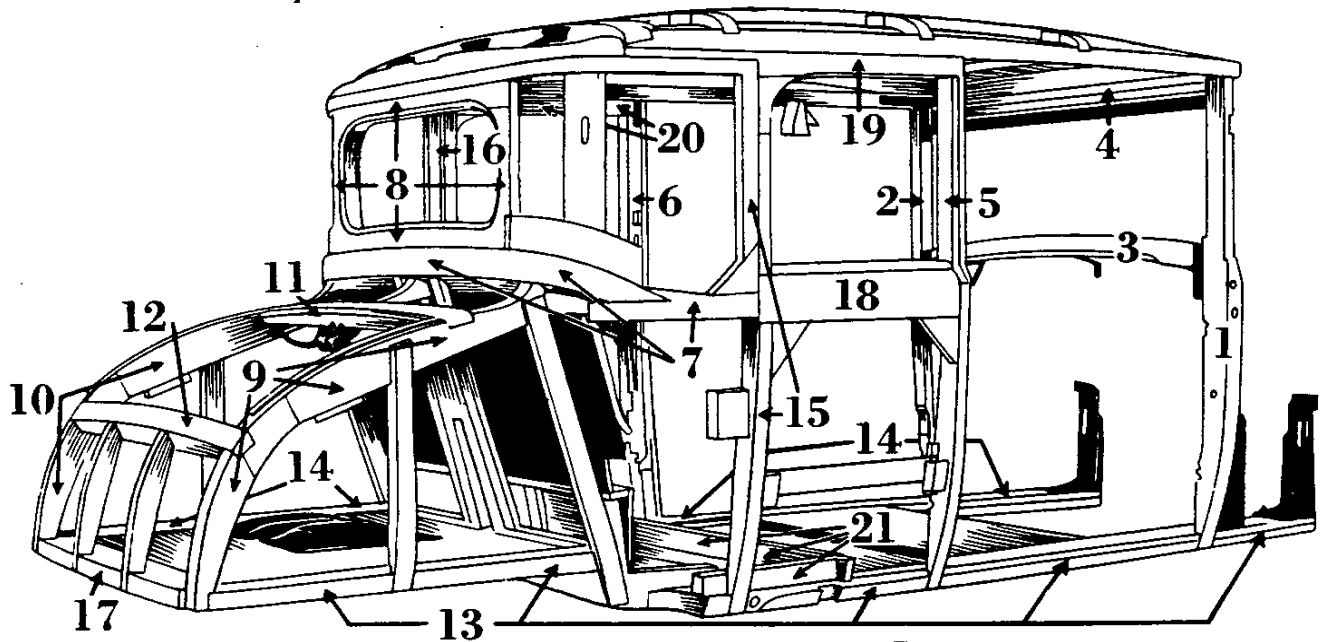


Illustration No. 68

### COUPE

1. Front Body Hinge Pillar Assembly—Right
2. Front Body Hinge Pillar Assembly—Left
3. Windshield Lower Cross Bar
4. Windshield Header Bar
5. Body Lock Pillar Assembly—Right
6. Body Lock Pillar Assembly—Left
7. Rear Belt Rail Assembly
8. Back Window Frame Assembly
9. Deck Side Rail—Right
10. Deck Side Rail—Left
11. Deck Lid Lock Bar
12. Deck Lower Bar
13. Main Side Sill Assembly—Right
14. Main Side Sill Assembly—Left
15. Rear Quarter Pillar Assembly—Right
16. Rear Quarter Pillar Assembly—Left
17. Rear Cross Sill
18. Rear Quarter Belt Bar—Right
19. Rear Quarter Header Bar—Right
20. Rear Quarter Header Bar—Left
21. Seat Riser Assembly

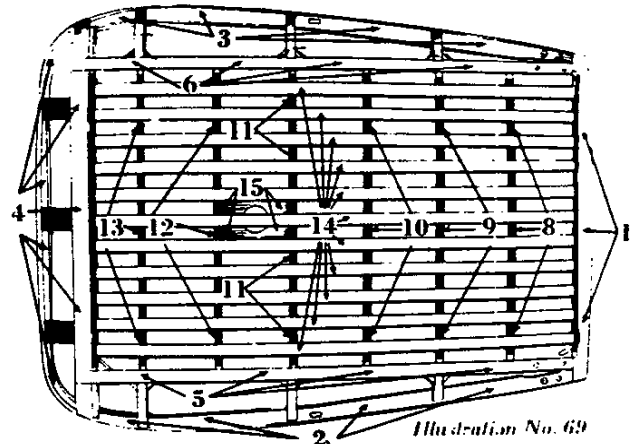


Illustration No. 69

### TOP

1. Front Roof Rail Assembly
2. Side Roof Rail Assembly—Right
3. Side Roof Rail Assembly—Left
4. Rear Roof Rail Assembly
5. Right Crown Roof Rail
6. Left Crown Roof Rail
7. Roof Bow No. 1 from Front—(not shown)
- 8 to 13. Roof Bows Nos. 2, 3, 4, 5, 6 and 7 from Front  
On Sedan there are more than 6 roof bows
14. Roof Slats
15. Dome Lamp Block

# 83 QUALITY FEATURES

that make Chevrolet  
the World's Finest Low-  
Priced Automobile!

## MOTOR

1. Powerful water-in-head motor
2. AC oil filter
3. AC oil chamber
4. Oil pump for efficient lubrication
5. Fully vented valves and rocker arms
6. 3-point motor adjustment
7. Hot air stop on carburetor intake
8. Valve adjustment at top of push rods
9. Fully enclosed dry single-plate disc clutch
10. Unit power plant construction

## COOLING

11. Centrifugal water pump
12. Herringbone exhaust radiator
13. Non-rusting airplane metal radiator shell
14. 1/2 hp long service fan belt

## ELECTRICAL EQUIPMENT

15. Underwriters' approval street low-voltage insurance code
16. Distributor ignition with high tension connections, waterproofed
17. Rung starting motor
18. Rung generator
19. Storage battery with one-piece rubber-type legal headlamps, with dimmers
20. Battery-type legal headlamps, with dimmers
21. Combination fuel and stop light
22. Light 1/2 hp parking lights
23. Horn button, spark and throttle control in center of steering wheel
24. Horn button, spark and throttle control in center of steering wheel
25. Conventional combination ignition and steering lock

## TRANSMISSION

26. 3-speed sliding gear transmission
27. Easily-operated single-plate dry disc clutch and brake pedals
28. Foot accelerator and accelerator foot rest

## UNIVERSAL JOINT

29. All-metal universal joint with Alenite fittings, yokes double heat-treated, operating on hardened bushings

## REAR AXLE

30. Complete differential and driving flange mounted as integral part of propeller shaft and housing
31. Improved large surface spiral bevel ring gear and pinion
32. Six Ingers New Departure bearings in rear axle
33. One-piece dressed steel banjo-type housing
34. Rear axle shafts spline-fitted to diff. differential gears, giving great strength
35. Removable plate for easy inspection

## BRAKES

36. 11-inch brake drums and heavy 2-inch brake bands
37. Positive brake linkage
38. Integral brake adjustments
39. Automatic brake adjuster
40. Foot pedal for emergency stops

## CHASSIS

40. Deep 4 1/2 inch channel steel frame
41. Five equal steel cross members
42. Extra strong shock absorbers front axle
43. 1 inch MacPherson bush steering wheel
44. Semi-traverse steering mechanism
45. Full size New Departure ball bearings in front axle
46. Semi-traverse steering beam, beam springs, belt of shock absorber
47. 24 inch rear springs, centering
48. Stewart vacuum fuel foot
49. 10-ball joints, shock absorber, rear axle
50. Gas line gauge
51. Air meter indications in stem
52. Wide rear cross member protects gasoline tank
53. Disc wheels and balloon tire standard equipment on all passenger models

## BODIES

54. Combination wood and steel construction - the type found on highest priced cars
55. Deep-cushioned comfortable seats
56. One-piece full-towin fender and body
57. Ribbed rubber covered running board with heat aluminum legging
58. Large watertight rear compartment on roadster, coupe and Sport Coupe
59. Dismountable runs
60. Novelty plated hood catches and headlamps, aluminum hood and headlamps

## EQUIPMENT

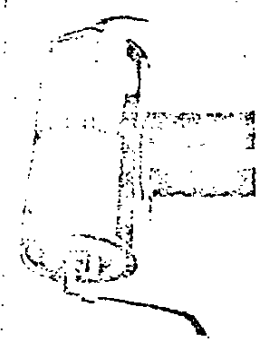
61. Tire cutter and extra tool
62. Complete instrument panel including speedometer, ammeter, oil gauge, dash lamp, carburetor choke, high water in fuel, oil level glisten and spring, 1/2 k of tools with tire compressor, etc.
63. Complete kit of tools with tire repair valve
64. Rear vision mirror

## OPEN MODELS

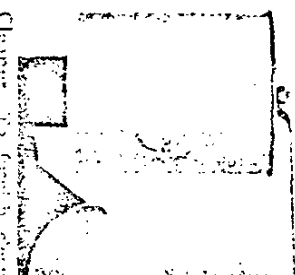
65. Double adjustable windshield with rubber weatherstripping
66. Side curtains opening with doors
67. Disc wheels
68. Seats covered in durable Fabrikoid
69. Large glass window in rear curtain
70. Heavy curtain fastener
71. Exceptionally beautiful bodies by Fisher

## CLOSED MODELS

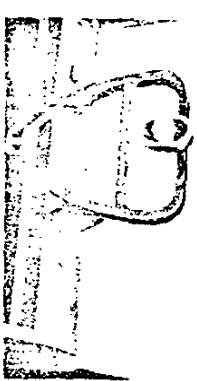
72. Disc finish in striking colors
73. Plate glass windows
74. Tempered window regulators
75. Removable interior door handles
76. Door lock catches in door handle
77. Door jockey in right front door
78. Steel sun visor
79. Automatic windshield wiper
80. VV one-piece windshield cover
81. Coupe Sedan and Landau
82. Door rest, Ash Tray and radio call in front seat
83. Removable door upholstery over door panels



**AC Oil Filter**—To insure greater oil mileage, fewer oil changes, and a main supply of motor wear, a newly designed AC Oil Filter is provided on all models to remove impurities and dirt from the oil supply.



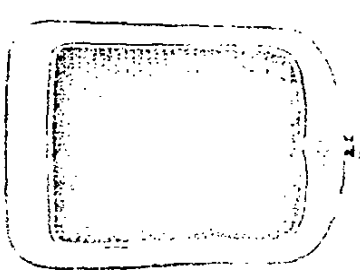
**AC Air Cleaner**—To filter a clean filtered air to the Chevrolet carburetor and to prevent dirt and ash from getting inside the motor and from clogging the ports, all models are equipped with an AC Air Cleaner.



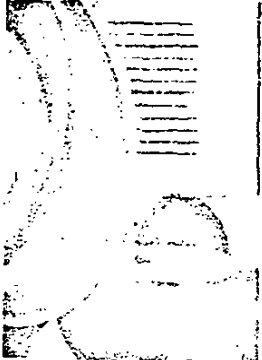
A new tire curtain, a new gas spring, and combination top and tail lights are standard equipment. The new tire curtain is mounted on the rear cross members—entirely free from the body.



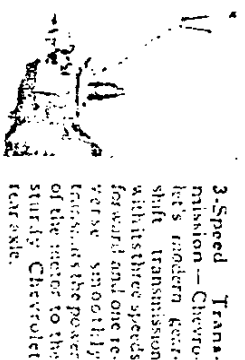
**Rear Axle**—Semi-floating type with roller-bearing pressed steel housing and heavy spiral bevel driving gears.



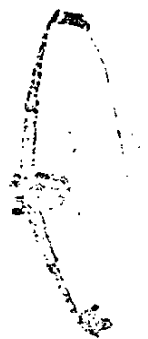
**Radiator**—The new Harrison radiator of polished airplane metal is a distinctive mark of Chevrolet beauty and a definite assurance of economy in operation.



**Fenders and Headlamps**—New fenders of one-piece, full cross construction and bullet-type headlamps with conical lamp-to-match.



**3-Speed Transmission**—Chevrolet's modern rear shaft transmission with three speeds forward and one reverse smoothly transmits the power of the motor to the sturdy Chevrolet rear axle.

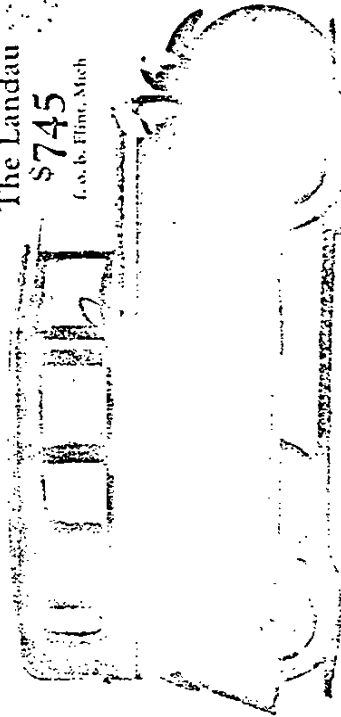


**Springs**—Made of chrome vanadium steel extending over 85% of wheelbase. Front 36" rear 54" long.

### The Landau

\$745

f. o. b. Flint, Mich.

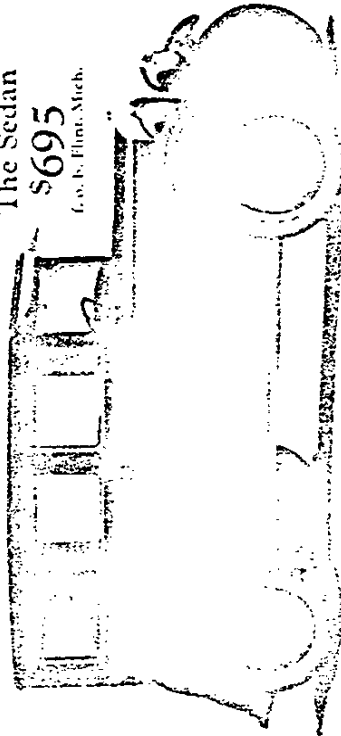


An aristocratic Fisher body, insect car. Distinctive oval plate glass rear windows can be opened and are set in textile leather covered rear quarters. Convulsive built appearance is enhanced by Buick Brown Duo finish and floor with plush upholstery. Robe rack, ash tray, dome light, steel disc wheels and balloon tires.

### The Sedan

\$695

f. o. b. Flint, Mich.

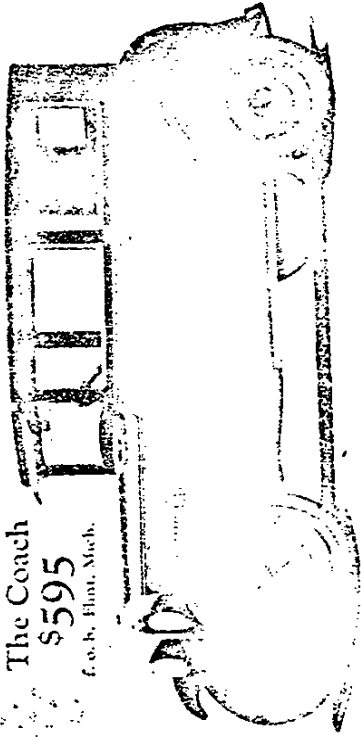


Beautiful Fisher body in Marine Blue Duo with gold striping and blue color-tone upholstery. Egg ornament inlays and chrome windshield wiper. Standard Team V-rod dome light, automatic stop light, Fisher one piece VV windshield, robe rack, ash tray, rear vision mirror, steel disc wheels and balloon tires standard.

### The Coach

\$595

f. o. b. Flint, Mich.

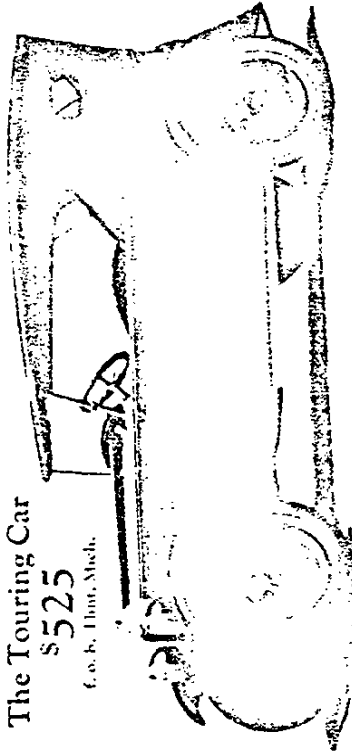


Unparalleled by the greatest closed rear vehicle. Fisher body, St. James Gray Duo finish with Peacock Green striping and luxurious Green Corduroy upholstery. Complete instrument panel in black, ash tray, dome light. Automatic windshield wiper, rear vision mirror, automatic stop light. Steel disc wheels and balloon tires standard.

### The Touring Car

\$525

f. o. b. Flint, Mich.

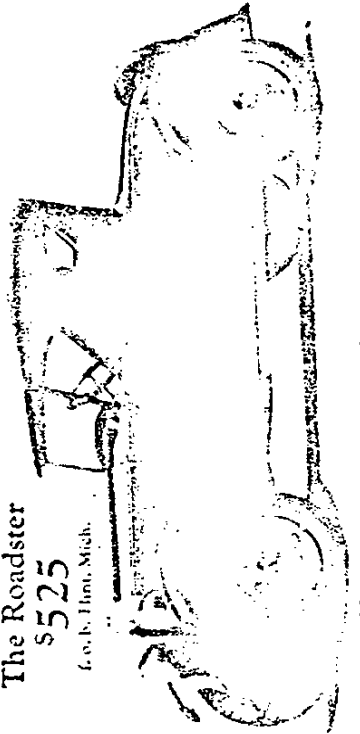


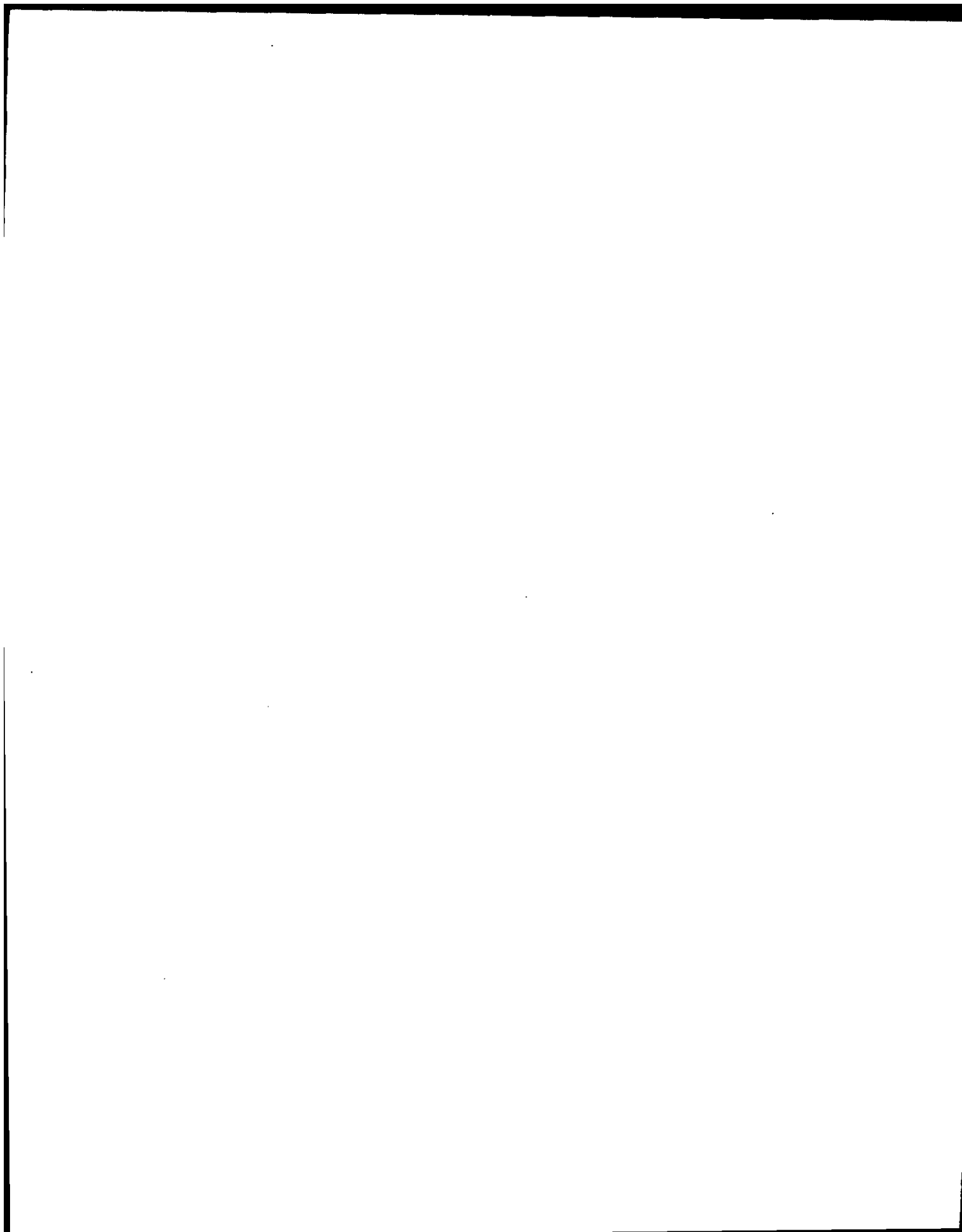
Finished in Forest Gray Duo with French Gray striping and streamline finish line. Peacock in center front door, door curtains, silk curtains, bullet-type headlamps and parking lights, automatic stop light, rear vision mirror and tool kit. Steel disc wheels and balloon tires are standard equipment.

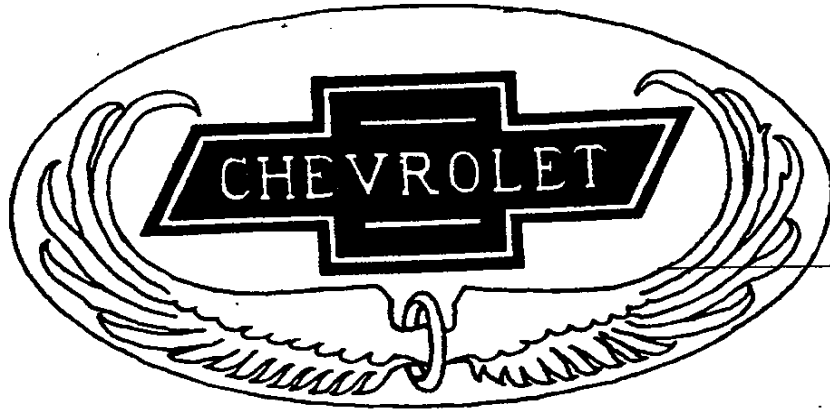
### The Roadster

\$525

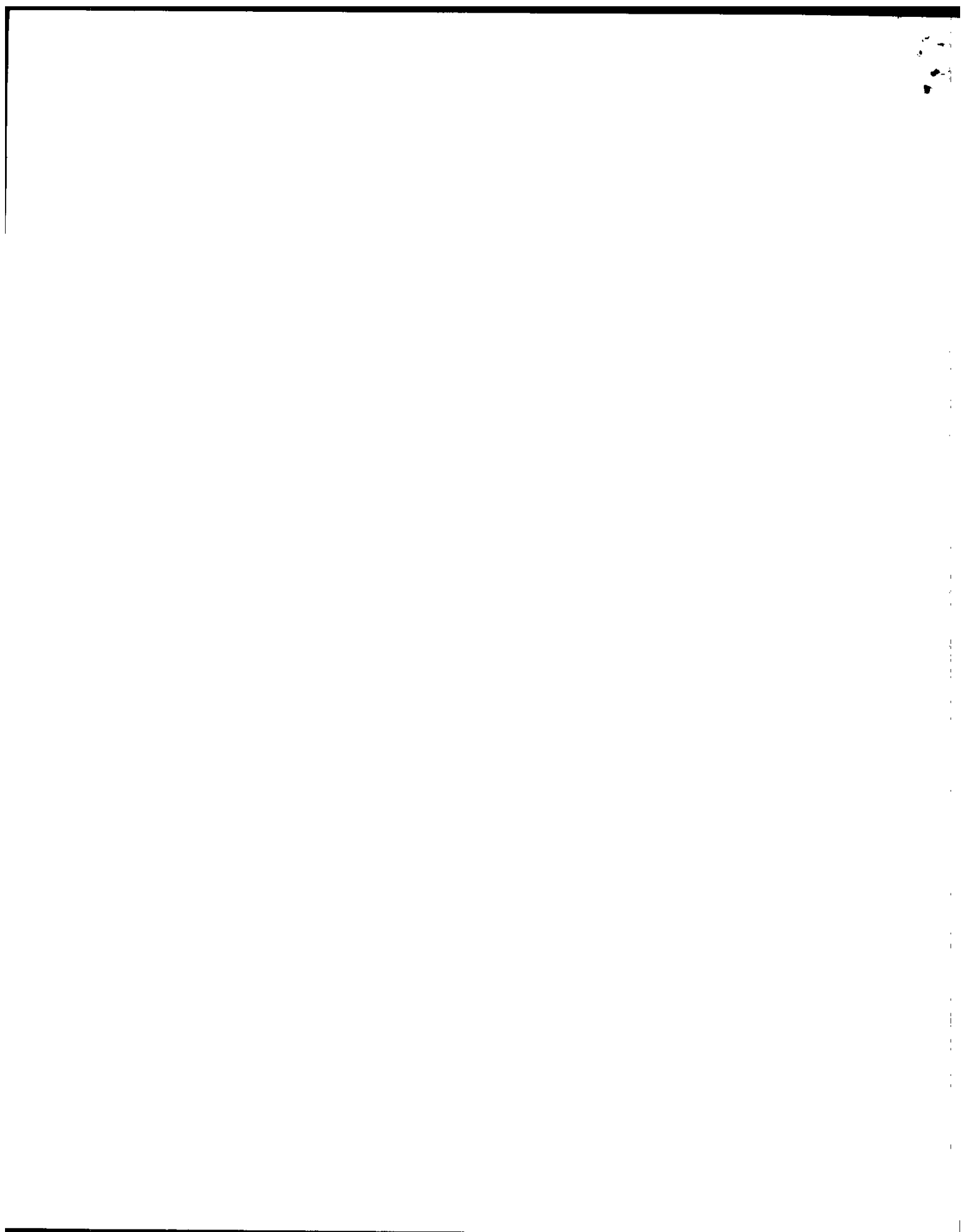
f. o. b. Flint, Mich.







**ENGINEERING**  
**DATA**  
*for*  
**1928**



## CHEVROLET ENGINEERING

For years Chevrolet has been the largest producer of gear shift automobiles. The constantly increasing public demand for Chevrolet products in 1927 required the production of one million cars and trucks. This constant and logical growth in public favor is proof of the sound principles underlying the vast Chevrolet organization. It also proves that the public is in hearty accord with the Chevrolet Engineering attitude of conservative progress. The Chevrolet models for 1928 reflect this attitude to even a greater extent than their predecessors, the changes and improvements in these models being adopted only after months of careful engineering consideration and road testing.

Very little is generally known about the engineering activities preceding the production of Chevrolets, and a glance behind the scenes at these activities may prove interesting.



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### SIMPLICITY OF DESIGN

The same final result can usually be attained in several ways, and to insure the adoption of the best design to meet the needs it is not uncommon practice to lay out a dozen or more designs, at least two of which are usually tested.

The outstanding features of all Chevrolet designs are simplicity, economical production, and serviceability. While the various designs are still in the process of evolution on the drawing board all of these points are considered and the various engineers confer in reaching a decision as to the most effective design.



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### ENGINEERING POLICY

During the entire evolution period a definite policy must be adhered to and constantly borne in mind. This policy has always been one of conservative progress, resulting in a product built to meet the needs and desires of the motoring public which are more exacting year by year. The policy which has guided all of Chevrolet's engineering endeavors has been based on the well known slogan "economical transportation." Adherence to this policy involves close attention to detail throughout the entire period of design and experimentation, each detail study contributing to the evolution of a perfectly harmonious product.



The General Motors Proving Ground at Milford Michigan, comprising 1125 acres of ground and including every conceivable kind of road condition is used for testing Chevrolet experimental and production cars. Test equipment and instruments are available for all nature of tests. The permanent Chevrolet test crew includes 25 experienced drivers and mechanics. An average of 1,000,000 car miles are run yearly at the Proving Ground, an accurate report being issued daily to the engineers. These reports include complete data covering weather and road conditions as well as all adjustments and repairs made on each car, down to such details as the tightening of bolts and nuts. From these reports the engineers can analyze the effects of various design changes. The Proving Ground facilities insure the owner of a thoroughly tested product and he may be certain that no experiments are ever made at his expense.

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### ENGINEERING ORGANIZATION

The engineering organization includes 18 engineers who specialize on the various design groups into which the car is divided. A force of 75 draftsmen is required to work out the engineers' ideas and produce the necessary drawings from which the parts are made.

All of the experimental material is produced, assembled and bench tested in a modern experimental laboratory and machine shop comprising 44,400 square feet of floor space entirely separated from production activities. A force of 103 mechanics are engaged in this work.





1927

1928

FRONT AXLE (Continued)

Front Wheel Bearing-Inner	New Departure-#909002	New Departure-#909002
Front Wheel Bearing-Outer	New Departure-#909001	New Departure-#909001
King Pin diameter	9/16	3/4
Brakes	-----	2 shoe internal
Operation	-----	Cam and rollers
Diameter	-----	10 1/2
Lining Width	-----	1 1/2
Lining area -- sq. in.	-----	54 3/16
Thrust Bearings	Bronze washer	Ball bearings

REAR AXLE

No change except

External Brake operation	Floating Cross Shaft and Toggle Lever	Timken Type Lever
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ENGINE

Valve lift	.21875	.2916
Tappet Diameter	5/8	51/64

Timing

Inlet opens	16° after UDC	7° before UDC
Inlet closes	52° after LDC	75° after LDC
Exhaust opens	40° before LDC	56° before LDC
Exhaust closes	16° after UDC	32° after UDC

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COMPARATIVE SPECIFICATIONS

	<u>1 9 2 7</u>	<u>1 4 2 8</u>
<u>GENERAL</u>		
Wheel base	105	107
Tread	56	56
Min. Turning Radius	13 1/4 ft.	20 1/2 ft.
Frame height from ground (average)	19 3/4	20 3/16
Minimum Road Clearance	8 11/16	9 1/16
<u>FRAME</u>		
Side Member Section	4 1/2 x 1 1/2 x 5/32	4 3/4 x 1 1/2 x 9/32
Overall length	144 51/32	148 13/32
Overall width-front	25 7/8	25 15/16
Overall width-rear	44 1/8	44 1/16
Kick up	4 7/8	4 7/8
<u>SPRINGS</u>		
Type	Semi-elliptic	Semi-elliptic with stabilizer plates
Front Spring ride	3 1/4	3 1/8
Rear Spring ride	4 5/4	4 7/8
<u>FRONT AXLE</u>		
Type	Elliot	Reverse Elliot
Steering	Fore and aft	Fore and aft



1 9 2 7

1 9 2 8

ENGINE (Continued)

Piston - material & type	Cast Iron-Skeleton	Aluminum-with Invar strut
Compression ratio	4.33 to 1	4.5 to 1

CLUTCH

No change except

Brake Pedal

Length	11 1/4 R.	11 1/4 R.
Section at hub	1 1/8 x 7/16 - 3/16 web	1 1/8 x 7/16 - 3/16 web

Clutch Pedal

Length	11 1/4 R.	11 1/4 R.
Section at hub	1 1/8 x 7/16 - 3/16 web	1 1/8 x 3/4 - 5/16 web

Clutch and Brake Pedal Pad-	Stamped Steel	Forged integr. with Pedal
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TRANSMISSION

No change.

UNIVERSAL JOINT

No change.

FUEL SYSTEM

No change.

STEERING GEAR

Ratio	3:1	9.5 : 1
Worm thrust bearings	Steel Washer	10 - 1/4" Balls and retainer

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1 9 2 7

1 9 2 8

ENGINE (Continued)

Maximum horsepower	30 1/2	35
Engine R.P.M. at max. power	2000	2200
Starter Gear ratio	10 - 1	11 - 1
Intake Manifold I.D.	1 1/32	1 5/32
Exhaust Manifold -Type	Single port integral with head.	Two port outside
Exhaust Manifold - I.D.	1 11/16	1 5/8
Camshaft front bearing	1 5/16 dia. x 2 3/8	1 7/16 dia. x 2 31/32
Camshaft center bearing	1 9/32 dia. x 2	1 11/32 dia. x 2 1/8
Camshaft rear bearing	1 1/4 dia. x 1 7/16	1 1/4 dia. x 1 7/16
Crankshaft front bearing	1 3/8 dia. x 2 5/16	1 3/8 dia. x 2 1/2
Crankshaft center bearing	1 11/16 dia. x 1 11/16	1 11/16 dia. x 1 11/16
Crankshaft rear bearing	1 3/4 dia. x 3	1 3/4 dia. x 3
Water capacity - quarts	7 17/32	8 3/8
Crankshaft gear - material-	Fabric	Steel
Camshaft gear- material	Cast Iron	Fabric
Push Rod Covers	None	2 piece stamped
Crankcase Ventilation	None	By intake manifold suction
Thermostat	None	Dole or Bishop and Babcock
Fan Shroud	None	Sheet Steel
Camshaft Diameter	3/4	7/8





1 9 2 7

1 9 2 8

TIRE CARRIER

No change.

BODY

Touring

Color	Falmouth Gray	Falmouth Gray
Striping	French Gray	French Gray
Upholstery	Black textile leather	Black textile leather

Roadster

Color	Falmouth Gray	Falmouth Gray
Striping	French Gray	French Gray
Upholstery	Black textile leather	Black textile leather

SEDAN

Color	Marine Blue	Faunce Green
Window Reveals	-----	Dunsmuir Gray
Striping	Gold	Golden Yellow
Upholstery	Blue Corduroy	Green Corduroy
Overall Length	96	98 3/4
Front Door width	24 13/16	27 9/16
Rear Door width	24 13/16	26 1/2

COUPE

Color	Beige Brown	Faunce Green
Window Reveals	-----	Dunsmuir Gray
Striping	Chrome Yellow	Golden Yellow

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1 9 2 7

1 9 2 8

COUPE (Continued)

Upholstery	Brown Plush	Dark Green Plush
Door width	29 7/16	29 7/16

COACH

Color-Upper	St. James Gray	Black
Color-Center	St. James Gray	Avenue Green
Color-Lower	St. James Gray	Avenue Green
Striping	Pistache Green	Gold
Upholstery	Green Corduroy	Golden Green Plush
Overall length	91	96
Door width	33 13/32	34 5/8

CARRIOLET

Color	Black	Dundee Gray
Window Reveals	Tartan Tan	Brocatelle Green
Striping	Tartan Tan	Gold
Upholstering	Brown Leather	Sage Green Plush
Windshield	One piece tilting	Fisher VV
Door width	29 7/16	29 7/16

IMPERIAL LANDAU

Color - Upper	Black	Mountain Brown
Color - Center	Black	Cossack Brown
Color - Lower	Black	Cossack Brown

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ENGINE (Continued)

- 1 New breathing system
17. External exhaust manifold
18. Thermostat
19. Fan Shroud
20. Aluminum pistons

CLUTCH

21. Stiffer clutch and brake pedals

STEERING GEAR

22. Increased gear ratio
23. Ball thrust bearings on worm shaft

CONTROLS

24. Larger choke button in more convenient location

WHEELS

25. 30 x 4.50 balloon tires
26. Wider rims

SHEET METAL

27. Longer hood
28. Improved front fender design
29. Longer running board and apron
30. Longer cowl

ELECTRICAL and INSTRUMENTS

31. Separate instrument panel - new instrument grouping

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## New Features and Improvements on the 1923 Models

### FRAME

1. Longer wheel base
2. Deeper side member section
3. Stiffer front cross member
4. Stronger rear cross member with better appearance

### SPRINGS

5. Stubber plates built into front and rear springs

### FRONT AXLE

6. Front wheel brakes
7. Ball thrust bearings on steering knuckles
8. More grease fittings

### REAR AXLE

9. Redesigned rear wheel external brakes
10. Independent internal emergency brakes

### ENGINE

11. Increased power due to larger valves and intake manifold
12. Improved carburetor jet combination for more power
13. Quieter mushroom tappets and larger camshaft
14. Fabric camshaft gear
15. Enclosed push rods



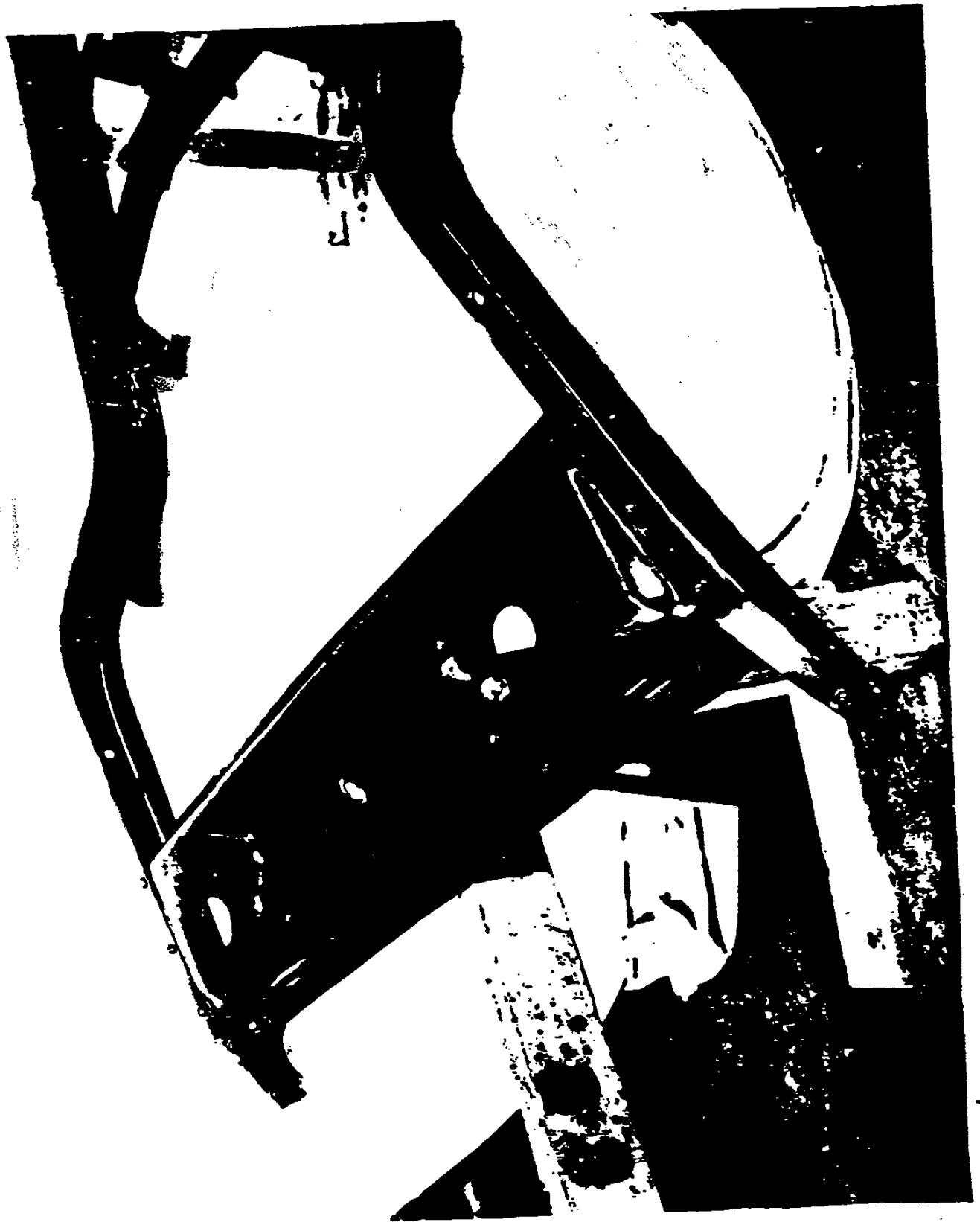
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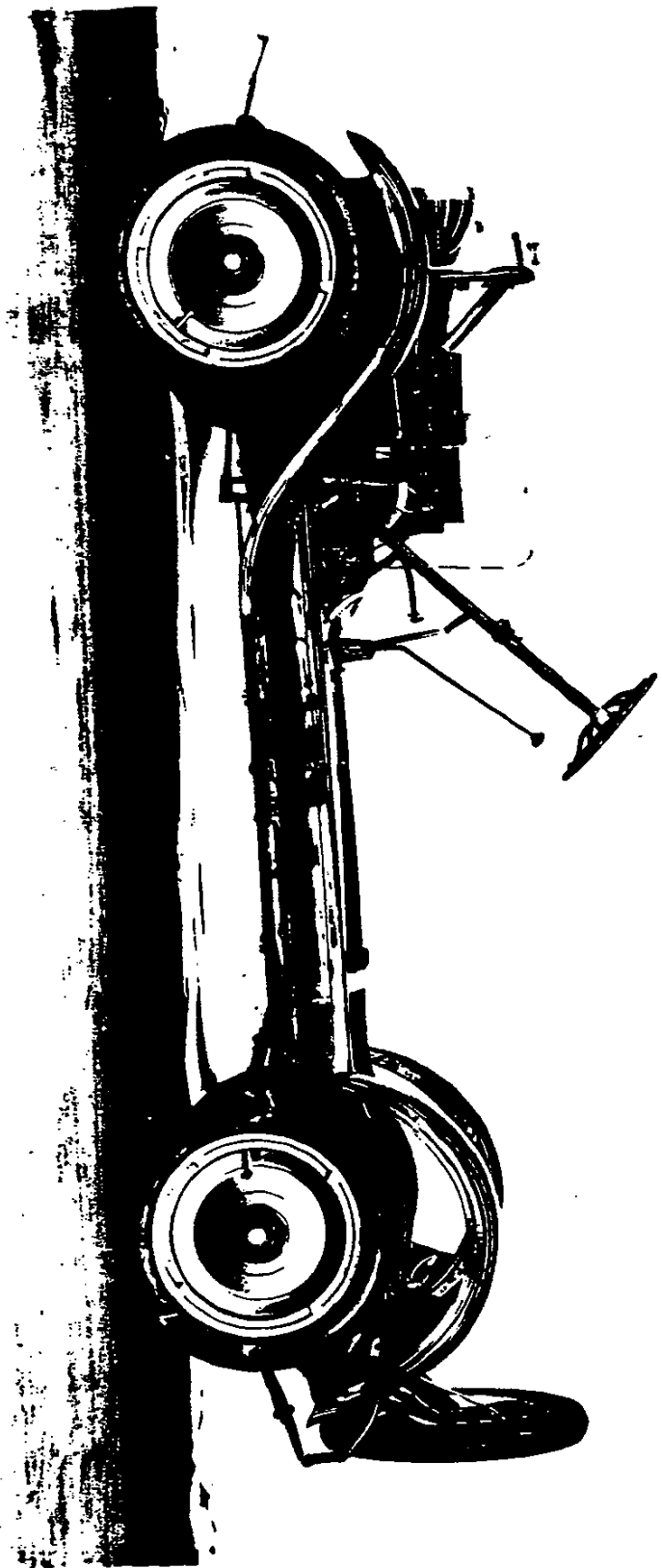
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ELECTRICAL and INSTRUMENTS - (Continued)

- 32. Indirect instrument illumination
- 33. Combined ammeter and oil gauge
- 34. Larger head lamps

RADIATOR

- 35. New radiator shape
- 36. Larger radiator cap
- 37. Better location for radiator drain cock

BODY

- 38. Longer Sedan and Coach
- 39. More rear seat room in Sedan and Coach
- 40. Larger doors on Sedan and Coach
- 41. Improved rear roof on Sedan, Coach, Landau and Coupe
- 42. VV windshield on Cabriolet and Landau
- 43. More convenient windshield wiper valve on closed jobs
- 44. Improved instrument panel
- 45. New paint on closed jobs
- 46. New trimming on closed jobs

WINDSHIELD and TOP

- 47. New windshield appearance on open jobs
- 48. New design top on open jobs







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DETAIL DISCUSSION OF THE NEW 1928 FEATURES

FRAME

The wheelbase of the 1928 models has been increased 4", from 103" to 107". The increased length improves the riding qualities and, due to the longer hood, running boards and aprons, improves the appearance.

SIDE MEMBERS

The section of the frame side members has been increased both in depth, and width of flanges, the lower flange in particular being increased considerably and having its edge curled downward. All of these improvements result in a much stiffer frame with much greater torsional strength. The attachment of the cross members to the wider lower flanges insures more substantial support.

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### FRONT CROSS MEMBER

The front cross member, as shown in the preceding illustration, is of Z bar section about 4" longer than on the 1927 models. Its stiffness is further increased by convolutions at the center and downturned flanges at the front and rear edges. Ten rivets secure this cross member to the side members. The radiator is mounted on the front and the engine on the rear of this member. The increased section increases the rigidity of the front end of the frame considerably.

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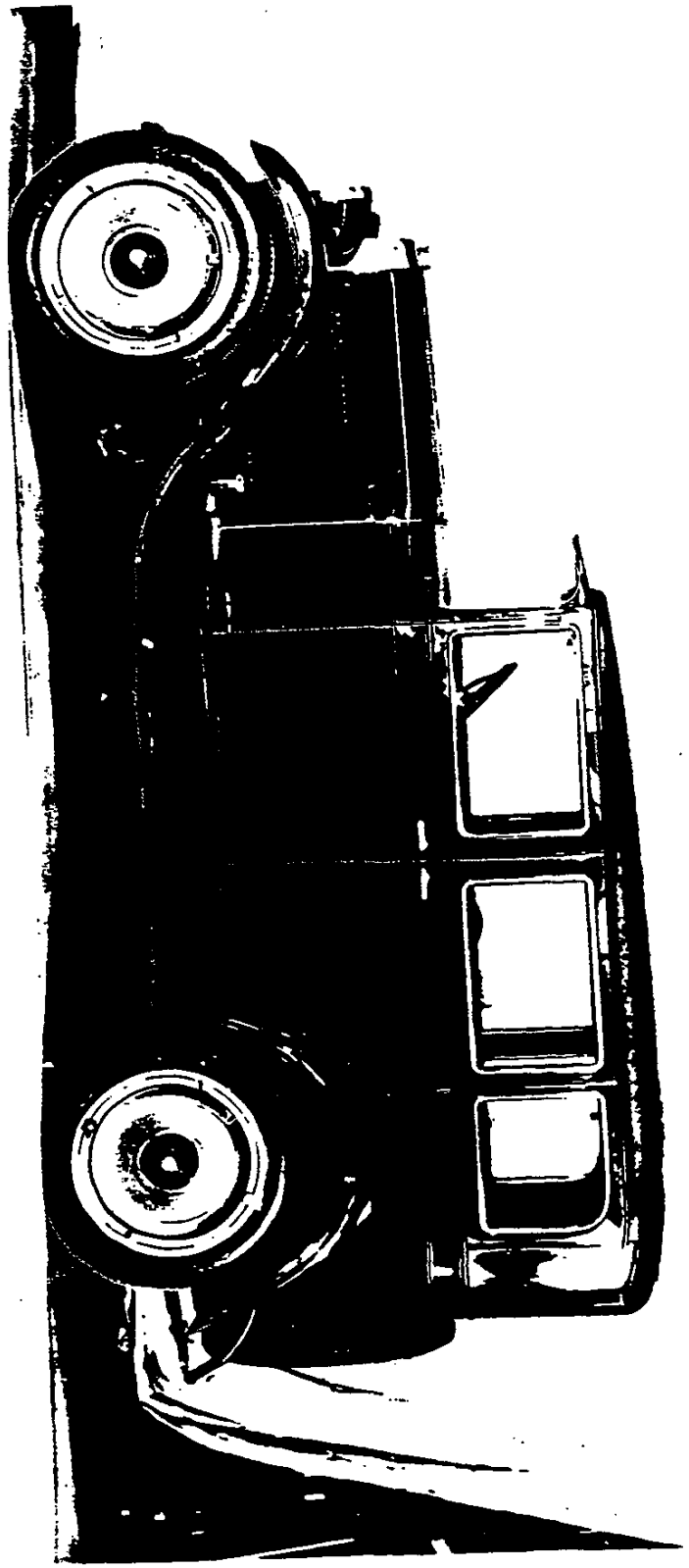
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REAR CROSS MEMBER

The rear cross member has been completely redesigned, as shown in the preceding illustration. The section has been changed to give a sturdier appearance and greatly increased strength. Reinforcements are riveted on the under side of this cross member to further increase its strength and to provide a support for the gasoline tank. Twelve rivets secure the rear cross member to the side members.





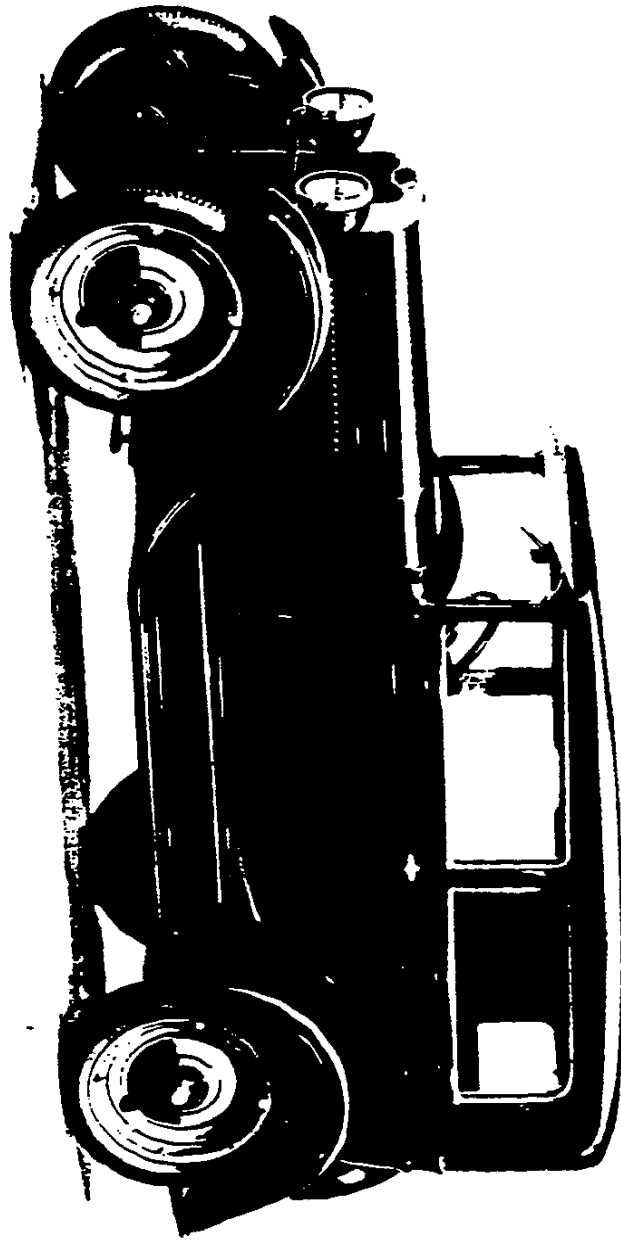


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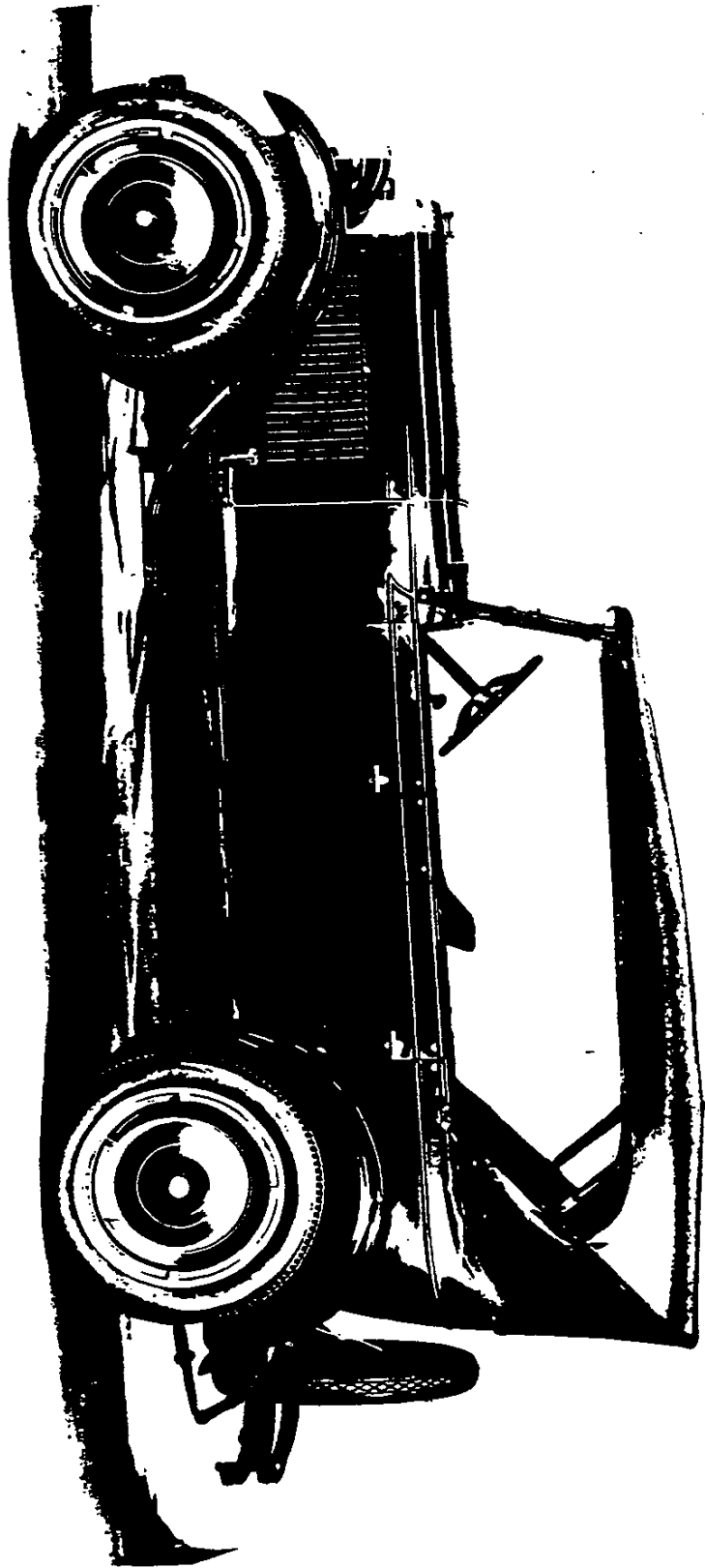
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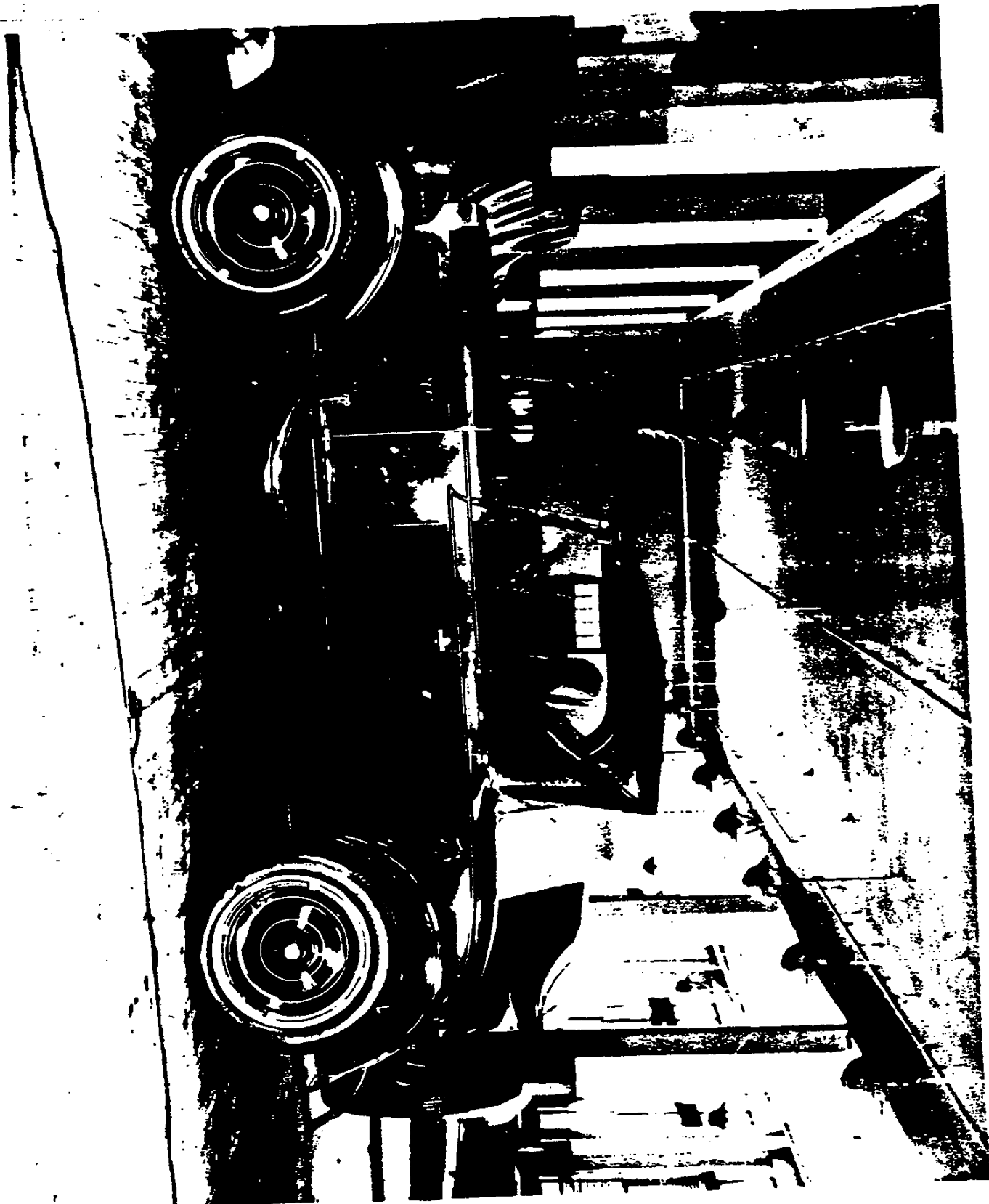
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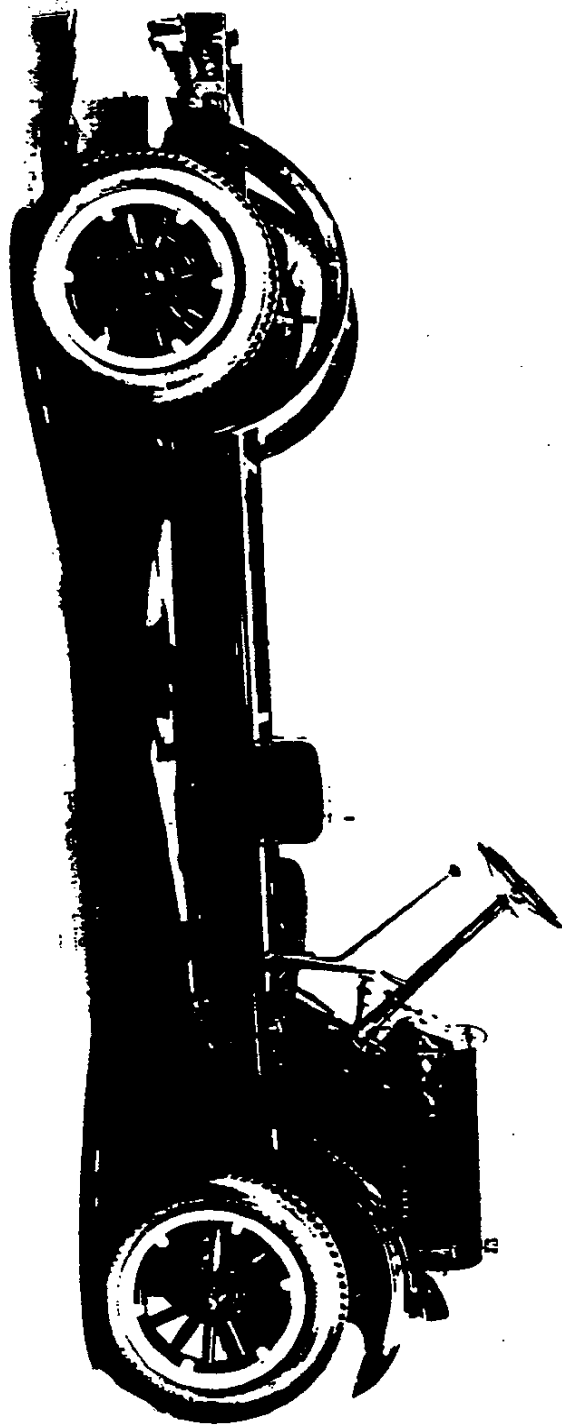
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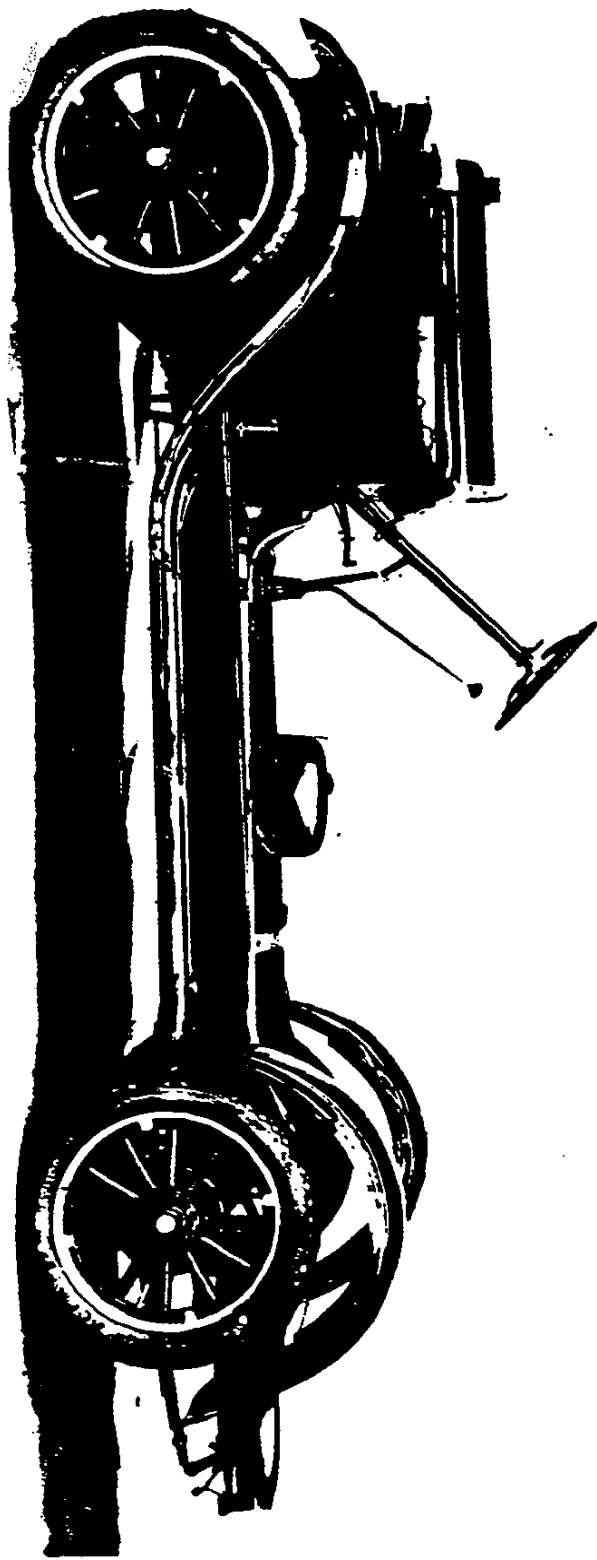
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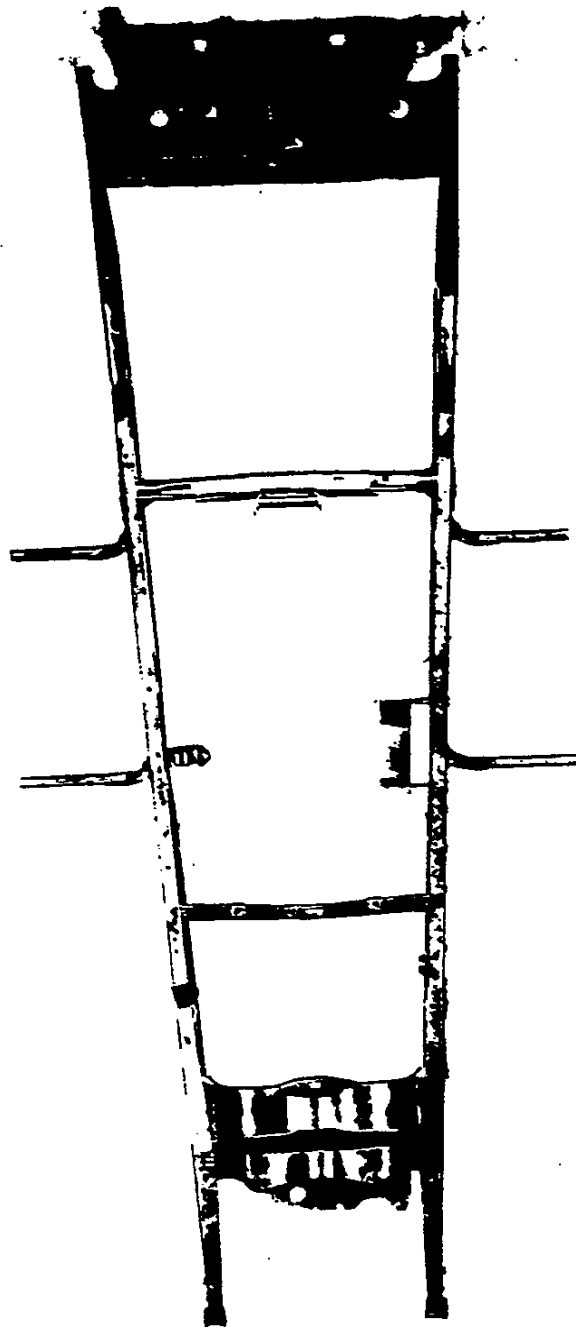
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### FRAME ASSEMBLY

The photographs on the two preceding pages show the frame assembly. The increased strength of this entire assembly over the 1927 design is immediately apparent. The rear motor support, transmission cross member brackets, step hangers, muffler bracket, battery hanger spring brackets and third cross member are of the same general design as on the 1927 models.





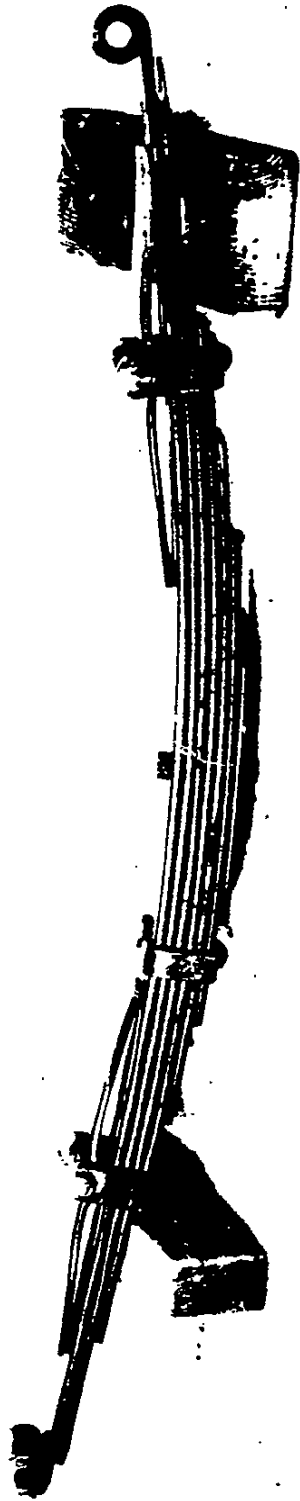


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### EXHAUST SYSTEM

The muffler, exhaust pipe and tail pipe, as shown on the opposite page, are substantially the same as last years' design. The tail pipe, however, is attached at the bottom of the rear muffler head instead of at the top. The tail pipe is flattened in vertical and horizontal planes similar to the 1927 design to break up the flow of exhaust gases from the muffler and further muffle the exhaust.





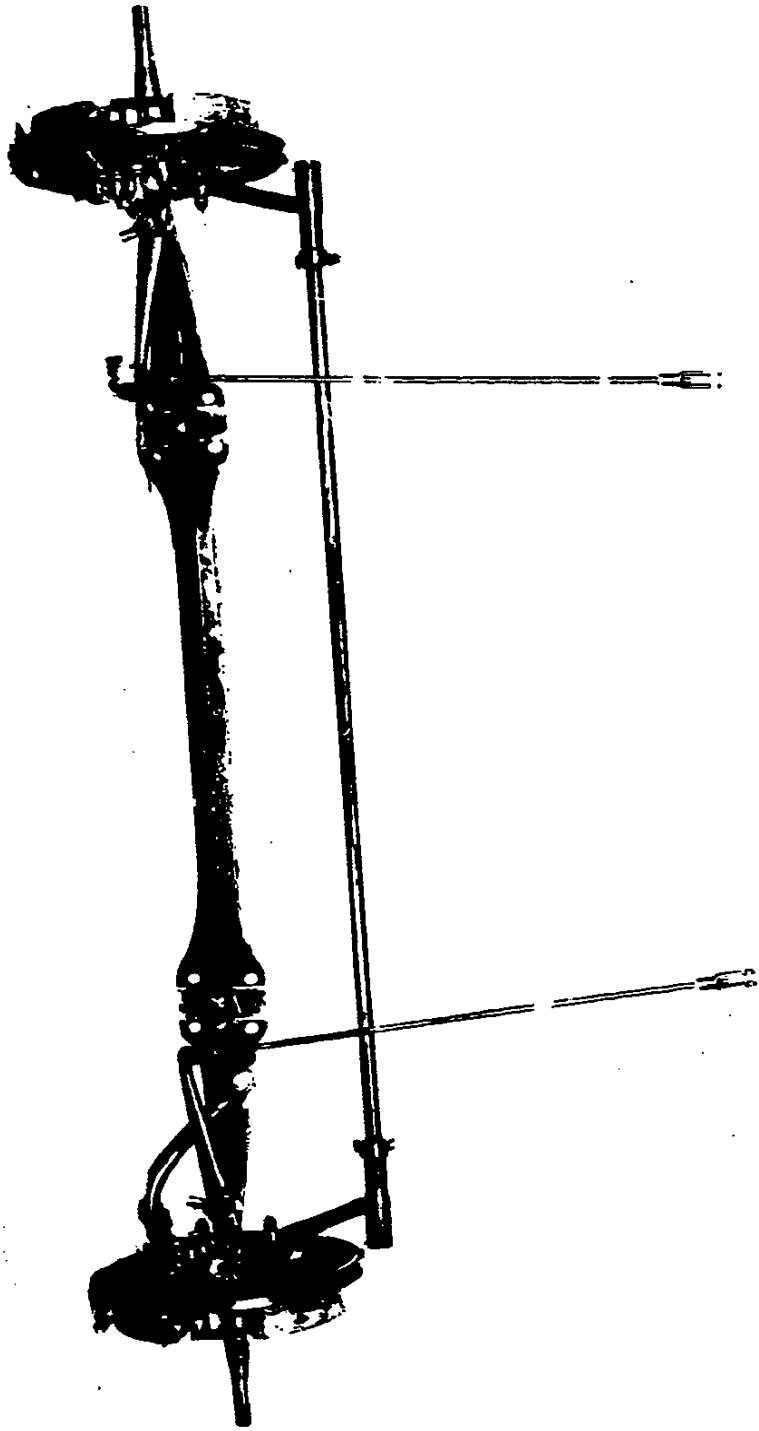


### SPRINGS

The front and rear springs for the 1928 models incorporate snubber plates at both ends as shown in the foregoing photograph. These auxiliary plates are assembled under the rebound clip bolts under considerable pressure which tends to increase the friction between the main spring leaves, damping the normal rebound to a great extent. The spring action is thus made smoother and the riding qualities improved to a marked degree. The spring movement from full load position to bumper position is substantially the same as on 1927 models.

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FRONT AXLE

The front axle design is one of the outstanding features of the 1928 models, involving the addition of front wheel brakes.

The I beam and knuckle design has been changed from the Elliot to the reverse Elliot type, the knuckle bearing on the king pins below the I beam.

After a careful study of the front wheel brake problem the internal expanding shoe type of brake was adopted. This type of brake insures the most complete protection possible against the entrance of water and mud to the operating surfaces, since the lubricating effect of the former reduces braking efficiency and the grinding effect of the latter rapidly cuts both the drums and linings.

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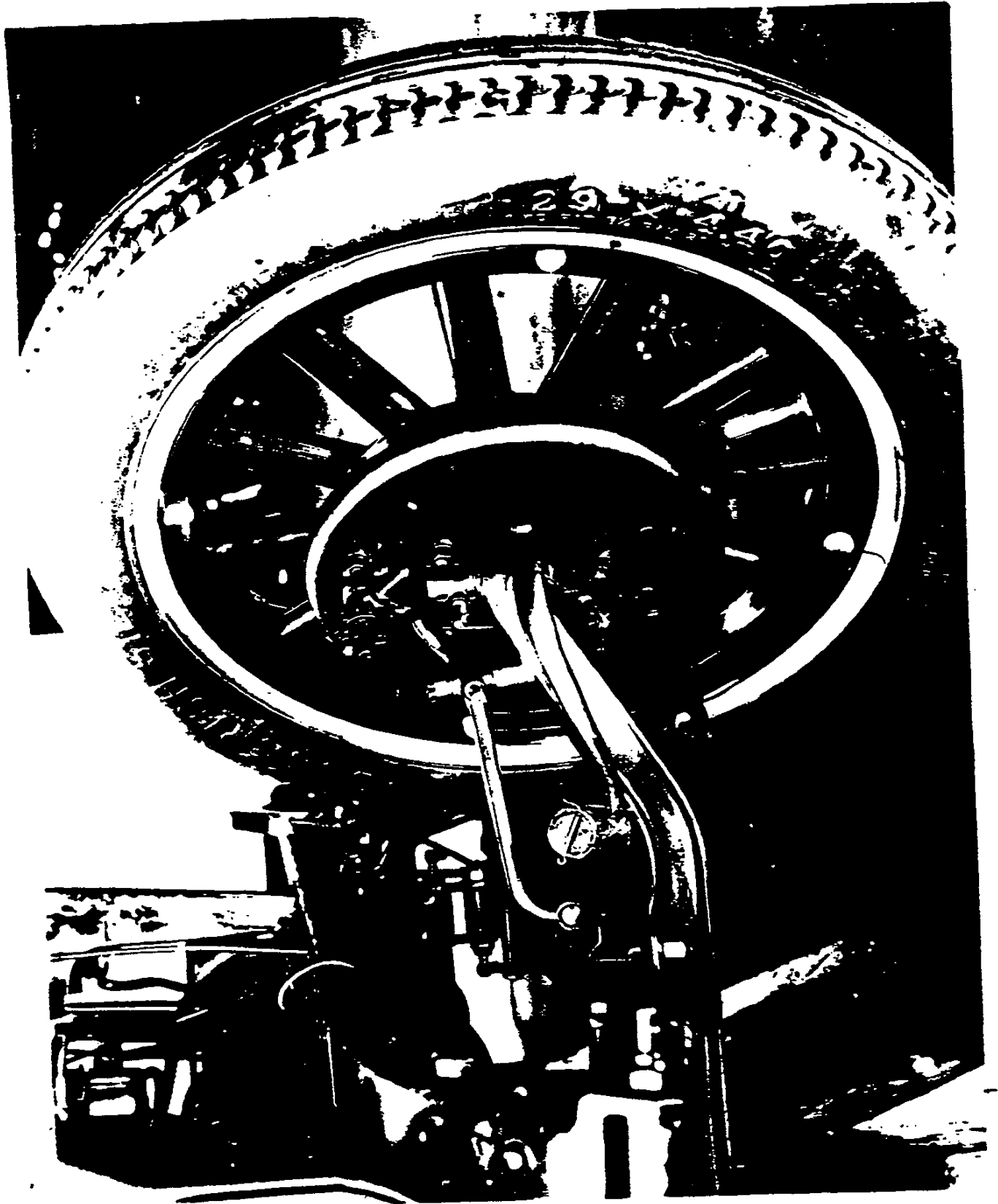
FRONT AXLE (Continued)

Complete closure against these elements is accomplished by a curved flange on both the drum and the backing plate. The knuckles are provided with rectangular flanges against which the backing plates are bolted, fitting closely over the spindles.

The four brake shoes are interchangeable and very rigid, being stamped in channel section halves and welded together by the Metropolitan process, producing a tapered box section. The rollers are mounted on clevis pins which bear in flanged holes in the shoes. The lining is secured by rivets, the heads of which are accessible through windows stamped in the side walls of the shoes.







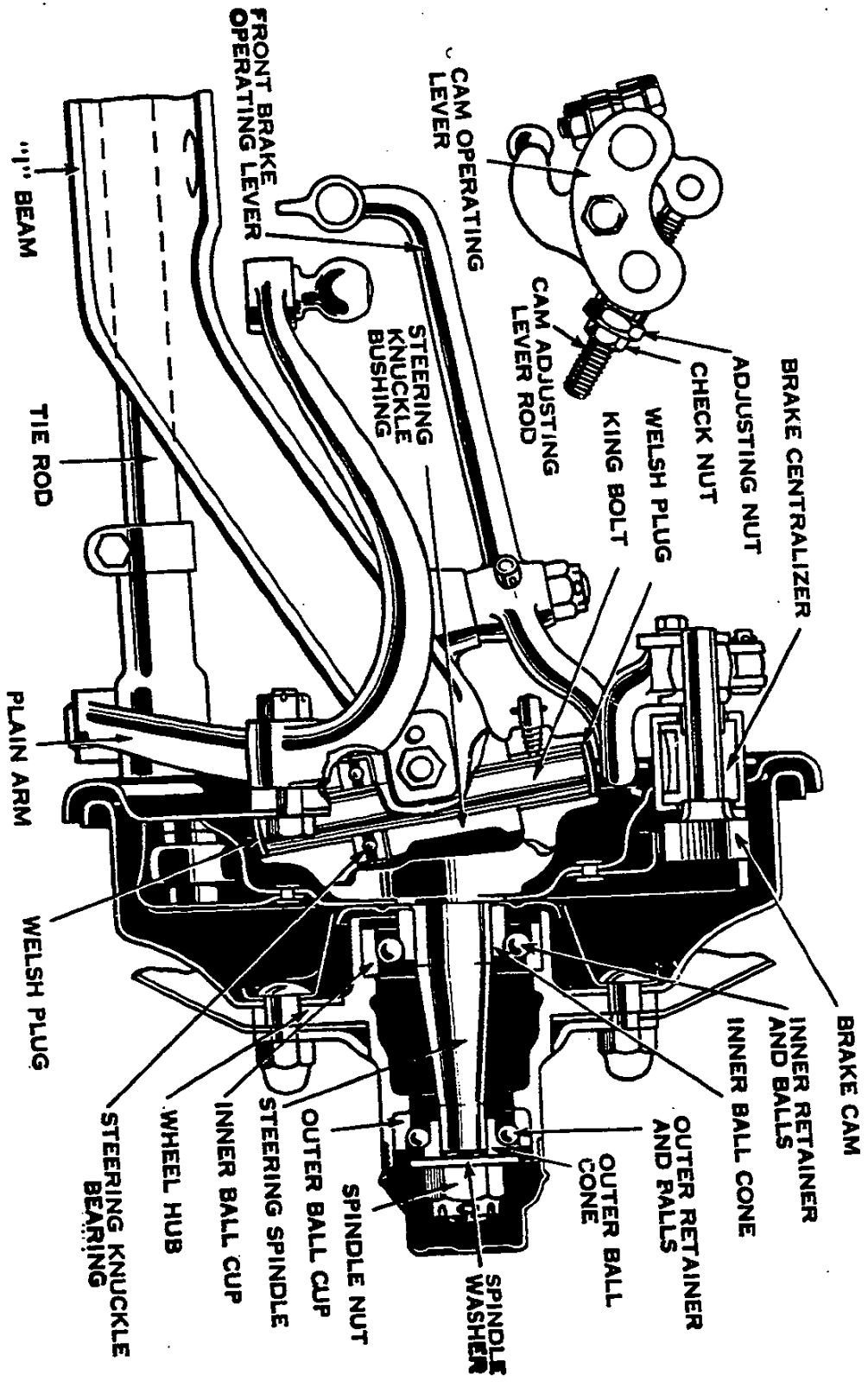
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FRONT AXLE (Continued)

The shoes are pivoted on clevis pins which bear in a clevis-like structure formed by a stamping riveted to the backing plate, both of which are flanged for increased bearing surface.

The shoes are operated by a floating cam of the constant acceleration type which bears in a centralizer of the trunnion type. The brakes are actuated by a ball-end lever pivoted on the I beam and adjusted by means of a micrometer screw and lever which rotate the cam in relation to the ball-end lever, maintaining the original position of the latter. The mechanical advantage is maintained throughout the various stages of lining wear.





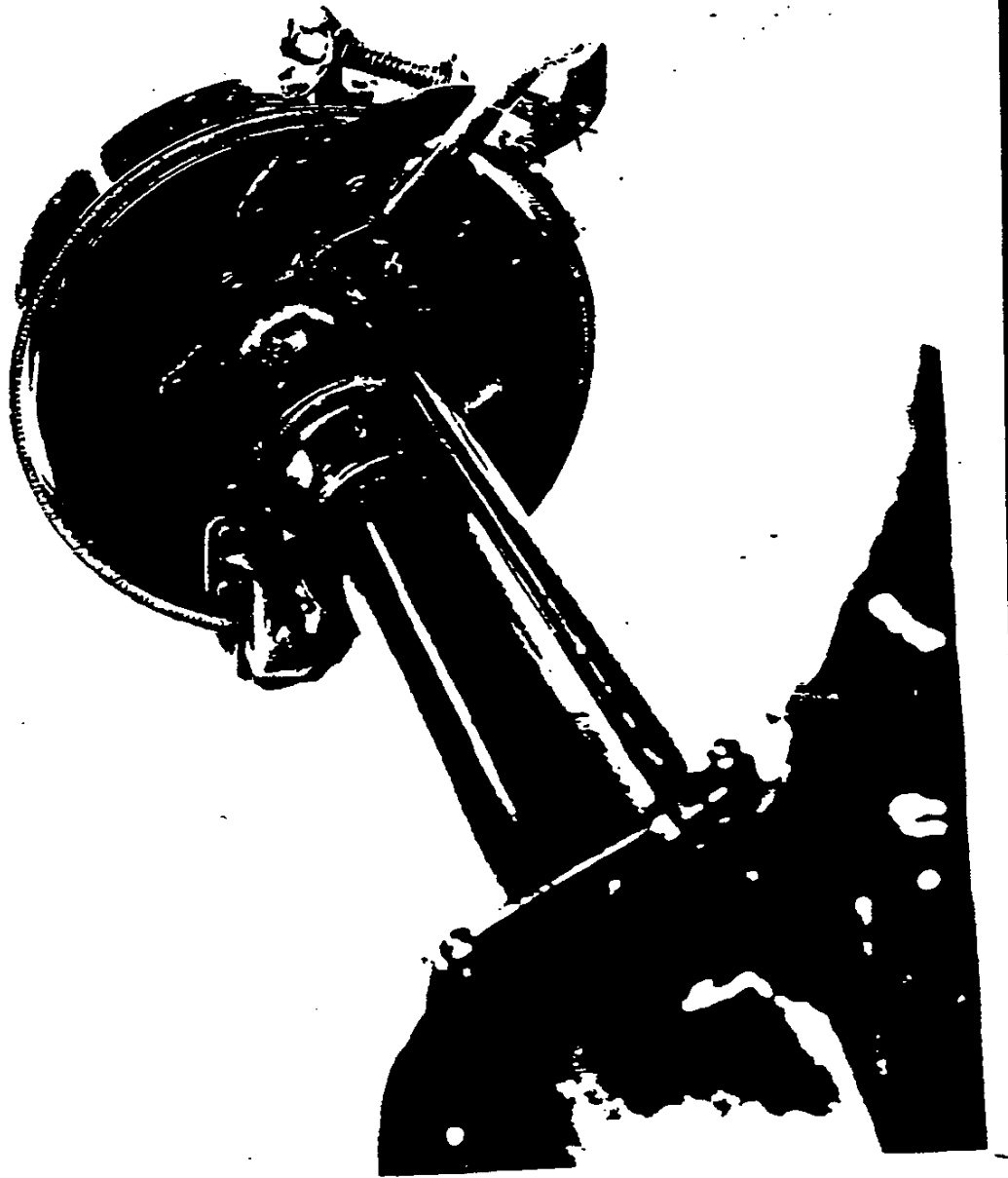


FRONT AXLE (Continued)

The king pins have been increased in diameter from  $9/16$  to  $3/4$  and the bronze washer type of thrust bearings have been replaced by ball thrust bearings below the I beam, which reduce the steering effort.









REAR AXLE

The rear wheel service brakes are of the external contracting band type, the design of which has been considerably improved.

The rear service brakes are actuated by Tirken type levers which eliminate the service brake cross shaft, reducing the unsprung weight of the rear axle.

The emergency brakes are of the internal expanding shoe type of the same design as on the 1927 models. This brake set up provides four separate brakes for service use as well as two independent brakes for emergency and parking purposes.

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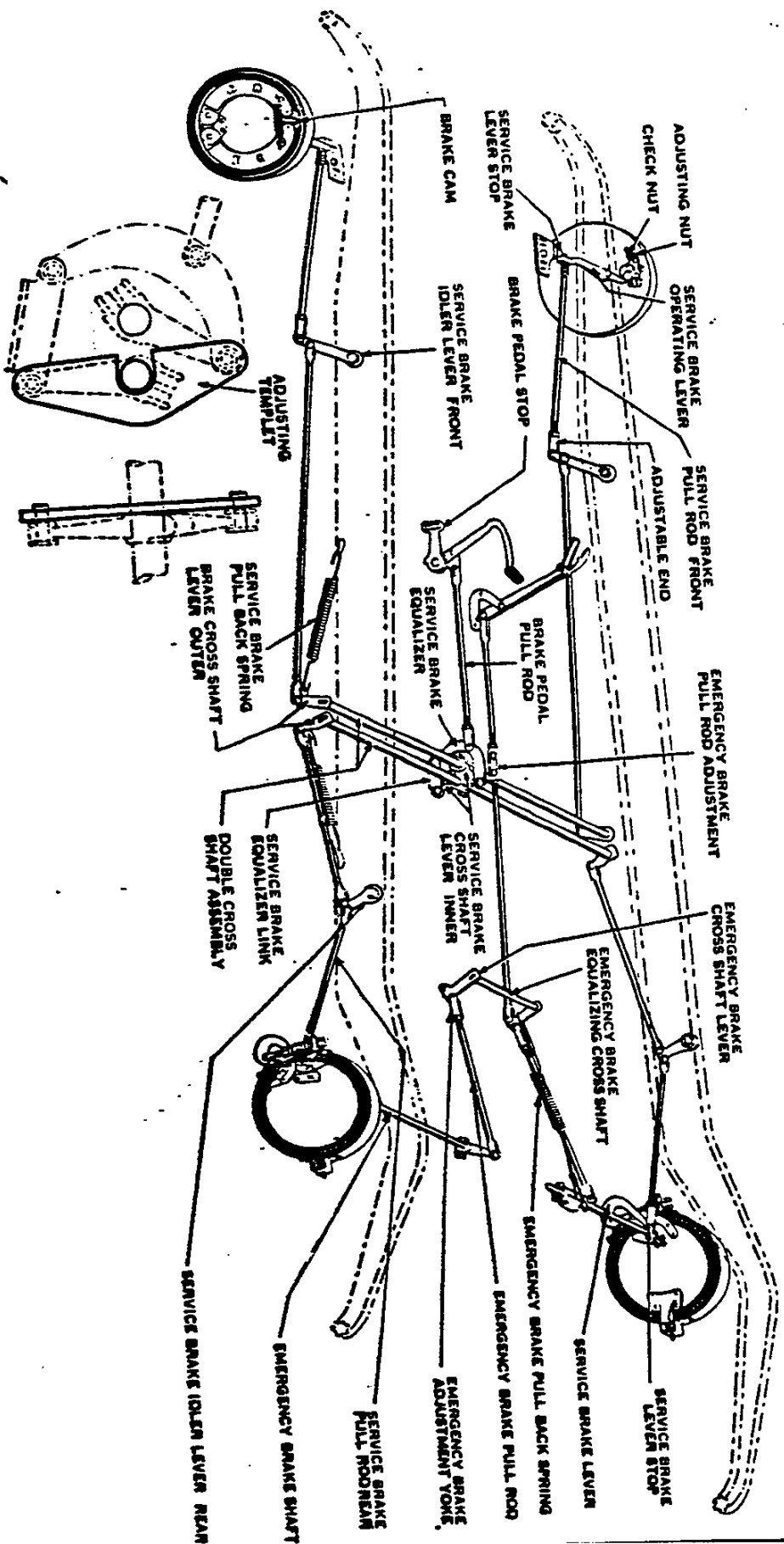
### BRAKE CONTROL

The front and rear service brakes are operated by the foot pedal, which is connected to the proportioner link on the brake cross shaft as shown on the preceding picture. The proportioner link is connected to levers on the two shafts which rotate the levers at their ends. Rods connect these levers with idler levers front and rear on both sides of the car, from which the brakes are operated by rods.

The cross shafts are mounted in brackets with spherical bronze bearings, a brace at the middle resisting bending of the shafts.

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BRAKE CONTROL (Continued)

This proportioning system is intended to maintain the proper ratio between front and rear brake application, the equalization between the brakes on opposite sides of the car being taken care of by the micrometer adjustment on the front brakes and the usual two-point adjustment on the rear service brakes.

The internal rear emergency brakes are operated by the hand lever, which is connected to levers on a rocker shaft mounted on the third cross member. From these levers, rods connect to levers on the rear axle cross shaft.

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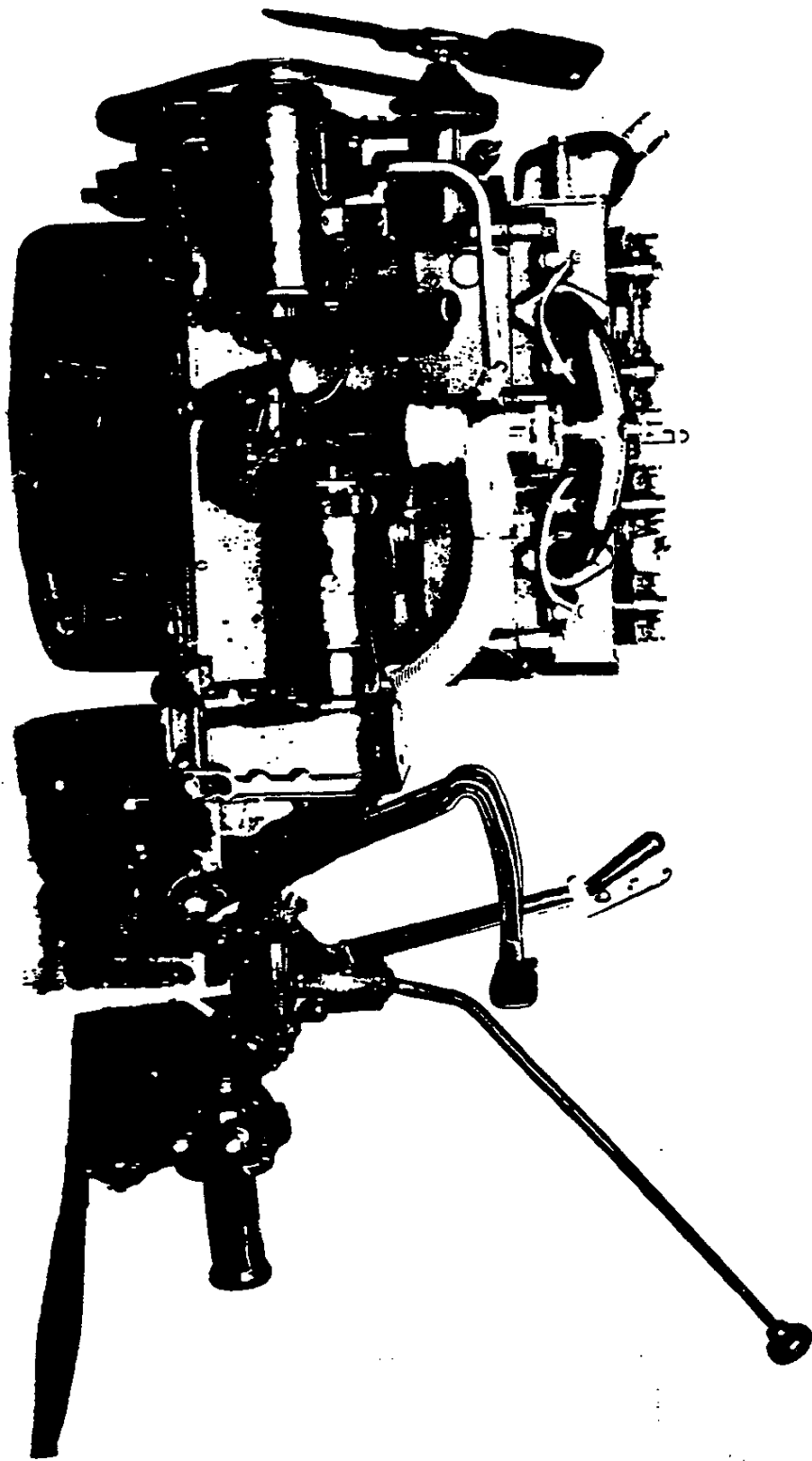
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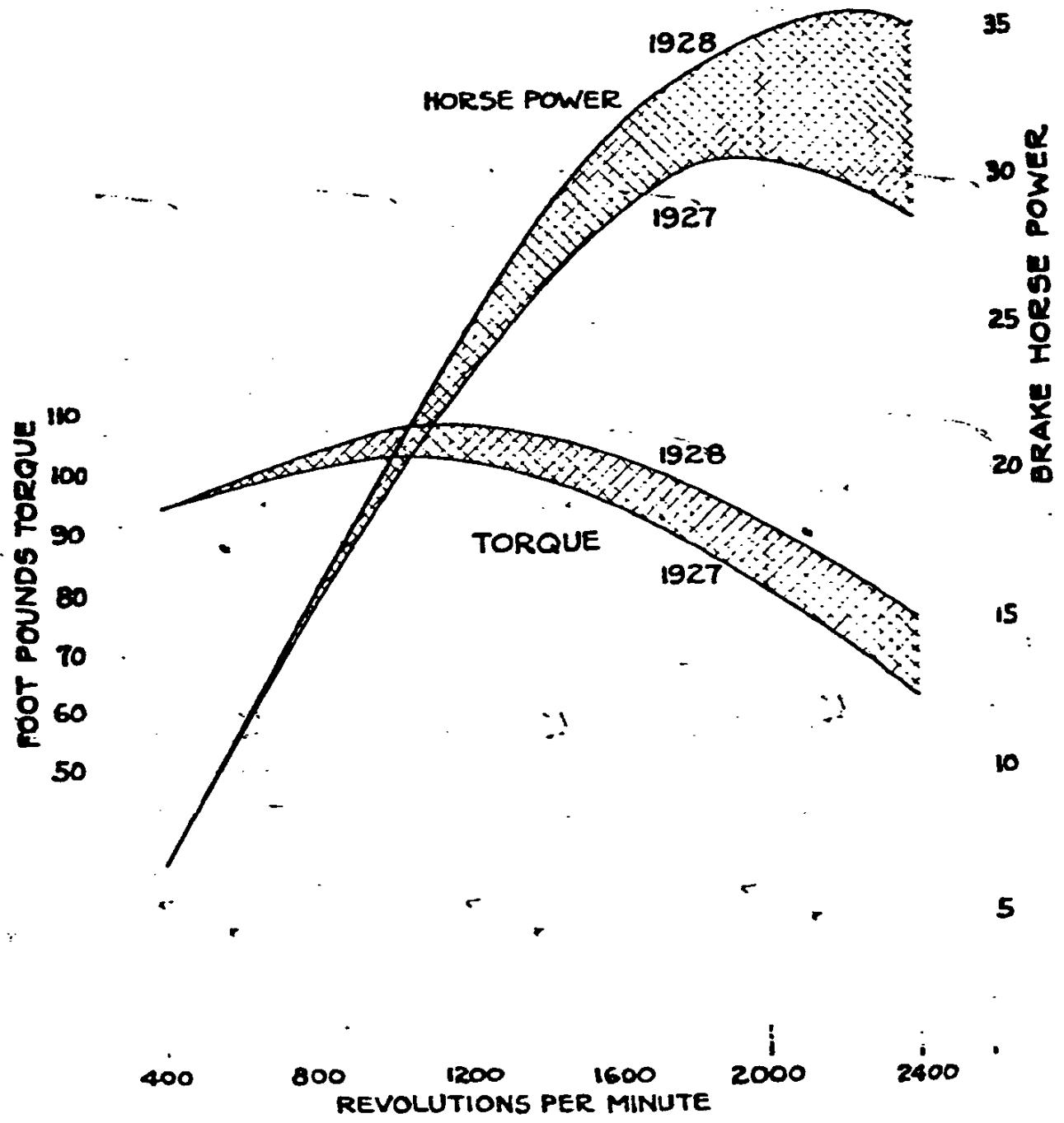
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# COMPARISON OF HORSE POWER AND TORQUE





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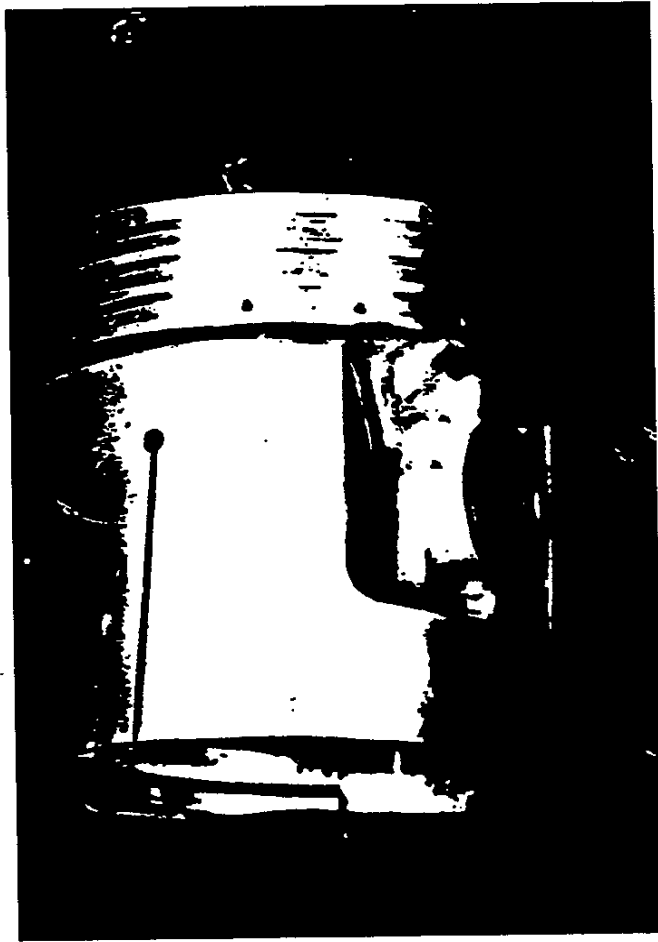
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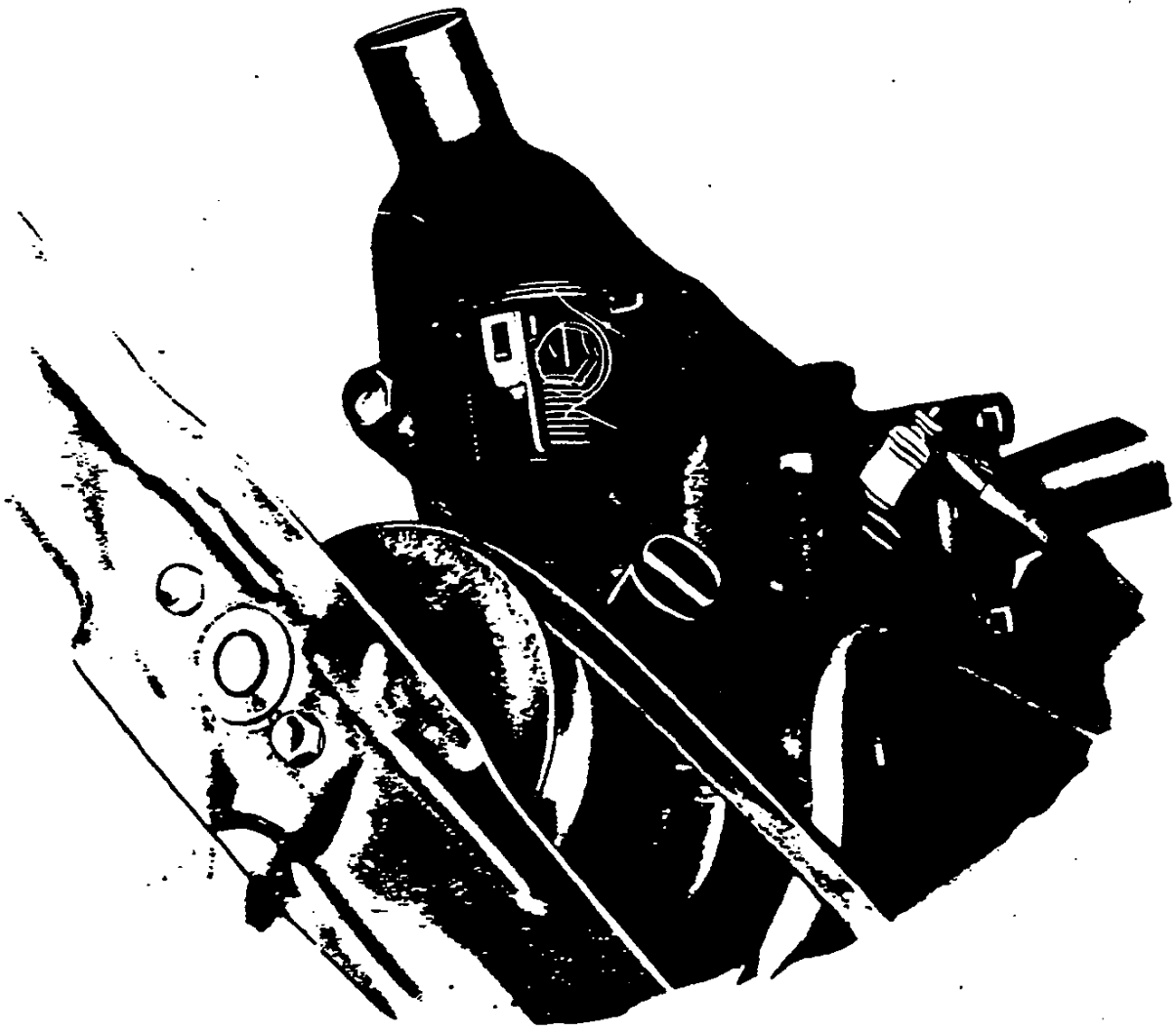
### ENGINE

The 1928 engine is considerably more powerful than the 1927 job, delivering 35 horsepower at 2200 revolutions per minute. This increased power is developed by virtue of a larger intake manifold, increased valve lift and different carburetor jets. Comparative power and torque curves are shown on the preceding page.

The cams and mushroom tappets have been redesigned for quicker opening of the valves. The push rods have been housed under two stamped covers, which tend to improve the engine appearance. The crankshaft gear has been changed from cast iron to fabric.

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ENGINE (Continued)

The pistons in the 1928 engines are of Bohmalite Aluminum Alloy with Invar struts cast in place. These struts are made of a high nickel alloy having a very low co-efficient of expansion. Their structure and position prevent transverse expansion of the piston due to high temperatures. The use of these pistons permits an increase in compression ratio from 4.33 to 4.5 to 1 and has considerable effect on the reduction of engine vibration. Constant clearance between pistons and cylinder bores is maintained.

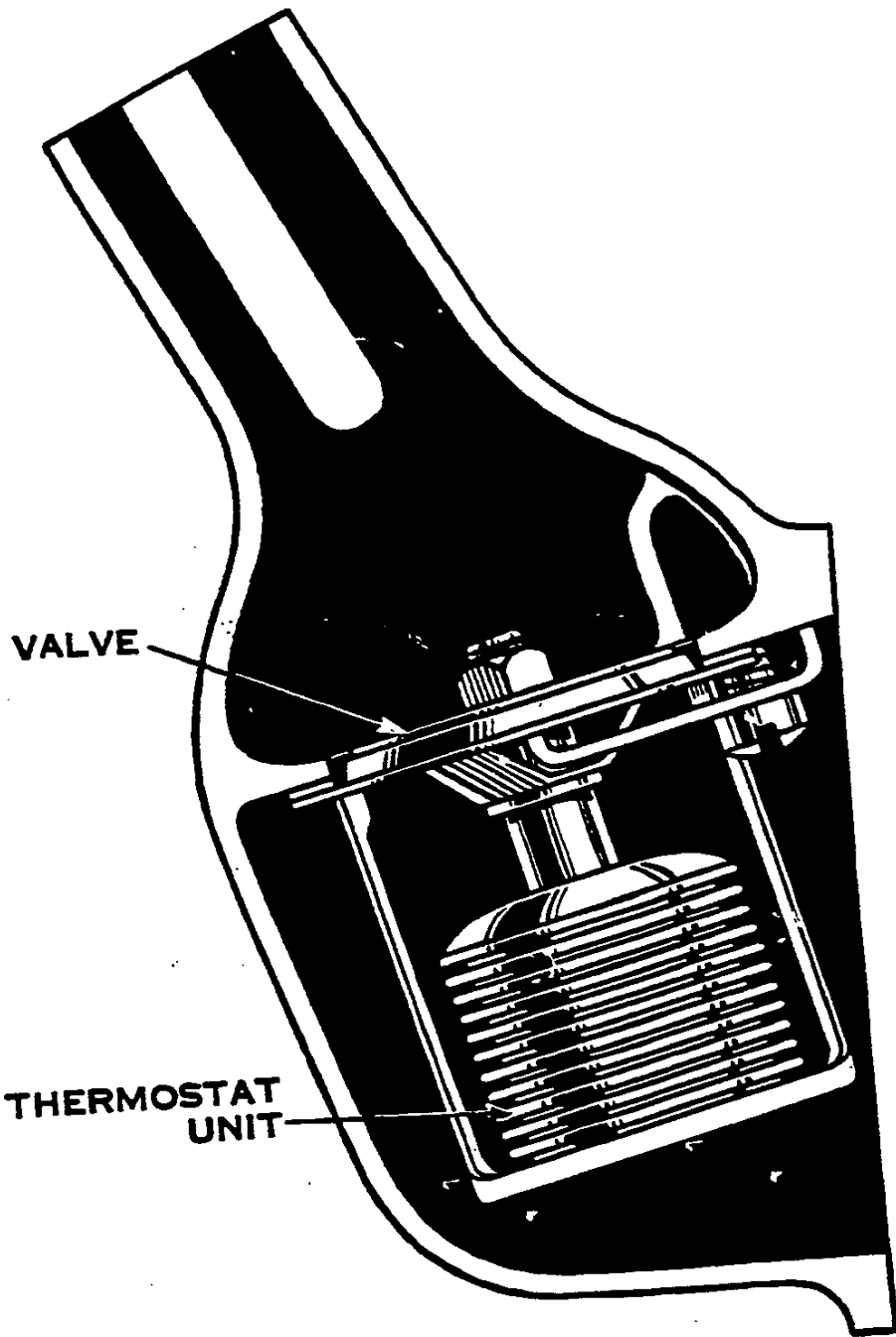
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VALVE

THERMOSTAT  
UNIT



ENGINE (Continued)

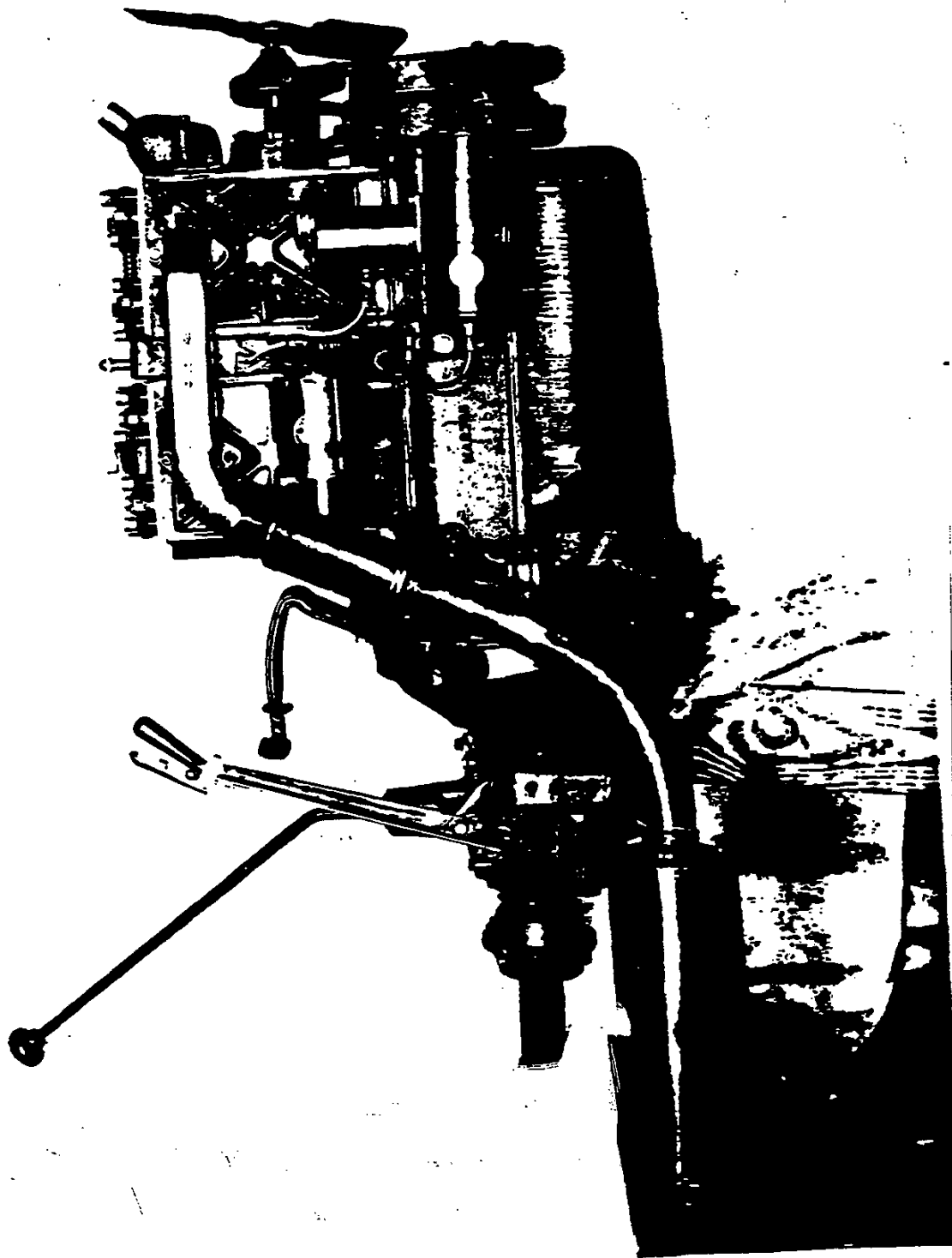
Considerable attention has been given to temperature control and as a result a thermostat has been introduced into the engine water outlet fitting. Two types of thermostats are used optionally, one being operated by a siphon and the other by means of a bi-metallic unit. In either case a valve closes the inlet passage to the radiator permitting no circulation of water until a predetermined water temperature causes the valve to open gradually, allowing a quantity of water to circulate. When the water reaches a temperature sufficiently high to permit the engine to function most efficiently the valve opens completely permitting full water circulation. This temperature control causes the engine to warm up more quickly and maintains a more uniform operating temperature. The siphon type of thermostat is shown on the opposite page.

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ENGINE (Continued)

To further improve the thermal conditions, the fan has been shrouded with a sheet steel shroud which tends to make more of the radiator core area effective for cooling the jacket water. This effect is particularly advantageous at low speed under full throttle conditions.

The cylinder head has been redesigned to permit the use of an external two port exhaust manifold. This construction reduces the amount of heat which must be dissipated by the jacket water in the cylinder head, and a reduction in cylinder head breakage due to the addition of cold water to a hot engine is a certain result.

The capacity of the cooling system has been increased to 8.375 quarts to insure ample cooling.

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ENGINE (Continued)

At high engine speeds there is a tendency to blow oil fumes out through the breather pipe. To obviate this condition the conventional breather tube has been sealed by a solid cap and is now used only as an oil filler pipe, and a tube is introduced into the front compartment of the crankcase and connected to the carburetor air inlet passage.

The intake suction causes a slight depression in this line, which sucks the crankcase vapors into the intake manifold. A baffle is cast in the front crankcase compartment to prevent liquid oil being sucked out of the crankcase. Due to the removal of vapors, crankcase dilution will be reduced considerably.

The front crankshaft bearing has been increased in length and the front and center crankshaft bearings have been increased both in length and diameter to insure longer life.

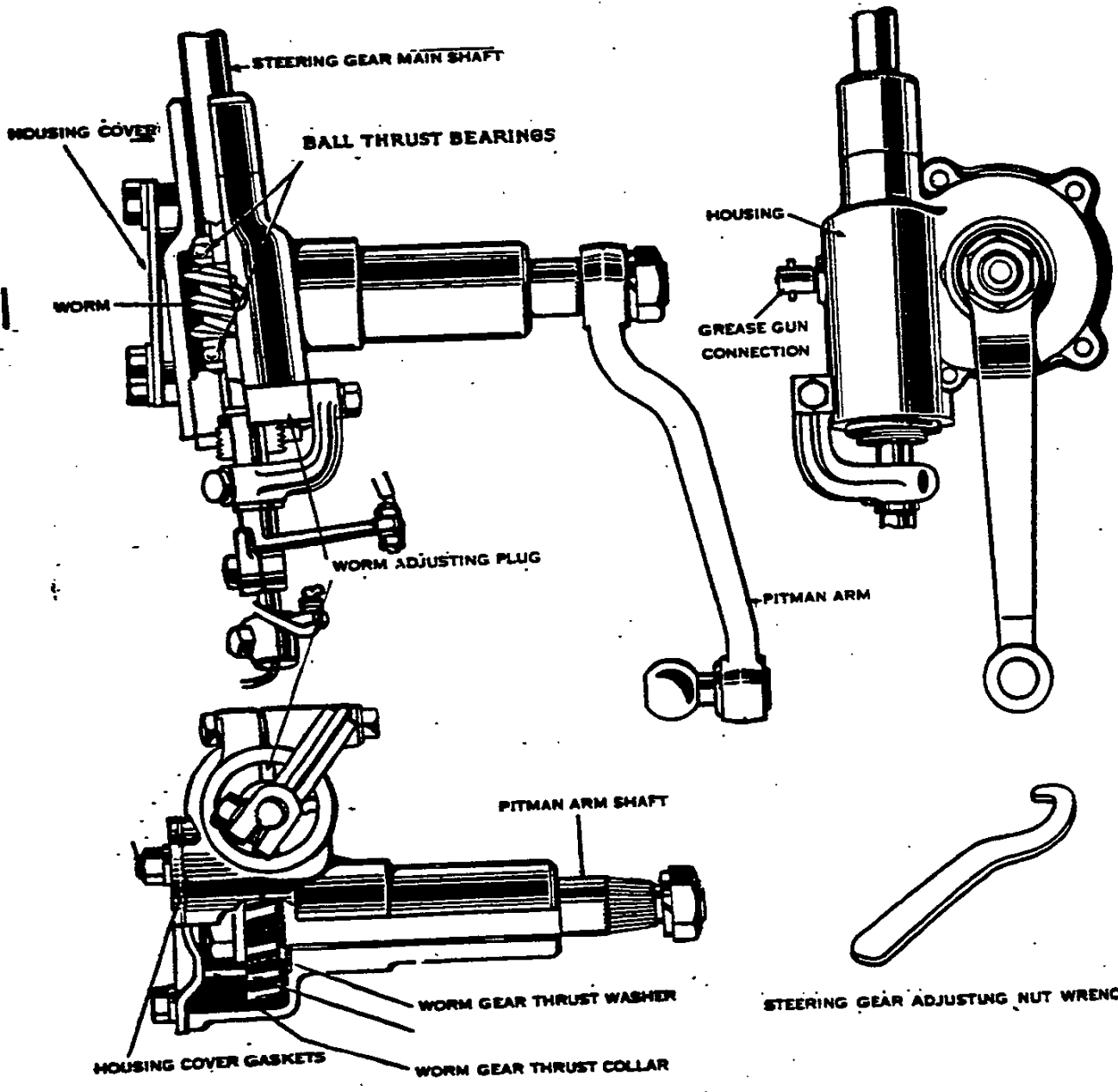
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CLUTCH

The clutch and brake pedals have been changed in section and design, the pads being forged integral with the shank, and the shank stiffened considerably. The integral pads improve the appearance and are more comfortable to the feet.







STEERING GEAR

The steering gear has been improved to a marked degree, the ratio being increased to 9.5 to 1, to reduce the steering effort. The steel and bronze washer thrust bearings have been replaced by ball thrust bearings above and below the worm. This feature will also have a marked effect on steering effort.

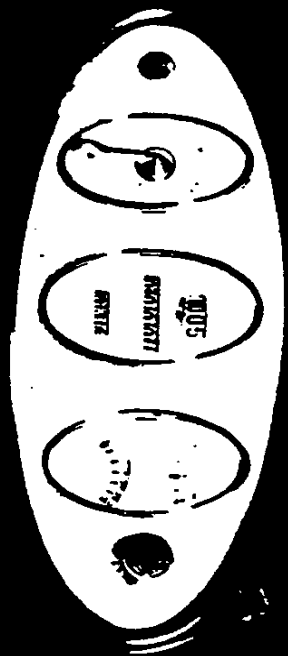
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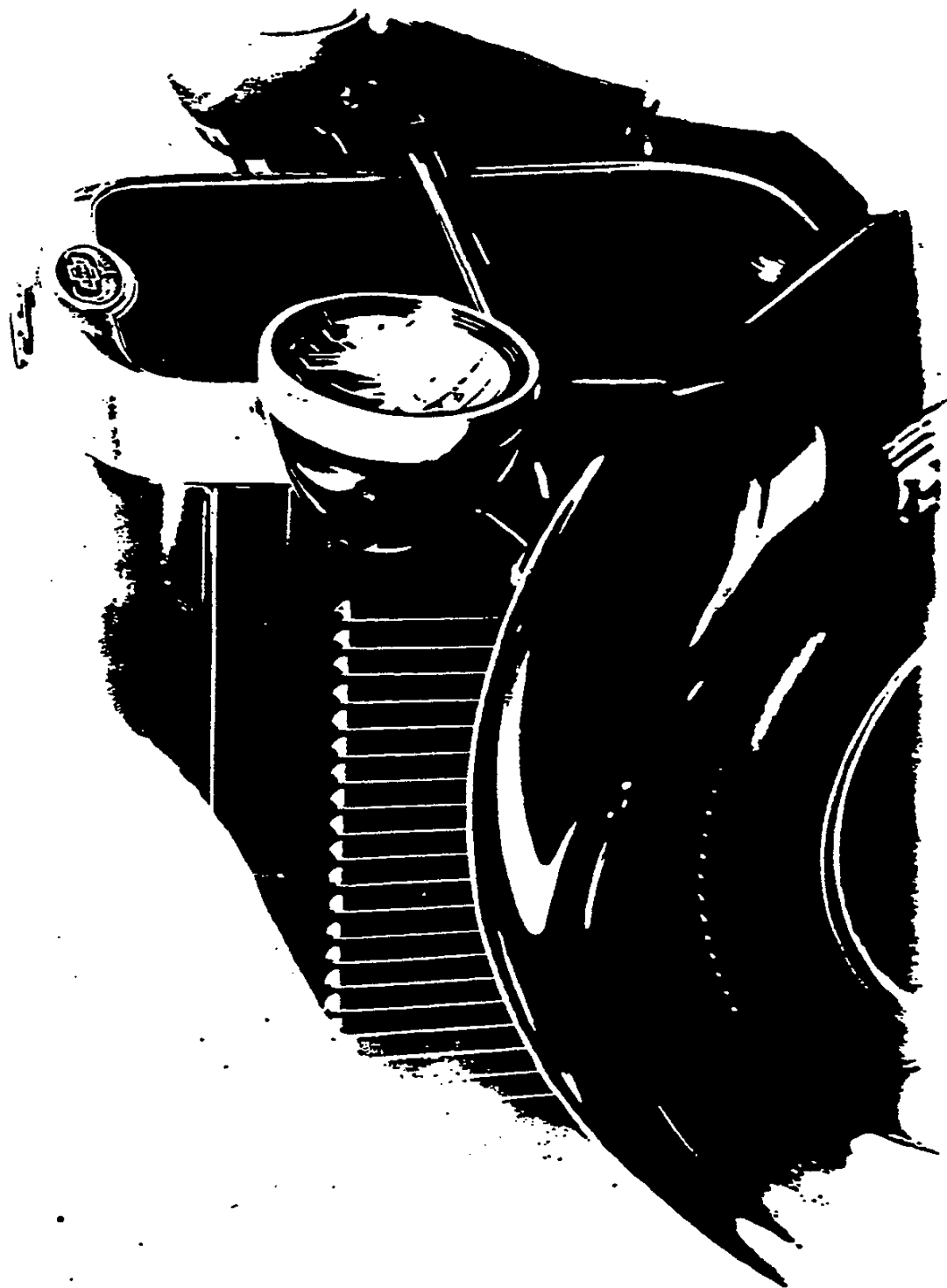


### CONTROLS

The 1927 design of spark and throttle controls located at the center of the steering wheel has proven very effective and is being retained in the 1928 models.

The choke button has been moved to the right hand side of the instrument panel and is considerably larger in diameter, presenting a more pleasing appearance and a better grip.





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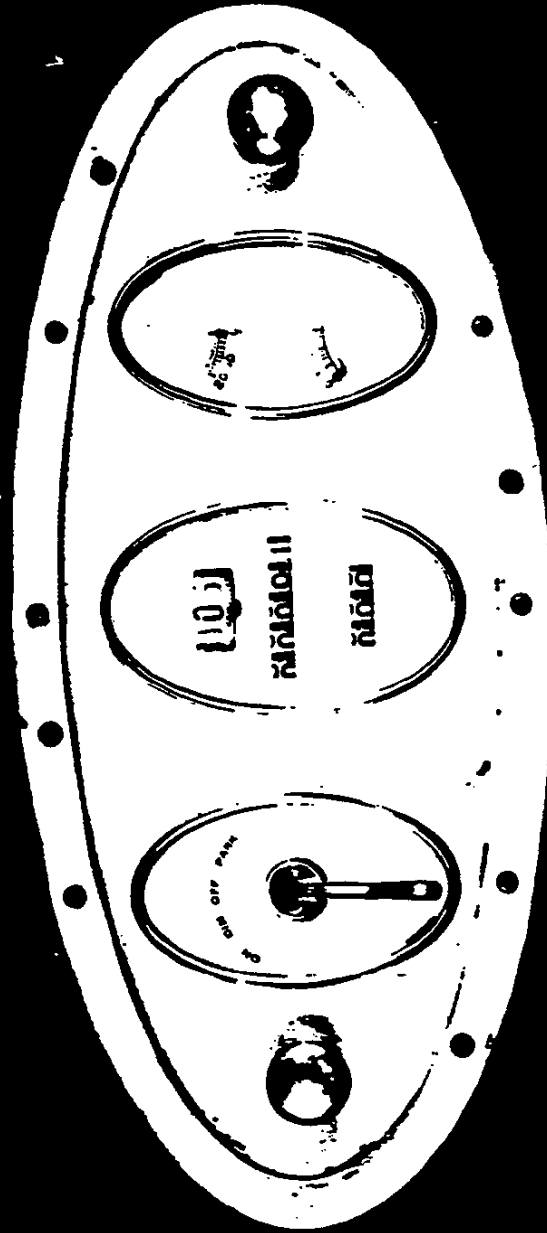
WHEELS AND TIRES

The tires on the 1928 models have been increased from 29 x 4.40 to 30 x 4.50 to insure longer life and improved riding qualities. The rims have been increased in sectional width to insure greater tire resiliency by obviating the possibility of cracking the side walls.

New design tire valve caps have been adopted, eliminating the dust cap for better valve accessibility.







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SHEET METAL

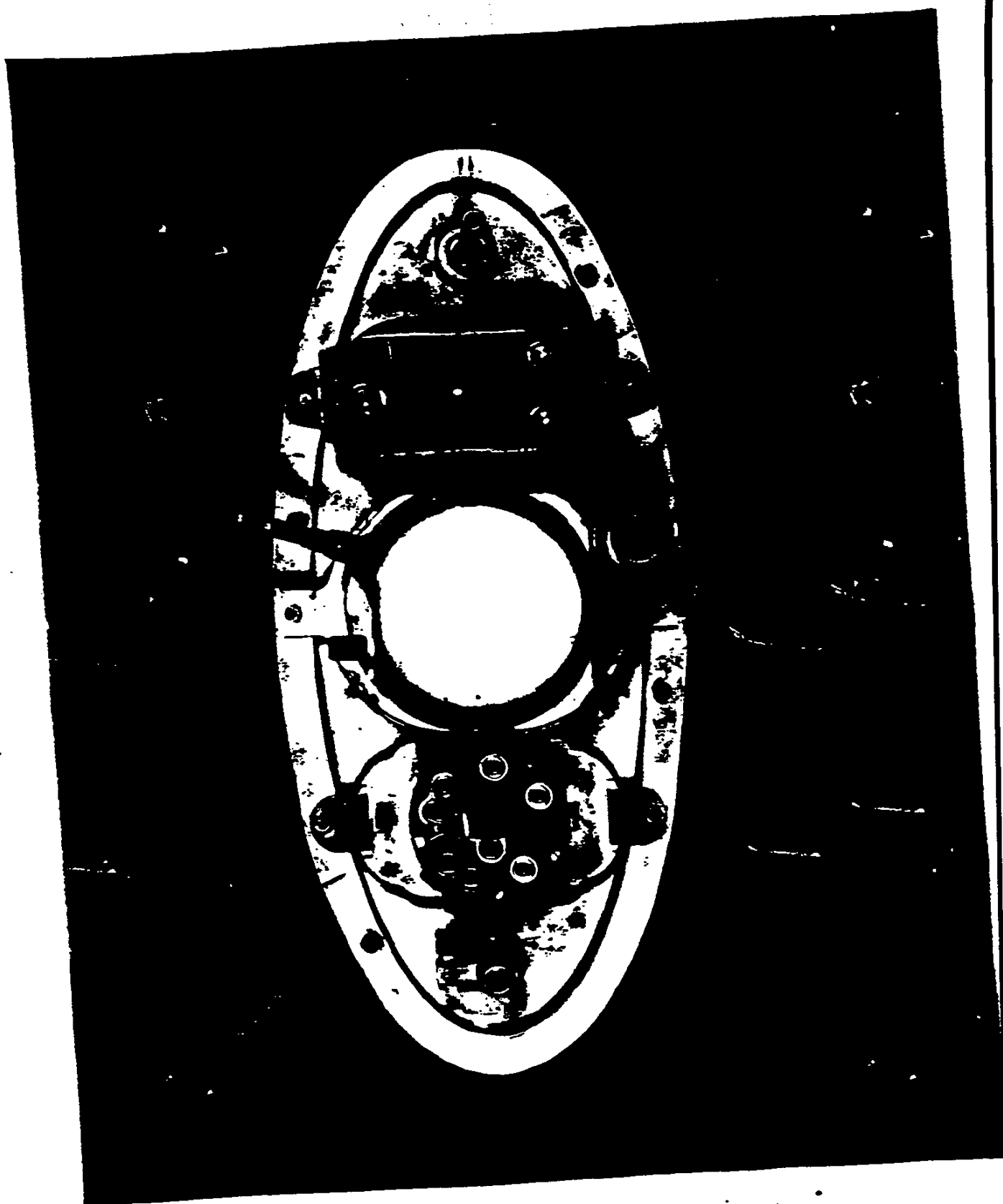
The appearance of the 1928 models has been improved to a remarkable extent by increasing the length of the hood. The increase in height is also advantageous in this respect. The full crown fenders have been retained and the running board with rubber molded over the edge and the paneled apron have been lengthened about 4". These features also tend to improve the appearance.



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### ELECTRICAL EQUIPMENT AND INSTRUMENTS

The instrument arrangement and mounting has been entirely redesigned, resulting in a very beautiful effect. All of the instruments are mounted on an elliptical panel of graceful shape with a beautiful mottled finish. On this panel all the instruments are grouped, each having the same graceful elliptical contour and faces of ivory Duco finish. Each of the instruments is framed in a beautiful chrome plated bezel ring. The Speedometer is in the center with the switch at its left and the ammeter and oil gauge at its right.







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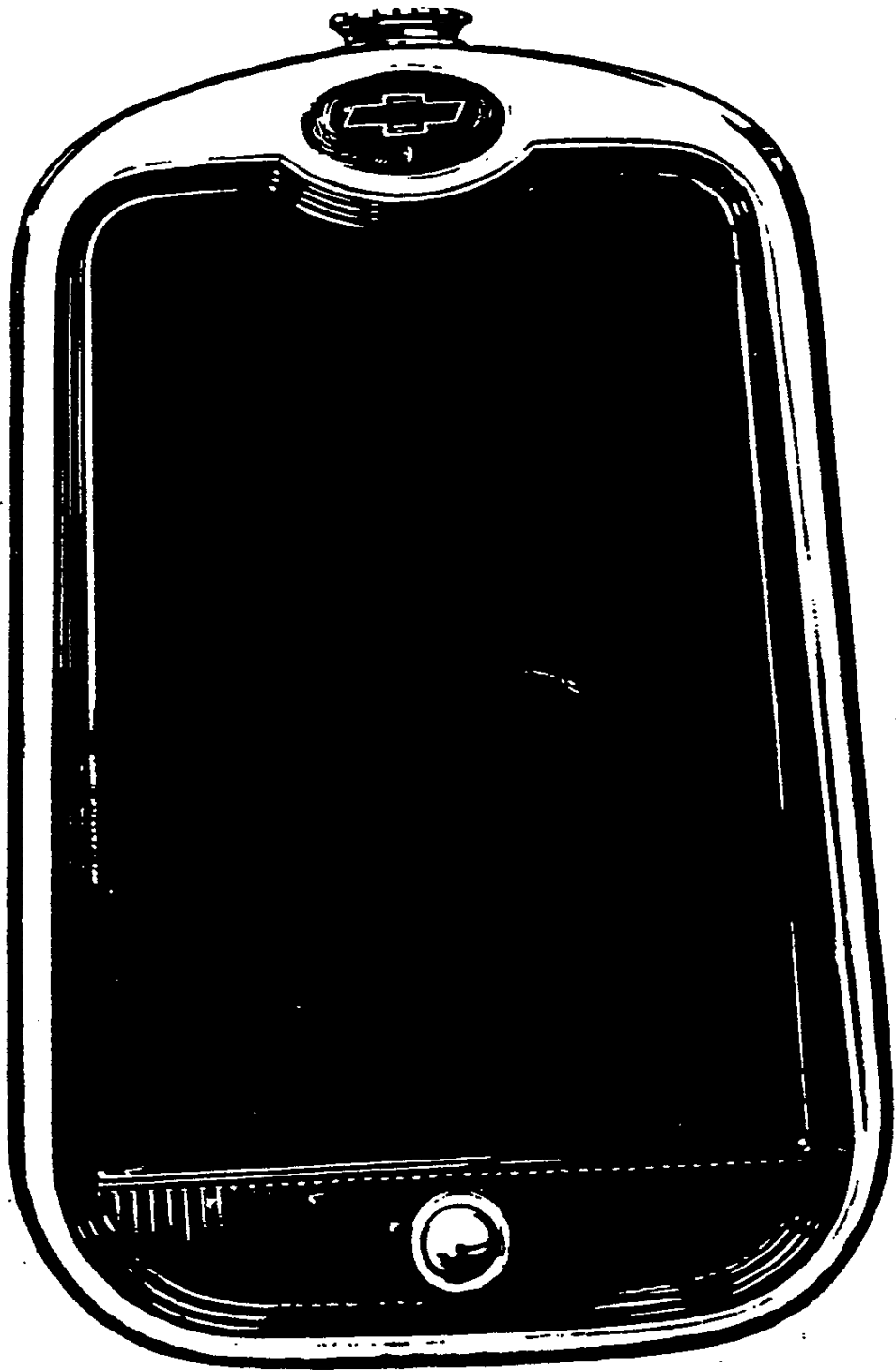
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ELECTRICAL EQUIPMENT AND INSTRUMENTS (Continued)

The instruments are riveted on the back of the instrument carrier and the whole assembly is bolted to the instrument panel of the body by means of ears punched integrally out of the latter. This results in a very neat mounting with no screws showing from the front side.

The dash light is concealed on the back of the instrument panel, throwing light indirectly on the faces of the instruments through slots in their casings. The body of the speedometer is painted white to reflect additional light through the openings.







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ELECTRICAL EQUIPMENT AND INSTRUMENTS (Continued)

The headlamps are of modified "bullet" design as heretofore and are finished with black body and polished aluminum alloy rim. The diameter of the rim has been increased to harmonize with the new radiator appearance.

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RADIATOR (Continued)

A corrugated black enameled insert is introduced inside the shell, which in addition to enhancing the beauty of design, functions as a wear member against the core.

The radiator cap is of the popular large, flat design plated to match the radiator finish. The lower panel of the insert has an attractive polished cover for the starting crank hole.

The drain cock at the bottom of the radiator has been relocated to facilitate draining of anti-freeze solutions without loss.

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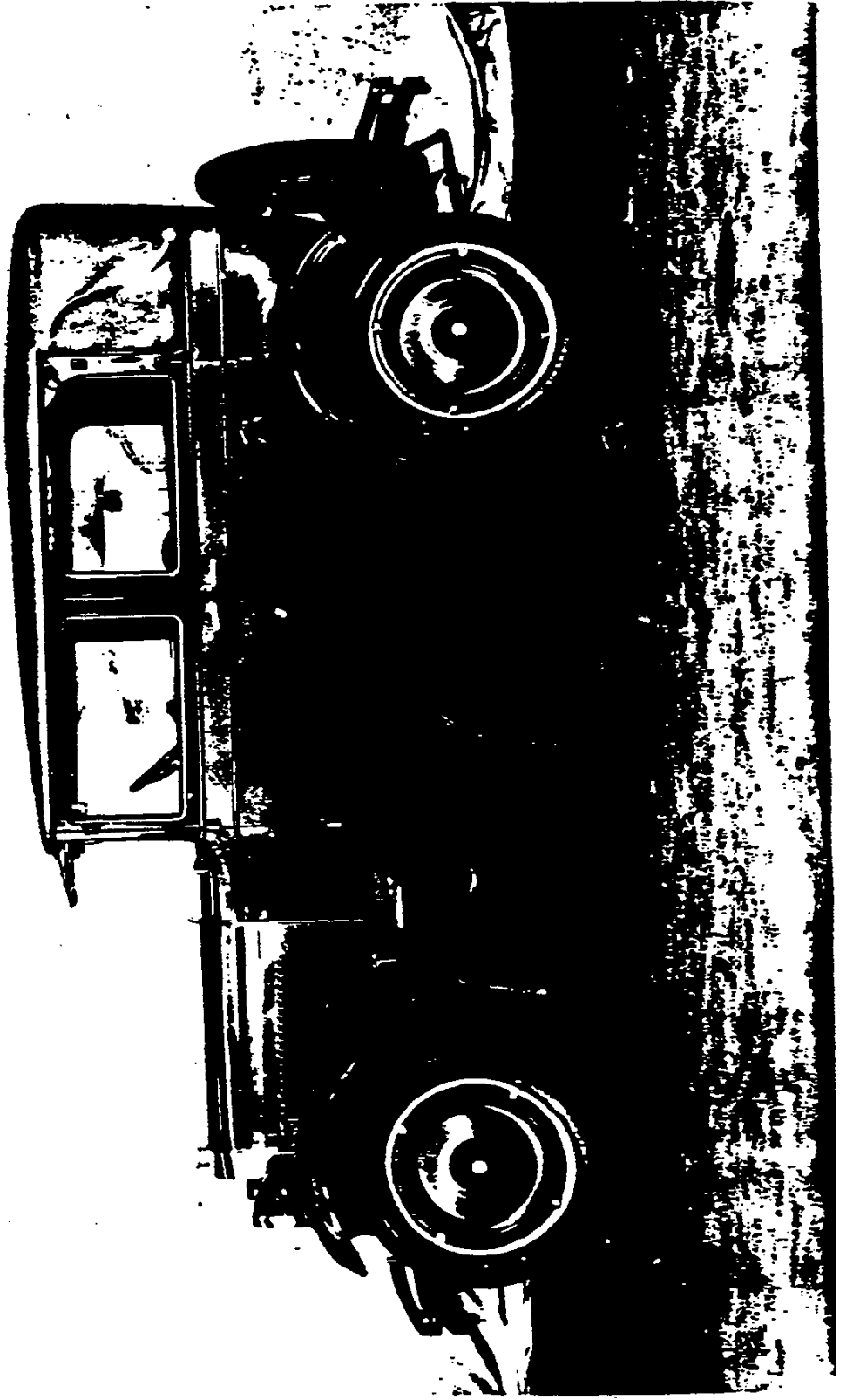
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### RADIATOR

One of the outstanding features of the 1923 models is the beauty of the radiator which even surpasses that of the beautiful 1927 model. The height has been increased and the width decreased. The highly polished aluminum alloy shell is of extremely distinctive shape, and is somewhat deeper. The radiator design centers about an ornamental elliptical panel finished in oxidized bronze on which the blue and white Chevrolet name plate is mounted. The polished shell flows gracefully around this ellipse and reduces in width considerably at the sides and bottom.

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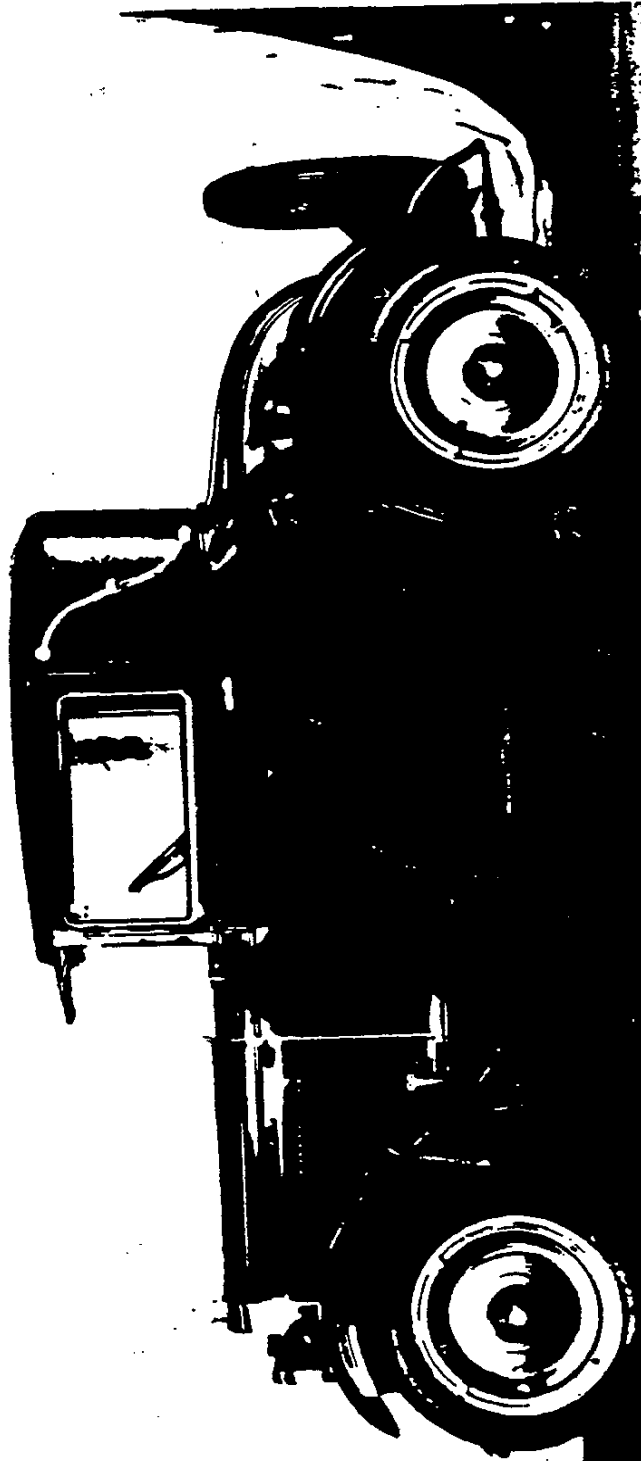




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BODIES

The 1928 line of bodies is the result of months of collaboration by Fisher and Chevrolet engineers. They are beautiful, comfortable and roomy.

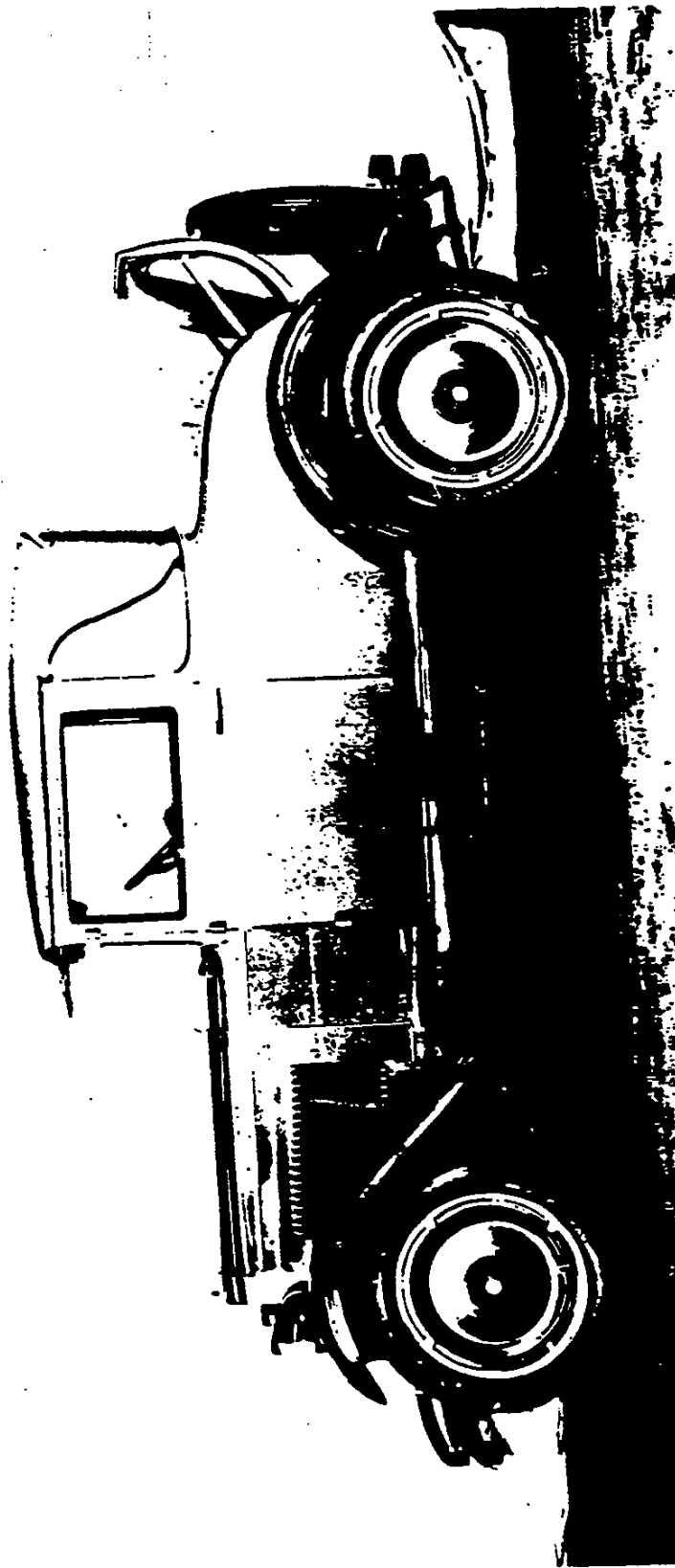
The sedan and coach bodies have been lengthened  $2\frac{3}{4}$ " and 5" respectively. This gives more seat space and leg room, resulting in more comfort and better riding qualities.

The appearance of the sedan and coach has been improved by enlargement of the doors and on all closed models the roof line has been rounded at the sides and rear.

The famous Fisher VV windshield has been adopted on the cabriolet and landau models. And a new and better windshield wiper valve has been adopted on all closed models.

The beautiful paint and trim colors on all models add a touch of quiet distinction.





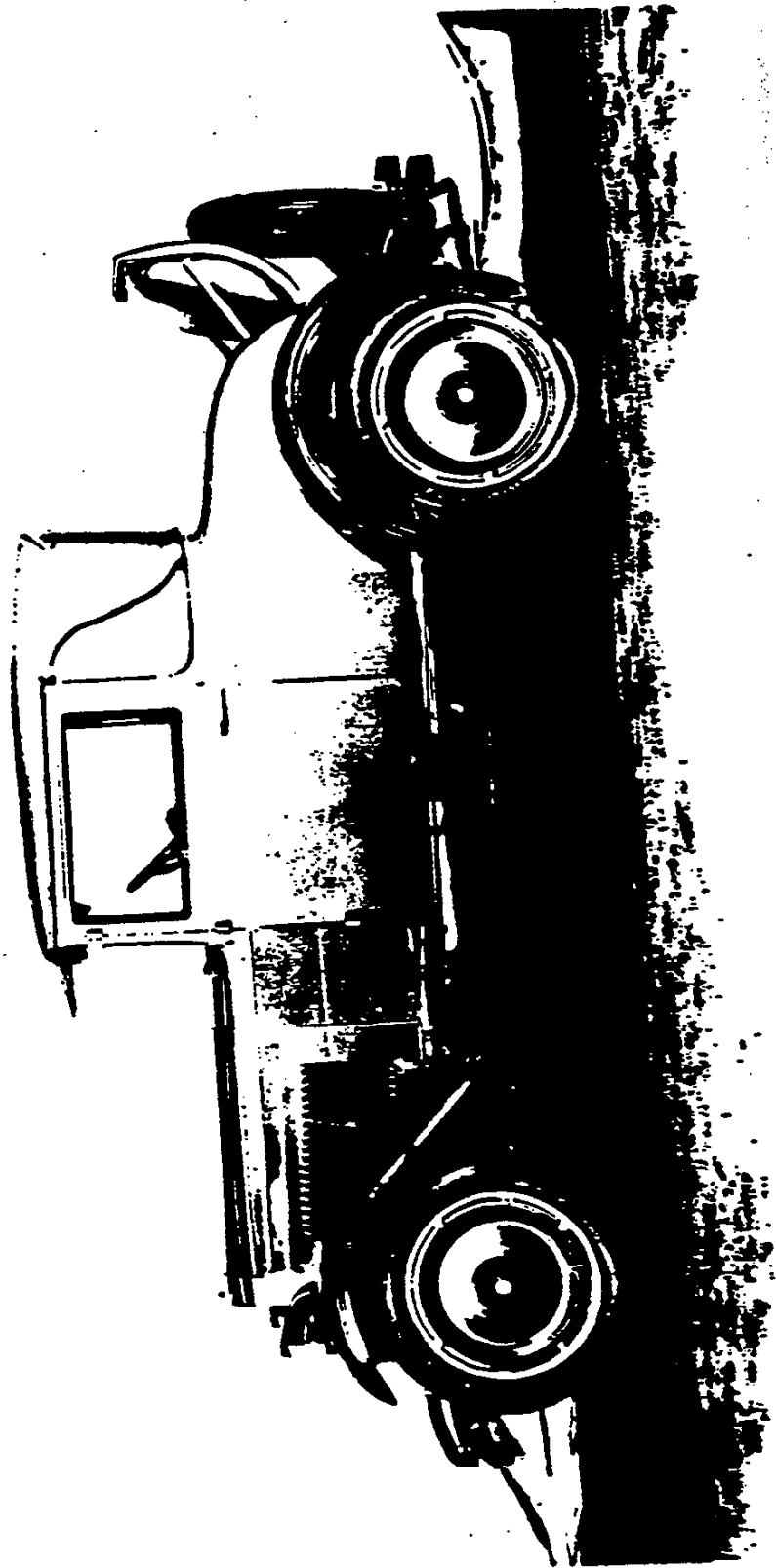


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UTILITY EXPRESS TRUCK CHASSIS

The Utility Express Ton Truck Chassis for 1928 will remain the same as the 1927 job except that all of the engine features incorporated in the passenger line will be adopted with the exception of pistons which will be cast iron.

This truck will still be known as a "Capitol" model.

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### COMMERCIAL CHASSIS

All of the new 1928 chassis features will be incorporated in the commercial chassis with the exception of the radiator which will be of the same shape as on the passenger jobs but finished in black enamel, and the pistons which are cast iron.

In addition to the passenger features already described the commercial chassis will include better appearing tire carrier brackets of much stronger design.

The full crown passenger car fenders will be furnished on the commercial chassis, and the gasoline tank will be mounted under the seat.

