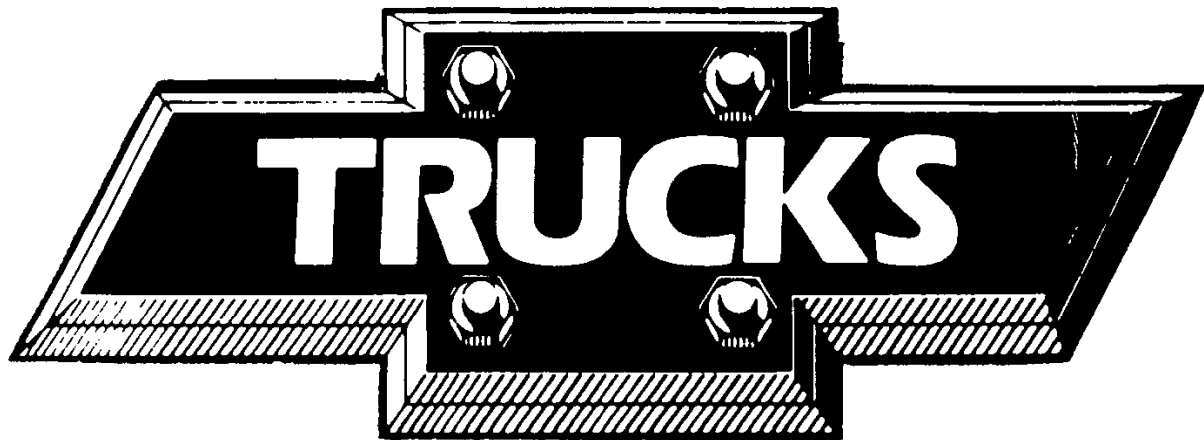


CHEVROLET



1938

CHEVROLET 1938 SPECIFICATIONS

ISSUED TO

U. E. Ball
A-34

Prepared
by
CHEVROLET—CENTRAL OFFICE
ENGINEERING DEPARTMENT
Division of General Motors Corporation
Detroit, Michigan

Lithographed in U. S. A.

MODEL SYMBOLS		
VEHICLE TYPE	MODEL DESCRIPTIONS	SYMBOLS
Passenger Cars	Master Deluxe 112-1/4" Wheelbase DMAS - Abbreviation	HA
	Master 112-1/4" Wheelbase MAS - Abbreviation	HB
	Taxicab 127" Wheelbase TAXI - Abbreviation	O-18
Commercial Type Trucks	Half Ton 112" Wheelbase	Master HC
	3/4 Ton 122-1/4" Wheelbase	Master HD
	One Ton 122-1/4" Wheelbase	Master HE
1-1/2 Ton Utility Type Trucks	131-1/2" Wheelbase Regular tires Single rear wheels	Master TA
	131-1/2" Wheelbase Regular tires Dual rear wheels	Master TB
	131-1/2" wheelbase Extra heavy duty tires Dual rear wheels	Master Special TB
	157" Wheelbase Regular tires Single rear wheels	Master TC
	157" Wheelbase Regular tires Dual rear wheels	Master TD
	157" Wheelbase Extra heavy duty tires Dual rear wheels	Master Special TD
School Bus Chassis	201" Wheelbase Regular tires Dual rear wheels	

10-15-37, 1-21-38 - Taxicab and School Bus Chassis model symbols added.

MODEL SYMBOLS

CHEVROLET 1938 SPECIFICATIONS

9

UNIT SERIAL NUMBERS							
UNITS		PASSENGER CARS			COMMERCIAL TYPE TRUCKS		1-1/2 TON TRUCKS &
		DELUXE	MASTER	TAXI	HALF TON	3/4 TON	SCHOOL BUS CHASSIS
Vehicle		Vehicle serial numbers for each model start at #1001 and continue in numerical sequence. The number is preceded by model letters as follows: HA 1001, HB 1001, TD 1001, etc. (Taxicab & School Bus serial numbers not announced)					
Engine	Numbers	Engine serial numbers start at #1187822 and continue in numerical sequence. The number is preceded by prefix letters designating the various models and plants as shown below.					
	Flint	No prefix			K	AT	T
	Tonawanda	B			KB	ATB	TB
Trans- mission	Numbers	Transmission serial numbers start with #00001 and continue in numerical sequence up to #99999 for each model and plant as indicated by the prefix letters listed below. Each number is preceded by prefix letters indicating the model and plant. When the numbers reach #99999, the numbers start again with #00001 and are preceded by the next alphabetical prefix letter. Examples: SE changes to SF, MV to MW etc. The letters O and Q are omitted.					
	Toledo	Not made here					TC
	Saginaw	SE			SN	Not made here	Not made here
	Muncie	MV			Not made	Y	N
Rear Axle	Numbers	Rear axle serial numbers start at #1004705 at the Gear and Axle plant and at #1001 at Tonawanda, each number being preceded by identifying prefix letters as listed below.					The first axle numbers are TS #66938 at Gear and Axle and TSB 1001 at Tonawanda. When numbers reach TS 99999 and TSB 99999, they start again at TT 1001, TTB 1001, etc.
	Gear & Axle	No Prefix	C	No Prefix F (Opt.)		No prefix	T
	Tonawanda	B	CB	B FB (Opt.)		B	TB
							TS HTS optional

SERIAL NUMBER LOCATIONS

VEHICLE SERIAL NUMBER

Stamped on plate under hood on right side of cowl panel.
(Taxicab-stamped on top of right side rail behind radiator shell. School Bus-not announced).

TRANSMISSION SERIAL NUMBER

Passenger cars & Commercial Type Trucks-Stamped on milled surface of case at rear edge of cover.

1-1/2 Ton, School Bus Chassis & Commercial Type Trucks with 4-speed transmission-Stamped on milled surface on back of case, left hand side.

REAR AXLE SERIAL NUMBER

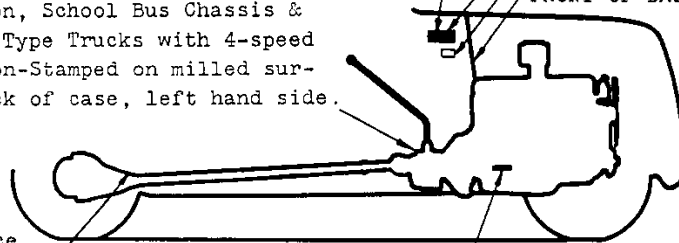
Passenger Cars & Commercial Type Trucks-Stamped on front upper surface (rough) of differential carrier.

1-1/2 Ton & School Bus Chassis-Stamped on center upper surface (rough) of differential carrier.

CHEVROLET

FISHER

FRONT OF DASH



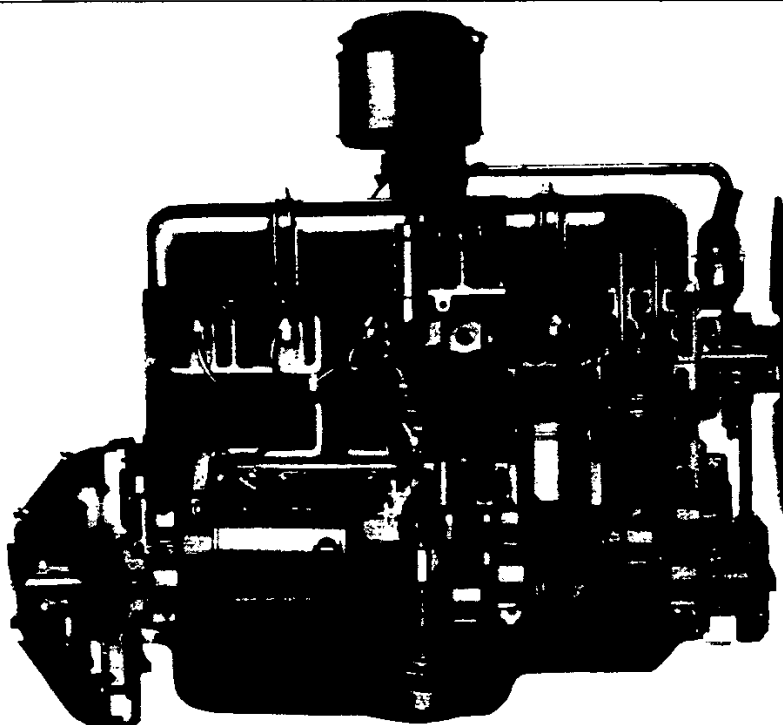
ENGINE SERIAL NUMBER

Stamped on milled pad on crankcase to rear of distributor on right side of engine.

10-15-37, 1-21-38 - Taxicab and School Bus data added; Truck engine prefix letters revised.

UNIT SERIAL NUMBERS

ENGINE GENERAL DATA



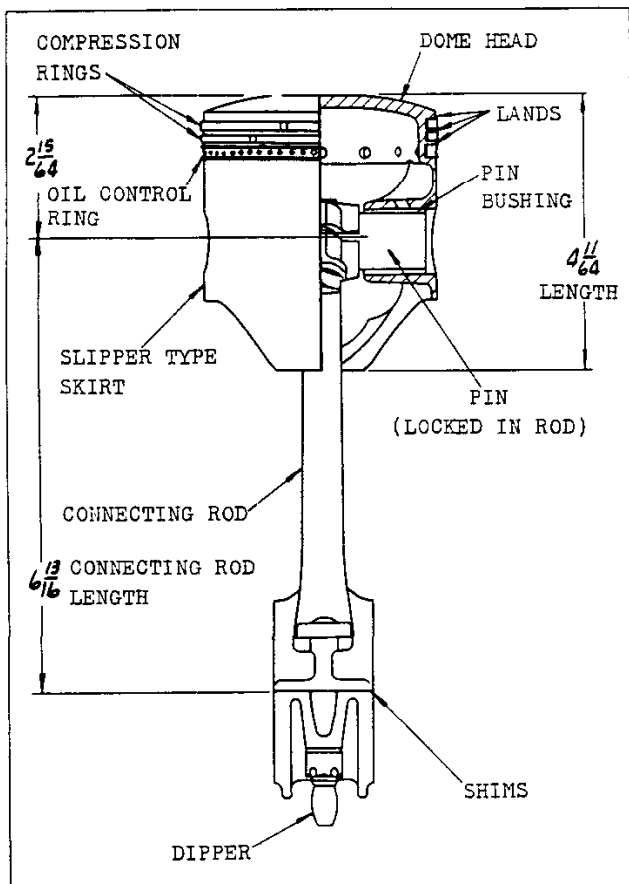
ITEM		PASSENGER CARS			TRUCKS					
		MASTER DELUXE	MASTER	TAXI- CAB	HALF TON	3/4 TON	ONE TON	1-1/2 TON + S.W. +D.W.		SCHOOL BUS
Type		Valve-in-head								
Cylinders		Six in line-Cast en bloc								
Bore x Stroke		3-1/2" x 3-3/4"								
Compression ratio		6.25:1								
Horse- power	Taxable H.P.	29.4								
	Max. B.H.P.	85 at 3200 RPM			78 at 3200 RPM					
	Max. B.H.P./cu.in. disp.*	.393			.360					
Torque	Maximum *	170 ft.lbs.								
	RPM at Max. torque *	900-2000			850-1550					
Engine speeds	Maximum	4000 RPM								
	Max. with governor	No governor			1400-3000 RPM					
Max. B.M.E.P.*		116 lbs./sq.in. at 1550 RPM								
Piston dis- place- ment	Total	216.5 cu.in.								
	P.D./ton mile (cu.ft.)	113.27@	102.2@	- - -	87.4	71.6	58.1	56.0	47	- - -
	P.D./car mile (cu.ft.)	197.4@	174.3@	- - -	192.2	186.3	168.6	212.6	218.8	- - -
	Gross wgt. for computation	3485#@	3410#@	- - -	4400#	5200#	5800#	7600#	9300#	- - -
	Car wgt./cu.in. disp. X	13.46#	13.12#	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Engine RPM/mile per hour		52.5	46.33	51.11	49.60	44.82	56.55	58.17	64.23	
Engine revs./mile in high		3150	2780	3067	2976	2689	3393	3490	3854	
Piston travel in high, ft./mile		1969	1737	1917	1860	1681	2121Y	2181Y	2409	
Weight (dry)	Engine complete	546.5#			554#	562.25#				
	Power plant complete**	590#			600.5#	608.75#		654#		

* - Engine tests are made on the dynamometer less accessories at 60° F according to SAE standard tests.
 X - Sedan shipping weight. Y - With 5.428 rear axle gear ratio. @ - Passenger car weights are based on Sedan curb weights plus 450# for passengers. +S.W. - Regular single wheels. D.W. - Regular dual wheels.
 ** - Power plant weight includes engine, clutch and complete transmission.

10-15-37, 1-21-38 - Taxicab and School Bus added.

ENGINE

PISTONS



PISTONS

```

Type ..... Slipper skirt, dome head
Material ..... Cast iron tin plated
Dia. clearance at lands .... .0145"-.019" cold
Compression ring groove depth .... .150"-.162
Dia. clearance at skirt .... .0015"-.003" cold
Oil ring groove depth ..... .173"-.183"
Oil ring groove holes ..... 14, 5/32" drill
Side wall thickness-Pass. .... .0347"-.0447"
                        -Truck ..... .040"-.050"
Head thickness ..... .161"-.171"
Pin bushings-type ..... Pressed in piston
                        -material ..... Bronze
                        -O.D. .... .983"-.984"
                        -length (each) ..... 15/16"
                        -finish ..... Diamond bore
                        -weight (each) ..... .050#
Piston wt. without bushings-Pass. .... 1.42#
                        -Truck ..... 1.56#
Weight of piston, bushings, rings, pin and conn.
rod upper end x 6 - Pass. .... 14.40#
                        - Truck ..... 15.24#

```

PISTON PINS

Diameter (chrome plated)8645" - .8650"
Length 3.135"-3.165"
Taper limit in full length0002"
Weight (each)32#
Clearance in bushing Slip fit

PISTON RINGS	COMPRESSION	OIL CONTROL
Material	Cast iron	
Type	Plain	Drilled or slotted
Number	2	1
Arrangement	Upper two rings	Under compression rings
Width	.1235"-.1240"	.1860"-.1865"
Wall thickness	.155" max.	.155" max.
Gap clearance	.005"-.015"	.005"-.015"
Ring clearance in groove	.0015"-.003"	.002"-.0035"
Weight (each)	.05 lbs.	.06 lbs.

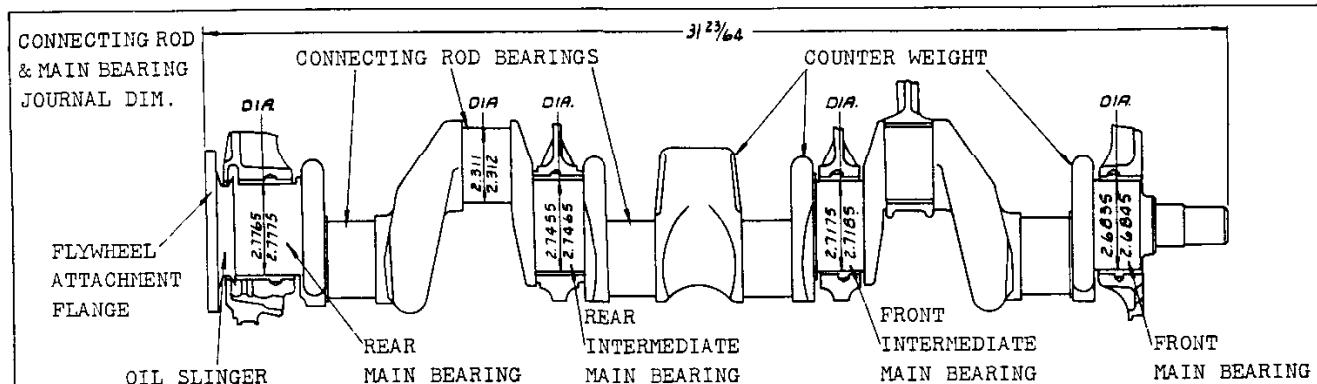
CONNECTING RODS

Type	Pin clamped in rod	Lower end bearing area-
Material	Drop forged steel	Projected
Crank pin diameter	2.311"-2.312"	18.39 sq.in.
Crank pin length	1.4985"-1.5015"	Circumferential
Width at piston pin	1-1/8"	57.7 sq.in.
Lower end brg.-type	Centrifugally cast	Shims-type & material
-diameter	2.3130"-2.3135"	Solid brass
-length	1-5/16"	Weight conn.rodassy. (each)
-material	Babbitt	1.77#
-finish	Diamond bore	Upper end (each)
-clearance on dia.	.001"-.0025"	.4#
		Lower end (each)
		1.37#
		Total rotating weight (lower end x 6)
		8.22#
		Connecting rod assembly center of gravity from
		wrist pin center
		5.273"
		Connecting rod end play
		.0065"-.0135"

10-15-37, 1-21-38 - Lower end bearing diameter revised.

ENGINE

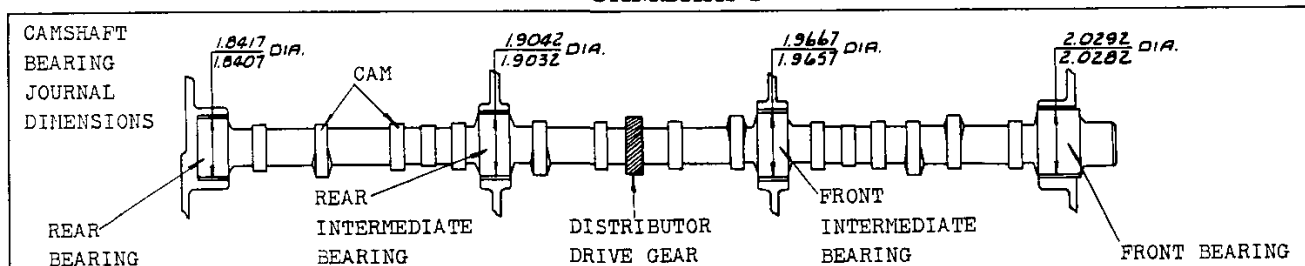
CRANKSHAFT



CRANKSHAFT		MAIN BEARINGS	
Type	4 bearings, 7 counterweights	Number	4
Material	Drop-forged steel	Type	Removable
Weight	68#	Material	Steel-backed babbitt
Offset	None	Clearance	.002"-.004"
End play	.004"-.007"	Thrust taken on	Rear intermediate bearing
Clearance between oil thrower groove in crankshaft and flange on cylinder block	.002"-.030"	Total effective bearing area:	
Harmonic balancer type	Oscillating	Projected	13.41 sq.in.
Crankshaft pulley dia.	6-1/32"	Circumferential	42.12 sq.in.
		Shim-type	Solid
		-material	Alloy aluminum & brass

MAIN BEARINGS	FRONT	FRONT INTERMEDIATE	REAR INTERMEDIATE	REAR
Inside diameter	2.6865"-2.6875"	2.7175"-2.7185"	2.7485"-2.7495"	2.7795"-2.7805"
Effective length	1"	1"	1"	1-11/32"
Total length	1-3/16"	1-3/16"	1-7/16"	1-5/8"

CAMSHAFT



CAMSHAFT		CAMSHAFT BEARINGS	
Material	Drop-forged steel	Number	4
Drive type	Gear	Thrust taken on	Front bearing
Drive gear material	Bakelite & fabric comp.	Clearance on dia.	.0015"-.0035"
Crankshaft gear material	Steel	Effective bearing area:	
End play	Free - .003" max.	Projected	6.12 sq.in.
Camshaft ramp	.0111" inlet, .014" exh.	Circumferential	19.21 sq.in.

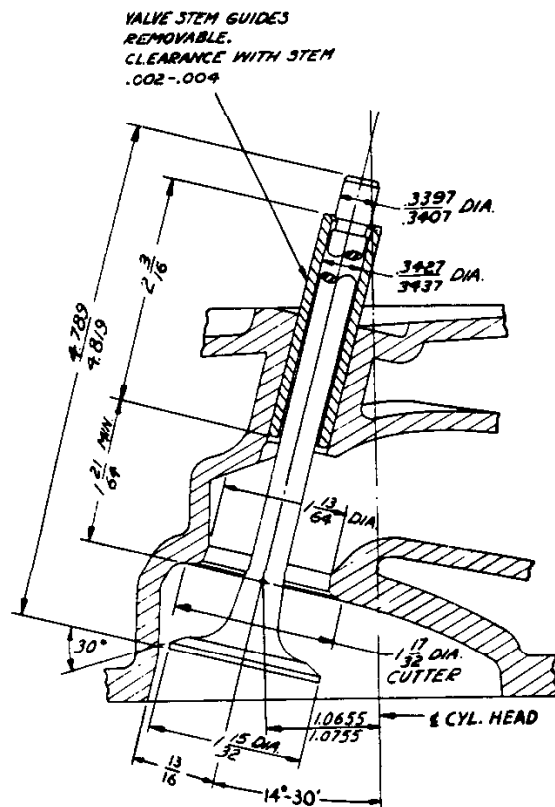
CAMSHAFT BEARINGS	FRONT	FRONT INTERMEDIATE	REAR INTERMEDIATE	REAR
Material	Steel-backed babbitt			
Inside diameter	2.0307"-2.0317"	1.9682"-1.9692"	1.9057"-1.9067"	1.8432"-1.8442"
Effective length	1"	13/16"	13/16"	13/16"
Total length	1-1/8"	15/16"	15/16"	15/16"

10-15-37

ENGINE

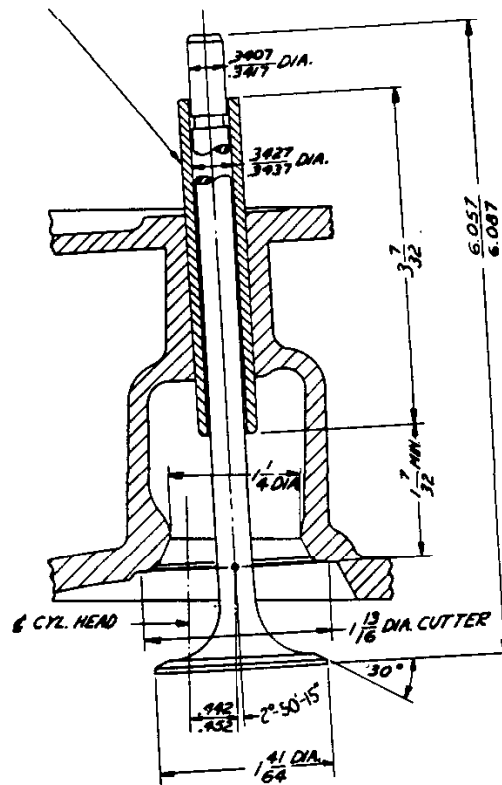
VALVES

EXHAUST VALVE



INLET VALVE

VALVE STEM GUIDES
REMOVABLE.
CLEARANCE WITH STEM
.001-.003



Distance between valve centers measured along centerline of engine = 1-23/32".

VALVE DATA

Valve material Extruded steel
Valve stem end style Grooved for cup and cone
Valve lift-Exhaust3195"
-Inlet305"

VALVE SPRING PRESSURE

Valve closed 53#-59#
Valve open 126#-134#

VALVE SEAT

Material Cast iron (cylinder head)
Cooling Jets of water under pressure
Seat width in head -Exhaust069"-.093"
-Inlet035"-.060"

VALVE ROCKER ARM

Ratio 1.455 to 1
Bushings-Material Cast bronze
-Opt. material Steel-backed babbitt
-Diameter7925"-.7935"
-Length 15/16"

VALVE TAPPET

Type Cylindrical
Material Cast alloy iron
Outside diameter989"-.990"
Operating clearance -Exhaust013"-.015" hot
-Inlet006"-.008" hot
Tappet lift-Exhaust2163"
-Inlet2062"

CYLINDER HEAD

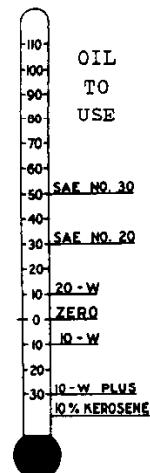
Type Detachable
Material Cast alloy iron
Combustion chamber design "Blue Flame"

10-15-37, 1-21-38 - Dimensions added to illustrations and valve spring pressures revised.

ENGINE

LUBRICATION SYSTEM

Type	Pressure, pressure stream and splash.	valve stems and push rod upper ends.
MAIN BEARING lubrication	Direct pressure. Oil is pumped through drilled passages in cylinder case to main bearings.	WATER PUMP lubrication Permanently lubricated, sealed ball bearing.
CAMSHAFT BEARING lubrication	Direct pressure through passages from main brgs.	Oil pump type Gear
TIMING GEAR lubrication	Gravity feed from camshaft front bearing overflow.	Oil pump drive From camshaft
CONN. ROD BRG. lubrication	By dippers at low speeds. By pressure streams at high.	Normal oil pressure 13.5# @ 2621 RPM
CYLINDER BORE lubrication	Splash	Oil pressure relief valve opens at 75#
PISTON PIN lubrication	Splash	Oil cleaner type Screen with by-pass on intake side of oil pump.
VALVE MECHANISM lubrication ...	Pressure. Pipe from low pressure side of distributor carries oil to valve rocker arms, springs,	Oil drain type Plug in side of oil pan.
		Crankcase ventilator type Suction
		Oil filler Combined with ventilator
		Oil screen area 18.3 sq.in.
		Oil level gauge type Rod
		Oil pan capacity (dry) 5-1/2 quarts
		Oil pan capacity (for refill) 5 quarts



COOLING SYSTEM

ITEM		PASSENGER CARS		TRUCKS		HEAVY DUTY CORE
		MASTER DELUXE	MASTER & TAXICAB	HALF, 3/4 & ONE TON	1-1/2 TON & SCHOOL BUS	3/4, ONE, 1-1/2 & SCHOOL BUS
Cooling system capacity		14 quarts				16
Radiator core	Make and type	Harrison, ribbed cellular				
	Material	All copper				
	Size	.222"x.556"x2"	.25"x.556"x2"	.25"x.560"x2"	.20"x.560"x2"	.20"x.560"x3"
	Exp. core area	368.5 sq.in.		405 sq.in.		
	Fan shroud	None				Yes
Radiator hose	Type	Conventional rubber. Outlet consists of two hose joined by steel tube.				
	Location	Inlet	From cylinder head to core			
		Outlet	From core to water pump			
	Size	Inlet	1-1/4" I.D. x 5-5/8" long	1-1/4" I.D. x 6-1/4" long		
	Outlet	UPPERHOSE: 1-1/2" I.D. x 2-3/4". LOWERHOSE: 1-1/2" I.D. x 5".				
Water thermostat	Make and location	Harrison - In cylinder head outlet.				
	Type	Bellows operating poppet valve				
	Valve action	Valve starts to open at 140°-145° F. and is fully open at 170° F., 29" Hg. barometric pressure.				
Engine fan	Type	Four staggered blades				
	Diameter	15-3/4"	16-1/4"			
	Fan pulley	28° V - 4-21/64" diameter				
	Ratio to Eng. Speed	1.393:1				
	Core clearance	9/16"				
	Fan belt	Make	Various			
		Material	One piece vulcanized fabric			
		Size	11/16" max. width x 42-7/8" around outside			
Water pump	Type and drive	Centrifugal - By fan belt				
	Location	On front of cylinder and case				
	Capacity	47 gallons per minute @ 4000 engine RPM				
	Impeller type	Vane				
	Bearing	Type	Double row ball, sealed			
		O.D.	1.1806"-1.1811"			
		Length	1-21/32"			
	Seal	Material	Graphite impregnated bakelite and fabric composition			
		Adj.	Automatic - By spring tension			

10-15-37, 1-21-38 - Water Pump data revised. Taxicab and School Bus added.

ENGINE

FUEL SYSTEM

FUEL PUMP

Make AC
 Model AF
 Type Mechanical
 Drive From camshaft
 Arm throw at camshaft 1/4"
 Inlet and outlet air dome Yes
 Fuel filter Screw on dome

AIR CLEANER

Make AC
 Type Combined with silencer & flame arrester

FUEL MIXTURE

Heated..... Yes. Passes through manifold heat chamber, automatically controlled by thermostat on manifold.

CARBURETOR

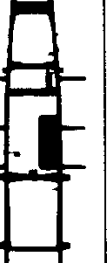
Make and model Carter W1
 Type Single adjustment, down-draft
 Size 1-1/4"
 Accelerator pump Yes
 Float level When closed, top of float measures 3/8" below finished surface of cover.

FUEL GAUGE

Make AC
 Type Electric

OCTANE SELECTOR

Type Manual
 Range 20° Vernier

FUEL TANK	PASSENGER CARS		TRUCKS					
	Chassis, Spt. Sedan, Coa., Spt. Coupe, Sed., Town Sed., Taxi, Cabriolet	Business Coupe, Master Sedan Delivery	HALF TON		3/4 TON & ONE TON		SCHOOL BUS & 1-1/2 TON	
			Chassis and Cowl, Panels, Canopy Exp., Carryall Suburban	Chassis and Cab, Pickup truck	Chassis and Cowl, Panel truck	Chassis and Cab, Stake and Pickup truck	School Bus & 1-1/2 Ton Chassis and Cowl	1-1/2 Ton Chassis & Cab, Pickup, Panels, Stakes
Location								
Mounting	Suspended in chassis between two rear cross members.	Clamped to underbody below floor just behind seat	Clamped to right side rail ahead of rear fender	Clamped to cab floor directly under cab seat	Clamped to right side rail ahead of rear fender	Clamped to cab floor directly under cab seat	3-point mounting to frame below seat position	Clamped to body floor directly under seat
Type	Two stamped pans, seam-welded together							
Capacity	14 gallons	18 gallons	16 gallons	18 gallons				
Filler Location	Outside on right rear fender	Outside before right fender	Outside behind right side door	Outside at cab right rear corner	Outside behind panel right door	Outside at right rear cab corner	At right side of chassis	Outside at right rear cab corner

EXHAUST SYSTEM

ITEM	PASSENGER CARS	TRUCKS
Muffler type	Diffusion and resonance (5 tube reverse flow)	Baffle
Diameter x length	6-1/16" x 18"	5" x 20-1/2"
Muffler mounting	Single point rubber	Single point
Exhaust pipe diameter	1-7/8"	
Tail pipe diameter	1-3/4"	1-1/2"

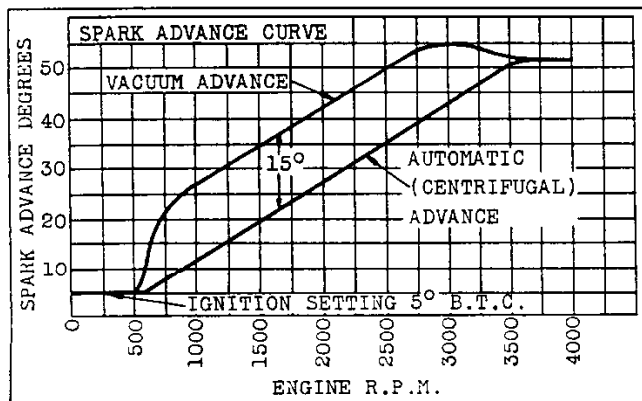
10-15-37, 1-21-38 - Taxicab and School Bus added.

ENGINE

ENGINE ELECTRICAL SYSTEM									
GENERATOR		PASSENGER CARS			TRUCKS				
		MAS. DELUXE	MASTER	TAXI	HALF TON	3/4 TON	1 TON	1-1/2 TON	S. BUS
Make		Delco-Remy							
Model		#1100004			#948-R				
Ventilated by		Fan built into generator pulley							
Driven by		"V" belt							
Generator	Type	28° V							
pulley	Diameter	3-11/32"							
Speed ratio-generator to engine		1.80:1							
Amperes	Lights off	26-30			15				
-cold	Lights on	26-30			18-21				
Maximum charging	Voltage	8			8.2				
	RPM	3400			2600				
rate-cold	Car speed MPH	36.0	40.8	36.9	28.3	28.9	32.3	25.5	22.5
Amperes	Lights off	25-28			14				
-hot	Lights on	25-28			15-18				
Maximum charging	Voltage	8			8.1				
	RPM	3600			2800				
rate-hot	Car speed MPH	38.1	43.2	39.1	30.5	31.1	34.8	27.5	24.2
Thermostat		None							
Field fuse		None							
Voltage regulator type		Vibrator			None				
Rated voltage		6-8							
Brush tension		14-18 oz.							
Rotation (Drive end)		Clockwise							
Bearings	Commutator end	Bronze bushing							
	Drive end	Ball							
Cut-out	Voltage at closing	6.5-7.0			7.2				
	Armature speed	800 RPM							
	Car speed at closing MPH	8.48	9.60	8.69	8.71	8.89	9.94	7.86	6.92
	Amperes to open	0-3.0			1.5				

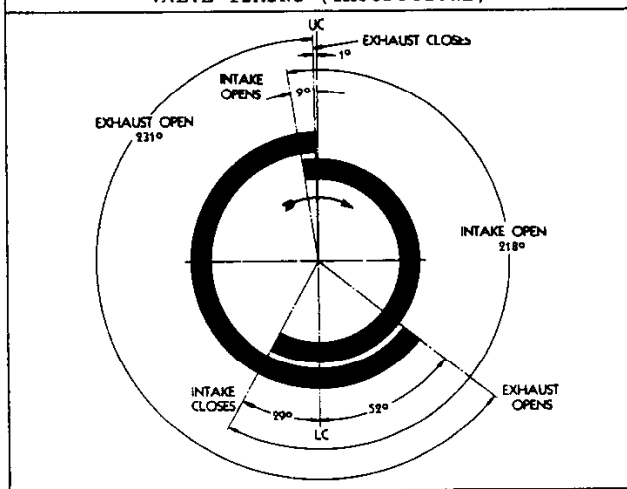
IGNITION

Type Separate units, high tension distributor ground return system
 Make & Model Delco-Remy #1110008
 Current source Generator
 Spark control type Full automatic
 Spark advance-vacuum 15°
 -automatic 42° - 50°



Timing spark advance 5° B.T.C.
 Firing order 1-5-3-6-2-4
 Distributor interrupter point opening .018"-.024"
 Distributor bearings material Cast iron

VALVE TIMING (Theoretical)



10-15-37, 1-21-38 - Taxicab and School Bus added. Car speed MPH revised. New spark advance chart.

ENGINE

