

SERVICE Counselor

PARTS • ACCESSORIES • PRODUCT

PACKARD MOTOR CAR COMPANY



Counselor

VOL. 24, NO. 8

AUGUST, 1950

MECHANICAL SPECIFICATIONS AND ADJUSTMENTS 24th Series

MODELS CHASSIS SYMBOLS	200 2401	300 2402	400 2406
BRAKES			
Type	Hydraulic—2 Shoe	Hydraulic—2 Shoe	Hydraulic—2 Shoe
Effective Area	171.5 sq. in.	208.25 sq. in.	208.25 sq. in.
Effective Area Hand Brake	85.75 sq. in.	98 sq. in.	98 sq. in.
Drum Diameter—Front and Rear	12" Centrifuse	12" Centrifuse	12" Centrifuse
Lining Size and Material			
Primary—Marshall 4112			
Front	1 3/4" x 3/8" x 11 1/2"	2 3/4" x 3/8" x 11 1/2"	2 3/4" x 3/8" x 11 1/2"
Rear	1 3/4" x 3/8" x 11 1/2"	2" x 3/8" x 11 1/2"	2" x 3/8" x 11 1/2"
Secondary—Marshall 9051			
Front	1 3/4" x 3/8" x 13"	2 3/4" x 3/8" x 13"	2 3/4" x 3/8" x 13"
Rear	1 3/4" x 3/8" x 13"	2" x 3/8" x 13"	2" x 3/8" x 13"
Wheel Cylinder Size			
Front	1 1/8" Dia.	1 1/8" Dia.	1 1/8" Dia.
Rear	1" Dia.	1" Dia.	1" Dia.
Master Cylinder Size	1" Dia.	1" Dia.	1" Dia.
CLUTCH			
Type	Single Dry Plate	Single Dry Plate	
Pedal Free Play	1 3/4" to 1 1/2"	1 1/4" to 1 1/2"	
Facing Material	U. S. Asbestos Woven	U. S. Asbestos Woven	
Size of Facing	6 3/4" x 10" x .125"	7" x 10 1/2" x .125"	
Throw-Out Bearing	Prelubricated Ball	Prelubricated Ball	
Clutch Spring Pressure	154 lbs. at 1.566"	163 lbs. at 1.562"	
Number of Springs	9	9	
Vibration Neutralizer	Yes	Yes	
COOLING SYSTEM			
Type	Pressure	Pressure	Pressure
Water Pump	Centrifugal—Self-Adjusting	Centrifugal—Self-Adjusting	Centrifugal—Self-Adjusting
Water Pump Drive	Fan Belt	Fan Belt	Fan Belt
Capacity of System	20 Qts.	20 Qts.	20 Qts.
Heater Capacity	.65 Qts.	.65 Qts.	.65 Qts.
Fan	4 Blade 18"	4 Blade 18"	4 Blade 18"
Driving Pulley	On Crankshaft	On Crankshaft	On Crankshaft
Ratio	.919 to 1	.919 to 1	.919 to 1
Thermostat Starts to Open			
Standard	148° to 156°	148° to 156°	148° to 156°
High Reading	157° to 165° and 175° to 184°	157° to 165° and 175° to 184°	157° to 165° and 175° to 184°
Fan Belt	41.2" x .375"	41.2" x .375"	41.2" x .375"
Heat Indicator	Electric	Electric	Electric
Fan Belt Adjustment	At Generator	At Generator	At Generator
Gravity Flow of Radiator	39 Gal. per Min.	39 Gal. per Min.	39 Gal. per Min.
Radiator Cap	Pressure Type 7 lbs. per Sq. In.	Pressure Type 7 lbs. per Sq. In.	Pressure Type 7 lbs. per Sq. In.

MODELS CHASSIS SYMBOLS	200 2401	300 2402	400 2406
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ELECTRICAL

Battery Make	Auto-Lite 2L-100 Willard SW-2L-100	Auto-Lite 2L-100 Willard SW-2L-100	Auto-Lite 2FH-120 Willard HW-2E-120
Capacity Plates	100 Amp. Hr. 17	100 Amp. Hr. 17	120 Amp. Hr. 17
Ignition Timing	6° BTDC	6° BTDC	6° BTDC
Breaker Point Gap	.0125"-.0175"	.0125"-.0175"	.0125"-.0175"
Breaker Arm Spring Tension	19-23 oz. Auto-Lite 17-21 oz. Delco	19-23 oz. Auto-Lite 17-21 oz. Delco	19-23 oz. Auto-Lite 17-21 oz. Delco
Spark Control	Full Automatic	Full Automatic	Full Automatic
Spark Advance Begins at	600 Engine rpm	600 Engine rpm	600 Engine rpm
Distributor—Vacuum Controlled	Auto-Lite IGP-4502C Delco 1110825	Auto-Lite IGP-4502C Delco 1110825	Auto-Lite IGP-4502C Delco 1110825
Spark Plug Size	14 mm.	14 mm.	14 mm.
Spark Plug—Make and Type	Auto-Lite A5; AC-46-5; Champion J8	Auto-Lite A5; AC-46-5; Champion J8	Auto-Lite A5; AC-46-5; Champion J8
Spark Plug Gap	.026"-.030"	.026"-.030"	.026"-.030"
Generator Make and Type	Auto-Lite GGW-6003A Delco 1102745	Auto-Lite GGW-6003A Delco 1102745	Auto-Lite GGW-6003A Delco 1102745
Generator Drive	Belt	Belt	Belt
Generator Cut-In Speed—Cold	920 rpm Auto-Lite 900 rpm Delco	920 rpm Auto-Lite 900 rpm Delco	920 rpm Auto-Lite 900 rpm Delco
Generator Output—Maximum	40 Amps.	40 Amps.	40 Amps.
Generator Voltage—Maximum	7.4 Volts	7.4 Volts	7.4 Volts
Generator Voltage Regulator	Auto-Lite VRP-4402C Delco 1118360	Auto-Lite VRP-4402C Delco 1118360	Auto-Lite VRP-4402C Delco 1118360
Generator Voltage to Close Cut-Out	6½ to 7 Volts	6½ to 7 Volts	6½ to 7 Volts
Starter Motor—Make and Type	Auto-Lite MCL-6113 Delco 1107943	Auto-Lite MCL-6113 Delco 1107943	Auto-Lite MCL-6113 Delco 1107943
Starter Drive	Bendix Shift	Bendix Shift	Bendix Shift
Number of Flywheel Teeth	140	140	140
Number of Teeth in Starter Pinion	9	9	9
Pinion Meshes	From Front	From Front	From Front
Head, Tail and Stop Light Current Protection	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker
Body Current Protection	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker
Directional Signals	Yes	Yes	Yes
Directional Signal Current Protection	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker	Thermostatic Circuit Breaker
Clock Fuse	SFE 3 Ampere	SFE 3 Ampere	SFE 3 Ampere
Overdrive Fuse	SFE 30 Ampere	SFE 30 Ampere	SFE 30 Ampere
Heater Fuse	SFE 20 Ampere	SFE 20 Ampere	SFE 20 Ampere
Radio Fuse	SFE 14 Ampere	SFE 14 Ampere	SFE 14 Ampere
Headlight Bulb—Sealed Beam	45-35 Watts	45-35 Watts	45-35 Watts
Horn—Make	Sparks-Withington	Sparks-Withington	Sparks-Withington
Horn—Location	Radiator Cradle Support (Between Core and Grille)	Radiator Cradle Support (Between Core and Grille)	Radiator Cradle Support (Between Core and Grille)
Battery Terminal Grounded	Positive	Positive	Positive
Ampere Draw of Horns	22-25 Amperes	22-25 Amperes	22-25 Amperes
Ampere Draw of Heater Blower Motor	10 Amp. at 6 Volts @ 3000 rpm	10 Amp. at 6 Volts @ 3000 rpm	10 Amp. at 6 Volts @ 3000 rpm
Ampere Draw of Headlights—Each	7-5.5 Amperes	7-5.5 Amperes	7-5.5 Amperes
Ampere Draw of Coil—Idling Cold	2.75 Amperes	2.75 Amperes	2.75 Amperes
Clock—Type and Make	Electric—Borg	Electric—Borg	Electric—Borg
Starter Stall Torque	Auto-Lite 25 ft.-lbs. 4 Volts—875 Amperes Delco 16 ft.-lbs. 3 Volts—600 Amperes	Auto-Lite 25 ft.-lbs. 4 Volts—875 Amperes Delco 16 ft.-lbs. 3 Volts—600 Amperes	Auto-Lite 25 ft.-lbs. 4 Volts—875 Amperes Delco 16 ft.-lbs. 3 Volts—600 Amperes
Ignition Coil	Auto-Lite CR-4001A Delco 1115376	Auto-Lite CR-4001A Delco 1115376	Auto-Lite CR-4001A Delco 1115376

ENGINE

Make	Packard	Packard	Packard
Type	"L" Head-Vertical	"L" Head-Vertical	"L" Head-Vertical
A.M.A. Horsepower	39.2	39.2	39.2
Max. Brake Horsepower			
—Std. Comp.	135 @ 3600 rpm	150 @ 3600 rpm	155 @ 3600 rpm
—High Comp.	138 @ 3600 rpm	155 @ 3600 rpm	
Suspension	Rubber Mounted	Rubber Mounted	Rubber Mounted
Firing Order	1-6-2-5-8-3-7-4	1-6-2-5-8-3-7-4	1-6-2-5-8-3-7-4
Torque—Std. Comp.	230 ft.-lbs. @ 2000 rpm	270 ft.-lbs. @ 2000 rpm	275 ft.-lbs. @ 2000 rpm
—High Comp.	235 ft.-lbs. @ 2000 rpm	275 ft.-lbs. @ 2000 rpm	
Bore	3½"	3½"	3½"
Stroke	3¾"	4¾"	4¾"
Piston Displacement	288 cu. in.	327 cu. in.	327 cu. in.
Cylinders	8 In-Line	8 In-Line	8 In-Line

MODELS CHASSIS SYMBOLS	200 2401	300 2402	400 2406
ENGINE—Continued			
Compression Ratio—Std.	7.00 to 1	7.00 to 1	7.80 to 1
—High	7.50 to 1	7.80 to 1	
Weight with Clutch and Transmission	860 lbs.	875 lbs.	
Weight with Overdrive	895 lbs.	910 lbs.	
Weight with Ultramatic Drive	995 lbs.	1010 lbs.	1040 lbs.
Cylinder Head Material	Cast Iron	Cast Iron	Cast Iron
Engine Rev. per Mile—Std. Ratio	2824	2824	2521
CONNECTING ROD			
Weight	2 lbs. 3.8 ozs.	2 lbs. 3.4 ozs.	2 lbs. 3.4 ozs.
Material	Steel Forging	Steel Forging	Steel Forging
Bearing Type	Detachable Shell	Detachable Shell	Detachable Shell
Center to Center Length	7 1/4"	7 1/4"	7 1/4"
Length of Crankpin	1 1/8"	1 1/8"	1 1/8"
Clearance Bearing to Crankpin	.0005" to .0025"	.0005" to .0025"	.0005" to .0025"
End Play on Crankshaft	.003" to .011"	.003" to .011"	.003" to .011"
Oil Lead to Piston Pin	Rifle Drilled	Rifle Drilled	Rifle Drilled
Bearing Material	Special Composite Construction	Special Composite Construction	Special Composite Construction
Assemble in Engine	Oil Hole toward Camshaft	Oil Hole toward Camshaft	Oil Hole toward Camshaft
Bearing Adjustment	Replace Bearing Shells	Replace Bearing Shells	Replace Bearing Shells
CRANKSHAFT			
Type	Counterbalanced	Counterbalanced	Counterbalanced
Material	Steel Forging	Steel Forging	Steel Forging
Number of Counterweights	8 Forged Integral	8 Forged Integral	8 Forged Integral
Number of Main Bearings	5	5	9
Main Bearing Journal Diameter	2.7465"	2.7465"	2.7465"
Connecting Rod Journal Diameter	2.250"	2.250"	2.250"
Main Bearing Length No. 1	1 1/8"	1 1/8"	1 1/8"
Main Bearing Length No. 2	1 1/8"	1 1/8"	1 1/8"
Main Bearing Length No. 3	1 1/8"	1 1/8"	1 1/8"
Main Bearing Length No. 4	1 1/8"	1 1/8"	1 1/8"
Main Bearing Length No. 5	2 1/8"	2 1/8"	1 1/8"
Main Bearing Length No. 6	None	None	1 1/8"
Main Bearing Length No. 7	None	None	1 1/8"
Main Bearing Length No. 8	None	None	1 1/8"
Main Bearing Length No. 9	None	None	2 1/8"
Projected Main Bearing Area	19.3 sq. in.	19.3 sq. in.	30.7 sq. in.
Thrust Taken On	Center Bearing	Center Bearing	Center Bearing
Vibration Damper	Fluid Suspension	Fluid Suspension	Fluid Suspension
Weight	95 lbs.	103 1/2 lbs.	105 lbs.
End Play	.0035" to .0085"	.0035" to .0085"	.0035" to .0085"
Main Bearing Material	Special Composite Construction	Special Composite Construction	Special Composite Construction
Clearance—All Main Bearings	.001" to .003"	.001" to .003"	.001" to .003"
Crankshaft Sprocket—Material and Size	Steel—21 Teeth	Steel—21 Teeth	Steel—21 Teeth
Bearing Adjustment	Replace Bearing Shells	Replace Bearing Shells	Replace Bearing Shells
FRONT END			
Gear Cover	Steel Stamping	Steel Stamping	Steel Stamping
Camshaft Drive	Silent Chain	Silent Chain	Silent Chain
Make of Chain	Morse	Morse	Morse
Length, Width and Pitch of Chain	58 Links, 1", .375"	58 Links, 1", .375"	58 Links, 1", .375"
Number of Camshaft Bearings	5	5	5
Clearance of Camshaft Bearings	.001" to .003"	.001" to .003"	.001" to .003"
Camshaft End Play	.004" to .006"	.004" to .006"	.004" to .006"
Camshaft Sprocket—Material and Size	Cast Iron—42 Teeth, Hardened	Cast Iron—42 Teeth, Hardened	Cast Iron—42 Teeth, Hardened
OILING SYSTEM			
Type	Full Pressure	Full Pressure	Full Pressure
Oil Pump Type	Gear	Gear	Gear
Crankcase Capacity	7 qts.	7 qts.	7 qts.
Oil Filler Location	Left Side	Left Side	Left Side
Oil Filter Location	Special Equipment	Left Side	Left Side
Oil Measuring Stick	Left Crankcase	Left Crankcase	Left Crankcase
Oil Pump Intake	Floating Screen	Floating Screen	Floating Screen
Crankcase Ventilator	Yes	Yes	Yes
Oil Pressure—Normal Driving	40 lbs.	40 lbs.	40 lbs.
Oil Drain	Hex. Head Flange Plug—3/8"-18	Hex. Head Flange Plug—3/8"-18	Hex. Head Flange Plug—3/8"-18

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PISTON

	Auto-Thermic Aluminum Alloy	Auto-Thermic Aluminum Alloy	Auto-Thermic Aluminum Alloy
Type and Material	19½ ozs.	19½ ozs.	19½ ozs.
Weight	25½ ozs.	25½ ozs.	25½ ozs.
Weight with Rings, Pin and Locks	3¼"	3¼"	3¼"
Overall Height	2½"	2½"	2½"
Height Centerline of Pin to Top	.0005" to .001"	.0005" to .001"	.0005" to .001"
Skirt Clearance	Camshaft	Camshaft	Camshaft
Assemble Slot Toward	3 1/8" x 7/8"	3 1/8" x 7/8"	3 1/8" x 7/8"
Piston Pin Size	Floating	Floating	Floating
Type Pin	Pressure	Pressure	Pressure
Lubrication of Pin	Palm Push Fit at 160° F in Water	Palm Push Fit at 160° F in Water	Palm Push Fit at 160° F in Water
Piston Pin Fit in Piston	Finger Push Fit	Finger Push Fit	Finger Push Fit
Piston Pin Fit in Rod	.003" and .006"	.003" and .006"	.003" and .006"
Piston Pin Oversizes	3	3	3
Number of Rings per Piston	1	1	1
Number of Oil Rings per Piston	2	2	2
Number of Compression Rings per Piston	.0930" to .0935"	.0930" to .0935"	.0930" to .0935"
Width of Compression Rings	.1860" to .1865"	.1860" to .1865"	.1860" to .1865"
Width of Oil Rings	.007" to .017"	.007" to .017"	.007" to .017"
Piston Ring Gap—Compression	.007" to .015"	.007" to .015"	.007" to .015"
Piston Ring Gap—Oil	Above Pin	Above Pin	Above Pin
Location of Rings	12—5/8" Dia. Holes	12—5/8" Dia. Holes	12—5/8" Dia. Holes
Piston Oil Drain Holes	.005", .020", .030", .040"	.005", .020", .030", .040"	.005", .020", .030", .040"
Piston Oversizes			

VALVES

Valve Lift—Intake and Exhaust	.342"	.342"	.342"
Valve Arrangement	"L" Head	"L" Head	"L" Head
Valve Head Diameter—Inlet	1 1/8"	1 1/8"	1 1/8"
—Exhaust	1 1/8"	1 1/8"	1 1/8"
Valve Stem Diameter—Inlet	.3417"	.3417"	.3417"
—Exhaust	.3398"	.3398"	.3398"
Valve Overall Length	5 3/4"	5 3/4"	5 3/4"
Valve Material—Inlet	Chrome Nickel	Chrome Nickel	Chrome Nickel
—Exhaust	Austenitic	Austenitic	Austenitic
Valve Spring Keeper Type	Split Cone	Split Cone	Split Cone
Valve Stem Clearance—Inlet	.002"	.002"	.002"
—Exhaust	.004"	.004"	.004"
Valve Tappet Clearance Inlet—Warm	.007"	Automatic Take-up	Automatic Take-up
Exhaust—Warm	.010"	Automatic Take-up	Automatic Take-up
Inlet Valve Opens	15° BTDC	15° BTDC	15° BTDC
Inlet Valve Closes	45° ALDC	43° ALDC	43° ALDC
Exhaust Valve Opens	50° BLDC	53° BLDC	53° BLDC
Exhaust Valve Closes	9° ATDC	4° ATDC	4° ATDC
Tappet Clearance for Timing—Inlet	.0125"	Not Used	Not Used
—Exhaust	.015"	Not Used	Not Used
Valve Seat Angle—Inlet	30°	30°	30°
—Exhaust	45°	45°	45°
Valve Spring	Single	Single	Single
Valve Spring Load—Valve Closed	60-66 lbs. @ 1 1/4"	60-66 lbs. @ 1 1/4"	60-66 lbs. @ 1 1/4"
—Valve Open	135-145 lbs. @ 1 1/2"	135-145 lbs. @ 1 1/2"	135-145 lbs. @ 1 1/2"
Exhaust Pipe Diameter	2 1/4"	2 1/4"	2 1/4"
Muffler Size	5 1/8" dia. x 35 3/8"	5 1/8" dia. x 35 3/8"	5 1/8" dia. x 35 3/8"

FRAME

Depth (Maximum)	5 1/2" (6" Conv.)	6"	6"
Thickness (Maximum)	1/4" (3/8" Conv.)	1/4"	3/8"
Flange Width (Maximum)	2 1/4" (2 3/8" Conv.)	2 3/8"	2 3/8"

FRONT SUSPENSION

Make	Packard	Packard	Packard
Type	Independent Parallelogram	Independent Parallelogram	Independent Parallelogram
Steering Knuckle	Reverse Elliot	Reverse Elliot	Reverse Elliot
Steering Knuckle Pin Bearings			
Lower	.866" x 1.187" Long x 1.189" O.D.	.866" x 1.187" Long x 1.189" O.D.	.866" x 1.187" Long x 1.189" O.D.
Upper	Needle Bearing	Needle Bearing	Needle Bearing

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FRONT SUSPENSION—Continued			
Thrust Bearing	Steel Ball Bearing	Steel Ball Bearing	Steel Ball Bearing
Caster	Neg. 1° + or - ½°	Neg. 1° + or - ½°	Neg. 1° + or - ½°
Front Wheel Toe-In	0 plus ¼" minus 0	0 plus ¼" minus 0	0 plus ¼" minus 0
Knuckle Pin Angle	5° 50'	5° 50'	5° 50'
Camber	0° plus or minus ½°	0° plus or minus ½°	0° plus or minus ½°
Wheel Bearings—Inner and Outer	Tapered Roller	Tapered Roller	Tapered Roller
Wheel Bearing Adjustment	Tighten nut to 20 ft. lbs. and back off 1 hex. and lock	Tighten nut to 20 ft. lbs. and back off 1 hex. and lock	Tighten nut to 20 ft. lbs. and back off 1 hex. and lock
Tread	59½"	60"	60"

GASOLINE SYSTEM

Carburetor—Make and Type	Carter WGD-784S	Carter WGD-767S	Carter WGD-767S
Gasoline Feed	Downdraft 1¼" Duplex	Downdraft 1¼" Duplex	Downdraft 1¼" Duplex
Pump Drive	Mechanical Pump	Mechanical Pump	Mechanical Pump
Gasoline Filter	Off Camshaft	Off Camshaft	Off Camshaft
Gasoline Gauge	Incorporated in Fuel Pump	Incorporated in Fuel Pump	Incorporated in Fuel Pump
Gasoline Tank Capacity	Electric	Electric	Electric
Air Cleaner and Silencer	20 Gal.	20 Gal.	20 Gal.
	Oil Coated Mesh-Std.	Oil Bath-Std. Equipped	Oil Bath-Std. Equipped
Automatic Choke	Oil Bath-Special Equipped		
Carburetor Fuel Level	Thermostatically Controlled	Thermostatically Controlled	Thermostatically Controlled
	¼" Below Top of Bowl	¼" Below Top of Bowl	¼" Below Top of Bowl

REAR AXLE

Type	Semi-Floating	Semi-Floating	Semi-Floating
Make	Packard	Packard	Packard
Final Drive	Hypoid Gears	Hypoid Gears	Hypoid Gears
Propulsion	Through Rear Springs	Through Rear Springs	Through Rear Springs
Axle Housing	Swedged Tube Banjo Type	Swedged Tube Banjo Type	Swedged Tube Banjo Type
Oil Capacity	4 pts.	4 pts.	4 pts.
Wheel Bearings	Tapered Rollers	Tapered Rollers	Tapered Rollers
Tread	60½"	61½"	61½"
Gear Ratio			
Std. Transmission	3.9 to 1	3.9 to 1	
Overdrive	4.1 to 1	4.1 to 1	
Ultramatic	3.9 to 1	3.54 to 1	3.54 to 1
Pinion Backlash	.003" to .005"	.003" to .005"	.003" to .005"
Number Teeth—Gear and Pinion-Std.	39-10	39-10	39-11
Oil Drain Plugs	½"-14 Pipe Thd.	½"-14 Pipe Thd.	½"-14 Pipe Thd.
Universal Joints	Universal Products—Mechanics or Spicer Roller Bearing Type	Universal Products—Mechanics or Spicer Roller Bearing Type	Universal Products Roller Bearing Type
Number Required	2	2	2

SPRINGS

Front—Coil	2040 x 90	2040 x 90	2040 x 90
Rear—Leaf	1000 x 110	1080 x 110	1080 x 110
Front Size	4¼" Inside Dia.	4¼" Inside Dia.	4¼" Inside Dia.
Rear Length and Width	54½" x 2½"	54½" x 2½"	54½" x 2½"
Shackles	Rubber Mounted	Rubber Mounted	Rubber Mounted
Shock Absorbers	Hydraulic Direct-Acting	Hydraulic Direct-Acting	Hydraulic Direct-Acting
Stabilizer—Front	Torsional	Torsional	Torsional
Spring Material	Silico-Manganese	Silico-Manganese	Silico-Manganese

STEERING GEAR

Make	Packard-Gemmer	Packard-Gemmer	Packard-Gemmer
Type	Worm and 3-Tooth Roller	Worm and 3-Tooth Roller	Worm and 3-Tooth Roller
Ratio—Gear	20.4	22.3	22.3
Ratio—Overall	28.3	30.9	30.9
Steering Wheel	18"—2 Spokes	18"—2 Spokes	18"—2 Spokes
Minimum Turning Radius	21½ ft.	22½ ft.	22½ ft.

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TRANSMISSION

	Selective—Silent Synchronized		Selective—Silent Synchronized		Ultramatic
Type—Standard					
Type—Automatic					
Number of Forward Speeds	3		3		
Engine to Rear Wheel Ratio	Std.		Std.		
Overdrive	O.D.		O.D.		
Direct	3.9	4.1	3.9	4.1	
Second	5.96	6.27	5.96	6.27	
First	9.47	9.96	9.47	9.96	
Reverse	12.34		12.34		
Oil Capacity—Std. Transmission	2 Pints		2 Pints		
Oil Capacity—O.D.	1 3/4 Pints		1 3/4 Pints		
Oil Capacity—Ultramatic					12 Qts.
Oil Level Plugs	3/8" 14 Pipe		3/8" 14 Pipe		
Gear Teeth	Helical		Helical		
Oil Level Indicator					Dip Stick on Filler Cap—Left Side of Case

WHEELS

Type	Demountable Disc. (15" x 5 1/2" "K" Rim)	Demountable Disc. (15" x 6" "L" Rim)	Demountable Disc. (15" x 6" "L" Rim)
Size of Tire	15" x 7.60—4 Ply	15" x 8.00—4 Ply	15" x 8.00—4 Ply
Recommended Tire Pressure (Cold)			
Front and Rear	24 lbs.	24 lbs.	24 lbs.

CAR DIMENSIONS

Wheelbase	122"	127"	127"
Overall Length—Bumper to Bumper	209 1/2"	217 3/4"	217 3/4"
Overall Height—Loaded	62 1/4"—Club Sedan 62 1/4"—6 Pass. Sedan 61 1/2"—Sports Coupe 62 1/4"—Business Coupe 61 1/4"—Convertible	62 1/4"—6 Pass. Sedan	62 1/4"—6 Pass. Sedan
Overall Width	77 3/4"	77 3/4"	78 1/2"

1,000 MILES

CLUTCH AND BRAKE PEDAL AND BRACKET
1 Connector
Pressure Gun Grease

GEAR SHIFTER JOYER BRACKET
2 Connectors
Pressure Gun Grease

CLUTCH RELAY
Separate Felt Washers
S.A.E. 20 Engine Oil

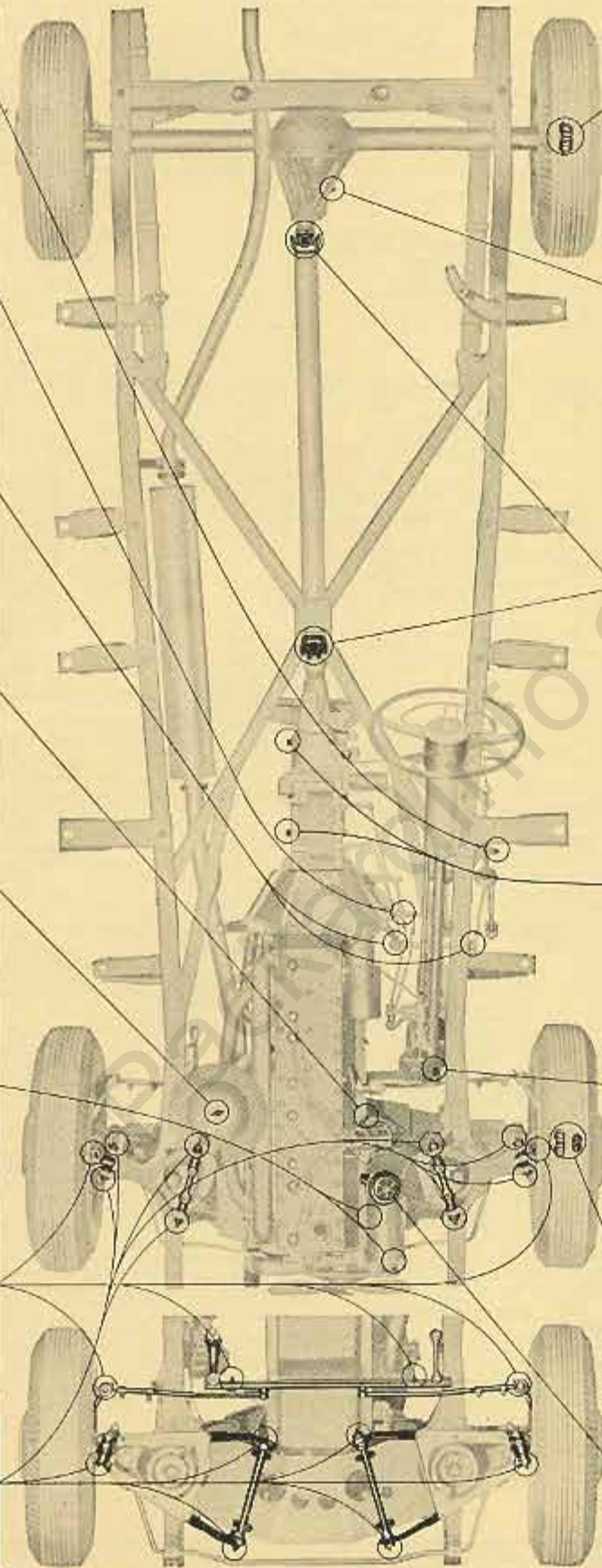
DISTRIBUTOR
1 Cap
No. 3 Cap Grease

AIR CLEANER OIL BATH
Engine Oil
S.A.E. 50 Spinner
S.A.E. 20 Winder

GENERATOR
2 Oils
S.A.E. 20 Engine Oil

STEERING RODS AND KNUCKLES & CONNECTORS
Pressure Gun Grease

SUPPORT ARMS UPPER AND LOWER
14 Connectors
Pressure Gun Grease



REAR WHEEL BEARING
No. 2 Fiber Grease
Repack
Every 30,000 Miles

REAR AXLE
Drain and Refill in Fall
S.A.E. 90 Hypoid
Gear Oil

UNIVERSAL JOINTS
Without Connectors
Repack
Every 30,000 Miles
Pressure Gun Grease

UNIVERSAL JOINTS
With Connectors
Every 1,000 Miles
S.A.E. 140 Oil
DO NOT USE GREASE

TRANSMISSION and OVERDRIVE
Drain and Refill in Spring
Use S.A.E. 90 Mineral
Gear Oil

STEERING GEAR
S.A.E. 90 Gear Oil
Maintain level

FRONT WHEEL BEARINGS
No. 2 Fiber Grease
Repack
Every 10,000 Miles

ENGINE OIL
Change Every
2,000 Miles



REFILL WITH PACKARD ULTRAMATIC DRIVE FLUID



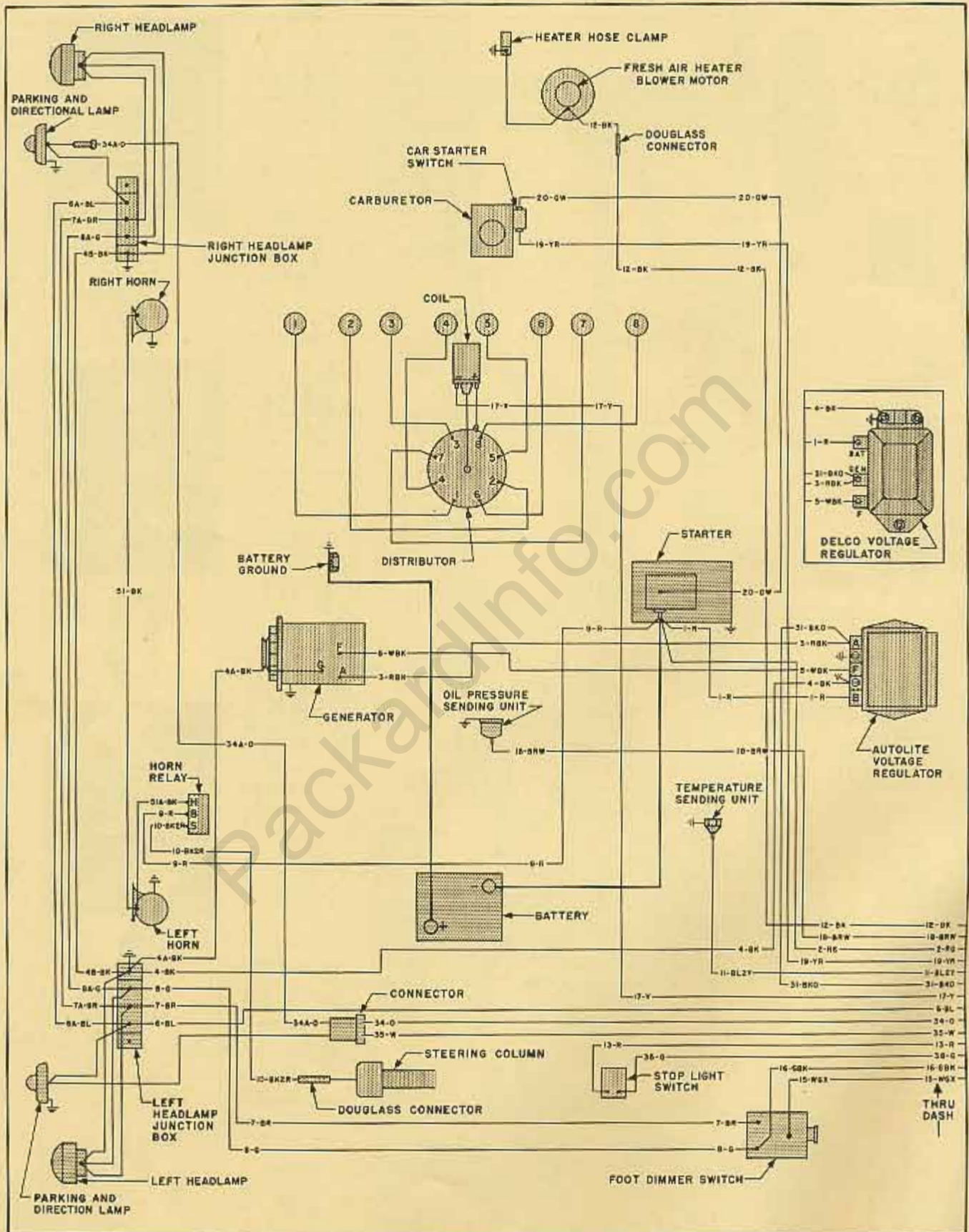
DRAIN FLUID EVERY 15,000 MILES



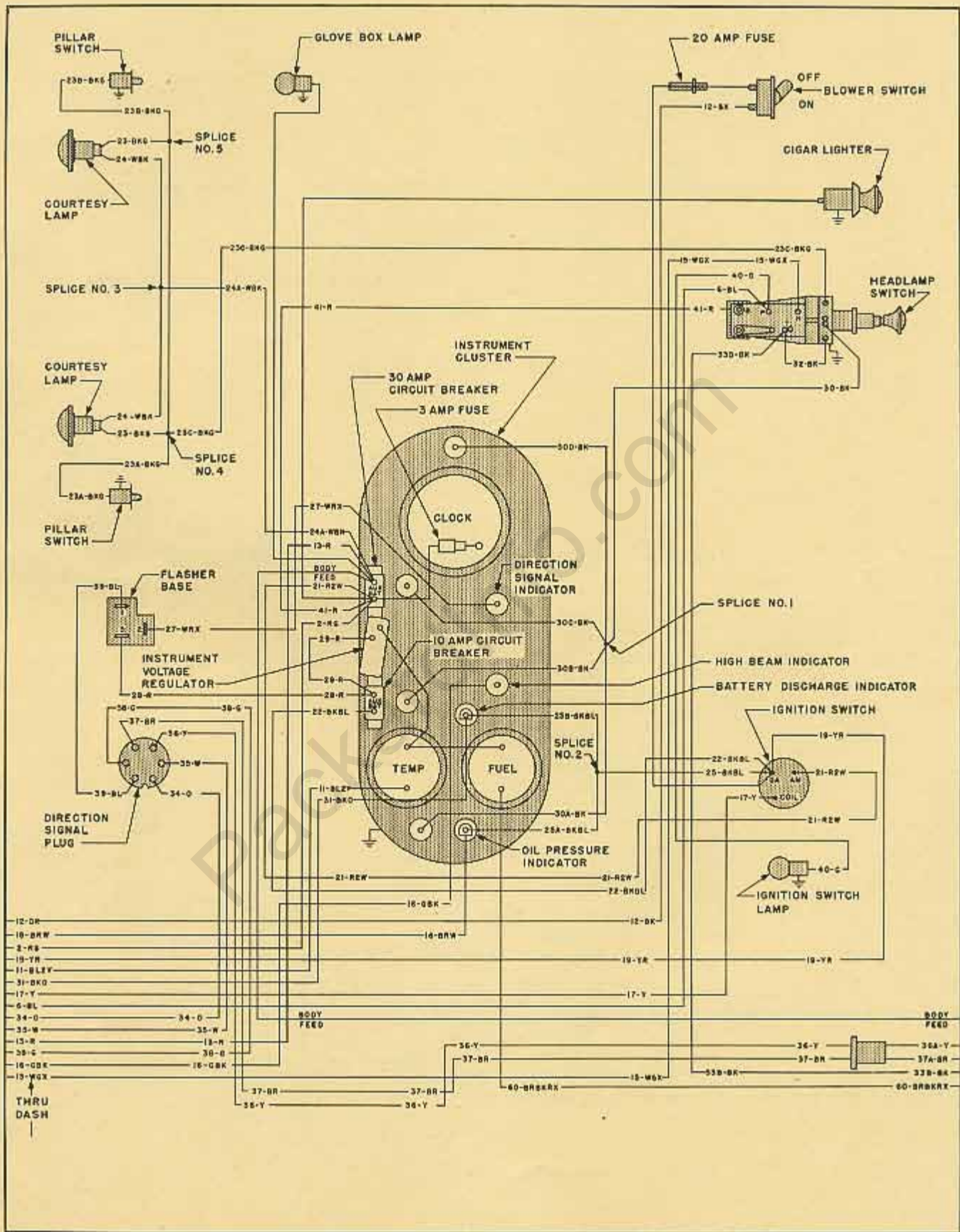
CHECK THE FLUID LEVEL EVERY 1,000 MILES

SERVICING THE ULTRAMATIC DRIVE

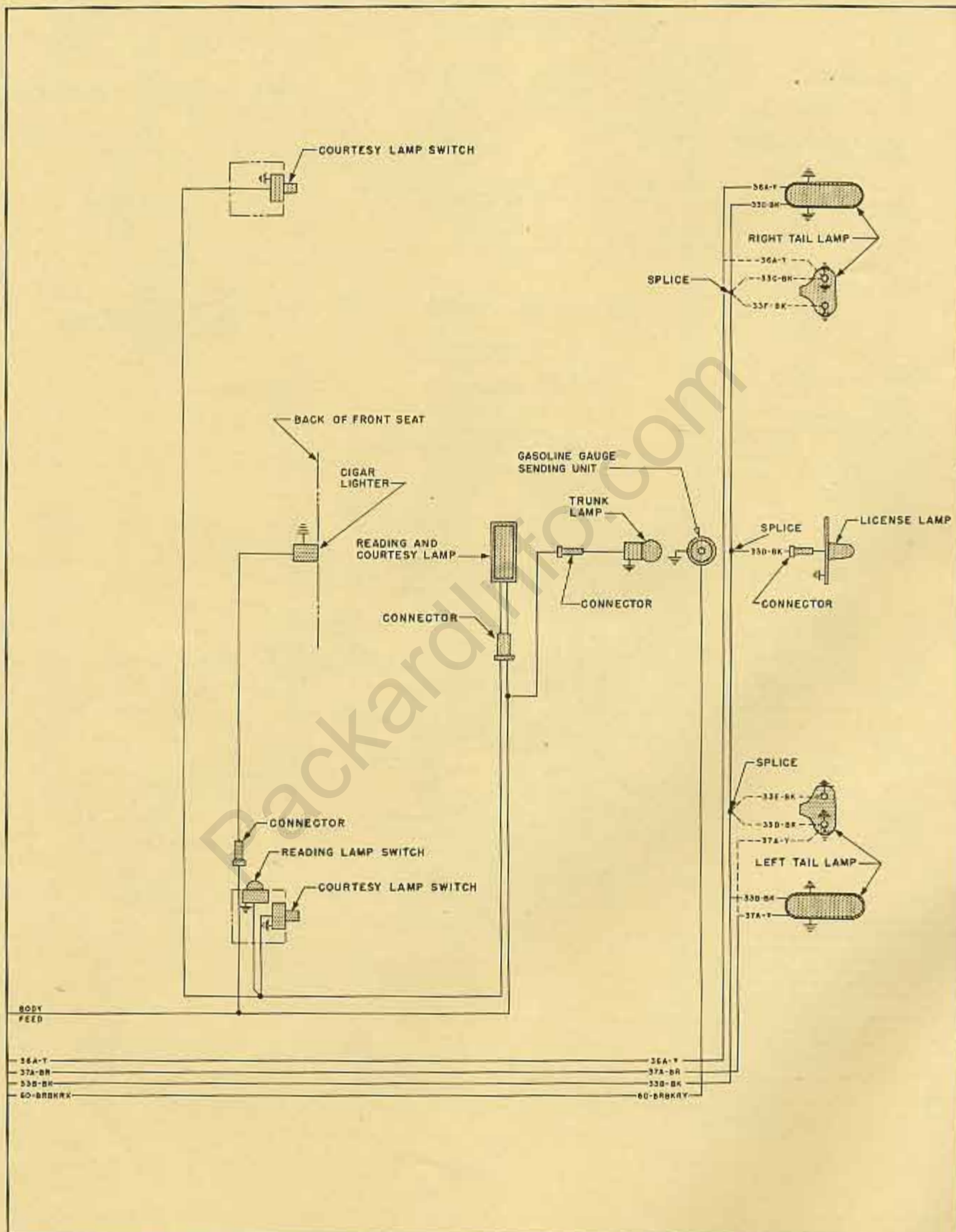
Lubrication Chart



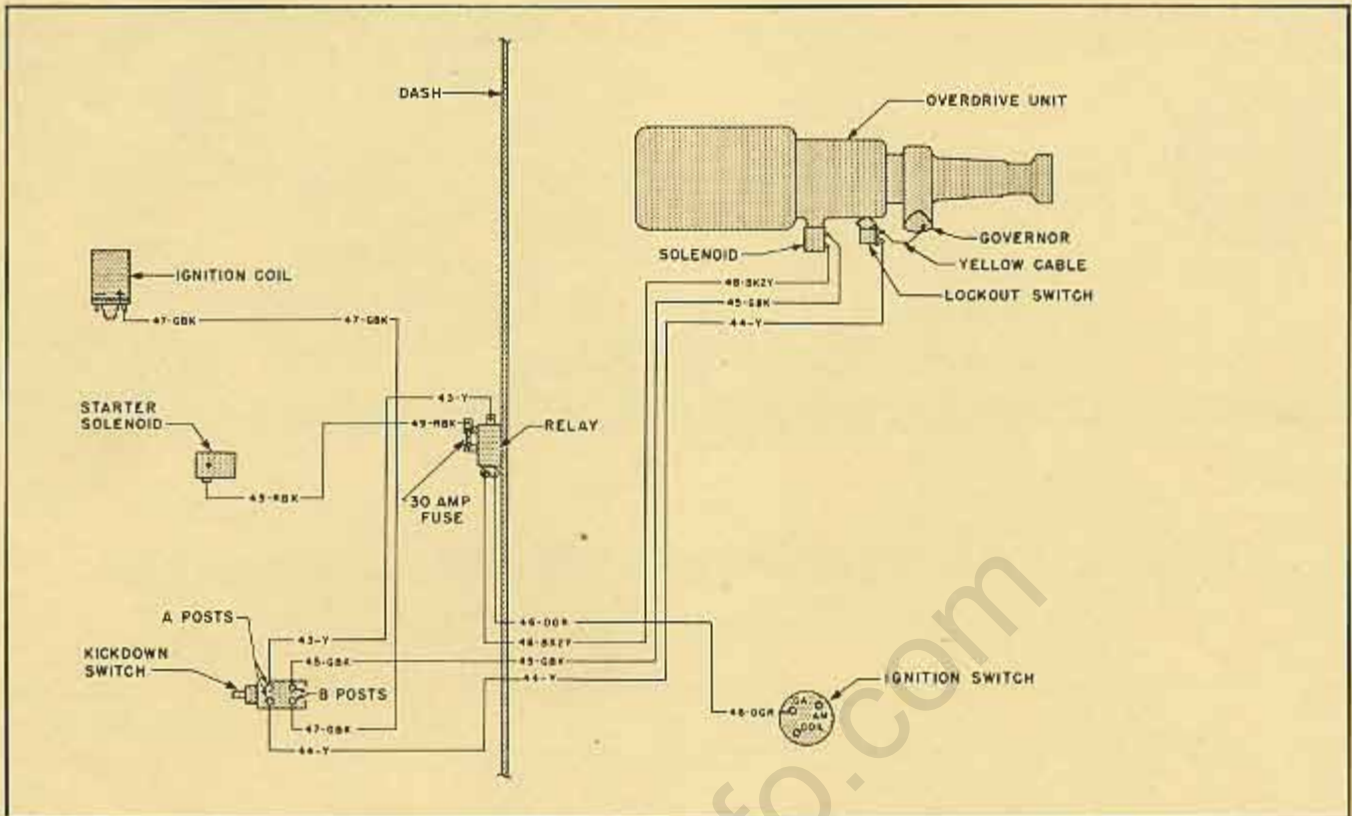
24th Series Engine Compartment Wiring Diagram



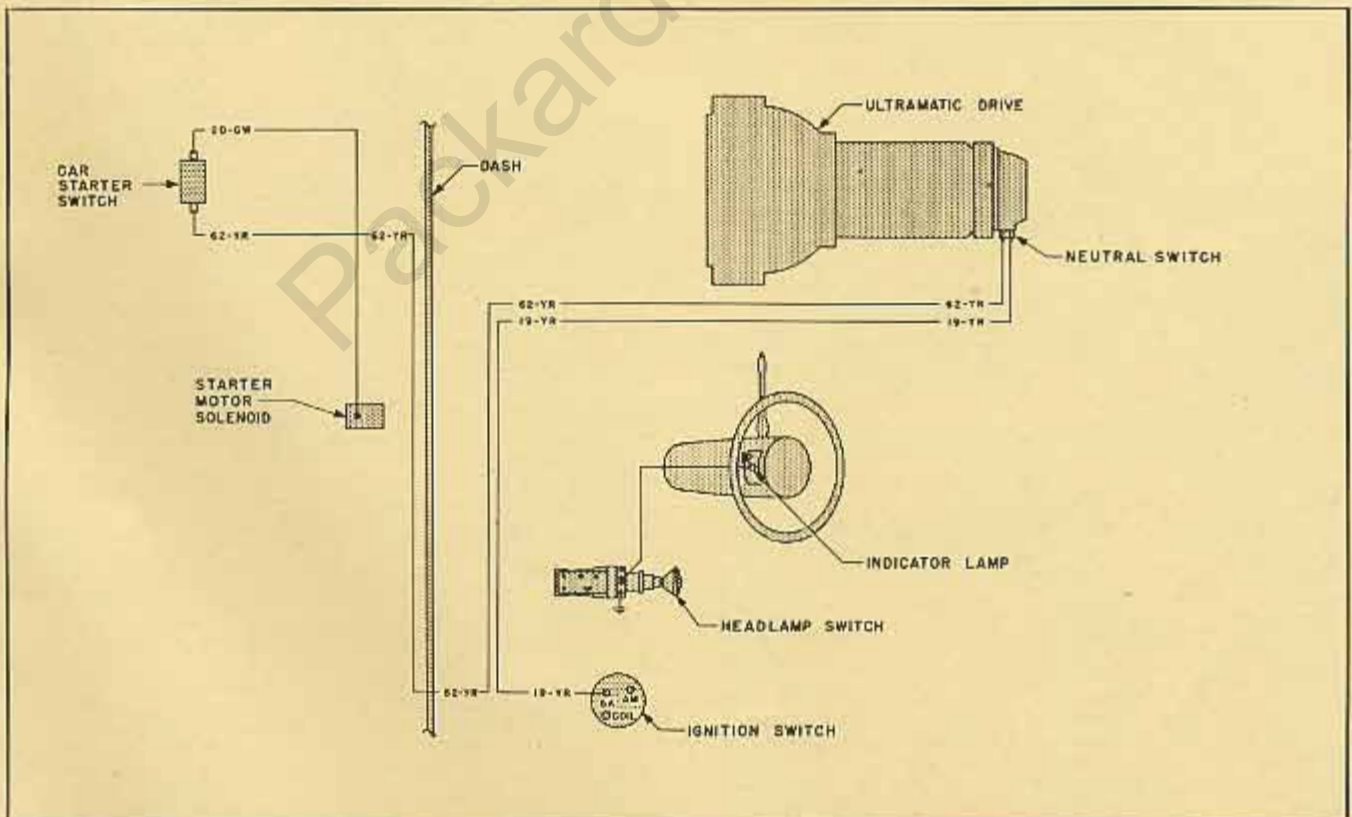
24th Series Driver's Compartment Wiring Diagram



24th Series Rear Chassis and Body Wiring Diagram



24th Series Overdrive Wiring Diagram



24th Series Ultramatic Drive Wiring Diagram