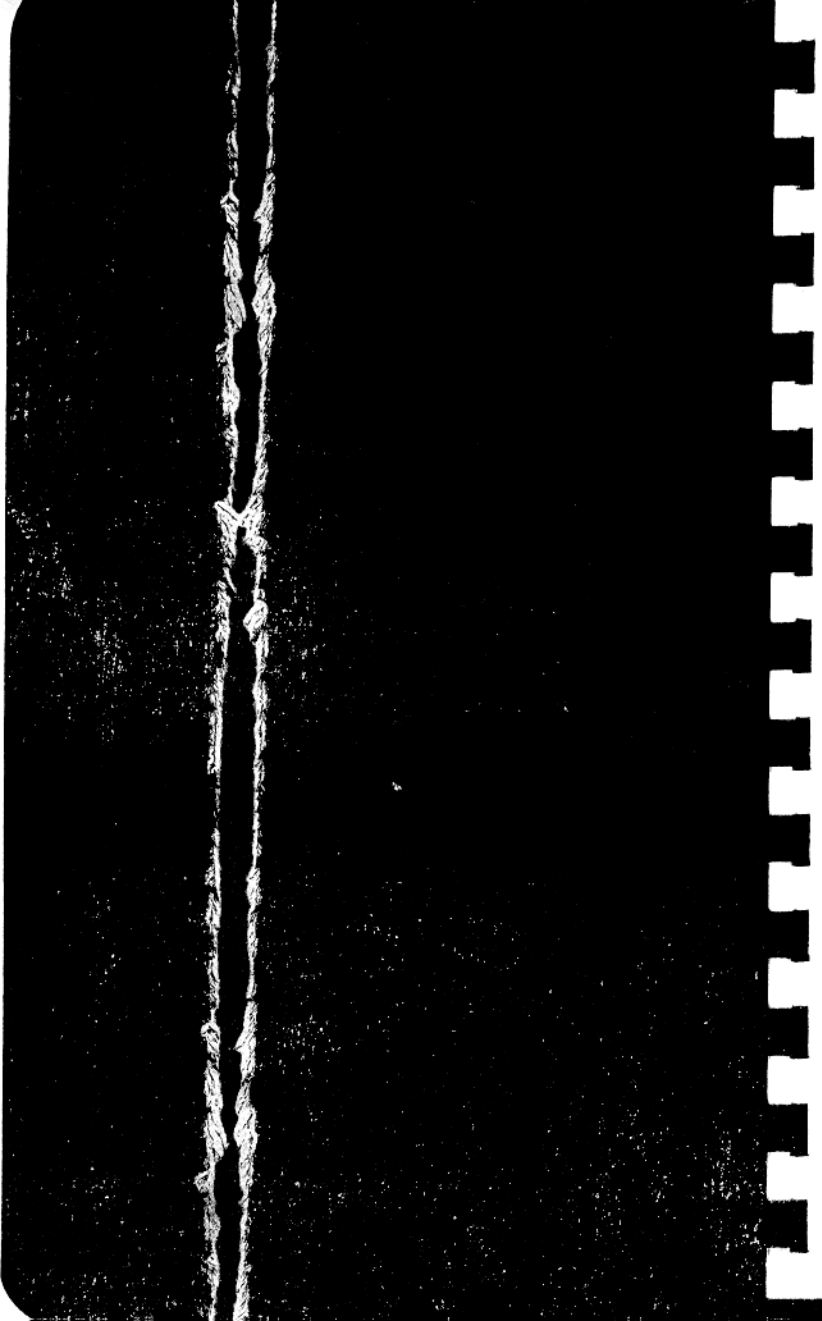

1939 ADVANCE FACTS BOOK

All prices and specifications are subject to change without notice

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PRINTED IN U. S. A.

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WILLYS-OVERLAND MOTORS, INC.
TOLEDO, OHIO

THIS Advance Edition of Facts Book for Salesmen has been written in a comparative manner to assist in telling the buying public "What's New in Willys-Overland cars for 1939."

Complete "Facts Book for 1939" will be published promptly when data regarding competitive cars is available.

THE OVERLAND SECTION

COMBINED SPECIFICATIONS AND INDEX

Accelerator 40
Air Cleaner 36
Anti-Friction Bearings . . . . . .
Twenty-eight
All-steel Construction 25
Appearance 27
Slip-stream styling
Deep skirted fenders
Wide range head lights
Centered wheel hubs
Full lift hood
Rolled edge on fenders
Brilliant hood lines
"Cat-walk" louvres
Axle (Front) 30
Type eye beam
Road clearance, tires inflated, $8\frac{9}{32}$" on Speedway model
Road clearance, tires inflated $8\frac{17}{32}$" on DeLuxe
Front wheel, inner bearing . . . Timken
Front wheel, outer bearing . . . Timken
Kingpin upper bearing . . . .750"
Kingpin lower bearing . . . .750"
Kingpin Thrust bearing Matthews ball
Axle (Rear) 31
Shaft
Type . . . semi-floating
Shafts . . . Chrome Molybdenum Steel
Gear . . . spiral bevel
Gear ratio . . . 4.3 to 1 (Speedway model)
4.55 to 1 (DeLuxe Model)
Number gear teeth . . . 43 (Speedway model)
41 (DeLuxe)
Pinion gear teeth . . . 10 (Speedway model)
Pinion gear teeth . . . 9 (DeLuxe)
Pinion and Pinion bearing shim adjusted
Road clearance under center with tires inflated
. . . $8\frac{1}{4}$" (DeLuxe)
. . . 8" (Speedway model)
Oil Capacity . . . $1\frac{1}{4}$ pints
Oil Recommended . . . summer and winter
SAE 90
Battery 44
USL A13, Amp. 96.
Balanced Power . . . . . .

Balanced Weight . . . . . .

Bearings . . . . . .
Main bearings . . . 3 steel backed babbitt lined slip in type, no shims
No. 1 . . . . . 2.334 x 1.920″ long
No. 2 . . . . . 2.334 x 1 13/16″ long
No. 3 . . . . . 2.334 x 1 3/4″ long
Connecting
Rod bearings—Total bearing area 38.043
Lower bearing babbitt not shimmed
Camshaft bearings
Clutch release bearing . . . ball bearing
Main drive gear bearing . . . ball bearing
Trans. Main shaft bearing . . . ball bearing
Trans. Spigot bearing . . . Hyatt roller
Axle drive pinion bearing
front . . . Timken
rear . . . Timken
Differential bearings (2) . . . Timken
Axle shaft bearings (2) . . . Timken
Front wheel outer bearing (2) . . . Timken
Steering Knuckle Thrust bearings (2) . . . Mathews Ball
Kingpin bushing . . . bronze

Bendix Starter 43

Bore . . . . . .
3 1/8″, stroke 4 3/8″

Body 25, 31
All-Steel
Colors
Models
Patented
Insulated against heat, etc.
Roof one piece, all-steel
Reinforced
Safety
Comfort
Dimensions, Interior
Roomy
Head room
Leg room
Shelf in sedan rear
Luggage compartment
Safety glass
Windshield
Drip moulding
Rear window
Hardware
Interior
Appearance
Finish DeLuxe enamel
Headlamps
Tail Lamp
Doors
Upholstering
Accessories
Head lining
Cushions
Floor covering
Instrument panel
Windows
Door locks
Overall length
Dome light
Corner posts front
Cowl ventilator
Foot rest
Weatherstrip on window
Spare tire and wheel
Louvres

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Body (Continued)
Lines
Illustrations, Interior
Exterior
Hood
Fenders

Brakes 26, 29
Foot brakes hydraulic, 2 shoe internal expanding
Lining, moulded and woven
Length per wheel or drum 18″
Width . . . 1 3/4″
Thickness . . . 3/16″
Total area 131″
Drums, Nickel chrome, alloy cast iron, 9″ diameter
Retain shape, quick cooling, reinforced
Percentage braking power, rear wheels 44%
Parking brakes, mechanically operated by lever from dash
Oversize
Safe
Shoes anchored rigidly
Pedals rubber covered

Bumpers 25, 26
Bumper to Bumper length 24
180 inches (15 feet)

Cables (Brakes) . . . . . .

Calibrated Springs . . . . . .

Camber 2° . . . . . .
Caster 3°
Toe-in, inches, 1/16-1/8
Kingpin inclination 7 1/2°

Camshaft 41
Semi-steel
Bearings, pressure lubricated, 4 bearings
Gear, semi-steel
Driven by silent timing chain

Capacity . . . . . .
Oil reservoir . . . 4 quarts
Gasoline tank . . . 8 gallons
Cooling system . . . 11 3/4 quarts
Tires . . . DeLuxe 26 lbs., Speedway 30 lbs.

Carburetor 36, 41
Tillotson, Down draft
Fixed jet
Thermostatic heat conrol on intake manifold
Mechanical fuel pump
Flooding prevented
Air cleaner
Insulated from heat by heavy gasket
Size . . . 1 1/8″

Car Turning radius
17 feet, 34 foot circle
Caster degrees, 3°
Camber degrees, 2°
Carpet
Chain ... 43
Silent timing, 47 links, 1¼″ wide, Pitch ½″
Full pressure lubricated
Non-slap
Charging Rate
18 amps., Speedway model
28 amps., DeLuxe
Car Speed for Maximum charging rate, 22 MPH
Chassis ... 26
Chassis Lubrication ... 49
Choke
Manual Operated from instrument panel
Cleaner (Air)
Clearance (Road) ... 30
(See axle, front, rear)
Clutch ... 36
Borg & Beck, driven single plate, dry disc
Spring cushioned hub
Size, 8″ driven plate
Moulded clutch facings
Release bearing . . . ball bearing
Main drive gear bearing . . . ball bearing
Pilot bearing . . . bronze
Pedal, rubber covered
Comfort ... 49, 50
Easy step
Wide doors
Roomy body
Wide seats
Soft floor covering
Form fit cushions
Tempered steel, long spiral spring cushions
Foot rest
Balanced weight distribution
Head room
Leg room
Elbow room
Easy entrance and exit
Door locks
Luxurious interior
Upholstery
Wide range windshield wipers
Full vision
Adjustable seat

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Comfort (Continued)
Ease of operation
One glove compartment
Shock proof steering
Package shelf
Dome light
Non-glare instrument lighting
Brilliant highway illumination
Window controls
Instruments in full view
Rigid K-X frame
Aero-type shock absorbers
Silent rubber cushioned shackles
Oversize tires
Live rubber engine mountings
Insulated body
Weather stripped windows
Non reflecting windshield
Sun visors
Heater
Radio
Cigar lighter
Drip mouldings
Rubber covered running boards
Low center of gravity, non-sway
Dimmer switch
Spacious luggage compartment
Compression Ratio ... 41
6.35-1
Connecting Rods ... 41
I beam type
Length center to center, 9 3/16″
Carbon steel
Light Weight
Lower bearing, spun babbitt
Constant Mesh Gear ... 26
Second, Helical Gear
Cooling System ... 49
Pump circulation, centrifugal impeller type
Capacity, 11¾ quarts
Radiator, Cellular core
Water Pump, ball bearing packless type
Fan, 4 blades
Pump drive, fan belt
Hose connections,
Lower, inside diameter 1 7/16″
length 5⅛″ and 2½″
Upper, inside diameter 1½″
length 9¾ inches
Corner Posts

Cowl Ventilator 31

Crankshaft 43
Drop forged, steel
Balanced Statically and Dynamically
Diameter . . . 2.334″
Three bearings (See bearings, Main)
Front bearing takes thrust
Non-whipping
Full pressure lubricated
Length . . . $23\frac{3}{16}$″
Weight . . . 34 lbs.

Crankcase .....
Cast en bloc with cylinders

Cubic Inch Displacement .....
134.2

Current Regulator .....
Third Brush—Speedway
Voltage—DeLuxe

Cushions .....

Cut-Out Relay .....
Voltage at closing, 7 to 7.5, Car speed 12 MPH
MPH Amperes to Open, 0.5 to 2.5

Cylinders 41, 42
Four, vertical offset $\frac{1}{8}$″
Cylinder block, semi-steel, cast en bloc
L-Head type
Honed to reflecto-mirror finish
Cylinder block and crankcase cast in one piece
Bore, $3\frac{1}{8}$″, stroke, $4\frac{3}{8}$″
Piston Displacement 134.2 Cubic Inches
Engine mounting, four steel arms, mounted on live rubber
Cylinder Head, Cast Iron

DeLuxe Models .....
Sedan
Coupe

Differential .....
Two Pinion, Straight Shaft
Case, one piece construction, malleable iron
Ring gear, riveted
Bearings, Timken (2)
Ring gear, 43 Teeth, Nickel Alloy Steel, Spiral Bevel Speedway model
Pinion, 10 Teeth, Nickel Alloy Steel
Ring gear, 41 teeth, DeLuxe models
Pinion, 9 teeth, DeLuxe models

Dimensions .....

Displacement .....
134.2

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Dulux Finish .....

Dome Light 48

Doors 47

Down Draft Carburetor 35

Drip Moulding .....

Engine 24, 26, 40, 41, 42
4 cylinders, cast en bloc with crankcase
L-Head
Bore $3\frac{1}{8}$″, stroke $4\frac{3}{8}$″
Mounted 4 points on live rubber
Cylinders vertical offset $\frac{1}{8}$″
Cylinder head, cast iron
Piston displacement, 134.2
Taxable horsepower, 15.63
Brake horsepower, 61 at 3600 R.P.M.
Torque, 106 ft. lbs. at 2200 R.P.M.
Compression Ratio, 6.3-1
Compression 105 lbs. at 185 RPM (Cranking speed)
Full pressure, force feed lubrication
Main Bearings (3)
Wrist pins, locked in rod
Pistons, light weight aluminum alloy, 12 oz.
Piston Rings, (3)
Connecting rods
Crankshaft
Camshaft
Cooling
Valves
Ignition
Efficiency

Ease of Operation 29

Electric Gasoline Gauge 45

Exhaust Valves 40

Elbow Room .....

Fan .....
4 blades

Fenders 25, 27, 28

Fewer Working Parts .....

Finish .....
Deluxe

Floor .....
One piece, steel, reinforced
Mats

Floor Covering .....

Float-O Oil Intake 48

Fly-wheel .....
97 Teeth in Steel Ring

Foot Rest

Form-fitting Cushions 29, 46

Four Cylinder Engine Efficiency 24, 49

Frame 26
Double Drop, K-X Type, Deep channel girders 3¾" deep
K-Type, front cross member forms box section to X Brace
Four reinforced cross members in addition to X and K members.

Front Axle 30
(See Axle, Front)

Front Wheel Bearings
Timken

Front Seat 32, 34, 46
Adjustable

Fuel Pump 38
Camshaft Driven

Fuel Lines 38
Protected, inside chassis side rails

Full Pressure Lubrication System 49

Full Vision Windshield 30

Gasoline Tank
8 gallons capacity, Rear of Frame
Protected by Cross Members

Gasoline Gauge 45
Electric, On Instrument Panel
Oil Measure, In oil filler cap

Gasoline Savings Chart

Gauge 45
Oil pressure, on instrument panel
Oil measure, in oil filler cap

Gearshift 26
Standard

Gear Ratios 31
Rear Axle, 4.3 to 1 (Speedway)
4.55-1 (DeLuxe)
Second Speed, 1.563 to 1
Low speed, 2.673 to 1
Reverse, 3.553 to 1

Generator 43

Glove Compartment 45
Instrument panel

Glass
Safety Glass throughout all windows

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Ground Clearance 30, 31
Front Axle, Tires inflated 8 9/32"
Rear Axle, Tires inflated, 8¼" under center

Ground
Battery, Negative Terminal

Gears 26, 38
Transmission, Syncro mesh, Helical Type, Silent Hand Brake (Operates brakes for parking)

Hardware
Interior body

Headlamps 25, 27
Set in Fenders
Tilt-Beam Type
Parking bulbs built in
Dimmer, Foot Control

Head 40
Cylinder, Cast Semi-Steel

Head Room

Heater

Hood 25, 28, 31
Lifts as one unit from front

Horn
Vibrator Type

Hose
Radiator, (See Cooling System)

Horsepower 24
Engine Taxable 15.63 HP, brake HP 61 at 3600 RPM

Hot Spot Manifold 24, 42
Intake Manifold, Automatically controlled

Ignition System 43, 45
Auto-Lite
Vacuum Controlled Distributor
Approved, National Board of Underwriters
Water Proof Cap Coil
Firing order of Cylinders, 1-3-4-2
Starter, Motor and Generator, Auto-Lite
Bendix Drive
Switch

Instrument Panel 25, 44
Lighting

Instruments 44, 45
Speedometer
Gasoline Gauge
Oil Pressure Gauge
Ammeter
Engine Temperature Gauge

Interior 45
Light
Appearance
Insulated .....
Bodies
Carburetor
Intake Manifold Heat Control 40
Inside Body Dimensions .....
I-Beam Front Axle 30, 31
Interior Trim 45, 46
K-X Type Frame Cross Member 26, 39
Leg Room 45, 46
L-Head Engine 24
Length 24
180″ (15 feet)
Lighting System 43
Live Rubber Engine Mountings 42
Locks 47
Door
Ignition Switch
Luggage Compartment
Low Center of Gravity 30
Louvres 28
Lubrication System 42, 48, 49
Full Pressure, 40 lbs.
Float-O Oil Intake
Oil Pump, Left Side of Engine
Gear Driven off Camshaft
Force Feed Circulation
Drilled Passages through Cylinder Block
Drilled Passages through Crankshaft
Fish trap Oil passage
Pressure Regulator, In cover of Oil Pump
Capacity, 4 quarts
Crankcase, Ventilated
Recommended Viscosities: Summer, 30: Mild Winter
20″: Severe, 10W
Luggage Compartment 33
14 Cubic Feet in Sedan
33 Cubic Feet in Coupe
Models 31
Motor 24, 26, 40, 41, 42
(See Engine)
Oiling System 42, 48, 49
(See lubrication)
Oils .....
Recommended Viscosities, (See Lubrication)

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Oil Gauge 45
Oil Pressure 48, 49
30 Lbs.
Oil Capacity .....
4 Quarts
Operating Costs .....
Overall Length 24
180″ (15 Feet)
Oversize Vital Parts Throughout .....
Oversize Tires .....
Oversize Brakes 34
Package Shelf 48
Behind Sedan Rear Seat
Behind Coupe Seat
Parking Brake 35
Operates on Service Brakes
Parking Lights .....
In Headlamps
Patented Body Design .....
Pedals 29
Rubber covered
Pistons 41, 42
Aluminum Alloy, Lightweight, 12 oz.
Length, $3\frac{3}{4}$″
Piston Displacement 24
134.2 Cubic Inches
Piston Pins 24, 41
(Wrist Pins)
Bearing Surface in Piston, locked in rod
Diameter, $\frac{13}{16}$″
Piston Rings .....
Three: 2 Compression, 1 Oil
Size, $3\frac{1}{8}$ x $\frac{3}{32}$″ Compression $\frac{3}{16}$″ Oil
Power Plant 24, 26, 40
(See Engine)
Prices .....
Passenger Cars
Accessories
Pump 37, 38
Fuel
Water
Oil
Radiator .....
Cellular Core
Radiator Ornament .....

Radiator Hose
(See Cooling System)
Radio
Philco
Crosley
Radius ... 30
Turning, 17 ft. (34 ft. Circle)
Rear Axle ... 31
(See Axle, Rear)
Rear Spring
(See Spring, rear)
Rear Seat ... 46
Removable
Rear View Mirror ... 30
Release Bearing
Clutch, Ball Bearing
Repairs
Low cost of
Rings ... 41
Piston, Three; 2 compression, 1 Oil
(See Piston Rings)
Rigid Frame ... 26
(See Frame)
Ring Gear
(See Differential)
Road Clearance ... 30, 31
Tires inflated
front, $8\frac{9}{32}$" Standard, $8\frac{17}{32}$ DeLuxe
rear, $8\frac{1}{4}$" at center
Robe Rail
Rods ... 41
(See Connecting Rods)
Roof ... 25
One Piece, All-steel
Roominess ... 32, 45, 46
Rubber Engine Mountings ... 26
Four
Running Boards ... 25
Covered (Vulcanized Corrugated Rubber)
Road Clearance, $10\frac{1}{2}$"
Width, $8\frac{1}{2}$"
Below Door Bottom, $3\frac{3}{4}$"
Hung on side rails, braced to X member
Safety ... 30
All Steel Construction
K-X Type Frame with additional cross members
Low Center of Gravity

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Safety (Continued)
Oversize Tires
Safety Steel Wheels
Calibrated Springing and Weight Distribution
Doors open to rear
Safety Glass throughout
Wide-Angle Windshield Wiper
Wide-range vision
Narrow Girder Type Corner Posts
Foot Operated Headlamp Dimmer Switch
Super Safety Brakes
Brake Mechanism Protected
Non-Divided Windshield
Non-Glare Tilting Windshield
Non-Glare Tilting Rear Window
Wide Rear Window
Complete Body Insulation
Accessibility of all Controls
Plenty of Room for Driver
Rubber Covered Pedals
Rubber Covered Running Board
Shock Proof Steering
Steel Rubber Covered Steering Wheel
Foot Rest in Rear of Sedan
Rear View Mirror
Oversize Clutch
Oversize Transmission
Easy Shifting Gears
Oversize Steering Gear
Safety Headlamps
Safety Glass
Windshield and All Windows
Savings Chart
Seats ... 25, 29
Seat Dimensions Diagram
Shock Eliminators ... 31
Hydraulic, Airplane Type, Direct Acting
Spare Wheel and Tire
On floor of Rear Luggage Compartment
Speedometer ... 45
In Instrument Panel, Pointer Type
Springs ... 26
FRONT, Conventional suspension
Semi-Elliptic
Chrome Vanadium Steel
Length, $33\frac{1}{2}$", Width, $1\frac{3}{4}$"
Leaves, 7
Shackled, Rubber Inserts
Calibrated with Rate of Rear Spring for Weight Distribution

Springs (Continued)
Lubricated with Graphite
REAR Conventional Suspension
Semi-Elliptic
Chrome Vanadium Steel
Length, 46″ Width 1¾″
Leaves, 6
Lubricated with Graphite
Calibrated with Front Spring for Weight Distribution
Silent Rubber Insert Shackle

Spring Base .....
79% of wheelbase on each side

Steel Bodies 25

Streamlining .....

Steering 26, 29
Wheel, Safety Type, 3 Spokes, 17″ Dia.
Steel, Rubber covered
GEMMER Worm and Sector Type
Worm Mounted on Tapered Roller Bearings
Turning Radius, 17 Feet (34 Ft. Circle)
Linkage, Conventional
Steering Knuckle Thrust Bearing, Matthews Ball
Oversize throughout

Starter 43
Button on Instrument Panel
Motor, Auto-Lite
Engine Cranking Speed, 185 R.P.M.
Dash Operated
Bendix Drive

Stop Light .....

Styling 27

Silent Timing Chain 43
Non-Slap
Links, 47
Width, 1¼″
Pitch, ½″
Lubrication, Full Pressure

Sun Visors .....

Synchro Mesh Transmission 38
(See Transmission)

Tail and Stop Light .....

Tank .....
Fuel, 8 Gallons Capacity

Torque .....
Engine: 106 ft. lbs. at 2200 R.P.M., through Springs

Timing Chain 43
Non-slap

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Timing Chain (Continued)
Links, 47
Width, 1¼″
Pitch, ½″
Lubrication, Full Pressure

Transmission 26, 38
Warner
Synchro Mesh, Unit with Engine
3 Speeds Forward, 1 Reverse
Gear Ratio, 4.3 to 1
Transmission Ratio, High 1 to 1
Second Speed, 1.563 to 1
Low Speed, 2.673 to 1
Reverse, 3.553 to 1
Constant Mesh: Second Gear Speed, Helical Cut
Oil Capacity, 1 Pint
Summer SAE 90, Winter SAE 90
Gears, Nickel Steel
Shifting Mechanism: Plunger and Spring Locking Type

Tread .....
Standard 56″

Tools .....
Regular equipment with car

Throttle .....
Hand on Instrument Panel

Top .....
Unit-weld, All-Steel

Timing 43
Breaker Points open top center, Firing Order 1-3-4-2

Tires .....
16 x 5.50: Inflate 26 lbs.

Tillotson Down Draft Carburetor 35

Taxable Horsepower .....
15.63

Turning Radius 30
17 ft. (34 ft. Circle)

Tonneau Ash Receptacle .....
(Accessory)

Upholstery 45

Valves 41
Arrangement, L-Head

INTAKE
Nickel Chromium Steel
Diameter, 1 17/32″
Angle of Seat, 45 degrees
Valve Seats Water Cooled
Conventional Ends

Lift $^{23}/_{64}$″
EXHAUST
Chromium Steel
Diameter, $1^{15}/_{32}$″
Angle of Seat, 45 degrees
Seats Water-Cooled
Conventional Ends
Lift, $^{23}/_{64}$″
TIMING

Ventilated Crankcase

Vacuum Spark Control

V-Type Fan Belt
42 degrees

Vibration
Not Transmitted from Engine

Ventilated Clutch 36

Ventilator
Cowl

Ventilation
No-Draft

Water Pump 37
Impeller Type, Balanced Drive Pulley
Operated by Fan Belt

Wheels
Safety Steel Disc Type, Kelsey-Hayes 16″ Diameter, $3\frac{1}{2}$″ wide
Tires, 16 x 5.50 (DeLuxe)
Chromium Hub Caps
Spare in Bottom Luggage Compartment
Bearings, Timken

Windshield 30
One piece Safety Glass, Stationary
Anti-Glare, Tilted

Wind Wings

Windshield Wiper
Wide-Angle

Wiring

Water Hoses
(See Cooling System)

Windows
Safety Glass, Weather Stripped

Window Regulators 46

Weight
Standard Sedan 2250 lbs.
Standard Coupe, 2150 lbs.

BUY OVERLAND — THE SMOOTH WAY TO SAVE

Wrist Pins
$^{13}/_{16}$″ diameter
Bearings, in Piston

Water
Capacity, $11\frac{3}{4}$″ quarts

Wheelbase 24
102″—(See Wheels)

Outstanding Performance with Unrivaled Economy

The new Overland for 1939 offers an entirely new and advanced development of the type of light weight—highly economical—full size, quality built car pioneered by Willys-Overland Motors. It presents a new development of aero-dynamic styling which establishes it as a definite style leader . . . a comfort factor which makes it a car of superlative riding qualities regardless of the basis used for comparison.

Outstanding elements of this new type Overland are . . . 61 horse power at 3600 R. P. M. . . . the most highly developed hydraulic brakes available to modern engineering with a braking area of 131 square inches . . . equivalent to one square inch of brake for each 17.4 pounds per car weight . . . increased room in the bodies . . . a new brilliance in appearance and a new flash in performance that is certain to make Willys-Overland an outstanding automobile.

Engine

1—Overland engines—61 horse power at 3600 R. P. M. . . . an increase of 27 percent—surprising acceleration . . . increase in top speed to 75 miles per hour . . . remarkable economy which has made Willys-Overland the economy champion among all automobiles.

Striking features in the engine design include—water jackets running the full length of the piston travel . . . aluminum alloy, plated pistons . . . heat dam in piston head to reduce transfer of heat to top piston ring . . . fixed jet, high velocity, down draft carburetor . . . automatic heat control on intake manifold . . . improved valve construction with higher lift . . . valve spring dampeners to insure quiet operation . . . compression ratio 6.3 . . . piston and connecting rod assemblies 15 ounces lighter —fly-wheel 17 pounds lighter. (See engine)

Wheel Base

102 inches . . . longer than in 1938.
Over-all length of car 180 inches from bumper to bumper.

Bodies

1—All-steel . . . unit-weld . . . sturdily reinforced . . . built of heavy gauge body metal.

2—New hood . . . advanced slip-stream styling . . . longer . . . completely redesigned . . . louvres in front end of hood below top of fender lines and in apron between fenders.

3—New hood ornament on DeLuxe models styled to conform with body lines.

4—New fenders . . . fully rounded curves . . . fender skirts deeper front and rear . . . wheel hub centered with rim of fenders . . . rolled edges for strength . . . rigid fender support.

5—Head lamps built-in on front fenders . . . new styling—eye-ball type mounting . . . full battery voltage to lamps for better illumination of road.

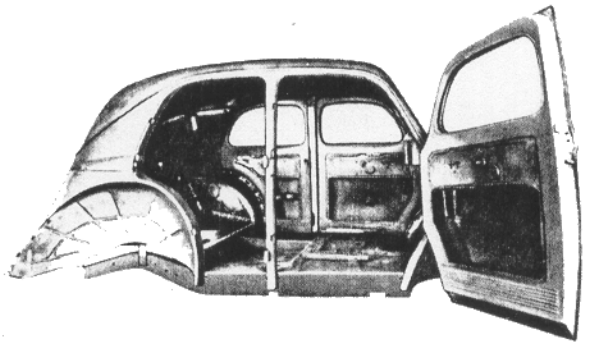
6—New bumpers . . . especially styled for Overland to accentuate beauty.

7—New running boards . . . joined to fenders to afford maximum rigidity.

8—New instrument panel . . . adding distinctive note to trim features of interior.

9—New interior trim throughout. (see interior)

10—New seat design . . . affording easy chair comfort. (see interior)



Overland bodies are all-steel, unit-weld, sturdily reinforced, durable, safe, strong. (See Appearance, Page 27 for details.)

Chassis

1—K-X frame—sturdily reinforced frame with deep channel members.

2—Gear shift—syncro-mesh transmission for silent, easy gear shifting.

3—Springs—rubber mountings in spring shackles to afford soft ride and to eliminate necessity for spring lubrication at shackles, rear spring seat centered.

4—Hydraulic brakes—the most highly developed type of hydraulic brakes available for modern automobile construction. 131 inches of braking surface affording 1 square inch of braking surface for each 17.4 pounds car weight.

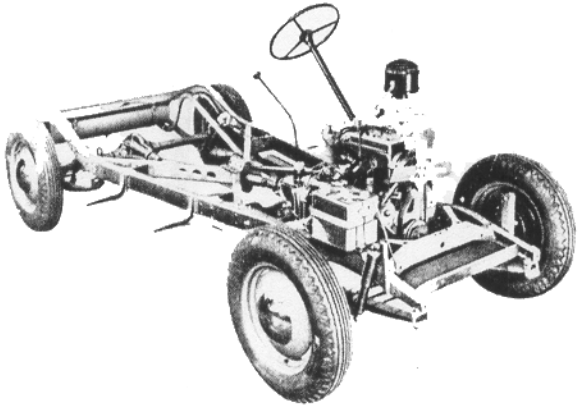
5—Steering—steering gear geometry revised to give perfect control under all road conditions.

6—Engine mounting—improved rubber engine mounting construction. No engine vibration at any speed.

7—Wheels—fitted with five bolts.

8—Bumpers—improved bumpers of special design with decorative bumper guards on DeLuxe models. Full protection for fenders.

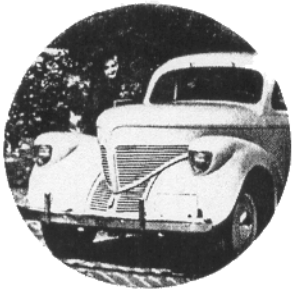
9—Rear license plate mounting—now centered in rear deck.



The rugged "K-X" chassis on the new Overland for 1939 assures long life under hard use.

Appearance and Style

The new slip-stream styling of Overland for 1939 has the quality of distinction. It reveals an advanced note in the new trend toward aero-dynamic design.

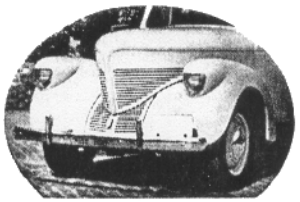


The slip-stream styling of the new Overland hood presents a distinctive and appealing fresh beauty.

The length and the wheel base of the new Overland have been increased.

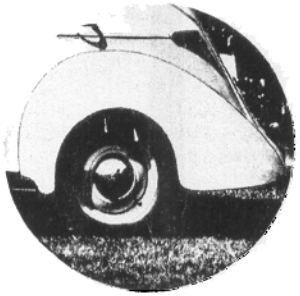
Fenders are materially deeper and more gracefully rounded. The contours conform with the shape of the hood to give a clean cut, alert, sleek appearance to the front end of the car. The depth of the skirts on the front fenders closes up the wheel housing and gives a neat, sturdy, balanced design.

Deep skirted fenders, the new and attractive head lamp design and the "cat walk louvres" add to Overland beauty.



The front head lamps are of entirely new slip-stream design, conforming with the sweep of the fenders to harmonize with the general lines of the car. These head lamps are flexibly supported in eyeball mountings in the fenders.

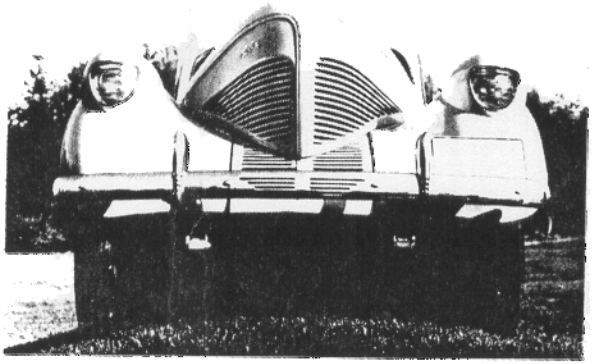
The rear fenders have deep skirts and the hub of the rear wheel is centered with the curve of the fenders. The design of the rear fenders eliminates any view of the interior of the wheel housing.



Full flared rear fenders with deep skirts add to Overland grace and styling.

The longer, higher, brilliantly conceived hood extends the front line of the car forward and drops down to the fender apron in an easy slope. Louvres are positioned well down from the top of the new hood and are also included in the fender aprons. Absence of louvres along the sides of the hood add to the distinctive and smooth contours of the body line.

The hood is hinged at the rear and completely lifts, giving immediate access to the battery and to the engine.



Wide range head lamps, louvres grouped at lower front of the hood and in the "cat-walk" are distinctive and advanced details found in the new Overland.

When in driving position the hood is locked by convenient latch centered in the apron.

Sturdy, rigid construction characterizes the hood development.

The chrome Overland name plate appears at the right side of the front end of the hood.

Ease of Operation

Distinctive features to serve ease of control in Overland for 1939 include:—

1—New steering gear geometry—for smooth, safe control over all roads.

2—Soft pedal pressure on both clutch and brake controls.

3—Hand brake is located at the driver's left under the cowl. It is easily accessible and operates with light pull.

4—Foot brake—light touch control of the finest type of hydraulic brakes.

5—The adjustable front seat may be made to accommodate any driving position.

Other features of Overland design are:—

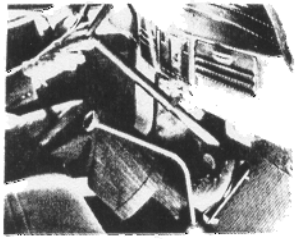
1—Syncro-mesh silent transmission.

2—Lounging chair design for seats.

3—Rubber shock cushioning body mountings.

4—Aeroplane type shock absorbers with improved insulation.

5—Sound-proof, weather insulated bodies.



All controls are conveniently grouped for accessibility.

Safety

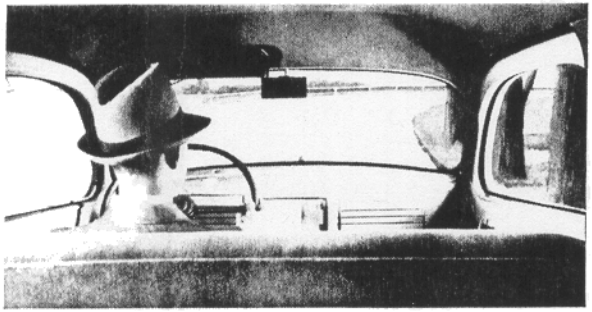
The 1939 Overland presents a full development of all factors of design and construction adding to safety of the occupants.

Instruments and operating controls are grouped in a central position in the instrument panel directly within vision of the driver. They may be instantly seen and used under any emergency condition.

A wide windshield . . . a proper seat level . . . the design of the hood and fenders . . . afford an unusually wide vision from the driver's seat.

Overland hand brake lever is located under the cowl at the left of the steering wheel within quick and easy reach. Overland new hydraulic service brakes . . . with large braking surface . . . light pedal pressure and one square inch of braking surface for each 17.4 pounds of car weight gives a large plus factor of safety.

Low center of gravity—ease of steering control which gives a feeling of stability and easy handling . . . a steering ratio of 13.1 . . . a full right or left swing of the wheels accomplished with $2\frac{3}{4}$ turn of the steering wheel . . . a turning radius of 17 feet are additional features of control adding to safety.

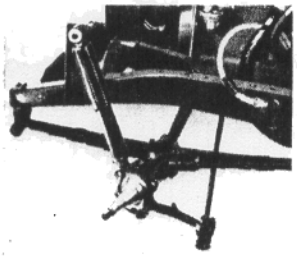


Full vision ahead; close vision of road directly in front of the car give the Overland driver a comforting sense of security.

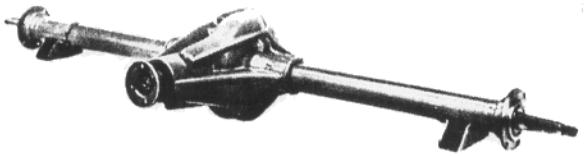
Axles

Front . . . full road clearance of $8\frac{9}{32}$ inches on the Speedway models and $8\frac{17}{32}$ inches on the DeLuxe. Rear axle—

built by Overland. Gear ratio on Standard models 4.3. Gear ratio on DeLuxe models 4.55. Rear axles are semi-floating, equipped with spiral bevel gears.



Shock resisting construction and full road clearance are featured in Overland front axle construction.



Sturdy, reinforced rear axle housing; rear axle gears ground on special machinery; these are important features adding to Overland satisfaction.

Overland Body

Overland body styles for 1939 include:—

4-door DeLuxe Sedan
4-door Standard Sedan
2-door DeLuxe Sedan
2-door Standard Sedan
DeLuxe Coupe
Standard Coupe

Important developments in Overland for 1939 include:—

An entire new type slip-stream styled hood, one piece in construction, hinged at the rear end of the cowl and lifting completely when raised.

An improved cowl ventilator which affords ventilation to the car without discomfort to the occupants even in bad weather.

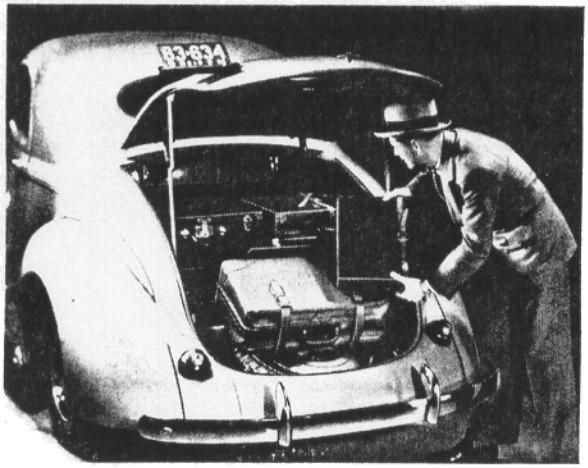
Wide room in Overland bodies gives generous seating space for all occupants without crowding.

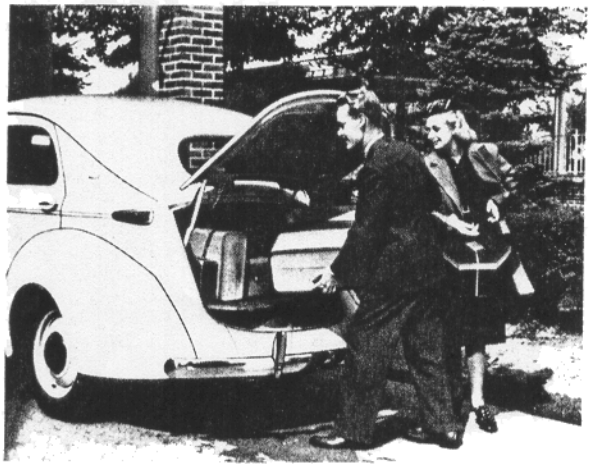
All-steel unit-weld construction is incorporated in the bodies. Corner posts are narrow and the driver is not bothered by "blind spots" at the side of the body. Full side vision as well as forward vision is afforded.

Easy entrance is afforded by the wide doors. On the 2-door models the flip-over front seat folds completely out of the way.

The front seat may be adjusted to suit the most comfortable position for the driver.

Luxurious coil spring cushions, with the back of the seats





14 cubic feet of luggage space in Overland Sedan models and 33 cubic feet in the coupe models, give exceptional storage room.

shaped to afford the comfort of an easy chair position, are distinctive features.

The front seat in the Sedan models affords 50 inches of seating space, the width of three average size theater seats.

Flooring in the rear compartment of the Sedan models is so located that ample leg room is afforded for all occupants.

Head room from top of seat to the inner body lining is of generous dimensions to accommodate tall people.

All Sedan models are equipped with a convenient foot rest.

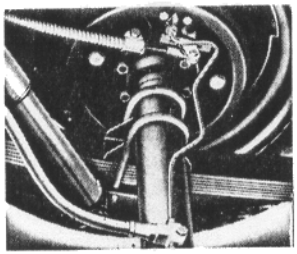
Rear luggage space for the Sedan models is 13 cubic feet. The rear compartment luggage space in the coupe models is 33 cubic feet.

Brakes

Service brakes on Overland for 1939 are the finest type hydraulic brakes that can be secured.

They are designed to afford correct braking effort on all four wheels.

The two rigid brake shoes are permanently anchored at the bottom. They are quickly and easily adjusted when necessary.



Big, highly perfected hydraulic brakes are used on Overland cars.

The brake drums are cast iron which afford maximum smoothness and efficiency in operation.

There is one square inch of braking service to every 17.4 pounds per car weight on Overland for 1939.

This generous over-size in braking surface is a factor of great importance to the driver.

Hand Brakes

Hand brakes on the Overland for 1939 operate entirely independently of the foot brakes. The hand brakes are controlled by a lever located under the cowl at the left of the driver.

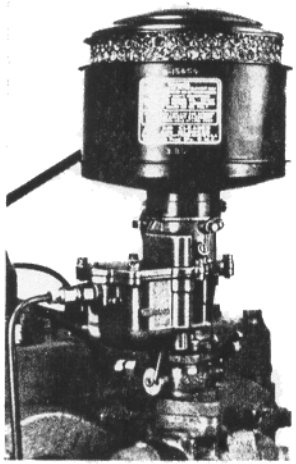
The Overland hand brake lever is located under the dash at the left of the driver.

Tires

Tire sizes on Overland DeLuxe models are 16″ x 5.50″ giving extra large tires for weight carried with full load.

Tire sizes on Overland Speedway models are 16″ x 5.00″, also affording a generous factor of over-size for weight.

Carburetor



The specially designed, fixed jet carburetor used on the new Overland affords uniform economy under all driving conditions.

Fixed jet, down draft carburetor equipped with a combination air cleaner and intake silencer is standard equipment on all Overland models.

Only one adjustment is included, this being the adjustment for idling speed.

Under all conditions of driving, the float level is maintained at an approximately fixed position.

A newly developed type of **air cleaner** and intake silencer gives quiet carburetor action.

The **air cleaner** is **rigidly braced** in position.

For those sections of the country where sand and dust are prevalent in the air, an optional oil bath air cleaner is available.

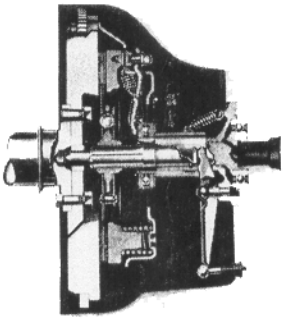
Clutch

The clutch is a single, dry plate type with spring—in-insulated hub. The clutch carries the following advancements for 1939. . .

Full protection against oil seepage from the transmission or engine.

Improved material in driven-disc, smooths action and reduces wear.

Lighter clutch pedal pressure gives ease of operation.

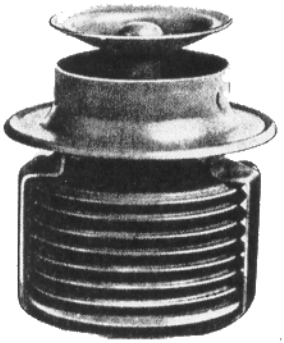


The Overland clutch is smooth and soft in operation.

Smooth clutch action has been assured through the improved type of design employed.

Cooling

A cellular type radiator with large water capacity is used on all Overland cars for 1939.

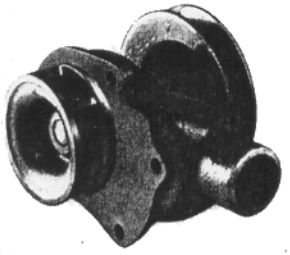


Thermostat control of the temperature of the water in the cooling system of the new Overland assures even cooling.

Water circulation is obtained through a centrifugal impeller type pump driven by the fan belt. A packless type of construction is used in the pump, requiring no lubrication.

Cooling is ample for all climates and under all driving conditions.

The temperature of the water circulating through the water jackets is thermostatically controlled.



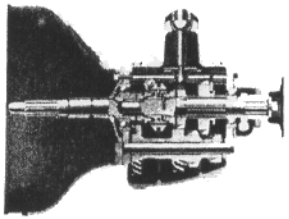
A silent, packless, self lubricating water pump is used in the new Overland.

Overland cooling is efficient at the highest and lowest temperatures as well as at all intermediate degrees.

Gear Shift Transmission

Syncro-mesh transmission affords easy, silent gear shifting on all Overland models.

A helical type second gear is used.



Syncro-mesh transmission, silent in operation, is standard equipment with the new Overland.

Fuel System

Fuel is drawn from the gasoline tank in the rear by an improved type of fuel pump driven from the cam-shaft. Fuel strainer is regular equipment and the capacity of the fuel tank is 8 gallons. (This is a convincing demonstration of Overland fuel economy.) The 8 gallon tank has as many miles of travel in it as the larger tanks used on other cars.

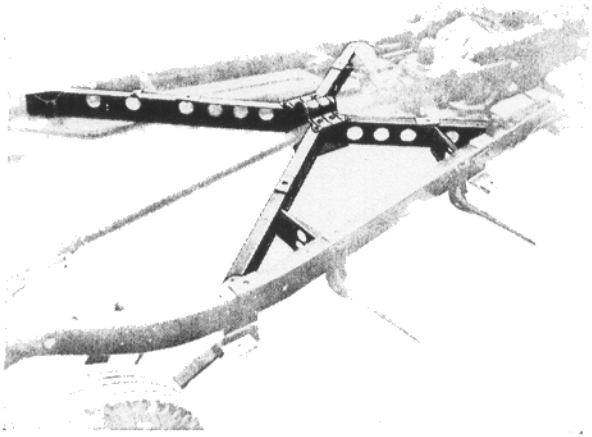
Overland Frame

Overland for 1939 offers an advanced type, rigid frame using a "K" reinforcing member at the front end and a "X" reinforcing member at the center.

This type of frame is exceptionally rigid and resists road shocks without transmitting strain through the body of the car. It is one of the reasons for the long life and trouble free service obtained from Overland.

Carrying the lightest load of any full sized automobile of equivalent body type the frame on an Overland is $3\frac{3}{4}$ inches deep with flanges $1\frac{3}{4}$ inches wide and frame material $\frac{7}{64}$ inches thick.

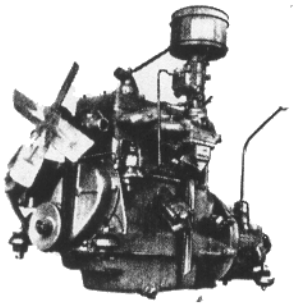
The "X" members increase torsional rigidity of the frame. The front reinforcement offers shock resisting construction and the entire frame construction gives a road riding quality that adds materially in the development of the Overland reputation for long life.



Rigid strength is obtained in the Overland frame through the rugged "X" cross structure.

Engine

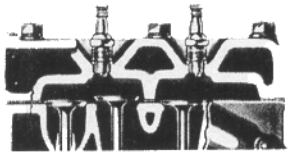
The smooth, flexible power of the Overland engine is one of the most striking stories that can be told for 1939. 27 percent more power, vibration free performance, snappy hill climbing ability, quick acceleration, flexibility to a new degree in light car operation, are a result of:—



The Great New Overland Super-Thrift Engine is the most economically operated power plant ever used in a full-size car.

New combustion chamber design, improved cooling, improved carburation, new manifold, new type of valves, new pistons and connecting rods, newly designed engine mountings and new reflector-mirror finish cylinder walls.

The Overland engine actually develops 61 horse power at 3600 R.P.M. from a S.A.E. rating of 15.63 horse power. This is an increase of 27 percent in developed power obtained without sacrificing the record for economy established by Willys-Overland which has been one of the outstanding features in light car operation.

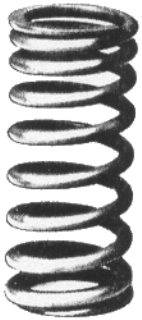


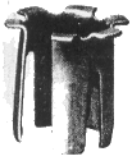
A new and advanced type of combustion chamber is used in the new Overland engine. Compression ratio is 6.3. Regular gasoline may be used without detonation.

This new power development gives a performance ratio favorably comparable with that of any car built regardless of size or developed power.

Acceleration: — Standing start to 60 miles, in 18 seconds: (in high gear, from 10 to 60 miles per hour, in 20.5 seconds.)

Hill Climbing:—40 miles per hour in high gear on a 15.1 percent grade.





High lift valves, high tension valve springs, valve spring dampeners increase motor efficiency and valve life in the new Overland engine.

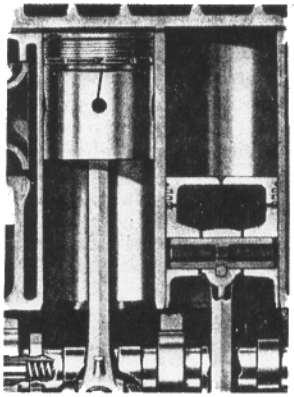
Smoothness:—Smooth, even, velvet soft performance at all speeds; these are features that will establish this new Overland as a car of superior performance.

A new type combustion chamber increases compression to 6.3, and at the same time offers a motor that can use ordinary gasoline without fear of detonation.

A fixed jet carburetor, with the only adjustment being that of idling control, assures uniform operating economy under all driving conditions. This new carburetor design is a real factor in maintaining Overland economy with the remarkable increase in power efficiency.

Connecting rods of sturdy construction, plated aluminum alloy pistons, add to engine life and durability.

A new type valve construction with a higher valve lift, new type silent cam-shaft with improved timing, closely fitting valve parts, higher valve spring tension, valve spring dampeners afford silent operation, increase



Honed and polished finish on the cylinder walls of the new Overland engine is evidence of the high quality workmanship employed throughout the car.

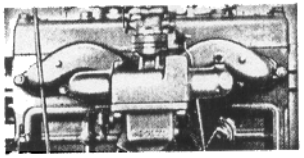
valve life and greatly reduces necessity for valve adjustments.

Aluminum alloy, plated pistons reduce wear and oil consumption and lighter connecting rods clamped to the piston pins play a big part in the increased power and smoothness of the Overland engine for 1939.

The weight of the pistons and connecting rods in each cylinder has been reduced 15 ounces. The fly-wheel has been materially lightened, affording smoother operation at all engine speeds.

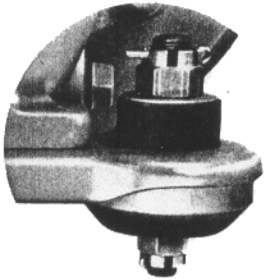
Cylinder walls are honed and polished to a high reflecto-mirror finish.

Automatic heat control in the intake manifold increases fuel efficiency and adds to the economy of the motor. Water jackets are carried the full length of the cylinder wall to give uniform cooling through the entire cylinder.

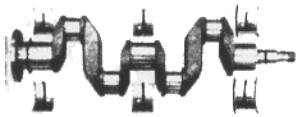


Automatic heat control in the manifold of the new Overland engine adds to fuel efficiency and economy.

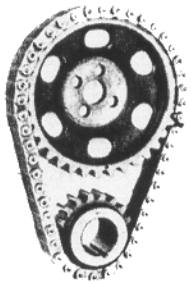
Surprising economy in the use of **lubricating oil** is a result of a heat dam in the pistons that reduces the transfer of heat to the rings and pistons. Improved 3-ring construction in the pistons and the reflecto-mirror finish of the cylinder walls add remarkably to the length of life of the rings and greatly reduces wear on the cylinder walls.



The new Overland engine is mounted on four improved live rubber cushions which absorb vibration.



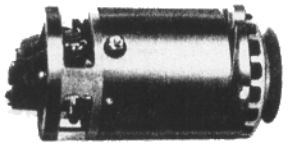
A heavy, rigid crankshaft, with large bearing surfaces is a factor in the long life and trouble free service afforded by the new Overland engine.



Silent timing chain construction assures quiet camshaft operation.

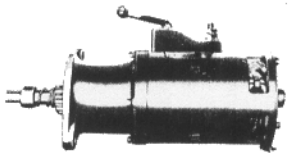
Electrical System

A heavy-duty ventilated generator — equipped with a voltage control regulator, is standard equipment on all DeLuxe models.



A heavy-duty ventilator-type generator is used on all new Overland models. On the DeLuxe line, a voltage control regulator is standard equipment.

In the Speedway models, a ventilated type, heavy duty generator with third brush regulation construction is used.

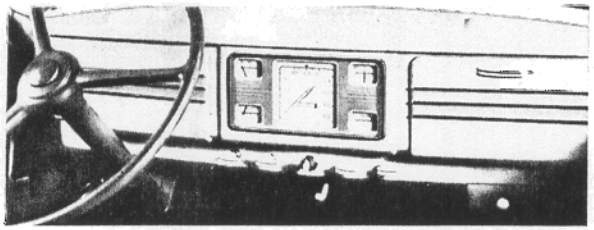


The oversize starter is controlled by a button on the dash.

The starting motor is operated by control button located in the instrument panel.

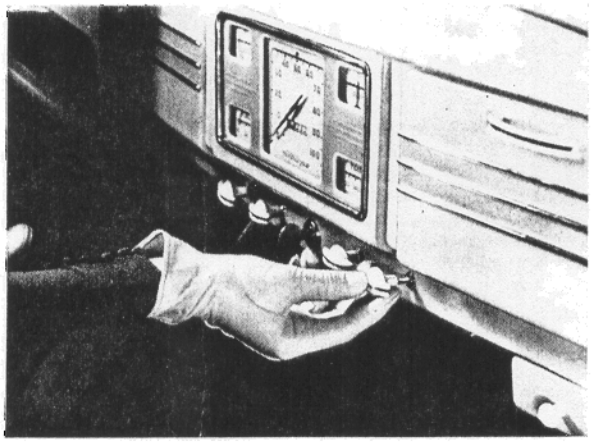
The battery is 6 volt, 96 ampere capacity, mounted under the hood where it is easily accessible.

Instrument Panel and Equipment



The instrument panel on the new Overland presents unusually attractive and practical features. Finished in modern color harmonies, it has the convenient factor of center grouping of all instruments. The glove compartment is located at the right side.

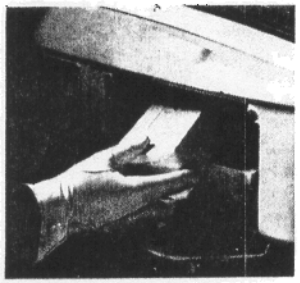
A new type of design is introduced in the instrument panel construction used on the Overland for 1939.



Instrument panel controls are conveniently located and attractively finished in ivory trim.

The speedometer, ammeter, oil pressure gauge, electrical gasoline gauge, and the electrical water gauge indicator are attractively grouped in the center of the panel.

Ignition lock key, light switch, choke and throttle control buttons, and starter button are located directly under the indicator panel.



The deep, wide glove compartment is a handy, useful feature.

The head light beam deflector is pedal operated and located on the floor at the left of the clutch pedal.

The instrument panel controls are attractively designed to harmonize with the modernistic effect of the panel. The horn button is located in the center of the steering wheel.

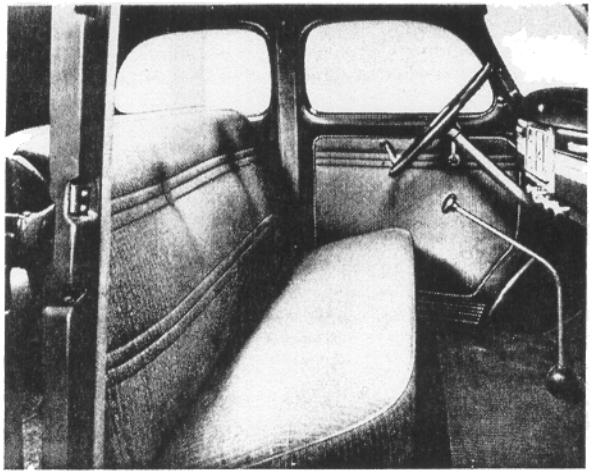
Interiors

Special attention has been devoted to the interior trims on all Overland models for 1939 with emphasis being laid on restful color harmonies, utilizing modern developments in color combinations as a style feature.

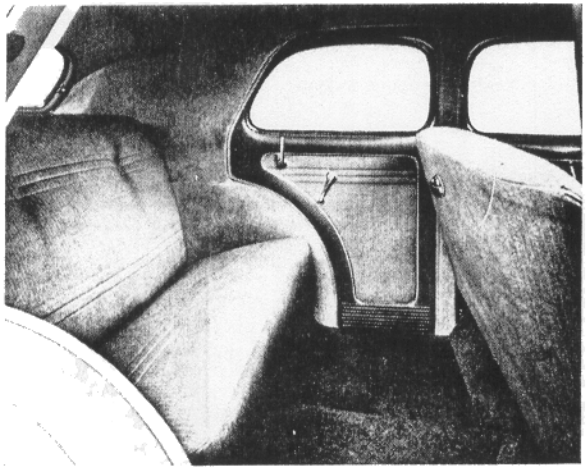
The instrument panel is finished with dual-tone striping on the DeLuxe models and with ivory edging on the throttle, choke, starter controls. The face of the glove compartment has the same embellishment affording a pleasing and quality appearance to the panel.

The steering wheel is of special color-tone finish blending with the general interior color harmonies.

Upholstery is optional with choice in the DeLuxe models of broadcloth or mohair. The upholstery fabric, developed in colors that harmonize with the general color scheme of the cars, are tailored with a horizontal beading which accentuates the generous interior dimensions.



Easy view of the instrument group is afforded the driver.

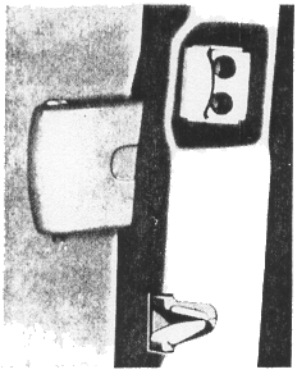


Quality upholstery, trimly tailored, gives interior beauty to the new Overland.

Upholstering on the door panels is distinctive in appearance. The upholstery material on the DeLuxe models is framed with a chrome strip and set into a panel in the door metal leaving an outer frame of finished door metal surrounding the panel.

This prevents scuffing of the upholstery, makes it easier to keep the interior side walls of the car clean, and adds a note of decorative finish which is especially pleasing.

Improved sealing against drafts and dust is included in all models.



A new type, anti-slam door latch is a feature of convenience which will be greatly appreciated.

A new type of door latch affords a highly desirable ease in closing and securing the doors without slamming. This door latch is special in type designed for Overland.

Interior hardware is simple and classical in design with high lustre chrome finish.

The interior body linings are installed with special attention to decorative appearance and serve to enhance the impression of luxury created by first glance at the body interiors.

An attractive dome light is regular equipment on the DeLuxe Sedan models.

All models, both Sedan and Coupe, are equipped with a ledge, directly back of the driver in the Coupe models and at the rear of the back seat in the Sedan models, for convenience in carrying parcels.

An attractive, well placed foot rest is standard equipment in the DeLuxe Sedan models.

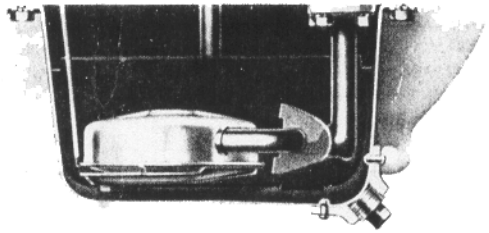
Special attention has been paid to neatness in the floor coverings and an unique type of insulation of the floor covering in the front compartment serves not only to keep

A convenient package ledge, located at the back of the rear seat in Overland Sedan models is a convenience appreciated by women.

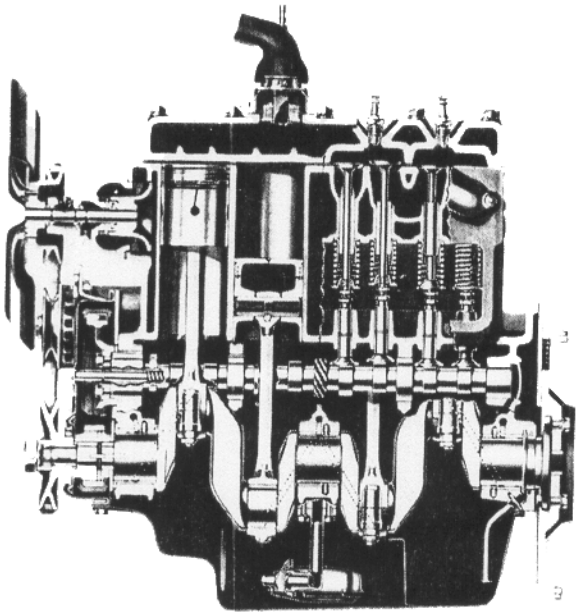
this covering in place but also acts as an added factor of insulation from road noises.

Full force feed lubrication is employed in the engine with direct leads to main bearings. An internal, gear driven oil pump maintaining a pressure of 40 pounds at

Lubrication



The Float-O oil intake cleans sludge, water, dirt from the lubricating oil.



Full force feed lubrication, with gear driven oil pump, assures proper engine lubrication

an average car speed of 30 miles per hour in high gear is employed.

Float-O intake introduced by Overland two years ago is standard equipment.

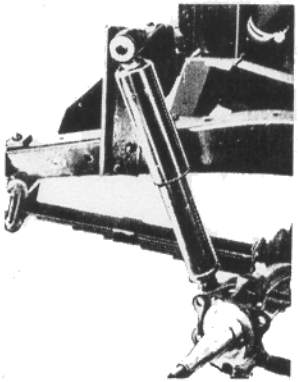
In the chassis necessity for lubrication of spring shackles is eliminated by the use of rubber inserts.

Lubrication of other points in the chassis is by a high pressure grease gun.

A noticeable feature in Overland operation for 1939 will be low oil consumption.

Riding Comfort

Glide-ride smoothness characterizes all Overland models for 1939.



Improved installation of airplane type shock absorbers smooth road shocks and add to Overland riding comfort.

There is no tendency to weave at high speed, no "wheel-fight".

The rear end of the car rides evenly even at high speed around curves.

Short, jerking motions, lurching are eliminated over rough roads by improved control of airoplane type shock absorbers.

Bodies are mounted on rubber inserts eliminating jar or shock through the chassis.

Balanced distribution of weight and proper proportioning of total car length to spring length has resulted in a smooth floating ride that brings restful comfort over all roads.

The supreme test of the real riding comfort of Overland is a ride over roads that ordinarily seem rough and harsh.

THE WILLYS "48" SECTION

SPECIFICATIONS—WILLYS "48"

Air Cleaner—Silent Operation

Amperage
Of battery . . . 96 Amps at 20 minute rate
Of coil . . . Engine stopped, 4 Amp., . . . Engine Idling, 2.5 Amp.

Ammeter
Automatic Spark, vacuum controlled
Maximum advanced 24 degrees at 3400 RPM
Vacuum advance 20 degrees

Anti-Friction Bearings
Twenty-eight

All-Steel Construction

Arm Rest

Axle (Front)
Type . . . I Beam
Reverse Elliott
Kingpin Upper Bearing . . . Bronze .750"
Kingpin Lower Bearing . . . Bronze .750"
Kingpin Thrust Bearing . . . Matthews Ball
Road Clearance, Tires Inflated $8\frac{1}{32}$"
Front Wheel, Inner Bearing . . . Timken
Front Wheel, Outer Bearing . . . Timken

Axle (Rear)
Type . . . Semi-Floating
Shafts . . . Chrome Molybdenum Steel, $1\frac{1}{4}$" Dia. at Wheel Bearing
Gear . . . Spiral Bevel
Gear Ratio . . . 4.3 to 1
Ring Gear Teeth . . . 43
Pinion Gear Teeth . . . 10
Pinion and Pinion Bearing Shim Adjusted
Road Clearance under center with tires inflated 8"
Oil Capacity . . . $1\frac{1}{4}$ Pints
Oil Recommended . . . Summer and Winter SAE 90

Battery
USL, A13, 96 Amp., Hrs. at 20 minute rate
13 Plates per cell, Bench charging rate $4\frac{1}{2}$ Amps
Negative terminal is grounded
Location . . . Under the Hood

Bearings
Main Bearings . . .3 Steel Backed Babbitt Lined
Slip in Type, no shims
No. 1 . . . 2.334 x 1.921" long
No. 2 . . . 2.334 x $1\frac{13}{16}$" long

Bearings (Continued)
No. 3 . . . 2.334 x 1¾" long
Connecting
Rod Bearings Total Bearing Area 38.043
Wrist Pin Bushing Diamond Bored 15/16" Diameter 1.125" long
Lower Bearing Babbitt not shimmed
Clutch Release Bearing . . . Ball Bearing
Main Drive Gear Bearing . . . Ball Bearing
Trans. Main Shaft Bearing . . . Ball Bearing
Trans. Spigot Bearing . . . Hyatt Roller
Axle Drive Pinion Bearing
Front . . . Timken
Rear . . . Timken
Differential Bearings (2) . . . Timken
Axle Shaft Bearings (2) . . . Timken
Front Wheel Inner Bearing (2) . . . Timken
Front Wheel Outer Bearing (2) . . . Timken
Steering Knuckle Thrust Bearings (2) Matthews Ball
Kingpin Bushings . . . Bronze

Bore
3⅛", Stroke 4⅜"

Body
Insulated against heat etc.

Roof one piece, all-steel	Cowl Ventilator
Reinforced	No Draft Ventilation
Floor all-steel no tunnel	Arm Rests
Shelf in sedan rear	Foot Rest
Luggage Compartment	Weatherstrip on window
Safety Glass	Robe Rail
Drip moulding	Spare Tire and Wheel

Brakes
Four Wheel, Mechanical, Bendix self-energizing, Two Shoe, Internal Expanding
Lining, Moulded
Length per wheel or Drum, 19 3/16"
Width . . . 1¾"
Thickness . . . 3/16"
Total Area . . . 134 5/16 square inches
Drums, Steel, 9" Dia., Retain Shape, Quick Cooling, Reinforced
Pressure distributed Rear Wheels 55%
Front Wheels 45%
Parking Brake operates service brakes from dash

Bumper to Bumper Length
178 inches (14 ft. 10 inches)

Camber
Inches, 2°
Toe-in Inches, 3/32
Kingpin Inclination, 7½°

BUY WILLYS—SAVE GAS

Camshaft
Semi-Steel
Bearings, Pressure Lubricated, 4 Bearings
Gear, Semi-Steel
Driven by Silent Timing Chain

Capacity
Oil Reservoir . . . 4 Quarts
Gasoline Tank . . . 8 Gallons
Cooling System . . . 11 Quarts
Tires . . . 28-30 lbs.

Carburetor
Tillotson, Down Draft with
Automatic High Constant-Velocity Air Control
Hot-Spot in Intake Manifold
Mechanical Fuel Pump
Air Cleaner
Insulated from Heat by Heavy Gasket
Size . . . 1⅛"

Car Turning Radius
17 Feet, 34 Foot Circle

Caster Degrees, 3°

Camber Degrees, 2°

Chain
Silent Timing, 47 Links, 1¼" Wide, Pitch ½"
Full Pressure Lubricated
Non-Slap

Charging Rate
Cold, 17 Amps, 8 Volts, 2400 RPM
Hot, 12.5 Amps., 8 Volts, 2350 RPM
Car Speed for Maximum Charging Rate, 22 MPH

Choke
Manual Operated from Instrument Panel

Clutch
Borg & Beck, Single Plate, Dry Disc
Spring Cushioned Hub
Size, 8" Driven Plate
Ventilated, Vent in Bell Housing
Moulded Clutch Facings
Release Bearing . . . Ball Bearing
Main Drive Gear Bearing . . . Ball Bearing
Pilot Bearing . . . Bronze
Pedal, Rubber Covered

Comfort
Easy Step
Wide Doors
Roomy Body
Wide Seats
Soft Floor Covering
Form Fit Cushions

Comfort (Continued)
Tempered Steel, Long Spiral Spring Cushions
Head Room
Leg Room
Easy Entrance and Exit
Wide Range Windshield Wipers
Full Vision
Adjustable Seat
Shock Proof Steering
Dome Light
Non-Glare Instrument Lighting
Brilliant Highway Illumination
Window Controls
Instruments in Full View
Rigid K-X-Frame
Extra-Long Spring Base
Aero-Type Shock Absorbers
Silent U-Spring Shackles
Oversize Tires
Live Rubber Engine Mountings
Insulated Body
Weather Stripped Windows
Non Reflecting Windshield
Sun Visors
Drip Mouldings
Rubber Covered Running Boards
Low Center of Gravity, Non-Sway
Dimmer Switch Pedal
Spacious Luggage Compartment

Compression Ratio
5.7 to 1 (17.5%)

Connecting Rods
I Beam Type, Extra Long
Length center to center, $9\frac{3}{16}''$
Carbon Steel
Weight, 34 Ounces
Lower Bearing, Spun Babbitt
Wrist Pin, Bronze Bushing Diamond Bored
$1\frac{5}{16}''$ Dia., 1.125" Long

Constant Mesh Gear
Second, Helical Gear

Cooling System
Pump Circulation, Centrifugal Impeller Type
Capacity, 11 Quarts
Radiator, Cellular Core
Water Pump
Fan, 4 Blades
Pump Drive, Fan Belt
Hose Connections,
Lower—Inside Diameter $1\frac{7}{16}$ inches

BUY WILLYS—SAVE GAS

Cooling System (Continued)
Length $5\frac{1}{8}$ inches
and $2\frac{1}{2}$ inches
Upper, Inside Diameter $1\frac{1}{2}$ inches
Length $10\frac{3}{4}$ inches

Crankshaft
Drop Forged, Steel
Balanced Statically and Dynamically
Diameter . . . 2.334 inches
Three Bearings (See Bearings, Main)
Front Bearing Takes Thrust
Non-Whipping
Full Pressure Lubricated
Length . . . $23\frac{3}{16}''$
Weight . . . 34 lbs.

Crankcase
Cast En Bloc with Cylinders

Current Regulator
Third Brush

Cut-out Relay
Voltage at Closing, 6.75 to 7.25, Car speed 12 MPH. Amperes to Open, 0.5 to 2.5

Cylinders
Four, Vertical Offset $\frac{1}{8}''$
Cylinder Block, Semi-Steel, Cast En Bloc
L-Head Type
Honed to Smooth Glassy Finish
Cylinder Block and Crankcase cast in one piece
Bore, $3\frac{1}{8}''$, Stroke, $4\frac{3}{8}''$
Piston Displacement 134.2 Cubic Inches
Engine Mounting, Four Steel Arms, Mounted on Live Rubber
Cylinder Head, Semi-Steel

Differential
Two Pinion, Straight Shaft
Case, One Piece Construction, Malleable Iron
Ring Gear, Riveted
Bearings, Timken (2)
Ring Gear, 41 Teeth, Nickel Alloy Steel, Spiral Bevel
Pinion, 10 Teeth, Nickel Alloy Steel

Engine
4 Cylinders, Cast En Bloc with Crankcase
L-Head
Bore $3\frac{1}{8}''$, Stroke, $4\frac{3}{8}''$
Mounted 4 Points on Live Rubber
Cylinders Vertical Offset $\frac{1}{8}''$
Cylinder Head, Cast Iron
Piston Displacement, 134.2
Taxable Horsepower, 15.63

Engine (Continued)
Brake Horsepwoer, 48 at 3200 RPM
Torque, 100 Ft. Lbs. at 1600 RPM
Compression Ratio, 5.7 to 1 (17.5%)
Compression, 87 lbs. at 216 RPM (Cranking Speed)
Full Pressure, Force Feed Lubrication
Main Bearings, (3)
Wrist Pins, Floating
Pistons, Light Weight Semi-Steel, 21 oz.
Piston Rings, (4)

Electric Gasoline Gauge

Finish
Dulux

Floor
One Piece, Steel, Reinforced
Mats
No Tunnel

Float-O Oil Intake

Fly Wheel
97 Teeth in Steel Ring

Frame
Double Drop, K-X Type, Deep Channel Girders $3\frac{3}{4}$" Deep
K-Type, Front Cross Member Forms Box Section to X Brace
Three Reinforced Cross Members in addition to X and K members

Full Pressure Lubrication System

Gasoline Tank
8 Gallons Capacity, Rear of Frame
Protected by Cross Members

Gasoline Gauge
Electric, On Instrument Panel

Gauge
Oil Pressure, On Instrument Panel
Oil Measure, In Oil Filler Cap

Gearshift
Standard

Gear Ratios
Rear Axle, 4.1 to 1
Steering Gear, 13 to 1
Second Speed, 1.564 to 1
Low Speed, 2.665 to 1
Reverse, 3.554 to 1

Glass
Safety Glass Throughout all Windows

BUY WILLYS—SAVE GAS

Ground Clearance
Front Axle, Tires Inflated, $8\frac{1}{32}$"
Rear Axle, Tires Inflated, 8" under Center

Ground
Battery, Negative Terminal

Gears
Transmission, Syncro-Mesh, Helical Type, Silent

Hand Brake (Operates Service Brakes)

Headlamps
Set in Fenders
Tilt-Beam Type
Parking Bulbs Built In
Dimmer, Foot Control

Head
Cylinder, Cast Semi-Steel

Hood
Lifts as one unit from front

Horn
Vibrator Type

Horsepower
Engine, Taxable 15.63 HP, Brake HP, 48 at 3200 RPM

Hot Spot Manifold
Intake Manifold, Manually Controlled

Ignition System
Auto-Lite
Vacuum Controlled Distributor
Approved, National Board of Underwriters
Water Proof Cap Coil
Firing order of Cylinders, 1-3-4-2
Starter, Motor and Generator, Auto-Lite
Bendix Drive
Switch

Instruments
Speedometer
Gasoline Gauge
Oil Pressure Gauge
Ammeter
Engine Temperature Gauge

Live Rubber Engine Mountings

Locks
Door
Ignition Switch
Luggage Compartment

Lubrication System
Full Pressure, 30 lbs.
Float-O Oil Intake

Lubrication System (Continued)
Oil Pump, Left Side of Engine
Gear Driven off Camshaft
Force Feed Circulation
Drilled Passages through Cylinder Block
Drilled Passages through Crankshaft
Fish Trap Oil Passage, Connecting Rod, Wrist Pin
Pressure Regulator, In cover of Oil Pump
Capacity, 4 Quarts
Crankcase, Ventilated
Recommended Viscosities: Summer, 30; Mild Winter, 20W; Severe, 10W

Lubrication Connections
Chassis etc., Push-Type Gun Connections

Luggage Compartment
14 Cubic Feet in Sedan
33 Cubic Feet in Coupe

Piston Pins
(Wrist Pins)
Float in Piston
Three Bearing Surfaces: 2 in Piston, 1 in Connecting Rod
Diameter, $^{15}/_{16}$″

Piston Rings
Four: 3 Compression, 1 Oil
Size, $3\frac{1}{8}$″ x $^{3}/_{32}$″ Compression
$^{3}/_{16}$″ Oil

Radius
Turning, 17 ft. (34 ft. Circle)

Release Bearing
Clutch, Ball Bearing

Road Clearance
Tires Inflated
Front, $8\frac{1}{32}$″
Rear, 8″ at center

Roof
One Piece, All-Steel

Roominess

Rubber Engine Mountings
Four

Running Boards
Covered (Vulcanized Corrugated Rubber)
Road Clearance, $10\frac{1}{2}$″
Width, $10\frac{1}{4}$″
Below Door Bottom, $3\frac{3}{4}$″
Hung on Side Rails, Braced to X member

BUY WILLYS—SAVE GAS

Safety
All Steel Construction
K-X Type Frame with additional cross members
Low Center of Gravity
Oversize Tires
Safety Steel Wheels
Calibrated Springing and Weight Distribution
Doors Open to Rear
Safety Glass Throughout
Wide-Angle Windshield Wiper
Wide-Range Vision
Narrow Girder Type Corner Posts
Foot Operated Headlamp Dimmer Switch
Double Factor Safety Brakes
Brake Mechanism Protected
Non-Divided Windshield
Non-Glare Tilting Windshield
Non-Glare Tilted Rear Window
Wide Rear Window
Complete Body Insulation
Accessibility of all Controls
Plenty of Room for Driver
Rubber Covered Pedals
Rubber Covered Running Boards
Shock Proof Steering
Steel Rubber Covered Steering Wheel
Foot Rest in Rear of Sedan
Rear View Mirror
Oversize Clutch
Oversize Transmission
Easy Shifting Gears
Oversize Steering Gear
Safety Headlamps

Safety Glass
Windshield and All Windows

Savings Chart

Sedan
Weight:
Standard, 2300

Shock Eliminators
Hydraulic, Airplane Type, Direct Acting

Spare Wheel and Tire
On Floor of Rear Luggage Compartment

Speedometer
In Instrument Panel, Pointer Type

Springs
FRONT, Conventional Suspension

Springs (Continued)
Semi-Elliptic
Chrome Vanadium Steel
Length, 33½", Width, 1¾"
Leaves, 7"
Shackled, Rear, Silent U Shackle
Calibrated with Rate of Rear Spring for Weight Distribution
Lubricated with Graphite
REAR, Conventional Suspension
Semi-Elliptic
Chrome Vanadium Steel
Length, 46", Width, 1¾"
Leaves, 6
Lubricated with Graphite
Calibrated with Front Spring for Weight Distribution
Silent U Shackle

Spring Base
79⅝, 158"

Steering
Wheel, Safety Type, 3 Spokes, 17 Inches Dia. Steel, Rubber Covered
GEMMER Worm and Sector Type
Worm Mounted on Tapered Roller Bearings
Gear Ratio, 13 to 1
Turning Radius, 17 ft. (34 Circle)
Linkage, Conventional
Steering Knuckle Thrust Bearing, Tapered Roller
Oversize throughout

Starter
Button on Instrument Panel
Motor, Auto-Lite
Engine Cranking Speed, 216 RPM
Solenoid Switch
Bendix Drive

Stop Light

Styling

Silent Timing Chain
Non-Slap
Links, 47
Width, 1¼"
Pitch, ½"
Lubrication, Full Pressure

Sun Visors

Synchro Mesh Transmission
(See TRANSMISSION)

Tail and Stop Light

BUY WILLYS—SAVE GAS

Tank
Fuel, 8 Gallons Capacity

Torque
Engine: 100 ft. lbs., at 1600 RPM, through Springs

Timing Chain
Non-Slap
Links, 47
Width, 1¼"
Pitch, ½"
Lubrication, Full Pressure

Transmission
Warner
Synchro Mesh, Unit with Engine
3 Speeds Forward, 1 Reverse
Gear Ratio, 4.1 to 1
Transmission Ratio, High, 1 to 1
Second Speed, 1.564 to 1
Low Speed, 2.665 to 1
Reverse, 3.554 to 1
Constant Mesh: Second Gear Speed, Helical Cut
Oil Capacity, 1 Pint
Summer SAE 90, Winter SAE 90
Gears, Nickel Steel
Shifting Mechanism: Plunger and Spring Locking Type

Tread
Standard, 56"

Tools
Regular Equipment with Car

Throttle
Hand, On Instrument Panel

Top
Unit-weld, All-Steel

Timing
Breaker Points open 5 degrees, or .0103 inches piston travel *after* top center. Firing Order, 1-3-4-2

Tires
16 x 5.00: Inflated 28-30 lbs.

Taxable Horsepower
15.63

Valves
Arrangement, L-Head
INTAKE,
Nickel Chromium Steel
Diameter, 1 17/32"
Angle of Seat, 45 Degrees
Valve Seats Water Cooled

Valves (Continued)
Stem, Nickle Chromium, $5\frac{3}{4}$″
Conventional Ends
Lift, $\frac{21}{64}$″
EXHAUST,
Silcrome Steel
Diameter, $1\frac{15}{32}$″
Angle of Seat, 45 Degrees
Seats Water Cooled
Inserts
Stem, Silcrome, $5\frac{3}{4}$″
Conventional Ends
Lift, $\frac{21}{64}$″
TIMING,
Intake opens, Top Center Piston Travel, Closes 45 Deg. After Bottom Center, 3.872″ Exhaust opens, 40 Deg. Before Bottom Center 3.965″
Closes, 5 Deg., After Top Center, 0.0103″

V-Type Fan Belt
42 Degrees

Ventilator
Cowl

Ventilation
No-Draft

Water Pump
Impeller Type, Balanced Drive Pulley
Operated by Fan Belt

Wheels
Safety Steel Disc Type, Kelsey-Hayes
16″ Diameter, $3\frac{1}{2}$″ Wide
Tires, 16 x 5.00
Chromium Hub Caps
Spare in Bottom Luggage Compartment
Bearings, Timken

Windshield
One-Piece, Safety Glass, Stationary
Anti-Glare, Tilted

Windshield Wiper
Wide-Angle

Windows
Safety Glass, Weather Stripped

Water
Capacity, 11 Quarts

Wheelbase
100″. (See WHEELS)

THE WILLYS "48" TRUCK SECTION

WILLYS HALF-TON TRUCKS

Dependable, fast, low-cost hauling

The Willys commercial line brings to truck operators new opportunities to save money in all types of light truck transportation.

One of the most important factors of construction kept constantly in the foreground by Willys engineers is the elimination of weight without the sacrifice of strength. Building around the proven power and economy of the Willys 4-cylinder engine, Willys engineers have designed a truck which definitely meets the requirements of the truck user whose loads are 1,000 pounds or less. The Willys truck offers more pay-load capacity per pound of truck weight.

Willys commercial units are powered by a sturdy, time-proven, 4-cylinder engine, developing unusually high power and torque for its piston displacement.

Willys offers the latest in modern cab design. All-steel, one piece construction. The interior is well trimmed—the trimming forms insulation against heat, cold and rumble. Comfortable, adjustable three-passenger seat. Equipped with dome light. Compartments in instrument panel are much larger than in other trucks. Many body types are available—including Panel Delivery, Cab Pick-up, Canopy Top, Stake, General Utilities and others.

These Features Distinguish Willys Trucks

- Low first cost.
- Big fuel savings.
- Full ½-ton capacity.
- Powerful, 4-cylinder engine with high sustained torque development.
- Sturdy, K-X type frame.
- Heavy-duty rear axle.
- Modified two-stage springs.
- Easy maneuvering.
- Low center of gravity with ample road clearance.
- High tire mileage.
- Low oil consumption.
- Low upkeep costs.
- Small depreciation.