

MECHANICAL SPECIFICATIONS
and
ADJUSTMENTS

1941

HUDSON 6 & 8

INDEX

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1941 Hudson

Mechanical Specifications and Adjustments

MODEL IDENTIFICATION DATA

MODELS	SERIES
Traveler Six	10T
Deluxe Six	10P
Business Cars Six	10C
Super Six	11
Commodore Six	12
Commodore Eight	14
Commodore Custom 8 Coupe	15
Commodore Custom 8 Sedan	17
Big Boy Business Cars	18C

SUPER SIX SERIES 11 (Cont'd)

3-Pass, Coupe	2935 lbs.
6-Passenger Club Coupe	2980 lbs.
Brougham (2-Dr. Club Sedan)	3000 lbs.
Brougham (Convert. Sedan)	3125 lbs.
Sedan	3050 lbs.
Convertible Sedan	3200 lbs.
Station Wagon	3315 lbs.

COMMODORE SIX SERIES 12, 121" Wheelbase—Serial Numbers 12-101 and upward. Engine same as Super Six 11.

BODY TYPES AND WEIGHTS

1941 MODELS

TRAVELER SIX SERIES 10T. 116" Wheelbase - Serial Numbers 10-101 and upward.
Engine - 6 cylinder, 3" bore, 4-1/8" stroke, 11.6 A.M.A. HP, 175 cubic inches displacement.

3-Passenger Coupe	2850 lbs.
6-Passenger Club Coupe	2950 lbs.
2-Door Sedan	2850 lbs.
4-Door Touring Sedan	2900 lbs.

DELUXE SIX SERIES 10P. Wheelbase, Serial Numbers and Engine same as 10T.

3-Passenger Coupe	2900 lbs.
6-Passenger Club Coupe	2950 lbs.
2-Door Sedan	2900 lbs.
4-Door Touring Sedan	2950 lbs.
Convertible	2950 lbs.

BUSINESS CARS SIX SERIES 10C, Wheelbase, Serial Numbers and Engine same as 10T

Utility Coupe	2900 lbs.
Utility Coach	2825 lbs.
Cab Pickup	3050 lbs.
Panel Delivery	3295 lbs.
Cab and Chassis	2705 lbs.

SUPER SIX SERIES 11, 121" Wheelbase — Serial Numbers 11-101 and upward.
Engine — 6 Cylinder, 3" bore, 5" stroke, 11.6 A.M.A. HP, 212 cubic inches displacement.

3-Passenger Coupe	3000 lbs.
4-Passenger Victoria Coupe	3045 lbs.
Brougham (2 - Door Club Sedan)	3050 lbs.
Brougham (Convert. Sedan)	3160 lbs.
4-Door Sedan	3100 lbs.

COMMODORE EIGHT SERIES 14, 121" Wheelbase— Serial Numbers 14-101 and upward.
Engine — 8 cylinder, 3" bore, 4-1/2" stroke, 28.8 A.M.A. HP, 254 cubic inches displacement.

3-Passenger Coupe	3135 lbs.
4-Passenger Victoria Coupe	3110 lbs.
Brougham (2-Door Club Sedan)	3110 lbs.
4-Door Sedan	3260 lbs.
Convertible Sedan	3400 lbs.

COMMODORE EIGHT CUSTOM COUPE SERIES 15, 121" Wheelbase— Serial Numbers 15-101 and upward. Engine same as Commodore Eight 14.

3-Passenger Coupe	3185 lbs.
6-Passenger Club Coupe	3235 lbs.

COMMODORE EIGHT CUSTOM COUPE SERIES 17, 128" Wheelbase— Serial Numbers 17-101 and upward. Engine same as Commodore Eight 14.

7-Passenger Sedan	3440 lbs.
5-Passenger Touring	3400 lbs.

SIX BIG BOY SERIES 18C, 128" Wheelbase — Serial Numbers 18-101 and upward. Engine same as Super Six 11.

7—Passenger Sedan	3155 lbs.
7—Passenger Carry All	3165 lbs.

CHASSIS SPECIFICATIONS

CHASSIS DIMENTIONS

Overall Width (Incl. Fenders)		Tread		
Front	71"	Front	56-1/4"	
Rear	59-1/2"	Rear	59-1/2"	
Overall Height		Road Clearance	Front	Rear
10T, 10P	68"	10T – with 5.50 Tire	9-1/4"	8"
11, 12, 14, 15, 17, 18P	68-3/4"	10P, 11 – with 6.00 Tire	9-5/8"	8-3/8"
10C, 18C Cab Pickup	81"	12, 14 – with 6.25 Tire	9-3/4"	8-1/2"
10C, 18C Panel Delivery	81"	15, 17 – with 6.50 Tire	10"	8-5/8"
Overall Length (Incl. Bumpers)		Turning Radius		
10	197"	10T, 10P, 10C	20' 8"	
11, 12, 14, 15	202"	11, 12, 14, 15	21' 1"	
17, 18P	209"	17, 18P, 18C	21' 10"	

ENGINE

Models	No. Cyl.	Bore	Stroke	A.M.A. H.P.	Disp. C.I.
10T, 10P, 10C	6	3"	4-1/8"	21.6	175
11, 12, 18P, 18C	6	3"	5"	21.6	212
14, 15, 17	8	3"	4-1/2"	28.8	254

WHEEL AND TIRE SPECIFICATIONS

Models	Standard	Optional
10T, 10 Utility Coupe, 10 Utility Sedan	16 x 5.50 – 4-ply	16 x 5.50 – 6-ply 15 x 7.00 – 4-ply
10P, 11	16 X 6.00 – 4-ply	16 x 6.00 – 6-ply 15 x 7.00 – 4-ply 15 x 7.00 – 6-ply
12, 14, 15	16 x 6.25 – 4-ply	16 x 6.25 – 6-ply 15 x 7.00 – 4-ply 15 x 7.00 – 6-ply
17	16 x 6.50 – 4-ply	16 x 6.50 – 6-ply 15 x 7.00 – 4-ply 15 x 7.00 – 6-ply
10C, 18C	16 x 6.00 – 4-ply	16 x 6.00 Truck Air Wheel 16 x 6.50 Truck Air Wheel 15 x 7.00 Truck Air Wheel 16 x 6.00 – 6-ply 15 x 7.00 – 6-ply 18 x 6.00 – 4-ply 18 x 6.00 – 6-ply 16 x 7.00 – 4-ply

TIRE PRESSURES

	Front		Rear	
	Cold	Hot	Cold	Hot
All passenger models				
Except with 16 x 5.50 tires	26 lbs.	39 lbs.	30 lbs.	33 lbs.
All models with 16 x 5.50 tires	32 lbs.	35 lbs.	32 lbs.	35 lbs.
All Business Series	26 lbs.	29 lbs.	30 lbs. – 4-ply 40 lbs. – 6-ply	33 lbs. – 4-ply 44 lbs. – 6-ply
Wheel and Tire run-out	1/6" to 3/32"			

Chassis Specs. (Cont'd)

PROPELLER SHAFT

Propeller shaft		Tubular
	Length C to C of joints	Length of shaft only
10 without overdrive	58-7/16"	55-23/32"
10, 11, 12, 14, 15 with overdrive	51-1/8"	48-13/32"
11, 12, 14, 15 without overdrive	58-7/16"	55-23/32"
17, 18 with overdrive	58-1/16"	55-5/32"

CHASSIS TORQUE SPECIFICATIONS

	Foot Pounds		Foot Pounds
Propeller shaft U bolts	20	Steering wheel nuts	25
Clutch and brake pedal rod nuts	22	Wheel nut	65
Brake anchor pin nuts	85	Rear axle shaft nut	95
Clutch finger fulcrum nuts	44	Rear spring clip nuts	40
Connecting rod bolt nuts	40	Steering arm nut	105
Cylinder head studs – 6 Cylinder	40	Differential carrier nuts	37
Cylinder head studs – 8 Cylinder	45	Steering center arm bolt nut	65
Main bearing bolts	75	Pitman arm nut	140
Flywheel to crankshaft bolt	45	Spark Plugs	28
Front engine support bolt	45	Water jacket cover bolt	15
Clutch cover to flywheel bolts	22		

**ENGINE
SPECIFICATIONS**

Engine Mounting

Rubber	3 points	Stroke – Model 10	4-1/8"
Bore – Model 10, 11, 12	3"	– Model 11, 12	5"
– Model 14, 15, 17	3"	– Model 17, 15, 17	4-1/2"

Camshaft

Drive	Laminated Gears	Timing Marks On	Gears
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Camshaft Bearings

Bearings	Steel back, Bermax Lined	8 Cylinder	
Diameter and length		No. 1	2.029" x 1-3/8"
6 Cylinder		No. 2	1.998" x 1-1/16"
No. 1	2.000" x 1-1/4"	No. 3	1.966" x 1-1/4"
No. 2	1.968" x 1-1/16"	No. 4	1.9355" x 1-1/16"
No. 3	1.5625" x 11/16"	No. 5	1.498" x 1-5/16"
		Radial Clearance	.002" to .0025"

Connecting Rods

Material	D. F. Steel	Lower End Bearing	
Weight		Diameter	1-15/16"
Model 10	30-3/4 oz.	Length	1-3/8"
All Other Models	30 oz.	Radial Clearance	.001"
Length, Center to Center		End Play	.007" to .013"
Models 19, 18, 5—Pass.		Material	Bearing Alloy
Sedan 18, Pass. Chassis	8-5/8"		
All Other Models	8-3/16"		

Spark Plug

Champion	J-9, Hudson Special
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Crankshaft

Type	Fully Compensated	8 Cylinder	2
Bearings		No. 1	-9/32" x 1-5/8"
6 Cylinder	3	No. 2	2-5/16" x 1-3/8"
8 Cylinder	8	No. 3	2-11/32" x 1-7/8"
Bearing Material	Bearing Alloy	No. 4	2-3/8" x 1-3/8"
Bearing - Diameter and Length		No. 5	2-13/32" x 2"
6 Cylinder		End Play Taken up by Bearing Number:	
No. 1	2-11/32" x 1-5/8"	6 Cylinder	2
No. 2	2-3/8" x 1-3/4"	8 Cylinder	3
No. 3	2-13/32" x 2-3/8"	Bearing End Play	.006"-.012"
		Bearing Radial Clearance	.001"
		Adjustment Type	None

Pistons

Type	Cam Ground	Clearance	
Material	Lo—Ex Aluminum Alloy	Skirt	.001" to .002"
Weight	10.5 oz.	Top of Piston	.016"
Length	3-3/16"	Depth of Grooves	5/32"
Pin center to top	1-11/16"	Piston Pin Hole - Size	3/4"

Piston Pin

Type	Floating	Fit in Piston - at 200° F	.0003"
Method of Locking	Snap Rings	Fit in Rod	.0003
Diameter	3/4"		

Piston Rings

Material	Cast Iron	Oil Rings	
Joint Type	Straight Cut - Pinned	Number used	2
Compression Rings		Width - upper	3/16"
Number used	3	Width - lower (3" x 5"; all 8)	5/32"
Width	3/32"	Width - lower (3" x 4-1/8")	3/16"
Gap	.009" to .011"		

Valve Locations

6 Cylinder — intake from front	2-4-5-8-9-11	8 Cylinder - intake from front	2-3-6-7-10-11-14-15
6 Cylinder — exhaust from front	1-3-6-7-10-12	8 Cylinder - exhaust from front	1-4-5-8-9-12-13-16

Engine (Cont'd)

Valve Timing

Intake – Opens	10° 40' BU DC	Exhaust – Opens	50° BL DC
– Closes	60° AL DC	– Closes	18° 44' AU DC

Timing gear lash

.002" to .004"

Valve Stem Guide

6 Cylinder	Sets 1-1/16" below top of cylinder.	8 Cylinder	Sets 15/16" below top of cylinder.
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Compression Ratio

3" x 4-1/8"	7-1/4 to 1	3 x 4-1/2"	6-1/2 to 1
3" x 5"	6-1/2 to 1		

Inlet Valve and Tappet

Valve Material	Silicon Steel	Valve Stem Diameter	11/32"
Valve Lift	11/32"	Valve Stem Clearance	.0025"
Valve Tappet Clearance	.006 Hot – 3x5 and all 8 cylinder		
Valve Tappet Clearance	.010" Hot – 3x4-1/8 (if on valve cover plate)		
Valve Tappet Clearance	.006" Hot (if not on valve cover plate)		
		<u>6 Cylinder</u>	<u>8 Cylinder</u>
Valve head outside diameter		1-3/8"	1-1/2"
Valve Opening		1-1/4"	1-3/8"
Valve Stem Length		5-11/32"	5-3/32"

Exhaust Valve and Tappet

Valve Material	Silichrome Steel	Valve Stem Diameter	11/32"
Valve Head – Outside Dia.	1-3/8"	Valve Stem Clear. – in Guide	.004"
Valve Opening	1-1/4"	Valve Tappet Clearance	.008 Hot – 3x5 and 8 Cylinder
		Valve Tappet Clearance	.012" Hot – 3x4-1/8 (if on valve cover plate)
Valve Lift	11/32"	Valve Tappet Clearance	.008" Hot – 3x4-1/8 if not on valve cover plate.
Valve Stem Length:			
6 Cylinder	5-11/32"		
8 Cylinder	5-3/32"		

Valve Stem Guides – Removeable

Valve Spring Pressure (Closed) 40 lbs. at 2"

Lubrication System

Type	Hudson Duo-Flo Automatic	Capacity – Total	
Pump Type	Oscillating Plunger	6 Cylinder	5-1/2 Qts
Pump Drive	Worm on Camshaft	8 Cylinder	9 Qts.
Oil Cooling by	Baffles in reservoir	Capacity – Refill	
Oil Filter Screen	40 mesh	6 Cylinder	4-1/2 Qts.
		8 Cylinder	7 Qts.

Engine Specs. (Cont'd)

Horsepower – Actual

3 x 4-1/8 – Model 10	92	3 x 4-1/2 – Models 14, 15, 17	128
3 x 5 – Model 11, 12, 18	102		

Horsepower – Taxable

3 x 4-1/8 – Model 10	21.6	3 x 4-1/2 – Models 14, 15, 17	28.8
3 x 5 – Model 11, 12, 18	21.6		

ELECTRICAL SYSTEM

GENERATOR SPECIFICATIONS

Make Auto-Lite.

Model GDS 4801 A, Models 10,18 – not used with 3x5 engine.

GEC 4801 A, Models 11,12,14,15,17 and 10 with 3x5 engine.

Type 3rd Brush., all Models.

Rotation C.W.D.E all Models.

Drive Fan Belt, all Models.

Control 3rd Brush and Vibrating Regulator.

Fuse None.

Bearing, Commutator end Bronze, all Models.

Bearing, drive end Ball., all Models.

Bearing clearance .001" to .0025" all Models.

Brush spring tension 53 oz. maximum with new brushes, all Models.

Field Current Draw – Models 10 and 18

Volts Amps.		Volts
Max.	Min.	Max.
6.0		1.82
6.8	2.07	1.87
7.2	2.19	1.98
7.6	2.31	2.09

Motorizing Draw .. Models 11,12,14,15,17,18

Amps.		
Min.		
1.65	6.0	5.4
6.8	5.6	5.03
7.2	5.7	5.12
7.6	5.8	5.2

Models 11,12,14,15,17,18

Maximum Output –cold .. Models 10 and 18			
Volts	Amps.	Volts	Amps.
6.0	1.78	6.6	28.0
6.8	2.01	7.0	29.7
7.2	2.12	7.6	32.3
7.6	2.24	8.0	34.0

Motorizing Draw

Models 10 and 18		Models 11,12,14,15,17,18	
Volts	Amps.	Volts	Amps.
6.0	5.45	6.6	35.0
6.8	5.65	7.0	36.6
7.2	5.80	7.6	40.3
7.6	6.00	8.0	43.0

DISTRIBUTOR

Rotation (viewed from top)

Left Hand., Models 10, 11, 12, 18.
Right Hand, Models 14, 15, 17.

Make

Auto-Lite, all Models.

Model

IGW-EO 5990, Models 10, 11, 12, 18.
IGP 4008 A. Models 14, 15, 17.

Cylinders

6 on Models 10, 11. 12, 18. 8 on Models 14, 15, 17.

Timing

Adjustable thru range of 3600 by loosening hold down clamp screw.

Automatic Advance (flywheel) ...

28° max., Models 10, 11, 12, 18.

Engine (distributor shaft)

17-1/2° max., Models 14, 15, 17.

Distributor (Cont'd)

Control Vacuum advance and automatic, Models 10,11,12,18.
Automatic on Models 14,-15,,17.
End play .003" to .010" in drive shaft after coupling is pinned, all Models.
Side play to .00111 max. .005" in bearings. New bearings fitted .0005" min.
Condenser Located on outside of housing. Capacity .20 to .25 Mfd.

	<u>Six Cylinder</u>	<u>Eight Cylinder</u>
Breaker point gap	.020"	.017"
Cam Dwell or Angle	35°	31° closed, 14° open
Breaker arm spring tension	17 to 20 oz.,	18 to 20 oz.
Breaker points open	1/2" B.T.D.C.	T.D.C.
Firing order	1-5-3-6-2-4	1-6-2-5-8-3-7-4

Vacuum advance – Models 10, 11, 12, 18:

	Advance Distribution Degrees	Inches of Mercury
NOTE. Flywheel degrees are double these figures.	Start advance 0°	7"
	Intermediate advance 2°	7-3/4"
	Intermediate advance 4°	8-5/8"
	Intermediate advance 6°	9-3/8"
	Full advance 7.5°	10"

Automatic advance Models 10, 11, 12, 18:

	Advance Distributor Degrees	Distributor R.P.M.
NOTE. Engine R.P.M. and flywheel degrees are double these figures.	Start advance 0°	300
	Intermediate advance 3°	400
	Intermediate advance 7°	825
	Intermediate advance 11°	1225
	Full advance 14°	1580

Automatic advance Models 14, 15, 17:

	Distributor R.P.M.	Advance	Distributor R.P.M.	Advance
NOTE. Engine R.P.M. and flywheel degrees are double these figures.	300	0.0	1210	12.0
	400	3.0	1345	13.5
	535	4.5	1480	15.0
	670	6.0	1615	16.5
	800	7.5	1700	17.5
	935	9.0	2000	17.5
	1070	11.5		
Flywheel teeth	134		Degrees to a tooth	2-2/3

VOLTAGE REGULATOR

Make	Auto-Lite	Open circuit voltage at battery	6.3 min. to 6.4 max.
Model	VRR-4001A (All Models)	Armature speed at closing	825 RPM
Ground Polarity	Positive.	Amperes to open	6 Amps. max. discharge
Volts	6 Volt	Car speed at closing	9.4 MPH

Voltage Regulator (Cont'd)

Circuit Breaker(cutout relay)	Operating Voltage	7.1 to 7.4 Volts at 70° F
Points close	6.4 to 7.0 Volts.	
Points open	6.0 Amps. at 6.3 Volts min. to 6.4 max	

SPARK PLUGS

Make	Champion	Thread	14 mm
Type	J-9 Hudson	Gap	.032"

IGNITION COIL

Make	Auto-Lite, All Models	Lock	On primary circuit
Location	Dash in engine compartment.	Lock cylinder location	End of ignition coil cable.
Model	IG 4098, Models 10, 11, 12, 18 CE 4029, Models 14, 15, 17	Lock cylinder removal Lock key series	By a spring type retainer H 601 – H 1100.
Amperage Draw – All Models.		Lock blank cylinders	Tumblers are cut to match key.
Engine Stopped	4.5 Amperes		
Engine Idling	2.5 Amperes		

STARTING MOTOR

Make	Auto-Lite, all Models	Brush spring tension	42 to 53 oz.
Model	MAZ 4092 – All 6 cylinder MAB-4100 – All 8 cylinder	Bearings	Two Bronze bearings, all Models
Rotation	CWDE – all models	End play	1/16", maximum
Volts	6	Drive	Bendix., inboard – Left
Hand all Models		Solenoid switch location	Top of starting motor.
Diameter	4" – All 6 cylinder 4-1/2" – All 8 cylinder.	Starting switch location	Button on instrument panel.

Test without load and with Bendix – Model 10, 11, 12, 18:

Test with Load and with Bendix – Models 10, 11, 12, 18;

Ampere Draw	Volts	RPM	Amps.	Volts	Load in Foot Pounds	RPM
70	5.5	4300	100	5.5	.65	2500
			200	5.0	2.55	1325
			300	4.5	4.95	750
			400	4.0	7.65	220

Test without load and with Bendix – Models 10, 11, 12, 18:

Ampere Draw	Volts	RPM	Amps.	Volts.	Load in Foot Pounds
70	5.5	4300	260	2.0	4.3
			380	3.0	7.75
			540	4.0	12.2

Starter (Cont'd)

Test without load and with Bendix – Models 14, 15, 17:

Ampere Draw	Volts	RPM
60	5.5	3700

Stall torque without switch – Models 14, 15, 17:

Amps.	Volts	Load in Foot Pounds
388	2.0	9.2
582	3.0	15.8
775	4.0	22.5

Test with load – Models 14, 15, 17

Amps.	Volts	Load in foot pounds	RPM
100	5.5	0.7	2220
200	5.0	3.4	1240
300	4.5	6.4	795
400	4.0	9.65	450

Stall torque with switch – Models 14, 15, 17

375	2.0	8.7
575	3.0	15.2
750	4.0	21.5

BATTERY

Make	National	Terminal Grounded	Positive
Number of Plates – 6 Cylinder	17	Specific Gravity	1250 to 1290 @ 70°
– 8 Cylinder	19	Height of Water Level	3/8" above plates

Dimensions:

	Six Cylinder	Eight Cylinder
Length	10–9/16"	11–3/4"
Width	7–1/4"	7–1/4"
Height	7–13/16"	7–13/16"

BULBS

	C. P.	Base	Voltage	Mazda No.
Headlamp	Sealed Beam		6–8	—
Hood side panel	1–1/2	S.C.	6–8	55
Fender Lamp – with direction indicator	21	S.C.	6–8	1129
Fender Lamp – without direction indicator	3	S.C.	6–8	63
Stop and tail	21–3	D.C.	6–8	1154
License Lamp	3	S.C.	6–8	63
Dome	15	S.C.	6–8	87
Beam Indicator	1	S.C.	6–8	51
Ignition Lock	1	S.C.	6–8	51
Speedometer	1–1/2	S.C.	6–8	55
Radio	1	S.C.	6–8	44
Generator and Oil Indicator	1–1/2	S.C.	6–8	55
Direction Indicator	1	S.C.	6–8	51
Mechanical Clock	1	S.C.	6–8	51
Electrical Clock	1	S.C.	6–8	55

HORNS

Twin Electric	Model 10 Pass., 11, 12, 14, 15, 17	Twin Electric (Cont'd)	
High Pitch	Short horn	Air gap – low pitch	.032" to .035"
Low Pitch	Long horn	Horn relay points close	3 to 4 volts
Diaphragm	High pitch horn, .0195" thick	Horn relay points open	2 volts across coil relay in upright position.
Diaphragm	Low pitch horn, .015" thick		
Air gap – high pitch	.026" to .030"	Horn relay coil resistance	7.3 to 8.9 ohms @ 70° F

Horns (Cont'd)

Fuse 30 amp – on dash under bonnet.
 Single vibrator Models 10 Traveler and Model 18
 Adjustment is by fillister head screw at outer edge of cover – do not move screw in center of cover.

CLUTCH

Engaging spring, Models 10, 11, 18, when compressed to 1–3/4” have a weight of 155 lbs., plus or minus 5 lbs. Models 14, 15, and 17 springs when compressed to 1–5/8” have a weight of 135 lbs., plus or minus 5 lbs.

Inner springs when compressed to 1–5/8” have a weight of 80 lbs., plus or minus 5lbs.

Clutch Finger Alignment	Not over .005” Clearance	Clutch Pressure Plate Warpage	Not over .010”
Clutch Throwout Finter	7/64” between bottom of finger and cover	Clutch Facing	Cork
Clutch Shifter Yoke	13/22” max. movement	Clutch Pilot Bearing	Ball
Clutch lubricant	1/3 pint Hudsonite only. Fill at front of flywheel	Clutch Throwout Bearing	Ball

(Lubricate at Zerk fitting on right side of bell housing – every 1000 miles.

CLUTCH DIAMETER AND ENGAGING SPRINGS

Model	Clutch Diam.	Outer Spring	Inner Spring
10 all (exc with OD and 3” x 5” engine)	9”	9	3
11 all and 10 with 3” x 5” engine	9”	9	6
12, 18 and all 6 cylinder with overdrive	10”	12	0
14, 15, 17	10”	12	3

See torque tables for torque values for Clutch and Brake Pedal nuts, Clutch finger fulcrum nuts and clutch cover to flywheel bolts.

TRANSMISSION

Gear Ratios:

Model 10 with 3” x 4–1/8” engine:		All other models, including model 10 with 3” x 5” engine.
2.88 to 1	Low	2.61 to 1
1.82 to 1	Second`	1.65 to 1
1 to 1	High	1 to 1
3.5 to 1	Reverse	3.17 to 1

Teeth:

Reverse Idler	Main Drive Gear –	Main Drive Gear –
18	2.88 to 1 17	2.61 to 1 17
Countershaft Gear Cluster – 2.88 to 1	Countershaft Gear Cluster – 2.61 to 1 ratio	Mainshaft – Low and Reverse 32 External Spline – 24 Internal
26	25	Main Shaft – Intermediate Helical – 25 Clutch – 30
21	21	
17	17	
14	14	

Transmission (Cont'd)

Bearings and Bushings:

Main Drive Gear	Ball	Mainshaft Rear	Ball
Mainshaft Pilot	Needle Roller	Reverse Idler	Steel Back – Babbit
	Countershaft Gear Cluster – Steel Back Babbit		

LUBRICANT

Capacity of transmission is 2-1/4 pints or pounds if disassembled and parts washed.
 Capacity of transmission is 2 pints or pounds if drained and refilled.
 Capacity of transmission and overdrive is 3-1/2 pints or pounds if disassembled and parts washed.
 Capacity of transmission and overdrive is 3-1/4 pints or pounds if drained and refilled.

OVERDRIVE SPECIFICATIONS

Cut in speed (standard Main Drive Gear – overdrive rear axle ratio) – about 19 M.P.H.
 Final axle ratio in overdrive with standard axle –

Actual Axle Ratio	Over-all ratio in over-drive :
4-7/8 to 1	3.52 to 1
4-5/9 to 1	3.28 to 1
4-1.9 to 1	2.96 to 1

REAR AXLE SPECIFICATIONS

Type	Semi floating	Wheel Bearings	
Gear Type	Helical bevel	Type	Taper Roller
Pinion	Bearings	Adjustment	Shim
Type	Taper Roller	End Play	.002"—.004"
Adjustment	Shim	Pinion and Gear (Matched Gears)	
End Play	.000"—.001"	Adjustment	Shim
Differential Bearings		Lash in Gears	.0005"—.0035"
Type	Taper Roller	Lubrication	
Adjustment	Adjustment Nut	Type – Summer & Winter	S.A.E. 90 E.P.
		Capacity in Lbs	2-3/4 lbs. (1.24 Kgs).

GEAR RATIOS (WITHOUT OVERDRIVE)

	4-1/9	4-5/9	4-7/8
Model 10 Pass. Cars	Opt.	Std.	Opt.
Model 10 Commercial	Opt.	Std.	Opt.
Model 11 Pass.	Std.	Opt.	—
Model 17	Std.	Opt.	—
Model 12, 14, 15	Std.	Opt.	—
Model 18, 5 Pass. Sedan	Std.	Opt.	—
Model 18, 7 Pass. Sedan	Std.	Opt.	—
Model 18 Commercial	—	Std.	—

GEAR RATIOS (WITH OVERDRIVE)

	4-1/9	4-5/9	4-7/8
Model 10 Pass. Cars	Opt.	Opt.	Std.
Model 10 Commercial	Opt.	Opt.	Std.
Model 11 Pass.	Opt.	Std.	—
Model 12, 17	Opt.	Std.	—
Model 12, 14, 15	Opt.	Std.	—
Model 18, 5 Pass. Sedan	Opt.	Std.	—
Model 18, 7 Pass. Sedan	Opt.	Std.	—
Model 18 Commercial	—	Opt.	Std.

BRAKES

Type used (all models)	4 wheel Bendix Hydraulic	Lining (Cont'd)	
Drum type	Centrifuse	Width	1-3/4"
Drum Diameter:		Thickness	7/32"
Model 10, 11, 12, 18	10"	Length per wheel – 10"	22-1/8"
Model 14, 15, 17	11"	Length per wheel – 11"	23-15/16"
Rear Wheel Bearing:		Lining area Sq. In. – 10"	155"
Model 10TR, 10PA, 10DL	Small (10" brake)	Lining area Sq. In. – 11"	167-1/2"
Model 10CM, 11, 12, 18	Large (10" brake)	Adjustments:	
Model 14, 15, 17	Large (11" brake)	Anchor Pin	Radially-Single
3" x 5" engine uses	Large (10" brake)	Lining clearance	.0075"
Lining		Mechanical follow-up	1-1/4"
Primary Shoe	Moulded	Pedal to floorboard clear.	1/4"
Secondary Shoe	Woven		

SUSPENSION

Caster	0° preferred +1/4° to - 1/4° permissible	Wheel Bearing Type	Taper Roller
Camber	1/4° to 3/4°	Wheel Bearing End Play	.001" to .003"
Max variation – right and left wheel caster or camber	1/2°	Tie Rod End Type	Plain Bearing
Toe In	0 – 1/16"	Tie Rod Adjustment	Turn Rod
Pivot Pin Inclination	4° 36'	Tie Rod Adjust. – to increase	Turn in direction of of forward wheel travel
Toe out	±36' between wheels	Tie Rod Adjust. – to decrease	Turn in opposite direction
Spindle Pivot Pin Thrust Bearing	Ball		