



VOL. 4, SUPPLEMENT No. 1

SEPTEMBER 1, 1930

PACKARD EIGHT STANDARD SIZES AND ADJUSTMENTS

Name	626-633	640-645	726-733	740-745	856-833	840-845
BRAKE—FRONT						
Clearance around drum	Free	Free	Free	Free	Free	Free
Length of Lining	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "
Width and Thickness	2" x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "
No. per Vehicle	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2
BRAKE—HAND						
Clearance around drum	Free					
Wheels locked against turning	Fifth Notch					
Setting Bands Concentric	Inherent	Inherent	Inherent	Inherent	Inherent	Inherent
Length of Lining	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "
Width and Thickness	2" x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "
No. per Vehicle	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2
BRAKE—REAR						
Clearance around Drum—Minimum	Free	Free	Free	Free	Free	Free
Length of Lining	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 13 $\frac{13}{16}$ " Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "	Prim. 14" Sec. 17 $\frac{3}{16}$ "
Width and Thickness	2" x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "	1 $\frac{3}{4}$ " x $\frac{3}{16}$ "	2" x $\frac{3}{16}$ "
No. per Vehicle	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2	Prim. 4 Sec. 2
CLUTCH						
No. of Driving Plates	1	2	1	2	1	2
Clearance Plates on Keys—Minimum	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash	Clearance Splined Hub on Clutch Shaft No Perceptible Back Lash
Tension of Clutch	12 springs 125 lbs. at 1 $\frac{3}{8}$ "	12 springs 115 lbs. at 1 $\frac{3}{8}$ "	12 springs 125 lbs. at 1 $\frac{3}{8}$ "	12 springs 115 lbs. at 1 $\frac{3}{8}$ "	12 springs 125 lbs. at 1 $\frac{3}{8}$ "	12 springs 115 lbs. at 1 $\frac{3}{8}$ "
Clutch Pedal to Floorboard Minimum Clearance—Clutch Engaged	1"					

NOTE

Information which has previously been issued in Part Two of the Service Manual will be revised and issued in the form of Service Letter Supplements. Be sure and retain these Supplements, as they will make a valuable file for future reference.

Special Binders may be had for Service Letters at 45 cents each.

PACKARD EIGHT STANDARD SIZES AND ADJUSTMENTS—Continued

NAME	626-633	640-645	726-733	740-745	826-833	840-845
MOTOR—Cont.						
Clearance Bearing to Crankpin	Minimum .0005					
End Play Connecting Rod on Crankshaft	Minimum .003					
End Play Connecting Rod on Piston Pin—Nominal	One-eighth of an inch					
Diameter of Crankpins	2.1875	2.1875	2.1875	2.1875	2.1875	2.1875
Clearance on All Main Bearings	Minimum—One thousandth of an Inch					
End Play Crankshaft on Main Thrust Bearing	Minimum—Three thousandths of an Inch					
Diameter of Main Journals	2.625	2.625	2.625	2.625	2.625	2.625
Diameter Cylinder Bore—Standard	3 $\frac{3}{16}$ "	3 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "	3 $\frac{1}{2}$ "	3 $\frac{3}{8}$ "	3 $\frac{1}{2}$ "
Reground Oversizes	Fifteen, Thirty and Forty-Five Thousandths Over Standard					
Diameter of Piston Pins	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
Oversizes	Three and Six Thousandths Over Standard					
Piston Pin Offset in Piston	0	0	0	0	0	0
Install in Motor	Slots Opposite from Valves	Slots Opposite from Valves	Slots Opposite from Valves	Slots Opposite from Valves	Slots Opposite from Valves	Slots Opposite from Valves
Width of Ring Groove	$\frac{1}{8}$ "					
Depth of Ring Groove	.145	.145	.145	.145	.145	.145
Clearance Piston Skirt to Cylinder Wall	Minimum; Alloy—.0015"	Minimum; Alloy—.0015"	Minimum; Alloy—.0015"	Minimum; Alloy—.0015"	Minimum; Alloy—.0015"	Minimum; Alloy—.0015"
Piston Ring Gap Compressed to Cylinder Diameter	Ten-thousandths—Minimum					
Pressure Required to Close Ring to Correct Gap	6-9 Lbs.	4-7 Lbs.	6-9 Lbs.	4-7 Lbs.	6-9 Lbs.	4-7 Lbs.
Piston Sizes	Standard	Standard	Standard	Standard	Standard	Standard
	.003	.003	.003	.003	.003	.003
	.005	.005	.005	.005	.005	.005
	.010	.010	.010	.010	.010	.010
	.015	.015	.015	.015	.015	.015
	.020	.020	.020	.020	.020	.020
	.030	.030	.030	.030	.030	.030
	.045 over	.045 over	.045 over	.045 over	.045 over	.045 over
Clearance to Push Rods—Motor Warm	Four-thousandths of an inch					
Width of Contact at Valve Seat	Eight Hundred Eighty-Three Ten-thousandths of an Inch					
Clearance Between Valve Stem and Guide	Inlet—Minimum—Two and one-half thousandths of an Inch Outlet—Minimum—Four and one-half thousandths of an Inch					
Tension of Valve Springs	43 Lbs. at 3 $\frac{1}{2}$ "	43 Lbs. at 3 $\frac{1}{2}$ "	43 Lbs. at 3 $\frac{1}{2}$ "	43 Lbs. at 3 $\frac{1}{2}$ "	43 Lbs. at 3 $\frac{1}{2}$ "	43 Lbs. at 3 $\frac{1}{2}$ "
Oil Pump Pressure at 1000 R. P. M.	Minimum—35 Lbs.					
Crankcase Oil Capacity	8 qts.	10 qts.	8 qts.	10 qts.	8 qts.	10 qts.
Rod Clearance to Surface of Oil in Crankcase	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "	1 $\frac{1}{16}$ "
Valve Timing	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center
REAR AXLE						
Oil Capacity	3 Qts.	3 $\frac{1}{2}$ Qts.	4 $\frac{1}{2}$ Qts.	5 Qts.	3 Qts.	3 $\frac{1}{2}$ Qts.
Back Lash Between Driving Ring Gear and Pinion—Minimum	.004					

PACKARD EIGHT STANDARD SIZES AND ADJUSTMENTS—Continued

NAME	626-633		640-645		726-733		740-745		826-833		840-845	
SPRINGS												
Front Springs Nominal Cap, in Lbs. When in Normal Position	Rt. 975 Lbs. Lt. 875 Lbs.		Rt. 1050 Lbs. Lt. 975 Lbs.		Rt. 950 Lbs. Lt. 850 Lbs.		Rt. 1050 Lbs. Lt. 950 Lbs.		Rt. 950 Lbs. Lt. 850 Lbs.		Rt. 1050 Lbs. Lt. 950 Lbs.	
Rear Springs Nominal Capacity in Pounds When in Normal Position	Body Type	Lbs. Spring	Body Type	Lbs. Spring	Body Type	Lbs. Spring	Body Type	Lbs. Spring	Body Type	Lbs. Spring	Body Type	Lbs. Spring
	331	1000	340	1200	400	1000	410	1200	460	1000	470	1200
	332	1000	341	1100	401	1000	411	1100	461	1000	471	1100
	333	1200	342	1100	402	1000	412	1100	462	1000	472	1100
	338	1100	344	1400	403	1200	414	1400	463	1200	476	1300
	339	1100	345	1400	404	1300	415	1400	464	1300	477	1200
	330	1100	346	1300	405	1300	416	1300	465	1300	478	1200
	334	1300	347	1200	406	1200	417	1200	466	1200	479	1200
	335	1300	348	1200	407	1100	418	1200	467	1100	473	1300
	336	1200	349	1200	408	1100	419	1200	468	1100	474	1400
	337	1200	370	1300	409	1100	420	1200	469	1100	475	1400
	351	1100	371	1200	431	1000	421	1200	481	1000	491	1100
	352	1100	372	1200			422	1100				
	358	1100	373	1200			423	1300				
	359	1100	374	1500			424	1400				
			375	1500			425	1400				
			376	1400			426	1300				
			377	1200			451	1200				
		378	1200			439	1200					
						427	1200					
						428	1200					
						429	1300					
						441	1100					
Clearance Spring Bushing to Pin	.002											
STEERING												
Front Wheel Camber	1° 30'		1° 30'		1° 30'		1° 30'		1° 30'		1° 30'	
Front Wheel Toe-In	1/8"		1/8"		1/8"		1/8"		1/8"		1/8"	
Rake or Castor	1°		1°		1°		1°		1°		1°	
Adjust Knuckle Stop	Adjust to 4 1/2" Clearance Spring to Wheel Rim											
Minimum Turning Radius	626—21' 7" 633—23' 6"		640—24' 5" 645—26' 4"		726—22' 9" 733—24'		740—24' 6" 745—26' 9"		826—24' 6" 833—25' 9"		840—27' 845—27' 5"	
Taper Roller Bearing Adjustment for Front Wheel	Tighten Nut as Tight as Possible then Back Off 1/2 Turn or More and Lock											
Recommended Tire Pressure	Front—40 Lbs. Rear—40 Lbs.		Front—40 Lbs. Rear—40 Lbs.		Front—40 Lbs. Rear—40 Lbs.		Front—40 Lbs. Rear—40 Lbs.		Front—40 Lbs. Rear—40 Lbs.		Front—40 Lbs. Rear—40 Lbs.	
Stabilator Adjustment	Not Used		Not Used		Not Used		Not Used		Not Used		Not Used	
Shock Absorber Adjustment	Bottom and Back Off 1 3/4 Turns		Bottom and Back Off 1 3/4 Turns		Bottom and Back Off 1 1/2 Turns		Bottom and Back Off 1 1/2 Turns		Front Rebound Valve—3G Rear Rebound Valve—3J Front Compression Valve—G4 Rear Compression Valve—G2		Front Rebound Valve—3G Rear Rebound Valve—3J Front Compression Valve—G4 Rear Compression Valve—G2	
Balancing Wheels	Wheels Equipped with Balloon Tires Should be in Static Balance											
TRANSMISSION												
Oil Capacity	2 Quarts											
Ratio to Rear Wheels in Direct Drive	Optional 4.38 4.69 4.69 5.08		Open—4.07 Closed—4.38		Optional 4.38 4.69 4.69 5.08		Optional 4.07 4.38 4.69		4.38 4.69 5.08 4.07		4.38 4.69 5.08 4.07	
In Third					5.73 6.13 6.13 6.64		5.33 5.73 6.13		6.07 6.48 7.04 5.64		6.07 6.48 7.04 5.64	
In Second	7.61 8.16 8.16 8.86		Open—7.10 Closed—7.61		8.83 9.41 9.41 10.02		8.19 8.83 9.41		8.08 8.63 9.37 7.5		8.08 8.63 9.37 7.5	
In First	14.61 15.66 15.66 16.98		Open—13.62 Closed—14.61		15.00 16.00 16.00 17.35		13.95 15.00 16.00		13.77 14.7 16.00 12.8		13.77 14.7 16.00 12.8	
In Reverse	18.24 19.55 19.55 21.24		Open—17.01 Closed—18.24		12.40 12.94 12.94 13.05		11.25 12.40 12.94		11.12 11.9 12.86 10.33		11.12 11.9 12.86 10.33	
Back Lash Between Gears Not Always in Mesh—Minimum	.004											
UNIVERSAL JOINT												
Assembling Universal Joints	Arrows on Shaft and Universal Joint Sleeve must be in line											