

1948 Spring Housecleaning

The shooting has been over in Europe for three years and — according to impartial critics— it is high time the auto service industry realized the war is over and the "to Hell with the customer" attitude out of date.

Along with a lot of undeserved abuse, some just criticism has been heaped on Dealer's heads in the past few months.

Nothing can be done about the abuse, but something CAN BE DONE . . . MUST BE DONE . . . about the deserved criticism; because OUR CRITICS ARE OUR CUSTOMERS.

One noteworthy critic is Wheeler McMillen, editor of *Farm Journal* and *Pathfinder*, and spokesman for a large segment of the U. S. farm population who own and operate more than 4,000,000 cars and trucks and an additional 2,000,000 tractors (a LOT of potential service volume).

As quoted by N.A.D.A. Magazine, McMillen said, in part:

"... no one suggestion could do your (the auto) business more good than that you determine to be neat housekeepers.

"... your repair departments do not have to be foul, I have seen a few that were spic and span.

"If you think you can't scour up the grease and muck, sweep out the corners, and launder your repair men, at least you might shut off the back room and hide the mechanical help from your customers.

"If nothing else can be done perhaps you can have a clean reception room, a clean place for a waiting customer to sit, a clean attendant to deal with the customer —and then don't let the customer get beyond that point.

"... I'll guarantee that cleanliness will bring business."

We would like to "pooh-pooh" Editor McMillen's criticism with the flat statement he is talking about "alley" garages, or at worst our competitors. Packard standards of cleanliness always have been of the highest . . . like all Packard standards.

But in this matter of postwar housekeeping maybe there is more truth in his complaint than we like to admit.

Inspection of a customer reception area in a Class A Packard Dealership recently disclosed:

A thick layer of dust on the fine chrome-and-leather furniture.

A filthy floor littered with miscellaneous debris including old orange peel and the remains of a sandwich.

An old issue of the *Daily Racing Form*, the only reading material available.

Housekeeping in the rest room was equally bad.

Housekeeping in the shop was much better: The floor was clean; personnel were clean and neat; the only real disorder was a pile of discarded parts in a corner.

Fortunately, this does not re-

present housekeeping in all Packard Dealerships.

It should not be true of any of them.

Now that the time for spring housecleaning has arrived, every Packard shop should be put into apple pie order.

The following program will serve as a guide and check list:

- 1—Paint or scrub all visible areas.
- 2—Discard or scrap all rubbish and unserviceable parts.
- 3—Put serviceable parts back in stock.
- 4—Wash all windows.
- 5—Clean up equipment and tools.
- 6—Straighten up the parts room.
- 7—Make sure all rest rooms are clean and attractive.
- 8—Satisfy yourself that the customer waiting area would be satisfactory to your wife if she had on her best clothes. Dress it up with a few current magazines.

Keeping the Dealership clean, then becomes a routine matter:

- 1—Sweep out every day. Thoroughly clean at regular intervals.
- 2—Do not allow rubbish or scrap to accumulate.
- 3—Clean rest rooms and customer waiting room the first thing every morning and keep an eye on them through the day to make sure they remain that way.

Then neither McMillen nor any other Owner will have cause to criticize Packard housekeeping.

1948 Torque Specifications

Quality workmanship demands not only that the mechanic install the correct parts properly but that—in some cases—nuts or bolts be pulled down to within specified limits with a torque measuring wrench.

Failure to pull nuts down evenly and to within specified limits is a common cause of serious complaints that create lack of confidence by the Owner in the mechanic, the dealer, and the product.

The following table of torque data is submitted as a handy guide to the field.

In taking a torque reading it is important that a steady pull of the wrench be made and that the reading be taken *after* the initial high reading has been overcome.

Function	Thread Size	Lbs. Ft. Min.	Lbs. Ft. Max.	Lbs. Ft. Min.	Lbs. Ft. Max.
BODY					
Body hold down bolt (hard top cars).....	3/8-16	12	15		
Body hold down bolt (convertibles).....	3/8-16	20	23		
Front fender moulding bolt nut	#10-32			30	40
Front center and lower moulding to reinforcement screw..	3/8-18	15	18		
Parking light moulding.....	1/4-20			90	100
Radiator front fender front center and lower moulding screw.....	3/8-18	15	18		
Radiator front fender moulding screw.....	3/8-18	15	18		
Radiator grille and fin Assy. screw.....	#10			30	40
BRAKES					
Cable clamping screw.....	5/16-24			95	120
Cylinder screw.....	3/8-18	15	18		
Equalizer lever link nut.....	3/8-24	25	30		
Lever cable Assy. clip screw....	5/16-24	15	18		
Master cylinder screw.....	3/8-16	25	30		
	3/8-14	55	60		
Master cylinder to pedal connecting rod nut.....	3/8-20	25	30		
Pedal pad screw.....	3/8-24	15	18		
Rear wheel cable to support plate screw.....	3/8-24	15	18		
Shoe anchor pin nut.....	3/8-18	85	90		
Support plate (front) screw nut	1/2-20	65	75		
Support plate (rear) screw nut.	3/8-24	35	40		

BUMPERS

Assy. to frame bolt nut.....	1/2-20	65	75		
Guard to impact bar bolt (rear)	3/8-24	25	30		
Guard to impact bar bolt nut..	1/2-20	65	75		
Guard to impact bar screw....	3/8-16	25	30		
Impact bar bracket bolt.....	1/2-20	65	75		
Impact bar carriage bolt.....	3/8-24	25	30		
Impact bar panel bolt.....	1/4-28			90	100

Function	Thread Size	Lbs. Ft. Min.	Lbs. Ft. Max.	Lbs. Ft. Min.	Lbs. Ft. Max.
BUMPERS—Cont.					
License bracket bolt.....	1/4-28			90	100
License plate bolt speed nut...	1/4-20			90	100
License plate retaining bolt....	1/4-20			90	100
Ornament spacer screw.....	#10			30	40
Support to impact bar bolt (front).....	1/2-20	65	75		
Support to frame bracket bolt (rear).....	3/8-24	25	30		

CHASSIS

Exhaust

Muffler and outlet tube support bolt.....	3/8-18	12	15		
Muffler insulator fastening nut.....	3/8-18	12	15		
Muffler outlet tube support Assy. bolt nut.....	5/8-24	12	15		
Muffler outlet tube support Assy. to frame bolt.....	3/8-16	25	30		
Muffler support "U" bolt..	3/8-18	12	15		
Pipe to manifold screw....	3/8-24	25	30		
Pipe to manifold screw....	3/8-16	18	20		
Pipe to flywheel housing support bolt.....	3/8-16	25	30		

Front suspension

Shock absorber to frame bolt nut.....	1/2-20	65	75		
Shock absorber clamp bolt nut.....	3/8-24	25	30		
Support arm bracket bolt..	7/8-20	55	60		
Bushing (inner).....	1 1/4-11	145	155		
Support pivot clamping bolt.....	3/8-24	25	30		
Support pivot pin (lower) bushing.....	1 1/4-11	145	155		
Support pivot pin (lower) nut.....	7/8-11	85	95		
Support pivot pin (upper) bushing Assy. (front)....	1 1/4-11	145	155		
Support pivot pin (upper) bushing Assy. (rear)....	1 1/4-11	90	100		
Support arm (lower) bushing (inner).....	1 1/4-11	145	155		
Torque required to rotate lower support arm bracket in bushings....		Not to exceed 15 lbs. in.			

Rear Shock Absorber

Lock nut and stud nut....	1/2-20	65	75		
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Rear Spring

Bushing bolt and shackle lock nut.....	1/2-20	65	75		
Clip Nut.....	1/2-20	70	80		
Rubber bumper screw....	3/8-24	25	30		

Function	Thread Size	Lbs. Ft. Min.	Lbs. Ft. Max.	Lbs. Ft. in Min.	Lbs. Ft. in Max.
Splasher					
Splasher frame to crank-case assy. screw.....	5/16-18	15	18		
Stabilizer					
Assy. (front) to frame bolt.	7/8-20	55	60		
Tube assy. (lateral) to rear axle nut.....	1/2-20	65	70		
Steering					
Column to instrument board bracket cap screw.	5/16-18	15	18		
Connecting rod idler lever bushing assy.....	3/8-11	100	110		
Connecting rod idler lever support screw.....	3/8-24	25	30		
Gear assy. to frame bolt...	7/8-20	55	60		
Gear cross shaft and lever nut.....	3/8-14	65	75		
Linkage clamp bolt.....	5/8-24	15	18		
Linkage taper ball joint nut	1/2-20	45	50		
Wheel to post nut.....	3/4-20	50	55		

CLUTCH

And brake pedal shaft bracket bolt.....	3/8-24	25	30		
Cover plate retaining screw...	5/16-18	25	28		
Pedal booster spring bracket bolt.....	3/8-24	25	30		
Pedal bracket screw.....	3/8-24	25	30		
Pedal pad screw nut.....	5/16-24	15	18		
Pedal to release lever cable nut (RHD).....	5/8-24	15	18		
Pedal to release lever cable yoke and nut.....	5/8-24	15	18		
Relay lever frame pivot bracket screw.....	3/8-24	25	30		
Relay lever pivot screw.....	5/16-18	15	18		
Relay pivot screw.....	1/4-28			90	100
Relay lever to release lever rod lock nut.....	5/8-24	15	18		
Relay lever to release lever rod lock nut.....	3/8-24	25	30		
Relay lever to release lever rod pin nut.....	5/8-24	15	18		
Release lever lock nut.....	7/8-20	45	50		
Release lever pivot bolt.....	3/8-24	25	30		

ELECTRICAL

Body

Instrument cluster terminal nuts.....	#8-32			15	20
Steering wheel horn ring contact plate screw.....	#10-24			20	30

Distributor

Retaining screw.....	5/16-18	15	18		
Primary wire terminal screw.....	#10-32			15	20

Generator

Adjusting strap to cylinder screw.....	3/8-16	25	30		
Adjusting strap to front end plate screw.....	3/8-16	25	30		

Generator—Cont.

Adjusting strap to generator screw.....	5/16-18	15	18		
Bracket screw.....	5/16-18	15	18		
Bracket to generator screw	5/8-24	15	18		
Field terminal nut Auto-Lite	#10-32			20	30
Delco	#12-24			20	30
Ground wire screw.....	Auto-Lite #10-32			20	30
Delco	1/4-20			30	40
Output terminal nut.....	Auto-Lite #14-24			30	40
Delco	#12-24			20	30
Regulator screws.....	1/4-20			90	100
	1/4-28			90	100
	5/8-18	15	18		
	5/8-24	15	18		

Ignition

Coil primary terminal nut.	#10-32			20	30
Coil support bracket screw	3/8-16	25	30		
Spark plug.....	10 mm	10	14		
Switch (instrument board) terminal nuts.....	#8-32			15	20

Starting Motor

Assy. screw.....	3/8-14	55	60		
	1/2-13	65	75		
Battery cable to solenoid retainer nut....	Auto-Lite 5/8-24			65	75
Delco	3/8-16			70	80
Switch cable to solenoid terminal nut.....	#10-32			20	30

ENGINE

Camshaft sprocket nut.....	1-14	140	160		
Camshaft thrust plate screw...	5/8-18	15	18		
Connecting rod bolt nut.....	7/8-28	55	58		
Crankshaft bearing cap screw..	1/2-13	82	85		
Crankshaft counterweight screw.....	3/8-24	48	55		
Cylinder head to water outlet flange screw.....	3/8-16	25	30		
Cylinder head stud nut.....	7/8-20	60	62		
Cylinder ventilator baffle plate screw.....	5/8-24	15	18		
Fan screw.....	1/4-28			90	100
Flywheel assy. screw.....	1/2-20	70	80		
Flywheel housing screw.....	3/8-14	55	60		
Flywheel housing lower cover screw.....	5/16-18	15	18		
Flywheel housing lower cover felt retainer support screw...	5/8-18	15	18		
Flywheel housing lower cover plug.....	1/2-13	40	50		
Front end plate screw.....	5/8-18	15	18		
	3/8-16	25	30		
Gear cover screw.....	5/8-18	15	18		
Gear cover screw nut.....	5/8-18	15	18		
Manifold assy. screw.....	3/8-16	25	30		
Manifold assy. stud nut.....	3/8-24	25	30		
Oil filter assy. screw.....	5/8-18	15	18		
Oil pan screw.....	5/8-18	15	18		
Oil pan assy. stud nut.....	5/8-24	15	18		
Oil pan assy. screw.....	5/8-18	15	18		
Oil pan drain plug.....	5/8-18	25	30		

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Function	Thread Size	Lbs. Ft. Min.	Lbs. Ft. Max.	Lbs. Ft. Min.	Lbs. Ft. Max.
ENGINE—Cont.					
Oil pressure gauge sending unit terminal screws.....	#8-32			15	20
Oil pump assy. screw.....	3/8-16	25	30		
Oil pump cover screw.....	1/4-20			90	100
	3/8-16	25	30		
Oil strainer bracket brace screw nut.....	1/4-28			90	100
Oil strainer to cylinder screw..	3/8-18	15	18		
Snubber assy. to frame bolt....	3/8-24	25	30		
Snubber nut.....	3/8-20	30	35		
Snubber to transmission stud nut.....	3/8-20	45	50		
Stabilizer bracket to frame screw.....	3/8-24	25	30		
Stabilizer cylinder bracket to engine stabilizer assy. screw.	3/8-24	15	18		
Support (front) bracket to frame bolt.....	3/8-24	25	30		
Support channel bracket to bracket assy. bolt.....	1/2-20	65	75		
Support (front) insulator retainer screw.....	3/8-24	15	18		
Support and bracket assy. to frame screw.....	3/8-24	25	30		
Support (rear) bracket brace bolt.....	3/8-24	25	30		
Support (rear) insulator assy. to bracket bolt.....	3/8-24	25	30		
Support (rear) insulator assy. to motor screw.....	1/2-20	65	75		
Valve cover screw.....	3/8-18			25	35
Vibration damper assy. screw..	3/4-16	130	150		
Vibration damper drum screw.	1/4-28			90	100
Water pump assy. screw.....	3/8-16	25	30		
Water pump cover screw nut	3/8-24	15	18		

FUEL

Carburetor

Air cleaner to brace screw.	3/8-18	15	18		
Air cleaner support bracket nut.....	3/8-24	25	30		
Air cleaner to support screw.....	3/8-18	15	18		
Assy. stud nut.....	3/8-24	25	30		
	3/8-24	15	18		
Carburetor throttle operating bellcrank bracket assy. screw.....	3/8-16	25	30		
Carburetor throttle operating shaft bracket screw	1/4-20			90	100

Fuel Pump

Assy. screw.....	3/8-16	25	30		
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Gasoline Tank

Drain plug.....	1/4 pipe	10	15		
Gauge screw.....	#10-32			15	20
Gauge terminal screw.....	#8-32			15	20
Support strap tee bolt....	3/8-24			30	40
Support strap to frame bolt nut.....	3/8-24	25	30		
Tube clip to frame screw..	3/8-18	12	15		
Tube connection to frame screw.....	3/8-18	12	15		

Function	Thread Size	Lbs. Ft. Min.	Lbs. Ft. Max.	Lbs. Ft. Min.	Lbs. Ft. Max.
RADIATOR					
Core cradle to fender bracket bolt.....	3/8-24	25	30		
Core cradle to fender bracket brace screw.....	3/8-18	15	18		
Core cradle to fender moulding support brace screw.....	3/8-24	25	30		
Core cradle to frame tie rod screw.....	3/8-24	25	30		
Core cradle to radiator grille brace bolt.....	3/8-24	25	30		
Hose clamp screw.....	special			20	25

REAR AXLE

Differential carrier cap screw..	1/2-20	65	75		
Differential carrier oil plug....	3/4 pipe	18	20		
Differential carrier to case nut.	3/8-24	35	40		
Differential driving gear idler locking plate screw.....	3/8-18	15	18		
Differential driving gear idler shaft nut.....	3/8-18	70	75		
Differential ring gear screw...	3/8-24	50	55		
Shaft nut.....	3/8-14	200	270		
	3/4-16	200	270		

TRANSMISSION

Case cover assy. screw.....	3/8-18	15	18		
Case oil plug.....	3/4 pipe	18	20		
Clutch shaft rear bearing cover	3/8-18	15	18		
Direct drive and second speed shifter lever clamp screw....	3/8-24	15	18		
Driving shaft rear bearing cover screw.....	3/8-16	25	30		
First speed and reverse shifter lever clamp screw.....	3/8-24	15	18		
Gearshift idler lever shaft nut..	1/2-20			15	20
Gearshift idler lever shaft support crew.....	3/8-16	25	30		
Gearshift shaft bracket clamp nut.....	1/4-28			90	100
Gearshift shaft lever stop pin lock nut.....	1/4-28			90	100
Reversing pinion shaft retaining screw.....	3/8-16	25	30		
Shifter forks interlock bracket screw.....	3/8-24	25	30		
Universal joint flange nut.....	3/4-16	200	225		

Overdrive

Adapter to transmission case screw.....	3/8-16	25	30		
Case to adapter.....	3/8-16	25	30		
Case oil plug.....	3/4 pipe	18	20		
Driving shaft nut.....	3/4-16	200	225		
Relay terminal screw.....	#8-32			15	20
Solenoid terminal screw...	#10-32			20	30
Support insulator to case nut.....	3/8-24	15	18		

UNIVERSAL JOINT

Shaft assy. screw.....	3/8-24	18	22		
Shaft trunnion bearing bracket support bolt nut.....	3/8-24	25	30		

WHEELS

Wheel bolts.....	3/8-18	85	95		
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