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GASOLINE ECONOMY

In any region where the supply of gasoline is to be reduced there will be a desire on the part of the operator to improve the fuel economy of his car.

Naturally, the first step to take is to make sure that the motor is in good condition and, particularly, that the ignition timing is set with all the advance which it will take.

It must be born in mind that all motors are built for the greatest economy which the designer feels is practical, and that a sacrifice of some kind must be made if the economy is to be still further improved.

Increasing the spark advance increases spark knock. Leaning the mixture increases the tendency toward spark knock and also reduces motor performance. A very lean mixture will increase the motor temperature under hard driving and may even cause vapor lock or sticking valves.

Unfortunately the desire to improve fuel economy collides "head on" with the present movement toward a reduction in the octane rating of the gasoline, because the two important items in improving economy, leaning the mixture and advancing the spark, definitely increase spark knock.

The subject should be carefully reviewed with the customer if he asks for your help. The main metering jets of the Stromberg carburetor can be replaced with jets one or two sizes smaller and leaner metering rods can be installed in Carter carburetors.

The spark should be advanced as far as the road conditions and the fuel available will permit. The driver must then accept the increase in spark knock. You should warn the owner, however, that he will probably be disappointed in the result.

Operating conditions are the biggest factor in fuel economy. The fast driver, the "jack rabbit" driver and the driver who must operate in traffic will not be able to get good gasoline mileage in spite of anything you may do.

The greatest improvement can be obtained in the car which is driven on long runs at even, moderate speeds. In such a car the effect of the leaner mixture and the increased spark advance will not be as objectionable.

THE "CAR HEALTH CHECK"

Whether your service department is busy or not, use the "Car Health Check" on as many of the cars coming in as possible. Why? Because you'll need the "work deferred" to call in later when you will need it badly.

The "Car Health Check" is both a present and future "Self Seller." Don't miss an opportunity to use it.

Those service men who have found out by actual trial and experience, are getting increased business by using the Health Check and they are getting a lot more dollar sales per repair order. Furthermore, they *know* right where to go for additional work later on.

It's a good bet, don't pass it up.

PROFITS FROM SHOCKS

Somebody made a survey and found that only one out of every thousand car owners had ever been asked whether his shock absorbers needed attention. We hope this ratio doesn't hold true as far as Packard owners are concerned.

We don't believe Packard Service Stations are overlooking so profitable an item. Go after shock absorber service either by means of separate inspections or, as a part of the "Car Health Check." Send out Reminder Card No. 9. Don't forget there are two profits—get both. There is the refilling and the repairing or replacement where your inspection shows them to be worn out and useless.

The Monroe people claim there is as much profit in a refilling job as there is in 80 lubrication jobs or 400 quarts of oil or 1650 gallons of gasoline, or 132 front wheel bearing repacks. Check your stock of Packard Repair Kits and go after this business.

For additional shock absorbers business, follow these four easy inspection steps.

1. Jump on the front and then the rear bumper. If the car springs move too rapidly and the car continues to bound after you jump off you have either a repair or a replacement job.
2. Look for fluid that has leaked out of the shocks—refilling seldom helps these either.
3. Move the arm sideways to test for side play on bearing—if there is noticeable movement the bearing is worn.
4. Never replace a broken connector without inspecting the unit—check the arm movement sideways and up and down. If up and down movement is too easy the unit has lost its control—if too hard, it's dirt or damage. In either case there is business in sight for you.

ATLANTA-BRASWELL CALLS ON DEALERS

TRANSMISSIONS STICKING IN LOW GEAR

It should not be necessary for us to talk to you about the transmissions sticking in low gear.

We have covered it many times and we would not mention it again if it were not for the fact that some customers still report difficulty in securing a satisfactory result.

Let's get this straight: When a customer comes back to you and says that the trouble is not fixed, it means that you have fallen down on the job. Instead of blaming the customer or criticizing the "design," why not do the job right? Only reasonable care and reasonable intelligence are necessary to get a result.

First see that the detent block in the left side of the transmission cover is tight. It is held by a bolt put through from the inside with a castellated nut and a cotter pin on the outside.

Remove the cotter pin and see whether this nut is tight. If it is loose it has probably worn the block or the detents themselves, and merely tightening the nut will not give an accurate lineup.

If a loose block has been found the cover should be removed and a thorough examination made of the block and the detents to see that there is no excessive wear.

Be sure that when the nut is tightened it does not pull the block in so far that the detent balls do not line up properly with the grooves. If this condition exists it will be necessary to shim the block in order to get the proper lineup.

While checking the detent block, disconnect both rods from the levers on the left side of the transmission cover, working the levers by hand to make sure that they are not loose on the splined end of the cross shaft. You can tell by the feel of the lever whether or not the forks are loose on their shafts or against the block.

Examine the lower holes in these levers to see that they are not badly worn. Work from there through the shifter mechanism, making sure that all rod and toggled connections are not sloppy.

Disconnect the two adjusting rods which connect the levers at the lower end of the steering post. Examine the white metal levers for wear at the holes where the adjusting rods connect to them. See that the levers have only enough end clearance so that they will operate freely, using the shims provided for this purpose if excessive end clearance is found. This is important.

After all the rods, levers, etc., have been checked for lost motion and found to be okey or repaired, put the shifter lever in neutral and adjust the two rods which connect with the white metal levers at the lower end of the steering post so that the two levers are parallel in the neutral position. This is done by putting a snug fitting piece of rod through the holes in the levers.

There have been many cases where a thoroughly good job has been done all the way through the shifter mechanism, but the job has failed due to lack of sufficient clutch release. Adjust pedal with as little free play as possible, making sure, of course, that the pedal does not ride the floor board. This is important.

The importance of proper clutch release is indicated by the fact that cars equipped with the electromatic clutch seldom stick in gear. This is because the clutch is always properly released.

In cold weather the viscosity of the transmission lubricant has much to do with hard shifting out of low gear, which is the cause of much of the sticking in this gear. It is due to the fact that the gear hangs back while the operator is trying to shift, and the shifter lever hits neutral before the low speed gear is disengaged. Many cases have been corrected simply by thinning the transmission lubricant. Anything which causes the sliding gear to drag may result in sticking in gear.

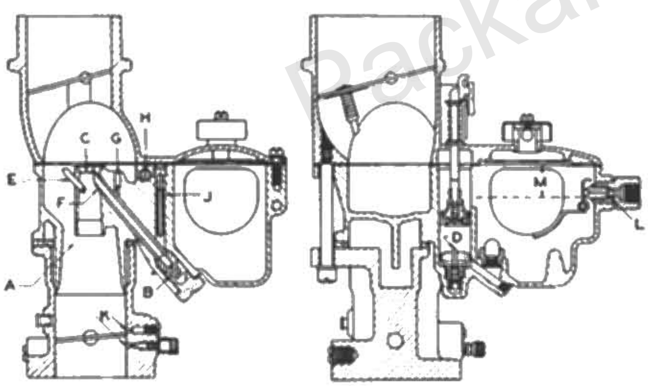
A slow motor idle may be one of the causes of trouble. If the motor is idling too slowly, when the accelerator is released to make the shift out of low gear, it will cause more back drag than if the motor is turning faster. A driver who is careless about releasing his clutch is less likely to have trouble if the motor is idled at about 10 m.p.h.

In our opinion the most common mistake which has been made by the average shop is changing the die cast levers without checking the rest of the linkage. The next most common mistake is ignoring the interlock block in the transmission. A loose or misaligned block can even permit the engagement of two gears at the same time, causing the stripping of the gear teeth.

The third mistake is your failure to check the driving habits of the customer and to point out to him how easy it is to shift without getting into trouble.

CARBURETOR SETTINGS

STROMBERG



Model	Year	Carb. Type	Venturi A	Metering Jet B	Main Discharge Jet Clearance C	By Pass Jet D	Pump Jet E	Main Discharge Jet F	High Speed Bldr. G	Idle Air Bleed H	Idle Tubes J	Idle Discharge Holes K	Needle Valve Seat L	Fuel Level M
120	1935	EE-14	$1\frac{1}{32}$	.048	.285	#62	#65	#32-36	#65	#50	#70 Upper #55 Lower	#60 Upper #54 Lower	.113	[illegible]
120B	1936	EE-14	$1\frac{1}{32}$	.048	.281	#60	#65	#32-36	#65	#56	#65 Upper #55 Lower	#58 Upper #54 Lower	.101	[illegible]
120C	1937	EE-14	$1\frac{1}{32}$	.047	.281	#57	#65	#32-36	#65	#60-38	#68 Upper #55 Lower	#56 Upper #54 Lower	.101	[illegible]
1601-2	1938	EE-14	$1\frac{1}{32}$	.047	.300	#57	#65	#32	#65	#60-38	#55	#58 Upper #54 Lower	.101	[illegible]
1701-2	1939	10-33-A	$1\frac{1}{32}$	.047	.300	#60	#65	#32	#65	#60-38	#60 Upper #55 Lower	#58 Upper #54 Lower	.101	[illegible]
1801-1A	1940	10-33-A	$1\frac{1}{32}$	.047	.300	#60	#65	#32	#65	#60-38	#60 Upper #55 Lower	#58 Upper #54 Lower	.101	[illegible]
1901-1A	1941	10-47-A	$1\frac{1}{32}$	.047	.300	#60	#65	#32	#65	#60-38	#60 Upper #55 Lower	#58 Upper #54 Lower	.101	[illegible]

LUBRICATION OF WHEEL LOCKS

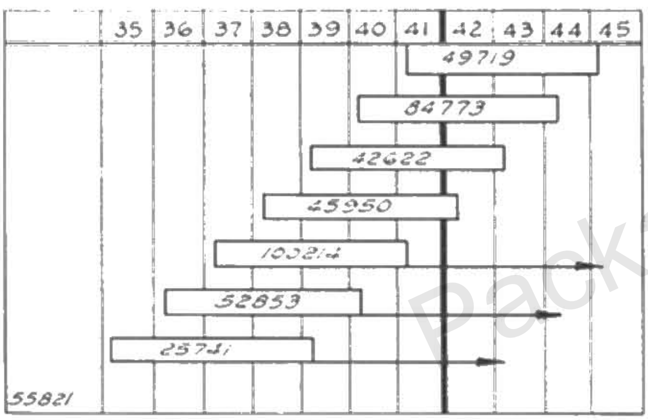
Due to the heavy coat of paint, in some cases, the wheel locking cap fits tight on the wheel bolt shield. The outside upper edge of the shield should have a light coating of Lubriplate applied to it before the locks are installed on a car. This will enable the mechanic to install the locks quickly. It will also assure the easy operation of the locks when the owner wishes to remove them to change a wheel.

HOW MANY CARS HAVE TIRES?

Dealer Service Stations are facing many problems these days. These are not the first days in their histories when they have faced problems and once again they have rolled up their sleeves and gone to work. Shortages are nothing new to automobile dealers. In the past they faced shortages of convertibles in the Spring selling months. At announcement time they either had elaborate plans and catalogs and no cars, or cars and no catalogs. When bright colored cars were selling, they had all black ones, and when coupes were selling, they couldn't get one.

Today, too, we have shortages in some things and overages in others. One that has received a lot of publicity is tire shortages. We have all done a lot of worrying about it.

Here are some facts that would seem to indicate that for 1942 tires are not a major problem for Packard Dealers. Take a look at this chart.



The light vertical lines are years. The heavy one is the tire freezing line. The figures are the number of Packards of each yearly model registered. The horizontal boxes are the four years average life of the first set of tires. The horizontal lines with the arrow heads are the second set of tires.

For example: there are 45,950 1938 Packards which as a group have about used up their tires. Not all of this group are without tires because some are on their second or third set. In the 1937 group, there are 100,214 cars, most of which are safely on their second set. Glancing down the '42 column you find the reason for our assuming that there are a lot of Packards still on rubber.

Do not assume that it is an accurate forecast of what will happen. It is simply a group picture from which to base an opinion. Too often we arrive at conclusions that are based only on individual cases.

Let us first establish a figure on "tire life." Such a figure is not too closely connected with "tire replacement mileage" because in the past, tires have been replaced far in advance of the end of the tire life period. The average replacement mileage was between 18,000 to 20,000 or 25,000. The actual tire life may have been between 30,000 and 40,000 miles.

There are plenty of records to indicate that a figure of 35,000 is not unreasonable. The tire companies anticipate that this will approach 40,000 to 50,000 miles with due care as recommended today.

Another figure must also be established and that is the average yearly mileage of the average car. From actual records, these figures are obtained:

Age of Car	Mileage per Year
1	10,768
2	9,628
3	8,592
4	8,106
5	7,624
6	7,083
7	6,718

It would require $3\frac{3}{4}$ years for a new car to run 35,000 miles while an older car would require $4\frac{1}{2}$ years. We will take 35,000 as tire life in miles and 4 as tire life in years.

Your own personal experience or that of some of your friends may not coincide with these figures. Averages based on thousands of cases are a lot safer than a few personal opinions. If you still insist you can make your own chart. You can reduce the years of tire life by 6 months or even one year but you haven't changed the picture one bit, because as you move the age line to the left and pass the "freezing" line, you have to add a second "life" line, created by the second set of tires. With your chart or ours, you still have tires on all but one group.

There are 457,693 Packard cars registered. Deduct the 55,821 (prior to 1935) and deduct another group of 45,000, who are out of tires, then add 20,000 for 20th Series, delivered but not shown as registered, with new tires and you have a total in excess of 375,000.

Three hundred seventy-five thousand Packard cars with tires that will see them through 1942 and into 1943.

Let's stop worrying about tires and see how many of these cars we can get into your shops.

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