Section XIII

WHEELS AND TIRES

DATA AND SPECIFICATIONS

Models	C-71	C-72	C-73	C-70
WHEELS				
Type		Steel Disc—(Wire Wheels Special)		
Rim		Drop Center—Safety-Rim Wheel		
Size	15 x 5.5	15 x 6	15 x 6	15 x 6
Flange Type	K	K	L	L
Method of Attachment		Bolts		
Number of Bolt or Stud Holes to Attach Wheel	5	5	5	5
Bolt or Stud Hole Circle (Diam.)	4.5″	4.5″	5.5″	5.5″
Stud Size	½—20	½—20	9/16—18	9/16—18
TIRES				
Type			Tubeless	
Size	7.60 x 15	8.00 x 15	8.20 x 15	8.20 x 15
Ply	*4	*4 Nylon	*4 Nylon	6 Nylon
TIRE PRESSURE				
Pounds—Cold	24	24	24	24

*6 Ply—Optional

Section XIII
WHEELS AND TIRES

WHEELS

1. SAFETY-RIM WHEELS

These wheels, as shown in Figure 1, "A" are designed to provide added protection in case a blow-out or rapid deflation of tire occurs. The raised rim section as shown in Figure 1, "A" tends to hold tire in place even though rapid deflation should occur.

2. TIGHTENING WHEEL HUB NUTS

Tighten wheel hub nuts evenly while tire is off ground. Lower tire to ground to tighten nuts securely. **Make sure these nuts are tight.**

3. CARE OF WIRE WHEELS (Car So Equipped)

The wire wheels (also Safety-Rim type) should be washed frequently with clean, cold water, using a soft brush with wooden handle. The wheels can be cleaned with MOPAR Chromium Cleaner and coated with MOPAR Chrome Protector if car is driven in areas where salt is used on highways. If car is subjected to severe service, it may be necessary to true up the wheels occasionally by adjusting the spokes.

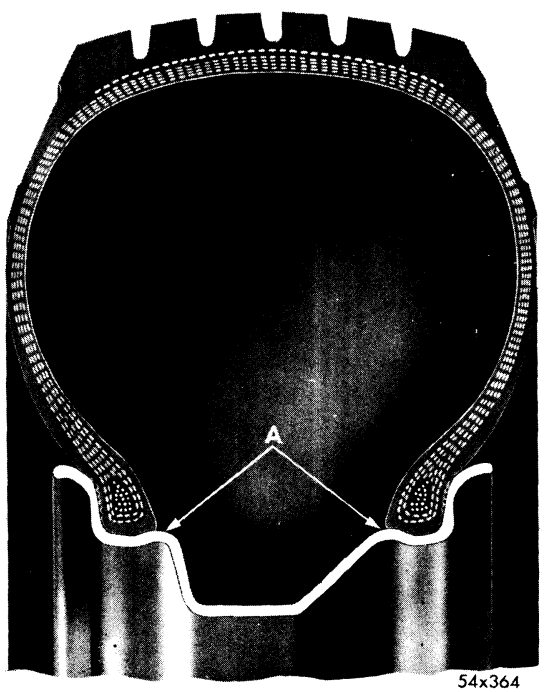

Fig. 1—Safety Type Rim

A—Raised rim section

4. STATIC ELECTRICITY

Sometimes static electricity may be built up in the tires and cause noise in the radio or a slight shock when the outside door handle (or other metal parts of car) is touched. Tire Static Suppression Powder, available through Mopar Motor parts Corporation, can be used to eliminate this condition. Use as follows:

Assemble injector, pour contents of one envelope into injector tube, and replace cap. Deflate tire, insert injector needle into valve stem as far as it will go, and apply air pressure through injector to force the powder into tire. Inflate to proper pressure. Service all of the tires in this manner, including the spare.

5. CHECKING WHEELS FOR ECCENTRICITY

Dismount the tire and test with wheel mounted on brake drum. Position dial indicator on firm surface to prevent deflection. With the anvil of indicator bearing on the inner tire bead surface

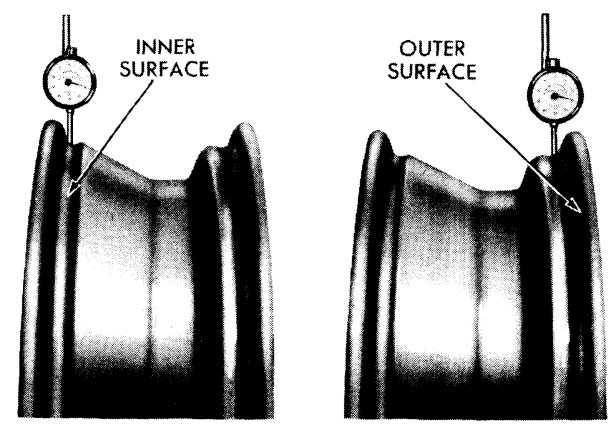

Fig. 2—If Radial Runout Exceeds .045 Inch, Replace Wheel

of the wheel, as shown in Figure 2, slowly rotate the wheel and note the total runout. Mark the high and low spots and the amount on the wheel. If radial runout of wheel exceeds .045 inch, replace the wheel.

NOTE

Do not check runout on the outside of the wheel rim since this method can easily give a false reading.

6. CHECKING WHEEL FOR WOBBLE (LATERAL RUNOUT)

Before checking a wheel for wobble (lateral runout), make sure the tire is properly mounted. Mount a dial indicator on a firm base, with anvil of indicator resting against the flange of wheel. Spin the wheel. If lateral runout is more than 1/8 inch (.125 inch), straighten or replace wheel.

7. BALANCING WHEEL AND TIRE ASSEMBLIES

Proper balance of wheel and tire assemblies promotes smooth steering action and is a safeguard against vibration and front end shake, as shown in Figures 3 and 4.

To check front wheels for balance, place jack under center of front of car and raise both front wheels off the floor. **Do not place jack under lower control arms as this will tend to minimize vibration.** Remove caked mud or tar from wheel so that balance condition will not be affected.

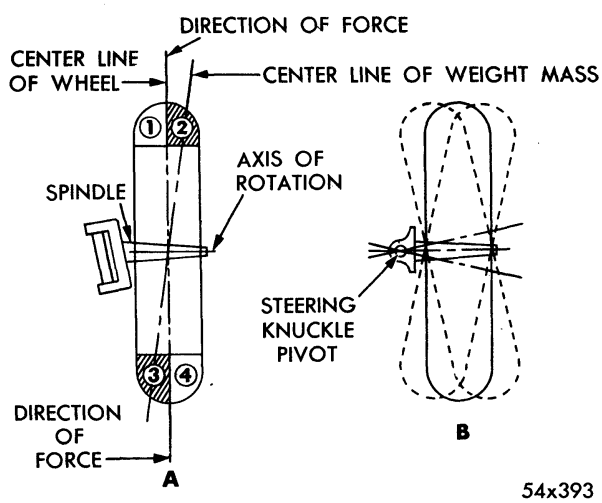

Fig. 3—Unbalanced Wheel and Tire Assembly

A—Weight unevenly distributed in relation to centerline of wheel

B—Wheel wobble or shimmy

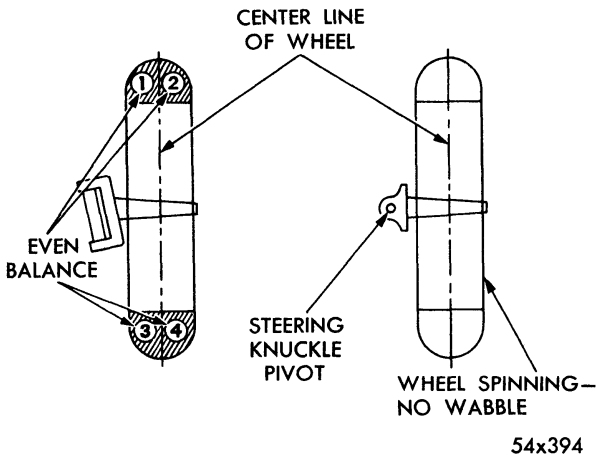

Fig. 4—Balanced Wheel and Tire Assembly

Use a spinner that will rotate wheel at a higher rate of speed than that encountered in actual highway driving. Place crumpled cloth or towel on front fender above center of wheel. Spin the wheel up to high speeds. The wheel will jump up and down and vibrate, if it is out of balance. If assembly is in balance, there will be no vibration of the cloth or towel at any speed of the wheel.

If assembly is out of balance, mount it on master drum of wheel balancer and determine the proper location and amount of weight needed, or use wheel balancing equipment which checks balance with wheel on car. With this type of equipment, the balancing mechanism is clamped to the wheel assembly. When the location and size of weights needed to balance wheel are determined, divide the amount and attach half of weight to inner rim of wheel and the other half to the outer rim.

To check the balance of rear wheels, place jack under frame side rail about 12 inches forward of the rear spring front hanger. Raise one wheel at a time off the floor. Place a crumpled cloth or towel on fender above wheel. With the engine running and the transmission in direct drive, spin the wheels through speed ranges of 20, 30 and 40 miles per hours. **Do not exceed 40 miles per hour on the speedometer.**

The balance is correct if the cloth or towel does not vibrate. If wheel and tire assembly is out of balance, check with wheel balancing equipment and attach weights as needed.

TIRES

8. TUBELESS TIRES

The Tubeless Tires provide longer life and added protection against blow-outs and punctures. A puncture can be repaired by using the repair plugs and other materials in the Tubeless Tire Repair Kit. Refer to Paragraph 12 for puncture repair procedures. Since a puncturing object in a Tubeless Tire will not necessarily cause a leak, a nail or other object, should be removed and the hole plugged to prevent a flat at some future time. Additional protection is also made possible because there is no inner tube to chafe and blow out.

9. DISMOUNTING TIRES

Remove wheel cover, loosen wheel hub nuts, and raise wheel with jack. Remove wheel and tire assembly, and valve cap and core, deflating the tire. **When dismounting, do not use hammer or tire irons to loosen sealing bead from flange.** If the tire cannot be forced from rim with "foot-pressure," use a commercial type bead breaker. **Make sure tire irons do not have sharp or burred edges and use them with care to avoid damaging the sealing beads of the Tubeless Tires.** Start removal of outside bead at the valve, taking small bites with the irons. (If dismounting tire from wire wheel, remove tube, and protector flap). Complete the removal of tire in the usual manner.

10. MOUNTING TIRES

a. Cars with Wire Wheels and Conventional Tires

When installing tire on wire wheel, make sure the protector flap is installed in tire to cover the tube, as shown in Figure 5.

Coat tire beads or raised portion of rim next to tube well with liquid soap or soft soap. Put tube in tire and inflate tube sufficiently to round it out. Insert wheel into tire. If color mark is on sidewall of tire, make certain it is at valve stem. Inflate tire, making certain it is concentric on rim so that the beads will snap into place on rim flange.

b. Cars with Disc Wheels and Tubeless Tires

Clean rim flanges and bead seats with wire brush or steel wool. Install valve stem from inside the rim, with the rubber step washer in place on valve. The rubber stems snap into valve stem hole Install metal washer (cupped side down), and the hex nut on the outside.

Apply MOPAR Ruglyde (or mixture of 12 parts water and one part liquid soap) to the tire beads to facilitate mounting. Mount the inside and outside in the usual manner. **Make sure the tire irons do not have sharp or burred edges and work with care to avoid damaging the tire beads.**

After tire is mounted on rim, with the valve core out, apply a blast of air. If the beads do not contact both bead seats sufficiently to hold the pressure, spread the beads by constricting the centerline of the threads with a tire mounting band, as shown in Figures 6 and 7 or a rope tourniquet. To make tourniquet, use one or more

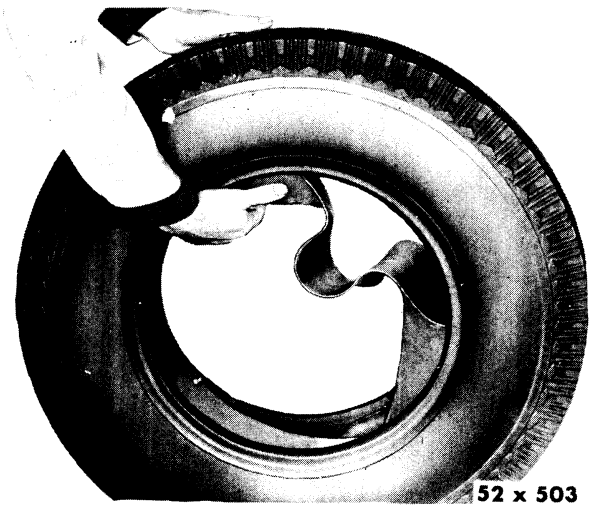

Fig. 5—Installing Tube Protector Flap In Tire (Wire Wheels Only)

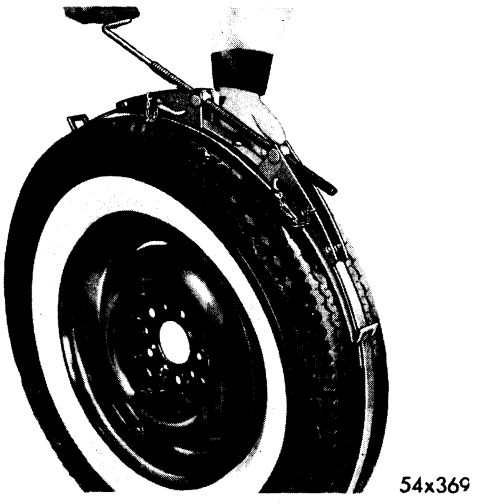

Fig. 6—Constricting Centerline of Tire with Mounting Band

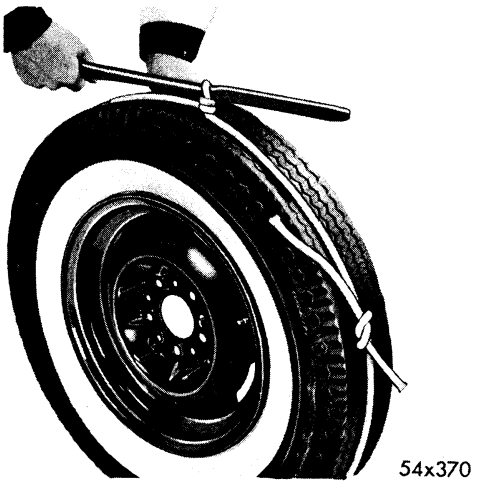

Fig. 7—Constricting Centerline of Tire with Rope Tourniquet

turns of rope, around the tire, depending upon size of rope. Tighten by twisting rope with tire tool, and pound on the thread at various places to evenly distribute the tension.

When the tire beads have moved out to contact the bead seats, inflation will take effect, and the mounting band or rope tourniquet can be removed. **Be sure to release tension on the mounting band or rope tourniquet when inflation takes effect and before pressure begins to build up.** Install valve core and inflate tire to recommended pressure. Test tire and wheel assembly for leakage.

11. TESTING THE TIRE AND WHEEL ASSEMBLY FOR LEAKAGE (TUBELESS TIRES)

NOTE

When testing for leakage, do not remove tire from rim.

Examine tire carefully for puncturing object. If tire is flat, inflate and listen for fast air leak. If air leakage is slow and cannot be heard, submerge assembly in water test tank and check for leakage.

If test tank is not available, apply soap solution, covering the surface of tire, the valve stem, and the juncture of the tire and rim flange. A slow leak will be indicated by an accumulation of soap bubbles. If the leak is fast, the air may blow through the soapy film and bubbles and foam will not be formed. If no foam appears, reapply the soap solution and watch for large bubbles.

Leakage Causes and Corrective Methods

a. Simple Puncture

Repair as outlined in Paragraph 12.

b. Valve Leak

This type of leak is usually indicated by bubbles at the valve stem after soap solution is applied at this point. Make sure that the rim is clean around the valve hole. If a "snap-in" type rubber valve leaks, it must be replaced.

c. Rim Leaks

If the leak is at the top of the rim flange (between the flange and tire bead, mark location of leak on tire and rim, and dismount tire. Conditions causing rim leakage are:

Rusty Rim . . . Remove rust with scraper and finish the operation with wire brush or steel wool. Apply MOPAR Rubber Cement thickly to tire and rim flange. Mount tire to rim while cement is still wet.

Foreign Material Embedded In Sealing Grooves of Rim . . . Remove with wire brush or screw driver blade. Apply MOPAR Rubber Cement thickly to the cleared area, and mount tire while cement is wet.

Bent Flange . . . Inspect flanges of wheel to determine if they are bent. A bent flange can be straightened if damage is not too severe.

Cracked Welds . . . Cover weld area with soap solution and check for pin hole leak. If leak is evident, repair or replace wheel as necessary. (Do not weld rim).

Heavy Rim Weld . . . A slow leak may result if rim weld has not been dressed down. Use a good, flat file to smooth off the weld in the flange area. Apply MOPAR Rubber Cement in the area to help make the seal.

Cracked Rim . . . A rim seldom cracks unless it has been welded or badly overloaded. Install a new wheel. Do not try to repair a cracked rim. (Do not weld rim).

12. REPAIRING PUNCTURES (TUBELESS TIRES)

a. Tire on Wheel (Outside Method)

Simple punctures can usually be repaired with tire mounted on wheel, using the items in the repair kit, as shown in Figure 8. The operation

Fig. 8—Tubeless Tire Repair Kit

can best be performed when the tire is flat. But, it can also be accomplished while tire is inflated.

Repair as follows: Remove the puncturing object, as shown in Figure 9. Dip needle inserting tool in the cement provided in repair kit, and carefully probe in hole to determine its direction. After direction of hole is determined, continue to probe until the rubber around the hole is well covered with cement, as shown in Figure 10.

CAUTION

If the needle appears to be blocked, do not force it into hole. Otherwise, an additional hole may be made, and the two holes will be difficult to seal. Twist and turn the needle to find the hole, if needle does not insert freely.

Fig. 9—Removing Puncturing Object

Fig. 10—Lubricating Puncture with Cement

Select a repair plug according to the size of the hole. The repair plug should have a diameter about twice the size of the hole, because the soft rubber will stretch when inserted with needle.

Roll the small end of the repair plug into the "eye" of the needle, 3/8 inch from the end of the plug, as shown in Figure 11.

Dip the repair plug and needle into the cement, and immediately insert in the hole with a firm, steady motion. If needle appears to be blocked, do not attempt to force it and the repair plug into hole. Otherwise, additional damage may result. Carefully locate the direction of the hole, and insert needle until short end of repair plug snaps through tire, as shown in Figures 12, 13 and 14.

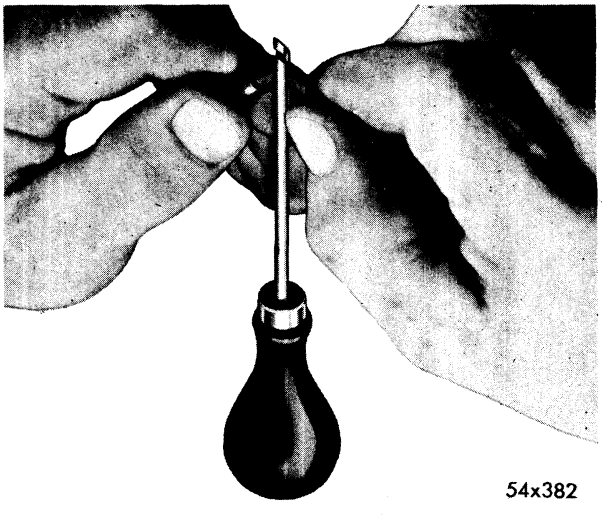

Fig. 11—Installing Plug in Needle

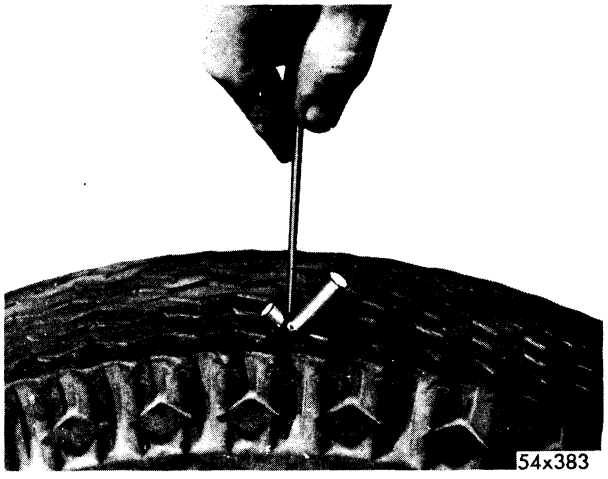

Fig. 12—Installing Needle and Plug in Puncture

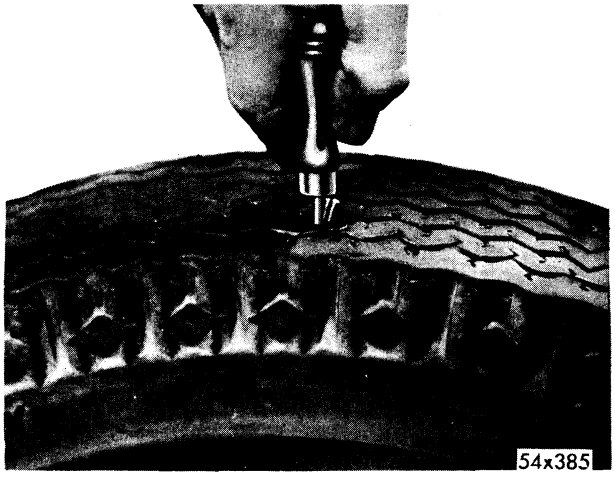

Fig. 13—Needle and Plug Fully Entered in Puncture

Fig. 14—Plug and Needle in Puncture (Sectional View)

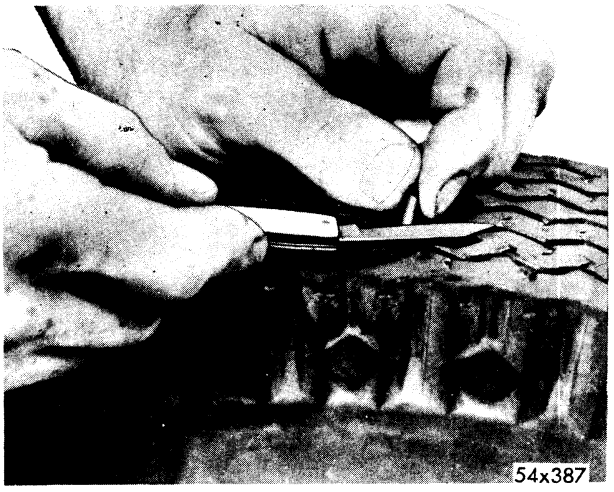

Fig. 15—Trimming Plug Approximately ⅛ Inch Above Tread

Pull needle straight out of hole. As this is done, the plug will automatically unhook from the needle. Trim the plug about ⅛ inch above the tread of tire. (Refer to Figures 15 and 16). Inflate tire, check for leakage, and tire is ready for use.

The portion of the plug, which protrudes slightly above the tire tread, will wear down to the tread surface. The portion of the plug inside the tire will not affect normal operation.

b. Tire Off Wheel (Inside Method)

When the tire has been punctured by an irregularly-shaped object, a slow leak may occur at the repair after an attempt has been made to seal the opening with a repair plug, as outlined in a. If such is the case, dismount the tire, and repair as follows:

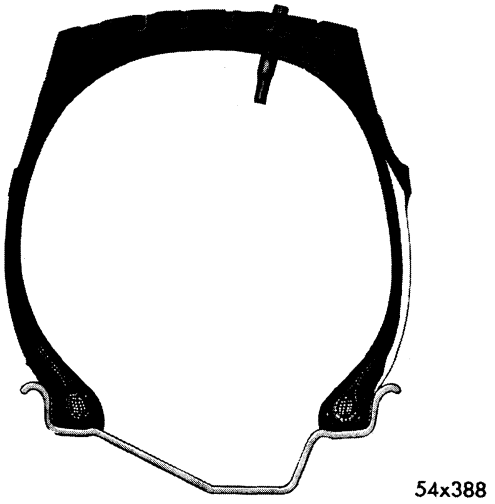

Fig. 16—Repair Plug Correctly Installed

Preparation . . . Remove tire from rim and place in a spreader. Trim the inside end of repair plug flush with the liner, and buff the liner approximately one inch around the puncture. Leave the repair plug in hole to keep moisture out of the tire fabric. If a repair plug is not in tire, work a little extra repair gum into the hole before applying the patch. It is not necessary to use cement to obtain a good adhesion.

Equipment . . . Two types of equipment—the Match Patch and the Electric—are available for curing inside patches. The Match Patch, or powder burning type, depends upon the heat resulting from a slow fire. The Electric type has a "fuse" plug that automatically cuts off the power when the curing is completed. "C" clamps are used with both types of equipment to apply pressure during the curing process. **All inside patches used must be Hot Patches.**

Applying the Patch . . . Peel the strip from the rubber patch on the metal curing plate and center it over puncture. Follow instructions provided with the equipment, apply pressure, and cure the patch.

13. CHECKING TIRES AND WHEELS FOR LATERAL AND RADIAL RUNOUT

a. Radial Runout

Radial runout is the difference between the high and low points on the tread of a tire. A tire with an abrupt change in radial runout is more likely to cause tire thump than one on which the runout change is spread over a large portion of the tread.

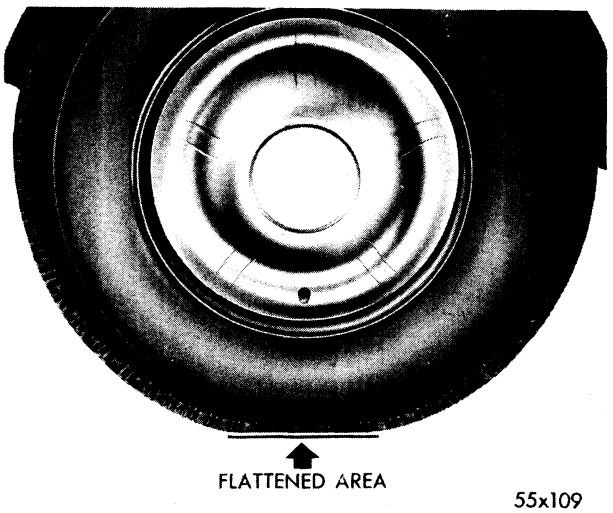

Fig. 17—Flattened Tread of Tire

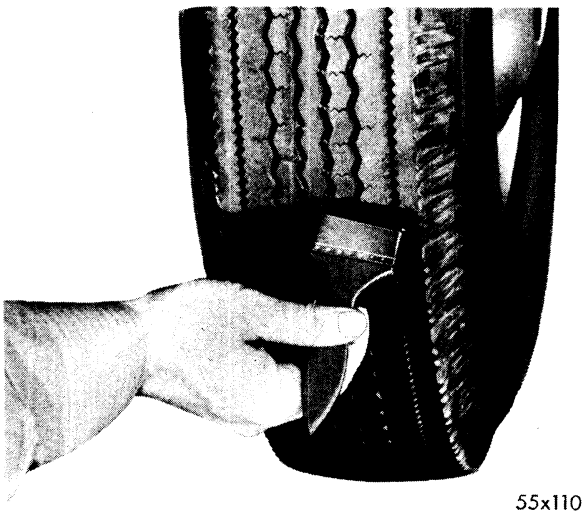

Fig. 18—Coating Tread with Soap Solution

If a car has been standing for any length of time, as shown in Figure 17, it should be driven for at least 5 miles to permit the tires to reach normal operating temperature and round out before the check is made. Otherwise, the flattened tread area, where tire contacts floor, may register as much as .030 inch lower than the area on either side of it. Check all tire and wheel assemblies, including the spare, as follows:

Raise car from floor with jack or lift. Mount a dial indicator on a firm surface so there will be no deflection. Coat tire tread with soap solution so anvil of dial indicator will have smooth surface to bear against, as shown in Figure 18. Measure radial runout at either of the center road ribs of the tread, as shown in Figure 19. Slowly rotate the tire and note the high and

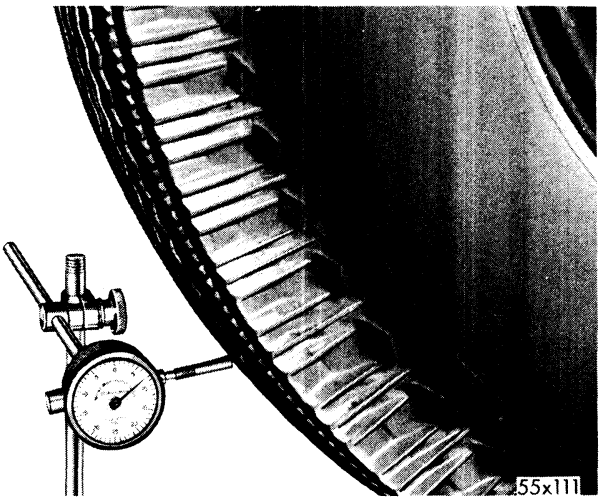

Fig. 19—Measuring Runout with Dial Indicator

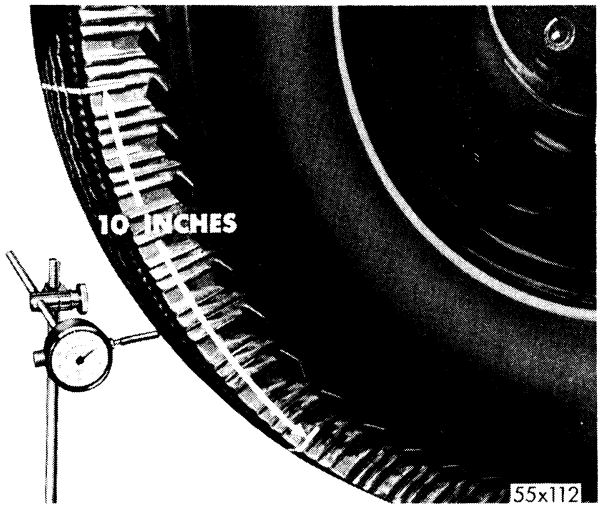

Fig. 20—Replace Tire if Runout Exceeds .050 Inch within 10-Inch Travel of Tread

low spots. Mark the highest spot on tire with "H", and the lowest spot with "L". Using the lowest spot (L) as a base, rotate tire to highest spot (H), marking the total reading at highest spot (H) in thousandths of an inch, such as .045 inch.

If there is more than one low spot and one high spot on tire, mark them where they occur in thousandths of an inch. These markings will make it possible to determine whether or not a tire has sufficient runout in a limited area to justify replacement.

A tire with runout in excess of .050 inch (within a 10 inch travel of the tread) should be replaced, as shown in Figure 20. However a total runout of .080 inch, as shown in Figure 21 can occur without tire performance and tire life being affected.

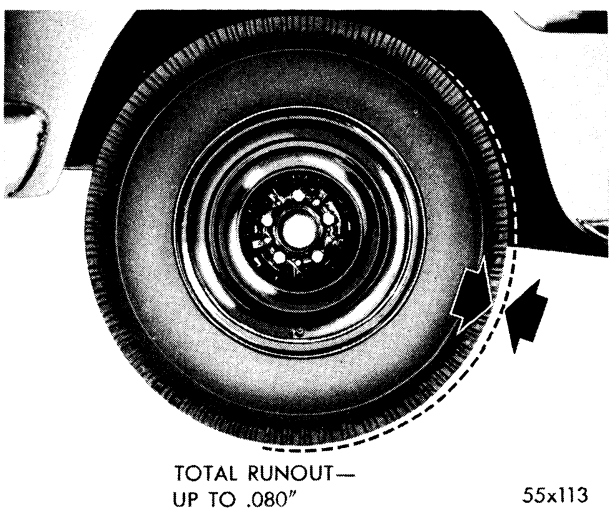

Fig. 21—Total Runout of .080 Inch Can Occur without Affecting Tire Performance

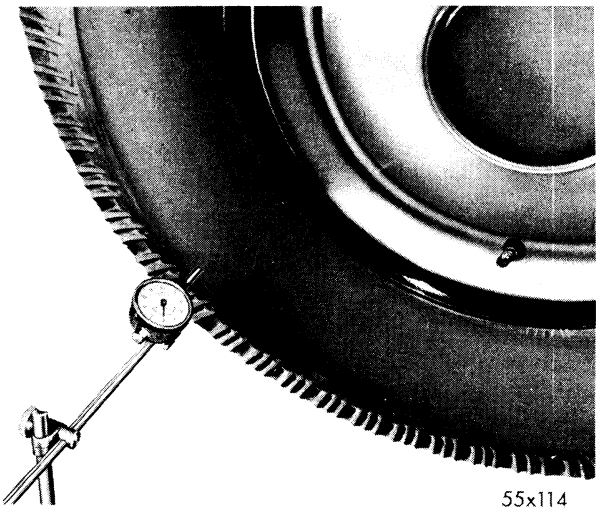

Fig. 22—Mounting Dial Indicator to Check Lateral Runout

b. Lateral Runout

Lateral runout should not exceed $\frac{1}{16}$ inch (.0625 inch). Mount the dial indicator so that the anvil will bear on the sidewall of the tire just below the rib, as shown in Figure 22. **Do not place anvil on the wheel rim.** If lateral runout is excessive, check for the following causes: tire improperly mounted, or bent or damaged flanges on the inner or outer section of wheel rim.

14. CLEANING WHITE SIDEWALL TIRES

CAUTION

A protective, water-soluble coating is applied to the sidewalls of the tires at the factory. Wash the sidewalls with water ONLY to remove this coating. Do not use gasoline or a wire brush.

To clean white sidewall tires, use a good kitchen cleanser and a stiff brush. **Do not use gasoline or any brush (wire, metal, etc.) that will scratch the sidewalls.**

15. RECOMMENDED TIRE PRESSURES

The tires must receive proper care to insure maximum tire lift. Under-inflation contributes to wear and causes excessive heat. Over-inflation causes excessive strain and, as a result, the tire is easier to break or bruise. **Tire pressure should be checked at least once a week and adjusted to conform with the pressures listed:**

24 pounds is the recommended COLD tire pressure.

27 pounds is the operating pressure for city driving. The tires, when checked on a car that has been driven at a normal speed in the city, should have a built-up pressure at least 27 pounds, summer and winter . . . 3 pounds over the cold tire pressure of 24 pounds.

29 pounds is the normal operating pressure for high speeds. The tires, when checked on a car that has been driven at high speed, should have a built-up pressure at least 29 pounds, summer and winter . . . 5 pounds over the cold tire pressure of 24 pounds. Otherwise, the tires are under-inflated. **Never bleed built-up pressure in a tire.**

CAUTION

Always use an accurate gauge when checking tire pressure. An inaccurate gauge can be in error as much as 2 or 3 pounds, which is approximately 10 per cent of the recommended tire pressure.

After checking tire pressure, always make sure the valve caps are tight.

16. TIRE ROTATION

Rotating tires at regular intervals of 3,000 miles is the only known method of controlling certain types of tire wear. It is recommended that tires be rotated at this mileage interval (Fig. 23). Tire life can be increased as much as 25 per cent by regularly rotating the tires, including the spare.

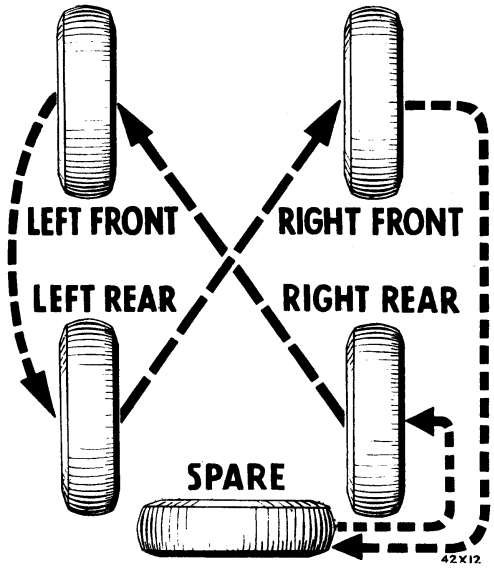

Fig. 23—Tire Rotation

SERVICE DIAGNOSIS

17. TIRE THUMP

Tire thump is a pounding action that occurs each time a tire causing this condition rotates. In some instances, tire thump is evident at speeds under 45 miles per hour on a smooth road, and is usually restricted to a small speed range. If the thump is slight and difficult to detect, the condition may be considered acceptable, and tire life will not be affected.

When checking for cause of tire thump, inspect all tires for uneven wear, and make sure the beads of all tires are properly seated in the wheel rims. Inflate all tires 50 pounds pressure. This will eliminate or reduce thump, if it is due to tire irregularities.

Drive the car on a smooth, blacktop road. If the thump still occurs while the tires are inflated to 50 pounds, the condition is caused by factors, such as brake drum circle eccentric in relation to center line of axle, wheel retaining bolt circle eccentric in relation to the wheel rim, large patch in tire (Tubeless Tire), or boot in tire (tire with tube). However, if thump disappears when tires are inflated to 50 pounds pressure, make the following test:

Deflate one tire to 27 pounds and drive car on smooth, blacktop road. If thump appears, the deflated tire is at fault. Repeat test until all tires, including the spare, have been checked. Only one tire at a time should be deflated to 27 pounds pressure for testing. Reinflate the tire already tested before proceeding to the next tire. **If the thumping tire or tires cannot be detected by this test, consult a representative of the tire manufacturer.**

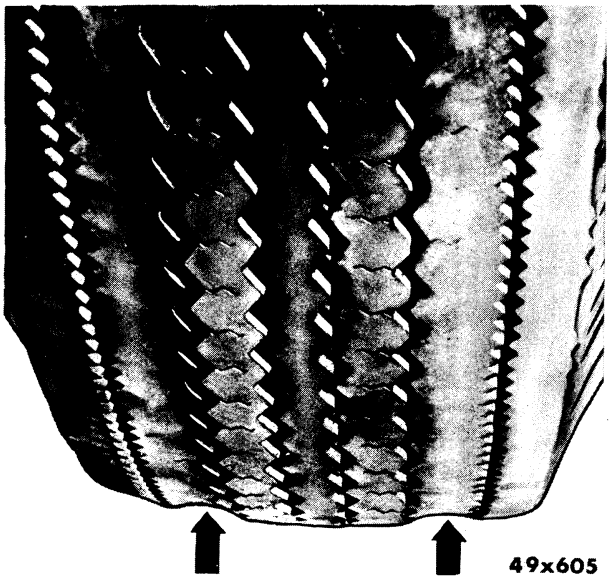

Fig. 24—Under-Inflation Wear

NOTE

Sometimes, a thumping tire will operate satisfactorily when changed from one side of the car to the other. This changes the direction of the tire's rotation. In severe cases of tire thump, it may be necessary to replace the tires in question.

18. TIRE WEAR

Inflate tires to proper pressure recommended in Paragraph 17. (Refer to Figure 24). When tires are under inflated, excessive wear occurs at the two tread ribs next to the inner and outer shoulder ribs. Wear occurs at center of tread when tire is driven over-inflated.

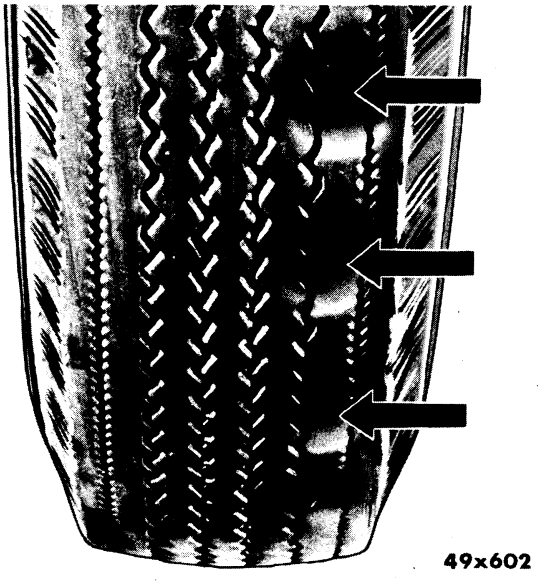

Fig. 25—Spotty Wear

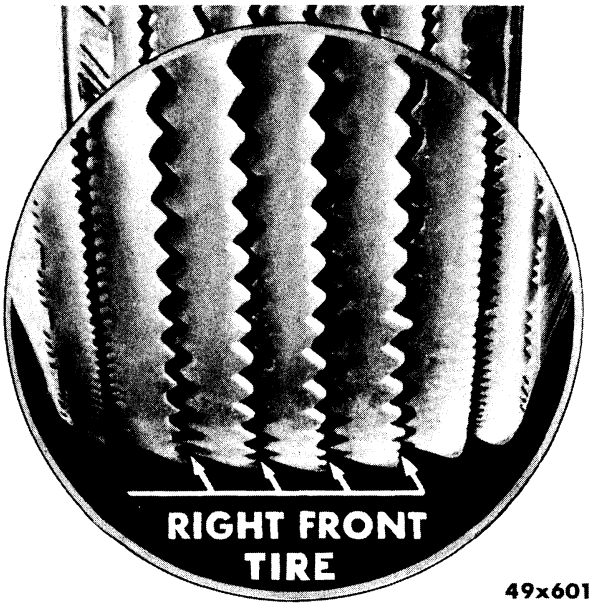

Fig. 26—Toe-In Wear

b. Spotty Wear (Fig. 25) usually becomes evident on front tires when tires are not rotated every 3,000 miles, the recommended interval.

c. (Refer to Figures 26 and 27). Excessive toe-in or toe-out of front wheels affects the rate of tire wear more than any other factor.

Fig. 27—Toe-Out Wear

d. (Refer to Figure 28). Excessive positive camber will develop noticeable wear on the outer ribs of the tires. Excessive negative camber will result in noticeable wear on the inside ribs.

e. Check for wheel wobble. Straighten or replace wheel, if necessary.

f. Check for worn king pins. Replace king pins and bushings, as necessary.

g. Check for wear caused by sustained high speed driving, and driving around corners too fast. Caution owner to avoid these practices.

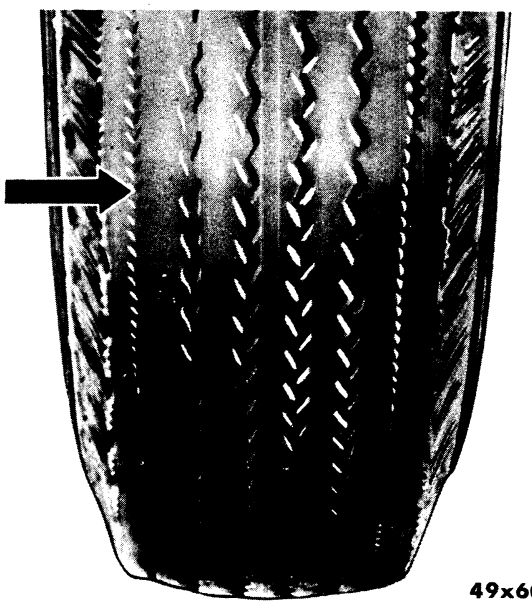

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Fig. 28—Camber Wear