

STUDEBAKER

# SERVICE BULLETIN

★ ★ ★ ★ *"Good Service Creates Customer Good Will"* ★ ★ ★ ★



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## **SUPERSEDES SERVICE BULLETIN No. 141 Dated APRIL 1942**

In Service Bulletin No. 141 for the month of April 1942, we supplied a complete schedule for preparing new cars for storage. Dealers were also advised in Confidential Sales Bulletin No. 787 of July 10, 1942 that the Reconstruction Finance Corporation had approved this schedule. However, in order that storage instructions shall be uniform, Schedule 1 to War Production Board Conservation Order No. M-216 has now been adopted by the Government as the Standard for Maintenance of all New Passenger and Commercial Automotive Vehicles. Standards for Maintenance as required under order M-216—War Production Board are the same as contained in appendix B of Amendment No. 4 to Revise Price Schedule No. 85—Office of Price Administration and are also a requirement of the Reconstruction Finance Corporation. Although under these requirements dealers are expected to have all new cars prepared for storage by October 31, 1942, this information will continue to be useful in as much as new preparation for storage will be necessary whenever the present storage location is changed.

In this revised bulletin we quote the Government text. Special operations and materials which we recommend in connection with Studebaker cars are shown in italics immediately following each paragraph affected. It should be understood that, except as to materials to be used, Studebaker dealers are not obliged to carry out the suggestions in italics. These are intended only as a guide to assist dealers in carrying out the Government standards and to conform with certain recommendations which our engineers consider desirable for Studebaker Cars. Please read "Note" on Page 5 covering material to be used such as oils, wax, and rust inhibitors which are the same as recommended in Service Bulletin No. 141.

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WAR PRODUCTION BOARD, WASHINGTON, D. C.  
**SCHEDULE 1 TO CONSERVATION ORDER M-216**

ISSUED AUGUST 29, 1942

## Standards for Maintenance of New Automotive Vehicles

The following Standards for Maintenance are established for the preservation and care of new passenger automobiles and new commercial motor vehicles while in storage in the possession of or under the control of producers, distributors, dealers, sales agencies, and finance agencies. These vehicles, as defined below, are termed for convenience "reserve vehicles". While set up primarily for the servicing of reserve vehicles, the Standards of Maintenance are equally appropriate for the preservation of similar vehicles whenever the same are to be kept in storage.

### Vehicles to Which Standards Are Applicable

The reserve vehicles to which these Standards for Maintenance apply are those new passenger automobiles and commercial motor vehicles held subject to rationing under orders of the War Production Board and the Office of Price Administration, as to passenger automobiles by General Conservation Order M-130, effective June 8, 1942, and by Office of Price Administration New Passenger Automobile Rationing Regulations Order No. 2A, effective March 2, 1942, and as to new commercial motor vehicles by General Conservation Order M-100, effective March 9, 1942, while in storage in the possession of or under the control of producers, distributors, dealers, sales agencies or finance agencies. They are defined as follows:

1. **Any 1942 Model Passenger Automobile**, built upon a standard or lengthened passenger car chassis having a seating capacity of not more than ten (10) persons, irrespective of the number of miles it has been driven, or any other such passenger automobile of earlier model which has been driven less than 1,000 miles, including taxis,

but not including ambulances, hearses, and station-wagons.

2. **Any New Commercial Motor Vehicle**, including any light, medium or heavy motor truck, truck tractor or trailer, or the chassis therefore, or any chassis on which a bus body is to be mounted, and which was manufactured subsequently to July 31, 1941; was designed to be propelled or drawn by mechanical power for use on or off the highways for transportation of property, or persons; was manufactured otherwise than under specifications of the United States Army or Navy; has not been transferred to any person other than a sales agency for the purpose of resale; including vehicles of the following types: trucks, truck chassis, truck tractors, off-the-highway motor vehicles, full-trailers, semi-trailers, dollies, attachment third axles, ambulances, hearses, bus chassis, station wagons, carry-all suburbans, sedan deliveries, utility sedans, coupes fitted with pickup boxes, and cab pickups, but not including taxicabs and integral type buses.

## Standards for Maintenance of New Passenger Automobiles and Commercial Vehicles

(These Standards for Maintenance correspond with those of Amendment No. 4 to Revised Price Schedule No. 85 issued by the Office of Price Administration).

### General Instructions

1. All reserve vehicles must be stored indoors. Select a clean dry building suitable for the storage of new passenger automobiles and commercial vehicles. Cover all openings through which animals and birds may enter storage space. Prevent water leakage. Remove loose dirt and whitewash lime.
2. Allow sufficient space between vehicles for accessibility to perform all specified maintenance operations.

*Studebaker—Adequate aisles should be left so that any*

*car can be removed without undue expense. When weather conditions require heat, building should be heated slightly. The car and tire serial numbers and the storage date should be listed and a diagram made showing location of each car.*

3. The operations specified under the heading of "Maintenance Operations" are of two categories: "Initial" operations, which if not already performed, are to be performed, and "Repeat" operations, which must be performed at intervals of six months, or when necessary as indicated on the following pages.

No.	When to be done	Item	Maintenance Operations
*1	Initial and whenever necessary	Vehicle	(a) Thoroughly wash vehicles; remove all foreign substances, mud, dirt, grease spots, oil, tar. (b) Check paint, touch up all exposed metal surfaces to prevent rust.

*Studebaker—Lubricate chassis after vehicle has been washed, including paragraph No. 17 at time of lubrication.*

NOTE:—(1) All Maintenance Operations and storage requirements are applicable to new passenger automobiles.  
(2) Symbol \* indicates Maintenance Operations applicable to new commercial motor vehicles except trailers, third axles and dollies.  
(3) Symbol # indicates Maintenance Operations applicable to trailers, third axles and dollies.

No.	When to be done	Item	Maintenance Operations
*2	Initial	Windshield wiper	Remove blades, store in glove compartment.
*3	Initial and every six months	Upholstery and Floor Coverings	(a) Clean and moth-proof all upholstery, including seat cushions, seat backs, side walls, headlinings, floor mats and carpets.

*Studebaker—There are a number of good moth preventatives on the market, such as paradichlorobenzene crystals. Sprinkle ½ lb. of the crystals on the seat cushions and backs, side walls, headlining, floor mats and carpet, also a liberal quantity along where cushions contact the seat back. Paradichlorobenzene crystals are obtainable from Dow Chemical Co., Midland, Michigan in 100 lb. cans, or if to be purchased for only one or two cars, small quantities may be obtained from drug stores.*

No.	When to be done	Item	Maintenance Operations
	Initial		(b) After moth-proofing upholstery protect it from direct sunlight, except when on display in customary display room, by <b>one</b> of the following methods: (1) Cover all openings through which light may enter storage space. (2) Cover the inside of all car windows and windshields with paper, using masking tape. (3) Cover the car with a paper or cloth cover. (4) Completely cover all upholstery with paper, using masking tape.
	Initial		(c) Place floor mats in their normal position on floor, not rolled up.
*4	Initial and whenever necessary	Chrome Plated Surfaces	Thoroughly wash and clean all Chrome plated surfaces with clear water; when dry, apply a coating of light oil, liquid wax, or special preparations; wipe off until no excess oil or wax appears on the surface of the chrome.

*Studebaker—Use of No. 1 Gloss Anti-rust Oil is suggested. This can be obtained from Studebaker Parts Depots or direct from H. A. Montgomery Co., Detroit, Michigan.*

No.	When to be done	Item	Maintenance Operations
5	Initial	Convertible Tops	With respect to convertibles, see that the tops are up and leave the slipping cover over the top, or cover it with paper, using masking tape.
*6	Initial	Engine	(a) Drain engine oil and refill crankcase with at least ½ charge of rust-inhibiting oil. (b) Run engine for 5 minutes at idle speed or about 1,000 R.P.M. Leave this oil in engine.

*Studebaker—In preparing the engine for the inhibiting oil run the engine at a speed of approximately 20 miles per hour until heat indicator comes up to driving temperature to heat the oil for proper draining.*

*Studebaker recommends a rust-inhibiting oil that is known to be free from fatty acid, such as No-Oxid oil which may be obtained from Studebaker Parts Depots.*

*No-Oxid oil starts to congeal at temperatures below 60° F. and must be stored in a warm place or preheated before it is placed in the engine.*

No.	When to be done	Item	Maintenance Operations
*7	Initial	Fuel System and Carburetor	(a) Drain gasoline tank completely and replace filler cap to exclude dust. (b) Run engine until all gasoline is consumed.
*8	Initial	Spark Plugs	Remove spark plugs. Inject 2 ounces of rust-inhibiting oil into each cylinder when piston is on the power stroke. Slowly turn engine over a few revolutions with starter. Replace spark plugs.
*9	Initial	Valve Compartment (Overhead Valve Engines)	Remove cover. Spray rust-preventive compound or S.A.E. 10W on mechanism and inside cover, or pack with oil soaked rags. Replace cover.
*10	Initial	Seal Engine	Seal the engine. This can be done in the following manner: Remove engine oil filler tube cover and crankcase breather cover, if there is one, and seal the openings. Also seal the air cleaner, tail pipe, and any other openings into the engine. Tubes or pipes can be sealed satisfactorily by covering with a small piece of oiled or waxed paper, gathering the edges of the paper around the tube and tying them with a cord. The air cleaner can be sealed conveniently by covering with a paper bag and tying a cord around it at the solid part on the engine side of the air intake openings. Sealing the engine to a large extent prevents air moisture from entering the engine.  Note: Since no provision has been made for turning the engine over at regular intervals, it is absolutely essential that the recommended procedure for conserving the engine be followed carefully.
*11	Initial	Battery Removal	(a) Remove the battery and store it in a cool place near recharging equipment, to facilitate servicing. Clean battery connections and wipe with light grease. (b) If dealer has portable battery charging equipment, he may elect to leave battery in car. In either case battery must be maintained as per item 12 below.
*12	Initial and as specified under "Maintenance Operations"	Battery Maintenance	(a) Check the specific gravity at regular intervals of six weeks, except in extremely hot weather when inspection periods should be cut to three weeks. (b) Check and correct water level at each inspection and recharge batteries as necessary to bring gravity reading to 1.280 or above. In no case should the specific gravity readings be allowed to fall below 1.220. These specific gravity readings are given for batteries at 80° F. air temperature.
*13	Initial	Cooling System	Completely drain cooling system including radiator, cylinder block, pump, heater, hose and all water connections. Leave system dry. Note: If coolant contains anti-freeze and rust-inhibiting solution, it may be left in the cooling system.

*Studebaker—When draining Climatizers or other Studebaker heaters, remove the hose from the cylinder head fitting and hold the open end of the hose below the level of the heater.*

No.	When to be done	Item	Maintenance Operations
*14 #	Initial	Brakes	Leave all brakes in released position.
*15 #	Initial	Clutch	Block the pedal of dry clutches in partially disengaged position. It is not necessary to disengage other type clutches.
*16 #	Initial and as specified under "Maintenance Operations"	Tires	Jack up vehicle in storage location taking weight off the tires. Maintain the air in tires between $\frac{1}{2}$ and $\frac{2}{3}$ operating pressure so that vehicles can be pushed or towed out quickly if necessary in an emergency. Tension in cords will be relieved by lowered pressure.
*17 #	Initial and, if necessary, every six months where applicable	Hood latches, Hinges, Brake Connections	Lubricate with light oil all hood latches, hinges and brake connections.
*18 #	Initial where applicable	Doors and windows	(a) Close all doors and windows tightly. (b) Close all venti-panes. (c) Leave cowl ventilator open (if screened).

NOTE: "Materials called for in the performance of these Maintenance Operations such as oils, wax and rust-inhibitor, should be of a grade recommended by the vehicle manufacturer."

*Studebaker—It is suggested for the dealer's own protection that a "Caution" tag be placed on the steering wheel or windshield stating that the engine has been treated internally to prevent rust, that the cooling system is dry and that the engine is not to be run until the vehicle is to be taken from storage and put in service. When necessary to move vehicles before being re-prepared for service they must be moved by other than their own power.*

## Studebaker Recommended Procedure For Removing Vehicle From Storage

- (a) If the tires have been removed—before replacing them, wipe wheel rims clean and examine them carefully to make sure no rust has developed. If rust is found, it should be removed before the tire is replaced. The front wheel and tire assembly should then be statically balanced. If vehicle was stored with the tires on the wheels and blocked up, inflate the tires and remove the blocks.
  - (b) Remove all paper used to cover the windows, windshield, engine air cleaner, oil filler tube, tail pipe and crankcase breather tube.
  - (c) If "No-Oxid" oil was used, this may be left in the engine adding sufficient clean engine oil of good quality and proper grade to bring the oil level up to the full mark in the crankcase. This oil is suitable for the first 500 miles after removal from storage. If some other rust-inhibiting oil was used drain the crankcase and refill to proper level with good quality engine oil of proper grade. Install crankcase oil filler cover.
  - (d) Check and correct oil level in transmission, rear axle and steering gear.
  - (e) If vehicle has been stored longer than six months, remove hub covers and caps and check condition of lubricant in wheel bearings to see whether it has hardened. If it is not thoroughly soft, remove wheels and repack bearings with new lubricant.
  - (f) Lubricate rear axle shaft bearings.
  - (g) Close the radiator drain cock. Install cylinder drain block plug. Fill the cooling system with water or anti-freeze, according to prevailing weather conditions and check cooling system for leaks.
  - (h) Install fully charged battery. Clean terminals of battery and cables and connect.
  - (i) Remove block from between clutch pedal and underside of floor board. If jack base was used replace in tool kit.
  - (j) Put gasoline in gas tank.
  - (k) Tow vehicle out into the open air before starting engine because of the heavy smoke which will exhaust for a few minutes after starting engine.
  - (l) Start engine and run **slowly** for a few minutes (check for proper oil pressure) so that the parts become thoroughly lubricated before putting a load on the engine or accelerating to higher speeds. Check for oil, gas and water leaks.
- NOTE: If the vehicle has been stored for some time, the leather on the carburetor accelerating pump piston will dry out. When this has occurred it will be necessary to remove the piston assembly and make the leather pliable by soaking it in neatsfoot oil.
- (m) Check all lights, brakes, horn and windshield wipers.

## Studebaker Recommendations For Storage of Tires and Tubes

Tires can be stored without appreciable deterioration for three-year periods providing the proper precautions are carefully observed. The maximum time for tubes is about  $\frac{1}{3}$  less.

Factors that contribute to the deterioration of stored tires and tubes are:

1. Light
2. Heat
3. Air in motion
4. Ozone\*
5. Oils
6. Dust and dirt

\*(This may result from electrical discharge or motors, generators, and sunlight.)

Obviously, it is extremely important that the tire and tube in storage be protected from these conditions if they are to be kept in a satisfactory condition for good service. It should be emphasized that time is not the only factor in the deterioration of rubber products and even though tires and tubes are to be stored for only very short periods the same careful precautions must be exercised to insure protection.

### Tire Storage

#### Cleaning Tires

Before storing either new or used tires they should be cleaned and carefully inspected for any damage, and all necessary repairs should be made. Cover all exposed cord with repair rubber, as moisture will be absorbed by the fabric unless it has a protective covering.

#### A. New Tires:

1. Do not store tires where they are exposed to light from sky lights, windows, doors or other openings. If such openings are present the glass should be painted over with dark paint and the openings kept covered, or closed, so that the amount of

light entering the warehouse will be reduced to a minimum.

2. Do not store tires in a room where electrical discharges occur as a result of the operation of electric motors, generators, switches, other electrical devices, or near radiators or other sources of heat. Atmospheric temperatures in the warehouse should be kept as low as is practical, because high temperatures tend to increase the rate of deterioration. 70° to 80° F. are preferred maximum temperatures. Avoid drafts and other movements of air as much as possible in the warehouse.
3. The storage warehouse should be as free from moisture as possible.
4. When new tires are stored mounted on a vehicle, the same instructions as given in Section 2 under Used Tires will apply.

#### B. Used Tires:

1. If tires are stored mounted on vehicles, the vehicle should be blocked so that its weight does not rest on the tires and the air should be released from the tubes. Where it is not possible to raise the vehicle, the air pressure in the tires should be checked at frequent intervals and increased if required.
2. If it is imperative that the tires remain outdoors, it is recommended that after cleaning them a coating of synthetic rubber paint such as Firestone's No. 9230 be applied as a protective covering. If possible a cover or wrapping of heavy canvas or similar material can also be used.
3. In general the same precautions as given for new tires apply to the storage of old units.

## Studebaker Recommendations For Equipment and Material Needed

- a. Arrangement for washing and drying cars.
- b. Drain pans which are clean for engine oil, gasoline and water.
- c. Storage barrels which are clean for engine oil, gasoline and anti-freeze solution.

Note: It will also be found advisable to provide a low push truck on which to mount the storage barrels and thus greatly facilitate their mobility.

Ordinances in most localities will require that both the gasoline drain pan and the gasoline storage barrel be painted red and plainly marked "Gasoline".

- d. Two quart oil dispensing measure.
- e. Roller jack.
- f. Tire tube deflating tool.
- g. Spark plug socket wrench ( $\frac{13}{16}$ " deep), and handle.
- h. Oil squirt gun with curved nozzle.
- i.  $\frac{1}{4}$ " square shank gasoline tank drain plug removing tool.

- j.  $\frac{3}{8}$ " square socket wrench (for Commander and Champion) and  $\frac{9}{32}$ " square socket wrench (for President) and handle for removing engine water jacket drain plug.
- k.  $\frac{9}{16}$ " end or hex box wrench for battery terminal clamps.

- l. Crankcase drain plug wrench (1").
- m. Battery cable pliers for disengaging battery clamps from battery posts.
- n. Heater for No-Oxid oil if the storing is to be done in cold weather.
- o. No. 573 No-Oxid oil.
- p.  $\frac{1}{2}$  pound paradichlorobenzene crystals for each car to be stored.
- q. One ounce No. 1 Gloss Anti-rust Oil for each car to be stored.
- r. Paper bag and oiled or waxed paper for sealing engine.
- s. Paper car covers if needed may be obtained from Sales Promotion Materials, Inc., St. Joseph, Mich.