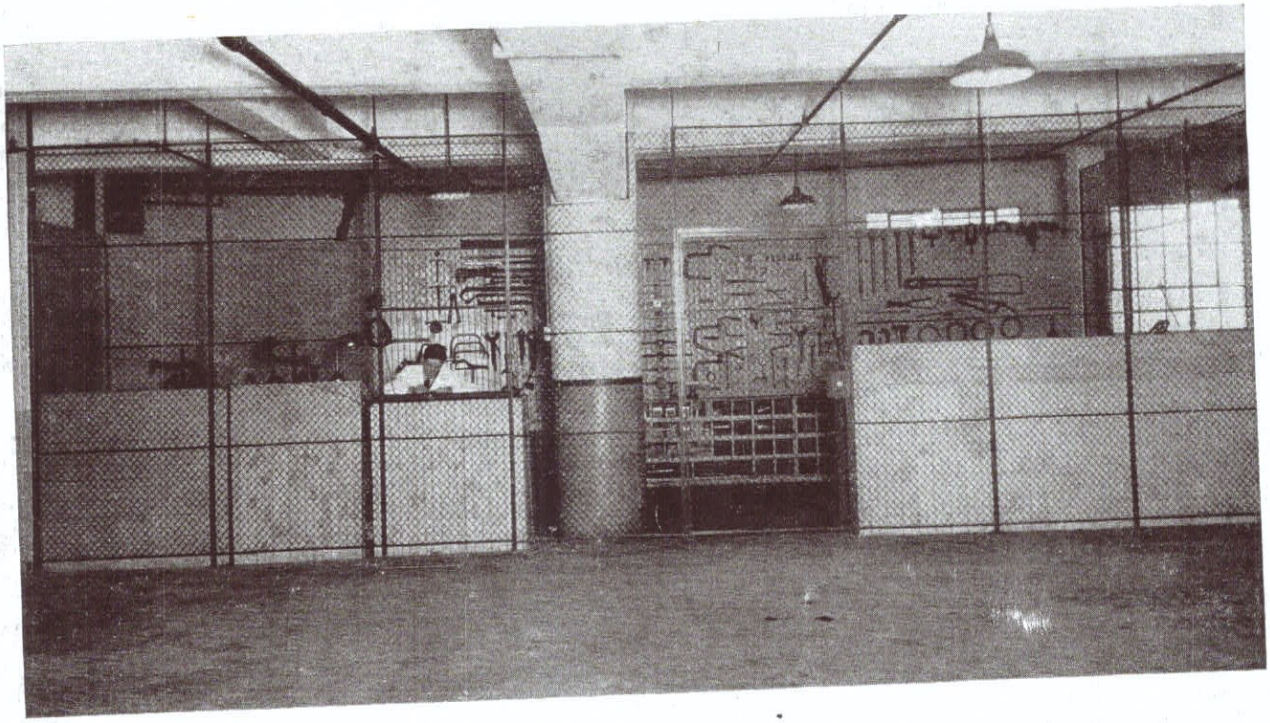
Special Tools and Shop Equipment



One of the most desirable features of a Service Station is a proper assortment of tools and equipment. Unless careful consideration is given to the selection of mechanical equipment, it is possible to easily tie up considerable capital in what may prove to be practically worthless equipment. This may be due to the tool being of such nature that it is seldom used, or being found impracticable for use.

To protect our Distributers and Dealers, we operate a Service Tool Department, the functions of which are:

1. To design and produce those special tools which are peculiar to Packard repair work and which are necessary in order to perform the work in the time required.

2. To investigate the merits of tools and equipment which are produced by tool manufacturers and recommended by them as being applicable to Packard Service Stations.

3. To investigate the merits of tools and suggestions submitted by the field and to pass on to the field those which our investigation and tests prove of particular value. Some of these will be added to our regular line and others, because of their cost, will simply be submitted as suggested additions to your equipment.

Every service manager is continually confronted with the problem of operating his service division at a profit.

The selling price of productive hours is fixed; parts prices are fixed. Practically your only opportunity to increase your profit is to reduce the time consumed on standard operations.

The plan of your building, building equipment, shop equipment and special tools afford the greatest opportunities to reduce the time consumed on various operations.

General shop equipment, machine shop equipment and special tools should be carefully reviewed once a month. Packard has no yearly models; changes take place just as soon as an improvement is thoroughly tried and proved. This makes it imperative that you keep up-to-date on your special tools.

Take an inventory of your machine shop and weed out the machinery that is not productive enough to pay for the valuable space it occupies. It is more economical to sell equipment that is not actually paying its way. Many have the erroneous idea that because the equipment or machinery is paid for and is still in good condition that the price the used machinery companies offer is not enough to warrant its disposal.

Undoubtedly the salvage money that you receive for heavy equipment will pay for up-to-date portable electrical equipment that can be located on benches throughout the shop where it will be in service every day, and the space required is much less.

When considering weeding out in the machine shop, a new floor plan of the equipment left will usually result in a reduction in floor space required. The factory will be very glad to work with you on a new layout for your tool room and machine shop.

The up-to-date shop of ten years ago is just as out-of-date today as any car produced ten years ago. You gain only half the advantage of modern accessible motor and chassis design if you do not have modern methods that only modern tools and equipment make possible.

Shop Equipment

Many small or moderate sized service stations have erroneous ideas that they must have considerable heavy non-portable machinery, such as a lathe, drill press, etc.

Heavy machinery is not profitable unless it can be of service every day; also remember that this machinery is suitable for the **non-competitive infrequent operations that represent the small part of the customer's operating expense.**

For the occasional lathe job, such as checking alignment of axle shafts, crankshafts, clutch and transmission shafts, or turning up some special part, it is advisable to have the work done by some reliable local machine shop. Such a shop usually will allow a discount of 10 to 25%; if not, you are justified in adding a handling charge of 10 to 20% above the price of the machine shop.

It is far more economical to purchase individual motor-driven portable units. For instance, the cost of resharpening a 1/8" drill in a shop that has a lathe, drill press and emery stand driven off of one large motor, is more than the value of a new drill.

We have been testing and observing the operation of small electrical units and recommend the following as the best suited and most economical layout for the average shop.

S. T. 404—6" Electric Bench Grinder.
S. T. 405—Electric Valve Refacing Machine.
S. T. 406—1/4" Heavy Duty Electric Drill.
S. T. 408—1/4" Heavy Duty Electric Drill Stand.
S. T. 410—3/4" Heavy Duty Electric Drill.
S. T. 411—3/4" Heavy Duty Electric Drill Stand.
S. T. 412—Electric Valve Refacing Machine.

The factory is in a position to furnish an arbor press suitable for your shop requirements.

It is not possible nor is it advisable to cover here all shop equipment, due to the constant improving of equipment design.

Whenever the purchase of new tools and equipment is being considered, we invite you to communicate with this department, outlining your requirements. We are in touch constantly with tool and equipment manufacturers, many of whose products are actually tested out both at the factory and our larger service stations.

We will not recommend any tools or equipment until they have been proven as being practicable and definite time savers.

Special Tool List for Shop Mechanic's Personal Kit

S. T. 105 Cylinder Base Nut Wrench	$ .65
S. T. 153 Feeler Gauge Holder	.45
S. T. 170 Cylinder Base Nut Wrench	.75
S. T. 186 Brake Adjusting Wrench (2)	1.80
S. T. 201 Cylinder Head Nut Wrench	1.00
S. T. 216 Tappet Wrenches (set of 3)	2.70
S. T. 222 Cylinder Head Nut Wrench	1.00
S. T. 612 Mechanic's Tool Roll	2.85
	$11.20

Special Tool List for Small Dealer

S. T. 105 Cylinder Base Nut Wrench	$ .65
S. T. 106 Piston Ring Compressing Sleeve	1.00
S. T. 121 Cylinder Head Lifter	1.35
S. T. 123 Heavy Duty Wheel Puller	4.35
S. T. 129 Hub Cap Wrench	1.90
S. T. 132 Rear Axle Shaft Nut Wrench	2.90
S. T. 136 Front Brake Lever Gauge	.70
S. T. 153 Feeler Guage Holder	.45
S. T. 154 Combination Shop Jack (*pair*)	5.70
S. T. 170 Cylinder Base Nut Wrench	.75
S. T. 171 Piston Ring Compressing Sleeve (3 1/2" bore)	1.25
S. T. 179 Front Brake Lever Gauge (Six and Eight)	.55
S. T. 180 Rear Brake Lever Gauge (Packard Eight)	1.90
S. T. 186 Brake Adjusting Wrench (set of 2)	1.80
S. T. 201 Cylinder Head Nut Wrench (6)	1.00
S. T. 202 Cylinder Head Nut Speed Wrench	1.50
S. T. 203 Carburetor Wrench	.95
S. T. 206 Fuelizer Inspection Plug Wrench	.80
S. T. 210 Fuelizer Inspection Plug Puller	.75
S. T. 215 Valve Lifter	4.75
S. T. 216 Tappet Wrenches—Set of 3	2.70
S. T. 220 Valve Lifter	3.25
S. T. 221 Hold Down Plug	.35
S. T. 222 Cylinder Head Nut Wrench (8)	1.00
S. T. 223 Valve Lifter	4.75
S. T. 600 Courtesy Coat (Specify S. T. No. for size)	3.00
S. T. 612 Mechanic's Tool Roll	2.85
S. T. 733 Piston Ring Compressing Sleeve (3 1/8" Bore	1.25
	$54.15

Note: The above assortment of tools represents the minimum amount which is imperative where cars to be serviced range from three to twenty-five in number. Without these tools it will be found very difficult to perform those more common standard operations within the times and for the prices specified.

Packard owners expect and are entitled to adequate protection to their cars while in your shop. You should have the following car covers or their equivalent.

S. T. 130 Fender Covers (*per pair*)	$5.50
S. T. 144 Front Seat Cover	2.75
S. T. 146 Double Door Cover (*per pair*)	2.75
S. T. 148 Cowl Cover	1.65

Special Tool List for Average Dealer

S. T. 87 Aligning Jig	$ 39.75
S. T. 105 Cylinder Base Nut Wrench	.75
S. T. 106 Piston Ring Compressing Sleeve	1.00
S. T. 107 Cylinder Block Lifter	.95
S. T. 109 Test Tank	14.00
S. T. 112 Pinion Bearing Adjusting Nut Wrenches, set of 2	2.10

S. T. 113 Pulley and Sprocket Puller (Packard Six and Packard Eight)	$ 8.90
S. T. 116 Piston Ring Groove Carbon Cutter (Packard Six and Packard Eight)	.50
S. T. 120 Rear Axle Shaft Puller	4.80
S. T. 121 Cylinder Head Lifter	1.35
S. T. 123 Heavy Duty Wheel Puller	4.35
S. T. 129 Hub Cap Wrench	1.90
S. T. 130 Fender Cover	5.50
S. T. 132 Rear Axle Shaft Nut Wrench (Packard Six and Twin Six)	2.90
S. T. 133 Rear Axle Shaft Nut Wrench (Packard Eight)	2.90
S. T. 136 Front Brake Lever Gauge	.70
S. T. 140 Brake Operating Lever Angle Indicator	1.35
S. T. 141 Rear Brake Lever Gauge (Packard Eight)	.55
S. T. 144 Front Seat Cover	2.75
S. T. 146 Double Door Cover (*per pair*)	2.75
S. T. 148 Cowl Cover	1.65
S. T. 153 Feeler Gauge Holder	.45
S. T. 154 Car Jack for Shop Work *Pair*	5.70
S. T. 155 Car Jack for Motor Work *Pair*	5.70
S. T. 170 Cylinder Base Nut Wrench	.75
S. T. 171 Piston Ring Compressing Sleeve ($3\frac{1}{2}$" bore)	1.25
S. T. 175 Exhaust Pipe Nut Wrench	1.20
S. T. 176 Exhaust Pipe Flange Bolt Wrench (small)	.60
S. T. 179 Front Brake Lever Gauge (Six and Eight)	.55
S. T. 180 Rear Brake Lever Gauge (Packard Eight)	1.90
S. T. 183 Rectifier Body Stud Wrench	.50
S. T. 184 Rectifier Stand Pipe Wrench (small)	.95
S. T. 185 Rectifier Stand Pipe Wrench (large)	1.65
S. T. 186 Brake Adjusting Wrench (set of 2)	1.80
S. T. 193 Compressometer	3.50
S. T. 198 Oil Rectifier Test Equipment	4.90
S. T. 201 Cylinder Head Nut Wrench	$1.00
S. T. 202 Cylinder Head Nut Speed Wrench	1.50
S. T. 203 Carburetor Wrench	.95
S. T. 204 Carbon Brush (Flared Type)	2.20
S. T. 205 Carbon Brush (Straight Type)	2.00
S. T. 206 Fuelizer Inspection Plug Wrench	.80
S. T. 210 Fuelizer Inspection Plug Puller	.75
S. T. 211 Cylinder Pet Cock Cleaner	.20
S. T. 215 Valve Lifter	4.75
S. T. 216 Tappet Wrenches—Set of 3	2.70
S. T. 220 Valve Lifter	3.25
S. T. 221 Hold Down Plug	.35
S. T. 222 Cylinder Head Nut Wrench (8)	1.00
S. T. 600 Courtesy Coat (Specify S. T. No. for size)	3.40
S. T. 609 Timing Indicator	4.90
S. T. 612 Mechanic's Tool Roll	2.85
S. T. 616 Bushing Reamer $\frac{7}{8}$"	7.00
S. T. 617 Piston Reamer $\frac{7}{8}$"	13.20
S. T. 638 Clutch Plate Aligning Bar	1.00
S. T. 698 Set of Delco Tools	9.70
S. T. 733 Piston Ring Compressing Sleeve ($3\frac{3}{16}$" Bore	1.25
	$197.55

This Department a Clearing House

Please consider this department a clearing house for your ideas on any tools—special tools or equipment that you have devised or found to be a definite time saver. In this way you can benefit other Packard Distributers and Dealers by our passing this information on to them, either in the shape of correspondence or by production of a special tool.

The following sheets show the special tools as they are applied. Refer to the lists showing recommended lists of tools.

Some of your mechanics will want part of the tools for their own tool kits. Be sure to canvass all new employees for special tools in everyday use.

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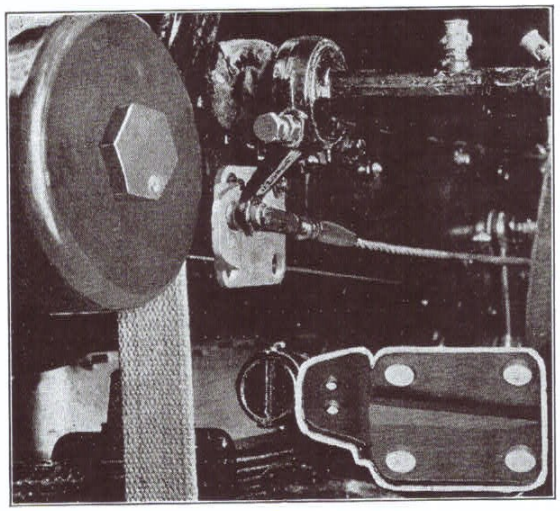
Brake Lever Gauge—Front

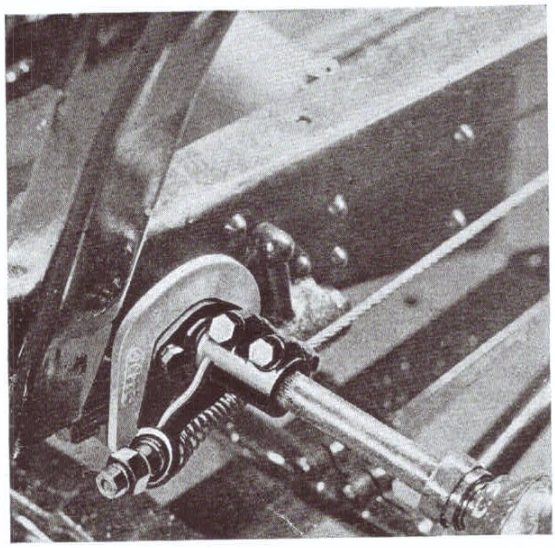
Tool No. S. T. 136—226-233-136-143



It is important that all brake levers be set in the position at which they were designed to operate. The use of this gauge on the front brake levers insures proper adjustment and obtains the maximum braking efficiency. See Technical Letter No. 1781.

Brake Lever Gauge—Front

Tool No. S. T. 179 (After Motor No. 215000)—Eight
(After Motor No. 75000)—Six



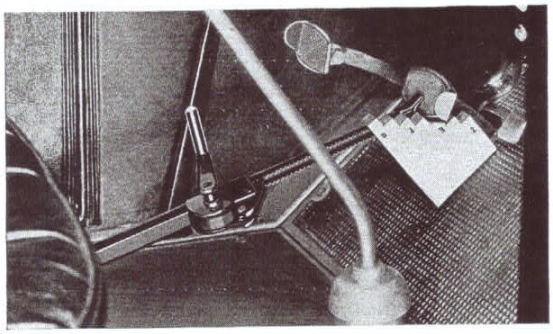
This front brake gauge can be used on Packard Six and Packard Eight cars that do not have the torque arm. It is used in practically the same manner as the old gauge. It is also interchangeable right and left sides.

Brake Pedal Depressor

Tool No. S.T. 190—All Models and

Brake Pedal Depressor Gauge

Tool No. S.T. 659—All Models



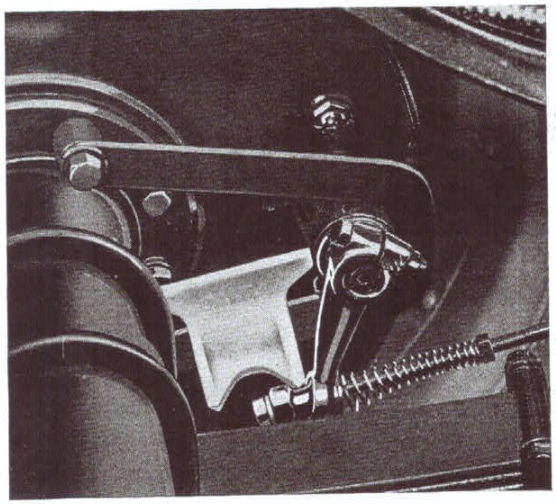
A block to locate the pedal position when adjusting the brakes. This tool is indispensable when using S. T. 658.

Tool No. S. T. 190

If a Pedal Depressor is used, it is unnecessary to have one man sit in the driver's seat while another mechanic is adjusting the brakes. The depressor has a double rachet for close adjustment, and a scale on the side so you can accurately reset the depressor at the same point after each test.

Brake Lever Gauge—Rear

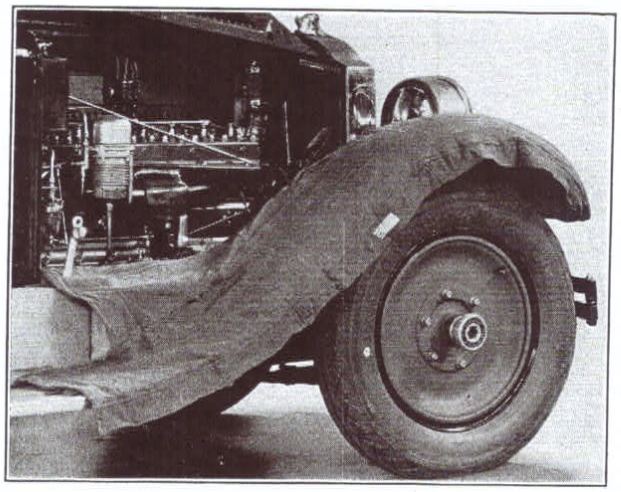
Tool No. S. T. 180 (After Motor No. 215000)—Eight
Tool No. S. T. 180 (After Motor No. 75000)—Six



These brake gauges are applicable to only those Packard Six and Eight cars that do not have the torque arm. Every shop that used our brake gauges on previous cars fully appreciates the amount of time that can be saved in adjusting brakes by first making sure that the levers are in the proper position.

Covers—Fender

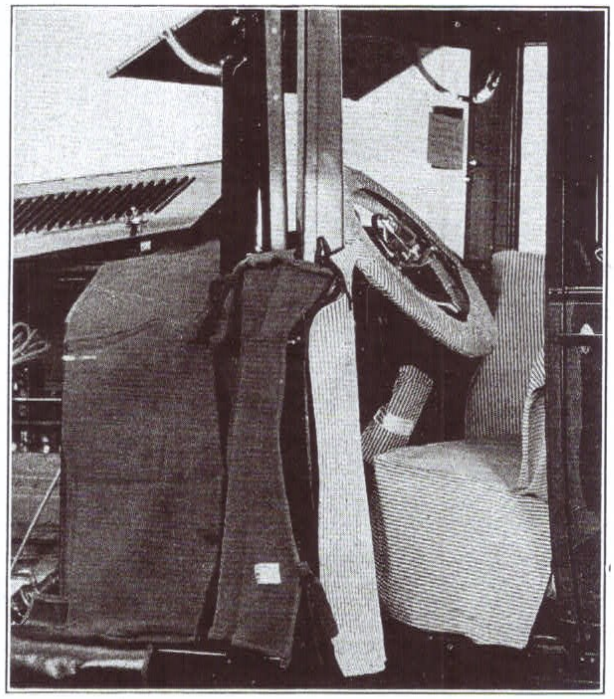
Tool No. S. T. 130—Six and Eight



These covers are made of a soft dark gray material that is easily laundered. They are preshrunk and interchangeable on the six and eight. The use of fender covers pays, not only in protection, but also in advertising careful service.

Covers—Kleenkar Shop—Six and Eight

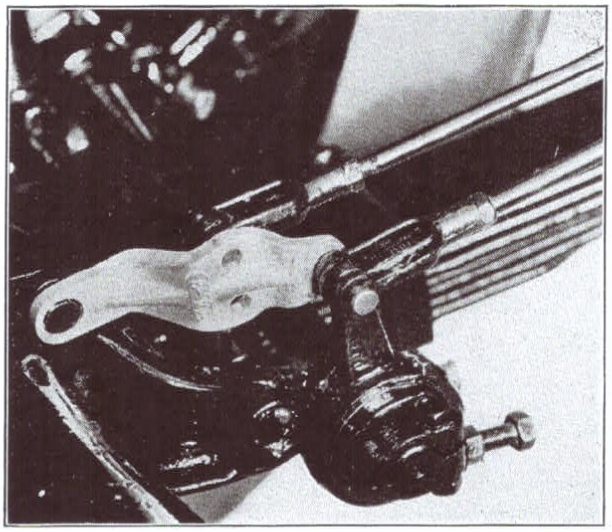
Tool No. S. T. 144 Front seat cover
Tool No. S. T. 145 Rear seat cover
Tool No. S. T. 146 Double door cover
Tool No. S. T. 147 Single door cover
Tool No. S. T. 148 Cowl cover
Tool No. S. T. 149 Steering wheel cover
Tool No. S. T. 150 Lever handle cover



In order that a customer may not hesitate to send his Packard car into the shop of a Packard Service Station every reasonable means of protection should be used. KLEENKAR shop covers are preshrunk, thereby insuring perfect laundering.

Brake Lever Gauge—Rear

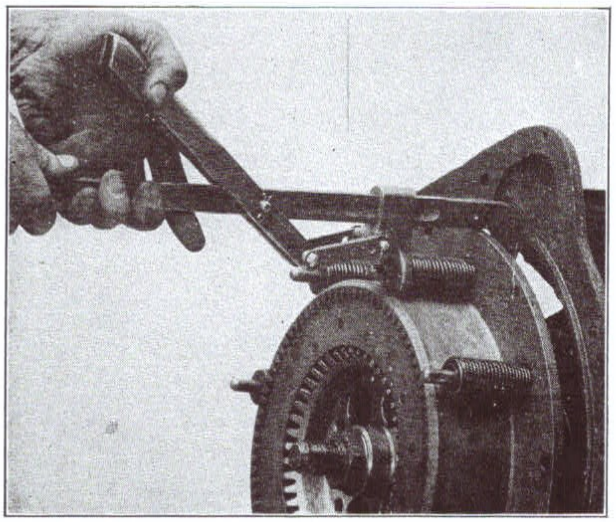
Tool No. S. T. 137 (First 2000 Cars)—Eight
Tool No. S. T. 138 (After 2000 Cars)—Eight
Tool No. S. T. 141 (126-133-226-233)—Six



The use of a gauge in adjusting brakes enables the mechanic to locate properly the position of the lever in the least possible time. See Technical Letters No. 1773, 1778 and 1781.

Clutch Spring Compressor

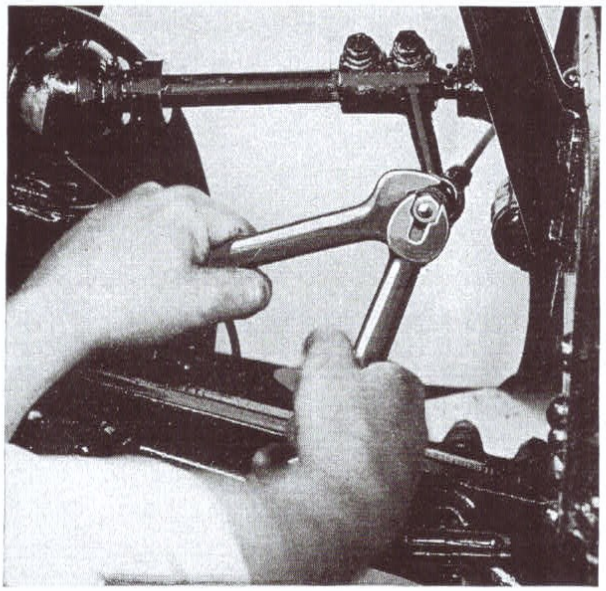
Tool No. S. T. 127—Six and Eight



A high leverage tool which will make a difficult operation a pleasure. It locks over center with the spring compressed.

Brake Adjusting Wrench

Tool No. S. T. 186—All Bendix brakes



It is possible to make all service adjustments on Bendix brakes with a pair of these wrenches. Adjustment at the operating lever is made by using the large end of one wrench and the small opening of the other. When changing the eccentric adjustment on the brake support plate, hold the eccentric with the slot in the small end and loosen the lock nut with the large end of the other wrench.

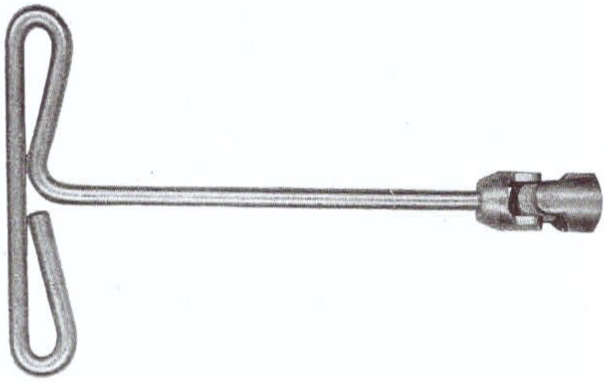
Brake Testing Scale

Tool No. S. T. 658—6 and 8 Models

This tool makes it possible to accurately equalize and adjust the Bendix brakes on Packard cars. It will not only save you time, but makes possible equalization which can be obtained in no other way.

Radiator Core Anchorage Nut Wrench

Tool No. S. T. 729



When using this wrench it is very easy to remove the radiator core anchorage nut. It speeds up the operation and eliminates the use of the end wrench which many mechanics use for this purpose.

Brake Scale Adapter

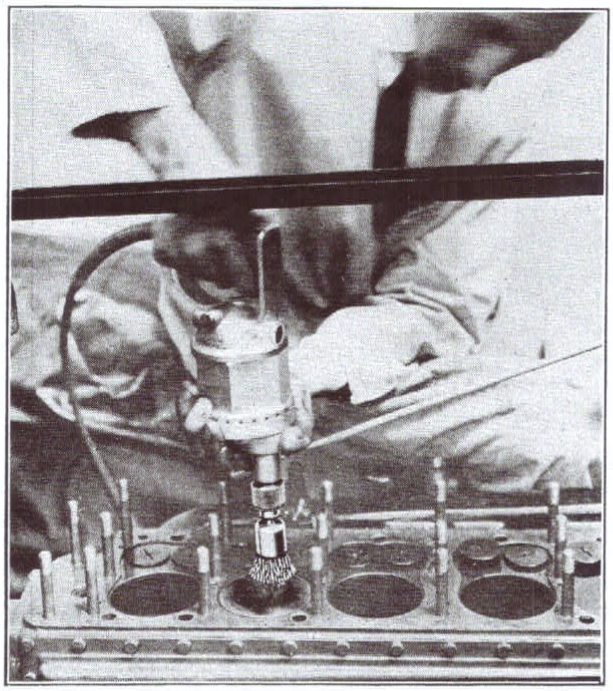
Tool No. S. T. 674—All Models

Brake Scale Adapter can be used on all models.

Brake Lining Cutter
Tool No. S. T. 304

The cutter is operated on an angle so as to give a shearing effect and makes it possible to cut heavy lining clean and straight.

Carbon Brush
Tool No. S. T. 205—All Models

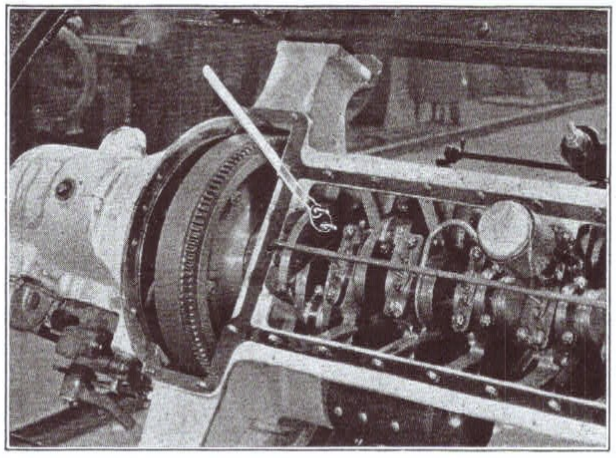


This brush is made specially for removing carbon from flat surfaces. It is a real time saver.

Brake Operating Lever Angle Indicator
Tool No. S. T. 140—226-326 Six—136-236 Eight

The advantage of the brake pedal step-up gear depends upon the position of the operating lever. The gauge shown above has two points. One locates a 25° angle used on the first 2000 Packard Eights, the other a 31° angle used on the Packard Sixes to Motor No. 75000, Packard 8.

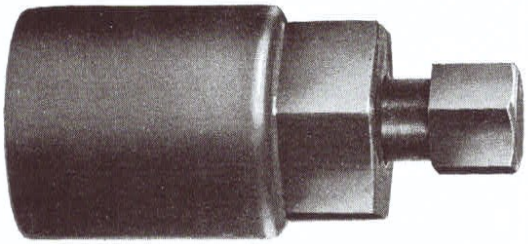
Camshaft Rear Bearing Cover Plate Wrench
Tool No. S. T. 639—All Models

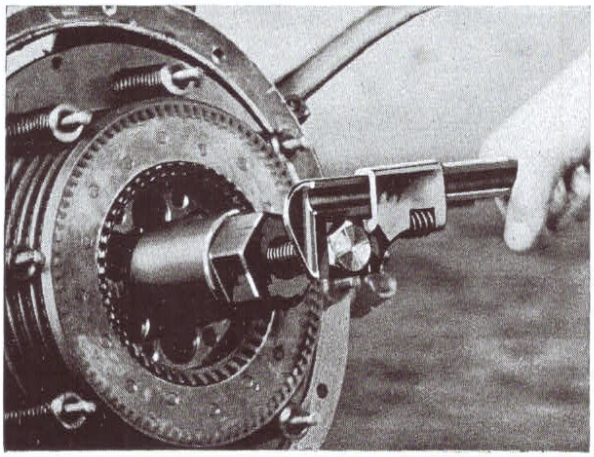


A "C. V." chrome-vanadium wrench that will reach and tighten the screws that hold the rear camshaft bearing cover plate. It is so designed that it will always take a new bite. This will more than pay for itself on the first job.

Clutch Spider Puller

Tool No. S. T. 189—326-236

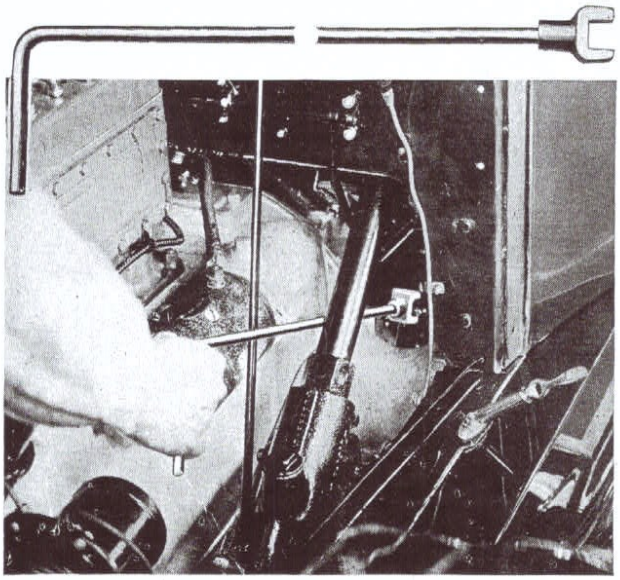




The hub of the clutch spider is now being threaded in production. This makes it possible to pull the spider without danger of springing it out of shape.

Clutch Adjusting Nut Wrench

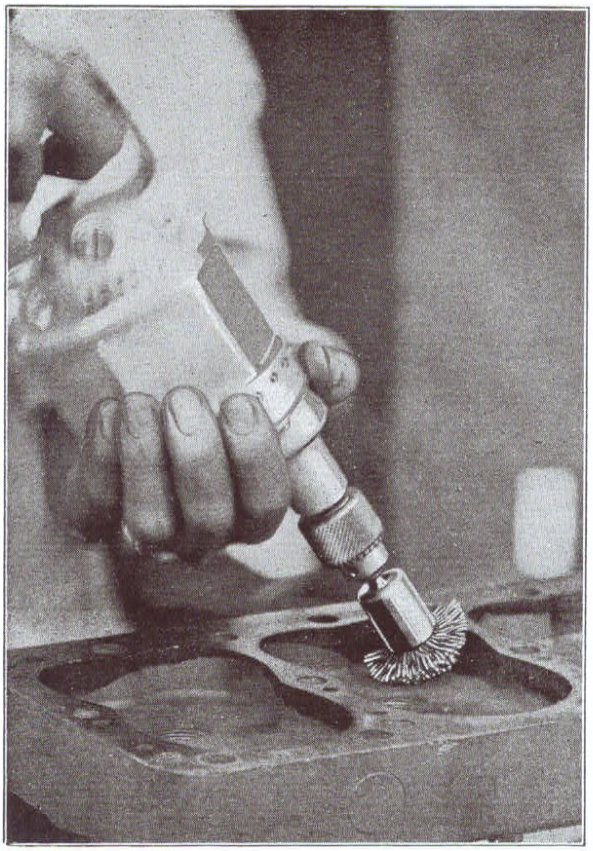
Tool No. S. T. 610—326-236



The extra long handle swings clear of the steering gear, starter motor and horn, so that proper clutch adjustment is made quickly and with ease.

Carbon Brush—Flared Type

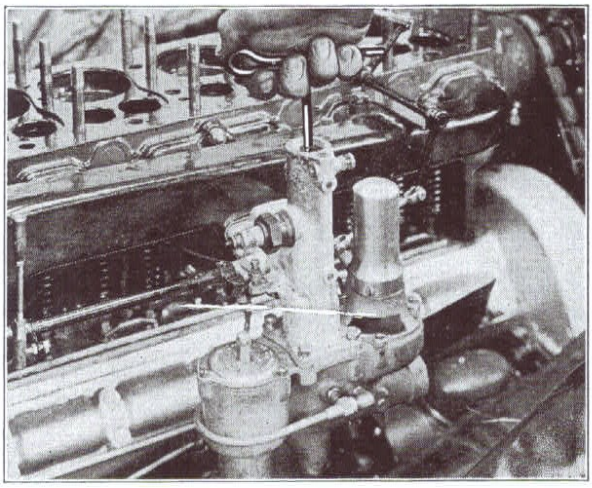
Tool No. S. T. 204—All Models



A special brush designed to clean carbon from the corners. It should not be used on flat work but in conjunction with Tool No. 205. A straight type brush is designed for that purpose.

Carburetor Fuelizer Inspection Plug Puller

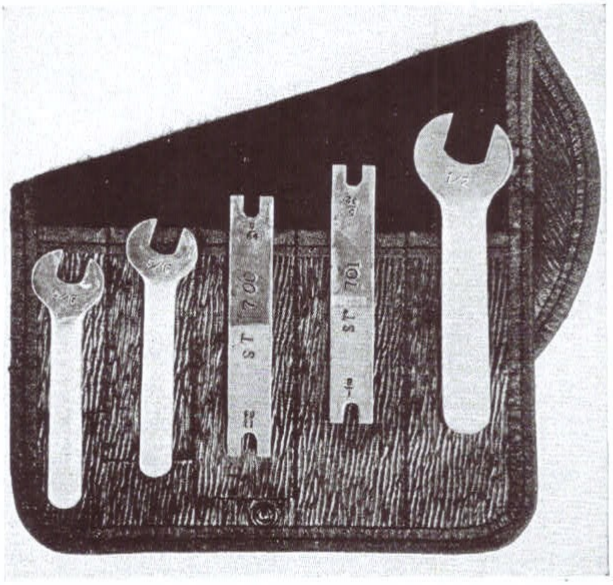
Tool No. S. T. 210—All Models

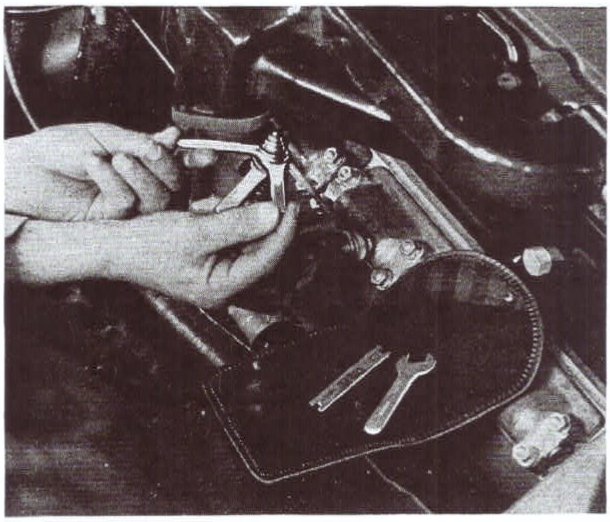


Standard specifications call for the installation of a new fuelizer screen with each carbon and valve job. To use the puller, it is necessary to give it one turn in the brass plug—then loosen the set screw on the side and pull the plug out.

Carburetor Adjusting Kit

Tool No. S. T. 699—All Models





S. T. 700—Air Valve Gauge—143-243-343-443
S. T. 701—Air Valve Gauge—126-226-326-426-526
S. T. 702—Air Valve Wrench (Small)
S. T. 703—Air Valve Wrench (Large)

It is essential for accurate adjustment of carburetor air valve drop. This kit includes two air valve gauges, which cover adjustment for all models and three thin chrome-vanadium wrenches for adjusting the springs pressure. The kit may be bought as a unit or under their separate piece numbers. See Service Letter Vol. 2 No. 14.

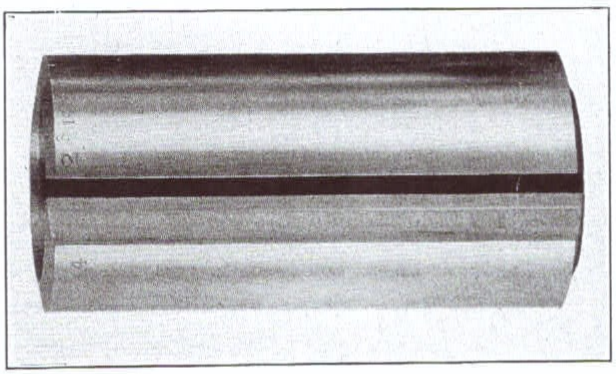
Carbon and Valve Equipment

Tool No. S. T. 200—All Models

This is the equipment that has been advertised extensively in the motor magazines and in our direct mail campaign. It contains a complete outfit for performing the M-24 operation.

Connecting Rod Bearing Reamer Sleeve

Tool No. S. T. 621—1¾"—.0025
Tool No. S. T. 622—1¾"—.005
Tool No. S. T. 623—2⅛"—Std.
Tool No. S. T. 624—2⅛"—.0025
Tool No. S. T. 625—2⅛"—.005
Tool No. S. T. 626—2 3/16"—.0025
Tool No. S. T. 627—2 3/16"—.005
Tool No. S. T. 708—2 3/16"—.015
Tool No. S. T. 709—2⅛"—.015



Extra sleeves to be fitted to Bearing Reamers S. T. 618, 619 for fitting to undersize crank pins. S. T. 621, 622 are for S. T. 618. S. T. 623, 624, 625, 626, 627, 708, 709 are for S. T. 619. A set of sleeves and the two Bearing Reamers make it possible with but two reamers to cover the entire Packard line.

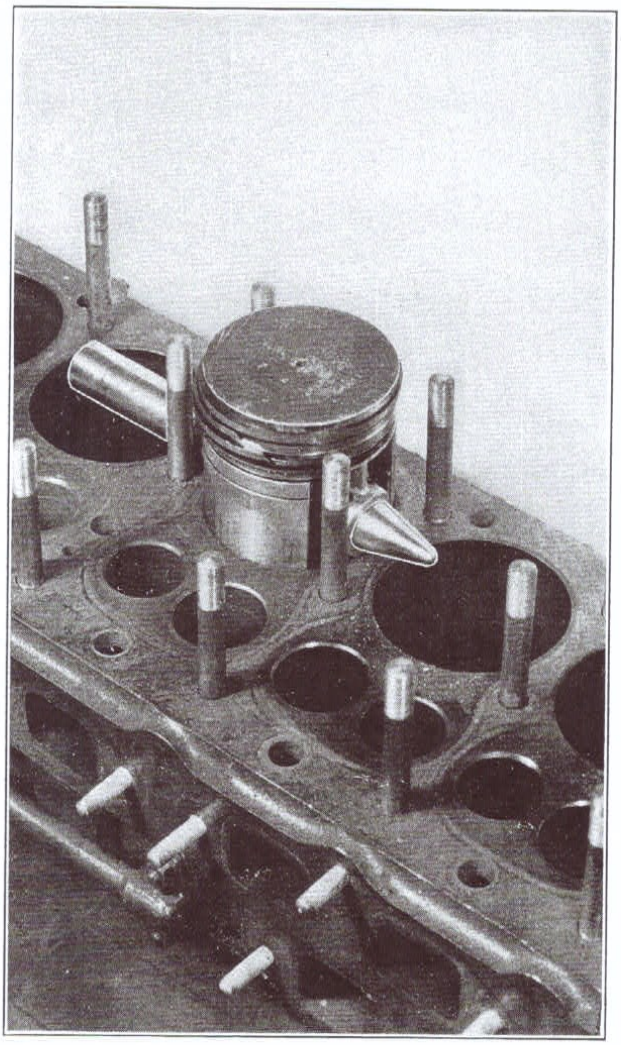
Courtesy Coat

Tool No. S. T. 600 (Size 36)
Tool No. S. T. 601 (Size 38)
Tool No. S. T. 602 (Size 40)
Tool No. S. T. 603 (Size 42)
Tool No. S. T. 604 (Size 44)
Tool No. S. T. 605 (Size 46)
Tool No. S. T. 606 (Size 48)

A neatly tailored courtesy coat made of cotton covert. The material is preshrunk before cutting and is unexcelled for laundering. Because of its being preshrunk, be sure to order the size coat that you actually wear, as it is guaranteed to be the same size after it has been washed. With each garment a postcard is furnished which, when properly filled out and sent in, will entitle the owner to a panel with his initial on it. This may be sewed on the garment and serves not only as an identification but as a mark of distinction.

Connecting Rod and Piston Assembling Pin

Tool No. S. T. 726—626 Model

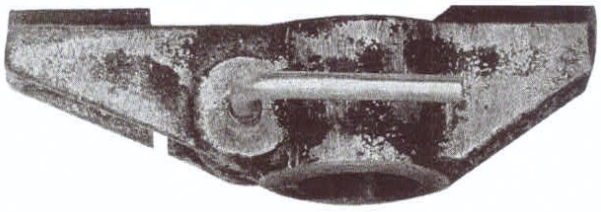


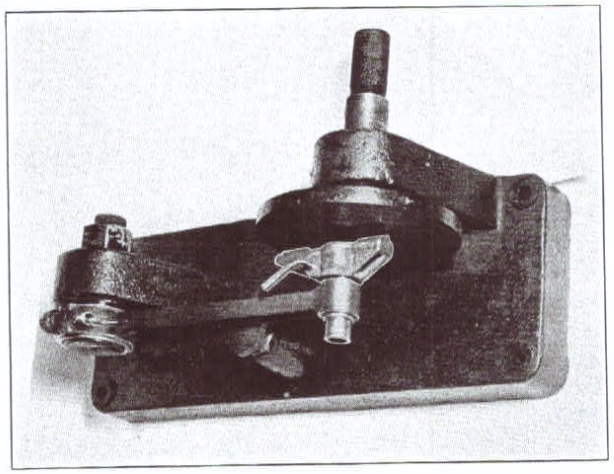
It is somewhat difficult to assemble or disassemble the piston and pin with the connecting rod on the 626 model. Good results will be obtained, only by having piston pin parallel with connecting rod.

The assembling pin tool has sliding fit for $\frac{7}{8}$" pin thereby making it easy to install piston and connecting rod.

Connecting Rod Piston Pin Aligning Fixture

Tool No. S. T. 731 (626 only)

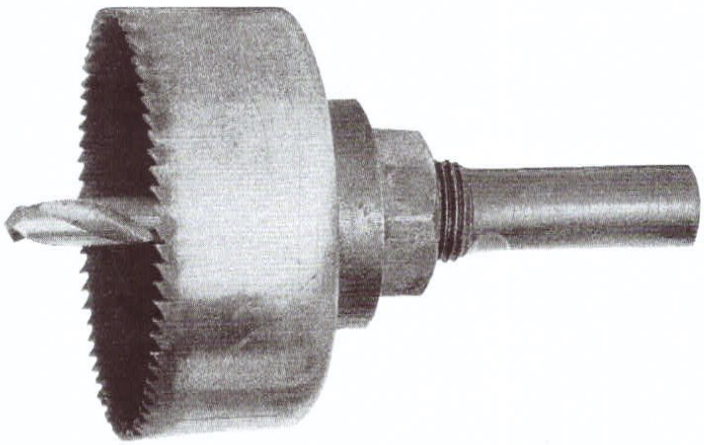




This fixture is accurately ground. It fits over the piston pin and provides adequate surface to line up against the surface plate on the aligner. Used for 626 Model only.

Francisco Dash Cutter

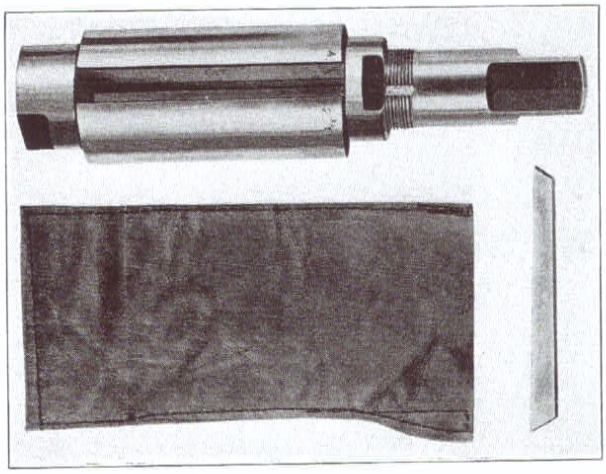
Tool No. S. T. 730

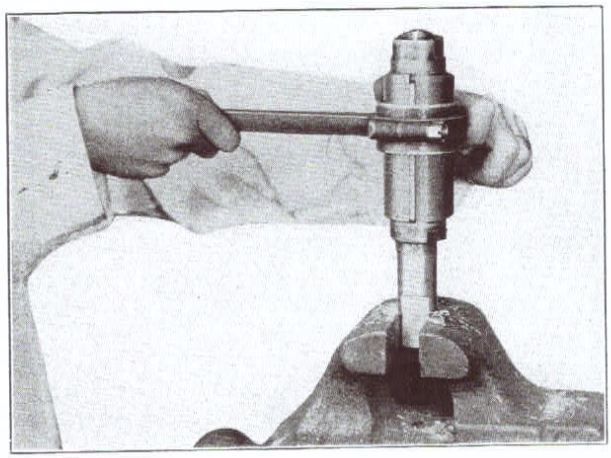


This cutter was designed especially to cut the hole through wood and metal dash for installation of Francisco Heater.

Connecting Rod Bearing Reamer

Tool No. S. T. 618—116-126-226 ($1\frac{3}{4}$″)
Tool No. S. T. 619—All Models ($2\frac{3}{16}$″)





A connecting rod large end bearing reamer. This reamer will clean up a scratched bearing or accurately cut to size a new bearing in less time and much more accurately than can possibly be done by the old method of hand scraping. Sleeves in .0025″ and .005″ undersize can be obtained which make it possible to accurately fit bearings to undersize crank pins. An extra blade and leather boot is furnished with each reamer.

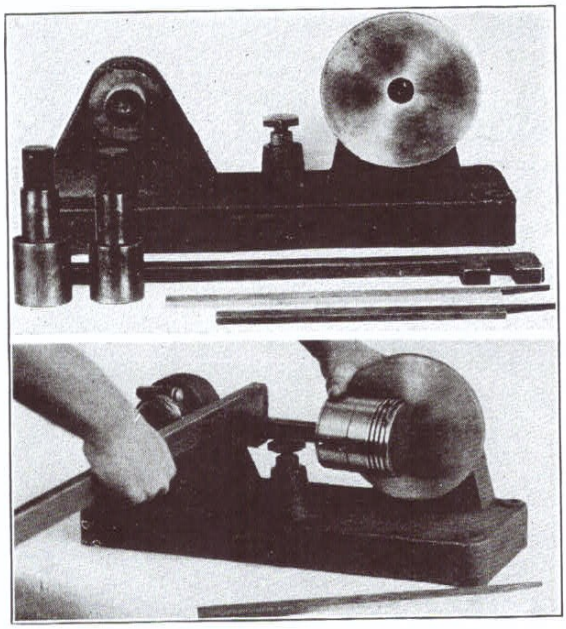
Connecting Rod Bearing Reamer Blade

Tool No. S. T. 620—All Models Bearing Reamers

Blade for connecting rod large end bearing reamer. Will fit all sizes of bearing reamers.

Connecting Rod Aligning Jig

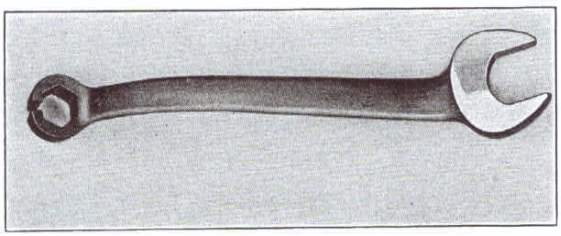
Tool No. S. T. 87—All Models

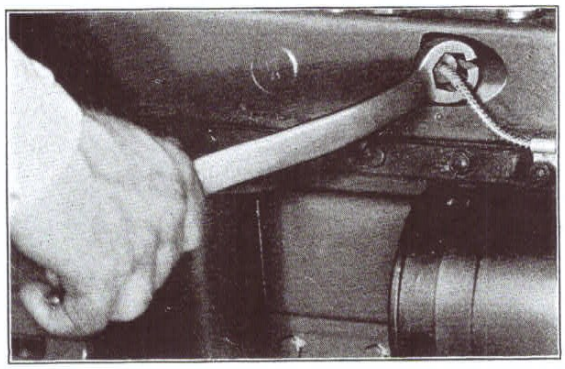


Connecting Rod Aligning Jig complete with bending bar adjustable straight edge and arbor plug for the Packard Six 426 and Packard Eight 336. Arbor plugs for all other models can be obtained under their respective piece numbers. The use use of this tool is covered in Technical Letter No. 1804 which should be referred to.

Combination Spark Plug, Anchor Bolt, and Thermometer Nut Wrench

Tool No. S. T. 734 ¾" Hex. Models 626-640
Tool No. S. T. 737 ⅝" Hex. Models 626-640

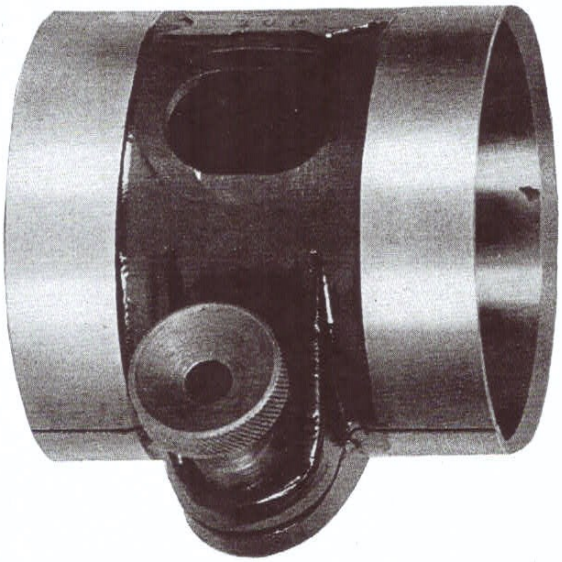


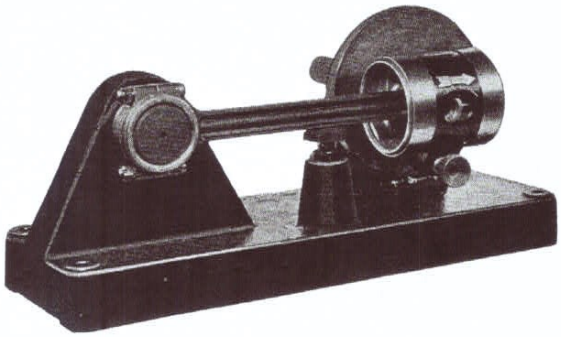


The small end of combination wrench was especially designed for removing cylinder head thermometer tube flange nut so that it will always take a new bite.

Connecting Rod Aligning Jig Piston Sleeve

Tool No. S. T. 649—426-526-236-336-443-640—3½"
Tool No. S. T. 681—126-226-326—3⅜"





An accurately ground sleeve that fits over the alloy pistons to provide adequate surface to line up against the plate on the aligner. The sides of the alloy pistons are undercut so that there is very little surface left which can be aligned with the plate, making the use of this tool imperative if an accurate job is desired.

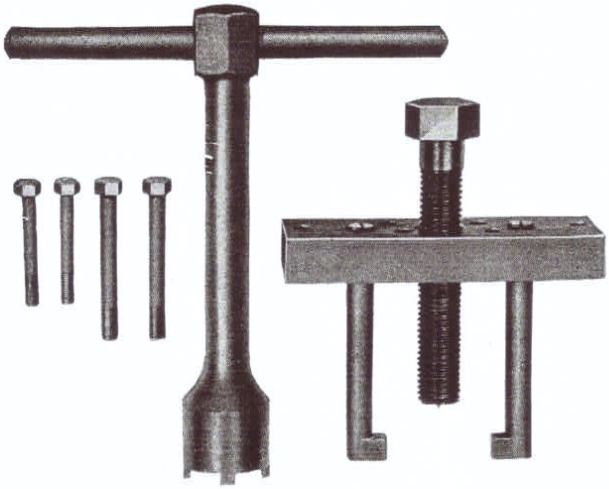
Connecting Rod Aligning Jig Arbor Plugs

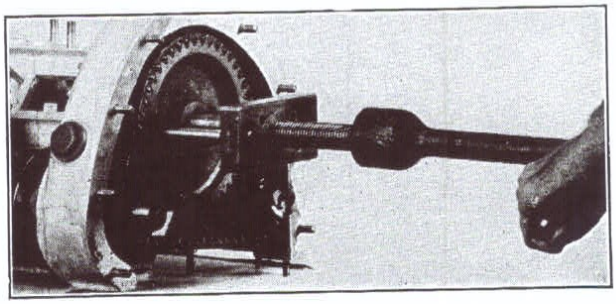
Tool No. S. T. 81-82-89

These plugs are interchangeable with the one in S.T. 87 and make this tool adaptable for use on all models of Packard Cars.

Crankshaft Pulley and Sprocket Puller

Tool No. S. T. 113—All Models

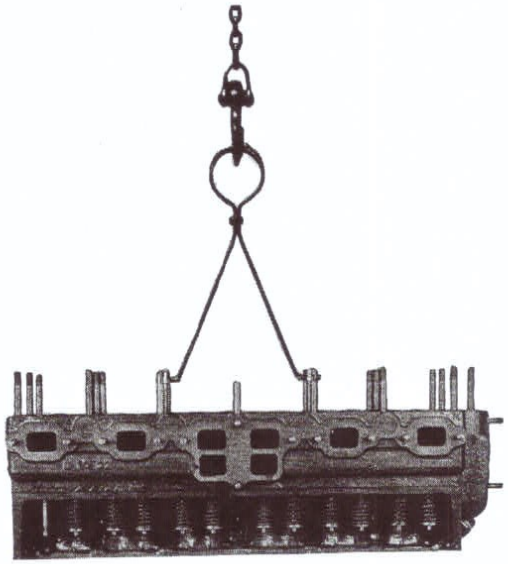




The T handle socket wrench fits the center screw of the puller, also the nuts on the ends of the camshaft and crankshaft. The equipment will pull the camshaft fan pulley, the crankshaft sprocket, the camshaft sprocket and vibration damper.

Cylinder Block Lifter

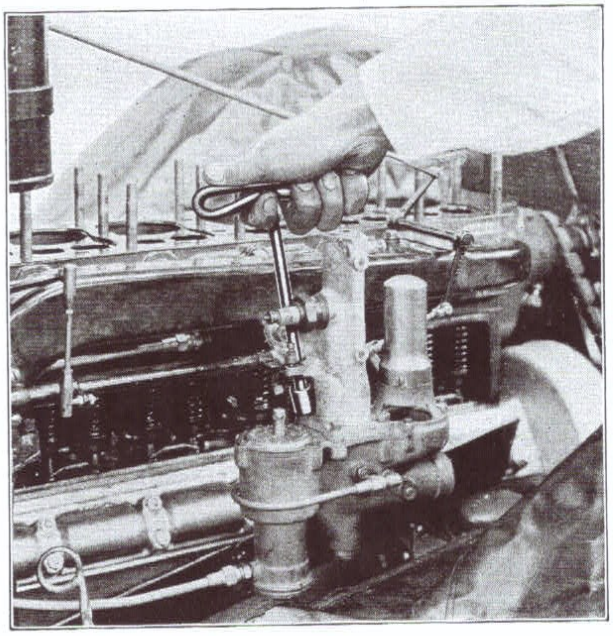
Tool No. S. T. 107—All Models



An inexpensive tool for lifting the block on or off the motor.

Carburetor Wrench

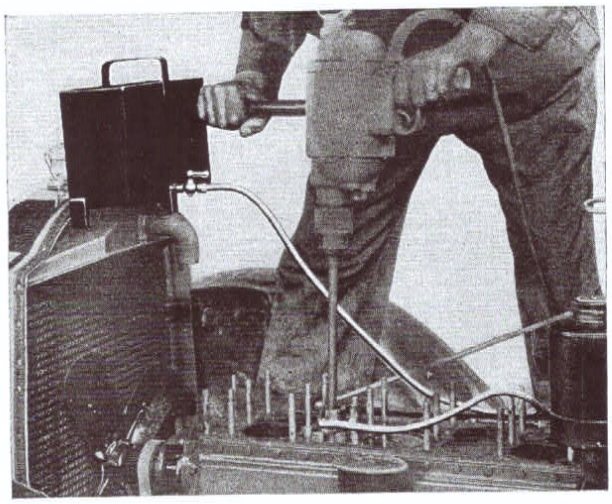
Tool No. S. T. 203—All Models (With Fuelizer)



A detachable socket makes this speed wrench almost indispensable for getting at the cap screw shown in the illustration. To insert the wrench between the throttle shaft and boss on the fuelizer it is only necessary to remove the socket from the handle, place the socket on the cap screw and push the handle into the socket until the ball check snaps on.

Cylinder Grinder Kerosene Feed Can

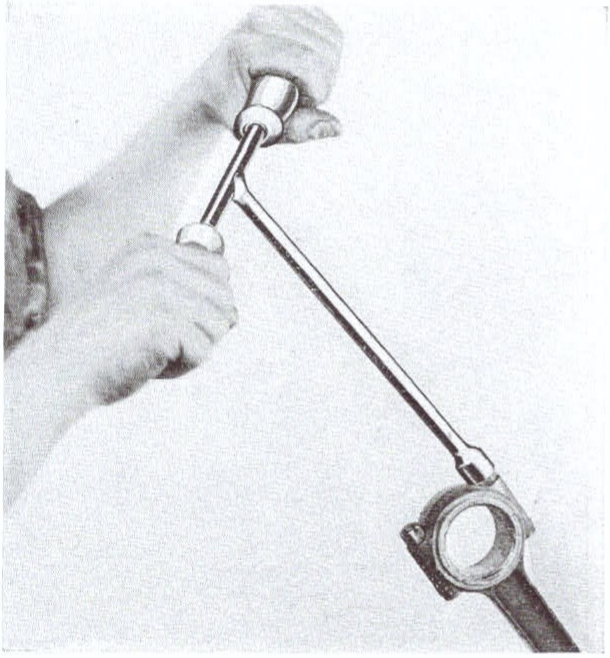
Tool No. S. T. 655—All Models



A plentiful supply of kerosene is essential to the successful operation of the cylinder grinder. The feed can holds a gallon and is mounted on the radiator where it is readily accessible, yet out of the way. The flexible tubing will reach all cylinders on both the Six and Eight and the support keeps it in place and up out of the way of the grinder.

Connecting Rod Nut Wrench

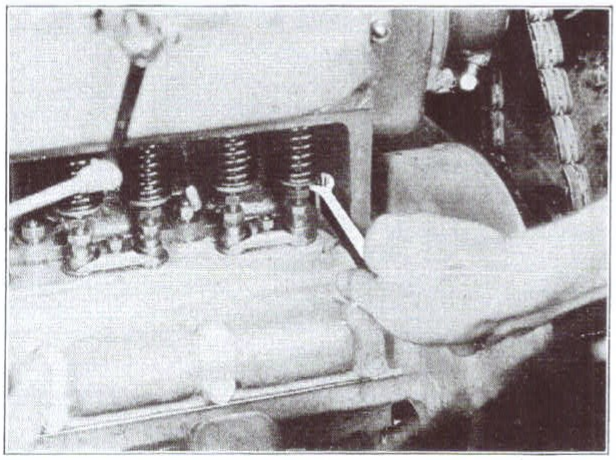
Tool No. S. T. 191—All Models



The wrench is made of chrome-vanadium and will stand up under the heavy stress that is easily obtained with the generous length tee equipped with non-breakable handles. The edge of the socket is ground off for clearance so as to provide the maximum hold on the nut.

Cylinder Base Nut Wrench

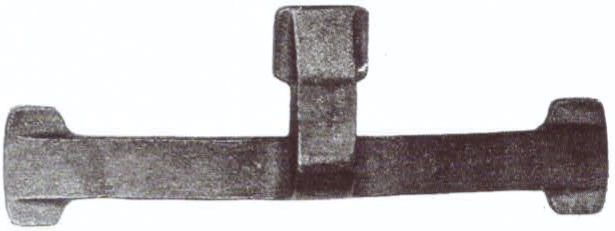
Tool No. S. T. 105—116-126-226-136
Tool No. S. T. 170—326-236



It is possible to use this wrench on all of the cylinder base nuts on the right hand side of the motor. When working the center base nut back of the distributor shaft, it is necessary to work on both sides of the shaft alternately. Turn the wrench over every time a new hold is taken on the nut.

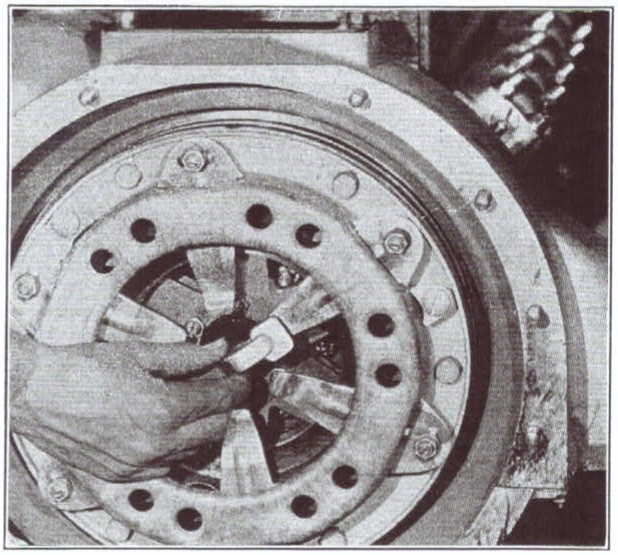
Clutch Release Lever Gauge

Tool No. 719—526
Tool No. 720—626



Clutch Release Lever Gauge

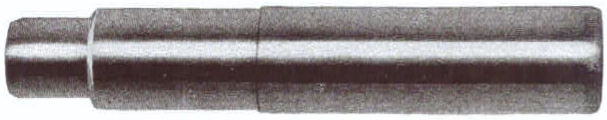
Tool No. S. T. 645—426-336

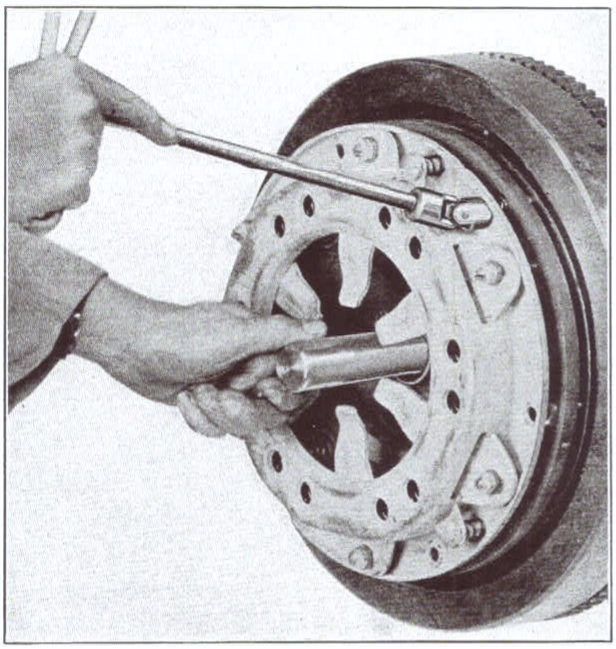


The six fingers that release the clutch plates must be adjusted carefully so that they bear evenly on the shifter thrust bearing. The gauge here illustrated makes this adjustment easy, quick and accurate.

Clutch Plate Aligning Bar

Tool No. S. T. 638—426-526-626-336-443-640

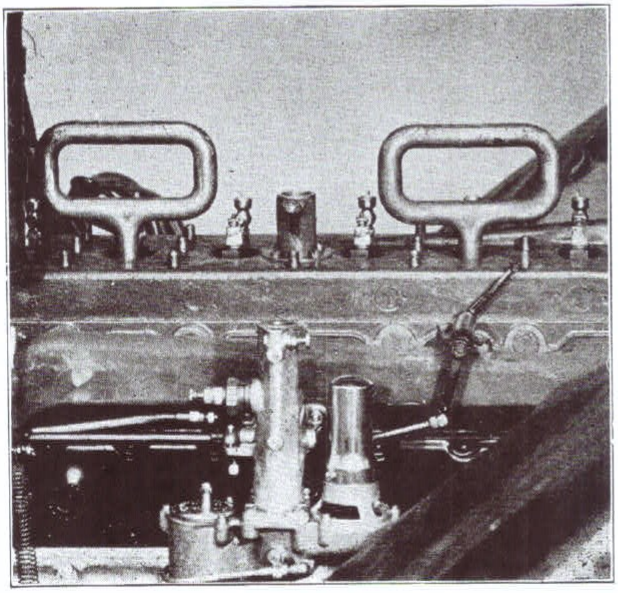




The use of this tool eliminates the necessity of removing the clutch shaft to line up the clutch splines every time a double plate clutch is installed. It will pay for itself on the first few jobs.

Cylinder Head Lifter

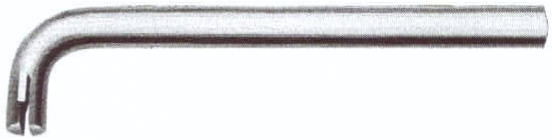
Tool No. S. T. 121—All Models

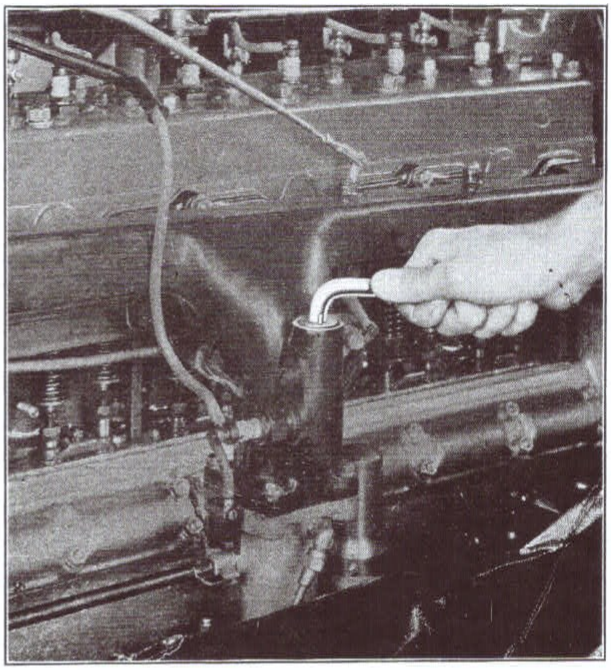


For use on all Packard cars. The need for cylinder head lifters is especially apparent for the Packard Eight because of its weight and over-all length.

Carburetor Fuelizer Inspection Plug Wrench

Tool No. S. T. 206—All Models with Fuelizer

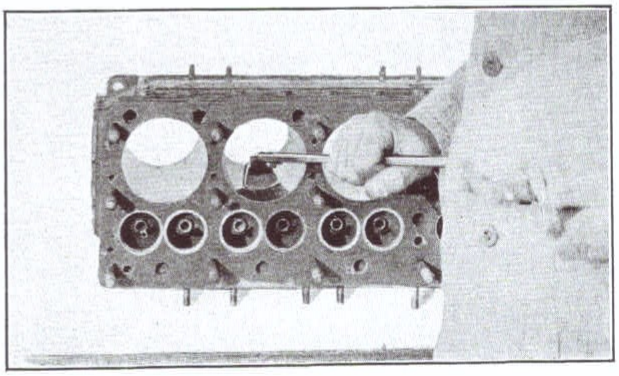




A fuelizer wrench that is designed with a long pilot to prevent slipping off. Everybody in your shop who does tuning, testing and carburetor or fuelizer work will want one for his own kit.

Cylinder Wall Scraper

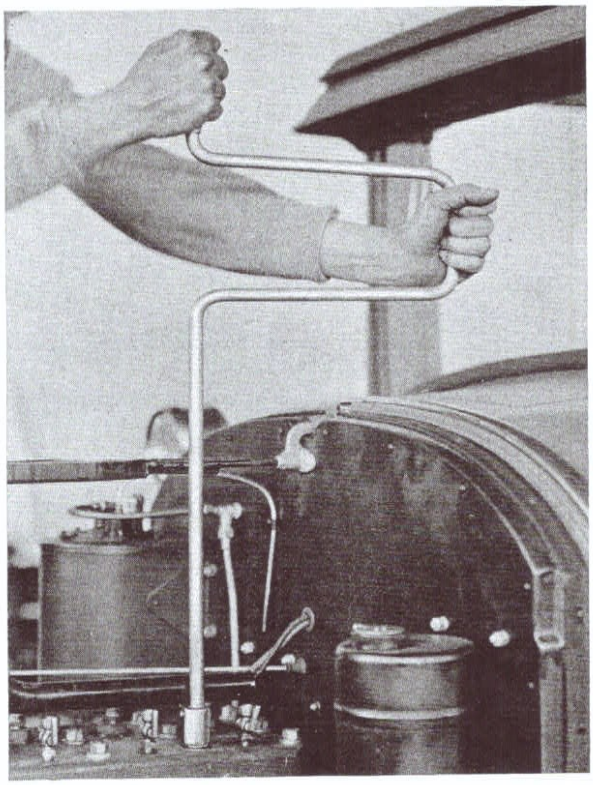
Tool No. S. T. 650—All Models



A scraper with a hardened tool steel blade for cleaning the cylinder walls of the metal that loads on them when an aluminum piston scores or scuffs. The scraper will remove the accumulation of metal and leave the bore smooth for polishing; thus adding materially to the life of the grinder stones.

Cylinder Head Nut Speed Wrench

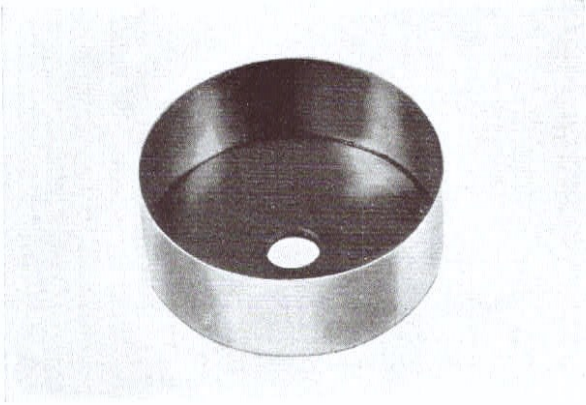
Tool No. S. T. 226—Eight
Tool No. S. T. 227—Six



A chrome nickel speed wrench with removable socket. It has a ten-inch throw that will allow sufficient leverage to tighten the head down. There is sufficient weight in the handle so that after the nut is loosened it may be spun off. By ordering an extra socket S.T. 1251 for S.T. 226 and S.T. 1252 for 227, one wrench may be made to fit both the Six and Eight.

Cylinder Grinder Kerosene Drain Cup

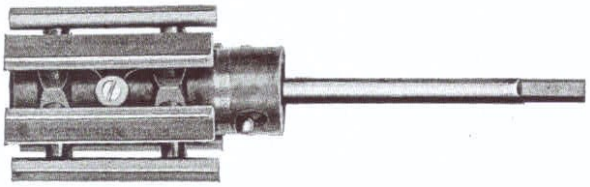
Tool No. S. T. 652—All Models (3½" Bore)

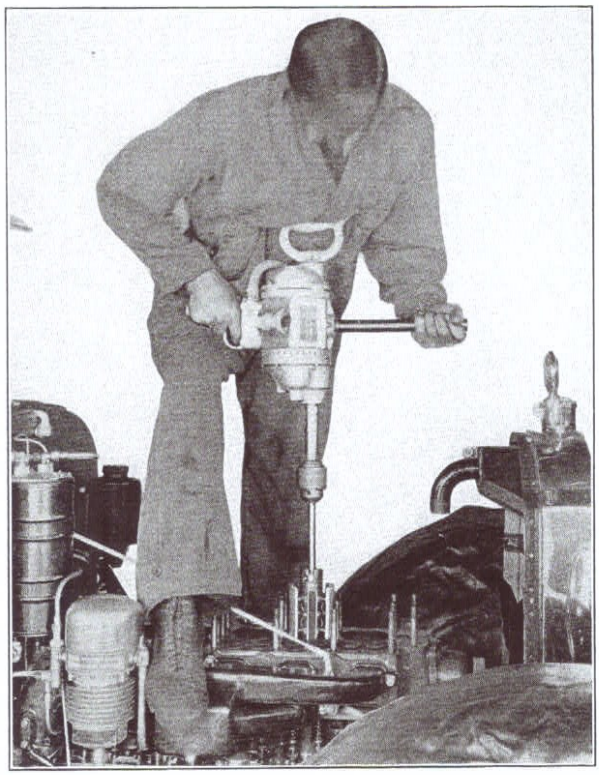


Extra cups for the Kerosene Drain for Cylinder Grinder.

Cylinder Grinder (Hutto)

Tool No. S. T. 628—All Models
Tool No. S. T. 686—All Models

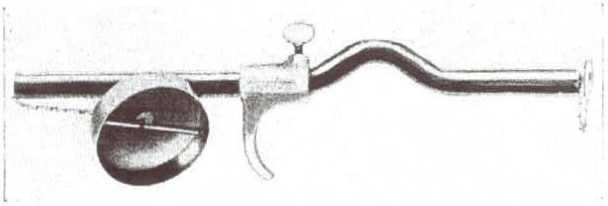


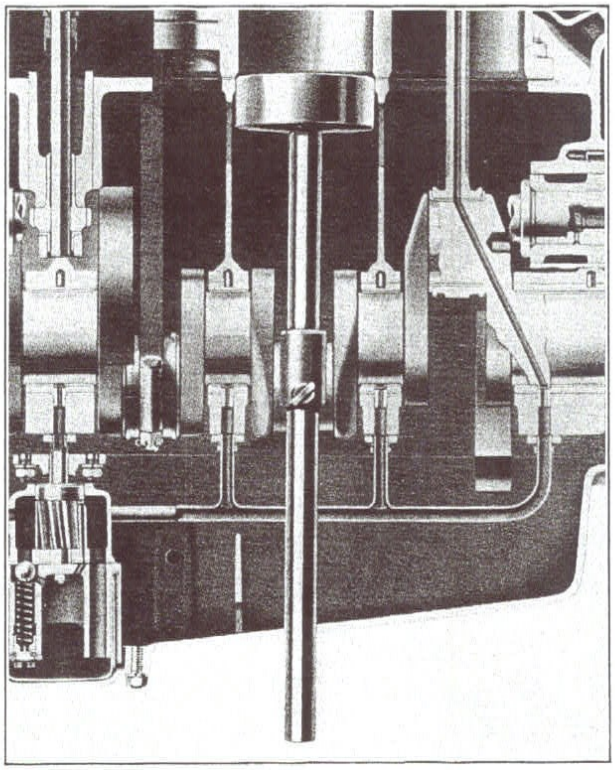


This portable Cylinder Grinder is made by the same manufacturer that makes the factory equipment. The grinder will grind a bore round and true for fitting oversize pistons as well as cleaning up one that has been scored or galled. It is a portable unit and it is not necessary to remove the cylinder block. This grinder is packed in a metal box with a set of six 3½" 120 grit stones and is furnished in two models S. T. 686 which has a micrometer expansion adjustment, and S. T. 628 which is expanded with a screw driver and is not graduated.

Cylinder Grinder Kerosene Drain Cup and Tube Assembly

Tool No. S. T. 651—All Models Except 626





Kerosene Drain Cup and Tube

A drain that will catch and carry away all of the kerosene fed to the cylinder grinder when grinding a cylinder bore without removing the cylinder block. It eliminates all danger of kerosene and grinder dust getting in the crankcase. Is quickly and easily installed and saves time assuring a satisfactory job.

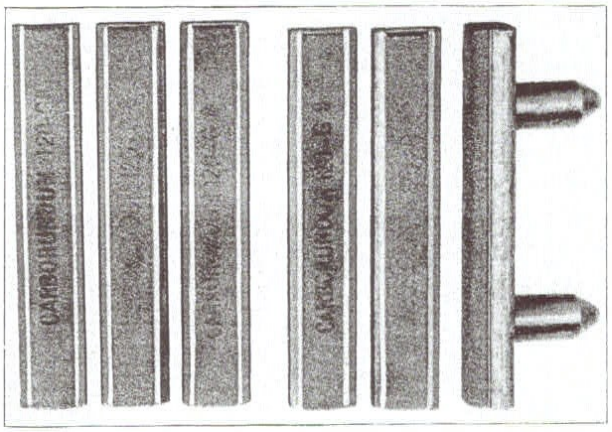
Cylinder Head Nut Speed Wrench

Tool No. S. T. 202

With the use of a universal joint and stronger construction this wrench gives maximum speed with average leverage. Additional leverage may be obtained by swinging the handle into the horizontal position and using as a fixed type of wrench.

Cylinder Grinder Stones (Hutto)

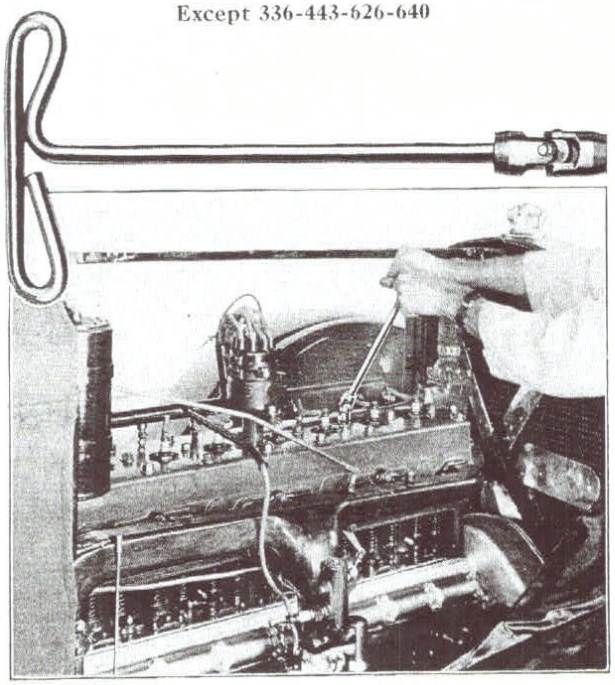
Tool No. S. T. 629 $3\frac{3}{8}$" 120 Grit
Tool No. S. T. 630 $3\frac{1}{2}$" 120 Grit
Tool No. S. T. 641 $3\frac{1}{2}$" 80 Grit
Tool No. S. T. 642 $3\frac{3}{8}$" 80 Grit
Tool No. S. T. 643 $3\frac{1}{2}$" 36 Grit
Tool No. S. T. 644 $3\frac{3}{8}$" 36 Grit
Tool No. S. T. 711 $3\frac{3}{16}$" 120 Grit
Tool No. S. T. 712 $3\frac{3}{16}$" 80 Grit
Tool No. S. T. 713 $3\frac{3}{16}$" 36 Grit



It is possible to cover the entire line of Packard Cars with the Cylinder Grinder by merely changing stones. When it is desired to take out more than .001" or .002" time can be saved by using the coarser 80 grit stones, leaving .001" to .002" to clean up with the finishing stone. For taking out .010" or more, the 36 grit roughing stones should be used, leaving at least .002" to clean up with the finishing stone.

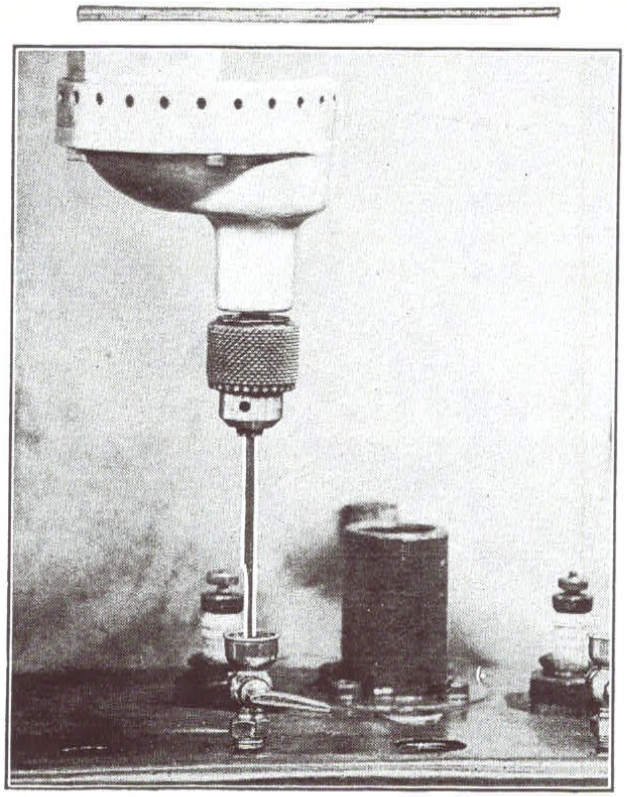
Cylinder Head Nut Speed Wrench

Tool No. S. T. 202—All Models Except 336-443-626-640



Cylinder Petcock Cleaner

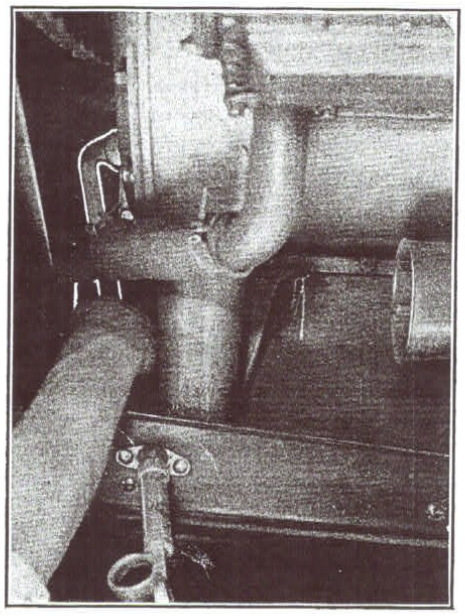
Tool No. S. T. 211—All Models Except 626-640



The cleaner shown is superior to an ordinary drill as it does not damage the petcock or enlarge the hole. Cleaning petcocks is one of the sub-operations specified in M-24.

Crankcase Front End Bolt Wrench

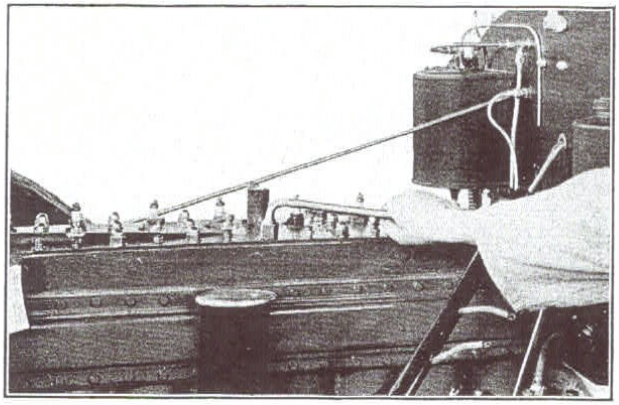
Tool No. S. T. 172



Cylinder Head Nut Wrench

Tool No. S. T. 201—116-126-226-326-426-526-136-236
Tool No. S. T. 222—336-443-626-640

This cylinder head nut wrench has sufficient leverage and is designed for the final tightening of all nuts after the job has been assembled and the motor warmed up.



Tool No. S. T. 222

This wrench designed for the cylinder head acorn nuts on the 336-443-626-640 models.

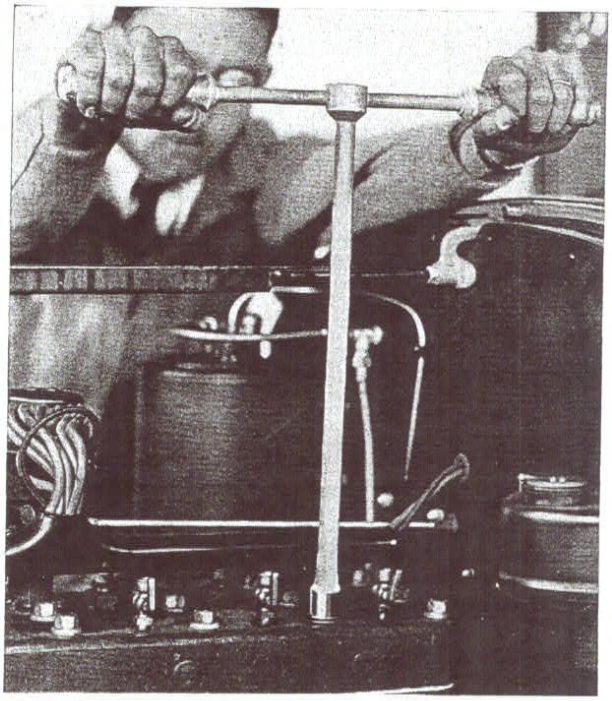
Crankcase Front End Bolt Wrench

Tool No. S. T. 172

A chrome-vanadium wrench with a special offset head and extra long handle to simplify the otherwise tedious job of holding the crankcase front end cap screws for the Eight motor.

Cylinder Head Nut Wrench T Handle

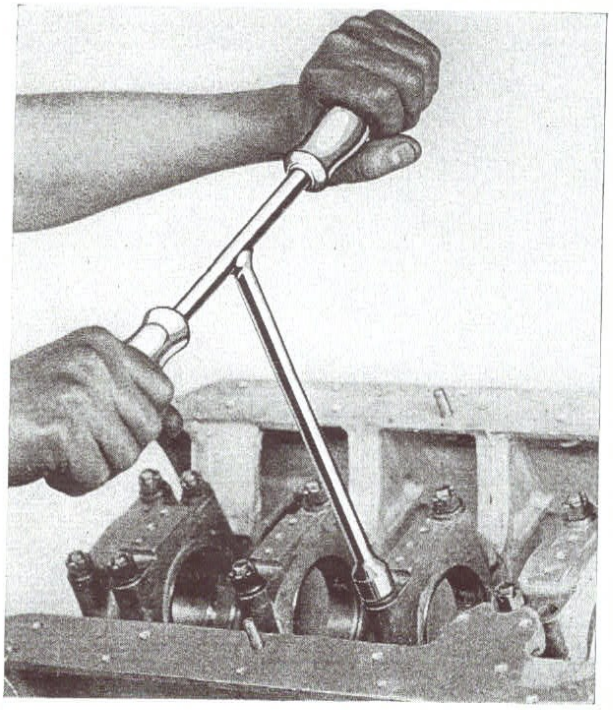
Tool No. S. T. 224—Eight
Tool No. S. T. 225—Six



A long T handle wrench long enough to supply the necessary leverage. It is a Bonney CV wrench which is a guarantee of strength. There is sufficient weight in the handles so that after the nut is loosened it may be spun off.

Crankcase Main Bearing Nut Wrench

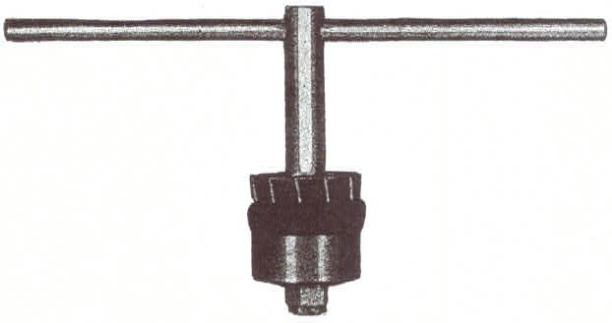
Tool No. S. T. 192—All Models (5/8") Nut
Tool No. S. T. 721—All Models (3/4") Nut



The outside of the socket is ground off to permit use on the rear main bearing cap. The handle is just the right length for working under the motor with the car jacked up on Packard motor jacks.

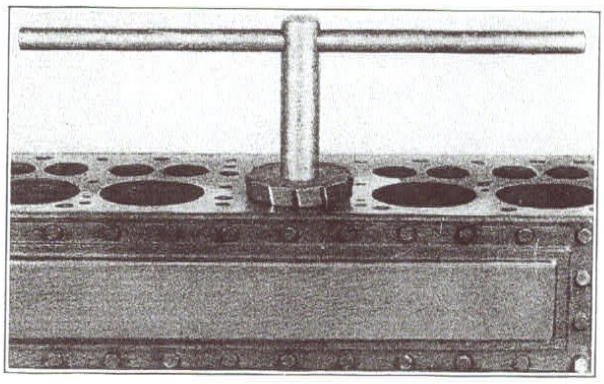
Cylinder Chamfering Tool

Tool No. S. T. 114—116-126-226-136-236—3 3/8"
Tool No. S. T. 173—326-426-526-336-443-640—3 1/2"
Tool No. S. T. 714—626—3 3/16"



Cylinder Chamfering Tool

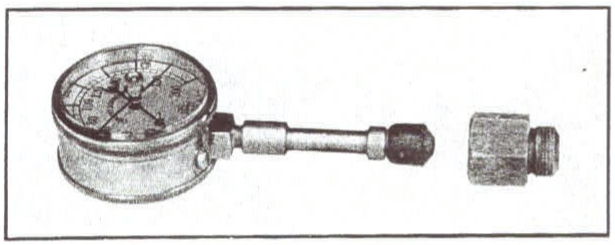
Tool No. S. T. 114—116-126-226-136-236—3 3/8"
Tool No. S. T. 173—326-426-526-443-640—3 1/2"
Tool No. S. T. 714—626—3 3/16"



When doing work with a chamfering tool, care must be exercised to chamfer only far enough to remove the shoulder if a cut is made lower than the shoulder, the top ring will pass up into the counterbore with serious results.

Cylinder Compressometer Adapter

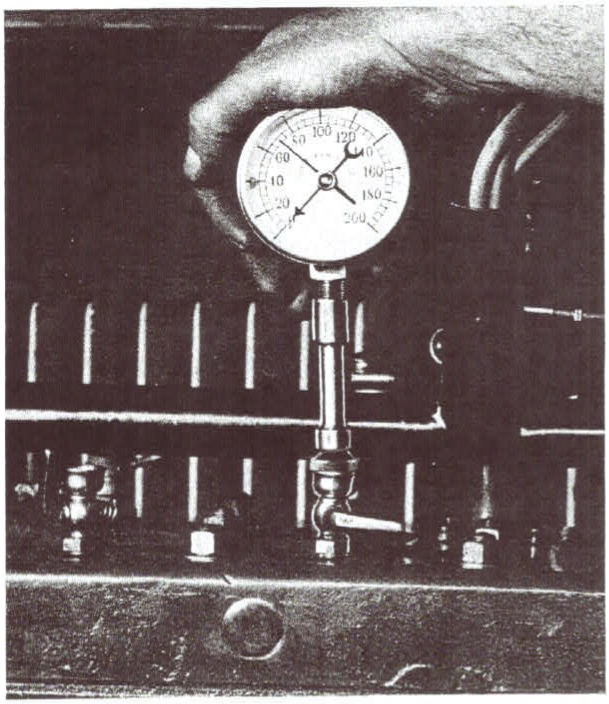
Tool No. S. T. 725—626-640 Models



With this adapter it is possible to check compression on 626-640 models where no petcocks are used, by removing spark plugs and screwing in the adapter.

Cylinder Compressometer

Tool No. S. T. 193—All Models



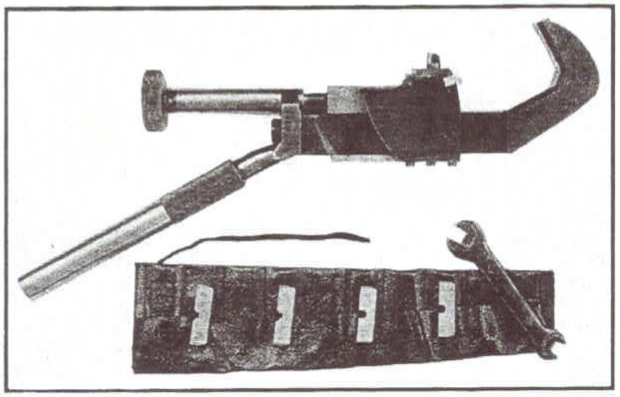
A compression gauge complete with connection and rubber tip. It is necessary to use a 200-pound gauge for accuracy. If a 100-pound gauge was used the actuating spring would soon take a set because of its being continually compressed too near its maximum limit.

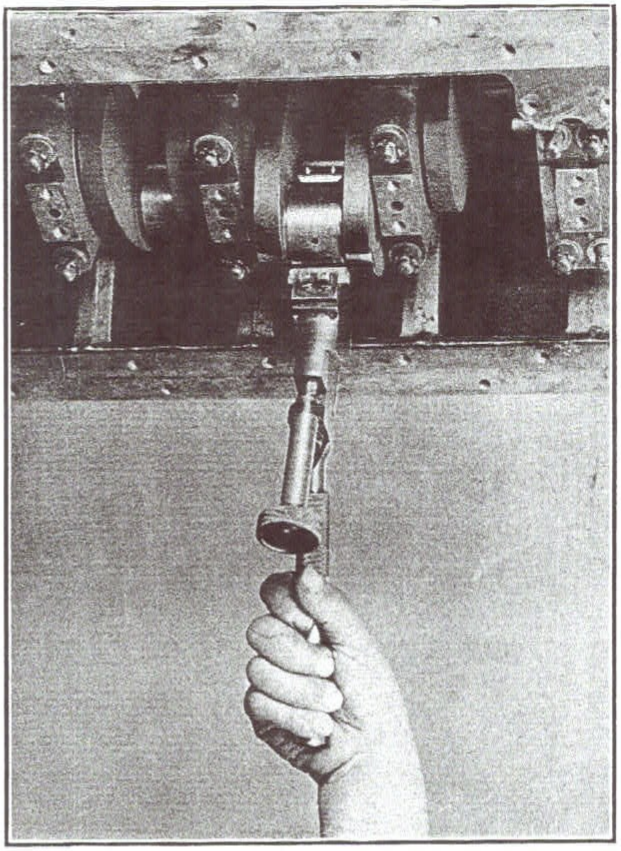
Crank Pin Returning Tool

Tool S. T. 707

Crank Pin Cutting Oil

Tool S. T. 705-706—All Models

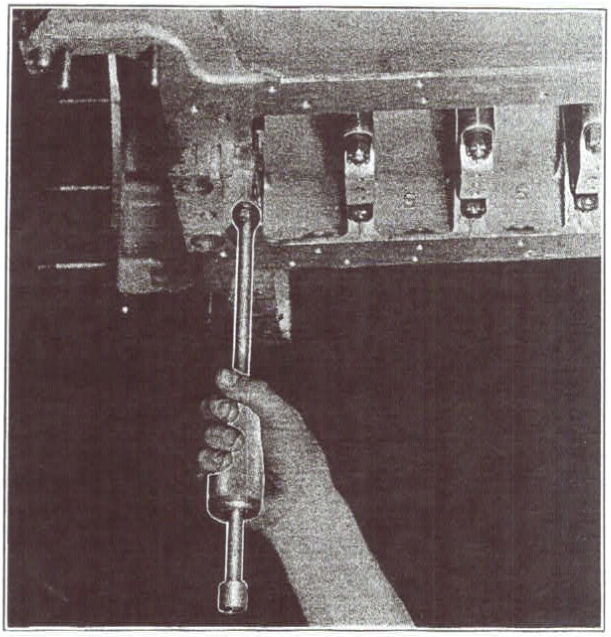




Connecting rod crank pins that are badly worn out of round or scored, can be resized without removing crankshaft from motor. When this tool is used, first apply Packard special crank pin cutting oil and place the tool on crank pin. Turn up the knurled adjusting knob until the cutting blade barely touches the crank pin and have a helper slowly turn the crankshaft with the starting crank so the operator can locate the proper position to hold the tool so that it will clear the inside of the motor.

Crankcase Rear Main Bearing Cap Puller

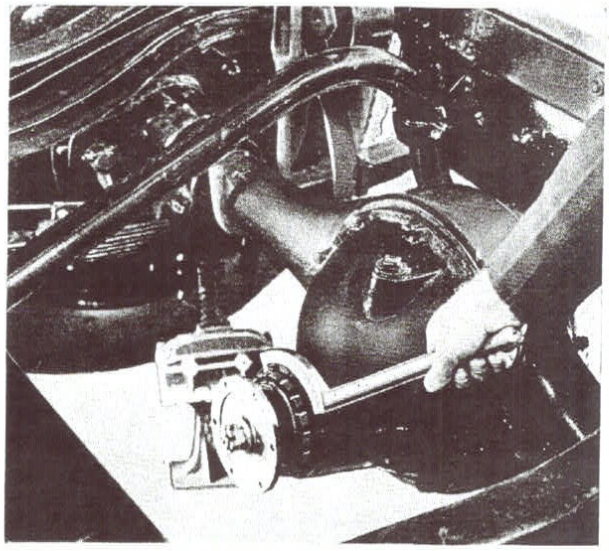
Tool No. S. T. 718—All Models



This puller is designed to remove rear bearing cap. One end is fastened to the bearing cap oil manifold screw holes, attach by means of cap screws, and the sliding handle is then lifted upward and allowed to drop down against the nut jarring the bearing loose and pulling it straight down.

Differential Pinion Spanner Wrench

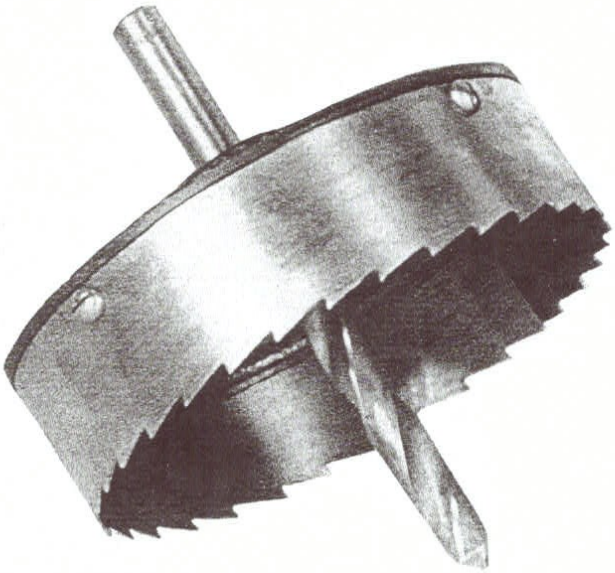
Tool No. S. T. 187—P. 6 (without torque arm)
Tool No. S. T. 188—P. 8 (without torque arm)

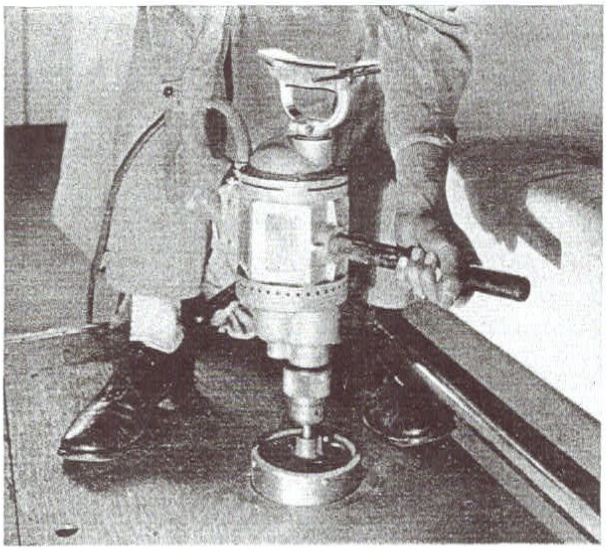


A special drop forged chrome vanadium spanner wrench. One size for the Six and one for the Eight. Both are necessary when removing the pinion bearing.

Floor Board Cutter for Kelch Heaters

Tool No. S. T. 684

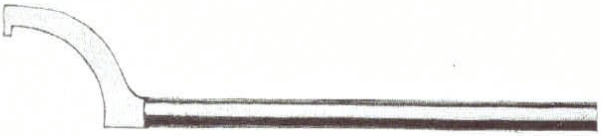




A circular saw developed especially to cut the hole in the rear seat floor board for installation of the Kelch Heater.

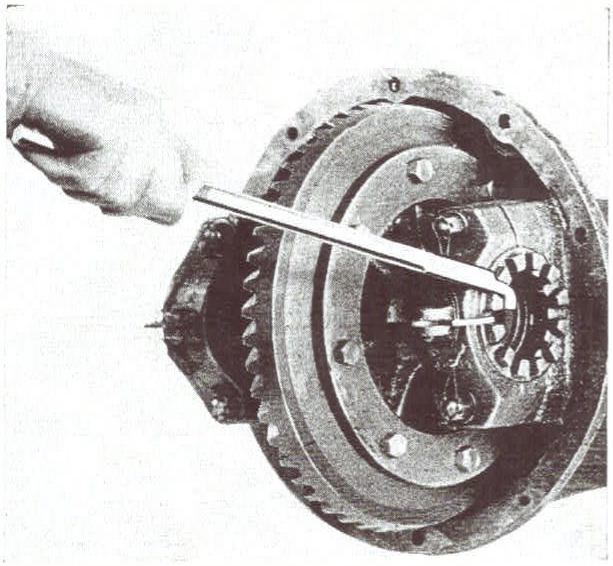
Differential Pinion Spanner Wrench

Tool No. S. T. 187—P. 6 (All axles without torque arm)
Tool No. S. T. 188—P. 8 (All axles without torque arm)



Differential Bearing Adjusting Bar

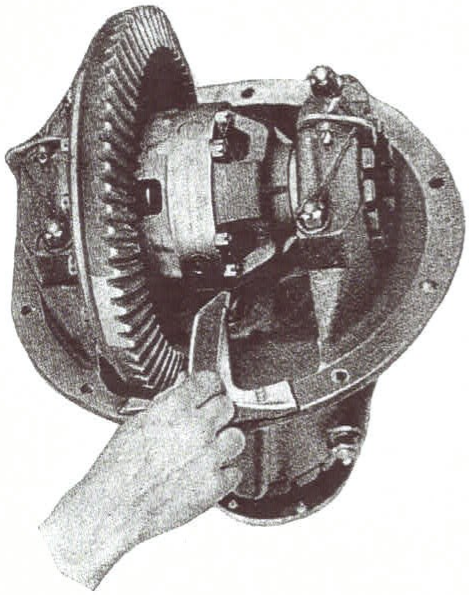
Tool No. S. T. 196—All Models



In using this wrench, be sure to mount it as shown when turning the adjusting nut clockwise. Reverse the wrench when turning the nut in the opposite direction. The hook on the end of the bar is designed to prevent it slipping out and the shoulder takes the brunt of the strain.

Differential Pinion Gauge

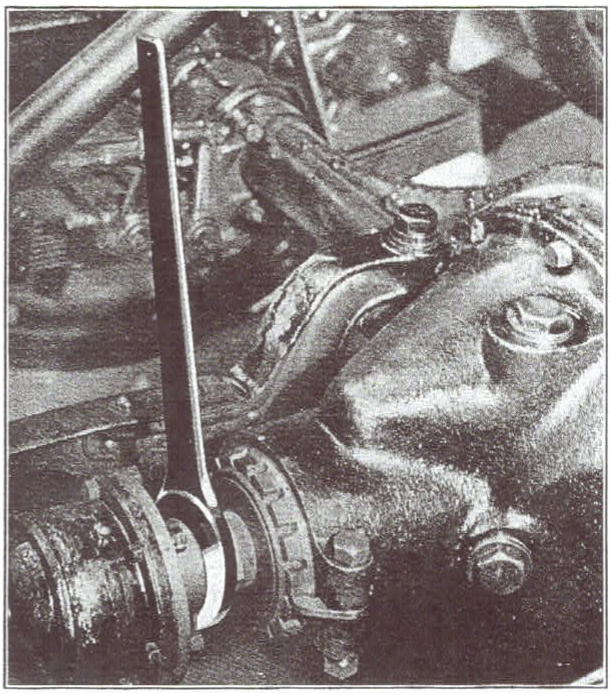
Tool No. S. T. 672—426-526-626
Tool No. S. T. 671—343-443-640



The hypoid gear tooth ends do not run flush and it is necessary to set the depth of the pinion by measurement. The gauge shown here is an accurately ground gauge for this purpose.

Differential Pinion Bearing Adjusting Nut Wrench

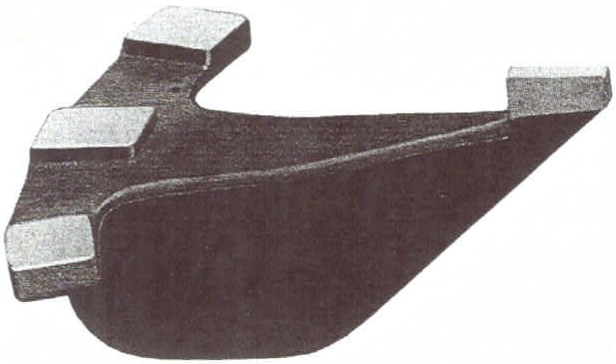
Tool No. S. T. 112—Used on all axles with torque arm



A special thin wrench for adjusting the pinion bearing. Two wrenches are required in order to make proper adjustment and lock.

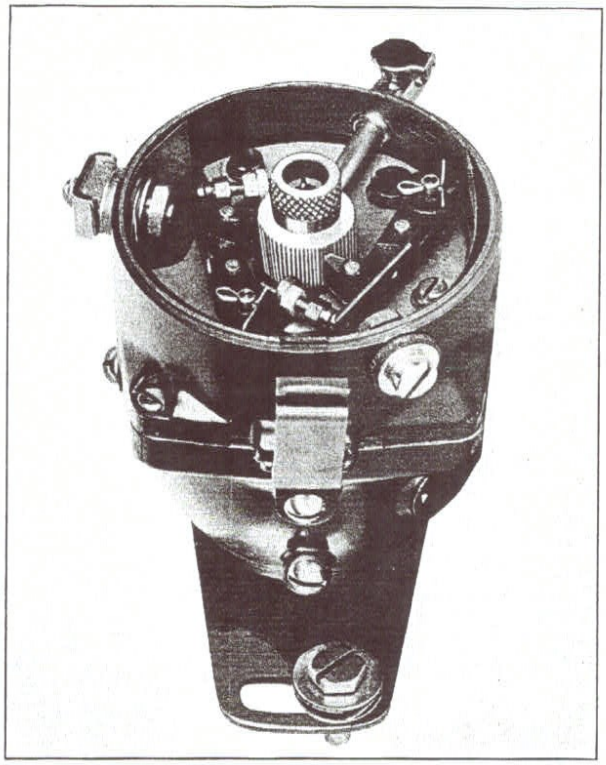
Differential Pinion Gauge

Tool No. S. T. 672—426-526-626
Tool No. S. T. 671—343-443-640



Distributor Breaker Point Rubbing Block File

Tool No. S. T. 636 (Delco Only)



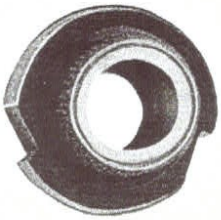
It is important that the distributor contact breaker points have the proper separation and also that this separation be the same for both sets of points. This adjustment is governed by the contact of the fibre rubbing block face on the cam. The use of this special file will insure the correct alignment when installing a new arm and will help keep the normal wear down to a minimum.

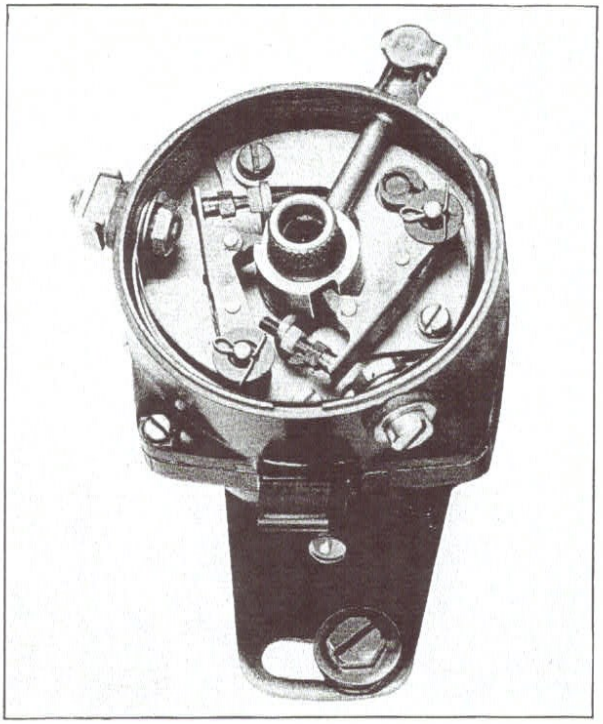
Distributor Point Dressing Stone

Tool No. S. T. 1206

Distributor Breaker Point Gauge

Tool No. S. T. 634—336 (Delco Only)

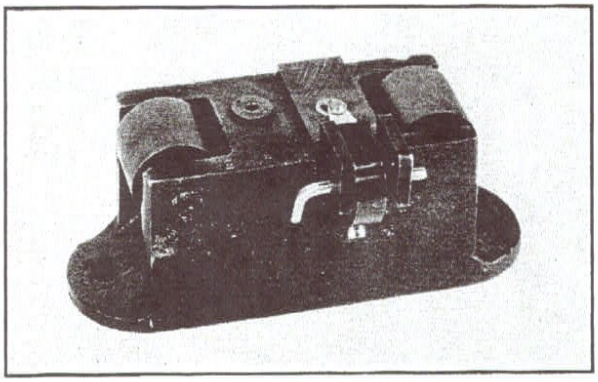




On the Eight this tool saves considerable time in synchronizing the two contact breaker points with the four lobed cam. Correct synchronization of the contact breaker points is essential to a smooth running motor.

Distributor Point Dressing Tool

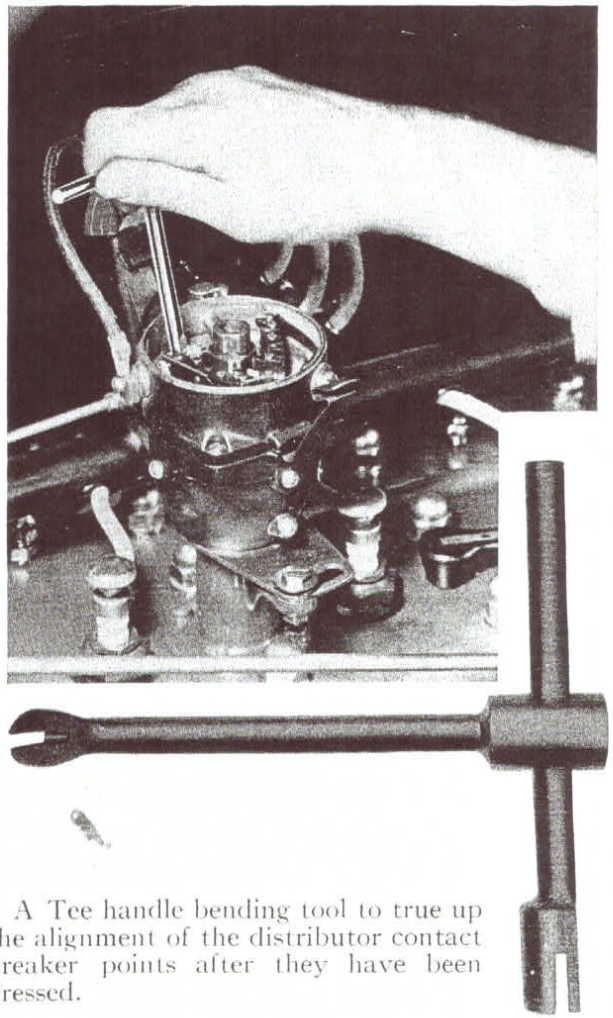
Tool No. S. T. 656—All Models



Distributor breaker points should be kept dressed flat and smooth. With the tool shown both points can be dressed at the same time, thus saving time and insuring accuracy.

Distributor Breaker Point Adjusting Tool

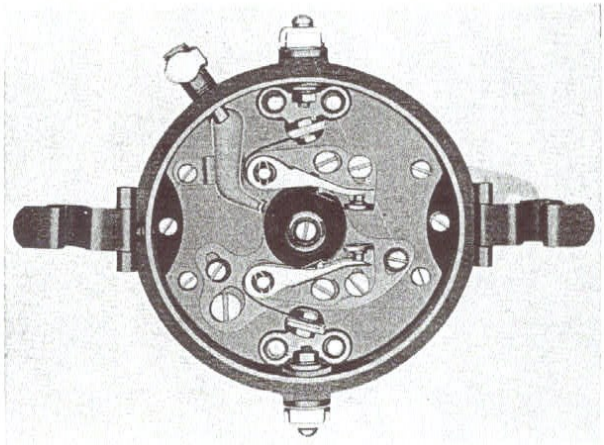
Tool No. S. T. 631—All Models (Delco Only)



A Tee handle bending tool to true up the alignment of the distributor contact breaker points after they have been dressed.

Distributor Breaker Point Gauge

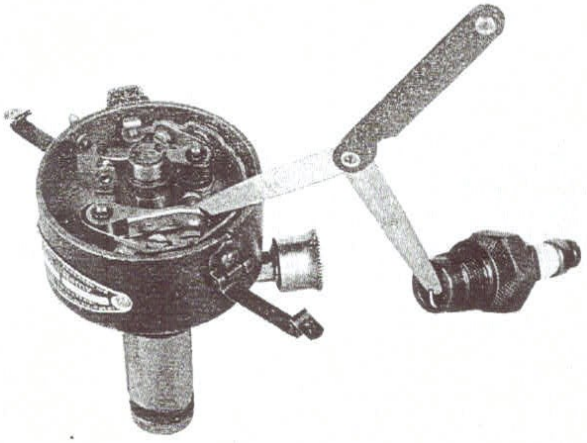
Tool No. S. T. 685—443 (Delco Only)



A gauge for setting the contact breaker point on the late Eight distributor in which each breaker arm is in a separate circuit and fires alternate cylinders. Setting the points to fire in the proper relation to each other is a difficult task which this tool makes easy.

Distributor Breaker Point Thickness Gauge

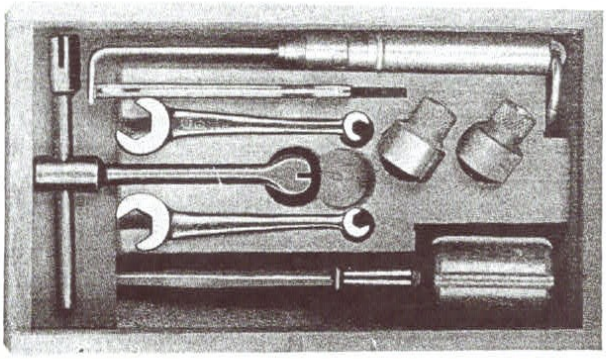
Tool No. S. T. 657—All Models



A handy distributor and spark plug thickness gauge in a heavy case. Has two leaves .020" .025"

Distributor Breaker Point Delco Kit

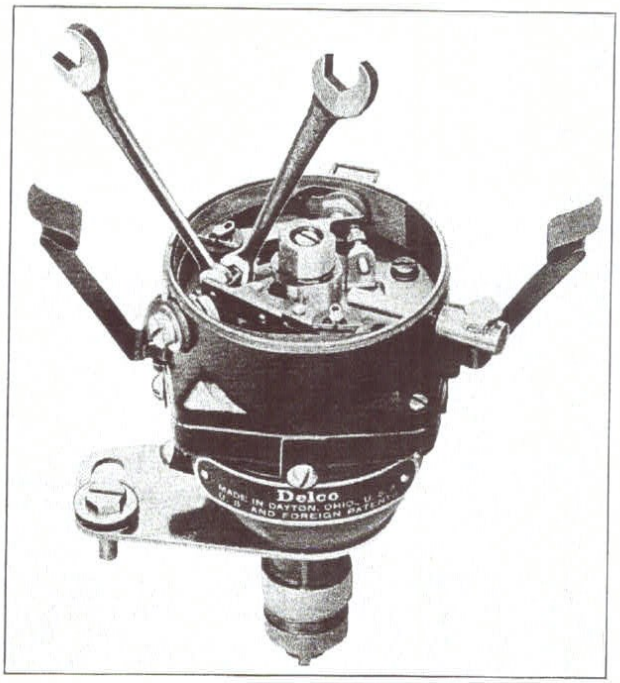
Tool No. S. T. 698—All Models Except North East



A handy kit containing the nine distributor tools illustrated on the next page. Also used for the North East distributor.

Distributor Breaker Point Wrench

Tool No. S. T. 632—All Models (Delco Only)



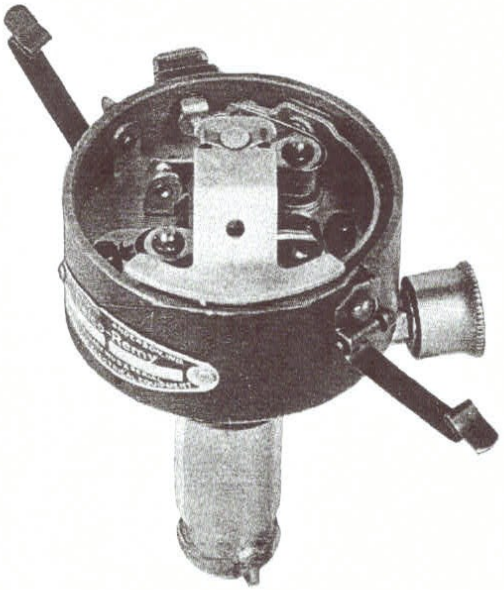
A forged steel end wrench for adjusting the distributor contact breaker points. The large end fits the nut holding the breaker point spring to the low tension terminal. Being of forged steel these wrenches stand up under the hard service required of them.

Distributor Breaker Point Spring Tension Scale

Tool No. S. T. 633 (Delco Only)

Distributor Breaker Point Synchronizing Tool

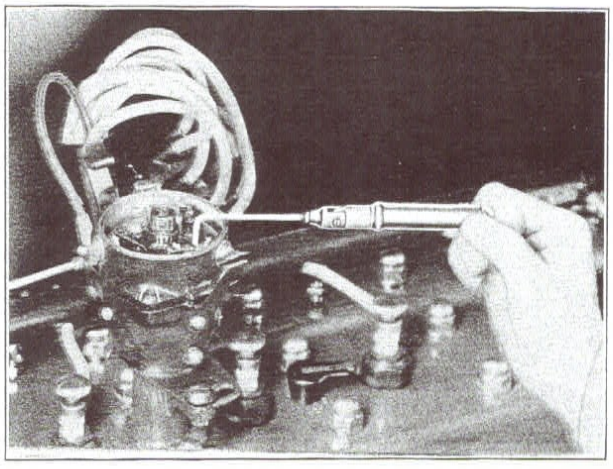
Tool No. S. T. 682—526



A tool with which the contact breaker points of the 526-533 distributors having the three lobe cam can be quickly and easily synchronized. Complete instructions are sent with every tool. See service letter No. 16, November 15, 1927 for directions.

Distributor Breaker Point Spring Tension Scale

Tool No. S. T. 633 (Delco Only)



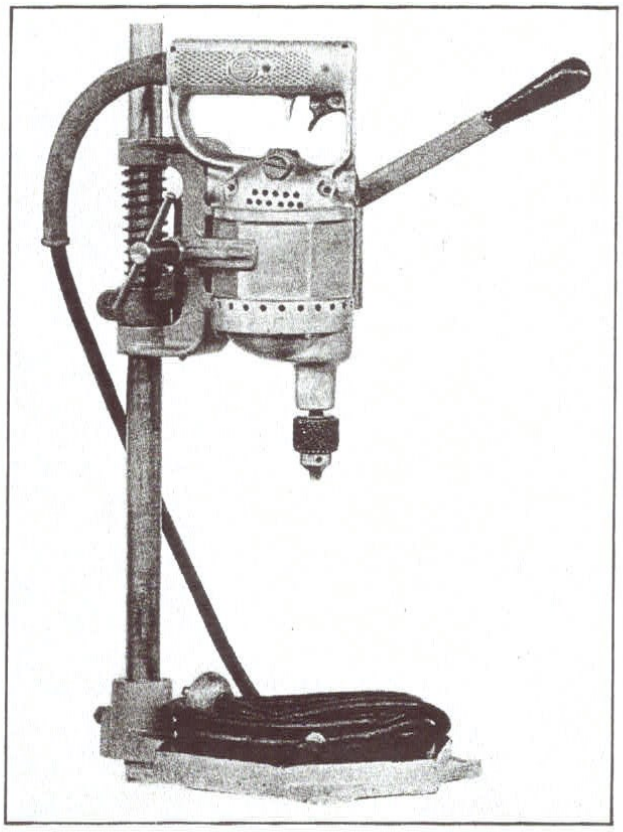
A specially designed spring tension scale for measuring the tension on the distributor contact breaker points—1½ pounds—and the weight of the automatic advance—3½ pounds. It is essential that these two points be set accurately for satisfactory high speed operation.

Drill—¼″ Electric

Tool No. S. T. 400 (Light Duty)
Tool No. S. T. 406 (Heavy Duty)

Drill Stand—¼″

Tool No. S. T. 401
Tool No. S. T. 408 (Heavy Duty)



Tool No. S. T. 400-401

The well known Black and Decker ¼″ Electric Drill is a light, accurate, sensitive drill press. The ¼″ Drill is used with eight Packard Special Tools.

Tool No. S. T. 406-408

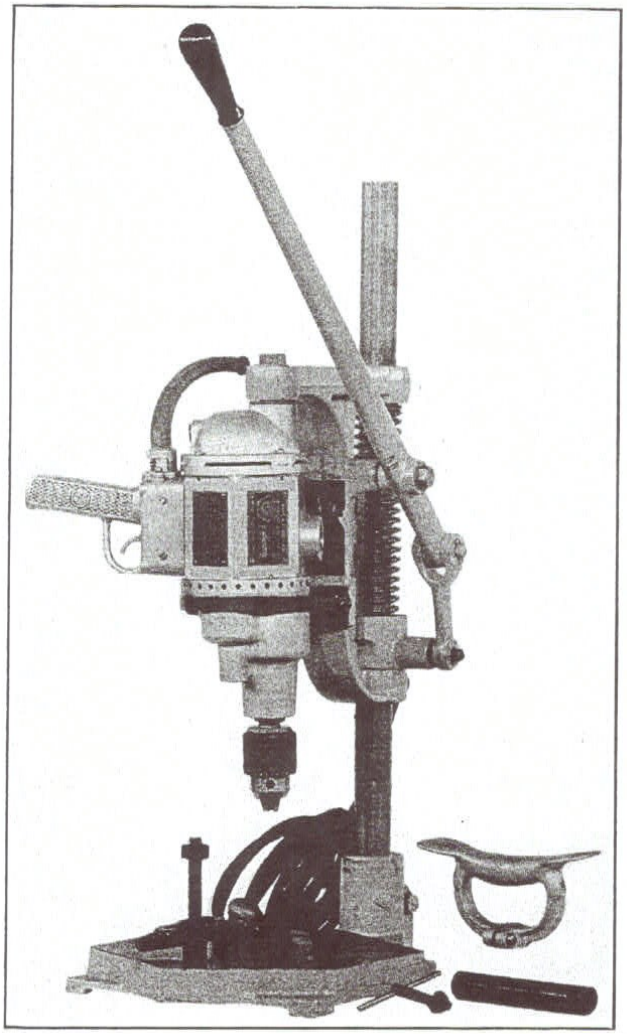
The Black & Decker electric drills are made in two sizes—Standard and Heavy Duty. This Heavy Duty Drill and Drill Stand is a husky job—ideal for general purpose work.

Drill—¾″ Electric Heavy Duty

Tool No. S. T. 410

Drill Stand—¾″ Heavy Duty

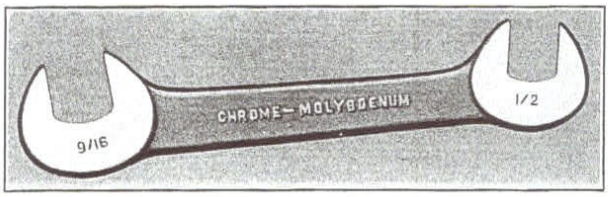
Tool No. S. T. 411

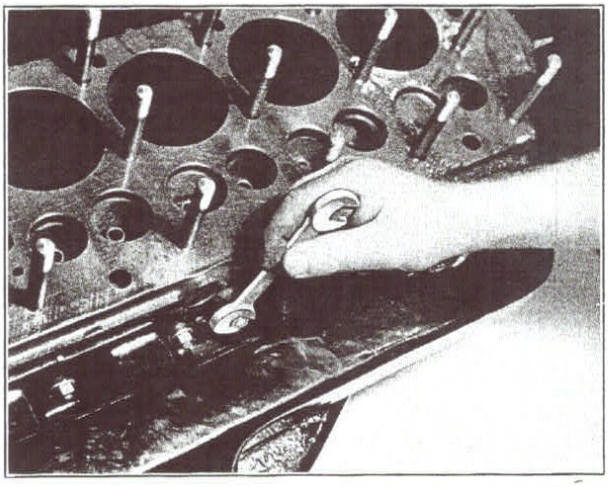


An all-around, all-purpose Black and Decker Drill. Can be easily attached to the drill stand for drill press work. The combination drill and drill stand eliminates the necessity of a large non-portable Drill Press. This is the drill used with the Hutto Cylinder Grinder.

Exhaust Manifold Nut Wrench

Tool No. S. T. 176—All Models



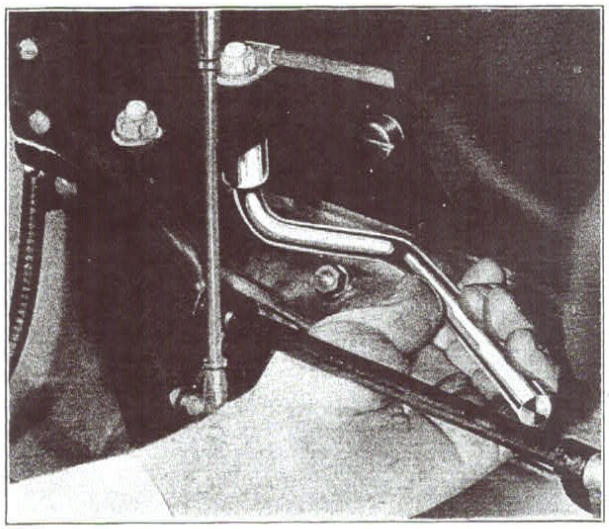


This wrench will fit the exhaust manifold nuts on the Packard Six and Eight models.

Exhaust Pipe Socket Nut Wrench

Tool No. S. T. 735—All Models

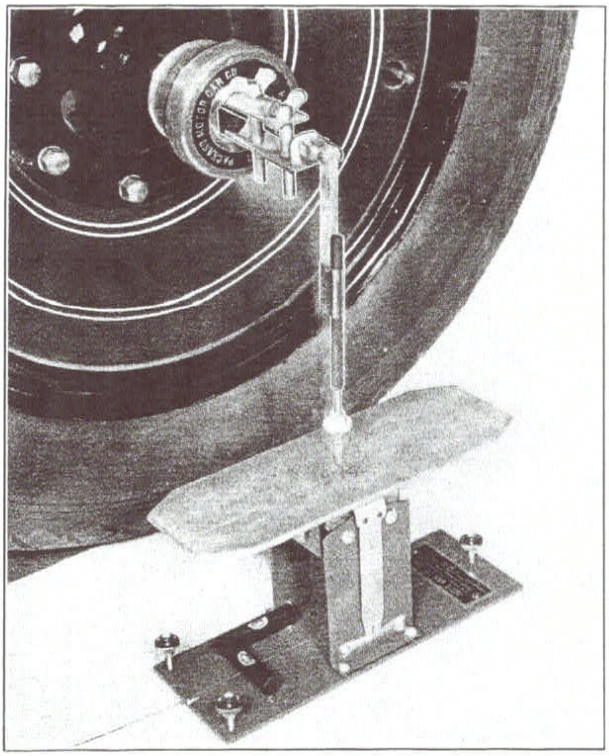
Tool No. 176 (Short) Wrench



The two rear exhaust pipe to exhaust manifold bolts and nuts are usually hard to remove with ordinary standard wrenches. With this special wrench and off-set handle it reaches all the nuts and removes them easily and quickly.

Front Axle Tilt Gauge

Tool No. S. T. 696

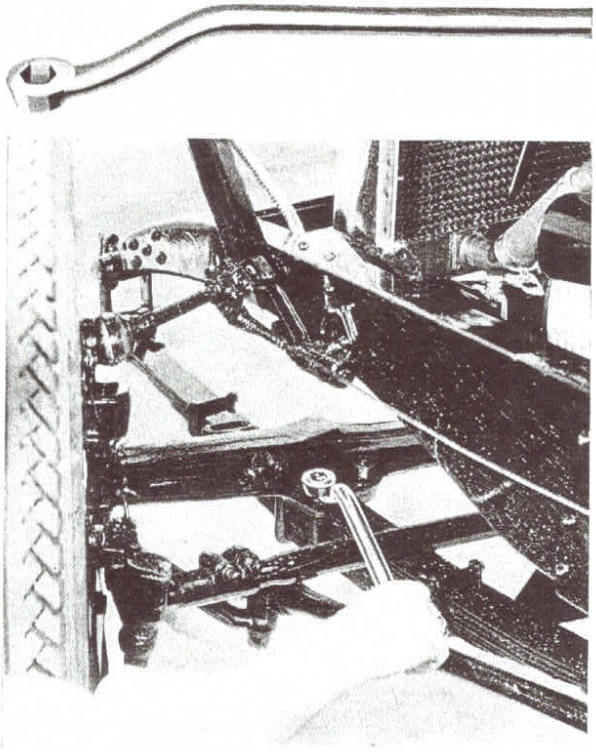


The tilt gauge shows the working principle of the axle and pin tilt or castor effect.

It has a level base with three adjusting screws and table provided with pointers to show in degrees the amount of tilt. See Service Letter Vol. 2 No. 10.

Front Axle Spring Clip Nut Wrench

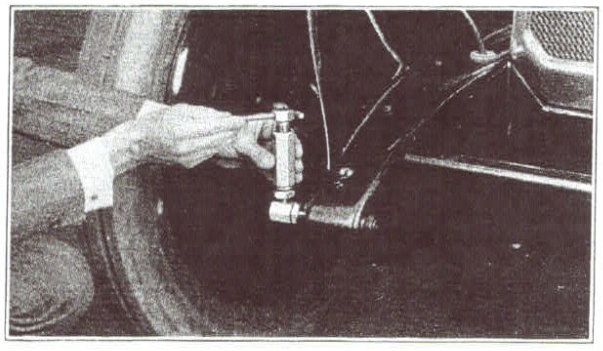
Tool No. S. T. 608—All Models



A special hand forged wrench with an offset handle so as to clear the tie rod. The opening in the wrench is broached 15° off center so that when you find it impossible to take a new hold in the standard position, the wrench should be turned over.

High Pressure Grease Gun

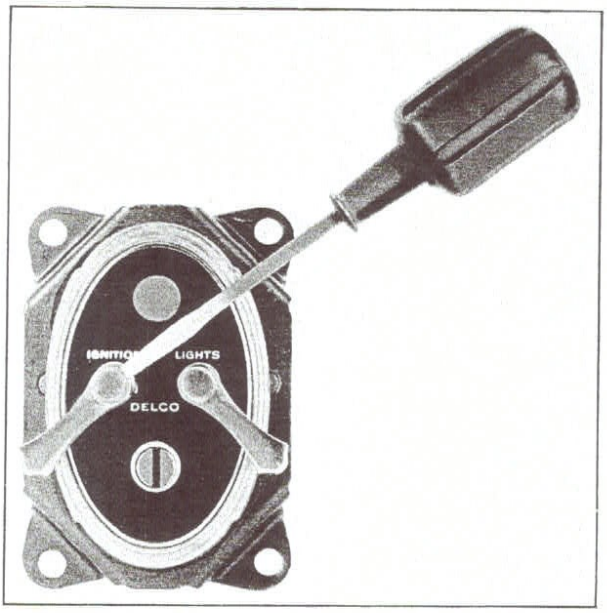
Tool No. S. T. 110—Twin Six—Trucks—116-126-226-136



This gun is capable of exerting 15,000 to 18,000 pounds of pressure and will clear oil passages in spring bolts that would otherwise require complete removal and drilling.

Ignition Switch Lever Screw Driver

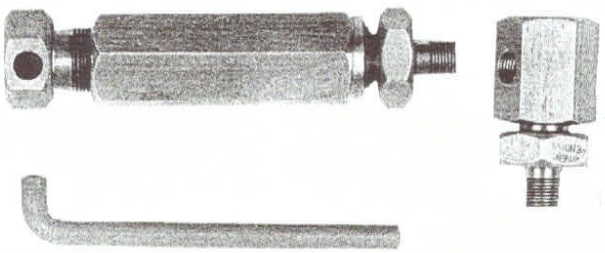
Tool No. S. T. 635—116-126-226-326-136-236
Delco Only



On the older model switches, the screws that hold the lever handle are so tight that it requires a special screw driver shown here to loosen them. This screw driver has an extra large handle and a heat treated blade that will stand up.

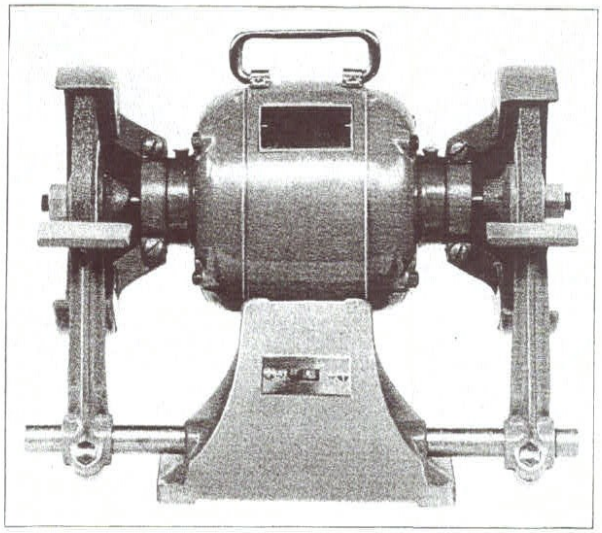
High Pressure Grease Gun

Tool No. S. T. 110—Twin Six—Trucks—116-126-226-136



Grinder 6″ Electric Bench

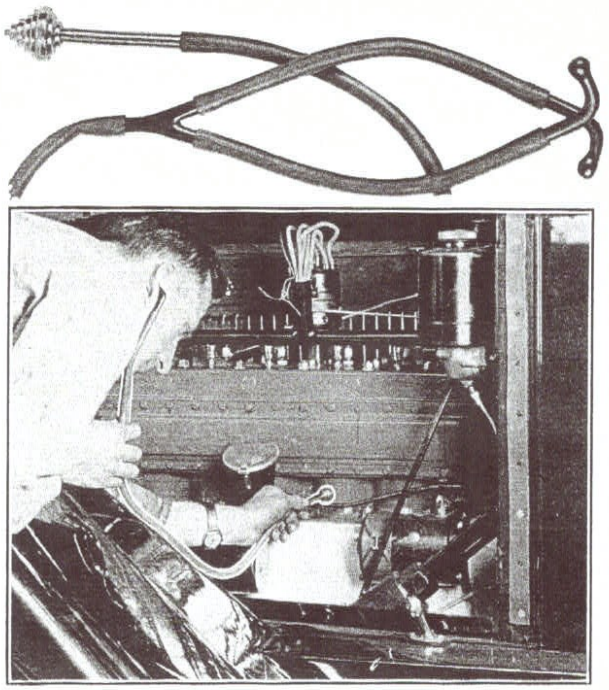
Tool No. S. T. 404



A portable bench grinder equipped with a fine and coarse stone. Did you ever consider the cost of sharpening a drill when you start up a two, three or more horsepower motor and a hundred feet of belting, shafting, etc., to run a small emery wheel?

Locophone

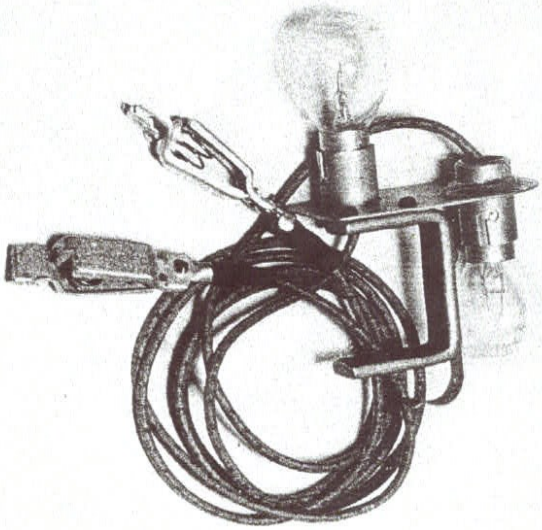
Tool No. S. T. 165



A practical instrument to assist you in locating and diagnosing unusual motor noises.

Ignition Timing Light

Tool No. S. T. 724—All Models

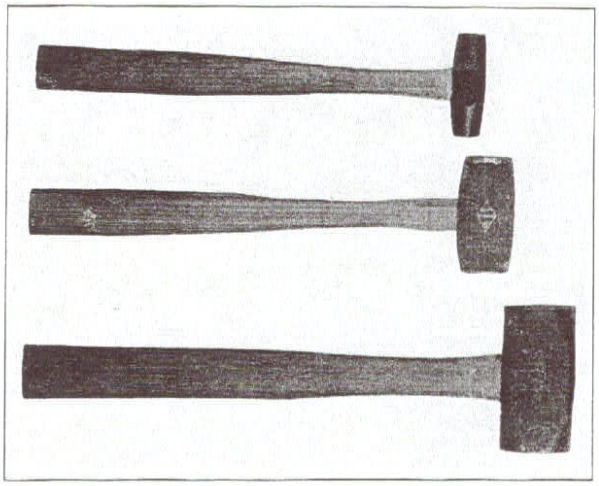


It is important to time ignition accurately. S.T. 724 consists of two wires, one to be connected to the live terminal on the horn and the other to the primary lead on the distributor.

Clip timing device to crankcase at the edge of the starter hole and with spark advanced, turn motor by hand until flywheel mark (Spark No. 1) is directly in line with the pointer. The bulb connected with the terminal on the distributor should light indicating that the points have broken.

Copper Hammers

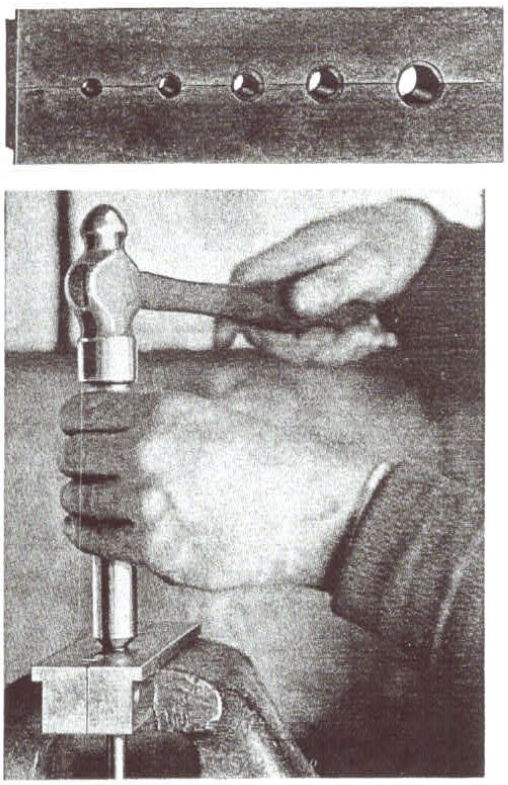
Tool No. S. T. 692—$\frac{1}{2}$ lb.
Tool No. S. T. 693—1$\frac{1}{2}$ lb.
Tool No. S. T. 694—3 lb.



These copper or soft hammers are furnished in the above sizes and can be used in most cases where it is necessary to use a hammer on finished surfaces.

Copper Tube Flaring Tool

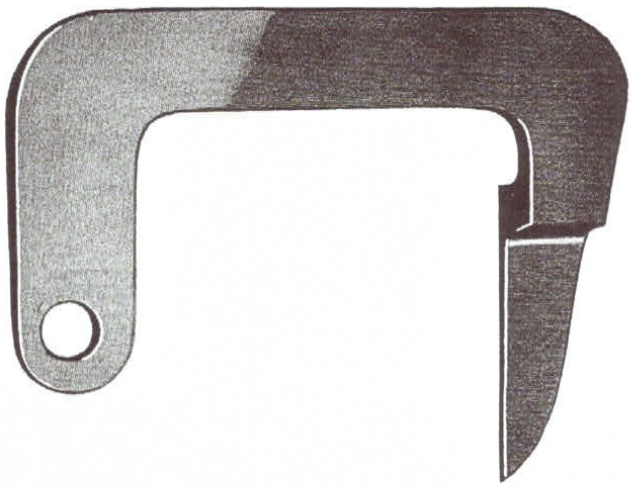
Tool No. S. T. 174



A copper tube flaring tool that will accommodate all sizes of copper tubing used on Packard cars. The outstanding features are the short punch designed with a stop to prevent excessive flaring of small tubing also ledges on the sides prevent slipping when used in a vise. Holes are provided for bolts when used on a car.

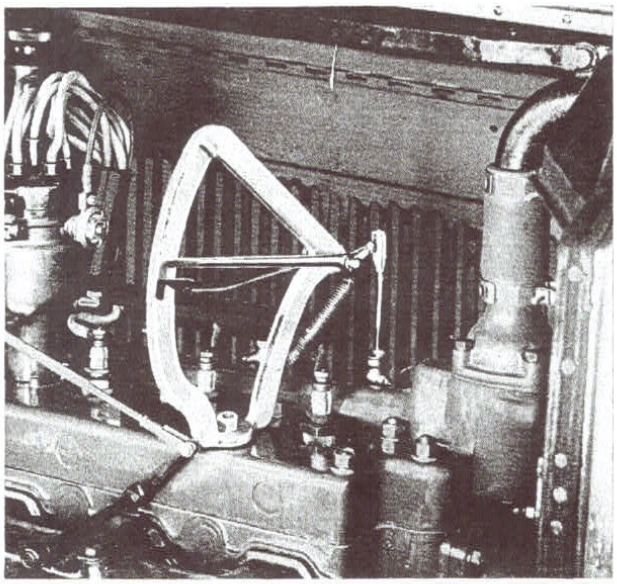
Ignition Timing Flywheel Mark Indicator

Tool No. S. T. 168—126-226
Tool No. S. T. 169—136-236-326



Ignition Timing Indicator

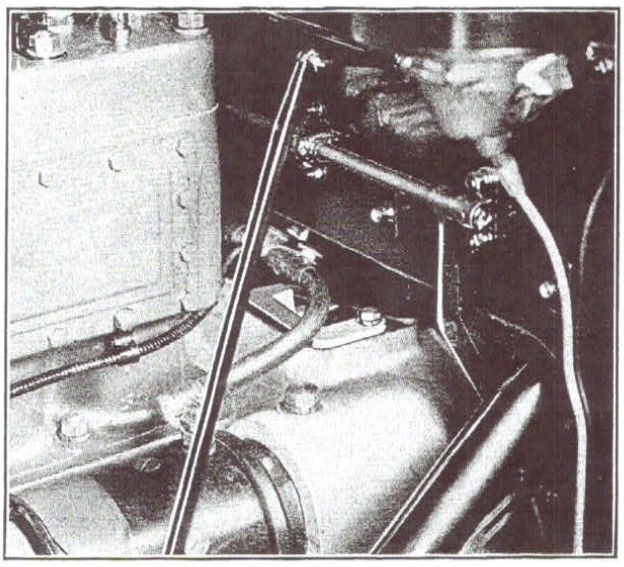
Tool No.S. T. 609—All Models Except 626-640



Mount the indicator as shown. Be sure that the push rod works free in the petcock. Remove the distributor cap. Crank the motor over by hand until the distributor brush arm is at No. 1 firing position. Crank motor ½ turn and pull indicator arm up against operating arm. Crank motor one complete revolution—this locates indicator at top dead center. Crank motor slowly until mark on arm is in line with indicator arm as illustrated. Set breaker points in this position.

Ignition Timing Flywheel Mark Indicator

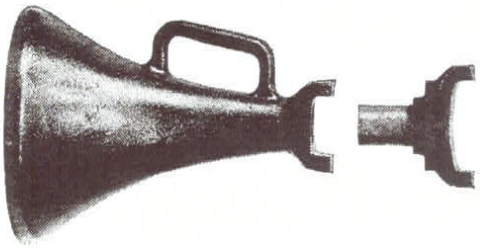
Tool No. S. T. 168—126-226
Tool No. S. T. 169—136-236-326

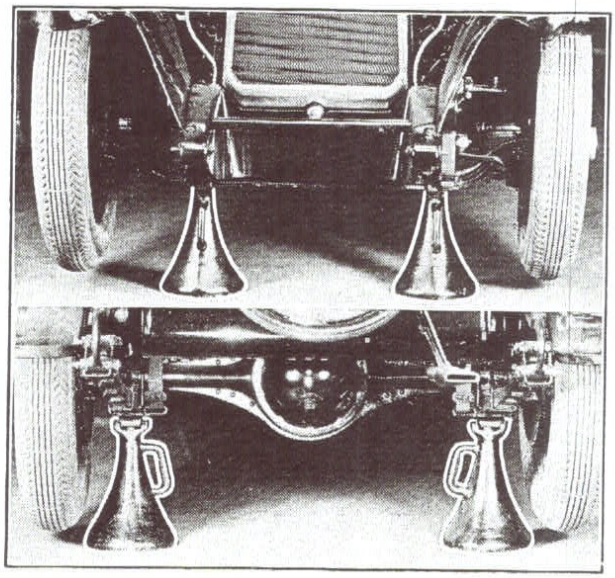


Everyone appreciates the necessity of accurate timing. To use this indicator—remove the cap screw on the left hand side of the flywheel cover. Slide the cover back against the toe board, insert the indicator in the opening and clamp it tightly, using the cap screw just removed.

Jack—Combination

Tool No. S. T. 154—All Models

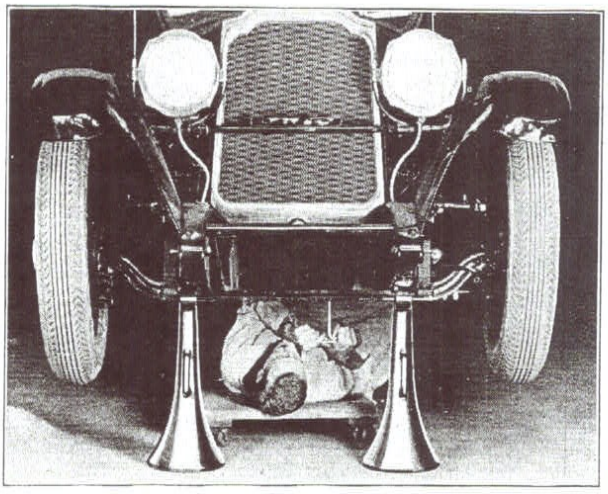




A combination front and rear axle jack. When in place gives two inches clearance at either front or rear. Ideal for your paint shop, new car delivery department, for changing wheels and tires, for your shop when doing brake work, rear axle work, etc.

Jack for Motor Work

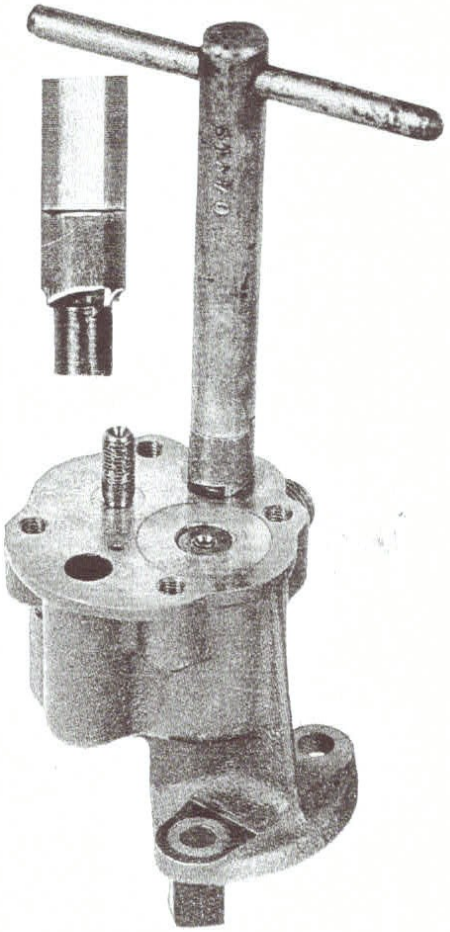
Tool No. S. T. 155—All Models



When in place this jack holds the front wheels ten inches from the floor. It is safe and out of the way, gives the mechanic sufficient working space and convenient for sliding in and out on creeper.

Oil Pump Relief Valve Reseater

Tool No. S. T. 670 All Models



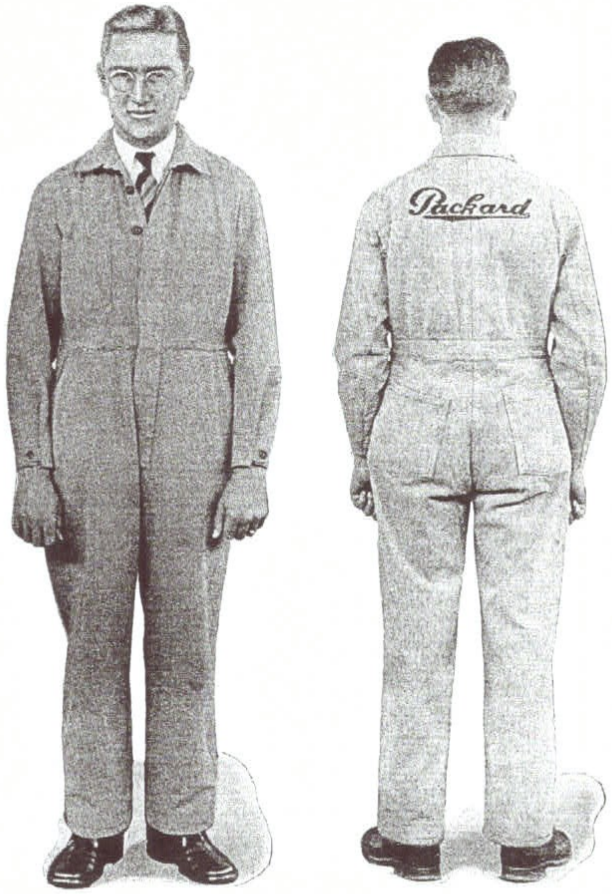
Noise in the oil pump is usually caused by a pounded out relief valve seat. The seats may be reconditioned with this tool and put into service again.

Jack for Motor Work

Tool No. S. T. 155—All Models

Overalls—Mechanic's

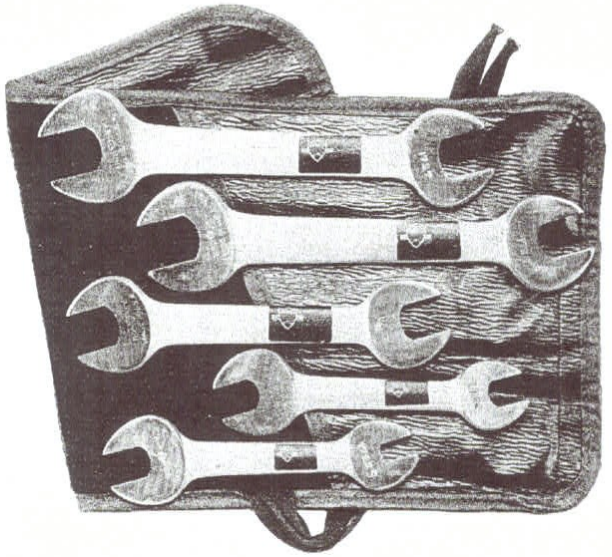
Tool No. S. T. 660 (Size 36)
Tool No. S. T. 661 (Size 38)
Tool No. S. T. 662 (Size 40)
Tool No. S. T. 663 (Size 42)
Tool No. S. T. 664 (Size 44)
Tool No. S. T. 665 (Size 46)
Tool No. S. T. 666 (Size 48)



These garments are made of pre-shrunk cotton covert. They are full cut and neatly tailored so that they fit neatly without binding. Order to size as the garments are cut oversize from pre-shrunk material and will not shrink appreciably when washed. With each garment a postcard is furnished which when properly filled out and sent in will entitle the owner to a panel with his initials embroidered on it. This may be sewed on the garment and serves not only as an identification, but adds an individual touch to the garment.

Mechanic's Tool Roll

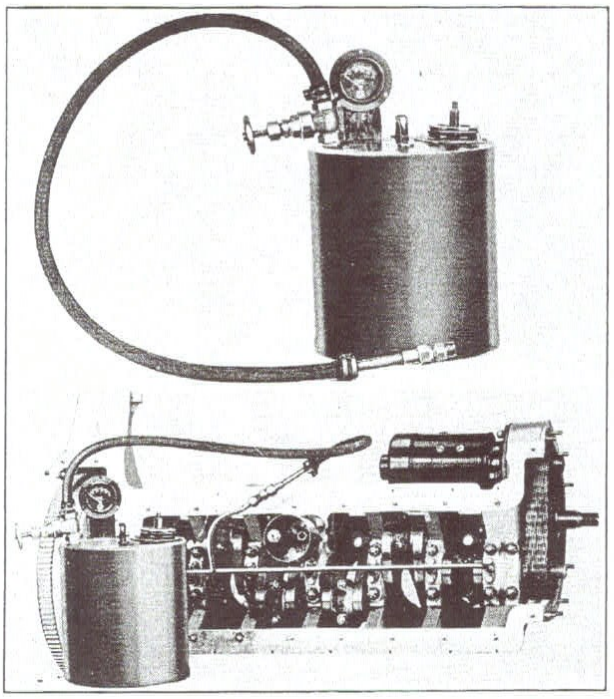
Tool No. S. T. 612—All Models



A set of five chrome-vanadium wrenches which will fit over 90% of all the nuts and bolts on a Packard car not already covered by some other special tool. The end openings are especially milled to give the greatest possible range of application without duplication. They come packed in the leatherette kit as shown.

Lubricating System—Test Tank

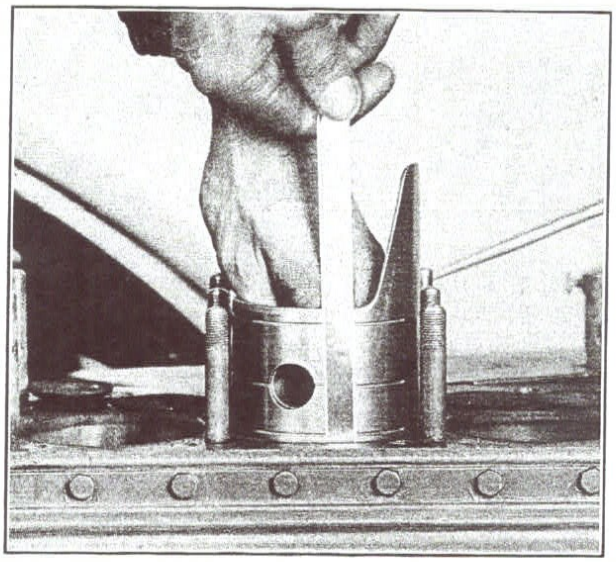
Tool No. S. T. 109—All Models



Every Packard Service Station should have this equipment to do motor bearing work correctly. Complete information on the use of this equipment is carried in a Technical Letter No. 1746.

Piston Feeler Strip

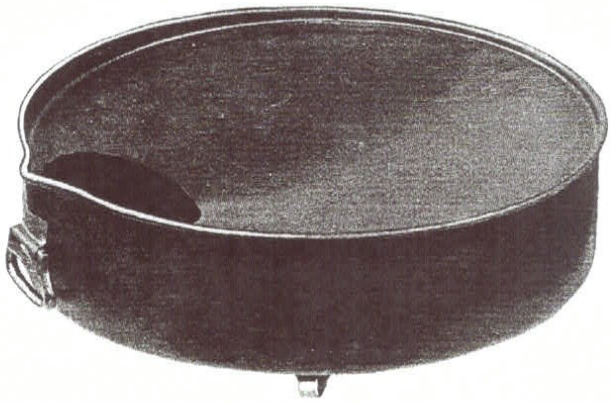
Tool No. S. T. 646 (.0015)
Tool No. S. T. 647 (.002)
Tool No. S. T. 166 (.003)
Tool No. S. T. 167 (.004)
Tool No. S. T. 648 (.005)
Tool No. S. T. 697 (.006)



We are furnishing feeler strip by the running foot, as that is the most economical way that it can be supplied. You can then cut it to any desired length.

Oil Drain Pan

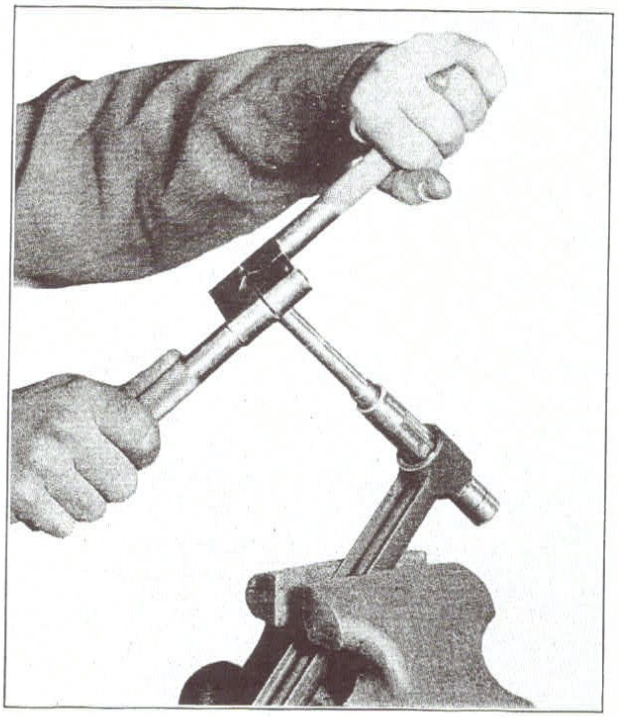
Tool No. S. T. 667—All Models



A sturdy pan mounted on three castors so that it can be rolled underneath a car easily. The top is concave and drains to the opening so that it need not be located accurately. The pan is of strong welded construction and may be driven over without material damage. A handle mounted on either side makes it convenient to carry and empty.

Piston Pin Bushing Reamer

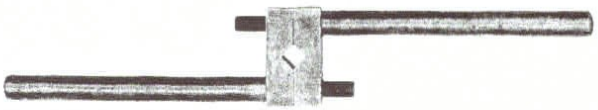
Tool No. S. T. 614—116-126-126 ($^{3}/_{4}$")
Tool No. S. T. 616—All Models ($^{7}/_{8}$")



An expansion reamer for wrist pin bushings. An extremely accurate reamer having a micrometer adjustment and parallel expanding blades. The reamer is designed especially for use for bronze and should never be used in piston pin holes. A leather boot is furnished with each reamer.

Piston Pin Bushing Reamer Wrench

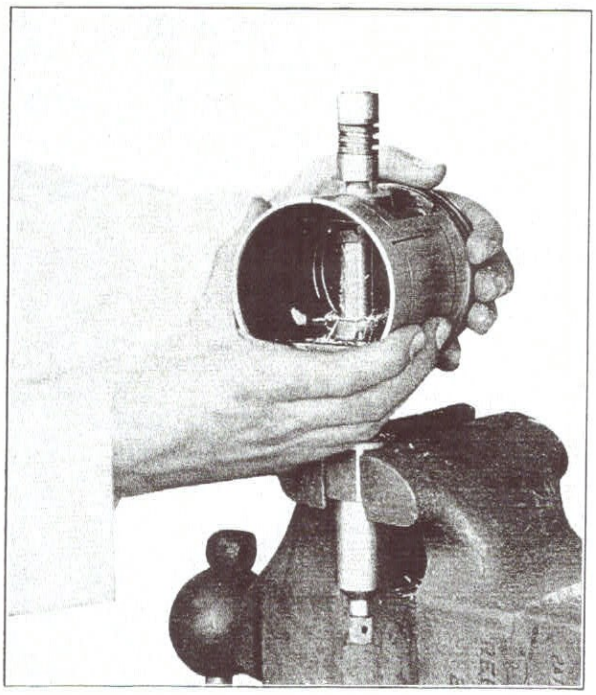
Tool No. S. T. 716



The combination reamer wrench has a left and right hand thread also gripping effect on any reamer, thereby, preventing the wrench from slipping off.

Piston Reamer

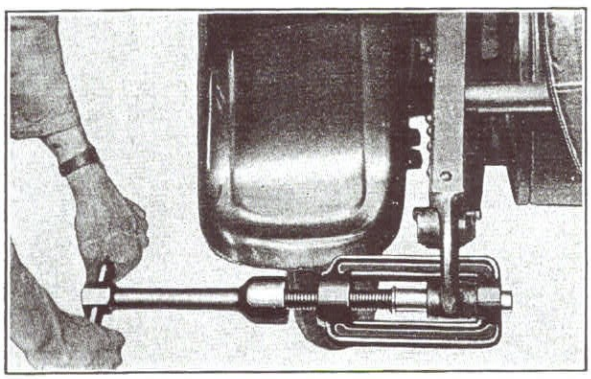
Tool No. S. T. 615—116-26-226 ($^{3}/_{4}$″) Cast Iron
Tool No. S. T. 617—All Models ($^{7}/_{8}$″) Cast Iron
Tool No. S. T. 715-116-126-226—($^{3}/_{4}$″) Alloy
Tool No. S. T. 717—All Models ($^{7}/_{8}$″) Alloy



An expansion reamer for the wrist pin holes in both the aluminum and cast iron pistons. A line reamer with micrometer adjustment and parallel expanding blades. The reamer is designed especially for use in aluminum and cast iron and should never be used in the bronze rod bushings. A leather boot is furnished with each reamer.

Spring Bushing Replacer

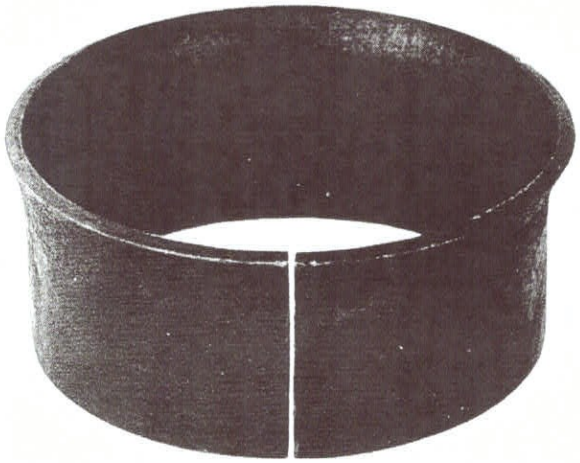
Tool No. S. T. 161

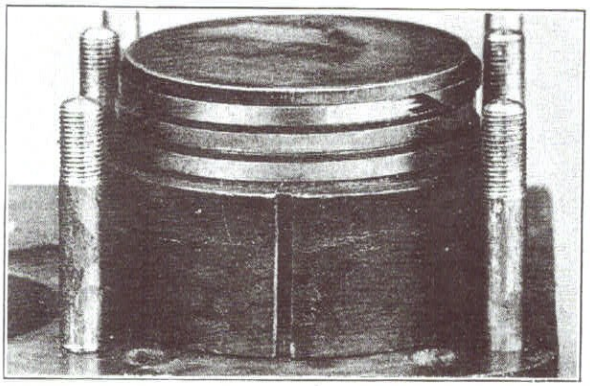


A spring bushing replacer that removes the old bushing and installs the new bushing in the same operation. The Tee handle wrench shown in the illustration is part of the Pulley and Sprocket Puller equipment S. T. 113.

Piston Ring Compressing Sleeve

Tool No. S. T. 106—116-126-226-136-236 ($3^{3}/_{8}$)″
Tool No. S. T. 171—326-425-526-336-443-640 ($3^{1}/_{2}$″)
Tool No. S. T. 733—626 ($3^{3}/_{16}$″)

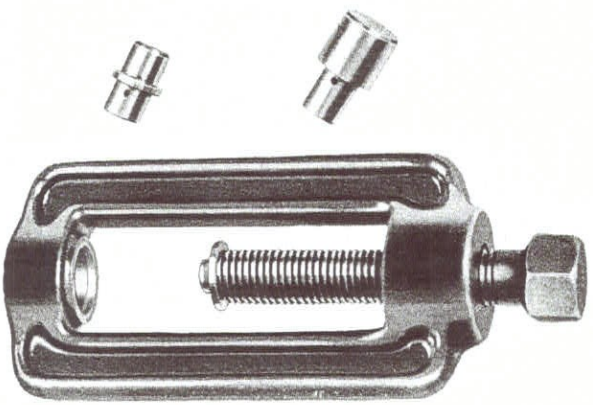




The compressing sleeve is split, thereby making it possible to use with standard .015, .030 and .045 oversize pistons.

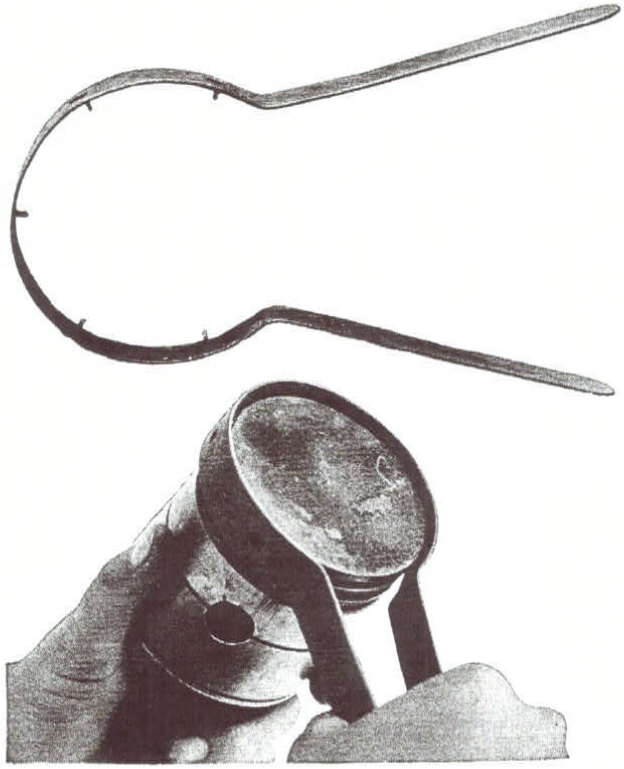
Spring Bushing Replacer

Tool No. S. T. 161



Piston Ring Groove Carbon Cutter

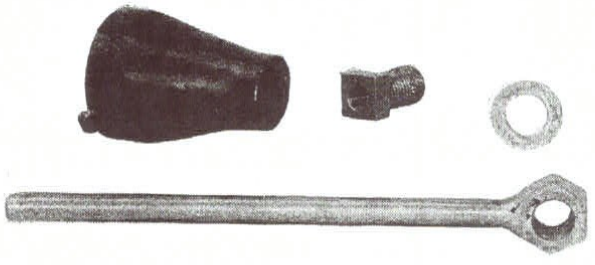
Tool No. S. T. 116—⅛" Ring Groove—All Models

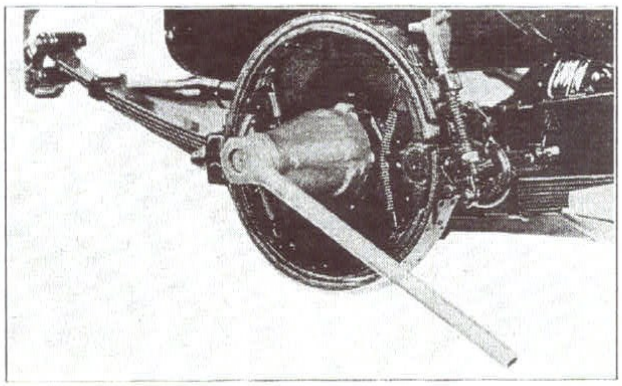


When necessary to clean carbon in the piston ring grooves it will be found that this tool will pay for itself on the first few jobs.

Rear Axle Shaft Puller

Tool No. S. T. 120—All axles with torque arm

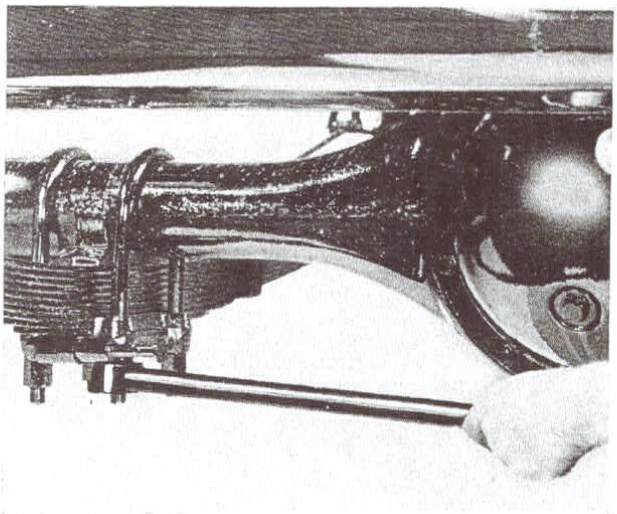




A puller equipment which will remove the axle shaft and bearing assembly quicker than the operation can be described.

Rear Axle Spring Clip Nut Wrench

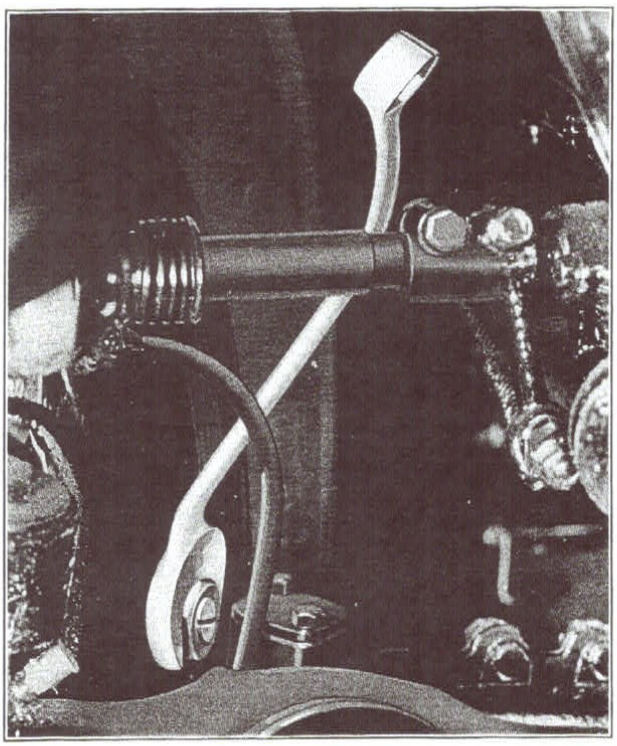
Tool No. S. T. 607—All Models



A box head type of wrench with a handle long enough to easily tighten rusty spring clip nuts. The long handle also makes it possible to do the job without getting under the car.

Combination Spark Plug, Anchor Bolt, and Thermometer Nut Wrench

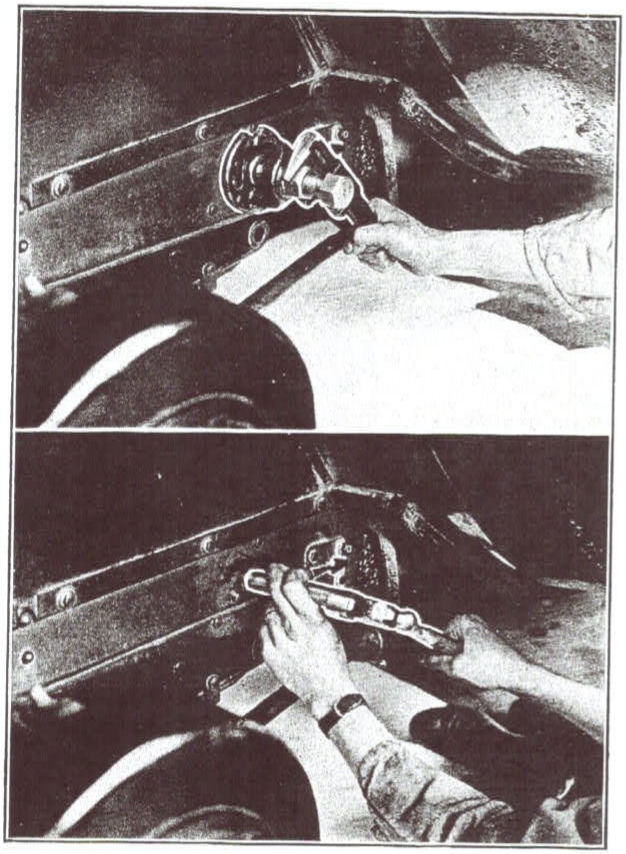
Tool No. S. T. 734—All Models



Chrome-Vanadium end wrench; the large end can be used when removing brake front support plate anchor nut which is difficult to remove on account of steering cross tube ball socket casing being very close to the brake support plate.

Shackle Bracket Bushing Puller

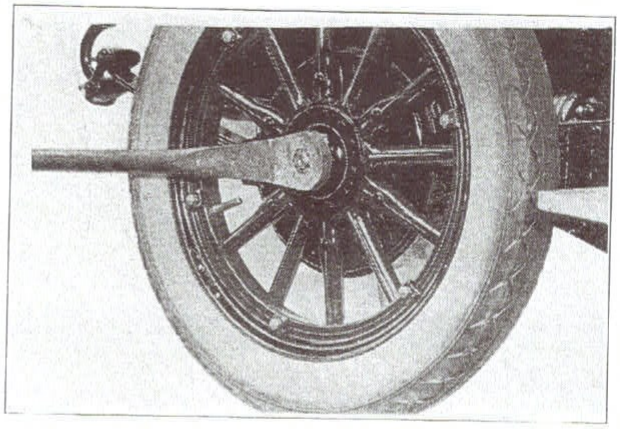
Tool No. S. T. 162



The blind bushing at the front spring rear hanger bracket is easily removed with this puller, as the end of the puller screw acts as a course tap that cuts threads in the old bushing. The other half bushing is quickly removed by use of the special punch included with the puller.

Rear Axle Shaft Nut Wrench

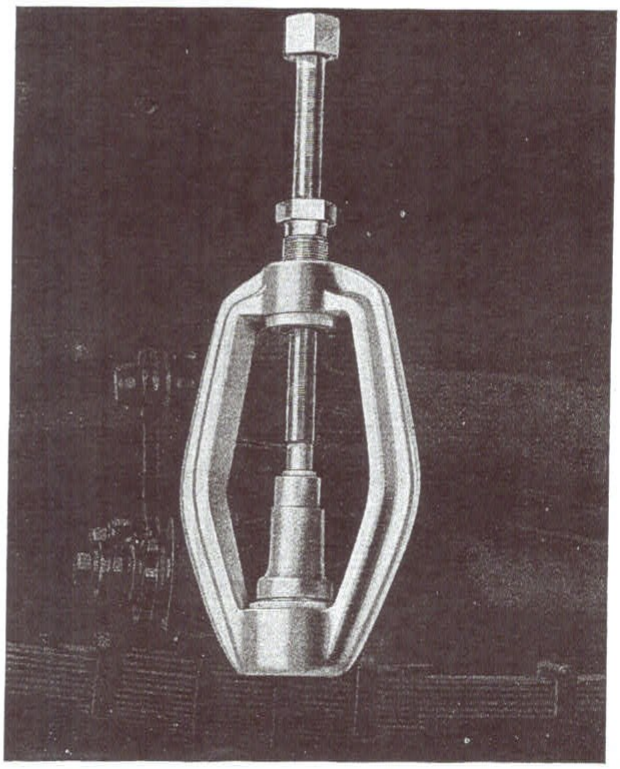
Tool No. S. T. 132—116-126-226
Tool No. S. T. 133—All Models



Designed with sufficient leverage so that wheels can be locked on the axle shaft.

Steering Knuckle Pin Puller

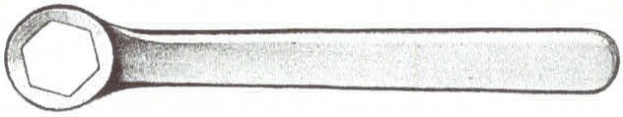
Tool No. S. T. 704—All Models
(Four-Wheel Brakes)

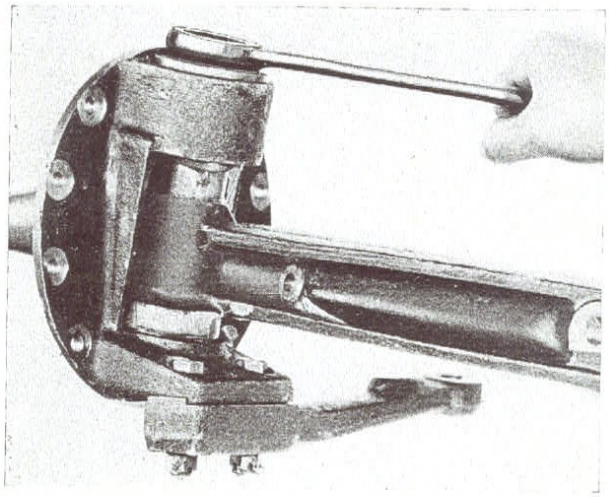


This tool has sufficient leverage to push out the old pin and pushes in a new one without removing the axle.

Steering Knuckle Plug Wrench

Tool No. S. T. 195



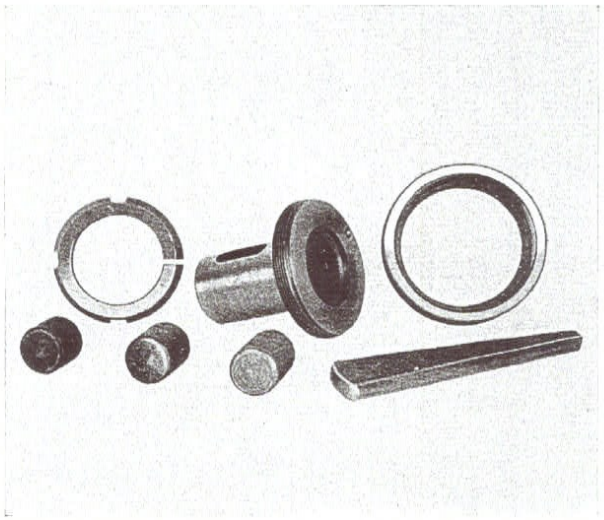


It is impossible to remove the steering knuckle plug without first removing the brake support plate. This gives the opportunity to use a special box head single end type of wrench for removal or tightening this vital part. When rusted-in plugs are encountered, a piece of pipe may be used over the end of the handle without danger of damage to the wrench. This wrench is a tight fit and it may be necessary to drive it on with a hammer. It is made of chrome-vanadium steel so that hammering will not harm it.

Wheel Puller—Heavy Duty

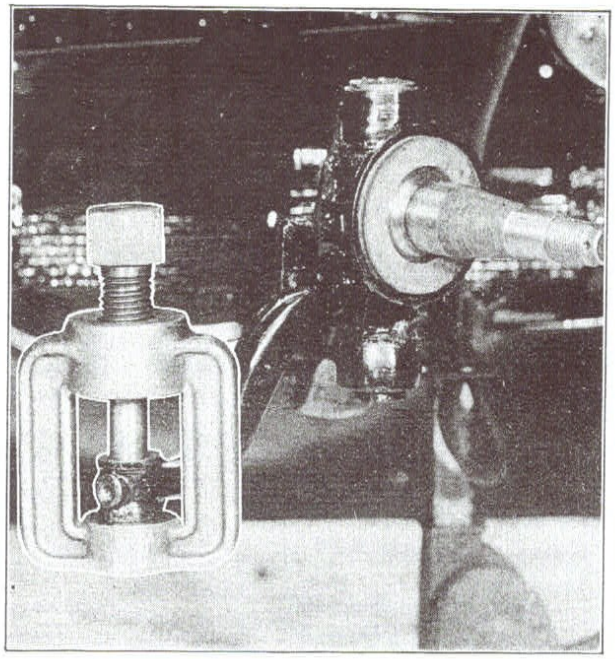
(K & G Type)

Tool No. S. T. 683—All Models



Steering Knuckle Lever Bushing Remover

Tool No. S. T. 125—116-126-133

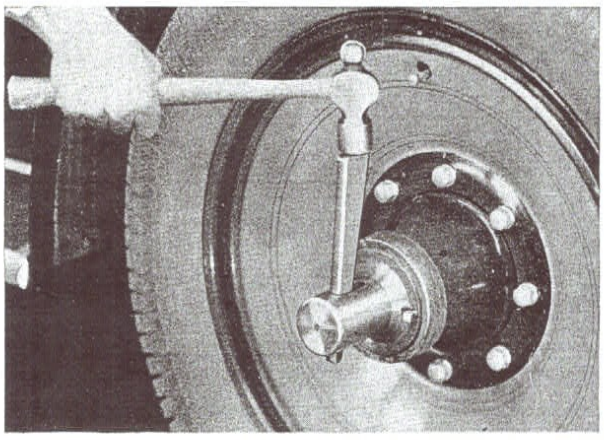


This puller will remove the old bushing and press in the new without disassembling the steering knuckle from the axle.

Wheel Puller—Heavy Duty

(K & G Type)

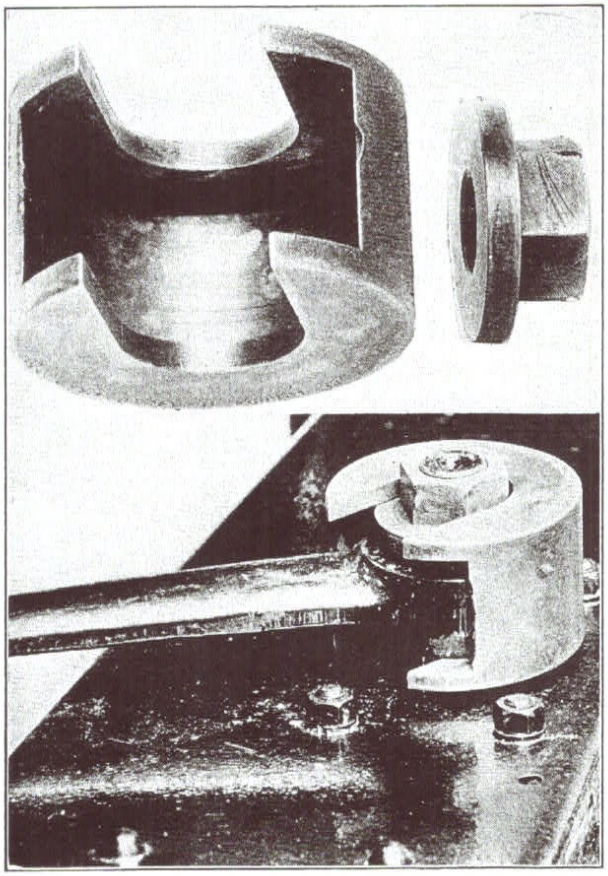
Tool No. S. T. 683—All Models



A real heavy duty wheel puller that will pull the toughest wheel. All parts are forgings and extremely rugged. Pulling is done by the wedge principle which does not transmit shock to the wheel bearing when struck with a hammer.

Steering Lever Puller

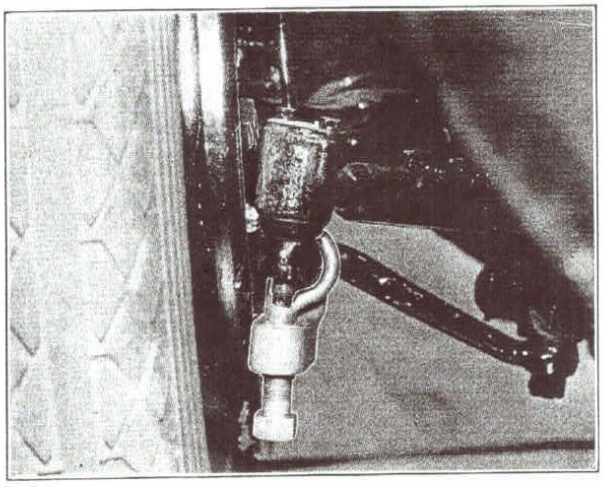
Tool No. S. T. 135—Six and Eight



This steering lever puller also includes a 12″ chrome-vanadium wrench.

Steering Cross Tube Ball Joint Puller

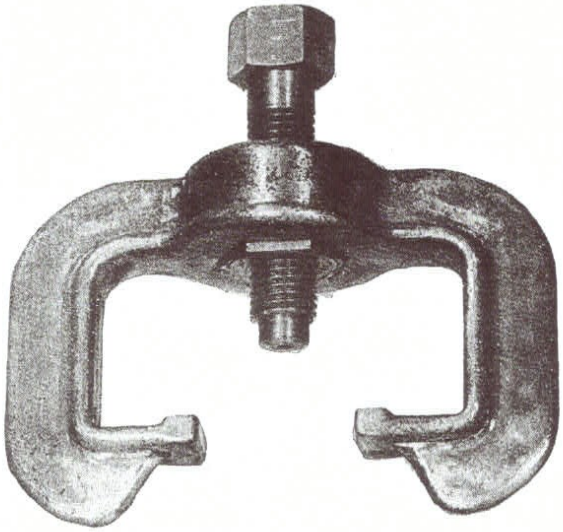
Tool No. S. T. 653—All Models

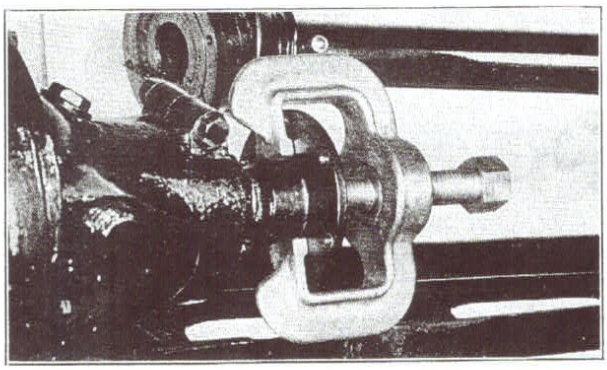


This puller will remove the steering cross tube ball joint, when necessary to tram the front wheels. The screw has a hardened steel tip so that it cannot get out of place and spoil the threads or upset the end.

Universal Joint Flange Puller

Tool No. S. T. 124—Six and Eight

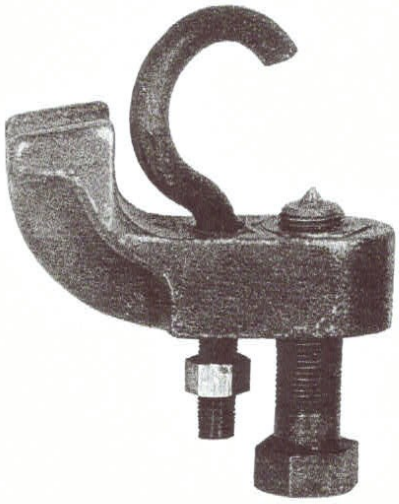




With the use of this puller, the flange may be removed without disassembling large units. The screw works on a free nut principle which permits driving the head without damaging the threads.

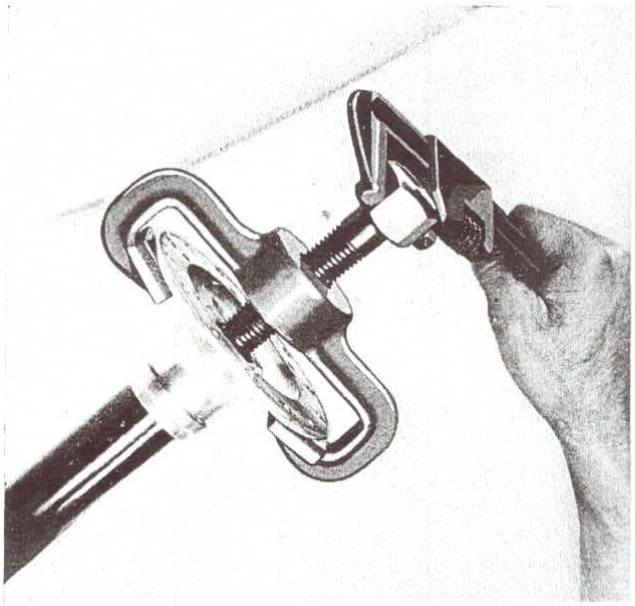
Steering Cross Tube Ball Joint Puller

Tool No. S. T. 653—All Models



Steering Wheel Hub Puller

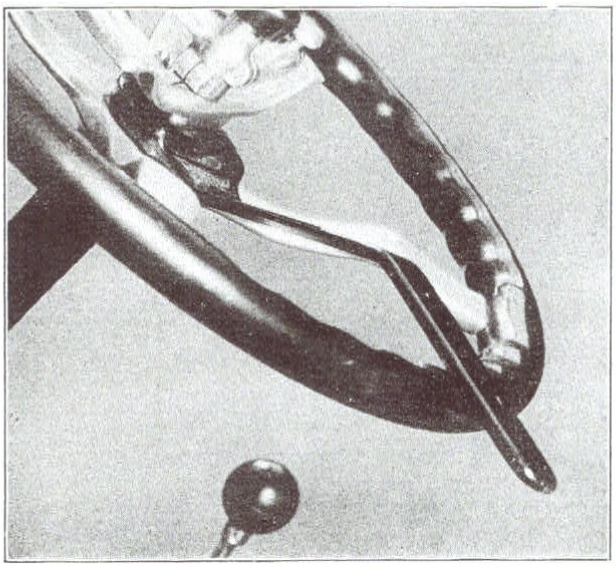
Tool No. S. T. 194—All Models



Marring the aluminum hub when removing it is prevented by leather pads on the tips of the puller claws. The end of the center bolt is equipped with a floating hardened washer held in place by a lock wire to prevent damage to the threads on the end of the steering post.

Steering Post Nut Wrench

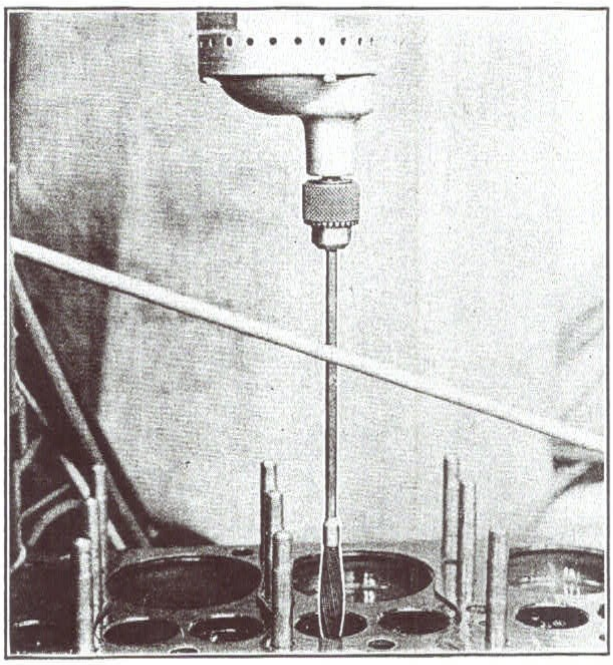
Tool No. S. T. 111—126-226



This wrench fulfills the demand for a special steering post nut wrench, which is impossible to purchase on the open market.

Valve Guide Cleaner

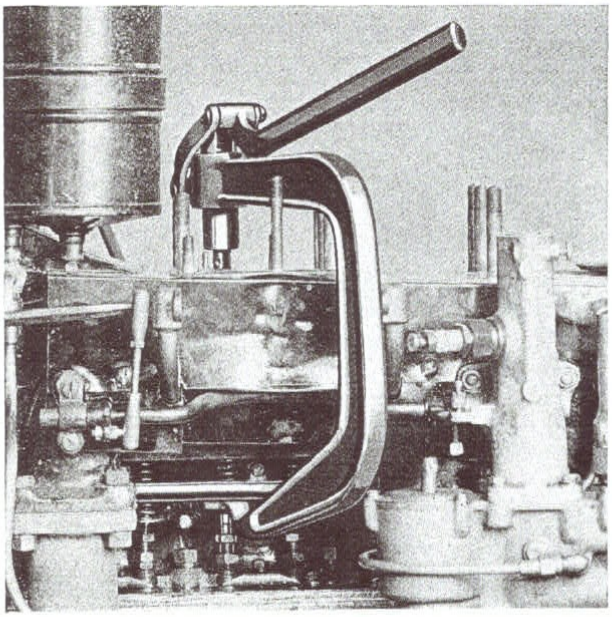
Tool No. S. T. 212—All Models



A valve guide cleaner that will not damage or enlarge the valve guide. When used in an S. T. 400 ¼" Electric Drill a guide can be cleaned in the length of time it takes to say it.

Valve Lifter

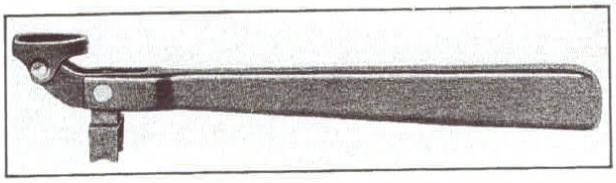
Tool No. S. T. 215—326-426-336

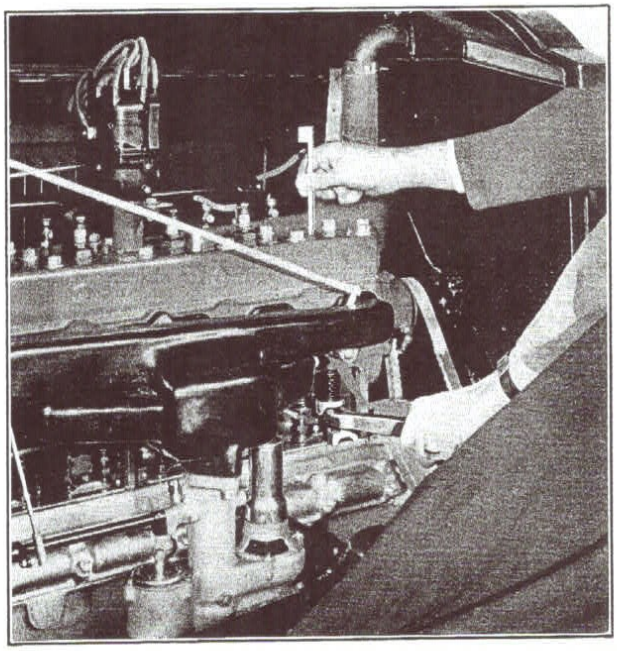


This valve lifter is practically the same as S. T. 223 except that the foot is especially designed to clear the rectifier oil manifold.

Valve Lifter

Tool No. S. T. 220—All Models





Tool No. S. T. 220

A valve lifter that is indispensable when removing valve springs without removing the head. It has a notched foot that will not slip and sufficient leverage so that the springs are not hard to compress. It reaches all the springs easily and quickly.

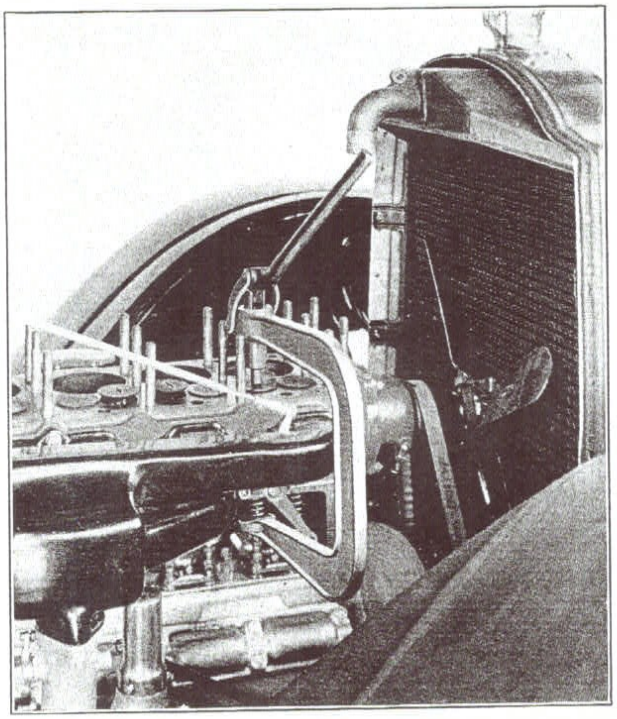
Valve Holder

Tool No. S. T. 221—All Models

An aluminum valve holder to hold the valve down, in all type heads, when changing a valve spring with valve lifter S. T. 220. Remove the spark plug and insert the valve holder through the hole and turn it around over the valve.

Valve Lifter

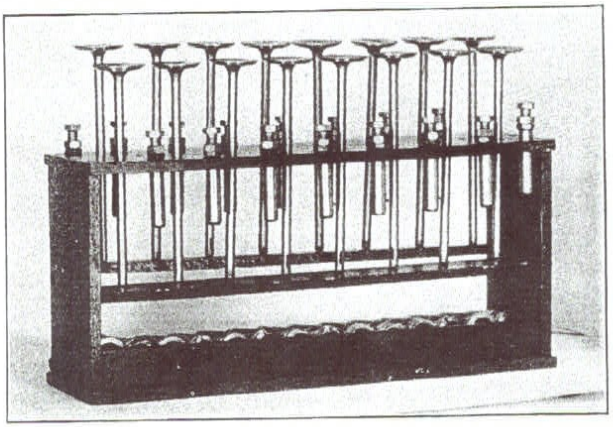
Tool No. S. T. 223—All Models without Rectifier



This valve lifter incorporates all the best principles of design submitted to the factory by a number of distributers. It has sufficient clearance to go around the manifold carburetor connections, etc., on the late motor.

Combination Valve Spring—Valve—Push Rod Rack

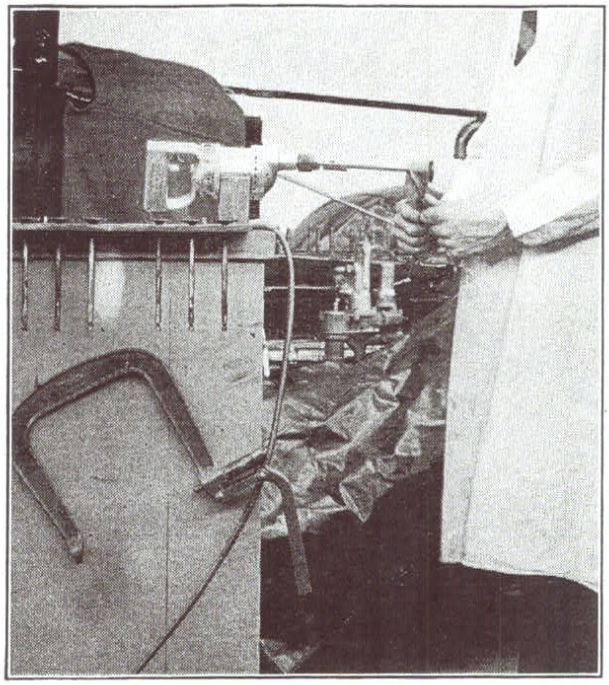
Tool No. S. T. 217



A rack for holding springs, push rods, valves and keys while grinding or refacing. Just one of the many things you were going to make up yourself but just haven't got around to it.

Valve Holder for Electric Drill

Tool No. S. T. 209—All Models



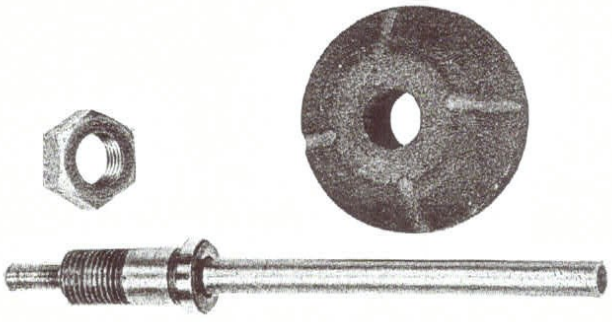
The stem and the under side of the valve head always require cleaning when grinding valves. A valve holder with an electrical drill makes it possible to clean them up right on the job.

Valve Seat Grinder Stone

Tool No. S. T. 213

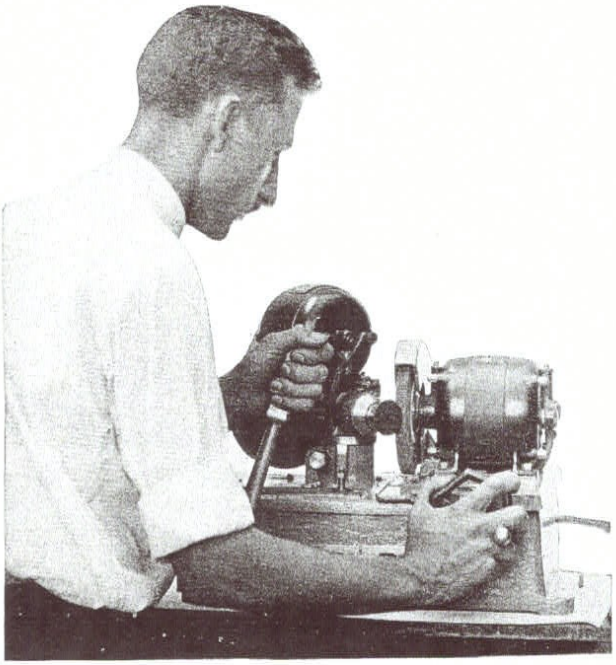
Valve Seat Grinder Stone Pilot

Tool No. S. T. 214



Valve Refacing Machine

Tool No. S. T. 405



A Black and Decker product incorporating the better features of many refacing machines. The drive is by two motors, thereby eliminating belts, pulley and shafts. Three collets and one truing stand are included with the machine.

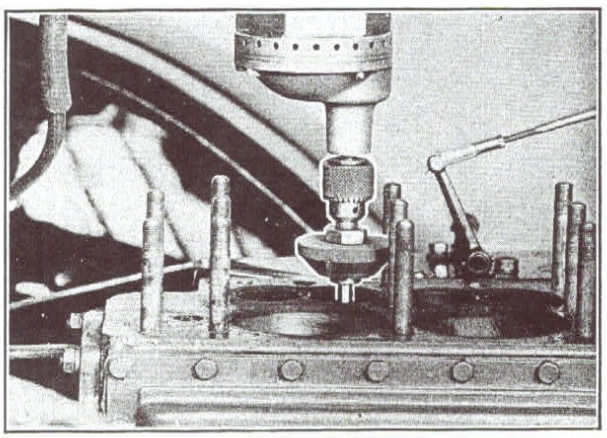
The angle of the chuck with the grinding wheel is adjustable from 0 to 90° making this the ideal refacer for the general repair shop.

Valve Seat Grinder Stone

Tool No. S. T. 213

Valve Seat Grinder Stone

Tool No. S. T. 214



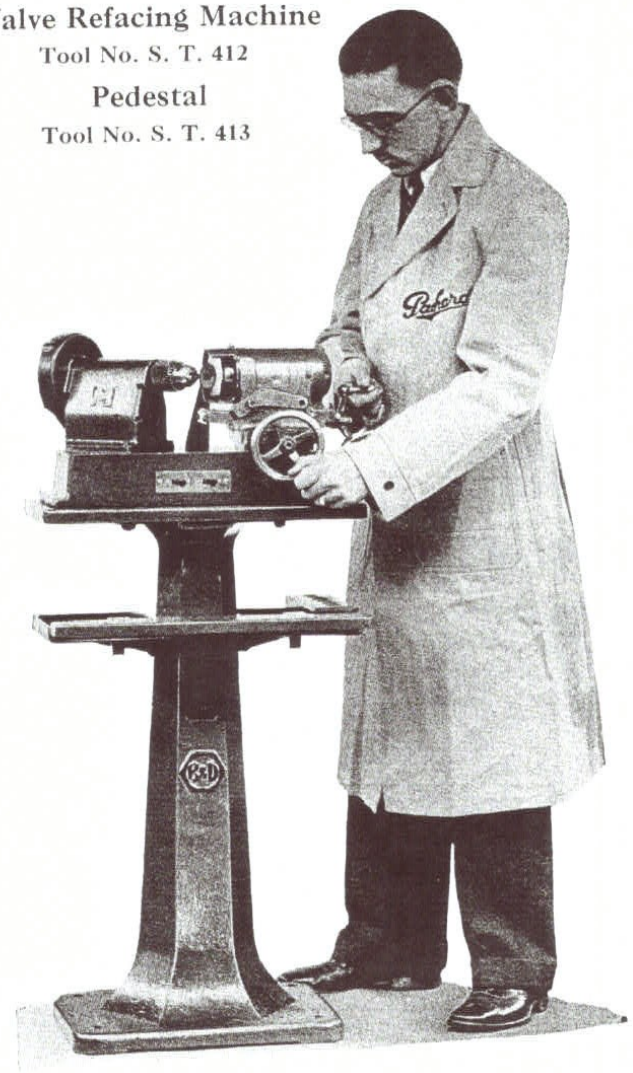
The grinder stone makes it possible to clean up the valve seats in the cylinder with the same accuracy that valves are refaced in a machine. After the valves and valve seats have been refaced they require grinding for only a few seconds.

Valve Refacing Machine

Tool No. S. T. 412

Pedestal

Tool No. S. T. 413



Tool No. S. T. 412

A Black & Decker product having all the good features of their other machine—the special feature being the positive setting of the chuck at 45° to the grinding wheel. All Packard valves have faces at 45°. Unless the shop is doing general repair work, this refacer will do the work just as well as the larger machine. The three jaw Jacobs chuck insures perfect centering of the valve stem.

Tool No. S. T. 413

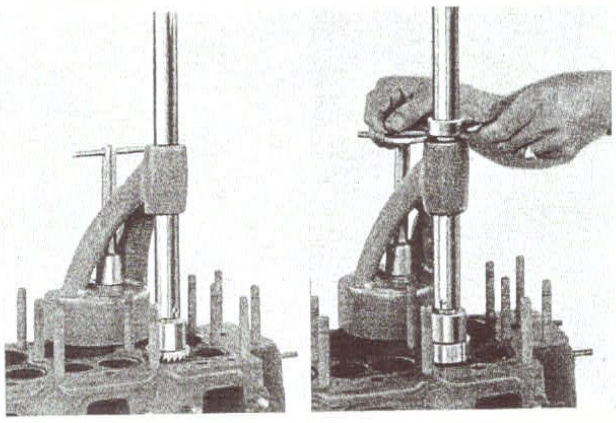
A cast iron pedestal for use with either of the valve refacers shown. It gives the refacer installation a neat appearance and permits being fastened securely to the floor. The tray underneath has a valve rack on one side.

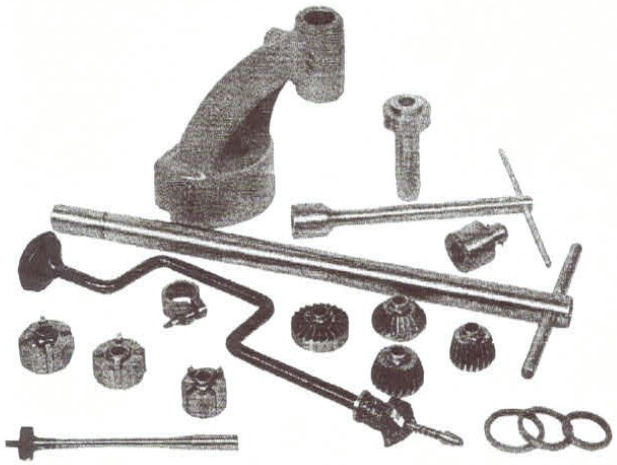
Valve Tappet Wrench

Tool No. S. T. 216

Valve Reseating Equipment

Tool No. S. T. 669—All Models

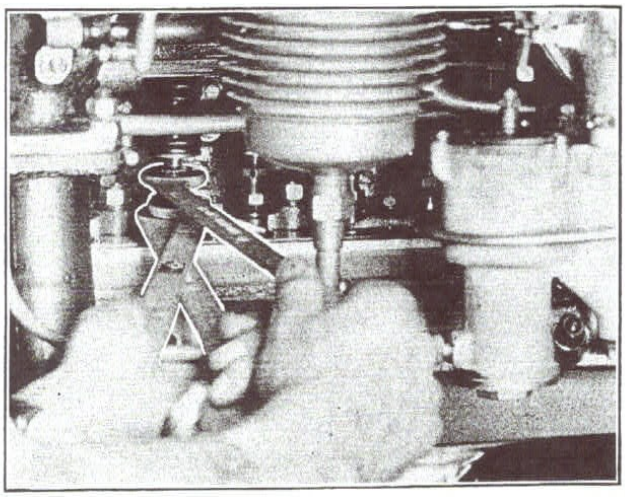




A precision tool for reseating valves accurately in line with the guide. Also counterboring and fitting replacement seats. You cannot properly service valves without this equipment. By fitting replacement seats many cylinder blocks thought scrapped can be saved and serviced again.

Valve Tappet Wrench

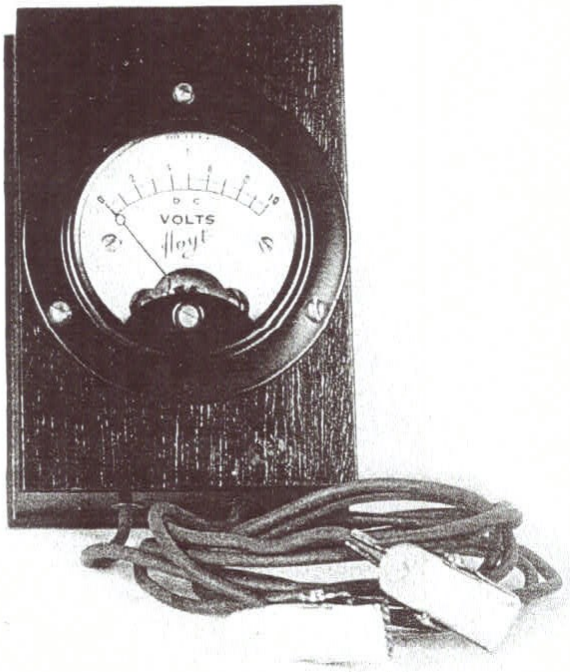
Tool No. S. T. 216



Long handle tappet wrenches for adjusting tappets.

Voltmeter

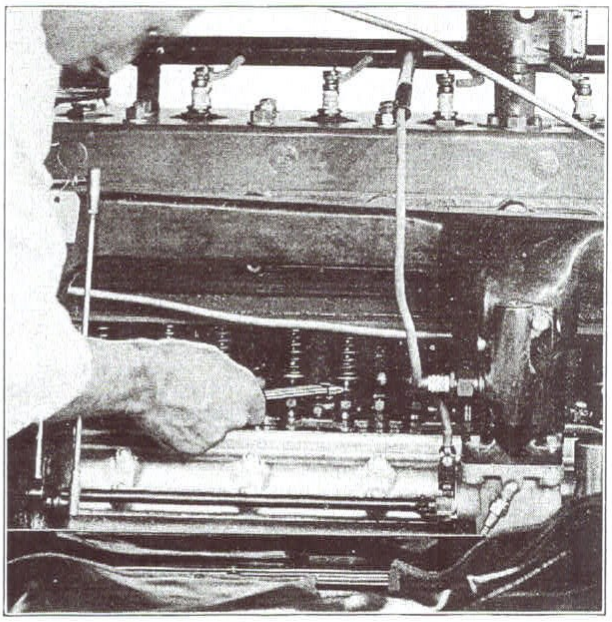
Tool No. S. T. 668—All Models



Here is a small voltmeter accurate to ¼ volt and mounted in a wooden block easily handled. Burned out generators, batteries and light bulbs are all traceable to poor generator regulation. This voltmeter is provided to permit quick and easy regulation of the generator voltage.

Valve Tappet Feeler Gauge Holder

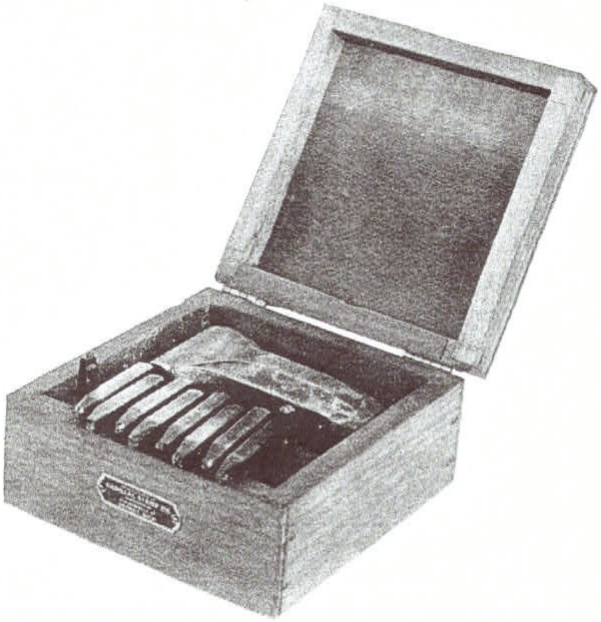
Tool No. S. T. 153—All Models

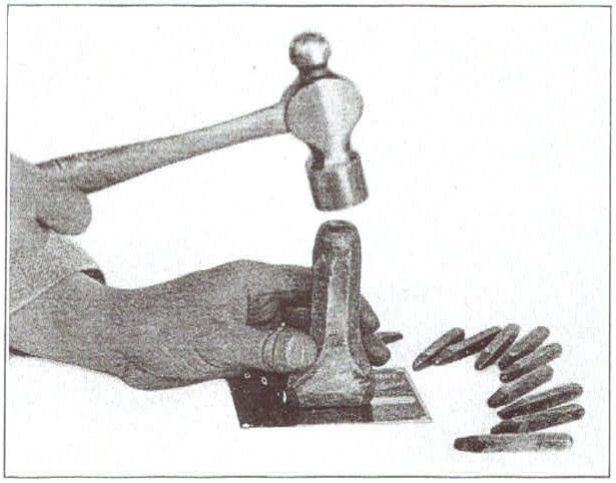


Quick replacement of the feeler gauge is the big feature of this holder. It is not necessary to punch a hole in replacement strips when using this holder.

Vehicle Plate Stamping Set

Tool No. S. T. 710





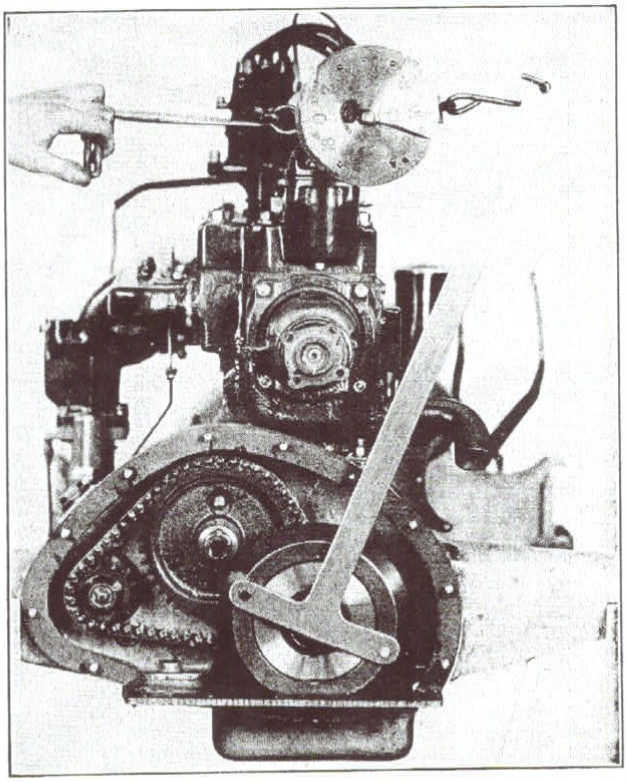
This set consists of a name stamp, with the name and address of the distributer or dealer, and 10 hand letter stamps for making the date of delivery. The name stamp will also be found of value in marking the various tools and equipment belonging to your service department.

Each set is made to order which requires one week. When ordering please include on the order, firm name, city and state.

Valve Tappet Feeler Gauge Holder

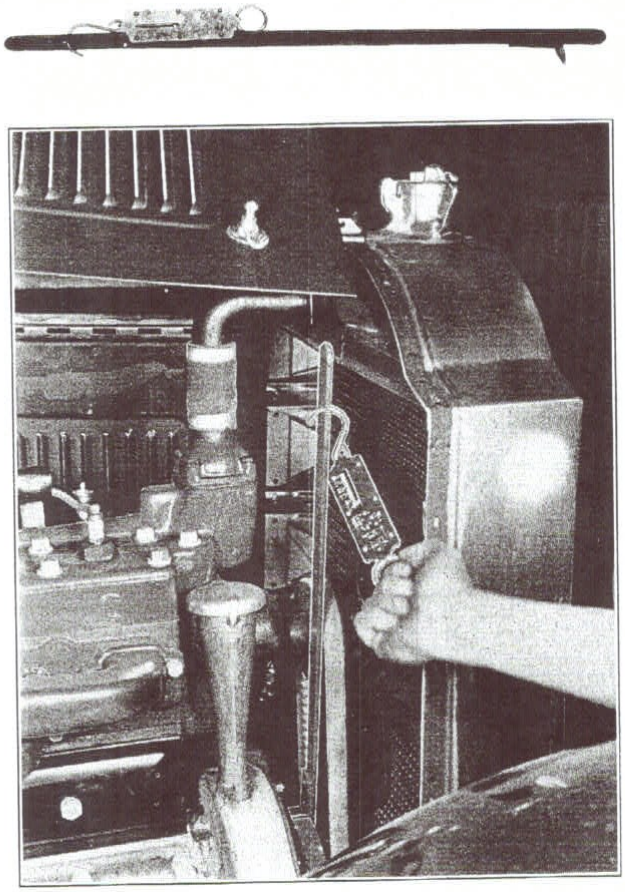
Tool No. S. T. 153—All Models

Vibration Damper Test Bar
(Complete With Scale)
Tool No. S. T. 143—Eight



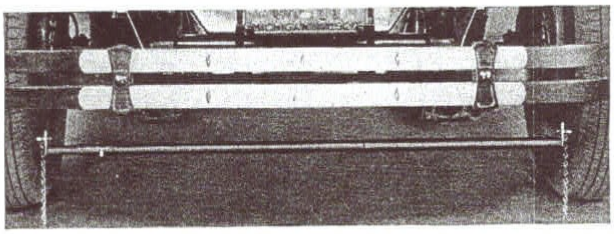
It is essential to check the "pull" on a vibration damper whenever any adjustment is made or parts are replaced. The test bar equipment is of the same design as used in the factory. It takes the "guess" out of your adjustments and saves assembling and disassembling for road tests. The spring scale should show a pull of 10 to 12 pounds at the cranking speed and higher or lower tension should be obtained by increasing or decreasing the shims back of the nut.

Vibration Damper Test Bar
(Complete With Scale)
Tool No. S. T. 727—526 Model

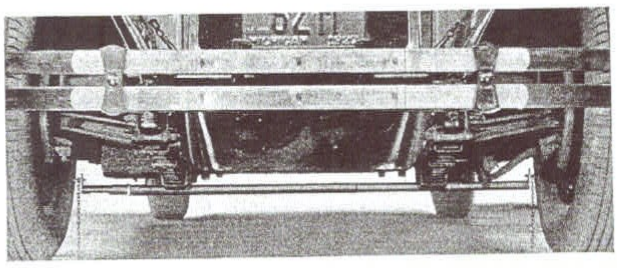


The damper can be checked with the radiator on the car. This damper test bar is for use only on 526 models. Whenever taking reading of damper, be sure scale remains steady. Standard adjustment should be from 10 to 12 lbs.

Wheel Gauge—Ideal
Tool No. S. T. 128—All Models



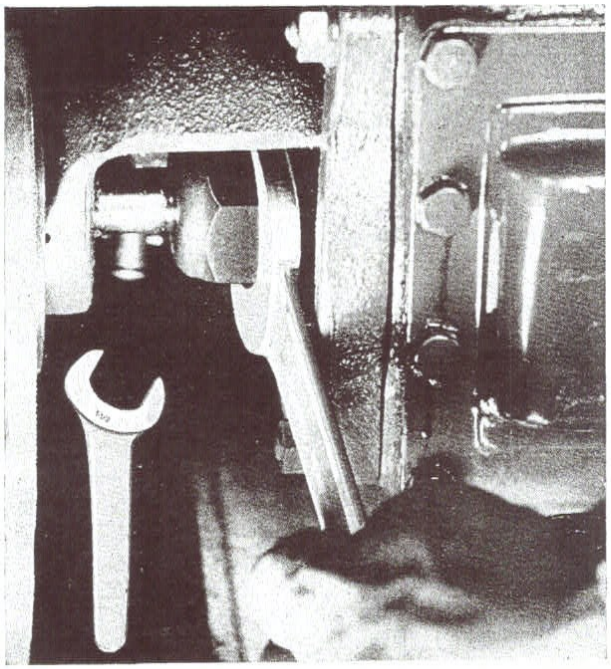
Wheel Gauge—Ideal
Tool No. S. T. 128—All Models



The best tramming device we have discovered. It positively eliminates guesswork in lining up front wheels, irrespective of condition of wheels, rims or tires.

Water Pump Nut Wrench

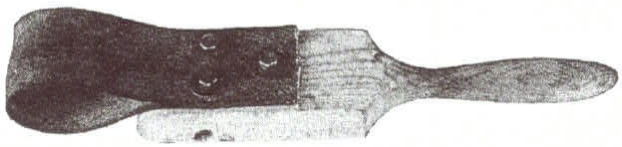
Tool No. S. T. 199—All Models Except 626



A special drop forged wrench with a long tapered jaw and short handle for clearance to permit quick adjustment of the water pump gland nut. The ordinary wrench of this size has jaws approximately twice as wide, so that it is practically impossible to swing it clear of the housing.

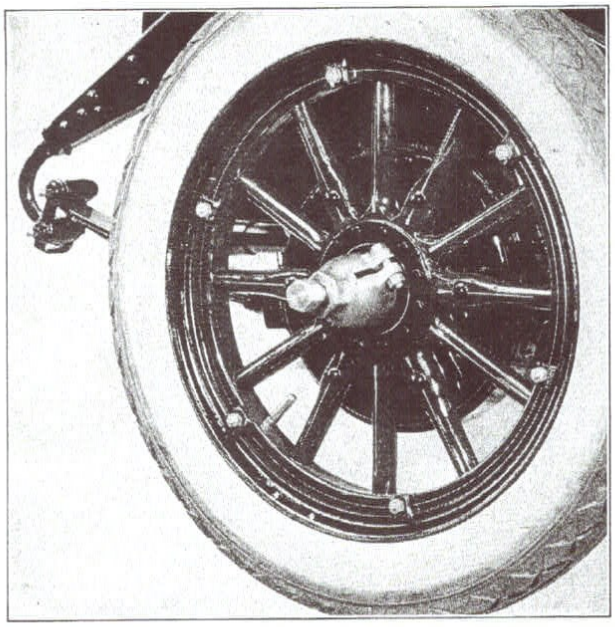
Wheel Hub Cap Wrench

Tool No. S. T. 129—All Models
Tool No. S. T. 611—Wire Wheels



Wheel Puller—Heavy Duty

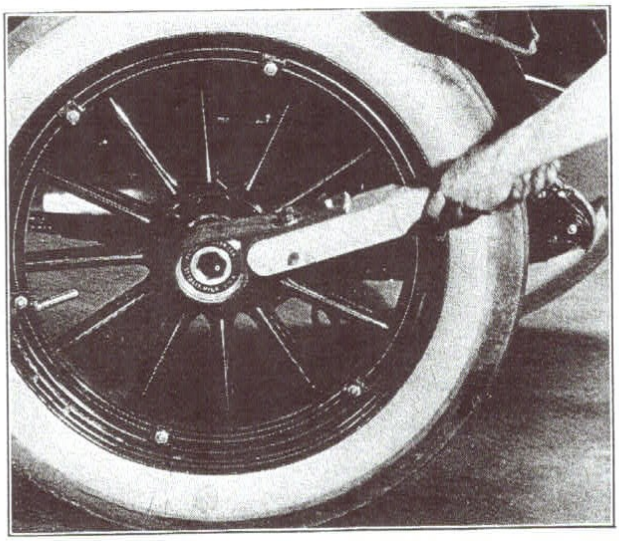
Tool No. S. T. 123—Six and Eight



A heavy duty puller designed so that it is possible to drive the center screw without damaging the threads.

Wheel Hub Cap Wrench

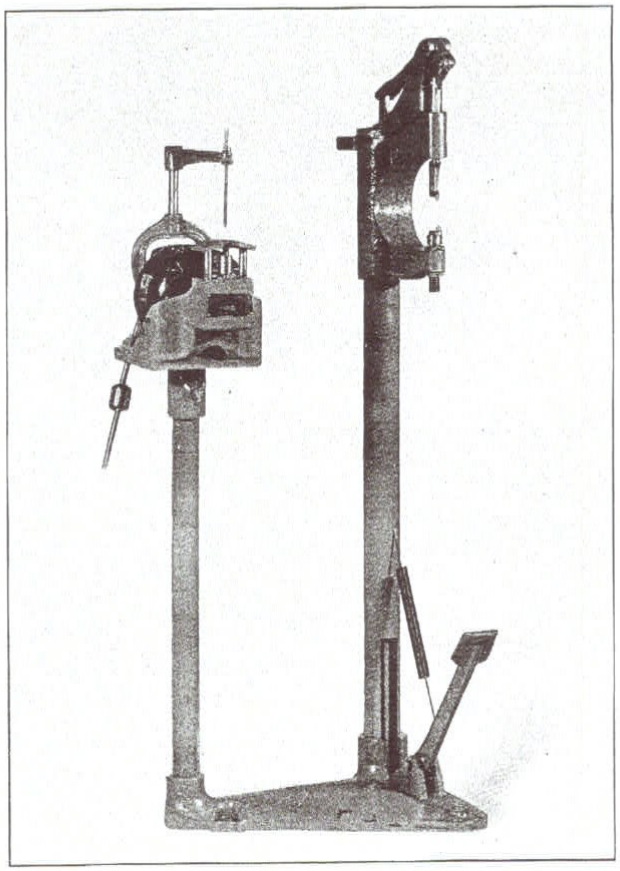
Tool No. S. T. 129—All Models
Tool No. S. T. 611—Wire Wheels



This wrench is made of rubberized canvas belting and works on the friction principle. It is positive and will not mar the hub cap. S. T. 611 is used on Budd type of wire wheel hub caps.

Combination Brake Drilling, Countersinking and Riveting Machine

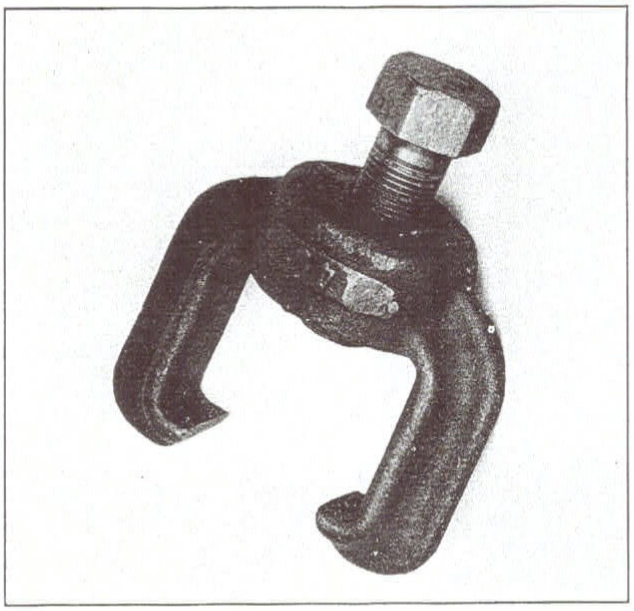
Tool No. S. T. 306

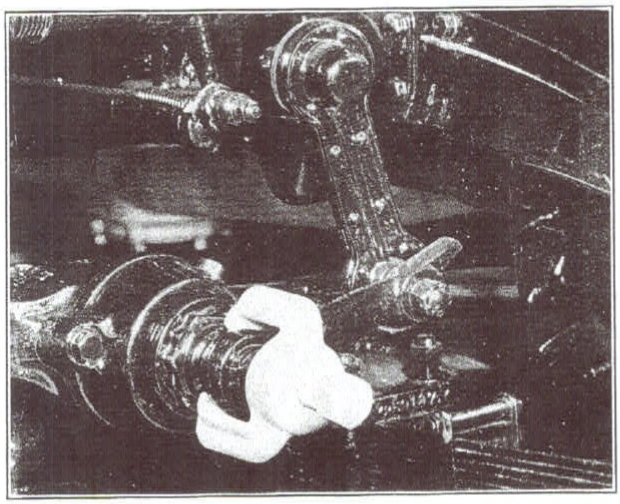


We believe the new Brake Riveting Machine which we have is the best obtainable. This selection was made after testing practically all of the Brake Riveting Machinery that are made. This is of the very latest design and developed by specialists on brake lining equipment.

Shock Absorber Lever Puller

Tool No. S. T. 732—Models 626-640

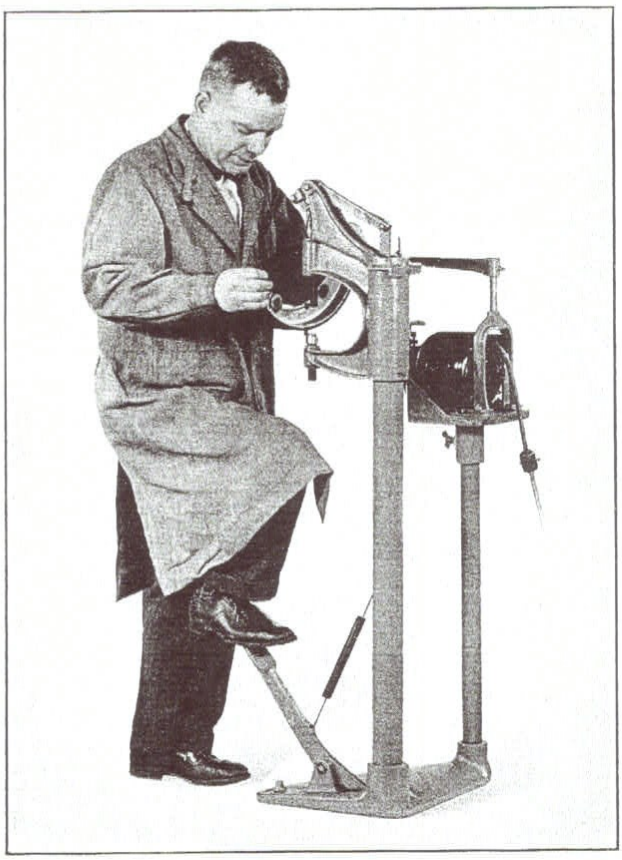




When necessary this puller will remove shock absorber lever front or rear. The center screw is equipped with a floating nut which permits driving the head without damaging the threads.

Combination Brake Drilling, Countersinking and Riveting Machine

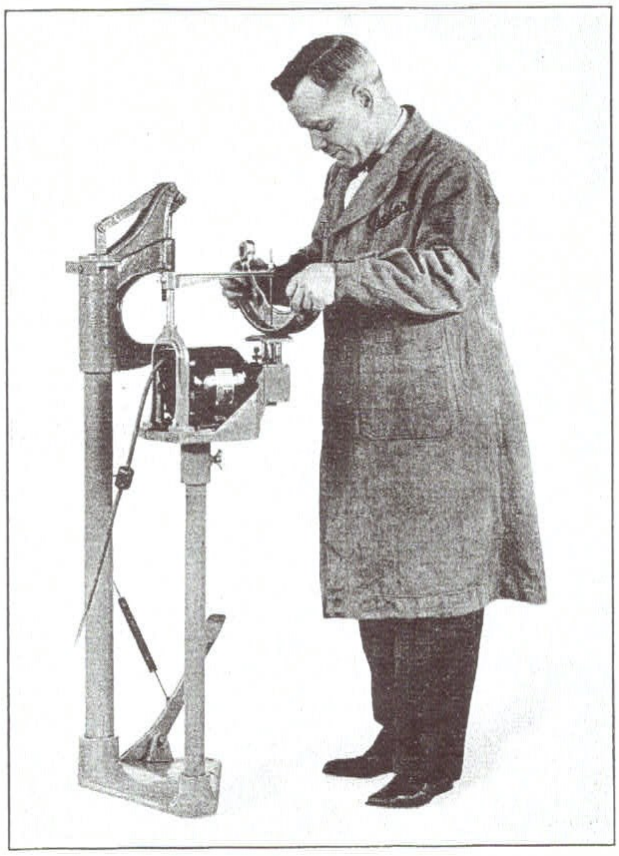
Tool No. S. T. 306



Three operations on one machine; the first is to remove the old rivets; second, is to drill and countersink the lining; third, rivets inserted into brake shoes and clinched. The leverage is built up so that satisfactory riveting is done with light foot pressure. Interchangeable tools are included to remove old rivet as well as set new rivets.

Combination Brake Drilling, Countersinking and Riveting Machine

Tool No. S. T. 306

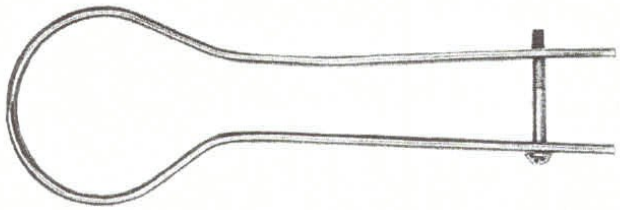


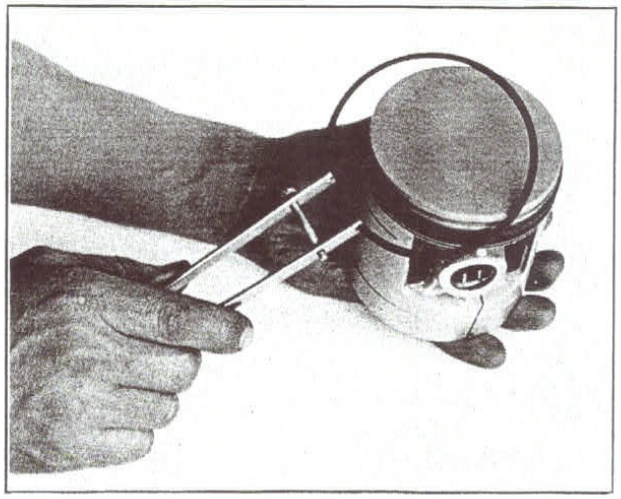
Drilling and countersinking the lining in one operation can be used equally as well on internal brake shoes or external bands. First, provide for the depth of countersinking. This is adjusted by the screw which is below the spring drilling table. The screw acts as a stop for this table and the countersinking is regulated through the up and down movement of the spring table which is under spring tension. Countersinking die, punch, drills are included as regular equipment.

Piston Ring Expander

Tool No. S. T. 197—All Models

Price $1.25





For removing and replacing piston rings. The expander holds the rings at slot opening. This type of expander does not injure the edges and can be used on any Packard piston ring. Increased expansion can be obtained by adjusting the set screw.

Note—We can furnish Distributers and Dealers with a new Service Salesman's Coat made of what is known as "Frock" material. This is of a salt-and-pepper variety and is more dressy than our present Covert material coat. It will stay clean longer than the white herringbone coat. It is pre-shrunk and has the same guarantee as our standard coveralls and coats. They are $3.00 per garment.

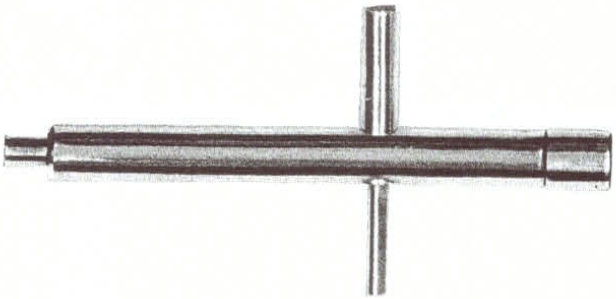
Note—The Black & Decker Electric Drills are made in two sizes; light and heavy duty. The heavy duty drill and stand is a husky job and ideal for general service work. When ordering drill stand, please specify light or heavy duty on the order.

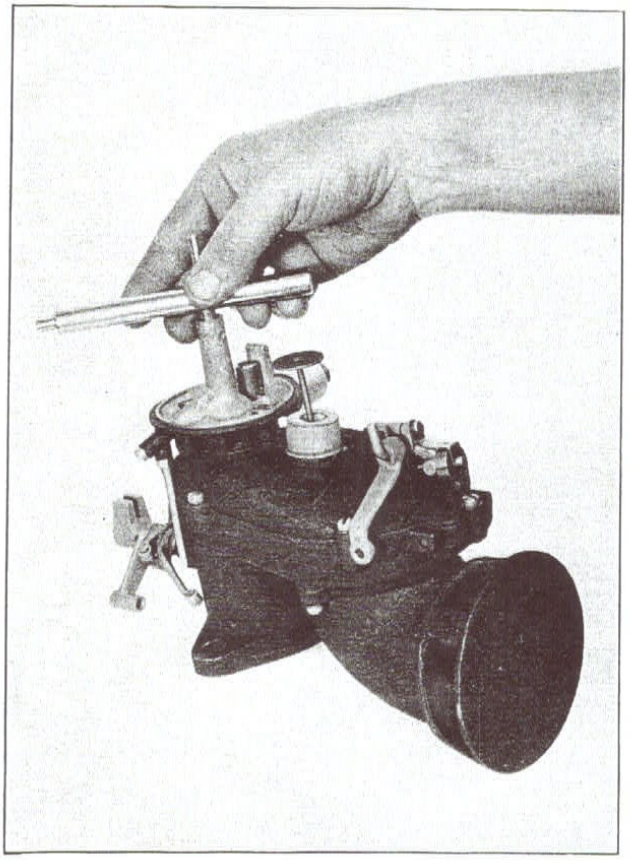
Carburetor Wrench

Tool No. S. T. 741

(Used on new type carburetor)

Price $2.00





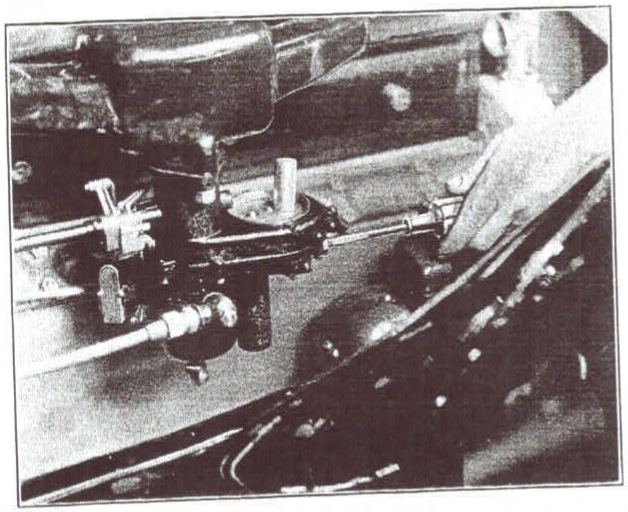
Everyone appreciates a practical wrench. In dismantling the new type carburetor, this wrench will perform four different operations; removing top nozzle, spray needle seat, inlet needle seat bushing and strainer housing lug.

Note—Please change the price of S.T.628, Hutto Cylinder Grinder. This has been reduced from $35.00 to $25.00. This grinder does not carry the micrometer adjustment.

Carburetor Valve Weight

Tool No. S. T. 736—Models 626-640

Price $0.50



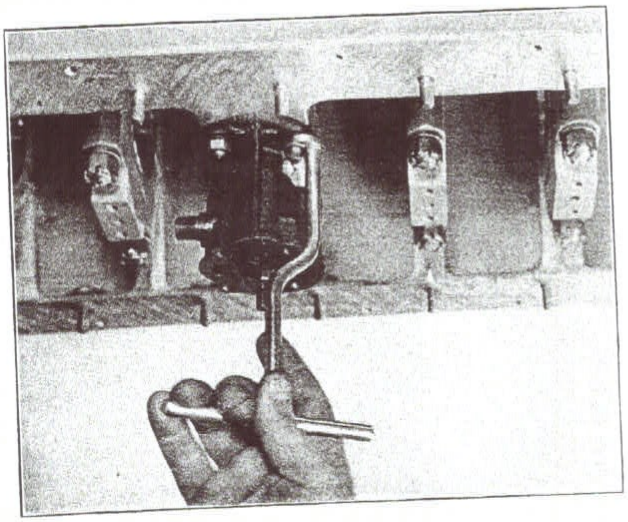
When the carburetor has been in use, the air valve gets out of adjustment and it is necessary to reset the air valve spring for standard carburetor adjustment. A better adjustment will be obtained by removing carburetor from the motor, drain the gasoline and remove the carburetor horn. Place weight on air valve and adjust choke idle adjustment screw until air valve has just opened. When this adjustment is made, the set screw on the idle adjustment should be in a vertical position.

Oil Pump Wrench

Tool No. S. T. 740—All Models

Price $1.50

(Used without removing lower-half)



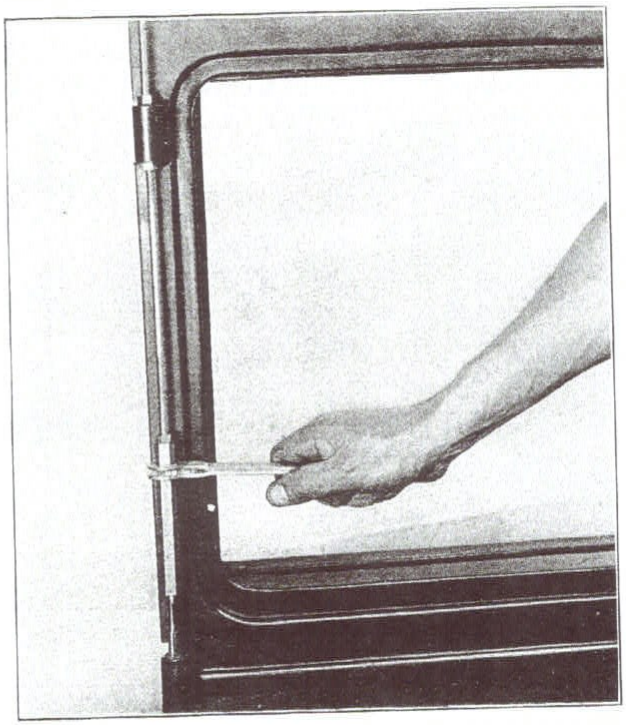
No distributer or dealer should be without this oil pump wrench. The oil pump can be removed without taking off the lower half of the crankcase.

Hinge Pin Reamer

Tool No. S. T. 742—All Models

Price $2.25

(Complete with Reamer and Wrench)



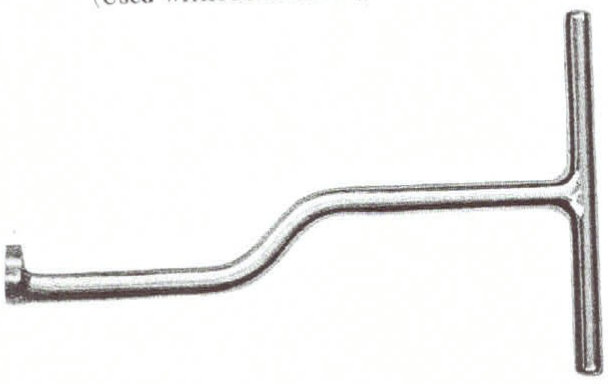
The hinge pin reamer is designed especially for eliminating door hinge rattle. It is a practical tool for reaming oversize hinge pins. With this tool it is not necessary to remove the doors.

Oil Pump Wrench

Tool No. S. T. 740—All Models

Price $1.50

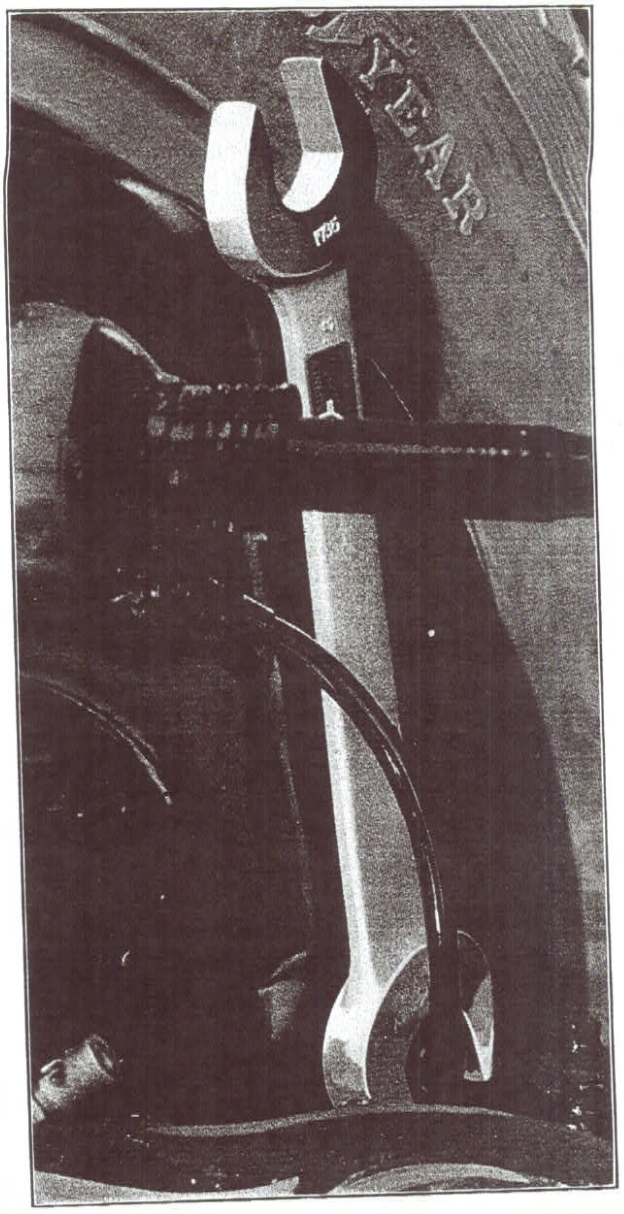
(Used without removing lower-half)



Brake Anchor Bolt and Eccentric Nut Wrench—Large

Tool No. S. T. 738

Price reduced from $2.75 to $2.00



Chrome-vanadium end wrench. The large end can be used when adjusting brakes at anchor nut and the small end at eccentric nut. The wrench is 12″ long which will allow sufficient leverage to tighten the anchor nut after the brake adjustment. Openings in wrench are ¾″ and 1⅛″.

Distributor Point Wrench

Tool No. S. T. 739

Price $0.35 Set

(North-East only)

It is essential that the two points be set accurately. Tool No. S.T. 739 is a special drop forged wrench for adjusting North-East distributor points. The small end fits the contact points and lock nuts.

Piston Lubricator Control Valve Nut Wrench

Tool No. S. T. 722

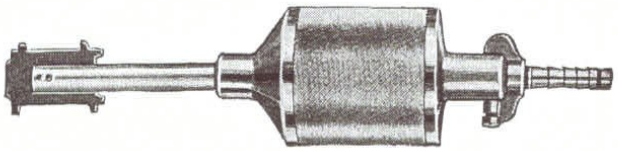
Price $1.00

This special wrench was designed for removing the piston lubricator. It permits quick and easy removal and by having an offset handle, will clear the exhaust pipe.

Air Valve Grinder

S. T. 752

$12.50 Net



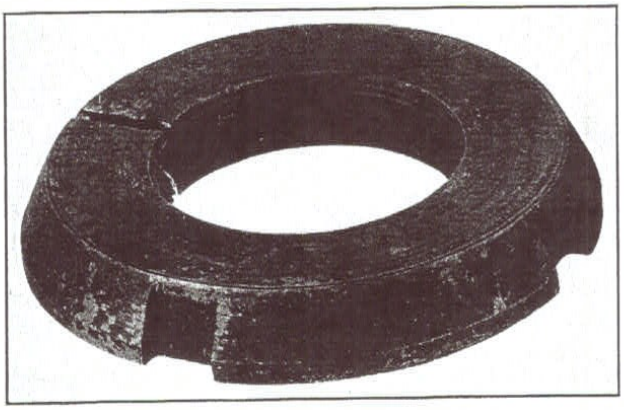
An 18-ounce machine operated by air pressure with adjustable control, regulating speed from zero to three-thousand one-quarter revolutions per minute. This is a very smooth running machine for grinding and finishing valves and will complete the job in half the usual time. It is guaranteed for one year.

Wheel Puller Adapter (K. & G.)

S. T. 1371

Models 726-733

$2.00 Net

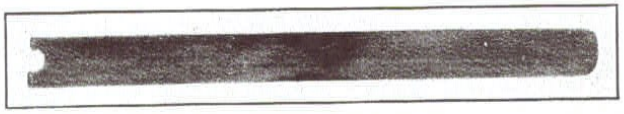


This adapter may be used with the body of S. T. 683 (K&G Type) Heavy Duty Wheel Puller.

S. T. 757 Horn Button Wrench

Models 726-733-740-745

$0.50 Net

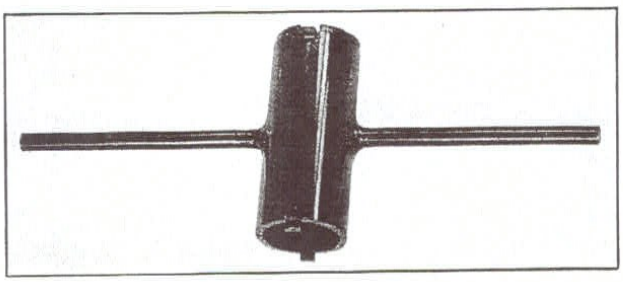


A tool designed to remove horn button on steering wheel by sliding the wrench under the horn button and holding stud which horn button is screwed on to. This makes it unnecessary to remove the light controls from the steering post.

S. T. 749 Rear Axle Bearing Adjusting Nut and Radiator Packing Nut Wrench

Models 726-733

$2.50 Net

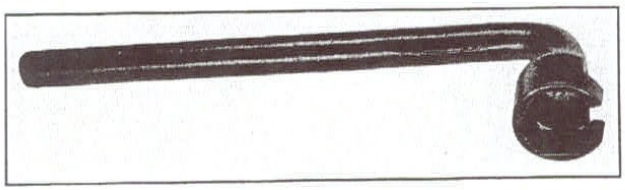


One end of this wrench is designed for taking up on the axle shaft bearings and the other end for removing radiator packing nut.

S. T. 747 Headlight Nut Wrench

Models 726-733-740-745

$2.00 Net

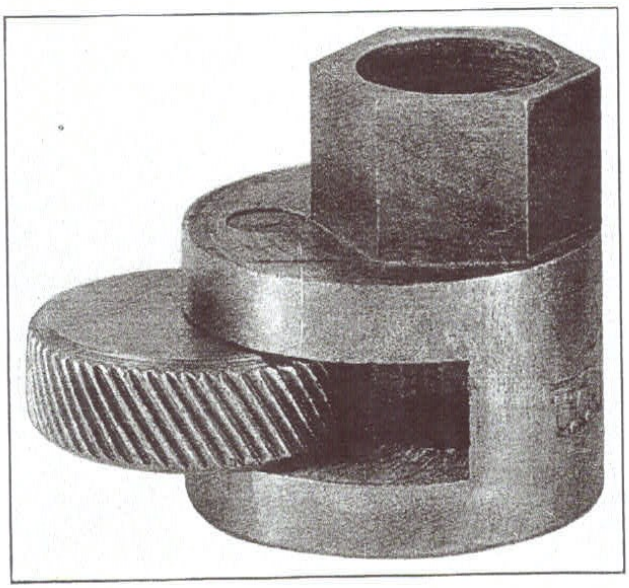


This heavy duty wrench is used for removing headlight and also for adjusting lights without removing cable from lamp.

Stud Remover and Driver

S. T. 755

$1.25 Net



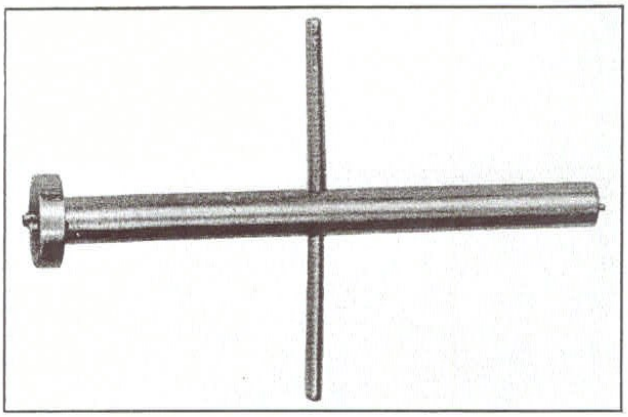
Will remove studs ranging from ¼" to ½" in size. The wheel is eccentric and will not slip when used with Snap On Socket Wrench.

Carburetor Air Valve Wrench

Models 726-733-740-745

S. T. 751

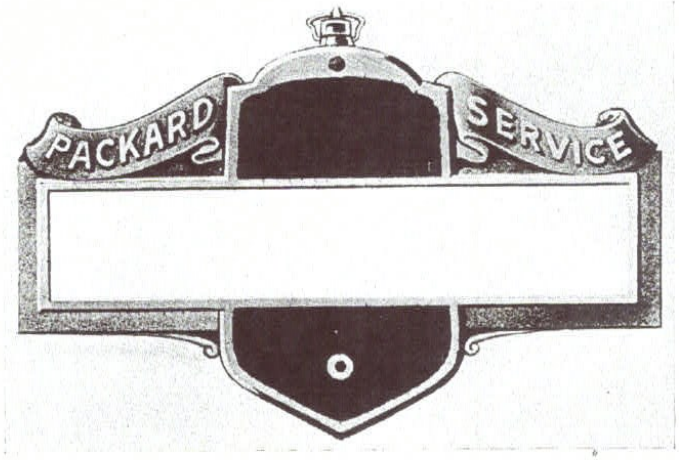
$1.75 Net



A tool for removing the piston air valve on both 7th Series Carburetors.

S. T. 745 Courtesy Coat Pin

$0.50 Net

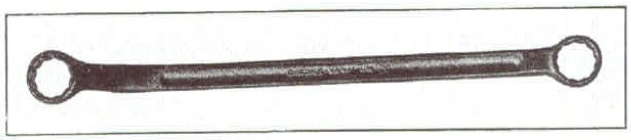


The service pin introduces your service salesman to the customer. It is distinctly Packard and adds to the appearance of the service coat.

S. T. 761 Cylinder Head Nut Wrench

Models 126-226-326-426-526-136-236

$1.25 Net

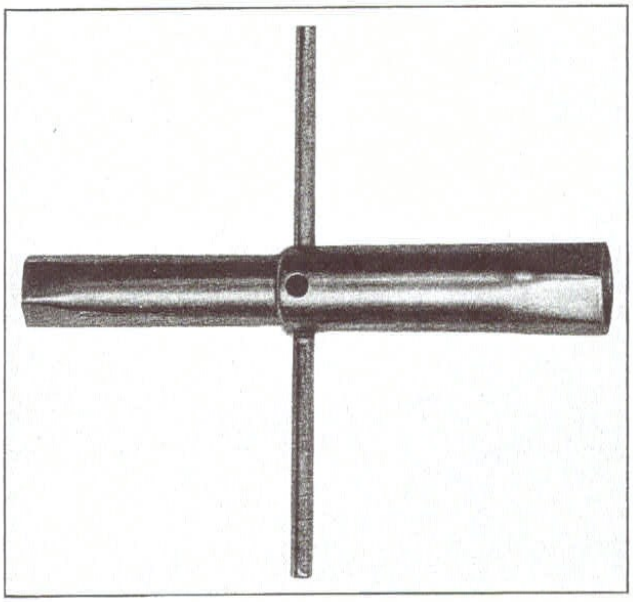


This cylinder head nut wrench has sufficient leverage and is designed for the final tightening of all nuts after the job has been assembled and the motor warmed up.

S. T. 750 Carburetor Body Stud Socket Wrench

Models 726-733-740-745

$1.25 Net



A wrench used to remove the gasoline strainer body stud on both the 7th Series Carburetors.

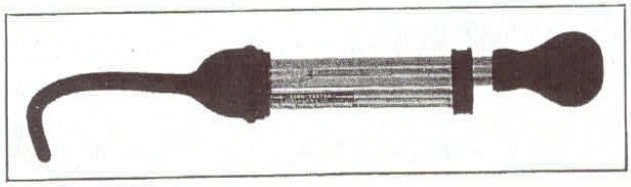
S. T. 744 Valve Cover Punch and Anvil

$1.25 Net

In order to assist the service man in making a neat and efficient replacement of the cork gasket attached to the valve chamber cover, we have designed a special anvil and punch.

S. T. 753 Radiator Hydrometer

$2.00 Net

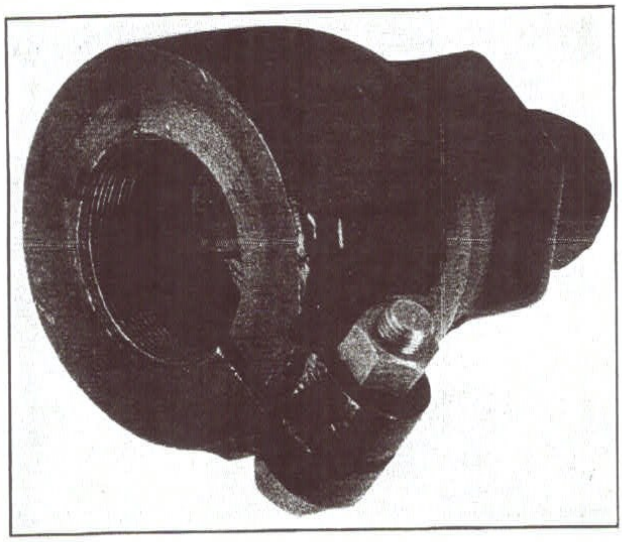


Every dealer should have a Zero Tester in stock. The hydrometer instrument readings are the same for all three solutions; alcohol, Prestone, and glycerine.

S. T. 746 Wheel Puller—Heavy Duty

Model 726

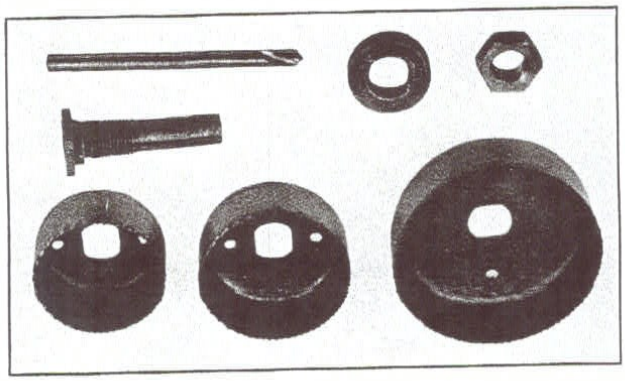
$4.35 Net



Heavy duty wheel puller. This removes wheels very easily. The center screw is equipped with a floating nut which permits driving the head without damaging the threads.

S. T. 760 Heater Cutters

$4.90 Net Per Set



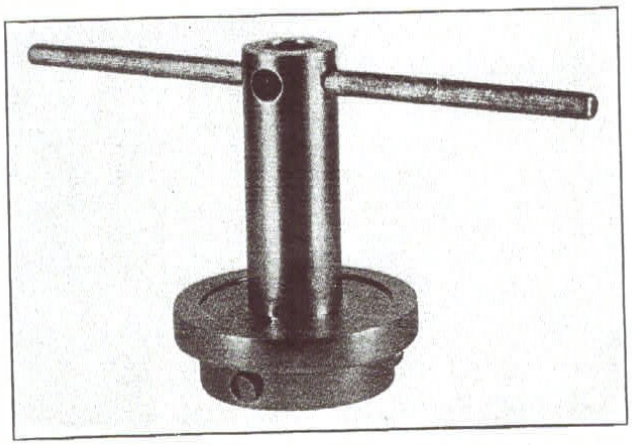
S. T. 1358—Mandrel	$1.50
S. T. 1339—2 3/8" Cutters	1.25
S. T. 1375—2 1/16" Cutters	.90
S. T. 1376—3 1/4" Cutters	1.25

We have three different size cutters in stock; 2 3/8", 3 1/4" and 2 1/16". These cutters were designed especially to cut a hole through wood and metal dash for installation of Francisco and Kelch Heaters.

S. T. 754 Cylinder Chamfering Tool

All Models

$12.00 Net

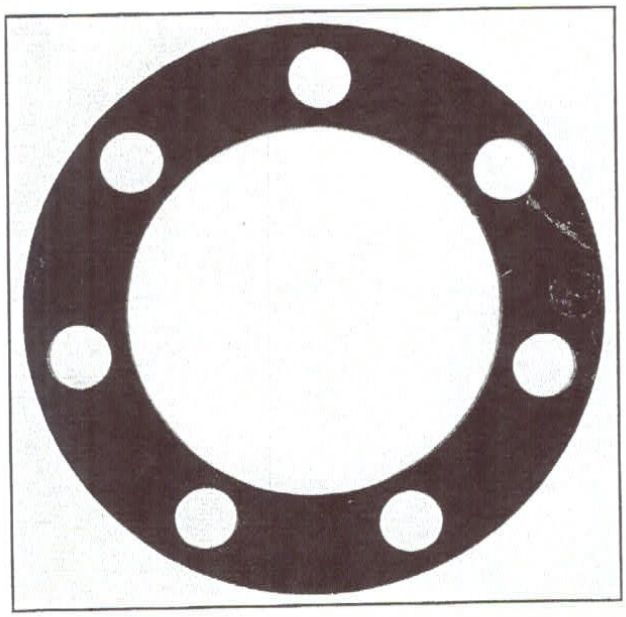


This is adjustable by a screw going through the body of the tool and has a range from 3 3/16" to 3 1/2". It is made so that it will not cut more than 7/32" depth but will cut to the diameter required.

S. T. 1373 Brake Scale Adapter

Model 726

$3.00 Net



Brake Scale Adapter for Model 726. This brake adapter should be bolted to the old adapter. It then can be used for the 726 model.