FORD TOOL TIMES

National FORD TOOL Collectors

NOVEMBER 2015
VOLUME 17
ISSUE # 4

1

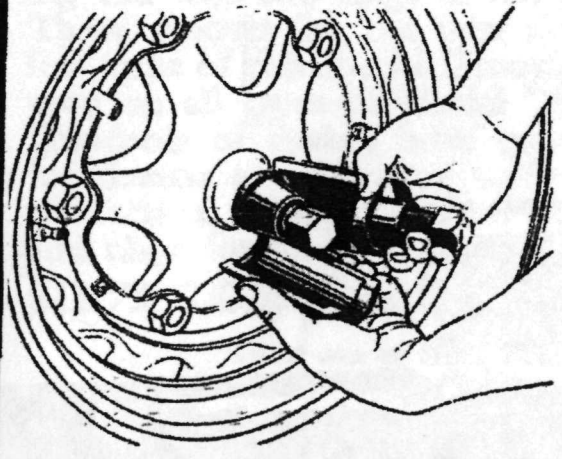
www.fordtoolcollector.org

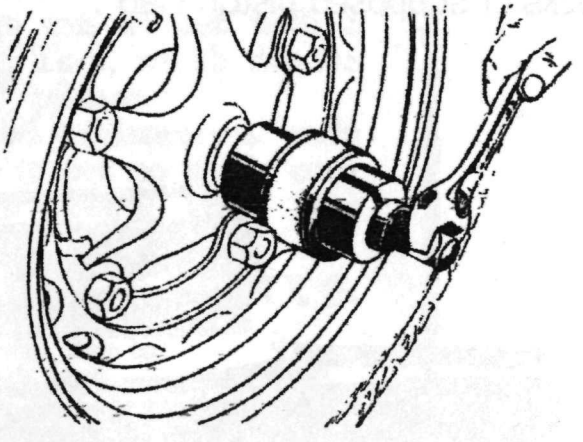
KRW "Improved" Hub Puller

For All Fords 1929 to 1940 Inc. also Lincoln-Zephyr

No. ABV-156 Price $4.50

Shipping Weight 8 Pounds





The KRW "Quick Action" Wheel Puller takes off the entire wheel assembly. It is made entirely of drop forgings, accurately machined and heat treated to stand abuse. A Heavy Cap protects the thread on the axle shaft against damage. A Center Hole in this hardened cap insures perfect alignment with the point on the end of the large diameter screw, thus insuring an "even pull" in the slot of the hub. We believe it is the fastest and best constructed wheel puller made.

Chuck Christensen [Chuck95ret@aol.com] of Sunnyvale, California, writes :
Hope this organization continues.

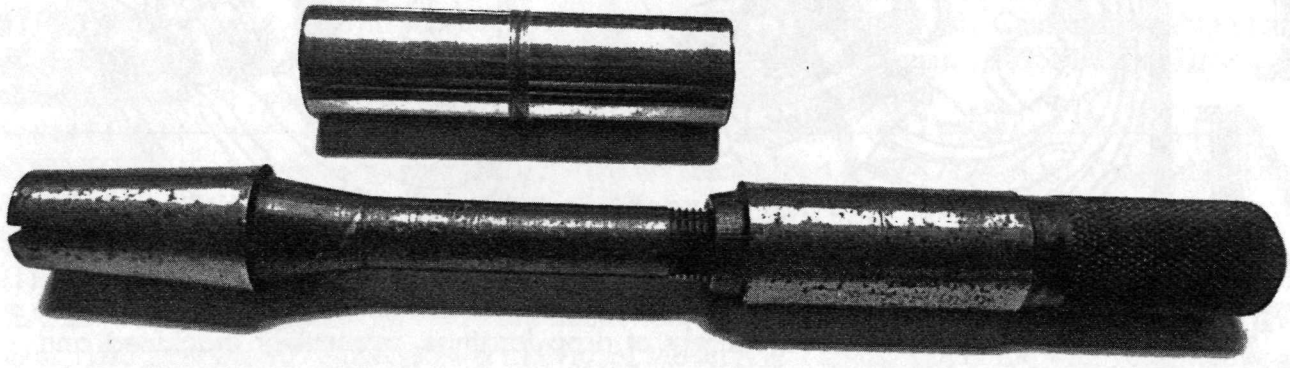
While paging through some back issues of Ford Dealer and Service magazine the other day, I came across an ad for a special Ford tool I haven't seen before, the Grady Grooving Tool.

The Model A Ford piston pin was held in place by a snap ring centered between the two bushings in the piston end of the connecting rod. This method was carried over into the early to mid 1930's V-8 engines. The tool shown in the photo was made available by several tool manufacturers, which I have collected, including K.R. Wilson, to spread the snap ring so that the piston pin could be installed. The two parts were separated, the piston pin inserted, and the parts screwed together. The tapered portion of the tool would spread the snap ring and allow the piston pin to enter.

Seeing the Grady Grooving Tool ad was the first time that I was aware of the "problem" that is mentioned of the "annoying wrist [piston pin] knock in Model A motors".

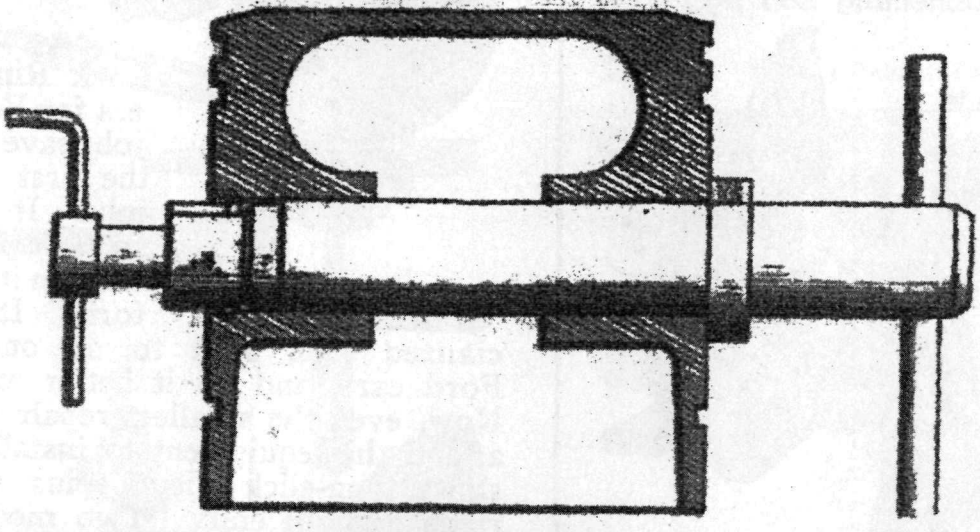
I discovered an ad in the January 1933 issue of Automobile Service Magazine about another tool for the same purpose, the Circo Lock Ring Grover.

Another tool was mentioned in the 1936 K.R. Wilson Catalog for Ford Dealers, designed to clean up the original retainer ring groove in the center of the wrist pin bushing in the connecting rod, again for the purpose of eliminating or reducing "clicks or supposed piston slap".



1930

Remove That Idle Knock!



GRADY GROOVING TOOL

(Pat. Appl. For)

The use of this Tool has permanently eliminated that annoying wrist pin knock in Model "A" Motors for Ford Dealers from Coast to Coast for nearly a year. This is accomplished by using a slightly shorter special pin or by grinding a little off regular Ford pin and replacing the wrist pin retaining ring in the connecting rod with two rings in the piston bosses.

These grooves for the new rings can be cut with a few turns of this special Grooving Tool, which can be used on all types of Model "A" pistons.

Hundreds of dealers have ordered replacement parts for dozens of jobs after testing it out to their own satisfaction. Price of Tool with special wrist pins and rings for sample job is only

$13.75 C.O.D. Postpaid Anywhere in the U. S.

Order one of these Tools and cash in on some profitable repair work.

M. J. GRADY

61-65 No. Gratiot Ave.
EAST DETROIT, MICH.

PISTON TOOLS

KRW Connecting Rod Jig

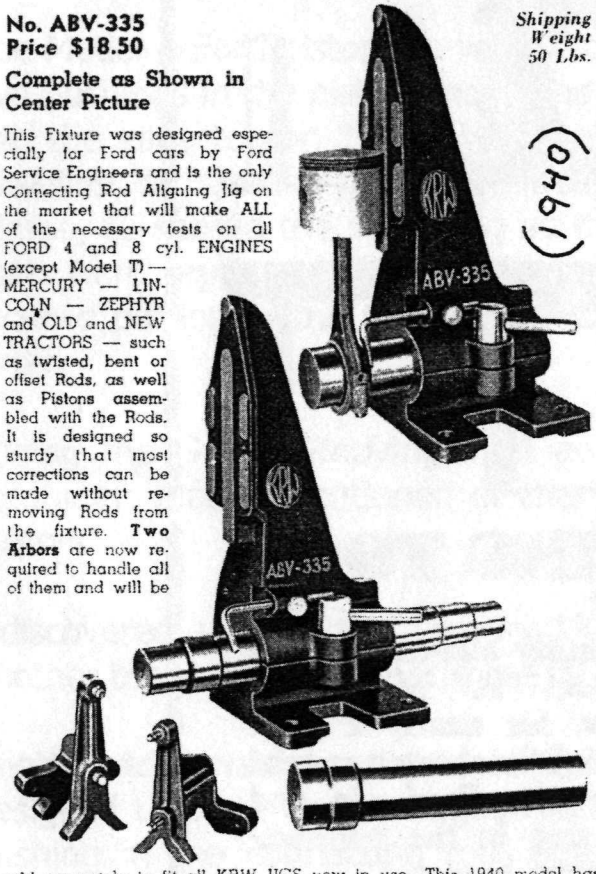
No. ABV-335
Price $18.50

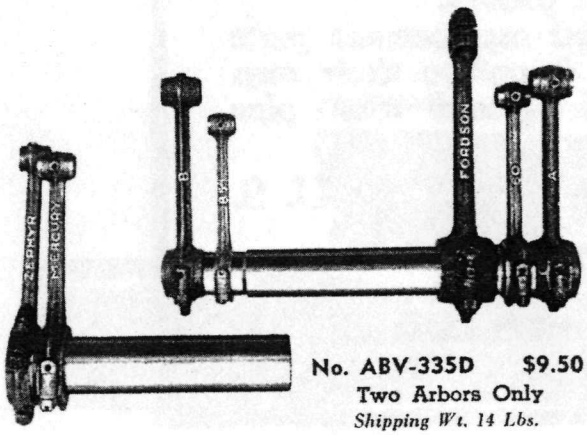
Shipping Weight 50 Lbs.

Complete as Shown in Center Picture

(1940)

This Fixture was designed especially for Ford cars by Ford Service Engineers and is the only Connecting Rod Aligning Jig on the market that will make ALL of the necessary tests on all FORD 4 and 8 cyl. ENGINES (except Model T) — MERCURY — LINCOLN — ZEPHYR and OLD and NEW TRACTORS — such as twisted, bent or offset Rods, as well as Pistons assembled with the Rods. It is designed so sturdy that most corrections can be made without removing Rods from the fixture. **Two Arbors** are now required to handle all of them and will be sold separately to fit all KRW JIGS now in use. This 1940 model has a long flat surface in the center of the face plate to better accommodate the new type Pistons and short Connecting Rods as used in the "Sixty" and Mercury Engines. DON'T GUESS — Test every Connecting Rod before you assemble it in the engine. You can't buy a better fixture at any price.



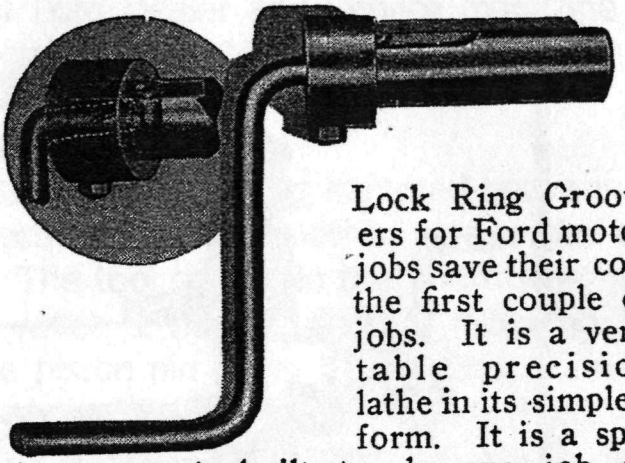


No. ABV-335D $9.50
Two Arbors Only
Shipping Wt. 14 Lbs.

(1933)

Lock Ring Groover

HOW do you groove Ford short piston pins to install lock rings? The Circo



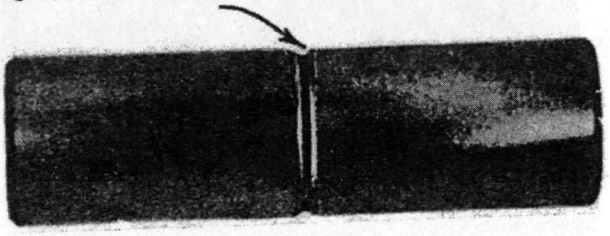
Lock Ring Groovers for Ford motor jobs save their cost the first couple of jobs. It is a veritable precision lathe in its simplest form. It is a specialized tool, built to do one job on Ford cars, and do it better and faster. Now, even the smallest repair shops can afford this equipment to install the new short, non-click piston pins with lock rings at both ends. Two models — one especially made for the Ford V-8. Write the Circo Products Co., Dept. D9, Cleveland, Ohio, for the details and low price.

(1930)

Note the inaccurate machining of the retainer groove in the piston pin shown in Fig. 917. Work of this kind invariably means trouble for both the dealer and owner.

When an owner experiences trouble as the result of having been sold a "gyp" part, he seldom blames the manufacturer of such material, *he blames the concern who sold him the goods.* As a result their business, which is dependent solely upon local trade, sustains a permanent loss, while the manufacturer of the "gyp" material simply transfers his selling efforts to some other locality where his goods are unknown.

NOTE INACCURATE MACHINING OF RETAINER GROOVE IN THIS "GYP" PISTON PIN.



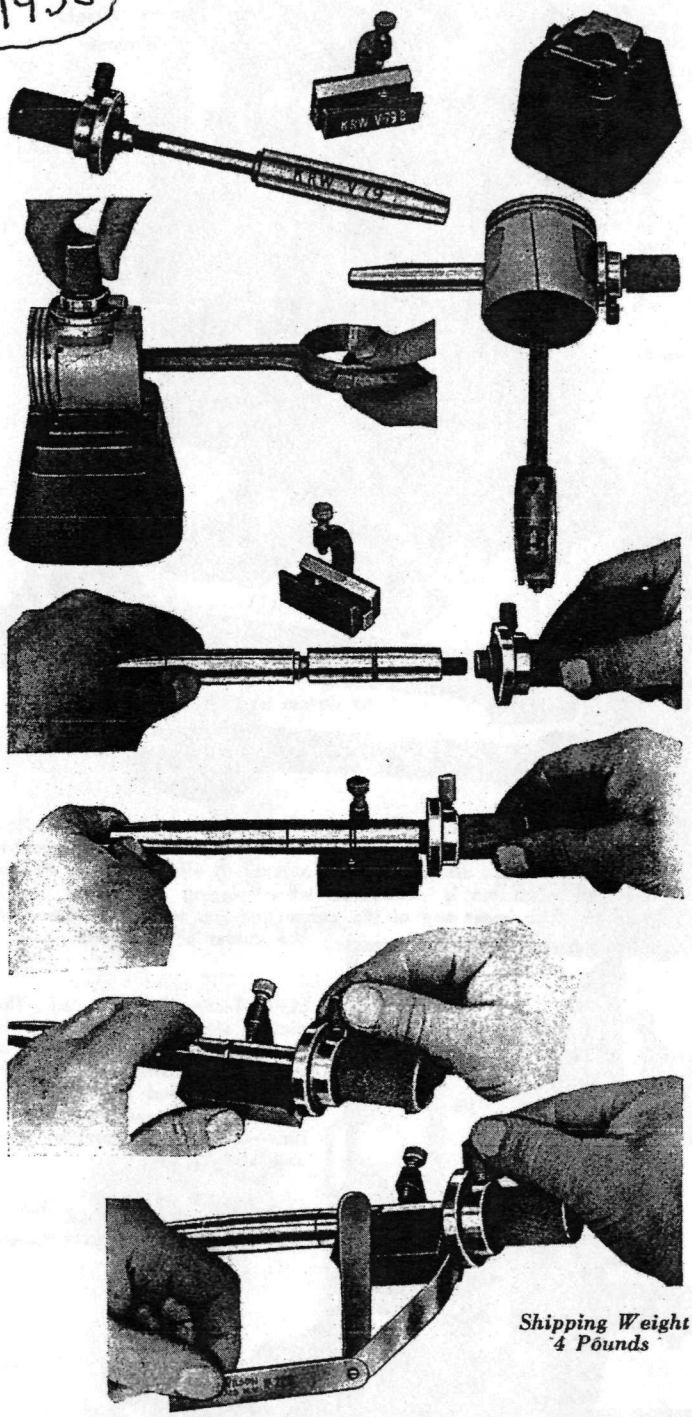
Improved Piston Pin Driver

No. AB-355	**For A-B Cars-Trucks**	**$5.50**
No. V-79	**For V-8 "85-95"**	**$4.75**

For Inserting Wrist Pins in Aluminum Pistons

"It Centers the Connecting Rod"

1936



Shipping Weight 4 Pounds

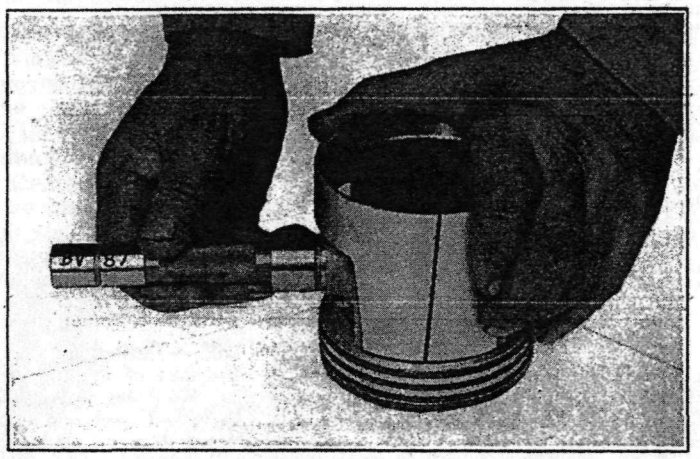
This KRW Piston Pin Driver, consisting of the three parts shown at the top of this picture, is designed to be used with a bucket of boiling water as a means of heating the piston and is intended for small shops where the volume of work is very limited. For larger shops the Electric Piston Heater and Pin Inserting Machine is recommended. A-B and V-8 Ford Engines are built to such close limits that the Connecting Rods must be exactly centered in the Piston, (using the outside diameter for such calculations)—if off-center more than two-thousandths of an inch they may bend and "cock" the piston at the first revolution of the Crankshaft before the piston has heated up and expanded sufficient to "free" the wrist pin. To avoid this trouble we have designed a Piston Pin tool with an adjustable collar or face plate to be used as a "stop" when it contacts the finished surface on the body of the piston. To operate:—First, check the piston pin holes with the Piston Plug Gauge, No. BV-87, to make sure you will have the correct "shrink fit" when the job is completed. Then place the wrist pin on the Arbor, as shown in the two center pictures, and set the collar by means of the "special gauge," which utilizes the groove in the wrist pin for its location. For oversize pistons, place the blade of a Feeler Gauge between the collar and end of the fixture as illustrated, equal to just one half the amount of oversize.

Example:—If piston is ten thousandths oversize, use a five thousandths "feeler." This tool is precision made for a job that must be done RIGHT and is easily worth double our price.

A, B, V-8 Piston "Go-No-Go" Plug Gauge

No. BV-87 **Price $8.00**

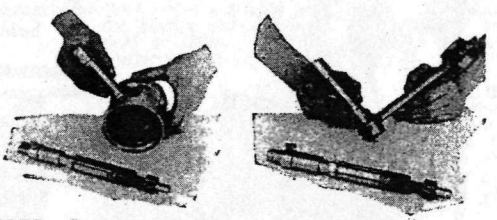
Shipping Weight 2 Pounds

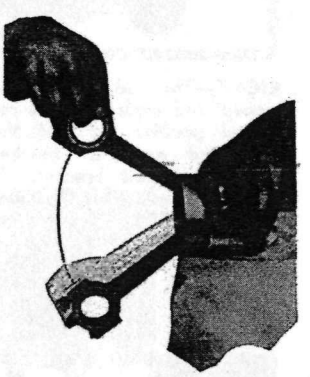


SEE !

Pages 51-52
Subject No. 6110
(Engine)

Ford
Service Bulletin





After reading the FORD Service Bulletin you will appreciate the importance of fitting Ford Wrist Pins accurately. On account of the large amount of expansion of Aluminum Pistons it is necessary to "diamond bore" or ream the wrist pin holes two-tenths of a thousandth (about 1/12 the thickness of a human hair) smaller than the Wrist Pin so that when heated to normal working temperature the Wrist Pin is really a "push fit" or practically the same as you would fit a cast iron piston when cold. A tenth of a thousandth variation either way is the difference between success or failure. New Standard and Oversize Pistons are already "diamond bored," burnished and tested when you receive them. On repair work only the Two Thousandths Oversize Plug Gauge is required for installing oversize pins in holes that have worn loose and sloppy. For reaming and burnishing Wrist Pin holes to these close limits we recommend the U. S. "Single Bladed" Expansion Reamer and Burnisher (illustrated above and on page 19) being the only type that will enable ordinary Mechanics to obtain these results. This Plug Gauge is made double ended for 4 and 8 Cylinder Pistons. The difference between the GO and NO GO Diameters is but one-tenth of a thousandth. Such extreme accuracy makes it necessary to hold the manufacture of them within 25 Millionths of an inch variation. They are made especially for us by one of America's Foremost Gauge Makers. The lower picture shows how to test the fit of a Wrist Pin; if Correct the Connecting Rod will drop slowly by its own weight. BE A MASTER MECHANIC — USE A PLUG GAUGE and GET RESULTS.

6 K R W CONNECTING ROD JIG FOR "A" - "T" AND TRACTORS

THE K R W Connecting Aligning Jig costs less, does more than any other fixture on the market. It handles all three styles of Ford A-T and Fordson Rods as shown below. It not only tests for twists and parallelism but "offset" rods which cause plenty of trouble. The fixture is a heavy semi-steel casting properly proportioned to withstand strains, etc. The castings are rough machined then seasoned for several months before being finished, to insure permanent accuracy. The Faces are ground. The Arbor is made of high grade alloy steel, heat treated, hardened and ground to close dimensions. Three different diameters accommodate the various types of Ford rods. The "sea lyon" or tripod is carefully milled, then accurately ground to match master fixtures. The clamp takes up all lost motion and is designed so that it cannot distort the fixture. See pictures below which explain other valuable features.

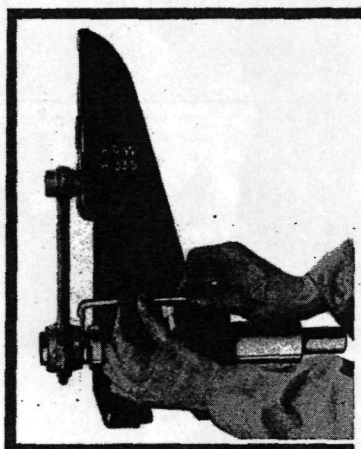
It is a well known fact that most "piston troubles" are due directly or indirectly to improper alignment. Sometime the piston is "cocked" because of a bent connecting rod, but more often the trouble is due to carelessness of the mechanic while assembling pistons and connecting rods. Wrist pins may be installed off-center, rods may be bent by careless handling, holding in a vise, etc. When assembled to the crankshaft the piston is "cocked," pumps oil and causes excessive wear on the cylinder walls. The K R W Fixture will indicate all these errors so that they can be corrected before final assembly is completed. The value of this fixture cannot be over-estimated. It is extremely necessary to turn out good work.

★ No. A335
PRICE $12.50

F.O.B. Factory Arcade, N. Y.
Shipping Weight
46 Pounds

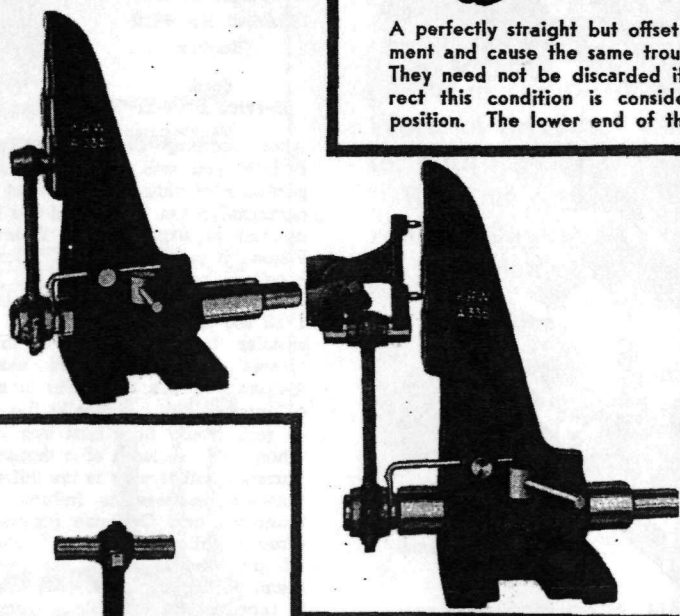
SEE FORD SERVICE BULLETIN—JAN. 1929

A perfectly straight but offset rod will throw the piston out of alignment and cause the same trouble as a piston pin installed off center. They need not be discarded if the amount of offset required to correct this condition is considered when placing the piston pin in position. The lower end of the connecting rod must be in line with the center of the piston.

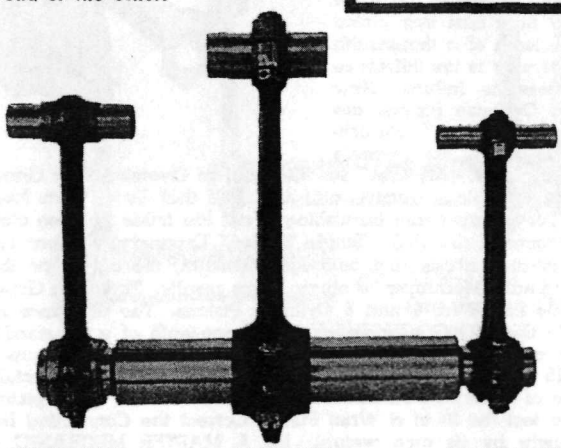


LEFT — Testing rod for "offset." The face of the top end should just touch the fixture. It should be moved back and forth to see that it does not bind. The arbor clamp is then tightened and the "L" shaped bracket adjusted until it touches the edge of the babbitted end.

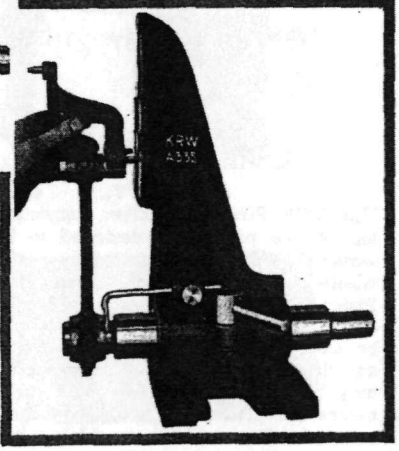
RIGHT—The rod is then removed and replaced in a reversed position, so that the babbitted end just touches the "L" shaped bracket. If the rod is offset, the amount of error will show up at one end or the other.



LEFT—Testing for bent rod. The picture shows only one point of the tripod touching the face of the fixture. The rod may be straightened and corrected without being removed from the fixture—saving considerable time and labor.



MODEL "A" FORDSON MODEL "T"



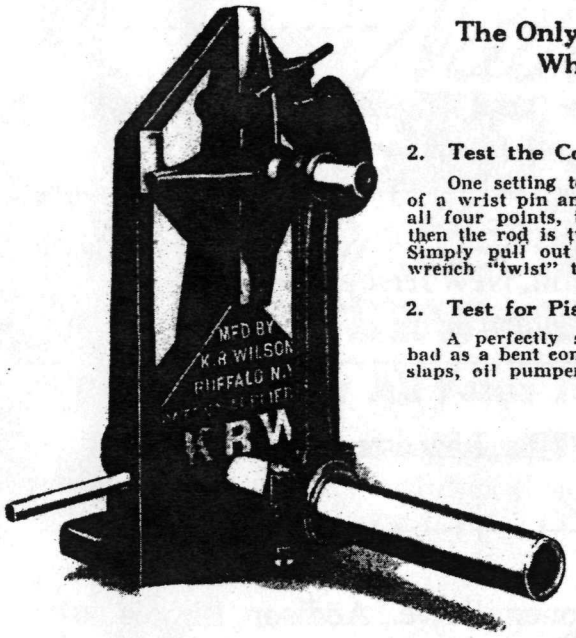
RIGHT—This picture shows a twisted rod which may have been caused by being held in a vise while removing the piston or loosening the nuts. The tripod is used in a reversed position. Piston and connecting rod assemblies can be tested for correct centers by the same method used for "offset" rods only.

The K. R. W. Connecting Rod and Piston Aligning Jig

7

The Only Special FORD Connecting Rod and Piston Aligner Jig Made Which Takes Into Calculation the Difference in Diameter Between the Top and Bottom of the Piston.

1926



2. Test the Connecting Rod for Parallelism and Twists.

One setting tests the rod both ways. The four-pointed indicator measures nearly twice the length of a wrist pin and magnifies slight errors to very noticeable ones. When the indicator faces bear on all four points, then the connecting rod is in perfect alignment. If only one point makes contact then the rod is twisted or bent and can easily be straightened without removing from the fixture. Simply pull out the Arbor and piston-rod assembly half-an-inch and with a bending iron or monkey wrench "twist" the rod one way or the other until all four points touch.

2. Test for Piston Bore Alignment.

A perfectly straight connecting rod attached to a piston with a crooked wrist pin bore is just as bad as a bent connecting rod. Pistons must travel absolutely straight in the cylinders otherwise piston slaps, oil pumpers, and scored cylinders will develop. A "cocked" piston squeegees the oil in something the same manner as a Ford piston ring put in wrong side up, and is the cause of practically all oil pumpers. Most service stations test only the connecting rods, and have never given any thought to the piston pin bore, therefore a great many cases of piston trouble have gone unsolved.

3. Installing Connecting Rod Clamp Bolt.

After pistons have been accurately fitted to the cylinders it is customary to put them in a piston vise while assembling the Wrist Pin and Connecting Rod. Unless the piston vise is bored out to exactly the same size as the piston, you will squeeze it out-of-round and spoil an otherwise perfectly good fit. We recommend using the hollow of the wrist pin while assembling the connecting rod or doing any other operations on the piston. In this way no strains are put on the body of the piston to force it out of round. We provide a steel pin on the side of this jig which saves time that is otherwise wasted going from the aligning jig to the piston vise, then back again. Use this method, it PREVENTS TROUBLE.

K. R. W. Alignment Jig

Costs Less — Does More

than any other piston and connecting rod alignment fixture ever made for Ford repair work.

W-28

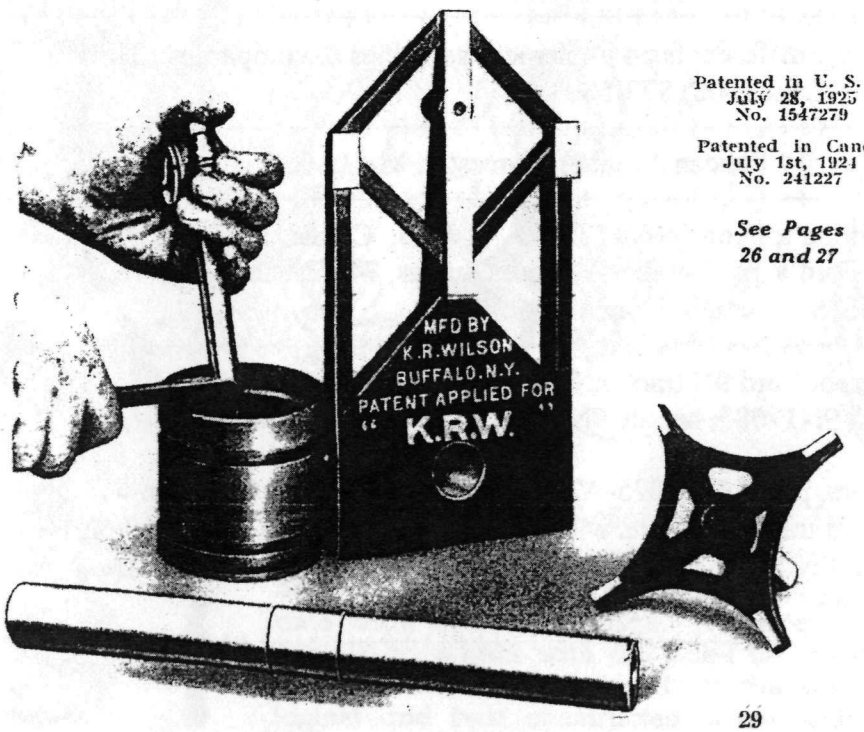
Price $14.00

Shipping Weight, 16 Lbs.

4. Test Both Sides of the Piston.

Many Ford repairmen do not know that a Ford Piston is .005 smaller on the first "ring land" above the relieved portion of the piston than it is on the body of it, and those who have purchased various other makes of piston aligning jigs, have been testing only one side of the piston, trying to get the surfaces of this ring land and the bottom skirt to make contact with the opposite faces of their aligning fixture, and while attempting to secure alignment by this method were actually putting it out, because the piston would have to be "cocked" one-half of .005 if this ring land is to make contact with the fixture.

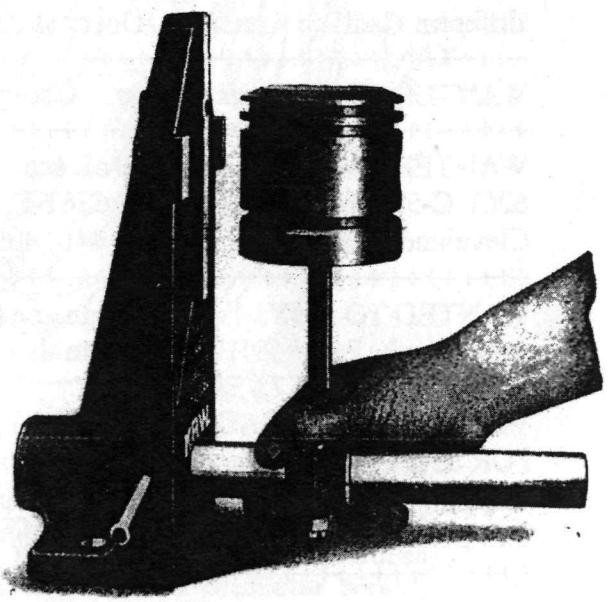
The K. R. W. Improved Jig takes this fact into consideration and a hardened and ground steel stud is located opposite this ring and projects .0025 above the regular surface, so that when the piston is tested on both sides it must check perfectly, otherwise it is "out". This valuable feature prevents any mechanic from making a mistake.



Patented in U. S. A.
July 28, 1925
No. 1547279

Patented in Canda
July 1st, 1924
No. 241227

See Pages 26 and 27



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Articles, letters to the editor, classified ads.
Phil Anderson, newsletter editor, 1420 Hidden Lake Drive, Placerville, CA 95667
Phone (530) 622-1343 email soquili@earthlink.net

CLASSIFIED ADS

FOR SALE. Many Ford script tools, 3Z-000 & 5Z-000, hand tools, jacks, tire pumps, etc. Email me with your needs. Gary Clonts, Oklahoma City. phone (405) 620-2655 email ggcinvest@aol.com

FOR SALE. Ford & Fordson wrenches. Many different farm implement wrenches & companies. Three different Cadillac wrenches. Dusty Hanan. phone (608) 873-5803.

WANTED. Fordson screwdriver. George Oja, 19 Pelican Avenue, Worcester. MA 01605-1123

WANTED. Manzel tools. 6701oil seal forming tool or Ford# T52T-6701-ADJ. Camshaft bearing plugs 6261-C-5, 6261-C-6, 6261-C-8, 6261-E, or Ford # T54T-6250-B. Louis Sumas, 7495Mclellan Drive, Cleveland, Ohio 44146 phone (440) 439-5628 email Lsuma5@aol.com

WANTED TO BUY. 1. Original grease gun for Ford 9N tractor, Part # 9N-17125-A. 2. Original Ford 9N tractor jack, Part # 9N17078, assembly (jack 9N17080, handle 9N17081). 3. 9N17014 plow wrenches numbers 1,2,3,4,6,7,8,30,31.
WANTED, BUY/TRADE. Harrold Tool pliers, part # B-17025-A2. Need good set for my book I'm writing.
FOR SALE. Complete, original N-series Ford tractor tool kits with new reproduction tool bag, $150 plus shipping. Also have Model A tool kits and individual Model A & T tools. Email me with your needs.
Tim Daley, email Daleynews4@yahoo.com phone (810) 338-1391