

THE ARBOR PRESS IN THE SERVICE STATION

By
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There are so many 'press' fits, on the Ford car; that an arbor press is an almost indispensable part of the equipment of the up-to-date Ford service station. Of course, with hammer and sledge, one can 'get along' without it—but shafts will be bent and sprung, and the threads on the ends of the shafts will be marred, by the crude, 'hammer-and-tongs' method.

Used at first as factory equipment, for assembling finished cars—the arbor press soon found its way to the Branches, to be used for taking apart the repaired Fords—without injury to the parts. And the press has now become an accepted part of the equipment of even the smallest shops, doing Ford car repairing.

Now there are many makes and types of arbor presses on the market, at a wide range of prices. And the arbor press, and the price, which are best adapted to one Ford repairshop, may not be best suited to another. Just as there are many kinds of automobiles—for many kinds of car owners.

Before we can decide intelligently, just what kind of an arbor press we want; we must consider what kind of work we intend to use the press for.

Uses Of The Arbor Press

Among the operations, for which we may use the arbor press, in Ford car repairing, are:

- Spindle body bushings on and off.
- Spindle arm bushings.
- Roller bearings into front hubs.
- Bushings into spring perches.
- Pressing crank shaft gear on and off.
- Driving out piston pin.
- Driving out piston pin bushings.
- Removing and replacing rear cam shaft bearing.
- Pressing in and out driving gear sleeve bushing.
- Pressing triple gear bushings in and out.
- Expanding triple gear bushings.
- Press slow speed bushing in and out.
- Press differential gear on axle, to remove ring.
- Press on and off drive shaft pinion.
- Press drive shaft sleeve on and off.
- Drive steering post bracket bushings in and out.
- Drive stationary cones on and off spindles.
- Press starting crank sleeve bushing.
- Press off steering wheel.

While there are other jobs than can be done, and done better, on the arbor press; it seems to us that this list is sufficiently comprehensive to indicate the scope and im-

portance of the arbor press in 'well-done-the-first-time' Ford car repairing.

Man-Killers

When a certain press does not have sufficient leverage and power, for the work that it is to perform; it is referred to, by the irate mechanic, as a 'man-killer'. By this he means that he has to tug and strain on the operating handle, in order to get the work done.

This means that there is not the correct 'ratio', between the length of the handle and its leverage, or the gear ratio of the 'ram' of the arbor press, and the 'resistance' of the work that is to be done.

Creepers

A very slow, and very powerful type, of press is sometimes referred to as a "creeper," in that it is slow but sure. These presses are of the type in which there is a screw thread, cut on the ram. While this is a very powerful type of press, and well-adapted to the work of repairing 'heavier-than-Ford' cars; it is unnecessarily powerful, and too slow to be used for speedy and profitable Ford car repairing.

Happy Medium

What we want is the 'happy medium', between speed and power. We want a 'ram' or 'rack-and-pinion' type of arbor press. This type has but little friction, much speed, and sufficient power.

Now speed does not necessarily mean that a high ratio, such as 30-to-one, should be used; in preference to a ratio like 100-to-one. The operator may be able to force the ram down on the work faster, with the 100-to-one ratio.

The point, at which time is most frequently lost, is in adjusting the press to the work, and in bringing the ram, or plunger, down into 'contact' with the work. For this reason, any quick-adjustment features—such as a rim wheel for speeding the ram up or down—may be of great value as time-savers, and should be given careful consideration.

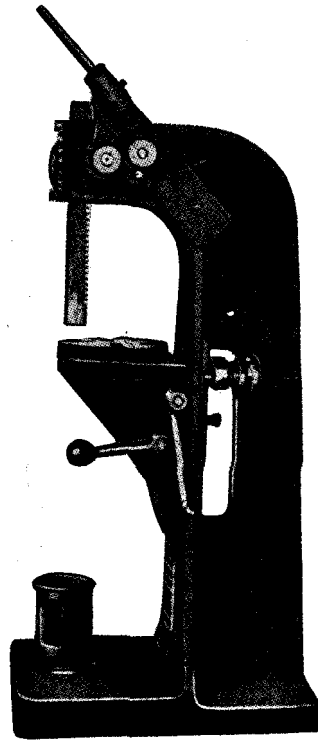
WELL-KNOWN MAKES OF ARBOR PRESSES

Atlas Arbor Press

The Atlas Press Company, of Kalamazoo, Michigan, are the makers of a comprehensive line of arbor presses, for 'any-and-all' occasions. Several of their presses are specially well adapted to the requirements of Ford service station work.

For the larger Ford service stations, their No. 4M arbor press is much used. This press takes work up to 21 inches in diameter, and has a capacity, over the table, of 25 inches. Of course, drive shafts, and axle shafts, of almost any length, can be handled, by having a hole right through the floor, directly under the ram or plunger.

Such a press has a ram 2 by 2 inches, by 22 inches long, and will handle arbors up to 4½ inches in diameter. The press is 62 inches high, and occupies a floor space of 21 by 29 inches. The leverage, of this press, is 55-to-one.



Atlas 4M Arbor Press

A somewhat lighter press, which seems to us well adapted to the requirements of the average Ford repairshop, is the Atlas press No. 3A. This press holds work up to 20 inches in diameter, and has a capacity over the table, of 16 inches. The gear ratio, of this press, is also 55-to-one.

This press can be had either with, or without, the pedestal. While the pedestal makes a neater, and more complete looking job—equally good work can be produced by mounting the press on a firm, solid work-bench—and this reduces the cost of the outfit by about one-third. The pedestal can be purchased later, if desired.

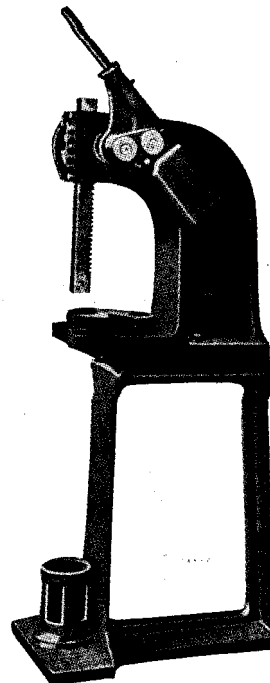
For shops doing repair work on different makes of cars, we think that the Atlas No. 26 is a good type. This press has a leverage of 160-to-one, or nearly three times that of the Ford-size presses. Thus it can handle

work, on heavy pleasure cars and trucks, to advantage. It will handle work 30 inches in diameter, and 27 inches, over the table.

American Arbor Presses

The Fairbanks Company sells the American arbor press, which is a substantially constructed press capable of speedy action. This press has a leverage of 60-to-one.

This press will accommodate work up to 19 inches diameter; and 30 inches, above the table. The work table can be quickly adjusted, to any desired position, by means of an entirely enclosed counter balance weight. The table is held in position by a hand nut and screw support from below. There are also two quickly adjustable emergency bolts,



Atlas 3A Arbor Press

extending through the side of the frame, to give extra support to the work table, for very heavy work.

The hand wheel gives quick-feed and quick-return; while the counter balance, on the ratchet lever, permits of quick manipulation of the operating handle.

A lead-filled pad, at the base of the press, prevents damage to arbors and tools forced through the work, and dropped down towards the floor. The base is slotted, so that long drive shafts, and other parts can be handled to advantage.

Fox Arbor Press

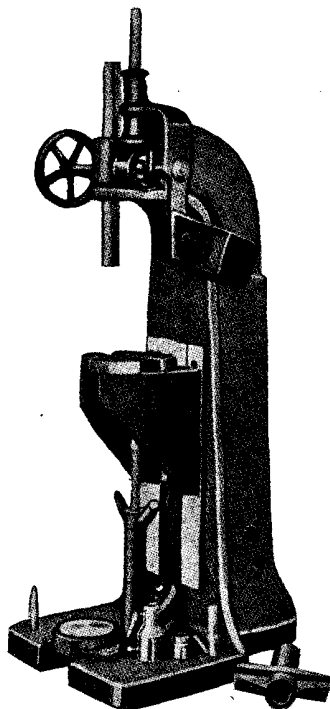
The Fox arbor press No. 4 is about the right size for Ford service station work. This press has a leverage of 60-to-one.

The Fox press holds work up to 19 inches diameter, and has a capacity of 20 inches over the table. The work table is balanced

by a counter weight. The table is quickly adjusted, and held in position, by a foot-controlled ratchet. The base is slotted, for use with Ford drive shafts and other long work.

Greenard Arbor Press

The No. 4 Greenard press is the size that is usually recommended for Ford car repair



American Press

work. This press has an adjustable table knee, tongued into the planed front surface of the frame. Two studs, with nuts, hold the knee against the frame. And a square-threaded, coarse-pitch screw supports the knee in position, without tightening the stud nuts. This press has a height of 60 inches.

There is a loop, attached to the base of the press, to keep axle shafts from falling over sideways. And a lead-filled pad, at the base of the press, prevents injury to special arbors dropped through the work. The pitch of the screw, holding the table, is such that the press table will not "run down"—even under maximum pressure.

Canedy Arbor Press

Several sizes of Canedy arbor presses are made, but the No. 2, or No. 3, presses, which have a capacity of work up to 19 inches diameter, and 19 inches over the table, are probably the sizes best suited to Ford repairing.

These presses have a leverage of 60-to-one, and are of the bench type, being 24 inches high. They have a capacity of 5 tons pressure.

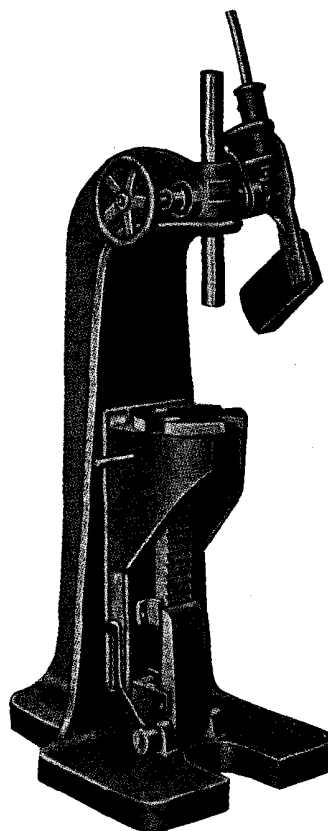
Manley Combination Press

The Manley universal press, is of the screw-and-wheel type, but also has a rack-and-pinion, quick-action plunger press attachment, mounted at one end of the frame. This rack-and-pinion part of the press is used for such lighter work as pressing in spindle body bushings; while the screw feed part of the press is used for such heavier work as pressing gears on and off the drive shaft.

Geier Arbor Press

The Geier arbor press is of the bench type, and is a little light for the heavier kinds of Ford car repairing. However, it can be used to advantage for pressing bushings, and many of the lighter kinds of work.

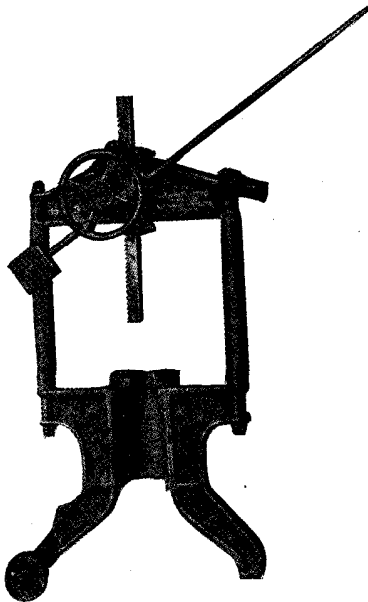
The No. 3A press has a leverage of 45-to-one, and holds work up to 24 inches in diameter. The height, over the work plate, is 10¾ inches.



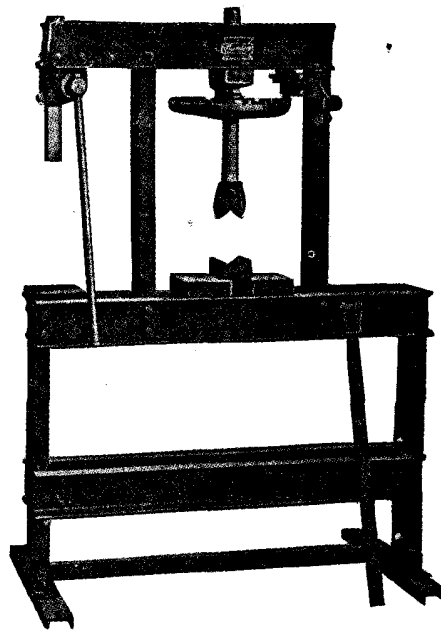
Fox Arbor Press

ARBOR PRESS BUSHING DRIVERS AND BALL RACE TOOLS FOR FORDS.

Mfr. No.	Description.
1	Spindle Body Bushing Bracket.
2	Inner or Outer Ball Race Remover.
3	Spindle Arm Bushing Driver.



Canedy Press



Manley Universal Press

- 4 Triple Gear Bushing Driver.
- 5 Transmission Brake Drum Bushing Driver.
- 6 Tool for Driving Timing Gear on Crank Shaft.
- 7 Tool for Driving Roller Bearing Sleeve on Propeller Shaft.
- 8 Front Wheel Outer Ball Race Driver.
- 9 Slow Speed Bushing Driver.
- 10 Front Wheel Inner Ball Race Driver.
- 11 Reverse Drum Bushing Driver.
- 12 Driven Gear Puller Block.

Crane Puller Press

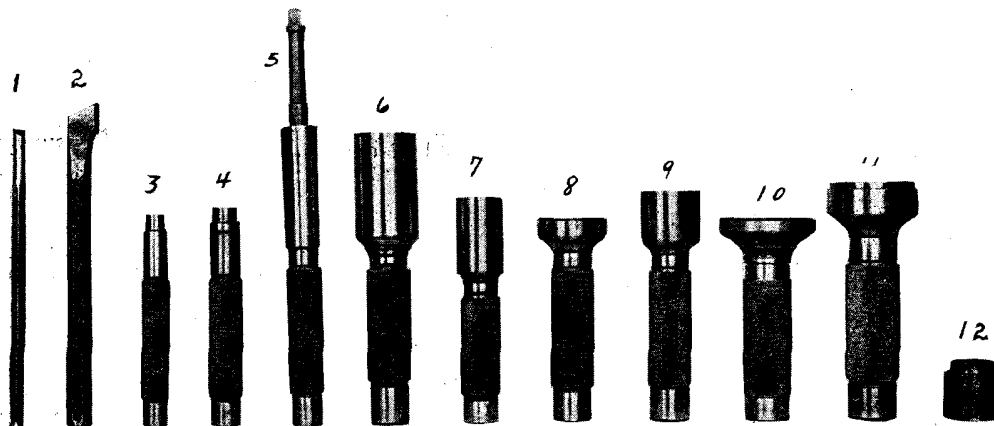
While the Crane Puller is not an arbor press (in the strict sense of the term) still this very useful shop tool can be supplied with an arbor press base, which is fastened to the work bench with a couple of lag screws.

The hooked arms, of the Crane Puller, are then fastened into this base, with a couple of set screws; and the Crane Puller then makes a very practical arbor press. Of course, it is not fast, but it will do good work, and is a useful solution of the arbor press problem for those very small shops, which do not do enough work to justify the purchase of a regular arbor press.

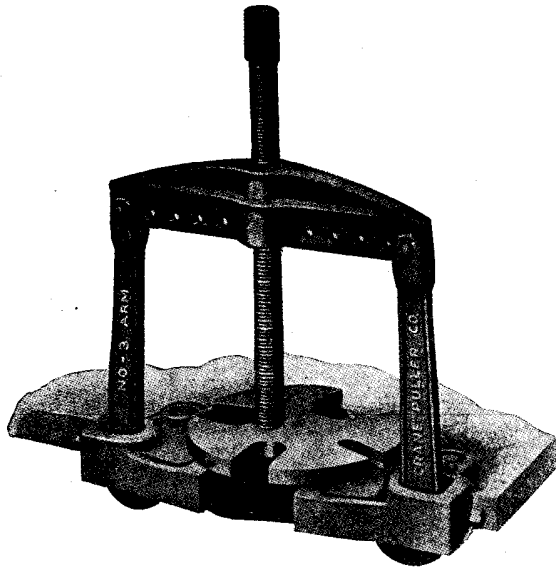
Bushing Swedging Press

In the Beach process, of swedging worn bushings up to full size, a set of special swedges are used on a special arbor press.

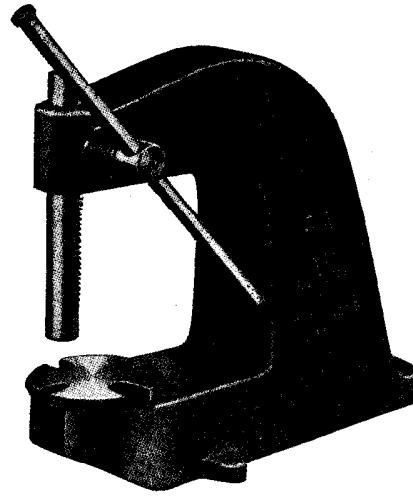
These swedges are in sizes from 7/16 to 1-3/16 inch diameter, taking the sizes most commonly used. The compression, of the bushing metal during the swedging process, is said to leave the bearing metal in a smoother and finer grained condition than when new.



Arbor Press Tools



Crane Puller Press



Gier Bench Press

Arbor Press Bushing Drivers

To do the best work with an arbor press, certain arbor press bushing drivers and special tools are required. These tools are made of high-grade steel and hardened, to withstand long wear. By using these arbors one avoids marring and scratching the bushings, and so the reaming and finishing of the work is facilitated.

Wilson Sensitive Press

The arbor press, made by K. R. Wilson, of Buffalo, N. Y., is of the 'sensitive' type, in which the operator can 'feel' the amount of the pressure that is being applied.

In such work, as pushing bushings into the transmission drums, where an undue pressure would warp or distort the drums; these lighter arbor presses are especially valuable.

If the bushing is too tight to fit, this sensitive press allow the operator to 'feel' that the work is not right; and the bushing can then be rubbed down to the correct size.

Even though the shop is already provided with one of the larger arbor presses, a light press can be mounted on the front axle repair bench. It can be used by the front axle repairmen for pressing in and out front spindle body bushings, and similar light work, without the necessity of losing time in going over to the other press. The use of the lighter press also frees the heavier press for the use of other mechanics, who will lose time if kept waiting to use it.

This Wilson sensitive press is made for use as a bench press, or it can be mounted on a suitable cast iron pedestal—which is supplied at an extra charge.