# FACTORY DESIGNED, TESTED AND APPROVED

## SERVICE TOOLS for . . .

# FORD TRACTORS

GOLDEN JUBILEE MODEL
Ford
1903 • 1953

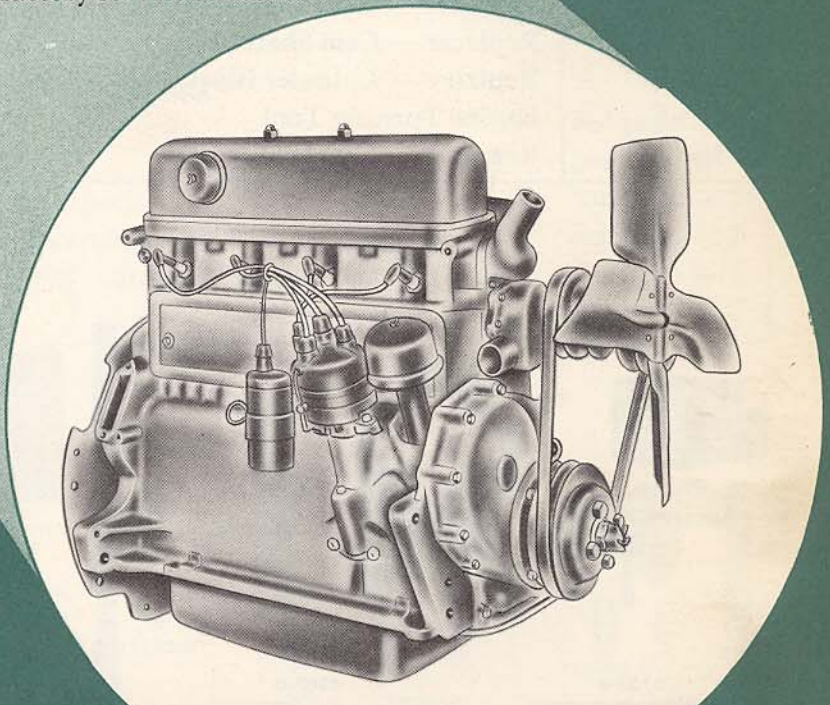
These tools were designed by Manzel Engineering Department in cooperation with the Engineering and Service Departments of Dearborn Motors.

These are the tools that are in use in the Tractor Service Schools, where your mechanics are trained. Factory job time and overhaul instructions are based on their use.

Be sure your mechanics use these tools to save time, cut costs and maintain factory service standards.

**MANZEL POLICY — YOUR PROTECTION**

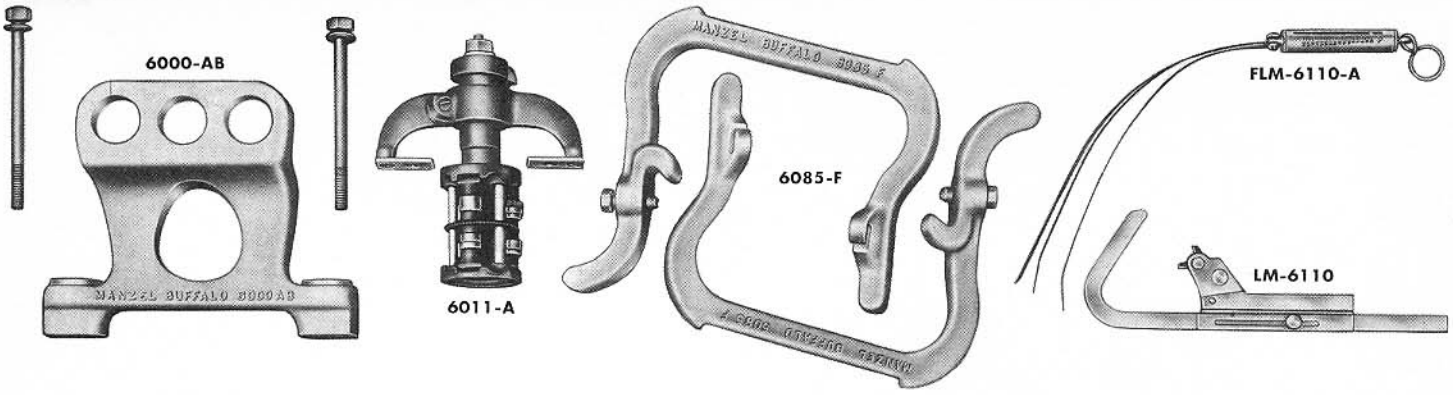
Service tools manufactured and sold by Manzel will be replaced without charge if a failure occurs due to workmanship or material within a reasonable time.



Manzel

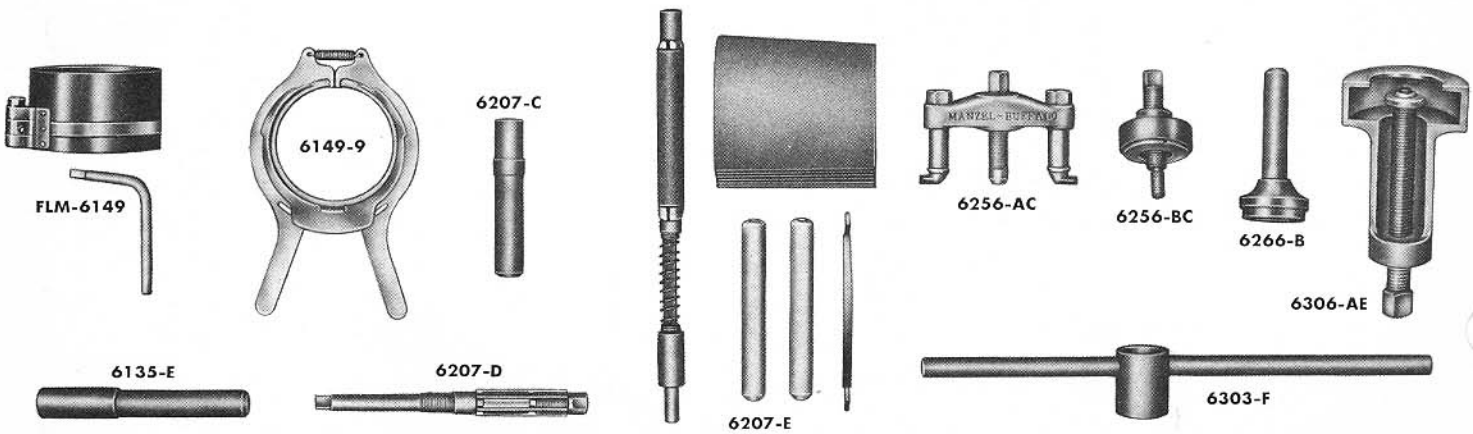
315 BABCOCK STREET, BUFFALO 10, NEW YORK

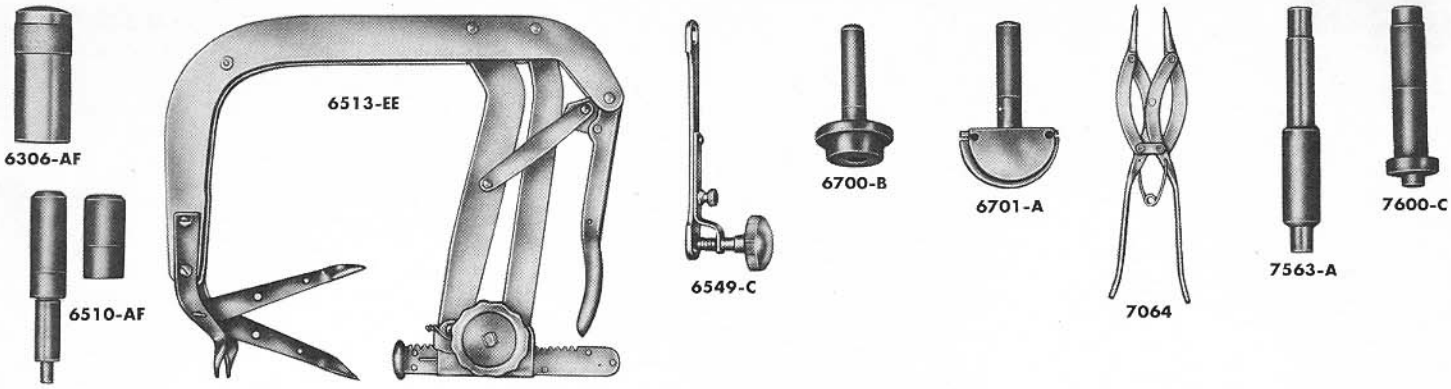
Publication FT 353




# 1953 NAA FORD TRACTOR TOOLS

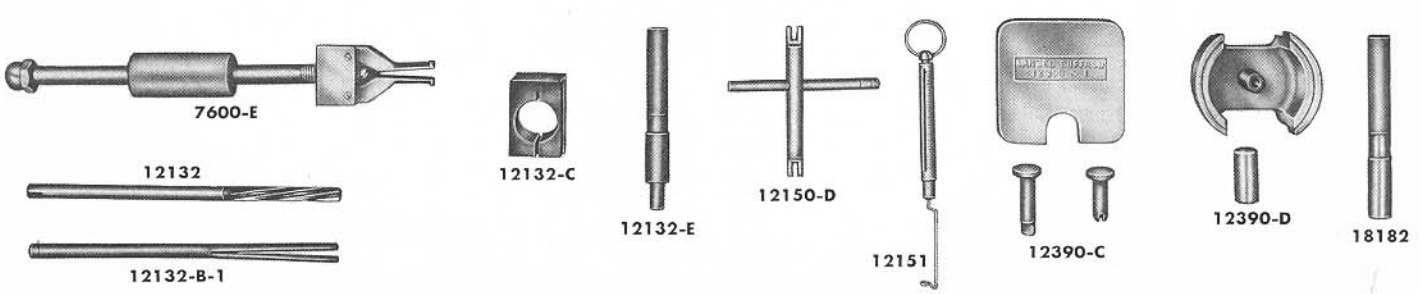
| TOOL NO. | DESCRIPTION | |
|---|---|---|
| 6000-AB | Hook — Engine Lifting | |
| 6005-D | Portable Base —For 6005-BA Pedestal | See page # 7 |
| 6005-BA | Pedestal only — box type — complete with lock | See page # 7 |
| 6005-CC | Mount & Spindle — Engine Repair Stand (Keyed) for Manzel Stand | See page # 7 |
| 6005-CD | Mount & Spindle — Engine Repair Stand (Splined) for K.R.W. Stand | See page # 7 |
| 6011-A | Ridge Reamer Cylinder | See page # 5 |
| 6085-F | Overhaul Fixture — Cylinder Head | |
| LM-6110 | Cleaner — Piston Ring Groove | |
| FLM-6110-A | Piston Pull Scale | |
| 6135-E | Remover & Replacer — Piston Pin | |
| FLM-6149 | Compressor — Piston Ring | |
| 6149-9 | Piston Ring Expander | |
| 6207-C | Remover & Replacer — Connecting Rod Bushing | |
| 6207-D | Reamer — Connecting Rod Bushing | |
| 6207-E | Hone — Connecting Rod Bushing | |
| 6256-AC | Remover — Cam Shaft Gear | |
| 6256-BC | Replacer — Cam Shaft Gear | |
| 6266-B | Replacer — Cylinder Block and Head Core | |
| 6303-F | Engine Turning Tool | |
| 6306-AE | Remover — Crankshaft Gear | |



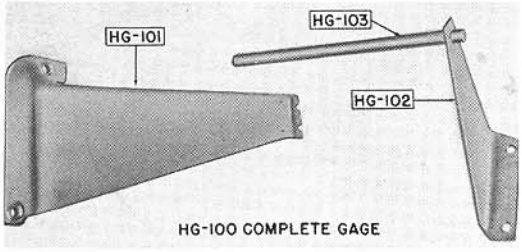



## 1953 NAA FORD TRACTOR TOOLS — Continued

| TOOL NO. | DESCRIPTION | |
|---|---|---|
| 6306-AF | Replacer — Crankshaft Gear | |
| 6510-AF | Remover & Replacer — Valve Guide | |
| 6513-EE | Compressor — Valve Spring | |
| 6549-C | Adjusting Tool Valve Tappet | |
| 6700-B | Replacer — Crankshaft Oil Seal | |
| 6701-A | Forming Tool — Crankshaft Rear Oil Seal | |
| 7064 | Remover & Replacer Snap Ring | |
| 7563-A | Pilot — Clutch Disc Assembly | |
| 7600-C | Replacer — Clutch Pilot Bearing | |
| 7600-E | Remover — Clutch Pilot Bearing & Engine Drive Plug | |
| 12132 | Burnisher — Distributor Shaft Bushing | |
| 12132-B-1 | Remover — Distributor Shaft Bushing | |
| 12132-C | Holding Block — Distributor | |
| 12132-E | Replacer — Distributor Bushing | |
| 12150-D | Distributor Adjusting Tool & Arm Bender | |
| 12151 | Tension Scale — Distributor Point | |
| 12390-C | Remover Kit — Distributor Gear | |
| 12390-D | Fixture — Installing & Locating | |
| 18182 | Remover & Replacer — Governor Needle Bearing | |
| M-105-S25 | 0 to 25 Ft. # capacity | See page # 6 |
| M-105-S50 | 0 to 50 Ft. # capacity | See page # 6 |
| M-105-S100 | Torque Wrench ½" Drive 100 Ft. # capacity | See page # 6 |
| M-105-S150 | Torque Wrench ½" Drive 150 Ft. # capacity | See page # 6 |
| LM-106 | Tester — Valve Spring (use with 100# Torque Wrench) | See page # 6 |
| M-120-RA-72 | Aligner — Connecting Rod | See page # 5 |

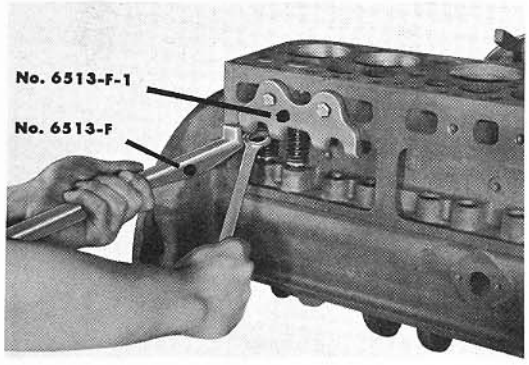


# FORD TRACTOR TOOLS PREVIOUSLY RELEASED
## For 9N, 2N, and 8N Models



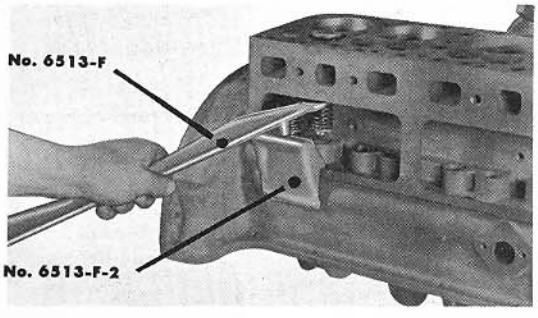
HG-100 COMPLETE GAGE

### Adjusting Gauge • Hydraulic Mechanism
**HG-100** — This gauge will aid in properly adjusting the hydraulic mechanism that it may perform specific functions in connection with operating a wide variety of implements and equipment designed for tractor use. It will save time in solving many adjustment problems.

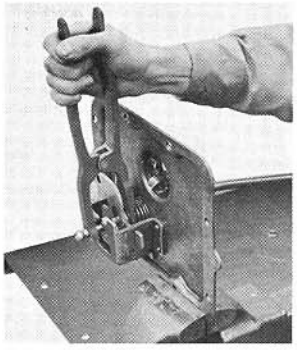



**COMPRESSOR • VALVE SPRING TRACTOR ENGINE No. 6513-F** — A double end bar type spring compressor, made of heat treated steel with accurately machined pads. The length is ample enough to insure plenty of leverage. This bar is used in connection with Accessories No. 1 and No. 2 for valve spring of keeper removal. Hard nickel plated to resist corrosion.

**ACCESSORY No. 1 • COMPRESSOR • VALVE SPRING TRACTOR ENGINE — No. 6513-F-1**
A well made fine grain cast iron accessory for use with Valve Spring Compressor to remove valve spring keepers. It is attached to the cylinder to insure a stop for the bar. Finished in hard bright nickel to resist corrosion.

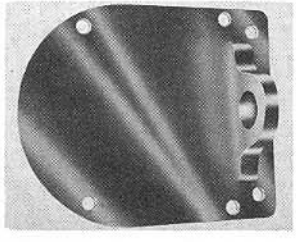



**ACCESSORY No. 2 • VALVE SPRING COMPRESSOR • TRACTOR ENGINE • No. 6513-F-2**
A well made fine grain cast iron accessory for use with Valve Spring Compressor, to act as a lever point when compressing valve springs. It fits over the valve spring chamber ledge, the lower portion resting on the cylinder block wall, thus assuring a positive non-slipping rest. Finished in hard bright nickel to resist corrosion.



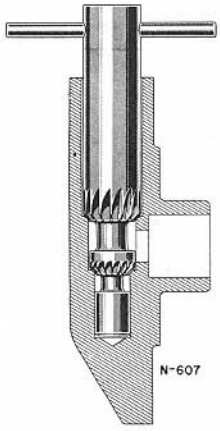
### Compressor • Shifter Lever Spring • Transmission No. 7227
A specially designed tool to quickly and efficiently compress the Shifter Lever Spring for assembly and disassembly. The cap end will fit the lower end of the Shifter Lever. The other end of this plier type tool is thin enough to go between the spring coils. Made of manganese bronze and hardened steel to take plenty of abuse. Hard bright nickel plated to resist corrosion.

### Hoist • Engine No. 6050-A
Hoist is made of manganese bronze and provides two points for picking up engine. Attaches to cylinder head without interference with spark plugs. Special nuts are provided to insure full grip on cylinder head studs. Hard bright nickel plated to resist corrosion.

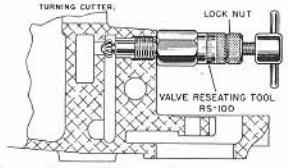


### Lift Plate • Transmission No. 7005-B
A sturdy well designed Lift Plate to facilitate handling the Transmission. It is fastened to the top surface of the Transmission Housing. An eye cast integral is provided for chain hoist hook. Finished in hard bright nickel plate.

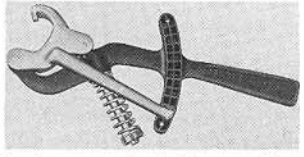
### Reseating Tool Hydraulic Pump Side Plate No. N-607
This is a precision tool that should be a welcomed addition to every tractor service mechanic's tool kit. Without it, the operation of reseating the hydraulic poppet valve seats cannot be correctly performed. Care should be exercised in using it to avoid removing more metal than necessary to clean up both seats.



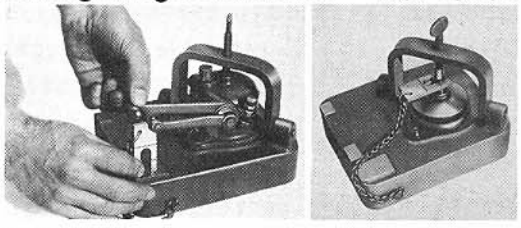

### Reseating Tool • Relief Valve No. RS-100
This is an essential tool for every tractor mechanic's service kit. With it the seat of the relief valve in hydraulic pump can be reconditioned quickly and accurately.




### Scale • Pinion Tension • Rear Axle No. 4209-D
These necessary tools measure the amount of tension or effort required to turn over the pinion shaft after repair or adjustment has been made. When used in combination with a pair of 4634-A Lock Nut Wrenches, "factory recommended" torque can be maintained, thus assuring a quiet rear axle with a minimum of gear wear.



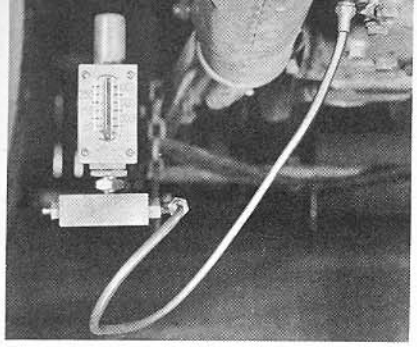
### Setting Gauge • Governor No. 18204

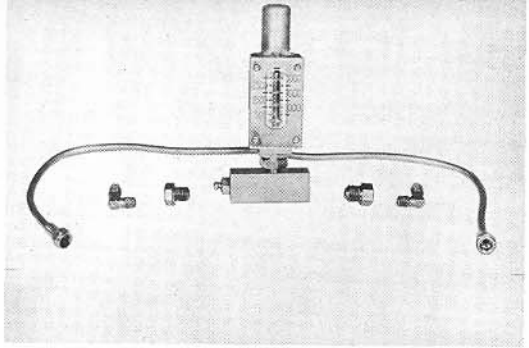


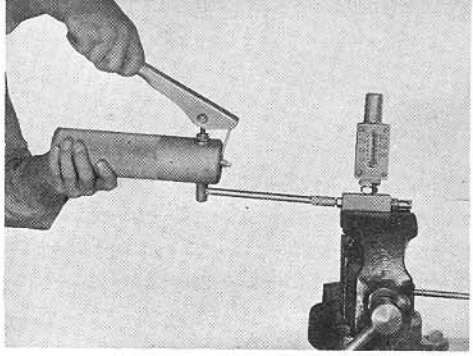
A precision made gauge for checking and setting all governor adjustments. The right hand picture illustrates the use of the gauge in checking the clearance between the fork base and washer. The unit is provided with a "GO and NO GO" gauge, linked to the base for safe keeping, so that the proper clearance may be quickly determined. The flats of the gauge are used and the necessary adjustments are made with shims.

The left hand photo shows the gauge in use while checking the governor arm for proper adjustment. The governor base is pressed in and held securely and exactly in position, so that the condition of being bolted to the engine is simulated. Here again, the "GO and NO GO" gauge is used with proper clearance being determined by the end-step feature of the gauge. Flats are provided on the unit base so that any necessary adjustment bending of the governor arm may be easily accomplished.

One complete unit—which will insure proper checking and setting of an extremely important factor in satisfactory tractor operation. An absolute "must" for proper servicing and customer satisfaction.

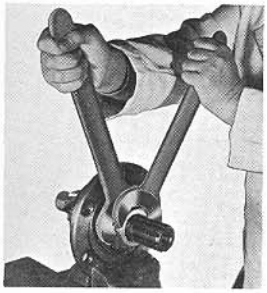






**Testing Gage • Hydraulic Pump • Tractor Engines • No. 0600**

Here is the instrument all Ford Tractor Service men have been waiting for. This testing gage is of rugged construction for maximum durability. Designed for use in the shop or field.
This testing gage will test the hydraulic pump installed in the tractor as shown in the picture on the left, or it can be used as shown in the picture on the right to test the relief valve—thereby eliminating all guesswork. Every shop should have this testing gage to insure proper functioning of the hydraulic system.

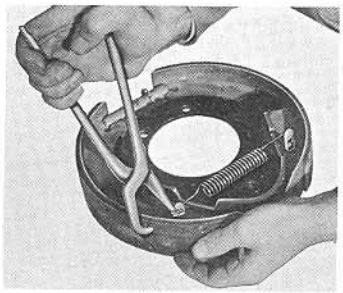


**WRENCHES (Pr.) • PINION BEARING LOCK NUT • REAR AXLE • No. 4634-A**

A set of these forged, thin headed wrenches are essential for accurate adjustment and locking of the pinion bearing lock nuts. Pinion bearing tension can be accurately adjusted by use of the No. 4209-D Pinion Tension Scale in conjunction with these wrenches to assure normal wear and a quiet differential.

**SPREADER • RETURN SPRING • BRAKE • No. 2296-A**

With this spreader, brake springs are removed easier, quicker and without danger of nicking the wire. One handle is notched for fast, easy replacement of spring. Two tools in one, inexpensive and indispensable.

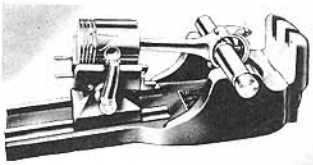


**REAMER • CYLINDER RIDGE • ENGINE**

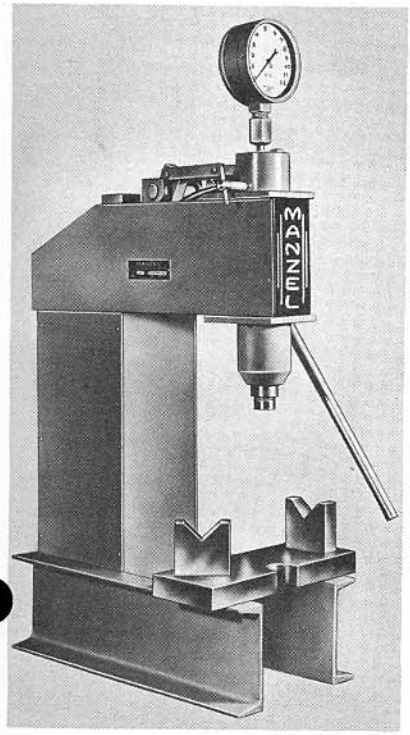
**No. 6011-A** — Unless the cylinder ridge is reamed it is almost impossible to remove the piston and rings without bending or breaking the second ring land and ruining the piston. This reamer follows the worn shape of the cylinder at the upper end of the ring travel and is adjustable to remove the ridge and no more —thus allowing proper piston extraction.

**ROD ALIGNER—M-120-RA-72**

**RANGES: Rod Lengths 3½" to 13". Piston Diameters 2" to 6". Crank Bore Diameters 1½" to 3⅜".**



The ONLY Rod Aligner that *Checks* AND *Corrects* BOTH Bend or Twist *with or without piston attached to rod* . . . on one set-up, without removing rod from Aligner. Easy to use. Positive indicator with instruction plate eliminates human error. Ruggedly built to give absolute accuracy for years and years.
It is never necessary to remove the arbor assembly to straighten a rod. Simply insert rod in proper correction slot and adjust according to instructions permanently mounted on the Aligner.




# New Manzel Arbor Press • No. LP-500

**• 10 Ton • Hydraulic • Bench Type**

The Manzel 10 Ton Arbor Press has been engineered for efficient performance in a wide range of applications . . . straightening; bending; bushing or bearing removal and replacement. This versatility is made possible by the long ram stroke and unusual depth and width of throat. The press is portable — or can be permanently mounted on bench, column, or wall.
Minimum effort and excellent control of straightening or bending operations is assured by the long, adjustable handle. A ram extension insert coupled with long pumping stroke gives fast work engagement.
Complete with Ram Extension, 2 Vee Blocks, and Table with "U" Slot.

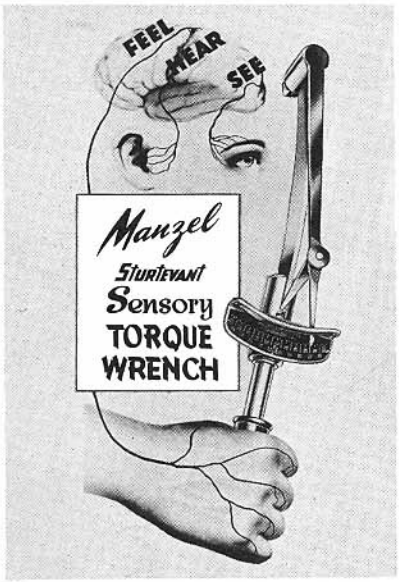
**SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Height Overall | 33" | Stroke of Hydraulic Ram | 6⅝" |
| Width Overall | 12" | Ram Extension Insert | 3" |
| Length Overall | 20" | Table Dimensions | 4½"x12"x1¼" |
| Throat Height | 16" | Drop thru "U" Slot | 1¼"x1⅝" |
| Throat Depth | 8½" | "V" Blocks (2) Each | 3"x3"x1" |
| Throat Width | 6" | Weight of Press Complete | 128 Lbs. |
| Height (Base to Ram) | 11" | Shipping Weight | 150 Lbs. |

**Optional Equipment • Pressure Gauge • No. LP-500-7-3**

## TORQUE WRENCHES

Torque is extremely important on such items as head nuts or cap screws, main bearing cap screws, companion flange nuts and ring gear cap screws. Too much tension can excessively stretch and deform a cap screw—too little and it will loosen under vibration. On head nuts or cap screws, improper torque will give uneven heat expansion—many times resulting in sticking valves or even cracked block or head. Use a Torque Wrench on each application where recommended limits are established by the car manufacturer.




### The Manzel-Sturtevant Sensory Torque Wrench

Enables any operator to tighten nuts, screws, and threaded parts to any predetermined torque by sight, sound and feeling—all three simultaneously or by any one individually . . . to control torque

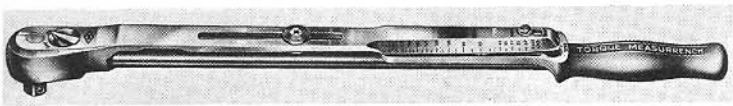
1. With Laboratory Accuracy
2. At Production Line Speed
3. Automatically and with less fatigue

### STANDARD CAPACITIES

(PRODUCTION USE SHOULD NOT EXCEED 80 PER CENT OF FULL SCALE)

| CATALOG NUMBER | CAPACITY (Foot Pounds) | GRADUATIONS IN STEPS OF | DRIVE SQUARE STANDARD | NO. OF DIALS | LENGTH (INCHES) |
|---|---|---|---|---|---|
| M-105-S25 | 0 to 25 | 1 foot lbs. | ½" or ⅜" | 2 | 16 1/16" |
| M-105-S50 | 0 to 50 | 2½ foot lbs. | ½" or ⅜" | 2 | 16 1/16" |
| M-105-S100 | 0 to 100 | 5 foot lbs. | ½" | 2 | 17 9/16" |
| M-105-S150 | 0 to 150 | 5 foot lbs. | ½" | 2 | 20½" |
| M-105-S200 | 0 to 200 | 5 foot lbs. | ¾" | 2 | 28½" |
| M-105-S300 | 0 to 300 | 10 foot lbs. | ¾" | 2 | 34¾" |

### Williams Torque "Measurrench" • No. M-300-S-57



**Reversible Ratchet with R. H. Torque Indicating Signal**
**Standard Pattern—½" Square Drive • Patented**

WILLIAMS' RATCHET TORQUE "MEASURRENCH" solves the problem wherever limited and equal tension is required on nuts, bolts, studs, etc. Wrench may be used in two ways as follows:

*By Sight Reading*—An easily read scale on the handle indicates applied tightening pressures from 20 to 200 foot-pounds.

*By Sound Reading*—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds by setting the simple sound device.

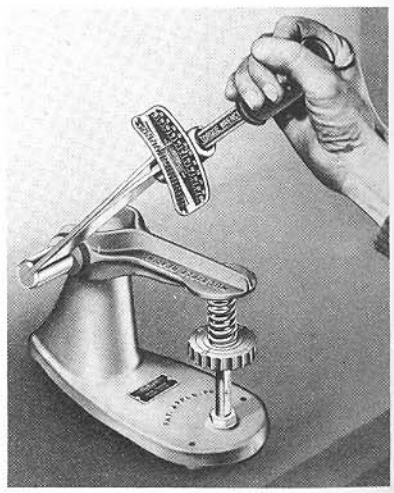
Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The well balanced drop-forged handle, with specially designed grip, is 19½" long for ample leverage; the head is compact and free from protrusions, for easy use in close places.

Every part is made of selected alloy and high tensile steel, accurately machined and heat treated. Chromeplated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome.

### LM-106 TESTER — VALVE and CLUTCH SPRING

**Also used for checking hydramatic and automatic transmission springs**

This efficient Tester is accurately calibrated to give positive results. Weak clutch springs can cause slippage or chatter — weak or defective valve spring is often the answer to erratic valve action. This Tester used with any ½ inch square drive torque wrench, should be used to check springs on every major mechanical overhaul. Built for life-time service and guaranteed permanently accurate.



Manzel

# Presents ENGINE REPAIR STAND

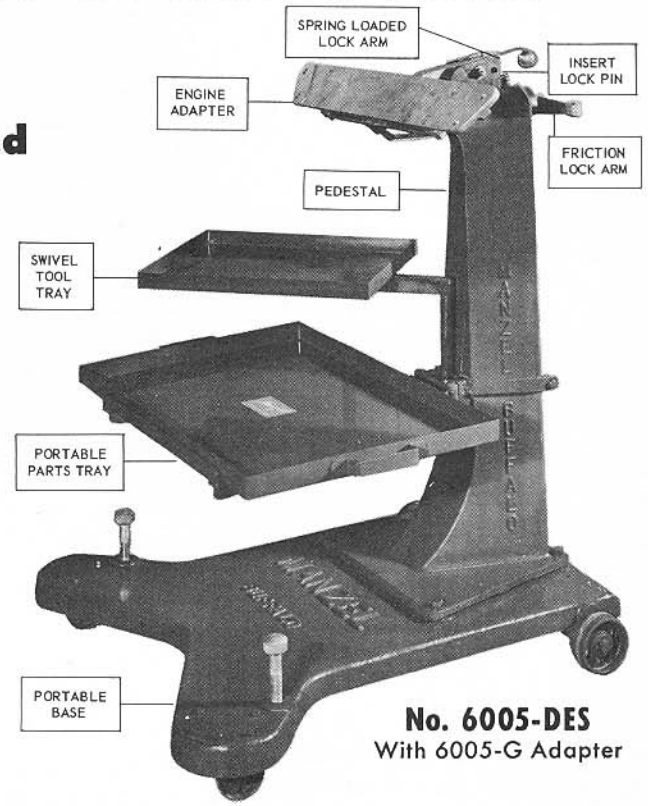
## for the FASTEST, EASIEST OVERHAULS you ever accomplished

The Manzel Repair Stand is one of the greatest single aids to motor repair work. Saves 2 to 3 hours on an engine overhaul. Eliminates mechanic fatigue and provides safety to parts and workmen.

Heavy duty portable base has wide-spread ball bearing casters and roller bearing front wheels.

Triple locking for safe operation. Indexing heads on each Mount and Spindle firmly held by Spring Loaded Lock Arm. Insert Pin eliminates accidental release. Heavy wing nut and washer acts as friction type Lock Arm.

**Lightweight, high strength alloy in heavy box type construction provides unrivalled rigidity. Lighter than competitive makes by 250#. The portable stand is easier to move (with or without engine) and saves much in shipping charges.**




**No. 6005-DES**
With 6005-G Adapter

**6005-DES** **COMPLETE PORTABLE REPAIR STAND** — (Shipping weight 130#)

*Includes the following parts as shown above:*

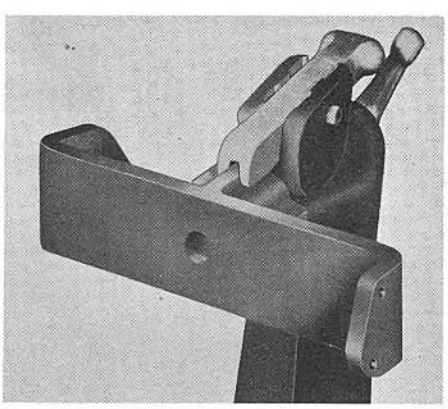
| | |
|---|---|
| 6005-BA | PEDESTAL ONLY — BOX TYPE — Complete with Spring Loaded Lock, Safety Pin, Wing Nut Lock & Washer |
| 6005-D | PORTABLE BASE |
| 6005-PB | PORTABLE PARTS TRAY — With removable mounting bracket |
| 6005-T | SWIVEL TOOL TRAY — Fits removable mounting bracket (6005-G Engine Adapter not included) |

**6005-AES** **PORTABLE REPAIR STAND** — (Shipping weight 98#)

*Includes the following parts*

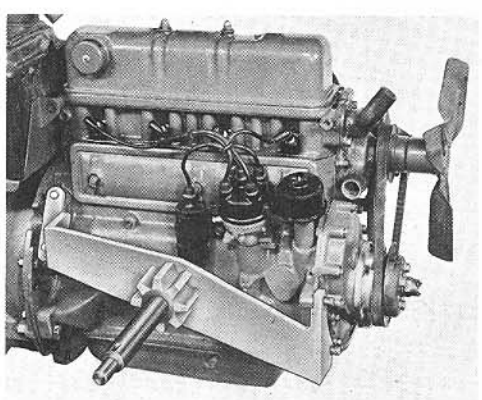
| | |
|---|---|
| 6005-BA | PEDESTAL ONLY — BOX TYPE — Complete with Spring Loaded Lock, Safety Pin, Wing Nut Lock & Washer |
| 6005-D | PORTABLE BASE |

**6005-BA** **PEDESTAL ONLY — BOX TYPE** — (Shipping Weight 45#)
Complete with Spring Loaded Lock, Safety Pin, Wing Nut Lock & Washer



**No. 6014** — Mount & Spindle
Keyed for Manzel Stand
& older KRW stands
For 9N, 2N & 8N

Mount & Spindle
**No. 6005-CC** — Keyed for Manzel Stand & Older KRW Stands
**No. 6005-CD** — Splined for newer KRW Stand
for New 1953 OHV Engine



*Engine Adapters available for all Ford vehicles*

Manzel

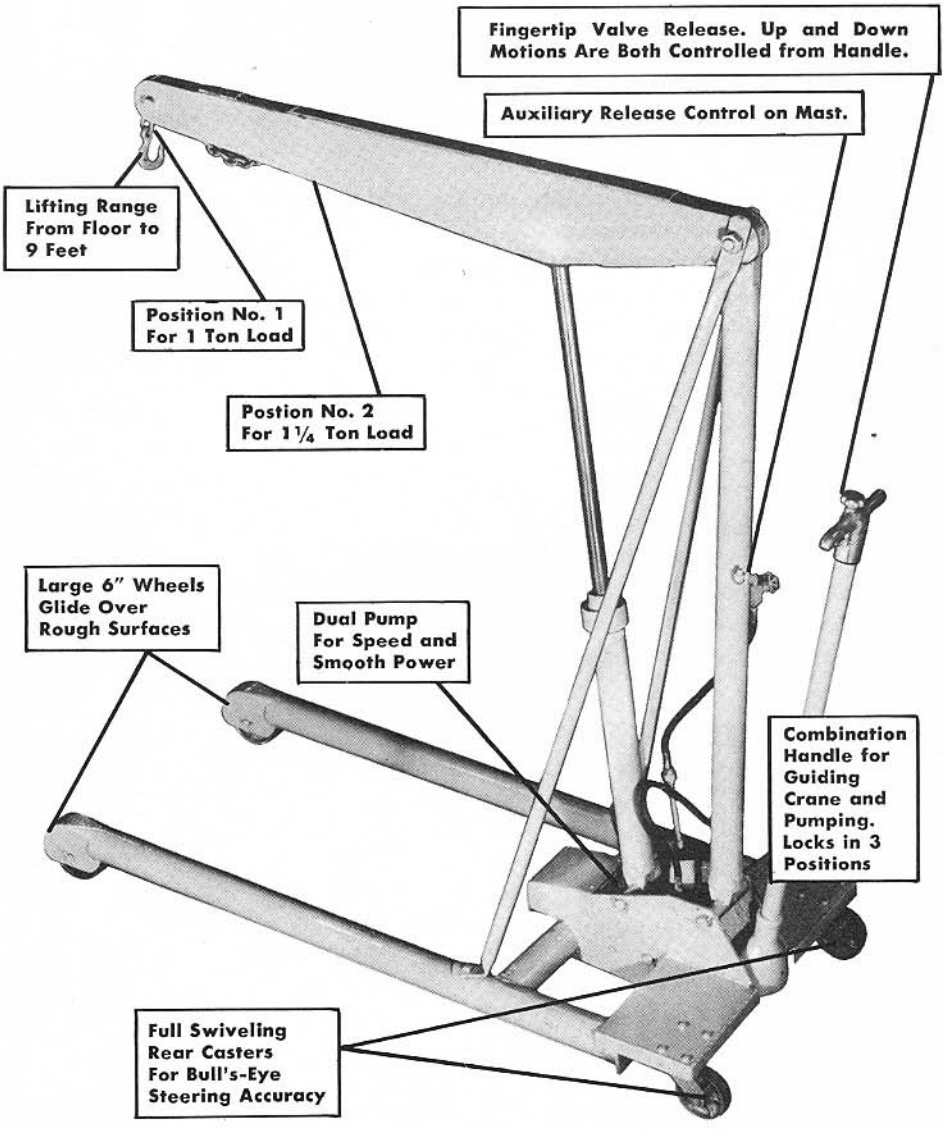
# The Manzel FLOOR CRANE
## For Safe, Fast Lifting

### 1 and 2 Ton Capacities

Every hour saved, every ounce of energy conserved, every injury avoided, every foot of floor space put to work means money in the bank for you. The Manzel Floor Crane combines hydraulic lift and cantilever boom to make light, safe, fast work of removing and replacing engines, loading and unloading trucks, raising automobiles, and many other heavy lifting jobs. A few easy strokes of the pumping handle lifts a load of any weight up to the rated capacity.

The Manzel Floor Crane introduces these basic improvements: 1. Four point suspension to prevent tipping. 2. Rigidly attached, massive handle for surer moving. 3. Pump lever combined with handle for greater speed and leverage. 4. Twin cylinders for fast, smooth, positive lifting.

Faster, easier to operate, more versatile, and less costly than overhead hoists and other heavy lifting equipment, the Manzel Floor Crane is one of the best investments a service station can make.




SPECIFICATIONS — Each model has a 6¼" maximum base height and is constructed of 4" outside diameter heavy-walled tubing. The same pumping and guide handle (52" long) is used with all models, and an accessory remote-extension handle is available.

The 2-Ton Boom incorporates an extendible inner boom, adjustable as to length and angle.

The 1-Ton Boom (65" overall length) and the 2-Ton Boom (65" to 105" overall length) are interchangeable.

| CAPACITY-TONS / HEIGHT-INCHES / BASE WIDTH-(STANDARD OR WIDE) | BASE WIDTH OUTSIDE | BASE WIDTH INSIDE | BASE LENGTH OVERALL | BASE LENGTH INSIDE | BASE AREA SQ. FT. | BOOM HEIGHT RAISED | BOOM HEIGHT LOWERED | BOOM TRAVEL |
|---|---|---|---|---|---|---|---|---|
| 1-72-S | 32" | 24" | 82½" | 57½" | 14.9 | 9' 6" | 3' 2" | 6' 4" |
| 2-72-S | 32" | 24" | 82½" | 57½" | 14.9 | 11' 4" | 3' 2" | 7' 10" |
| 1-96-S | 32" | 24" | 82½" | 57½" | 14.9 | 11' 6" | 5' 2" | 6' 4" |
| 2-96-S | 32" | 24" | 82½" | 57½" | 14.9 | 13' 0" | 4' 7" | 7' 10" |
| 1-72-W | 46" | 38" | 82½" | 57½" | 22.4 | 9' 6" | 3' 2" | 6' 4" |
| 2-72-W | 46" | 38" | 82½" | 57½" | 22.4 | 11' 4" | 3' 2" | 7' 10" |
| 1-96-W | 46" | 38" | 82½" | 57½" | 22.4 | 11' 6" | 5' 2" | 6' 4" |
| 2-96-W | 46" | 38" | 82½" | 57½" | 22.4 | 13' 0" | 4' 7" | 7' 10" |





Litho in U. S. A.