# **TAME INC**

EMD/GE Diesel Engine Maintenance Equipment, Torque Tools & Reclamation Equipment









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# Application

#### Model 43 Hydraulic Push-Over Machine

# For Barring-Over All EMD Locomotive Engines Equipped with Jacking Pads

The new, improved Model 43 is the "no-sweat" way to bar-over your EMD engines, reduce your labor requirements and speed up engine inspection and repair. Piston, Ring, and Liner inspections can be made quickly and easily by one man.

The Model 43 is a state-of-the-art electronically controlled hydraulic system designed for high durability and ease of maintenance . The hydraulic manifold has "quick change" ability incorporated. The plug-in style electrical connectors and the screwin style hydraulic components make the Model 43 maintenance friendly.

#### Complete Unit Consists of:

- 1 1/2 HP, 2000 PSI Power Unit with 115/230 volt AC single phase motor
- Push-Over Power Head with 30-foot Supply Lines
- Electrical Control Panel
- Control Pendant attached to Power Unit by 30-foot Control Cable
- All mounted on pneumatic tired cart for ease of mobility



For 115 volt AC 43-000115

For 230 volt AC 43-000230





## Model 73 Electronic Torque Test Stand

# For Calibrating TAME Hydraulic Ratchet Wrenches

The Model 73 Torque Test Stand is for use in calibrating TAME's Model 2000, 60, 70, and 72 Hydraulic Ratchet Wrenches. It can also be used on other applications that require accurate torque measurement.

The Model 73 Electronic Test Stand is an accurate and efficient torque verifier for calibration of hydraulic wrenches. The Model 73 improves the accuracy of wrench torque setting, thus eliminating downtime and maintenance. The calibrator can be set of a torque range of 0 to 4000 foot-pounds with an accuracy of +-0.1%.

# Complete Unit Consists of:

- Test Stand
- Electronic transducer with cable and digital readout
- Power Supply Cable
- Adapters
- · Swivel Base and swing arm for readout
- · Test Stand table

#### Part Number:

115 volt AC ... 73-115

230 volt AC ... 73-220





#### Model 90 EMD Connecting Rod Qualifying Console

This machine is designed to check both the Fork Rod and the Blade Rod, and indicate the bore twist, parallelism and the height.

Utilizing the latest in electronic transducers and indicators this console gives fast and reliable gauging. The operator simply places the connecting rod into the gauging fixture and activates the clamp.

#### Features:

- Air Cylinder for fast, rigid positioning of connecting rod during measurement
- Traducers which gauges 4 different measurements 2 parallel with the crankshaft bore and 2 perpendicular to the crankshaft bore
- Indicators individual indicator for each transducer (or measurement) with analog and digital readouts. Adjustable limits signals for positive instantaneous identification of over and under readings
- Calibration is simple and easy through the use of a master rod (not included), individual indicators have single button zeroing for easy calibrations
- Repeatability +\_ .0005"

For more information or to order contact TAME, Inc.



# Model 35 EMD Connecting Rod to Wrist Pin Bolt Torqueing Machine

This machine is designed to accurately torque the bolts connecting the rod and the wrist pin. The operator simply places connecting rod, carrier, and pin assembly in place and activates the hydraulic clamp. After clamping the two special <sup>3</sup>/<sub>4</sub>" square drive, ratchets are set in place and torque cylinders are activated. Torque cylinders will stall when calibrated torque is achieved.

#### Features:

- Hydraulic torque cylinders for smooth and accurate bolt torque.
- Hydraulic Clamp for secure positioning of rod assembly
- 3/4" Drive ratchets specially designed for high torque applications with minimum clearance
- 2-HP Hydraulic Power Unit for smooth dependable power
- Complete with ratchets, sockets, gauges and necessary controls

Part Number:

35-115 115 Volt

35-230 230 Volt

For more information or to order Contact TAME, INC.



#### Model 36 Cylinder Head Test Console for EMD B-Engines

This machine is designed to quickly pressure test B type cylinder heads. Operator simply sets the head on the test console and activates the hydraulic clamps. After clamping, the operator will perform the test procedures shown on the front of the console. #1 Purges air from the head and fills the head with water. #2 Intensifies the water pressure to 250 PSI, which will allow the operator to detect any leaks. #3 Drains the water from the head and completes the test.

#### Features:

- Hydraulic Clamps for fast leak free clamping during testing
- Hydraulic Water Outlet Ram for fast and leak free water inlet and test pressure
- Cylinder Liner Mock-Up Utilizes actual head gasket for sealing better simulating actual use
- Water Test Pressure adjustable up to 350 PSI depending on customer requirements
- Air/Hydraulic Power System for smooth dependable power
- Accessories Machine comes complete with all necessary equipment, controls, gauges, and fixtures needed for proper testing of head

Single Test Station is standard, however, multiple stations available on request.

For more information or to order Contact TAME, INC.



#### Model 37 Cylinder Head Test Console for EMD C, D, E, & F-Engines

This machine is designed to quickly pressure test C, D, E, & F type cylinder heads. Operator simply sets the head on the test console and activates the hydraulic clamps. After clamping, the operator will perform the test procedures shown on the front of the console. #1 Purges air from the head and fills the head with water. #2 Intensifies the water pressure to 250 PSI, which will allow the operator to detect any leaks. #3 Drains the water from the head and completes the test.

#### Features:

- Hydraulic Clamps for fast leak free clamping during testing
- Hydraulic Water Outlet Ram for fast and leak free water inlet and test pressure
- Cylinder Liner Mock-Up Utilizes actual head gasket for sealing better simulating actual use
- Water Test Pressure adjustable up to 350 PSI depending on customer requirements
- Air/Hydraulic Power System for smooth dependable power
- Accessories Machine comes complete with all necessary equipment, controls, gauges, and fixtures needed for proper testing of head

Single Test Station is standard, however, multiple stations available on request.

For more information or to order Contact TAME, INC.





# Model 60 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Crab Nuts on EMD 567 and 645 and 710 Diesel Engines

This heavy-duty wrench allows for smooth and accurate torque with a range of up to 3500 and maximum breakaway of 3800 foot pounds. Three torque settings available are factory at 900, 1800, 2400 foot-pounds. The mechanic controls the torque by push-button and does not have to maintain visual contact with the gauges to monitor stroke or output. The wrench cycles continuously until the selected torque is reached. At this point the unit shuts off automatically notifying the user that the crab nut is torqued.

#### Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 3 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines with pendant control
- 2 Socket torque fixtures
- All mounted on a pneumatic tired cart for ease of mobility



115 volt AC ... 60-000115DP

230 volt AC... 60-000230DP





# Model 60/20 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD Engines

The Model 60/20 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main

bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

Model 2000 Main Bearing Wrench Head with:

- 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
- 3 Sockets
- · Crankcase Safety Saddle
- Air Ratchet, 25 foot Air Line and 3/8" Drive Socket

Model 60 Crab Nut Wrench Head with:

- 25 foot Hydraulic and Electric Supply Lines with Pendant Control
- 2 Socket Torque Fixtures

1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:

- 5 Gallon Reservoir
- Electrical and Hydraulic Quick Disconnects
- 3 Selectable Torque Settings
- Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve

Mobile Storage Cart

Part Number: 115 volt AC ... 60/20 Combo-115 230 volt AC ... 60/20 Combo-230

TAME Tools



# Model 60/28 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD 567, 645, and 710 Engines

The Model 60/28 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

- > Model 28 Main Bearing Wrench Head with:
  - 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
  - 4 Sockets
  - Crankcase Safety Saddle
  - Air Ratchet, 25 foot Air Line and 3/8" Drive Socket
- Model 60 Crab Nut Wrench Head with:
  - 25 foot Hydraulic and Electric Supply Lines with Pendant Control
  - 2 Socket Torque Fixtures
- ➤ 1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:
  - 5 Gallon Reservoir
  - · Electrical and Hydraulic Quick Disconnects
  - 3 Selectable Torque Settings
  - · Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve
- > Mobile Storage Cart

Flintstone, GA 30725 USA

Part Number: 115 volt AC ... 60/28 Combo-115 230 volt AC ... 60/28 Combo-230

TAME
Tools and Maintenance Equipment, Inc.
2523 Chattanooga Valley Drive

#### **EMD Crab Nut-Runner Socket**

# Specifically Designed for Running EMD Crab Nuts On and Off

Use this socket in conjunction with the TAME Hydraulic Crab Nut Wrench to further enhance the shop efficiency in installing and removing EMD crab nuts. This socket is made especially for use with EMD crab nuts. The design is sleek and light weight with a universal square drive.

## Features:

Machined by computer controlled equipment which insures quality and consistency.

Universal ½ or ¾ inch square drive.

Specifically designed for use on EMD crab nuts.

Quality and reliability associated with Tame and equipment.

Part Number:

1/2" 60-208

3/4" 60-209





TAME

#### Model 3030 EMD Lash Puller Console

# Air/Hydraulic Lash Puller for EMD Engine Exhaust Valve Bridges

Designed for removing lash adjusters from valve bridge bodies. This is the most efficient and simple tool on the market. Just load an assembled bridge body onto the top of the fixture, depress the foot pedal and the unit automatically clamps and pulls both lashes, depositing the used lashes in the bins below the work top. The console is complete, just connect air and begin production.

#### Features:

- Top Loading can be easily automated through the use of a two-axis manipulator.
- Automatic discharge No extra handling of lashes.
- Air/Hydraulic Power Unit for quiet dependable hydraulic pressure.
- Foot pedal control leaving hands free for loading.

For more information or to order Contact TAME, INC.





#### Model 32 EMD Exhaust Valve Bridge Assembly and Test Console

This console is a complete workstation for the repair and testing of the valve bridge assembly.

#### Features:

• Valve Bridge Test & Installation Station: automatically installs test and prequalified lash adjusters into bridge bodies. The installation is independent from left to right. A computer monitors all pressures



for correct installation and testing. The unit is user friendly and allows for changing limits of pressure and height requirements to users needs. The operator/interface allows the technician to visually access the bridge via computer graphics, although at the end of the installation/test the display will hold the results until the next function is selected. The unit can be calibrated automatically with the height gauge and load cell. Through the use of the operator interface, training is virtually unnecessary.

- Hydraulic Lash Adjuster Puller: automatically pulls the lash from the bridge body. The operator can pull one or both lash(es) as required.
- Valve Spring Press: eases the removal and installation of springs on the bridge body.
- Bore Gauge: for periodic observation of springs on the bridge body.
- 3' x 10' Console
- 4" Work Vise

For more information or to order Contact TAME, INC.



### Model 45 EMD Exhaust Valve Spring Tester

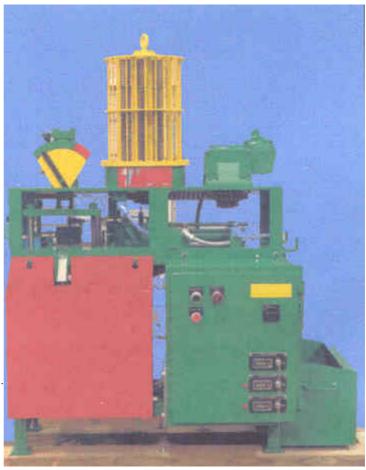
# Dead Weight Exhaust Valve Spring Tester

This machine is designed for production testing of EMD Exhaust Valve Springs. The operator simply loads springs into the feeder basket and presses the start button. The machine will automatically test each individual spring height and strength. After the spring is tested, it is sorted by the machine into either "good" or "reject" baskets. The limits can be adjusted to suit each individual customer's quality control standards.

#### Features:

- Feeder Basket that holds 36 springs
- Automatic Shut Off that turns the machine off when feeder basket is empty
- Micro Processor Based Programmable Control, for fast and accurate control
- Separate baskets for good and rejected springs

For more information or to order contact Tame, Inc.





## Model 93 EMD Piston Storage Rack

#### EMD Piston Storage Rack and Inventory Control

This storage rack is designed to minimize the labor involved in the inventory and handling of EMD pistons and to the maximum utilization of available floor space. Through the use of a microprocessor based programmable controller and keypad for operator interface, this rack allows the operator to check the status of piston inventory (qty. & type in stock). Once stock status is made, programmable controller will index rack until selected pistons are positioned for unloading. During the loading procedure the operator must enter piston type and quantity being loaded, the programmable controller will store piston type, quantity, and position for later use.

For more information or to order contact TAME, Inc.



### Model 94 EMD Storage Rack EMD Rods – Baskets – Carriers and Pins

#### Maximum Utilization of Floor Space

This storage rack is designed to minimize the labor involved in the inventory and handling of EMD rods, carriers, pins and baskets. The rack will also provide maximum utilization of available floor space. The storage rack consists of eight storage trays. Each tray will hold 4 blade rods, 4 fork rods, 4 baskets, 8 wrist pins, and 8 carriers. The trays are marked for identification of types and engine sets. Standard rack loads from the front and back. Each load and unload station has start/stop controls for indexing rack.

#### Storage Capacity:

- 32 Blade Rods
- 32 Fork Rods
- 32 Baskets
- 64 Wrist Pins
- 64 Carriers

Double racks are also available. Also, Micro-Processor based PC inventory control is available.

For more information or to order contact TAME, Inc.



#### Model 88 Lower Liner Bore Insert Puller/Installer for EMD Engines

## For Removing and Installing EMD Engine Lower Liner Bore Inserts

Step up productivity, and save hours of time and labor with the Model 88. Rugged and hydraulic powered, this workhorse is designed to remove and install EMD Lower Liner Bore Inserts quickly and safely.

This unique tool does the job faster and easier than other tools because set-up time is slashed. Additionally, cycle time to remove old insert and install new insert is less than 2 minutes, saving up to 16 man hours over other methods when changing a complete set of inserts in a 16 cylinder engine.

### Complete Unit Consists of:

- Hydraulic Power Head
- Air-Over Hydraulic Power Unit complete with valve and pressure regulator
- 30-foot Hydraulic Supply Line
- 25-foot Control Pendant
- Mounted on a four wheel cart for ease of mobility

#### Part Number:

For use with Hood off ... 88-1-72

For use with "C-Arm" ... 88-1-77





#### Model 87 Lube Oil Pump Repair Console

This work console is designed for use in the repair of EMD Main Lube Oil Pumps. The console comes complete with equipment to efficiently assemble and disassemble lube oil pump.

#### Features:

- Pneumatic Positioning Fixture This fixture securely holds pump and allows operator to bidirectionally rotate pump 360 degrees. This will allow for fast and easy removal or installation of pump components.
- allow for fast and easy removal or installation of pump components.

   Fixed Hydraulic Press Assembly for removal and installation of bushings in front and rear bodies and gears. Complete
- with press fixtures, mandrels, and tool holding fixtures.
- Hydraulic Ram Assembly for removal of shaft when shaft is difficult to remove from front body.
- Air/Hydraulic Power Unit for smooth dependable hydraulic pressure.

For more information or to order contact TAME, Inc.



#### TAME

#### Model 2000 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Nuts on EMD 567 and 645 Diesel Engines

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main bearings. Savings in locomotive out-of-service time will quickly repay your investment.

The Model 2000 Hydraulic Ratchet Wrench features adjustable torque range from 200 to 900 foot pounds. The smooth hydraulic force eliminates impact or shock loads. This allows for precision torqueing of each nut to prevent uneven "A-Frame" stress. The Wrench is equipped with push buttons built into the wrench body for direct control.

# Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure regulator and factory sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- 3 sockets
- Crankcase Safety Saddle
- An Air Motor, Air Hose, and 3/8" Drive Socket
- All mounted on a pneumatic tired cart for ease of mobility

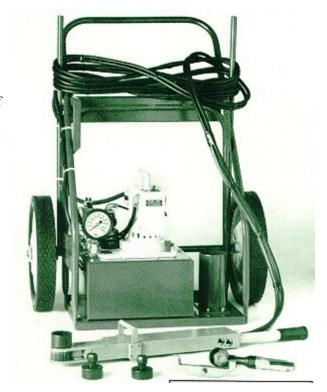


115 volt ... 20-000115DP

230 volt ... 20-000230DP



TAME



#### Model 28 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Nuts on EMD 567 and 645 and 710 **Diesel Engines**

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main

bearings. Savings in locomotive out-of-service time will quickly repay

your investment.

The Model 28 Hydraulic Ratchet Wrench features adjustable torque range from 200 to 900 foot pounds. The smooth hydraulic force eliminates impact or shock loads. This allows for precision torqueing of each nut to prevent uneven "A-Frame" stress. The Wrench is equipped with an adjustable handle and push buttons built into the wrench body for direct control.

#### Complete Unit Consists of:

Hydraulic Ratchet Wrench

- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- 4 sockets
- 2 styles of Crankcase Safety Saddles
- An Air Motor, Air Hose, and 3/8" Drive Socket
- All mounted on a rubber tired cart for ease of mobility



115 volt ... 28-000115DP

230 volt ... 28-000230DP



**TAME** 



# Model 5000 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Cap Nuts on GE Diesel Engines

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main bearings. Savings in locomotive out-of-service time will quickly repay your investment.

The wrench power head swivels allowing for easy installation of the wrench into the crankcase and alignment onto main bearing cap nuts. The torque exceeds 2,000 foot pounds which can loosen even over-torqued nuts. Accurate, controlled torque setting can be adjusted to stop the tightening operation at precisely the recommended torque value or stud stretch specification.

#### Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- an air motor, air Hose, and 3/8 Drive Socket
- Supplied on cart mounted with pneumatic tires for ease of mobility

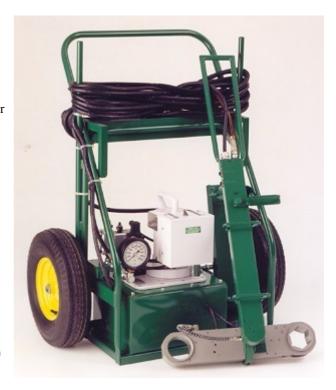
#### Part Number:

115 volt AC ... 50-000115DP

230 volt AC... 50-000230DP



**TAME** 



# Model 60/20 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD Engines

The Model 60/20 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main

bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

Model 2000 Main Bearing Wrench Head with:

- 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
- 3 Sockets
- · Crankcase Safety Saddle
- Air Ratchet, 25 foot Air Line and 3/8" Drive Socket

Model 60 Crab Nut Wrench Head with:

- 25 foot Hydraulic and Electric Supply Lines with Pendant Control
- 2 Socket Torque Fixtures

1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:

- 5 Gallon Reservoir
- Electrical and Hydraulic Quick Disconnects
- 3 Selectable Torque Settings
- Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve

Mobile Storage Cart

Part Number: 115 volt AC ... 60/20 Combo-115 230 volt AC ... 60/20 Combo-230

TAME Tools



# Model 60/28 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD 567, 645, and 710 Engines

The Model 60/28 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

- > Model 28 Main Bearing Wrench Head with:
  - 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
  - 4 Sockets
  - Crankcase Safety Saddle
  - Air Ratchet, 25 foot Air Line and 3/8" Drive Socket
- Model 60 Crab Nut Wrench Head with:
  - 25 foot Hydraulic and Electric Supply Lines with Pendant Control
  - 2 Socket Torque Fixtures
- ➤ 1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:
  - 5 Gallon Reservoir
  - · Electrical and Hydraulic Quick Disconnects
  - 3 Selectable Torque Settings
  - · Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve
- > Mobile Storage Cart

Flintstone, GA 30725 USA

Part Number: 115 volt AC ... 60/28 Combo-115 230 volt AC ... 60/28 Combo-230

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2523 Chattanooga Valley Drive

## Model 80 Rocker Arm Repair Console

#### For Repair of EMD Rocker Arms

#### Features:

- Cam Follower Pin Press Assembly hydraulically clamps rocker arm assembly and allows hydraulic ram to easily remove or install cam follower pin. This assembly is equipped with an air valve ported inside of the bushing to clean the oil passage to the bushing
- Shaft Bushing Press Assembly Hydraulic Ram provides fast an easy installation/removal of shaft bushing. The position fixture allows easy alignment of oil ports during bushing installation
- 2 Gauging Fixtures to measure wear between cam follower bushing and pin – one for 567 & 645 and one for 710 rocker arms
- Air/Hydraulic Power Units for smooth dependable hydraulic pressure. This also allows for independent pressure settings for shaft bushing and cam follower pin press assembly

For more information or to order contact TAME, Inc.





#### Model 70 Hydraulic Ratchet Wrench

### For Traction Motor Suspension Bearing Bolts Removal or Installation on EMD or GE Engines

The Model 70 Hydraulic Ratchet Wrench is a safe and efficient wrench for Traction Motor Suspension Bearing Bolts that reduces time and effort. Savings in labor and locomotive downtime will quickly repay your investment.

This Wrench offers smooth, controllable hydraulic power that prevents impact or shock loads, Multiple Torque Settings with a torque range of 200 to 1600 foot pounds, and precise and repeatable torques to insure even and accurate tightening of bearings.

## Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 PSI Power Unit, complete with controls, pressure gauge, pressure regulator, and factory sealed pressure relief valve
- 25-foot hydraulic hose and control cable
- Sockets and swing torque arm for EMD or GE traction motor bearings
- All mounted on a rubber tired cart for ease of mobility



#### Part Number:

115 volt ... 28-000115DP

230 volt ... 28-000230DP



Tools and Maintenance Equipment, Inc. 2523 Chattanooga Valley Drive PO Box 250

Flintstone, GA 30725 USA

## Model 86 EMD Water Pump Repair & Assembly Console

# Reduce Time & Manhandling of EMD Water Pumps in Need of Remanufacturing

#### Features:

- Positioning Fixture allows operator to clamp water pump to rotating fixture. Rotates 360 degrees BI-Directionally
- Hydraulic Gear Puller Mounted on swing pivot arm allowing instant line up on water pump in positioning fixture. Allows for ease of pulling gears.
- Hydraulic Shaft Puller mounted similar to gear puller. Allows ease of shaft & bearing removal.
- Hydraulic Bearing Press Easily remove and replace old bearings and seals. Specially designed base for proper alignment and protection of slinger washer.
- Work Vise
- Air/Hydraulic Power Unit only pneumatic supply required
- 3' x 10' Console

For more information or to order contact TAME, Inc.



# Wrenches

# Model 60 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Crab Nuts on EMD 567 and 645 and 710 Diesel Engines

This heavy-duty wrench allows for smooth and accurate torque with a range of up to 3500 and maximum breakaway of 3800 foot pounds. Three torque settings available are factory at 900, 1800, 2400 foot-pounds. The mechanic controls the torque by push-button and does not have to maintain visual contact with the gauges to monitor stroke or output. The wrench cycles continuously until the selected torque is reached. At this point the unit shuts off automatically notifying the user that the crab nut is torqued.

#### Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 3 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines with pendant control
- 2 Socket torque fixtures
- All mounted on a pneumatic tired cart for ease of mobility



115 volt AC ... 60-000115DP

230 volt AC... 60-000230DP





# Model 60/20 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD Engines

The Model 60/20 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main

bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

Model 2000 Main Bearing Wrench Head with:

- 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
- 3 Sockets
- · Crankcase Safety Saddle
- Air Ratchet, 25 foot Air Line and 3/8" Drive Socket

Model 60 Crab Nut Wrench Head with:

- 25 foot Hydraulic and Electric Supply Lines with Pendant Control
- 2 Socket Torque Fixtures

1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:

- 5 Gallon Reservoir
- Electrical and Hydraulic Quick Disconnects
- 3 Selectable Torque Settings
- Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve

Mobile Storage Cart

Part Number: 115 volt AC ... 60/20 Combo-115 230 volt AC ... 60/20 Combo-230

TAME
Tools



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#### Complete Unit Consists of:

- > Model 28 Main Bearing Wrench Head with:
  - 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
  - 4 Sockets
  - Crankcase Safety Saddle
  - Air Ratchet, 25 foot Air Line and 3/8" Drive Socket
- Model 60 Crab Nut Wrench Head with:
  - 25 foot Hydraulic and Electric Supply Lines with Pendant Control
  - 2 Socket Torque Fixtures
- ➤ 1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:
  - 5 Gallon Reservoir
  - Electrical and Hydraulic Quick Disconnects
  - 3 Selectable Torque Settings
  - Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve
- > Mobile Storage Cart

Part Number: 115 volt AC ... 60/28 Combo-115 230 volt AC ... 60/28 Combo-230

TAME
Tools and Maintenance Equipment, Inc.
2523 Chattanooga Valley Drive
PO Box 250
Flintstone, GA 30725 USA

#### Model 2000 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Nuts on EMD 567 and 645 Diesel Engines

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main bearings. Savings in locomotive out-of-service time will quickly repay your investment.

The Model 2000 Hydraulic Ratchet Wrench features adjustable torque range from 200 to 900 foot pounds. The smooth hydraulic force eliminates impact or shock loads. This allows for precision torqueing of each nut to prevent uneven "A-Frame" stress. The Wrench is equipped with push buttons built into the wrench body for direct control.

#### Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure regulator and factory sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- 3 sockets
- Crankcase Safety Saddle
- An Air Motor, Air Hose, and 3/8" Drive Socket
- All mounted on a pneumatic tired cart for ease of mobility

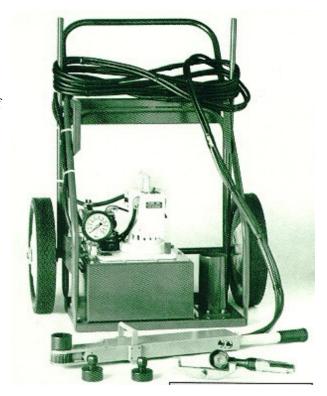


115 volt ... 20-000115DP

230 volt ... 20-000230DP



TAME



#### Model 28 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Nuts on EMD 567 and 645 and 710 **Diesel Engines**

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main

bearings. Savings in locomotive out-of-service time will quickly repay

your investment.

The Model 28 Hydraulic Ratchet Wrench features adjustable torque range from 200 to 900 foot pounds. The smooth hydraulic force eliminates impact or shock loads. This allows for precision torqueing of each nut to prevent uneven "A-Frame" stress. The Wrench is equipped with an adjustable handle and push buttons built into the wrench body for direct control.

#### Complete Unit Consists of:

Hydraulic Ratchet Wrench

- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- 4 sockets
- 2 styles of Crankcase Safety Saddles
- An Air Motor, Air Hose, and 3/8" Drive Socket
- All mounted on a rubber tired cart for ease of mobility



#### Part Number:

115 volt ... 28-000115DP

230 volt ... 28-000230DP



**TAME** 

# Model 5000 Hydraulic Ratchet Wrench

# For Loosening, Tightening, and Torqueing Main Bearing Cap Nuts on GE Diesel Engines

This heavy duty wrench with safe and controllable hydraulic power will reduce your time and effort in servicing main bearings. Savings in locomotive out-of-service time will quickly repay your investment.

The wrench power head swivels allowing for easy installation of the wrench into the crankcase and alignment onto main bearing cap nuts. The torque exceeds 2,000 foot pounds which can loosen even over-torqued nuts. Accurate, controlled torque setting can be adjusted to stop the tightening operation at precisely the recommended torque value or stud stretch specification.

#### Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 psi, complete with 2 selectable pressure switches, pressure gauge, pressure regulator and factory-sealed pressure relief valve
- 25-foot Hydraulic and Electrical supply lines
- an air motor, air Hose, and 3/8 Drive Socket
- Supplied on cart mounted with pneumatic tires for ease of mobility



115 volt AC ... 50-000115DP

230 volt AC... 50-000230DP



**TAME** 



# Model 60/20 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD Engines

The Model 60/20 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main

bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

Model 2000 Main Bearing Wrench Head with:

- 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
- 3 Sockets
- · Crankcase Safety Saddle
- Air Ratchet, 25 foot Air Line and 3/8" Drive Socket

Model 60 Crab Nut Wrench Head with:

- 25 foot Hydraulic and Electric Supply Lines with Pendant Control
- 2 Socket Torque Fixtures

1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:

- 5 Gallon Reservoir
- Electrical and Hydraulic Quick Disconnects
- 3 Selectable Torque Settings
- Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve

Mobile Storage Cart

Part Number: 115 volt AC ... 60/20 Combo-115 230 volt AC ... 60/20 Combo-230

TAME
Tools



# Model 60/28 Combination Crab Nut/Main Bearing For Loosening, Tightening, and Torqueing Crab Nuts and Main Bearings on EMD 567, 645, and 710 Engines

The Model 60/28 is an economical and space-saving way to torque main bearings and crab nuts. This unit utilizes one hydraulic power unit for use with either of the two wrench heads. The quick disconnects on both the hydraulic and electrical systems make a quick changeover between wrench heads quick and easy. Three selectable pressure settings set at 900, 1800, and 2400 foot pounds for the crab nut wrench and when interchanged with the main bearing wrench, the ratio difference self adjusts so that the torque is 350 and 750 foot pounds. These pressure control switches are completely adjustable to meet your requirements. The entire unit is mounted on a 2-wheel pneumatic tired cart, allowing the whole unit to be easily moved from unit to unit.

#### Complete Unit Consists of:

- > Model 28 Main Bearing Wrench Head with:
  - 25 foot Hydraulic and Electrical Supply Lines with Quick Disconnects
  - 4 Sockets
  - Crankcase Safety Saddle
  - Air Ratchet, 25 foot Air Line and 3/8" Drive Socket
- Model 60 Crab Nut Wrench Head with:
  - 25 foot Hydraulic and Electric Supply Lines with Pendant Control
  - 2 Socket Torque Fixtures
- ➤ 1 1/8 HP Electrically Driven 10,000 PSI Hydraulic Power Unit with:
  - 5 Gallon Reservoir
  - Electrical and Hydraulic Quick Disconnects
  - 3 Selectable Torque Settings
  - Pressure Gauge, Pressure Regulator, and Factory Sealed Pressure Relief Valve
- > Mobile Storage Cart

Part Number: 115 volt AC ... 60/28 Combo-115 230 volt AC ... 60/28 Combo-230

TAME
Tools and Maintenance Equipment, Inc.
2523 Chattanooga Valley Drive
PO Box 250
Flintstone, GA 30725 USA

#### Model 70 Hydraulic Ratchet Wrench

# For Traction Motor Suspension Bearing Bolts Removal or Installation on EMD or GE Engines

The Model 70 Hydraulic Ratchet Wrench is a safe and efficient wrench for Traction Motor Suspension Bearing Bolts that reduces time and effort. Savings in labor and locomotive downtime will quickly repay your investment.

This Wrench offers smooth, controllable hydraulic power that prevents impact or shock loads, Multiple Torque Settings with a torque range of 200 to 1600 foot pounds, and precise and repeatable torques to insure even and accurate tightening of bearings.

# Complete Unit Consists of:

- Hydraulic Ratchet Wrench
- Hydraulic Power Unit –1 1/8 HP Electrically Driven 10,000 PSI Power Unit, complete with controls, pressure gauge, pressure regulator, and factory sealed pressure relief valve
- 25-foot hydraulic hose and control cable
- Sockets and swing torque arm for EMD or GE traction motor bearings
- All mounted on a rubber tired cart for ease of mobility



#### Part Number:

115 volt ... 28-000115DP

230 volt ... 28-000230DP



# Reclamation

#### Model 90 EMD Connecting Rod Qualifying Console

This machine is designed to check both the Fork Rod and the Blade Rod, and indicate the bore twist, parallelism and the height.

Utilizing the latest in electronic transducers and indicators this console gives fast and reliable gauging. The operator simply places the connecting rod into the gauging fixture and activates the clamp.

#### Features:

- Air Cylinder for fast, rigid positioning of connecting rod during measurement
- **Traducers** which gauges 4 different measurements 2 parallel with the crankshaft bore and 2 perpendicular to the crankshaft bore
- Indicators individual indicator for each transducer (or measurement) with analog and digital readouts. Adjustable limits signals for positive instantaneous identification of over and under readings
- Calibration is simple and easy through the use of a master rod (not included), individual indicators have single button zeroing for easy calibrations
- Repeatability +\_ .0005"



# Model 35 EMD Connecting Rod to Wrist Pin Bolt Torqueing Machine

This machine is designed to accurately torque the bolts connecting the rod and the wrist pin. The operator simply places connecting rod, carrier, and pin assembly in place and activates the hydraulic clamp. After clamping the two special <sup>3</sup>/<sub>4</sub>" square drive, ratchets are set in place and torque cylinders are activated. Torque cylinders will stall when calibrated torque is achieved.

#### Features:

- Hydraulic torque cylinders for smooth and accurate bolt torque.
- Hydraulic Clamp for secure positioning of rod assembly
- 3/4" Drive ratchets specially designed for high torque applications with minimum clearance
- 2-HP Hydraulic Power Unit for smooth dependable power
- Complete with ratchets, sockets, gauges and necessary controls

#### Part Number:

35-115 115 Volt

35-230 230 Volt



# Model 36 Cylinder Head Test Console for EMD B-Engines

This machine is designed to quickly pressure test B type cylinder heads. Operator simply sets the head on the test console and activates the hydraulic clamps. After clamping, the operator will perform the test procedures shown on the front of the console. #1 Purges air from the head and fills the head with water. #2 Intensifies the water pressure to 250 PSI, which will allow the operator to detect any leaks. #3 Drains the water from the head and completes the test.

#### Features:

- Hydraulic Clamps for fast leak free clamping during testing
- Hydraulic Water Outlet Ram for fast and leak free water inlet and test pressure
- Cylinder Liner Mock-Up Utilizes actual head gasket for sealing better simulating actual use
- Water Test Pressure adjustable up to 350 PSI depending on customer requirements
- Air/Hydraulic Power System for smooth dependable power
- Accessories Machine comes complete with all necessary equipment, controls, gauges, and fixtures needed for proper testing of head

Single Test Station is standard, however, multiple stations available on request.



#### Model 37 Cylinder Head Test Console for EMD C, D, E, & F-Engines

This machine is designed to quickly pressure test C, D, E, & F type cylinder heads. Operator simply sets the head on the test console and activates the hydraulic clamps. After clamping, the operator will perform the test procedures shown on the front of the console. #1 Purges air from the head and fills the head with water. #2 Intensifies the water pressure to 250 PSI, which will allow the operator to detect any leaks. #3 Drains the water from the head and completes the test.

#### Features:

- Hydraulic Clamps for fast leak free clamping during testing
- Hydraulic Water Outlet Ram for fast and leak free water inlet and test pressure
- Cylinder Liner Mock-Up Utilizes actual head gasket for sealing better simulating actual use
- Water Test Pressure adjustable up to 350 PSI depending on customer requirements
- Air/Hydraulic Power System for smooth dependable power
- Accessories Machine comes complete with all necessary equipment, controls, gauges, and fixtures needed for proper testing of head

Single Test Station is standard, however, multiple stations available on request.





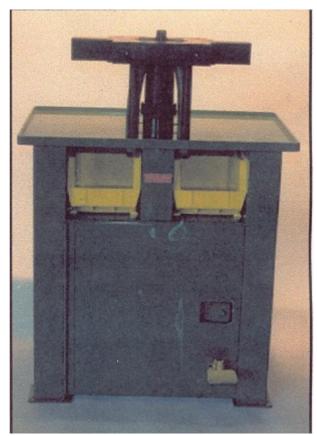
#### Model 3030 EMD Lash Puller Console

# Air/Hydraulic Lash Puller for EMD Engine Exhaust Valve Bridges

Designed for removing lash adjusters from valve bridge bodies. This is the most efficient and simple tool on the market. Just load an assembled bridge body onto the top of the fixture, depress the foot pedal and the unit automatically clamps and pulls both lashes, depositing the used lashes in the bins below the work top. The console is complete, just connect air and begin production.

#### Features:

- Top Loading can be easily automated through the use of a two-axis manipulator.
- Automatic discharge No extra handling of lashes.
- Air/Hydraulic Power Unit for quiet dependable hydraulic pressure.
- Foot pedal control leaving hands free for loading.





# Model 45 EMD Exhaust Valve Spring Tester

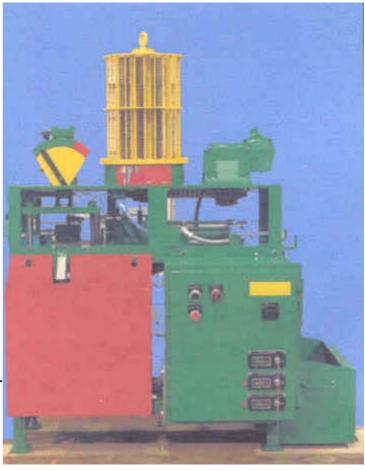
# Dead Weight Exhaust Valve Spring Tester

This machine is designed for production testing of EMD Exhaust Valve Springs. The operator simply loads springs into the feeder basket and presses the start button. The machine will automatically test each individual spring height and strength. After the spring is tested, it is sorted by the machine into either "good" or "reject" baskets. The limits can be adjusted to suit each individual customer's quality control standards.

#### Features:

- Feeder Basket that holds 36 springs
- Automatic Shut Off that turns the machine off when feeder basket is empty
- Micro Processor Based Programmable Control, for fast and accurate control
- Separate baskets for good and rejected springs

For more information or to order contact Tame, Inc.





# Model 93 EMD Piston Storage Rack

## **EMD Piston Storage Rack and Inventory Control**

This storage rack is designed to minimize the labor involved in the inventory and handling of EMD pistons and to the maximum utilization of available floor space. Through the use of a microprocessor based programmable controller and keypad for operator interface, this rack allows the operator to check the status of piston inventory (qty. & type in stock). Once stock status is made, programmable controller will index rack until selected pistons are positioned for unloading. During the loading procedure the operator must enter piston type and quantity being loaded, the programmable controller will store piston type, quantity, and position for later use.



# Model 94 EMD Storage Rack EMD Rods – Baskets – Carriers and Pins

### Maximum Utilization of Floor Space

This storage rack is designed to minimize the labor involved in the inventory and handling of EMD rods, carriers, pins and baskets. The rack will also provide maximum utilization of available floor space. The storage rack consists of eight storage trays. Each tray will hold 4 blade rods, 4 fork rods, 4 baskets, 8 wrist pins, and 8 carriers. The trays are marked for identification of types and engine sets. Standard rack loads from the front and back. Each load and unload station has start/stop controls for indexing rack.

#### **Storage Capacity:**

- 32 Blade Rods
- 32 Fork Rods
- 32 Baskets
- 64 Wrist Pins
- 64 Carriers

Double racks are also available. Also, Micro-Processor based PC inventory control is available.



#### Model 87 Lube Oil Pump Repair Console

This work console is designed for use in the repair of EMD Main Lube Oil Pumps. The console comes complete with equipment to efficiently assemble and disassemble lube oil pump.

#### Features:

- Pneumatic Positioning Fixture This fixture securely holds pump and allows operator to bidirectionally rotate pump 360 degrees. This will allow for fast and easy removal or installation of pump components.
- Fixed Hydraulic Press Assembly for removal and installation of bushings in front and rear bodies and gears. Complete with press fixtures, mandrels, and tool holding fixtures.
- Hydraulic Ram Assembly for removal of shaft when shaft is difficult to remove from front body.
- Air/Hydraulic Power Unit for smooth dependable hydraulic pressure.

For more information or to order contact TAME, Inc.



# Model 80 Rocker Arm Repair Console

#### For Repair of EMD Rocker Arms

#### Features:

- Cam Follower Pin Press Assembly hydraulically clamps rocker arm assembly and allows hydraulic ram to easily remove or install cam follower pin. This assembly is equipped with an air valve ported inside of the bushing to clean the oil passage to the bushing
- Shaft Bushing Press Assembly Hydraulic Ram provides fast an easy installation/removal of shaft bushing. The position fixture allows easy alignment of oil ports during bushing installation
- 2 Gauging Fixtures to measure wear between cam follower bushing and pin – one for 567 & 645 and one for 710 rocker arms
- Air/Hydraulic Power Units for smooth dependable hydraulic pressure. This also allows for independent pressure settings for shaft bushing and cam follower pin press assembly

For more information or to order contact TAME, Inc.



# Model 86 EMD Water Pump Repair & Assembly Console

# Reduce Time & Manhandling of EMD Water Pumps in Need of Remanufacturing

#### Features:

- Positioning Fixture allows operator to clamp water pump to rotating fixture. Rotates 360 degrees BI-Directionally
- Hydraulic Gear Puller Mounted on swing pivot arm allowing instant line up on water pump in positioning fixture. Allows for ease of pulling gears.
- **Hydraulic Shaft Puller** mounted similar to gear puller. Allows ease of shaft & bearing removal.
- **Hydraulic Bearing Press** Easily remove and replace old bearings and seals. Specially designed base for proper alignment and protection of slinger washer.
- Work Vise
- Air/Hydraulic Power Unit only pneumatic supply required
- 3' x 10' Console

For more information or to order contact TAME, Inc.



