Gleason Process
Crankshaft Welding Machines

Model M-2

Simple, Reliable Crankshaft Rebuilding

Exclusive Features

- Change from rods to mains in 5 seconds without wrenches or need to remove crankshaft
- No counter weights to set
- Semi automatic oil hole weld skip system
- Automatic stroke indicator gives precise reading in 10 seconds
- Digital meters accurately control weld deposit height and width
- Electronic indicator for proper rotation speed
- Automatic step-up and step-over of torch for preset weld spacing on thrust, radius, and journal surfaces
- Dual wire feed for automatically switching from journal wire to radius wire
- Gleason crankshaft buildup kits will match or exceed OEM specs for hardness and flexibility
- Automatic, reliable ultra dust resistant flux recovery system
- Complete training by Gleason Tech Specialist included with all Domestic machine purchases

Gleason provides a complete system. Easy to operate.

Gleason. A company that knows its business -- and knows yours

With more than four decades of experience behind us, Gleason Engineering Industries, Inc. has exclusively served only one type of business–the crankshaft rebuilding industry. It is our only business, and we know it better than any other manufacturer.

Our products are the finest and our reputation is the most respected name in the industry.

Gleason has achieved this by continuous research, development, and testing, resulting in a unique crankshaft rebuilding system. Hundreds of thousands of crankshafts for virtually every application have been successfully rebuilt with the thousands of Gleason Rebuilding Machines sold worldwide.

Gleason products are engineered with ease of operation and maximum profitability in mind.

Gleason's approach is very different - and so are the outstanding results you will come to expect.

More than machines

Gleason doesn't stop with the equipment, we offer a complete system to simplify your jobs. With the exclusive Gleason Process you won't be left on your own to try to find the right combination of wire, flux, pre or post heat temperatures, etc. Gleason becomes your partner in providing everything you need to successfully rebuild automotive, truck, and heavy equipment crankshafts.

Not just as good as OEM specifications - in most cases the results will exceed those specs for both durability and fatigue resistance. In addition, the pits, cracks, and soft journals experienced with other methods become a thing of the past.

You'll also have the capability to weld other high profit industrial oriented jobs with your Gleason. Compressor shafts, rollers, spline shafts, and punch press cranks, to mention just a few, can all be repaired with our exclusive selection of specialty kits.

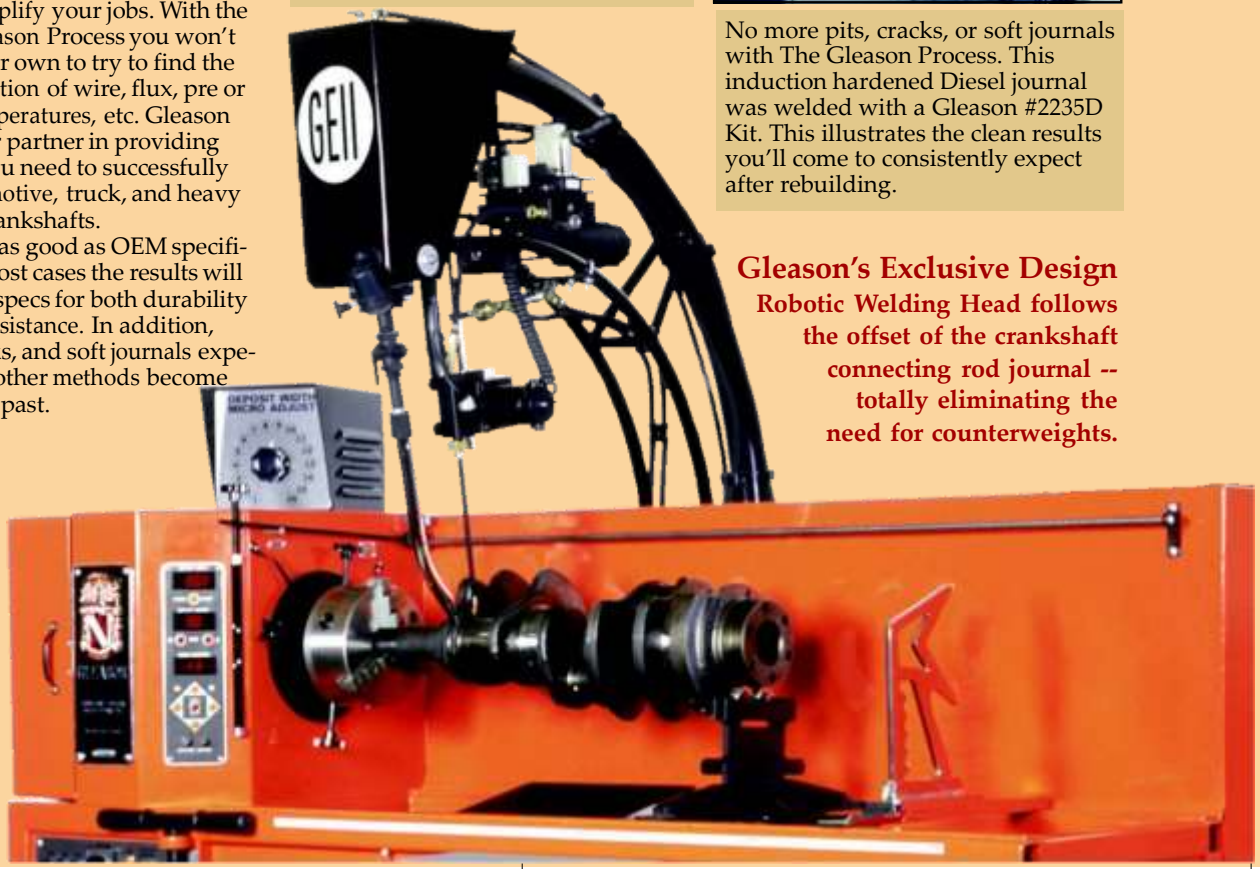
Gleason supplies many different Journal Rebuilding Kits. The wire and flux combination contained in each kit is designed specifically for each application.

Rebuild crankshafts as good as new or better

If you think all products for rebuilding crankshafts are basically the same, you're in for a surprise. Gleason's Crankshaft Rebuilding Machines are so advanced that it's finally simple to achieve superior results

Pits, cracks or soft journals? Forget them. By simply following the precise, step by step procedures of the Gleason process there is no longer a reason to accept or tolerate these old problems.

No more pits, cracks, or soft journals with The Gleason Process. This induction hardened Diesel journal was welded with a Gleason #2235D Kit. This illustrates the clean results you'll come to consistently expect after rebuilding.



Gleason's Exclusive Design

Robotic Welding Head follows the offset of the crankshaft connecting rod journal -- totally eliminating the need for counterweights.

Fastest setup in 2 - 3 minutes. Set stroke in seconds.

Enormous benefits

Having a Gleason Crankshaft Rebuilding Machine, and using the Gleason Process, means you can expect consistent, successful rebuilding without hassle or headache!

Your customers will immediately notice the beautiful appearance of their rebuilt cranks and a greatly increased engine life from your rebuilds. Word of mouth from these excited customers will also help increase your business.

Time saving set ups for production quickly bring extra profits to your company. Simplified operation also lowers stress for your employees, further increasing production volume and profits.

Superior results are automatic

With the Gleason Process and Gleason equipment, your finished results will automatically be better. In fact, you'll achieve results you can always be proud of. Even if the crankshaft journal has been excessively worn, or the hardness has burned out, it'll be no problem to rebuild to original OEM specs or better, with your Gleason equipment.

Generally both wearability of the journal surface and flexibility of the radius far exceed manufacturers specifications. This is not only for automotive, but also for the most demanding induction hardened industrial shafts as well.

Gleason Process Kits and equipment take the guesswork out of crankshaft rebuilding. An exclusive combination of unique welding materials and special application methods fuse these special alloys cleanly to the damaged journals.

Heavy Duty Diesels? No problem!

In the past most rebuilders stayed away from the very profitable truck and heavy equipment cranks. They were discouraged by the previously unreliable methods. Not today! With Gleason you confidently tap into the higher profits of heat-treated diesel crankshafts. Virtually every kind of induction hardened crankshaft can be successfully rebuilt using the "turn-key" Gleason Process and a Gleason M-2 or M-3 Rebuilding Machine. Caterpillar, Komatsu, Detroit Diesel, International Harvester, Cummins, and practically any other heavy duty diesel shaft can be handled routinely with your Gleason.

Set up? Not a problem with the M-2 or M-3B!

Before Gleason "M" Series machines, crankshaft rebuilding required extensive setup procedures each time a shaft was changed. Every job required considerable fiddling and balancing of counterweights to handle stroke journal offset. Each setup could cost the rebuilder a minimum of 15 minutes, or more typically 30 minutes.

A costly, but necessary procedure in the past — a totally wasteful procedure today.

Setup on a Gleason Rebuilding machine takes only 2 or 3 minutes. As a result, you'll typically be able to handle twice the number of crankshaft journals each day, compared with other types of machines.

Gleason Equipment uses a totally unique method of following the offset of the crankshaft journals with the welding torch. This permits the crankshaft to turn in the same balanced position as it was designed for in the engine — on its centerline.

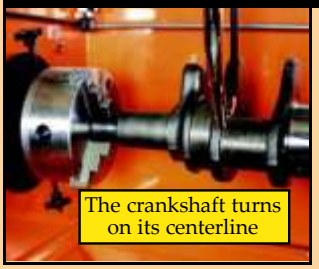
Distortion from heat expansion is never a problem when welding with your Gleason. The shaft is held at only on end while the other end rides on roller bearings, allowing the shaft to expand and contract naturally. This technique essentially eliminates the chance of the shaft falling out and possibly injuring the operator. (Relatively common with competitive machines).

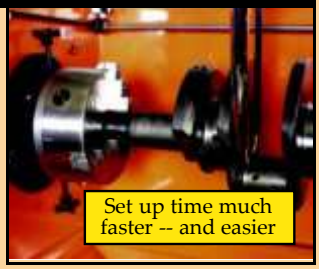
Set the stroke in seconds

On your Gleason, setting the stroke on a crank takes a quick 5-10 seconds, not the frustrating 5-10 minutes typical of competitive machines. Simply read the stroke on the built in indicator, adjust the slide to match, and tighten the hand screw. No wrenches, no complications. It's perfectly accurate, and you're ready to weld.

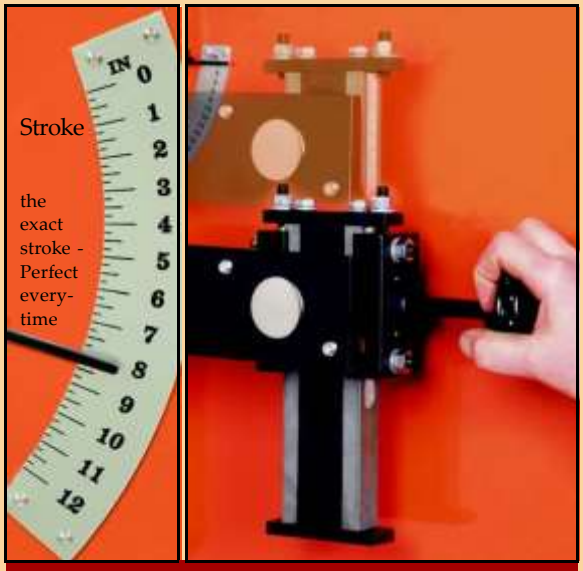
Robotic Welding Head -- Exclusive Gleason Design.

- The welding torch follows the offset of the crankshaft journal
- This permits the crankshaft to turn in the same balanced position as in the engine -- on its centerline
- Much faster set up -- 2 - 3 minutes max. Changing from mains to rods in 5 seconds with no wrenches
- No balancing of counterweights necessary -- saving 15 to 30 minutes of setup time on each shaft
- Distortion from heat expansion is not a problem -- shaft is held at one end, the other end rides on roller bearings allowing the shaft to expand and contract naturally. Shaft will not fall out of machine





More features. Faster set up. Easier to operate. Improv



You can set the stroke on the Gleason M Series Welders in a quick 5 - 10 seconds. Simply read the stroke on the built in indicator, adjust the slide to match, and tighten the hand knob. No wrenches -- no counterweights to adjust, no need to remove crankshaft, and no complications.
Simple, easy, fast, and it is perfectly accurate. You're ready to weld -- PROFITABLY!

Meter Panel

- Weld Deposit Width Meter
- Power Boost Pilot Light
- Weld Deposit Height Meter
- Wire Selector Pilot Lights
- Work Rotation Speed Meter
- Step Direction Pilot Lights
- Reverse - Rotate Switches

Voltage Regulator/Fuse Panel

- Flux Pump Air Volume
- Electrical Line & Motor Fuses
- Flux Pump Operation Lights
- Voltage Regulator 5 position voltage selector switch

Control Panel

- Main Power Emergency Switch
- Pow "ON Ligh
- Weld Power Switch
- Wire Feed Switch
- Crank Rotatio Switch
- Horizontal Jog Step Switch
- Horizont Weld Trav Directio
- Wire Speed Control Electronically Controlled
- Wire Selector Switch Allows operator to select Radius or Journal Wire
- Flux Pump Pilot Light
- Flux Pump Switch
- Power Booster Switch Increases welding heat by 25%
- Horizontal Step Over Control- Controls weld spacing, widely variable
- Vertical Jog Step Switch
- Vertical Step Up Control- Controls thrust weld spacing, widely variable
- Vertical Weld Travel Direction
- Chuck Rapid Rotation Switch
- Crank Rotation Speed

mproved efficiency. Greater profits. Superior results.

Robotic Welding Head
oscillates, and allows the welding torch to follow the journal - no counterweights to adjust

Automatic Flux Gate
turns flux on & off. Pneumatically powered, continuously recycling flux system that's reliable

Crankshafts rotate on centerline - fast and easy to set up

Crankshaft End Support
Shaft rides on roller bearings - minimal distortion

Crank Leveling/ Indexing Fixture

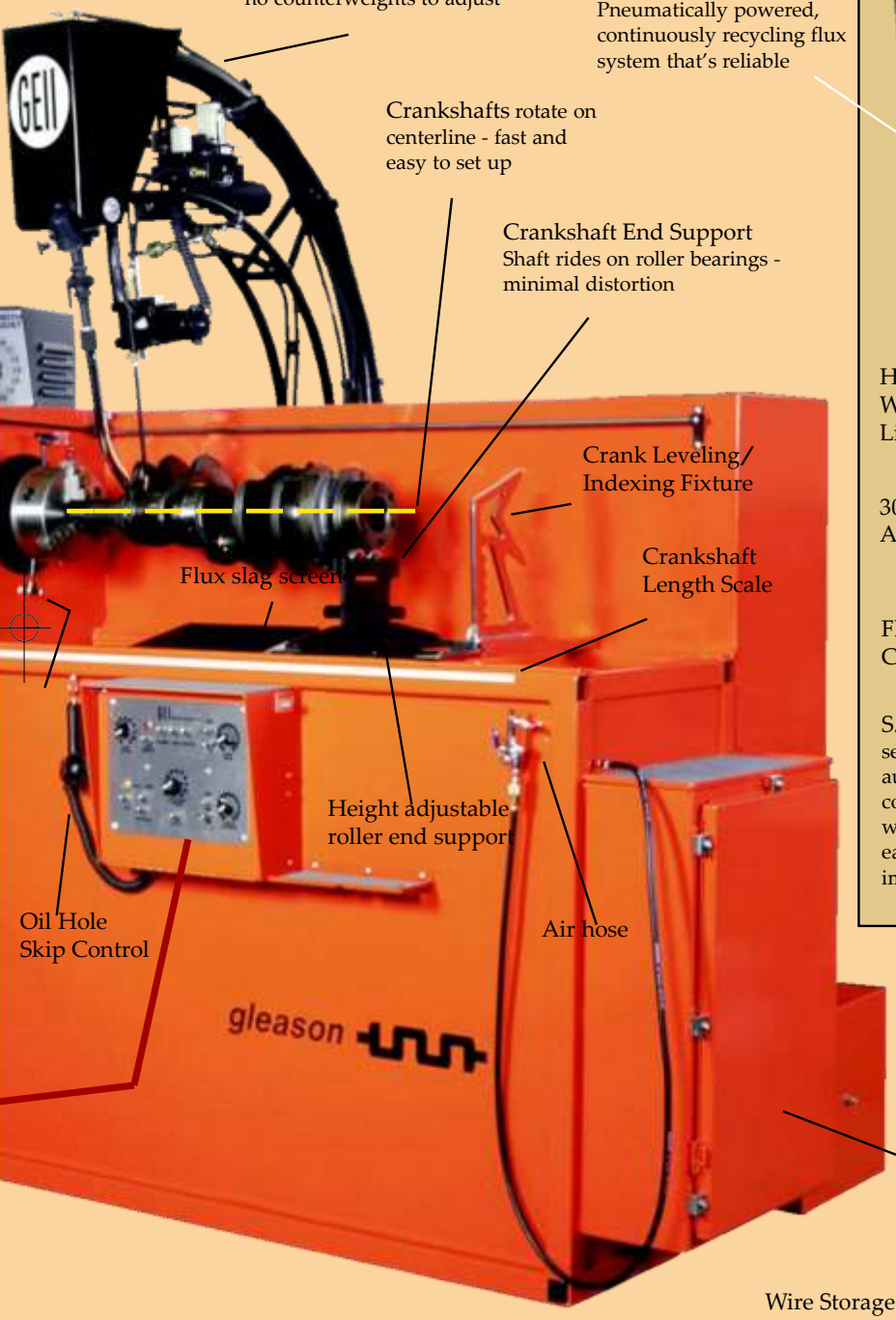
Crankshaft Length Scale

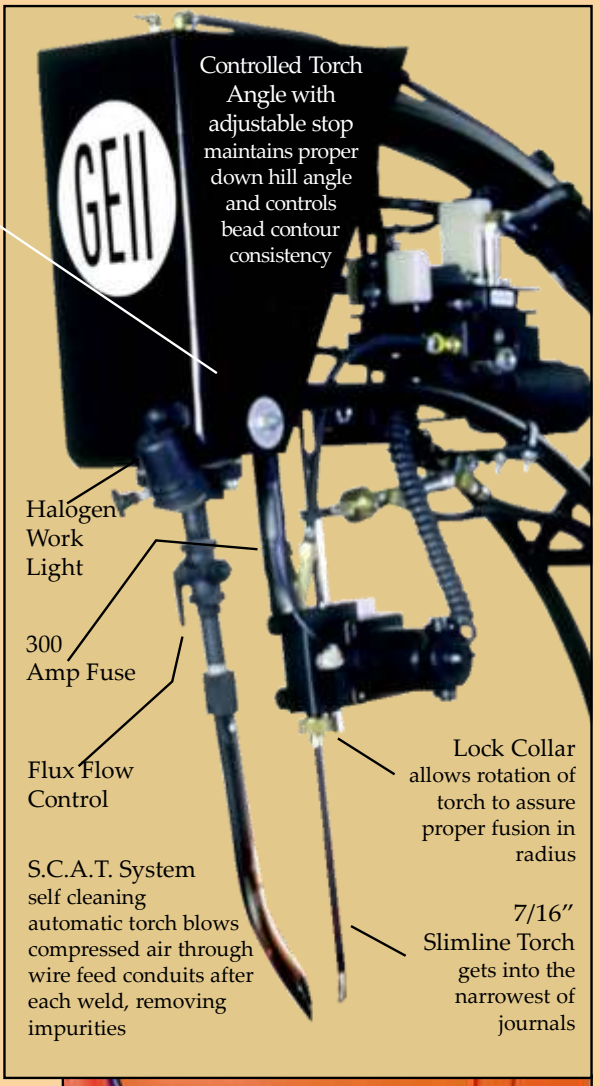
Flux slag screen

Height adjustable roller end support

Oil Hole Skip Control

Air hose





Controlled Torch Angle with adjustable stop maintains proper down hill angle and controls bead contour consistency

Halogen Work Light

300 Amp Fuse

Flux Flow Control

S.C.A.T. System
self cleaning automatic torch blows compressed air through wire feed conduits after each weld, removing impurities

Lock Collar
allows rotation of torch to assure proper fusion in radius

7/16" Slimline Torch
gets into the narrowest of journals

Dust/Oil Tight Wire Storage

Wire Storage
The dual wire storage box protects expensive tool steel wire from corrosion. Also, the dual wire feed mechanism is activated by a selector switch -- no time wasted

Not complicated. Free training*. 2 year warranty.

Simple and comfortable

The submerged arc method is used to produce a superior weld. This process offers important advantages to the operator. The welding tip is completely covered with flux powder, therefore no uncomfortable welding mask or special clothing is necessary. Regular airflow from fans or air conditioning can be directed on the operator without danger of compromising weld quality. An automatic dust collection system controls flux dust to absolute minimum, an industry exclusive.

Welding technique on your Gleason equipment is also exceptionally easy. Even the torch and wire feed system are automatically cleaned of accumulated dust each time you move the carriage to another journal.

Un-complicates the complicated

The Gleason Process Kits eliminate the guesswork in selecting proper wire and flux combinations for optimum rebuilding.

Fine adjustments can be made on easy to read gauges for proper weld deposit height and width. These proper arc characteristics are critical for successful welding of heat-treated or nodular iron crankshafts. These characteristics can be consistently obtained because your Gleason is the only welder to utilize a specially engineered custom power supply.

Thrust welding is automatic with motorized, step-up weld spacing. Each journal radius is also handled automatically by pre-setting step-up and step-over torch spacing.

Simply flipping a switch allows the operator to automatically change from radius wire to journal wire with the built in Dual Wire Feed System -- unique only to Gleason.

Rotation speed for welding each crankshaft is easily and precisely timed by using the digital rotation speed indicator. No guesswork as on other machines.

Forget plugging oil holes

Traditional methods of using carbon or ceramic plugs or paste to prevent welding up oil holes or keyways causes defects in a high percentage of rebuilds. Gleason's system eliminates these problems completely.

Our exclusive Oil Hole Bumper Circuit enables you to completely avoid plugging any oil hole or keyway 1/8" (3mm) or larger. The bumper circuit permits the operator to precisely stop the welding arc as it passes over the hole.

No more defects and no wasted time plugging and re-drilling.

Stroking crankshafts is greatly simplified with this useful Gleason feature. By welding only on the desired side of the journal, hours of grinding time and material can be saved.

Boost profits with improved efficiency

Since every journal rebuilt on your Gleason Machine saves from 10 to 20 minutes of unnecessary and difficult labor, your Gleason quickly pays its own way, resulting in extra profits for your company.

This is accomplished without sacrifice. Customers are happier because their results are drastically improved. Employees are happier since complication is greatly reduced. You'll be happier when you see the increased profits for your company.

What about costs?

If you were trying to compare Gleason Crankshaft Rebuilding Machines to other manufacturers, you would be up against a major roadblock. No other company can come close to the abilities of a Gleason. The good news is that this competitive edge is also available at a competitive price. Gleason -- there really is no other logical choice.

A further point to keep in mind the extras don't cost extra with your Gleason. Obviously, you'll need accessories and supplies to assure optimum results. Unlike other manufacturers Gleason doesn't nickel and dime you to death for these necessities. In fact you'll receive thousands of dollars in extras from Gleason -- without paying extra!

Motorized welding torch moves vertically providing continuous, uninterrupted, smooth, even vertical welding!

This nodular cast iron journal was rebuilt with the #1 Kastalloy Kit. No more pits or cracks! Also, it is not necessary to plug the oil holes. Gleason machines are able to skip over them. Saves time!

Low cost leasing programs

Many of our customers are surprised to find how low the monthly payments are on Gleason Machines. With a Gleason M-2, for example, rebuilding only two to three diesel shafts per month more than pays the lease. Additional shafts are almost all profit!

Call, Fax, or E-Mail us

We'd like to give you complete information on how easily a Gleason Crankshaft Rebuilding Machine can fit into your business. Contact us today, and one of our factory representatives will fill in all of the details.

Free training from the experts*

All installations of Gleason Crankshaft Rebuilding Machines in the United States include free on site training from knowledgeable factory personnel. Training and operational assistance is provided over a two to five day period. Overseas factory training is also available at competitive industry rates.

After training is completed you won't be left on your own. You'll have unlimited factory consultation - just a phone call away.

Twice the warranty

Even the warranty on your Gleason is unique. Instead of the expected one year warranty on parts and labor --Gleason offers two full years.

M-2 & M-3B Specs - Power Requirements - Standard Equipment

M-2 & M-3B SPECIFICATIONS	M-2	M-3B
Chuck	8.0″ (203mm)	13″ (330mm)
Max. Stroke	8.0″ (203mm)	12.25″ (311mm)
Max. Chuck Opening	8.0″ (203mm)	13″ (330mm)
Max. Swing	22.0″ (558mm)	28.0″ (711mm)
Max. Crank Weight Capacity	600 lbs. (272kg)	4000 lbs. (1814kg)
Capacity with 2 end supports	1200 lbs. (544kg)	4000 lbs. (1814kg)
Carriage Travel	48″ (1219mm)	104″ (2641mm)
Double the Capacity by turning crank end for end	96″ (2438mm)	208″ (5283mm)
Floor Space Required	42″ x 85″ (1066 x 2159mm)	60″ x 160″ (1524 x 4064mm)
Boxed Dimensions (L x W x H)	96″ x 48″ x 72″ (2438 x 1219 x 1828mm)	192″ x 78″ x 84″ (4876 x 1981 x 2133mm)
Boxed Shipping Weight	2400 lbs. (1088kg)	5500 lbs. (2494kg)

M-2 & M-3B POWER REQUIREMENTS	Electrical	Amperage	Air
	208/230/250 Volts 3 Phase or 380/415/440 Volts 3 Phase 50/60 Hz	**M-2**/30 Amps breaker reg. **M-3B**/50 Amps breaker reg.	2 cu. ft/min @ 100 psi (6.8bars)

M-2 & M-3B STANDARD EQUIPMENT -- EVERYTHING INCLUDED -- NO OPTIONAL EQUIPMENT TO BUY

1	Operational Manual	1	Gleason Process 2235D Diesel Kit	2	Outlet Conduit Spring Liner (Dual)
1	Electronic Step Over System / E.S.O.	1	Gleason Process 2245D Diesel Kit (M-3B)	2	Torch Spring Liners, 1 - Curved 1 - Straight
1	Voltage Micro Adjust Circuit / MAVC-2	1	Calipers 6″	1	Outlet Wire Feed Conduit (Single)
1	Electronic Weld Deposit Height Meter	1	Chuck Wrench	2	Outlet Wire Feed Conduit (Dual)
1	Electronic Weld Deposit Width Meter	2	Allen Wrenches, 1-1/8″, 1-5/16″	2	Inlet Wire Feed Conduit (Dual)
1	Digital Automatic Surface Speed Indicator	4	Chuck Lock Knobs, 3 Reverse Jaws	18	Contact Tips 6 -.040″ I.D. 6-.044″ I.D 6-.060″ I.D.
1	High Volume Low Pressure Flux Pump	1	Flux Chute Lock Collar, 1 Flux Chute	6	.060″ I.D. Curved 30º Tip For Thrust Weld
1	Flux Dust Control System	2	Flux Pump Liners 1-1/2″	6	.060″ I.D. Curved 15º Tip For Journal Weld
1	Dual Wire Spool Dust / Humidity Proof Cab.	1	Flux Pump Filter Hose	12	.044″ I.D. Curved 15º Tip
1	Dual Electrode Wire Feed Circuit	1	Flux Cleaning Sieve	1	Crankshaft End Support (M-3B - 2)
1	Semi-Auto Oil Hole Skip System	1	Chipping Hammer (Pre – Sharpened)	2	Crankshaft End Support Roller Bearings (M-3B - 4)
1	Automatic Torch Lock	1	Slag Tray		
1	Electronic Wire Speed Control	1	Flux Dam With Extra Shield	6	Fuses, 2-1 Amp, 2-3 Amp, 2-10 Amp
1	Automatic Flux Gate	1	Flux Valve Swivel Bearing Lock Screw	1	300 Amp Safety Fuse (M-3B 500Amp Fuse)
1	Power Booster Circuit	1	Crankshaft Leveling Height Gauge (chromed)	2	Operator Light Bulbs
1	Automatic Stroke Indicator	1	Set Up Bar (chromed)	2	Oil Hole Bumper Magnetic Bumper Arrows
1	Motorized Torch For Auto. Thrust Build Up	1	Torch Angle Gauge	1	Pair Safety Glasses
1	Crankshaft Hardness Tester	1	Blow Gun	1	Pair Of Diagonal Cutters
1	Digital Infra-Red Pyrometer	2	Torches, 1 - Curved, 1 - Straight		
1	Air Rotary File & 2 Carbide Tips (1 Tapered & 1 Round)	1	Torch Jam Nut	1	Kit Data Pad
1	Heating Torch – Rosebud Torch Handle	2	Buss Bars, 1 - Single, 1 - Dual	1	1 oz. Nicheck Nitride/Tufftride Test Fluid
1	Gleason Process #1 Kastalloy Kit	1	Outlet Conduit Spring Liner (Single)	1	Trough Heat Shield

M-4B & M-8 Heavy Duty Crankshaft Rebuilding Machines

M-4B & M-8 SPECIFICATIONS	M-4B	M-8
Chuck	13.0″ (330.2mm)	18.0" (457MM)
Max Stroke	18.0″ (457.2mm)	26.0" (660.4mm)
Max Chuck Opening	13.0″ (330.2mm)	24.0″ (609mm)
Max Swing	36.0″ (914.4mm)	65.0″ (1651mm)
Max Crank Weight Capacity	10,000 lbs. (4545kg)	17,600 lbs. (8000kg)
Capacity with 2 end supports	10,000 lbs. (4545kg)	17,600 lbs. (8000kg)
Carriage Travel	150.0″ (3810mm)	120.0″ (3048mm)
Double the Capacity by turning crank end for end	300.00″ (7620mm)	240.0″ (6096mm)
Floor Space Required	92″x 220″(2236mm x 5588mm)	220″ x 120″ (5588mm x 3048mm)
Boxed Shipping Weight	7500lbs. (3409kg)	Call For Quotation

M-4B & M-8 POWER REQUIREMENTS	Electrical	Amperage	Air
	208/230/250 Volts 3 Phase or 380/415/440 Volts 3 Phase 50/60 Hz	50 Amp breaker reg. 30Amps breaker reg.	2 cu.ft/min @ 100 psi (6.8bars)

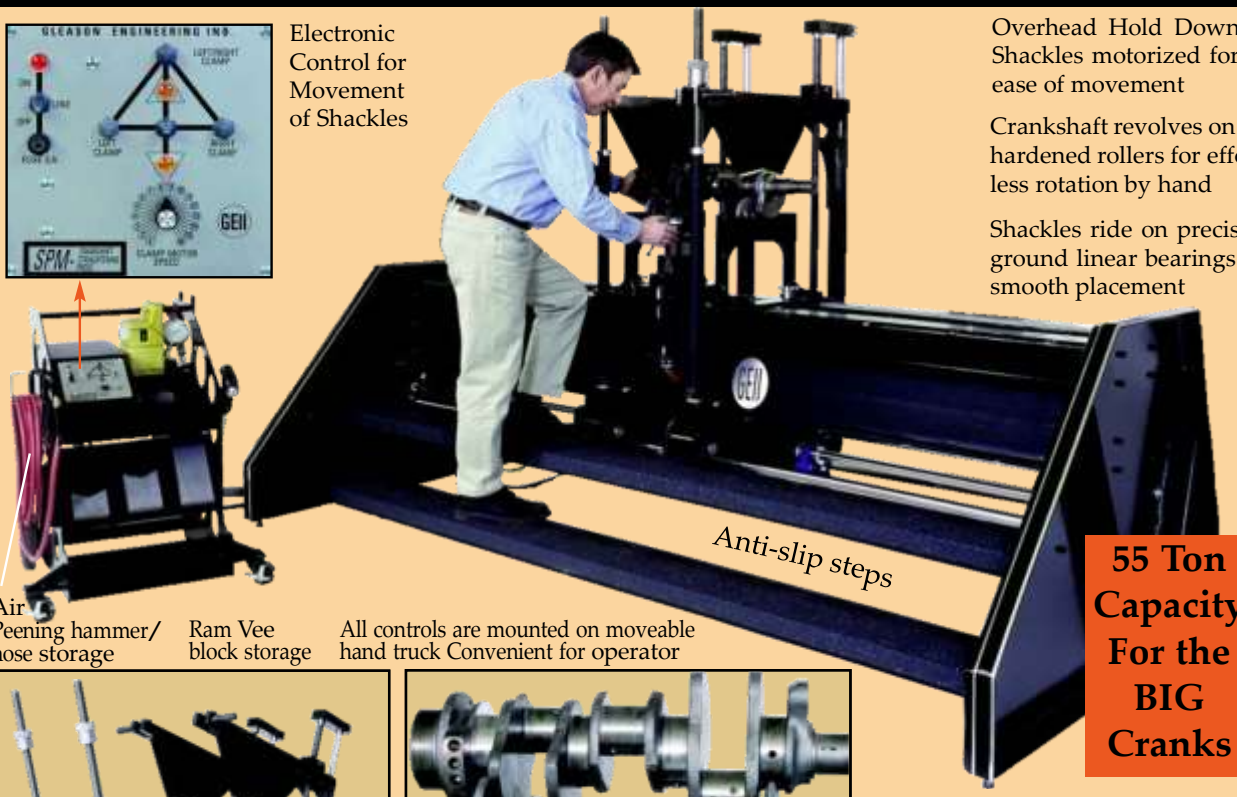
SPM-3 Heavy Duty Crankshaft Straightening Press

Electronic Control for Movement of Shackles

Overhead Hold Down Shackles motorized for ease of movement

Crankshaft revolves on hardened rollers for effortless rotation by hand

Shackles ride on precision ground linear bearings for smooth placement



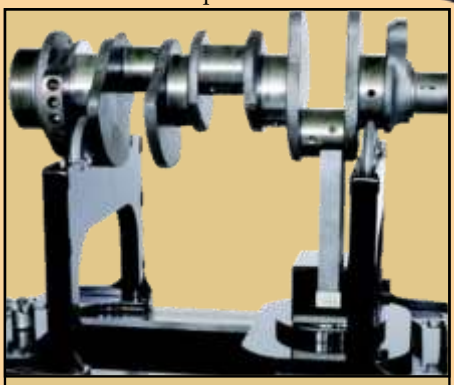
Air Peening hammer/ hose storage

Ram Vee block storage

All controls are mounted on moveable hand truck Convenient for operator

55 Ton Capacity For the BIG Cranks

Loading Position



Design allows ram to be positioned directly under #1 rod journal

SPM-3 Features

- Remote located hydraulic pump and all electrical controls mounted on movable hand truck.
- Push button operated automatic motorized overhead crankshaft clamping system holds crankshaft down while hydraulic ram pushes up, allowing access to peen the inside of connecting rod journal to be straightened.
- Special roller end support design allows placement of hydraulic ram directly under #1 rod journal without interference.
- Two stage hydraulic pump provides rapid movement of ram to save time.
- Air peening hammer included
- Motorized hydraulics

SPECIFICATIONS	SPM-3
Max. length of workpiece	108″ (2743mm)
Max. diameter of workpiece	12″ (304mm)
Max. swing of workpiece	24″ (609mm)
Machine Dimensions	131″ (3327mm) L x 61″ (1549mm) W x 74″ (1879mm) H
Boxed Dimensions	145″ (3683mm) L x 73″ (1854mm) W x 85.5″ (2171mm) H
Boxed Shipping Weight	2700 lbs. (1224kg)
Max. Hydraulic Ram Pressure	110,000 lbs. (49,500kg)

WORLD WIDE

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