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.

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.

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

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 rebuild. 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!
Improved 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

Air hose

Oil Hole Skip Control

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.

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

7/16” Slimline Torch gets into the narrowest of journals.

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

Flux Flow Control

300 Amp Fuse

Halogen Work Light

Automatic Flux Gate Angle with adjustable stop maintains proper down hill angle and controls bead contour consistency.

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

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

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

7/16” Slimline Torch gets into the narrowest of journals.
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-complifies 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!

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

<table>
<thead>
<tr>
<th>M-2 &amp; M-3B SPECIFICATIONS</th>
<th>M-2</th>
<th>M-3B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chuck</td>
<td>8.0&quot; (203mm)</td>
<td>13&quot; (330mm)</td>
</tr>
<tr>
<td>Max. Stroke</td>
<td>8.0&quot; (203mm)</td>
<td>12.25&quot; (311mm)</td>
</tr>
<tr>
<td>Max. Chuck Opening</td>
<td>8.0&quot; (203mm)</td>
<td>13&quot; (330mm)</td>
</tr>
<tr>
<td>Max. Swing</td>
<td>22.0&quot; (558mm)</td>
<td>28.0&quot; (711mm)</td>
</tr>
<tr>
<td>Max. Crank Weight Capacity</td>
<td>600 lbs. (272kg)</td>
<td>4000 lbs. (1814kg)</td>
</tr>
<tr>
<td>Capacity with 2 end supports</td>
<td>1200 lbs. (544kg)</td>
<td>4000 lbs. (1814kg)</td>
</tr>
<tr>
<td>Carriage Travel</td>
<td>48&quot; (1219mm)</td>
<td>104&quot; (2641mm)</td>
</tr>
<tr>
<td>Double the Capacity by turning crank end for end</td>
<td>96&quot; (2438mm)</td>
<td>208&quot; (5283mm)</td>
</tr>
<tr>
<td></td>
<td>42&quot; x 85&quot; (1066 x 2159mm)</td>
<td>60&quot; x 160&quot; (1524 x 4064mm)</td>
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<tr>
<td></td>
<td>96&quot; x 48&quot; x 72&quot;</td>
<td>192&quot; x 78&quot; x 84&quot;</td>
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<tr>
<td></td>
<td>(2438 x 1219 x 1828mm)</td>
<td>(4876 x 1981 x 2133mm)</td>
</tr>
<tr>
<td>Boxed Shipping Weight</td>
<td>2400 lbs. (1088kg)</td>
<td>5500 lbs. (2494kg)</td>
</tr>
</tbody>
</table>

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

1 Operational Manual
1 Electronic Step Over System / E.S.O.
1 Voltage Micro Adjust Circuit / MAVC-2
1 Electronic Weld Deposit Height Meter
1 Electronic Weld Deposit Width Meter
1 Digital Automatic Surface Speed Indicator
1 High Volume Low Pressure Flux Pump
1 Flux Dust Control System
1 Dual Wire Spool Dust / Humidity Proof Cab.
1 Dual Extruder Wire Feed Circuit
1 Semi-Auto Oil Hole Skip System
1 Automatic Torch Lock
1 Electronic Wire Speed Control
1 Automatic Flux Gate
1 Power Booster Circuit
1 Automatic Stroke Indicator
1 Motorized Torch For Auto. Thrust Build Up
1 Crankshaft Hardness Tester
1 Digital Inset-Red Pyrometer
1 Air Rotary File & 2 Carbide Tips [Tapered & Round]
1 Heating Torch – Recessed Torch Handle
1 Gleason Process #1 Kastalloy Kit
1 Gleason Process 222SD Diesel Kit
1 Gleason Process 222SD Diesel Kit (M-3B)
1 Calipers 6"
1 Chuck Wrench
1 Allen Wrenches 1-1/8", 1-5/16"
1 Chuck Lock Knobs, 3 Reverse Jaws
1 Flux Chuck Lock Collar, 1 Flux Chuck
1 Flux Pump Liners 1-1/2"
1 Flux Pump Filler Hose
1 Flux Cleaning Sieve
1 Chipping Hammer (Pre – Sharpened)
1 Slug Tray
1 Flux Dam With Extra Shield
1 Flux Valve Swivel Bearing Lock Screw
1 Crankshaft Leveling Height Gauge (chromed)
1 Set Up Bar (chromed)
1 Torch Angle Gauge
1 Blow Gun
1 Torches, 1- Curved, 1 - Straight
1 Torch Jam Nut
1 Buss Bars, 1 - Single, 1 - Dual
1 Outlet Conduit Spring Liner (Single)
1 Outlet Conduit Spring Liner (Dual)
1 Torch Spring Liners, 1 - Curved 1 - Straight
1 Outlet Wire Feed Conduit (Single)
1 Outlet Wire Feed Conduit (Dual)
2 Inlet Wire Feed Conduit (Dual)
2 Contact Tips 6-040" ID, 6-044" ID, 6-060" ID
2 0.060" ID, Curved 30° Tip For Thrust Weld
2 0.060" ID, Curved 15° Tip For Journal Weld
2 0.044" ID, Curved 15° Tip
2 Crankshaft End Support (M-3B - 2)
2 Crankshaft End Support Roller Bearings (M-3B - 4)
6 Fuses, 2-1 Amp, 2-3 Amp, 2-10 Amp
1 300 Amp Safety Fuse (M-3B 500Amp Fuse)
1 Operator Light Bulbs
2 Oil Hole Bumper Magnetic Bumper Arrows
1 Pair Safety Glasses
1 Pair Of Diagonal Cutters
1 Kit Data Pad
1 1 oz. Nichek Nitride/Tufftride Test Fluid
1 Trough Heat Shield

M-4B & M-3B Heavy Duty Crankshaft Rebuilding Machines

<table>
<thead>
<tr>
<th>M-4B &amp; M-8 SPECIFICATIONS</th>
<th>M-4B</th>
<th>M-8</th>
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<tbody>
<tr>
<td>Chuck</td>
<td>13.0&quot; (330.2mm)</td>
<td>18.0&quot; (457MM)</td>
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<tr>
<td>Max Stroke</td>
<td>18.0&quot; (457.2mm)</td>
<td>26.0&quot; (660.4mm)</td>
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<tr>
<td>Max Chuck Opening</td>
<td>13.0&quot; (330.2mm)</td>
<td>24.0&quot; (609mm)</td>
</tr>
<tr>
<td>Max Swing</td>
<td>36.0&quot; (914.4mm)</td>
<td>65.0&quot; (1651mm)</td>
</tr>
<tr>
<td>Max Crank Weight Capacity</td>
<td>10,000 lbs. (4545kg)</td>
<td>17,600 lbs. (8000kg)</td>
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<tr>
<td>Capacity with 2 end supports</td>
<td>10,000 lbs. (4545kg)</td>
<td>17,600 lbs. (8000kg)</td>
</tr>
<tr>
<td>Carriage Travel</td>
<td>150.0&quot; (3810mm)</td>
<td>120.0&quot; (3048mm)</td>
</tr>
<tr>
<td></td>
<td>300.00&quot; (7620mm)</td>
<td>240.0&quot; (6096mm)</td>
</tr>
<tr>
<td></td>
<td>92&quot; x 220&quot; (2236mm x 5588mm)</td>
<td>220&quot; x 120&quot; (5588mm x 3048mm)</td>
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<tr>
<td>Boxed Shipping Weight</td>
<td>7500lbs. (3409kg)</td>
<td>Call For Quotation</td>
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M-4B & M-8

<table>
<thead>
<tr>
<th>M-4B &amp; M-8</th>
<th>Electrical</th>
<th>Amperage</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER REQUIREMENTS</td>
<td>208/230/250 Volts 3 Phase or 380/415/440 Volts 3 Phase</td>
<td>M-2/30 Amps breaker reg.</td>
<td>2 cu. ft/min</td>
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<tr>
<td></td>
<td>50/60 Hz</td>
<td>M-3B/50 Amps breaker reg.</td>
<td>@ 100 psi (6.8bars)</td>
</tr>
</tbody>
</table>

Page 7
### 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**

#### 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

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

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