**EC-6550A Runout Indicator**

For EC, ML, KGM Machines

**MBC-400A Runout Indicator**

For MBB/MBC Machines

**KKN-100 Honing Fixture**

A precision fixture for use when honing very short holes - where diameter of bore is more than three times the length, and the part has a flat face. Permits honing parts that otherwise are too short to be stabilized on the honing tool. Order faceplates separately. Recommendation of Sunnen Field Engineer is suggested. Fits MBB-1650 and later models. Shipping Weight: 35.7 kg (78.5 lbs.)

**Accessories for Square Honing on Power-Stroked Machine**

**KKN-615A** Flex Pad can be used to hold part tight against faceplate.

**KKN-265A** Lineup Faceplate may be ordered for use as a fixture component.

**EC-7100 Square Honing Fixture**

This fixture is similar to the universal honing fixture which is supplied with the EC and ML Machines. The fingers move in the same scissors type motion as on the universal fixture. Also, the fingers automatically hold the workpiece against the faceplate with the start of the honing cycle and release at the end.

**Accessories for Square Honing on ML Machine**

**EC-7150 Square Honing Conversion Kit:**

This fixture kit will convert the standard universal fixture to the EC-7100 Square Honing Fixture.

**EC-7080 Faceplate Mounting Kit:**

The Mounting Kit consists of the parts required to fasten and adjust the faceplates on the stroker carriage. This new finger knob design allows for faster and easier adjustments of the faceplates. A mounting kit may be purchased for each faceplate to make changing setups faster.

**EC-7000 Series Faceplates:**

The EC-7000 Series Faceplates are a set of thirteen faceplates covering the same range as the KKN Faceplates. The faceplate numbers are as follows:

<table>
<thead>
<tr>
<th>Faceplate</th>
<th>OD in.</th>
<th>ID in.</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.2</td>
<td>3.82</td>
<td>5.5</td>
<td>EC-70011</td>
</tr>
<tr>
<td>10.0</td>
<td>3.98</td>
<td>6.3</td>
<td>EC-70021</td>
</tr>
<tr>
<td>12.0</td>
<td>4.72</td>
<td>7.8</td>
<td>EC-70031</td>
</tr>
<tr>
<td>15.0</td>
<td>5.90</td>
<td>10.6</td>
<td>EC-70041</td>
</tr>
<tr>
<td>19.0</td>
<td>7.50</td>
<td>13.4</td>
<td>EC-70051</td>
</tr>
<tr>
<td>24.0</td>
<td>8.45</td>
<td>17.0</td>
<td>EC-70061</td>
</tr>
<tr>
<td>29.5</td>
<td>11.60</td>
<td>21.4</td>
<td>EC-70071</td>
</tr>
<tr>
<td>37.0</td>
<td>1.457</td>
<td>26.3</td>
<td>EC-70081</td>
</tr>
<tr>
<td>44.2</td>
<td>1.740</td>
<td>33.0</td>
<td>EC-70091</td>
</tr>
<tr>
<td>53.0</td>
<td>2.087</td>
<td>39.9</td>
<td>EC-70101</td>
</tr>
<tr>
<td>63.0</td>
<td>2.480</td>
<td>44.7</td>
<td>EC-70111</td>
</tr>
<tr>
<td>71.6</td>
<td>2.820</td>
<td>56.3</td>
<td>EC-70121</td>
</tr>
<tr>
<td>81.0</td>
<td>3.190</td>
<td>65.7</td>
<td>EC-70131</td>
</tr>
</tbody>
</table>

**EC-4500 Optional Automatic Size Control Unit**

For EC & ML Power-Stroked Honing Machines

The EC-4500 automatic size control unit attaches quickly and easily to ML honing machines. Features automatic positioning which moves the probe into position at the beginning of the honing cycle and retracted at the end of the cycle so that a new workpiece can be installed. Uses standard A.S.C. probes. (See page 8.4) Shipping Weight: 52 kg (11 lbs.)

**MB-2333A Extra-Long Offset Torque Bar**

584 mm (23") Long

Useful for absorbing torque on workpieces which are too long for the standard 350 mm (13") torque bar. Easy to install in seconds. Shipping Weight: 2.04 kg (4.5 lbs.)

**Loop-Grip Holding Fixtures**

Especially useful for hard-to-hold parts such as thinwall tubes, glass barrels, valve spools, small parts with smooth surfaces, and parts with sharp projections such as milling cutters. A must for absorbing torque on most Power Stroker jobs. Uses emery cloth to grip the part securely without distortion. Parts can be inserted and removed easily. Fixture handle rests on torque bar to absorb honing torque and reduce operator fatigue. Each fixture handles diameters as shown in chart (let out loop as needed).

**Accessories and Supplies**

**KNN-980 and KKN-990 Gimbal Fixtures**

The Sunnen KKN-980 and KKN-990 Gimbal Fixtures attach to the Power Stroking Arm of any Sunnen Power Stroked Honing Machine. Used with a customer manufactured workholding fixture. Allows the workpiece to float freely on the mandrel, absorb torque, and provides ease in loading and unloading fixture. Refer to the following chart for workholding fixture design.

**Technical Data**

**MBB/MBC/EC/ML Series**

**Accessories and Supplies**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KKN-980</td>
<td>36.5</td>
<td>1.7/16</td>
<td>49</td>
<td>15/16</td>
<td>6.5</td>
</tr>
<tr>
<td>KKN-990</td>
<td>57.2</td>
<td>2-1/4</td>
<td>70</td>
<td>2-3/4</td>
<td>6.5</td>
</tr>
</tbody>
</table>

**www.sunnen.com**

8.1
MAN-700 Diamond Dresser
Essential to keep honing stones sharp and free cutting - saves time and labor costs. When cutting action of stone slows down, a light stroke with the Diamond Dresser breaks the glaze on the stone and restores honing efficiency. Especially recommended when honing hard alloy steels. (Not for use with CBN/Borazon or diamond honing stones.) Shipping Weight: .1 kg (.25 lb.)

LBN-700 Abrasive Stick
(Silicon Carbide, 220 Grit)
For dressing CBN/Borazon and diamond honing stones only; for cleaning stones loaded with brass, bronze, or aluminum; for shaping a keyway stone; and for shortening a stone for blind hole work or to eliminate bellmouth. Shipping Weight: .1 kg (.25 lb.)

MBB/MBC Spindle Sleeves
Concentric LN-570A Spindle Sleeve. Required for assembled P20 and smaller P28 type mandrels into spindle nose of MBB/MBC machine. Shipping Weight: .2 kg (.50 lb.)

Eccentric LN-0116A Spindle Sleeve.
Similar in purpose to concentric sleeve above. Can be indexed to reduce mandrel runout in older machines equipped with non-adjustable spindle nose. Shipping Weight: .2 kg (.50 lb.)

MB-2410 Work Tray
For MBB-1660. Package of 2. Attaches to left and right side of machine work tray. Keeps work area of machine free of parts while honing. Shipping Weight: 6.1 kg (13.5 lbs.)

MB-2418A Replacement Pad for MB-2410 Tray. Package of one. Shipping Weight: .45 kg (1 lb.)

Side Tray-EC/ML Machines
EC-6515A Side Tray
EC-6519A Replacement Mat for EC-6515A Side Tray, EC/ML Machines

GH-80049 Truing Grit
Aids in truing in metal bond superabrasives. 70 grit (1pt.)

Replacement Belts for ML/EC
PDB-320A Stroker Belt All EC & ML Machines
PDB-206A Timing Belt All EC & ML Machines
PDB-326A Spindle Belt EC-3500 & ML-3500 Only
PDB-340 Spindle Belt for ML-2000, 4000 & 5000

For All MBC and MBB-1800 Power-Stroked Machines
MB-1830A Drive Motor Belt for 60 Hz machines
MB-1833A Drive Motor Belt for 50 Hz machines
MBB-1823A for MBB-1800
KKN-444A for MBB-1800

For MBB-1690 Power-Stroked Machines
MB-2620A Drive Pulley V-Belt for Serial No. 62550 & Greater
MB-2292 Oil Pump Belt
MB-969A Brake Strap Set
KKN-444A Gear Box Pulley Belt

For MBB-1660 Manual Honing Machines
MBB-2620A Drive Motor Belt
MBB-910 Spindle Drive Belt

2.5X Magnifying Glass
Ground optical glass. Ideal for identifying numbers on small stones, for close examination of fine details, and for increased reading accuracy of Sunnen Precision Bore Gages, etc. Available in convenient leather case, or with spring clip for mounting on gage.

LN-150 Magnifying glass in leather case Shipping Weight: .1 kg (.25 lb.)
PG-25 Magnifying glass with spring clip Shipping Weight: .1 kg (.25 lb.)

LBN 462A Mandrel Wrench
For MBB/LBB/SV-10/SV-310 1/4” Hex Key and Wedge removal tool.

Touch Up Paint
MBB-90437A Vista Green
MBC-90411A Pearl Grey
MBC-90412A Pewter Grey
Machine tool lacquer in 1 pint aerosol spray can. Shipping Weight: .45 kg (1 lb.)

NOTE: No longer available for export due to shipping restrictions for aerosol cans.

MB-2328C Replacement Anti-Splash Pads
MBB Honing Machines.
Package of 2 (upper and lower). Shipping Weight: .9 kg (2 lbs.)

Hex Key Wrench Kits with Vinyl Pouch
For MBB/LBB/SV-10 Machines.
PHS-50M 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 mm.
For SV-1000/SV-310.
KKN-750 Universal Honing Fixture
For MBB/MBC
Accommodates almost any workpiece or fixture. Easily and quickly installed or removed. Takes the thrust on forward and back strokes. Includes two pairs of fingers with long-wearing, adjustable carbide pads (including pair of KKN-720A Fingers at rear), two pairs of driving fingers for use with external hones, and 305 mm (12") long rods. (For longer workpieces, 457 mm (18") long KKN-778A Rods can be ordered separately.)

KKN-800 Part Support
Makes it easy to hone heavy workpieces on the MBB. The KKN-800 supports workpieces weighing up to 7 kg (15 lbs.), and is recommended whenever the size of the mandrel is too small to adequately support the workpiece being honed. The KKN-800 is quickly and easily attached to the stroking arm of the machine.
Shipping Weight: 0.7 kg (1.5 lbs.)

KKN-631A Part Support
Clamp Block with Four Screws and Washers

MMT/KRQ Adapters for EC/ML
ML7210 Adapter Kit Consisting of Adapter/Alignment Bar, Collet Nut, Spanner Wrench and Extraction Tool.
NOTE: Either MMTSC1 or MMTSC2 Collet required for use of alignment bar.
NOTE: Must order tool collet separately -
  MMTSC1 for 17mm shank tool,
  MMTSC2 for 23mm shank tool,
  MMTSC3 for 25mm shank tool,
  MMTSC4 for 16mm shank tool,
### ASC Sensing Units and Setting Fixture

#### Automatic Size Control Sensing Tips

**Gaging Filters/ Honing Fluids**

**Abrasives & Tooling**

**For Use with EC-4500 Automatic Size Control Unit on EC/ML Machines**

**Sensing Tips**

- Consist of a split plug with central adjusting screw. Adjustment compensates for wear—extends the life of the sensing tip.
- You can also use the same sensing tip for rough and finish honing. Useful diameter range is approximately .38 mm (.015”). Special probes are available for high production applications. Contact Sunnen Customer Service.

#### Sensing Units and Setting Fixtures

**26 mm - 51 mm (1” - 2”) Diameter**

The ASC-50 Micrometer-Type Setting Fixture is used to set the four radial adjusting screws centrally and to rough size. Final setting is accomplished by adjusting center screw in the split plug body.

<table>
<thead>
<tr>
<th>Sensing Unit Part No.</th>
<th>Diameter Range mm</th>
<th>ASC-51</th>
<th>26 - 32</th>
<th>1 - 1/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC-52</td>
<td>32 - 38</td>
<td>1 1/4 - 1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC-53</td>
<td>38 - 45</td>
<td>1 1/2 - 1 3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASC-54</td>
<td>45 - 51</td>
<td>1 3/4 - 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Alignment Bushings

**For Mandrel Centering with adjustable spindle nose**

Accurate centering of the mandrel requires a concentric bushing whose I.D. falls within the finish bore limits of the workpiece. Sunnen truing sleeves are not suitable for this purpose. Table at right lists the bore diameter and part number of standard alignment bushings.

For bores whose finish size falls between the diameters listed in the table, select the bushing whose bore diameter is just under finish size. When setting up the job for the first time, the undersize alignment bushing can be honed out to finish size with the same tooling used for honing the workpiece. For bushing diameters outside the standard range, call your Sunnen representative.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C-100</td>
<td>0.54 - 0.100</td>
<td>C-160</td>
<td>0.46 - 0.100</td>
<td>C-250</td>
<td>0.250</td>
<td>C-354</td>
<td>0.354</td>
</tr>
<tr>
<td>C-102</td>
<td>0.59 - 0.102</td>
<td>C-165</td>
<td>0.46 - 0.105</td>
<td>C-255</td>
<td>0.255</td>
<td>C-362</td>
<td>0.362</td>
</tr>
<tr>
<td>C-104</td>
<td>0.64 - 0.104</td>
<td>C-170</td>
<td>0.43 - 0.107</td>
<td>C-260</td>
<td>0.260</td>
<td>C-370</td>
<td>0.370</td>
</tr>
<tr>
<td>C-106</td>
<td>0.69 - 0.106</td>
<td>C-175</td>
<td>0.45 - 0.105</td>
<td>C-265</td>
<td>0.265</td>
<td>C-375</td>
<td>0.375</td>
</tr>
<tr>
<td>C-108</td>
<td>0.74 - 0.108</td>
<td>C-180</td>
<td>0.45 - 0.110</td>
<td>C-270</td>
<td>0.270</td>
<td>C-385</td>
<td>0.385</td>
</tr>
<tr>
<td>C-110</td>
<td>0.79 - 0.110</td>
<td>C-185</td>
<td>0.47 - 0.115</td>
<td>C-275</td>
<td>0.275</td>
<td>C-390</td>
<td>0.390</td>
</tr>
<tr>
<td>C-112</td>
<td>0.84 - 0.112</td>
<td>C-190</td>
<td>0.48 - 0.120</td>
<td>C-280</td>
<td>0.280</td>
<td>C-410</td>
<td>0.410</td>
</tr>
<tr>
<td>C-114</td>
<td>0.89 - 0.114</td>
<td>C-195</td>
<td>0.49 - 0.125</td>
<td>C-285</td>
<td>0.285</td>
<td>C-430</td>
<td>0.430</td>
</tr>
<tr>
<td>C-116</td>
<td>0.94 - 0.116</td>
<td>C-200</td>
<td>0.50 - 0.130</td>
<td>C-290</td>
<td>0.290</td>
<td>C-450</td>
<td>0.450</td>
</tr>
<tr>
<td>C-118</td>
<td>0.99 - 0.118</td>
<td>C-205</td>
<td>0.51 - 0.135</td>
<td>C-295</td>
<td>0.295</td>
<td>C-470</td>
<td>0.470</td>
</tr>
<tr>
<td>C-120</td>
<td>0.04 - 0.120</td>
<td>C-210</td>
<td>0.53 - 0.140</td>
<td>C-300</td>
<td>0.300</td>
<td>C-490</td>
<td>0.490</td>
</tr>
<tr>
<td>C-125</td>
<td>0.18 - 0.125</td>
<td>C-215</td>
<td>0.56 - 0.150</td>
<td>C-305</td>
<td>0.305</td>
<td>C-510</td>
<td>0.510</td>
</tr>
<tr>
<td>C-130</td>
<td>0.30 - 0.130</td>
<td>C-220</td>
<td>0.59 - 0.160</td>
<td>C-310</td>
<td>0.310</td>
<td>C-530</td>
<td>0.530</td>
</tr>
<tr>
<td>C-135</td>
<td>0.35 - 0.135</td>
<td>C-225</td>
<td>0.62 - 0.170</td>
<td>C-315</td>
<td>0.315</td>
<td>C-550</td>
<td>0.550</td>
</tr>
<tr>
<td>C-140</td>
<td>0.39 - 0.140</td>
<td>C-230</td>
<td>0.62 - 0.175</td>
<td>C-320</td>
<td>0.320</td>
<td>C-570</td>
<td>0.570</td>
</tr>
<tr>
<td>C-145</td>
<td>0.43 - 0.145</td>
<td>C-235</td>
<td>0.65 - 0.180</td>
<td>C-330</td>
<td>0.330</td>
<td>C-590</td>
<td>0.590</td>
</tr>
<tr>
<td>C-150</td>
<td>0.48 - 0.150</td>
<td>C-240</td>
<td>0.68 - 0.185</td>
<td>C-335</td>
<td>0.335</td>
<td>C-610</td>
<td>0.610</td>
</tr>
<tr>
<td>C-155</td>
<td>0.52 - 0.155</td>
<td>C-245</td>
<td>0.72 - 0.190</td>
<td>C-340</td>
<td>0.340</td>
<td>C-630</td>
<td>0.630</td>
</tr>
<tr>
<td>C-160</td>
<td>0.56 - 0.160</td>
<td>C-250</td>
<td>0.75 - 0.195</td>
<td>C-345</td>
<td>0.345</td>
<td>C-650</td>
<td>0.650</td>
</tr>
</tbody>
</table>

8.4 1-800-325-3670
KROPSSGRINDING® Machine Replacement Parts And Accessories

Replacement Belts
- PDB-337: Spindle Belt (KGM-5000)
- PDB-327: Spindle Belt (KGM-1000)
- PDB-336: Stroker Belt (KGM-1000/5000)
- PDB-318: Drive Belt (1000/5000)

KGM Spindle Wrench
- PWM-300: Torque Wrench
- PWM-301: Wrench Head
- PWM-302: Spanner Wrench
- EC-6550A: Spindle Runout Indicator

Replacement Fixturing Air Lines
5/32” O.D.
(Sold in 304.8 mm [12"] length only.)
- 78156A: White
- 78157A: Black
- 78158A: Red
- 78159A: Blue
- CGM-4491A: Air Line Retainers with Screw

MMT Adapter
Allows for installation of MMT tooling to KGM
- MMT-KGM81A: 17mm shank MMT
- MMT-KGM82A: 23mm shank MMT
- MMT-KGM83A: 25mm shank MMT
Includes Collet, Collet Nut, Spanner Wrench, Extraction Tool, Wedge Coupler, Spindle Adapter.
(Prior to selecting tooling and adapters, consult with a Sunnen Application Expert.)

Coolant Accessories
- CGM-3205A: Coolant Nozzle Set
- CGM-3201A: Coolant Hose 914.4 mm (3 ft.)

Lubricating Oils KGM-5000
- SML-10: Spindle Oil
  (Mobil SHC-626), .47 liter (1 Pint)

Lubricating Grease for KGM-5000
- SML-170: Lubricating Grease
  Lubricating Grease for KGM-5000 (Polyrex Em), .41 liter (14 oz.) Tube
- SML-100: Lubricating Grease
  (MobilTemp™ SHC-32 or MobilGrease™ 28), .41 liter (14 oz.) Tube

Note: Use of any other oils or lubricants will cause component failure.

Optional Fixturing for KGM-5000
KROSSGRINDING® Machine
CGM-4200: Automatic Finger Fixture
The air-actuated CGM-4200 Automatic Finger Fixture is a versatile fixturing system that can be used for either manually loading or automating the KGM Machine.

CGM-4210A: Air-Actuated Finger Assembly
Used in place of CGM-4201A Fixed Finger Set.
CV616/SV-10
Accessories and Supplies

SV-10 Replacement Belts
Part Number  Description
PDB-341  Stoker Drive Belt
PDB-342  Spindle Drive Belt
CK-252  Timing Belt

CV-616 Replacement Belts
Part Number  Description
CV-252A  Timing Belt
CV-192A  Flat Belt
CV-209A  "V" Belt, Upper
CV-498A  "V" Belt, Lower

CV-1100 Fiber Mats
These mats remove the coarse swarf produced during honing before it enters the machine sump. They extend the time between cleaning the machine sump and also extend filter and pumping system life. Five to the standard package. Measures 134 x 86 cm (53" x 34").

Feed System-CV-616/SV-10
CK-125A Feed Ratchet Pawl Replacement Kit
Replaces work Feed Ratchet Pawl.
CV-616-HN2X 1/2 Rate Pawl Kit
Reduces feed rate by 1/2 for applications (superabrasives and carbide or tool steel) which the standard feed rate does not advance slow enough for wear and load builds. Replaces standard on machine feed pawls.

CK-234A Gear Set
Replacement Fiber planetary gear set for the CV-616/SV-10 handwheel assembly.

Cover for Operator Station Screen — SV-10
CV-605B
Replacement protective cover for screen.
PF-244A
Gasket for filter canister lid CV616/SV-10.

Stroke Scale Plates
CV616/SV-10

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Stroke Length</th>
<th>Stone Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNP-12752</td>
<td>3/4” (99, 8 mm)</td>
<td></td>
</tr>
<tr>
<td>PNP-13503</td>
<td>1/2” (88, 9 mm)</td>
<td></td>
</tr>
<tr>
<td>PNP-14604</td>
<td>1/2” (114, 3 mm)</td>
<td></td>
</tr>
<tr>
<td>PNP-1600</td>
<td>6” (152, 4 mm)</td>
<td></td>
</tr>
<tr>
<td>CV-1285</td>
<td>9” (228, 6 mm)</td>
<td></td>
</tr>
</tbody>
</table>

For metric, add “M” to the part number.

SV10 Replacement Belts
Part Number  Description
CK-125A  Ratchet Pawl Replacement Kit
CV-616-HN2X 1/2 Rate Pawl Kit
CV-605B  Replacement Protective Cover for SV-10 Operator Screen

CK-3410A Lamp and Bracket Assembly
The CK-3410A is equipped with an 8-foot long cord with moulded on ground plug. It is offered in 115 volt, single phase only and will plug into any standard 3-wire convenience outlet. The unit is supplied with a clamp for attachment to the control station arm. (Takes 100 watt maximum incandescent bulb; bulb not included.)
Shipping Weight: 3.2 kg (7 lbs.)

CK-448A Gearbox Oil
CK-448A is a sulphur free gearbox lubricant used in the CV-616/SV-10 transmission case. Use of 90 weight hypoid lubricant will cause premature gearbox wear and is not recommended.

FL6X-20 MPS or Portable Tooling Adapter for CV-616/CK-21/SV-10
For use on applications larger than 8" in diameter or for parts with keyways, ports or other interruptions where standard CV/CK tooling will not work. Order MPS or ANR hone heads separately - Special Order. Please call Sunnen for availability.
Shipping weight: 3 kg (6.5 lbs.)

CV-1010 Mandrel Adapter
The CV-1010 adapts standard mandrels in applications where the standard hone heads do not apply. Minimum diameter 19 mm (.75”). Mandrel not included.
Shipping Weight: 2.3 kg (5 lbs.)

CV-271A Over Arm Counterbalance Weight Block
For CV-616 Serial No. 4358 and above. Order when using large hone heads, large P28 and Y mandrels. Helps keep head in position when tool is removed from bore.
Does not fit SV10 Machines.

CV-1220A Cradle Counterweight Kit
Attached to the CV-616/SV-10 cradle, this kit reduces the effort required to shift the cradle when changing from its vertical or horizontal positions.
SV-1000/2000 Series
Tooling Adapters and Accessories

Tooling Adapters

NOTE:
Tooling selection is application dependent. Prior to selecting tooling and adapters, consult with a Sunnen application expert.

**MMT**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Spindle Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMT-SCN</td>
<td>Collet Nut</td>
<td>SV-39230</td>
</tr>
<tr>
<td>MMT-SCE</td>
<td>Collet Extractor</td>
<td></td>
</tr>
<tr>
<td>MMT-SCW</td>
<td>Collet Nut Wrench</td>
<td></td>
</tr>
<tr>
<td>MMT-SC1</td>
<td>17mm Tool Shank Collet</td>
<td></td>
</tr>
<tr>
<td>MMT-SC2</td>
<td>23mm Tool Shank Collet</td>
<td></td>
</tr>
<tr>
<td>MMT-SC3</td>
<td>25mm Tool Shank Collet</td>
<td></td>
</tr>
<tr>
<td>MMT-SC4</td>
<td>16mm Tool Shank Collet</td>
<td></td>
</tr>
<tr>
<td>SV-39150</td>
<td>Runout Adjustable Collet Adapter</td>
<td></td>
</tr>
<tr>
<td>SV-39170</td>
<td>Runout Adjustable Large MMT Adapter</td>
<td></td>
</tr>
<tr>
<td>SV-39210</td>
<td>Floating Tool Holder - MMT Up to 17mm Shank</td>
<td></td>
</tr>
<tr>
<td>SV-39220</td>
<td>Floating Tool Holder - MMT Up to 25mm Shank</td>
<td></td>
</tr>
</tbody>
</table>

**CGT**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-39010</td>
<td>CGT Spindle Adapter</td>
</tr>
<tr>
<td>PWM-300</td>
<td>Torque Wrench (pre set to 45 ft-lbs)</td>
</tr>
<tr>
<td>PWM-301</td>
<td>7/8” Wrench Head (for use with PWM-300)</td>
</tr>
<tr>
<td>PWM-306</td>
<td>Hook Spanner</td>
</tr>
</tbody>
</table>

**Single Stroke**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-39230</td>
<td>Floating Tool Holder for Single Stroke Tooling</td>
</tr>
</tbody>
</table>

**Standard Tooling - K, KR, L, LR, BL, D2, JK, AK, Y, P20, P28**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-39030</td>
<td>Standard Tooling Adapter</td>
</tr>
</tbody>
</table>

**Spindle Tool**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-39080</td>
<td>Used to Remove Ball Coupler for CGT Installation and to Lock Spindle While Tightening MMT Collet Nut</td>
</tr>
</tbody>
</table>

**Tool Alignment Indicator**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV-39040</td>
<td>Mounts to column</td>
</tr>
</tbody>
</table>

**Work Area Light Kit**

VSS-29050

SV-400/2400 Series
Accessories

**CV-1010**
Mandrel Adapter (same as SV-10) - Adapts standard mandrels to spindle

**SV-21110**
Fixture Frame for Mounting Custom Work Piece Fixtures

NOTE: SV21115 fixture frame is available for SV410/2410 machines and includes T-slot base

**SV-51117**
T-Slot Table — Mounts to Base of Machine. Allows for Use of T-Nuts to Mount Work Piece Fixtures. Optional for SV410/2410 only.

**VSS-29050**
Work Area Light Kit

---

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Fixture Frame, Optional</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>Screw, M12 x 1.75 x 35mm SHCS</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Screw, M12 x 80mm SHCS</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Lockwasher, M12</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Flatwasher, M12</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Fixture Support</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Fixture Anchor</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Rail</td>
<td>2</td>
</tr>
<tr>
<td>Optional</td>
<td>Servo Rollover Cradle (2) SV21102</td>
<td>1</td>
</tr>
<tr>
<td>Optional</td>
<td>Man. Rollover Cradle (2) SV21102</td>
<td>1</td>
</tr>
<tr>
<td>Optional</td>
<td>Clamp Kit can be used with any of these fixtures</td>
<td>-</td>
</tr>
</tbody>
</table>
## VSS & VSS Series 2

### Tooling Adapters (VSS and VSS Series 2)
- **Part Number**
  - VSS-9110
  - VSS-9115
- **Description**
  - Runout Adjustable Spindle Adapter
  - Floating Tool Holder Adapter

### Tool Alignment Indicator
- **SV-39040** for VSS Series 2

### Maintenance

#### Belts
- **VSS**
  - **Part Number**
    - PDB-215
    - PDB-107
    - PDB-106
  - **Description**
    - Column Timing Belt VSS-84/64/86
    - Intermediate Spindle Drive Belt VSS-86
    - Main Spindle Drive Belt VSS-86

- **VSS Series 2**
  - **Part Number**
    - PDB-220
    - PDB-219
  - **Description**
    - Spindle Drive Belt VSS-284/64
    - Spindle Drive Belt VSS-286

#### Work Area Light Kits
- **VSS-6170** for VSS Machines
- **VSS-29050** for VSS Series 2 Machines

#### Lubrication
- **VSS**
  - **Part Number**
    - SML-130
    - SML-150
    - SML-160
  - **Description**
    - VSS-84/64 Spindle Gear Case
    - VSS-84/86/86 Indexer Oil
    - Column Ball Nut

- **VSS Series 2**
  - **Part Number**
    - 90056
    - SML-150
  - **Description**
    - Column Grease
    - Indexer Oil

#### Column Drive Shear Pin
- **VSS-4273** (VSS machines only)