

Natoli Engineering, founded in 1973, is the primary source of tablet compression tooling, presses, parts, accessories and hands-on training for hundreds of pharmaceutical, nutritional, confectionary and industrial tablet manufacturers throughout the world.

Natoli has created this catalog in support of the tablet compression industry. The color-coded sections are filled with an assortment of quality products to meet a variety of set-up, inspection and maintenance needs. Please reference the index located in the back of the catalog to locate specific items. Orders of any size and type are welcome, including special requests and custom requirements. All of the products listed in this catalog are available for shipment worldwide.

No matter what your tablet compression needs are, we look forward to helping your business succeed.

Natoli Engineering... You demand. We deliver.



SET-UP





Natoli supplies a wide selection of torque tools, die insertion tools, precision gauges, nylon brushes, dust cups, bellows, keys, tablet press set-up kits, turret inspection kits, calibration kits and much more. Streamline the efficiency of your tablet press set-up process with tools, kits and equipment from Natoli.



Torque Screwdrivers

Abbreviations Key

- ◆ NIST = National Institute of Standards and Technology
- ◆ ASME = American Society of Mechanical Engineers
- ◆ ISO = International Organization for Standardization
- ◆ CW/CCW = Clockwise/Counterclockwise
- ◆ VAC = Volts Alternating Current
- ◆ ID = Inside Diameter
- ◆ dia = Diameter
- ◆ BD = Blank Die
- ◆ Ft-lb = Foot Pound
- ◆ In-lb = Inch Pound
- ◆ Nm = Newton Meter
- ◆ mm = Millimeter

Conversion Key

- ◆ 1 Ft-lb = 1.35581795 Nm
- ◆ 1 Nm = 0.737562149 Ft-lbs
- ◆ 1 In-lb = 0.112984829 Nm
- ◆ 1 Nm = 8.85074579 In-lbs



Adjustable Torque Screwdriver with “Click” Design

A distinct “click” is felt and heard when proper torque is reached.

- ◆ Recommended for torquing lower punch retainer screws
- ◆ Includes ¼" hex and bit
- ◆ Meets ASME B 107.14M and ISO 6789 Specifications for:
 - ❖ ± 6% present value accuracy from 20 – 100% of capacity
 - ❖ ± 1.2% of capacity when set below 20% of capacity
 - ❖ Specifications met in CW and CCW directions

Part No.	Item Description	Range
SU 0010	Adjustable Torque Screwdriver	7 – 36 in-lbs



Ergonomic Adjustable Torque Screwdrivers

- ◆ Recommended for torquing lower punch retainer screws
- ◆ Quick-release bit holder for insert and power bits
- ◆ ± 6% EN ISO 6789 accuracy
- ◆ ¼" bits DIN 3126-C 6, 3 and E 6, 3

Part No.	Item Description	Range
SU 0090	Adjustable Torque Screwdriver	2.5 – 11.5 in-lbs
SU 0091	Adjustable Torque Screwdriver	11 – 29 in-lbs



Ergonomic Preset Torque Screwdrivers

- ◆ Recommended for torquing lower punch retainer screws
- ◆ Quick-release bit holder for insert and power bits
- ◆ ± 6% EN ISO 6789 accuracy
- ◆ ¼" bits DIN 3126-C 6, 3 and E 6, 3

Part No.	Item Description	Range
SU 0092	Preset Torque Screwdriver	2.5 – 11.5 in-lbs
SU 0093	Preset Torque Screwdriver	11 – 29 in-lbs

Preset Torque Wrenches

Improperly torqued dies can crack, split or “pop-up” resulting in damage to the feed frame and tooling. This can potentially create thousands of dollars worth of repair costs, unsafe working conditions, unwanted downtime and a significant reduction in product output. Using preset torque wrenches will ensure dies are torqued to the exact specifications listed in the tablet press manual.



L-Handle Torque Wrenches 1/2" Drive with “Click” Design

Click-type wrenches are a must to achieve specified torque.

A distinct “click” is felt and heard when proper torque is reached.

- ◆ **Mandatory for tightening all types of die lock screws**
- ◆ Re-calibrate in-house with Torque Analyzer (MA 5059)
- ◆ Color-coded handle

Part No.	Ft-lbs	Nm	Handle Color
SU 0162	7.38	10	Light Green
SU 0001	10	13.56	Light Blue
SU 0158	11.06	15	Maroon
SU 0002	12	16.27	White
SU 0023	13	17.63	Dark Green
SU 0003	14	18.98	Orange
SU 0004	15	20.34	Red
SU 0005	20	27.11	Yellow
SU 0006	25	33.90	Black
SU 0007	30	40.67	Blue



T-Handle Torque Wrenches 3/8" Drive

Part No.	Ft-lbs	Nm
SU 0186	7.38	10
SU 0175	10	13.56
SU 0187	11.06	15
SU 0177	12	16.27
SU 0176	13	17.63
SU 0178	14	18.98
SU 0179	15	20.34
SU 0181	20	27.11



T-Handle Torque Wrenches 1/4" Drive

Critical for properly torquing upper punch

key screws and multiple-tip tooling assemblies.

Part No.	In-lbs	Nm	For Use With
SU 0200	8.9	1.0	Silver* M3 Punch Key Screws
SU 0201	16.5	1.86	Black** M3 Punch Key Screws or Silver* M4 Punch Key Screws
SU 0202	37.4	4.22	Black** M4 Multi-Tip Cap Assembly

*Silver screws are made of stainless steel.

**Black screws are made of carbon steel.

Digital Torque Wrench & Hex Adapters

Exacta® Plus Digital Torque Wrench

The Exacta Plus Digital Torque Wrench communicates with proprietary software to establish and document proper die lock settings, reducing the possibility of press and tooling damage. Eliminating die lock torque pressure as a variable allows for more efficient troubleshooting of die failure.

- ◆ ± 1% indicated value accuracy from 20 – 100% of capacity in Peak Mode
- ◆ CW and CCW testing capabilities
- ◆ Verify and maintain proper torque pressures
- ◆ Torque system capabilities for die lock torque auditing
- ◆ Up to 50 tablet presses with up to 50 die locks per press can be loaded onto the tool as a single audit route
- ◆ Uploaded measurements are stored and archived automatically and can easily be exported to other programs for statistical analysis
- ◆ Included RS-232C Software requires Windows XP Pro or Server 2003

Part No.	Item Description
SU 0085	Exacta Plus Digital Torque Wrench – 25 ft-lbs



Die Lock Hex Adapters

- ◆ 1/2" Drive for use with L-handle torque wrench
- ◆ 3/8" Drive for use with T-handle torque wrench
- ◆ 1/4" Drive for use with torque screwdriver
- ◆ 1/4" Drive for use with Manesty lower punch retainer screws

Part No.	Drive Size	Adapter Size
SU 0008	1/2"	5/16"
SU 0009	1/2"	3/8"
SU 0015	3/8"	5/16"
SU 0016	3/8"	3/8"
SU 0052	1/4"	1/4"





VeriTorg® Digital Torque Analyzers

The VeriTorg Analyzer quickly verifies proper torque settings for click-type and camover torque wrenches and screwdrivers. Proper torque settings prevent potential press and tooling damage and reduce downtime.

- ◆ Meets or exceeds ASME B 107.24M and ISO 6789
- ◆ $\pm 1\%$ indicated value accuracy from 10 – 100% of capacity
- ◆ CW and CCW testing capabilities
- ◆ 3 operating modes: Track, Peak and Initial Peak
- ◆ Units of measurement: English and Metric
- ◆ NIST-traceable long-form certification
- ◆ Serial port for immediate or batch data transfer
- ◆ Integral “L” mounting bracket
- ◆ Storage case and 120 VAC power supply

Part No.	Item Description
MA 5161	VeriTorg Digital Torque Analyzer (50 in-lbs)
MA 5160	VeriTorg Digital Torque Analyzer (80 ft-lbs)



Analog Torque Wrench Analyzers with Adapters

Torque wrenches in regular use need periodic verification to ensure accuracy. Torque Analyzers accurately confirm torque settings (lbs only). Required adapters included.

- ◆ $\pm 2\%$ indicated value accuracy from 20 – 100% of capacity
- ◆ Graduated dial displays CW or CCW torque value
- ◆ Compatible with **ALL** torque wrenches
- ◆ In-lb analyzer confirms torque settings up to 75 in-lbs
- ◆ Ft-lb analyzer confirms torque settings up to 50 ft-lbs

Part No.	Item Description
MA 5059	Ft-lb Torque Analyzer (½" Drive)
SU 0054	½" to ½" Adapter
SU 0055	½" to ¾" Adapter
MA 5159	In-lb Torque Analyzer (¼" Drive)
SU 0056	¼" to ¼" Adapter



Die Driving Rods with Replaceable Composite Tips

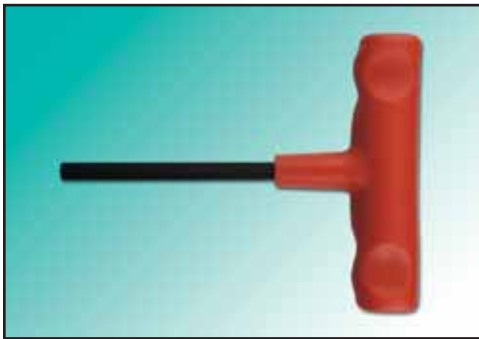
Prevent damage to dies and die pockets by using Natoli Die Driving Rods with replaceable composite tips.

Throw away your brass and steel die driving rods.

They may cause press and/or product contamination.

- ◆ *Mandatory for use with carbide and ceramic-lined dies*
- ◆ Replacement tips can be purchased individually
- ◆ Custom sizes available upon request

Part No.	Punch Barrel Dia	Replacement Tips
SU 0011	0.75"	SU 0017
SU 0012	1.0"	SU 0018
SU 0013	1.125"	SU 0019
SU 0014	1.25"	SU 0020
SU 0021	0.983"	SU 0018



Die Lock T-Handle Wrenches

Use to install die locks prior to torquing.

Also use for die lock removal.

Part No.	Hex Size
SU 0070	$\frac{5}{16}$ "
SU 0072	$\frac{3}{8}$ "



Tight Punch Removal Tools

- ◆ The safest, most effective way to remove tight punches
- ◆ Eliminates punch and turret damage

Part No.	Barrel Dia
SU 0126	0.75"
SU 0128	1.0"
SU 0130	1.25"
SU 0132	1.125 – 1.50"



Die Seat Cleaner Tools

- ◆ Cleans hard-to-reach die pocket corners
- ◆ Essential for properly seating dies

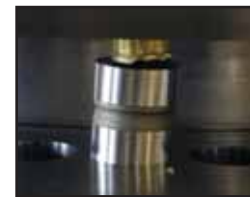
Part No.	Dia	Depth
SU 0041	0.945"	0.875"
SU 0043	1.1875"	0.875"
SU 0045	1.312"	1.50"
SU 0047	1.50"	0.937"
SU 0049	1.50"	1.25"
SU 0051	1.623"	1.50"
SU 0053	2.0"	1.125"
SU 0036	2.124"	1.50"



Die Insertion Rings

- ◆ Decreases set-up time with faster die insertion
- ◆ Ensures vertical alignment of die to die pocket
- ◆ Reduces die pocket damage by eliminating shaving of die pocket wall due to improperly inserted dies

Part No.	Inside Dia	Height
SU 0025	0.945"	0.775"
SU 0027	1.1875"	0.775"
SU 0029	1.312"	1.25"
SU 0030	1.3786"	0.892"
SU 0031	1.50"	0.837"
SU 0033	1.50"	1.25"
SU 0035	1.62"	1.25"
SU 0037	2.0"	1.125"



Improperly inserted die



Blank Dies

Use to block die pockets in unused stations.

- ◆ Required to run a partial set of tooling

Part No.	Application	Size
SU 7725	BD-1 "BB"	0.945 x 0.875"
SU 7726	BD-2 "B"	1.875 x 0.875"
SU 7727	BD-3 "D"	1.50 x 0.9375"
SU 7728	BD-4 "DS3"	2.0 x 1.25"
SU 7729	BD-5 "533/328-45"	1.3125 x 1.50"
SU 7730	BD-6 "533/328-33"	1.6245 x 1.50"
SU 7731	BD-7 "DD2-23"	2.125 x 1.50"

Press Set-up Tools



Precision Straight Edge

Properly set feed frame platforms to ensure proper clearance.

- ◆ Constructed of tool steel
- ◆ Single beveled edge

Part No.	Size
SU 0136	12 x 1 ¹³ / ₃₂ x 1 ¹ / ₆₄ "

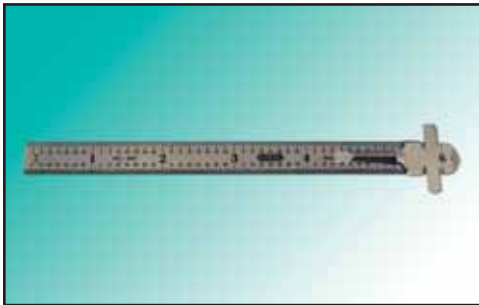


Precision Feeler Gauges

Reduce product loss by accurately setting feeders with precision feeler gauges.

- ◆ Each leaf is marked with a decimal range of 0.0015 – 0.025"
- ◆ Each leaf is marked with a metric range of 0.038 – 0.610mm
- ◆ Constructed of hardened and tempered steel

Part No.	Size
SU 0170	3 ¹ / ₄ "
SU 0156	12"

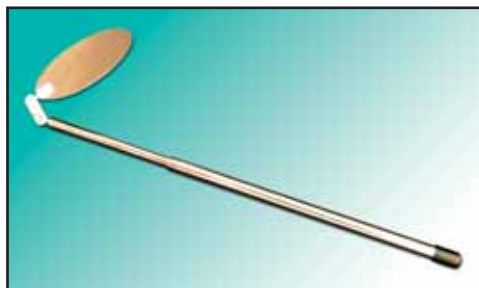


Flexible Machinists Stainless Steel Scales

Use to visually measure in graduations of 32^{nds} or 64^{ths}.

- ◆ Decimal equivalents listed on back of scale
- ◆ Includes adjustable steel depth/height gauge

Part No.	Size
SU 0182	6"
SU 0183	12"



Telescoping Inspection Mirrors

The perfect tool for inspecting hard-to-see angles.

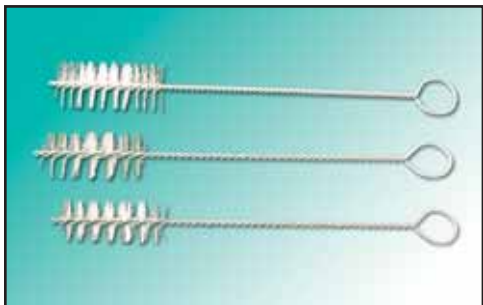
The telescoping handle reaches from a range of 16 – 34".

The mirror is shatterproof. A protective bag is included.

Part No.	Item Description
IN 7542	Oblong Telescoping Inspection Mirror
IN 7543	Round Telescoping Inspection Mirror

Turret Guide Cleaning Brushes

Natoli's line of custom pharmaceutical-grade brushes feature high-density, ultra-stiff 612 nylon bristles and are heat and abrasion resistant. These brushes are available exclusively through Natoli.

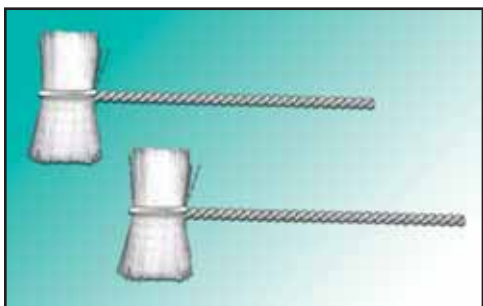


Ultra-Stiff Nylon Bristle Brushes

Excellent for proper punch guide cleaning.

- ◆ 12" Spiral tube brush (with loop end)

Part No.	Brush Dia
SU 0058	3/4"
SU 0060	1"
SU 0062	1 1/8"
SU 0064	1 1/4"
SU 0066	1 5/16"



Die Pocket Side-Action Cleaning Brushes

Use to clean die pockets to ensure accurate die seating.

- ◆ 12" Spiral tube brush (no loop)

Part No.	Brush Dia
SU 0100	0.945"
SU 0101	1.187"
SU 0102	1.312"
SU 0103	1.500"
SU 0104	1.625"
SU 0105	2.000"
SU 0106	2.125"



Right Angle Pneumatic Drill

- ◆ Use with ultra-stiff nylon brushes to quickly and effectively clean die bores, turrets and punch guides

Part No.	Item Description	Size
SU 0069	Right Angle Pneumatic Drill	3/8" ID air hose



Brushes not included

Steel Brush Holder

- ◆ Use in pneumatic or electric drill chucks

Part No.	Item Description	Size
SU 0121	Reusable Brush Holder	3 3/8 x 1/4"

Dust Cups & Bellows

Natoli Dust Cups and Bellows

Natoli Dust Cups and Bellows are made with pharmaceutical-grade materials, which are selected to meet specific requirements for stability, wear-resistance, cleaning and flexibility.

- ◆ Prevents lubricant contamination and black specks on tablets

Barrel-Style vs. Standard Dust Cups

Standard Dust Cups require manually cutting out a hole using the upper punch, and then fitting the dust cup to the upper punch tip.

Barrel-Style Dust Cups come with pre-cut holes and fit directly on the punch barrel. They can be used with or without upper punch dust cup grooves.



Standard Dust Cup

Standard (Clear)

Part No.	Size	Major Dia
SU 2500	1M	0.950"
SU 2501	1	1.000"
SU 2502	2	1.212"
SU 2503	3	1.349"
SU 2504	4	1.748"

Standard (Orange)

Part No.	Size	Major Dia
SU 2496	1	0.941"
SU 2497	2	1.212"
SU 2498	3	1.349"
SU 2499	4	1.748"



Barrel-Style Dust Cup

Barrel-Style (Clear)

Part No.	Size
SU 2506	Fits on 3/4" barrel
SU 2507	Fits on 1" barrel

Barrel-Style (Orange)

Part No.	Size
SU 2493	Fits on 3/4" barrel
SU 2494	Fits on 1" barrel

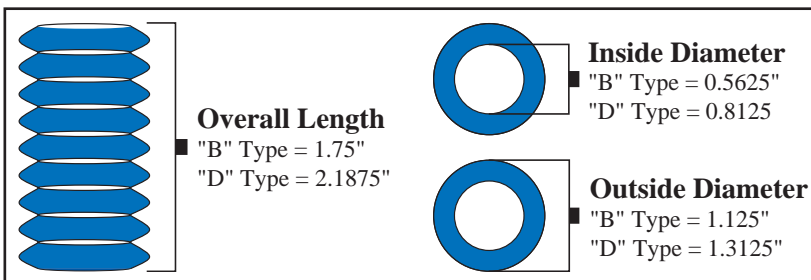


Bellow

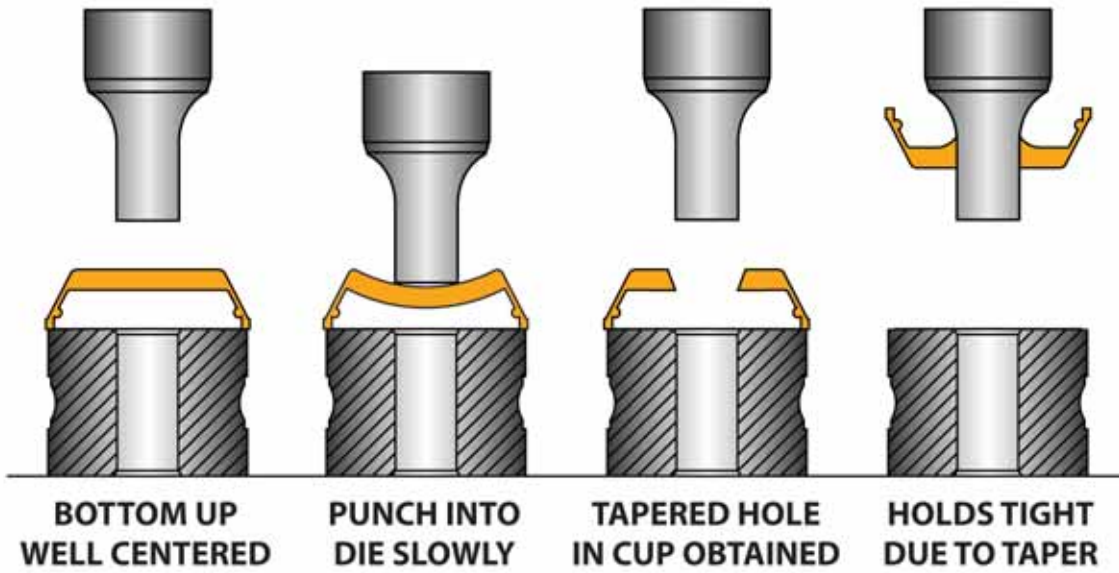
Natoli Silicone Bellows

Eliminates dust on punch barrels, reducing friction and enhancing lubrication performance.

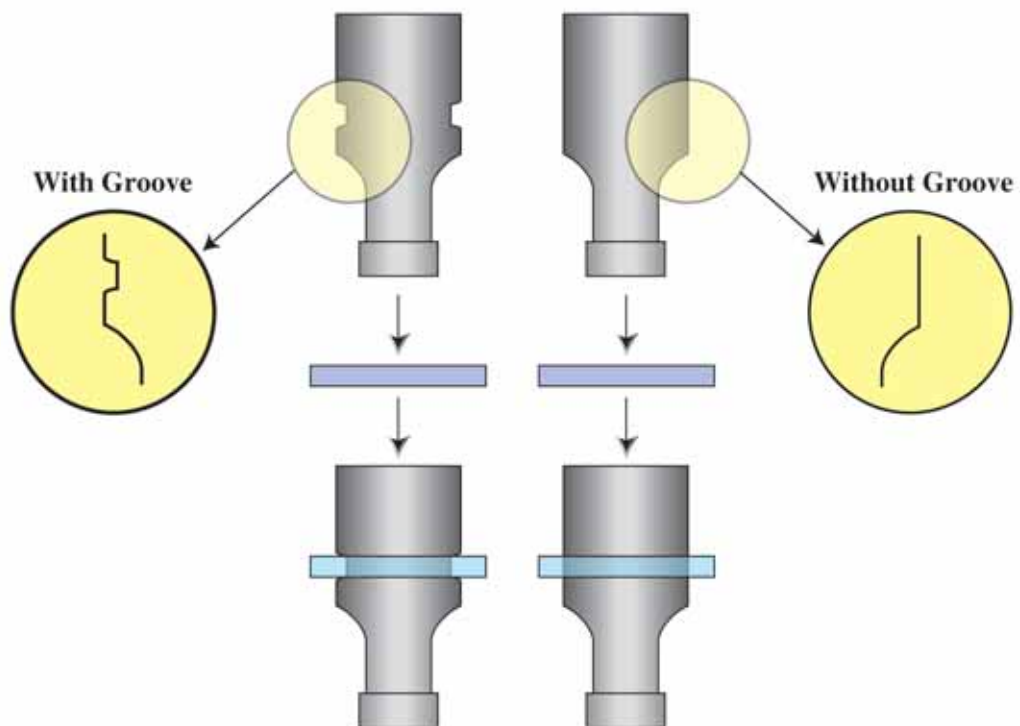
Part No.	Type
SU 2511	"B"
SU 2513	"D"



Standard Dust Cup Installation Instructions



Barrel-Style Dust Cup Installation Instructions*



*Barrel-Style Dust Cups can be used on punches with or without upper punch dust cup grooves.

Punch Replacement Keys

Punch Replacement Keys

Periodically replace keys to ensure proper alignment of special shape punches.

- ◆ Worn keys can damage punches and turrets, causing expensive repairs and downtime

Hi-Pro Press-In Keys

- ◆ No threaded hole

Part No.	Width x Length
MA 6056	$\frac{3}{16}$ x $\frac{3}{4}$ "
MA 6058	$\frac{3}{16}$ x 1"
MA 6060	$\frac{1}{4}$ x 1"
MA 6062	$\frac{5}{16}$ x 1"



Hi-Pro Screw-In Keys

- ◆ Specify thread size when ordering

Part No.	Key Size	Thread Size
MA 6050	$\frac{3}{16}$ x $\frac{3}{4}$ "	#4-40
MA 6054	$\frac{1}{4}$ x 1"	#6-32
MA 6155	$\frac{3}{16}$ x $\frac{3}{4}$ "	M3 x 0.5"
MA 6156	$\frac{1}{4}$ x 1"	M4 x 0.7"



Fixed Parallel Keys (Feather Keys)

- ◆ Specify thread size when ordering

Part No.	Key Size	Thread Size
MA 6066	$\frac{3}{16}$ x 1"	#4-40
MA 6068	$\frac{3}{16}$ x $1\frac{1}{4}$ "	#4-40
MA 6072	$\frac{3}{16}$ x $1\frac{1}{2}$ "	#4-40
MA 6070	$\frac{3}{16}$ x $1\frac{3}{8}$ "	#4-40
MA 6151	$\frac{1}{4}$ x $1\frac{1}{4}$ "	#6-32
MA 6047	$\frac{3}{16}$ x 1"	M3 x 0.5"
MA 6048	$\frac{3}{16}$ x $1\frac{1}{4}$ "	M3 x 0.5"
MA 6049	$\frac{3}{16}$ x $1\frac{1}{2}$ "	M3 x 0.5"
MA 6152	$\frac{3}{16}$ x $1\frac{3}{8}$ "	M3 x 0.5"
MA 6153	$\frac{1}{4}$ x $1\frac{1}{4}$ "	M4 x 0.7"



Key Screws

Part No.	Screw Length	Thread Size
MA 6201	$\frac{1}{2}$ "	#4-40
MA 6202	$\frac{3}{4}$ "	#4-40
MA 6203	$\frac{5}{8}$ "	#4-40
MA 6204	$\frac{7}{8}$ "	#4-40
MA 6205	1"	#4-40
MA 6206	$1\frac{1}{8}$ "	#6-32
MA 6207	12mm	M3 x 0.5"
MA 6208	16mm	M3 x 0.5"
MA 6209	20mm	M3 x 0.5"
MA 6210	25mm	M3 x 0.5"
MA 6211	25mm	M4 x 0.7"
MA 6212	30mm	M4 x 0.7"

Tablet Press Set-Up Toolboxes

Each toolbox includes all the necessary tools and accessories for proper press set-up.

- ◆ All items in the toolbox are also available for purchase individually
- ◆ Toolboxes are customized for order by machine type and number of stations
- ◆ Toolbox constructed of durable, molded plastic
- ◆ Custom toolboxes are available for special or modified tablet presses



Toolboxes Include

- ◆ 12" Precision Straight Edge
- ◆ 2 Punch Guide Cleaning Brushes
- ◆ 2 Die Pocket Side-Action Brushes
- ◆ Adjustable Torque Screwdriver*
- ◆ Preset Torque Wrench
- ◆ Die Insertion Ring
- ◆ Die Seat Cleaner Tool
- ◆ Hex Socket Adapter
- ◆ Die Lock T-Handle
- ◆ Feeler Gauge
- ◆ Die Driving Rod with 2 replacement tips
- ◆ Tight Punch Removal Tool
- ◆ Punch Guide Seal Installation Tool**
- ◆ Dial Indicator with Magnetic Base
for checking die table runout

*Optional (Manesty Presses Only)

**Manesty Presses Only

Part No.	Press Set-up Toolbox for
SU 0240	Cadmach "BB"
SU 0241	Cadmach "D"
SU 0242	Fette "B"
SU 0243	Fette "BB"
SU 0244	Fette "D"
SU 0245	Kikusui "B"
SU 0246	Korsch "B"
SU 0247	Manesty "B"
SU 0248	Manesty "BB"
SU 0249	Manesty "D"
SU 0250	Stokes "B"
SU 0251	Stokes "BB" or Natoli NP-100-45
SU 0252	Stokes "D" or Natoli NP-200
SU 0253	Stokes "Premier"
SU 0254	Piccola "B"
SU 0255	Piccola 11-Station
SU 0256	Courtoy "D" or Piccola 8-Station
SU 0257	CPT Stealth 30-Station
SU 0141	Special Order Press Set-up Toolbox

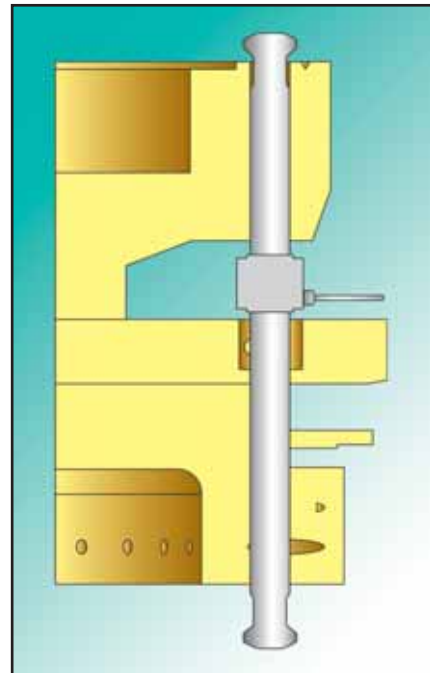
Overload and Strain Gauge Calibration Kit

Overload and Strain Gauge Calibration Kit

Use to accurately calibrate overload and strain gauge systems to prevent tool and press damage.

- ◆ NIST certified (Certificate of Calibration available upon request)
- ◆ Complete kit does not include calibration punches (they must be ordered separately)
- ◆ Load cell verifies tonnage gauge values are accurate
- ◆ Periodically confirming gauge values will reduce potential press and tool damage
- ◆ Kit includes protective storage case

Part No.	Item Description
IN 7759	Overload and Strain Gauge Calibration Kit



Overload Calibration Punches

Part No.	Item Description
IN 7762	“B” Lower
IN 7763	“B” Upper
IN 7764	“D” Lower
IN 7765	“D” Upper
IN 7768	EU “B” Lower
IN 7769	EU “B” Upper
IN 7775	EU “D” Lower
IN 7774	EU “D” Upper
IN 7780	Special Order

Replacement Items

Part No.	Item Description
IN 7760	Load Cell Indicator – NIST certified
IN 7761	Load Cell (0 – 10 tons) – NIST certified
SU 0146	Replacement Storage Case with foam insert

Certified Turret Inspection Kits

- ◆ Each kit includes punch guide go/no-go gauge, alignment rods and corresponding die(s)
- ◆ Helps increase tool life
- ◆ Helps avoid tablet capping and lamination by ensuring proper punch tip to die bore alignment
- ◆ Separate kits available for use with new or used turrets
- ◆ Order by press type and number of stations
- ◆ Easy-to-use instructions included

Part No.	For use with New Turret
IN 7652	“D” Inspection Kit
IN 7653	“B” Inspection Kit
IN 7665	533/328-45 Inspection Kit
IN 7667	533/328-33 Inspection Kit
IN 7654	Fette B 19mm Inspection Kit
IN 7655	Fette D 25.35mm Inspection Kit
IN 7656	DD2 Inspection Kit
IN 7657	DS3 Inspection Kit
IN 7669	Special Order Inspection Kit

Part No.	For use with Used Turret
IN 7658	“D” Inspection Kit
IN 7659	“B” Inspection Kit
IN 7664	533/328-45 Inspection Kit
IN 7668	533/328-33 Inspection Kit
IN 7660	Fette B 19mm Inspection Kit
IN 7661	Fette D 25.35mm Inspection Kit
IN 7662	DD2 Inspection Kit
IN 7663	DS3 Inspection Kit
IN 7674	Special Order Inspection Kit



Turret Keyway Inspection Gauges

- ◆ Inspect for alignment and wear
- ◆ Extends tool life by reducing tool damage

Part No.	Item Description
IN 7612	“B” Tooling
IN 7613	“D” Tooling
IN 7642	Fette “B”
IN 7632	Fette “D”
IN 7637	533/328-45 Type

