

Safety and Operation Instructions SPD3 CNC, SPD5 CNC



Safety Precautions and Instructions

To avoid serious injury and ensure best results for your application, please read carefully *all* operation and safety instructions for your Tapping Attachment, as well as all other safety instructions that are applicable, especially those for your machine tool.

Proper Clothing: The rotating spindle of a machine can snag loose fitting clothing, jewelry, or long hair. Never wear jewelry, long sleeves, neckties, gloves or anything else that could become caught when operating a machine tool. Long hair must be restrained or netted to prevent it from becoming entangled in rotating spindle. Steel-toed boots should also be worn in any machine environment.

Proper Eye Protection: Always wear safety glasses with side shields to protect your eyes from flying particles.



Proper Work Piece Fixturing: Never hold the work piece or the vise it is held in by hand. The work piece must be clamped firmly to the table of the machine so that it cannot move, rotate or lift.

On machining Centers: Automatic tool changes should only be made on enclosed machines. Always be sure that stop arm installation is stronger than the largest tap.

The tapping attachment can become hot to the touch after operation. Use caution when removing from the machine or handling.

Always be aware of the Potential Hazards of a Machining Operation: Sometimes working with your machine can seem routine. You may find that you are no longer concentrating on the operation. A feeling of false security can lead to serious injury. Always be alert to the dangers of the machines with which you work. Always keep hands, body parts, clothing, jewelry, and hair out of the areas of operation, when the machine spindle is rotating. Areas of operation include the immediate point of machining and all transmission components including the Tapping Attachment. Never bring your hand, other body parts or anything attached to your body into any of these areas until the machine spindle is completely stopped.

Be aware of any other applicable safety instructions or requirements.

Check List For Good Tapping

1. **Never** use this unit before reading all safety instructions for this attachment as well as the machine it is to be used on.
2. Is tap sharp and of correct design for current job?
3. Is tap in proper alignment with the drilled hole?
4. Is machine speed correct?
5. Is machine feed correct?
6. Is machine stop set properly so tap releases in neutral rather than bottoming in work piece or fixture?
7. Is drilled hole the correct size?
8. Is clearance plane when tap exits the hole sufficient to allow the tap to clear the hole before moving to a new position?
9. Is the stop arm of the tapping attachment held rigidly against rotation? Stop Arm installation must be stronger than the largest tap.

TAPMATIC

Programming Procedure SPD3 CNC and SPD5 CNC Self Reversing Tapping Units

Thank you for purchasing a Tapmatic SPD CNC model. Please read this instruction sheet carefully before using the attachment.

This tool may be used on enclosed machining centers with orienting spindles. Prior to a tool change, it is necessary that the machine spindle rotation stops in the same position each time. Installation procedures are shown on page 7.

PROGRAMMING PROCEDURES

There are two possible methods for SPD CNC tools.

Reduced Cycle Time Programming allows you to achieve faster cycle times and requires writing a sub program. It also improves the life of the tapping attachment's renewable drive parts.

Bore Cycle Programming. It is also possible to use a standard bore cycle such as G85. This does lengthen the cycle time.

REDUCED CYCLE TIME PROGRAMMING

1. Select the proper RPM for your specific tap and work-piece material, but be sure not to exceed the maximum RPM for your tapping attachment.

MAXIMUM SPEEDS

SPD3 CNC	2000 RPM
SPD5 CNC	1500 RPM

Enclosed are charts showing recommended speeds for common materials. Use these charts and rules to select the proper speed for your application.

2. Calculate the Correct Feed Rate based on the tap pitch and RPM selected.

Inch Taps; Tap Feed Rate= RPM / Pitch
 Example 1/4-28 at 2000 RPM
 Tap Feed Rate= 2000 / 28=71.43 in/min

Metric Taps; Tap Feed Rate= RPM x Pitch
 Example M6 x 1 at 2000 RPM
 Tap Feed Rate= 2000 x 1= 2000 mm/min

3. Cancel the Operators Ability to adjust Feed Rate and spindle speed using the machines potentiometer controls. This is normally done by using an M code like M49 for example.

4. IMPORTANT: Be sure "Ramp" or "Exact Stop" is not used during tapping. These modes cause the cycle time to be significantly slower and also cause the tapping head to run less smoothly. For example on machines with Fanuc control or Haas machines use G64 while tapping to eliminate "Exact Stop". G61 will make exact stop modal again if desired. On Fadal machines use G8 to cancel "Ramp" for tapping. G9 will turn "Ramp" on again if desired for other operations. Your machine may use different G codes. Please check machine manual.

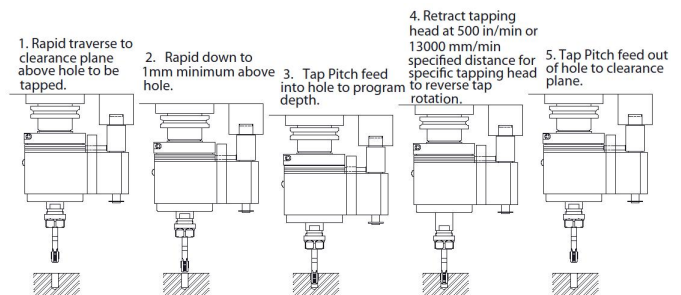
5. For Blind Holes: Allow for the tap to go deeper than program depth.

SPD3 CNC allow an extra .125 or 3mm
 SPD5 CNC allow an extra .200 or 5mm

The actual extra depth will be less than these values, please check the depth on your first hole and then make any necessary adjustment to your program.

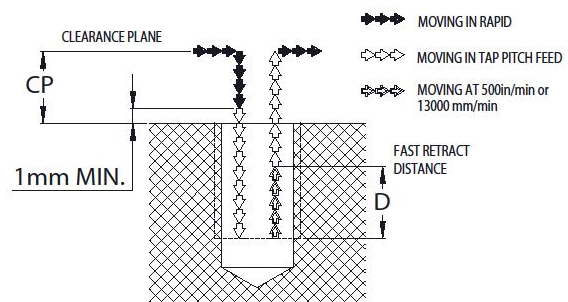
6. SPD CNC Reduced Cycle Time Programming Illustration

Write sub program using G01 feed rate and G00 rapid movements as shown in Fig below.



Note: The only time during the cycle spent in the tap pitch feed rate is 1mm approach height plus the thread depth in and out of the hole. All other movements are at fastest feed rates.

Illustration feeding in and out of hole.



Clearance Plane and Fast Retract Distance

SPD3 CNC
 CP= .300" or 8mm, D= .150" or 4mm

SPD5 CNC
 CP= .400 or 10mm, D= .200" or 5mm

Please note the distances shown are minimum clearance plane and maximum fast retract distance.



Programming Procedure SPD3 CNC and SPD5 CNC Self Reversing Tapping Units

Reduced Cycle Time Programming Example Self Reversing Tapping Unit Using G01 Movements

EXAMPLE

Tapping Unit: SPD3 CNC Tap Size M5 x .8
 2000 RPM
 Feed Rate In at 100%= 1600mm/min
 Sub Program: Rapid approach to 1mm or .040 above part.
 Feed in to depth 8mm (Note actual depth slightly deeper than program depth)
 Retract 4mm at 13000 mm/min to prepare head for reverse.
 (Use maximum feed rate up to 500in/min or 13000mm/min. Do not use rapid.)
 Feed out to 8mm clearance plane at 100% Feed Rate.

MAIN PROGRAM

M06 T6	Tool change to tool #6
M00	Program stop
M03 S2000	Spindle forward rotation 2000 RPM
G8	Ramp off (or G64 eliminate exact stop)
G00 G43 Z25.H06 M08	Rapid to Z 25mm Height offset #6 coolant on
M49	Cancel feed and speed override capability
G00 G90X25.Y-25.Z8.	Rapid in absolute to hole position X25, Y-25 and Z8 clearance plane
M98 P4 L1	Repeat sub program 04 one time
G00 Y-50.	Rapid to next hole.
M98 P4 L1	Repeat sub program 04 one time

Sub Program 0004

G90	Absolute movement
G00 Z1.	Rapid to 1mm above hole
G01 Z-8.F1600.	Feed in at 100% feed rate
G01 Z-4.F13000.	Fast retract 4mm
G01 Z8.F1600.	Feed out at 100% feed rate to clearance plane
M99	Return to main program

Bore Cycle Programming

For Bore cycle programming steps 1-5 are the same as in Reduced Cycle Time Programming.

6. In the main program use the bore cycle (G85 for example) at each hole location. Be sure to use the proper clearance plane "CP" shown in figure on preceding page for your tapping attachment.

VERY IMPORTANT NOTICE

Please note that the G code for "exact stop" or "ramp" should not be used with a Tapmatic self reversing tapping attachment. Please be sure that these are not in effect when tapping because they will cause the tapping cycle to be significantly slower and thread depth repeatability will be less accurate.

Fadal Machines: Use G8 to cancel ramp for tapping. G9 will turn ramp on again if desired for other operations.

Fanuc Controls and Haas: Use G64 while tapping to eliminate the exact stop. G61 will make exact stop modal again if desired for other operations.



Determining Correct Speed Within Specified Range

Cutting Speed for Tapping: Several factors, singly or in combination can cause very great differences in the permissible tapping speed. The principle factors affecting the tapping speed are the pitch of the thread, the chamfer length on the tap, the percentage of full thread to be cut, the length of the hole to be tapped, the cutting fluid used, whether the threads are straight or tapered, the machine tool used to perform the operation, and the material to be tapped. *From Machinery's Handbook 23rd edition.* If your coolant does not have good lubrication quality, start at lower speeds in the recommended range. Roll form taps in particular require good lubrication because of the high friction forces involved. As the lubrication quality of a coolant is often unknown, we recommend starting from the lower speeds in the range.

These factors apply to everyone's tapping speed charts.

-%	Ten Factors Requiring Lower Speeds		Ten Factors Permitting Higher Speeds	+%
-20	Poor lubrication	1	Good lubrication	+20
-15	High tensile strength material	2	Low tensile strength material	+15
-15	Large thread diameter	3	Small thread diameter	+15
-10	High alloy Material	4	Low alloy Material	+10
-10	Thread depth more than 1.5 x diameter	5	Thread depth less than 1.5 x diameter	+10
-10	Thread pitch coarse	6	Thread pitch fine	+10
-5	Drill size more than 65% thread	7	Drill size less than 65% thread	+5
-5	Tap lead less than 3.5 threads	8	Tap lead more than 3.5 threads	+5
-5	Blind holes	9	Through holes	+5
-5	Free running spindle, inaccurate feed control	10	Synchronized feed, lead screw or CNC control	+5

Eight Essential Steps for Trouble Free Performance with Self Reversing Tapping Attachments

1. Never perform any installation or programming, before reading the operator instructions accompanying the tapping attachment and the machine as well as the tap manufacturers recommendations.
2. Choose the correct tap: Follow your tap manufacturers recommendations for your specific application.
3. Calculate the correct tapping speed from the adjacent chart and be sure not to exceed the maximum speed for the tapping attachment.
4. Common sense rule: Begin conservatively and increase speed until optimum results are obtained.
5. Select the best tool for your application. For high production with one size tap don't compromise. For low production with a variety of sizes choose the tool that best covers your range.
6. Follow programming instructions.
7. Follow installation instructions and be sure alignment collar is locked. Please see instructions.
8. Perform regular preventative maintenance. Please see maintenance instructions.

Example:

Tap size M6, Material Tool Steel, Rotational Speed Range recommended by tap manufacturer 800-1050

Minus factors:	High Tensile Strength	-15	Plus Factors:	Coolant lubricity good	+20
	Tap depth 3x Diameter	-10		Small thread diameter	+15
	Drill Size 75% Thread	-5		Pitch Fine	+10
	Blind Hole	-5		Lead 3.5 threads	+5
	Total	-35		CNC Machine	+5
				Total	+55

Apply Factors Against RPM range of 250

+ .55 x 250 = 137 137 + 800 = 937 New Low Speed for Range
 - .35 x 250 = -88 1050 - 88 = 962 New High Speed for Range

Standard Taps



	Low Carbon Steel, Medium Carbon Steel	High Carbon Steel, High Strength Steel, Tool Steel	High Strength Steel, Tool Steel Hardened	Stainless 303, 304, 316	Stainless 410, 430, 17-4 Hardened	Stainless 17-4 Annealed	Titanium Alloys	Nickel Base Alloys	Aluminium Alloys	Aluminium Die Cast	Magnesium	Brass, Bronze	Copper	Cast Iron
A) m/min	10-20	8-12	4-6	6-12	3-5	6-12	4-8	3-5	15-25	10-15	15-25	15-25	8-12	10-20
B) m/min	20-40	15-25	12-18	8-15	4-10	8-20	8-15	5-10	40-60	30-40	40-60	40-60	15-25	20-30
Tap size	A) rpm for HSS-E uncoated taps B) rpm for HSS-E coated taps													
M2 (#2)	1600-3200 3200-6350	1250-1900 2400-4000	640-800 1900-2850	800-1900 1250-2400	480-800 640-1600	800-1900 1250-3200	640-1250 1250-2400	480-800 800-1600	2400-4000 6350-9550	1600-2400 4750-6350	2400-4000 6350-9550	2400-4000 6350-9550	1250-1900 2400-4000	1600-3200 3200-4750
M3 (#5)	1050-2100 2100-4250	850-1250 1600-2650	420-530 1250-1900	530-1250 850-1600	320-530 420-1050	530-1250 850-2100	420-850 850-1600	320-530 530-1050	1600-2650 4250-6350	1050-1600 3200-4250	1600-2650 4250-6350	1600-2650 4250-6350	850-1250 1600-2650	1050-2100 2100-3200
M4 (#8)	800-1600 1600-3200	640-950 1200-2000	320-400 950-1450	400-950 640-1200	240-400 320-800	400-950 640-1600	320-640 640-1200	240-400 400-800	1200-2000 3200-4750	800-1200 2400-3200	1200-2000 3200-4750	1200-2000 3200-4750	640-950 1200-2000	800-1600 1600-2400
M5 (#10)	640-1250 1250-2550	510-760 950-1600	250-320 760-1150	320-760 510-950	190-320 250-640	320-760 510-1250	250-510 510-950	190-320 320-640	950-1600 2550-3800	640-950 1900-2550	950-1600 2550-3800	950-1600 2550-3800	510-760 950-1600	640-1250 1250-1900
M6 (1/4)	530-1050 1050-2100	420-640 800-1350	210-270 640-950	270-640 420-800	160-270 210-530	270-640 420-1050	210-420 420-800	160-270 270-530	800-1350 2100-3200	530-800 1600-2100	800-1350 2100-3200	800-1350 2100-3200	420-640 800-1350	530-1050 1050-1600
M7	450-910 910-1800	360-550 680-1150	180-230 550-820	230-550 360-680	140-230 180-450	230-550 360-910	180-360 360-680	140-230 230-450	680-1150 1800-2750	450-1150 1350-1800	680-1150 1800-2750	680-1150 1800-2750	360-550 680-1150	450-910 910-1350
M8 (5/16)	400-800 800-1600	320-480 600-990	160-200 480-720	200-480 320-600	120-200 160-400	200-480 320-800	160-320 320-600	120-200 200-400	600-990 1600-2400	400-600 1200-1600	600-990 1600-2400	600-990 1600-2400	320-480 600-990	400-800 800-1200
M9	350-710 710-1400	280-420 530-880	140-180 420-640	180-420 280-530	110-180 140-350	180-420 280-710	140-280 280-530	110-180 180-350	530-880 1400-2100	350-530 1050-1400	530-880 1400-2100	530-880 1400-2100	280-420 530-880	350-710 710-1050
M10 (3/8)	320-640 640-1250	250-380 480-800	130-160 380-570	160-380 250-480	100-160 130-320	160-380 250-640	130-250 250-480	100-160 160-320	480-800 1250-1900	320-480 950-1250	480-800 1250-1900	480-800 1250-1900	250-380 480-800	320-640 640-950
M12 (1/2)	270-530 530-1050	210-320 400-660	110-130 320-480	130-320 210-400	80-130 110-270	130-320 210-530	110-210 210-400	80-130 130-270	400-660 1050-1600	270-400 800-1050	400-660 1050-1600	400-660 1050-1600	210-320 400-660	270-530 530-800
M14 (9/16)	230-450 450-910	180-270 340-570	90-110 270-410	110-270 180-340	70-110 90-230	110-270 180-450	90-180 180-340	70-110 110-230	340-570 910-1350	230-340 680-910	340-570 910-1350	340-570 910-1350	180-270 340-570	230-450 450-680
M16 (5/8)	200-400 400-800	160-240 300-500	80-100 240-360	100-240 160-300	60-100 80-200	100-240 160-400	80-160 160-300	60-100 100-200	300-500 800-1200	200-300 600-800	300-500 800-1200	300-500 800-1200	160-240 300-500	200-400 400-600
M18 (1 1/16)	180-350 350-710	140-210 270-440	70-90 210-320	90-210 140-270	50-90 70-180	90-210 140-350	70-140 140-270	50-90 90-180	270-440 710-1050	180-270 530-710	270-440 710-1050	270-440 710-1050	140-210 270-440	180-350 350-530
M20 (3/4)	160-320 320-640	130-190 240-400	60-80 190-290	80-190 130-240	50-80 60-160	80-190 130-320	60-130 130-240	50-80 80-160	240-400 640-950	160-240 480-640	240-400 640-950	240-400 640-950	130-190 240-400	160-320 320-480
M22 (7/8)	140-290 290-580	120-170 220-360	60-70 170-260	70-170 120-220	40-70 60-140	70-170 120-290	60-120 120-220	40-70 70-140	220-360 580-870	140-220 430-580	220-360 580-870	220-360 580-870	120-170 220-360	140-290 290-430
M24 (1 5/16)	130-270 270-530	110-160 200-330	50-70 160-240	70-160 110-200	40-70 50-130	70-160 110-270	50-110 110-200	40-70 70-130	200-330 530-800	130-200 400-530	200-330 530-800	200-330 530-800	110-160 200-330	130-270 270-400
M25 (1)	130-250 250-510	100-150 190-320	50-60 150-230	60-150 100-190	40-60 50-130	60-150 100-250	50-100 100-190	40-60 60-130	190-320 510-760	130-190 380-510	190-320 510-760	190-320 510-760	100-150 190-320	130-250 250-380
M26	120-240 240-490	100-150 180-310	50-60 150-220	60-150 100-180	40-60 50-120	60-150 100-240	50-100 100-180	40-60 60-120	180-310 490-730	120-180 370-490	180-310 490-730	180-310 490-730	100-150 180-310	120-240 240-370
M27 (1 1/16)	120-240 240-470	90-140 180-290	50-60 140-210	60-140 90-180	40-60 50-120	60-140 90-240	50-90 90-180	40-60 60-120	180-290 470-710	120-180 350-470	180-290 470-710	180-290 470-710	90-140 180-290	120-240 240-350
M28 (1 1/8)	110-230 230-450	90-140 170-280	50-60 140-200	60-140 90-170	40-60 50-110	60-140 90-230	50-90 90-170	40-60 60-110	170-280 450-680	110-170 340-450	170-280 450-680	170-280 450-680	90-140 170-280	110-230 230-340
M30 (1 3/16)	110-210 210-420	80-130 160-270	40-50 130-190	50-130 80-160	30-50 40-110	50-130 80-210	40-80 80-160	30-50 50-110	160-270 420-640	110-160 320-420	160-270 420-640	160-270 420-640	80-130 160-270	110-210 210-320
M32 (1 1/4)	100-200 200-400	80-120 150-250	40-50 120-180	50-120 80-150	30-50 40-100	50-120 80-200	40-80 80-150	30-50 50-100	150-250 400-600	100-150 300-400	150-250 400-600	150-250 400-600	80-120 150-250	100-200 200-300
M33 (1 5/16)	100-190 190-390	80-120 140-240	40-50 120-170	50-120 80-140	30-50 40-100	50-120 80-190	40-80 80-140	30-50 50-100	140-240 390-580	100-140 290-390	140-240 390-580	140-240 390-580	80-120 140-240	100-190 190-290
M36 (1 7/16)	90-180 180-350	70-110 130-220	40-40 110-160	40-110 70-130	30-40 40-90	40-110 70-180	40-70 70-130	30-40 40-90	130-220 350-530	90-130 270-350	130-220 350-530	130-220 350-530	70-110 130-220	90-180 180-270
M39 (1 5/8)	80-160 160-330	70-100 120-200	30-40 100-150	40-100 70-120	20-40 30-80	40-100 70-160	30-70 70-120	20-40 40-80	120-200 330-490	80-120 240-330	120-200 330-490	120-200 330-490	70-100 120-200	80-160 160-240
M40	80-160 160-320	60-100 120-200	30-40 100-140	40-100 60-120	20-40 30-80	40-100 60-160	30-60 60-120	20-40 40-80	120-200 320-480	80-120 240-320	120-200 320-480	120-200 320-480	60-100 120-200	80-160 160-240
M42 (1 3/4)	80-150 150-300	60-90 110-190	30-40 90-140	40-90 60-110	20-40 30-80	40-90 60-150	30-60 60-110	20-40 40-80	110-190 300-450	80-110 230-300	110-190 300-450	110-190 300-450	60-90 110-190	80-150 150-230

Calculation: Example: M8 with 25 m/min

Tapping speed $v_c = \text{m/min}$
 RPM $n = \text{U/min}$
 Diameter $d = \text{mm}$

$$n = \frac{v_c \times 1000}{d \times \pi} = \frac{25 \times 1000}{8 \times 3.14} = 995 \text{ m/min}$$

- The speed given are guide values acc. to general information and can vary depending on tap manufacturer.
- For optimal production and correct speed, we suggest following the specifications of the tap manufacturer.
- Furthermore, the maximum speed of the tapping attachment must not be exceeded.

RDT15	RDT25 RDTIC25	RDT50 RDTIC50 RDTICXT50 RDTXT50 RCT50	sintered gears	RDT50 RDTIC50 RDTICXT50 RDTXT50 RCT50	cut gears	RDT85HS RDTIC85HS	RDT85HD RDTIC85HD	RDT100 RDTIC100	RDT150
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TAPMATIC

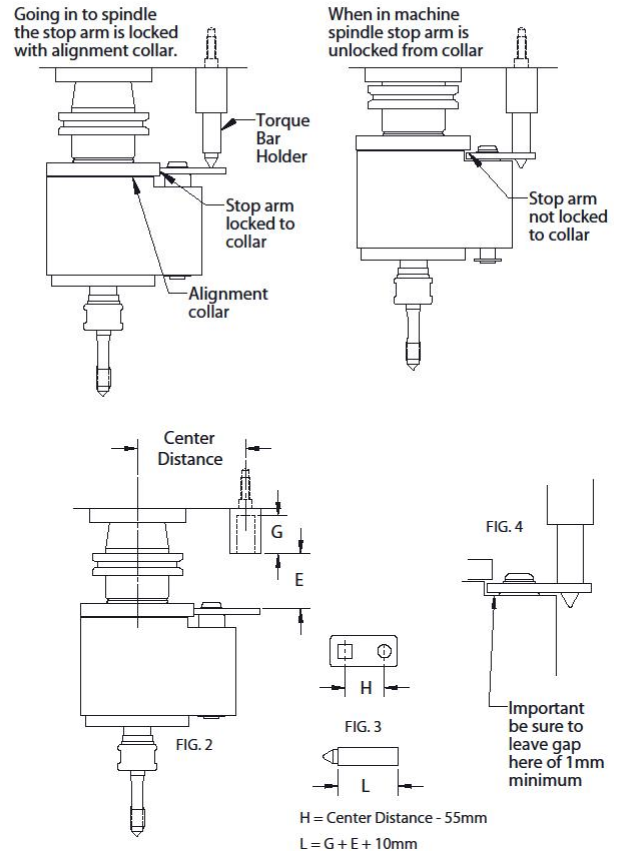
Installation Instructions

In order for the SPDCNC to reverse, a stop arm is used to prevent the housing from rotating. A torque bar holder assembly is mounted in one of the bolt locations next to the machine spindle to act as a stop for the stop arm. An alignment collar locks the stop arm in a specific orientation when the tapping attachment is not in the machine spindle. The alignment collar can be adjusted so that it's slot is in position to accept the tab of the stop arm when the tapping attachment is removed from the machine spindle during the automatic tool change. When the tapping attachment is placed in the machine spindle during the automatic tool change, the torque bar engages a hole in the stop arm pushing it down against a spring, preventing it from rotating and unlocking it from the alignment collar. This is the position for operation. When the tapping operation is complete the machine spindle will orient for a tool change and this will bring the slot in the alignment collar back in to position to lock with the stop arm when the tapping attachment is removed from the spindle. **The tapping attachments come standard with one blank stop arm that can be modified or you can order a ready made stop arm to fit the center distance of your machine. Please see accessories.**

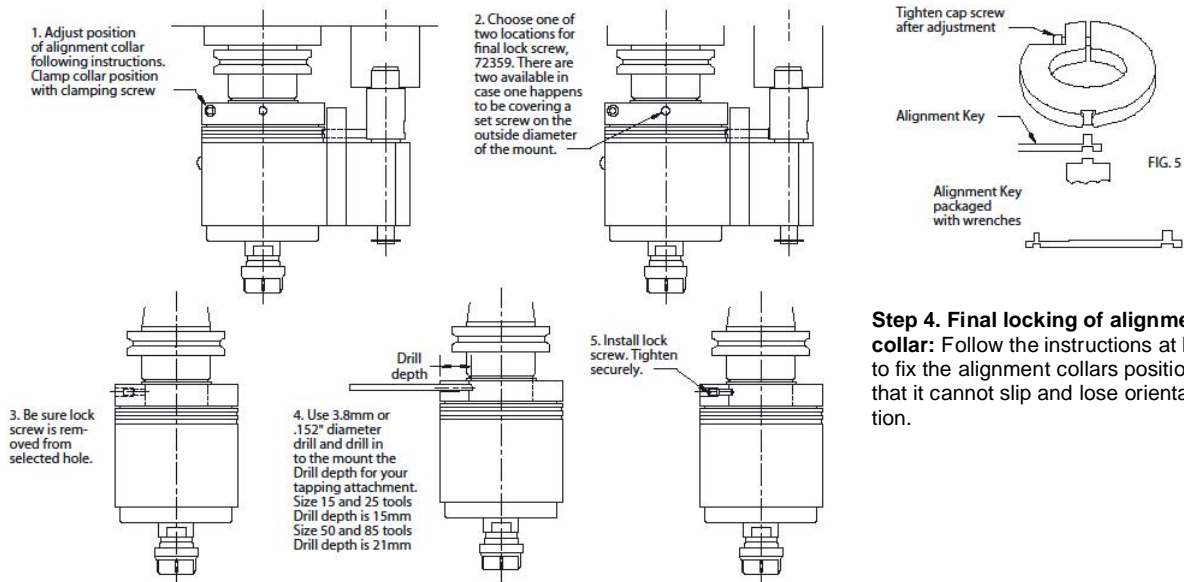
⚠ The following steps involve loading and unloading by hand. Do not attempt an automatic tool change until all steps are completed and clearance has been confirmed. The torque bar must be stronger than the largest tap. Never attempt to install the tool without first reading all safety instructions for this tool and your machine.

Step 1. Modifying or selecting the stop arm: The blank stop arm that comes with the tool can be modified or you can order a ready made stop arm according to the center distance of your machine. Please see FIG. 2 for center distance. If using a blank stop arm you will need to drill a 10mm hole at position "H".

Step 2. Cutting torque bar to length: Select the torque bar holder assembly from accessories page. Please note it must be stronger than the largest tap. Mount the torque bar holder assembly in place of one of the bolts around the machine spindle. **Please note it must be on the opposite side from where the tool changer moves in.** Then cut torque bar to length shown in FIG. 3. **Be sure torque bar is not too long please see FIG. 4.**



Step 3. Adjusting Alignment collar: With tapping attachment in machine spindle and **with spindle oriented for an automatic tool change**, bring the slot in the collar in to position where it is directly over the stop arm's tab. There is a key packaged with the wrenches to help line this up. **Then tighten the collar securely. After checking clearance with tool changer and in tool magazine area make several automatic tool changes.**



Step 4. Final locking of alignment collar: Follow the instructions at left to fix the alignment collars position so that it cannot slip and lose orientation.

TAPMATIC

Installation Check List

1. Pick proper location on spindle face for mounting the torque bar holder assembly. **It must be on the opposite side from where the tool changer moves in.**
2. Make sure stop arm does not interfere with anything in tool magazine, guarding, doors or adjacent tools.
3. Cut torque bar to correct length so that when tapping attachment is in machine spindle the torque bar presses the spring loaded stop arm down to unlock from alignment collar, but be sure the stop arm does not bottom against the housing. **Maintain minimum gap shown in FIG. 4.**
4. Set alignment collar so that its slot is directly over stop arm tab. **Be sure machine spindle is in tool change orientation position when doing this step.**
5. Test automatic tool change to be sure alignment is correct and there is no interference.
6. Install and check program. Please see programming instructions.

Installing the Tap

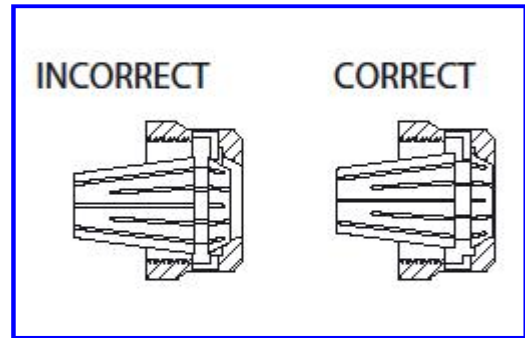
Please use square drive collets, ERGB, whenever possible. Please note the SPD3 CNC has internal drive pins behind the collet for tap squares .191" and 4.9mm.

Please note the SPD5 CNC has an internal socket behind the collet for tap square 8mm.

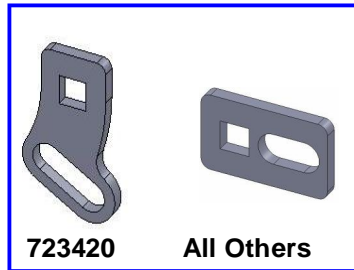
Be sure to put collet into nut as shown at right, before installing nut on to threads.

Insert the tap and tighten securely using the two wrenches provided.

Reduce capacity by 25% if using roll form taps.



Installation Accessories



Ready Made Stop Arms

Part No.	Center Distance
723420	53mm to 69mm
723421	68mm to 77mm
723422	74mm to 88mm
723423	86mm to 100mm

Torque Bar Holder Assemblies



Part No.	Bolt Size	Part No.	Bolt Size
69383A	M6 X 1	69389A	5/16" - 18
69384A	M8 X 1.25	69390A	5/16" - 24
69385A	M10 X 1.5	69391A	3/8" - 16
69386A	M12 X 1.75	69392A	3/8" - 24
69387A	1/4" - 20	69393A	1/2" - 13
69388A	1/4" - 28	69394A	1/2" - 20

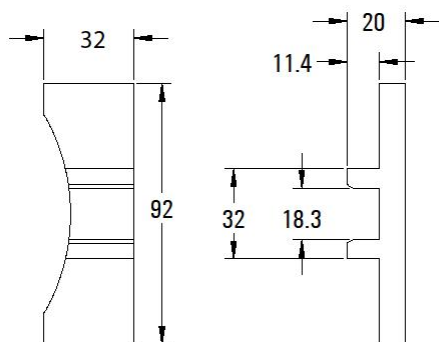
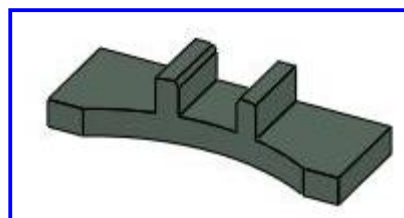
Alternative Stop Arm Bar and Stop Block Installation

If you prefer, a stop arm bar and stop block may be used instead of the stop arm plate and torque bar installation.

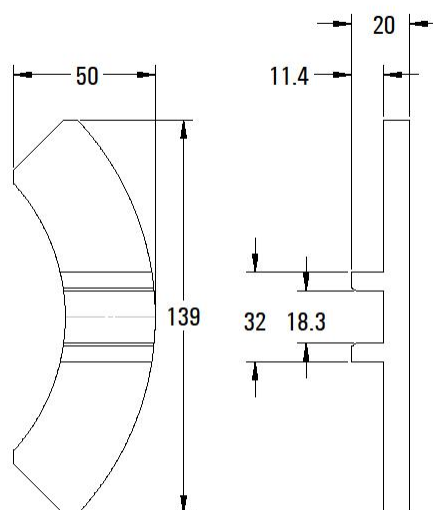


Center Distance	Part No. SPD3 CNC	Part No. SPD5 CNC
55mm	392555	395055
65mm	392565	395065
80mm	392580	395080

Stop Block for mounting next to machine spindle



Stop Block 36007



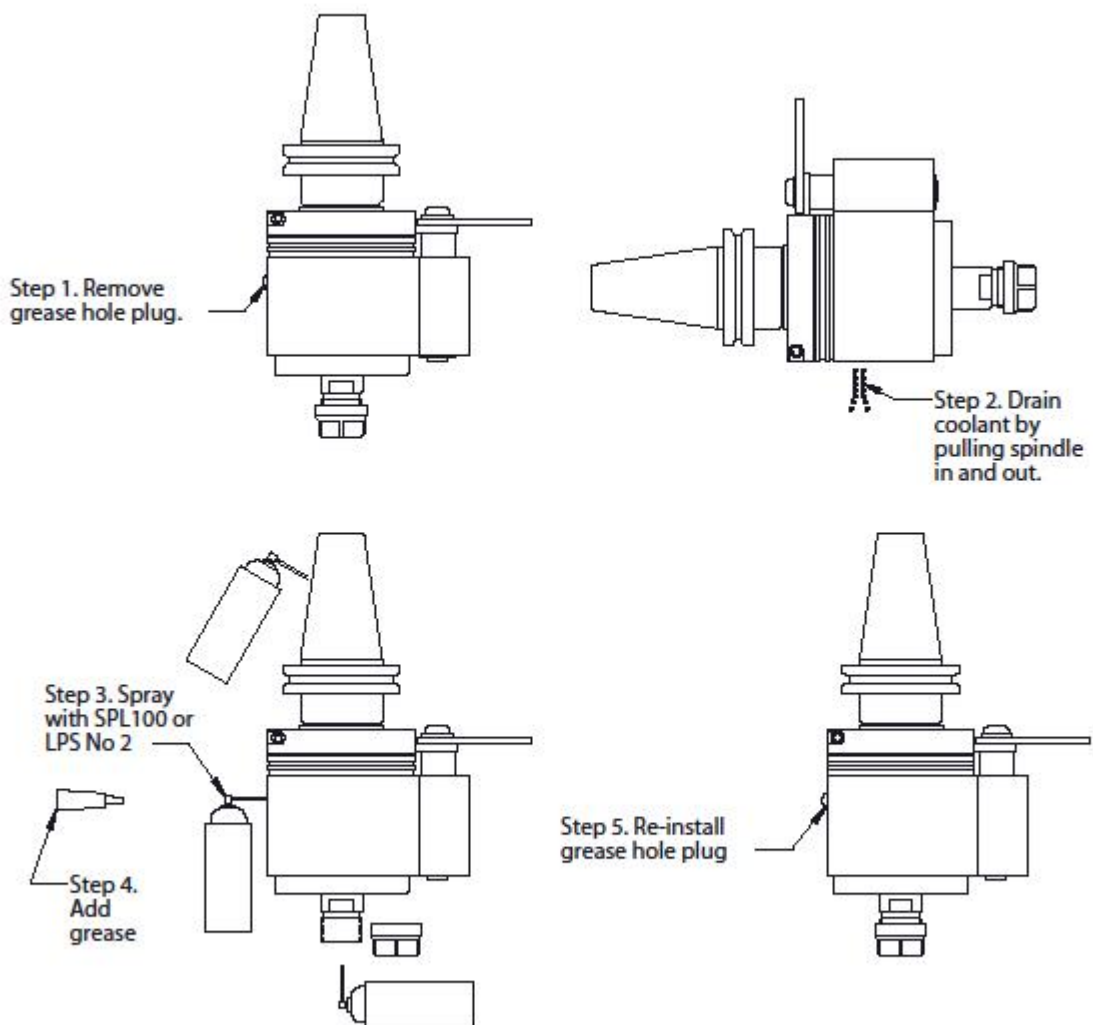
Stop Block 36010

TAPMATIC

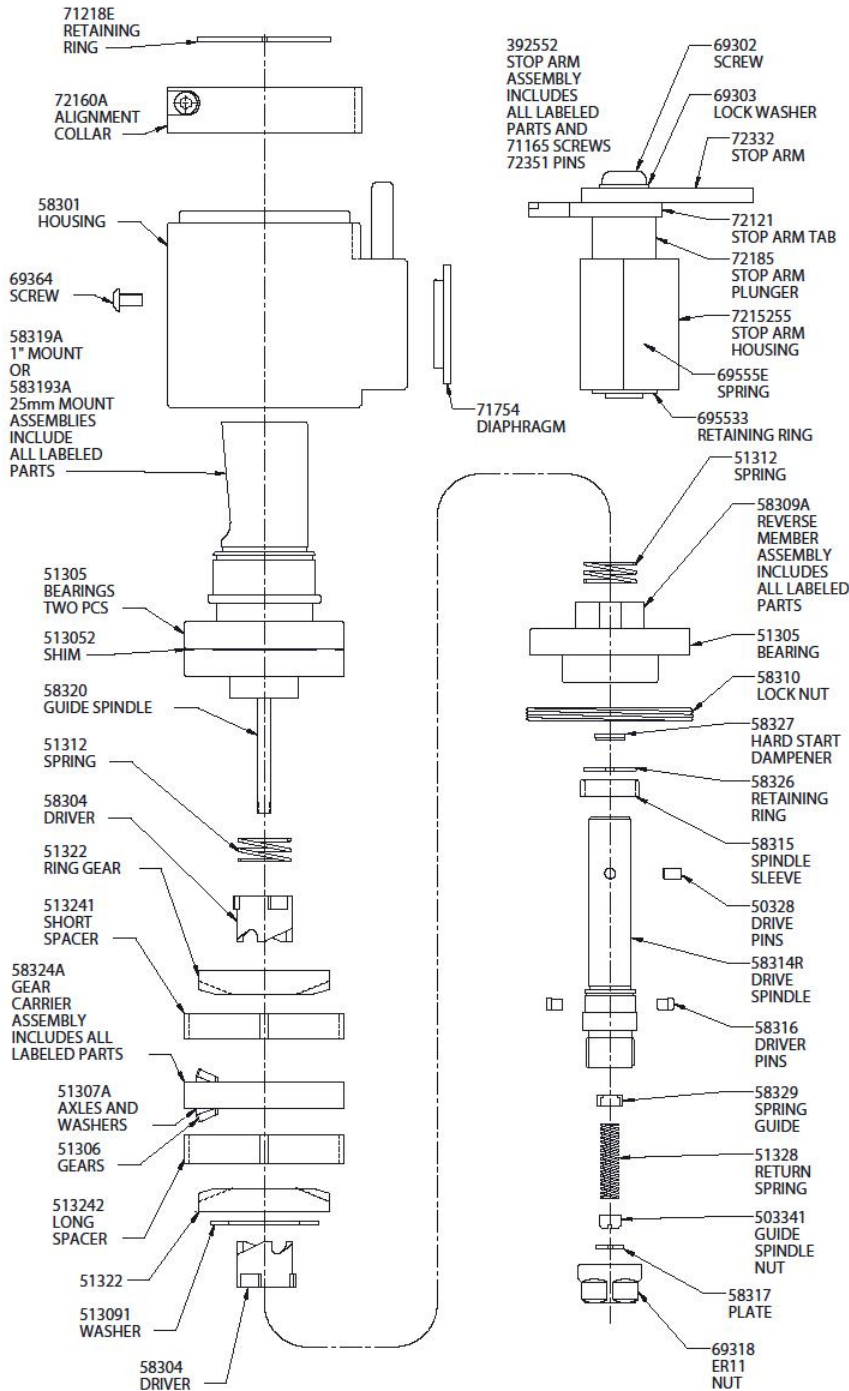
Maintenance

Lubrication: We recommend lubrication every 100,000 cycles. To lubricate remove grease hole plug and add grease from the tubes provided. Use two tubes. For additional tubes order part number 29000 for a box of 12. We recommend Prolong EP2 grease. The tapping attachments come from the factory already lubricated and ready for operation. In addition to grease we also recommend the use of a penetrating spray lubricant such as Prolong SPL100 or LPS No 2.

Removing Coolant: If coolant enters inside the tool please follow the procedure shown below to remove coolant and re-lubricate the tapping attachment. We also recommend following this procedure if you plan to store the unit.



SPD3 CNC PARTS



- WRENCHES**
28062 5/8" WRENCH
28068 ER11 WRENCH
27093 3/32" HEX KEY
27226 5mm HEX KEY
27187 3/16" HEX KEY
69341 ALIGN TOOL

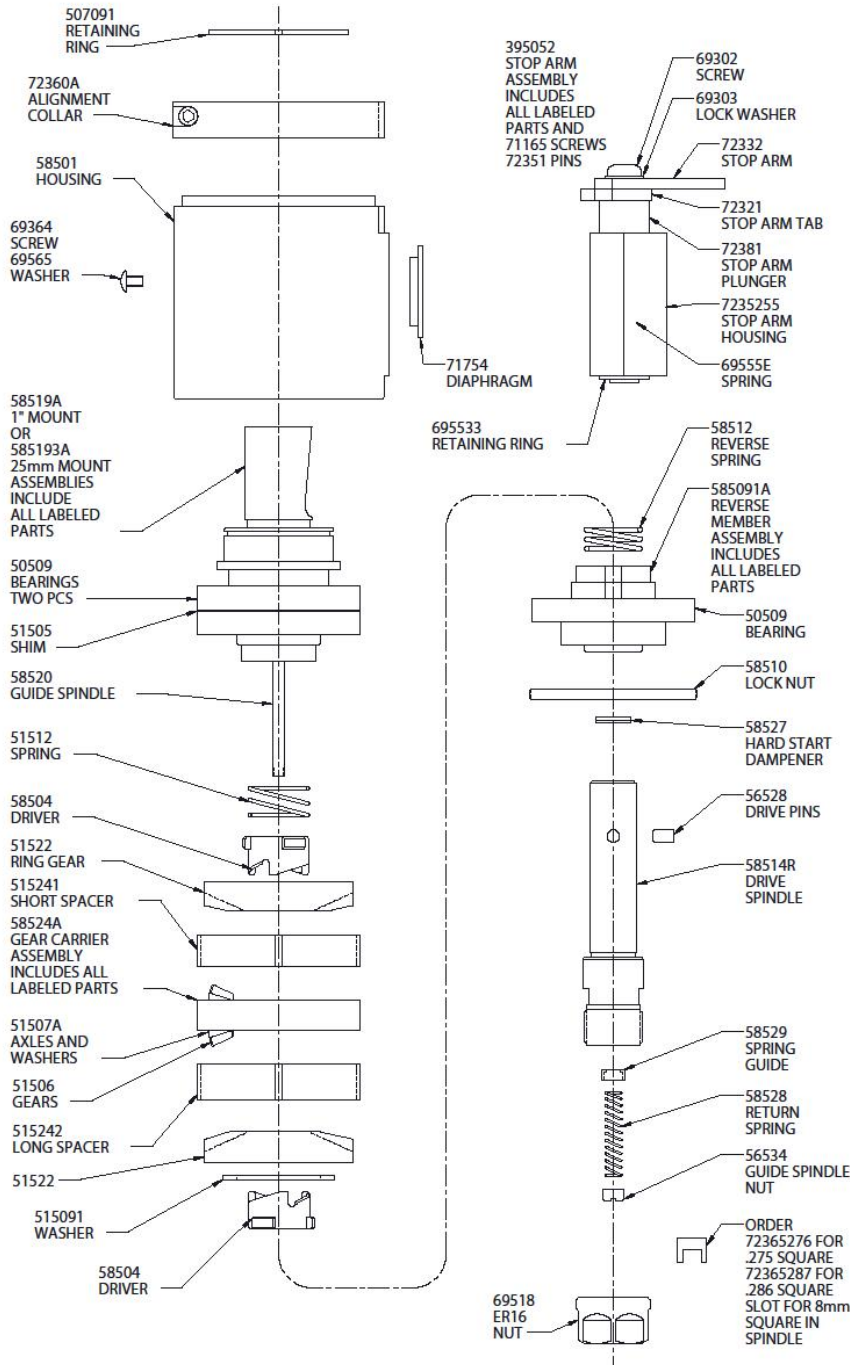
Disassembly

- Step 1. Remove collet and nut.
- Step 2. Remove 58326 retaining ring. Slide 58315 sleeve up and remove drive pins 58316 and plate 58317.
- Step 3. Using a modified screw driver blade with U-cut, remove 503341 guide spindle nut. It may be necessary to apply heat to nut prior to removal.
- Step 4. Remove 51328 return spring and 58329 return spring guide.
- Step 5. Remove 58310 lock nut by unthreading in right hand thread direction. It may be necessary to apply heat for removal.
- Step 6. Remove internal parts. Clean, replace parts as needed, lubricate with SPL100 and EP2 grease.

Reassembly

Reverse procedure above. When installing 503341 guide spindle nut and 58310 lock nut we recommend applying a small amount of Loctite 222

SPD5 CNC PARTS



- WRENCHES**
28075 3/4" WRENCH
28100 ER16 WRENCH
27093 3/32" HEX KEY
27226 5mm HEX KEY
27187 3/16" HEX KEY
69341 ALIGN TOOL

Disassembly

- Step 1. Remove collet and nut.
- Step 2. Using a modified screw driver blade with U-cut, remove 56534 guide spindle nut. It may be necessary to apply heat to nut prior to removal.
- Step 3. Remove 58528 return spring and 58529 return spring guide.
- Step 4. Remove 58510 lock nut by unthreading in right hand thread direction. It may be necessary to apply heat for removal.
- Step 5. Remove internal parts. Clean, replace parts as needed, lubricate with SPL100 and EP2 grease.

Reassembly

Reverse procedure above. When installing 56534 guide spindle nut and 58510 lock nut we recommend applying a small amount of Loctite 222



Repair Service is available at....

**Attention: Repair Department
Tapmatic Corporation
802 Clearwater Loop
Post Falls, ID 83854**

To Expedite Repair: Return tool direct to Tapmatic Corporation by United Parcel Service and enclose the following statement with your purchase order: "Authorization given to repair and return tool without notification if total cost does not exceed 40% of the cost of a new tool." Tapmatic will repair the tool and call to request credit card number for invoicing.

Cost Notification: Tapmatic will FAX a cost notification to you, soliciting your approval before repairs are completed. If it is determined that a tool cannot be repaired, at the customer's request, Tapmatic will return the disassembled parts. We are not able to reassemble a tool using damaged or worn out parts.

Optional Return Procedure: Tools may also be returned for repair through your local Tapmatic Distributor. They will ship the tool to us and include instructions for the repair and return. You may already have an open account with them which facilitates the handling of invoicing.

Priority Service: Tapmatic services tools returned for repair in the order in which they are received. All tools will be evaluated and repaired within three weeks from the date they arrive subject to receiving the customer's approval to proceed with the repair.

Priority is given to tools shipped to us by overnight or second day.

If a repair is sent to us by UPS ground or similar service it can also be given priority. Just call and let us know you need priority service and advise if you would like the tool returned to you by overnight or second day. In the interest of fairness, to all our customers, we ask that you approve shipment by overnight or second day before we agree to upgrade your repair order to priority service. Typical turn around, not including shipping time, for priority repairs is 3 days subject to receiving the customer's approval to proceed with the repair.

If we can answer any questions please call our toll free number:
800 395-8231