

RDTIC25, 50 & 75 Safety And Operation Instructions

Self-Reversing Tapping Units

WARNING

To Avoid Serious Injury And Ensure Best Results For Your Tapping Operation, Please Read Carefully *All* operator and safety instructions provided for this tapping attachment as well as all other safety instructions that are applicable, especially those for your machine tool.



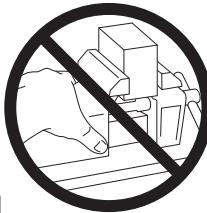
1. Proper Clothing: The rotating spindle of a machine tool can snag loose fitting clothing, jewelry or long hair. **Never** wear jewelry, long sleeves, neckties, gloves or anything else that could become caught when operating a machine tool. Long hair **must** be restrained or netted to prevent it from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



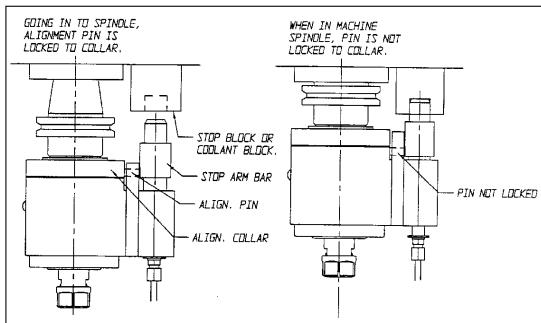
2. Proper Eye Protection: Always wear safety glasses with side shields to protect your eyes from flying particles.



3. 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.



4. On Machining Centers:
The same rule for stop arm and stop block installation applies "Always" be sure that the installation is stronger than the largest tap." **Automatic tool changes should only be made on enclosed machines.**



5. The tapping attachment housing, drive spindle and tap itself can become hot to the touch after operation. Use caution when removing the attachment from the machine or handling.



6. 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.



7. Be aware of any other applicable safety instructions / 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 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 between the drilled hole and tap sufficient at start position to allow the tap to clear the hole upon retraction?
- 9. Is the stop arm of the tapping attachment held rigidly against rotation. Stop Arm installation must be stronger than largest tap.
- 10. Is the proper cutting fluid or coolant being used for lubricating the tap?
- 11. If a bottom hole is being tapped is there sufficient chip clearance?
- 12. Is the correct Tapmatic model for the specific job requirement being used? (Capacity should be reduced 25% for roll form taps.)

References for this Safety Information include
but are not limited to:

American National Standards Institute
ANSI B11.8-1983 (Adopted May 31, 1983
by Department of Defense)

Coastal Video Communications Corporation
Machine Guarding Copy Right 1994

Society Of Manufacturing Engineers
Tool and Manufacturing Engineers Handbook
Volume 1 Machining
(Library of Congress Catalog No. 82-060312)

Programming: RDTIC25, 50 & 75 Self-Reversing Tapping Units

Thank you for purchasing a Tapmatic RDTIC 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 three possible methods for RDT & RDTIC tools.

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

Increased Reverse Speed Programming: Saves cycle time in applications requiring slower tapping speeds.

Bore Cycle Programming: It is also possible to use a Standard Bore Cycle such as G85 to tap. This does lengthen 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 attachments.

Maximum Speeds

RDT25 HD	3500 RPM	*RDTXT50 191	1800 RPM
RDT25 HS	4000 RPM	*RDTXT50 255	1500 RPM
RDT50 HD	2000 RPM	*RDTXT50 318	1500 RPM
RDT50 HS	2300 RPM	RDT75	1500 RPM

*with ER20 Insert 1500RPM Max

Enclosed with this tool are charts showing recommended speeds for common materials. Use these charts and the 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 divided by Pitch
Example: 1/4"-28 at 2000 RPM

Tap Feed Rate = 2000 RPM divided by 28 = 71.43 in/min.

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

3.) **Cancel The Operator's Ability To Adjust Feed Rate And Spindle Speed** using the machine's potentiometer controls. This is normally done by using an M code like M49 for example.

4.) **IMPORTANT: Be Sure "Ramp" or "Exact Stop" Is Eliminated From Program.** These modes cause the cycle time to be significantly slower and also cause the tapping head to run less smoothly. For Example: Machines with Fanuc Controls and Haas Machines use G64 while tapping to eliminate "Exact Stop." G61 will make exact stop modal again for other operations if desired. Fadal Machines use G8 to cancel the Ramp for tapping. G9 will turn the "Ramp" on again if desired for other operations. Your machine may use different G codes. Please check machine manual.

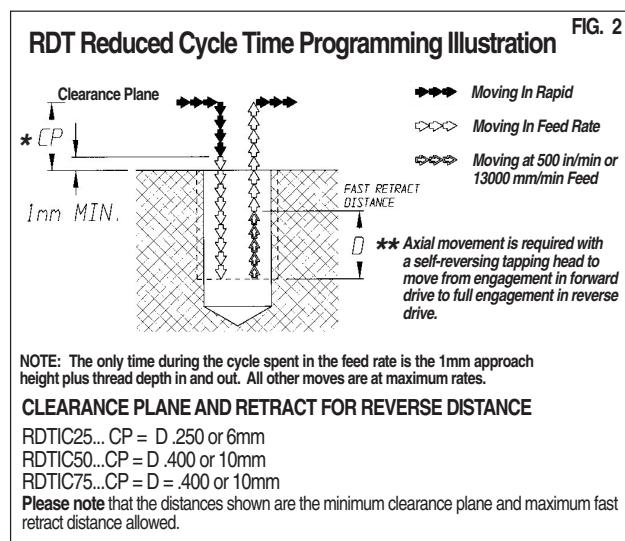
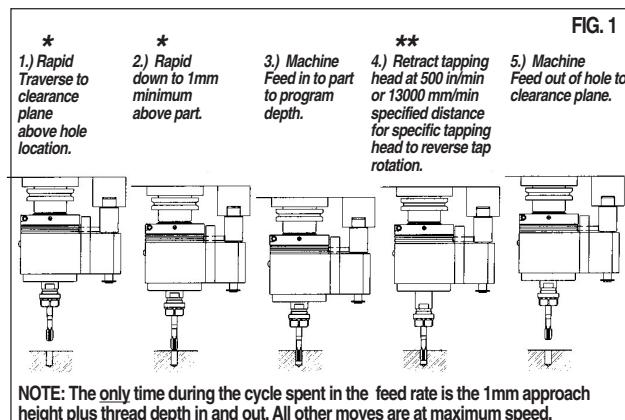
5.) **For Blind Holes: Allow For The Tap To Go Slightly Deeper Than Program Depth.**

For RDTIC25 allow an extra .120 or 3mm.
For RDTIC50 or RDT75 allow an extra .160 or 4mm.

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

6.) RDT Reduced Cycle Time Programming Illustration

Write a subroutine using G01 Feedrate and G00 Rapid movements as shown in FIG. 1. and FIG. 2 below.



Programming: RDTIC25, 50 & 75 Self-Reversing Tapping Units

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

EXAMPLE

Tapping Unit: RDTIC25

Tap Size #10-24

100 SFM

2000 RPM

Feed Rate In @ 100% = 83.33 in/min

Sub Routine:

Rapid approach to 1mm or .040 above part.

Feed in to depth .300 (note actual depth slightly deeper than program depth)

Retract .250 inch at 500 in/min to reverse tap. (*Use maximum Feed Rate up to 500 in/min)

Feed out to .250 clearance plane at 100% Feed Rate.

MAIN PROGRAM

M06 T6	Tool Change - Tool #6
M00	Program Stop
M03 S2000	Spindle Forward ROTATION 2000 RPM.
G8	Ramp Off (or G64 eliminates exact stop)
G00 G43 Z1.0 H06 M08	Rapid to Z1.0 Height Offset #6 coolant on.
M49	Spindle Speed and Feed Rate override cancel.
G00 G90 X1.0 Y-1.0 Z.250	Rapid in absolute to hole position X1.0, Y-1.0 and Z.250 clearance plane.
M98 P4 L1	Repeat sub program 04 one time.
G00 Y-2.0	Rapid to next hole.
M98 P4 L1	Repeat sub program 04 one time.

Sub Program

0004	
G90	Absolute movement.
G00 Z.04	Rapid to .04 above hole
G01 Z-.30 F83.33	Feed in to hole at 100% Feed Rate.
G01 Z-.05 F500.0	Retract .250 at 500 in/min to reverse tap.
G01 Z.250 F83.33	Feed out of hole to .250 clearance plane.
M99	Return to main program

VERY IMPORTANT NOTICE

Regarding Ramp or Exact Stop: 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 time to be significantly slower and thread depth repeatability to be less accurate.

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

Machines With Fanuc Controls and Haas Machines: Use G64 while tapping to eliminate the Exact Stop. G61 will make Exact Stop modal again for other operations if desired.

Increased Reverse Speed Programming

More cycle time can be saved in applications requiring slower tapping speeds by increasing the speed coming out of the hole. Using G01 movements as in previous example use the recommended tapping speed and feed rate going in to the hole and then increase the spindle speed and feed rate coming out of the hole. For best results with larger taps, we recommend limiting retraction spindle speeds to the following.

RDTIC25 HD	3000 RPM
RDTIC50 HS	2000 RPM
RDTIC50 HD, RDTICXT50	1500 RPM
RDTIC75	1000 RPM

Example Tapping 3/8"-16 in Free Machining Steel with RDTIC50HD

Spindle Speed In	=	630 RPM
100% Feed Rate In	=	39.37 in/min.
Spindle Speed Out	=	1500 RPM
100% Feed Rate Out	=	93.75 in/min.

Example Sub Program

G90	Absolute Positioning
M3 S 630	Spindle right hand rotation 630 RPM
G00 Z.04	Rapid to .04 above workpiece
G01 Z-.5 F39.37	Feed .500 into part at 39.37 in/min.
M3 S 1500	Increase speed to 1500 RPM
G01 Z-.1 F 500	Retract .400 at 500 in/min
G01 Z.400 F93.75	to reverse tap.
	Feed Out to .400 clearance plane at 93.75 in/min.

Caution: Please note that on certain machines increasing spindle speed may cause the machine to change from the low spindle speed range to the high range. This may cause a pause which would prevent "Increase Reverse Speed Programming" from working. Please be sure that the speed going in and speed you plan to use going out of the hole are both in the same range.

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 FIG. 2 for your tapping attachment.

Determining Correct Speed Within Specified Range

Compilation of Guidelines From Tap Manufacturers And Other Sources
For Cutting or Cold-Forming of Threads In Relation To Work Piece Material

Cutting Speed For Tapping: Several factors, singly or in combination can cause very great differences in the permissible tapping speed. The principal 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 contain EP additives or its lubrication quality is low, start from the lower speeds in the 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 you start 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 Of Material	2	Low Tensile Strength Of Material +15
-15	Large Thread Diameter	4	Small Thread Diameter +15
-10	High Alloy Materials	3	Low Alloy Materials +10
-10	Thread Depth More Than 1.5 x Dia.	5	Thread Depth 1.5 x Dia. Or Less +10
-10	Thread Pitch Coarse	6	Thread Pitch Fine +10
-5	Drill Size More than 65% of Thread	7	Drill Size 65% or Less Thread +5
-5	Tap Lead Less Than 3.5 Thread	8	Tap Lead More Than 3.5 Threads +5
-5	Blind Holes	9	Through Holes +5
-5	Free Running Spindle Inaccurate Pitch Control Hydraulic/Air Feed	10	Synchronous Spindle Lead Screw CNC Control +5

From Chart			
Tap Size: 1/4"-28 Coated,	Material: Aluminum Die Cast,	688-1375 RPM	RPM Spread = 687
Minus Factors:	High Tensile Strength -15	Plus Factors:	Coolant With Good EP +20
Thread Depth 3 x Dia.	-10	Small Thread Diameter	+15
Drill Size = 75% Thd.	-5	Pitch Fine	+10
Blind Hole	-5	Lead 3.5 Threads	+5
TOTAL	-35	CNC Machine	+5
		TOTAL	+55
Apply The Factors Against The RPM Spread of 687			
+55 X 687 =	378	Added to minimum RPM 688 =	1066 New Minimum RPM
-35 X 687 =	240	Subtracted from maximum RPM 1375 =	1135 New Maximum RPM
Common Sense Rule:	Begin with min RPM and work up to optimum efficiency and tap life.		

Eight Essential Steps For Trouble Free Performance With Self-Reversing Tapping Heads

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 proper tap: Follow your tap manufacturers recommendations for your specific application.
3. Calculate the correct tapping speed from the adjacent charts and the rules on this page.
4. Common sense rule: Begin conservatively and increase speed until optimum results are obtained.
5. Select the best tool for your application or applications. High production with one tap size (*Don't compromise*), low production with a variety of taps, (*Choose the tool that best covers range.*)
6. Follow our programming instructions exactly, and absolutely make sure ramp or exact stop has been eliminated from tapping cycle. Leaving it in will increase tapping time 30% increase thread depth variations substantially, and wear out the tapping head prematurely.
7. Follow our installation instructions exactly and lock orientation collar in place once stop arm is in proper position. Then fix it positively with the locking screw provided.
8. Schedule preventative maintenance. Disassembly, cleaning, re-lubricating, and reassembly takes no more than half an hour. Just consider what the head does for the machine by eliminating its reversal related wear and tear. Simple maintenance will keep the head working efficiently, and pay big dividends in trouble free production.

Speed Recommendations & Tool Selection

Standard Taps

Tap Size	Low Carbon Steel Carbon Steel	High Carbon Steel High Strength Steel	High Strength Steel Tool Steel	Stainless 303, 304, 316	Stainless 410, 430, 17-4 Hardened	Stainless 17-4 Annealed	Titanium Alloys	Nickel Base Alloys	Aluminum Alloys	Aluminum Die Cast	Magnesium	Brass, Bronze	Copper	Cast Iron		
	Surface Feet Per Minute															
	25-50 50-80	6-30 10-35	6-12	12-35 20-50	12-15	12-15 12-25	3-15	10-15	50-65	40-65 45-90	45-100	30-65	50-60 65-100	35-50 50-65		
RPM Range Uncoated RPM Range Coated Recommended Tapmatic Attachment																
0	1592-3183 3183-5093 RDT15HS	382-1910 637-2228 RDT15HD	382-764 RDT15HD	764-2228 RDT15HD	764-955 RDT15HD	764-1592 RDT15HD	191-955 RDT15HD	637-955 RDT15HD	3183-4138 RDT15HS	2546-4138 RDT15HS	2865-6000 RDT15HS	1910-4138 RDT15HS	3183-3820 4138-6000 RDT15HS	2228-3183 3183-4138 RDT15HS		
1	1308-2617 2617-4186 RDT15HS	314-1570 523-1831 RDT15HD	314-628 382-764 RDT15HD	628-1831 1047-2617 RDT15HD	628-785 RDT15HD	628-785 RDT15HD	157-785 RDT15HD	523-785 RDT15HD	2617-3401 RDT15HD	2093-3401 RDT15HS	2355-4710 RDT15HS	2355-5233 RDT15HS	1570-3401 RDT15HD	2617-3140 3401-5233 RDT15HD	1831-2617 2617-3401 RDT15HD	
M2	1110-2221 2221-3554 RDT15HD	267-1333 444-1555 RDT15HD	314-628 RDT15HD	533-1555 888-2221 RDT15HD	533-666 RDT15HD	533-666 RDT15HD	133-666 RDT15HD	444-666 RDT15HD	2221-2887 RDT15HD	1777-2887 RDT15HD	1999-3999 RDT15HD	1999-4442 RDT15HD	1333-2887 RDT15HD	2221-2665 2887-4442 RDT15HD	1555-2221 2221-2887 RDT15HD	
2	964-1929 1929-3086 RDT15HD	231-1157 366-1351 RDT15HD	231-463 RDT15HD	463-1351 772-1929 RDT15HD	463-579 RDT15HD	463-579 RDT15HD	116-579 RDT15HD	386-579 RDT15HD	1929-2508 RDT15HD	1543-2508 RDT15HD	1736-3472 RDT15HD	1736-3858 RDT15HD	1157-2508 RDT15HD	1929-2315 2508-3858 RDT15HD	1351-1929 1929-2508 RDT15HD	
M3	853-1705 1705-2728 RDT25HD	205-1023 341-1194 RDT25HD	205-409 RDT25HD	409-1194 682-1705 RDT25HD	409-512 RDT25HD	409-512 RDT25HD	102-512 RDT25HD	341-512 RDT25HD	1705-2217 RDT25HD	1364-2217 RDT25HD	1535-3069 RDT25HD	1535-3411 RDT25HD	1023-2217 RDT25HD	1705-2046 2217-3411 RDT25HD	1194-1705 1705-2217 RDT25HD	
3	764-1528 1528-2445 RDT25HD	183-917 306-1070 RDT25HD	183-367 RDT25HD	367-1070 611-1528 RDT25HD	367-458 RDT25HD	367-458 RDT25HD	92-458 RDT25HD	306-458 RDT25HD	1528-1986 RDT25HD	1222-1986 RDT25HD	1375-3056 RDT25HD	1375-2750 RDT25HD	917-1986 RDT25HD	1528-1833 1986-3056 RDT25HD	1070-1528 1528-1986 RDT25HD	
4	691-1382 1382-2211 RDT25HD	166-829 277-969 RDT25HD	166-332 RDT25HD	332-969 553-1382 RDT25HD	332-415 RDT25HD	332-415 RDT25HD	83-415 RDT25HD	277-415 RDT25HD	1382-1799 RDT25HD	1106-1799 RDT25HD	1246-2487 RDT25HD	1246-2764 RDT25HD	829-1799 RDT25HD	1382-1658 1799-2764 RDT25HD	969-1382 1382-1799 RDT25HD	
M4	583-1165 1165-1864 RDT25HD	140-699 233-815 RDT25HD	140-280 RDT25HD	280-815 466-1165 RDT25HD	280-349 RDT25HD	280-349 RDT25HD	70-349 RDT25HD	233-349 RDT25HD	1165-1514 RDT25HD	932-1514 RDT25HD	1048-2097 RDT25HD	1048-2330 RDT25HD	699-1514 RDT25HD	1165-1398 1514-2330 RDT25HD	815-1165 1514-1514 RDT25HD	
5	502-1005 1005-1607 RDT25HD	121-603 201-704 RDT25HD	121-241 RDT25HD	241-704 402-1005 RDT25HD	241-302 RDT25HD	241-302 RDT25HD	60-302 RDT25HD	201-302 RDT25HD	1005-1307 RDT25HD	804-1307 905-1808 RDT25HD	905-2009 RDT25HD	905-2009 RDT25HD	603-1307 RDT25HD	1005-1205 1307-2009 RDT25HD	704-1005 1005-1307 RDT25HD	
6	442-884 884-1415 RDT25HD	106-531 177-619 RDT25HD	106-212 RDT25HD	212-619 354-884 RDT25HD	212-265 RDT25HD	212-265 RDT25HD	53-265 RDT25HD	177-265 RDT25HD	884-1150 RDT25HD	707-1150 796-1592 RDT25HD	796-1769 RDT25HD	796-1769 RDT25HD	531-1150 RDT25HD	884-1061 1150-1769 RDT25HD	619-884 884-1150 RDT25HD	
M5	10	306-611 611-978 RDT50HD	73-367 122-429 RDT50HD	73-147 245-611 RDT50HD	147-429 RDT50HD	147-184 RDT50HD	147-184 RDT50HD	37-184 RDT50HD	122-184 RDT50HD	611-796 RDT50HD	489-796 RDT50HD	551-1100 RDT50HD	551-1222 RDT50HD	367-796 RDT50HD	611-733 796-1222 RDT50HD	429-611 611-796 RDT50HD
M6	255-509 509-815 RDT50HD	61-306 102-357 RDT50HD	61-122 RDT50HD	122-357 204-509 RDT50HD	122-153 RDT50HD	122-153 RDT50HD	31-153 RDT50HD	102-153 RDT50HD	509-662 RDT50HD	407-662 RDT50HD	458-917 RDT50HD	458-1019 RDT50HD	306-662 RDT50HD	509-611 662-1019 RDT50HD	357-509 509-662 RDT50HD	
M7	382-764 764-1222 RDT50HD	92-458 153-535 RDT50HD	92-183 RDT50HD	183-535 306-764 RDT50HD	183-229 RDT50HD	183-229 RDT50HD	46-229 RDT50HD	153-229 RDT50HD	764-993 RDT50HD	611-993 RDT50HD	688-1375 RDT50HD	688-1528 RDT50HD	458-993 RDT50HD	764-917 993-1528 RDT50HD	535-764 764-993 RDT50HD	
M8	306-611 611-978 RDT50HD	73-367 122-429 RDT50HD	73-147 245-611 RDT50HD	147-429 RDT50HD	147-184 RDT50HD	147-184 RDT50HD	37-184 RDT50HD	122-184 RDT50HD	611-796 RDT50HD	489-796 RDT50HD	551-1100 RDT50HD	551-1222 RDT50HD	367-796 RDT50HD	611-733 796-1222 RDT50HD	429-611 611-796 RDT50HD	
M9	219-437 437-698 RDT50HD	52-262 87-306 RDT50HS	52-105 175-437 RDT50HS	105-306 183-382 RDT50HS	105-131 RDT50HS	105-131 RDT50HS	26-131 RDT50HS	87-131 RDT50HS	437-568 RDT50HS	349-568 RDT50HS	393-786 RDT50HS	393-973 RDT50HS	262-568 RDT50HS	437-524 568-873 RDT50HS	306-437 437-568 RDT50HS	
M10	191-382 382-611 RDT85HS	41-206 66-238 RDT85HS	41-82 137-344 RDT85HS	82-238 137-344 RDT85HS	82-102 RDT85HS	82-102 RDT85HS	20-102 RDT85HS	68-102 RDT85HS	344-442 RDT85HS	275-442 RDT85HS	306-497 RDT85HS	344-688 RDT85HS	229-497 RDT85HS	382-458 497-764 RDT85HS	267-382 382-497 RDT85HS	
M12	153-306 306-489 RDT85	37-183 61-214 RDT85	37-73 122-306 RDT85	73-214 122-306 RDT85	73-92 RDT85	73-92 RDT85	18-92 RDT85	61-92 RDT85	306-397 RDT85	244-397 RDT85	306-497 RDT85	344-764 RDT85	229-497 RDT85	382-458 497-764 RDT85HS	267-382 382-497 RDT85HS	
M14	172-344 344-550 RDT85HS	41-206 66-238 RDT85HS	41-82 137-344 RDT85HS	82-238 137-344 RDT85HS	82-102 RDT85HS	82-102 RDT85HS	20-102 RDT85HS	68-102 RDT85HS	344-442 RDT85HS	275-442 RDT85HS	306-497 RDT85HS	344-688 RDT85HS	206-442 RDT85HS	344-412 442-687 RDT85HS	238-344 344-442 RDT85HS	
M16	109-218 218-350 RDT85	26-131 44-153 RDT85	26-52 87-218 RDT85	52-153 87-218 RDT85	52-65 RDT85	52-65 RDT85	13-65 RDT85	44-65 RDT85	218-284 RDT85	175-284 RDT85	196-392 RDT85	196-437 RDT85	131-284 RDT85	218-262 284-437 RDT85	153-218 218-284 RDT85	
M22	96-191 191-306 RDT85	23-115 38-134 RDT85	23-46 76-191 RDT85	46-134 76-191 RDT85	46-57 RDT85	46-57 RDT85	11-57 RDT85	38-57 RDT85	191-248 RDT85	153-248 RDT85	172-344 RDT85	172-382 RDT85	115-248 RDT85	191-230 248-382 RDT85	134-191 191-248 RDT85	
M24	1	218-255 255-407 RDT85	31-153 51-178 RDT85	31-61 102-255 RDT85	61-178 102-255 RDT85	61-76 102-255 RDT85	15-76 102-255 RDT85	51-76 RDT85	255-331 RDT85	203-331 RDT85	229-458 RDT85	229-509 RDT85	153-331 RDT85	255-306 331-509 RDT85	178-255 255-331 RDT85	
M25	1	191-306 RDT85	23-115 38-134 RDT85	23-46 76-191 RDT85	46-134 76-191 RDT85	46-57 RDT85	46-96 RDT85	11-57 RDT85	191-248 RDT85	153-248 RDT85	172-344 RDT85	172-382 RDT85	115-248 RDT85	191-230 248-382 RDT85	134-191 191-248 RDT85	

Speed Recommendations & Tool Selection

Roll Form Taps

High Speed/Top Speed Taps

Tap Size	Surface Feet Per Minute					
	Uncoated Tap			Coated Tap		
	30-50 65-100	25-65 25-35	20-25 25-35	25-40 35-50 50-65	35-50 50-65	35-65
RPM Range Uncoated RPM Range Coated Recommended Tapmatic Attachment						
0	1910-3183 4138-6000 RDT15HS	1273-1592 1592-4138 RDT15HD	1592-2546 1592-2228 RDT15HD	2228-3183 3183-4138 RDT15HD	2228-4138 RDT15HD	
1	1570-2617 3401-5233 RDT15HS	1047-1308 1308-3401 RDT15HD	1308-2093 1308-1831 RDT15HD	1831-2617 2617-3401 RDT15HD	1831-3401 RDT15HD	
2	1333-2221 2887-4442 RDT15HD	888-1110 1110-2887 RDT15HD	1110-1777 1110-1555 RDT15HD	1555-2221 2221-2887 RDT15HD	1555-2887 RDT15HD	
3	1157-1929 2508-3858 RDT15HD	772-964 964-2508 RDT15HD	964-1543 964-1351 RDT15HD	1351-1929 1929-2508 RDT15HD	1351-2508 RDT15HD	
M2	4	1023-1705 2217-3411 RDT25HD	682-853 853-2217 RDT25HD	853-1364 853-1194 RDT25HD	1194-1705 1705-2217 RDT25HD	1194-2217 RDT25HD
5	917-1528 1986-3056 RDT25HD	611-764 764-1986 RDT25HD	764-1222 764-1070 RDT25HD	1070-1528 1528-1986 RDT25HD	1070-1986 RDT25HD	
6	829-1382 1799-2764 RDT25HD	553-691 691-1799 RDT25HD	691-1106 691-969 RDT25HD	969-1382 1382-1799 RDT25HD	969-1799 RDT25HD	
M3	8	699-1165 1514-2330 RDT25HD	466-583 583-1514 RDT25HD	583-932 583-815 RDT25HD	815-1165 1165-1514 RDT25HD	815-1514 RDT25HD
10	603-1005 1307-2009 RDT25HD	402-502 502-1307 RDT25HD	502-804 502-704 RDT25HD	704-1005 1005-1307 RDT25HD	704-1307 RDT25HD	
M4	12	531-884 1150-1769 RDT50HD	354-442 442-1150 RDT50HD	442-707 442-619 RDT50HD	619-884 884-1150 RDT50HD	619-1150 RDT50HD
M5	1/4	458-764 993-1528 RDT50HD	306-382 382-993 RDT50HD	382-611 382-535 RDT50HD	535-764 764-993 RDT50HD	535-993 RDT50HD
M6	7/16	367-611 796-1222 RDT50HD	245-306 306-796 RDT50HD	306-489 306-429 RDT50HD	429-611 611-796 RDT50HD	429-796 RDT50HD
M7	3/8	306-509 662-1019 RDT50HD	204-255 255-662 RDT50HD	255-407 255-357 RDT50HD	357-509 509-662 RDT50HD	357-662 RDT50HD
M8	5/16	262-437 568-873 RDT85HS	175-219 219-568 RDT85HS	219-349 219-306 RDT85HS	306-437 437-568 RDT85HS	306-568 RDT85HS
M9	1/2	229-382 497-764 RDT85	153-191 191-497 RDT85	191-306 191-267 RDT85	267-382 382-497 RDT85	267-497 RDT85
M10	9/16	206-344 442-687 RDT85	137-172 172-442 RDT85	172-275 172-238 RDT85	238-344 344-442 RDT85	238-442 RDT85
M11	5/8	183-306 397-611 RDT85	122-153 153-397 RDT85	153-244 214-306 RDT85	214-306 306-397 RDT85	214-397 RDT85
M12	3/4	153-255 331-509 RDT85	102-128 128-331 RDT85	128-203 128-178 RDT85	178-255 255-331 RDT85	178-331 RDT85
M13	7/8	1261-1528 RDT85HS	191-764 RDT85HS	229-611 RDT85HS	153-306 RDT85HS	497-1528 RDT85HS
M14	9/16	1121-1359 RDT85HS	172-687 RDT85HS	206-550 RDT85HS	137-275 RDT85HS	442-1359 RDT85HS
M15	5/8	1008-1222 RDT85HS	153-611 RDT85HS	183-489 RDT85	122-244 RDT85	397-1222 RDT85HS
M16	3/4	840-1019 RDT85	128-509 RDT85	153-407 RDT85	102-203 RDT85	331-1019 RDT85
M17	2/3	720-873 RDT85	109-437 RDT85	131-350 RDT85	87-175 RDT85	284-873 RDT85
M18	1	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85
M19	1	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85

Tap Size	Surface Feet Per Minute							
	RPM Range Based on SFM RPM Range For Tapping Head if Different Recommended Tapmatic Attachment							
	165-200 RDT15HS	25-100 RDT15HS	30-80 RDT15HS	20-40 RDT15HS	65-200 RDT15HS	65-100 RDT15HS		
0	10505-12733 6000 RDT15HS	1592-6366 6000 RDT15HS	1910-5093 RDT15HS	1273-2546 RDT15HD	4138-12733 6000 RDT15HS	4138-6366 6000 RDT15HS	6366-8276 6000 RDT15HS	8276-10505 6000 RDT15HS
1	8634-10465 6000 RDT15HS	1308-5233 6000 RDT15HS	1570-4186 RDT15HS	1047-2093 RDT15HD	3401-10465 6000 RDT15HS	3401-5233 6000 RDT15HS	5233-6808 6000 RDT15HS	6808-8634 6000 RDT15HS
2	7329-8894 5000 RDT15HD	1110-4442 5000 RDT15HD	1333-3554 RDT15HD	888-1777 RDT15HD	2887-8894 5000 RDT15HD	2887-4442 5000 RDT15HD	4442-5774 5000 RDT15HD	5774-7329 5000 RDT15HD
3	6367-7717 5000 RDT25HS	964-3858 5000 RDT25HS	1157-3086 RDT25HD	772-1543 RDT25HD	2508-7717 5000 RDT25HD	2508-3858 5000 RDT25HD	3858-5015 5000 RDT25HD	5015-6367 5000 RDT25HD
M2	5628-6821 5000 RDT25HD	853-3411 5000 RDT25HD	1023-2728 RDT25HD	682-1364 RDT25HD	2217-6821 5000 RDT25HD	2217-3411 5000 RDT25HD	3411-4434 5000 RDT25HD	4434-5628 4434-5000
M3	5042-6122 4000 RDT25HS	764-3056 4000 RDT25HS	917-2445 RDT25HD	611-1222 RDT25HD	1986-6122 4000 RDT25HS	1986-3056 4000 RDT25HS	3056-3973 4000 RDT25HS	3973-5042 3973-4000
M4	4567-5536 4000 RDT25HS	691-2764 4000 RDT25HS	829-2211 RDT25HD	553-1106 RDT25HD	1799-5536 4000 RDT25HS	1799-2764 4000 RDT25HS	2764-3592 4000 RDT25HS	3592-4567 3592-4000
M5	3317-4021 4000 RDT25HS	502-2009 4000 RDT25HS	603-1607 RDT25HD	402-804 RDT25HD	1307-4021 4000 RDT25HS	1307-2009 4000 RDT25HS	2009-2612 4000 RDT25HS	2612-3317 4000 RDT25HS
M6	2918-3537 RDT25HS	442-1769 RDT25HS	531-1415 RDT25HD	354-707 RDT25HD	1150-3537 RDT25HD	1150-1769 RDT25HD	1769-2300 RDT25HD	2300-2918 RDT25HD
M7	2521-3056 RDT25HD	382-1528 RDT25HD	458-1222 RDT25HD	306-611 RDT25HD	993-3056 RDT25HD	993-1528 RDT25HD	1528-1986 RDT25HD	1986-2521 RDT25HD
M8	2017-2449 RDT50HS	306-1222 RDT50HD	367-978 RDT50HD	245-489 RDT50HD	796-2449 RDT50HD	796-1222 RDT50HD	1222-1589 RDT50HD	1589-2017 RDT50HD
M9	1681-2037 RDT50HS	255-1019 RDT50HD	306-815 RDT50HD	204-407 RDT50HD	662-2037 RDT50HS	662-1019 RDT50HD	1019-1324 RDT50HD	1324-1681 RDT50HD
M10	1441-1748 RDT50HD	219-873 RDT50HD	262-698 RDT50HD	175-349 RDT50HD	568-1748 RDT50HD	568-873 RDT50HD	873-1135 RDT50HD	1135-1441 RDT50HD
M11	1261-1528 RDT50HD	191-764 RDT50HD	229-611 RDT50HD	153-306 RDT50HD	497-1528 RDT50HD	497-764 RDT50HD	764-993 RDT50HD	993-1261 RDT50HD
M12	1121-1359 RDT85HS	172-687 RDT85HS	206-550 RDT85HS	137-275 RDT85HS	442-1359 RDT85HS	442-687 RDT85HS	687-893 RDT85HS	893-1121 RDT85HS
M13	1008-1222 RDT85HS	153-611 RDT85HS	183-489 RDT85	122-244 RDT85	397-1222 RDT85HS	397-611 RDT85	611-794 RDT85	794-1008 RDT85HS
M14	840-1019 RDT85	128-509 RDT85	153-407 RDT85	102-203 RDT85	331-1019 RDT85	331-509 RDT85	509-662 RDT85	662-840 RDT85
M15	720-873 RDT85	109-437 RDT85	131-350 RDT85	87-175 RDT85	284-873 RDT85	284-437 RDT85	437-568 RDT85	568-720 RDT85
M16	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M17	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M18	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M19	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M20	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M21	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M22	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M23	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M24	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85
M25	630-764 RDT85	96-382 RDT85	115-306 RDT85	76-153 RDT85	248-764 RDT85	248-382 RDT85	382-497 RDT85	497-630 RDT85

Inserting The Tap: RDTIC25, 50 & 75

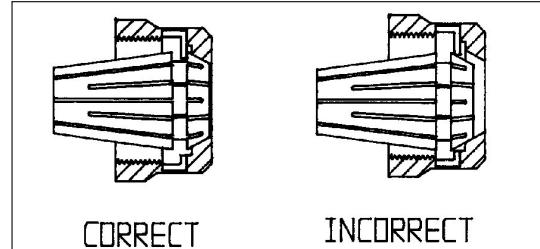
INSERTING THE TAP

Steel Collet Spindle: Select the proper steel collet for the tap. (Steel collets must be ordered separately.) Please select square drive collets. Insert the collet into the nut being sure to fix pawl of collet nut with the seat of the collet for assembly and then mount into spindle.

Next, insert the tap and tighten collet nut firmly with wrenches provided.

IMPORTANT: Tap may slip or pull out of collet if clamping nut is not tightened firmly which can result in tap breakage or damage to tool. Be sure to use square drive, "GB," type steel collets whenever possible. For the largest taps there are driving squares inside the RDT25 and RDT50 drive spindles. These are used with collets without square drive.

Notes: Reduce capacity 25% for roll form taps. To avoid damage to the attachment's spindle, use wrenches provided.

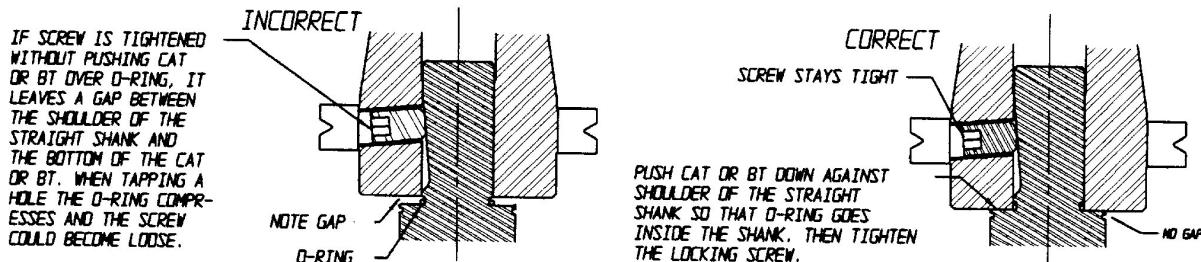


For RDTIC50 with ER16- Use Standard collet #20953 with these square drives to hold the largest taps.

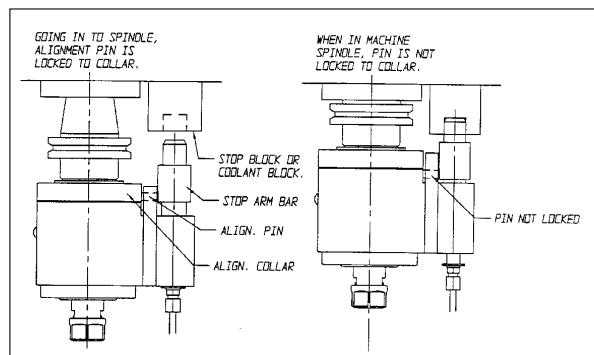
Description	Square Drive Catalog No.
1/2" tap with .367 shank, 275 square	72365276C
3/8" tap with .381 shank, .266 square	72365287C
M10 tap with 10mm shank, 8mm square	72365316C

Installation Instructions RDTIC25, 50 & 75 Self-Reversing Tapping Units

Installing The CNC Arbor On Coolant Through Tools



In order for the RDTIC model to self-reverse, a stop arm is used to prevent the housing from rotating. To allow the tool to travel through an automatic tool change and the stop arm to find the stop location next to your machine spindle, an alignment collar locks the stop arm in a specific orientation. This Alignment Collar can be adjusted so that its slot is in any position in relationship to the NC shank. When the tool is out of the machine spindle, the Alignment Pin is engaged in the slot in the alignment collar. This pin then keeps the stop arm locked in its orientation position. When the tapping attachment is placed in the machine spindle by the tool changer, the stop location next to the spindle engages the stop arm bar preventing it from turning and at the same time pushes it down against a spring so that the pin is unlocked from the alignment collar. This is the position for operation. When the tapping operation is completed the machine spindle orients to the tool change position bringing the slot in the alignment collar back into position to accept the alignment pin as the tool is removed from the machine spindle by the tool changer. The RDT comes standard with either a .65 or 80mm center distance from machine spindle center to stop arm bar center. If you require a special center distance please consult a Tapmatic sales engineer.



! 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.

! Never attempt an installation without first reading all safety instructions for this tool and your machine.

! The stop block and modified stop arm bar must be stronger than the largest tap.

! Automatic Tool Changes should only be made on enclosed machines.

Installation Instructions: RDTIC25, 50 & 75

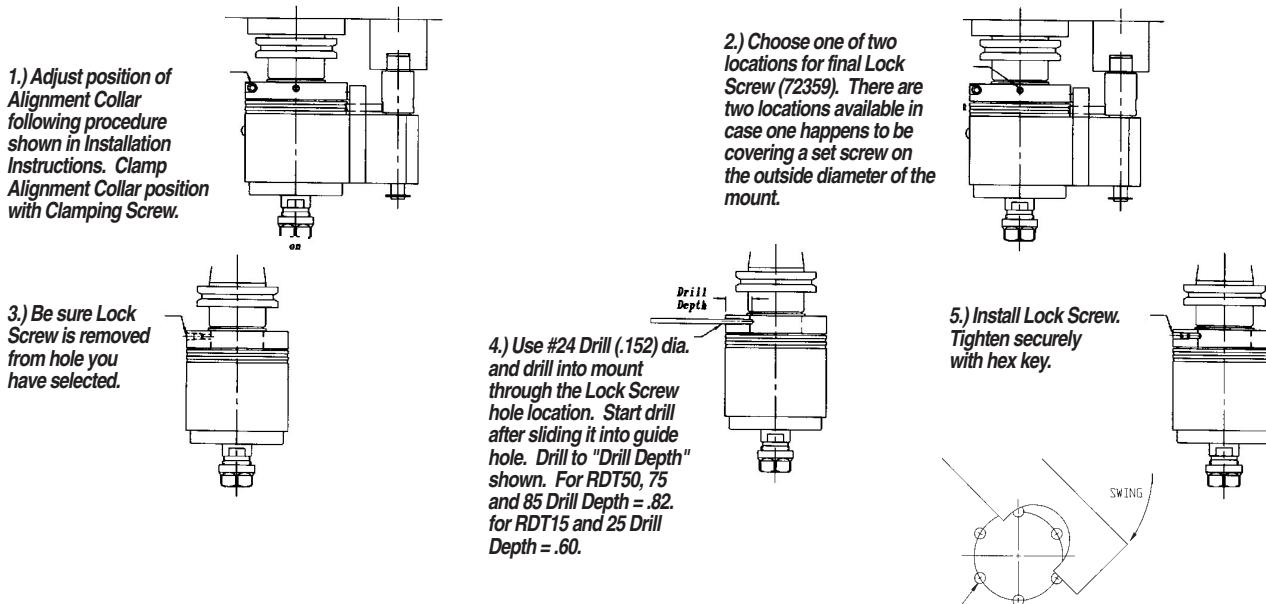
Step 1. Machining the Stop Arm Bar: If you wish to make use of an existing stop block on your machine, measure the dimensions shown in FIG. 2 and 3 (B,E and G). The Stop Arm Bar should be removed from the tapping attachment when measuring. The stop arm bar length is calculated from the formula: $L = G + E$ minus .04 where .04 or 1mm is the clearance needed to be sure that the stop arm bar does not bottom out against the housing when the stop arm bar is pressed down to release alignment pin from collar. Please see Figure 4. The diameter of the stop arm bar should be a close fit with the inside diameter of the hole in the stop block. To calculate stop arm bar diameter use the formula $D = B$ minus .015 where .015 or .38mm is the clearance desired. Please be sure to turn a generous 30 degree chamfer to help guide the stop arm bar into the hole.

If your machine does not already have a stop block, Tapmatic offers several standard stop blocks as well as specific blocks for certain machines. Please consult a Tapmatic sales engineer. See check list below for information about mounting a stop block.

Step 3. Adjustment of Alignment Collar: With tapping attachment in machine spindle and stop arm bar engaged in stop block, orient machine spindle to the tool change position. Bring slot in alignment collar in line with alignment pin and tighten alignment collar's clamping screw **very securely**. There is a Key packaged with wrench kit to help you line up pin and alignment collar slot. See Fig. 5. With attachment adjusted and **after checking for any possible clearance problems with tool changer or in storage area** make several automatic tool changes.

Note: If you would like Tapmatic to supply tools already modified to fit onto your machine, please contact our factory. Call (800) 854-6019. We will require some information about your machine to prepare the tool.

Step 4. Final Locking of Collar: Follow these instructions to lock collar with pin screw.



Installation Steps Check List

- 1. Pick proper location on spindle face for mounting stop block, that is not in flight of tool changer.
- 2. Make sure that with the stop block location chosen, the stop arm bar will not interfere with anything in tool magazine, guarding, doors or adjacent tools.
- 3. Cut stop arm bar to correct length. When the attachment is placed in the spindle of the machine and the stop arm engages the stop block the stop arm must be pressed down so that the alignment pin is below the alignment collar. The stop arm must not bottom against the housing.
- 4. Set alignment collar so that its slot is directly over alignment pin. Note: Make sure machine tool spindle is in the tool orient position before setting alignment collar! You shouldn't be able to rotate spindle when spindle is in the tool orient position.
- 5. Make a couple of tool changes to insure tool is aligned properly and stop arm bar is to correct length and with ample clearance between bar and coolant port block.
- 6. Install/Edit program for Tapmatic unit. See programming instructions.

Installation Accessories: RDTIC25, 50 & 75

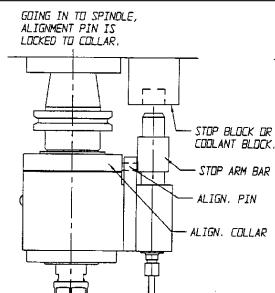
Standard ER Steel Collets

For Tapping We Recommend The Use Of Square Drive Steel Collets When Sizes Are Available.



Series	Catalog No.	Collet Range	Tap Size
#8 Series	20910	.039-.059	
	20911	.059-.079	
	20912	.079-.098	
	20913	.098-.118	
	20915	.118-.142 Standard	#0-#4
	20917	.138-.157	
	20918	.157-.177	
#11 Series	20929	.098-.118	
	20930	.118-.142	#4-#6
	20931	.137-.157	
	20932	.157-.177	#8
	20934	.177-.197	
	20933	.197-.217	#10
	20934	.177-.197	#12
	20935	.217-.236	
	20936	.236-.256	1/4"
#16 Series	20940	.118-.157	#6
	20943	.157-.197	#8, #10
	20945	.197-.236	#12
	20946	.236-.276	1/4"
	20949	.276-.315	
	20950	.315-.354	5/16", 7/16"
	20953	.354-.394	3/8"-1/2"
#20 Series	20983	.118-.157	#6
	20984	.157-.197	#8, #10
	20985	.197-.236	#12
	20977	.236-.276	1/4"
	20986	.276-.315	
	20978	.315-.354	5/16", 7/16"
	20979	.354-.394	3/8", 1/2"
	20980	.394-.433	9/16"
	20981	.433-.472	
	20982	.472-.512	5/8"
	20963	.157-.197	
	20965	.236-.276	
#25 Series	20968	.315-.354	7/16"
	20969	.354-.395	3/8", 1/2"
	20970	.394-.433	9/16"
	20971	.433-.472	
	20973	.472-.512	5/8"
	20974	.512-.551	
	20975	.551-.591	3/4"
	20976	.590-.630	

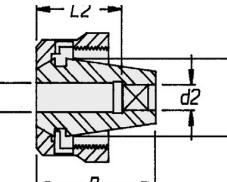
Installation Accessories



Standard Block With Coolant Inlet	Catalog No.	Diagram
	36000	
Standard Block Without Coolant Inlet	Catalog No.	
	36007	

ER Collets With Square Drive With Inch Tap Shanks

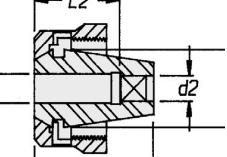
For Use With RDT, NCRT, ASR, RSR, NSM, SFT & HPT Attachments With Steel Collet Spindles. **For Tapping, please select square drive steel collets whenever possible.**



Series	Catalog No.	Collet Range	Size	Tap Size	Shank Size	Square	d2	A	B	L2
#11 Series	21000	#0-#6	.141		.110					
	21001	#8	.168		.131					
	21002	#10	.194		.152					
#16 Series	21006	#10	.194		.152	.629	1.083	.709		
	21008	#12	.220		.165	.629	1.083	.709		
	21010	1/4"	.255		.191	.629	1.083	.709		
	21012	5/16"	.318		.238	.629	1.083	.709		
	21014	7/16"	.323		.242	.629	1.083	.709		
#20 Series	21019	#8	.168		.131	.787	1.240	.709		
	21020	#10	.194		.152	.787	1.240	.709		
	21021	#12	.220		.165	.787	1.240	.709		
	21022	1/4"	.255		.191	.787	1.240	.709		
	21023	5/16"	.318		.238	.787	1.240	.866		
	21024	7/16"	.323		.242	.787	1.240	.866		
	21025	1/2"	.367		.275	.787	1.240	.866		
#25 Series	21026	3/8"	.381		.286	.787	1.240	.866		
	21027	1/16" pipe	.3125		.234					
	21029	5/16"	.31		.238					
	21030	7/16"	.32		.242	.984	1.338	.866		
	21032	1/2"	.367		.275	.984	1.338	.866		
ER Collets With Square Drive With Metric Tap Shanks	21034	3/8"	.381		.286	.984	1.338	.866		
	21036	9/16"	.429		.322	.984	1.338	.984		
	21038	5/8"	.480		.360	.984	1.338	.984		
	21040	11/16"	.542		.406	.984	1.338	.984		
	21043	1/4" pipe	.562		.421	.984	1.338	.984		
	21044	3/4"	.590		.442	.984	1.338	.984		

ER Collets With Square Drive With Metric Tap Shanks

For Use With RDT, NCRT, ASR, RSR, SFT, HPT, NSM Attachments With Steel Collet Spindles. **For Tapping, please select square drive steel collets whenever possible.**



Series	Catalog No.	Collet Range	Shank Size	Square
#16 Series	21085	4.5	3.4	
	21086	5.5	4.3	
	21087	6	4.9	
	21088	7	5.5	
	21089	8	6.2	
	21092	9	7	
#20 Series	21077	4.5	3.4	
	21078	5.5	4.3	
	21079	6	4.9	
	21080	7	5.5	
	21081	8	6.2	
	21082	9	7	
#25 Series	21153	7	5.5	
	21154	8	6.2	
	21155	9	7	
	21156	10	8	
	21157	11	9	
	21158	12	9	
	21160	16	12	

For RDTIC50 with ER16- Use Standard collet #20953 with these square drives to hold the largest taps.

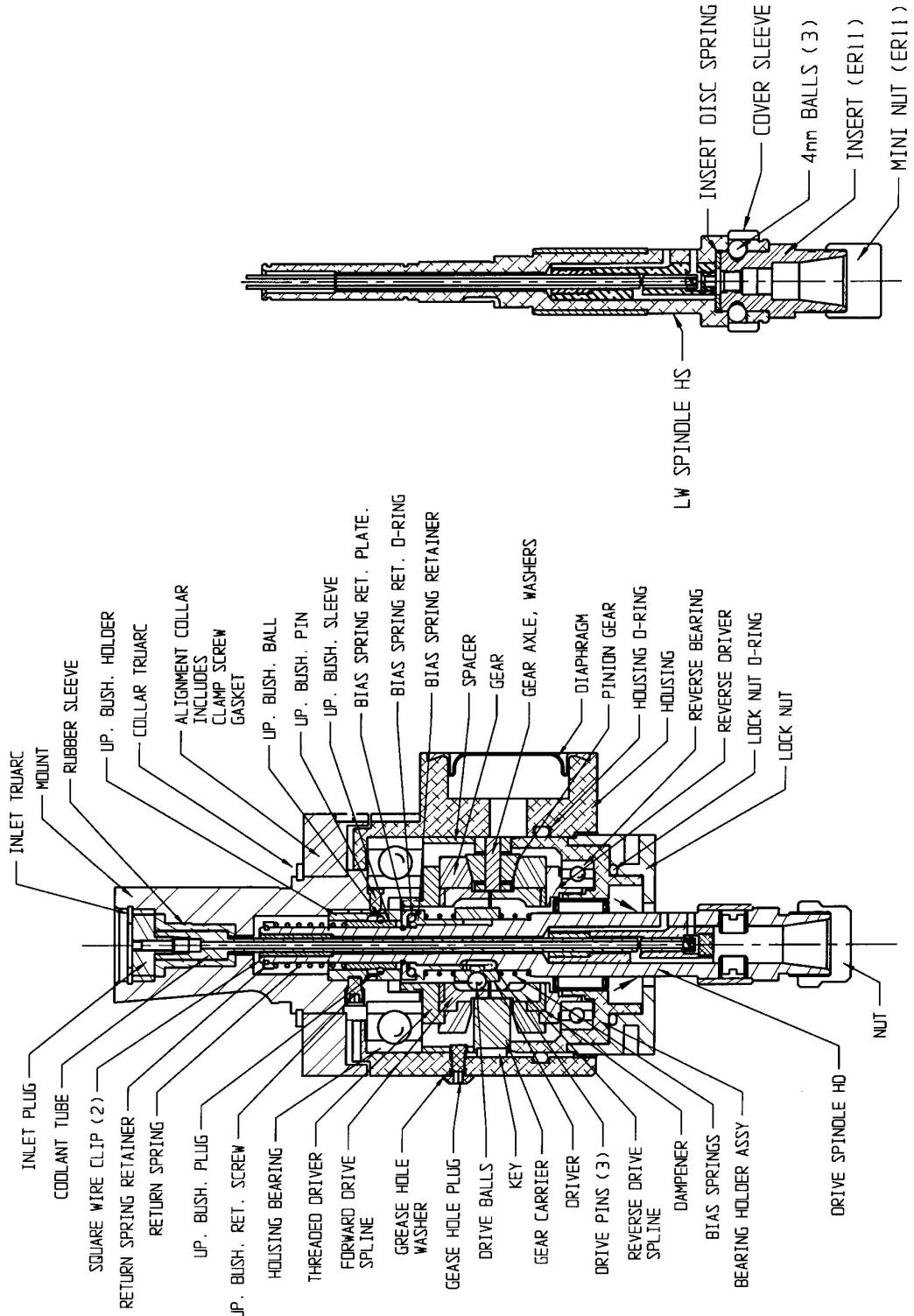
Description	Square Drive Catalog No.
1/2" tap with .367 shank, .275 square	72365276C
3/8" tap with .381 shank, .266 square	72365287C
M10 tap with 10mm shank, 8mm square	72365316C
Drops in to spindle behind collet.	

Parts Listing: RDTIC25, 50 & 75 Self-Reversing Tapping Units

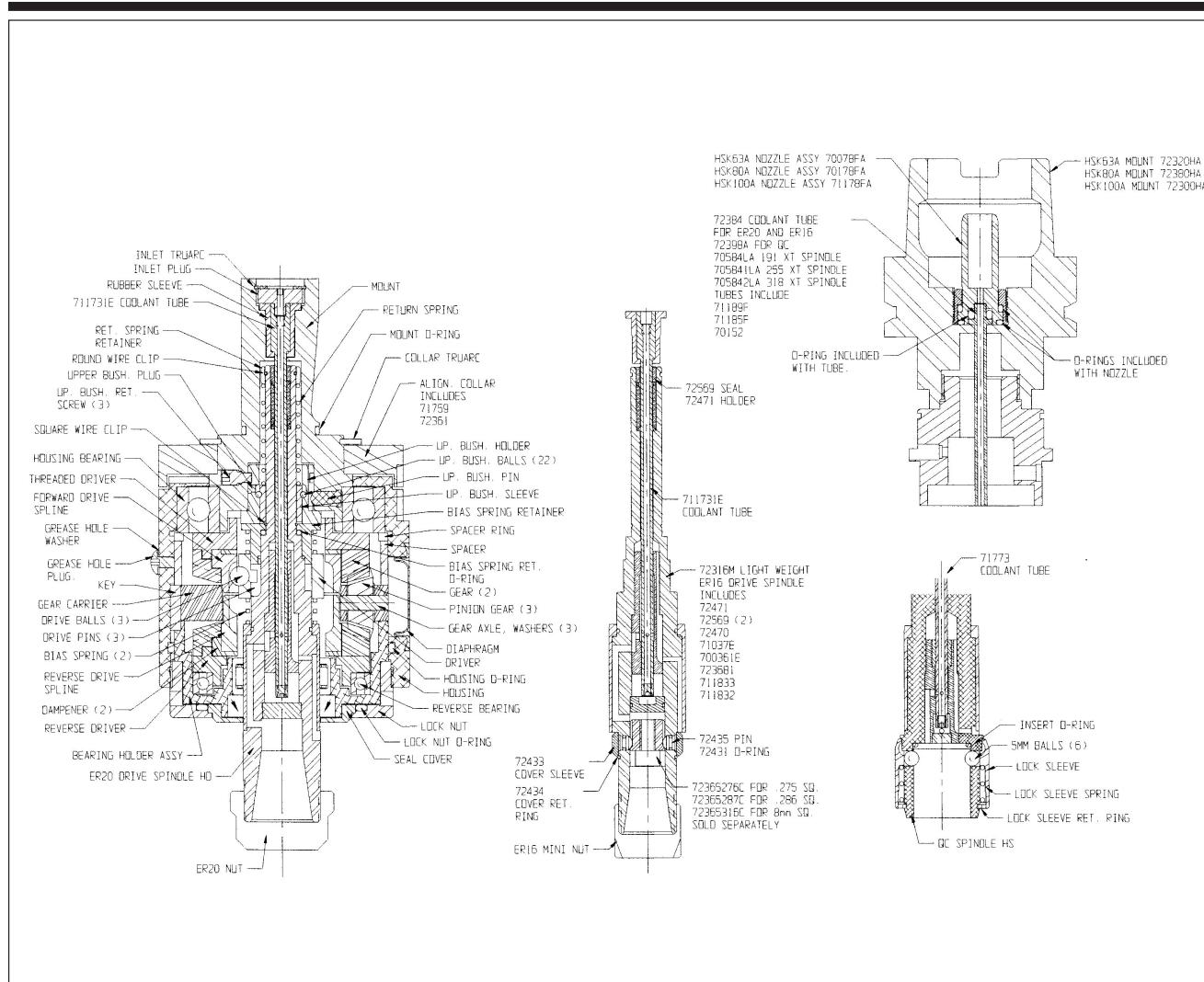
See RDTIC exploded view drawings on following pages.

Part Name	RDTIC25	Order No.	RDTIC50	Order No.	RDTIC75	Order No.
Inlet Truarc		70566		70566		70566
Inlet Plug		70572		70572		70572
Rubber Sleeve		70574		70574		70574
Coolant Tube (HD)		70673		711731E		711731E
Return Spring Retainer		71642		70541		70541
Round Wire Clips / Square Wire Clip	2x	71656		700561 / 705561		700561 / 705561
Upper Bushing Retainer Screws	3x	712581	3x	711581	3x	711581
Upper Bushing Plug		70635		71135		71135
Housing Bearing		60308		50708		50708
Threaded Driver		71405		72305		72305
Forward Drive Spline		72110		723101		723101
Grease Hole Washer		712651		69565		69565
Grease Hole Plug		71262		71162		71162
Drive Balls	3x	70239	3x	74239	3x	74239
Drive Pins (HD tools)	3x	70232	3x	71132E	3x	71132E
Gear Carrier		72124		72324		72324
Key		71423		71143		71143
Bias Springs	2x	70224	2x	60524	2x	60524
Reverse Drive Spline		72112		723121		723121
Damper	2x	71211S	2x	71121	2x	71121
Reverse Driver		71206		72306		72306
Bearing Holder Assembly		72113A		72313A		72313A
Steel Collet Spindle HD		70611A		711861		72317
Steel Collet Nut HD		69318		70018		69918
Seal Cover				72356		72356
Lock Nut O-Ring		71244		71144		71144
Lock nut		72145		72345		72345
Reverse Bearing		70805		71758		71758
Housing		72101		72301		72301
Housing O-Ring		712501		711501		711501
Diaphragm		71754		71754		71754
Gear Axles	3x	69306	3x	700061x1	3x	700061x1
Gear Washes	3x	513061	3x	515061	3x	515061
Pinion Gears	3x	51306	3x	72337	3x	72337
Driver		70210		74290		74290
Gears	2x	71422	2x	72322	2x	72322
Spacer		71238		71138		71138
Spacer Ring		-		72339		72339
Bias Spring Retainer O-Ring		70625		72329		72329
Bias Spring Retainer		70627		700271E		700271E
Bias Spring Retainer Plate		70626		-		-
Upper Bush Sleeve		70637		71037		71037
Upper Bushing pin		712631		711631		711631
Upper Bushing Balls	22x	70638	22x	71735	22x	71735
Upper Bushing Holder		70636		71035		71035
Alignment Collar		72160A		72360A		7360A
Collar Truarc		71218E		507091		507091
Mount O-Ring		70055		82755		82755
Return Spring		71630		711302E		711302E
Mount 1" Straight Shank		716191		711201		711201
Mount 25mm Straight Shank		7161931		7112031		7112031
QC Spindle Assembly				71770A		-
Coolant Tube (QC Spindle)				71773		-
Drive pins (Lt. Wt. QC)	3x	72192	3x	711321		-
Long Coolant Tube (Lt. Wt.)		70673		711731E		-
Drive Spindle (Lt. Wt.)		71914		72316M		-
Cover Sleeve (Lt. Wt.)		71947		72433		-
Cover Retaining Ring (Lt. Wt.)		69032		72434		-
Mini Nut (Lt. Wt.)		69318M		69518M		-
Insert (Lt. Wt.)		71975		-		-
Insert Balls (Lt. Wt.)	3x	71939		-		-
Insert Disc Spring (Lt. Wt.)		72191W		-		-
Alignment Pin (55)		72188		72388		72388
Alignment Pin (65)		72188L		72388L		72388L
Alignment (80)		72188L1		72388L1		72388L1
Stop Arm Housing (55)		7215255		7235255		7235255
Stop Arm Housing (65)		7215265		7235365		7235265
Stop Arm Housing (80)		721580		7235280		7235280
Plunger Spring		69555E		69555E		69555E
Copper Tube Assembly		69889		69889		69889
Stop Arm Truarc		695533		695533		695533
Stop Arm Bar		72182		72382		72382
WRENCH KIT		PART NO.		PART NO.		PART NO.
Size 25 Nut Wrench		-		28100		69917
Size 16 Nut Wrench (Lt. Wt. Spindle)		-		28117		-
Size 20 Nut Wrench		-		28075		-
3/4" Wrench (Lt. Wt. Spindle)		-		28087		-
7/8" Wrench (ER20 Spindle)		-		27224		27224
4mm Hex key		-		27221		27221
2.5mm Hex key		-		-		71474
Drop in Driver		-		-		-
Grease Tubes	2x	29001	2x	29001	2x	29001
Size 11 Nut Wrench		28068		-		-
5/8" Wrench		28062		-		-
3mm Hex Key		27223		-		-
2mm Hex Key		27222		-		-

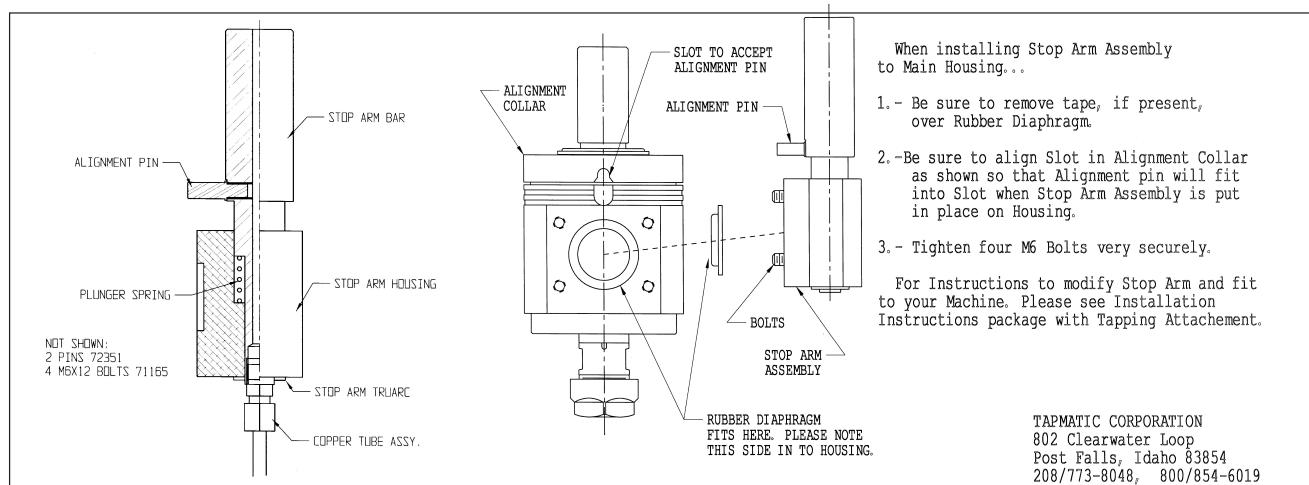
Parts Listing: RDTIC25 Self-Reversing Tapping Units



Parts Listing: RDTIC50 & 75 Stop Arm Assembly

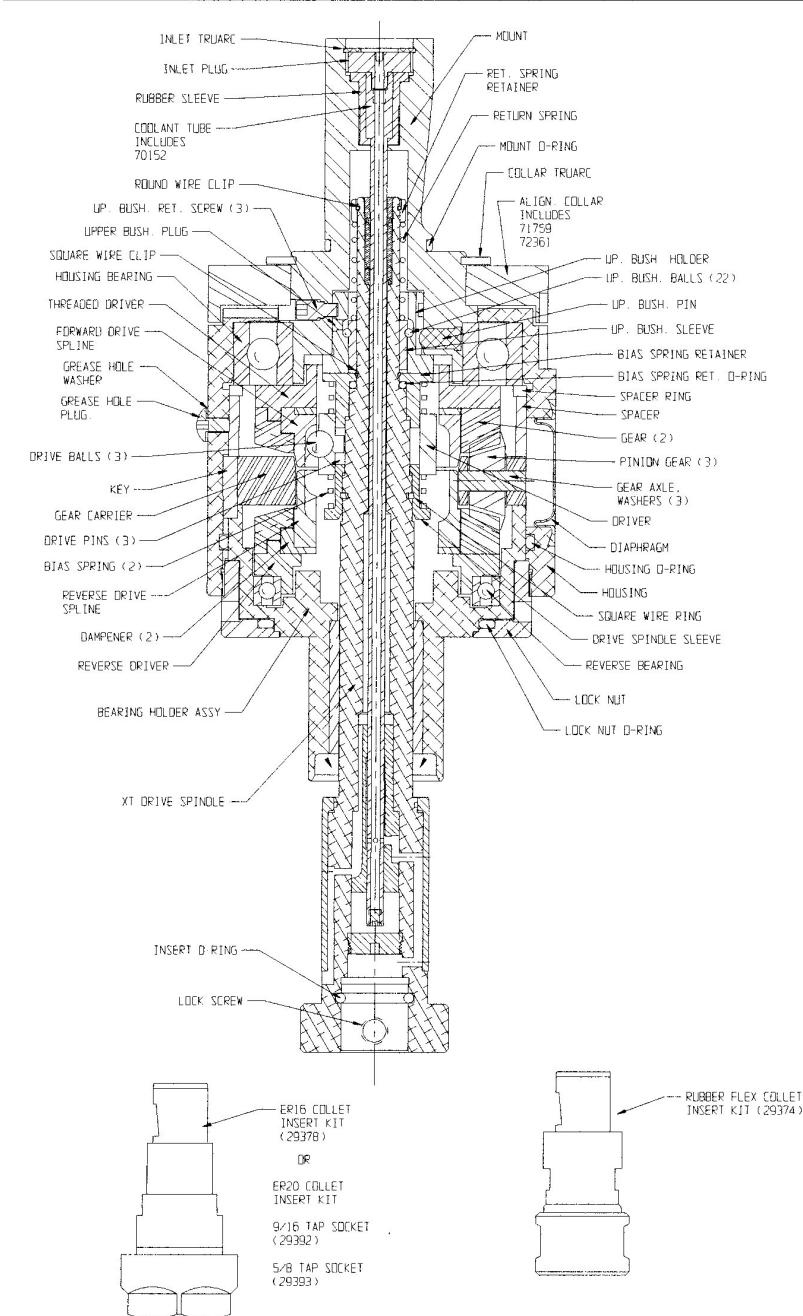


Stop Arm Assembly For RDT15, 25, 50 & 75



Parts Listing: RDTICXT50 & 75 Stop Arm Assembly

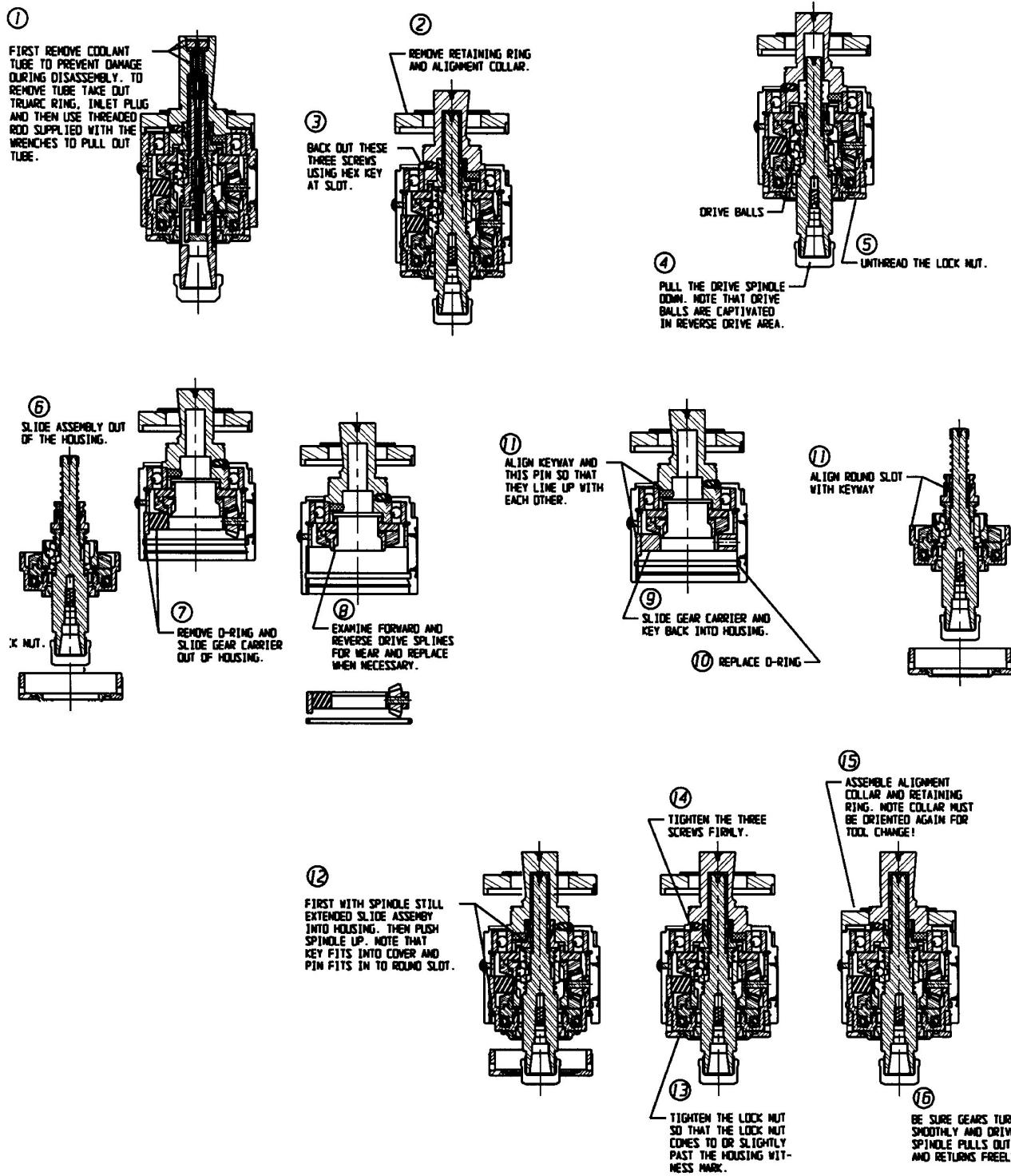
Part Name	RTDICXT50	Order No.
Inlet Truarc	70566	
Inlet Plug	70572	
Rubber Sleeve	70574	
Coolant Tube 191mm Tool length	70573L	
Coolant Tube 255mm Tool Length	70573L1	
Coolant Tube 318 mm Tool Length	70573L2	
Return Spring Retainer	70542	
Round Wire Clips / Square Wire Clip	700561 / 705561	
Upper Bushing Retainer Screws	3x	711581
Upper Bushing Plug		71135
Housing Bearing		50708
Threaded Driver		72305
Forward Drive Spindle		72310
Grease Hole Washer		69565
Grease Hole Plug		71162
Drive Balls	3x	70039
Drive Pins	3x	711321
Gear Carrier		72324
Key		71143
Bias Springs	2x	60524
Reverse Drive Spindle		72312
Damper	2x	71121
Reverse Driver		72306
Bearing Holder Assembly 191		72313L
Bearing Holder Assembly 255		72313L1
Bearing Holder Assembly 318		72313L2
XT Drive Spindle 191		70507
XT Drive Spindle 255		70507L1
XT Drive Spindle 318		70507L2
Insert O-Ring		71168
Lock Screw		711642
Drive Spindle Sleeve		70136
Square Wire Ring		70109
Lock Nut O-Ring		71144
Lock Nut		72345
Reverse Bearing		71758
Housing		72301
Housing O-Ring		711501
Diaphragm		71754
Gear Axles	3x	700061x1
Gear Washers	3x	515061
Driver		69590
Pinion Gears	3x	72337
Gears	2x	72322
Spacer		71138
Spacer Ring		72339
Bias Spring Retainer O-Ring		71028E
Bias Spring Retainer		700271E
Upper Bushing Sleeve		71038
Upper Bushing Pin		711631
Upper Bushing Balls	22x	71735
Upper Bushing Holder		71035
Alignment Collar		72360A
Collar Truarc		507091
Mount O-Ring		70055
Return Spring		711302E
Mount 1" Spring Shank		711201
Mount 25mm Straight Shank		7112031
Alignment Pin (55)		72388
Alignment (65)		72388L
Alignment Pin (80)		72388L1
Stop Arm Housing (55)		7235255
Stop Arm Housing (65)		7235265
Stop Arm Housing (80)		7235280
Plunger Spring		69555E
Copper Tube Assembly		69889
Stop Arm Truarc		695533
Stop Arm Bar		72382
Wrench		
Part No.		
4mm Hex Key		27224
2.5mm Hex key		27221
1/8" Hex Key		27125
Grease Tubes	2x	29001



Maintenance For RDTIC25, 50 & 75

Tapmatic offers maintenance Service At our Factory
Or If Your Prefer To Do Maintenance Yourself, Follow this Procedure For Disassembly.

For a larger scale copy of this drawing,
please call Tapmatic Sales Department, 800 854-6019.



Maintenance For RDTIC25, 50 & 75

Lubricant And coolant Removal Procedures

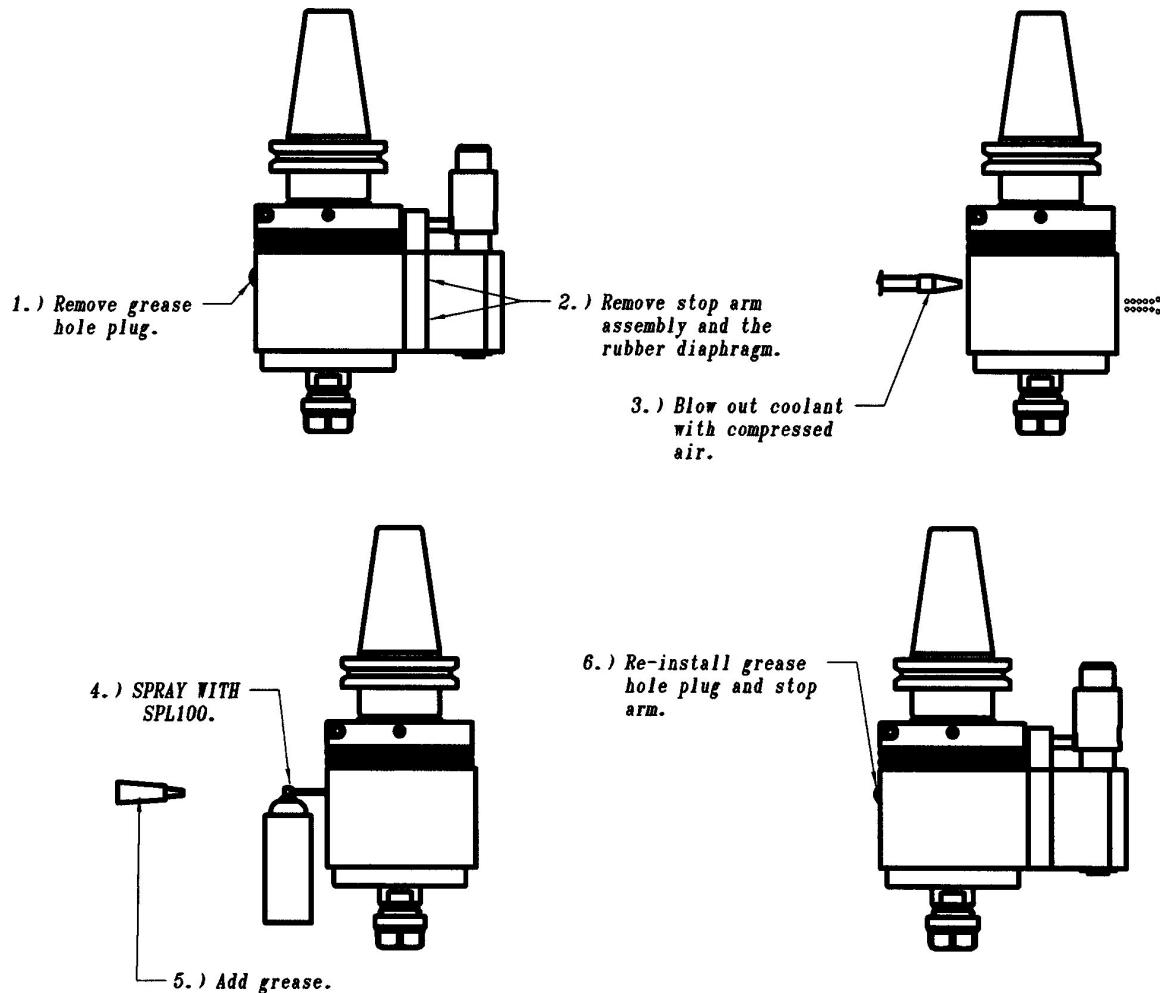
Lubrication

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 EP2 grease. The units comes from the factory already lubricated for operation. You may also lubricate the gears during the renewable drive inspection procedure. Please use caution not to over grease the tapping attachment . Too much grease causes heat and may clog air vent system or prevent drive spindle from returning properly.

If Coolant Enters Unit:

If coolant somehow goes past the housing seals and enters the unit, you can follow the disassembly procedure, clean the parts and re-grease. We recommend following a procedure like this also if you plan to store the unit for a long period of time.

You can remove coolant and add grease without disassembling the tool by following the procedure shown below.



Repair Service For: RDTIC25, 50 & 75

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 Kluber Isoflex NBU15 grease. The units come from the factory already lubricated for operation. You may also lubricate the gears during the renewable drive inspection procedure. Please use caution not to over grease the tapping attachment. Too much grease causes heat and may clog air vent system or prevent drive spindle from returning properly.

If Coolant Enters Unit: If coolant somehow goes past the housing seals and enters the unit, you can follow the disassembly procedure explained above, clean the parts and re-grease. We recommend following a procedure like this also if you plan to store the unit for a long period of time.

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 repair cost does not exceed 40% of the cost of a new tool." Tapmatic will repair the tool and call to request your credit card # for invoicing.

Important: Be sure to return the tool complete with the tap chuck nut, back jaw and if the tool is a reversing unit, include stop arm. Otherwise, we will add these missing parts to every non-warranty repair.

Cost Notification: If total repair charges exceed 40% of a new replacement tool or if you request a cost notification regardless of the total cost; Tapmatic will FAX a cost notification to you, soliciting your approval before repairs are completed.

If it is determined that a tapping attachment cannot be repaired, at the customer's request, Tapmatic will return the disassembled parts. We are not able to reassemble tapping attachments 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 tapping attachments 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 the 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 return shipment by overnight or second day before we agree to upgrade your repair order to priority service. Typical turnaround, 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.

TAPMATIC[®]
The Tapping Specialists

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