

SHORT MANUAL FOR ps:®multi-thread® (MT6-TFi)

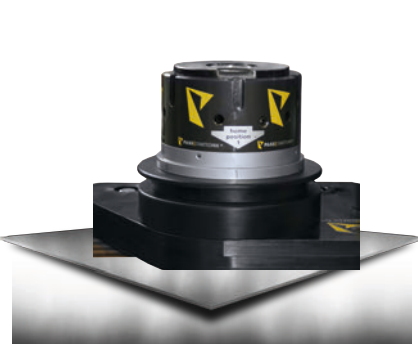
MANUAL FUNCTION CHECK BEFORE USING THE TOOL:



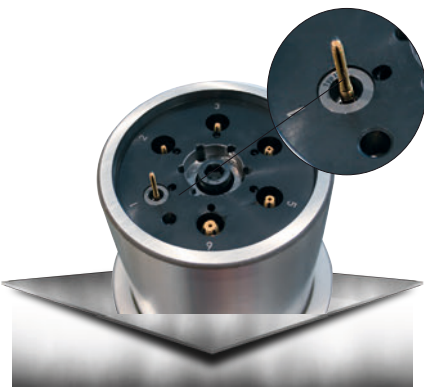
1. Check, if the central clamping screw is tightened with 70 Nm, especially when using the tool firstly.



2. Turn the head at least for 360° in steps by 60° as well in clockwise direction as also in counterclockwise direction. Each 60° step, the head should softly lock in place, but also unlatching should be easily.



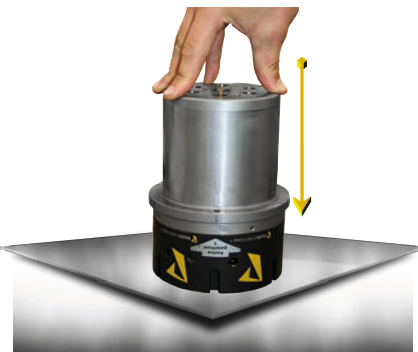
3. Twist the marking "home position 1" to position 1 (see inscription at the guide range).



4. Fit each thread module with the provided tap insert (check the correct assignment of thread module to tap insert).



5. Check again the total length of the complete upper part ($L = 209 \text{ mm} \pm 0,3 \text{ mm}$ measured from the head of inner shape to tap insert bottom).



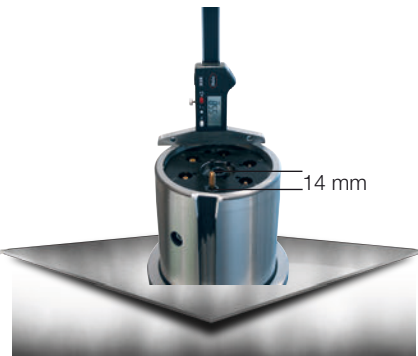
6. Press down the guide (simulation of activating the tool within the machine) and stick the enclosed pin 6 mm (part-no. 919030017) into the provided drill hole of the head sleeve.



7. Fix the head sleeve and turn around the guide in counterclockwise direction for exactly 2,5 rotations. ALL tap inserts should rotate and move upwards. If this is not the case or if the guide is clamping, the tool has to be cleaned. The units have to be newly calibrated.



8. Afterwards turn back the guide in clockwise direction exactly for 2,5 rotations and extract the 6 mm pin.



9. Now, the coupling must lock in place again and the inner turret magazine has to feature a recess of 5,5 mm distance to the guide front. The inactive tap inserts are approx 3 mm behind the turret magazine, the active tap insert sticks up about 14 mm from the turret magazine.

10. Check the functionality of the die; it should work freely and cleanly.

INTEGRATION IN THE TURRET:

1. Make sure that all tap inserts are mounted into the correct thread module and position.
2. Check again the correct length adjustment of the tool ($209 \pm 0,3 \text{ mm}$).
3. Install the die in the provided index station.
4. Pump some grease into the grease nipples (top and bottom) on the tool:
 - 1 pump into the upper one and 4-5 pumps into the lower one.
5. Insert the tool into the turret position and make sure that position 1 points to the marking "home position 1".
6. Press the head plate downwards by hand for about 6 mm.
7. Open the turret screen inside Tulus and set the zero angle for the tool.

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TOOL SETTINGS IN TULUS:

1. Select the tool station in Tulus in which the tool is installed.
2. ALWAYS register ALL effectively installed thread modules, even if those are not necessary for the current program.
Defaults are: M2, M2,5, M3, M4, M5, M6, M8 and M10.
3. Please proceed as follows for each thread:
 - a. Enter the correct starting position of the tap insert.
 - b. Enter the correct pitch (see picture 1).
 - c. Enter the correct thread length (data on supplied USB-stick for optimized values!)
 - d. Enter the correct thread cutting speed (see picture 2).

①			②									
M	PITCH (MM)	PRE-PUNCH HOLE (MM)	UNC	PITCH (MM)	PRE-PUNCH HOLE (MM)	THREAD CUTTING SPEED IN RPM						
						ALUMINIUM UP TO T = 3 MM	ALUMINIUM OVER T = 3 MM	STEEL UP TO T = 3 MM	STEEL OVER T = 3 MM	STAINLESS STEEL UP TO T = 3 MM	STAINLESS STEEL OVER T = 3 MM	
2	0,4	1,8	#2-56	0,45	2,0	M2, M2,5 and UNC #2-56	1000	800	800	720	500	400
2,5	0,45	2,3	#3-48	0,53	2,3	M3 and UNC #3-48 and UNC #4-40 and UNC #5-40	1000	800	800	600	400	320
3	0,5	2,75	#4-40	0,64	2,55	M4 and UNC #6-32 and UNC #8-32	750	600	600	450	300	250
4	0,7	3,7	#5-40	0,64	2,9	M5 and UNC #10-24	600	500	500	360	250	200
5	0,8	4,7	#6-32	0,79	3,15	M6 and UNC #12-24 and UNC 1/4"-20	500	400	400	300	200	150
6	1	5,6	#8-32	0,79	3,8	M8 and UNC 5/16"-18	350	300	300	200	120	100
8	1,25	7,5	#10-24	1,06	4,35	M10 and UNC 3/8"-16	250	200	200	140	80	60
10	1,5	9,45	#12-24	1,06	5,0							
			1/4"-20	1,27	5,75							
			5/16"-18	1,41	7,3							
			3/8"-16	1,59	8,8							

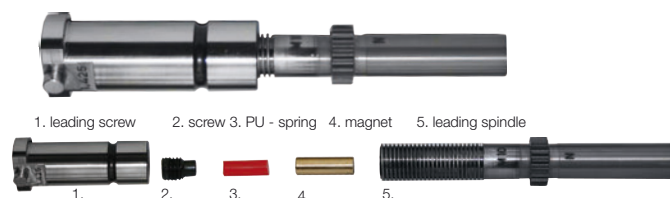
IMPORTANT:

Pay attention on the right position of thread module to tap insert (M2,5 into type 43 / M3 into type 48 and so on).


Type 38	M2
Type 43	M2,5 and UNC #2-56
Type 48	M3 and UNC #3-48
Type 61	UNC #4-40 and UNC #5-40
Type 67	M4
Type 76	M5 and UNC #6-32 and UNC #8-32
Type 95	M6 and UNC #10-24 and UNC #12-24
Type 119	M8 and UNC 1/4"-20
Type 134	UNC 5/16"-18
Type 143	M10 and UNC 3/8"-16

FURTHER ADVICE:

For further information on "Replacement of thread modules" please refer to Operation Manual (pages 37 - 48).



WHAT TO DO WHEN THE TAP INSERT BREAKS:

1. Press reset to stop the machine.
2. Switch to Jog mode.
3. Activate the Disable X pin function. 
4. Open the clamps, this will only open the clamps and the X pin will not come up.
5. Move the carriage with open clamps slowly backwards in Y+ direction so the sheet is out of the clamps.
6. Now it is possible to turn ps:®multi-thread® to the tool change position.
7. Take out ps:®multi-thread®, check the broken tap insert and remove it.
8. Check the tap insert on condition and length as described above.
9. Try to find the cause why the tap has broken.

WHAT TO DO WHEN THE SAFETY BEAMS ARE INTERRUPTED DURING TAPPING:

1. Press reset to stop the machine.
2. Re-activate the safety beams.
3. Switch to MDA mode.
4. Activate the program THREAD_OUT and save it.
5. Reduce the speed to approx. 5 %.
6. Press the start button to run the THREAD_OUT program. The index axis now moves to the zero position.
7. Use the restart function in Tulus to start again with the last thread before the interruption.