

Ballscrews

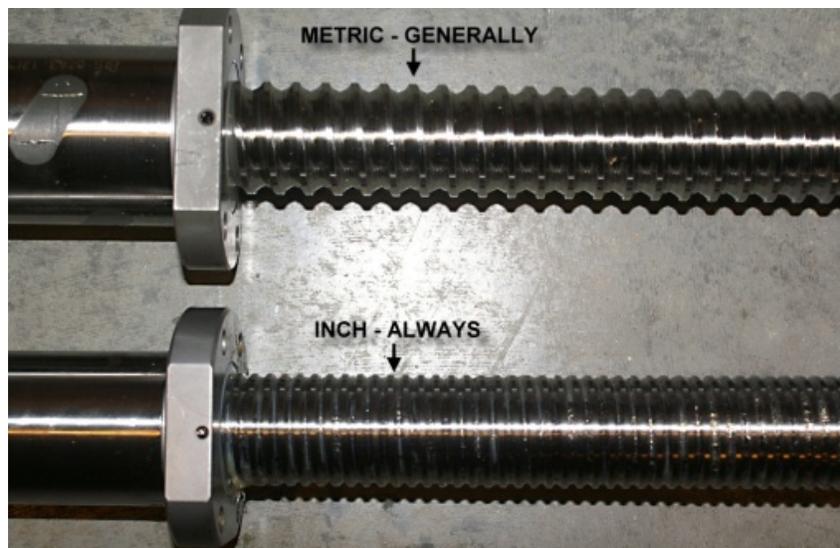
Identifying Inch from Metric Screws

When replacing ballscrews, it is imperative that you order the correct screw or your machine will not move accurately. Every ballscrew has a very specific diameter and pitch. Pitch meaning, how far the ball nut (connected to the table) moves per 1 revolution of the screw. When Fadal specified ballscrews in the early days, they were all made with an "Inch" pitch. This continued until approximately 1992 where they saw the benefits of moving to a "Metric" pitch for faster feed rates and machine longevity. The VMC 6030 and 8030 were all made with inch pitch screws and the only model that never changed throughout the years.

If you don't own a VMC 6030 or 8030, you will need to determine if you have an "Inch" or "Metric" pitch machine. The procedure is very simple and can be found one of two ways for a positive identification.

Method #1

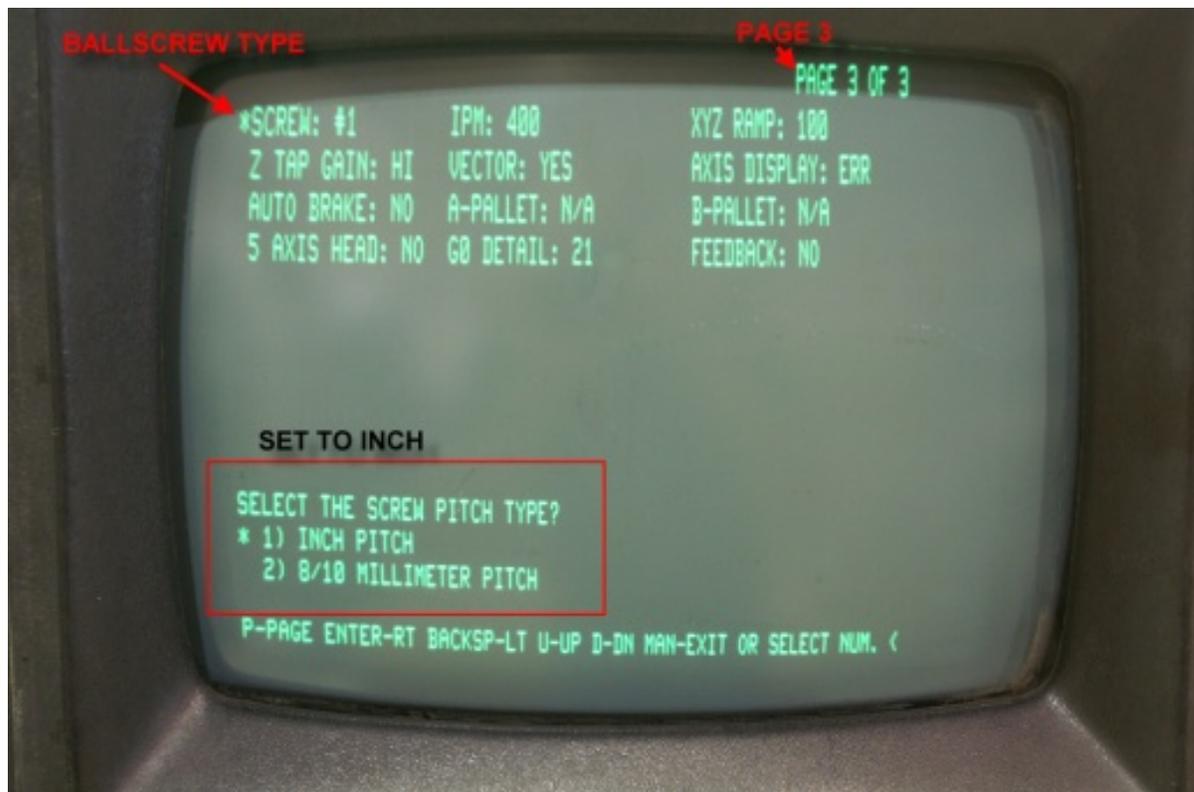
Look at photo #1. This is a shot of two ballscrews; the top being "Metric" and the bottom being an "Inch" pitch. Notice the spacing of the threads of both screws. The top is considered a "faster" pitch as the ball nut travels faster or further per revolution. The lower, slow pitch screw is an Inch Pitch. This is always the case on the screws which have the threads very close together. Anytime you have a screw that looks like that, it is an Inch pitch screw. **NOT SO FOR THE TOP SCREW!** Some screws which appear to be a "fast" pitch screw are actually inch. When your screws look like this, you must move to method #2 and/or #3 to determine the screw pitch of your machine.



Method #2

1. Power on your machine.
2. Press MANUAL until you are at the ENTER NEXT COMMAND prompt.
3. Type SETP then press ENTER.
4. You are now looking at the first (and depending on the version of your software, possibly the only page) page of your parameters. Press the P key to move from page to page. On page #3 at the top you will see the screw type. #1 is Inch. #2 is Metric. Note your screw type. See photo #2.
5. Press MANUAL to exit. Call FadalCNC.com to order what you need. We stock all of them.

NOTE: If you have no **SCREW PITCH TYPE parameter, you have an INCH machine.**



Method #3

1. Open the panel behind your monitor.
2. Look at the placard on the inside of the door. See photo #3.
3. If you have a newer machine, there will be an option box for MILLIMETER BALLSCREWS. If checked, you have a Metric ballscrew machine. If not, your machine has inch ballscrews. If you don't even have this option on the placard, look in the parameters to verify, but you likely have an inch machine.

Again, call us to order what you need. We stock all of them.

PARAMETER SETTINGS			
QUESTIONS ASKED BY THE SETP COMMAND	AVAILABLE IN FORMATS	FACTORY SETTINGS	CUSTOMER PREFERENCE
THERE ARE TWO PROGRAM FORMATS AVAILABLE DO YOU WANT GME/10MM/11MM COMPATIBILITY (FORMAT 2)?	1 & 2	2	
ENTER THE DEFAULT RAUD RATE (THE RATE AFTER POWER ON)	1 & 2	4	
SHOULD SPINDLE COME ON AUTOMATICALLY AFTER A TOOL CHANGE WHEN THE MS HAD TO TURN THE SPINDLE OFF?	1 & 2	1	
ENTER THE AXIS CONFIGURATION	1 & 2	4	
ENTER X,Y,Z TRAVEL	1 & 2	13	
ENTER THE PENDANT STYLE	1 & 2	3	
ENTER THE DEFAULT VALUE (000/G)	1 & 2	2	
ENTER THE A AXIS RATIO	1 & 2	6	
DOES M62 TURN ON THE A AXIS BRAKE?	1 & 2		
ENTER THE DEFAULT VALUE (000/081)	1 & 2	1	
ENTER THE B AXIS RATIO	1 & 2		
DOES M62 TURN ON THE B AXIS BRAKE?	1 & 2		
ENTER THE DEFAULT VALUE (017.0/18.018)	1 & 2	1	
ENTER THE TOOL CHANGER CAPACITY	1 & 2	21	
SHOULD A FIXED CYCLE EXECUTE IMMEDIATELY?	1		
ENTER THE SPINDLE RPM ADJUSTMENT FACTOR THE FACTOR MUST BE BETWEEN 0 AND 31	1 & 2	0	
ENTER THE SPINDLE DRIVE TYPE AND RPM	1 & 2	7	
ENTER THE SPINDLE ORIENTATION RPM ADJUSTMENT FACTOR THE FACTOR MUST BE BETWEEN 0 AND 31	1 & 2	15	
ENTER THE DEFAULT VALUE (00K METRIC)	1 & 2	1	
ENTER M7, M8 PREFERENCE	1 & 2	2	
IS YOUR 3 PHASE POWER MORE THAN 5% LOW?	1 & 2	2	
SELECT PUNCH OUTPUT FORMAT	1 & 2	2	
ENTER THE N WORD SEQUENCE CONFIGURATION	2	1	
WILL THE TOOL COMPENSATION TABLE HAVE THE RADIUS OR THE DIAMETER?	1 & 2	1	
ENTER THE DEFAULT OUTSIDE CORNER MOVEMENT (SM/LM)?	1 & 2	1	
SELECT THE NUMBER OF SHARP BUFFERS FOR CNC LOOK AHEAD	1 & 2	5	
DO YOU HAVE THE HIGH TORQUE OR RIGID TAPPING OPTION?	1 & 2	2	
DO YOU WANT THE SPINDLE TO TURN OFF WHEN EXITING JOB OR MANUAL DATA INPUT?	1 & 2	1	
ENTER THE ENGAGEMENT FACTOR FOR THE TOOL TURRET GEMMA GEAR THE FACTOR MUST BE BETWEEN 1 AND 50 NOTE: FOR SERVO TURRET THE FACTOR MUST ALWAYS BE 1	1 & 2	37	
TURN THE COMMAND MENUS ON OR OFF?	1 & 2	3	
DO YOU HAVE A PALLET CHANGER?	1 & 2		
ENTER THE GAIN FACTOR FOR RIGID TRAPPING THE FACTOR MUST BE BETWEEN 0 AND 255	1 & 2	59	
ENTER THE RAMP FACTOR FOR RIGID TRAPPING THE FACTOR MUST BE BETWEEN 0 AND 255	1 & 2	100	

PARAMETER SETTINGS			
QUESTIONS ASKED BY THE SETP COMMAND	AVAILABLE IN FORMATS	FACTORY SETTINGS	CUSTOMER PREFERENCE
ENTER THE GRAPHICS ASPECT RATIO OF Y TO X	1 & 2	65	
SELECT THE AUTOMATIC TOOL TIMER MODE	1 & 2	1	
ENTER THE MOTOR OVERLOAD FACTOR THE FACTOR MUST BE BETWEEN 1 AND 8	1 & 2	2	
SELECT THE SCREW PITCH TYPE	1 & 2	1	
SELECT THE MAXIMUM RAPID FEED RATE	1 & 2	2	
ENTER THE X, Y, & Z RAMP LENGTH FACTOR THE FACTOR MUST BE BETWEEN 50 AND 200	1 & 2	160	
ENTER THE Z GAIN DURING RIGID TAPPING	1 & 2	3	
DO YOU HAVE VECTOR DRIVE (110RPM MAXIMUM)?	1 & 2	2	
DISPLAY THE AXIS FOLLOWING ERROR OR LOAD?	1 & 2	2	
AUTOMATICALLY APPLY THE A OF B BRAKE DURING IDLE TIME?	1 & 2	1	
WHICH ROTARY AXIS IS INSTALLED ON A PALLET?	1 & 2	1	
WHICH ROTARY AXIS IS INSTALLED ON B PALLET?	1 & 2	110	

BACKLASH SETTINGS							
BL AXIS NUMBER, AT CENTER, AT NEGATIVE END, AT POSITIVE END							
AXIS (AXIS #)	RESOLVERS/ENCODERS			SCALES			SCALE/WOODR OFFSETS
	CENTER	NEGATIVE	POSITIVE	CENTER	NEGATIVE	POSITIVE	
X (1)	0	1	0				+770
Y (2)	0	0	0				-236
Z (3)	2						+1736
A (4)	0						
B (5)							

OPTIONS INSTALLED		
<input type="checkbox"/> 4TH AXIS PREWIRE	<input checked="" type="checkbox"/> CAT 40	<input type="checkbox"/> BT 40
<input type="checkbox"/> 4TH AXIS SERVO CONTROLLER DISCONNECT	<input type="checkbox"/> SERVO TURRET	<input type="checkbox"/> PALLET CHANGER
<input type="checkbox"/> 4TH & 8TH AXIS SERVO CONTROLLER DISCONNECT	<input checked="" type="checkbox"/> TOOL CHANGER 2/1	<input type="checkbox"/> RIGID DRIPPO
<input type="checkbox"/> HYDRAULIC BRAKE, SHGL	<input type="checkbox"/> HIGH TORQUE 2HP RPM	<input type="checkbox"/> METRIC T-SLOTS
<input type="checkbox"/> HYDRAULIC BRAKE, DBL	<input type="checkbox"/> 15,000 RPM SPINDLE	<input type="checkbox"/> NO CYCLE
<input type="checkbox"/> SPRAY MIST	<input type="checkbox"/> THROUGH TOOL COOLANT	<input checked="" type="checkbox"/> MILLIMETER BALL SCREWS
<input type="checkbox"/> MEMORY EXP. (SERVO TOOL EXPANSION AIRFLOW)	<input type="checkbox"/> SCALES (1 & Y) <input type="checkbox"/> (1 & Z)	<input type="checkbox"/> TOOL LOAD COMPENSATION
<input type="checkbox"/> 3C INDEXER INTERFIDE	<input type="checkbox"/> 30" EXTENDED COLUMN	<input type="checkbox"/> SERVO COOLANT
<input type="checkbox"/> 30 FUNCTION CARD ONLY	<input type="checkbox"/> EXTRA WORK LIGHT	<input type="checkbox"/> FRONT MOUNT DISK DRIVE
<input type="checkbox"/> TS-27 PROBE	<input type="checkbox"/> SEALED SYSTEM	
<input type="checkbox"/> MP-12 PROBE <input type="checkbox"/> MP-11 PROBE	<input type="checkbox"/> SINGLE PHASE T-813	
<input type="checkbox"/> REMOTE MIP	<input type="checkbox"/> 3IMP PENDANT	
<input type="checkbox"/> SURGE SUPPRESSOR	<input type="checkbox"/> HYDROSEEP™ (0/0)	
	<input type="checkbox"/> 1,000 BLOCKS PER SECOND	
	<input type="checkbox"/> AUTO HALO	
	<input type="checkbox"/> TOP SPLASH COVER	

MILLIMETER BALLSCREWS