GEOMETRIC DIMENSIONING

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FACTS TO REMEMBER	S	УМВС	LS, RUL	ES, AND		DEL			FACTS TO REMEMBER
 MMC - MAXIMUM MATERIAL CONDITION: THAT CONDITION WHERE A FEATURE OF SIZE CONTAINS THE MAXIMUM AMOUNT OF 	TYPE	SYMBOL	AS SHOWN ON DRAWING	TOLERANCE ZONE	MMC LMC OR RFS	DATUM USED	FUNC GAGE USED	TOLER ZONE TYPE	FEATURE CONTROL FRAME:
MATISMA, WHITEN THE STATED LIMITS OF SIZE LOADING MORRAM HOLE SIZE AND MADDRIAD SHAPT SIZE AND MADDRIAD SHAPT SIZE AND MADDRIAD SHAPT SIZE THAT CONDITION WHITE A FEATURE OF SIZE COMPANY IN HE LAST MATERIAL CONDITION OF SIZE COMPANY IN HE LAST MADDRIAD OF SIZE COMPANY IN HE LAST MAD MINIMAL SHAPT SIZE 1875 — RECARDLE SS OF FRATURE SIZE 1875 — RECARDLE SS OF FRATURE SIZE 1875 — RECARDLE SS OF FRATURE SIZE 1875 — RECARDLE SS OF FRATURE SIZE 1875 — TREADED LESS	FORM	STRAIGHTNESS	\$ 500 ± 005	TWO PARALLEL LINES 304 APART	OR O CAN APPLY TO A FEATURE OF SIZE.	NO	YES IF O IS STATED	888	TERTIARY DATUM (ONE POINT MA) SECONDARY DATUM (TWO POINTS MIN) PRIMARY DATUM (THREE POINTS MIN)
		FLATNESS	- 500 ± .005	TWO PARALLEL PLANES, .004 APART	DOES NOT APPLY	NO	NO	0	MODIFIER FOR THE STATED TOLERANCE STATED TOLERANCE DIAMETER SYMBOL (CYLINDRICAL TOLERANCE ZONE)
GEOMETRIC TOLERANCES. NO BONUS TOLERANCES ARE ALLOWED. FUNCTIONAL GAGES MAY NOT BE USED. PROJECTED TOLERANCE ZONE: WHEN THE SYMBOL IS SHOWN, IT MEANS THE STATED TOLERANCE ZONE IS EXTENDED		CIRCULARITY	[40]	TWO CONCENTRIC CIRCLES AND APART	DOES NOT APPLY	NO	NO	0	BASIC SENTENCE STRUCTURE: WHEN USING THE ENQUISH LANGUAGE TO SAY WHAT IS IN THE PEATURE CONTROL FRAME. YOU MAY USE THE FOLLOWING CONNECTING WORDS:
BEYOND THE SUBFACE OF THE PART, NOT WITHIN THE PART. STATISTICAL TOLERANCE: A TOLERANCE FOR A PART OF AN ASSEMBLY PASSED ON THE DESUITS FROM		(VLINDRICITY	(A) 500 ± 005	TWO CONCEN- TRIC CYLINDERS .004 APART	DOES NOT APPLY	NO	NO	6	LANGE OF LATES AND LATES A
A STATISTICAL CALCULATION, THE DESIRED RESULT IS LARGER TOLERANCE. O FREE STATE THIS SYMBOL INDICATES THE PARTS MUST NOT BE RESTRICTED DURING INSPECTION.		// PARALLELISM	TWOOM A	TWO PARALLEL PLANES.004 APART	OR O CAN APPLY TO A FEATURE OF SIZE.	YES	YES IF O IS STATED	00000	
A DATUM SYMBOL: THIS SYMBOL IS A TATCHED TO A PEANE OR SIZE FEATURE THAT MUST BE CONTACTED FOR MACHINING AND INSPECTION. EXX BASIC DIMENSIONS: THESE DIMENSIONS HAVE NO TOLERANCE.	RENTATION	PERPEN- DICULARITY	L A	LEL PLANES 004 APART	OOR O CAN APPLY TO A FEATURE OF SIZE.	YES	YES IF O IS STATED	00000	
THEY ONLY LOCATE A TOLERANCE ZONE. DIAMETER SYMBOL: THIS SYMBOL REPLACES THE WORN-DUAMETER: IT SHOULD BE USED ANYWHERE THERE IS A DIAMETER ON THE DRAWING, AND WHEN A TOLERANCE ZONE IS CYLINDRICAL.		ANGULARITY	TE A	TWO PARALLEL PLANES .004 APART	OR OCAN APPLY TO A FEATURE OF SIZE.	YES	YES IF O IS STATED	00000	
TOLERANCE ZONES: ALL TOLERANCE ZONES SHOWN IN THE FEATURE CONTROL FRAME ARE TOTAL, EXAMPLE: FLATNESS WITHIN, GOO MEANS THAT TWO PARALLEL PLANES NO MOISE THAN GOO APART DEFINE THE TOLERANCE ZONE.	PROFILE	PROFILE OF A LINE		TWO LINES DO A APART ALONG TRUE PROFILE	DOES NOT APPLY	MAY BE USED OR MAY NOT	NO	0	
- DATUM TARGETS: USED TO LO SPECIFIC POINTS, LINES, OR AR MACHINING AND INSPECTION COMMONLY USED ON RIGID PARTS LIKE CASTINGS AND FORGINGS AND NON-RIGID PARTS MADE	PRO	PROFILE OF A SURFACE		TWO PLANES 004 APART ALONG TRUE PROFILE	DOES NOT APPLY	MAY BE USED OR MAY NOT	NO	000	
FROM PLASTIC, RUBBER, OR SHEET METAL. DATUM REFERENCE FRAME: (THREE PLAME CONCEPT). THE CONCEPT OF USING MUTUALLY PERFENDICULAR FEATURES OF A PART TO CONTROL ITS FREE MOVEMENT IN SPACE (DEGREES OF FREEDOM), SEE DATUM	RUNOUT	CIRCULAR RUNOUT		CONCENTRIC CIRCLES A XX	RFS ALWAYS	YES	NO	0	SHET-AS A DATUM FEATURE OF SIZE. SHET-AS A DATUM FEATURE OF SIZE. DOT TO ECONOMIC SHEET OF SIZE. OCHEMACE MAY BE CONSIDERED FOR THE CONTRICLED TRATURES. THIS ADDITIONAL TOLEMACE DOES NOT ADD DESCRIPTION OF SIZE. APPLIED TO THE PATTERN OF FEATURES. AS A GROUP, IT IS CONSIDERED TO ADDITIONAL TOLEMACE DOES SIZE OF SIZE AND SIZE. TO SHET AS A GROUP.
SYMBOL AND DATUM TARGETS.		TOTAL RUNOUT	THE STATE OF THE S	TWO CONCENTRIC CYLINDERS A .004 APART	RFS ALWAYS	YES	NO	(B)	
FREE MOVEMENT RESTRICTED MOVEMENT LIMITS OF SIZE RILE WHERE CHEY A SIZE DIMENSION OF CHYPN A) THE SIZE DIMENSIONS AT ANY CROSS SECTION MUST BE WHITHIN THE SIZE FOLD RANCE IS, THE PREFECT FORM DEFINED BY THE MINO.	NO	DOSITION POSITION	Ø 250 ± 004 ØØ 014 ØA 910 9 380 A 550 C	Ø 022 ZONE AT LIMC Ø 014 ZONE AT MIMO 2 2014 ZONE TRUE CENTER	OOR OCAN APPLY TO A FEATURE OF SIZE.	YES	YES IF O IS STATED	000	WITUAL CONDITION. THE COLLECTIVE EFFECT OF 322 AND GEOMETRIC FEFFECT OF 322 AND GEOMETRIC FEFFE OF THE SECRET OF THE SECRET OF THE SECRET OF THE SECRET OF THE SECRET OF THE SECRET OF THE SECRET OF THE SECRET MAIN SIZE - TOLEPANCE OF FORM, GRENTAIDN, OR LOCATION INTERNAL FRATURES.
SIZE_C) THE FORM MAY YARRY WITHIN AN EWICLOPE BETWEEN THE MINIC AND LINC GEOMETRIC TOLERONCE RULE: GEOMETRIC TOLERONCES ARE UNDERSTOOD TO BE APPLIED BYS. IF MINIC OR LINC IS REQUIRED, IT MINIST BE PLACED IN THE FEATURE CONTROL FRAME. SEE MINIC, LINC, OR BYS COLUMN.		CONCEN- TRICITY	OS COA A	Ø .004 AROUND DATUM AXIS	RFS ALWAYS	YES	NO	0	A VIRTUAL CONDITION WILL EXIST ONLY FOR TOLERANCES THAT CONTROL SIZE FEATURES. * THIS COLLIMN INDICATES POSSIBLE TOLERANCE ZONES THAT MAY BE LEED WITH THE VARIOUS CONTROLS. THAT MAY BE DEFERENT TOLERANCE ZONES ARE SHOWN ALONG THE BOTTOM OF THIS CHART.
PITCH DIAMETER RULE: TOLERANCES THAT APPLY TO SCREW THREADS APPLY TO THE ADS OF THE THREAD DEBYED FROM THE PITCH CYLINDER: FA MOTHER PART OF THREAD IS TO BE USED TO DERVE THE ADS, IT MUST BE STATED BEHALTH THE		=		DOM EQUALLY DISPOSED FROM CENTER PLANE	RFS ALWAYS	YES	NO	000	THIS CHART IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE INFORMATION IS BASED UPON ASME Y14.5M - 1994.
AXIS, IT MUST BE STATED BENEATH THE FEATURE CONTROL FRAME. ANY OTHER FEATURE THAT HAS A PITCH DIAMETER MUST HAVE THE DATUM FEATURE STATED.		SYMMETRY	- A 100 E						GENIUM PUBLISHING COR ONE GRIUM PLAZA SCHENECTADY, NY 12304 (518) 377-8854























