

Category of Fasteners



MACHINE SCREWS



TAPPING SCREWS



PLACE BOLTS



SCREW & WASHER ASSEMBLIES (SEMS)



THREAD CUTTING SCREWS



NUT & RETAINER ASSEMBLIES

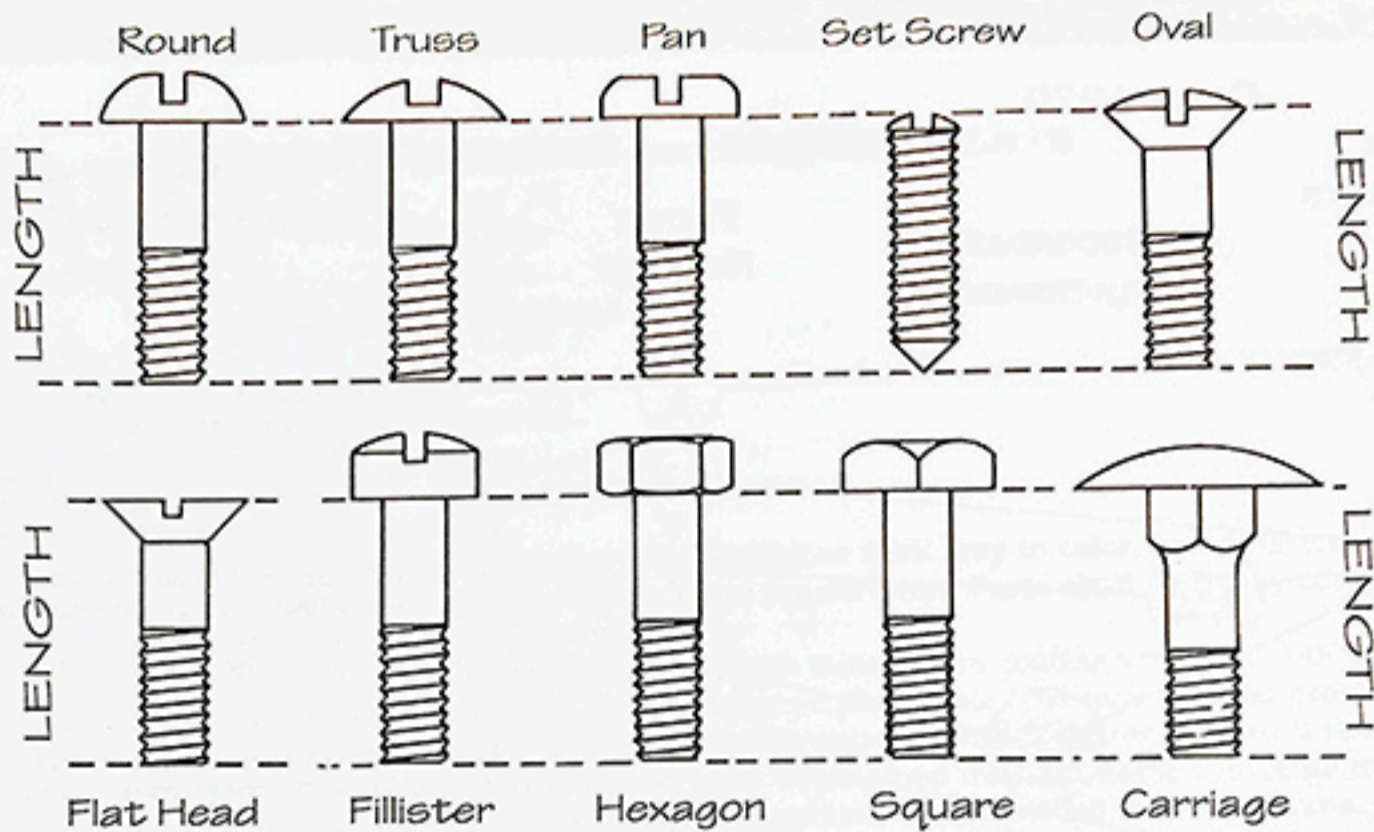


LOCK NUTS



NUT & WASHER ASSEMBLIES

How to Measure



Decimal Equivalents

#4 .112"	1/64" -----	.0156	33/64" -----	.5156
	1/32" -----	.0312	17/32" -----	.5312
1/16"	3/64" -----	.0469	35/64" -----	.5469
	5/64" -----	.0625	9/16" -----	.5625
#5 .125"	7/64" -----	.0781	37/64" -----	.5781
	3/32" -----	.0938	19/32" -----	.5938
1/8"	7/64" -----	.1094	39/64" -----	.6094
	9/64" -----	.1250	5/8" -----	.6250
#6 .138"	5/32" -----	.1406	41/64" -----	.6406
	11/64" -----	.1562	21/32" -----	.6562
3/16"	13/64" -----	.1719	43/64" -----	.6719
	7/32" -----	.1875	11/16" -----	.6875
#8 .164"	13/64" -----	.2031	45/64" -----	.7031
	15/64" -----	.2188	23/32" -----	.7188
1/4"	17/64" -----	.2344	47/64" -----	.7344
	17/64" -----	.2500	3/4" -----	.7500
#10 .190"	19/64" -----	.2656	49/64" -----	.7656
	9/32" -----	.2812	25/32" -----	.7812
5/16"	19/64" -----	.2969	51/64" -----	.7969
	21/64" -----	.3125	13/16" -----	.8125
#14 .250"	21/64" -----	.3281	53/64" -----	.8281
	11/32" -----	.3438	27/32" -----	.8438
3/8"	23/64" -----	.3594	55/64" -----	.8594
	25/64" -----	.3750	7/8" -----	.8750
#20 .312"	25/64" -----	.3906	57/64" -----	.8906
	13/32" -----	.4062	29/32" -----	.9062
7/16"	27/64" -----	.4219	59/64" -----	.9219
	29/64" -----	.4375	15/16" -----	.9375
#24 .375"	29/64" -----	.4531	61/64" -----	.9531
	15/32" -----	.4688	31/32" -----	.9688
1/2"	31/64" -----	.4844	63/64" -----	.9844
	1/2" -----	.5000	1.0" -----	1.000

About Part Numbers

There are two basic groups of Ford fastener part numbers for the 1955-73 era.

Group 1 Standard Part Numbers

55914-S

Standard Part Numbers are 5 digit or are numbered between 300,001 - 309,000

the letter "S" identifies that a part number is complete. Finish codes are added here.

Group 2 Special Part Numbers

359606-S

Special Part Numbers contain 6 digits

Standard Part Numbers

are fasteners considered by Ford to be their common fasteners.

Most usually fit into an existing commercial standard and have a short description that anyone in the fastener business can understand.

e.g.

#14 X 3/4" UNSL IND HXWA TY-AB SMS

Manufacturing specifications for Standard Parts are contained in the Ford Product Engineering "Standard Parts" book. Fasteners are grouped in *families* of similar parts.

The Standard Parts book is available to the Ford engineering staff and suppliers.

Special Part Numbers

include all fasteners not found in the "Standard Parts" book (except a small number which are given regular part numbers and are treated as regular parts).

"Special" fasteners are usually not considered standard by commercial or Ford standards and require an individual drawing.

Very often the Special is completely standard except for one specification such as length.

Often several fasteners with a specific difference as length will be found grouped together on a single drawing.

These drawings refer back to the Standard Parts book for general specifications.

**STANDARD
PARTS
book**

used by
Ford Engineering
& Suppliers.

FORD MOTOR COMPANY
STANDARD PARTS

Part No.	Quantity	Part Name	Material	Finish
382798	100	SCREW	STEEL	PHENOLIC
382798	100	WASHER	STEEL	PHENOLIC
382155	10	SCREW	STEEL	PHENOLIC
382155	10	WASHER	STEEL	PHENOLIC

used by
Ford & LM Dealers

**Standard
and Utility
Parts
Catalog**

Part No.	Quantity	Part Name	Material	Finish
382798	100	SCREW	STEEL	PHENOLIC
382798	100	WASHER	STEEL	PHENOLIC
382155	10	SCREW	STEEL	PHENOLIC
382155	10	WASHER	STEEL	PHENOLIC

Many Standard and Special fasteners are chosen for use as service fasteners. They are often replacement fasteners. Example: a Screw & Washer Assembly may be replaced by a screw and a washer. Descriptions lack the details found in the Standard Parts book or drawings.

Chronology

Special Part Numbers

These grew in numerical order starting with 350000-S

Approximate issue dates can be determined by comparing a given number with the chart below.

Remember, issue dates may precede first usage by a year or more.

Standard Parts Numbers

20201-S	Δ No apparent order of issue
34442-S	
36162-S	Δ Numbers were assigned in blocks to fastener families <i>e.g. Type AB Oval Head Tapping screws were assigned consecutive numbers between 55956-S to 55979-S</i>
42147-S	
42148-S	
42149-S	
58695-S	

Year Issued	Year End Number
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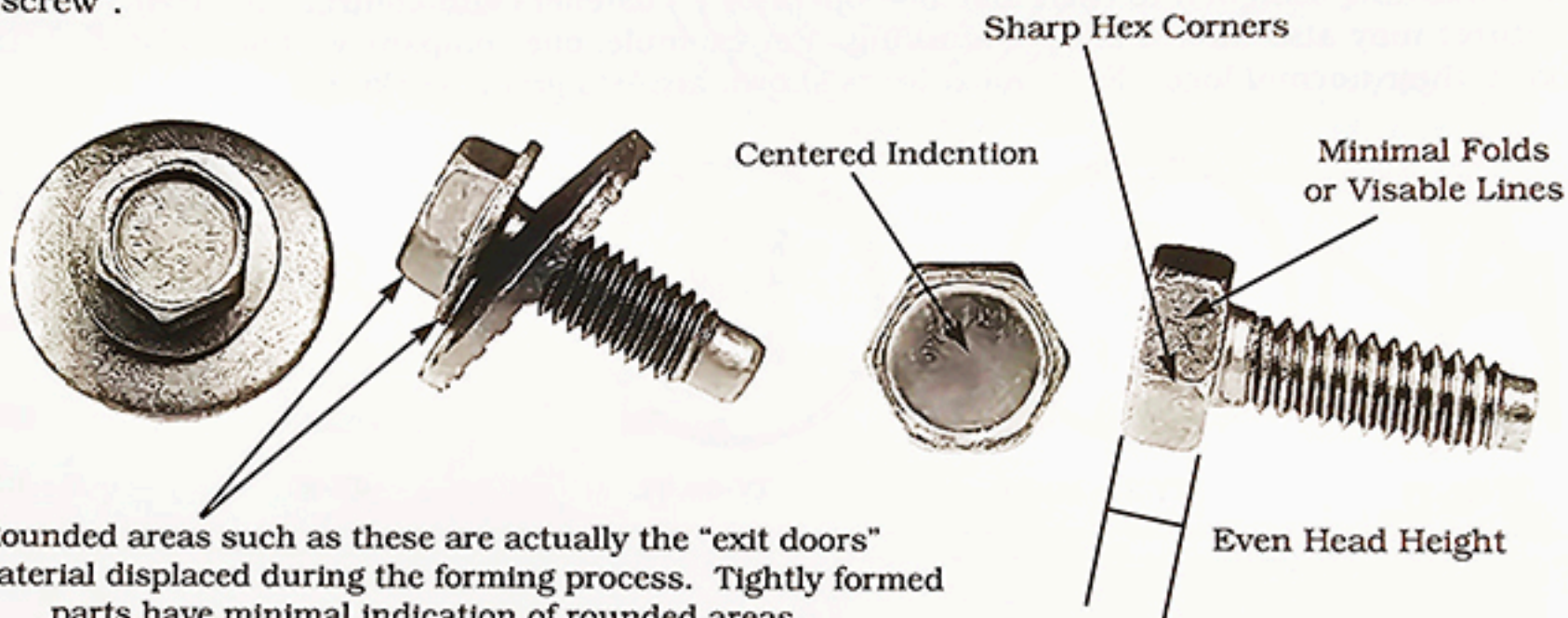
1944	350300-S
1948	352400-S
1951	353600-S
1954	358600-S
1955	359900-S
1956	370500-S

special numbers started with 350000

nylon locking pellets installed on threads	→	1957	371000-S
first conical tooth washers	→	1958	372600-S
		1959	373900-S
first nylon rivets	→	1960	375500-S
nylon wiring straps	→	1961	377000-S
Whitek "tower type" hose clamps	→	1962	378400-S
		1963	379700-S
Mustang introduced	→	1964	380700-S
body bolts change to coarse thread	→	1965	381500-S
RAMPLOK® exhaust bolts, "POZIDRIV®" first used	→	1966	382200-S
Torx® drive arrives	→	1967	382910-S
most TY-A tapping screws changed to TY-AB	→	1968	383500-S
many new fastener standards enacted	→	1969	384500-S
		1970	385000-S
zinc dichromate on most body bolts	→	1971	385500-S
square cone washer on some body bolts	→	1972	385690-S
		1973	386500-S

A Well Formed Screw

Fastener quality was at an all time high during the 1955-73 era. Today just about all fasteners available from your local hardware store are imported. The dubious quality of imports combined with an overall reduction in fastener quality warrants a reminder to all of us as to what is a "well formed screw".



Rounded areas such as these are actually the "exit doors" for material displaced during the forming process. Tightly formed parts have minimal indication of rounded areas. e.g. a poorly formed hex will have an obvious rounded area between the hex flats (and greater likelihood of a wrench slipping).

Evenly Round OD Without Cracks

Well Centered Drive



Consistent Formed Points

No Imperfections

Well Defined Thread



Small Radius Around Driver Entrance

Well Defined Corners and Surfaces



Smooth Surface Showing Few Imperfections after Bright Plating

Typical Imported Oval Head Screw

Imperfections

Point Variation



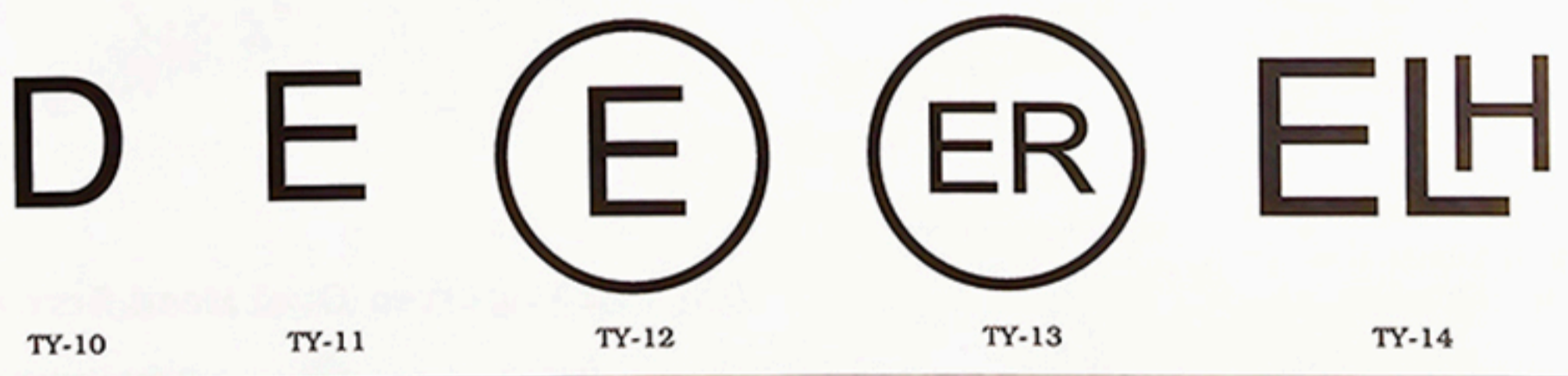
High Crown

Rounded, Poorly Filled Corner

No Radius Around Driver Entrance

Identification Markings - 1955/73

Following are most 1955-73 FoMoCo fastener manufacturer identification markings. Ford required fasteners of greater than grade 2 strength to bear manufacturer identification markings. In 1969 there were 450 fastener producers in the USA. Manufacturers with more than one plant often used a different marking for each location. We were told by one manufacturer that at one time they even had a marking assigned to each machine operator! Fasteners sub-contracted out to another manufacturer may also have a unique marking. For example, one company we know added, a "Dot" next to their normal logo. Note, most logos shown are less grade markings.



A bold, black, stylized letter 'G' with a thick, blocky font. The counter of the 'G' is filled with a solid black color.

TY-19

A stylized logo consisting of the letters 'A', 'S', and 'T' arranged in a circular pattern. The 'A' is at the top, 'S' at the bottom, and 'T' on the right side.

TY-20



TY-21

A stylized logo consisting of the letters 'I', 'S', and 'C' arranged in a horizontal line. The 'I' is on the left, 'S' in the middle, and 'C' on the right.

TY-22

A bold, black, stylized letter 'L' with a thick, blocky font.

TY-23

A stylized logo consisting of the letter 'L' with the number '5' inside its counter.

TY-24

A stylized logo consisting of the letter 'L' with the number '8' inside its counter.

TY-25

A bold, black, stylized letter 'M' with a thick, blocky font.

TY-26

A stylized logo consisting of the letter 'M' with a vertical line through the center, creating a 'Y' shape.

TY-27

A bold, black, stylized letter 'N' with a thick, blocky font.

TY-28

A stylized logo consisting of the letter 'N' with a vertical line through the center, creating a 'Z' shape.

TY-29



TY-30

A bold, black, stylized letter 'P' with a thick, blocky font.

TY-31

A bold, black, stylized letter 'R' with a thick, blocky font.

TY-32

A stylized logo consisting of the letters 'R', 'B', and 'W' arranged in a triangular pattern.

TY-33



TY-34

A stylized logo consisting of the words 'ROCK FORD' in a bold, black, sans-serif font, arranged in a slight arc.

TY-35

A stylized logo consisting of the words 'ROCK FORD' in a bold, black, sans-serif font, arranged in a slight arc.

TY-36

A stylized logo consisting of the letters 'R' and 'P' in a bold, black, sans-serif font, arranged in a slight arc.

TY-37

A stylized logo consisting of the letters 'R', 'S', and 'C' in a bold, black, sans-serif font, arranged in a slight arc.

TY-38

A stylized logo consisting of the letters 'R', 'S', and 'P' in a bold, black, sans-serif font, arranged in a slight arc.

TY-39

A bold, black, stylized letter 'S' with a thick, blocky font.

TY-40



TY-41



TY-42



TY-43

S B

TY-44

SEMS

TY-45



TY-46



TY-47



TY-48

TR

TY-49

W

TY-50

WB

TY-51



TY-52



TY-53



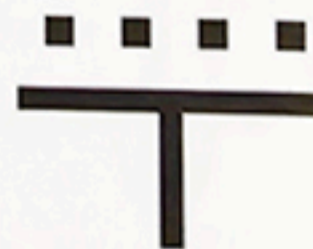
TY-54



TY-55



TY-56



TY-57



TY-58



TY-59

23


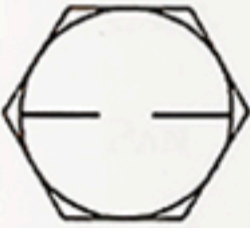




TY-60

38

TY-61

External Threaded Fastener Grade Markings

Grade Markings are applied to fasteners for obvious reasons. At a quick glance a user can identify the strength of a fastener. A grade marking combined with a reputable identification marking provides confidence to the user. Before 1969, Ford required fasteners of grade 5 or greater strength to bear manufacturer identification markings but not always grade markings. e.g. Most 1955-68 body bolts are heat treated to grade 5 or 5.1 but do not usually have the grade markings to indicate such. For 1969 Ford rewrote "the book" regarding most fasteners. New improved fastener designs like the "UBS" bolt and nut were introduced along with consistent use of grade markings.

		MATERIAL	HARDNESS	TENSILE STRENGTH
	GRADE 2	Low or Medium carbon steel	1/4" - 3/4" dia under 6" Rockwell B80 - B100	1/4" - 3/4" dia under 6" 74,000 PSI Minimum
	GRADE 3	Medium carbon steel	1/4" - 3/4" dia under 6" Rockwell B95 - B104	1/4" - 3/4" dia under 6" 110,000 PSI Minimum
	GRADE 5	Medium carbon steel, quenched & tempered	1/4" - 1.0" dia Rockwell C25 - C34	1/4" - 1.00" dia 120,000 PSI Minimum
	GRADE 5.1	Low or Medium carbon steel, quenched & tempered	1/4" - 1/2" dia Rockwell C25 - C40	1/4" - 1/2" dia 120,000 PSI Minimum
	GRADE 6	Medium carbon steel, quenched & tempered	1/4" - 1.0" dia Rockwell C30 - C36	1/4" - 1.0" dia 140,000 PSI Minimum
	GRADE 8	Medium carbon alloy steel, quenched & tempered	1/4" - 1 1/2" dia Rockwell C33 - C39	1/4" - 1 1/2" dia 150,000 PSI Minimum

Internal Threaded Fastener Grade Markings & Identification

Internally threaded fasteners (nuts) like externally threaded fasteners have a grade and manufacturer identification. Grades are most often represented by the number of lines or dots. Manufacturer markings are usually found on parts higher than grade 2 or A. These markings may be as simple as a pair of dash marks or a single letter.

Grades 2 (hex nuts), A (all locking nuts)

Low carbon steel	Rockwell B68 - C32	90,000 PSI Coarse Thread 80,000 PSI Fine Thread
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Grades 5 (hex nuts), B (lock nuts), F (flange lock nuts)

Low carbon steel No Heat Treatment	Rockwell B69 - C32	120,000 PSI Coarse Thread 109,000 PSI Fine Thread
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Combination Grade & ID Marking

Grades 8 (hex nuts), C (lock nuts), G (flange lock nuts)

Medium carbon or alloy steel with Heat Treatment	Rockwell, under 3/4" C24 - C32 Rockwell, 3/4" - 1.0" C26 - C34	150,000 PSI
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Combination Grade & ID Marking

GLOSSARY

Across Flats	The dimension taken across the wrenching surfaces of the head, same as the driver size.
Body	The <i>Body</i> of a threaded fastener is the unthreaded portion of the shank.
Bolt	A threaded fastener designed to be tightened by a nut.
Case Harden	A heat treating operation that produces hardening of the surface. Common to tapping screws.
Cold Heading	The most common means of manufacturing threaded fasteners. The Cold Heading process forms the fastener <i>blanks</i> from wire, next threads are rolled.
Conical	A slight cone or dish shape. Conical washers are a type of spring lock washer common to body bolts.
Fastener	A fastener is a mechanical device for holding two or more bodies in definite positions with respect to each other.
Head Height	The distance from the very top of the head to the beginning of the shank.
Heat Treating	The process used to increase the hardness & strength of fasteners. Produces darkening.
Hydrogen Embrittlement	Surface fracturing that occurs during electro-plating. This problem is reduced by baking immediately after plating. Heat treated items are more vulnerable.
I D	Short for <i>Inside Diameter</i> . Also considered as the smallest obtainable inside diameter dimension.
Indention	A cavity created during forming of screws heads. It's purpose is to <i>push</i> material out, filling the head.
Lead Point	An unthreaded area before the thread start of a fastener intended to speed installation.
Length	The distance from the end of a fastener to first contact with the bearing surface. On flat or oval head screws it's the distance from the screw end to the largest diameter of the bearing surface.
Locknut	A nut which inhibits loosening via a prevailing torque (nut deformation) feature, nylon insert, serrations or any other means of locking that is designed into the nut.
Nylon Patch	A nylon material that is applied over screw threads that performs a locking action.
Nylon Pellet	A round nylon insert installed into the thread area that performs a locking action.
Nylon Strip	A straight nylon insert installed in the threaded area that performs a locking action.
O A L	Short for <i>Overall Length</i> . The largest obtainable measurement length wise.
O D	Short for <i>Outside Diameter</i> . Also considered as the largest obtainable outside diameter dimension.
Place Bolt	A self-locking fastener which locks via elastic action in the head usually produced by formed slots.
Screw	A threaded fastener designed to be tightened by the head.
SEMS	Short for <i>Screw & Washer Assembly</i> .
Thread	Measured in threads per inch. i.e. 1/4-20 is 1/4" diameter screw with 20 threads per inch
Trim Head	Applies to flat & oval head screws. A Trim head has a smaller than standard head diameter.
U B S	Short for <i>Unifled Bearing Stress</i> . A FoMoCo design for flange bolts & flange nuts introduced in 1968. UBS items feature a beefy flange. Bolts feature a tall head height and a slightly undercut head. Nuts feature a tall height and an unthreaded area at the nut entrance.