

UNIFIED THREADS

With the steady introduction of unified threads, not only on new models, but for service spares on old ones, a certain responsibility is put upon fitters and mechanics to examine all threaded components before installing them to ensure correct fitting. Since genuine Austin spares are produced on the same factory machines which produce original parts, it would handicap production to change back to British threads each time service spares were produced. For this reason many components which were originally Whitworth or B.S.F. will be supplied with unified threads. In many cases the part numbers will be changed to facilitate identification, but this will not always be the case. Where unified threads are encountered, the associated studs, screws and nuts will have to be replaced, and the part numbers of suitable ones can be readily found by reference to the charts given in this article.

The "Unified" thread is, however, interchangeable with the American National Fine (A.N.F.) thread for all practical purposes.

British Threads

British Standard Whitworth (known as B.S.W. or Whitworth). Thread comparatively coarse, 20 threads per inch on $\frac{1}{4}$ " diameter screw. Sizes quoted by diameter of bolt.

British Standard Fine (B.S.F.). Used where finer thread required, 26 threads per inch in $\frac{1}{4}$ " size. Sizes quoted by diameter of bolt.

British Association (B.A.). Used for practically all electrical purposes in sizes from just under $\frac{1}{4}$ " diameter down to minute sizes. Fine thread. Sizes quoted by numbers ranging from Number 0 (diameter 0.236", 25.4 threads per inch) to Number 25 (diameter 0.010").

IDENTIFICATION OF "UNIFIED" SCREW THREADS

Identification has been standardized and is effected in the following manner:—

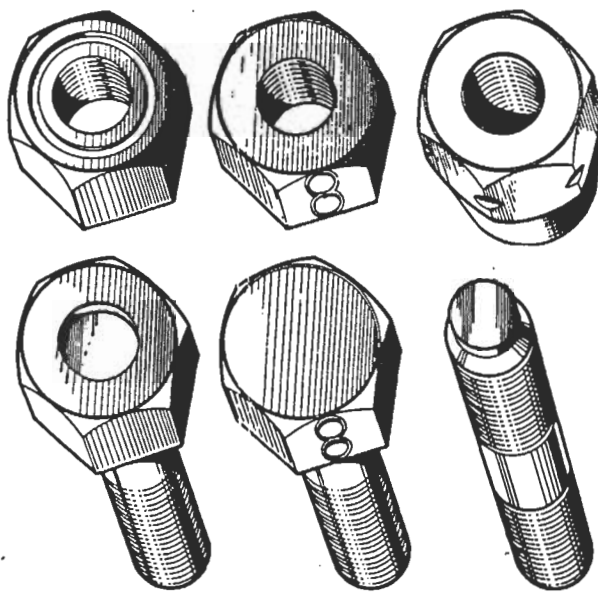
Nuts. By a circular groove turned on the end face of the nut or by connected circles stamped on one flat of the hexagon.

Bolts and Setscrews. By a circular depression turned on the head or by connected circles stamped on one flat of the hexagon.

Studs. By a protruded end.

Wheel Stud Nuts. By a notch cut in all the corners of the hexagon.

These identification marks are clearly shown in the illustration, and it is obviously of the utmost importance that any nuts, bolts, setscrews or studs so marked are used only in conjunction with associated components having "Unified" threads and that only replacement parts with "Unified" threads are used, as these are not interchangeable with Whitworth, B.S.F. or Metric threads.



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The identification marks for nuts, bolts and studs

Continued

FOR YOUR RECORDS	PARTS LISTS
	STOCK CARDS
	PARTS ORDERED
	ALTERATIONS NOTED

UNIFIED THREADS—*continued.*

American Threads

United States Standard (U.S.S.). A comparatively coarse thread corresponding very closely to the British Whitworth standard in number of threads per inch (20 in $\frac{1}{4}$ " diameter size), but not in thread form.

Society of Automotive Engineers (S.A.E.). The normal thread used in American automobile design. Somewhat similar in number of threads per inch to B.S.F. but rather finer (28 threads per inch in $\frac{1}{4}$ " size) and of similar thread form to U.S.S.

Unified Threads

Unified Coarse (U.N.C.). Exactly the same as American U.S.S. except that the tops and bottoms of the threads are rounded instead of truncated.

Unified Fine (U.N.F.). Exactly the same as American S.A.E. except that the tops and bottoms of the threads are rounded instead of truncated.

Unified Special (U.N.S.). Used in cases where the normal U.N.C. or U.N.F. ranges are inappropriate to the special needs of a particular application. U.N.S. threads provide for such cases, while still remaining within a recognised standard.

Spanners

It is to be noted that all A.N.F. and "Unified" threaded nuts and hexagon headed bolts are made to the standard American hexagon sizes and that spanners of the appropriate size must be used when tightening or loosening them. Spanners for Whitworth bolts and nuts are marked according to the size of the bolts that they fit, for example, " $\frac{3}{8}$ W" ($\frac{3}{8}$ " Whitworth) fits the hexagon of a $\frac{3}{8}$ " Whitworth bolt or nut. Spanners for unified bolts are marked by the actual measurement across the flats of the hexagon. Thus a spanner for a $\frac{3}{8}$ " U.N.F. bolt is marked $\frac{13}{16}$ " A/F ($\frac{13}{16}$ " across flats) which is the size of the hexagonal head on a $\frac{3}{8}$ " U.N.F. bolt.

KEY TO SPANNER SIZES (Nominal widths between jaws)

Diameter of Screw Thread (inches)	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{7}{16}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	
For B.S.F. screws and nuts . . .	.448	.529	.604	.705	.825	.925	1.016	1.207	1.309	1.489
For A.N.F. screws and nuts . . .	.440	.504	.566	.629	.755	.880	.944	1.132	1.320	1.508
For "Unified" screws . . . . .	.440	.504	.566	.630	.755	.817	.943	1.132	1.321	1.509
For "Unified" nuts (normal) . . .	.440	.504	.566	.692	.755	.880	.943	1.132	1.321	1.509
For "Unified" nuts (heavy)	—	—	—	—	—	—	1.069	1.258	1.446	—

NOTE.—In the case of some "Unified" threaded components the size of the hexagon for the nut is different from that of the bolt. Where this occurs the spanner size is shown in heavy type in the above table.

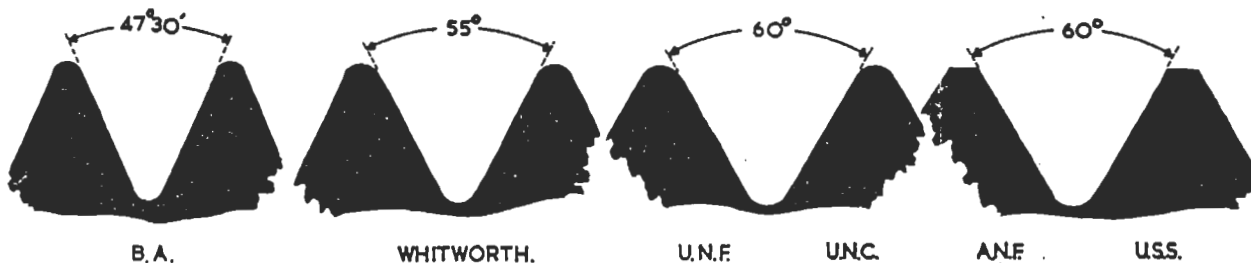


Fig. 2 STR 1782
 This illustration of B.A., Whitworth, U.N.F. and A.N.F. threads, to the same scale, shows the close relationship of American and Unified threads, but the dissimilarity with British threads.