

TECHNICAL SERVICE BULLETIN

NO. 75-F-1



Austin MG

August, 1975

SUBJECT:

MODELS:

METRICATION OF BRAKE SYSTEMS

ALL MODELS

Brake components and fittings with metric threads are now used in a variety of vehicle applications and the use of these parts is increasing as new models are introduced.

Because of the mixture of parts now in service with either metric or unified threads it is very important to ensure that they are correctly identified to avoid any possibility of mismatched threads. It cannot be over-emphasized that unified threaded parts must be segregated from metric parts, both in spares departments and workshops.

To assist identification of components with metric and UNF (unified) threads, the following summary is included.

PIPE NUTS, HOSES AND BLEED SCREWS

Up to the end of 1973 all metric pipe nuts, hose ends and bleed screws were finished in black. From January 1974, these components are gold in color.

Originally UNF components were colored silver or gold and currently these are in silver color only.

In addition, where possible, a letter 'M' will be stamped on nut and hose hexagons to denote such parts have metric threads.

The greatest danger lies with the confusion of 6, 8 and 10 mm sizes as these are very similar to 1/4", 5/16" and 3/8" UNF pipe nuts. Where there is any doubt regarding the type of thread, screw the fitting fully home with the fingers before finally tightening. If the fitting cannot be tightened or is unduly loose, recheck the component threads.

The illustration (See Fig. 1) indicates the differences between UNF and metric pipe nuts, which in general are applicable to both Lockheed and Girling components.

continued.....

It is essential to use a trumpet flared pipe with a metric female nut and a convex flared pipe with a metric male nut.

It is also essential to ensure that the correct convex tube flare is used with the appropriate male nut owing to metric and UNF nuts being machined to conform to their respective tube flare. (See Fig. 2).

HOSES

Hose ends differ between metric and UNF. (See Fig. 3). Also note that hoses with metric threads do not have sealing washers, (as fitted on UNF), sealing takes place on a seat formed at the end of the thread as shown. There will, therefore, be a gap between the hexagon and face of the hydraulic unit when the metric condition hose is fully secured. (See Fig. 4).

CYLINDER AND CALIPER PORTS

To identify cylinder and caliper port thread form note that UNF threaded ports are counterbored for a short distance before the thread start. Metric ports are not counterbored.

However, a small number of cylinders with UNF threads manufactured by Girling are not counterbored so that great care must be taken to ensure that thread forms are matched correctly where any difficulty with visual identification of a component exists.

Although metric ports are not counterbored Lockheed versions are, where possible countersunk and may also have a stepped face to the port. The illustration (Fig. 5) shows the counterbore in a UNF port and also countersunk, plain and stepped face ports on Lockheed metric components.

PIPE SIZES

Pipe sizes for UNF fittings are 3/16", 1/4" and 5/16" outside diameter. Metric pipe sizes are 4,75 mm, 6 mm and 8 mm.

4,75 mm pipe is exactly the same as 3/16" pipe.

6 mm pipe is 0.014" smaller in diameter than 1/4" pipe.

8 mm pipe is 0.002" larger than 5/16" pipe.

(REFER TO DIAGRAMS ON NEXT PAGE)

FIG.1

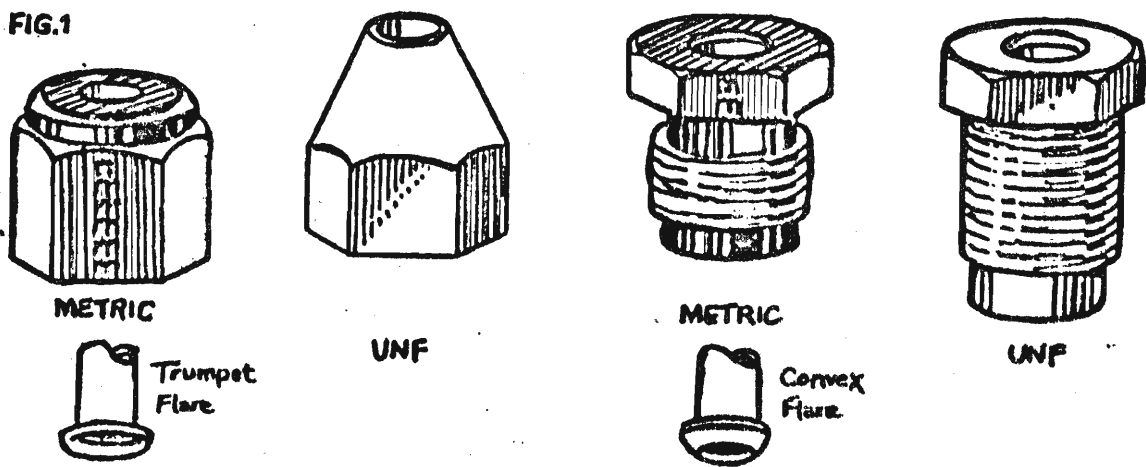


FIG.2

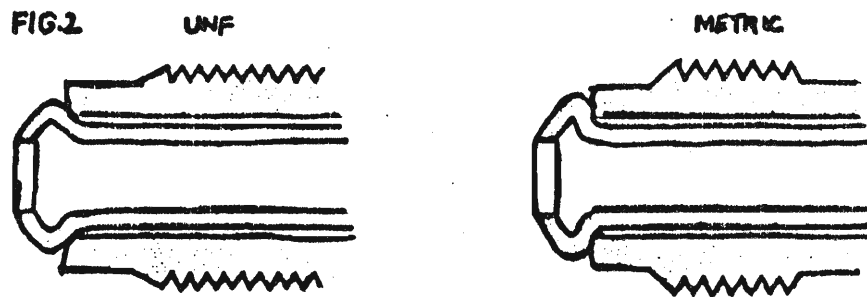


FIG.3

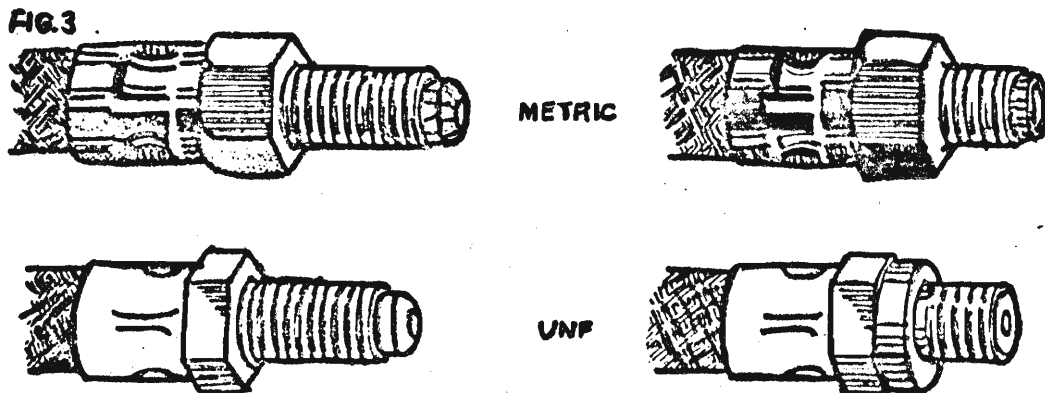


FIG.4

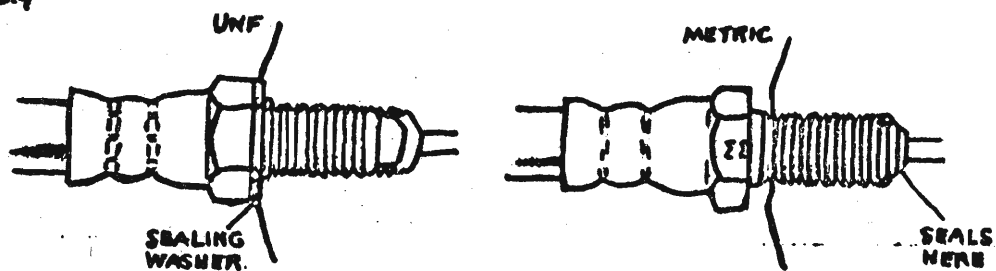


FIG.5

