



# The British Connection

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## President's Message

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Hope everybody had a great lunch at Goodrich's last month. Four of our members attended the champagne picnic. It was a good time. Hope the

weather lets everybody enjoy a great dinner cruise.

Shiny side up 'til next month.

*Doug*



2017  
ABCC Officers

President - Doug Rothwell  
bigdug1313@cfl.rr.com

Vice-President - Frank Herbert  
spy009@bellsouth.net

Secretary - Linda Rothwell  
bigdug1313@cfl.rr.com

Treasurer - Gene Schoonmaker  
geneschoon@att.net

Editor - Bob Storke  
rstorke@cfl.rr.com



# Locking Fasteners, Lock Washers et al

The Southeastern MG T Register Tech Article

Why or why not lock washers? This is a good question and one that can be surprisingly complicated. First, let's discuss how bolts or screws or studs (fasteners) are supposed to work. As you torque the fastener, you are actually stretching it. Each and every fastener has a specific torque that will keep it tight with no locking device. An example are your head bolts, rod bolts (most engines), and main bolts. For the majority of engines, these have no locking devices. I know some early engines have lock tabs but I leave them out to reduce weight and the possibility of the little pieces breaking off. Even most flywheel bolts lack a locking device. If and when the fastener can be torqued or twisted enough to stretch to the required tension, it needs no locking device, not even LOCTITE. It will stay together. ARP Bolts, the premier bolt supplier in racing, has a lubricant you are supposed to use to torque their bolts and studs. They know how far the bolts will stretch at a specific torque with their supplied lubricant to reach the ultimate clamping force and maintain it. Most "race" engines are built with stretch gauges, measuring the amount the fastener stretches and not the torque. Torque figures are a way the bolt manufacturers have come up with so the average person can properly tighten the fasteners. Some fasteners are assembled to a specified low torque and then tightened a number of degrees more. IE: torque it to 45 lb. ft. and then go 45 degrees more and then 45 degrees more. They know how far it will stretch. So, what about the fasteners that we cannot torque to the correct stretch point?

There are many fasteners that we do not want to torque to the stretch point. These could be fender bolts, bolts going into aluminum parts, etc. We use some form of locking device. Everyone reading this should be familiar with the different types available. Each one provides a form of friction to stop the bolt or nut from coming loose. There are the split washers, inner and outer star washers, lock tabs, safety wire, LOCTITE, lock nuts, castle nuts and split pins. There are other older or newer devices that we normally will not see on our cars. So what are the best? Let's start with the different type washers.

The most common we see are split washers and there are a few different styles of these but they all work about the same. Arp says they are useless at any time. They say to get the washer to bite into the bolt, nut, flat washer or surface, they have to be tightened so much that they get flattened out and provide no help. On exhaust systems, they get so hot they lose their tension and become useless. Star washers are also common on our cars. They provide more friction between the head of the bolt and whatever you are putting the bolt thru. They work as long as you do not over tighten them and flatten them out. They have the side effect of gouging through painted surfaces. This makes them good to go between a painted surface and a ground wire. They make better contact. There are also wave washers and one called a Belleville washer. We seldom see these but they have the same drawbacks as the split washers, they get flattened out and provide little friction to hold bolts in place. There is something relatively new that you may not have seen by a company called Nord-lock. These are "wedge lock" washers. These are a two piece design that have small ramps inside the two pieces and as the bolt or nut tries to back out, the design causes the bolt to try and stretch and makes itself tighter. These are good for exhaust locations where high heat effects all the other washers. You will not see these on most production cars because of cost.

One product that I like is LOCTITE. This is a liquid chemical that just takes a drop on the threads to hold bolts in place. It hardens in the absence of air and provides a chemical lock between the threads. It also fills any gaps between threads so there is less room for vibration. There are numerous brands and strengths so read their label to see which is good for your project. I use some on any bolt I cannot reach with a wrench after assembly.

*Continued next month.*

## Historical Trivia

One more: bet you didn't know this!

In the heyday of sailing ships, all war ships and many freighters carried iron cannons. Those cannons fired round iron cannon balls.

It was necessary to keep a good supply near the cannon. However, how to prevent them from rolling about the deck?

The best storage method devised was a square-based pyramid with one ball on top, resting on four resting on nine, which rested on sixteen. Thus, a supply of 30 cannon balls could be stacked in a small area right next to the cannon. There was only one problem...how to prevent the bottom layer from sliding or rolling from under the others.

The solution was a metal plate called 'Monkey' with 16 round indentations. However, if this plate were made of iron, the iron balls would quickly rust to it. The solution to the rusting problem was to make 'Brass Monkeys.' Few landlubbers realize that brass contracts much more and much faster than iron when chilled. Consequently, when the temperature dropped too far, the brass indentations would shrink so much that the iron cannonballs would come right off the monkey; Thus, it was quite literally, 'Cold enough to freeze the balls off a brass monkey.' (All this time, you thought that was an improper expression, didn't you?)

## Celebrations

By: Gene



### *Birthdays for JUNE*

<i>Louis Spradlin</i>	<i>6th</i>
<i>Karen Lubinski</i>	<i>6th</i>
<i>Richard Heckathorn</i>	<i>7th</i>
<i>Gene Myszkowski</i>	<i>11th</i>
<i>Steve Bradley</i>	<i>16th</i>
<i>Sara Martin</i>	<i>27th</i>

### *Anniversaries*

*Charlie & Linde Richardson - 11th*  
*Bob and Sara Martin - 27th*

## 2017 ABCC Upcoming Club Activities

If you have a suggestion for a summer event let Doug Know. [bigdug1313@cfl.rr.com](mailto:bigdug1313@cfl.rr.com)

### Cars Wanted:

Jaguar, XK-XKE, MG-T series, MGA, Triumph TR-2 -3-4-250 Mercedes 190, 220, 230, 250, 280SL, Porsche 356, 911, 912, 914, Austin Healey, Riley, Alfa-Romeo, Singer, Mustang 1964-1967, Ford Model-T -A, Karmann Ghia, Volvo P1800. Steve's British Connection 630-553-9023, Cell 708-772-5404, Email [sbcinc@aol.com](mailto:sbcinc@aol.com). Actively buying cars for over 20 years, any condition, fast payment and pick-up. Generous finder's fees.



## UPCOMING EVENTS

- MAY 27- JUNE 4, 2017 Annual British Car Week. Nationwide - [www.britishcarweek.org](http://www.britishcarweek.org)
- JUNE 2, 2017 Moss Motorfest. Petersburg, VA - <http://www.mossmotors.com/>
- JUNE 3, 2017 Cars & Motorcycles of England Show. Westtown Township, PA. – [www.dvtr.org/home.htm](http://www.dvtr.org/home.htm)
- JUNE 2-3, 2017 EuroBrit Auto & Bike Expo. Dublin Park, Madison, AL – [www.nabms.org/default.aspx](http://www.nabms.org/default.aspx)
- JUNE 4, 2017 The British return to Fort Meigs. Perrysburg, OH – <http://www.lebcc.org/>
- JUNE 4, 2017 26th Annual Champagne British Car Festival. Bloomington IL. - [www.visitbn.org/events/26th-annual-champagne-british-car-festival/](http://www.visitbn.org/events/26th-annual-champagne-british-car-festival/)
- JUNE 4, 2017 British by the Sea Car Show. Waterford, CT – [www.ctmgclub.com](http://www.ctmgclub.com)
- JUNE 4, 2017 22<sup>nd</sup> Red Mill British Car Day. Clinton, NJ - [www.mgdriversclub.com](http://www.mgdriversclub.com)
- JUNE 10, 2017 Touch of England. Ho-Ho-Kus, NJ. - [www.njtriumphs.org](http://www.njtriumphs.org)
- JUNE 7-10, 2017 British V8 Meet. Lewisburg, WV – [www.britishv8.org/British-V8-Meetings.htm](http://www.britishv8.org/British-V8-Meetings.htm)
- JUNE 9-10, 2017 The Grand Assent (hill climb). Hershey, PA – [www.theeleganceathershey.com](http://www.theeleganceathershey.com)
- JUNE 12-17 2016 Austin Healey Conclave. Cincinnati, OH – [www.2016healeyreunion.com](http://www.2016healeyreunion.com)
- JUNE 12, 2016 23<sup>rd</sup> Annual British Motorcar Gathering. Hellertown, PA – [www.keystonemg.com](http://www.keystonemg.com).
- JUNE 13-17, 2016 MGC Event of Brutal Aggressives MK XXXV. Louisville, KY. - [www.mgcars.org.uk/amgcr/](http://www.mgcars.org.uk/amgcr/)
- JUNE 14-18, 2017 The Brickyard Vintage Racing Invitational. Indianapolis, IN - [www.svra.com/](http://www.svra.com/)
- JUNE 19-23, 2017 MG 2016 GT-42 Solvang, CA- <http://www.namgar.com/>**
- JUNE 21-24, 2017 TRA National Meet. Columbus, IN - <http://triumphregister.com/tra-national-meet/>**
- JUNE 22-25, 2017 Vintage Grand Prix of Mid-Ohio (SVRA). Lexington, OH - [www.svra.com/](http://www.svra.com/)
- JUNE 29 – July 2, 2017 Goodwood Festival of Speed. , Chichester, England – [www.goodwood.co.uk/](http://www.goodwood.co.uk/)
- JUNE 24 – JULY 2, 2017 The Great Race. Jacksonville, FL – [www.greatrace.com](http://www.greatrace.com)
- JUNE 25, 2017 Brits by the Bay Summer Classic. Forest Hill, MD - [www.tracltd.org](http://www.tracltd.org)
- JULY 9, 2017 The British Invade Gettysburg Car & Motorcycle Show. Gettysburg, PA – [www.lancomgclub.com](http://www.lancomgclub.com)
- JULY 15-16, 2017 Pittsburg Vintage Grand Prix. Pittsburg, PA – [www.pvgp.org](http://www.pvgp.org)
- AUGUST 16-20, 2017 2017 VTR National Convention. Princeton, NJ - [www.vtr2017.org/](http://www.vtr2017.org/)**
- SEPTEMBER 21-24, 2017 TE/AE United XXXV. Staunton, VA – <http://teae.org/event/united-xxxvi-staunton-va/>**



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To encourage the preservation and enjoyment of all of British cars

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**1306 East Lansdowne Ave.  
Orange City, FL 32763**