

**UPDATED 03/31/04** - This document contains data from Hayne's, Bentleys and the owner's manual as well as opinions from people on various email lists and web sites. My original intention was to develop a document to have available to me as a "personal archive". Please take it for what it's worth as manuals & people's opinions sometimes contradict one another and web sites disappear or change addresses frequently. You can print it in larger fonts and use in the garage or throw it in the trunk. It is update quarterly on our C.C.B.C.C. website at <http://www.capecodbritishcarclub.org/> If you would like to post it on your website...feel free.

Many thanks to all who've contributed with their knowledge and experiences. Jay Welch, Abington Massachusetts, Member C.C.B.C.C.

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- **MONSTER VENDOR LIST** - Check here before using a "new" vendor <http://bosphorus.dimebank.com/monster/vendors.html>
- **PARTS QUALITY** - British made parts are usually most desirable if there is a choice between that & Taiwan or China.

## **A. Clubs, Machine Shops, Repairs, Sales, Services - (Local to Massachusetts)**

### **Clubs**

- **Cape Cod British Car Club** (C.C.B.C.C.) Web: <http://www.capecodbritishcarclub.org/>
- **British Motor Cars of New England** (BMCNE) Web: <http://www.bmcne.com/>
- **New England Triumphs** (NET) Web: <http://www.newenglandtriumphs.org>

### **Cast Iron Welding**

- **AustinWorks East**, East Sandwich, MA Doug Dexter, 508-833-3109 Email: [austnworks@aol.com](mailto:austnworks@aol.com) He doesn't have the kiln or preheat & postheat equipment to do cracks in blocks or cylinder heads. Manifolds or any crack that is not in a large casting or any pieces that are broken off of a large casting can be repaired. He also has the very fine welding & silver soldering equipment needed to repair small parts like cracked headlight & instrument bezels. Member Cape Cod British Car Club.

### **Chroming**

- **NU-Chrome**, 161 Graham Road, Fall River, MA 508-324-0002 Fax: 508-324-0004 Ask if about club discounts are available.

### **Classic Car Appraisals**

- **AustinWorks East**, E Sandwich, MA Doug Dexter is on the NADA Board of Advisors 508-833-3109 Email: [austnworks@aol.com](mailto:austnworks@aol.com) - Member Cape Cod British Car Club.

### **Electrical Repairs**

- **Fugate's Auto Electric** 49 Giddiah Hill Rd, Orleans, MA 508-263- 5465. DeCar classics uses them. Stocks a lot of replacement electrical products.
- **Bo's Auto Electric Service**, Whitman, MA 781-447-4771 Starters & alternators rebuilt, connectors etc. Some Lucas on the shelf.

### **Insurance**

- **Arthur D Calfee Insurance**, Falmouth, MA 508-540-2601 or North Falmouth, MA 508-564-5188 Carries Grundy Classic Car Insurance. Member CCBCC.
- **G.H. Dunn Insurance Agency**, Buzzards Bay, MA 508-759-3132
- **Holbrook Insurance**, Holbrook, MA Jim Crowley 800-287-2403, Fax: 781-767-0790 Also carries Grundy Classic Car Insurance.

### **Machine Shops**

- **Advanced Engine Rebuilding Inc**, 176 Main St, Wareham MA, 508-295-2288, highly recommended by Steve Harris and Kevin Thompson of the CCBCC.
- **Whittaker Automotive**, Needham MA, 781-444-3703, ask for Rusty, highly recommended by Jeff Mingels of the CCBCC.
- **Monty's Machine**, Everett MA 617-389-2400. Proprietor: Charlie has done work for many SCCA racers. Highly recommended by Bob Lang of NET.

### **Repair**

- **Tirebiter**, Free advice for those owning MG & Triumph automobiles built between 1960 & 1981. Jeff Garber is a long-time MG & Triumph mechanic who, as a part time occupation, does restorative work as well as tweak your horsies to the max. Jeff is a local (MA) guy who was a British car mechanic & repair shop proprietor for many years. He also did his fair share of autocross racing in the 70's & 80's. Go ahead...see if you can stump him or just ask for his opinion on something that might be perplexing you. Visit him at <http://ourworld.compuserve.com/homepages/tirebiter/> & send him an email with your questions. What the heck....it couldn't hurt right? The clock doesn't start til he's doing the work.
- **Britannic Motors**, 110 Memorial Drive, Avon, MA 508-588-9241 Bob Nicholson. He's been there for years & is an expert, particularly likes MGs.
- **AutoWorks**, British Car Repair Shop in Stoneham MA - Chuck Giorgio 781-438-7775
- **Lou's Custom Exhaust** - North Reading, Revere, Brockton, highly recommended by lister.
- **De Car Classics Retro Speed**, 5 Rayber Road, Orleans MA 02653 Steve DeCastellano 508-240-7181, Member of CCBCC.
- **Sports Imports**, 127 County Rd. N. Falmouth, MA 508-563-3848

- **Scott's Classic Imports Ltd**, 87 County Rd, Plympton, MA 781-582-2355, Dave Scott is the owner.
- **Little Foreign Car Garage**, 3 Simpsin Lane, Falmouth, MA 508-548-9207
- **Brit Bits**, Rye N. H. 800-995-2487 Web: <http://www.britbits.com/>
- **Her Majesty's Service**, A small business specializing in the restoration of antique British autos, no job is too big. Located at 2264 G.A.R. Highway, Swansea MA, 02777, 508-379-9789, Kevin and Eric

## **B. General Parts Suppliers - (LOCAL to Massachusetts)**

### **Northeast**

- **Greenfield Imported Car Parts** - 335 High Street, Greenfield, MA. 01301 Email: [bill17@valinet.com](mailto:bill17@valinet.com) <http://www.gicp.com/> Phone: 413-774-2819
- **British Parts Locator/Carl's Automotive Upholstery & Carpet**, Carl Renaud, 3450 Mendon Rd, Box 14 rear of "liquor store building", Cumberland RI, 800-884-3203 or 401-658-0631 Fax: 401-658-1883 Email: [britplocat@aol.com](mailto:britplocat@aol.com) Web: [http://www.britpartslocator.com/bplwebsite\\_001.htm](http://www.britpartslocator.com/bplwebsite_001.htm) Moss distributor, sells at a 15 to 20% discount. Does leather, custom carpet, upholstery, door panels etc.
- **British Parts Connection**, 176 Lincoln St, Bangor ME 207-990-3422 Fax: 207-945-3518 Email: [Mail@TheBPC.com](mailto:Mail@TheBPC.com) [www.TheBPC.com](http://www.TheBPC.com) Dick & Cale Burger, Distributors for Moss, VB, Rimmer & SC Parts.
- **McLean's Brit Bits**, 14 Sagamore Road, Rye NH, Rte 1A 800-995-2487 Fax: 603-433-0009 Web: <http://www.britbits.com/>
- **Brit Tek**, Deerfield NH 800-255-5883 fax: 603-463-5612 Web: <http://www.brittek.com/index.html> email: [brit@tiac.net](mailto:brit@tiac.net) Sells Moss parts at a discount. Primarily MGs but sells all kinds of Brit parts & he knows his stuff.
- **GB Spares**, 86 Wayland St, North Haven CT 203-230-9782 Owner: Gary Booker, has AMCO products available. Email: [gbspares@msn.com](mailto:gbspares@msn.com)
- **Britanniclassics**, 45 Davids Hill Road, Woodbury CT, Moss distributor, 203-263-2460, Owner: Brad Del Sorbo,
- **Bit of Britain**, Vermont, Mike Benaducci, 802-439-5815
- **NOS Locators** - 587 Pawtucket Avenue, Pawtucket, RI 02860, 401-725-5000 New parts and fasteners.
- **Scarborough Faire Inc**, 1151 Main Street, Pawtucket RI, 401-724-4200, Fax: 401-724-5392, Email: [mgaparts@aol.com](mailto:mgaparts@aol.com)

## **C. Car Carriers - (NOT LOCAL to Massachusetts)**

### **Car Carriers**

- **Phoenix Collectors**, Nashville, TN - Erik (son) & Fred (dad) Hoffman 800-641-0994, 615-361-9081 (or 3081)
- **AutoTrans Express**, St. Louis, MO 866-277-6327, 314-439-9397 Email: [Sales@AutoTrans-Express.com](mailto:Sales@AutoTrans-Express.com) <http://www.autotrans-express.com/>
- **Horseless Carriage Carriers Inc** - \$\$\$ but good Transporters of Antique, Classic, New Cars & Trucks 800-631-7796 [hcc@eclipse.net](mailto:hcc@eclipse.net)
- **Passport**, 37 Progress Parkway Saint Louis, MO - \$\$\$ but good 800-325-4267, 314-878-5777 fax: 314-878-7295 <http://www.passporttransport.com/>

## **D. Parts Suppliers (U.S.A and International) - Specialty shops are listed within the specific categories.**

### **Mid-Atlantic**

- **The Roadster Factory** (TRF), PA - If you have numbers 800-234-1104, If you need help 800-678-8764, Fax: 814-446-6729 - very reputable, have catalog
- **Joe Curto Inc.** College Point, NY 718-762-7878 Fax: 718-762-6287 Email: [joecurto@aol.com](mailto:joecurto@aol.com) Web: <http://www.joecurtoinc.qpg.com/> Joe rebuilds carburetors, fuel pumps, starters, alternators, wiper motors, heater motors, gauges, distributors, trafficators, hydraulic brake & clutch components, water pumps & radiators. He can also supply you with the parts to do it yourself in most cases. Can supply most mechanical parts as well as some body parts.
- **Motorhead** - Motorhead Ltd, 800-527-3140 Fax: 703-573-3195 email: [motorheadx@aol.com](mailto:motorheadx@aol.com) - catalog, good guys <http://www.motorheadltd.com/>

- **BRG (British Racing Green)**, Delaware 888-749-8033 [www.info@brgparts.com](http://www.info@brgparts.com)
- **Realey Healey**, NJ, they knock 10% off regular prices & 5% off sale prices of the big 3, <http://www.realeyhealey.com/>
- **Good Parts**, RR5 Box 5341, Mohnton PA, Performance parts, 610-777-4457 <http://www.goodparts.com/> Richard Good
- **Power British**, 1242 East Ridge Pike, Plymouth Meeting PA, Performance parts, 610-270-0505, Fax: 610-270-3059 <http://www.powerbritish.com/~britcars> Brian Schlorff
- **British Miles**, Morrisville PA, 215-736-9300, <http://www.britishmiles.com> [bmsales@britishmiles.com](mailto:bmsales@britishmiles.com)
- **Classic and Sports Car Parts**, 6500 Monticello Road, Columbia S.C. 29203, 803-754-5363 [www.classicandsportscarparts.com](http://www.classicandsportscarparts.com) Mark Miller
- **Librandi Plating**, 93 Airport Drive, Middlestown PA <http://www.carchrome.com/beta/librandi/contact.htm> 717-944-9442. They do great rechroming work. Example of cost: Tailight housings and both bumpers for a TR6 will set you back \$800 if they are in good shape. Shipping is extra. Expect to wait 4 or 5 months.

#### Southeast

- **TR Shoppe**, London 18063 Dublin Avenue, Port Charlotte FLA Fred Schmidt, Jeff Marks 813-627-6813

#### Great Lakes

- **Little British Car Co**, Michigan - [www.lbcarco.com](http://www.lbcarco.com) Jeff Zorn, good guy, great service, Moss distributor, about 20% discount on average.
- **Pelham & Son Restorations**, IL 217-345-7564 [mppsrt6@lincweb.com](mailto:mppsrt6@lincweb.com) Owner: Mark Pelham

#### Midwest

- **TSI**, Ted Schumaker Imported, Pandora OH, Performance parts, catalog 800-543-6648 email: [tedtsimx@q1.net](mailto:tedtsimx@q1.net) <http://www.tsimportedautomotive.com/>
- **Foreign Car of Fort Wayne**, 2604 E. Washington Blvd., Fort Wayne, IN 46803, 260-426-8744

#### Plains

- **Victoria British**, KS 800-255-0088 Fax: 913-599-3299 - not recommended by most TR authorities for general quality reasons.

#### Southwest

- **Kip Motor Company**, 2127 Crown Road, Dallas, TX Part/Tech Questions 972-243-0440 Order: 888-243-0440 Fax: 972 243-2387 Email: [kipmotor@aol.com](mailto:kipmotor@aol.com) <http://www.kipmotor.com>

#### West Coast

- **Moss Motors**, CA 800-667-7872 Fax: 805-692-2525, catalog
- **British Parts North West**, Oregon (hard parts) Gregg/Leighton, no catalog, excellent service 503-864-2001 Fax 503-864-2081 <http://www.bpnorthwest.com/index.html>
- **Team Triumph**, Scott 330-392-7176, Salvage yard & Moss reseller. Prices are usually at least as good as Moss.
- **Triumphs Only**, 1514 E. Scotts Ave, Stockton CA 95205, Phone: 209-939-1020 Fax: 209-939-1027 Email: [trnut@triumphsonly.com](mailto:trnut@triumphsonly.com) or [trnut@aol.com](mailto:trnut@aol.com)
- **Advanced Performance Technology (APT)**, CA Performance parts [www.aptfast.com](http://www.aptfast.com)

#### Canada

- **Octagon Motor Group**, Vancouver, best priced Canadian supplier. only publish a TR6 & MG catalogue, good customer service, <http://www.octagonmotorgroup.com/>
- **Obsolete Automotive**, Ontario Canada, 519-337 3232 <http://www.obsoleteauto.com/>
- **Rob Gibbs** - Port McNeill, British Columbia, Phone: 1-250-956-4897, Email: [robmic@island.net](mailto:robmic@island.net), Has some very nice aluminum radiator shrouds and stainless steel wiper motor covers available in low quantities. Email Rob for pictures.
- **GG Polishing & Plating Inc.** Montreal, Quebec 888-651-5190 <http://www.ggplating.com/full.swf> They use copper base, then nickel and finally chrome.

#### UK

- **TR Bitz**, New & used parts, UK 01144-1925-861861 Fax: 01144-1925-860816 Email: [triumph@trbitz.u-net.com](mailto:triumph@trbitz.u-net.com)

- Rimmer Brothers Ltd, Triumph House, Sleaford Road, Bracebridge Heath Lincoln LN4 2NA, Tel: +44 (0)1522 568000, Fax: +44 (0)1522 567600 E-mail: [sales@rimmerbros.co.uk](mailto:sales@rimmerbros.co.uk) <http://www.rimmerbros.co.uk/>
- **Quiller Triumph**, Unit 1, White Hart Road, Plumstead, Woolwich, London. SE18 1DH Tel: 0208 854 4777 Fax: 0208 854 2404 Email: [info@quillertriumph.co.uk](mailto:info@quillertriumph.co.uk) <http://www.quiller.zx3.net/>
- **Moss Europe Ltd**, Email: [sales@moss-europe.co.uk](mailto:sales@moss-europe.co.uk) <http://www.moss-europe.co.uk/> catalog
- Classic Spares, First Floor, The Forge, Fore Street, KENTON, Devon, EX6 8LF Tel/Fax 01626 891645 Mobile 0797 119 0602 e-mail [ian@classic-parts.co.uk](mailto:ian@classic-parts.co.uk) <http://www.classic-parts.co.uk/>
- **TRGB Ltd**, Unit 1, Sycamore Industrial Estate, Long Drove, Somersham, Huntingdon Cambridgeshire PE17 3HJ UK Tel: +44 (0)1487 842168 Fax: +44 (0)1487 740274 Email: [trgbltd@aol.com](mailto:trgbltd@aol.com) <http://www.trgb.co.uk/intro.htm>
- **Canley Classics**, opposite G H Pearmans, Green End Rd, Fillongley, Warwickshire, England CV7 8DT +44 (01676) 541360 Fax: +44 (01676) 542099 email: [john@johnkippling.demon.co.uk](mailto:john@johnkippling.demon.co.uk) <http://www.kipping.co.uk/>
- **British Sports Car Spares**, 303 Goldhawk Road, Shepherd's Bush, London W12 8E Tel: 020 8748 7823 Fax: 020 8563 0101 <http://www.britishsportscarspares.com/>
- **Mick Dolphin**, UK He advertises widely in UK club magazines. Mick specializes in NOS (Stanpart & Unipart). A good bloke, as straight as a die & thoroughly reliable. Only thing is he doesn't take credit cards in payment. Email: [mickdolphin@tinyworld.co.uk](mailto:mickdolphin@tinyworld.co.uk) web: [www.mickdolphin.co.uk](http://www.mickdolphin.co.uk)

## 1. Air Conditioning

### R134-A and R12 Freon Upgrade Articles

- Enviro-safe ES12a is a terrific R134a replacement that works great in converted freon R12 systems too. The answer to cost effective Freon replacements lies in Hydrocarbon refrigerants. No license required, no parts to replace, 100% compatible with existing oils, seals, hoses, "O" rings etc, zero ozone depletion, extremely low global warming potential, universal replacement for all automotive systems. They also carry environment and equipment friendly HVAC refrigerants made by Enviro-safe. <http://www.autocool-refrigerants.com/index.htm>
- Automotive Air Conditioning Forum Page <http://members.aol.com/ellsworthc/cfc/cfc.html>
- York A/C Compressor Replacement - You can use a Murray/Everco 57044. This is a 6 cubic inch capacity compressor. It has been said that the Sanden or Setec SExx15, Model #194663, manufactured by SEGM will also fit. You'll also need the Sanden mounting adapter if you're mounting it to the York mounting brackets.

## 3. Body, Frame, Hardtops

### Frame Repair

- Auto Rust Technicians, 275 Niantic Avenue, Cranston RI 401-944-4444 or 800-407-7024 Owner Jerry Carlson is supposed to be very good to deal with. Has TR6 trailing arm mount kits. They will install or you can buy it outright & have it installed at a shop of your choice. <http://www.autorust.com/> email: [info@autorust.com](mailto:info@autorust.com)
- Frame replacement pieces - [www.triumphworks.com](http://www.triumphworks.com)

**Frame Builder** - Try Tony Vigliotti from LITA (Long Island Triumphs Association). Word is that he builds TR6 frames for about \$2000.00, 631-205-1061 Email: [lyntronics@attglobal.net](mailto:lyntronics@attglobal.net)

**Rusty Metal Coatings** - Corroseal 425-837-0200 or 888-466-7878 <http://www.corroseal.com/distributors.html>

**Fender Caulk** - Use black 3M caulking that is made into strips about a foot long. The paintable sealant is very pliable, fills gaps, & never hardens & allows repositioning. The strips are pressed in place with your thumb. Available from NAPA & other part suppliers the 3M number is 08578. NAPA's Martin Senour paint line also offers a similar product #4424. See the 3M strip caulk link below for more information.

[http://products.3m.com/us/auto\\_marine\\_aero/products/aad.jhtml?powurl=GSLRY5ZD4SgsGSLPLPKL4XgeGST1T4S9TCqv6DTWTJQPBBglGSBTX9SDWVbl](http://products.3m.com/us/auto_marine_aero/products/aad.jhtml?powurl=GSLRY5ZD4SgsGSLPLPKL4XgeGST1T4S9TCqv6DTWTJQPBBglGSBTX9SDWVbl)  
**Fiberglass Hardtops and Body Panels** - Smoothline High Performance Composites - Their TR6 hardtops used to be sold by Parrish. 2562 Riddle Run Road, Tarentum Pa Phone: 877-368-4533 Fax: 724-274-6121 <http://www.smoothline.com/>

## 2. Brakes & Brake Hydraulics

### Miscellaneous Front Disc Brake Info:

- Seals Between Caliper Halves - Pegasus Racing, 800-688-6946 Email: [info@pegasusautoracing.com](mailto:info@pegasusautoracing.com) <http://www.pegasusautoracing.com/HOME.html> about \$5/pair. Moss also carries them #583-820. Don't use "O" rings of nitrile or vitron. Use ethylene propylene or silicone to resist damage from brake fluid. TRF has the "O" seal. Locally try the Beck-Arnley kit 071-1051. Contains 2 "O" rings, 4 seals, 4 boots - \$14 US. Stainless steel pistons available from TRF for \$24 each. Rebuilt calipers are available from Apple Hydraulics for \$95 each & include new stainless steel pistons. Good reputation.
- General Caliper Info - The 1974-up front calipers are of a better design & can be substituted for the earlier units. The early caliper (stamped 16P) uses no circlip to retain the boot to the caliper, the later caliper (stamped 16PB) uses a circlip to retain the boot to the caliper. The body of the caliper is stamped near the mounting bolt "boss", on the inner side of the caliper. For illustrations of the different assemblies, consult the Moss or TRF catalogs. If the kit is not the correct one, the boot will not fit correctly, even though the seal fits in the bore. Make sure you have the right kit.
- Front Brake Pad Compatibility, 73-76 TR6 - New Jersey American D59 organic front disc pads - 68-69 BMW 1600, 1602, 68-76 BMW 2002, 71-78 Mercury Capri 2300, 2800 & 73-74 Triumph GT6
- Modern Front Wheel Grease Seal - CarQuest part# SLS #340823 supplied by Federal Mogul or CR 13612, type HM21
- My '73 Caliper Markings - Left, Girling 64326047 QK Type 16. Right, Girling 64326046 5J2 Type 16
- Toyota Caliper Conversion - '79 to '84 4WD Toyota HiLux or Pickup or '84-'84 Toyota 4-Runner - A1 Cardone, Left 17-821& Right 17-820. These are loaded calipers.
- Toyota Caliper Conversion - Good writeup using Toyota 1979-83 4WD pickup (non-diesel) calipers [http://www.cs.du.edu/~ljanssen/tr6\\_brake\\_install.html](http://www.cs.du.edu/~ljanssen/tr6_brake_install.html)  
The TR6 caliper uses a **bubble flare** at the caliper while the Toyota uses a **double flare** at the caliper.
  - **Girling 16PB caliper**, bleed screw = 10mm x 1.0, hard line thread = 10mm x 1.0
  - **Toyota 4-piston caliper**, bleed screw = 10mm x 1.0, hard line thread = 10mm x 1.0
  - **Threads etc**, threads are the same but you cannot re-use the original hard line when making the Toyota upgrade due to the different configuration/size of the calipers, flare type used, length and bend of the original lines. A new hard line must be fabricated using the "old" fitting that screws to the flex line.

### Front Brake Pad Info, Squealing etc:

- PBR (REPCO) Metal Master Brake Pads (From Greenfield Auto Parts..Greenfield, MA) Info from box - Made in Australia, Part# D174MM, Non-asbestos, High performance, Anti-squeal, Fade resistant, Longer life, Low dust. Info from pad backing - DB558 BMXB+EE 608435 CONTAINS NO ASBESTOS. Cost \$28.00 plus tax and shipping.
- Semi-metallic pads direct from Axxis (Metal Master, also known as REPCO) - [http://axxispads.com/shop/default.php/manufacturers\\_id/11](http://axxispads.com/shop/default.php/manufacturers_id/11) TRF may still carry these or ones like them. There is no squealing with these. If you still have the steel shims you should use them also. AXXIS is the name now on what used to be called REPCO. Same company, same product, but they lost the right to use the REPCO name sometime in the late '90s. They're still manufactured in Australia and now distributed by Dana corporation through their Borg/Warner/Beck/Arnley Division. You can find them at most NAPA stores. The interchanged part numbers for upgrades to original equipment are as follows:

These are both AXXIS (REPCO) products.

'69-72 to CC81078

088-0571D (organic pad)

088-0571M (semi-metallic pad)

AXXIS doesn't show a pad for this application, however, the numbers would be:

'72-'76 from CC81079      082-0134 Premium organic pad.  
   088-0134D (organic pad)  
   088-0134M (semi-metallic pad)

- Try the anti-squeal shims with the cut outs (from TRF) and blue goo applied in a thick coat between the shim and pad.
- Most brake squealing is due to heat glazing of the rotor surface. When the rotors are turned there are different speeds and cuts on the brake lathe. The final cut should be slow, smooth, steady and small cuts.

#### **Miscellaneous Rear Drum Brake Info:**

- Rear Wheel Cylinders - Datsun SRL 311 rear wheel cylinders will move more of the braking to the rear of a TR6, which will help the car on course.
- Brake Shoe Hold Down Kit - pins & clips - Victoria British 7-7537
- Cylinder Retaining Kit - including distance piece - Victoria British 7-7538
- Rear Wheel Cylinder Clips - Use a small amount grease & install the middle clip last. Tap it in with a small hammer.
- Rear Brake Adjustment - Pull the emergency brake handle up until you hear three or four clicks. Tighten each adjuster until snug. Pulling the hand lever up first sets the handle where you want it & also positions the front shoe so it is even with the rear one you are adjusting.
- Rear Brake Adjustment Tool - ¼ inch tap handle - about 3 inches long. Also can use ratcheting air conditioning service wrench.
- Finned Aluminum Brake Drums - Autospecialty (aftermarket arm of TRW, Inc) World Discount \$79.45 <http://www.wdautoparts.com/> part# EBD-044R "Aluminum replacement drum for TR6", 240Z drum (JBD-102) machined to fit the TR6 backing plate. Also available at Auto Parts Giant - \$73.71 go to: <http://www.autopartsgiant.com/> Smothers Auto Parts does not list a price online <http://www.smothers.com/>

#### **Miscellaneous PDWA Info:**

- "O" Rings & Rebuild Kits - American Packing & Gasket Co, Houston, TX 713-675-5271, 800-888-5223 [www.apandg.com](http://www.apandg.com) Give them your measurements & they can take it from there - min \$5.00 order. Use Ethylene Propylene (EPR) O-rings ONLY. There appears to have been about 4 different PDWA models used. Internal piston sizes vary. Disassemble PDWA & measure the diameter of the "channel" on the piston where the O-ring seats then measure the cross section (width) of the old O-ring. With this information, you need to determine the size of the O-ring so, as a reference, check out PSP at: <http://www.pspglobal.com/nf000series.html> & look at their "series" charts to find your size. O-rings are "sized" by the cross sectional diameter of the O-ring material & the inner diameter of the ring. You have to know yours before you order.
- Rimmer Brothers or British Racing Green - Delaware 888-749-8033. For the early (brass) PDWA order part# BAU1704A. It has two each of two different size o-rings for different styles of plungers (although not all) & a copper washer to seal the bolt on the end of the cylinder. See at <http://pages.prodigy.net/jdhenn/pdwa1.jpg>
- Great Lakes Rubber & Supply - 414-352-8800 [www.greatlakesrubber.com](http://www.greatlakesrubber.com) Stock# 2- 008 E893 "O" rings. Made by Parker Hannafin. \$62.50 per 100.
- PDWA Brake Warning Light Connection - Connector that fits into PDWA used in the TR250 & TR6 still available as a new "old" item through Ford dealers.
- PDWA threads - 7/16"-24 TPI for the front brake line & 3/8"-24 TPI for the rear brake line.

#### **Hydraulic Assembly Rebuilds**

- White Post Restorations, VA 540-837-1140 Fax: 540-837-2368 ask for Billy or "W.R." <http://www.whitepost.com/>
- Sierra Specialty Automotive - Brake cylinder and master cylinder rebuilds, highly recommended, \$110 for TR6 <http://www.brakecylinder.com/index.htm>
- Apple Hydraulics, NY 800-882-7753 M/C, wheel cylinders, brake cylinders. shocks sleeved with brass to original size. They also sell rebuild kits for their rebuilt "overbore" master cylinders. Carbs rebuilt & flow bench tested \$345 pair. [www.applehydraulics.com](http://www.applehydraulics.com)

#### **Master Cylinder**

- Beck-Arnley master cylinder, NAPA - \$120 with a core. 1 year warranty.

#### **Brake Booster Info:**

- Godman Performance, TN <http://www.godmanhiperformance.com/home.htm>
- Go to a local truck stop/repair facility. Brake boosters can be rebuilt. They aren't much different than the air chambers on 18 wheelers. About \$65 US.

- Partco Automotive, 1494 State Avenue, Cincinnati, OH 45204, 513-471-7000, Gary, highly recommended.
- A servo from an Austin Allegro will work on the TR6 although longer bolts must be used to secure the servo to the firewall.
- Brake Master Cylinder and Servo Conversion - a 1988 Nissan Sentra brake master cylinder and servo unit can be retrofitted to fit the TR6. The whole conversion cost about \$50.00 (Canadian) for the parts <http://members.shaw.ca/pleask>, click on ENTER and THIS N THAT and SERVO. The master cylinder has 4 outputs so a PDWA is not necessary. The servo needs to be shimmed to allow the master cylinder and reservoir to lie horizontal.

**Brake Fluid Website** - <http://www.tccoa.com/brake-fluid/>

**Brake Bleeding** - For a quick bleed to get you going, open passenger rear & fronts simultaneously, let it gravity bleed & close - proceed to driver side & repeat.

**Power Bleeder** - Instructions at <http://www.garageboy.com/bmw/bleeder.html> The only deviation from the instructions is to use a spare clutch or brake master cylinder cap for a TR6 (or whatever car you are bleeding). Works great.

**Brake Pedal Switch** - Use a switch from the 3, 5 or 7 series BMW from the 70's or early 80's. They have a metal body & 1/4" male connector spades.

**Brake Lines** - Classic Tube, Lancaster NY 800-882-3711 Great people to work with & stainless steel & OE kits are excellent. All pipes come pre-bent & ready to go. <http://www.classictube.com/>

#### **7/8" Rear Wheel Cylinders**

- Earl's in Australia at <http://members.ozemail.com.au/~earls/index.html> He also has a Girling Racing Brake equipment page, as well as other interesting Tilton components.
- Another interesting Girling supply site is: <http://www.racecarsupply.com/html/brakes.html> It was also suggested that MGB GT rear wheel cylinder pistons are 7/8". 7/8" wheel cylinders were used on Sunbeam Alpine Series 1& 2 cars & some Morgans. The cheapest/quickest source is from Victoria British, part number 7-946 at \$19.95 ea. The Girling Part number is #64670475. This is a direct bolt in replacement.

**Brake Line Flaring Tool** - Cornwell double flaring tool kit part number is PU-FT6.

**Brake line flare nut** - The 3/16 steel flare nut Triumph used is Lucas Part #322937 080120.

**Brake Plumbing Article** - <http://web.dimebank.com/BrakePlumbing.html>

**Removing Brake Drums** - Heat the brake drum center and then pound the hub assembly on the floor. The drum should pop off the hub.

## **4. Carburetion, Fuel & Air Systems**

- ZS Carburetor float level - 16 to 17 mm or .640" to .680" - Some say .625" to .750"
- Fuel pump pressure - 1.5 to 2.5 PSI
- Fuel tank capacity - 13.5 US gallons
- Fuel - Runs ok on 87 octane but much better performance with 93 octane.

#### **Carburetor Types**

- 1971 - Zenith Stromberg 175 CD-2-SE
- 1972 - Zenith Stromberg 175 CDSE
- 1973 - Zenith Stromberg 175 CDSEV

**Carburetor Adjustment Tools** - Part No. 88NS2792N for \$29.95 from J.C. Whitney (page 169 in catalog 649J-04). Works better than Unisyn. Cheaper, easy to use, doesn't slow the engine speed down. Fits all kinds of carbs.

**Carburetor Mixture** - Properly adjusted needles can only be raised about 1/32" before faltering. Take off the top of the carburetor & remove the damper, along with the needle. You can then see the needle go up or down with the turn of the Allen. Take a measurement. For a starting place, have both needles even with the bottom of the air piston. The needle will only go so far up towards "rich" before you'll run out of adjustment. Most engines respond well long before you reach this (rich) mixture.

1. Install the new or rebuilt carburetors on manifold.
2. Leave throttle shaft couplings loose.
3. Set idle screws to just touch the throttle shaft levers.
4. Set mixtures on each carburetor to the point where you get the highest RPMs. This is a good starting point. If you have a vacuum gauge, adjust for maximum vacuum. If adjusting from the right hand side of the car, clockwise makes it richer, counter-clockwise makes it leaner.
5. Synchronize carburetors at idle by adjusting idle screws.
6. Tighten throttle shaft couplings.
7. Hold RPM at 2000 & check again, If out of sync, adjust throttle shaft coupling for sync. It is more important to be in sync off idle, than perfectly in sync at idle.
8. Revisit mixture by bringing back to Idle & lifting the air piston 1/32 to 1/16". Repeat for other carburetor.
  - If correct, RPMs will very slightly rise momentarily & then fall.
  - If lean, RPM will just fall.
  - If rich, RPM will rise & remain at a higher rpm. Re-adjust as needed. By adjusting mixture you will affect sync, so re-visit the sync again.
9. "Goose" the throttle making sure the RPMs fall normally & the car does not attempt to stall out. If it stalls out, or attempts to, the throttle bypasses are adjusted too tight & not opening to let any air in on overrun. If RPM falls very slowly (like it has a 100 lb flywheel) the bypasses are too loose. Adjust as necessary. This may also affect sync & mixture so you might need to revisit them. Loosening the adjustment screw makes the bypass tighter, tightening the screw causes the bypass to open up.
10. Time the engine & adjust idle to 750-850 rpm using the tachometer on a meter. When timing, mixture & sync is correct with no vacuum leaks, the manifold vacuum should read a steady 18 to 20 inches at idle. Retarding the timing drops engine RPM. Advancing the timing raises engine RPM. With a vacuum gauge you can set the optimal timing. Opening the throttle plates slightly will result in lower vacuum readings. Too far advanced & the throttle plates may be closed off almost completely to maintain 750-850 resulting in vacuum readings as high as 24 inches.

#### **SU Adjustment Info:**

- From Paul Tegler <http://www.teglerizer.com/sucarbs/>
- From Roger Garnett <http://www.mgbexperience.com/service/su-tune.html>

#### **Fuel & Air Filter Info:**

- Fuel Filter, 5/16" Line - For the primary filter I use Purolator F10024 (A.C. GF469) along the frame rail. For the secondary filter I use Purolator PRO #805 just before fuel pump. The 805 has the glass case for easy viewing of fuel.
- K&N Filter Site - <http://www.knfilters.com/>
  - Stromberg 150CD, Chrome air filter - Part number 56-1610
  - Stromberg 175CD, Chrome air filter - Part number 56-1620
  - SU, 1-1/2", Chrome air filter - Part number 56-1390
  - SU, 3/4", Chrome air filter - Part number 56-1400
  - SU 1-1/4", 2-bolt, Chrome air filter - Part number 56-1630
  - Weber DCOE, Chrome air filter - Part number 56-1310
- Authorized K&N Vendor - Martel Brothers <http://www.martelbros.com> They have a 185 page K&N catalog on line. Oil filter #KNN HP-2009 \$8.97, Aerosol Filter Care Service Kit #KNN 99-5000 \$9.99, Air Filter #KNN E-3360 Round Filter \$28.93 (two required)
- K&N Filter Site - Good prices. Use K&N site for part numbers <http://www.goairfilters.com/>
- K&N Bolt on Air Filter Kit & Elements - K&N part# 56-9156 - Element by itself is part# E-9144. Bob Greene says part# is 56-1620 right off the box. Check with Advance Auto Parts or Auto Zone <http://www.knairfilters.com/56cat.pdf>
- K&N Filters For Use With Original TR6 Air Box - The big three will point you to K&N part #E-2540 but this is said to be too tall for the stock TR6 air box. The E-2540 is 2-3/16" tall. The Fram #CA656 for a TR6 air box, which fits correctly, is 2 inches tall. The E-2540 is too tall & will be compressed when fitted

into a TR6 canister. The closest element to the stock filter size (based on the Fram filters which seem to fit well) is the #E-3360. That one is 2 inches tall & fits without compressing the filter when installed. Improves gas mileage by about 12%.

- Cleaning K&N Type Foam Air Filters - Use OXI Clean, 3 tablespoons in a bucket of fairly hot water (use liner bag)
- Alternative to Traditional Air Filters - Oval shaped filter that can be made to fit the stock housing. It seals well, and the oval shape covers both intakes. Part number is Pennzoil PZA104 or Fram CA3597.

#### **Carburetor Rebuild Info:**

- Gary Martin, 605-391-2422, rebuilds ZS carburetors & various TR6 parts, highly recommended by 6 pack.
- Apple Hydraulics, NY, 800-882-7753, rebuilt & flow bench tested \$345 pair [www.applehydraulics.com](http://www.applehydraulics.com)
- ZS Carb Rebuild Docs - from Nelson Riedel <http://www.buckeyetriumphs.org/index.htm>
- Joe Curto Inc. College Point, NY 718-762-7878 Fax: 718-762-6287 Email: [joecurto@aol.com](mailto:joecurto@aol.com) Web: <http://www.joecurtoinc.qpg.com/>

#### **Carburetor Rebuild Info:**

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- ZS Carb Rebuild Docs - from Nelson Riedel <http://www.buckeyetriumphs.org/index.htm>
- Joe Curto Inc. College Point, NY 718-762-7878 Fax: 718-762-6287 Email: [joecurto@aol.com](mailto:joecurto@aol.com) Web: <http://www.joecurtoinc.qpg.com/>

**Fuel Sender Float Info** - There is a Jaguar float that will fit. Contact John Rossi [JRossi727@aol.com](mailto:JRossi727@aol.com) in Georgia for more info.

**Excellent Carburetor & Emissions Page** - <http://www.mv.com/ipusers/last/emissions/emissions.html>

**Fuel Shutoff Valve** - Located on frame rail just to the rear of the clutch slave cylinder. Brass "Tempo" marine 3 way dual tank fuel valve part# 140030, model# 302WV3, two holes for mounting. Use one 1/4" NPT to 5/16" brake line 90 degree elbow (to tank), one 1/4" NPT to 5/16" brake line straight fitting (to fuel pump) & one 1/4" NPT to 5/16" compression fitting (to drain). Make a 90 degree bracket to mount the assembly to the frame. Handle's arrow pointing down is off, pointing forward is carbs, pointing back is drain. Total cost \$37. <http://www.boatfix.com/bypage3.asp?page=404> See part# 302WV3 for PDF file with photo of valve.

#### **Oxygen Sensor Install & General Info:**

- [http://www.alamomotorsports.com/knn\\_afr.html](http://www.alamomotorsports.com/knn_afr.html)
- [http://www.pelicanparts.com/techarticles/mult\\_air\\_fuel\\_monitor/mult\\_air\\_fuel\\_monitor.htm](http://www.pelicanparts.com/techarticles/mult_air_fuel_monitor/mult_air_fuel_monitor.htm)
- <http://www.engr.ucdavis.edu/~avsmith/o2sensor.html>
- <http://www.students.tut.fi/~eppu/dev/EGO-bar.html>

**Electric Fuel Pumps** - Facet makes an electronic pump that they claim is compatible with all gasolines, even those with ethanol that eat up interrupter style pumps. NAPA carries the same pump with their label. Can be mounted in the trunk on what looks like was the mounting tabs for the petrol injection pump. You need to keep fuel pressure in the 3 psi or under range. The blanking plate from a 396 Chevy engine can be used to block off the mechanical pump opening.

**Weber Downdraft Carb Adjustment** - [www.racetep.com/weberadj.html](http://www.racetep.com/weberadj.html)

**Carburetor Bowls & Leaky Plugs** - If you go with new o-rings, the size is 2-114. Be sure to ask for Viton as they will not breakdown from the gas. Rocket Seals in Denver has them at \$0.84 each, plus shipping. The ultimate solution is to find some carbs from a late 70's model car (TR7, TR8, Spitfire, MG). These carbs had float bowls cast without the hole & hence no need for the plug. Be sure the donor carb is a 1.75 inch carb (CD175xxx).

**ZS Carburetor Needle "O" Rings** - 3/8" OD, 1/4" ID, 1/16" thickness. Also known as AS568-010.

**Charcoal Canister** - They will clog with age. The screen can be replaced with a piece of stainless steel screen from Home Depot cut to size & the charcoal replaced with aquarium filter charcoal sourced from a local pet store.

**Refurbished Fuel Tanks** - Triumphs Only, 1514 E. Scotts Ave, Stockton CA 95205, Advertises original refurbished gas tanks on their web site for \$300 with exchange (\$130 core charge), lifetime warranty and includes new screws for the sending unit. The interior appears to have a baked-on black substance. Overall appearance is excellent. Phone: 209-939-1020 Fax: 209-939-1027 Email: [trnut@triumphsonly.com](mailto:trnut@triumphsonly.com) or [trnut@aol.com](mailto:trnut@aol.com)

## 5. Clutch, Clutch Hydraulics, Flywheels

Excellent Clutch/Transmission Related Articles - "MUST SEE SITES" <http://www.buckeyetriumphs.org/index.htm> <http://clubs.hemmings.com/mntriumphs/>

### Throwout Bearing Info:

<u>Brand</u>	<u>Country</u>	<u>Stamped #</u>	<u>OD</u>	<u>ID</u>	<u>Height</u>	<u>Height w/sleeve</u>	<u>BearingType</u>
RHP	England	14/W21/16	3.375"	2.062"	.910"	1.905"	Open
Nachi	Japan	052TRBC09-7	3.628"	2.059"	1.020"	2.050"	Sealed

**Toyota Throwout Bearing Info** - Use '75 to '86 Toyota FJ60 Landcruiser bearing - Toyota part# 90363-52001 - cost is \$65. Presses onto existing sleeve. Alternate part numbers include Beck Arnley Worldparts #062-0898, KOYO RCT52S, NAPA N3075. Larger OD than stock but ID is same. Hone additional .010-.020 clearance off inner bore of sleeve - has a tendency to stick at higher temps, install with high-temp grease - STAY TUNED FOR UPDATES ON THIS SUBJECT.

**Miscellaneous Pressure Plate/TO Bearing Info** - The Borg&Beck pressure plate fingers has no "bend at the end." There is a ramp that starts .700 from the open end of each finger that nearly flattens out before the TO makes contact. The TO makes a contact that's .187 wide on ea. finger. This contact begins .187 in from the open end. There is a slight 'scrubbing' that takes place between the TO & the fingers, as the clutch separates during disengagement. Total movement to actuate disengagement is 1/2" & requires approx 250lb. pressure. The flat type of throw-out bearing is for the older, three-fingered pressure plate that was used in the TR-4A & back. The conical shaped bearing is used with pressure plates that employ the "diaphragm" style of release fingers. This was common on the later cars & is standard type today.

### Replacement Clutch Assembly Info:

- Friction Disk - When using the Saab & Toyota parts you can use any TR6 disk.
- Alternative Clutch Source - A clutch from a Farmall tractor is essentially the same as a TR6 unit.
- Laycock Clutch - No longer available. Laycock bought by LuK. Note: Distributors say to use only Laycock disk with Laycock plate.
- Borg & Beck Pressure Plate - B&B part# HE5132Q is part of TRF 214321 Magic Clutch setup. Appears that B&B plate required for the TR6 is part number HE4787Q. Jury is out on Borg & Beck.
- Quintel Hazel - not recommended due to poor quality.
- Sachs Pressure Plate - Use '79-'91 Saab 900, non-turbo 2 liter engine, specify Sachs parts only. Sachs part# SC436, Saab Metrix Parts # 87-28-123. TRF uses Sachs pressure plate & Toyota LandCruiser t/o bearing in their Magic Clutch setup. Sachs plate available from "The Parts Guy" 800-874-1850, \$49.95 + shipping.
- LuK Clutch, LuK RepSet - LuK pressure plate - formerly Laycock, German manufactured - Al Salvatore likes the clutch, says it uses a Sachs pressure plate. BPNW says that it comes with an AP (Borg & Beck) pressure plate. LUK brand has been highly recommended, others like the Sachs setup as well.
- Mike Smith, email [squintbros@hotmail.com](mailto:squintbros@hotmail.com) says his LuK RepSet is all LuK components
- Dial A Clutch, FLA 800-938-1195 Fax: 561-347-1293 [paul@dialaclutch.com](mailto:paul@dialaclutch.com) \$156.94 plus shipping. Includes new friction disk, pressure plate, release bearing, pilot bearing & alignment tool. The cover & disk are made by LuK. <http://www.dialaclutch.com/> Email: [sales@dialaclutch.com](mailto:sales@dialaclutch.com)
- Centerforce has not returned email yet.
- From Kai Radicke - This information is directly from the 1984-1985 Quinton Hazell Clutch Components book: I don't recommend using Quinton Hazell clutches. The Saab non-turbo pressure plate assembly will work! This is the same specification pressure plate as used in the Triumph GT6, TR4A / 250 / 5. However, THIS IS NOT the plate recommended for use in the TR6 installation. The non-turbo pressure plates are not built to the higher specification of the turbo assembly, & thus can not manage the extra power & torque effectively. This is especially true if you have a modified TR6. I doubt use of the Saab non-turbo pressure plate would pose a problem on the stock emissions strangled non-PI American TR6s. But for the record, most of the TR6 clutch

lore surrounding the Saab pressure plates have recommended the turbo pressure plate & it's part numbers. Clutch Cover Assemblies: Quinton Hazell Q10028, Borg & Beck HE2847, HE3338, HE2499, Saab 8712036, Unipart GCC139 Used in: '73-'77 Rover 2000 SC & 2200 TC, '77 to '?? Saab 99 Turbo 4 Speed, '79 to '?? Saab 900 Turbo 4 Speed, '65 to '77 Triumph 2500 PI MK.I, II, 2500 TC, 2500S, '69 to '76 Triumph TR6, '69 to '72 Vauxhall Ventora II FD, from ch.OV252010, '72 to '76 Vauxhall Ventora FE, '68 to '72 Vauxhall Victor FD 3300, SL (Estate), '65 to '70 Vauxhall Viscount to ch.IV324999. For the record, I don't agree with this but you decide. My thoughts....I wonder if this was the same philosophy used when the Borg & Beck product became an issue. Most of these TR6s are not highly modified & I dare say there are probably more carberetted cars than PI cars still in existence. There is a reason for all the wear on the mechanical & hydraulic components on these cars & I believe that plate spring pressure is the culprit. Often times people think that "if a little is good...more must be better" Kai doesn't say if the spring force was increased on the Turbo model but I suspect it was. So much for "clutch lore".....seems to be a lot of people out there with TR6 clutch problems.

- Clutch Masters High Performance Center, 267 E. Valley Blvd Rialto CA 92376 - 909-877-6800, Clutch kit is \$150 & includes a Sachs pressure plate #SC436, Borg & Beck friction disc & new throwout bearing. <http://www.clutchmasters.com/>
- Clutchnet USA - 2458 North Merced Avenue. South El Monte, CA 626-448-7432 Fax: 626-448-5737 <http://www.clutchnet.com/> email: [clutchnt@pacbell.net](mailto:clutchnt@pacbell.net)

#### Miscellaneous Clutch/Pilot Bushing/Flywheel Info

- Front Cover Sleeve Length - 2.97" for TR4A thru TR6, 3.375" for TR4.
- Pilot Bushing - Knurl outside circumference so that it does not spin its bore.
- Taper Pin Bore - Pin bore in the shaft must be on the same vertical as the clutch arm. The bore thru the fork that contains the fork pin is drilled at a 7 degree angle.
- Aluminum TR6 Flywheels - Jim Donato at Donato & Son's Motors Inc. Well made, replaceable steel friction surface, good guy to deal with. Will not work with the long snout cranks (early style). 219-753-0434. \$330 cost includes shipping charge.
- Fidanza Aluminum Flywheel – John at Ultimate Rush Motorsports in Ohio (they distribute for Fidanza) 216-401-7757. The Fidanza part number is 172661. The cost is \$359 & they weigh 9 lbs. Fidanza Website <http://www.aluminumflywheels.com/flywheels.html> Contact at Fidanza - Bob Scheid.

#### Miscellaneous Clutch Hydraulics Info

- Clutch Master Cylinder Spring - TRF part# 510815A, Moss part# 582-065
- Clutch Master Cylinder Bore - '69 used .75" bore, '70 to '76 used .70" bore
- Some have used a Spitfire actuating arm on the master cylinder. The Spitfire arm is about 1/2" longer and gives a longer stroke without bottoming out. The downside is the clutch pedal will sit noticeably higher than the brake.

#### Clutch Advice from Tirebiter Jeff Garber at <http://ourworld.compuserve.com/homepages/tirebiter/>

- **Flywheel Machining** - I have adopted a procedure that seems to work perfectly & doesn't cause any problems so far. There are only a few TR-6s with this new procedure done to them as far as I know. I don't know of anyone else who has tried this procedure. I have the flywheel resurfaced with a .035" step in it which reduces the distance that the clutch pressure plate friction surface has to move to achieve complete disengagement. The resurfacing is done only at the **flywheel friction surface** within a diameter that allows the pressure plate to bolt onto the original plane of the flywheel. The new, dropped friction surface does reduce the clamping pressure on the clutch disc but even with a "close to 200HP TR6" there is no slippage. The stock clutch is actually quite large for the TR-6 engine's displacement & power. The slightly reduced clamping pressure has not been a problem in the cars I've done this with. The resultant clutch pedal action is very smooth throughout the stroke & easily controlled with light pedal pressure. When I have a new clutch disc ready to bolt in, I inspect it to see how much it's thickness is reduced when it is being squeezed together. Some discs are very tight in this respect & the small space between the two friction material pieces is negligible. I imagine if all discs were made to a close tolerance, the stock TR-6 setup would work OK. When the disc acts a little like it's soft ... i.e. the friction material pieces have a noticeable gap between them & they move together a little before stacking & becoming a solid mass, I know that the stock TR-6 setup will not disengage completely. Usually you can see the motion of the two friction material pieces coming together just by squeezing them between your fingers. When you release, the pieces move apart again. Try it with a feeler gauge if you doubt this. I haven't noticed that any particular brand has tighter control over the clutch discs & they all seem to be subject to this "softness" in an occasional batch perhaps or just by being at the wide end of their manufacturing tolerance occasionally.

- **Clutch Adjustment Mechanism** - One of the mistakes I made when first using the large master with a small slave was to allow the clutch to overdo the disengagement. The throw-out bearing & the diaphragm fingers were abused if the release mechanism was allowed to move too far. I added an adjustment mechanism similar to, but not an exact copy, of what the TR-4 had. With the adjustment properly set, the clutch would completely disengage about 1/2" or less before the pedal was on the floor. As the clutch disc wears, the disengagement point rises & readjustment is needed when, with the pedal fully released, the throw-out bearing is always in contact with the pressure plate. Clutch slipping will eventually occur without periodic readjustment. I have found that the adjustment mechanism is not 100% necessary for satisfactory results but would recommend it if a stronger than stock pressure plate is used.

**Clutch Cross Shaft Info From Dick Taylor** - The bore for the tapered pin is in line vertically with the clutch operating arm. When the fork is attached, it will "lean forward" towards the pressure plate at a 7 degree angle. The center line of this tapered bore should be 5½" in from the open end of the cross shaft.

**Clutch Slave Cylinder Throw Info** - Roger Williams book calls for at least .625" travel for early clutch master cylinders with a .75" bore. Most of the later master cylinders with .70" bores move the slave cylinder pushrod about .500". This is still more than enough to disengage the clutch when all other clutch components are in good shape.

**SPEC Clutches** - 800-828-4379. Highly recommended by Bob Lang as being helpful and knowledgeable. Ask for Dave.

**Laycock Pressure Plate Rebuilders** - From Roger Williams book -- page 86 -- these guys rebuild Laycocks.

Revington TR - Home Farm, Middlezoy, Somerset TA7 OPD, England Tel: 01823 698437 [neil@revington.com](mailto:neil@revington.com)

TR Blitz - Lyncastle Way, Barley Castle Trading Estate, Appleton Thorn, Warrington, Cheshire WA4 4ST, England Tel: 01925 8611861 [triumph@trblitz.u-net.com](mailto:triumph@trblitz.u-net.com)

TRGB Ltd - Unit 1 Sycamore Farm Industrial Estate, Long Drive, Somersham, Huntingdon, Cambs PE17 3HJ, England, Tel: 01487 842168 [www.trgb.co.uk](http://www.trgb.co.uk)

British Parts Northwest - Sells rebuilt Laycock pressure plates and states that they are working very well.

**Gunst/Sachs/Koyo Info** - John Mitchell reports that for anybody considering clutch alternatives, the Sachs clutch doesnt seem to work with the Gunst bearing. It just doesn't disengage. With the Borg and Beck clutch the Gunst unit works great. Apparently you must use the Koyo TO bearing for the Sachs unit to work. Dick Taylor states that the Sachs unit is what Mr. Gunst recommends....stay tuned for updates. There could be some incompatibilities with the "Gunst like" bearing and sleeve as offered by BPNW.

## 6. Cleaning Materials and Cleaning Techniques

**Cleaning K&N Filters** - Use OXI Clean, 3 tablespoons in a bucket of fairly hot water. Use a liner bag in the bucket.

### Cleaning Plastic Rear Window

- Novus Plastic Polish is highly recommended.
- Meguiars Plastic Cleaner (M17) to buff out scratches followed by Meguiars Plastic Polish (M10) to coat the plastic & protect it....around \$7 a bottle.
- Airport pilot shops are a good source of plastic cleaning supplies.
- Brasso is great for removing the residue left by sticky labels. Also an effective polish for both PVC & Perspex.
- Home Depot has an outstanding product called "AFTA" (Professional Strength Cleaner/Degreaser Adhesive Remover). Works great, used a lot with no damage.
- A friend told me of an old trick using acetone to clean the window. He's used this process many times to bring the old scratched, dull, foggy window finish back to new condition.
  - Using a metal or glass cup, pour the acetone across the top of the window. Be sure to start with enough in the cup that you can fully drench the window from top to bottom.
  - Lay many towels at the bottom to soak up the fluid as it passes by the window.
  - Be careful of any painted surfaces.
  - Do this in a warm, well ventilated environment (not in direct sun though).
  - Don't touch for 1 hour.

Be careful.....you might want to try it first on an old plastic window that you won't be using.

**Top & Trim Cleaning** - Use PVC patio furniture cleaner

**Cleaning Protective Car Covers** - From 'Car Cover Division' made of Technalon by Kimberly-Clark.

**Their Recommendations for washing:**

- Wash in a large commercial laundramat washer without agitation.
- Use 2 cups of Fantastic All Purpose Cleaner on normal or permanent press, cool or warm water **NOT** hot.
- Run cover through 2 rinse cycles. **Important** - Be sure all the cleaner is removed in order to preserve the cover's water resistance.
- Air dry cover.....do not dry in dryer and do not dry- clean.
- Put cover on vehicle inside-out, hose off, leave on vehicle to dry.

**For spot cleaning:**

- Lightly brush with a soft rag
- Wet the spot with water
- Using a sponge, work liquid Fantastic All Purpose Cleaner into the area.
- Rinse thoroughly to remove all cleaner residue
- Air dry completely
- Spray with Scotch Guard or equivalent if fabric leakage occurs at that spot.

**Cleaning Chrome** - Get some PPG Metal Cleaner DX 579 from your local auto paint and body shop supplier. DX 579 is a non-flammable, phosphoric acid-based liquid cleaner. It is used to deep clean and etch a metal surface prior to paint or to prepare the surface for a subsequent chemical coating. It's also a great product for chrome cleaning. It smells very bad and is toxic so be sure to use gloves. Dilute four or five parts DX 579 to one part water. Spray it on and keep it wet for about 2 minutes then brush/wash off. You will not believe how bright the chrome glows. If you have rust on any part of the chrome go to your local marine (boat) dealer and ask for "brass wool". Spray the 579 and using the brass wool wipe the rust away. It will remove all rust. It will not harm paint unless you let it "DRY" on the surface so be sure to keep it wet and then rinse it off. Use "semi-chrome polish" to preserve the shine.

## 7. Cooling & Heating Systems

**Cooling System Capacity** - 13.2 US pints

**Cooling System Pressure** - radiator cap in Moss catalog '69 to '71 = 7 psi, '72 to '76 = 14 psi, Haynes 3.25 to 4.25 lb, Bentley 13 lb

**Thermostat** - Pronto part# 34108, 180° normal climate. A small-block Chevy thermostat fits a TR6.

**Thermostat Trick** - When replacing a thermostat, prop it open with an aspirin. When you add coolant it will fill the entire system. Once started, the aspirin dissolves and the engine feels better.

**High Flow Water Pumps** - Ken Gillanders, British Frame & Engine. 626-443-0939

**Normal Engine Temperature** - Should not exceed 185° F

**Electric Fan Conversion** - good article at <http://triumph.hottr6.com/tr6fan.html>

**Heater Control Valve Replacement** - use ball check valve from Home Depot & necessary fittings to convert from the stock original.

**Fan Extension Conversion** - This spacer kit eliminates the original plastic fan & it's required long extension when converting to electric puller fans. Ken [delivery@cdh.net](mailto:delivery@cdh.net)

**Lower Radiator Hose** - A Dayco radiator hose (#76431) will supply the lower & elbow hoses.

**TR4 thru 6 Heater Upgrade Kit** - (squirrel cage fan) - part# 812301X £56.40 at Moss Manchester, 113-117 Stockport Road, Cheadle Heath, Stockport, Cheshire, SK3 OJE, Tel 0161 480 6402, Fax 0161 429 0349 or M & G International, Manchester, 0161 773 9678, & M & G International, Merseyside, 0151 6661666. Advertised as a 60% improvement.

## 8. Electrical, Lighting & Charging Systems

### Instrument Light Info:

#### Halogen

- Little British Car Company 5 & 10 watt E10 screw base. 10W bulbs for most instruments not recommended as they get very hot, glass is physically longer & they can touch the colored plastic lenses & melt them. They also have 1156 & 1157 halogens for brake, signal, & driving lights. <http://www.lbcarco.com>  
Can be bought for less money elsewhere - J.C. Whitney maybe?
- AutoOptiks - 888-528-8658, only signal and taillight bulbs, but about half the price! [www.autooptiks.com](http://www.autooptiks.com)

#### Non-Halogen

- Get G.E. Miniature & Sealed Beam Lamp Catalog at a GE customer service center. Try 1-800-327-7155 for automotive, or 800-327-2080 for consumer/retail. Use bulb #T4W, design volt load 13.5, .3 amp, mean candlepower 2.8. GE 1816 will also work same volts, .37 amp draw, but 3.0 candlepower. Both bulbs have a bayonet base, but you can cross reference to similar bulbs with a screw base if you have different instruments in your car. There are some aircraft-application bulbs in the catalog that are brighter, but draw more amperage. GE parts wholesalers won't help unless ordering a gross of the 10-piece packs. W.W. Grainger should have them.

**Fuses** - From the TR6 Owner's handbook dated 10/72. There are four 35 amp fuses in the fuse block. Three are operational & one is provided for an additional accessory circuit. Two spares can be stored in the cover. Lucas part number is 188218, Stanpart part number is 58465. The Lucas 35 amp fuse also states 17 amp continuous. See below for recommended values when using American style fuses. From top:

- 1 - SPARE CIRCUIT - size fuse properly for wire gauge being used.
- 2 - WHITE CIRCUIT - SFE 20 recommended. Stop & reverse lamps, wipers & washer, temp & fuel gauges, heater, directionals, seat belt warning buzzer
- 3 - BROWN CIRCUIT - SFE 15 recommended. Horn, head lamp flasher, glove box, key warning buzzer, courtesy lights, hazard warning flasher, trans tunnel & trunk light
- 4 - RED/GREEN CIRCUIT - SFE 10 recommended. Front parking & all side marker lights, tail lights, plate light, instrument lights.

Use SFE rated fuses. SFE fuses are 'automotive', rated only to interrupt 32 volts. The length depends on their current rating, ranging from 5/8" for a SFE-4, to 1-7/16" for a SFE-30. AGC fuses are 'general purpose', they are always 1/4" by 1-1/4", available in 250V ratings to 10 amps, & 32V ratings to 30 amps. An AGC-20 is the same length, & pretty much interchanges with an SFE-20. Both types are "fast acting", but according to Buss charts, the SFE is a little faster. An AGC-20 is rated to carry 27 amps for up to 60 minutes, while an SFE-20 will blow in under 2 minutes. However, the 60 minutes is given as a maximum, while the 2 minutes is apparently typical, so that may not be an accurate comparison.

<u>British</u>	<u>Buss (AGC)</u>
50 Amp	30 Amp
35 Amp	25 Amp
30 Amp	20 Amp
25 Amp	15 Amp
20 Amp	10 Amp
10 Amp	7.5 Amp
5 Amp	3 Amp

From a 1974 edition of "Buss Fuse Car and Truck List: which has on the back cover a section called "Foreign Car Fuse Replacement Data". It states, "English standards differ from US standards" This accounts for the difference in ampere ratings.

**Wiring Harness Tape** - Eastwood <http://www.eastwoodco.com> 2 rolls #25000 \$9.99, British Wiring <http://www.britishwiring.com>

**Battery Cutoff Switch** - Monaghan Marine Store, Hella Marine, part# 6EK002843-011. Two 78", 4 gauge negative battery cables through drivers side main harness grommet & one short cable between engine & body. Auto Zone, Lynx Battery cable #LCSB478C. Used welding cable connectors for cable ends.

**European Specification Halogen Headlights** - These use a separate bulb. They are not the sealed units like you can find at most auto parts store. Cost is about \$20. 60/55 bulbs make a huge difference. 100/80 make an incredible difference! You must add separate relays for the bright & dim circuits & should upgrade the wire to 10 & 12 gauge respectively.

**How To Upgrade Your Headlamp Circuit and Why** - <http://lighting.mbz.org/home.html> Explains the use of relays etc to enhance lighting.

#### **Alternator Sites**

- Cross referencing, very informative [http://www.transpo.de/Catalog/Car\\_Fr.htm](http://www.transpo.de/Catalog/Car_Fr.htm)
- Troubleshooting a Charging Problem <http://www.tpub.com/basae/index.htm> <http://www.tpub.com/basae/33.htm>

#### **Alternate Alternators for Transplant Into a TR6**

- Lucas - One of the original alternators was an internally regulated Lucas 15ACR.

Bosch replacement - Ask for the optional high amp Bosch alternator for a '78 to '80 Ford Fiesta with A/C & rear window defrost. The standard alternator is a Motorcraft so be sure to ask for the Bosch. This particular alternator was used in the 1976 VW Rabbit also. The large brown wire attaches to the B+ terminal on the alternator, the small brown/yellow stripe wire attaches to the D+ terminal on the alternator and the remaining wire should be tied back and isolated (insulated) from ground. These supposedly bolt right up and plug directly into existing a TR6 harness. The adjusting bolt thread is metric so be careful not to damage the thread with an SAE bolt. Reference numbers supplied to this list for the Bosch are as follows: 120 489 244, D8RZ-10346-AX, AL119X, NAPA AL86X BSH, AutoZone 131071. Prices vary greatly so it pays to check around.

- The GM #7127 (NAPA #213-4011) has been offered as another example that will work. Many outputs are available as well as connection locations. Slight grinding modification to rear side of pivot is required for this .

#### **Interpreting Your Volt/AMP Gauge Readings**

- Voltage Gauge Readings: If your voltage gauge reads low & eventually creeps back up to the 14 volts you may have a bad diode, or perhaps brush issues. If you have a radio, tune into the AM band on a station that is not received. If you hear a pronounced whine that changes with engine RPM then a bad diode trio is most likely the culprit. The bad diodes will cause the AC not to be converted to DC which in turn produces the whine. An alternator should produce near full output (current) at engine speeds not too far above idle (as opposed to generators whose outputs vary greatly with speed). Depending on mileage the brushes are the best bet for what's wrong. Ammeters are a better tool for charging system status.
- Amp Gauge Readings: If your amp gauge is very erratic, bouncing from normal to discharge to high charge, suspect the voltage regulator in the alternator.

**Headlight Aiming** - <http://www.team.net/sol/tech/light-up.html>

## **9. Engine Info & Torque Specs**

**Engine Prefix/Numbering Information** - <http://www.triumphspitfire.com/enginenumbers.html>

**Torque Specs** - When more than one figure is given, understand that different sources have offered different values. When machine threads go into aluminum, use the lower torque figures.

- Con rod bearings - 38 to 42 ft lb
- Main Bearings - 55 to 60 ft lb
- Head - Haynes 65 to 70 ft lb, Bentley 60 to 80 ft lb
- Intake manifold to head - 15 to 20, 24 to 26 & 25 ft lb
- Exhaust manifold to head - 20 to 25 & 24 to 26 ft lb
- Exhaust manifold to front pipe - 18 to 24 ft lb
- Both manifolds - 3/8" 20 to 22, 5/16" 14 to 16 ft lb
- Carbs to manifold, inner - 19 to 18 & 20 to 25
- Carbs to manifold, outer - 12 to 14 & 10 to 14
- Manifold attachment bolts - 18 to 20 & 20 to 25

- Brake Caliper Bolts - small 45 ft-lbs, large 75 ft-lbs.

#### **Journal measurements (new)**

- Standard main bearing - 2.3110" to 2.3315"
- Standard rod bearing - 1.8750" to 1.8755"

**Valve Adjustment** - .010 inch, Intake & Exhaust, cold. "Rule of 13" - set #1 when #12 is open, set #2 when #11 is open, etc. Whichever the two valves are, they add up to 13. For the four-cylinder engines, it becomes the "Rule of 9".

**Crankshaft End Float & Thrust Washers** - .004 to .008 inch. Mike Brooks Email: [mike@gsta.net](mailto:mike@gsta.net) RE: Sizing Thrust Washers Thought the list might be interested in a project I've got in the works right now. Bronze Alloy Thrust Washer for TR250/6 developed by Scott Helms, Bronze Alloy, excellent wear properties, doesn't eliminate wear - you still have to check your end-float as usual. IT'S SOLID unlike the OEM thrust washer which is plated. Because it's solid, there's no danger of wearing through the surface plating to the steel beneath & causing much more serious damage. Very soon we will have them available in several oversizes if anyone is interested.

**Quick Check of Thrust Washers** - Here's some excellent commentary from RazorBob regarding thrust washer check and signs of wear. "Generally speaking, if the RPMs drop when you depress clutch the thrust washers should be replaced. With wear the clearances in the washers open up to the point that the crank "walks" to the front of the engine when the clutch is depressed. This puts the crankshaft and rods at a slight angle, thus binding rods and crank movement in rotation. A drop of 50/100 RPM is OK. Anymore than that and its time to drop the pan. Needless to say, running with excessive thrust washer wear can accelerate wear on the rest of the lower end. He additionally advises that in an effort to minimize thrust washer wear, it is best to not sit at red lights with the clutch depressed.

**Compression** - Normal cylinder compression for a TR6 should be somewhere around 140 psi. Up to 10% difference between high & low readings considered ok. Consistently low numbers across all cylinders is most likely just showing varying degrees of normal wear.

#### **Compression Test**

- Start with a fully charged battery.
- Disable fuel pump if electric.
- Unplug the coil connection.
- Remove all plugs. Examine & note their appearance for signs of poor performance. Signs of oil on the plugs could indicate a valve seal or ring problem.
- Screw the compression gauge into the first plug hole.
- Depress the gas pedal to the floor to open the throttle plate keeping it wide open while turning the engine over for at least four consecutive full revolutions. On each rotation, the gauge needle will jump slightly less than the previous compression stroke. If necessary, crank for up to 10 seconds or until the needle stabilizes, whichever comes first. If your battery is weak, the engine will turn over slower & give you lower readings. The last number the gauge jumps to is the compression for that cylinder.
- Repeat this process for each cylinder.
- If you find a low reading a wet test may be in order. Add one capful (1-2 tablespoons) of oil to the cylinder with low compression. Let it sit for a minute to allow the oil to flow down & coat the sides of the cylinder & piston. If there is any abnormal clearance in the rings, the oil will seal them for the next few minutes.
- Repeat the process above.
- If the reading improved significantly (more than 30 psi), your rings are probably worn.
- If there is little or no improvement, a leak-down test may be in order to determine where the compression is escaping (intake, exhaust, crankcase, gasket, etc.).
- Replace the plugs, preferably in the same cylinders they came out of. Clean & re-gap or replace the plugs. Remember to lube the threads first.

- Activate the electric fuel pump if necessary.

### Leakdown Test

- Take out all spark plugs.
- Bring cylinder #1 to TDC (top dead center) on the compression stroke. At this point, all valves for that cylinder will be closed. An easy way to determine TDC is to turn the crank in its normal direction with your thumb plugging the spark plug hole until you can feel compression building. Then place a long, thin, dowel with a rounded end in the spark plug hole to find the point at which the dowel is neither rising nor going down. I like to use a rounded end to avoid the dowel digging into the piston if it gets jammed.
- Remove the dowel, screw the gauge adapter into the spark plug hole & connect the gauge. The gauge has a fitting to connect the extender hose to the spark plug hole, & another to connect the air hose.
- Apply the compressed air (about 80 lbs) & modulate the knob to get a steady reading from both faces on the gauge. Use the same pressure on all cylinders. You may need an assistant to either hold the crankshaft still or step on the brake while in gear.
- LISTEN for the sound of compressed air. Remove the oil filler cap & listen. If you can clearly hear a whooshing/howling sound you're losing compression through the rings. Listen at the exhaust pipe. If you can hear it or even feel puffs on your hand it is your exhaust valves. Listen at the throttle body & intake manifold. If you can clearly hear a whooshing/howling It is your intake valves. If the results are inconclusive, it is probably your head gasket. If you suspect a blown head gasket, which has symptoms such as reduced power, white or blue smoke out the tailpipe, oil in the coolant or coolant in the oil, listen at an adjacent plug hole. If you can hear the air you have a bad head gasket. Remove the coolant cap & watch the coolant level when you add the compressed air. If it rises or you see bubbles, you have a leaking head gasket. Hydrocarbons detected in the coolant is another symptom.
- Continue to cylinders 5, 3, 6, 2 & 4. Much like the compression test, when you are looking at gauge readings you should be looking for consistency. Consistently low numbers across all cylinders is most likely just showing varying degrees of normal wear. You will be judging engine wear by reading the percentage of leakdown indicated by the leakdown gauge.
- Leakdown gauges start around \$70. For more technical information on the leak down test, see <http://www.w-p-c.com/buggyleakdown.htm> & <http://www.vclassics.com/archive/leakdown.htm> You can also use a more primitive form of this test by pumping air into the cylinder without the leakdown gauge. Performing the test this way might give you a feel for where the problem lies. You can make your own single gauge leakdown tester by visiting <http://www.briggs-racing.com/tech/leakd.htm> or <http://members.tripod.com/~Wrenchbender/leakdown.html>

**Normal Manifold Vacuum** - Should be a STEADY 18 to 20 inches at idle.

**Gapless Rings** - <http://www.totalseal.com/>

**Cam Bearings** - can be installed. TRF part #TRFCD11, described as "T56 bearing set, camshaft" marked "Spitfire Mk III". You need 2 of part# 142647 & 3 of part# 142648 - unsure of source.

**Valve Guide Inserts** - There is a product on the market called a "K- liner". It has a very thin shell. Bore out the old liner to .xxx size (still retaining the original) & insert the liner that is already sized for the valve stem. A valve guide is worn out when the valve can tilt beyond a given amount. Why bore out such a large valve guide when all you have to do is bore out & replace that which is worn?

### **Valve Guide Seals**

- Although the car was not designed with them in mind, they can be added to solve an oil consumption or smoking problem caused by worn guides. Valve seals from a 1960 era Hemi motor will work. These are the only ones that will fit with the double valve springs.
- Triumph TR-6 Valve Seals. Made in USA by Toke. 12 seals shipped 1st class mail, \$16.00, John Rossi, PO Box 37, Flintstone, GA 30725 (706) 820-1771

**Rocker Arm Specialists**, 19841 Hirsch Ct, Anderson, CA 530-378-1075, fax: 530-378-1177 [rocker@c-zone.net](mailto:rocker@c-zone.net), <http://www.shastacounty.com/rockerarm/>

**Main & Rod Bolts** - Caterpillar sells X-rayed main & rod bolts at a fraction of the cost of TR6 prices.

**Head, Main & Rod Bolts** - ARP <http://www.prirace.com/fasteners.htm> Expensive but good stuff. Also try APT, a good source of expensive TR performance parts <http://www.aptfast.com/>

**Manifold Studs** - McMaster-Carr. Plain Steel Fully Threaded Stud 3/8"-24 Thread, 2" Length \$3.31 PK Part #91565A664, the shorter fully threaded studs are probably available through them also. Socket head screws are also used for this application & are said to be easier to tighten in the close area under the manifold.

**2700cc Conversion Using Mazda E5 Pistons** - Supposed to be a very easy modification. Use 0.5mm (0.020") oversize E5 Mazda pistons & rings. There are several types available & the one selected has approximately a 7cc dish in the crown. The pistons require a circlip groove to be machined into each side of the gudgeon pin hole to retain the gudgeon pin. A non removable (without replacing them) type of circlip was used. The con-rods need to be resized & new little end bushes made to suit the E5 pistons. The con-rods remain the original length. On assembly the pistons cleared the block deck by about 0.1mm (0.004") @ top dead center. <http://home.iprimus.com.au/tridim/triumph/Engine.htm> Another opinion - A TR6 block will take 2.71 litres easily using Mazda pistons. There are a few specialist Triumph shops out here that carry out the work & stock 2.71 head gaskets. The Mazda pistons are sourced from the Mazda E2000 series light truck (I think) but require a little work. You can use Teflon plugs for the gudgeons instead of circlips. The block needs to be decked about .020" to maintain correct compression & piston height. As a precautionary measure, you might want the machine shop to offset bore the cylinders a little to increase wall thickness.

**Camshafts** - Geoff Bardal, If you want to pay \$150.00 CDN or about \$80.00 US try Colt Cams. They are very familiar with all Triumph models. Lifters cost \$3.00 CDN each to reface & test. Turn around time for cam including shipping is about 10 days. Web: <http://www.coltcams.com/>

**Camshafts** - Elgin Cams, CA. 650-364-2187 They offer new steel billet cams as well as regrinds. <http://www.elgincams.com/>

**Long Snout Crankshaft** - In TR250 & TR6 from CC25000 to about CC35000. The end of the crank where the flywheel attaches is longer than the later cranks. As such, the flywheels are not interchangeable between the two different styles of crank. All of the new replacement cranks are the later style.

**Engine Weight Chart** - Good chart for future reference if doing a conversion. <http://www.team.net/sol/tech/engine.html>

**Oil Filter Removal Trick** - <http://www.jmwagnersales.com/ofrt.html> Nice little trick using rope to remove filter if in a tight spot.

**Cylinder Head Dimensions** - Early head measures 3.46" from valve cover mating surface to deck, later head measures 3.55".

**Good Compression Ratio Chart** - [http://goodparts.com/tech\\_docs/TR6\\_Compression\\_Ratio.html](http://goodparts.com/tech_docs/TR6_Compression_Ratio.html)

**Good History of British Threads** - <http://www.team.net/sol/tech/whitworth-hist.html>

**Crankshaft Damper Rebuilding** - Damper Dudes, 6180 Parallel Road, Anderson, CA 96007, 800-413-2673, \$60 to \$80. Damper Doctor <http://members.aol.com/damperdoc/> Dale Mfg. [http://www.dalemfg.com/daley\\_001.htm](http://www.dalemfg.com/daley_001.htm)

**Shaft Sleeves** - Micro Sleeve, Arlington, TX 800-475-3383, Specializes in making wear sleeves for worn sealed shafts. Covers modern engines as well. <http://www.microsleeve.com/>

## 10. Exhaust Systems

**Custom Exhaust Systems** - Magnaflow @ [www.magnaflow.com](http://www.magnaflow.com) Go to parts catalogue.

**Headers** - Pacesetter & Kirk Racing headers are cheap, are constructed & fit poorly. TRF has an SS header that is excellent but very expensive & might not be readily available now. The tubes are significantly larger in diameter, the bends in the pipes are smoother, the welds are superior, & it fits tight against the cylinder head. Moss sells the TriumphTune Extractor manifold (but Moss USA won't say that) request part# 865-035... \$239.95. It is mild steel, & the fit & finish is good quality. They come in stainless steel also but Moss USA might not carry it. See <http://www.cambridgemotorsport.com/splash.htm>

Headers - Phoenix Performance Exhausts Ltd, Devon England. Speak to Paul. He should be able to help with any exhaust set up for the TR range. This is good quality product. Phoenix can be contacted on (from the US) 011 44 1884 34777

**Stainless Sport Exhaust Systems** - Quiller Triumph, Phoenix systems are precision manufactured to bolt on & fit properly with no bending required. Built to ISO9002 standards. Both the twin & single box systems provide a superb throaty exhaust note along with improved performance and stunning good looks. Lifetime guarantee. Unit 1, White Hart Road, Plumstead, Woolwich London. SE18 1DH Tel: 0208 854 4777 Fax: 0208 854 2404 Email: [info@quillertriumph.co.uk](mailto:info@quillertriumph.co.uk) Web: <http://www.quillertriumph.co.uk/Quiller/Parts/exhausts%20stainless%20phoenix.htm>

## 11. Gaskets, Fan Belts , etc

### Gasket Thicknesses

- Oil Pan .040 or 1/25"
- Timing chain cover, front & rear plates .030 or 1/32"
- Rear main seal housing, fuel pump .015 or 1/64"
- Water pump, 2 small tabs for front seal block .010 or 1/100"

**Manifold Gaskets** - Buy the high performance manifold gaskets from Moss & then "port match" them. Put the gasket on the studs & trim the holes until they match the ports in the head. The Moss gasket is soft enough to cut with a razor blade or Radio Shack nibbler tool. I usually spray Permatex "Copper spray a gasket" on both sides before final assembly. Order two gaskets in case you have to take it apart again.

**Head Gaskets** - You can get the Payen brand teflon coated gasket (no sealant used) from British Frame & Engine. The Roadster Factory has them sometimes but they've also been known to substitute other brands. NAPA auto parts might be able to supply Payen. Felpro is also a high quality gasket (no sealant used). I used the standard gasket from BPNW (original style). Old mechanics trick...sprayed both sides with 2 coats of silver engine paint, dry in oven & it works great.

**Head Gaskets (Copper)** - There are several advantages. They are re-usable and they can be had in different thicknesses, so you can customize your compression ratio to whatever you need. They don't burn as easily as some head gaskets might. They can be custom shaped (for those with wild porting or head work). For a racer, copper is almost the only way to go. For the street, it doesn't matter unless you need a custom thickness to drop the compression ratio to "sane" levels. Check out [www.gasketworks.com](http://www.gasketworks.com). Gasketworks is run by a Triumph guy named Mordy Dunst. In addition to being a really great guy, Mordy is a Triumph enthusiast of the highest order. He races a vintage TR4A and is married to Mike Rothchild's daughter (Mike was a works driver in the early 60's). You can get ANY gasket in copper if you contact mordy. He can probably do steel too, if that fits your needs.

**Fan Belts** - Gates 7430 came off of '71 without AC.

## 12. General Automotive Info

**Timing Belt Information** - <http://autorepair.about.com/library/weekly/aa051102a.htm> Do it yourself site with tips on what to look for while you're in there. List of engines, recommended change frequency & whether they are interference/non-interference engines. Gates timing belt site [http://www.gates.com/brochure.cfm?brochure=981&location\\_id=524](http://www.gates.com/brochure.cfm?brochure=981&location_id=524)

**Fluorescent A/F & Oil Leak Detection Kits** - \$4.00 at NAPA

**Top Cylinder Lubricant** - helps lube top end in absence of leaded fuel. Use 3-5 ounces of Marvel Mystery Oil with 10 gallons unleaded premium gas.

**Combustion Chamber De-Carbonizer** - Goodwrench Top Engine Cleaner. Spray can part# 1052626. Non spray can part# 1050002.

**Excellent Ignition Wire Site** - [www.magnecor.com](http://www.magnecor.com)

## 13. Keys

**Commonwealth Lock** - 1853 Mass Ave Cambridge, MA 617-876-3301, Chris - has key blanks as it is a very common blank that was used on many cars.

**Trunk & Glove Box Key** - Mitch Seff, Locksmith in Oceanside, NY [ms6453@optonline.net](mailto:ms6453@optonline.net) FS series key has a number of LBC applications. Ilco blank #62FS,

**Moss** - lists a plain FS blank for \$1.95, Moss & Victoria British both list a Triumph crested FS blank for \$7.95 & LBCCarCo sells the same crested blank for \$5.75

**British Car Keys** - Pete Groh, 9957 Frederick Road, Ellicott City, MD 21042 USA, Made from original code. If unable to locate a key in your area, contact him or visit his web page for additional information. <http://britishcarkeys.com> Email: e-mail [pete\\_groh@yahoo.com](mailto:pete_groh@yahoo.com), [petegroh@yahoo.com](mailto:petegroh@yahoo.com), [keyguy4@yahoo.com](mailto:keyguy4@yahoo.com), [british\\_car\\_keys@yahoo.com](mailto:british_car_keys@yahoo.com), [ticketoride99\\_2000@yahoo.com](mailto:ticketoride99_2000@yahoo.com) Phone Day: 410-966-8432 Phone Evenings 410-750-2352.

## 14. Ignition System

### General Specs:

- Firing order - 153624, CCW distributor rotation
- Spark plug gap - .025" OR .030" to .035" if using electronic ignition or sport coils.
- Breaker point gap - .014 to .016 inch, .017 to .018 if using sport coil
- Breaker point dwell angle - 35° plus or minus 3°
- Condenser capacity - .20 mfd
- Distributor spring tension - 18 to 24 ounces
- Idle speed - 800 to 850 RPM
- Ignition timing - 10° BTDC static, 4° ATDC at idle. Best response...advance til it sputters from the exhaust, retard and drive. Listen for ping and retard if necessary from there.

### Ignition Parts:

- Spark plugs - Stock plug '69 to '72 use Champion UN 12Y (hotter), '73 to '76 use Champion N9Y (cooler). NGK BPR5ES = hot, NGK BPR6ES = stock, NGK BPR7ES = cool, NGK platinum plug = BPR6EVX, Accel 496 also works well.
- Points - Standard Blue Streak #LU1617XP
- Condenser - Wells #LU506
- Distributor cap - Beck/Arnley #174-0224
- Rotor - Sorensen #23-5001, Beck Arnley #173-0134
- Ignition parts – NAPA carries or can order the Echlin brand. Cap (w/ brass terminals) #EP55. Rotor #EP44.
- Ignition wires - Accel Super Stock 8mm wires #4061

### My Car

- 1973 TR6, has vacuum advance on distributor but it's plugged. RPMs - dashboard tach = 1000, meter tach = 920, vacuum retard disconnected = 1200
- Timing - I pretty much time mine by ear. Vacuum retard connected, 1000 RPM on dash tach, set to 9 BTDC. Disconnected & plugged it advances off the scale.

### Ignition Timing Info

- With engine at normal operating temperature, bring idle up to 850, set the static timing to 11-12° BTDC. Check the idle. Might need to be brought down a notch. Adjust front & rear carbs equally at an eighth of a turn each time & give slight throttle in-between each adjustment. The 'book' suggests 4° ATDC when the vacuum retard line is connected to the canister. If yours is connected & working, it is the same as setting the timing at 8° BTDC with this line disconnected (& plugged). Check yours by pulling this line off with the engine idling. If it idles up & the timing advances, the retard unit is seeing vacuum from the carburetor & is working as designed. Many do not connect this line, & simply plug it, & set the timing to somewhere between 6° & 12° BTDC depending on other variables in the engine.

### Coil Primary Winding Resistance & Lucas Coil Type. Use Lucas Sport Coil with non-ballast systems only

- '69 to '72, 3.0 to 3.5 ohms - no resistor - #H.A.12
- '73 to '76, 1.43 to 1.58 ohms - resistor in harness - #15 C6
- Lucas Super Coil number on my '73 - (ballasted) #DLB 102
- A 12 volt coil will measure about 3.5 ohms, 6 volt coil closer to 1.5 or 2 ohms.
  - Lucas marked 15P6 value: 2.2 ohms, 6V coil,
  - Lucas marked 11P12 value: 3.5 ohms 12V coil
  - Lucas marked 16C6 value: 2.2 ohms 6V coil

Vicky Brit generic coil marked 12V value: 4.0 ohms 12V coil

**Quick Coil Check** - Allow the points to stay in the open position. Remove the coil's output wire and install a plug wire in its place. Connect this plug wire to a spare spark plug and lay it against the engine block to allow a ground path. Turn the ignition key to "on" (NOT start). Bridge the gap point gap with a screwdriver blade. Making and breaking the circuit with the screwdriver tip will cause the coil to fire the plug showing a good blue spark. That simple test will also check the primary wiring to the distributor.

**Pertronix Ignitor Sources:** The Pertronix Ignitor is said to be a good choice to use as a trigger for an MSD Unit. It gives a very noticeable boost in performance when it is set up properly. Pertronix part number for TR6 application is PE-LU166A.

- Pertronix, California - Ignitor for points conversion to solid state - Phone 800-827-3758 Fax: 909-599-6424.
- High Performance Parts Inc. 800-603-4359 Example: Price for TR3: \$60.00 shipping included! Doesn't stock them, will drop ship directly from Pertronix. Also check with British Racing Green in NJ.
- Couper's Classic Cars - Rupert, VT 05768 802-394-0063 Web: <http://www.coupers-cars.com/> Email: [oldcars@coupers-cars.com](mailto:oldcars@coupers-cars.com)

**Distributor Parts** - British Auto, NY Contact Mark 800-458-4575

**Distributor Cap** - The Lucas #DDB117 distributor cap fits the Triumph TR6 & early Jaguar XJ6 sedan among others.

**Rebuilt Distributors, Bushings** - Bob Sarama in Loveland OH 513-683-8424 Email: [jsarama@cinci.rr.com](mailto:jsarama@cinci.rr.com) Great guy to work with. Rebuilds distributors to better than new condition. Bob's modification allows for additional lubrication that was not part of original design. Might be able to supply new distributor bushings.

**Distributor Shaft Bushings** - Need two 3/4" OD, 3/8" ID, 3/4" long oilite bushings. Machine to 0.744 OD & 0.489 ID. Note how the drive flange is mounted during disassembly. Freeze the bushings & install them with a 0.744" diameter square end driver. Install 1" long 1/4" X 28 grease fitting for the top bushing & another immediately below it & at a 90 degree angle to provide lubrication for the tach drive bushing.

**Distributor Bushings** - Roger Smith, PCM Mfg, 400 Kellyville Road, Jefferson, Tx 75657, [www.spacersandbushings.com](http://www.spacersandbushings.com) Phone 903-665-2255

<b>Quantity:</b> 2 pcs	<b>Material:</b> oil impregnated bronze	<b>Plating:</b> none	<b>Special instructions:</b> break all edges
<b>OD:</b> .744 +/- .002	<b>Length OD:</b> .750 +/- .010	<b>ID:</b> .489+.005/-0	<b>Price:</b> USA \$11.25 each
<b>Delivery:</b> 2-3 weeks turnaround.			

**Distributor Shaft Bushing Replacement** - Need two 3/4" long oilite bushings measuring 3/4" OD and 3/8" ID. They will then need to be machined to 0.744 OD & 0.489 ID. Note how the drive flange is mounted during disassembly. Freeze the bushings & install them with a 0.744" diameter square end driver. Install 1" long 1/4" X 28 grease fitting for the top bushing & another immediately below it & at a 90 degree angle to provide lubrication for the tach drive bushing.

**Grease Your Rotor** - Tip for regaining lost secondary voltage [http://www.mntriumphs.org/Tech\\_Info/Greased\\_Rotor.pdf](http://www.mntriumphs.org/Tech_Info/Greased_Rotor.pdf)

## **15. Insurance Companies- Classic Car**

**Grundy Worldwide Classic Car Insurance** 800-338-4005 <http://www.grundy.com/>

**J.C. Taylor** - <http://www.jctaylor.com/>

**Condon & Skelly** - 121 E. Kings Highway, Suite 203, Maple Shade NJ 800-257- 9496 <http://condonskelly.com> Email: [info@condonskelly.com](mailto:info@condonskelly.com)

## **16. Interiors, Carpets, Seats, Tops, Covers, Rubber, Dashes, Steering Wheels, Weatherstrips, Knobs, Keys**

**Interiors** - Auto Mat Company Inc, 69 Hazel St. Hicksville NY 516-938-7373 <http://www.autointeriors.net/>

**Interiors** - Sports & Classics, Darien, Ct. 203-655-8731. They will make any color you want although there was a note sent about perceived attitude problems.

**Interiors** - Moss, not the quality of the original. One person reported that some of the vinyl was coming off the backing board & it will have to be glued together.

**Interiors, Door Panels** - use 1/8" tempered hardboard (masonite). It's not affected by moisture. Use contact cement & short staples from an Arrow gun to hold the vinyl & piping onto the new board. Clean out the grain of the old vinyl with PVC patio furniture cleaner. Does miracles for Triumph vinyl trim & tops.

**Door Seal Fuzzies** - Woolies (I & C Woolstenholmes Ltd), Whitley Way, Northfields Industrial Estate, Market Deeping, Peterborough, England PE6 8AR 01778 347347 Fax: 01778 341847 [info@woolies-trim.co.uk](mailto:info@woolies-trim.co.uk) <http://www.woolies-trim.co.uk/index.htm>

**Door Seal Fuzzies** - Automobile Trimmings Company, manufacturers of high quality interior trim and carpet for the 'Automotive', 'Transport' and 'Upholstery' Trade. They might be doing a run of tan/brown fuzzy door seals. <http://www.automobiletrim.com/index.html> [info@automobiletrim.com](mailto:info@automobiletrim.com) Within UK Tel: 020 8204 8242 Outside UK Tel: +44 208 204 8242

**Carpets, Upholstery, Parts** - British Parts Locator, Carl's Automotive Upholstery & Carpet, (Moss Distributor) 3450 Mendon Road, Box 14 rear of building, Cumberland RI, 800-884-3203 401-658-0631 Fax: 401-658-1883 [http://www.britpartslocator.com/bplwebsite\\_001.htm](http://www.britpartslocator.com/bplwebsite_001.htm)

**Carpets & Weatherstrip** - 1A Auto, 2 Lomar Pk Dr, Unit 3, Pepperell MA, 888-844-3393 Info: 978-433-3393 Fax: 240-332-5990 <http://www.1aauto.com/index.shtml>

**Carpets, Under Felt** - Rimmer is good quality for less money than most.

**Carpets, Dye** - MarHyde fabric color (Pep Boys)

**Carpets, Rubber Seals etc** - MacGregor British Car Parts, Dundas, Ontario Canada -Rubber, Interior Carpeting & Window Channels, 1-877-777-6381, fax?? 905-627-4006 <http://www.macgregorukcarparts.com> - Price & quality better than the Big Three. Ask for Martin, he worked in this business in the UK & is an expert. Their carpet, fuzzy door seals, A post seals, boot & bonnet seals are better quality than many. They seem to know a lot about rubber products. The carpet pile & cut are really good & carries a variety of colors. He gets his carpets & parts from the UK.

**Car Covers** - Covercraft Industries, Inc. 100 Enterprise Blvd. Pauls Valley, OK 405-238-9651 Fax: 405-238-9601, Outlet store: 800-382-3040. High end Technalon, slight factory rejects. \$40, plus shipping. Technalon is a trademark of Covercraft. Also try Alan Hurd, 818-705-8485. <http://www.covercraft.com/> Covercraft, Technalon 2 Readi-Fit, #C80002RB, Size B fits '62-'74 TR4,4A,250 & TR6. Size C fits '75-'76 TR6,TR7 & TR8. Size A fits TR2,TR3,TR3A,Spitfire & GT6.

**Seat Diaphragms** - John Skinner & TRF seat diaphragms include clips, Moss do not. TRF tend to tear quickly, install smooth side up.

#### Replacement Seats

- Some suspect that BMW E30 M3 seats (1988-91) will fit. The E30 is the 3 Series running from 1984 to 1991. BMW also used the same or very similar seats on the 1988 325iX (only that year) or as part of the "sport" interior package. Adjustable thigh support & ability to fit in TR6 points to the E30 M3 as the donor car. Zionsville Autosport sells a lot of used BMW parts to racers so you might give them a call to get dimension info.
- TR6 seats are very narrow (about 19.5" at the base, and 17" at the shoulders) with thin cushion and back rest. If you want reclining back rests, it is said that seats from 80's BMW 32\* series, Miata and C4 Corvettes will work. Others may be available. Aftermarket "race" seats (such as Sparco, Momo, etc) are limited because they are too wide at the shoulders which will interfere with soft-top operation etc. Corbeau makes several seats for Cobra kit-cars. Older GTA high-backs fit perfectly in the TR6. Newer GTA high-backs are larger and less comfortable. All require that you drill new holes in the floor pan to mount the new rails.

#### Seat Belts

Vicky Brit ships Securon part 500/30 as the part for the TR6. The Securon box & web site says 514/30 is correct. Securon's web shows the 514 to have a shorter length of webbing & an adjustable angle retractor mechanism. Jeff Marks, TRShopLondon, says the 500/30 seat belts are correct for the TR6, the 514/30 doesn't fit well. Summary: Although Securon labels the 514/30 seat belts as the TR6 application, US suppliers have found that the 500/30 provide an overall better fit for the TR6. The only difference is the length of the receiver, which is only about 6" on the 514/30 and is approx. 12" on the 500/30. The 514/30 receiver is just too short if the seat is in any position other than full back. While the receiver on the 500/30 works well in all TR6 seat positions. These work OK, but not as well as the original Kangols. The retracting mechanism is not as strong as the originals and the position of the retractor on the wheelwell, while it works, it just never "felt right" to me. Also, the male end of the catch doesn't fit into the seat belt "parks" on the inner sills. You can have the original Kangols restored at Ssnake-Oyl Products in Tyler, TX <http://www.ssnake-oyl.com/>. More expensive but they do a very good job. Good part in which to invest a little extra money.

#### Alternative Seat Belts

- 1978 to 1984 Mazda RX7 work well, miscellaneous products such as driveway protectors also <http://mypage.ihost.com/usinet.cchesle/>

- 70's era Audi and VW products - shoulder belts, retractors, buckles, etc. work pretty well, and look pretty original (complete with red "press" buttons!) If you get them from a wrecking yard, all you'll need is the appropriate bolts for mounting them to the TR body. Ideally, you want to find a set where the buckle is mounted on a long, skinny stalk.

### **Tops, Interiors, Upholstery**

- AA Best Company, PA - excellent service 570-286-8696 <http://aabestco.com/> [aabest@evenlink.com](mailto:aabest@evenlink.com) AA Best Co. supplies beautiful TR tops in vinyl, Stayfast Canvas, and Sonnedecke. Their prices range from \$209.00 for vinyl to \$309.00 for Stayfast. The Sonnedecke may be slightly higher. The manufacturer is ACME Headliner Company in Southern CA. Their website is: <http://shop.1usa.com/aabest/merchant.ihtml?pid=620&lastcatid=817&step=4>
- EZ-On-Tops Inc. 1-800-345-2886, new manufacturer of tops & tonneaus formerly made by AMCO
- Newton Commercial, UK - one of the best for retrimming seats, carpet, interiors, sun visors <http://newtoncomm.co.uk/>
- Lee Upholstery - Upton, MA, did Ed's car
- John Skinner, UK - one of the best for retrimming seats, carpet, interiors, sun visors, tops
- Prestige - watch them on exorbitant shipping charges <http://prestigeautotops.com/>
- Heritage Upholstery & Trim, PMB 3000 250 H Street, Blaine, WA, 98230, 360 332 3022, fax: 360 332 0984 <http://www.heritagetrim.com>
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**Instructions for Folding Top** - 1) Unzip rear window & fold inward 2) Unlatch top at w/s, raise slightly, unsnap the top at the sides 3) Unsnap top from rear top bow, lift top away from bows as you fold them rearward until top is neatly laid on rear scuttle & trunk lid 4) Fold the top neatly over top bows & fold quarter windows over top taking care that the clear plastic is not creased. Some tucking & tugging may be required as it may want to lay naturally in a manner that would leave the clear plastic windows creased 5) Install boot cover or tonneau cover.

**Glovebox** - original fiber board repro British Parts Northwest - \$21

**Dashboards & Steering Wheels** - Prestige Autowood, Randy Keller, 408-370-3705 - Outstanding quality <http://pages.cthome.net/BobD/Brochure.htm>

**Dashboards** - Check it out - Looks to be Spitfire & GT6 only <http://hometown.aol.com/trdashes/>

**Wood Dashboard Removal** - Not a big job but make sure that you have a good wiring diagram OR take very good notes OR label each wire before you start.

- Remove the negative cable from the battery
- Remove the 5 sheet metal screws that go through the dash board securing it to the metal support
- Reach behind the tachometer and locate the two knurled nuts about 1/2" in diameter at approximately 7 and 1 o'clock on the tachometer. These nuts hold clips that clamp the tachometer to the dash/frame. One of the clips has a wire on it. This is the ground connection to the tachometer for all lighting.
- With the clips off, slide the tachometer out a bit towards the rear of the car. Disconnect the tachometer drive cable to the distributor. Remove the two illumination lamps (about 9 and 3 o'clock) and the ignition and oil pressure lamps at the bottom.
- Now you can see the back of the speedometer. Disconnect the speedometer cable and remove the speedometer. The speedometer also has the same two nuts that need to be removed. Remove the trip odometer cable from it's support under the dash. Remove the two illumination lamps, the high beam, and trafficator lamps. With all this done the speedometer can be pushed out towards the rear of the car. Be careful here as the voltage regulator for the gauges is bolted (welded??) to the top of the Speedo housing.
- This is where the real fun begins. The hazard switch has very short wires and is therefore hard to get out and/or see where wires go.
- Remove the wires from the washer and wiper control switches.
- At this point the dash board is loose and you should be able to pull it back from the metal support bracket. Be careful when pulling it back as wire length might be sufficient, but the hose to the oil pressure gauge can be brittle and easily kink. Might be good idea to replace the old tubing now.
- To put it back together just reverse the order.

**Painting Letters on Choke, Heater Knobs Etc** - Remove knobs & clean with T Cut polish, carefully ink in details with a white 'Gel Pen', apply clear acrylic lacquered to the knobs to make the gel pen finish more durable. The Gel Pen brand is a 'Crayola PRO' product & can be bought individually.

**Rubber Hardware** - Metro Molded Parts 1-800-8rubber for catalogue.

**Center Arm Rest** - JC Whitney center armrest part #13SZ58458A (black vinyl). They also have gray. \$35.99

## **17. Lubrication Specs, Recommended Fluids, Lube Points, Chemicals & Capacities**

### **General Fluid specifications:**

- Engine oil - Castrol GTX 20W50 is widely recommended. An article in the March 2002 British Marque written by Gil Wistrup of the Jaguar Association of Central New York strongly advises the use of CG-4 (compression ignition) diesel rated engine oils which contain a significant amount of ZDDP antioxidation additive. CG-4 engine oils contain about 80% more ZDDP & about 50% more detergent than SJ (spark ignition) rated oils. It's supposed to be excellent for cars that sit idle a good part of their life.
- Carb dashpots - heavier oils for richer mixture, quicker response, less fuel economy. Steve Harris recommends 10W-30 for best response.
- Gearbox oil - Castrol Hypoy B 90W. GL4 ok, don't use GL5. It can corrode the brass/bronze parts. Redline MT90, Redline MTL allows much better speed shifts.
- Overdrive Gear Oil - Many longtime racers say to use 50 wt racing motor oil in their overdrives.
- Differential oil - Castrol Hypoy B 90W. GL4 ok, don't use GL5. It can corrode the brass/bronze parts.
- Trunnions - Castrol Hypoy B 90W
- Rear axle splines - Molycote (see below for description of product)
- Brake fluid - Castrol Girling LMA, Castrol Dot 3 or silicone
- Rear lever shock absorbers - 40W Harley Davidson fork oil
- Overdrive oil - semi-synthetic 75/90
- Recommended lube for urethane bushings - Molycote, teflon grease, blue Marine grease

### **GL4 differential/tranny gear lube information:**

**Note:** Do **NOT** use anything that references GL5 compatibility, **ONLY** GL4.

- Redline MT-90 highly recommended
- Pennzoil Gear Plus GL-4 SAE 80W-90, stock # 21176, 32 oz bottle
- Castrol Hypoy Gear Oil GL-4 SAE 80W-90, 5 gal
- Valvoline Hydro-Lube Gear Oil GL-3 & 4 SAE 80W-90, part #538, 5 gal
- Sta-Lube Hypoid Gear Oil GL-4 SAE 85W-90, part# SL24229, 32 oz bottle (div of CRC Industries, Inc)
- TRF sells Castrol Hypoy (cat #TRFGL4) repackaged in quart (32 oz) bottles for \$5.50 ea + shipping.
- Any synthetic gear lube - DON'T use these products in the transmission as they're too slippery for the syncros to work properly. OK in differential.
- The number for a quart of StaLube GL-4 at NAPA is SL2449 - cost about \$3.29. The pump is number SL4344 and it's about \$4.99.

### **Lubrication points:**

- Carburetor Linkage Ball Joints - engine oil
- Clutch & brake rod pivots - chassis grease on clevis pins
- Clutch cross shaft fitting - chassis grease if fittings are present on ends of shaft
- Ball joints - chassis grease
- Tie rods - chassis grease
- U-joints - chassis grease
- Trunnions - 90W gear oil
- Distributor - oil the point pivots with engine oil & grease the cam with light coating of grease

- Hinges - white lithium spray grease
- Water pump - chassis grease, remove hex top plug if present & insert zerk
- Steering rack - chassis grease, remove hex top plug & insert zerk

**Rear axles** - chassis grease, clean splines, remove hex & insert zerk

**Molykote** - Manufactured by Alpha-Molykote Corp of Stamford CT. Medium viscosity black grease containing either graphite or lead. Comes in white & blue can. Doesn't sling off & is super slippery. Good for slip joints on half-shafts.

**Crankcase Oil Capacity** - 4.5 US quarts with filter

**Oil pressure @ 2000 RPM, normal temperature** - 40 to 60 PSI is good

**Spin-on Oil Filters** - use only anti-drainback filters. Mobil 1 M1-209, Wix 51516, NAPA 1516 or 1348 (smaller), Motorcraft FL400S, Fram PH3600, A/C Delco PFL400A.

**90W Oiler Kit for Trunnions & Steering Unit** - Mercury Marine lower end oiler kit, Quicksilver Grease Gun #C-91-37299, \$17.00. Use with Quicksilver Gear Lube Super Duty-250 ml tube, # 92-98780, \$4.50. Tube screws to bottom of gun.

## **18. *Paints, Undercoats, Painting Techniques, Rust Removal***

**Cast Coat Aluminum** - Duplicolor Ceramic Engine Paint #DE1650. Steel wheels, air cleaner, valve cover, WalMart, K-Mart \$3.00

**Silver Steel Wheel Paint** - Duplicolor WP316, can be found at WalMart

**Truck, Van & SUV Paint** - Duplicolor T229. It's a nice "warm" silver, just like the original.

**Aluminum** - Plasti-Kote Engine Paint #207. Transmission, head gasket, Advance Auto Parts

**Universal Black** - Plasti-Kote Engine Paint #203. Engine, brackets etc, Advance Auto Parts

**Black** - Duplicolor Ceramic Engine Paint #\_\_\_\_. Engine, brackets etc WalMart, K-Mart \$3.00

**Clear** - Duplicolor Ceramic Engine Paint #\_\_\_\_. WalMart, K-Mart \$3.00

**Rubber and Plastic Paint** - Plasti-Kote bumper and trim paint. Dries quickly, excellent adhesion, flexible film. Available at auto parts stores. Use on steering wheel grip, may be ok to stripe hoses.

**Paint Recommendation** - PPG's single stage "Concept" brand urethane paint is beautiful and durable. Compares favorably to BC/CC paint in depth of shine.

**Undercoating** - 3M part# 08881, 2 coats is recommended

**Custom color matching of PPG and Dupont paints in spray cans** - Tower Paint, 922 Oregon Ave, Oshkosh, WI 800-779-6520

**British car paint colors in aerosol cans** - William Wolf & Co, Cleveland, OH, good to deal with. He'll put your color into aerosol cans for roughly \$14.00 to \$15.00 each. Minimum order is three cans and they'll send you the leftover paint in a one pint can.

**Stripping Undercoat** - Try water soluble type. It is not as aggressive leaving painted surface underneath & cleans up easier.

**Stripping & Painting Engine Bay** - Use good paste stripper (Bix, etc). Cover everything that could be damaged. Use synthetic steel wool available in coarse, medium & fine. Coarse & medium will get most of it off. Use a halogen light on a stand. Heat makes the stripper work faster. Don't try to strip more than a 1 sq ft area at a time. Wipe down the stripped area with water, & dry it. Prior to painting, wipe down the area with Dupont Prep-sol. Use an etch primer on the bare metal. Wipe down the primer with the prep-sol before painting with color. Spray with several light coats rather than one heavy coat.

**Ceramic Powder Coating** - Performance Coatings 9768 Feagin Road Jonesboro, GA 770-478-2775 Small company, great service, cost is less than Jet-Hot.

**Metallic Ceramic Coating** - Jet-Hot, Pascagoula, MS, Tempe, AZ, Bridgeport, PA (Home Office) 800-432-3379 610-277-5646 <http://www.jet-hot.com/>

**Master Cylinder Refinishing Technique** - Use a wire brush (hand & drill mounted) for cleaning followed by a 50/50 mix of MetalPrep 79 & water. Bathe part for 3 minutes. Mix Alodine 50/50 with water. Bathe again for 3 minutes. The Alodine converts the aluminum surface chemically & prevents the aluminum from being

corroded. Can be purchased in pints at well stocked paint stores. Use high temp clear spray paint to finish after the chemical treatment. Can also be found at [www.aircraftspruce.com](http://www.aircraftspruce.com) There are two types of Alodine. The 1001 product leaves a natural silver finish while the 1201 product leaves a goldish hue. Aircraft Spruce has quite an array of products of interest to LBC owners. The products above are well described on their web site. A quart of solution is about \$10. The service is great. Shipment takes 2 to 3 days using standard UPS ground shipping.

**Black paint for rear section of TR6** - "Euro Black" semi-gloss black. Early '70's "Boss 302" Mustangs used a similar product. Original paint code given by Triumph for the black paint to the rear panel in one of their early newsletters was ICI paint reference 062/4253. Current practice is to use a satin black rather than the matte black used by Triumph when the cars were built. Try your local NAPA and ask for Martin Senour 7244 black trim paint. It is a large spray can with a quality nozzle that dries to a nice matte black finish. And for what it's worth, they also have black chassis paint, #7243, in the same large style spray cans.

**Tip for Dressing Up Carbs and Similar Parts** - Spray aluminum engine paint into a clean rag and buff the part with the rag. As the paint starts to dry, add paint thinner to the rag to create a paint/thinner combination. I compare it to staining a piece of wood. In this case you will be replacing a brown stain with a silver stain. You can also modify this process by using a small stiff brush like a plumber's flux brush to get into the tight areas of the part. The paint and thinner also acts as a cleaning agent. This process also works well on intake manifolds. I spray the manifold heavily with aluminum engine paint then wipe down the manifold to remove all excess paint. This keeps the part from taking on that shiny silver finish. Looks like virgin aluminum when done this way.

**Electrolysis as a Rust Removal Tool** - A gallon or two of water in a non-conductive container (e.g. Rubbermaid), some Arm & Hammer Washing Soda, a chunk of stainless (or not) steel & a battery charger are basically all that's needed. <http://www.rusty21.com/>

**Excellent Painting, Bodywork, Welding Articles** - Rick Patton, Brunswick, ME [patton@suscom-maine.net](mailto:patton@suscom-maine.net)

**Heavy Duty Paints** - Commercial Fleet, Heavy Equipment, Farm and Industrial paints - Magnet Paints, Amityville NY, 800-922-9981, factory direct 40 to 80% savings, <http://www.magnetpaints.com/>

**Blood Red Paint Color** - General Motors red from the mid 80's. DuPont Centari C8508 (single stage). PPG DAR 70075

**Cleaning Chrome** - Get some PPG Metal Cleaner DX 579 from your local auto paint and body shop supplier. DX 579 is a non-flammable, phosphoric acid-based liquid cleaner. It is used to deep clean and etch a metal surface prior to paint or to prepare the surface for a subsequent chemical coating. It's also a great product for chrome cleaning. It smells very bad and is toxic so be sure to use gloves. Dilute four or five parts DX 579 to one part water. Spray it on and keep it wet for about 2 minutes then brush/wash off. You will not believe how bright the chrome glows. If you have rust on any part of the chrome go to your local marine (boat) dealer and ask for "brass wool". Spray the 579 and using the brass wool wipe the rust away. It will remove all rust. It will not harm paint unless you let it "DRY" on the surface so be sure to keep it wet and then rinse it off. Use "semi-chrome polish" to preserve the shine.

## 19. Speedometer & Instrument Repairs

### Gauge repair & restorations:

- MO-MA Instrument Repair - Margaret Lucas, 1321 Second St NW, Albuquerque, NM 505-766-6661 Instruments restored (all types), British especially
- Nissonger Instrument Sales & Service, 570 Mamaroneck Ave, Mamaroneck, NY 914-381-1952 Fax: 914-381-1953, Speedometers, Tachs, Clocks
- Palo Alto Speedometer Repair Service, 718 Emerson, Palo Alto, CA 415-323-0243 Classic auto instrument repair
- Scott Young, 332 Devon Dr, San Rafael, CA 415-472-5126 Show quality instrument restoration
- APT Instruments International, 9632 Humboldt Avenue, So. Bloomington MN 55431 USA 952-881-7095 Fax: 952-881-2680 [www.gaugeguys.com](http://www.gaugeguys.com)  
Email: [demaree@uslink.net](mailto:demaree@uslink.net)

### Miscellaneous Gauge Info:

- Gauge Gaskets - Reassemble the gauge glass using a strip of strip caulk in between the bezel & glass, wiping off the excess with a razor blade when finished. The trim paint & strip caulk can be found at the local NAPA store.
- "O" Rings for Gauges - Home Depot sells "O" rings that fit like a glove. For the bigger gauges you can use aquarium filter O-Rings.

- Gauge Cleaning - Apply a very light coating of Endust to the dial face. Spray some on a paper towel & then "lightly" dab a clean cotton swab in the fluid. Then spread it around on the dial face. It really makes them look like new. Just put it on very sparingly or you'll have a devil of a time getting the excess off.
- Gaskets and "O" rings - XK's Unlimited in San Luis Obispo, Smiths instruments and parts. 800-444-5247

**Speedometer Repair & Calibration Article** - <http://ourworld.compuserve.com/homepages/arhodes/>

## 20. Steering, Suspension, Alignment

**Steering Wheel Nut** - Steering shaft threads are 9/16 X 28 tpi. J&L Industrial; 1-800-521-9520 DSP-75075B, 9/16" X 28 tpi round adjustable die, \$16.75 in catalog Email: [info@jliindustrial.com](mailto:info@jliindustrial.com) <http://www.jliindustrial.com/> OR Airgas Rutland Tool 800-289-4787 <http://www.rutlandtool.com/> 9/16-28 round (1-1/2") adjustable die, model 2108 0297, \$17.70.

**Rebushing Notes** - Dennis Costello [djc.tr6@worldnet.att.net](mailto:djc.tr6@worldnet.att.net) - When installing urethane ensure the distance piece, or "ferule" is securely clamped between the ears of the fulcrum bracket. The new urethane bushing must not turn within the swingarm in the rear, or within the wishbone in the front. The bushing must move around the stationary distance piece only. In the case of the trunnion, it (the trunnion) should be clamped solidly between the distance pieces & the washers on either end. You will see that as the suspension moves up & down, the bolt will remain motionless relative to the trunnion. (This is where the 50 ft lbs torque setting comes in.) If the bolt is left loose, the bolt will be turning within the brass trunnion, wearing the hole oblong. Perhaps more dangerous, is the tendency for the distance piece to wear a groove in the bolt, leading to a stress riser. This area of stress could lead to a fracture & untold scratches on the lower wishbone. In my installation, I had to adjust the spacing between the ends of the distance piece & the outer "flange" of the bushings to achieve a slight clearance. When completed, the suspension will move through it's range of motion effortlessly, (spring removed) unlike rubber bushed examples, where the distance piece is bonded to the rubber. This means all tightening can be done with the suspension in the full droop with no adverse effect. It was necessary for me to remove my swingarms after the original installation due to "groaning". I found that I had not been diligent enough when installing the poly bushings, & had not fully seated them in the swingarm. This left them projecting too far, & rubbing on the ears of the fulcrum. This time, I drilled & tapped holes in the bottom of the swingarm between the bushing halves & installed grease fittings. Now, every spring or fall I can give them a shot, & no squeak

**Upper Front Wishbones** - The arm in question should have "R" stamped on one side and "L" on the other... When it's mounted on the right side of the car, the "R" faces up, and when mounted on the left side, the "L" faces up. Trailing Arm Bracket Info - <http://members.visi.net/~kohout/trailarm.html>

**Urethane Bushings** - Prothane, 3560 Cadillac Ave, Costa Mesa, CA 888-776-8426 [http://www.prothane.com/Main Menu/main\\_menu.html](http://www.prothane.com/Main Menu/main_menu.html)

**Coil Springs** - taken from the Triumph Tune Performance Manual catalog. TRF Spare parts catalog show optional springs, but no color/spring rate info. Moss shows nothing but stock springs but should have optional springs available. No reference for Victoria British.

Front				Rear				Triumph Tune Fitment recommendation		
Pn	Color code	Spring rate	Fitted length	Pn	Color code	Spring rate	Fitted length	Ride height	Front	Rear
Stock	grey	312	6.75"	std	green/white	354	8.81	raised	tt4006	tt4211
tt4006	blue	390	6.9	tt4212	green/Y/Y	420	8.65	standard	tt4001	tt4212
tt4001	white/blue	390	6.65	tt4211	white/yellow	390	9.5	lowered road	tt4201	tt4216
tt4201	pink/blue	420	6.5	tt4216	yellow/yellow	420	8.65	race	tt4207	tt4215/a
tt4102	pink/yellow	420	5.75	tt4215	red/yellow	510	8.25	sprint	tt4102	tt4215a/6
tt4207	orange/blue	450	6.0	tt4215A	pink/yellow	550	7.45			

**A note about springs, shocks and ride height from Ted Schumaker of TSI** - We use Carrerra as our "bread & butter" shock recommendation. They are adjustable (downside is they are a push and turn to adjust) and can be spec'd to your requirements initially. Since they are an American company, it is very easy for us to access the tech staff right at the plant. Immediate feedback and tech info. Price is equivalent. Spax and Koni are both good shocks. We offer them in addition to Carrerra. We raced on both of them over the years. There have been some supply issues with Spax. Koni is more costly. All 3 shock brands are good. Spax is the easiest to adjust but has the least access to immediate tech assistance. Koni and Carrerra are harder to adjust but offer more and easier tech support.

Once the shocks are installed, the frequency of adjusting them diminishes rapidly. Please remember, if the shocks are on a true race car, suspension components will be adjusted/changed on a frequent basis to accommodate changing track conditions. To a lesser extent, this may be done on autocross cars (autocross being a competition event but not a race). For street use, once a happy medium is reached, suspension changes are rarely done again. Note the analogy of "there ain't no such thing as slightly pregnant". It's either a race car or it's not. If it's not, then you have a compromise situation. On the spring question, you need to be aware of what goes into making a spring. The vehicle manufacturer gives the spring maker some specs - total weight of car, type of suspension, individual corner weights, suspension travel, etc. The spring maker then creates a product that approximates these needs. The problem is, spring industry standards are +/- 5% or greater. Not a good accuracy rate for a performance product. The other issue with springs is set and sag. If a standard spring has a live coil touch another live coil (a live coil is one that does not touch another coil in the laden position) the spring will set and not return to its original free length. This could occur if you hit a "major pothole" and bottom the car. Sag occurs when the spring material is "not very good". The spring actually sags over a period of time. Set and/or sag cannot be repaired. The spring is replaced or a stop-gap measure such as rubber spacers are used. We produce uprated coil springs for the big TR's. Our springs are accurate within 2% and guaranteed to never set or sag.. We have springs that have been installed for over 25 years that still sit at the correct ride height. Quick note on ride height. This is always checked from the ground to the top of the wheel arch. In the case of a TR250/TR6 the rear height should be 28 5/8". Installing lower profile tires will show more space between the top of the tire and the wheel arch. This is not the same as an increase in ride height. Front springs are uprated 20% and rears are uprated 25%. Swaybars have also been discussed on the list. Sway bars are used to tune the suspension. This is done only after all changes have been made - springs, shocks, suspension bushings, tires, etc. Just throwing a swaybar on the car doesn't "do the job". If you go to our website and click on the swaybar button, there is a list of changes in rate by sway bar diameter and also some causes and cures for other suspension issues - oversteer, understeer, wander, etc.

**Recommended Lube for Urethane Bushings** - Molycote, teflon grease, blue Marine grease, anti-seize compound.

**Install Tool for Trailing Arm Bushings** - 24" x 1/4" threaded rod, nuts & assorted washers

**Ball Joints** - XJ6 upper ball joints as upgrade for TR6 - Lemforder CAC9938 - Put both shims on one side to change geometry. Shims not supplied with ball joint.

**Front Shocks** - Monroe part # is R 2548. Koni front adjustable tube part #80-1784 \$100 each and must be removed to be adjusted, (rear tube) #80-2167.

Carrera adjustable shocks are comparable, if not better than the Koni's. About \$80 per pair. Firmer, but not too firm <http://www.carrerashocks.com/home.html>  
Gabriel 42321, Made in USA, P1091 removed from a 1971 TR6 but can't find a reference at the Gabriel site.

**Rear Lever Shock Rebuilds** - Worldwide Auto Parts, 2517 Siefurth Road, Madison WI 608-223-9400 or 800-362-1025. Ask for Peter Caldwell.

[www.nosimport.com](http://www.nosimport.com) Peter is a true enthusiast and an honorable business man. He has his own rebuilding operation and he stands behind his work. He also does rebuilds for other resellers. If you have specific lever shock requirements, Peter can offer you alternatives (heavy duty valving, etc) to your specification.

**Rear Lever Shocks** - Antony Rhodes site <http://ourworld.compuserve.com/homepages/arhodes> describes the inner workings, improvements & adjustments for the Armstrong lever arm shocks.

**Rear Tube Shock Conversions** - Don't buy the tube kit from Moss or TRF if they are the multi-bracket kits that transfer part of the load to the body - horror stories about fenders ripping apart. One piece bracket kits sold by NAR Inc [www.narinc.com](http://www.narinc.com) & others, Victoria British also sells these (BPNW supplies these to VB & others).. They bolt onto the frame using the stock shock bolt holes. Quick & easy installation.

**Rear Tube Shock Conversions** - Bryan Lepley <http://www.blindmoosefab.com> Includes mounts and hardware only, no shock absorbers. \$135.00 plus shipping

## **21. Transmissions, Differentials, Rear Hubs, Axles, Driveshafts. U-Joints**

### **Transmission Rebuilders:**

- Quantum Mechanics LTD, John Esposito, 505 Wheeler Rd Monroe CT 203-459-9612, specializes in Triumph transmissions.
- British Auto, NY - Mark, 800-458-4575 Transmission & overdrive parts & repairs
- Overdrive Repair Service (UK), Unit C3/4 Ellison's Road, Norwood Industrial Estate, Killamarsh, Sheffield, South Yorkshire, S31 8JG, 0114 248 2632 Fax: 0114 248 2786 Owned & staffed by ex-Laycock employees. Overdrive Repairs or conversions - Price in 2001 to convert a non-OD TR transmission to an A-type overdrive including shipping at the \$1.45/pound Sterling exchange was under \$1,000.

**Herman Van den Akker (HDVA)** - Builds a conversion kit to use a 5 speed transmission from 1982 to 1985 Toyota Celica Supras in the TR6, 689 Azure Hills Drive, Simi Valler, CA 805-526-9526. Web: <http://pil.net/~felix/5SPD/> Email: [handhvan@msn.com](mailto:handhvan@msn.com) [jtruttman@worldnet.att.net](mailto:jtruttman@worldnet.att.net) has a TR6 with one of Herman's first conversions. John was extremely pleased with his conversion. Kit is around \$1100...you supply the transmission.

**Conversion Components** - 5 speed conversions, New Zealand, rep in Washington - Rep: Robin Purington, 206-547-2340, Fax: 206-547-2341 Sales: [sales@conversioncomp.co.nz](mailto:sales@conversioncomp.co.nz) Support: [colin@conversioncomp.co.nz](mailto:colin@conversioncomp.co.nz) Web: <http://www.conversioncomp.co.nz>

#### **Transmission Bushing Info:**

- Only the latest TR6's can be assured of having been produced with the steel bush boxes. If you don't have a steel ball in the mainshaft, you've got a 'brass-bush' box. Several variations of those are possible. Moss sells a steel bush kit to fit to early boxes. Many transmission are caused by the failure of the top hat bush & thrust washer. Do not put the late style steel bushes in an early box. It will be ruined. The Moss kit is specially designed to fit the early boxes, & consists of three pieces, since the 'new' steel top hat bush is actually a straight bush & a steel washer of proper thickness.
- Moss lists uprated steel bushes for earlier gearboxes as N/A. Victoria British used to have an uprated steel 2nd gear tophat bush (part# 2-8421). This is a direct replacement for the bronze bush but they no longer list them. You can still upgrade to the latest steel bushes but have to change most of the gear clusters. John Esposito of Quantum mechanics can sell you everything you need.
- A Delco rear transmission bushing (# 299506) & seal (# 946940BX) are easier to find & cheaper than TR6 units.

**J Type Overdrive** - Word is that the Volvo 240 & 740 ODs can be used in the TR6, need new main shaft, adapter, trans mount, driveshaft, relay & switch.

**Differential Side Seal** - The differential side seal is the same as an APAX #S5311.

**Transmission front input shaft oil seal** - NAPA 12456 List 7.72, net 6.59

**Transmission rear output shaft oil seal** - NAPA 16719 List 8.40, net 7.14

#### **Rear Hub Rebuild Info:**

- High Point Imports (Axleworks, since 1975), 5858 Prospect St, Archdale, NC 336-884-1455 Scott Howell [HPImports@webtv.net](mailto:HPImports@webtv.net) Used to work for a local Triumph dealership. Bead blasts & cleans each hub assembly, rebuilds them using factory tools & paints them the original gloss black. He also returns the used bearings & parts removed from the hubs. Written warranty of 12 months/12,000 miles. \$330/pair during a special that he was running.
- Team Triumph OH, ask for Scott 330-392-7176
- TRF
- BPNW in OR
- Cross Roads Auto Systems, Dave Sims - Does TRF & Moss rebuilds 800-832-6008

**Removing Brake Drums** - Heat the brake drum center and then pound the hub assembly on the floor. The drum should pop off the hub.

**Driveshaft Services** - A-1 Drive Shaft, Baltimore 410-752- 3000, Drive Shaft Specialists, Bladensburg 301-864-5805

**Differential Drain Plug Installation** - Use a 1/8" NPT (tapered plug). If you go with a regular machine thread you will need to add a sealing washer. You'll notice that the 1/8" NPT hole is considerably larger than 1/8".

**Shaft Sleeves** - Micro Sleeve, Arlington, TX 800-475-3383, Specializes in making wear sleeves for worn sealed shafts. Covers modern engines as well. <http://www.microsleeve.com/>

**U-Joint Info** - The Roadster Factory supplies a brand labeled GMB (made in Japan) and they look and feel worthy of their Japanese maker. They are supplied with the correct (extended ) zerk fitting. Many brands are made by GMB. Miscellaneous u-joint info <http://members.visi.net/~kohout/UniversalJoints.html>

## **22. Useful Tips, Websites, Email Lists, Tools, Fasteners, Books**

**Monster List** - British parts and service recommendations, check here before using a "new" vendor <http://bosphorus.dimebank.com/monster/vendors.html>

**Removing Sheared Bolts/Studs** - Use a small pilot drill to get a straight and centered hole into the sheared component. Use a left handed drill bit sized just a bit smaller than the threads of the sheared component. As you get to the end of the bolt material remaining in the hole, the pressure will lessen on the threads and the bolt will spin out with the left handed rotation of the drill.

**Excellent Technical Site for TR6** <http://www.buckeyetriumphs.org/index.htm>

**Triumph Wiring Diagrams** - Dan Master's site, great electrical diagrams & t-shooting tips <http://www.britishv8.org/index2.htm> Get his manual, you won't be sorry <http://members.aol.com/danmas6/>

**Email Lists & Email Archives for British Cars**

- **"How To Subscribe"** <http://www.team.net/tn-mail.html>
- **"6pack List"** TR250 & TR6 only, very good: <http://www.listquest.com/> **6 Pack Archives:** <http://www.team.net/cgi-bin/wilma/6pack>
- **"Team.Net"** via Scions of Lucas, very good, covers all Triumphs <http://www.team.net/sol/> **Triumph Archives:** <http://www.team.net/archive/triumphs>
- **Complete Archives:** <http://www.team.net/archive/>
- **Auto Jumble Archives:** <http://www.team.net/archive/autojumble>

**Hood Emergency Release Link** - Excellent design by Joe Cannon [http://www.btinternet.com/~dmsims/hood\\_release.htm](http://www.btinternet.com/~dmsims/hood_release.htm)

**Creative Engineering and Design Inc** - Jim Swarthout, <http://web.tampabay.rr.com/tr6tech/> Email: [jswarth1@tampabay.rr.com](mailto:jswarth1@tampabay.rr.com) 727-733-9974, valve spring compressors, roller rockers, aluminum valve covers. Designs and produces these himself if enough are interested. Jim does very nice work.

**Gaskets** - Gasket makers, sealants, adhesives, lubricants - Permatex home page, very informative <http://www.permatex.com/>

**Speedi-Sleeve** - repairs shafts where seal meets shaft. Crankshaft - #361951 fits 1.997-2.003 inch crankshafts <http://www.chicago-rawhide.com/auto/speedi/speedi.htm>

**Micro Sleeve** - Specializes in making wear sleeves for worn sealed shafts. Covers modern engines as well. Arlington, TX 800-475-3383, <http://www.microsleeve.com/>

**Powder Coat Equipment** - Harbor-Freight has the powder-coat gun kit part# 42802-3AVC & a package of 2 cups part# 42979-0AVC. Very good kit.

**Wire Splicing System** - <http://www.posi-lock.co.uk/>

**Onboard Diagnostics Scan Tool** - <http://www.ghg.net/dharrison/obdscan.html>

**Tool Kit for Trunk** - Plastic tool box with compartments. I have a tool box made by Rubbermaid & it fits into the trunk nicely. You may want to carry some or all of this list depending on how far you are driving & whether you are alone or with a group. Either way, it's always nice to be able to help someone in need.

- **Cooling System** - 3 feet of ½" heater hose, radiator hoses, radiator hose clamps, heater control bypass made from 3/8" NPT to ½" tubing adapter, 90 degree street elbow & 1.5" piece of ½" pipe.
- **Fuel System** - neoprene fuel line, fuel line clamps, carburetor diaphragm, mixture tool, fuel pump, fuel filter, short lengths of steel fuel line.
- **Tools** - wrenches, ratchet & sockets, adjustable wrench, ignition wrench set, pliers, vicegrips, ¼" brake wrench, strap wrench, Chapman offset ratchet kit, 13/16" spark plug socket, screwdrivers or multi-tip screwdriver, flashlight, pocket knife.
- **Fluids** - water (for the car/yourself) or antifreeze, brake fluid, oil.
- **Hardware** - nuts, bolts, screws, 1½" muffler clamps, fuses.
- **Miscellaneous** - mechanic's wire, wire ties, electrical wire, jumper wire, jumper cables, electrical tape, small scissors, gasket paper, permatex gasket maker, emergency fan belt (with link if the pulley is very close to the frame crosstube), tire pressure gauge, emery board, fine sandpaper, rags, sunscreen, wide brim hat.
- **Safety** - flares, ABC fire extinguisher, HELP sign, cell phone, valid AAA member card.
- **Parts** - cap, rotor, points, condenser (or complete functional distributor), ignition coil, plugs, 1 long ignition wire.

**ABS Plastic Parts** - Steve Nance, a member of Triumph Club of the Carolinas produces the ABS formed plastic parts for the big three, including the radiator shroud. Most of their sales are wholesale, but you can also buy retail from them. Email: [britfab@msn.com](mailto:britfab@msn.com) 336-993-6105. Web: [www.britfab.com](http://www.britfab.com)

**Good Engine Article** -Tuning Standard Triumphs Over 1300cc, David Wizard, Speed Sport Motobooks, Speed & Sports Publications LTD 1970, It's a PDF & translates to 159 pages <http://ourworld.compuserve.com/homepages/arhodes>

**Homemade Piston Ring Grinder** - [http://www.teglerizer.com/triumphstuff/75w\\_newrings.htm](http://www.teglerizer.com/triumphstuff/75w_newrings.htm)

**Conversions Sites:**

- Currency of any denomination - <http://www.xe.com/ucc/convert.cgi>
- Metric Length, Area, Mass/Weight, Liquid Volume, Temp, Torque <http://www.wihatools.com/conversion.htm>
- Dictionary of Units, great conversion site <http://www.ex.ac.uk/cimt/dictunit/dictunit.htm#US>

**Great Site For Part Alternatives** - <http://www.grmotorsports.com/boneyard.html>

**Good Site for British Car Services, Parts, Literature etc** - <http://www.fstvw.co.uk/foundb/foundb1.htm>

**Books & Service Manuals**

- Haynes Manuals Haynes Publishing, Sparkford, Nr Yeovil. Somerset, BA22 7JJ - Tel: +44 1963 442080 fax: +44 1963 440001, Delivery Times: UK 3 - 4 days, Europe 7 - 14 days, World 7 - 14 days, Title: Triumph TR5 & 6, ISBN: 0 900550 31 7, Book#: 0031, Price: £25.00, postage: £6.00 -Total: £31.00, conversion: \$44.61, Title: Weber/ZS/SU Carbs, ISBN: 1 56392 157 X, Book#: 10240, Price: £14.99, postage: £5.00 - Total: £19.99, conversion: \$28.76, <http://www.haynes.co.uk> [sales@haynes-manuals.co.uk](mailto:sales@haynes-manuals.co.uk)
- Kelsey Publishing Ltd, Cudham Tithe Barn, Berry's Hill, Cudham, Kent TN16 3AG, England Tel: 01959 541444 Fax: 01959 541400 Fax from overseas: 0044 1959 541400 ISBN 1 87309 8278, Title: Triumph Tr6 Restoration (Practical Classics & Car Restorer), Web: <http://www.kelsey.co.uk/books/motoring/tr6.html> Email: [info@kelsey.co.uk](mailto:info@kelsey.co.uk) £16.95, Surface mail: +£2.
- Bookfinder.com - searches Advanced Book Exchange (ABE), amazon.com, Bibliocity, Bibliofind, BookAvenue.com, Powells, YourBooks.com <http://www.bookfinder.com>
- DealTime <http://media.dealtime.com/books.html>
- ElephantBooks <http://www.elephantbooks.com/>
- Books 4 Cars <http://www.books4cars.com/>

**Vintage Tools for British Cars** - Don Weinberger, can be reached at [vallarta@enter.net](mailto:vallarta@enter.net)

**E-Drawing Web Site** - basic web site that has several design drawings of roller rockers, a throw-out bearing etc. <http://web.tampabay.rr.com/tr6tech/>

**4 point or 8 point sockets** - McMaster-Carr stocks 8 point sockets. They work well with square drain plugs etc such as: 1/4" - rear brake adjuster, 5/16" - shifter fork to selector rod taper pins, 3/8" - gearbox, 7/16" - differential & clutch fork taper pin.

**Miscellaneous Fasteners & Tools**

- APT "Advanced Performance Technology" CA 909-686-0260 or 800-278-3278. Superbolts" (special MIL spec or NASA spec bolt) [www.aptfast.com](http://www.aptfast.com)
- Discount Tools - If you're looking for specialty automotive tools, check out <http://www.tools4schools.com/>
- Stainless Hardware, Fasteners - All Stainless, Whitman, MA 800-225-5130 Fax:781-857-1998 E-Mail: [allstainlessinc@netscape.net](mailto:allstainlessinc@netscape.net) <http://209.192.192.115/>
- Fastenal Company, many locations <http://www.fastenal.com/> They carry the EZ-LOK product to repair stripped threads.
  - Brockton, MA 02301, 15 Jonathan Drive, Unit 7 508-580-0956
  - Norwood, MA 02062, 51 Morgan Drive Street 2 781-255-7222
  - Quincy, MA 02169, 210A Ricciuti Drive 617-984-5801
- Mr. G's Enterprises - [www.mrgusa.com](http://www.mrgusa.com) Great site, online catalog
- Automotive Fasteners - [www.automotivefasteners.com/](http://www.automotivefasteners.com/)
- Huck Fasteners - [www.huck.com/automotive/downloads/downloads.html](http://www.huck.com/automotive/downloads/downloads.html)
- Automotive Specialty Tools - [www.etoocart.com/store.asp](http://www.etoocart.com/store.asp)
- Rivets Nutsert, Pop Rivet, Monobolt, Inserts - [www.rivetsplus.com/default.htm](http://www.rivetsplus.com/default.htm)

- Screw Thread Inserts American & Metric sizes Timesert 800-423-4070, Email: [info@timesert.com](mailto:info@timesert.com), Web: <http://www.timesert.com/>
- Thread Repair - <http://www.newmantools.com/index.html>, Keenserts etc.
- Nuts & Bolts in bulk & more - [www.nutty.com/catindex.html](http://www.nutty.com/catindex.html)
- Restoration Specialties - [www.surfshop.net/users/restspec/](http://www.surfshop.net/users/restspec/)
- Shop press plans - [www.megageek.com/shop](http://www.megageek.com/shop)
- HarborFreight, reconditioned tools - [www.harborfreight.com/cpi/html/reconcntr/](http://www.harborfreight.com/cpi/html/reconcntr/)
- Fasteners & General Hardware - [www.leevalley.com](http://www.leevalley.com)
- Technical Reference Charts, all kinds of info - [www.americanfastener.com/techref/grade.htm/](http://www.americanfastener.com/techref/grade.htm/)
- Whitworth Thread History - [www.team.net/sol/tech/whitworth-hist.html](http://www.team.net/sol/tech/whitworth-hist.html)
- Ascii chart - [www.bignosebird.com/ascii.shtml](http://www.bignosebird.com/ascii.shtml) -
- Metric bolt info - [www.metricmcc.com/](http://www.metricmcc.com/)
- Hardware, taps & dies - [Boltnut@ix.netcom.com](mailto:Boltnut@ix.netcom.com) They seem to have whatever it is you need.
- King Dick Tools - <http://www.kingdicktools.co.uk/> Catalog available.
- Miscellaneous Fasteners - [www.dzus.com/](http://www.dzus.com/)
- British BSW & BSF bolts, studs, etc. - [www.majon.com/www/british.html](http://www.majon.com/www/british.html)
- Loc-Tite web site - [www.loctite.com/](http://www.loctite.com/)
- Permatex site - [www.permatexbrands.com/products/prodidx.asp](http://www.permatexbrands.com/products/prodidx.asp)
- Compressor plumbing diag - [www.tiptools.com/compressors/piping\\_diagram.pdf](http://www.tiptools.com/compressors/piping_diagram.pdf)
- Lift -purchasing & installing - [www.opms.com/corvette/atlantac5events/liftparty](http://www.opms.com/corvette/atlantac5events/liftparty)
- Tools of the Trade, good honest tool comparisons, offer some unique tools 888-269-8410 or fax to 847-291-4816 - [www.toolsofthetrade.net](http://www.toolsofthetrade.net)
- Body Shop Tools, carries the HobbyAir & another line of supplied air systems - <http://www.autobodystore.com/index.htm>
- Miscellaneous Trim, Hardware, Fasteners, Adhesives etc - <http://www.atrim.com/>

#### Market Value Guides

- Collector Car & Truck Market Guide - <http://www.vmrintl.com/Default.htm>
- NADA Classic Car Guide - <http://www3.nadaguides.com/SectionHome/ClassicCars.asp?UserID=062D31BEC9C&DID=37460&wSec=2&wPg=1184>

## 23. Wheels, Tires, Front Wheel Bearings

**Panasport Wheels** - 15x6 Panasports - good prices at K Speed in State College, PA. 16X7 Panasports with 205/55-16 Goodyear Eagles are just about the same size as the original steel 15x5.5 wheels with 185/65-15 Michelins.

- Alternate Wheels - Stock steel wheels on TR-3/TR-4 are 15"x4", Bolt Pattern is 4 on 4 1/2", Backspacing is 3 3/8" Stock steel wheels on TR-6 are 15"x5 1/2", Bolt Pattern is 4 on 4 1/2" circle, Backspacing is 3 1/2". Wheel lugs for a 4 on 4 1/2 MGB are 1/2" vs 7/16" for the TR6, but the MGB wheels will bolt up to a TR6. If you use the correct nuts they will bolt on. This list is not 100% correct, but it might help you narrow down your search a bit. 4 on 4-1/2 Acura - Legend '86-'89, Buick - Special '61-'63, Corvair all 4-bolt, Chevy II all 4-bolt, Sprint '85-'87, Nova '61-'70, Datsun/Nissan - most models to '89, Dodge Colt '79-'88, early Dodge Colt, Ford Mustang all '65-'68 4-bolt, Falcon, Maverick, Granada all 4-bolt, Mazda - 626, RX7 '83-'87 ?????, MGA, MGB, MGC, Olds - F-85 '61-'63, Plymouth - Arrow, Sapporo '79-'88, SAAB all ???, SAAB 900 to '87, Toyota - most exc. MR2 & P.U. to '89, Triumph TR 1 thru 6

**Redline Tires** - Diamond Back Classics <http://www.widewhitewalltires.com/specialty.htm> 205/70R15 Dunlop Axiom Plus Redlines. Brand new tires, not reprocessed tires like some companies offer to give you the redline look. The red is bright & doesn't turn pink with age. Cost is around \$130.00 but the performance & quality is there.

**Redline Tires** - Hendrix Wire Wheel, Owner Allen Hendrix is a good guy. Web: [www.hendrixwirewheel.com](http://www.hendrixwirewheel.com) He sells Dunlop SP40s (205/70 x 15) with a 3/8 in redline for \$149.95. It is said that Coker tires are difficult if not impossible to balance well. Hendrix will shave the Coker tires to true round so you can almost balance them.

**Replacement Tires** - I used the BF Goodrich Touring T/A SR4 model, 215-70R15 size. They are installed on the stock steel wheels, fit great & don't rub or scrape. They are very close in circumference to the originals. Would not suggest going any larger with the steel wheels for treadwear & clearance reasons.

**Tire Comparisons on Original Steel Wheels @ 28 PSI** - Both tires were mounted on factory steel wheels & inflated to 28 pounds. The redline looks brand new (nubbies still present all over) so I'm guessing it has very few miles on it. The BFG tire has about 2000 miles of wear, none of which is noticeable.

<b>Dimension Measured</b>	<b>Original MichelinBF 185-15 X Tube Type</b>	<b>Goodrich Touring T/A SR4 model, 215-70R15</b>
<b>Tread depth</b>	7/32"	5/16"
<b>Circumference</b>	84 3/8"	84 5/8"
<b>Height</b>	26 9/16"	25 5/8"
<b>Width</b>	7.50"	8.00"
<b>Back Offset</b> - from floor to wheel center	4.25"	4.50"
<b>Front Offset</b> - from floor to wheel center	3.25"	3.50"

**TR6 Stock Wheels** - TR6s use a 4 on 4.5" bolt pattern. The TR6 backspace is a bit odd and the centering hub is uncommon. If your goal is 15 X 6 rims, you do have a few choices if you do not want to keep the wheels "hub-centric". But that's the key. **SAFETY NOTE:** you do not need centering lugs but if you don't use them, you need to be very aware that the wheels will "work around" a bit if not torqued properly. This is especially true with the stock 7/16" wheel studs. If you decide to make your new wheels hub centric via a spacer arrangement, you need to cut the spacers twice - once for the real centering lug and once for the rim centering lug (hole). The spacer uses up valuable length of the stud/lug thread contact length. Be careful that you don't wind up with 3 or 4 threads worth of engagement. Along those lines, it might be necessary to install longer studs in the hubs. While this is not rocket science, it does bear mentioning that there are common replacement studs with a similar knurl to the stock studs, but there are options available. If you want wider wheels, you can get 15X7 rims with zero offset and they'll fit just fine. The backspace on those rims comes in right around 3.5" (as you can probably imagine). You also need to make sure that the backspace is not greater than about 3.75". 15" wheels with a 4" backspace will rub on the upper A-arms. Mid 80s to early 90's Mustangs use the 4 on 4.5" pattern so there might be something available for the TR6 in a modern design.

**Steel Wheel Straightening** - Stockton Wheel Service, Stockton, CA 209/464-7771 [www.stocktonwheel.com](http://www.stocktonwheel.com) They are able to straighten both alluminum and steel wheels. They are also able to put a wider rim on an OEM center. That means that you could have a 7" wide wheel on a factory center and could have it done in any offset that you want.

**Wheel Bearing Adjustment** - Bentley and other repair manuals write that the front hub bearing end-float be set to .003-.005. Slacken the slotted nut, it tells you, to obtain this clearance. Torqueing up this slotted nut to a value of 5 lb feet can leave these wheel bearings far too loose, especially if a new, felt grease seal was installed along with new bearings and races. We know that the spindle and nut are 1/2" X 20 threads per inch. This TPI would mean that turning the nut one full turn would be the equivalent of .050. One 'flat' on the nut would be close to .008. There are two holes in the in the spindle in which to insert the cotter pin. This second hole allows a location half way between the slots in the nut. The pin can be inserted with only .004 running clearance. Squeeze all of the air out of the gaps in the hub, before inserting the cotter pin. I do this by overtorqueing the nut to where the hub won't turn by hand. Then back off on the nut and come at it again using the prescribed torque. The hub should turn by hand. Now back off the nut and find the first "better" hole in which to insert the pin. You should end up with a running clearance between .003 and .005 as recomended....and no wheel shake.

## **24. Windshields & Wipers**

**Windshield Glass** - A new green tinted windshield can be ordered for \$221.14 and installed for \$325.0. If they have one in stock it might be cheaper because they do not have to order one. For a TR6 it is listed as Foreign 146, PPG70FR. Giant Glass (MA Area) only uses PPG glass. As to quality, if it is purchased from Taiwan it can be inferior. The glass from off-shore vendors is sometimes wavy causing optical problems as well as thinner gauge and misshapen causing poor fit.

**Wiper Wheel Box Tubes** - Use 5/16" brake line. The drive cable fits perfectly & the flares are a good fit also. The only problem is that the 2<sup>nd</sup> tube (between the wheel boxes) is about ½" longer than the necessary 12". They do have a 20" length which makes that tube & leaves enough left for the shorty on the other side of the 2nd box.