JUDGING STANDARDS & RESTORATION GUIDELINES

Triumph Register of America

Formed to Preserve the Marque TR-2/3/3A/3B

Judging Standards
and
Restoration Guidelines

February 1993 Edition
May 2004 Revision

Table of Contents

Introduction		3
	Acknowledgments	4
	Revision History	4
	References	4
General Rules for Concours		5
Exterior		EX-1
Underhood		UH-1
Interior		IN-1
Chassis		CH-1
Appendices		
	Master Scoring Sheet	A
	TR2/3/3A Paint and Trim Materials	B

T R A

Introduction

THE TRIUMPH REGISTER OF AMERICA, the only national U.S.A. organization devoted solely to the TR-2/3 series, provides this document not only for use as a guide for concours judging but also as a guide for members to use during restoration.

Concours de Elegance has been a highlight of TRA national meets for nearly twenty years. TRA has made this activity a priority because we feel that it is critical to preserving the marque. Concours provides a way for members to receive recognition for their restoration and preservation investment. It also provides a model and stimulus for those considering or in the process of restoration.

About TRA. TRA is a nonprofit organization established to aid TR-2/3 owners in the preservation, maintenance and enjoyment of their classic sports cars and is concerned with establishing local groups of TR-2/3 owners. Local used parts supply networks and local activities such as technical workshops and rallies provide the binding glue for our national organization.

About Concours. Concours is for the enthusiast who takes pride and satisfaction in his/her car. To compete in concours requires substantial investments of time and money. As such, it is usually taken very seriously by the participants. To successfully conduct a concours event also requires a substantial investment in preparation. To be successful, the concours event must have the following goals:

* Accuracy -- The evaluation of a car's originality is accurate and the evaluation of the quality of the car presented is fairly decided.
* Consistency Across the Event -- Participants should feel that their car is judged consistently with others and agree with their score relative to others.
* Consistency From Event to Event -- Assuming that a car is shown in two successive events, the judging process, regardless of whether the judges are the same, should result in a comparable score.
* Timeliness -- Practically, concours judging can take at most two or three hours. Therefore, judging must balance thoroughness with speed of operation.

To attain these goals requires dedication in the organization to develop standards, to seek out and train qualified judges, and to continually review and re-evaluate the entire process.

About This Document. This guide is to serve as reference for judges in TRA concours events and for TRA members doing restorations. The material presented is the result of several years of work, assembling information from factory reference material, TRA members expertise, TRA judging school reviews and presentations, and other Triumph history material.

Accuracy of Information. In each section of the guide, you will find specific cautions about the accuracy of the information provided. While the contributors have spent hundreds of hours researching reference material, the information available is often lacking thorough documentation. In addition, there is a significant margin of error in the information that results from the mass production process used in TR assembly. For example, there are several cases where the parts manual indicates a change at a particular commission number but the change actually took place over several weeks of production such that any given car produced during that time might have the early or late component/configuration. While the authors provide indications of confidence in the information where appropriate, in general, if your car does not match a specification provided, do not immediately conclude the car is in error; research the subject further yourself or consult local experts before making changes.

Acknowledgements.

1977 TRA Concours Scoring Sheets (with judging guides incorporated) --
Skip Marsh and Ron Gordon(PACTRA,Mason Dixon/TRA)
Circa 1983 TRA Concours Judging Guide -- Dave Hannah (COCTRA)
1990 TRA Underhood Judging School (Video) -- Conducted by Tom Householder (COCTRA).
1991 TRA Interior Judging School -- Conducted by John Warfield (Mason Dixon/TRA)

Authors: John Gabel (COCTRA), Joe Richards (COCTRA), and John Warfield (Mason Dixon/TRA).

Other principal contributors listed in individual sections.

Other Acknowledgements: Many have contributed to this effort and we expect will continue in the future. Of particular note are the judges at TRA National Meets. Pre-judging reviews and post-judging debriefs have provided excellent feedback on the materials and direction for extensions. Judging Schools held at the TRA National Meet each year have also provided excellent feedback and input to the material. Walk-arounds during the schools have raised dozens of questions which we've tried to address within. Reviews of new material with other members in centers across the country have been very productive; these have helped fill in holes, find new holes, and in general provided excellent inputs to the development of the material. We also have held "dry-runs" of new judging guidelines on different occasions, COCTRA members have "volunteered" to be test judges on local cars to see how long it takes, how easy the materials were to use; how consistently different judges scored. These dry-runs have yielded insights into what is practical for judges to use and resulted in many adjustments. TRA membership in general have contributed with calls or letters with information, suggestions, and corrections to the guide over the last few years. We also need to mention the vendors. In addition to allowing us to copy some of their artwork, The Roadster Factory has provided a wealth of reference material in catalogs and newsletters from which various insights into the Stanpart catalogs were obtained. Moss Motors catalogs and a variety of other vendors' material have also been useful resources. For example, Joe had a summary of TR heads from a Moss Motors catalog tacked to a wall in his barn which we found to be a great reference; who knows how old and what issue the catalog was it came from, but it raised the right questions and we later found suitable documentation. Many thanks to all...

Revision History.

June 1989 Edition -- Initial version, Exterior.
June 1990 Edition -- Minor Revisions to Exterior; initial portion of Underhood added..
June 1991 Edition -- Underhood sections added: Identification Plates, Electrics, Hydraulics; Interior added; minor edits and corrections to other sections.
May 1992 Edition -- Added Underhood sections on Engine, Fuel System, Controls, Cooling system. Minor corrections and edits to other sections.
February 1993 -- Chassis section added; change to 100 point scoring in Exterior and Interior sections; rework of introductory material; some extensions in Interior.
March 1995 - Interior Deduction Guide is incorporated into Scoresheet. Scoresheet re-organized to facilitate judging. Handbook and Coach Key added to required items results in minor reallocation of points for tools. Other minor additions and clarifications.
May 2000 – Underhood: minor edits, extension; replacement of “Underhood Scoresheet and Originality Deduction Guide” with redesigned scoresheet which includes deduction guidelines.
May 2004 – All scoresheets upgraded to current format.

References.

References are provided at the beginning of the individual sections.

T R A

General Rules for Concours

Scope. Judging is based on:

Quality of Restoration -- The condition of the various components.

Originality -- The components presented match those specified for the model and commission number.

Scoring. In general, points are earned for quality and points are deducted for originality deviations. Scoring is done independently for the four judging areas: Exterior, Underhood, Interior, and Chassis. Historically TRA has generally used a 100 point scheme with the following allocations to judging areas:

Judging Area	Allocation
Exterior	40 points
Interior	25 points
Underhood	20 points
Chassis	15 points

Weighted Scoring. TRA has experimented with a variety of scoring schemes. For many years, the points allocated to each judging area were used with no weighting. So, for example, the Underhood judges had 20 points to work with. Since Underhood has dozens of components, the few number of points made scoring difficult for judges; deductions in fractions of points resulted and often this was inconsistently done across judges, especially from one year to the next. As a result we have adopted a 100 point scheme for each judging area and map the area scores into a total of 100 points based on the allocations listed above. For example, if a car is given full 100 points for Underhood, then the 100 points is multiplied by 0.20 (resulting in 20 points) on the Master Scoresheet for the actual Underhood contribution to the total score for the car.

Component Allocations within Judging Area. Within each judging area, detailed breakdowns of components and their point allocations are provided to improve judging consistency and reduce bias of individual judges from year to year. For example, in Underhood, Hydraulics is allocated 10 points (of 100 total for Underhood). At most then, the judge can deduct 10 points for Hydraulics.

Deduction Guides. The current judging materials are designed to give more explicit guidelines for determining scores by giving specific deductions for particular originality deviations. Again, the objective is to improve consistency. In Underhood for example, specific originality deductions are listed for Hydraulics; these deductions are made independent of the quality of the presentation.

Scoresheets. Scoring is recorded on scoresheets for each judging area and the totals then recorded on a Master Scoresheet for each car. Scoresheets used include:

* Exterior Scoresheet -- This is used for scoring body originality, miscellaneous exterior components quality and originality, and the total Exterior score.

* Exterior Scoring, Bodywork and Paint Worksheet --This supplemental scoresheet is provided for the evaluation of the quality of bodywork and paint.

* Underhood Scoresheet -- This is used for scoring quality and originality of the engine compartment, including the firewall and inner fenders.

* Interior Scoresheet -- This is used for scoring the interior of the passenger compartment, the top and the trunk area, including tool kit.

* Chassis Scoresheet -- This covers the frame, suspension, exhaust, and wheels.

* Master Scoresheet -- This is used to collect the individual scoresheet subtotals and to calculate a total score.

The area scoresheets are included in the corresponding sections of this document. The Master Scoresheet is included in Appendix A.

Rules for Concours Participants.

* Drive onto field -- In order to participate in concours, the car must be driven onto the concours field.

* Top in place -- Top is presented on the car. Any car presented without top will lose all points for top.

* Sidecurtains -- Sidecurtains are to be displayed, normally at the rear of the car. If threatening rain, the Head Judge may permit sidecurtains to be displayed in place.

* Trunk -- Access is needed to the trunk area by Interior judges. The jack and tool kit is to be displayed within. Personal articles are to be removed.

* Judges access to car -- In order to conduct judging, hood and trunk must be raised and closed and doors must be opened and closed. If the owner wishes to remain with the car, they may do this themselves. If not present, implicit permission is given to judges to open and close doors, hood or trunk. The judges will not make any effort to find an owner who is not present when the car is judged.

* Interaction with Judges -- Except for interaction related to opening and closing, no interaction with judges is allowed while judging. Questions and comments should be raised with the Head Judge.

Rules for Judges.

* Contact with Car -- Judges should avoid contact with the car surfaces and components. The exception is with Interior judges; they must be allowed access inside the car and contact with the car is unavoidable.

* Interaction with Participants -- The only interaction that the judging team should have with the owner is to ask the owner to open and close doors, hood, or trunk. If the owner is not present, the crew is given implicit permission to open and close doors, hood, and trunk as needed.

* Contact with Spectators -- Judges should avoid any discussions while judging. If asked questions, they should refer the individual to the Head Judge or suggest a discussion afterwards.

T R A

Judging Teams. Given the detail of scoring that TRA uses, the volume of cars influences the number of judges needed and their coverage of cars. We have found using the same judges for a particular judging area across all models is best approach. We also employ multiple judging crews for Exterior and Underhood. Breaking the Exterior and Underhood teams into crews with specialties is done to allow the same individuals to judge all cars and to limit the responsibilities of individual judges.

Selection of judging teams follows these guidelines:

* Attendance at 2 Judging Schools -- Regardless of whether the topics covered in the schools were on the area to be judged, we want judges who not only have shown interest in judging but also have been exposed to the judging material.

* Encourage Prospective Judges to Participate as Assistants -- We like to have assistants assigned to judging crews to help take down scores and comments. Being an assistant allows a prospective judge to see what is involved and get a better feel for what is required.

* Mix Experienced Judges with New Judges.-- We like to pair up an experienced judge with a first-time judge. This helps provide consistency from year to year. It also helps to encourage prospective judges to volunteer who are a bit nervous about jumping in.

* Demonstrated Knowledge of the Area -- From conversations during judging schools, references from other members, or other means, we try to pick people for judging who are knowledgeable of the cars and restoration in general. "Knowledgeable" does not mean the person must be an authority or expert. Being an expert, does not mean a person will make a good judge; not being an expert does not mean a person won't make an outstanding judge either.

Official Scorer. All judging scoresheets are returned to the Official Scorer. The Official Scorer checks the arithmetic of the individual scoresheets, in some cases may calculate the scoresheet total scores, and transcribes the individual scoresheet totals to the Master Scoresheet. The scorer will later provide copies of the completed scoring sheets to presenters, on request, assuming that this is practical to do.

Head Judge. The Head Judge assigns judges, insures that concours rules for participants are communicated, resolves any questions or differences between judges, and monitors judging and scoring. In addition, participants with questions or problems with the judging process or scoring of his/her car should address such with the Head Judge.

Exterior

Table of Contents.

Introduction	2
Acknowledgements	2
Revision History	2
References	2
Exterior Judging.	3
Exterior Scoresheet	4
Exterior Scoring, Bodywork and Paint Worksheet	5
Quality of Restoration Judging	
Bodywork	6
Paint	7
Body Panel Evaluation Guide.	8
Originality Judging	9
Front Apron	10
Badge and Letters	11
Hood, Trunk, and Doors	12
Rear Apron	13
Miscellaneous Exterior Evaluations	14

T R A

Exterior - Introduction

This guide is intended to serve as reference for judges in TRA concours events and for TRA members doing restorations. The material presented is the result several years of assembling information from factory reference material, TRA members expertise, TRA judging school reviews and comments, and other Triumph history and reference material.

Acknowledgements.

Authors and principal contributors: Joe Richards and John Gabel (COCTRA).

Revision History.

June 1989 - Initial version.
June 1990 - Minor edits and corrections.
February 1993 - Organizational changes; change from 40 to 100 point scoresheets.

References.

The following are referenced where appropriate within "Exterior". The abbreviations enclosed in parens are used to identifythe associated reference.

(SPCEd1)	Triumph Sports Car Spare Parts Catalogue, Edition 1. Part No. 501653/USA.
(SPCEd2)	Triumph Sports Car Spare Parts Catalogue, Edition 2. Part No. 501653/USA.
(SPCEd3)	Triumph Sports Car Spare Parts Catalogue, Edition 3. Part No. 501653/USA.
(SPCEd4)	Triumph Sports Car Spare Parts Catalogue, Edition 4. Part No. 501653/USA.
(HWC)	Stanpart Hardware Catalogue for use with Standard Triumph Vehicles. Publication part number 514264.

Exterior Judging

Scope. Exterior judging covers the car body panels, windshield, lights, bumpers, and other objects mounted on the car exterior. Judging is based on:

Quality of Restoration -- The condition of the various components.

Originality -- The components presented match those specified for the model and commission number

Scoring. In general, points are earned for quality and points are deducted for originality deviations. Scoring is recorded on the Exterior Scoresheet. In addition, a supplemental scoresheet, Exterior Scoring, Bodywork and Paint Worksheet, is provided for the evaluation of the quality of bodywork and paint. Both sheets will be returned to the Official Scorer.

Exterior Scoresheet -- Has two sections:

* Body Panels. Body panels are judged for quality and originality. Quality points are earned(subtotal obtained from the worksheet) by panel and subtotaled. From the subtotal,deductions are made for originality deviations. Originality judging reference material is provided for each major area of the exterior including variations in the models.

* Miscellaneous Exterior. Major, non-sheet metal, items on the exterior are evaluated for quality and originality. Scoring for each item is detailed on the scoresheet. Guidelines for evaluation of quality and originality are provided in the section Miscellaneous Exterior Evaluations.

Exterior Scoring, Bodywork and Paint Worksheet -- This worksheet includes a diagram of the sheet metal and a scoring table. The judges will annotate flaws observed on the diagram for their own use and and for the owners reference. They will convert the observations into scores for individual panel types. Scores per panel are broken into three categories: Bodywork, Paint, and Mountings. Mountings include items that are "mounted" on the panels, like door handle and trunk securing mechanisms. The maximum points that can be given in a category and across a panel is included in the table. General bodywork and paint evaluation guidelines are provided in supplemental material. Included in the support material is a Body Panel Evaluation Guide which lists particular areas to be checked on each panel.

Car Inspection Requirements. Quality of resotration must be judged with the Trunk and Hood in the closed position.

TRA

Exterior Scoresheet	Entry:	Model/year:
	Commission #:	
	Owner:	

Bodywork and Paint

Bodywork and Paint Quality Score

Enter score from reverse side - Exterior Scoring, Bodywork and Paint Worksheet	50	Score
Subtotal -- Body Panel and Paint Qualtity		

Bodywork and Paint Originality Deductions		50	Score
Doors	Incorrect handle(s). Deduct 2 per door	2:4	
	Incorrect door(s). Deduct 2 point per door	2:4	
Fenders	Incorrect Fender. Deduct 5 per fender.	0.22	
	Missing Stone guards	2:4	
	Missing fender stay	2:4	
Trunk	Incorrect trunk	5	
	Incorrect trunk latch/securing	2	
Hood	Incorrect hood	5	
	Incorrect hood latch/securing	2	
Aprons	Incorrect front or rear apron	0.22	
	Radiator deflector Missing or color different from body	2	
Fiberglass panels.	Deduct 3 point per panel (3:12 fenders,3:6 aprons)	0.1	
Paint	Poor paint match from panel to panel	3	
	Nonoriginal decals or pin-stripes.	5	
	Nonstandard Paint used (body color). Includes use	8	
	of metalic paint. No deduction if color is documented.		
Subtotal -- Body Panel Originality Deductions			

Quality score less originality deductions

Subtotal -- Paint and Bodywork

Subtract "Subtotal Body Panel Originality Deductions" from "Subtotal Body Panel and Paint Quality"
If "Body Panel Originality Deductions" is greater that the "Body Panel Quality", enter zero.

Miscellaneous Exterior - Quality and Originality

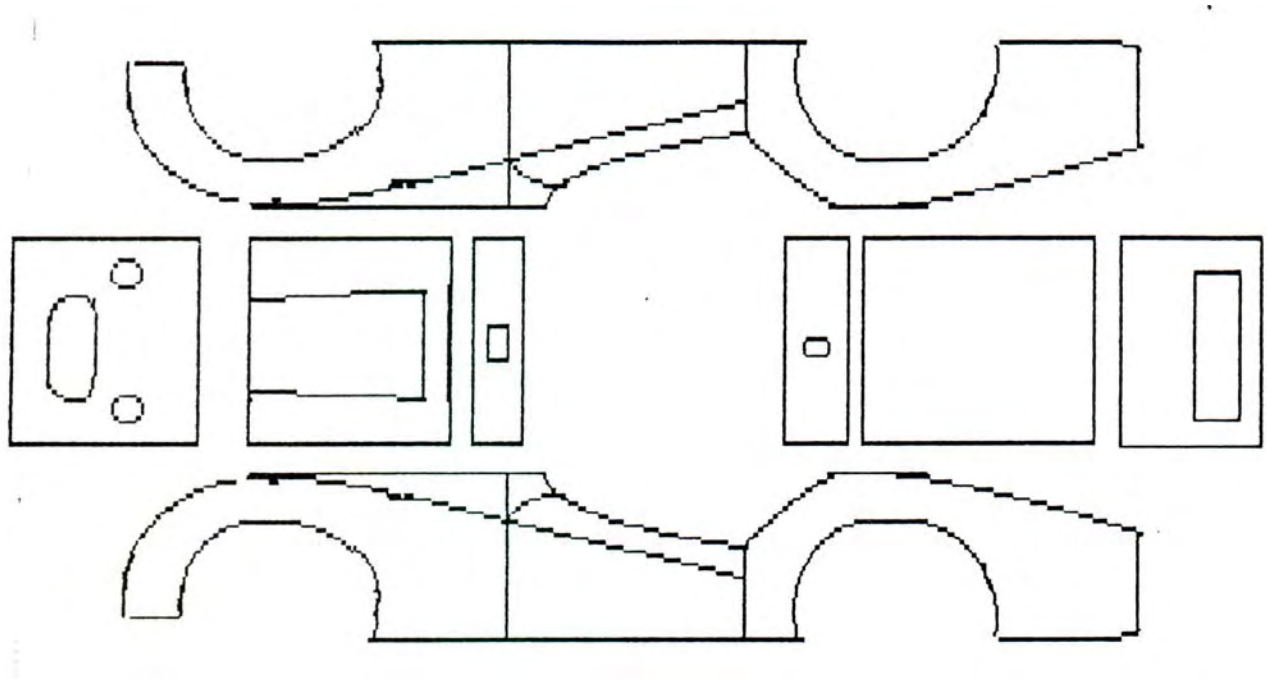
		50	Score
Badge	Badge, front Letters, and rear Letters	6	
Lights	Headlight rims	2	
	Turn Signals - front	2	
	License Illumination Lamp/cover	2	
	Rear Turn Signals/Tail Lights, TR2 Reflectors (optional)	2	
Grille		6	
Bumpers	Front and rear	10	
Windshield	Frame, Glass and Wipers	10	
Hinges		3	
Fender Welt/Beading		3	
Fasteners	Doors, windscreen, and rear scuttle	4	
Subtotal -- Miscellaneous Exterior			

Quality score less originality deductions

Add Subtotal Paint and Bodywork to Subtotal Miscellaneous Exterior	**EX Total (100)**	

TRA

Bodywork and Paint Worksheet



Annotations:	
X	Bodywork flaw
VVV	Paint flaw
//	Alignment flaw
Major flaws circled.	

Quality of Restoration Scoring

	Bodywork		Paint		Mountings		*Subtotal*	
Doors & Rockers	*4*		*2*		*2*		*8*	
Fenders	*8*		*6*		*2*		*16*	
Trunk	*3*		*3*		*2*		*8*	
Hood	*3*		*3*		*2*		*8*	
Aprons	*5*		*3*		*2*		*10*	
Subtotal	*23*		*17*		*10*		*50*	

Subtotal -- Body Panel and Paint Qualtity	

T R A

Bodywork - Judging Quality of Restoration

Scope. Bodywork inspection should concentrate on the condition of panels and should not include consideration of the surface paint condition. Rust or damage affecting panel condition and paint condition may be considered in both bodywork and paint quality. Originality Deductions should not affect point earnings here.

Scoring. Points are earned in increments of whole points. For example, a 2 point allocation can be scored as 0, 1, or 2 points. The lowest possible score per panel category is zero; negative scores are not permitted. See point allocations possible by panel on Exterior Scoring sheet.

Points Earned.....	Evaluation.....
Maximum Points	* All surfaces smooth, free of signs of repair, and well aligned.
Partial	* Surfaces in good condition with some minor flaws: visible signs of repair, lack of repair, or misalignment.
No Points	* Numerous minor flaws: neglected repairs or consistently poor workmanship.

Multi-panel Scoring. In the case of fenders, and other multi-panel categories, point allocations should be distributed evenly between the individual panels and each panel judged independently. For example, if three of four fenders are in excellent shape and the fourth is in poor shape, the three good fenders should earn 3/4ths of the allocation .

Inspection --

The inspection should include but is not limited to the following areas:

Presentation.....	Flaws.....
Contours	* Waves due to sandblasting, collision * Bulges due to collision or misalignment. * Body filler does not restore original surface contour resulting in high, low or bumpy areas.
Fine work	* Edges of repair are not feathered, softened adequately. * Sanding marks showing thru paint.
Attention to problems	* Repairs not performed: dents, dings, or rust have not been repaired.
Alignment	* Panel lines out of alignment with tub or other panels.

Caution: Avoid reducing score on two different panels for alignment problems: eg., don't reduce fender and hood scores if fender-hood alignment is not uniform. The Body Panel Evaluation Guide section attempts to organize evaluation items of this sort so that this will not be a problem.

Reference Body Panel Evaluation Guidelines below (pg EX-8) which lists by panel specific areas that should be checked.

Paint - Judging Quality of Restoration

Scope. Paint inspection should concentrate on the condition of surface paint and should not include consideration of the underlying bodywork. Rust or damage affecting panel condition and paint condition may be considered in both bodywork and paint quality. Evaluation is to based on paint presented, by panel; Originality Deductions should not affect point earnings here.

Scoring. Points are earned in increments of whole points. For example, a 2 point allocation can be scored as 0, 1, or 2 points. The lowest possible score per panel category is zero; negative scores are not permitted. See point allocations possible by panel on Exterior Scoring sheet.

Points Earned.....	Evaluation...
Maximum Points	* Surfaces beautifully prepared, in excellent condition.
Partial Points	* Good general appearance with 1 or 2 obvious flaws.
No Points	* Numerous minor flaws: neglected repairs or consistently poor workmanship.

Multi-panel Scoring. In the case of fenders, and other multi-panel categories, point allocations should be distributed evenly between the individual panels and each panel judged independently. For example, if three of four fenders are in excellent shape and the fourth is in poor shape, the three good fenders should earn 3/4ths of the allocation .

Inspection --

The inspection should include but is not limited to the following areas:

Presentation.....	Flaws.....
Smoothness	* Rough from overspray, dry paint, checking, dirt, cracking.
Even application	* Runs, sags, visible touch-up layers or spot rings.
Color consistency	* Light spots to uneven application, blending problems, moisture control.
Clarity	* Orange peel, fish-eyes, water spots.
Luster	* Hazy, dull areas due to application or lack of necessary post-paint rub-out.
Wear	* Chips or scratches.

Reference Body Panel Evaluation Guidelines (pg EX-8) which lists by panel specific areas that should be checked.

Body Panel Evaluation Guidelines
Quality of Restoration

Scope: The following is provided to assist Body Panel, Quality of Restoration, judging. Originality judging is not included. This information supplements panel evaluation described in the sections: Bodywork - Judging Quality of Restoration and Paint - Judging Quality of Restoration.

Doors and Rockers	
Bodywork	- Short door models should have a visible vertical seam at rear of rockers.
Alignment	- Uniform gap between door and fenders, rocker, and scuttle
	- Door skin flush with fenders, rocker, and scuttle.
Paint	- No rings around fasteners due to over-tightening.
	- No marred paint resulting from installation.
Mountings	
- Handles	- At rest are parallel to ground. Chrome in good repair.
- Lock Assembly	- Body latch chromed, clean.
	- No signs of misalignment wear on body or door assemblies.
- Door Stop	- Hex machine screw used in hinge.
Fenders (and Dog Legs)	
Bodywork	- Fender well is straight from front to back. (Common problem is buldge toward top of wheel well).
Alignment	- Rear fender beading/welt curves evenly toward tail light.
	- Front fender beading/welt is straight from front to back.
	- Wings aligned evenly with body tub.
Mountings	- Rear light is mounted squarely on fender and rear apron.
	- Stone guards fit tightly against body and in good repair.
	- Rear wing has stay just behind rear wheel.
Trunk (and Rear Scuttle)	
Bodywork	- Look for problems resulting from stress (or attempted repair) in hinge corners where corners of trunk often are bent up slightly.
	- Look for poor repairs along edge with apron, where alignment problems with apron might be made.
Alignment	- Uniform gap between fenders, apron, and scuttle.
	- Surface flush with fenders, apron, and scuttle surfaces.
Mountings	- Gas cap, lock, lugauge rack and escutcheons (if applicable) condition.
	- Handled lock should point down at rest.
Hood (and Front Scuttle)	
Bodywork	- Surface has little contour (flat basically) and is prone to waves.
Alignment	- Uniform gap between fenders, apron, and scuttle
	- Surface flush with fenders, apron, and scuttle surfaces.
Mountings	- Vent and escutcheons (if applicable) condition.
Apron - Front	
Bodywork	- Look for repairs around head lamp buckets and grille openings.
	- Look for damage under the front bumper.
Alignment	- Contour should match fenders.
Mountings	- Grille, badge, letters, and lights scored in Miscellaneous Exterior.
Apron - Rear	
Bodywork	-Look for poor repairwork around openings for the rear bumper over-riders and the bottom of the apron where it rolls under.
Alignment	- Contour should match fenders.
Mountings	- Escutcheons (round) condition.
	- Lights and letters scored in Miscellaneous Exterior.

Originality Judging -- Exterior

The following pages describe originality features of panels and components for all models. Most variations in TR2 thru TR3B are due to model feature changes. These are usually well known and easily identified. Several variations, however, occur within individual models. These are less well known, and in some cases the breakpoint at which a feature changes may not be exact: for example several changes were made in the TR3A line around commision number TS60000 but some produced cars shortly after that number have earlier features which are believed to authentic - probably due to the common Triumph custom of using up existing stock.

As in other sections, judges and restorers alike should recognize that even the most well documented changes are subject to a significant margin of error due to the mass production processes used in TR assembly. Reference information should not be considered the absolute "gospel". In the Originality Judging sections that follow you will find notes that will give guidelines for judging variations in the model lines and how to assess the originality of cars near a breakpoint as necessary. Unless otherwise extended for specific components, a margin of error of 200 engine or commission numbers should be used throughout. The head judge should be consulted if you are uncertain of how to judge a particular car.

The following table summarizes commission numbers by model and variations within models.

Model Variation Summary

TR2	TS1:TS8636	
	TS1:TS1301	Early Tail Lights
	TS1:TS4228	Early Hood (1) -- Inside car hood release.
	TS1:TS6500	Early Hood (2) -- 4 slits with no vent.
TR3	TS8637:TS22013	
	TS8637:TS15600	Early Front/Rear Apron configuration
TR3A	TS22014:TS82347	
	TS22014:TS32585	Early, narrow, headlight rims.
	TS22014:TS22530	Early Hood (1) -- Rivets on rear edge.
	TS22014:TS41878	Early Badge -- Red and Black.
	TS22014:TS50000	Early Letters -- Wide, ribbed.
	TS22014:TS60000	Early Hood (2) -- No raised outline under hinges. Early Doors -- Wood frame.
TR3B	TSF and TCF prefixes	

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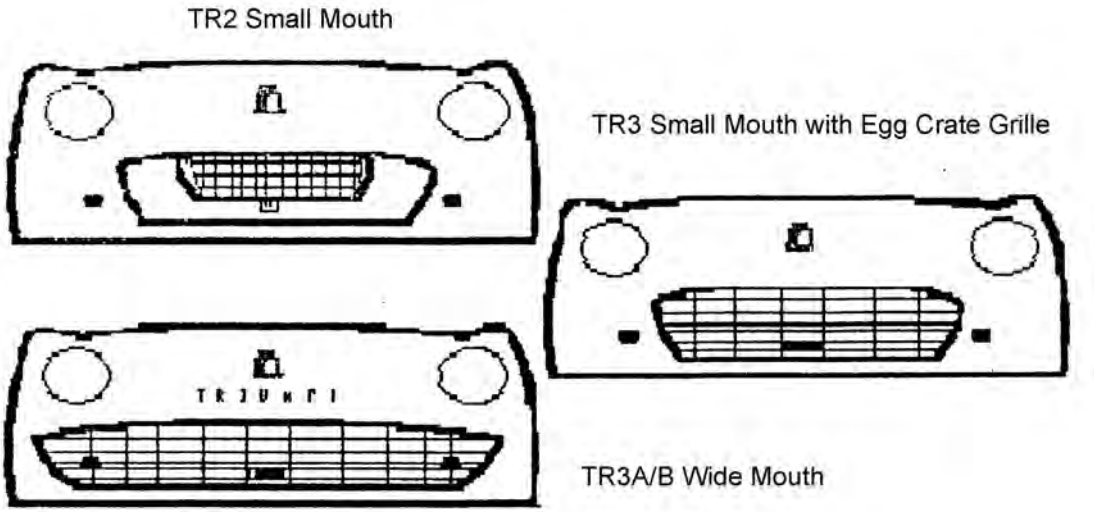
Originality Judging - Front Apron



Badge and Letters - See Originality Judging - Badge and Letters.

Headlight Rims - TR2/3 and early TR3A (thru TS32585) have narrow rims; TR3A and TR3B have wide rims. TR2 and TR3 (but not early TR3A early rims) mounted with screws. The early TR3A rims are split and clamp mounted; later TR3A and TR3B are mounted with clips.

Crank Pillar Block - TR2/3 crank handle pillar block is chromed.
- TR3A and TR3B blocks are painted body color.

Turn signal/parking lights - TR2 and early TR3 lens are flat, clear.
- Late TR3, TR3A and TR3B lenses are coned, clear. See Note 1 below.

Grille - TR2 have two types installed (SPCEd3, pg 77): die-caste and stamped, both chromed.
- TR3A/B grilles attached with #6, 3/8 inch, "bright finished", philips ("cross recess"), oval screws (HWC, part YZ3363).

Chrome Surround - Chrome trim around air deflector.
- TR2 is optional. TR3 is required.
- Two types installed: (a) U-shaped with screws in upper corners (b) full surround is joined with clips on both sides.

Air Deflector - Painted color of body (all models).
- TR2/3 deflector may be have dealer installed cutout (per factory bulletin) in upper right and left.

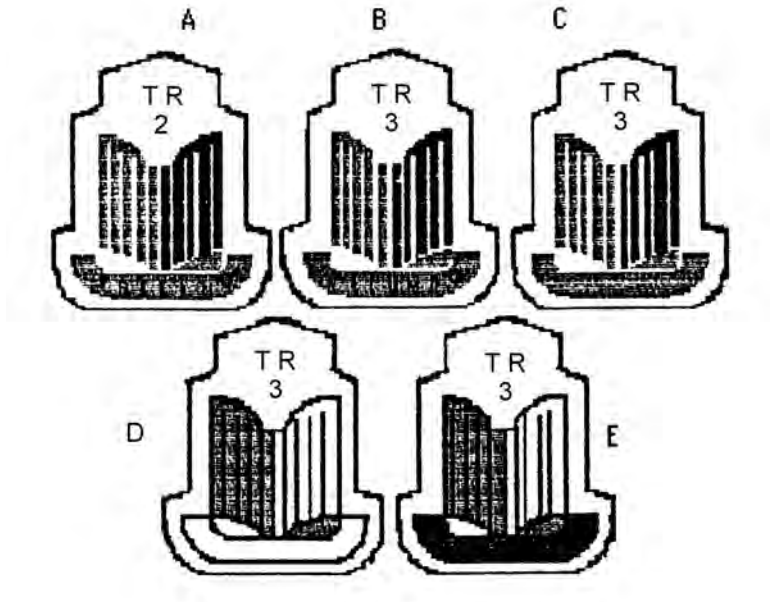
Note 1: TR3 -- Early and Late Variations.

Late TR3s (approximately TS15601:TS22013) have a configuration variation on the front and rear aprons where the rear apron resembles TR3As. Cars with TS numbers around TS15601 should be judged for consistency.

Early: Front Turn Signal/Parking lights are flat. The car should have an early rear apron configuration (no TRIUMPH letters, no separate turn signals, and red License Plate Illumination Lamp).

Late: Front lights are coned. The car should have a late apron configuration (separate turn signals, chromed License Plate Illumination Lamp) but without TRIUMPH letters.

Originality Judging - Badge and Letters



TR3: See "Note 1" on Originality Judging -- Front Apron for more information on TR3 consistency between the front and rear apron lights, letters and badge.

Badges

TR2	Badge A: Black - Red with TRIUMPH letters in bottom red.
TR3	Badge B: Black - Red with TRUIMPH letters in bottom red.
TR3A Early(to TS41878)	Badge C: Black - Red with no letters in bottom red.
TR3A Late(TS41879: on) & TR3B	Badge D: Blue - White; Badge E optional. Badge E has black bottom where D has blue.

Letters

	Front Letters	Rear Letters
TR2	none.	none.
TR3	none.	none.
TR3A Early	Ribbed, wide letters.	TRIUMPH Plate.
TR3A Late (not before TS50000) & TR3B	Smooth, slim letters.	TRIUMPH Plate.

T R A

Originality Judging - Hood, Trunk, and Doors

Hood

TR2 Early TS1:TS6500 (approx)	TR2 Late, TR3, TR3A Early (to TS22530)	TR3A Late, TR3B
- 4 slits in raised portion; no vent. - Rivets on rear edge (to stiffiner). - Hood release inside car up to TS4228; ater cars have Dzus fasteners.	- 2 slits in raised portion; vent. - Rivets on rear edge. - Dzus fasteners on each side of front edge.	- 2 slits in raised portion;vent. - No rivets. - Dzus fastereners. - Hinges: See Note 2.

Trunk

TR2 and TR3 (and some early TR3A)	TR3A and TR3B
- Lock face in center (no handle). - Tear drop escutcheon on either side of lower edge.	- Lock with handle (no escutcheons). - Hinges: See Note 2.

Doors

TR2 Long Door (TS1:TS4002)	TR2 Short Door and TR3	TR3A and TR3B
- No external handles.	- No external handles unless GT kit option installed.	- External handles.
- Wood frame door.	- Wood frame.	-Wood frame thru TR3A TS60000; steel later.

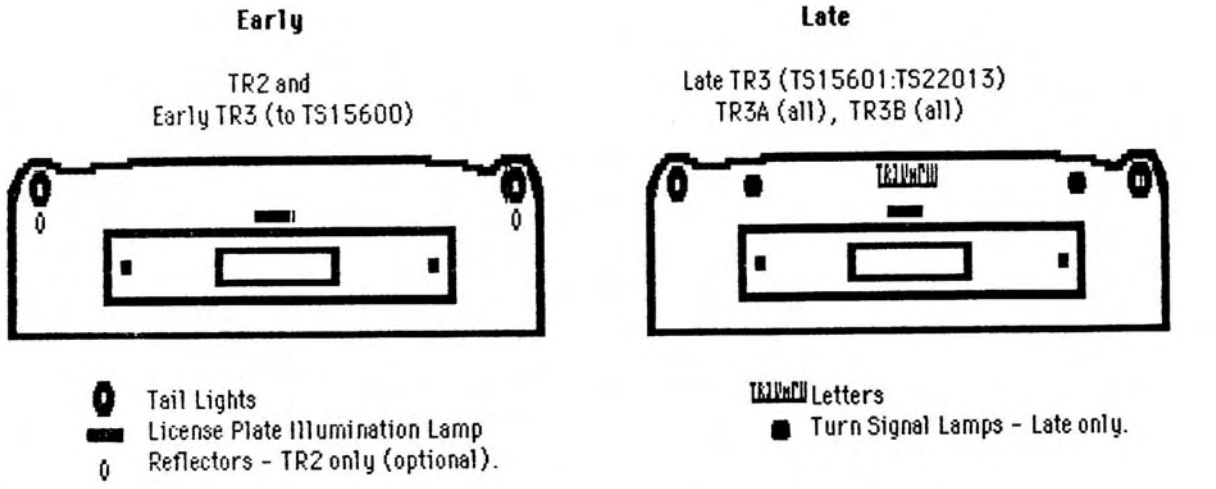
Note: Wood frame doors used on TR2 thru earlier TR3As (approximately TS60000) can be identified by squared off bottom corners of the boxed inner door. Later steel doors have rounded corners. For cars within 100 numbers of the TS60000 break point verify that both doors have the same style.

Note 2: TR3A -- Early and Late Variations

On later TR3As and TR3Bs the hinges sit on a raised outline on the hood, front scuttle, the trunk , and the rear scuttle. Hinges on the earlier cars sat on flat surfaces with no stamped, raised, areas underneath. The breakpoint is around TR3A TS60000. For cars within 100 commision numbers of the break point allow either configuration, but insure that the hood, trunk and both scuttles are stamped the same.

T R A

Originality Judging - Rear Apron



TR3: See "Note 1" on Originality Judging - Front Apron for information on TR3 consistency between front and rear apron lights, letters, and badge. Recall that cars near the break point (TS15601) may have early or late configurations but they must be consistently early or late from front to rear.

Early (TR2 and Early TR3)

Tail Lights	Function: Tail lights and turn signal.
	Appearance: Early TR2 (TS1:TS1301) are squared off, red.
	Late TR2 and early TR3 are more rounded.
License Plate Illumination	Funtion: License plate light and combination stop lamp.
	Appearance: Red or amber.
Reflectors	Function: Light reflection; TR2 optional.
Appearance:	Round, red, bicycle-like reflector, hung with strap from Tail Light.
Escutheons	(Spare tire door) Are round (not tear-drop).

Late (Late TR3, TR3A, and TR3B)

Tail Lights	Function: Tail lights and stop lamps.
	Appearance: Tear drop, red.
License Plate Illumination	Funtion: License plate light only.
	Appearance: Chromed cover, clear lens.
Turn Signal Lights	Appearance: Red or amber, round.
Letters	TRIUMPH plate on TR3A and TR3B; not present on late TR3.
Escutheons	(Spare tire door) Are round (not tear-drop).

T R A

Miscellaneous Exterior Evaluations

Scope. Miscellaneous items include several mounted components. These are to be judged in terms of quality and originality.

Scoring. Points are earned in increments of whole points. For example, a 2 point allocation can be scored as 0, 1, or 2 points. Negative scores are not permitted. Refer to the Exterior Scoring sheet to determine point allocations per item.

* Originality: No points should be awarded for component originality deviations. Multi-part components (eg., fasteners) should be deducted proportionally if only portions deviate.

* Quality of Restoration: Award points for quality using the following rules of thumb:

Maximum points	Excellent, " Like New" condition"
Partial	Good condition
No points	Poor condition: damaged

Badge and Letters

- Badge and Letters are scored together. Configuration and style varies. See Originality Judging - Badge and Letters.
- Look for chrome pitting and wax not removed from edges.

Lights

- Refer to Originality Judging - Front Apron and Originality Judging - Rear Apron.
- Surfaces (rubber, glass, chrome, lens) should be clean and in good condition.

Grille

- Refer to Originality Judging - Front Apron.
- Should be clean, polished, and fit without bowing.

Bumpers

- Front bumper, over-riders and support springs (support brackets). TR2 & TR3 bumpers and over-riders are different from TR3A & TR3B. They are not interchangable. - Rear bumperettes are the same for all models.
- Support springs should be painted low gloss black. The back sides of bumpers should be flat silver.
- Plastic molding should be present and in good repair between over-riders and front bumper.

Windshield

- Includes: Windshield glass, frame and wipers. See fasteners below.
- Frame to body securing for TR2, TR3, and early TR3A is with slotted dzus fasteners; a chromed stanchion guide plate is positioned between frame and body at point of attachment. TR3A and TR3B frames are secured to body with chrome bolts (no chromed plate gasket).
- Wipers arms should be original type, not modern replacements.
- Inspect frame, chrome, glass, and rubber seals for wear and general condition.

Hinges

- TR2 hinges are painted the same color as body. TR3, TR3A, and TR3B hinges are chromed.
- Gasket should be present between hinge and body.

Fender Beading/Welt

- Welt (TR2) should be body color.
- Stainless Steel fender beading (TR3+) should be unpainted in good condition.
- Welt/beading should be flush with rear of front fender. Should be at least flush with front of both fenders. (May extend past front of rear or front fender).

Fasteners

- TR2: baby tenex is used for windshield top, doors, and rear scuttle.
- TR3, TR3A, TR3B: tenex fasteners are used on the windshield top; lift-the-dot fasteners are used on door and rear scuttle. Original lift-the-dot male fasteners are tapered, not straight.

Underhood

Table of Contents.

UNDERHOOD 1

TABLE OF CONTENTS 1

UNDERHOOD - INTRODUCTION 2

ACKNOWLEDGEMENTS. 2
REVISION HISTORY 2
REFERENCES 2

UNDERHOOD JUDGING 3

UNDERHOOD SCORESHEET 4

UNDERHOOD ORIGINALITY GUIDE 6

UNDERHOOD - IDENTIFICATION PLATES 6
UNDERHOOD - INNER FENDERS 7
UNDERHOOD - BATTERY 8
UNDERHOOD - ELECTRICS 9
UNDERHOOD - HYDRAULICS 12
UNDERHOOD - ENGINE 14
UNDERHOOD - FUEL SYSTEM 19
UNDERHOOD - CONTROLS 22
UNDERHOOD - COOLING SYSTEM 24

T R A

Underhood - Introduction

This guide is intended to serve as reference for judges in TRA concours events and for TRA members doing restorations. The material presented is the result several years of assembling information from factory reference material, TRA members expertise, TRA judging school reviews and comments, and other Triumph history and reference material.

Acknowledgements.

1990 TRA Underhood Judging School (Video) -- Conducted by Tom Householder (COCTRA).

Authors and principal contributors: John Gabel, Joe Richards, Tom Householder (COCTRA).

Other reviewers and contributors: Jim Conley (Mason Dixon/TRA), John Warfield (Mason Dixon/TRA).

Revision History.

June 1990 - Initial version.
June 1991 - Minor edits and corrections. Underhood sections added: Identification Plates, Electrics, Hydraulics.
May 1992 - Added sections on Engine, Fuel System, Controls, Cooling system. Minor corrections and edits to other sections.
February 1993 - Minor extensions, edits, and corrections.
May 2000 – Minor edits, extension. Replacement of “Underhood Scoresheet and Originality Deduction Guide” with redesigned scoresheet which includes deduction guidelines.

References.

The following are referenced where appropriate within "Underhood". The abbreviations enclosed in parens are used to identify the associated reference.

(SPCEd1) Triumph Sports Car Spare Parts Catalogue, Edition 1. Part No. 501653/USA.
(SPCEd2) Triumph Sports Car Spare Parts Catalogue, Edition 2. Part No. 501653/USA.
(SPCEd3) Triumph Sports Car Spare Parts Catalogue, Edition 3. Part No. 501653/USA.
(SPCEd4) Triumph Sports Car Spare Parts Catalogue, Edition 4. Part No. 501653/USA.
(HWC) Stanpart Hardware Catalogue for use with Standard Triumph Vehicles. Publication part number 514264.
(TSOAHb) Triumph Sports Owners Association Handbook, 2nd Edition.
(Robson) The Triumph TRs, A Collector's Guide, Graham Robson, 1977, Motor Racing Publications LTD.

Underhood Judging

Scope -- Underhood inspection consists of evaluating the maintenance quality of the components and originality. Components earn points for quality of restoration then deductions are made for originality deviations.

Scoring -- Quality of restoration points are allocated to Underhood component categories (Battery, Hydraulics, Controls, etc.). The lowest possible score per category is zero; negative scores are not permitted.

General Evaluation and Scoring Guideline -- The inspection should be done from the point of view that the cars have been driven and each and every component will not be like showroom quality. For example, a used manifold will not retain it's original color. Better than showroom quality should not earn more or less than a component in "like-new" condition. For example, a highly buffed carb housing should not earn more points than a carb housing presented normally. Over-restoration: Extreme over-restoration may qualify for originality deductions. For example, a surface that is not shipped chromed, should not be chromed. One exception is manifolds; they may be painted with high temp, neutral colors.

Caution: You may not remove or disassemble components to inspect.
Avoid touching the car or components.

Quality of Restoration Inspection --

Presentation.....	Flaws.....
Installation	Incorrect mounting
	Improper retaining of wiring of fluid lines.
Appearance	Surfaces worn, badly scratched.
	Rusted surfaces., pitted chrome.
Cleanliness	Grease, Dirt Grime
Attention to Problem	Repairs not performed: dents, dings, or rust have not been repaired.
	Cracked or broken cap or boot.
	Hydraulic or oil leaks.
	Frayed or damaged wiring.

Points Earned....	Evaluation.....
Maximum Points	Components in excellent condition, free of sings of repair, and installed correctly.
Partial	Components in good condition with some minor flaws: visible signs of repair, lack of repair, or lack of attention to detail.
No Points	Numerous minor flaws: neglected repairs, consistently poor workmanship, lack of attention.

Originality Deductions -- Originality deductions cannot exceed the points earned for Quality of Restoration in a given category. A deduction guide is incorporated into the scoresheet. Generally, the guide outlines deductions per category as:

Incorrect Component	The (or a) primary component is not original to the model.
Major Assembly Deviation	A portion of the assembly is not original. A wrong variation of the component is installed or an improper substitute is installed.
Minor Deviations	A minor portion of the assembly is incorrect or missing.

TRA

Underhood Scoresheet

Entry:	Model/year:
Commission #:	
Owner:	

Category	Originality Deductions			Quality Points	Quality Earned	Originality Deductions
Identification Plates	**5 pts**	**3 pts**	**1 pts**	**5**		
Commission	Missing or incorrect	Eng# less Comm#	Plate fasteners or location	2		
Chassis	Missing or incorrect		Chassis pl painted	2		
EB	Missing or incorrect		EB paint	1		
Inner Panels	**5 pts**	**3 pts**	**1 pts**	**10**		
Firewall	Incorrect panel	Panel not body paint	Mount HW finish	3		
Inner Fenders	Incorrect panel	Hood support	Mounting HW	3		
Hood underside		Hood latch	Box to body seams	3		
Washer bottle		Bottle not period		1		
Battery	**5 pts**	**3 pts**	**1 pts**	**5**		
Battery	Battery not stnd 12v	Battery cables	Finish	1		
Cables		Starter cable	Not lead caps	2		
Securing Assemb		Securing assembly	Securing nuts	2		
			Box to body seams			
			Boot on + lead			
Electrics	**5 pts**	**3 pts**	**1 pts**	**20**		
Wiring Harness	Incorrect component	Harness insulat. type	Finish	4		
Wipers			Wire striping	2		
Starter		Starter cable	Routing/dressing	2		
Solenoid			Mounting HW	1		
Voltage regulator		Spade vs screw conn	Mounting position	2		
Fuse box		Fuses	Fuse spares	2		
Flasher unit				1		
Coil			Coil decal	2		
			Generator, coil, horn, or wiper			
Generator			terminals	2		
Horns				2		
Hydraulics	**5 pts**	**3 pts**	**1 pts**	**10**		
Clutch/brake						
Master cylinder assembly	Incorrect assembly	Incorrect:	Incorrect:	5		
Hydr lines		Hyd lines	Resv. decal	2		
		C/B line adapter	Mount hardware			
		Restrictor valve				
Slave cylinder		Slave support rod		3		
		Slave spring				
		Slave mounting				
		Pedal stops				

TRA

Category	Originality Deductions			Quality Points	Quality Earned	Originality Deductions
Engine	**10 pts**	**3 pts**	**1 pts**	**25**		
	Incorrect	Incorrect:	Incorrect:			
Block	component	Removal HW	Finish	5		
		Drain cock	Eng Serial # expose			
			Ground strap	7		
Head		Head bolts	Decals			
		Rocker cover		5		
		Oil filler cap	Mount hardware	3		
Oil filter		Oil dip stick, breather				
Distributor		Distributor clamp plate	Distributor terminal	3		
		Distributor cap				
		Spark wires	VA line routing			
Vacuum advance		Hoses	Clamps	2		
Fuel System	**5 pts**	**3 pts**	**1 pts**	**10**		
Carbs	Incorrect component	Incorrect:	Incorrect:	2		
Float bowls		Linkage	Finish	2		
Air filters		Fuel lines	Routing	2		
Manifolds		Hoses	Decals	2		
Fuel pump			Mount hardware	2		
			Clamps			
Controls	**5 pts**	**3 pts**	**1 pts**	**5**		
Steering Unit	Incorrect component	Incorrect:	Incorrect	2		
Temperature Sending Unit		Steering brackets	Finish	2		
Cables		Tach or Speedo cable	Cable routing	1		
			Rubber			
Cooling System	**5 pts**	**3 pts**	**1 pts**	**10**		
Radiator	Incorrect component	Incorrect:	Incorrect paint	3		
Fan		Hoses	Wrong or missing	2		
Water pump		Heater return	clamps	2		
			Missing water			
Thermostat		Water pump pulley	pump grease fitting	1		
Heater valve			Routing	2		
Total Quality pts earned and subtract originality deductions			***Total possible***	***100***		

Judges Annotation Key:
Circled item`- originality deduction
Underlined item - quality deduction

UH Total	

Underhood Originality Guide

The following sections provide originality reference material for the major areas that are contained within the engine compartment.

As in other sections, judges and restorers alike should recognize that even the most well documented changes are subject to a significant margin of error due to the mass production processes used in TR assembly. Reference information should not be considered the absolute "gospel". Unless otherwise extended for specific components, a margin of error of 200 engine or commission numbers should be used throughout "Underhood."

Each section begins with a chronological summary of changes to that area and is followed by detail on individual components.

> **Note** that factory material and other references use engine and commission numbers to document changes. In this document any a TS or other stem is a chassis commission number unless it ends in an "E". Commission numbers ending in "E" are engine numbers.

Underhood - Identification Plates

TR2, TR3, TR3A, TR3B	All models

Commission Plate (Vehicle Identification Plate). The Commission Plate, a stamped metal plate with black background, is located on the right hand side of the firewall. Mounting is done with aluminum rivets. Four styles of plates were used:

TR2, Early TR3	The "20TR2" plate is roughly 4 inches square with corners cut off. The "20TR2" is found at the top of the plate.
Late TR3	The "20TR2" changed to "20TR3" but the shape is the same.
Later TR3	Some "20TR3" plates later are found with the bottom half cut off. These may be found with holes drilled for the larger version.
TR3A/B	Later "20TR3" plates are rectangular, roughly 2 inches high by 4 wide.

Note that it is illegal to tamper with the Commission Plate. Therefore no deductions can be made for condition.

Chassis Plate. This is a brass plate mounted on the firewall above and left center of the battery. Mounting is done with pan-headed, slotted, sheet-metal screws.

EB Plate. This plate is mounted above the Chassis Plate. Mounting is done with pan-headed, slotted, sheet-metal screws. The plate is painted body color. Numbers stamped on plate begin with "EB". TR3Bs do not have the EB plates.

Engine Block Number. The engine number is stamped on a flat surface on the left-hand-side of the engine. This is just below the #3 spark plug, at the rear of the coil mounting bracket. Since more engines were made for use outside the TR line, the engine number in a car should be greater than the commission number of the car. See "Underhood - Engine" for judging guideline.

Underhood - Inner Fenders

TR2, TR3, TR3A, TR3B	All models

Hood Securing Hardware. Two major variations are found. The early TR2 configuration was used from TS 1 to TS4228 (SPCEd4, plate AJ, pg 86). The early version used a cockpit pull release while the later version used two Dzus fasteners on the bonnet.

- Early Release – Cable with a pair of springs. The cable runs through the right-side firewall and runs along the top of the inner fender, near the water channel. Two clips secure it to the inner fender along the run. The cable then connects to the left-side lock mechanism and a second cable runs to the right-side lock mechanism. Two springs and locating pins are mounted on the bonnet which snap into the lock mechanism on the body.
- Late Release – Dzus release and single spring. The early cable release is replaced by two Dzus fasteners on front of the bonnet. The dual springs previously located where now Dzus fasteners appear are replaced with a single spring in the middle.
- Prop Rod and Safety Catch – This is used throughout although the rod's orientation is turned to accommodate a different "safety hook engagement" at the body.

It is believed that the release mechanism and prop rod, including the early version's cable, was installed prior to painting of the body shell so that the components were painted body color. Natural or body color is accepted on the release components not part of the body or bonnet (e.g., cable, springs, spring-thimble cup).

Washer Bottle. The washer bottle was a dealer option. It should be judged from a quality standpoint. Deductions for originality should be made only if the bottle is obviously not of the period. The typical washer bottle is glass (on the early cars) or soft plastic bottle with "Trafalger" embossed on the side. Routing of the tube is normally behind the oil pressure line, along the front of the battery box, and through the bottom hole in the firewall.

Underhood - Battery

Battery Variations Summary

TR2	TS3268	Drain tube added.
TR3	TS18913	Battery cable (lead) changed - no details.
TR3A	TS60001	Battery cable (lead) changed - no details.

Battery. The battery is a standard 12 volt battery. The originals were black "tar-top" batteries. Batteries installed should be standard size. Post location should allow for normal routing of cables.

Battery Securing. Components:
* Securing Bracket - Plate with center cut out that is welded to body. Early models were light sheet metal; later models were stamped, heavy gauge steel. Is part of the body and painted body color.

* Angle Bracket - angled steel flattened where holes are drilled for securing rods. Should be painted black.

* Securing Rods - Hooked on end for slip over retaining bracket on body. Should be unpainted or black.

* Wing nuts and felt washers - Tie down securing rods to angle bracket. Early models had brass wing nuts; later models equipped with steel; no details on brass to steel changes. Nyloc nuts (Simmonds Full Nyloc, 7/16 Unified Fine Thread, ref: HWC pg 13) are specified (SPCEd4, pg 140) . Nuts can be painted black or left unpainted.

Battery Box. The box is part of the body shell. Where the box is welded to body shell, the sheet metal seams above and in front of the battery should be glazed but clearly visible.

Battery Box Drain. The drain added in late TR2s is not visible with the battery in place. The modification consisted of rubber plates, a drain tube through the battery box floor and tube mounting clip. Battery Box Liner. An optional plastic liner is allowed. Common was Amco liner.

Battery Cables (Battery Leads or Engine Leads). Three variations are listed in the parts manual corresponding to three changes to the wiring harness; no further details. Original cables are characterized by lead caps that attach to the battery posts. Through the center of the lead caps, a sheet metal screw is turned into the top of the posts. The lead cap connectors provide marginal contact with the posts and some dealers reportedly replaced these with conventional clamp connectors.

* Earth Lead (ground)-- This is a round, woven cable. No sheathing.

* Positive (Solenoid) Lead -- This cable is sheathed; a rubber boot appears on the solenoid connection.

Underhood - Electrics

Wiring Harnesss Variations Summary

TR2	TS1	
TR3	TS12569	Wiper motor change.
	TS13046	Hydraulics change/stop lamp change.
	(TS15601)	Turn/stop light configuration change. (Part number change not referenced)
	TS18913	Battery cable (lead) changed - no details.
TR3A	TS60001	Change to vinyl wrap and spade connectors; battery cable (lead) change - no details.
	EB64561	Engineering body change - no details

Other Components Variations Summary

Windscreen Wipers		
TR2	TS954	Optional 2-speed wiper motor change.
TR3	TS12568	Standard 1-speed and 2-speed wiper change to LHS.
Voltage Regulator, Fuse Box, Flasher Unit		
TR3	TS9894....	Flasher unit change.
Starter Motor, Solenoid		
Early (TR2,TR3,early TR3A)	TS1:TS50000	Button nose starter.
Late (late TR3A, TR3B)	TS50001...	Long nose ("quiet") starter.
Generator		
Early (TR2,early TR3)	TS1:TS9842	No details. Believe is banded style generator.
Late (Late TR3, TR3A,TR3B)	TS9843...	No details.
Coil (Ignition)	TS1:TS11812	Lucas "big" coil.
	TS11813...	Standard "CB(SW)" coil.
	TS38177...	Distributor lead changes.
Horns	No changes in export models	

Wiring Harness. The main wiring harness was wrapped with black cloth. On early models connections to components were with screws and wires were wrapped with lacquered cloth insulation. Later harness was insulated with vinyl and connections are made with spade and bullet connectors. Variations above correspond to changes in components or component locations. Note that the front and rear turn and stop lamp changes at TS15601 that obviously required changes in wiring are not reflected in a corresponding part number change in the parts manual.

Replacement Harnesses - Yellow/Orange striping. Replacement cloth harnesses offered may have striping on the main harness sheathing. There is no commonly accepted evidence that this was ever done originally.

Wiper Motor. The common motor assembly found is the single speed version. An optional 2-speed motor was offered however.

Components. Visible components include:

* Wiper Motor/Motor Cover - cover is bakelite, painted blue, silver, or matte black. Electric connectors change to spade at TS60001 (part number does not change).
* Gearbox - metal casing bolted to motor, unpainted.
* Crosshead and rack - the cable and shaft connecting gearbox and wheelbox (in firewall). Unpainted.

Change from RHS to LHS. At TS12568, the wiper assembly was moved from the RHS of the compartment to the LHS. All components changed.

Optional 2-Speed Wiper. Compared to the single-speed wiper, the 2-speed assembly has the same wipers, wiper arms, wheel box, and outer motor to wheelbox casing; differences were in motor and gearbox. At TS955, a different motor-to-wheel-box casing and casing between wheel boxes were fitted (no further details).

Voltage Regulator (Control Box), Fuse Box, Flasher Unit. The Voltage Regulator and Fuse Box is the same basic unit on all models.

Spade connector change TS6001. Components were fitted with spade connectors with the change to the wiring harness.

Fuse Box. The box should contain in place 1x35 amp fuse and 1x50 amp fuse. A spare for each should also be present in spare holders. A cover is fitted to later models (at TS60001). The older fuse boxes will not accept the cover.

Flasher Unit. Although the parts manual only lists one change, three flasher unit variants are known:

* Early TR2 - cylinder mounted horizontally; screw tab at end to left.
* Late TR2/TR3/Early TR3A - Screw through center; connectors at top, mounted vertically.
* Late TR3A/TR3B - Screw tab at top, mounted vertically, spade connectors.

Either of the first two is acceptable for TR2s. TR3s should be fitted with the second. TR3As may have either later variants. TR3Bs should have the last version.

Mounting Configuration Variations. Variations include:

* Early TR2 configuration - Voltage regulator mounted with connections pointed down. Flasher Unit mounts with screw on left and body extends horizontally.

* Late configuration - Service bulletin (Sports 2/M) in February 1954 announced change because of problems due to heat from the engine affected reliability of flasher unit capacitor. Regulator mounting is changed to connectors pointing to the left.

The early configuration is commonly found well into 1955 titled cars. All cars TS60001 and after should have later configuration. TR2s after TS138 may have either configuration.

Starter Motor, Solenoid. The same solenoid is fitted to all models. The solenoid fitted to TR4s is interchangeable functionally. The TR2/3/3A/3B solenoid should be fitted; it is cylindrical with rubber button for underhood startup. The starter change at TS50001 is the only change. The starter motor casing is painted matte black. Solenoid is unpainted.

Generator. Two housing variations were supplied by Lucas. One is a simple cylinder; the other housing is stepped roughly in the middle with the step up the thickness of the housing. Housing is painted matte black; end covers should be unpainted. No decals. In addition early generators had a band on the brush end of the housing that could be removed to allow access to the brushes; these were probably used up to TS9843. The stepped housing was probably introduced at TR60001. TR3As and TR3Bs should not have the banded style generators or "fanless" generators; otherwise any of the variations are acceptable on all models.

Electrical connections. The generator electrical connections change to spade connections at TS60001. On early models, the armature (large) lead should be covered with a black rubber insulator; later models (from TS60001) with a clear vinyl boot (discolors to orange shade with age). The field (small) lead connection on the spade makes a right angle; should not be straight; the lug connection should come straight out.

Horns. Two horns are fitted: one high tone and one low tone. Horns are stamped with "H" and "L" on top surface. The same versions were fitted to all export models. Domestic market horns did have variations. Horn bodies are painted gloss black. Mounting is with hex bolts through 2 heavy flat washers.

Coil. Early cars were equipped with a bigger, taller, Lucas coil. The later standard coil was used on all later models. Connectors change to spade at TS60001. Cap is black with silver body. Lucas decal may be fitted; the decal was fitted originally but is not required. A black screw-on cap should be fitted (not push-on).

Distributor Lead Change. At TS38177, the lead from the distributor changes. No details.

Competition Coil. An optional high performance coil is available and in common use. This is distinguished by a red cap.

Underhood - Hydraulics

TR2, Early TR3	TS1:TS13045	Lockheed system

The TR2 and early TR3s are fitted with Lockheed drum brakes on all four wheels. The clutch/brake master cylinder assembly is characterized by cylinders and a common reservoir contained in an integral unit. Service to one system required service to both. Inspection of the C/B master cylinder assembly:

* Cover plate and unit should not be painted
* Filler cap should be black.
* Brake and clutch lines should not be painted with color (should be galvanized or painted galvanized)
* Boots fitted should be accordion type.
* Slave cylinder different from Girling sytems; is short, fat, and rounded.

Late TR3,Early TR3A	TS13046:TS34310	Girling system introduction
	TS20310...	Restrictor value added, brake line change.
	TS22530...	LH/RH drive reversal plates dropped.
	TS33944...	Slave spring change - no details.
	TS34311...	Brake cyl to 5xway line change - no details.

The introduction of the Girling system with front disk brakes resulted in the complete replacement of the clutch/brake hydraulics assembly. Distinguishing characteristics:

* Fluid reservoir unit is separate, independent from cylinders; painted black; "Clutch" and "Brake" decals on sides of reservoirs. A red and blue Girling decal may be on clutch side of reservoir. The Girling decals may be fitted although they are believed to have been discontinued in 1957.
* C/B cylinder output is straight up to line connector.
* C/B cylinder line adapter is required -- no details.
* C/B push rod connection to pedal assembly made with threaded clevis pin.
* Pedal adjustment bolts are mounted in the front plate of assembly mounting bracket.
* 5-way connector added to frame (passenger side).
* Clutch slave cylinder is longer and thinner than Lockheed cylinder; mounted with bleed port at top; two styles of support rods can be fitted: one has L turn, the other has a simple angle bend.

Restrictor Valve Modification. The valve (tower) was added to the brakes' 5-way connector to more evenly distribute pressure to the four wheels. This modification resulted in a brake line part number change to account for the change to input to the top of the tower.

Reversal System Change. The body and assembly mounting changed. The early version allowed switching to LH drive to RH drive via screw mounted plate. In later models the box was welded into the body.

Late TR3A, TR3B	TS34311...	Later Girling system
	TS60001...	Stop lamp switch to spade connect

The later girling system installed had minor revisions to the master cylinders. Distinguishing characteristics include:

* C/B cylinder slanted outputs changed to slant forward instead of straight up.
* C/B cylinder line adapters removed.
* Pedal adjustment bolts removed with no pedal stop adjust (see note below).

Note: Pedal adjustments may have been fitted to cars for some time after TS34311. The part manual does not indicate that this feature was ever removed. Fitting of adjusters on later cars is considered acceptable up through TS60000.

The stop lamp switch changed from screw-on to spade connectors with the change in wiring harness at TS60001.

Notes on part manual references at TS34311:

* Cylinders change - details above.
* Brake Line from cylinder output to 5-way connector changes - no details.
* C/B adapters are removed - no details.
* C/B cylinder supply lines (to reservoirs) and clutch to slave line do not change.
* Pedal assembly does not show change except at TS13046.

Underhood - Engine

Engine Variations Summary

Model	Commission#	Engine#	Description
TR2	TS1	TS3E	
		TS972E	Breather pipe/cylinder block change
		TS8997E	"TR3 Engine" -- Cam bearing locating screws added; H6 carb & manifold change
TR3	TS8637	TS9350E	LeMans Head introduced, requires manifold change
		TS9952E	Oil Filter head flange thickened
		TS12650E	Oil Filter head change -- Full Flow filter
		TS12606E:TS13052E	High-port Head introduction
		TS17372E	Oil Filler Cap change -- no details
		TS18230E	Rocker Cover change -- no details
		TS18902E	Oil Plug change
TR3A	TS22014		
TR3B	TSF1	TSF1E	
	TCF1	TCF1E	2138cc TR4 engine used

Engine Number and Commission Number. The Commission Plate (see Underhood - Identification Plates), a stamped metal plate with black background, is located on the right hand side of the firewall. The engine number is stamped on a flat surface on the left-hand-side of the engine. This is just below the #3 spark plug, at the rear of the coil mounting bracket. Engine numbers are similar to Commission numbers but engine numbers have an "E" suffix. Take fair warning that parts manuals frequently leave off the "E" leaving the reader to his better judgement as to which is really being referenced. The 3rd Edition of the "Triumph Spare Parts Catalogue" is a good example; it intermixes engine and commission numbers in the engine section (the 4th Edition, however, makes clear use of "E" suffices). Generally, if you are talking engine parts, the number listed is likely an engine number - "E" or no "E".

Engine Production. Some TR engines were used outside the TR line (Doretti and Morgan); therefore, the engine number in a TR should be equal to or greater than the commission number of the car. Beyond that, sufficient car build records are not available for precise identification of engine numbers at model break points. During TR2 production, information available indicates that roughly 500 additional engines were built. After TR2 production, records are lacking and information so inconsistent it is difficult to provide estimates.

For judging purposes, use the following guideline:

* Incorrect Component -- if the engine number indicates that the engine configuration installed was not installed on the car, a major deduction is taken. For example, if a High Port head is found on a TR2, this would be an incorrect component and a major deduction will be made.

* Minor Deviation -- if the engine installed is of the type installed for the commission number but the number indicates the engine is not original to the car, a minor deduction will be made.

TR2-TR3 Break Point Confusion. Several changes occurred near the end of TR2 production and the beginning of the TR3 production. The spare parts catalogs (ref SPCEd4) do not provide an explanation. The best explanation we found is in the TSOA Handbook; related information is found in Robson.

Low Port Head and H6 Carbs. The first questions of interest are where the Low Port Head usage ended and where H6 carbs were introduced. According to TSOA (ref: TSOAHb, pg 114), Low Port head usage ended at engine TS9349E, the last TR2. However, a manifold change and the H6 carb change occurred at TS8997E (ref SPCEd4,

pg 17). This seems to conflict with the general assumption that H6 carbs were introduced with TR3s. The conflicting information starts to make sense when TSOA further explains that TR2s from TS8971E (and we assume that this is the same change listed at TS8997 in SPCEd4) were fitted with "TR3 engines" but Low Port heads. The latter explains why a different manifold was needed between TS8997E and TS9349E where H6 carbs were installed with Low Port Heads for a short time.

High Port Head Introduction. TSOA (ref TSAOHb, pg 114) also provides insight into conflicting engine numbers used in various sources to describe High Port head introduction. Robson (1) gives a comparable description of this period. According to Robson, within weeks after the introduction of the TR3, several engine changes were made including the introduction of the LeMans head and the High Port head. Between engine TS12606E and TS13052 "there was no logic as to which combination (LeMans or High Port) would be found when the engine was finally fitted to the car"!

TR2-TR3 Engine Configuration Judging. For judging purposes, use the following originality guidelines:

* TR2 -- Cars through TS7899 should have early engines (pre-TS8997E configuration). Early or late configurations are acceptable on TR2s from TS7900:TS8199. Late TR2s, from TS8200, on should have "TR3 Engine" configurations listed above as introduced from TS8997E through TS9349E.

* TR3 -- TR3s with commission numbers up to TS14000 (which should encompass engine numbers up to approximately TS13100E) will be assumed original with any combination of component variations listed above as introduced from TS8997E through TS13052E. Later cars should have the High Port configuration.

Combustion Head. All heads described below should be painted black. Bolt heads and nuts may be painted black, left unpainted or blued.

Low Port Head. The low port was used through TR2 production; the last engine that used it was TS9349E (ref: TSOAHb, pg 114). This head is distinguished by a flat profile.

LeMans Head. Introduction is listed at TS9350E (believed to be in the first TR3, TS8637). It is similar in appearance to the Low Port. While the Low Port provides a short emboss (raised outline) for head bolts, the Le Mans head embosses are high -- about 1/2 inch. Functionally, the LeMans provides improved air flow passage design resulting in improved horsepower.

High Port Head. Introduction is listed at TS13052E. Better air flow is provided. Unlike the flat-top predecessors, the HIgh Port profile from the carb side has four humps to accept manifold intakes.

Late High Port Head - TR3B. TR3Bs with TCF numbers might be equipped (no reference available) with TR4 versions of the High Port. These are distinguished by a flat crown on the front-most "hump" on the head. The flat area may have a serial number.

Head Bolts and Nuts. Head bolts changed at TS13052E; they had to be made longer for the High Port head. Head bolt nuts were changed at TS8937E (ref: Service Bulletin December 1955); this change was due to "failure" of the earlier nuts; they "changed the material specification of the nuts concerned". The new variety was reported to be distinguished "by a series of small circles stamped on one or more flats, or alternatively by an annular groove machined on the top face of the nut". The latter is included for fun only (after cleaning, brushing, and finding some good light, we did find some circle stampings) -- will not be used for originality judging.

Cylinder Block. The cylinder block did not change significantly until the TR4 engine was introduced. Minor changes were made. All blocks are painted black.

T R A

Breather Pipe Change. According to service bulletins (see Breather Pipe), at TS972E a casting change was made to the block in conjunction with a change to the breather pipe. The change cannot be detected externally.

Cam Bearing Locating Screws. Three locating screws (part no. 110462, ref: SPCEd4, pg 7) were added late in TR2 production at TS8997E (block part no. change from 301138 to 301487, ref Service Bulletin Vanguard/9/B, September 1955) to the block for locating screws; these retain the location of the cam bearings. Blocks produced from this point are embossed for the screws. The screws are located between the three oil gallery plugs that lay along the run of the cam shaft. Note that Cam Bearing Locating Screws and corresponding cam bearings may be retrofitted to early engines per instructions in the above-mentioned service bulletin.

TR Paint Markings on Side of Block. All TRs (we believe) were shipped with hand-painted numbers and letters on the starter side of the engine, generally toward the rear. The most common marking is "TR" above a "2" or "3"; early pictures are available of an engine with a "2" laying on its back. Markings are red-orange paint. Markings are not required but if present should conform to one of the above-mentioned styles.

Rocker Cover and Oil Filler Cap. Except for late TR3Bs, rockers have the oil filler at the front. The late version has the filler in the rear (like TR4s). The Oil Filler Caps are push-on type and provide "open-circuit" breathing to the engine with the integral mess filter. Valve rocker cover variations include:

* TS1	Early cover -- painted black.
* Late TR2	Changed to chrome -- apparently no part no. change.
* TS18230E	(ref. SPCEd4) no details
* TCF1	Late version with rear filler.

In addition, early rocker covers had a tab with hole on the rear, distributor side. No details as to when the tab disappeared or its purpose; the tab may have been used in competition setup where the breather is routed up and fastened to the tab.

Black versus Chrome Covers. Sometime prior to TR3 introduction, chrome covers were introduced (quite possibly with other changes at TS8997E). Black covers had a rectangular decal (black with white lettering) on the distributor side; the decal states valve clearances. TR2s prior to TS8000 should have black covers; after that either chrome or black are acceptable on TR2s.

Cast Aluminum Valve Covers. According to The Roadster Factory, an aluminum cover was optional equipment. SPCEd4, however, does not specify such as optional high speed equipment or as an accessory. Research on accessories published in a VTR newsletter (ref: The Vintage Triumph Quarterly Magazine , pg 902) indicates that while these might have been offered from the factory it could not be confirmed; however, such covers were definitely dealer options. These covers will be accepted as original equipment.

Securing Hardware. Two nuts with washer and fiber washer secure the rocker cover (ref. HWC):

* Nuts, nyloc -- 5/16 inch United Fine, 1/2 inch flats.
* Washer, plain -- 5/16 inch inside, .69 inch outside.
* Washer, fiber -- 5/16 inch inside, 1/2 inch outside

Oil Filler Cap. Cap variations include:

* TS1	Early cap
* Late TR2	Late cap -- changed to squared style; probably occurs when cover changes to chrome; apparently no part no. change.
* TS17372E	(ref. SPCEd4 pg5) no details
* TCF1	

The early and late caps are similar in appearance. Both are domed with mesh breather filters in the bottom. The early cap has a flat top profile; the late cap profile has 3 thumb grips, and a round, domed, profile. Early caps are black. Late caps are found painted black or hammer-tone (specific color unknown) gray.

Decal. A decal is fitted to the oil filler cap tops. Two basic styles of decals are used. The early decal is divided in a pattern of concentric circles. Later a pie pattern decal was used. The following variations are known:

TR2/3 -- Large concentric circle decal, black with white markings.

TR3A -- Large pie-pattern decal, black with white markings.

TR3A -- Little concentric circle decal, black with white markings fits caps with thumb-holes.

TR3A/3B -- Little pie-pattern decal fits the caps with thumb-holes.

TR3B -- Little pie-pattern decal, Red with white markings (only observed on some TR3Bs with hammertone caps).

Timing Chain Cover. There were no variations. Covers should be painted black and the face covered with sound deadener, usually a light gray color. The sound deadener should not be painted.

Ground Strap. A round, woven steel, ground strap is attached to the timing chain cover and the front motor mount. The purpose is to ground engine with body by spanning the insulating motor mount.

Oil Filter Assembly. Three versions of the assembly are found (SPCEd4 pg 13):

TS1E	Original, with 7/16 flange *
TS9952E	Flange thickened to 5/8 inch
TS12650E	Full Flow Filter

* The flange in question is the flange on the head assembly where the head bolts to the cylinder block.

According to Service Bulletin in February 1956, the "flange (filter to cylinder block) of the oil filter, together with the attachment bolts and stud, have been strengthened. This modification has been made to prevent any possibility of oil leakage from the joint due to distortion of the flange under loading by the bolts and stud". In addition t o the bolts being lengthened, the tensile strength of bolts and stud was also increased.

Full Flow Filter. The filter head was changed to avoid oil flow stoppage should the filter become clogged. The newer head includes a bypass and can be easily distinguished from the older versions by a access port on the head. The canister was not changed.

General. All assembly versions have the same general appearance. The head is natural aluminum. The canister is painted ice blue (specific color unknown) which takes a pale green caste with age. Because of the above-mentioned problems with the earlier variations of the oil filter assembly, later variations will be accepted on earlier cars; however, an early variation should not be present on a later car.

Oil Drain Plug and Sump. The oil sump shows no changes (ref: SPCEd4, pg. 3) although you may find varying degrees of workmanship where the plug insert is welded to the sump that might give the appearance of different units. Sumps are painted black. Aluminum Sumps. These were offered as optional high speed equipment. They are not painted.

Oil Drain Plug. The plug was changed once at TS18902E. The early plug was a brass cap screw, 5/8s NF, 1/2inch long, .798 across the flats (ref: HWC pg23). The later plug was a common square steel plumbing plug, 7/16inch across the flats.

Breather Pipe. Two versions of the breather pipe (dog-legged tube mounted low on the rear of the distributor side of the engine) were fitted although the two are not readily distinguished without disassembly. The later version was introduced at TS972E; it includes an internal baffle to prohibit loss of oil through the breather while running at high speed. According to Service Bulletin Vanguard/3/B, August 1954, the cylinder block was "modified, without change of Part No. at Eng TS.972E and the Breather Pipe Assembly is affected". The same bulletin offers a modification to older breather pipes to curb oil loss. Breathers are painted black.

Dip Stick. No changes are listed to the oil dip stick. The dip stick is not painted.

Engine Removal Hardware. Removal hardware includes the following components:

* Eye, front lifting assembly (bracket) -- bolted between timing chain cover and front engine plate.

* Rear lifting bracket -- bolted on at rear manifold bolt and at rear head stud. The rear manifold stud is longer than other studs to account for bracket thickness.

Removal hardware is painted black. There are no changes listed in the SPCEd4. However, it is believed that early cars were not fitted with removal hardware; edition 1 of the Triumph Spare Parts Catalogue does not list removal hardware. For all cars, removal hardware will be considered optional. However, if present both front and rear should be installed.

Distributor and Vacuum Unit. The same basic distributor unit was employed throughout production. The unit changed at TS8213 (ref: SPCEd4, pg. 64). The later unit is considered a comparable replacement. A black Lucas distributor cap should be fitted.

Vacuum Advance Unit. The early style has a large hex snout; sometime during the TR3A production this changed to a conical snout. Both styles have a screw-on connection to the vacuum line from the advance unit to the front carb.

Vacuum Advance Line Routing. On early cars with the larger diameter pump-to-carb fuel lines, the vacuum line runs beneath the fuel line retaining clip at the thermostat. On later cars with the smaller diameter pump-to-carb fuel lines, the vacuum advance line is routed through the eye that retains the fuel line at the thermostat. Between the vacuum unit and the thermostat, the line routes behind the bypass hose, although routing in front of the bypass has been observed on cars thought to be original; either will be accepted.

Spark Plug Wires. Several varieties are found. Black wires with insulation boots should be used. Photos in an early shop manual for TR2s show high-tension wires attached to the spark plugs with clips that are held in place by screws at the top of the plugs; no rubber boots. Such configurations of the period are acceptable.

Spark Plugs. Normal driving and high speed equipment versions were offered. Any suitable replacement is allowed.

Underhood - Fuel System

Fuel System Variations Summary

Model	Commission#	Engine#	Description
TR2	TS1	TS3E	SU H4 Carbs
		TS8997E	SU H6 Carbs introduced; manifold and air cleaners change; flexible fuel lines.
TR3	TS8637	TS9350E*	Manifold change for LeMans Head introduced
		TS9721E	Flexible Float Chamber mounting.
		TS12819E	Front carb assembly and vacuum advance change
		TS12606E:TS13052E*	Inlet manifold change for High-port Head
	TS15496		Flexible connector change -- petrol stop to fuel pump
TR3A	TS22014		
	?		Petrol stop removed.
	?		Pipe lines replaced flexible line in fuel pump to carb line
TR3B	TSF1	TSF1	
	TCF1	TCF1E	2138cc TR4 engine -- manifold change.

* See "Underhood -- Engine" for additional details on head introductions which were made in conjunction with carb/manifold changes.

Carburettor Assembly. SU H4 carburetors were installed on TR2s until TS8997E. At that point H6 assemblies were installed for the remainder of the TR2/TR3/A/B line. Functionality the H6 improved fuel distribution thus providing improved horsepower. Distinguishing characteristics are:

H4 Carbs -- body has oval shaped mount to inlet manifold using two bolts; bolts are over-under. Carb has 1.5 inch opening at filter.

H6 Carbs -- body has square shaped mount to inlet manifold using 4 bolts; bolts are on each corner. Carb has 1.75 inch opening at filter.

Float Chamber Tags. Aluminum tags are found on SU H4 and H6 carbs. Stamped on the tags are AUx (eg., AUC, AUD) numbers which identify the jet installed. If present, they are bolted through the bolt that fastens the float chamber lids, front and rear. Tags are usually anodized bright.

Insulator Blocks. Manifold insulator blocks were white-gray asbestos. Because of health issues and unavailability synthetic black ones are acceptable.

Flexible Float Chamber Mounting. At TS9721E a flexible float chamber mounting was introduced, thus reducing the possibility of bubbles in the chamber and resulting interruption in fuel supply due to engine vibration (ref Service Bulletin Sports/4/P, Feb 1956 and TSOAHb pg 114). The change amounted to switching from hard fiber washers to rubber. Since owners were encouraged to change to the flexible mount, the flexible mount is acceptable on earlier cars.

Front Carb Change for Vacuum Advance. The vacuum line connector changed at the carb housing at TS12819E.

Carb Component Finishes. Carb bodies, float chambers, float chamber lids, piston covers are natural aluminum, sometimes mildly polished. Other finishes include:

Brass (generally with milling marks left in place): throttle shafts spindle return anchor plates, jet adjusting nuts, jet lever, throttle lever, overflow pipe fitting, banjo fittings (when applicable), damper cap lid (nickel plating is known but rare), fuel filters in float chamber lids, and occasionally float chamber lid bolt, bango bolts.

Black Oxide, Blued, or Natural dark Metal: bellcrank lever assembly, pivot lever assembly, throttle spindle couplings, choke arm, pivot bolt and washer on cam, and speed nuts if fitted.

Clear Cadmium: Short and long throttle links (gold cadmium is bound in later TR4s) front and rear, jet links (some jet links on early cars are browned), float chamber hold up bolt and clip washer, fuel line and float chamber banjo bolts, jet control connecting rods, throttle spindle end clips, front jet lever to connecting rod clips, clevis pins.

Other: Sundry screws, bolts, springs, cotter pins, etc. can be plated or left natural as well as the throttle spindle connecting rods. Jet head assemblies have all kinds of finishes, variations of brass, steel, copper, etc.

Air Cleaners. H4 and H6 systems use different filters due to the differences in air openings. The two types are not interchangeable although identical in outer appearance. Filters are painted black. "AC" decals are placed in the center of filters. Decals are round or rectangular (believed changed from round to square in 1957), dark blue, and have white lettering. Paper element replacement filters which might provide better dust filtering are not acceptable for concours showing.

Fuel Pump. No changes. Replacements are available that do not include the priming lever. Use of pumps without priming levers should not be considered original. Pumps should be unpainted.

Fuel Lines.

Petrol Stop. The petrol stop (shutoff valve), located between the fuel pump and firewall, was removed during TR3A production (probably in 1958); although a specific break point is not available, cars after TS60000 should not have a petrol stop. Early in TR3 production the petrol stop connection to the line running to the fuel pump was altered; see below. Petrol stops are prone to leakage and may be removed or bypassed for safety reasons; quality deductions may be made if removal or bypass is performed with poor workmanship or material not of the period.

Fuel Line from Tank to Pump and Petrol Stop. At commission number TS15497 (not engine number), the flexible connector at the petrol stop was changed. The early version connects with a compression tubing fitting (tubing sleeve and tubing nut); the later version has a slip-on rubber hose connection. The line itself changed from flexible, woven steel sheathed, type to rigid steel pipe.

Fuel Line from Pump to Carbs. Three types of lines were used:

* TR2s with H4 Carbs -- Until TS8997E a steel line was used. A strap type retaining clip is used at the thermostat housing. The banjo bolt connections are soldered to the pipes. The banjo bolt at the front carb has input and output at 180 degrees. The banjo connections are made to the float chamber lids on the engine side of the carb. Routing of the line between the float chambers is above the intake manifold, the line is slightly bulged up for improved clearance of the manifold.

* TR2s with H6 Carbs, TR3s, and early TR3As -- Flexible line, a rubber line with woven steel sheathing, was installed just past the thermostat housing on the carb side of the run to the float chambers. A strap type retaining clip is used at the thermostat housing. The banjo connections changed to compression

fittings. The banjo connection at the front carb changed from input-output at 180 degrees to roughly 120 degrees; this change along with a change to the float chamber lids allows the routing of the line to go down under the air intake side of the carb housing, avoiding routing over the manifolds.

* Late TR3A,TR3B -- Steel pipe lines with rubber sleeve connectors were introduced sometime during the TR3A production (no details are given in SPCEd4, pg 19 although a later part number is provided). The retaining clip at the thermostat housing changes to an eye type. At the same time, the banjo bolt connection at the float chamber lids was changed to a rubber sleeve connection. A bent, U-shaped pipe is used between the carbs. Steel pipe lines are smaller in diameter than the earlier lines. Routing between carbs is like that of the flexible lines. The original rubber sleeve connectors had a fine pebbly surface; not required. Clamps were not used on the rubber connectors; however, for safety reasons, clamps or wire clamps may be fitted. Cars after TS60000 should have this style of lines. TR3As prior to TS6000 may have either this or the flexible line type of lines. Finish of lines is natural.

Fuel System/Safety Issues:

1. Petrol Stop Removal or Bypass. Should removal or bypass be allowed under heading of allowed safety modification. Yes if modification is conducted in an inconspicuous manner.
2. Inline Fuel Filter. Is this an acceptable improvement? Yes based upon historical rulues. Prefer installation under car.
3. Clamps on flexible fuel line connections. Should installation be allowed for safety reasons. Yes.
4. Fire Extinguisher. Should installation be allowed under the heading of safety modification. Yes if installed tastefully in engine compartment, rear of interior, or trunk.
5. Weber Carbs. Webers or other high performance carb installation are not considered acceptable for concours.
6. Fuel lines late TR2 -- was a flexible line used with H4 carbs and if so what was the routing? If so, routing along the engine side of the carbs, above the manifold, seems doubtful as the lines would sag too close to the manifold. The parts manual provides no evidence of such a variation. Assume No.

Underhood - Controls

Variations Summary

Model	Commission#	Description
TR2	TS1	
TR3	TS5777:TS8637	Steady bracket added to lower steering tube.
	TS10545	Tac and Speedo cables change.
TR3A	TS22014	
	TS27000:TS40000	Split steering and Support Brackets added/changed.
TR3B	TSF1	
	TCF1	2138cc TR4 engine

Steering. The same basic unit was installed throughout production. The main change was during TR3A production when the steering tube and shaft were split into two parts.

Rigid Steering Unit. Early cars were fitted with a "rigid" steering column; the tube and shaft are one piece components that span the length from steering wheel to the steering box. The tube and securing hardware are painted glossy black.

Split Steering Unit. Later cars were fitted with a split unit; the tube and shaft are split into lower and upper half components and the shaft is clamped together. The change was apparently due to production changes, the split unit providing an easier assembly process (fitting the unit to the chassis and through the firewall). The change point is not documented in the parts catalog (ref: SPCEd4, pg. 41). Although not documented, there is general agreement that the change occurred in 1958. The exposed shafts and connector should be natural, unpainted steel.

Rigid vs Split Steering. Use the following judging guideline:

TS1:TS27000 -- should have rigid steering unit.
TS27000:TS42000 -- may have rigid or split steering.
TS42001 on -- should have split steering.

The range of TS27000:TS40000 roughly covers the production of TR3A during 1958.

Steady Bracket -- Lower Steering Column. Except for early TR2s, cars were fitted with a supporting hardware that clamps to the steering tube and is anchored to the frame near the front wheel spring.

TS1:TS5776 -- Early TR2s had no lower steady bracket.

Early, Rigid Steering Steady Bracket -- added at TS5777 or TS8637. A steady bracket was added to lower steering (ref: SPCEd4, pgs 29, 42). The part catalog lists parts nos. 111600, 111601, and 111602 as being introduced at different times. On page 29, in Chassis Frame, this introduction is listed at TS5777. On page 42, under Steering, the introduction is listed at TS8637 (start of TR3 production). The early steady bracket consists of a two piece clamp that is bolted around the tube and bolted to the frame. The early unit bolts to the frame through a hole in the front flange of the front wheel spring abutment (the spring can).

Late, Split Steering Steady Bracket. Although not documented, it is generally accepted that the steady bracket was moved up the column when split steering was introduced. Instead of bolting to the front of the spring abutment, the later bracket bolts into a brace on the frame; this is right inside the inner fender wheel well, readily visible inside the engine compartment.

Support Bracket, Upper Steering. (Ref: SPCEd4, pg. 43, part no. 607433). Early cars were not fitted with an upper support bracket. Although not documented, it is generally accepted that this bracket was added with the introduction of split steering. The support bracket plate is bolted to the firewall; included is a clamp around the tube and related securing hardware.

Steering Blanking Plugs. Two rubber plugs are used where the steering tube enters the firewall. A small round plug (about 1/2 inch in diameter) is mostly obscured by the large rubber plug that the steering tube passes through. The large plug on early cars has a flat profile with steel cover plate; the later style plug has a boot profile and clamps to the tube with a radiator-style wire clamp. TR2s should have the early style large plug; TR3s and TR3As with rigid steering may have either style; TRs with split steering should have the later style plug.

Tacometer (Revolution Counter) and Speedometer Cables. Both tac and speedometer cable change at TS10545 (ref: SPCEd4, pg 74); no changes are visible in the engine compartment. See Interior, "Dash and Instruments" on the tac and speedometer units. We believe that early (TR2) cables were black in color, later changing to gray or cream. ??? does speedo route behind the upper steering support bracket.

Oil Pressure Line. No documented changes.

Temperature Sending Unit. No changes (ref: SPCEd4, pg 75). The capillary tube is routed along the fuel line. It is retained with three aluminum clips lined with friction tape ("adhesive tape"). Two clips secure the tube to the fuel line running horizontally along the side of the engine. The third is on the vertical run of the line where the tube starts its' coil. The tube is wrapped in three coils; coils are roughly 1.5 inches in diameter with the coils center line approximately 2 inches below the start of the vertical run of the fuel pipe (ref: Service Bulletin, Sports/2/C, Oct 1954).

Underhood - Cooling System

Variations Summary

Model	Commission#	Engine#	Description
TR2	TS1	TS3E	Very early pressure/filler cap on thermostat
	TS6?		Reservoir with pressure/filler cap added to Radiator
		TS414E	Radiator pipe change
		TS1201E	Late Radiator and Thermostat Housing introduced
TR3	TS8637	TS9350E	
TR3A	TS22014		
TR3B	TSF1	TSF1	
	TCF1	TCF1E	2138cc TR4 engine -- manifold change.

Radiator.

On very early cars, the radiator initially installed did not have a filler cap or filler reservoir; the filler cap was on top of the thermostat housing (see below). This configuration was quickly changed, probably at TS4, TS5, or TS6. At this point, the filler spout/reservoir was added and the filler cap at the thermostat housing was replaced by a plate; the cap moved to the radiator.

At TS1201E the radiator and thermostat housing were changed (ref: Service Bulletin Sports/1/C, June 1954). "When the new Thermostat Housing was introduced the water outlet was off-set from the centre line...". That is, the upper hose shifted off the center line of the top of the radiator about the width of the inlet. The distance between the filler spout and the inlet on the radiator is roughly 1.5 inches on the early style radiator; it is about twice that on the later radiators. Radiators and thermostat housing must be of the same era or they simply won't line up without jury-rigging installation of the radiator or using a long flexible upper hose.

TCF TR3B radiators may have crank start holes but if fitted they do not align with the grille-crank path to allow crank starting. Securing hardware did not change.

Overflow Hose. No changes documented (ref: SPCEd4, pg. 63). Overflow tubes were often ribbed like the heater hoes inside the firewall and secured to the inner finder by a unique clip (cannot be seen from above).

Radiators and securing hardware should be painted black. The brass tap should be unpainted.

Thermostat Housing. The thermostat housing was changed at TS1201E (ref: SPCEd4, pg. 21). The profile of the early unit outlines two distinct chambers of equal height; in addition to being a larger unit than the later housing, the housing is distinguished by a plate on the top of the housing that is retained by three bolts. For the first 4 or 5 cars produced, a filler cap unit was installed where the plate bolts on. This very early configuration did not perform successfully and was quickly changed to a configuration with the filler cap on a filler spout on the radiator. The later version was used throughout the remainder of production.

Water Pump and Pulley and Fan Belt. No changes (ref: SPCEd4, pg. 9). The water pump, body, and pulley may be left unpainted or painted black. A grease nipple should be installed on the upper RH of the pump.

Fan. No changes (ref: SPCEd4, pg. 6). Fan blades are unpainted, but the center section is black. The rivets are natural.

Upper/Lower Hoses and Connecting Pipe. An early configuration was used until TS414E (ref: SPCEd4, pg. 21). This utilized straight hoses and a bent pipe. The configuration employed for the remainder of production uses formed, angled hoses with a slightly bent pipe. Hoses are black. Pipes should be painted black. Wire-type clips are used on hoses.

Air Deflector. A fiber (pressed paper or "sho-carred" material) air deflector was installed at TS40104 (ref: TSOAHb, pg 114). It is painted body color.

Optional Heater Kit. No engine compartment changes are listed (ref: SPCEd4, pg 146) for the heater. Water Pump Connecting Pipe and Adapter and Hose. The connecting pipe is attached into the water pump adapter with a pressure fitting and is extended to the firewall with a right-angled hose; the pipe should be unpainted, blued, or black. The hose attaches to the LH dash connection assembly; hoses are black; hoses should be formed right angled. Two wire-type hose clamps (part number cs.4012) are used.

Water Valve, Connecting Pipe, and Hose. The water valve is screwed into cylinder head at rear of engine. The brass valve is not painted; valve handles are painted black or emerald green; different style handles have been found. The connecting pipe is threaded into the valve and is extended to the firewall with a right-angled hose; the pipe should be unpainted, blued, galvanized or black. The hose attaches to the dash connection assembly; hoses are black; hoses should be formed right angled. Two wire-type hose clamps (part number cs.4012) are used. When a heater is not installed, flat blanking plugs are fitted.

Interior

Table of Contents.

Interior ____ *1*

Interior - Introduction ____ *2*

Acknowledgements. ____ **2**

Revision History. ____ **2**

References. ____ **2**

Interior Judging ____ *3*

Interior Originality Guide ____ *7*

Chronological Summary of Interior Changes ____ **7**

Interior -- Top (Hood) and Sidecurtains ____ **9**

Interior -- Seats ____ **11**

Interior -- Door Panels ____ **13**

Interior -- Carpet ____ **14**

Interior -- Dash and Instruments ____ **16**

Interior -- Steering Wheel and Control Head Assembly ____ **22**

Interior -- Trim ____ **23**

Interior - Tools ____ **26**

T R A

Interior - Introduction

This guide is intended to serve as reference for judges in TRA concours events and for TRA members doing restorations. The material presented is the result several years of assembling information from factory reference material, TRA members expertise, TRA judging school reviews and comments, and other Triumph history and reference material.

Acknowledgements.

Authors and principal contributors: John Warfield (Mason Dixon/TRA).
Other reviewers and contributers: Joe Richards and John Gabel (COCTRA)

Revision History.

June 1991 - Initial version.
June 1992 - Minor edits and corrections.
February 1993 - Some minor organizational changes, extensions, formating changes, and edits, and change from 25 to 100 point scoresheets.
March 1995 - Interior Deduction Guide is incorporated into Scoresheet. Scoresheet re-organized to facilitate judging. Handbook and Coach Key added to required items results in minor reallocation of points for tools. Other minor additions and clarifications.

References.

The following are referenced where appropriate within. The abbreviations enclosed in parens are used to identify the associated reference.

(SPCEd1) Triumph Sports Car Spare Parts Catalogue, Edition 1. Part No. 501653/USA.
(SPCEd2) Triumph Sports Car Spare Parts Catalogue, Edition 2. Part No. 501653/USA.
(SPCEd3) Triumph Sports Car Spare Parts Catalogue, Edition 3. Part No. 501653/USA.
(SPCEd4) Triumph Sports Car Spare Parts Catalogue, Edition 4. Part No. 501653/USA.
(HWC) Stanpart Hardware Catalogue for use with Standard Triumph Vehicles. Publication part number 514264.
TRA National Newsletter, Volume 15, Number 3, Issue Number 63, “Tooltime”, a reproduction report by John Warfield.

Interior Judging

Scope - Interior judging consists of evaluating the quality and originality of the various interior components. Components earn points for quality of restoration or preservations, then deductions are made for originality deviations.

Scoring - Quality of restoration points are earned; points are allocated to component categories (top, seats, trim...) . The lowest possible score for each component category is zero; no negative scores are permitted.

Points Earned....	Evaluation.....
Maximum Points....	Components are in excellent condition, free of war, poor repair or restoration, are fitted properly, and do not show excessive fade or stain.
Partial Points....	Components are in various levels of condition with some flaws, either minor or serious; visible signs of repair, lack of repair, or lack of attention to detail and fitting to various degrees.
No Points....	Component is missing entirely, or has numerous minor flaws, consistently poor workmanship, neglected repairs, or serious lack of attention.

Originality Deductions - Originality deductions are summed across the interior categories then deducted from the total interior score. If the result of the interior originality deductions and quality reductions on a particular component combined result in a score of less then zero, a score of zero is used; no scores of less then zero are permitted.

Multi-Component Scoring - Quality of restoration points should be evenly distributed between individual components in a scoring category and each are to be judged independently. For example, in three of the four components listed in a category are in excellent condition and the fourth is in poor condition, the three good components should earn 3/4 points for the category before deductions are made on the fourth.

Quality of Restoration Inspection -

The inspection should include but is not limited to the following areas:

Presentation.....	Flaws.....
Installation	* Fitting of interior components lacking in neatness, components do not fit properly as designed. * Sidecurtain and top (hood) do not fit properly. * Hardware missing or in poor condition (rust, pitting, or flaws in paint).
Appearance of Fabric	* Interior panels, seats, dash (fascia), carpets and mats (were fitted) excessively worn, faded, torn or dirty, excessive stains. * Sidecurtains torn, excessively worn, faded, stained, or windows excessively scratched or "yellowed". * Convertible top (hood) as above. * Hardtop headlining material torn, stained, dirty, faded, or worn as above (when fitted).
Condition of Fittings and Sundry Parts	* Small fittings such as dash chrome, gauges, switches, cubbybox components, center instrument panel, grab bar, rearview mirror, etc., are dirty, pitted, scratched, broken, dented, etc. * Tools excessively dirty, rusty, tool roll (if fitted) severely stained or torn.

T R A

Caution: You may not remove or disassemble components for inspection. Avoid touching the car or components if possible.

General Evaluation and Scoring Guideline - The inspection should be done from the point of view that the cars have been driven and that each and every component will not be of showroom quality. For example, leather upholstery will develop "character wrinkles" with use, and side curtain mounting brackets will show scratched paint with use. Better than showroom quality should not earn more or less points than a component in "like new" condition. For example, a polished sill edge finisher should not earn more or less than one that is dull. Extreme over restoration, however, may result in Originality deductions. For example, components that were not shipped chromed should not be chromed.

TRA

Interior Scoresheet

Entry:	Model/year:
Commission #:	
Owner:	

Category	Originality Deductions			Quality Points	Quality Earned	Originality Deductions
Top and Sidecurtains (I)	**10 pts**	**4 pts**		**24**		
Top	Fabric, color, or pattern (Hardtop)	Top or tonneau fasteners (Hardtop)		12		
Hoodsticks	Hoodstick unit	Paint Webbing Fasteners		4		
Sidecurtains	Fabric, color, or	Brackets		8		
Trunk and Tools (VII)	**4 pts**	**2 pts**	**1 pts**	**6**		
Floor	Covering	Paint Drainage tubes		2		
Spare tire	Tire	Stowage straps		0		
Millboard	Pattern	Paint		2		
Tools - all		Jack & handle/ratchet Coach key Instruction book	Finish Finish Binding	1 1 1		
Tools-Disc wheels		Wheelbrace Nave plate removal tool	Finish Finish	1 1		
Tools-Wire wheels		Knockoff hammer	Finish	1		
Tool Roll		(quality only)		0		
Door Panels (III)	**8 pts**	**4 pts**	**2 pts**	**8**		
Panels	Upholstery fabric, color, or pattern	Piping (TR3A only)		4		
Pockets		Pockets or covering		3		
Pulls			Cables Fittings	1		
Trim (VII)		**4 pts**	**2 pts**	**6**		
Upholstery		Fabric, color, or pattern: Wheelarch Quarter casing Rear bulkhead Elbow Capping Tonneau capping Center tonneau Door edge roll	Piping	4		
Draught excluder			Vinyl vs furflex	1		
Door Sill			Sill finishers	1		
Battery box drain			Tube(TS3288 on)	0		
Jacking hole cover			Cover	0		

Judges' Annotations Key: Circled item = Originality deduction Underlined item = Quality deduction

TRA

Category	Originality Deductions			Quality Points	Quality Earned	Originality Deductions
Seats (II)	**8 pts**	**4 pts**	**1 pts**	**16**		
Upholstery	Fabric, color, or pattern	Fabric construction (if noticeable)		12		
	(Hardtop) Headliner					
Slides	Slide unit	Paint	Hardware (if noticeable)	4		
Occasional Seat	Fabric, color, or pattern		Mount hardware	4		
Carpet (IV)	**8 pts**	**4 pts**	**1 pts**	**12**		
Carpet	Fabric, color, or pattern	Binding	Attachment hardware	10		
Mats		Front floor mats		2		
Steering Wheel (VI)		**4 pts**	**2 pts**	**4**		
Wheel		Wheel	Wheel fittings (adjustable only)	2		
Control Head		Control head assembly		2		
Dash and Instruments (V)	**8 pts**	**4 pts**	**1 pts**	**24**		
Dash Coverings	Center instrument panel Cubbybox door			2		
Gauges, Switches & Controls	Incorrect location or gauge: Speedometer Tachometer Fuel gauge Ammeter Oil pressure gauge Temperature gauge	Incorrect location or switch: Center panel controls Heater switch Headlamp dipper Vent control Overdrive switch Windscreen washer	Warning lights (2)	8		
Cubbybox assembly	Cubbybox	Cubbybox lock Door backing Plate and hinge	Buffer plates Check rod Striker plate Attach hardware	2		
Pedals	Pedal assembly	Brake/clutch pedals	brake/clutch pads	1		
Gearshift	Gearshift lever	Gearshift knob Rubber boot		2		
Handbrake	Handbrake lever	Handbrake grip Boot		1		
Grab Bar		Chrome vs black		1		
Rear Mirror	Mirror/frame		Mountings	2		
Ashtray			Ashtray & mountings	1		
Dash support	Support		Finish Hardware	2		
Heater	*Heater unit*		*Mountings*	*1*		
Radio & Add-ons		*Non-period*		*4*		
Total Quality pts earned and subtract originality deductions			***Total possible***	**100**		
			INT Total			

Judges' Annotations Key: Circled item = Originality deduction Underlined item = Quality deduction

Interior Originality Guide

This guide is provided to serve as a reference material for TRA judges and restorers alike. Although the guidelines outlined below were compiled from factory reference materials, extensive research by Roadster Factory staff, and prolonged observation of the most original cars available, the very manner in which TR's were assembled makes any reference work on these cars subject to cars having commission numbers far ahead or behind those specified by the factory as "changeover" cars, and thus a relatively wide margin of error must be recognized when judging or restoring cars against those engineering changes.

As in other sections, judges and restorers alike should recognize that even the most well documented changes are subject to a significant margin of error due to the mass production processes used in TR assembly. Reference information should not be considered the absolute "gospel". Unless otherwise extended for specific components, a margin of error of 100 commission numbers should be used throughout.

For your convenience, the Originality Guide is organized in outline form according to the components listed in the Originality Deductions Guide. Engineering changes are noted in each sections. A summary of changes is provided below.

Chronological Summary of Interior Changes

TR2

TS 1201	Revised listing of paint and trim schemes issued.
TS 1871	Tonneau cover changed
TS 3268	Battery box drain tube introduced.
TS 3513	"Baby" Tenax fasteners replaced by Tenax fasteners on convertible top, sidecurtains, tonneau, and hoodstick cover.
TS 4229	Remote control bonnet release mechanism replaced by Dzus fasteners.
TS 4400	Single window convertible top replaced by three window top.
TS 5089	Front footwell carpets replaced by black rubber mats.
TS 5256	Tenax fasteners on convertible top, tonneau, sidecurtains, and hoodstick cover changed to Lift-the Dot except across windscreen top rail.
TS 5469	Single piece "open" lifting jack replaced by tube type screw jack with separate ratchet.
TS 6157	Scuttle vent introduced.
TS 6266	Push/pull overdrive switch replaced by "barrel" type toggle switch.

TR3

TS 8637	Sliding window sidecurtains introduced, contrasting piping on seat upholstery for some colors introduced, seat pan front lip now vertical (?), occasional seat option now available, tachometer and speedometer changed, tonneau trim panels changed, revised paint and trim scheme listing issued.
TS 10546	Speedometer and tachometer changed.
TS 10800	Revised listing of paint and trim scheme issued.

Chronological Summary of Interior Changes -- Continued

TR3A

TS 22014	Seat upholstery pattern changed, door panel pattern changed, door pull cable configuration changed, carpet pattern changed, rear bulkhead panel changed, tonneau trim panels changed, center instrument panel now black crackle paint, trunk carpet replaced by Hardura mat, trunk millboard panel now black on all cars, contrasting piping not on rear bulkhead panel, door panels, wheelarch covers and quarter casing panels on some colors, occasional seat upholstery and cushion board pattern changed, separate squab board for occasional seats deleted, door edge roll trim changed to one with chromed buttons, revised listing of paint and trim schemes issued, fuzzy seal replaces vinyl draught excluder, starting handle was changed.
TS 28826	Wedge type sidecurtains replaced by Dzus type sidecurtains, sidecurtain mounting bracket change.
TS 29001	Revised listing of paint and trim schemes issued.
TS 29098	Speedometer and tachometer positions reversed; speedometer is now on left.
TS 32834	Prefitted competition screen mounting assembly deleted, chromed bolts and washers on scuttle no longer necessary.
TS 35350	Cut pile wood carpet replaced by nylon loop.
TS 41743	Hoodstick cover assembly changed.
TS 41744	Lift-the-Dot peg on tonneau trim panels (cars equipped with hood stick covers only.)
TS 42400	Sliding ashtray fitted to all cars.
TS 60000	Major body retooling causes change in carpet pattern, rear bulkhead panel, wheelarch covers, quarter casing panels, door panels. Rearview mirror replaced with one having a plastic surround, amber indicator warning light changed to green.
TS 77000	Revised listing of paint and trim schemes issued.

TR3B

TSF 1	Charcoal grey carpet (4th cond.) fitted to some cars with black, blue, or red trim. This may have occurred somewhat earlier.

Interior -- Top (Hood) and Sidecurtains

I. Top (Hood) and Sidecurtains

A. Cars are to be shown with the convertible top erected and snapped into place. Cars fitted with hardtops are excepted from this rule.

1. **Top (Hood) Fabric** - The convertible tops, sidecurtains, hoodstick covers and tonneau covers fitted to all TR2-3B's were all manufactured from the same basic material: a "crushed" grain vinyl over a natural or tan colored canvas. The closest available material at this writing is British Everflex, which is reputedly the original material, with minor improvements. For judging purposes, no points should be deducted for cars with Everflex or similarly constructed aftermarket tops of the correct pattern and color.

2. **Top (Hood) Color** - The colors offered on TR2-3B soft covers varied from time to time, and are listed in the attached TR Register article. The backing canvas was usually tan, or natural, as noted, as noted, but some early cars may have had the canvas dyed the same color as the vinyl surface. It is also possible these early dyes simply bled through with age. For judging purposes, no points should be deducted from cars with convertible tops of the appropriate color as listed int eh attached materials, that have canvas backing material dyed the color of the vinyl surface, natural (tan), or black.

3. **Top (Hood) Pattern** - The tops on the sidecurtain TR's were sewn together, as opposed to heat pressed, including the rear window(s). The thread observed on the original tops appears buff in colour, although this may be the result of years of fading, accumulated dirt, or both. The main seams of these tops run along the length of the top from the windscreen fastener strip, over the hoodstick webbing, and down to the rear fastener strip. The front of the top is fitted with a rubber seal, trimmed in buff furflex, which slips over the rear of the windscreen frame so that only the furflex is visible from inside the car when the top is erect. There were a few modifications to TR top patterns during the production run.

   - Tops on TR2's from TS 1 through TS 4399 had a single rear window.

   - At TS 4400 the pattern was changed, and two quarter windows were added for better rearward visibility.

   - Sometime around May, 1959, the furflex trimmed rubber windscreen seal was replaced by a buffer roll of the same vynil/canvas material of the top itself. This roll is permanently secured to the top by the attachment of the Tenax fasteners when the top is fitted to the car. Note: most aftermarket tops, such as Robbins, come with these buffer rolls, and no reproductions are known to be available with the early rubber/furflex seal. Do not add or deduct for either type of seal..

B. **Top, tonneau and sidecurtain fasteners** - From TS 2 to TS 3513, all covers were secured to the body and windscreen using "baby" Tenax fasteners. At TS 3514 these fasteners were changed to full size Tenax fasteners. At TS 5256 the fasteners were again changed, to Lift-the-Dot, except those running across the upper windscreen rail. Note also that built in provisions for detachable hardtops were fitted to cars from TS 6824.

C. **Hoodsticks** - The hoodstick assemblies fitted to all cars were essentially the same, variations, if any, being insignificant or unnoticeable. On nearly all cars, the hoodstick assemblies and hoodstick mounting screws were painted the color of the body of the car. Some very late cars may have had their hoodsticks painted black, or a buff (semi-gloss tan). Do not deduct for very late cars with black or buff hoodstick assemblies.

   Most early cars seem to have had a strip of buff moquette (essentially furflex) glued across the top half of the front hoodstick bow. This strip extends only across the center section of the bow, between the webbing. It is uncertain when this was discontinued. Do not deduct for the absence of this strip.

D. **Hoodstick Webbing** - Most cars had hoodstick webbing of a natural, or tan color, although part numbers are listed for early cars to match the early top colors. The webbing on all cars was a cotton weave of varied detail.

Do not deduct from cars fitted with cotton webbing dyed to match the top (early cars only), natural (tan), or on later cars, black. The hoodstick webbing attachment plates may be either painted black, or natural metal.

E. **Sidecurtains** - Sidecurtains do not need to be attached to the car when being judged, but should be accessible to the judges for review.

1. **Sidecurtain Fabric** - Sidecurtains were covered in material to match the other soft covers (see above and attached material). Do not deduct from cars having sidecurtains of correct pattern and color that are matched to convertible tops of incorrect fabric (such as cloth) that have been previously deducted against.

2. **Sidecurtain Color** - Sidecurtains were covered in the same material as other covers. Again, see the attached materials, and do not deduct points against cars having sidecurtains matching convertible tops that have been previously judged as having incorrect color.

3. **Sidecurtain Pattern** - From TS 1 through TS 5255 the sidecurtains had a single fixed window, a zippered signalling and access slot, and were secured along the bottom edge to the doors by four "baby" Tenax fasteners.

   From TS 5256 the fasteners were changed to Lift-the-Dot.

   From TS 8637 (TR3) sliding windows were introduced, and the signaling and access slots eliminated.

   From TS 28826 the wedge type retaining bracket system was eliminated, and replaced with a Dzus system. The four fasteners securing the sidecurtain to the body were eliminated as well. The posts containing the Dzus fasteners were less exposed than earlier wedge types, and most appear to have been painted in varying shades of matte grey. Most wedge type posts were painted body color. A small strap with a snap was introduced which attaches to the interior door panel. The early block shaped knob fitted to the sliding window on sidecurtains fitted after TS8637 was replaced by a one piece window with a curved "hook" type extension for the sliding window.

F. **Sidecurtain Retaining Brackets** - From TS 1 through TS 28825, the wedge type retaining brackets were chromed. From TS 28826, the flat Dzus retaining brackets were finished in silver-grey hammertone paint.

G. **Hardtop Headliner and Fittings** - The hardtop headliner was a thin tan cotton broadcloth glued directly to the hardtop shell. The fitting hardware, including the attachment bolts, were chromed.

Interior -- Seats

II. Seats

A. **Seat Upholstery** - Both leather and vinyl trim was available on the cars, first as an option, then as standard. On the seats, only the seat facings were trimmed in leather, the rest of the seat upholstery being vinyl. In TR2s, neither seat folds forward. In later cars, the passenger's seat was hinged to fold forward, the driver's was not; this change was made at TS8637 when the gas tank was made smaller allowing room for an occasional seat

1. **Seat Upholstery Pattern** - There were two major patterns of seat upholstery, with TS 22013 being the changeover point. AT TS 8637 (?) the front of the cushion was changed from a sloping or bevelled shape to a vertical one, and there may have been some changes to the internal assembly of the seat which is not noticeable. The two major patterns are illustrated below, courtesy of The Roadster Factory.

TS 1 through TS 22013

TS 22014 through TCF 2864

2. **Seat Upholstery Construction** - The seats were assembled using horsehair mats, cotton wadding, wood strips, and split rivets. The trim was actually attached to the steel seat frames and spring cases using #3 tacks and "blued" clips. Hog Rings may have been used on earlier cars to attach the trim to the spring case. These seats were trimmed by hand, so variance of detail is expected.

3. **Seat Upholstery Color** - The colors available for seats and other interior trim components varied from time to time during the production run, and are documented in the attached materials. Major points of change are noted here:

   At TS 8637, contrasting piping was introduced for some colors. Usually the piping shade was white or cream. Some neutral colors, such as Grey or Stone, retained non-contrasting piping through this period.

   At TS 22014, the amount of piping was increased, creating more contrast with certain colors. by September, 1958, cream piping was phased out. By TS 500000, and probably a good bit earlier, non-contrasting piping was phased out also.

B. **Seat Slides** - Both seats were fitted to clear cadmium plated seat slide assemblies, two per seat. The seat slides were mounted to the body with cadmium plated slotted body bolts, with the lock release lever assembly mounted on the outboard slide. This lever is marked "A.W. Chapment/Leveroll/London S.W.6".

C. **Seat Hardware** - Most of the upholstery hardware is described above. Note that the passenger's seat had a black oxide or blued bushing between the bottom seat pan and the folding squab frame, and is finished with chrome bevelled washers and domed nuts. The seat frames were generally painted black or left in red oxide primer. Spring cases were mostly plated or natural.

D. **Occasional Seat Upholstery** - Occasional seats, when fitted, were trimmed in vinyl or leather and vinyl to match the seats. Leather was on the cushion and squab (when fitted) facings only.

When introduced with TS 8637, the occasional seat assemblies consisted of an upholstered cushion board and upholstered squab board, both of wood. These boards were secured by iron brackets, or a single "S" shaped iron bracket painted black or more commonly, to match the trim.

From TS 22014, the upholstery pattern was changed to match the new trim, and the separate squab board was deleted in favor of a padded rear bulkhead panel used on all cars. The iron brackets were "C" shaped.

From TS 60000, the retooling of the body eliminated the need for the heavy iron brackets, and the cushion board was fastened to the shelf by spring devices.

Most occasional seats were attached to the floor using slotted body bolts, although hex headed bolts are known. Screws and "T" nuts held the boards to the brackets.

Interior -- Door Panels

III. Door Panels

A. **Door Panel Covering** - Door panels were covered in vinyl to match the trim of the car. See attached materials for color availability. Padding was provided by a thin sheet of cotton wadding which did little more than keep the heads of the split rivets holding the map pocket to the panel from becoming visible. The panel itself was 3/16" fiber or masonry board. Restorers and judges alike should be aware of the common mistake of overstuffing these panels. The vinyl trim was stapled to the fiberboard panel.

B. **Map Pockets** - Map pockets were pressed and folded cardboard sprayed with flocking to match the trim color of the car. Exceptions to this are known: a great many cars fitted with black interiors had map pockets sprayed Stone.

C. **Door Panel Piping** - At the beginning of the TR3A production run, piping was specified to run along the top edge of the door panel where it meets the door edge roll trim. This piping was vinyl, folded and stitched over a 1/8" diameter plastic core. Most of this piping was in contrasting colors, most often white, although early TR3A's may have had door panels piped to match the trim (neutral colors), or in cream.

D. **Door Pull Cables and Fittings** - Two patterns of door pull cables were fitted, with the change occurring at the beginning of TR3A production (TS 22014).

TS 1 through TS 22013 had door pulls running on the outside of the door panels from adjacent to the door lock mechanism to about two thirds of the way forward between the sidecurtain mounting brackets. The cable was covered in vinyl to match the trim color. The cable fittings (lock lever plate and escutcheons) were chromed. All fittings were attached to the panels by chromed slotted #4 trim screws.

From TS 22014, the door pull cable was relocated to run through the map pocket and anchor on the sheetmetal of the door. The cables were sheathed in plastic, so that they look like a bicycle brake cable (which many use to replace worn pull cables). Most of these seem to have been black, although it is possible some were sheathed in plastic molded to match the trim. Do not deduct for either black or matching cables.

E. **Door Panel Attachment Hardware** - The panels were attached to the doors by approximately fifteen #4 chromed slotted trim screws and cup washers. Cars fitted with Dzus sidecurtains also had a male snap an inch or so forward of the rear sidecurtain mounting bracket. This was attached by a #4 trim screw. The sidecurtain plates on all cars was by slotted woodscrews.

F. **Door Panel Pattern Changes (Summary)** - Most of the door panel changes occurred at TS 22014 and are noted above. However, one additional important change was introduced at this point as well: the map pocket opening was changed from a symmetrical rectangle shape to one that was kidney shaped. This may have been done to make the new pull cable easier to use. Also, at TS 60000, the lower rear corner of the door panel was rounded to accommodate the retooled doors. In summary:

From TS 1 to TS 22013, the door panels had rectangular map pocket openings, vinyl trimmed pull cables with chrome fittings running outside the door panel, and square rear lower corners.

From TS 22014, piping was added across the top edge of the door panel, the map pocket was changed to a kidney shape, and a plastic coated door pull without chrome fittings was run through the map pocket.

From TS 28826, Dzus type sidecurtain retaining brackets were introduced, and a male snap was fitted just forward of the rear brackets.

From TS 60000, the lower rear corner of the panel was rounded.

Interior -- Carpet

IV. Carpet

A. **Carpet Fabric** - Two types of carpet material was used on the TR2-3B, a short tight wool pile, and a nylon loop. the changeover point from wool to nylon was around TS 35350. In addition, cars built after TS 5089 had the front footwell carpets replaced with heavy rubber mats. Both wool and nylon carpet was backed by a rubberized canvas. The amount of jute underpadding seems to vary, but generally was found under carpet pieces under the seats, and covering the propshaft and transmission tunnels. Make no deductions fort he presence or absence of this underpadding material, as it has marginal insulation value, and holds moisture which only causes the carpet to smell.

B. **Carpet Binding** - The carpet was bound in vinyl to match the carpet color on all wearing edges. Examples of this will be shown.

C. **Front Floor Mats (cars after TS 5089)** - Cars built after TS 5089 had the front footwell carpets replaced by black rubber mats which fit the car in the same manner. these are not to be confused with the aftermarket "Amco" floormats, as they extend up the bulkhead instead of covering only the floor.

D. **Trunk Floor Covering** - From TS 1 to TS 22013, the trunk floor was covered in carpet to match the interior carpet. The edges of this carpet were bound. After TS 22013, the wool carpet was replaced by a black plastic coated mat (Hardura).

E. **Carpet Attachment Hardware** - Carpet was glued, screwed, snapped, or left lying in place on TR2's and 3's in a variety of ways, even within given commission number ranges. This there is no specific arrangement to serve judges and restorers. Below is a typical attachment arrangement:

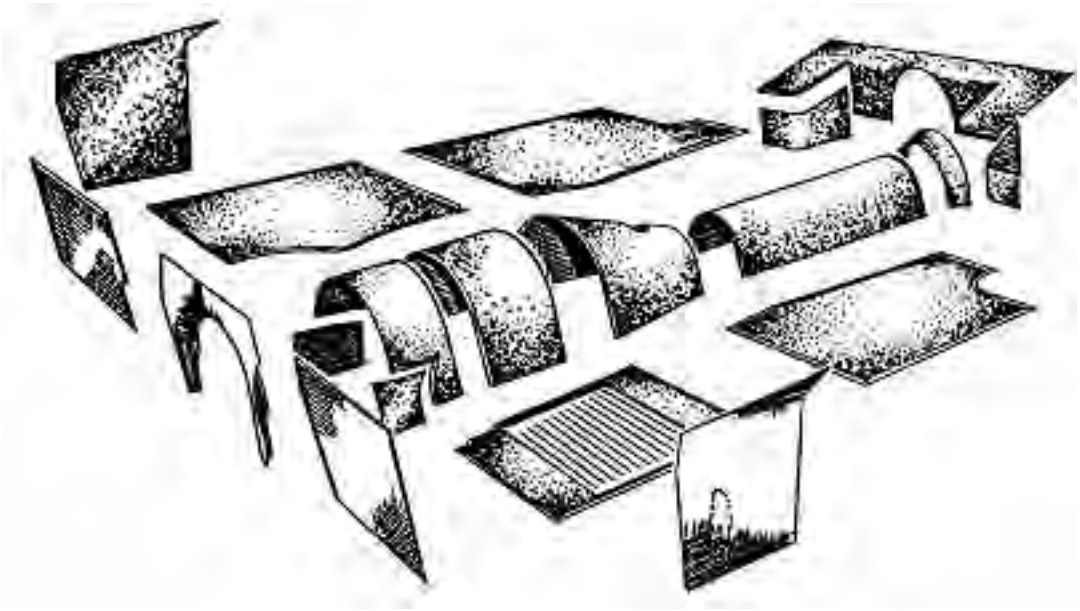
- On cars having sloping rear shelves (pre TS 60000), the rear heelboard side pieces were usually glued, as was the arch shaped center bulkhead panel. The propshaft tunnel carpets were glued, screwed, or left loose. The transmission tunnel carpet(s) were snapped. The side bulkhead carpets (kickpanels) were screwed along the dooredge, and glued or screwed at the front. The rear floor carpets were left loose, the seats holding them down. The rear shelf carpet was most often screwed. The front footwell carpets or mats snaps at the front, on the bulkhead. Often, these front snaps are replaced by blued jawed clamps, particularly on later cars.

- On cars with flat rear shelves, the carpet covering the shelf were either glued or screwed.

Please note that there is no rule on this stuff, not at least that I could find. Make no deductions for any arrangement of carpet attachment that makes sense or is neatly done with original type hardware.

F. **Carpet Pattern Changes** - There were several carpet pattern changes throughout the production run. All were variations using the above described materials.

- From TS 1 to TS 5088, the carpet was wool with a short tight pile. Diagram courtesy of The Roadster Factory.



- At TS 5089, the four front floor carpets were replaced by two black rubber mats.

- At TS 22014, the four transmission tunnel carpets were replaced by a single carpet piece, and the exposed rubber access plugs in the carpet were also deleted. The two propshaft carpets were also combined into a single piece. The trunk floor carpet was replaced by a black plastic coated (Hardura) mat.

- At TS 35350, the wool interior carpet was replaced by carpet of nylon loop.

- At TS 60000, the three piece rear shelf carpet was replaced by a single piece that fit the new flat rear shelf.

Please note that minor variations in carpet pattern probably existed, particularly on the early TR2's. Therefore, make not originality deductions for carpet having minor variations of the above patterns.

G. **Carpet Color** - Both wool and nylon carpets were usually dyed to match the interior trim. The trunk mats and front floor mats were always black. See the attached materials for carpet color applications. Note that some variations existed, such as the charcoal grey carpet fitted to TR3B's trimmed in black, red, or blue.

Interior -- Dash and Instruments

V. Dash and Instruments

A. **Dash (fascia) Covering (Including Center Instrument Panel)** - The dash on all cars was covered in a thinly backed vinyl to match the trim, including the glovebox door, and on cars up to TS 22014, the center instrument panel. After TS 22014, the center instrument panel was finished in black wrinkle finish paint. Some TR3Bs may have had their centre instument panels covered with vynide that matches the trim or possibly with black vynide.

B. **Gauges** - All of the gauges, with the exception of the ammeter, were manufactured by Smiths'. The ammeter was manufactured by Lucus. All gauges featured black faces, white indicators and needles, chrome bezels, and domed glass. All gauges were fitted to the dash/center panel by stamped clamps and thumb nuts, and cushioned by thin rubber gaskets.

The gauges described below are the most commonly encountered variations fitted to the cars. Any other gauges that would substitute for the ones below would differ only in the Smiths' or Lucas part number. Make no deductions for guages that are identical to the specified units below except for the part number marked on the gauge face.

1. **Speedometer** - There were several different speedometers fitted to the cars.

   TS 1 to TS 8637 (?) were fitted with Smiths' unit #SN 6307/04. This unit featured a deep casing, rigid trip stalk covered in black vinyl or painted black, and a dull red high beam warning light set into a lip in the gauge face. These gauges fit all U.S. specification TR2's, and are found on 3.7:1 ratio cars well into the TR3A range.

   TS 8637 (?) to TS 10545 were fitted with different speedometers depending upon the rear axle ratio of the cars. Non-overdrive 3.7:1 ratio cars were fitted with Smiths' #SN 6319/00, and overdrive cars Smiths' #SN 6319/02. These units featured a more shallow casing, flexible vinyl covered trip stalks, and a bright red high beam light in a more exposed setting.

   TS 10546 to the end of production were fitted with Smiths' #SN 6319/06 (non-overdrive) and Smiths' #SN 6319/04 (overdrive). Visually, these are identical to those immediately above, and probably were not always fitted after supposedly introduced in May, 1956.

2. **Tachometer** - There were only two types of tachometers fitted to U.S. specification cars, generally.

   TS 1 to TS 8637 (?) were fitted with Smiths' #RN 1402/09. These units had deep casings similar to the early speedometers. These tachometers were fitted well into the TR3A range despite the introduction of a later unit.

   TS 8637 (?) were fitted with Smiths' #RN 1411/00. These had the more shallow casing.

3. **Fuel Gauge** - All cars were fitted with Smiths' #FG 2530/20, or an identical unit. This gauge had a thin white needle. The thicker needles were for later cars.

4. **Ammeter** - All cars were fitted with Lucas #36174A, which is stamped into the bevelled gauge case. These gauges are also dated. Note that the glass is slightly less "domed" on the ammeters than on the other small gauges. This unit had a thick needle.

5. **Oil Pressure Gauge** - The oil pressure gauge was Smiths' #PL 2561/00, although variations in numbers stamped on the gauge face are known. This unit had a thick needle.

6. **Temperature Gauge** - The temperature gauges specified for TR2-3B were Smiths' #TL 2561/00 and #TL 2561/03, although a number of markings appear on Smiths' temperature gauges of identical design. All had white thin needles.

7. **Warnings Lights** -The ignition warning light was red plastic, and the direction indicator light was amber. Both were set into slotted chromed bezels.

   Around 1960, the amber direction indicator lamp was changed to green.

C. Switches and Other Controls

1. **Center Instrument Panel Switches and Controls** - The instrument panel light switch, windscreen wiper switch, side/head lamp switch, starter switch, ignition switch, and choke control were located in the center panel. The ignition switch had the key number stamped into the face of the barrel, and a circular chrome bezel. Replacement ignition switches usually have hexagonal bezels, but are acceptable.

   The remaining switches all had black bakelite knobs of uniform pattern with white lettering, and were set into the panel with chrome bezels (examples will be shown).

   Around 1960, the panel light switch was replaced with a rheostat switch. The knob markings were altered to suit.

2. **Heater Switch** - Cars equipped with heaters had a rheostat switch located to the left to the speedometer (tachometer after TS 29098) on U.S. specification cars. The black bakelite knobs were marked in white, and fastened to the switch by a screw. Later, push fit knobs with longer necks may have been specified. Replacement switches are usually push fit. The switch had a slotted chrome bezel on all varieties.

3. **Overdrive Switch** - Cars equipped with overdrive transmissions had the switch located on the outboard side of the heater switch.

   On cars up to TS6266, the overdrive switch was a push/pull type Lucas # 31419 with black knobs like the center instrument panel switches, and slotted chrome bezels.

   After TS 6266, the overdrive switch was replaced by a "barrel" shaped toggle switch. The toggle was black. The barrel of the switch was potmetal and also was finished in black with white markings. The screws holding the wsitch together were natural. All overdrive switches also had slotted chrome bezels.

D. **Windscreen Washer Control** - Cars equipped with windscreen washers had a manually operated pump usually mounted between the cubbybox door and the center panel. The knob was, of course, black with white lettering, and the switch (pump) had a chrome bezel.

E. **Gear Change Lever and Knob** - The gearshift lever on all cars was chromed, with a chromed nut to serve as a stop for the gearshift knob when screwing it into place. The gearshift knob was black rubber, with the gearshift pattern molded into the top of the knob. There was no contrasting color markings on the knob. The gearshift boot was soft rubber.

   On cars built before TS 22014, the gearshift boot lower lip lay on the outside on the carpet. Later cars had the boot beneath the carpet.

F. **Handbrake Lever** - The handbrake lever on all cars was chromed, with a black plastic grip. A rubber boot sealed the floor opening from the lever.

G. **Accelerator, Brake and Clutch Pedals** - These assemblies were not changed on U.S. specification cars during the production run, except for the pedal pads.

   On TR2's up to TS 8636 (?), the pedal pads on the brake and clutch were molded with vertical ribs. After this time, the pads were molded with the familiar "T". Make no deductions on this point. All pads were black.

   The accelerator pedal and shaft should be clear cadmium plated, natural, or finished in silver grey to duplicate metal. The brake and clutch pedals (and pedal box) were painted gloss black.

H. **Headlamp Dipper Switch** - On U.S. specification cars, the headlamp dipper switch was mounted on the bulkhead (side). The switch was clear cadmium plated, the mounting bracket gloss black. Right hand cars had these mounted on the front bulkhead (firewall) adjacent to the transmission tunnel.

G. **Vent Controls** - On cars built after TS 6157, a scuttle vent was introduced, with the cable running through the scuttle edge roll trim. The knob was unmarked black bakelite. An aluminum oval shaped escutcheon marked with black letters was fitted to the scuttle roll.

J. **Cubbybox Details** - The cubbybox door was trimmed in vinyl to match the trim of the car. The aluminum backing plate of the cubbybox door was anodized and lightly polished. The door hinge was chromed and attached to the dash by slotted chromed screws.

1. The cubbybox itself was pressed and riveted cardboard sprayed with flocking to match the trim color of the car. Exceptions are known, such as early black trimmed cars having cubbyboxes sprayed Stone. The cubbybox should match the map pockets in any case.

2. The cubbybox lock was a simple key turned latch. The mechanism was clear cadmium plated, gold cadmium plated, or a combination of the two. The cubbybox lock number was stamped onto the latch. The bezel holding the lock to the cubbybox door was chrome.

3. The cubbybox buffer plates, check strap, and striker plate were all chromed. Some unfinished striker plates are known. All were attached to the dash by flat headed slotted screws (5/32). The screws were chromed.

4. The cubbybox was attached to the dash by pan-headed slotted screws, and by a black painted support to the bulkhead. The screw holding the cubbybox to the support was also pan-headed.

K. **Grab Bar** - The grab bars fitted to the cars initially was of constant diameter and coated with a plastic like black substance. At some point during the TR2 production run, the grab bar was changed to a swelled center, chromed unit. The grab bar was attached to the scuttle (through the scuttle edge roll trim) by slotted wood screws.

L. **Rear Window Mirror** - The rear view mirror was finished in black wrinkle paint, as was the windshield buffer bracket. The mirror was attached to the scuttle by countersunk slotted screws; early cars used wood screws (ref: SPCEd3 pg 87 and HWC pg 43) and were later replaced with the machine screws with capture nuts. The windscreen buffer bracket was fitted beneath the mirror.

Sometime in 1960, the rear view mirror was changed to one having a plastic strip surrounding the mirror glass. This change is generally reflected in all cars after TS 60000 (October, 1959).

M. **Ashtray** - Ashtrays were optional up to TS 42400, and were mounted beneath the dash. These units would swing out for use, and away when not needed. They were black plastic, with a black painted mounting clamp and chromed detachable insert.

After TS 42400, the optional swing-away ashtray was replaced by a standard unit that slid outward on a bracket fastened to the passenger's side dash support stay. The mounting bracket was painted gloss black. The body of the ashtray and the tensioning spring were clear cadmium plated. The rectangular face plate was black bakelite.

N. **Dash Support Structure** - The dash support structure and steering column support structure was painted gloss black. The heater motor mounting bracket was also painted gloss black. Hardware was generally left natural, although blued spire nuts and black oxide (industrial finish) bolts are known.

O. **Heater Motor Assembly** - The optional heater fitted to all cars was Smiths' C.H.S. 920/4. This assembly was finished in the following manner:

- Gloss black: heater motor casing, top plate, fan blades, "Y" fitting, mounting bracket, air ducts.

- Semi-gloss black: heater core.

- Black wrinkle finish paint: bottom plate (with white plastic knobs).

- Natural: motor endplate, fan shaft, elbow piece, threaded mounting spacers, all hardware.

Spring clips were either nutural or black wrinkle finish.

The water hoses running in and out of the heater core were ribbed rubber, and attached by Supergrip clips. The demister air hoses were rubberized cloth supported by wire rings and mounted by Supergrip clamps.

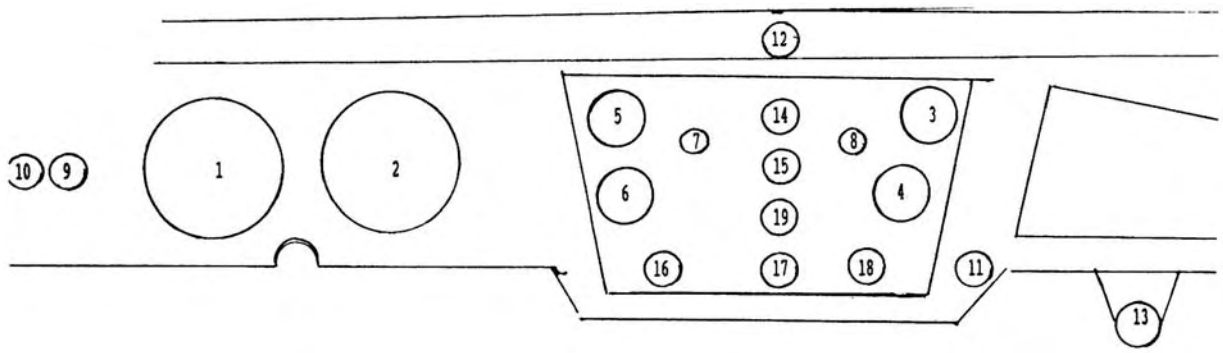
The Smiths' I.D. plate was mounted adjacent to the elbow fitting.

P. **Radios and Other Options/Add-on** - A variety of radios, cigar lighters, map lights, anti-dazzle mirrors, and such were fitted to the cars. Some were factory approved arrangements, some were purely aftermarket additions. Do not deduct for period or period appearing accessories that are tastefully fitted in a manner consistent with the age of the car.

Q. **Scuttle Vent and Batter Box Drainage**. On cars built after TS3267, a battery drain tube was fitted. The metal tube, about 2 inches long, projected downward from the bottom of the batter box and was fitted with a rubber hose which ran from the end of the tub through a hole at the top of the transmission tunnel.

At TS6157, a scuttle vent was introduced. The drainage for this ran from the rear of the vent channel through a 5/16 inch diameter hose to exit through the rubber blanking seal covering the hole in the passenger side of the bulkhead where the steering column would fit. On later cars lacking this hole and seal, the hose passed through a hole just large enough to accommodate the hose. This later hole was in approximately the same area on the passenger side as the blanking assembly mentioned above. The rubber hose was secured to the drain pipe at the vent channel by a Supergrip hose clamp.

R. **Instrument, Switch and Control Location** - One of the most common originality deductions involves gauge location, as the Owner's manuals on early cars show the positions of right hand drive gauges and have a small note indicating which were reversed for left hand drive cars. For the convenience of judges and restorers, a simple diagram is provided below. The diagram represents left hand drive cars.



Key

1. Speedometer (B.1)
2. Tachometer (B.2)
3. Fuel Gauge (B.3)
4. Ammeter (B.4)
5. Oil Pressure Gauge (B.5)
6. Temperature Gauge (B.6)
7. Ignition Light (B.7)
8. Direction Indicator Light (B.7)
9. Heater Switch (C.2)
10. Overdrive Switch (C.3)
11. W. Washer Pump (D)
12. Vent Control (I)
13. Ashtray (M)
14. W. Wiper Switch (C.1)
15. Panel Light Switch (C.1)
16. Starter (C.1)
17. Ignition Switch (C.1)
18. Choke (C.1)
19. Head/Side Lamp Switch (C.1)

** On TR/2 models switch 14 and 15 are reversed.
** At TS 29098, the positions of the speedometer and tachometer were reversed.
** On right hand drive cars, 3 reverses with 5, 4 with 6, and 1 with 2 (up to TS 29098).

Interior -- Steering Wheel and Control Head Assembly

VI. Steering Wheel and Control Head Assembly

A. **Non-Adjustable Steering Wheel** - The non-adjustable steering wheel fitted to the majority of the cars was 16 1/2" in diameter, and is recognizable by the distinctive arrangement of the three groups of four chromed "banjo" spokes supporting the rim. All of these spokes are below horizontal when viewed from the driver's position with the wheel centered. The hub of the wheel was painted gloss black. The rim was black also.

B. **Adjustable Steering Wheel** - The optional adjustable steering wheel was designed to move toward or away from the driver on a splined column, and featured a black bakelite locking sleeve to fix the wheel in the desired position. A chromed spring like shroud and cup washer covered the column. The rim is also 16 1/2" in diameter. The spokes, however, were arranged in a "Y" pattern. The number of grip bumps on the adjustable rim is greater because they are spaced much closer together. The hub is painted gloss black. The rim is black also.

   * Note that a common remedy for cracked and worn steering wheel rims is to fit an aftermarket steering wheel cover. While this is definitely not the preferred manner of dealing with this problem, make no deductions for period appearing, steering wheel rim, covers.

C. **Control Head Assembly** - The control head assembly fitted to non-adjustable cars is not interchangeable with that fitted to adjustable columns because the later is fitted with a sleeve to accommodate the movement of the steering wheel on the adjustable column. When fitted to the cars, the function and appearance of the two units are identical. The body of the control head is black bakelite, including the horn push. The direction indicator lever and horn push surround are chromed.

Interior -- Trim

VII. Trim

A. **Wheelarch Covers** - These vinyl covers were dyed to match the trim color of the car, and glued directly to the metal of the wheelarch. A 1/8" piping ran down the length of the cover where the curve of the wheelarch was sharpest. Thin cotton wadding was used as padding between this piping and the intersection of the wheelarch and the quarter lining panel (inner dogleg).

At TS 22014, contrasting piping was specified for some trim colors. This piping was usually white, but cream is known on early TR3A's. Non-contrasting piping was usually specified for neutral colors such as Grey or Stone on early TR3A's.

At TS 60000, the shape of the lower portion of the wheelarch covers was changed to fit the new rear shelf geometry.

B. **Quarter Casings** - These fiberboard "dogleg" panels were covered in vinyl to match the interior trim. The vinyl was strapped to the panel without benefit of any padding. Quarter casings were screwed to the quarter lining panel (inner dogleg) with chromed slotted #4 trim screws and cup washers.

At TS 22014, contrasting piping was specified to run along the upper edges of the quarter casing panels where they fit against the quarter elbow and tonneau trim panels. This reflects the change in the fit of these panels: on cars built before TS 22014, the quarter casing panels fit beneath the quarter elbow and tonneau trim panels.

At TS 60000, these panels were changed again, to fit the new flat door.

C. **Rear Bulkhead Panel (Front Petrol Tank Casing)** - Several types of rear bulkhead panels were fitted to the cars during the production run. These are described below.

TS 1 through TS 8636 were fitted with a lightweight fiberboard panel trimmed in unpadded vinyl to match the trim color of the car. These panels had no piping, sewn pleats, or pressed in "pleat" designs.

TS 8637 through TS 22013 were fitted with three types of rear bulkhead panels.

- Early (?): Some early TR3's were fitted with an untrimmed "pebblegrain" millboard that was either black or sprayed to match the trim. These panels had pressed in "pleats" in the pattern illustrated below, courtesy of The Roadster Factory.

- Late: At some point unknown, the untrimmed panel was replaced by a trimmed panel identical to the TR2 panel above, except the fiberboard may have been a little more substantial.

- On TR3's equipped with occasional rear seats, the rear bulkhead panels above were replaced by a wooden squab board upholstered to match the front seats and rear cushion in either vinyl or leather and vinyl. The sewn pleats in these squab boards were similar to the pressed in "pleats" of the untrimmed "early" rear bulkhead panels.

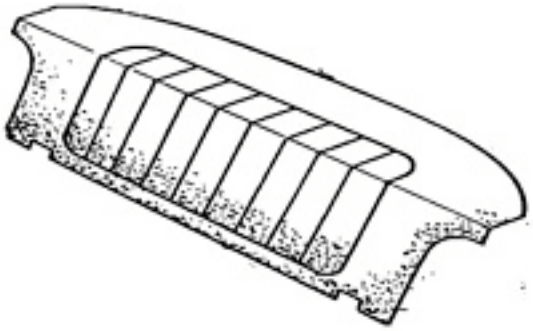
TS 22014 through TS 60000 were fitted with two types of rear bulkhead panels.

- Early: The early TR3A's were fitted with a rear bulkhead panel made of two parts, a plywood lower panel and a steel upper panel. The two panels were rivetted together, then trimmed in vinyl of a new pattern of horizontal pleats. The edges of the panel were piped in contrasting colors (usually white or cream). These panels were rather heavily padded with cotton wadding, as there was no squab board with TR3A occasional rear seat assemblies. This panel is illustrated below, courtesy of The Roadster Factory.

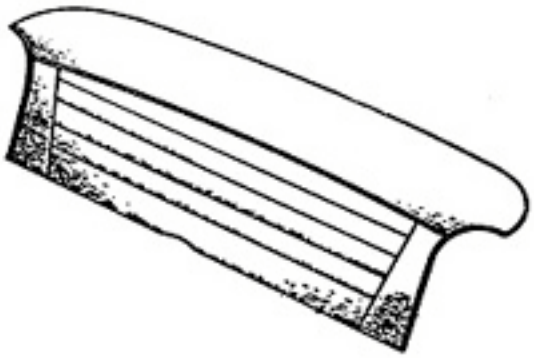
- At some point in 1958, the two piece rear bulkhead panel was replaced by a one piece rigid fiberboard panel trimmed in padded vinyl of the same pattern as the two piece one. The sewn pleats were also

replaced by pressed in "pleats" at some point, most likely at or around the same time, as the one piece rear bulkhead panels observed all had heat pressed "pleats".

- At TS 60000, the lower portion of the rear bulkhead panel was altered to fit the new flat rear shelf. Otherwise the construction and trim of these panels was the same as those immediately preceding.



TR3 (Early) with Pressed Pleats



TR3A (TS22014) all

D. **Quarter Elbow Capping** - There were two types of quarter elbow capping fitted to the cars. All were trimmed in leather or vinyl, depending upon the trim of the seats specified to the particular car.

TS 1 through TS 22013 had an aluminum elbow panel with a raised ridge running down the length of it where the quarter casing panel would fit beneath.

From TS 22014, the elbow capping were steel, trimmed in leather or vinyl, and lacked the raised ridge, as the quarter casings fit overtop the elbow capping at this point.

E. **Tonneau Trim Capping and Center Tonneau Trim Capping** - These three panels were made of soft aluminum and covered in unpadded vinyl to match the trim.

- TS 1 through TS 22013 had tonneau trim capping fitted overtop the quarter casing panels. In addition, there was a very slight changes of the pattern at TS 8637 which is hardly noticeable.

- At TS 22014, the tonneau trim capping fit beneath the quarter casing panels.

The center tonneau trim capping was changed at TS 22014. The change is not readily noticeable.

Tonneau trim capping were held to the body by chromed #4 trim screws and cup washers. In addition, there was a stud for cars equipped with tonneau covers at the rear of the tonneau trim capping. On all cars, the tonneau trim capping fit overtop the center tonneau trim capping.

F. **Door Edge Roll Trim** - The door edge roll trim was a steel capping with a channel along the top edge into which a sponge rubber roll was glued. At either end, a vertical brace was welded into place to help secure the sponge rubber roll. The assembly was then smoothed out with cotton wadding and covered in leather or vinyl to match the trim of the car. Two types of door edge rolls were fitted.

TS 1 through TS 22013 had door edge roll trim in pieces with the leather or vinyl folded over the end braces and glued into place. This gave the roll trims a "solid" appearance when the doors were open.

From TS 22014, the braces at either end of the roll trims were changed to a cup shape into which the leather was glued, and a chromed button with a spring clip was fitted.

G. **Scuttle Edge Roll Trim** - The aluminum scuttle edge roll trim was covered in leather or vinyl to match the trim specification, and held to the scuttle by #4 chromed trim screws and cup washers, and the tonneau fixing studs.

From TS 6157, a scuttle vent was introduced, and the control cable ran through the scuttle edge roll at the center.

The scuttle edge roll trim was changed at TS 22014, but no details are available.

H. **Draught Excluder or Windhose** - Two types of door edge seals were fitted to the interior of the cars.

- TS 1 through TS 22013 had draught excluders made of 1/4" piping covered in vinyl to match the trim. The visible ends were neatly folded in and glued. The rear piece was tacked or stapled to a cord pressed into the inner dogleg panel. The front was held by the carpet screws.

- From TS 22014, the vinyl piping was replaced by a "fuzzy" seal. Colors and method of attachment were not changed.

I. **Trunk Millboard** - The trunk millboard (rear petrol tank casing) was "pebble grained" and held to the car by #4 trim screws and washers. Initially, these panels were sprayed to match the body color of the car. From TS 22014, the millboards were all black.

J. **Small Fittings** - Some of the small interior fittings that are of significance are listed and described below.

1. **Door Sill Edge Finishers** - These were lightly polished aluminum capping that covered the seam between the inner and outer sills. They were attached by #4 slotted screws without washers.
2. **Jacking Hole Covers** - The earliest TR2's had a metal jacking hold cover painted body color that twisted off by rotating. Later, a rubber plug was fitted instead.

3. **Trunk Drainage Tubes** - The trunks of all cars were fitted with tow short, slightly curved metal tubes which ran from a hole in each lower rear corner of the trunk lid channel. To these tubes, a rubber hose was push fitted, which ran through a hole in the trunk floor.

4. From TS 3268, a similar drainage arrangement was fitted to the battery tray, and ran through the gearbox cover. This tube and hose is visible from inside the car.

5. **Spare Tire Stowage Straps and Toll Stowage Straps** - These leather straps and buckles were generally black, although some colors may have been available. The straps with the buckles were fitted to the floor of the spare tire carrier. The metal fixing loops were painted black, the loose hardware, natural.

Interior - Tools

VIII. Tools

The following tools are required for concours:

Trunk and Tools	*Item*	*Comments*
Tools - All cars	Jack & handle/ratchet	
	Coach key	
	Instruction book	part # 501528.
Tools- Disc wheels	Wheelbrace	
	Nave plate removal tool	Combination Tool, part # 1398
Tools-Wire wheels	Knockoff hammer	

Note: Coach Key, Instruction book, and Nave plate removal tool were added to the requirements in 1995.

A. **Jack and Jack Handle** - All cars were issued a jack.

TS 1 through TS 5468 had a one piece, "open screw" type jack painted black or orange red.

From TS 5469, a tube like "closed screw" jack was fitted with a separate ratchet handle. The jacks were usually painted varying shades of orange red, and the feet of these jacks were blued or black-oxide finished. The ratchets were blued or painted black.

B. **Wheelbrace or Knockoff Hammer** - Depending on whether the car was fitted with wire or disc wheels, the following were issued.

- Disc wheeled cars were issued a wheelbrace (lugnut wrench) which was painted gloss black except a blue metallic painted area inside the socket. Disc wheeled cars were also issued a clear cadmium plated nave plate removing tool. This device was a tommy bar with a screwdriver head on one end and a hooked spoon on the other.

- Wire wheeled cars were issued knockoff hammer, which was either copper or lead. Thor hammers being reproduced today are perfectly acceptable.

C. **Full Tool Roll (Optional)** - There is considerable uncertainty as to exactly what the status of the full toll rolls was. Some reference material list these as standard, others as optional, and others as a mix of the two. In the interest of consistency, I am listing the tool roll as specified by the parts manual (factory) and those components I have observed to be in every roll.

These tools include:

1 open end spanner 3/8" x 7/16" A/F
1 open end spanner 3/4" x 5/8" A/F
1 open end spanner 1/2" x 9/16" A/F
1 tube spanner 1/2" x .56" A/F
1 sparking plug tube spanner
1 pair slip joint grips (pliers)
1 Tommy bar (omitted on disc wheel cars)
1 cabinet type screwdriver (omitted on disc wheel cars)
1 adjustable wrench
1 greasegun (Tecalimit #GB 2801)
1 feeler gauge assembly
1 distributor tool (Lucus key like feeler gauge)
1 brass valve stem removing tool
1 headlamp rim removing tool (blued or natural sheetmetal) for cars after TS32585.

The toolsets undoubtedly varied from time to time, but the above listing is the most representative. Some other tools encountered are tire irons (early cars) and a small bolt used to pull the front hub dust seals.

All tools, with possibly the exception of very early ones, were finished in clear cadmium, except the following:

- Greaseguns were painted blue metallic hammertone or bronze metallic. The potmetal caps were natural, as was the shaft. The nozzle was clear cadmium.

- The screwdriver blade was slotted, and natural. The grip was light hardwood.

- The brass valve stem remover was natural.

The tool roll may have initially been rubber or plastic coated jute, but was eventually standardized to a thin plastic/vinyl with heat pressed tool pockets. The tie straps were either white or black cotton.

* As there is no clear way to determine whether a car was originally equipped with a full tool roll, and which of the above tools were provided, judges are advised to use caution before deducting points for an incomplete tool roll. Obviously, if only three or four tools are shown, the set is incomplete, but beyond that, be careful.

D. **Starting Handling** - This optional tool was provided with many cars. There were two types fitted, one for those cars built up to TS 22014, and one for those built after. They differ only slightly in the position of the boss which slips into the starting handle guide, and by the alignment of the teeth at the end. All were finished gloss black.

E. Coach Key - All models use the same basic coach keys. There are slight variations in length. The grip section should be straight, not dogbone-like. Finish is natural metal.

Chassis

Table of Contents.

Introduction	2
Acknowledgements	2
Revision History	2
References	2
Chassis Judging.	3...4
Chassis Scoresheet	5
Chassis Deduction Guide	6
Chassis Originality Guide	7
Chronological Summary of Changes	7
Chassis	8
Exhaust System	8
Fuel and Brake Line Routing	8
Front Brakes, Suspension, and Lower Steering	9
Rear Brakes, Suspension, and Rear Axle	9
Propellor Shaft, Transmission, and Road Wheels	10
Wheel Arches and Underbody Panels	11
A Note on Accessory Items	11
A Note on Hardware	11

Chassis - Introduction

This guide is intended to serve as reference for judges in TRA concours events and for TRA members doing restorations. The material presented is the result several years of assembling information from factory reference material, TRA members expertise, TRA judging school reviews and comments, and other Triumph history and reference material.

Editor's note: This section on Chassis will be used for the first time in 1993. It has not yet had the benefit of review by members and practical use by judges. Previously, Chassis judging material did not exist. As Chassis contributions to the total score have been and still represent a relatively small portion of the total score, it has not been very controversial. You will find that John has oriented this section more toward the restorer and the judging guidelines are somewhat more flexible that in other sections. Like other sections, this section can be expected to evolve in depth and usage over time.

Acknowledgements.

Authors and principal contributors: John Warfield (Mason Dixon/TRA).
Other reviewers and contributers: Joe Richards and John Gabel (COCTRA)

Revision History.

January 1993 - Initial Version.

References.

The following are referenced where appropriate within. The abbreviations enclosed in parens are used to identify the associated reference.

(SPCEd1) Triumph Sports Car Spare Parts Catalogue, Edition 1. Part No. 501653/USA.
(SPCEd2) Triumph Sports Car Spare Parts Catalogue, Edition 2. Part No. 501653/USA.
(SPCEd3) Triumph Sports Car Spare Parts Catalogue, Edition 3. Part No. 501653/USA.
(SPCEd4) Triumph Sports Car Spare Parts Catalogue, Edition 4. Part No. 501653/USA.
(HWC) Stanpart Hardware Catalogue for use with Standard Triumph Vehicles. Publication part number 514264.
(TSOAHb) Triumph Sports Owners Association Handbook, 2nd Edition.

Chassis Judging

Scope - Chassis judging consists of evalutating the quality and originality of the underside of the car and the road wheels. Components earn points for quality of restoration, preservation, or cleanliness, then deductions are made for originality deviations.

Scoring - Quality of restoration points are earned in increments of full points. The lowest possible score for each component is zero; no negative scores are permited.

Points Earned....	Evaluation....
Maximum Points	* Components are in excellent condition, free of obvious wear, fitted and finished properly, and do not show excessive leakage, surface oxidation, or foriegn matter.
Partial Points	* Components are in various levels of repair, some signs of leakage and neglect, or lack of attention to detail or restoration or upkeep.
No Points	* Components are missing entirely, have numerous minor flaws, consistantly poor workmanship, neglected repairs, excessive wear or leakage.

Originality Deductions - Each component category is scored individually, originality deductions for a component category (Exhaust System for instance) may not exceed the quality points earned in that category. Negative component scores are not permitted. Originality deductions are summed across the chassis categories then deducted from quality of restoration subtotal to produce the total Chassis score.

Multi-Component Scoring - Quality of restoration points should be evenly distributed across components in a scoring category and judged independently. For example, if three of the four wheels are in excellent condition (earning Total Points) and the fourth is in very poor condition (No Points) , then the three should earn 3/4 of the points for the category and the fourth component should get no points.

Quality of Restoration Inspection

The inspection should include but is not limited to the following areas:

Presentation	Flaws....
Installation	* Fitting of components is lacking in neatness, do not fit properly as designed. * Components are visibly loose.
Appearance of Components	* Components are finished poorly, or neglected as to finish. * Components are leaking or covered in leakage from another component. * Components are oxidized heavily. Tires worn. * Underpanels are heavily undercoated, filthy, or have indications of' poor body work. * Components, though neat, show signs of unrepaired collision damage.
Condition of Fittings and Sundry Parts	* Small fittings such as clips, exhaust hangers,fuel lines, nuts and bolts are excessively dirty, pitted, oxidized.

Caution: You may not remove or disassemble components for inspection. Avoid touching the car or components if possible.

General Evaluation and Scoring Guideline . The inspection should be done from the point of view that the cars have been driven, and that some components cannot remain in showroom quality indefinitely. For example, a mild steel exhaust system will oxidize virtually overnight, and only scaling or serious fatigue should be cause for concern. Better than new condition found on some components should not earn more or less points than a component in "new" condition. Again, for example, components finished to a high standard in gloss black should not be given greater consideration than components finished neatly, but to a stock level. Extreme over restoration, however may result in originality deductions. For example, chrome plated suspension components or a mirror-polished, stainless steel, exhuast may result in originality deductions.

The weight given to the deductions for some originality faults were delibertly set low in this section to reflect reasonable alterations or updates to improve the cars' roadability withthout violating the "spirit" of the marque. For example, only 5 points are deducted for TR2s fitted with the more sensible TR3A exhaust.

TRA

Chassis Scoresheet

Entry: | Model/year:

Commission #:

Owner:

Category	Originality Deductions			Quality Points	Quality Earned	Originality Deductions
Chassis	**10 pts**	**5 pts**	**2 pts**	**15**		
Frame	Incorrect assembly		Finish	10		
Radiator Crosspiece		Incorrect component	Finish	5		
Exhaust System	**10 pts**	**5 pts**	**2 pts**	**10**		
Exhaust System	factory type (number and size of silencers)	exhaust attachment hardware	Finish	5		
Tailpipe extension		Incorrect or nonperiod	Finish	5		
Fuel & Brake Lines	**5 pts**	**2 pts**	**1 pts**	**5**		
Fuel Lines	Incorrect lines	Incorrect routing	Finish	2		
		Mounting Hardware				
Brake Lines	Incorrect lines	Incorrect routing	Finish	3		
		Mounting Hardware				
Front End	**10 pts**	**5 pts**	**2 pts**	**10**		
Brakes	Lockheed vs. Girling		Finish	3		
Suspension		non-period mod	Finish	4		
Lower Steering		non-period mod	Finish	3		
Rear End	**10 pts**	**5 pts**	**2 pts**	**10**		
Brakes	Incorrect assembly		Finish	3		
Suspension	Incorrect assembly	non-period mod	Finish	4		
		Mounting Hardware				
Rear Axle Assembly	Mayflower vs. Vanguard	non-period mod	Finish	3		
Drive Train	**8 pts**	**4 pts**	**2 pts**	**8**		
Propellor Shaft	Incorrect assembly		Finish	3		
Transmission	Incorrect assembly	LO car but no overdrive	Finish	5		
Road Wheels	**8 pts**	**4 pts**	**2 pts**	**32**		
Wheel	Incorrect assembly		Finish	8		
Hub caps & world		Incorrect component	Finish	8		
Wire wheel knockoffs		Incorrect component	Finish	8		
Tires	Non period			8		
Oher	**5 pts**	**3 pts**	**2 pts**	**10**		
Wheel Arches	Incorrect Panels	Incorrect baffle, seals	Finish/Coating	5		
Underbody	Incorrect Panels	Incorrect jack hole or plugs	Finish/Coating	5		
Total Quality pts earned and subtract originality deductions			***Total possible***	**100**		
			CH Total			

Judges' Annotations Key: Circled item = Originality deduction Underlined item = Quality deduction

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T R A

Chassis Originality Guide

As in other sections, judges and restorers alike should recognize that even the most well documented changes are subject to a significant margin of error due to the mass production processes used in TR assembly. Reference information should not be considered the absolute "gospel". Unless otherwise extended for specific components, a margin of error of 100 commission numbers should be used throughout.

For your convenience, the Originality Guide is organized in outline form according to the components listed on the scoresheet and deductions guide. Engineering changes are noted in each section when appropriate. A summary of changes is provided below.

Chronological Summary of Chassis Changes

TR2

TS?	January 1954. Wire wheels become optional.
TS 1869	Disc wheels upgraded from 4J to 4.5J.
TS 2532	Exhuast silencer increased to 24 inches long.
TS 3175	Rear Spring change.
TS 3512	Radiator protection crosspiece fitted.
TS 4310	Infill stiffening plates fitted to chassis. Exhaust mounting altered.
TS 4699	Frame bracket for rear shock changed.
TS 5443	Rear brakes increased to 10 inches diameter.
TS 5777	Steering brace added from column to chassis crosstube.

TR3

TS 9122	Front, lower suspension, A-frame bearings are changed to nylon with steel sleeves.
TS 11385	Rear silencer added to exhaust.
TS 13046	Brake system now Girling disc. Rear axle to Vanguard type. Bolt on hub extensions for wire wheels.
TS 15497	Fuel line routing around fuel shutoff tap simplified. Fuel tap supposedly eliminated.
TS 15706	Tailpipe changed. Possible change from chrome to polished aluminum exhaust finisher.

TR3A

TS 22014	Stiffening bracket added between trunnion and bumper mounting bolt. Disc wheels now sprayed silver.
TS 26904	Softer rear spring fitted to passenger side.
TS 27689:27858	Disc break dirt shield added.
TS 56377	Rear brakes reduced in diameter to 9 inches. Introduction of Girling "B" type split caliper in front for wire wheel cars .
TS 56384	Introduction of "B" type caliper on disc wheeled cars.
TS 60001	Change in body tooling neccessitates change in gas tank design and fuel line routing.

I. Chassis

A. The chassis may be painted black, or any body colour contemporary with the production date of the car.

B. There were several modifications to the chassis during the production run. For the purposes of judging, these are the most important:

At TS3512, a radiator crosspiece was added to protect the vulnerable lower tank. This piece is finished in black.

At TS4310, the chassis was stiffened by infill plates at the center of the "X" frame.

At TS4699, reinforcing plates were added to the rear shock mounting brackets (ref. Service Bulletin, November 1954).

II. Exhaust System

A. The exhaust systems on the TR2-3B were mild steel, initially sprayed in black paint, then at some point, in dull silver. This finish was of no value except in keeping the exhaust components from rusting during pre-assembly storage. Make no deductions for black dull silver, natural mild steel, or stainless steel of correct configuration and in good order.

B. There were several modifications on the exhaust systems:

At TS2532, the very noisy 18 inch muffler was replaced with a 24 inch one.

At TS4310, the forward mounting assembly was altered to accomodate the new chassis improvements.

At TS11385, a second silencer was added to the rear of the system to further reduce noise.

At .TS15706, the tail pipe and tail pipe extension was changed. This could be from a chrome finished tip to a polished aluminum one.

III. Fuel and Brake Line Routing

A. Brake and fuel lines were usually left bright, with the fittings, steel or brass, bright also. The clips holding the lines to the chassis were usually finished black.

B. The two major changes in brake and fuel line routing occurred at TS13046, when the brake system was changed to Girling with front disc brakes, and at TS 60001, when the change in body design required a change in routing around the petrol tank.

In addition, there was a change in fuel line routing around the fuel shutoff tap to a simplified push fit 1ine. At some point, the fuel valve was deleted entirely, but it is believed much later. (See Underhood's section on Fuel System).

Judging Note: Make no deductions for brake line routing if the lines are run consistent with a substituted braking system (Lockheed vs. Girling). Judging of lines in the engine comparment are covered in Underhood; lines from the fire wall and back are covered here in addition to the brake lines at the front disc calipers.

IV. Front Brakes, Suspension, and Lower Steering Details

A. The drums of Lockheed equipped cars were painted black. The brake lines and mounting hardware were left in the manufacturers finish, bright, natural, or black oxide.

At TS 9122 the rubber bushes in the lower control arms were replaced with nylon bearings with steel sleeves. Upgrades to earlier cars are acceptable.

At TS 13046, the Lockheed drums were replaced with Girling discs. The disc caliper assemblies and rotors were left unfinished, although no deductions should be made for calipers and rotors finished in a manner that approximates natural metal.

At TS27689 (wire wheel) and TS27858 (disc wheel) , dirt shields were added to the disc brake units (Ref: TSOAHb, pg 115).

At TS56377 (wire wheel) and TS 56384 (disc wheel), the front caliper assemblies were replaced by the smaller and more efficient Girling "B" type split caliper. These were also left in natural metal.

B. The suspension components were usually painted black. Bushings, rubber components, and spring packings were left natural. Shock absorbers may be found in different colours depending upon the supplier, usually black or blue. Assembly and identification marks may be present on some components.

C. The lower steering components were, as can be expected, painted black. Some steering idlers may have been left unfinished cast metal. Some markings are possible.

At TS5777, a brace was added from the steering column to the chassis crosstube.

At TS22014 a stiffening bracket was added between the lower steering trunnion bracket and the bumper mounting bolt.

D. As noted earlier, mounting hardware was not sprayed over (that is, it was not assembled and painted but painted and then assembled) and should be left in the manufacturers finish. Black oxide (or similar) is recommended for "Grade 8" bolts and setscrews, while natural or clear cadmium for others. No deduction should be made for either finish, or stainless steel, if the hardware is clean and presentable.

V. Rear Brakes, Suspension, and Rear Axle Assembly

A. The external surfaces of the rear brakes, suspension, and axle assemblies were usually painted black. Early shock absorber bodies may be found in natural metal. Some markings are possible.

At TS3175, the front portion of the rear springs were stiffened "to meet the demands of rally conditions" (Ref: Service Bulletin, Feb 1955). The early version had but one clip fitted to the forward end of the spring; the modification introduced a second clip. Retrofitting of the newer springs on older cars is acceptable; later cars should not be fitted with the early versions however.

At TS5443 the rear brakes were increased in diameter from 9 to 10 inches.

At TS13046, the braking system was changed to Girling and the rear axle was replaced with the sturdier "Vanguard III" design. The major visual difference between the two is at the outboard ends of the rear axle casings, the earlier unit has a squared off flange with four mounting bolts, while the later is round and has six mounting bolts. Markings may be present.

At TS26904, the passenger side rear leaf spring was replaced with a slightly softer one to accommodate the increased wear on the driver's side. Markings may be present.

At TS56377, the rear brakes were decreased from 10 to 9 inch diameter.

VI. Propellor Shaft, Transmission, and Road Wheels.

A. The propellor shaft was painted black. Universal joints could be black or natural. The sleeved yoke end of the propellor shaft should be mounted forward, on the transmission end.

B. The transmission casing is natural aluminum. If painted and deductions have already been made, make no further deductions on this point. The transmission should be clean, reasonably free of leaks, or other road filth. Cars with L commision numbers may be refitted with overdrive units; cars with LO commision numbers should be equipped with overdrive units.

C. The road wheels initially fitted to the TR2 were 4" disc wheels painted the body color of the car, black possibly on very early cars.

1. In January, 1954, wire wheels were first offered as an option. The wheels were 48 spoke Dunlops and nearly allways finished in "Dunlop Wheel Silver" paint, although bright chrome, dull chrome, aluminum, and lacquer are listed in the parts book. Heavier 60 spoke wire wheels were also offered as an option, presumably with the same range of finishes. Make, no deductions for any of these finishes, or types of wire wheel. Please also note that wire wheels may possibly have been supplied finished the body color of the car or refinished by dealers, and athough such a finish is very rare at best, it could be possible. Knockoffs are two eared, and finished in chrome.

2. At TS1869, the 4"disc road wheel was replaced with a 4.5 inch wheel of the same basic design. Earlier cars may be retrofitted with the wider wheel, which is much less likely to shatter. Take no deductions for very early TR2's fitted with the 4.5 inch rims.

3. At TS22014, the early "hub, peg, and collar" wire wheel attachment arrangement was replaced with a simpler, bolt on adaptor and shorter lug nuts. The disc wheels on cars built after TS22014 were supposedly finished in "Dunlop Wheel Silver" instead of to match the car, but road wheels painted in body colour have been known to have been fitted to much later cars. Again, dealers may have done this on their own. Make no deductions for either finish.

4. At TS13046, the knaveplate, "hubcap", medallions supposedly changed from an enamelled to a painted finish. Enamelled badges in fact were fitted to much later cars. Make no deduction for either badge on post TS13046 cars (disc brake change).

D. The tires fitted to the earliest TR2s were 550 series, bias-ply, Dunlop blackwalls.Later,Michelin "X" series radia1s, whitewalls, and 590 series bias-ply Dunlops in both blackwall and whitewall style were offered. Most all but the earliest TR3As were fitted with 590 or Michelin tires. For the purposes of judging, all are correct, including 560 series whitewalls -- no 550 whitewalls are available currently. If whitewalls are installed, they should be of the period, typically 2 to 3 inches wide. As tires are consumables and older tires are a safety hazard, judges should accept tires that are comparable replacements to the originals (for example, a wide ply tire would not be comparable to a Michelin 590 but a similar sized radial from a Michelin competitor would be comparable). Restorers are of course encouraged to fit tires as close to the original specifications of their cars as possible.

VII. Wheel Arches and Underbody Panelling

A. The wheelarches of sidecurtain TRs were sprayed in body colors, including the bulkhead sealer plates and rubber seals on cars fitted with PVC wing beading. Later cars may have had these attached later in assembly and finished in black paint and left natural, respectively. In addition, a thin spray of Waxoyl or other similar types of undercoating has been found running along the underside seam between the fenders and inner wheelarch sections of the main body tub. This has mostly been encountered on TR3As. Make no deductions for the presence or absence of this undercoating.

B. The underside of the body tub was sprayed body color and generally was not sprayed with masses of undercoater. On later cars, plastic drain plugs were fitted to the holes in the underbody, and were left unpainted.

VIII. A Note on Accessory Items.

A number of high speed and handling accessories were available to the TR enthusiast when the cars were new, both from the factory and from a host of aftermarket suppliers. Make no deductions for the presence of these items, as long as they are consistent wtih the period of the cars' manufacture. Some of these items include:

Front anti-roll bars
Torsion bars
Undershield Kit
Uprated shock absorbers
Stiffer front springs
Aluminum Sump
Rear wheel spats
Rim embellishers (trim rings)
Skid-plate

IX. A Note on Hardware

The manufacturers of the various nuts and bolts that were used on the sidecurtain TRs were many and some of the finishes no doubt varied. A general rule on undercarriage hardware is that bolts and "Grade 8" setscrews were most often finished in black oxide industrial finish, not the gold cadmium used later in the 1960s. Some castle nuts and standard pattern nuts may have been black also. Nyloc nuts were usually finished bright. Judges are not to make deductions for consistency, as consistency didn't always exist. Neatness and safety take precedence on this one.

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Master Scoresheet	Entry:	Model/year:
	Commission #:	
	Owner:	

Area	Points	Unadjusted Score		Weight		Adjusted Score
Exterior	100		x	0.4	=	
Underhood	100		x	0.2	=	
Interior	100		x	0.25	=	
Chassis	100		x	0.15	=	
				Grand Total	**(100)**	

Computing Score:

1. Record scores from area worksheets in "Unadjusted Score" columns.
2. Multiply "Unadjusted Score" for each area by the "Weight" for that area.
3. Round result to nearest 100th point (eg., 12.345 is rounded up to 12.35) and record in "Adjusted Score".
4. Compute Grand Total as sum of "Adjusted Scores" from each of the judging areas. A perfect score would be 100.