Triumph Register of America

Concours d'Elegance

Judge's Guidelines

TR2 – TR3B

UNDERHOOD

Introduction

The annual Triumph Register of America (TRA) Concours d'Elegance has been the highlight of *National Meets* for over fifty years. These *Judging Standards and Restoration Guidelines* serve both concours judges and enthusiasts undergoing restorations.

About TRA

TRA is a nonprofit organization established to assist TR2 -TR4A owners in the restoration, maintenance, preservation, and enjoyment of their cars with over twenty-five *Local Centers* from coast to coast. Online communication, local technical workshops, and driving events provide the binding glue for our national organization. More information regarding TRA may be found at www.TriumphRegister.com.

About TRA Concours

Concours competition requires significant commitments of research, time, and cost, and is taken seriously by those involved. Conducting a concours d'elegance also requires significant commitments in planning and preparation. TRA recognizes both, and strives to improve the experience by establishing practical standards subject to periodic review, and recruiting and training judges to employ them.

A successful concours d'elegance requires:

Consistency Across the Event: Evaluations should be consistent across the show field.

***Consistency Between Judging Teams*:** Evaluations should be consistent between judges and judging teams.

Consistency between Successive Events: Evaluations should be consistent from year to year, regardless of judging personnel. Components correctly adjusting deduction notations on *Judging Scoresheets* should not receive further deductions on that account.

Proper Time Management: TRA concours evaluations should take only three hours, though this may prove difficult with crowded show fields. In such cases, increased staffing, or procedure changes consistent with established practice, may be required.

About this Document

The *Judging Standards and Restoration* guidelines result from years of assembling information from factory reference materials, contemporary third parry publications, TRA member experience and expertise, and TRA judging school presentations and reviews.

Each section within this guide includes specific cautions regarding the accuracy of provided information which, despite intensive research, often lacks conclusive supporting documentation. This is further complicated by persistent errors in existing supporting documentation because of the mass production methods used by Standard-Triumph. The *Spare Parts Catalogue* often cites changes at specific commission numbers that occurred over several weeks of production, with cars produced during that time having either the early or later configuration. Therefore, judges and restorers should not conclude that a car fitted with components inconsistent with a cited *Service Bulletin* or *Spare Parts Catalogue* parts or engineering change is in error before conducting further research or consulting with experts.

General Rules for Concours Competition

Scope

Judging comprises two elements:

> ***Originality:*** The components match those specified for the model and commission number.
>
> ***Restoration Quality:*** The condition of various components.

Scoring

Cars begin the judging process with 100 points, with deductions made for deviations in *Originality* and *Restoration Quality.*

The 100 points are divided into four sections, with a detailed breakdown of components and their point allocations provided within each judging section. The judging sections include:

Exterior	25 points
Interior	30 points
Underhood	30 points
Chassis	15 points

Examples:

A car receives a single point deduction in *Underhood-Hydraulics,* which is recorded on the *Underhood Scoresheet*.

As *Underhood* contributes 30 points toward the maximin of 100 points, or thirty percent, the weighted value of the deduction is 0.3 points, which is recorded on the *Master Scoresheet*.

Half-Point Deductions: While *Originality and Restoration Quality* deductions are made at full points, judging categories or components within a category assigned a single point require an exception allowing judges a choice beyond awarding full points or deducting as though the component within the category was missing entirely. An example is *Underhood,* where 81 percent of evaluated components are assigned a single point. Therefore, ***components assigned a single point may be judged in half-point increments.***

Car Classes: The TRA has established the following classes of cars for concours judging events:

> *Standard Class:* Comprised of TR2 through TR4A cars being judged how well they compare to original new cars when they left the showroom floor. They are judged on both originality and restoration quality. The highest score of the participants in this class will be declared the Best of Show winner along with First Place in their individual class.

Premier Class: Comprised of cars that have won Best of Show at a previous TRA Concours event. Generally, the *Premier Class* car has the fewest originality issues and the focus of judging is the level of restoration quality. Entrants are awarded certificates, as detailed below.

At the conclusion of the judging and with time permitting, the scoresheets will be reviewed by the Chief Judge and all team leaders. In the event of limited time, at a minimum, the review will comprise the top three cars in each of the Standard Class. This supplemental judging review is designed to ensure consistency among and between judging teams.

Scoring Results: Scoring within each class is based upon the score attained by each car against these standards. A minimum score of 70 is required to earn third place, a minimum score of 80 to earn second place and a minimum score of 90 to earn first place. The highest score among all concours entrants in the Standard class is awarded "Best of Show" for that event.

Additionally, each entrant in concours is usually awarded a certificate documenting their concours score. Cars scoring at least 70 points are awarded a Bronze Certificate; at least 80 points, a Silver Certificate and 90 points and above, a Gold Certificate.

Examples: Five cars score the following: three TR3As score 97, 78 and 75 and two TR3Bs score 89 and 85. The scoring results are as follows:

TR3A Standard Class	**TR3B Standard Class**
TR3A **97** First Place Trophy, Gold Certificate, **Best of Show**	*No First Place*
No Second Place	TR3B **89** Second Place, Silver Certificate
TR3A **78** Third Place Trophy, Bronze Certificate	TR3B **85** Third Place, Silver Certificate
TR3A **75** Did Not Place, Bronze Certificate	

Scoresheets

Scoring is recorded on scoresheets for each judging section, with the totals of each section transferred to the *Master Scoresheet.* Judging area scoresheets are provided in the corresponding sections of this document. *The Master Scoresheet* and judging section scoresheets are also included in the *Appendix.*

Exterior Scoresheet: This applies to body and exterior components originality and condition.

Exterior Scoring, Body, Paint and Alignment Worksheet: This supplement to the *Exterior Scoresheet* applies to the quality of bodywork, paint, and alignment of major body panels.

***Underhood Scoresheet*:** This applies to the quality and originality of the engine compartment, including the bulkhead (firewall) and inner fenders.

Interior Scoresheet: This applies to the passenger compartment, hood (convertible top), side-screens (sidecurtains), boot (trunk), jack, required tools, and *Instruction Book*.

Chassis Scoresheet: This applies to the chassis frame, inner fenders, suspension, exhaust, and road wheels.

Master Scoresheet: This records the 'weighted' points awarded for the individual scoring sections and calculates a total final score.

Rules for Concours Participants

Driven Onto Field: To be eligible for concours judging, a car must be driven onto the show field.

Hood (convertible top) Fitted: Hoods must be fitted to the car or full points will be deducted for the hood.

Sidecurtains: Sidecurtains are displayed adjacent to the car., typically to the rear. In the event of rain, the Chief Judge may permit sidecurtains to be fitted.

Boot (trunk): The jack, required tools and owner's handbook are displayed in the boot. Period accessories such as advertisements are allowed, but discouraged as they clutter or conceal the display area. Personal items and mementos, such as previous trophies and restoration documents and photographs, should be removed.

Spare Tire Compartment and Cubby Box: These areas are considered 'personal' space and may remain closed during judging.

Judges' Access to Car: The bonnet (hood) and boot lid should be initially raised for judging access. Judges will require the lowering of the bonnet and boot to access alignment and the opening of doors. Owners may perform these tasks. ***Absent owners will be deemed as having provided implicit consent for judges to do so. Judges are not required to seek absent owners.***

Interaction With Judges: Judges may request owners to open or close body panels to evaluate alignment. Circumstances may require a judge to ask an owner a question, but conversation between judges and participants should be avoided to the extent possible. Questions involving *Originality* or other judging matters should be addressed to the Chief Judge.

Dispute with Standards: If a participant notices an *Originality* discrepancy between the *Judging Standards* and a component demonstratively original to his or her car, the discrepancy should be addressed at the Judges Meeting preceding each concours for discussion and resolution.

Rules for Concours Judges

Contact With Cars: Judges should avoid unnecessary contact with cars, though sometimes this is unavoidable. *Interior* judges will require access to interior components, and *Exterior* judges may be required to open or close bonnets, boot lids and doors should the owner be absent.

Interaction Prior to Event: Judges must avoid inspecting cars or discussing participants' cars with other judges or participants prior to the time of the event.

Interaction With Participants: Judges should avoid interacting with participants. Typically, this would be limited to requesting owners to open and close bonnets, boot lids, and doors. Participants with questions regarding the judging process should be referred to the Chief Judge.

Interaction With Spectators: Judges should avoid interaction with spectators while judging, particularly with matters regarding *Originality.* Spectator questions should be referred to the Chief Judge for later discussion.

Judging Teams

The number of cars being judged influences the number of judges required and the extent of each judge's duties. Ideally, the same judges should judge each section throughout the concours classes, with multiple teams judging sections with many components such as *Underhood* to further enhance consistently and reduce the burden of individual judges. The ideal judging effort would be to have four judging teams each comprised of a lead judge, assistant judge, staff or novice judge and a scribe. At a minimum, a team should be comprised of an experienced lead judge, an assistant judge and a scribe for each of the four section areas to be judged.

Judging Team Selection Guidelines: Judges are enthusiasts with varied experiences and interests volunteering to preserve the marque, and while no specific credentials are required, criteria developed over many years have proven useful.

> ***Attendance at Two Judging Schools:*** Prior exposure to the judging process and judging material is of significant benefit to potential judges, regardless of the materials covered in a particular judging school.
>
> ***Encourage Prospective Judges to Serve as Assistants During Judging:*** Prospective judges recording scores and judges' notes on scoresheets during the judging process trains them while reducing judges' burdens.
>
> ***Mix Judges with Varied Experience:*** Pairing new judges with more experienced ones improves consistency while reducing newcomer anxiety.
>
> ***Demonstrated Knowledge of the Cars and Judging Area:*** Members with demonstrated knowledge of the cars and the restoration process are favored prospects, though

'knowledgeable' does not equate with 'expertise.' Expertise will not make a candidate an excellent judge, nor lesser knowledge a poor one.

The same applies to judging sections. Candidates more experienced in mechanicals or bodywork are better assigned to judging sections suited to their skills.

General Judging Guidelines

Begin With the Premier Class: Judges should begin with the *Premier Class*, as these entrants are typically the finest examples from previous years. The primary focus of *Premier Class* judging is the evaluation of their restoration upkeep. *Originality* deductions are potentially minimal, offering experienced judges the opportunity to highlight originality aspects of various components to less experienced judges before evaluating other classes.

Components Before Scoresheet: Judges should evaluate vehicle components before recording deductions on the scoresheet rather than using the scoresheet as a deduction checklist.

Clearly Mark Scoresheets: Scoresheets should be marked as clearly as possible to avoid scoring confusion. When circumstances require or allow, judges should provide short explanatory comments in the space provided on the scoring sheet to assist owners in correcting flaws.

Underhood Judges: Judging the large number of items in this category is best accomplished by establishing two judge teams simultaneously working side-by-side. One team covers *Identification Plates* though *Hydraulics* and the other team covers *Engine* through *Cooling System*. This arrangement is conditioned upon the availability of judges and is to be implemented at the sole discretion of the Chief Judge.

Accessory Items:

> ***Factory Replacement Accessories:*** Factory accessories replacing standard equipment such as hard tops and adjustable steering assemblies specifically cited in the *Judging Standards* should be judged for *Originality* according to the description provided in the Standards.
>
> Fitted factory 'replacement' accessories listed in the *Spare Parts Catalogue* such as aluminum sumps and anti-dazzle mirrors not specifically described in the *Judging Standards* should be judged according to the standards applied to the replaced items to the extent possible. When this results in the deletion of required components, the missing components should be fully deducted.
>
> *Examples:*
>
> 'Factory' anti-dazzle mirrors are deemed original for *Originality* judging and are judged for *Quality* per the *Judging Standards*.

'Factory' aero windscreens fitted as replacements for the standard windscreen are deemed original for *Originality* judging are judged for *Restoration Quality* per the *Judging Standards.* If the hood (convertible top) is not fitted, the hood should receive full deductions.

Supplemental Factory Accessories: Supplemental factory accessories listed in *the Spare Parts Catalogue* such as 'pre TS42400' ashtrays, wing mirrors, fog/driving lamps, badge bars and 'factory supplied' luggage grids should not be judged.

Supplemental Third-Party Accessory Items: Fitted supplemental accessories such as radios and wind-wings provided by third party purveyors should not be judged.

All concerns regarding accessory judging should be addressed to the Chief Judge.

Exceeding the Standards: The Judging Standards set both the minimum and maximum *Restoration Quality* and *Originality* standards established for TRA concours. Judges should neither evaluate components nor elements of components not cited in the Judging Standards. For example, a component cited as painted semi-gloss black should warrant deductions if painted gloss black, but an item cited as painted black should not be deducted for varied levels of gloss.

Official Scorer

Completed *Judging Scoresheets* are submitted to the Official Scorer, who checks scoring arithmetic, calculates total scores, and transcribes *Judging Scoresheets t*o the *Master Scoresheet*. When completed, the *Master Scoresheets* are presented to the Chief Judge for recording. The Official Scorer will then provide copies of the assembled section *Judging Scoresheets* and *Master Scoresheet* to participants upon request to the extent practicable.

Chief Judge

The Chief Judge assigns judges, presides over *Judging Schools*, communicates rules, resolves questions or differences between judges, monitors judging, and addresses participants' questions.

Underhood Contents

Underhood Judging

Scope

The Underhood Section evaluates the originality and maintenance quality of components within the engine compartment. This category of scoring accounts for thirty percent of the total score.

General Evaluation and Scoring Guideline

Inspections should reflect that the cars have been driven and some components may not be in showroom condition. Preventative coatings may be applied when specifically cited, though better than showroom quality should earn neither more nor less than a component in 'like-new' condition. Extreme over-restoration may warrant *Originality* deductions.

Examples:
An untreated exhaust manifold will oxidize. High-temperature paint or coatings approximating the appearance of cast iron are specifically cited as acceptable.

Lightly polished carburetor bodies or piston damper covers will earn no more or fewer points than carburetors left in natural alloy.

Chromed manifolds or carburetor components not shipped chromed will warrant deduction.

General Scoring Principles

Originality and *Restoration Quality* points are scored in increments of full points. However, if the category under review contributes 1 point to the total score, the judge may score that category no less than ½ point when the judge determines the flaw is not severe enough to warrant the total deduction.

No Point Deductions: Components are properly fitted and in excellent condition without obvious wear, excessive leakage, surface oxidation, or foreign matter

Partial Point Deductions: Components display varied levels of repair with some signs of leakage, neglect, or lack of attention to detail or upkeep

***Maximum Point Deductions*:** Components are missing entirely or have neglected repairs, many minor flaws, consistently poor workmanship, or excessive wear or leakage

Multiple Component Scoring: Restoration *Quality* points are evenly distributed between components within a scoring category. The Underhood judging does not contain any category where this is necessary.

Restoration Quality Inspection

Installation: Components do not fit neatly, as designed, or are visibly loose

Appearance: Components are neglected, finished poorly, leaking, or covered in leakage from another component, heavily oxidized, excessively worn, grimy, or display evidence of unrepaired or poorly repaired components

Fitting and Sundry Parts Condition: Small fittings such as clips, brackets, brake and fluid lines, and attachment hardware are excessively grimy, pitted or oxidized

Originality Deductions

The scoresheet outlines the maximum points per category that may be deducted for *Originality* deviations. 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.

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

TR2-TR3B	Class:	Reg. #
UNDERHOOD	Year/Model:	
Score Sheet	Commission #:	
	Owner(s):	

Quality Deductions	Max Ded. Allowed		Identification Plates - 10 Points	Max Ded. Allowed	Originality Deductions
	2	**Commission**	Component Style	2	
	3		Engine Number Less Than Commission Number	3	
	1		Plate Fasteners or Location	1	
	1	**Chassis**	Component Type	1	
	1		Chassis Plate Painted	1	
	1	**EB Plate**	Component Type	1	
	1		Engine Bay Paint	1	
			Inner Panels - 9 Points		
	2	**Bulkhead**	Component Type	2	
	1		Panel Body Paint	1	
	1		Mounting Hardware Finish	1	
	1	**Inner Fenders**	Component Type	1	
	1		Bonnet Support	1	
	1		Mounting Hardware Finish	1	
	1	**Bonnet Underside**	Hood Latch	1	
	1	**Washer Bottle**	Component Type, Period	1	
			Battery - 6 Points		
	2	**Battery**	Standard 12 volt	2	
	1	**Cables**	Battery Cables, Lead Caps	1	
	1		Solenoid Connection Boot	1	
	1		Starter Cable	1	
	1	**Securing Assembly**	Securing Assembly, Securing Nuts	1	
			Electrics - 15 Points		
	1	**Electrics**	Wiper Motor	1	
	2		Starter	2	
	1		Solenoid	1	
	2		Voltage Regulator	2	
	1		Fuse Box, Spares	1	
	1		Flasher Unit	1	
	2		Generator	2	
	1		Horns A and B Tones	1	
	2		Finish of Components	2	
	1		Wiring Harness Type, Striping	1	
	1		Wire Routing/Dressing	1	

TR2-TR3B	Class:	Reg. #:
UNDERHOOD	Year/Model	
Score Sheet	Commission #:	
	Owner(s):	

Quality Deductions	Max Ded. Allowed		Hydraulics - 11 Points	Max Ded. Allowed	Originality Deductions
	2	**Clutch/Brake Master Cylinder Assembly**	Component Assembly	2	
	1		Mounting Hardware	1	
	1		Pedal Stops	1	
	1	**Fluid Reservoir**	Reservoir	1	
	1		Reservoir Decal	1	
	1	**Hydraulic Lines**	Hydraulic Lines	1	
	1		Mounting Hardware	1	
	1	**Clutch Slave Cylinder**	Slave Support Rod	1	
	1		Slave Spring	1	
	1		Slave Mounting	1	
			Engine - 26 Points		
	2	**Combustion Head**	Component Type	2	
	1		Mounting Hardware	1	
	1	**Manifolds**	Exhaust	1	
	1		Intake	1	
	1		Attachment Hardware	1	
	1	**Rocker Cover**	Component Type	1	
	1		Attachment Hardware	1	
	1		Oil Cap, Decal	1	
	2	**Cylinder Block**	Component Type	2	
	1		Finish	1	
	2		Oil Filter Assembly	2	
	1		Dip Stick	1	
	1		Timing Chain Cover	1	
	1		Ground Strap	1	
	1		Breather	1	
	1		Oil Sump/Drain Plug	1	
	1		Engine Removal Hardware	1	
	2	**Engine Electrics**	Distributor	2	
	1		Cap	1	
	1		Vacuum Unit, Vacuum Line Routing	1	
	1		Sparking Plugs and Wires	1	
	1		Ignition Coil, Decals, Leads	1	

TR2-TR3B	Class:	Reg. #:
UNDERHOOD	Year/Model:	
Score Sheet	Commission #;	
	Owner(s):	

Quality Deductions	Max Ded. Allowed		Fuel System - 9 Points	Max Ded. Allowed	Originality Deductions
	2	**Carburetors**	Component Type	2	
	1		Float Bowels	1	
	1		Linkage, Mounting Hardware, Finishes	1	
	1	**Air Filters**	Component Type, Decal	1	
	1		Vent Tubes, Hoses	1	
	2	**Fuel Pump**	Component Type,	2	
	1		Fuel Lines/Hoses and Routing	1	
			Controls - 5 Points		
	2	**Steering**	Components, Brackets, Finish, Rubber	2	
	2	**Temperature Sending Unit**	Component, Routing, Clips, Rubbers	2	
	1	**Cables**	Tachometer/Speedometer Cable, Routing, Grommets	1	
			Cooling System - 9 Points		
	2	**Radiator**	Type and Finish	2	
	1		Mounting Hardware, Cap, Houses, Clamps	1	
	1	**Fan**	Type and Finish	1	
	1		Belt	1	
	1	**Thermostat Housing**	Type and Finish	1	
	1		Mounting Hardware	1	
	1	**Water Pump**	Type and Finish Water Pump Pulley, Grease Fitting	1	
	1	**Opt. Heater**	Water Valve, Connecting Pipes, Hoses	1	

Comments:

Total Originality Deductions	
Total Quality Deductions	
Total Deductions	

Underhood Originality Guide

The *Underhood Originality Guide* is especially challenging for judges based on the sheer number of suppliers providing parts to Standard-Triumph related to the engine, electrical, hydraulics, fuel, and cooling systems. Suppliers cited in the *Underhood Originality Guide* are those known to have been universal or nearly universal, and judges must be familiar with these suppliers, and to some extent, the variants of the components supplied.

Lucas, for example, typically stamped or marked most components with the model type, part number, and the month and year of manufacture. Deductions should be made for an incorrect type or configuration, but precise part numbers or contemporary component dates are not required.

Documented engineering and specification changes are subject to significant margins of error because of the mass production processes used by Standard-Triumph. Reference materials are not absolute gospel. Unless components ***are specifically excluded, a margin of error of 100 commission numbers or engine numbers should be applied throughout.***

Though an inclusive chronology of *Underhood* engineering changes is included below, the sheer number of components within the *Underhood* section warrants additional chronologies within some sections.

As factory and other references cite both engine and commission numbers, those with a 'TS' prefix designate a commission number, while those with both a 'TS' prefix and an 'E' suffix designate an engine number.

Chronological Summary of Underhood Engineering Changes

As the number of *Underhood* engineering changes is extensive and divided amongst many categories, the chronology below is structured by model type only. Section specific chronologies are provided in specific categories as required.

'EB' prefixes designate body numbers. 'E' suffixes designate engine numbers.

TR2

TS1 (engine number TS3E): large commission plate, cable operated hood release, braided negative battery and starter leads, Lucas type CRT windscreen wiper motor on passenger (right) side, open fuse box, Lucas type RL2 flasher mounted horizontally above voltage regulator, 'long' starter, C39 'banded' generator, Lucas B12 'black' coil, cloth braided wiring harness, black lacquer braided black speedometer and tachometer cables, Lockheed braking system, low port head with H4 AUC721 carbs, rigid banjo type fuel line, black painted valve cover with push fit breather cap at front, early type

radiator and thermostat housing with filler cap on thermostat housing, bypass pipe with short straight hoses, petrol tap fitted, pedal box blanking plate on passenger's side, steering blanking plate

TS6?: Filler cap on thermostat housing replaced by a blanking plate, filler moves to radiator extension

January 1954: Flasher unit mounting shifts from horizontally above voltage regulator to vertically right of control box

TS414: Cooling bypass pipe shape changed; hoses now curved rather than straight

TS550: Bonnet buffer assembly added to front drip channels

TS954: Two-speed windscreen wiper motor available as option

TS1201E: Radiator with 'centered' water outlet and 'double' thermostat housing changed to radiator with offset outlet and 'single' thermostat housing.

TS3288: Battery drain tube and rubber pads added

TS4228: Dzus hood releases replace cable system

TS5777: Steady bracket added to lower steering tube

TR3

TS8637: Chromes rocker covers fitted on some cars lower steering column steady brace changed?

Mid TR3: Boot style steering blanking seal with CS type hose clamp replaces flat seal and steel

plate *Mid-late TR3:* Commission number plate changes from '20TR2' to '20TR3'

Late TR3: Large commission plates cut in half

TS8997E: SU H6 AUC786 1.75" carburetors replace 1 ½:" H4s, manifold and air cleaners change to accommodate, flexible fuel line replaces rigid

TS9350E: Intake manifold changed, Le Mans low port head introduced

TS9721E: Flexible float mount introduced

TS9843: Access band deleted from generator

TS9894: Lucas Type FL3 flasher unit replaces long and thin Type FL2

TS9952E: Oil filter flange thickened to 5/8"

TS10545: Gray plastic speedometer and tachometer cable sheathing replaces black fabric sheathing

TS11812: 'Bright' Lucas HA12 coil replaces 'black' B12 (#45012)

TS12567: Lucas DR2 windscreen wiper motor replaces CRT and is now mounted on the left side

TS12606E-TS13052E: High port head introduced

TS12650E: Full flow oil filter introduced

TS12819E: Front carb vacuum line connection changed

TS13046: Girling hydraulics replace Lockheed

TS15497: Push fit rubber fuel line from tap to pump replaces braided line

TS18092E: Square headed steel 'plumbing' type sump drain plug replaces brass hex head

TS18230E: Chrome rocker cover now standard for all markets

TS18913: Battery cable changed, possibly to black plastic sheathing

TS20310: Brake restrictor valve added

TR3A

TS26000-TS40000: split steering column introduced

TS32833-TS50000 (?): Passenger side pedal box blanking plate deleted

TS34311: Brake and clutch pedal travel adjusting screws deleted on some cars, minor changes to clutch and brake master cylinders, clutch and brake master cylinder line adaptors deleted, brake cylinder to 5-way line change (no details)

TS38177: Distributor leads change

TS40000 (approximately): Push fit fuel pipes/hoses replace banjo fittings, carburetors change from H6 AUC786 to H6 AUC878

TS50001: Gearbox changes, 'short' starter fitted

TS60000: Plastic wrapped wiring harness with 'Lucar' spade connectors introduced with corresponding change to electrical components, voltage regulator now mounted vertically, fuse box with snap on cover introduced, 'stepped' Lucas' type C40 generator with spade terminals introduced

EB64561: Body engineering change, no details

TS71372: Clutch slave cylinder mount changes

TS74331: Thermostat housing changes, possibly to TR4 type

TR3B

TCF1: 2138cc TR4 engine fitted

Underhood - Identification Plates

Commission Plate

The commission plate (Vehicle Identification Plate) is aluminum with a black enameled background, hand stamped with the vehicle's commission number and riveted to the right side of the bulkhead. Variations existed throughout sidecurtain production. The important ones include:

Early TR2–Early TR3: Roughly 4 inches square with 'cropped' ends Marked '20TR2' toward the top of the plate

Later TR3: '20TR2' changes to '20TR3'

Late TR3: Some 4 inch '20TR3' plates were fitted with the bottom half of the plate cut off. The rivet holes for the larger plates might still be present on the bulkhead beneath the 'cut' plate.

TR3A/TR3B: '20TR3' plates are resized to 4" x 2"

As it is illegal to tamper with Commission Plates,
no deductions should be made for condition.

Chassis Plate

The chassis plate is of unpainted (natural) brass with 'reversed' or 'raised' hand stamped numbers secured to the bulkhead above the battery by two slotted panhead sheet metal screws. ***On TR3Bs, the screws were replaced by rivets.***

EB Plate

The 'EB,' or Body Plate, is painted body color, with 'reversed' or 'raised' hand stamped numbers following the letters 'EB.' It is secured directly above the Chassis plate by two slotted panhead sheet metal screws, which may differ from those securing the Chassis Plate. ***TR3Bs were not fitted with 'EB' plates.***

Underhood - Inner Panels

Bulkhead (Firewall)

The bulkhead was sprayed in body color, including the master cylinder pocket and back plate, the offside master cylinder aperture blanking plate, and the windscreen wiper mounting bracket along with their mounting hardware. Seam sealer and glazing applied to varying degrees before painting and would be sprayed in body color as well.

From TS12567, the wiper motor changed to Type DR2 and was moved to the left side. The mounting bracket was altered and attached after spraying. It was now painted black with attachment hardware in the suppliers' finish.

Master Cylinder Aperture Blanking Plate

From TS1, cars were fitted with a flat steel blanking plate over the offset aperture for the master cylinders. This was changed in early TR3A production to one to one with a raised center with a rolled edge. The plate and attachment hardware were painted body color. Seam sealer may be present and visible.

From TS32833-TS50000 (?), the master cylinder aperture blanking plate was deleted.

Offside Steering Column Seal and Retention Plate

From TS1, a flat rubber seal sealing pad and black painted stamped and contoured steel retention plate sealed the offside hole for the steering column. The plate and pad were secured by two bright #10 GKN course threaded countersunk slotted oval screws (Part Number YJ2565) and Simmonds Fix Nuts welded to the inner surface of the bulkhead *(SPCEd.4, pg. 103, HWC, pg. 17, 18).*

From TS32833-TS40000 (?), the offside steering column hole and sealing components were deleted, which may have occurred with the deletion on the offside master sealing aperture. Cars without or without these seals were completed concurrently for some time.

Scuttle Vent Drainage Tube

From TS6157, a scuttle vent was introduced. The 3/8" black rubber drainage tube passed through the offside steering hole seal and extended 1 ½' to 2" into the engine compartment.

With the deletion of the offside steering column hole, the scuttle vent drainage tube passed through a collared hole in the bulkhead.

Inner Fenders

***Inner fender evaluation extends to the outer fender drip rails. The drip rails and attachment hardware are judged in* Exterior-Fenders.**

Two bolts per side secured the lower fenders behind the shock towers. On very early cars, these sat atop spring washers and large diameter washers cut at an angle to follow the shock tower's vertical crease. The bolts and washers were in the suppliers' finish (typically black). The washers were quickly replaced by a single, black painted oblong plate.

Bonnet (Hood) Release and Support (Early)

From TS1, the hood was released from within the cockpit by a cable running through the bulkhead beneath the wiper motor to run along the inner fender near the drip channel to the right-side hood release lock. One or two clips secured the cable to the inner fender. Another cable ran from the right-side lock to the left-side lock secured by a clip suspended from a front valance tie member (apron support bracket) bolt.

As the release mechanism and cables were likely installed prior to spraying, they should be in body color, though both natural and body color are accepted on components that are not part of the body shell, such as cables, springs, and buffer cups.

When raised, the bonnet (hood) was supported by a prop rod resting on a safety hook engagement bracket secured to two of the front valance tie member (front apron brace) bolts. The safety catch engaged from the left. The prop rod, safety catch, bracket and hardware were painted in body color.

Bonnet (Hood) Release and Support (Later)

From TS4229 (SPCEd4. pg. 86), a more practical and affordable Dzus type bonnet release system replaced the cable type. The brackets and fastener spring assemblies along with their mounting hex screws and washers were sprayed in body color, the underlying packing 'washers,' may be sprayed in body color or natural.

Bonnet (Hood) Safety Hook Support Bracket (early TR2) or Bonnet Lift Assembly

From TS1, when closed, the bonnet safety hook engaged a stamped safety hook engagement bracket secured by a pair of the valance tie member (apron support) attachment bolts. When raised, the bonnet prop rod rested in a dedicated hole in the bracket. The bracket and bolts were sprayed in body color.

From TS4229, a more complicated *bonnet lift assembly* replaced the earlier safety hook engagement and prop rod support bracket, and the two bonnet springs. The orientation of the prop safety catch was reversed, so the catch was now engaged from the right. These components and their hardware were sprayed in body color.

Windscreen Washer Bottle

As the windscreen washer assembly was both a factory and dealer installed option, it should be judged from a quality standpoint unless it is overtly non-contemporary to the car. The most common 'factory' washer bottle was produced by 'TRAFALGAR.' Early bottles were glass, sealed by black painted metal caps with check valves and proprietary markings, silkscreened in white. Later bottles were white plastic, with proprietary markings embossed on the surface. Mounting brackets were painted black, with thin strips of grey/black chaff-reducing rubber on the inside of the 'bands.'

Another common contemporary washer bottle assembly was produced by 'TUDOR,' which is smaller than a 'TRAFALGAR,' often with blue proprietary markings silkscreened on a white plastic bottle and a medium blue mounting bracket.

Both types (and those of other third-party providers) would typically be mounted on the left inner fender.

Underhood–Battery

Battery

The original battery was a tar-topped Group 27R with Lucas proprietary markings embossed or applied to the front of the case. These batteries measure roughly 12" x 7" x 9", which perfectly fits the sidecurtain TR battery box. Assuming a positive-earth ground, the positive post should be at the left rear to enable proper cable routing. Reproductions have been available for years, but often erratically.

For concours judging, a Group 27 battery is required,
though a reproduction 'tar-top' battery is not.

Battery Leads (Cables)

The battery leads featured lead alloy 'helmet-head' connectors to the battery posts secured by slotted panhead or rounded screws (Part Number 59813) *(SPCEd4. pg. 77).*

Assuming a positive-ground car, the zinc plated copper braided *negative lead* measured 16 ½" and was sheathed in black lacquered cloth, with a rubber insulating sleeve protecting the connection to the starter solenoid. The 'helmet-head' lead to the battery post was marked 'LUCAS' in raised letters along with the polarity, and typically had an additional loop cast into it, allowing power to contemporary Lucas electrical accessories.

During TR3 production, black plastic sheathing replaced the cloth on the negative battery leads.

The *positive lead* was a zinc plated copper braided cable measuring 6 ½" with the ground connecting loop mounted at a right angle to the run of the cable. When properly installed, the cable should run to the left of the battery to curve around and lie beneath the hex headed grounding setscrew. The head was marked "LUCAS' in raised letters with the polarity.

Though helmet head battery leads are required for concours,
Lucas markings and accessory loops are not.

Solenoid Connection Boot

Early in sidecurtain TR production, a rubber boot was added to cover where the negative battery lead connected to the starter solenoid to reduce fouling and corrosion.

While all cars may have them fitted without penalty, they are not required for early TR2s.

Battery Securing Assembly

Battery Securing Bracket: Two brackets were welded onto the sides of the battery box. Early brackets were light sheet metal with 'formed' elongated slots to receive the angle brackets. Later brackets were heavier and less formed. These brackets were part of the bulkhead and painted body color.

Battery Angle Bracket: The battery retaining angle bracket was of angled steel flattened with flattened ends where holes were drilled for the securing rods. These were painted black.

Battery Securing Rods: Two steel rods hooked through the slots in the battery securing brackets to pass through holes in the battery angle bracket. These rods were bright or painted black.

Battery Securing Hardware (Nuts and Washers: The battery securing rods were tightened down by a pair of brass winged nuts over flat steel washers over thin felt washers. These were superseded by alloy nuts of identical proportions, which were in turn superseded by 7/16 U.N. F. Simmonds Full Nyloc nuts *(HWC. pg. 13).*

The brass and alloy nuts were natural, unpolished metal. Nyloc nuts were bright. Flat washers were natural or oil quench black. Felt washers were natural (typically off white).

As no documentation has been found regarding when the various nuts were used and the Spares Catalogue cites only the Nyloc nuts, brass, alloy, or Nyloc nuts are acceptable.

Battery Drain and Liner: *From TS3288,* a battery drain tube was added to the floor of the battery box, and two hard rubber pads were provided to elevate the battery. None of these changes are visible during an *Underhood* inspection.

Third-party accessory battery box liners were available during sidecurtain TR production, the most common being made by AMCO of grey plastic. Reproductions of these are available, typically of black plastic.

Both original and reproduction battery box liners are acceptable.

Underhood - Electrics

Chronological Summary of Underhood Electrical Engineering Changes

January 1954: Flasher unit mounting shifts from horizontally above voltage regulator to vertically beside voltage regulator

TS954: Optional two-speed windscreen wiper motor introduced

TS9843: Access band deleted from generator

TS9894: Lucas FL3 flasher unit replaces FL2

TS10545: Gray plastic speedometer and tachometer cable sheathing replaces black fabric sheathing on speedometer cable and unsheathed black painted tachometer cable.

TS11812: 'Bright' Lucas HA12 coil replaces 'black' B12

TS12567: Windscreen wiper motor changes from Model CRT to Model DR2

TS13046: Girling hydraulics replace Lockheed, stop lamp and relay change

TS32833 (±): Passenger side pedal box blanking plate deleted; flasher unit moved

TS38177: Distributor lead change

TS60000: Plastic wrapped wiring harness with 'Lucar' spade connectors introduced with corresponding change to electrical components, voltage regulator now mounted vertically, fuse box with snap on cover introduced, 'stepped' Lucas' type C40 generator with spade terminals introduced

Electrics

Windscreen Wiper Motor

From TS1, the windscreen wiper motor was a CRT15, mounted on the right side of the bulkhead. Identification markings were stamped on the gearbox cover, along with a paint-stamped letter code identifying production codes or batch numbers. Typical finishes of components include:

Natural alloy: Gearbox case, armature case
Brass: Terminal end blocks.
Bright steel: crosshead and rack, sundry attaching and assembly hardware
Aluminized or dull chrome plate: Gearbox cover
Black Bakelite: Terminal end cover
***Black or black crackle paint*:** Armature cover
Gray/Black rubber sponge: Mounting and vibration dampening pad beneath armature cover
Blued: Hex head gearbox cover plate attachment screws (possibly bright)
Body color: Mounting bracket and attachment hardware

From TS995, an optional two-speed motor was made available.

From TS12567, the wiper motor changed to a Model DR2, and was moved to the left side of the bulkhead with a similar Model DR3 two-speed motor optional. Both remained specified equipment throughout sidecurtain TR production, with the only noticeable change being the reconfiguration of the parking switch and cover from having a 'raised ridge' and internal connection to a flatter cover with an external connection. Identifying markings are on the gearbox cover. Finishes include:

***Natural alloy*:** Gearbox case, terminal end cover
Brass: Terminal end block
Bright steel: Sundry assembly and mounting hardware
***Low gloss Black or silver-gray hammered paint**:* Armature cover
Black paint: Mounting bracket
Natural black rubber: Mounting and vibration dampening grommets

CRT15

DR2

DR3 - Two Speed

Starter

*From TS*1, the starter motor was a Lucas Model 418G 'longnose' with an 'external' drive contained within a bullnose extension. Stamped markings were on the armature case. Finishes include:

Natural alloy: Commutator end frame
***Bright steel or brass*:** Connecting hardware
Cadmium: Shaft cap
Black paint or oil quench black: Cover band
***Black paint*:** Armature case and drive end bracket
***Natural black rubber**:* Starter to solenoid lead connection boot
Suppliers' finish (brass, bright or black oil quench/oxide): Connection and mounting hardware

From TS50001, the starter changed to the 'short' or 'quiet' type, though keeping its model number. Finishes are per the earlier unit.

Starter Solenoid

From TS1, the starter solenoid was a cylindrical Lucas Model ST950 of natural cast alloy with heavy mounting flanges and a push switch allowing starting from the engine compartment. Markings were

stamped on the top of the body. A rubber boot with a Lucas 'lion' symbol covered the starter button.

Mounting was by two slotted panhead screws. Some original cars have been observed with thin rubber pads beneath the solenoid that are virtually invisible when in place.

The Model ST950 was superseded by the Model 2ST (no details, though this might have been the change to spade connectors).

Control Box (Voltage Regulator)

From TS1, the voltage regulator was the Lucas model RB106/2 mounted horizontally with the terminals at the bottom. These units had screw connectors, a black Bakelite cover and body, and a black painted or bright wire cover fixing clip sometimes fitted on early cars with a square or trapezoidal polarity warning label that slid through the mounting clip on the right side.

From TS60000, the control box was mounted vertically with spade connectors facing the right.

Fuse Box

*From TS1, t*he fuse box was the open hexagonal Lucas Model SF6 containing two working fuses (35 and 50 Amp) and a spare of each.

From TS60000, the Model 4FJ with spade connectors and a black plastic cover replaced the earlier open SF6. The cover will not fit on the earlier units.

Flasher Unit

From TS1, the flasher unit was the screw terminal Lucas model FL2 mounted to the upper left pedal box blanking plate hex head setscrew to lie horizontally above the control box.

From January 1954, the flasher unit was repositioned to lie vertically along the right side of the control box, with the connectors at the bottom.

From TS9894, the Lucas Model FL3 replaced the FL2.

From TS32833 (?), the flasher unit was mounted directly to the bulkhead and further to the right (away from the control box) with the deletion of the pedal box blanking plate. Connectors were at the bottom.

From TS60000, the flasher unit connectors changed to spade.

Generator

From TS1, the generator was the Lucas Model C39 with screw connectors and a cover band over the brushes, which could be removed for access. A black rubber sleeve protected the armature (large) lead.

Finishes include:

> ***Natural alloy***: commutator and drive end brackets
> ***Black paint or oil quench black:*** brush cover band
> ***Black paint:*** Armature case, fans, and pulleys
> ***Suppliers' finish (bright, natural, or oil quenched black):*** Sundry assembly and mounting hardware, connecting hardware, brush band screws (if band oil quenched)

From TS9843, the cover bands were deleted.

From TS60000, the Lucas model C40 generator replaced the C39, with a 'stepped' case, spade connectors and a clear vinyl sleeve which 'yellows' with age. The armature (large) lead should come straight out; the field (small) lead is at a right angle. C40 finishes are otherwise as above.

Horns

From TS1, the horns were the Lucas Model WT614, with both high and low notes. These were painted black with mounting and assembly hardware in the manufacturer's finish.

At some point early in production, the horns changed to WT618, which closely resembled the earlier units, differing mostly in the substitution of rivets for assembly and the simplification of the mounting bracket. These horns are interchangeable with the earlier WT614s.

Both types are mounted to welded flanges on the inner fenders, secured by a pair of hex head bolts over spring and flat washers.

Wiring Harness

Harness Insulation Type: Initially, the main wiring harness comprised color coded lacquer insulated wires with screw connectors sheathed in black woven cotton. The harness was altered to accommodate component type or location changes as necessary.

From TS60000, harness connectors were changed to spade, wire insulation changed to plastic, and the outer sheathing changed to wrapped plastic tape. These changes were affected randomly as different suppliers were sourced or stocks were depleted; ***thus, it is possible for a pre or post TS60000 vehicle to have a braided fabric harness sheath, or a plastic wrapped harness to have lacquered insulated wires.***

Harness Striping: Reproduction harnesses with yellow traces woven into the outer sheathing were common for many years, and while some original harnesses have been observed with discreet white tracers, harnesses with bold yellow tracers were not fitted to sidecurtain TRs.

Underhood - Hydraulics

Chronological Summary of Underhood Hydraulic Engineering Changes

TS1: Lockheed braking system with dual master cylinder, short clutch slave cylinder

TS13036: Braking system changes to Girling with front disc brakes, separate clutch and brake master cylinders with external reservoir, line routing changes

TS22530: RH/LH reversal plates dropped?

TS33944: Slave spring changed, no details

TS34311: Pedal adjustment deleted on some cars, C/B master cylinder outputs slant forward, C/B line adaptors removed, C/B cylinder to 5-way line change (no details).

TS60000: Stop lamp switch changes to spade connectors

Clutch and Brake Master Cylinder(s)

From TS1, the *Lockheed* barking system featured a dual clutch/brake (C/B) master cylinder with four cover plate attachment screws and an internal reservoir.

Finishes include:

> ***Natural iron*:** master cylinder body, shaft rods and forks (or black)
> ***Lustrous alloy:*** tank cover plate, boot fixing plate
> ***Blued or black oxide:*** Cover plate mounting screws (bright is common also), some mounting hardware
> ***Black paint**:* filler cap, master cylinder support bracket
> ***Bright:*** Boot retaining clips, brake lines, line adaptor
> ***Natural black rubber:*** push rod 'accordion' boots
> ***Suppliers' finish (bright, natural, or oil quench black/black oxide):*** *Shaft attachment hardware, m*ounting hardware

Cover plate screws should be slotted Fillister head with a lightly domed profile (Part Number 501185)*, (SCEd4.pg.49)*

Note that contemporary replacement Lockheed master cylinders have been observed with painted bodies and/or cadmium plated reservoir caps. Do not deduct for either variant.

From TS13046, the braking system changed to *Girling,* featuring a pair of master cylinders mounted in tandem drawing from an external reservoir. Early cylinders featured vertical output flanges.

Finishes include:

Natural alloy: master cylinder bodies
Black paint: Fluid supply tank (reservoir), supply tank mounting clip, master cylinder support bracket
Bright: Pedal rod shafts and forks, brake lines, brake line adaptor
Natural black rubber*:* Shaft boots
Suppliers' finish (bright, cadmium or oil quench black/black oxide)**:** Shaft attachment hardware, pedal adjustment bolts and hardware, reservoir strap hardware, mounting hardware

From TS34311, the master and clutch master cylinder output line 'flanges' were sloped, with the line connections slanting forward. The clutch and brake line adaptors were deleted, as were the pedal adjustment bolts.

Note that the *Spare Parts Catalogue* does not cite the deletion of the pedal stop adjustments at TS34311, and that original cars with these fitted have been observed well into TR3A production.

Pedal stop adjustment bolts are acceptable up to TS60000.

Decals on Girling Master Cylinder Supply Tank (Fluid Reservoir)

When initially fitted to TRs, the Girling master cylinder supply tank featured a red, white, and medium blue proprietary water transfer (decal) with 'BRAKE' and 'CLUTCH' marked in white at the bottom to identify the respective lines. ***Thus, the decal should be fitted on the right side of the can toward the bottom with the 'BRAKE' and 'CLUTCH' markings clearly visible.***

Darker blue Girling decals without these markings were for single output reservoirs and are not correct.

In 1958, simple white silkscreened 'CLUTCH' and 'BRAKE' markings replaced the Girling decal. These should line up with the respective lines.

Hydraulic Lines and Mounting Hardware

From TS1, the hydraulic lines were of natural steel, with attachment hardware in the suppliers' finish. Most notable are the small 'question mark' clips securing the lines to the bulkhead *(Part Number 59380).* These were painted black, or finished in oil quench black, and secured by bright, #10 round headed slotted screws *(SPCEd4. pg.57, HWC. pg. 10).*

Clutch Slave Cylinder and Mounting

From TS1, the Lockheed clutch slave cylinder was is of natural cast iron, mounted to the front of a black painted bracket fixed to the left side of the transmission bell housing. A natural or oil quench/black oxide rod added further support on the inboard side, toward the engine. The rubber boot

was secured by two bright retaining clips like those of the master cylinders, though of a smaller diameter. Only one of these is visible upon inspection.

From TS13046, the Girling slave cylinder was of natural alloy, and 'longer and thinner' than the Lockheed. It is mounted similarly to the Lockheed, though the bend in the support rod is different.

Attachment hardware of both slave cylinders is in the suppliers' finish.

Clutch Slave Cylinder Return Spring: Both Lockheed and Girling clutch slave cylinders were fitted with a return spring running from an arm toward the fork to hook around the mounting bracket. These springs are usually natural, but black painted originals are known.

Underhood - Engine

Chronological Summary of Engine Changes
('E' suffix designates engine number)
TS972E: Breather pipe changed

TS8637: TR3 engine introduced, and manifold changes for H6 carburetors

TS8937E: Combustion head nuts strengthened

TS8997E: Camshaft bearing locating screws added,

TS9350E (TS8637): Le Mans cylinder head introduced with the required manifold

TS9952E: Oil filter head flange thickened

TS1206E-TS13052E: High port head introduced

TS17372E: Oil filter cap change (no details)

TS18230E: Rocker cover change (no details)

TS18902E: Oil sump plug changes to four-sided 'plumbing type'

TCF1: TR4 engine fitted

Engine Number

Engine numbers resemble commission numbers with an "E" suffix and are stamped on a flat extension of the coil mounting flange below the #3 spark plug, and as TR engines were supplied to other manufacturers such as Morgan and Doretti, ***a vehicle's engine number typically exceeds its commission number.***

Factory records are too imprecise to identify engine breakpoints at model changes, and factory manuals and literature may be inconsistent when citing commission versus engine numbers.

Factory Rebuilt Engines: Standard-Triumph provided complete factory rebuilt replacement engines, which were often painted light to medium blue rather than black. The original engine number was covered by a brass and black enameled plate rivetted to the flange with a stamped 'FR' engine number and specifications.

Factory rebuilt engine identification tag

Do not deduct for Factory Rebuild Engine tags.

Major Engine and Combustion Head Variation and Configuration Summary

Model	Engine Number	Cylinder Head/ Manifold	Carbs	Fig.	Notes
TR2	TS03E–TS8996E	Low Port, Head#501209 Intake #301145	SU H4	1	All TR2s, round bottom at thermostat housing.
Early TR3	TS8997E–TS9349E	Low Port, Head#501209 Intake #302006	SU H6	1	Same as TR2, but w/ larger intake ports for H6 carbs.
TR3 Le Mans	TS9350E–TS13052E	Le Mans' Head, Head #503662 Intake #302118	SU H6	1	Same as above, but with slightly larger intake ports and raised bosses around cylinder head studs.
TR3 TR3A	TS13053E-End	High Port, Head #503663 Intake #302119, possible late TR3A #305547	SU H6	2, 3	Intake ports moved up and enlarged, round bottom at thermostat housing, late TR3A with diagonal slant at thermostat housing.
TR3B (TSF)	TSF1-TSF530*	High Port, Head #503663 Intake #302119 or #305547	SU H6	3	Same as late TR3A w/ diagonal slant at thermostat housing.
TR3B (TCF)	TCF1-TCF 2804*	TR4 High Port, Head #510084 Intake #305547	SU H6	4	Flat boss at intakes 1 & 2, with or without serial number.

*Commission Nos. **TABLE 1.**

(Piggott2015, pg.78)

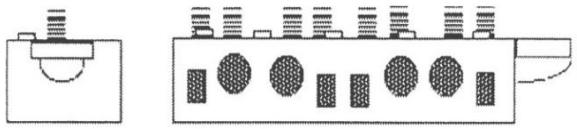


Figure 1: Low Port Head

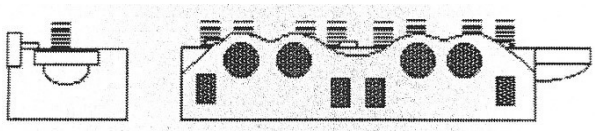


Figure 2: Early High Port Head

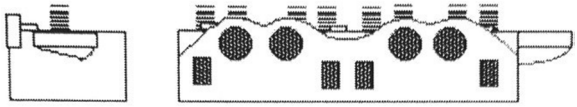


Figure 3: Late TR3A Head

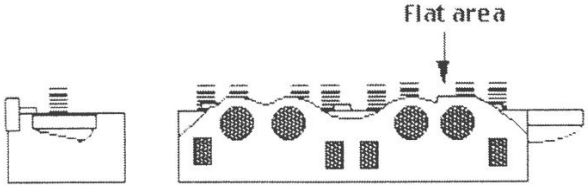


Figure 4: TR4 Head (Wakeman, 2023)

Judges should refer to the table and illustrations above before applying the guidelines below.

Incorrect Component - Major Deduction: An engine or major component inconsistent with the commission number of the car warrants a major deduction, such as a TR2 with a High Port Head.

Minor or Numerical Deviation- Minor Deduction: An engine of correct configuration numbered inconsistently with the commission number of the car warrants a minor deduction, such as a TR3A with a commission number of TS57000 fitted with engine number TS51000E.

Combustion Head

Combustion heads were painted black with natural milled surfaces, typically where gaskets attached, such as the top of the thermostat housing embossment. Attachment hardware (bolt heads and nuts) painted black or left in the suppliers' finish.

From TS1 (TS3E), the *Low Port Head* was fitted, distinguished by a flat profile. The last engine fitted with the Low Port Head was TS9349E *(TSOAHb. pg. 114).*

From TS8937E, and the head bolt nuts were strengthened *(Service Bulletin, December 1955)*. The stronger nuts are distinguished by a series of small circles stamped on one or more flats or by an annular grove machined on the top of the face of the nut.

These markings are not required.

From TS8997E, a larger bored Low Port Head *(Part Number 511219*) was introduced to accommodate H6 carburetors.

From TSTS9350E, the *Le Mans Head* was available. While similar in appearance to the Low Port Head, the head bolt embossments were approximately ½" higher.

From TS13053E, the *High Port Head* was introduced to increase airflow. High Port Heads are distinguished by four humps on the carburetor side to accept the H6 carburetor intake manifolds. Early High Port Heads kept the rounded embossment for the thermostat housing *(Fig.2).* Late TR3A High Port Heads had a more angular casting beneath the thermostat housing embossment *(Fig.3).*

From TCF1, the High Port Heads fitted to 'TR4' engines had a flat crown on the forward-most 'hump' which would likely have the serial number *(Fig. 4).*

Judges should exercise caution regarding late TR2 and early TR3 combustion heads, as components were introduced sporadically between engine numbers TS8997E and TS13052E, with alternate configurations possible between engine numbers TS8997E and TS9349E

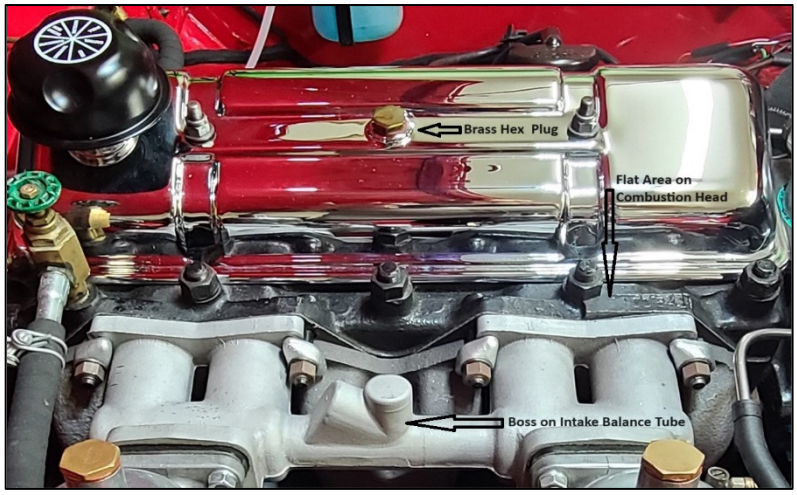
Manifolds

The ***Exhaust Manifold*** was cast iron and remained unchanged during the side curtain car production. Being subject to high heat cycles, its natural finish was subject to rust and discoloration.

Make no deduction for light to moderate discoloration of the exhaust manifold nor for coatings approximating the original color and finish.

The ***Intake Manifold*** was natural cast aluminum and its part number varied with the changes to the heads and carburetors, as outlined in the table above. Refer to Table 1 above for proper fitment.

Manifold hardware included the nuts at the carburetors and the unique clamps and nuts at the head.



TCF engine showing bosses on combustion head and intake balance tube and brass plug on rocker cover, unique to the TR4 engine installed on TCF series TR3Bs

Rocker Cover

Rocker Covers: *From TS1 (TS3E),* rocker covers were painted black, with a white rectangular water transfer applied to the left side specifying valve clearances. Many early covers were fitted with a stamped steel tab at the left rear, possibly to provide an attachment point when rerouting the breather pipe for competition.

> ***Rocker Cover Attachment Hardware:*** Rocker covers were attached by two studs fitted to the combustion head. Visible components include:
>
> ***Nuts:*** *Part Number YN.2908*, 5/16 UNF Simmonds Full Nyloc, 1/2" across the flats *(SPCEd4, pg.5, HWC. pg. 13).* ***These nuts are 'taller' than typical nyloc nuts*** *and often have the 'circles' stamped on a face.*
>
> ***Flat washer****: Part Number WP.008,* plain light 5/16 washer, 69 OD *(SPCEd4. pg.5, HWC. pg. 45*).
>
> ***Fiber Washer:*** *Part number WF.0508,* ½" OD *(SPCEd4. pg.5, HWC. pg. 49).*

From TS8997E (?), chrome rocker covers were introduced without a part number change. These were otherwise identical to those painted black, and may not have been universally fitted at the onset.

TR2s from TS8000 may have black or chromed rocker covers.

From TS18320, rocker covers ostensibly changed without details. This could reflect a clerical 'standardization' of chrome rocker covers.

From TCF1, rocker covers with a brass hex-shaped plug and the oil filler cap at the rear replaced the earlier units when the 'TR4' engine was introduced. (See above photo)

Cast Aluminum Rocker Covers: Although the *Spare Parts Catalogue* does not list these as optional equipment, cast aluminum valve covers are well documented as contemporary accessories, appearing on several road test photographs and catalogues from purveyors such as 'Andori.' Variations of these

exist, the most recognized having a distinctive chrome and cloisonne 'TRIUMPH script' badge and large knurled aluminum thumb nuts.

Make no* originality *deductions for contemporary cast aluminum valve covers.

Oil Filler Cap: Oil filler caps were push-fit with an oil gauze mesh. Some very early caps might have had detachable bottom plates for cleaning or replacement of the wire mesh gauze. Oil filler caps were sourced rather than made 'in-house,' so documented details and introduction points of the various types are nebulous and possibly overlapping within a commission number range.

Judges are to exercise caution when evaluating the sequential originality of oil filler caps. Current heavier stick-on 'decals' of contemporary design are acceptable.

From TS1, oil filler caps were painted black with white silkscreened or water transferred 'recommended oil' markings on the flat upper face oriented to the left. *(Figure 1below)*

At some later point, the markings changed from concentric circles to having an arrow facing forward when the cap was fitted. *(Figure 2 below)*

At some later point, oil filler caps became shorter and more angular, with distinctive bevels on the upper sides. (*Figure 3 below)*

At some later point, the oil filler cap profile became lower and more rounded, with three 'finger indentations' to facilitate removal. Markings were white concentric circles or in a 'pie pattern.' *(Figure 4 below)*

From TS17372E, oil filler caps changed without details. This could be a clerical standardization of the 'finger indentation' profile.

At some very late point, oil filler caps painted were finished in silver/grey 'hammered' paint rather than black, with red 'pie pattern' markings. These are mostly observed on TR3Bs. *(Figure 5 below)*

From TCF1, the oil filler cap was moved to the rear and a brass plug was fitted to the top of the cover.

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Cylinder Block

The cylinder block changed little until the introduction of the TR4 engine. These were painted black (except for some factory rebuilt engines), with smoothly milled surfaces such as attachment points and gaskets flanges left natural.

As natural surfaces rapidly oxidize, do not deduct for 'aged' smooth surfaces possessing a brownish color.

From TS972E, the cylinder block was "modified without change of Part Number" to accommodate an altered breather. *(Service Bulletin Vanguard/3B, August 1954).* This change is not externally visible.

From TS8997E, three camshaft located screws (Part Number 11042) were added with accommodating embossments on the block between the three gallery plugs lying along the camshaft run *(SPCEd4. pg. .7).* Camshaft bearings may be retrofitted to earlier engines (*Service Bulletin Vanguard/9/B, Sept 1955).*

***Do not deduct for early engines retrofitted with camshaft locating screws per the instructions in the above* Service Bulletin.**

'TR' Block Markings: Most, if not all, TR cylinder blocks were hand marked 'TR' above '2' or '3' in reddish orange paint on the left side, typically toward the rear. Variations in style and orientation are expected.

These markings are not required, though if present, they should conform to the above description.

Oil Filter Assembly: Oil filter assembly heads were natural cast aluminum with attachment and access hardware in the suppliers' finish. The cannister was painted a pale green/blue, which takes on a more greenish patina with age.

From TS1E, the oil filter flange was 7/16"

From TS9952E, the flange was thickened to 5/8" to prevent "any possibility of oil leakage from the joint due to distortion of the flange under load from the bolts and stud" *(Service Bulletin, February 1956).* The length and tensile strength of the bolts and stud were also increased.

From TS12650, the 'full flow' oil filter was introduced to avoid oil flow stoppage should the filter head become clogged. Full flow filter heads are recognizable by their access ports.

Wide flange or full flow filter heads may be fitted to earlier cars, but not the reverse.

Dip Stick: Oil Dipsticks were bright or natural steel with a thick felt washer/seal.

Timing Chain Cover: Timing covers were painted black, with or without unpainted light grey/tan sound deadener applied to the center face.

Ground Strap: A bright braided cable serves as the engine ground strap. It is bolted to the timing chain cover and to the front LH motor mount.

Breather Pipe: Breather pipes were painted black.

From TS972E, an internal baffle was added to the breather pipe to prevent oil loss when running at high speed *(Service Bulletin Vanguard/3B, August 1954)*. This bulletin also presented a modification to older breather pipes to curb oil loss.

Sump and Oil Drain Plug:

Sump: Oil sumps were painted black, with the attachment hardware painted black or in the suppliers' finish.

Natural cast aluminum sumps were available options *(SPCEd4.pg.144).* Attachment hardware was in the suppliers' finish.

Oil Drain Plug: Oil drain plugs were initially a natural brass 5/8NF cap screw, ½" long and .798" across the flats *(HWC. pg. 23).*

From Engine Number TS18902E, these changed to a common square steel plumbing plug, 7/16" across the flats.

Engine Removal Hardware: Early cars likely lacked lifting hardware as it is neither present in contemporary 'early car' photos nor listed in the 1st Edition of the *Spare Parts Catalogue.* ***As the introduction point of lifting hardware remains unknown, it is optional, though it must include both items below:***

Eye, front lifting bracket*:* The front bracket was bolted between the timing chain cover and the front engine plate.

Rear lifting bracket: The rear lifting bracket was bolted to the rearmost manifold bolt and the rearmost combustion head stud. The latter is longer than the other studs to accommodate the bracket.

Engine Electrical

Distributor: Distributors changed little during sidecurtain TR production, with a cited part number change at TS8213. The latter distributor is a comparable replacement.

Distributor Body: Natural aluminum with bright steel mounting plate and attachment hardware in the suppliers' finish.

Distributor Cap: Distributor caps were molded black plastic (Bakelite) or brown molded Bakelite sprayed black. Raised Lucas proprietary markings were present. Note that early Lucas markings faced to the right to appear reversed from the left side of the engine. Distributor cap clips were natural or blued steel.

Vacuum Advance Unit: Vacuum advance units were finished in bright cadmium, with connecting hardware in the suppliers' finish. Vacuum lines were screw-fitted.

From TS1, vacuum advance units had large hexagonal snouts with brass or brightly plated hexagonal line fittings.

During TR3A production, a conical advance unit snout replaced the hexagonal.

Vacuum Advance Line and Routing: Vacuum advance lines were steel, screw-fitted to the advance unit and front carburetor.

Copper alloy lines, unless painted to match original color, are not acceptable.

From TS1, the vacuum line exits the vacuum advance unit to follow an 'S' curve behind the thermostat bypass hose to run *beneath* the fuel line clip suspended from the thermostat housing to follow the run of the rigid fuel line to its connection on the front carburetor. An aluminum 'belt buckle' clip securing the vacuum line to the fuel line may be present on either side of the suspended clip.

From TS40000 (approximately), push-fit fuel lines of a narrower diameter replaced the earlier lines, with the securing clip suspended beneath the thermostat housing now twisted with a grommet. The vacuum advance line now ran ***through*** the clip rather than beneath it. Aluminum 'belt buckle' clips may be present.

Note that some original lines have been observed with the vacuum line running forward of the bypass hose, particularly on later cars with smaller diameter fuel lines.

Make no deductions for vacuum lines running behind or forward of the bypass hose.

Sparking Plugs and Plug Wires: Sparking plugs and wires changed by supplier, but remained the same in overall profile and configuration.

> ***Sparking Plugs*:** Sparking plugs were typically supplied by Champion and later by Lodge, with varying temperatures depending upon location, available fuel, and intended use. Any suitable replacement is accepted.
>
> ***Sparking Plug Wires:*** Sparking plug wires were black, typically with right-angled connection caps of varied shape and design. For example, some early connectors had spring clips attached by screws at the top of plugs without rubber boots. Proprietary markings (often Champion) may be present. A black rubber fir tree clip attached the #3 plug wire, #4 plug wire, and high-tension coil lead near the coil.
>
> ***Do not deduct for black sparking plug wires of correct length.***
> ***Variations in connecting ends are acceptable.***

Coil, Decal, and Leads:

From TS1, the ignition coil was the black painted Lucas Model B12 with an expansion groove or lip at the bottom of the can and an attached mounting bracket. The top was black Bakelite, marked '+' and '-'at the respective terminals. Some B12 coils had gold and black proprietary decals, but the vast majority did not.

From TS11812, the brightly finished (not polished) aluminum Lucas Model HA12 replaced the B12. This unit lacked an expansion groove and had a black Bakelite top marked 'CB' and 'SW' at the respective terminals. The separate mounting bracket was finished bright. A proprietary Lucas decal of varied detail was applied beneath the upper rim.

As reproductions of this decal are available, they are required.

The high-tension lead on all coils should have a black (or orange, see below) screw-on cap. Low tension leads should have connectors (screw or Lucar) consistent with the wiring harness of the car.

Sports Coils: The first available higher rated Lucas sports coil was the Model HS12, which mirrored the Model B12 in external form and dimension, but was painted 'polychromatic grey' (closer to a metallic grey/ tan) with a brass and enameled plate attached to the mounting bracket. This plate was later changed to a decal. The black Bakelite top was marked 'CB' and 'SW.'

From late 1957, the HS12 sports coils were superseded by the Model SA12, which in many respects resembled the HA12, the most notable difference being the orange/red top and high-tension lead connector. The top was marked 'SW' and 'CB' at the respective terminals which initially were screw-type; around 1960, loose 'Lucar' connectors were provided to fit beneath the screws for vehicles having spade connections. In the late 1960s, the connectors switched to riveted spade.

Do not deduct for Lucas sports coils contemporary to sidecurtain TR production.

Underhood-Fuel System

Chronological Summary of Fuel System Engineering Changes

Numbers with an 'E' suffix designate engine numbers.

TS3E: SU H4 carburetors

TS8997E: SU H6 carburetors introduced, manifold and air cleaners changed, flexible fuel lines replace rigid

TS9350E: Le Mans cylinder head introduced, intake manifold changed *(see* Engine *for additional details regarding cylinder head introductions and corresponding intake manifold and carburetor changes*

TS9721E: Flexible float chamber mounts introduced

TS12819E: Front carburetor and vacuum advance changed

TS12606E–TS13052E: Intake manifold change to high port cylinder head *(see* Engine *for additional details regarding cylinder head introductions and corresponding intake manifold changes)*

TS15496: Short steel connector pipes and rubber line replace braided fuel line from fuel tap to fuel pump

TS22014?: Petrol stop eliminated

TS40000 (approximately): rigid pipe replaces flexible banjo type line from fuel pump to carburetor line, carburetor float chamber lid changes (H6 AUC786 to AUC878)

Carburetors

From TS1, the carburetors fitted to TR2s were SU H4s, with 1 ½" diameter bores, fixed float chamber mounts, and vertically oriented oval bodies secured to the intake manifold by two bolts at the top and bottom of the mounting flange.

From TS8997E, the 1.75" bore SU H6 AUC786 carburetor replaced the H4. H6 carburetors featured square bodies with four mounting bolts at the corners of the mounting flange.

From TS12819, the vacuum line connector at the carburetor housing.

From TS40000 (Approximately): The H6 AUC878 carburetor replaced the H6 AUC786, the principal differences being the float chamber lid changing to accommodate the replacement of the banjo style fuel lines by rigid steel lines connected by rubber hoses.

Float Bowls: *From TS9721E*, flexible float chamber mountings were introduced to reduce bubbles in the chamber and the resulting disruption of fuel supply from engine vibration *(Service Bulletin Sports/4/P, Feb. 1956, and TSOAHb. pg. 114).* Owners with rigid float chambers were encouraged to retrofit the flexible mounts.

Do not deduct for TR2s and early TR3s fitted with flexible float chamber mounts.

From approximately TS40000, the float chamber lids changed to accommodate the change in fuel lines from banjo to push-fit rubber connections and rigid pipes.

Carburetor Finishes: Carburetor bodies, float chambers, float chamber lids, and piston covers are lustrous natural cast alloy.

Mildly 'blasted' or polished surfaces are acceptable.

Other carburetor finishes include:

Unpolished Brass: throttle shafts, spindle return anchor plates, jet adjusting nuts, jet lever, throttle lever, overflow pipe fitting, banjo fittings (when applicable), damper cap lid, fuel filters in float chamber lids, piston cover screws (H4).

Black oxide or Blued: bell-crank lever assembly, pivot lever 5assembly, throttle spindle couplings, choke arm, pivot bolt and washer on cam, speed nuts when fitted, banjo fitting bolts (some H4).

Cadmium or Bright Steel: short and long throttle links, float chamber securing up bolt and clip washer, fuel line and float chamber banjo bolts (H6), jet control connecting rods, throttle spindle end caps, front jet lever to connecting rod clips, clevis pins.

Suppliers' Finishes: Sundry screws, bolts, cotter pins, and the throttle spindle connecting rods may be cadmium/zinc plated or left in natural steel. Jet head assemblies have many varied finishes, including brass, copper, steel, and rubber.

Carburetor Identification Tags: SU carburetors typically had natural or brightly anodized aluminum tags fitted beneath the float chamber lid bolt stamped with the carburetor model. The numbers could be suffixed with either an "F" or "R" designating the carburetor's installation at front or rear.

.

***AUC721*:** H4 carburetors fitted to a TR2

AUC786: H6 carburetors fitted to a TR3s and TR3As to approximately TS40000

AUC878: H6 carburetors fitted to TR3As from approximately TS40000 to TCF2804

Carburetor identification tags are often missing, either from loss or having not been installed during assembly, and are thus not required. If present, identification tags must correspond to the carburetor model.

Air Filters

The air filters fitted to all sidecurtain TRs were supplied by AC, and were of identical construction and appearance except for the bores, which were ¼" wider on the H6. Both types were painted black, with a proprietary blue and white decal applied to the front of the air cleaner 'dome.'

AC decals initially were round and changed to rectangular in 1957. These were hand applied to the center of the air cleaner, with noticeable variations in 'accuracy' observable from unit to unit. Perfectly aligned decals are quite rare.

Air cleaner filters were of wire mesh with a 'chevron' weave. Most were painted black, but original meshes in natural steel have been observed.

Do not deduct for air cleaners with bright or black painted 'chevron' wire meshes. Aftermarket or replacement air filters without the 'chevron' weave or made of paper or fabric meshes are not acceptable.

Vent Tubes and Hoses: H4 and H6 carburetors were vented from the float chamber lid. The vent also served as an overflow emptying into the air cleaner mesh.

From TS1 (H4 and H6 AUC786): the vent was a bent steel line soldered to a brass banjo connector fitted beneath the float chamber lid bolt.

From TS40000 (Approximately): The change from banjo style fuel lines to rubber and rigid lines with AUC878 carburetors included changing the vent/overflow pipes to bent steel lines connected to an extension of the float chamber lid via a short rubber hose.

Some reproduction air cleaners may be improperly assembled, resulting in the banjo style vent overflow pipe striking the structure of the air cleaner rather than the mesh, which is a safety hazard and incorrect. This is more easily rectified with later rubber and rigid overflow pipes.

Fuel Pump

The natural alloy bodied fuel pump was supplied by AC, clearly marked in raised letters on the upper body. These pumps featured a glass filter bowl secured by a bright stirrup and natural metal or bright thumb nut, and a bright or natural steel 'sprung' priming lever press fitted to the lower body. Original diaphragms had a pinkish-red color visible beyond the upper and lower body seam. The six slotted Fillister headed screws and washers tightening the upper and lower bodies were blued, natural or bright. Mounting blocks may be grey or black.

Do not deduct for diaphragms of colors other than pink-red.

Fuel Lines, Sleeves, Hoses, and Petrol Stop (Fuel Tap)

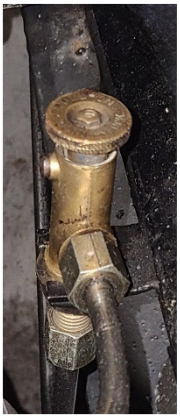
Hard fuel lines were natural steel (not copper or plated copper) with supplemental flexible lines, black rubber hoses, and flexible lines in the suppliers' finish (typically natural or coated braided steel with brass connectors). The components varied over the course of sidecurtain TR production, but always followed the same general layout.

Fuel Tap and Fuel Line from Tap to Pump: *From TS1,* fuel from the tank ran down the left side of the chassis to a brass tap mounted on a tab behind the left spring tower. These taps are prone to leaking, and may be deleted or bypassed for safety reasons, though *Restoration Quality* points may be deducted if the deletion or bypass is poorly performed or uses non-contemporary materials.

Fuel initially ran from the tap to the fuel pump through a flexible hose with brass compression fittings sheathed in braided steel.

From TS15497, the braided flexible line was replaced by a pair of steel pipes connected with a black rubber hose. The pipe at the tap was short; the pipe at the pump was longer and downward curved. ***No clips or clamps were specified, though either are allowed for safety reasons.***

At an undocumented point in 1958, the fuel tap was deleted, with fuel passing to the rubber connecting hose directly from the line running from the tank.



Fuel Tap

Fuel Line from Pump to Carburetor: *From TS1,* the fuel line from pump to carbs was rigid steel, running up and then forward along the left side of the engine to turn right and pass through a strap type clip suspended from the left side thermostat front cover bolt (or nut) toward brass banjo fittings on the carburetor float chamber lids.

The banjo fittings were soldered to the pipes and oriented to the engine (left) side of the carburetors. The pipe between the banjo fittings runs above the carburetors, and is slightly bent upward at the center for additional clearance.

From TS8997E, the long rigid fuel line was replaced with a shorter rigid line ending to the right of the thermostat housing where it connected to a flexible line sheathed in braided steel with compression fittings at the brass banjo connections. The front banjo fitting was now oriented at 120 degrees, allowing the flexible 'carb to carb' line to run beneath the air intake sides of the carburetor housings.

From approximately TS40000, the carburetors changed to SU AUC868s, and the flexible line with compression banjo fittings was replaced by smaller diameter rigid steel lines connected by 'pebbly grained' black rubber sleeves. The steel strap type retaining clip beneath the thermostat housing changed to a lighter, bright steel 'eyelet' type twisted 90 degrees with a rubber grommet. The routing of the bent steel line running from the rubber sleeves at each float chamber lid followed that of the earlier flexible line.

Cars from TS40000 may have either flexible fuel lines with banjo fittings or rigid fuel lines with sleeves; cars from TS60000 should have the latter arrangement.

'Pebbly grain' is not required on connecting sleeves. Clamps or wire clips were not specified with the rigid/sleeve fuel line arrangement, though these are allowed for safety reasons.

Underhood–Controls

Chronological Summary of Steering Engineering Changes

TS5776 or TS8637: Rigid lower steering steady bracket added

TS10545: Speedometer and tachometer cables change from black to grey

TS27000-TS42000: Split steering column introduced. Lower steering brace moved upward on column

TS42000: Split steering installation universal

Steering

The same basic unit was fitted to sidecurtain TRs throughout production, the only major change occurring erratically between TS27000 and TS42000 with introducing the split steering column. The steering column and its bracing should be painted black, with attachment hardware in the suppliers' finish.

Rigid Column: *From TS5577 or TS8637,* a two-piece steady bracket was added to the lower steering column that clamped around the column tube and bolted to the frame through a hole in the spring abutment (spring can). The *Spare Parts Catalogu*e lists Part Numbers 111600, 111601, and 111602 being introduced at different times *(SPCEd4. pgs.29,42).* On page 29, under *Chassis Frame,* the introduction is listed at TS5777; on page 42, under *Steering,* it is listed at TS8637.

Cars from TS1 to TS27000 should have the rigid steering column.
Cars from TS5777 to TS8637 may or may not have the lower steering column brace fitted.
Cars from TS8637 should have the lower steering column brace fitted.

The lower steering column brace was painted black with attaching hardware in the suppliers' finish.

Split Column: *From TS27000*, a two piece, or 'split' steering column was introduced to ease the passing of the steering column through the bulkhead during assembly. The change from the early rigid column to the later split column remains undocumented and appears to have been performed inconsistently on cars produced in 1958.

The split steering column comprised an upper and lower half clamped together and supported by an ***upper steady bracket*** bolted to the bulkhead (Part Number 607433)*, (SPCEd4.pg.43*). The bracket should be painted black. The exposed shaft and connector should be natural steel. Attachment hardware should be in the suppliers' finish.

When introducing the split column, the ***lower steering support bracket*** was moved further up the column to bolt to a brace on the frame inside the inner fender. This latter brace is visible within the engine compartment.

Cars from TS27000 to TS42000 may or may not have the split steering column.
Cars from TS42000 should have the split steering column.

Steering Blanking Plugs: Two rubber plugs seal where the steering column passes through the bulkhead, a ½" rubber plug mostly concealed by larger seal through which the column passes.

Steering Column Seals and Grommets: *From TS1,* the rubber seal was flat with a flange secured by a stamped, black painted steel plate secured by bright #10 countersunk slotted oval coarse threaded screws. When properly fitted, the seal's rubber flange resembles a sleeve between the column in the cutout in the plate.

Later cars, TR3s, had a formed rubber boot secured to the bulkhead by a slotted screw and clamped to the column by a Supergrip (radiator style) clamp in the suppliers' finish. ***Note that SPCEd.4 does not list the screw.***

When this seal arrangement changed remains undocumented.

TR2s and should have the early 'plate' arrangement.
TR3s and TR3As with rigid columns may have either the 'plate' or 'boot' arrangement.
TR3As with split columns should have the 'boot' arrangement.

Temperature Sending Unit

From TS1, the temperature sending unit ran through a grommet in the bulkhead, coiled in two, three, or four loops ***'perpendicularly'*** to the car, to be secured to the fuel line by an aluminum 'belt buckle' clip on the vertical run of the fuel pipe three aluminum (Part Number 38303), *(SPCEd4.pg.75*), and another pair of clips along the horizontal run. Black cloth friction tape wrapped around the fuel line beneath the clips prevented chaffing.

In mid-late 1954, the coiling of the sending unit was found problematic and was changed to three loops running ***parallel*** to the car. These were of roughly 1 ½' diameter, with the center of the coils roughly 2" below the start of the vertical run of the fuel pipe. *(Service Bulletin Sports/2/C: Oct. 1954)*
Temperature sending units were bright, with brass or cadmium plated connections.

TR2s may have either perpendicular or parallel temperature sending unit loops.

Tachometer and Speedometer Cables

Cables: *From TS1,* speedometer cables were sheathed in protective thin black lacquered fabric. Connecting fittings were brass. Tachometer cables were painted black, with brass fittings.

From TS10545, both cables were sheathed in silver-grey plastic that yellows with age. Connecting fittings were now alloy.

Do not deduct for early black cables lacking cloth sheathing or later grey sheathed cables with age related discoloration.

Routing and Grommets: Tachometer and speedometer routing varied between right and left-hand drive cars. This document addresses only left-hand drive cars.

Tachometer: The tachometer cable passed through a black rubber grommet in the bulkhead to the left rear of the engine to connect to the distributor.

Speedometer*:* On cars lacking overdrives, the speedometer cable passed through a grommet in the bulkhead to the right of the master cylinder and a brass clip (Part Number 33084), *(SPCEd4. pg. 74)* to the left of the steering column and down to the transmission.

On cars fitted with overdrives, the cable passed to the front of the battery box through a brass clamp (Part Number 33084*)* to run down the right side of the engine to the transmission.

Underhood–Cooling System

Radiator

The first few TR2s were equipped with radiators lacking a filler neck extension or filler cap. The filler cap was on the thermostat housing.

From TS4, TS5, or TS6, a filler reservoir extension was added to the right side of the radiator upper tank, and the filler cap moved to the filler neck.

Radiator were tall and deep, with unique horizontal cooling fins and crank guide holes with square or oblong steel sleeve in the cores. Tin proprietary plates were affixed to the upper tank, identifying the maker and the model type. Smaller brass or tin tags on the left rear of the upper tank signified the batch number and the month and year of manufacture.

Radiator proprietary and identification tags are fragile and prone to loss or decay and are thus not required.

The radiator was painted black, including the identification plates. The water drain tap on the lower tank was unfinished cast brass. The radiator was fitted with an AC filler cap with a cadmium finish, two-eared design, with directional arrows for rotation and the pressure rating of 4 PSI.

From TS1201E, the radiator and thermostat housing were changed. "When the new Thermostat Housing was introduced, the water outlet was off-set from the center line…" *Service Bulletin Sports/1/C, June 1954).* The upper radiator outlet and hose were shifted to the left of the upper tank about the diameter of the outlet pipe. The outlet pipe was now 3" from the edge of the filler neck extension rather than 1 ½".

Radiators and thermostat housings must be of the same era or they will not align without an improvised installation or using a long, flexible hose.

***Radiator Hardware, Hoses, and Clamps*:** Radiators were bolted to the cross-tie brace toward the front of the chassis rails. Two stay rods ran from flanges soldered to the rear corners of the upper tank to tabs welded to the horn support brackets on the inner fenders. The support stays were painted black. Mounting hardware was in the suppliers' finish.

> ***Hoses and Clamps:*** Radiator hoses were of black rubber, often with 'wrapped' or woven textures. Upper radiator hoses were accordion types, with woven cloth sheathing. Hose clamps were bright "Supergrip" double banded wire types secured by slotted, round headed screws.
>
> ***Radiator Overflow:*** A black rubber 'ribbed' overflow tube was push-fitted to an extension below the radiator filler cap to run forward and down to clear the undercarriage. Mounting detail varied. Small unique wire clips were sometimes fitted at the filler neck extension. Some hoses ran through 'strap' type clips fitted beneath the right inner radiator support rod nut, and some hoses ran through a cylindrical spring clip mounted to the lower right inner fender.
>
> ***Ribbed textures on overflow hoses are not required. Variations in mounting are acceptable if the hose clears the undercarriage. Expansion bottles are not original.***

From TS414E, the lower hose and connector pipe arrangement was changed from a pipe with sharply bent ends connected to short, straight hoses to a slightly bent pipe lacking the sharply bent ends connected to longer, curved hoses.

Radiator Fan

The radiator fan assembly fitted to all cars was a four bladed paddle type with a black painted center section and natural aluminum blades secured by bright rivets. Mounting hardware and balancers were in the suppliers' finish.

Tropical Cooling Fans: Introduced during TR4 production, these six bladed fans are constructed as 'standard' four bladed fans, and attach without modification to a TR2-3B engine, often with significant cooling advantages..

Do not deduct for properly finished factory aluminum bladed tropical fans.

Stock four bladed fan

Tropical six bladed fan

Radiator Fan Belt: Radiator fan belts were ¾' at their widest point, V profiled without cogs or inner teeth. They should fill the grooves in the water pump and generator pulleys.

Narrow Radiator fan belts or belts with cogs or inner teeth are incorrect.

Thermostat Housing

From TS1, the thermostat housing was of the 'double' type, with two distinct chambers of equal height and contained the filler cap.

From TS4, TS5, or TS6, the filler cap was moved to the radiator filler neck extension, and a triangular flanged steel blanking plate was fitted to the thermostat housing by a bolt on the left and two nuts over studs on the right. (*Figure 1. below*)

From TS1201E, the thermostat housing changed to a slightly smaller unit with a single chamber lacking a blanking plate secured to the head by two hex headed bolts. This housing was used with minor variations to the end of sidecurtain TR production. (*Figure 2. below*)

From TS74331, a revised thermostat housing was introduced, differing mostly by the slight inward

slant of the temperature gauge sending unit flange and stamped rather than raised casting numbers on the upper surface. (*Figure 3. below)*

Thermostat housings were lustrous (not polished) natural cast alloy and may be coated with silver paint (very early) or a clear lacquer or glaze that yellows or browns with age. Early steel blanking plates might have been plated, but this seldom survives. Mounting hardware was left in the suppliers' finish.

Make no deductions for the presence or absence of applied finishes to thermostat housings.

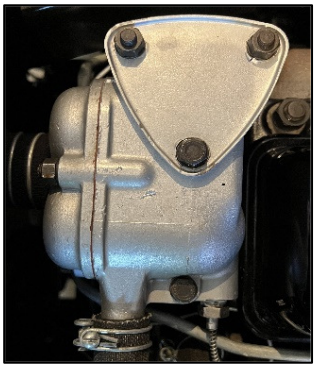


Figure 1

Figure 2

Figure 3

Water Pump

Water pumps and pulleys remained unchanged throughout sidecurtain TR production. These were painted black or left in unfinished cast iron.

Water Pump Grease Fitting: Original water pumps feature a grease fitting on the upper right, which is often lacking in reproduction 'sealed' pumps.

These are required for judging.

Water Pump Bypass Pipe and Hoses: *From TS1,* water passed between the radiator and the water pump through a black painted steel pipe with two sharply curved ends and a pair of straight black rubber hoses secured by two bright wire type clamps (Part Number CS.4018), *(SPCEd.4, pg. 21, HWC, pg. 5)*

From Engine TS414E, the straight connecting pipe with curved ends was replaced by a slightly bent pipe without the curved ends. The hoses were now curved to nearly 90 degrees *(SPCEd.4, pg. 21).*

Optional Heater Kit

Water Pump Connecting Pipe Adaptor, and Hose:

Connecting Pipe: The natural steel, blued, or black painted water pump connection pipe assembly runs along the left side of the engine and is secured to the engine block by the rear coil mounting bolt. The bolt is in the suppliers' finish.

Adaptor: The water pump connecting pipe is fitted to the water pump body by a natural brass or black painted adaptor. When no heater is fitted, the adaptor is replaced by a natural brass or black painted plug.

Hose: A textured, right angle formed black rubber hose secured by two bright wire type hoses (Part Numbercs.4012) connects the rear of the water pump connecting pipe to a stamped black painted dash connector assembly sealed by a black rubber pad and secured by a pair of bright #10 self-tapping countersunk slotted oval screws (Part Number YA0564) *(SPCEd.4. pg.146, HWC. pg. 30).* When no heater is fitted, the connector is replaced by a black painted plate identical to the connector except for the lack of a connecting tube.

Heater Water Valve, Connector, and Hose:

Heater Water Valve: The natural milled heater water valve is screwed into the rear of the cylinder block. The green or black painted handle is of varied design, and secured by a brass nut and washer. When no heater is fitted, a natural plug is fitted.

***Heater Water Valve Connecting Pipe*:** The heater water valve connecting pipe is natural steel, galvanized, blued, or painted black.

Hose: A textured, right angle formed black rubber hose secured by two bright wire type hoses (Part Number CS4012) connects the heater water valve connecting pipe to a stamped black painted dash connector assembly sealed by a black rubber pad as with the water pump connecting pipe hose. When no heater is fitted, the connector is replaced by a black painted plate identical to the connector except for the lack of a connecting tube.