



CATERHAM

ASSEMBLY GUIDE

DURATEC – EDITION 2.1

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Your feedback and comments are welcome: assemblyguide@caterham.com

For help and build support enquiries contact: buildsupport@caterham.com

WELCOME TO YOUR NEW CATERHAM KIT

Building your own Caterham is immensely rewarding and satisfying. Of course, it should be remembered that you are building a high performance sports car, not a flat-pack wardrobe, so it will be a little challenging from time to time; but we've set out to make it as easy as possible for anyone, whatever their skill level and help is just a phone call away.

But before you do anything else, pop the kettle on or pour yourself a G&T with a slice; and

READ THE NEXT THREE PAGES - THEY ARE REALLY IMPORTANT

No, they will not be very exciting unfortunately, but they are important nonetheless and you will regret it later if you don't.

So there are four important things we need to think about **NOW** before picking up a spanner:

- **This isn't the only guide you'll need**
- **When to apply for an IVA test**
- **Photography (no, really)**
- **Arranging a post build check**

Although we have made this guide as comprehensive as possible, the requirements of IVA change from time to time and even from test centre to test centre. Therefore, it **MUST** be read in conjunction with the 'IVA Checklist Guide', the latest version of which can be downloaded from the Caterham website. You'll find the refer-to-IVA-manual symbol in the bottom of each illustration where attention is required. Reading through it now, will save pain later! Don't assume that because you've found a reference to one item relating to that page, it is the only one...

Once you have completed the assembly of your Seven, you are required by law to present it for an 'Individual Vehicle Approval' test (better known as IVA), which is conducted by the Vehicle and Operator Services Agency (VOSA) at a regional test centre.

We **STRONGLY** recommend that you apply for your IVA appointment at least a month before you think you will complete your build, to allow for the application form to be processed at the snail's pace of bureaucracy. Once accepted, your IVA application is valid for 6 months and test dates can be changed up to a minimum of 3 working days prior to your appointment with VOSA (any later and you may incur a charge).

The application form and a guide on how to complete it, is contained within an envelope of documents provided with your kit and which is probably acting as a coaster for your g&t at the moment. Take this moment to find it and remove it from the garage and place it somewhere safe (and memorable).



VOSA and the DVLA are a suspicious bunch and in order to register your car, you will need to provide proof that it is amateur built. When you apply for registration, you will need to include photos from various stages of you build, which will demonstrate to them that it is an 'amateur build'.

Recruiting a few extras (your kids, your spouse, the cat, etc.) and some props (last year's Xmas tree, a radio from the 1980's and a rusty bike) will all contribute to a more authentic home-garage feel; proving that no professional help (i.e. commercial workshop/garage) was involved in the build. Of course, feel free to have yourself working away on the kit in the photos if one of your 'extras' can be trusted with the camera (not the cat; they never get the exposure right).

Finally, we know you haven't started yet, but we need to tell you about the Post Build Inspection now, due to availability at our service centres and the time it takes to get you a slot. Plan ahead!

What is the Post Build Inspection? This is a free service offered by all Caterham service centres which we wholeheartedly recommend you take up on prior to your IVA test. It ensures that your car is correctly assembled and is road-worthy. All safety and operational aspects of your Seven will be checked, concluding in a road test. This will enable us to advise you of any corrective work that may be required (which we will be happy to carry out for you*). It is important to note that this is not the same as the IVA test and whilst every effort will be made to ensure your car passes, there is **NO GUARANTEE** of a first time IVA pass.

*Obviously any additional work is not for free, but we will speak to you first so you can decide whether you want to pay us to do the corrections or you want to do them yourself.

REMEMBER: Post Build Inspection slots are in high demand at our service centres and there may be a two-month lead time at busy times, so please check on availability and book ahead!

All our service centres will be able to offer you a Post Build Inspection and IVA service, where they take the car to IVA on your behalf. This tends to increase the likelihood of a first time pass and means you don't need to take a day out to endure the test, which is beyond dull.

As a guide, the Post Build Inspection through to registration can take around 6 weeks to complete.

That's it, we're ready to start assembly

ENJOY

HINTS & TIPS

When using a torque wrench, listen/feel the click and then stop. It does not need to be any tighter and you might actually weaken the fixing by 'over-torquing' it. Always wind your torque wrench setting back to free when you've finished with it.

John K

A 'nyloc' nut is one with a nylon insert that gets cut by the bolt thread, making it resistant to unwinding itself. This means that they should not be repeatedly re-used.

Chris B

This guide covers optional equipment your car may not have!

Tiago O

1Nm of torque equals 0.736lbft.

Mick F

Thread lock is used to stop something coming undone, but it only needs a little drop on the thread to be effective.

Jamie A

When using a spanner, always use the ring end wherever possible. The open end is really only for those times that access is too limited for a ring spanner or socket.

Mick A

Generally, metric Nyloc nuts have a blue nylon insert and imperial ones a white nylon insert.

Grant P

Teabag, boiling water, then the milk, in that order.

Simon L

Left and right are as viewed from the driver's seat.

Harrison P

You can tell if you have 'wide track suspension' car by looking at the front dampers. Wide track has a 25mm long hexagonal spacer between the top spring retainer and the mounting bush.

Matt T

A 'caphead bolt' has a circular head with a hexagonal drive inside it. It is tightened with an allen key or hex drive socket. Capheads are useful where there is limited space around the head for a spanner or socket. They look nice too!

Richard T

A bolt size is described by its diameter (e.g. M10=10mm) by the length not including the head (e.g. 65mm).

James A

A 'spring washer' has a split in it and squashes up closed when a fixing is tightened. It is usually used under a bolt head to help resist it coming undone.

John S



Speak to an expert
buildsupport@caterham.com



Video Guides
[https://www.youtube.com/
user/OfficialCaterhamUK](https://www.youtube.com/user/OfficialCaterhamUK)
Playlist coming soon

KEY

SYMBOLS

1 Item number

AA
AJ
AM Fixing item


S **R** S Pack / R Pack specific instructions


Nm Required torque (where applicable)


S3
S5 S3 / S5 chassis specific instructions

REPEAT Repeat on other side




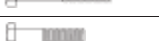







 Advice from factory professionals


 Now is a good time to take some photos

 Reminder to apply for your IVA test

 Refer to IVA Checklist Guide

FIXINGS

Pack A		CATERHAM		44	
		PACK NUMBER		38F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	AA Bolt M12 x 100 Grade 10.9	BM12X100	2	Lower wishbone rear	
2	AB Bolt M12 x 85 Grade 10.9	BM12X85	2	Lower wishbone front	
3	AC Bolt M10 x 85 Grade 10.9	BM10X85	2	Upper wishbone rear	
4	AD Bolt M10 x 80 Grade 10.9	BM10X80	2	Upper wishbone front	
5	AE Bolt M8 x 40 Grade 10.9	BM8X40	4	Anti-roll bar mounting brackets	
6	AF Plain Nut M14 x 1.0 thread	NM14	1	Temporary use to help lock upper wishbone ball joint	
7	AG Nyloc Nut M12	NM12	2	Lower wishbone rear	
8	AH Nyloc Nut M10	NM10	4	Upper wishbone	
9	AI Plain Washer M12 Oversized	WPCM12	18	Lower wishbone	
AK	Plain Washer M8 Heavy Duty	WPH8	4	Anti-roll bar mounting brackets	
AL	Plain Washer M2 x 2.5 Heavy Duty	WPH2.5	2	Steak stop	

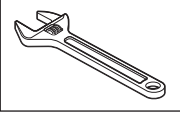

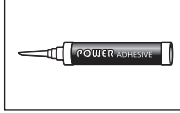
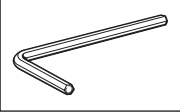

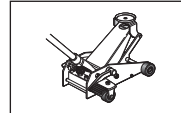
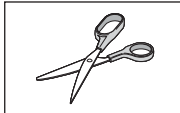


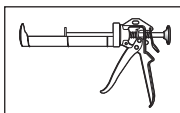




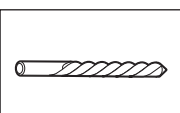
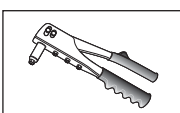
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	AA Bolt M12 x 100 Grade 10.9	BM12X100	2	Lower wishbone rear	

x4 ← (Indicates number of each fixing required)

← (Greyed out area indicates fixings are not required for current step)

KEY

TOOLS

	Adjustable spanner		Engine hoist		Power adhesive		Spanner		Torque wrench
	Allen key		Flat head screwdriver		Pozidrive screwdriver		Spirit level		Torx
	Assistance		Grease		Ruler		Spray adhesive		Trolley jack
	Axle stand		Junior hacksaw		Scissors		Spray lube		WD40
	Cable tie		Latex gloves		Side cutters		Stanley knife		
	Combination spanner		Long nose pliers		Silicon		Super glue		
	Copper grease		Marker Pen		Silicon gun		Tape		
	Drill		Muscle		Socket wrench		Tape measure		
	Drill bit		Pop rivet gun		Socket wrench (allen)		Thread lock / LocTite		

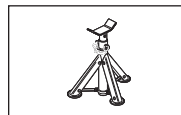
1. Preparation

Tip	Source	Original
Fit cardboard to the side panels	N/A	
Fit radiator hose to upper chassis rails around engine bay	N/A	
Fit pipe lagging to remaining areas	N/A	
Fill grot traps with Dinitrol 3125 HS	N/A	
Drill hole in Catch Tank mounting bracket	N/A	
Drill holes on underside of wingstay for earth connection	N/A	
Clear overspray from harness mounts (M11x1.25)	John Martin	Link
Drill hole in chassis plate for the horn mount BEFORE fitting the steering rack	Chris Collins	Link
Take a copy of the pick list and check every part – can use the partnumber to see image on caterhamparts.co.uk – keep a copy in records for future spares purchasing	Chris Collins	Link

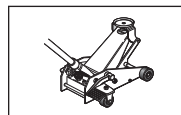
LET'S GET READY

PARTS

TOOLS



x3



FIXINGS

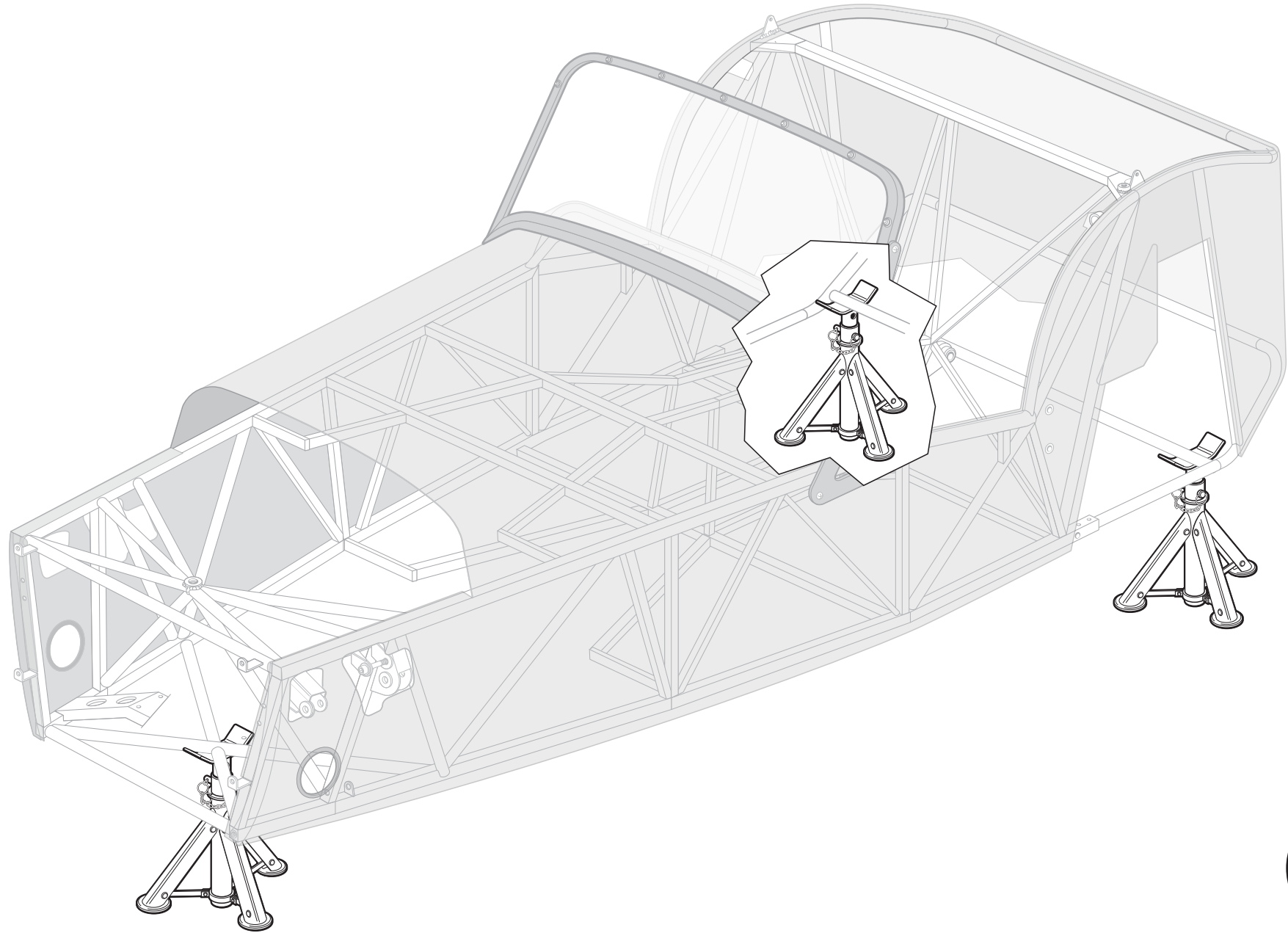
TIPS

When deciding how high your axle stands should be (the higher the better for working on), don't forget that a complete car will need to come down off them, so make sure your trolley jack can reach and lift the height you set them too!

Mick F

Some tape or foam on the top of the axle stands will stop them scratching the chassis.

Matt T



2. Engine / Gearbox Assembly

Tip	Source	Original
Remove coil cover	Brett Jones	Link
Protect the cam cover	Brett Jones	Link
Reposition engine on crate to allow the Bellhousing to be accessed / freed	-	-
Note the connections on the starter motor before removing	Chris Collins	Link
Remove starter motor (to eliminate the overhang from starter to Bellhousing)	John Martin	Link
Remove alternator & Plenum = tape over the exposed ports	Obodiah	Link
Remove Bellhousing – may need tapping with rubber mallet – make sure it's not resting on anything	Chris Collins	Link
Check the Clutch Release hose connections are tight in the Bellhousing (11mm spanner)	Chris Collins	Link
Make note of which bolts come from which location when removing from Bellhousing	John Martin	Link
Attach the Bellhousing to the gearbox using the pre-installed bolts inside the Bellhousing (discard the ones screwed in the gearbox) with flat and spring washers.	John Martin	Link
Clean the mating surfaces of Bellhousing / Gearbox / Engine interfaces	Brett Jones	Link
Torque Bellhousing to Gearbox bolts up to 30Nm first – then up to 68Nm	Brett Jones	Link
Offer Bellhousing/Gearbox up to Engine – may need to rotate Gearbox very slightly to align splines	Chris Collins	Link
Check threads of all engine and gearbox mounting points	Chris Collins	Link
Check for an imperial hex driver for engine mounts	Chris Collins	Link

WET / DRY SUMP REMOVE ENGINE PARTS

PARTS

- 1 Engine mounts
- 2 Starter motor
- 3 Bellhousing

TOOLS

FIXINGS

TIPS

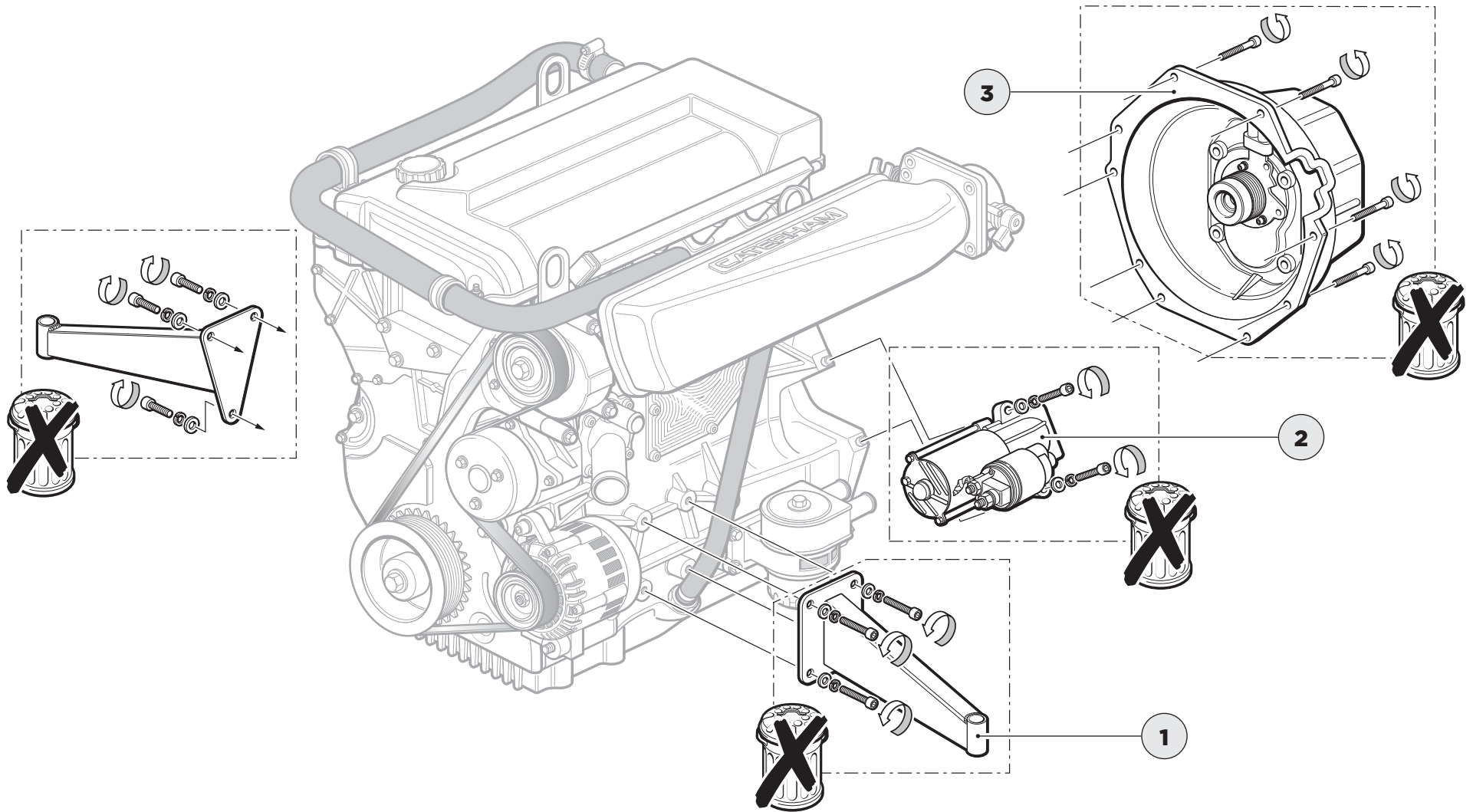
Remove the engine mounts, starter motor and bellhousing.

Mick F

Remember where the bolts go.

John S

WET / DRY SUMP REMOVE ENGINE PARTS

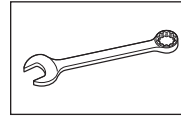


WET / DRY SUMP REMOVE ENGINE PARTS

PARTS

- 1 Alternator
- 2 Alternator Belt
- 3 Plenum

TOOLS



15mm

FIXINGS

TIPS

Remove alternator, alternator belt and plenum.

Richard T

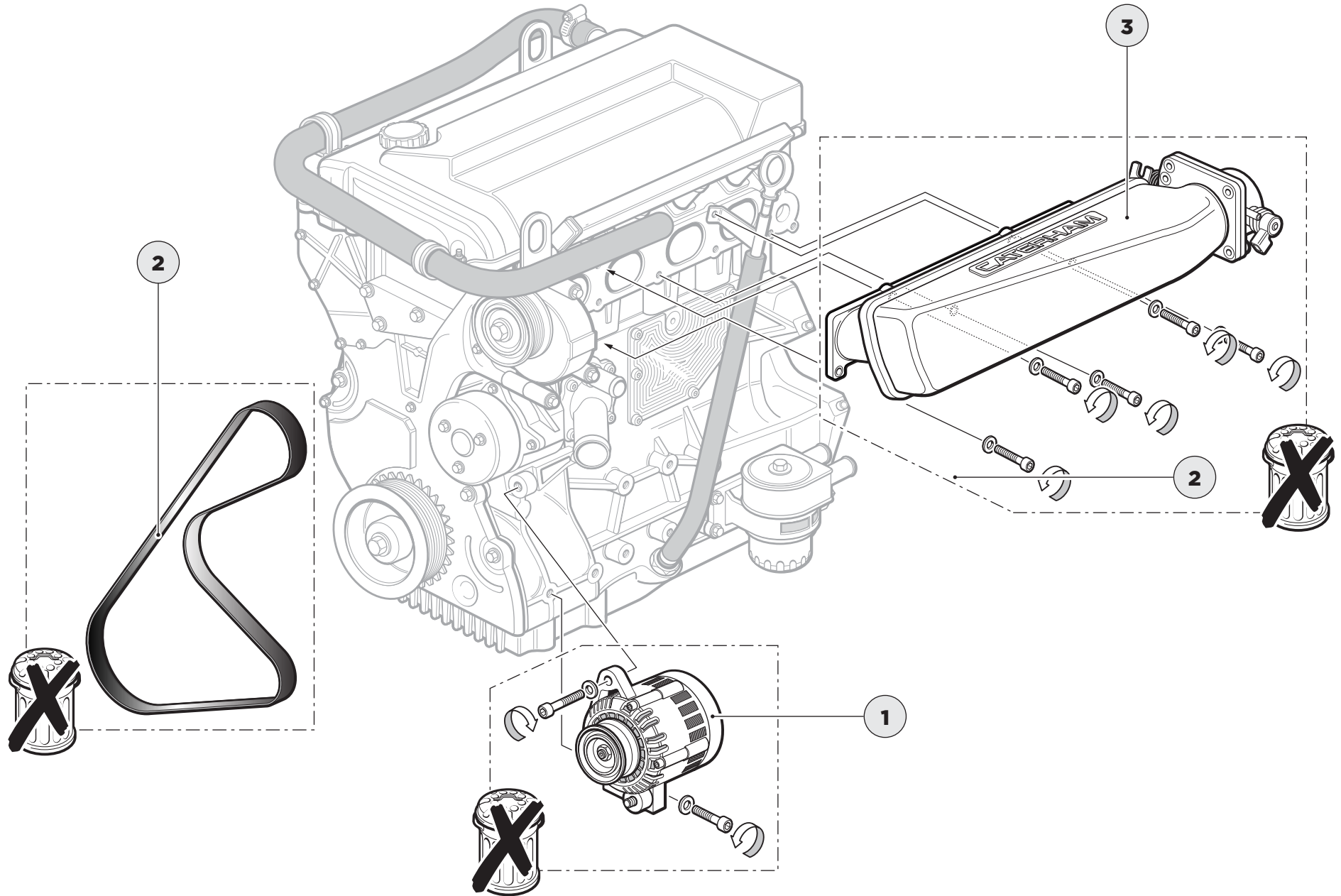
Use a 15mm spanner and turn anti-clockwise to remove alternator.

Harrison P

Remember where the bolts go.

John S

WET / DRY SUMP REMOVE ENGINE PARTS

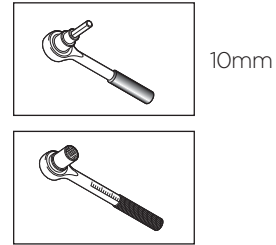


WET / DRY SUMP ATTACH GEARBOX TO BELLHOUSING

PARTS

- 1** Gearbox
- 2** Bellhousing

TOOLS



10mm

FIXINGS

Pack F		CATERHAM		66	
		PACK NUMBER		3E22029B	
DURATEC GEARBOX 5 SPEED					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	FA Pin M10 x 20 x 3.5 Grade 12.9	302202A	2	AV Mount	
2	FB Caphead M12 x 40 x 1.75 Grade 12.9	3MCH12044	4	Bellhousing	
3	FC Caphead Bolt M10 x 20 Grade 12.9	3MCH10060	1	Bellhousing	
4	FD Caphead Bolt M10 x 20 Grade 12.9	3MCH10020	3	Bellhousing	
5	FE Caphead Bolt M10 x 4.4 Grade 12.9	3MCH10044	7	x 5 Bellhousing x 2 Starter Motor	
6	FF Caphead Bolt M8 x 20 Grade 12.9	302207A	4	AV Mount	
7	FG Caphead Bolt M8 x 20 Grade 12.9	3MCH30020	3	Clutch Release Bearing	
8	FH Subcaphead Bolt M8 x 10 Grade 10.9 Hexaned-6	3021100A	1	Gear Lever	
9	FI Nylon Nut M8	3M3708	4	AV Mount	
10	FJ Plain Washer M10	3M3114	2	AV Mount	
11	FK Plain Washer M12	302203A	4	Bellhousing	

x4

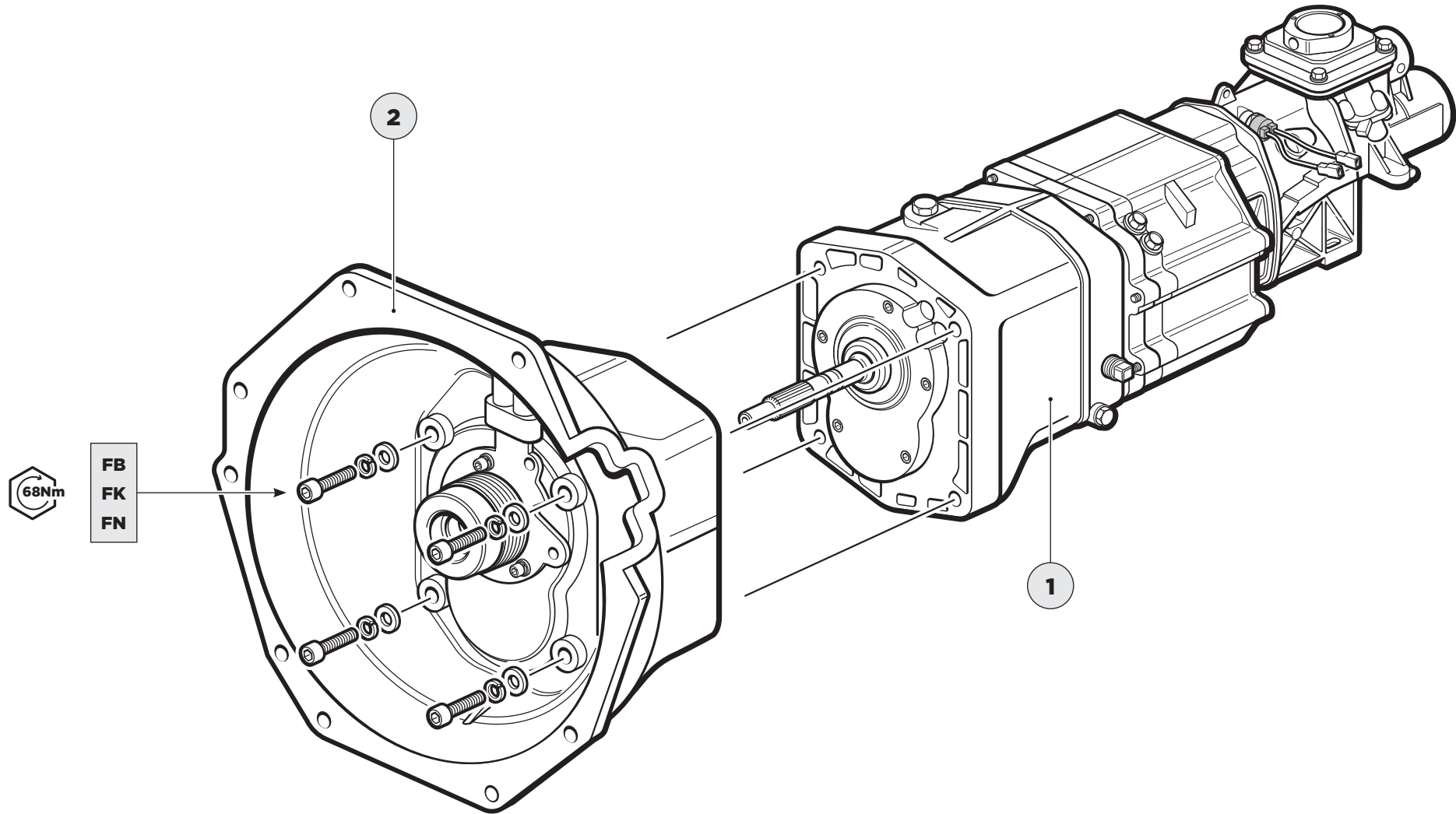
x4

Pack F		CATERHAM		66	
		PACK NUMBER		3E22029B	
DURATEC GEARBOX 5 SPEED					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	FL Plain Washer M8	3M3108	3	Gear Lever	
13	FM Spring Washer M10	302202A	2	AV Mount	
14	FN Spring Washer M12	W5HM12	4	Gearbox	
15	FO Spring Washer M10	W5HM10	4	x 2 Starter Motor x 2 Front Bellhousing	
16	FP Spring Washer M8	W3HM8	3	Clutch Release Cylinder	

x4

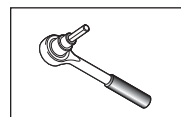
TIPS

WET / DRY SUMP ATTACH GEARBOX TO BELLHOUSING



WET / DRY SUMP AND THEN GEARBOX TO ENGINE

TOOLS



8mm



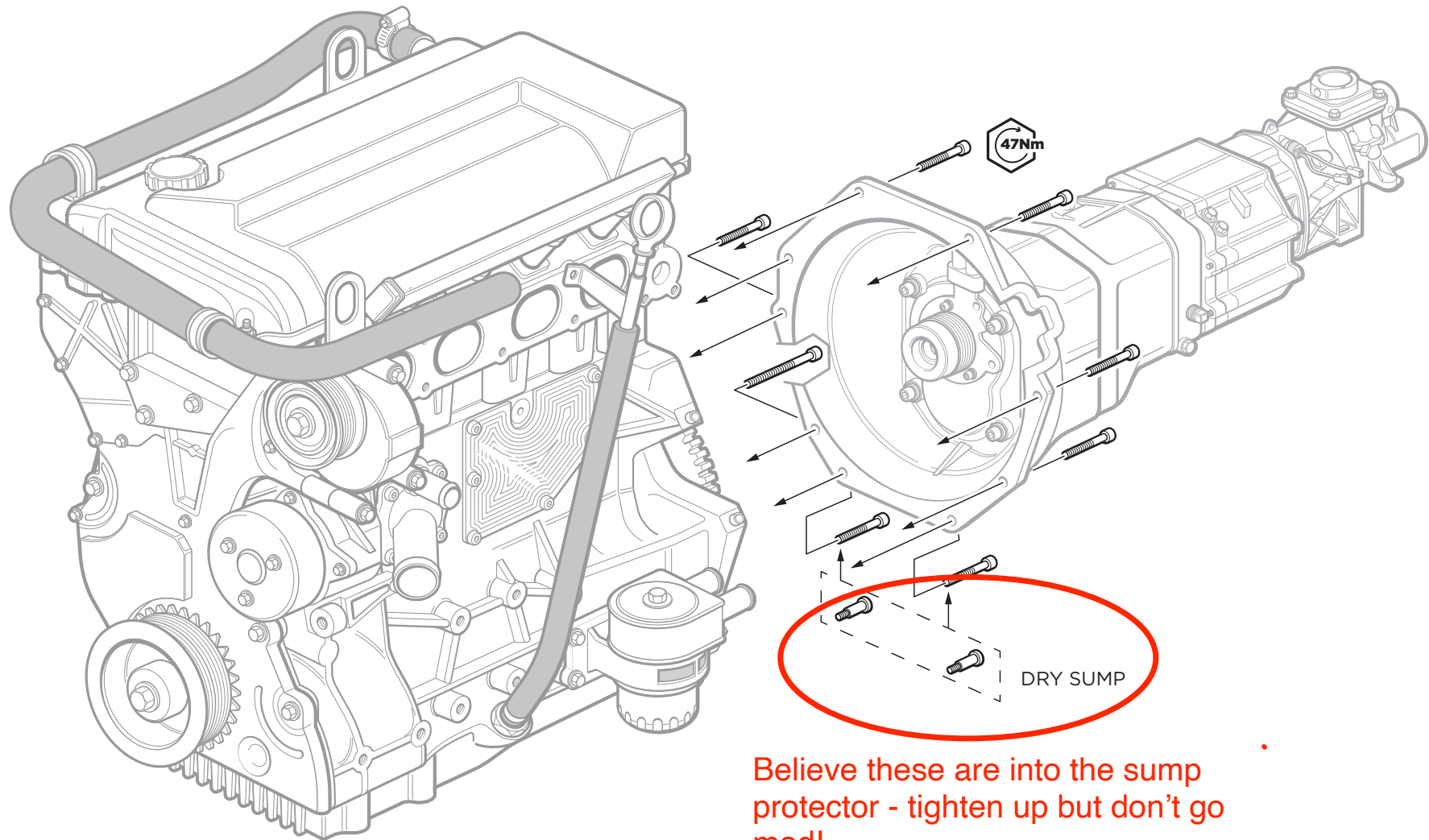
FIXINGS

TIPS

Refit bellhousing and gearbox to engine.

Harrison P

WET / DRY SUMP AND THEN GEARBOX TO ENGINE



Believe these are into the sump protector - tighten up but don't go mad!

FILLING THE ENGINE AND GEARBOX WITH OIL

PARTS

Engine oil SW-30

Gear oil GL4

TOOLS

FIXINGS

TIPS



Ford 2.0L Engine

Wet Sump = 4.5 Litres

Dry Sump = 6.0 Litres (3 Litres in Engine,
3 Litres in Tank, top up if required)

5 Speed Gearbox = (Pre-Filled)

Before Installation. You can double check the oil level by removing the plug on the side. The oil should be to this level.

Do not fill engine with oil until full oil cooling system installed!!

3. Fit IVA trim to suspension cutouts

Tip	Source	Original
New smaller profile IVA trim is available from Caterham – part 300V036A	Chris Collins	Link
No need to cover all the edges – only the top half of the chassis hole	Chris Collins	Link
Glue longer edge of trim inside the chassis (if using standard trim)	John Martin	Link
Cut notches on inside face to allow for radii (if using standard trim)	John Martin	Link

4. Engine Fit

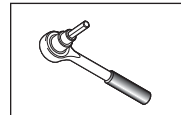
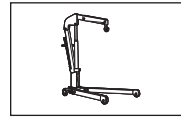
Tip	Source	Original
Fit Skid Plate under Bellhousing	-	-
Use engine hoist to lift engine up to the level of the gearbox	Brett Jones	Link
Remove the auxiliary belt tensioner too	Brett Jones	Link
Wheeled axle stands are very helpful – allow small movements of the car rather than hoist	John Martin	Link
Protect chassis rails with fuel hose (bought from eBay)	Brett Jones	Link
Good time to fill the Grot Traps with Dinitrol	Brett Jones	Link
Check the threads on the engine mounts	Brett Jones	Link
Remove any heat reflective material from the gearbox mounting holes	Brett Jones	Link
Protect the transmission tunnel with VERY thin material (plastic sheet?)	Brett Jones	Link
Wrap the gearbox in polythene shipping material + plastic sheet over the protruding areas	Brett Jones	Link
Lower the front of the car relative to the back	Chris Collins	
Check the jack will reach the gearbox area	-	-
Use a ratchet strap round the engine hoist and wheeled axel stands to move the engine in (tie wrap the chassis to the axle stands)	Brett Jones	Link
Remove the engine mounts from the engine	John Martin	Link
Fit the Engine Mounts to the Rubber Mounts first (imperial 3/8" bolt) – then loose fit that assembly to the engine and chassis (see diagram in manual)	Brett Jones	Link
Use Loctite on gearbox M14 bolts – torque to 40Nm (not listed in manual)	Brett Jones	Link
Manoeuvre gearbox to get as much space between gearbox and chassis	Brett Jones	Link
Finally - tighten up the bolts in the engine block mounts – torque to 34Nm and then tighten the imperial bolts through mounting brackets to the rubber mounts	Brett Jones	Link

WET / DRY SUMP AT LAST THE ENGINE IS GOING IN

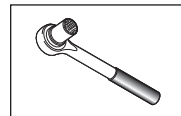
PARTS

- 1 Engine mounts
- 2 Engine rubbers

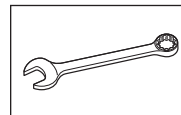
TOOLS



6mm
8mm
3/8



13mm



13mm
15mm

FIXINGS

TIPS

When fitting engine rubbers and mounts, fit as loosely as possible so you can wiggle things to get bolts in.

James A

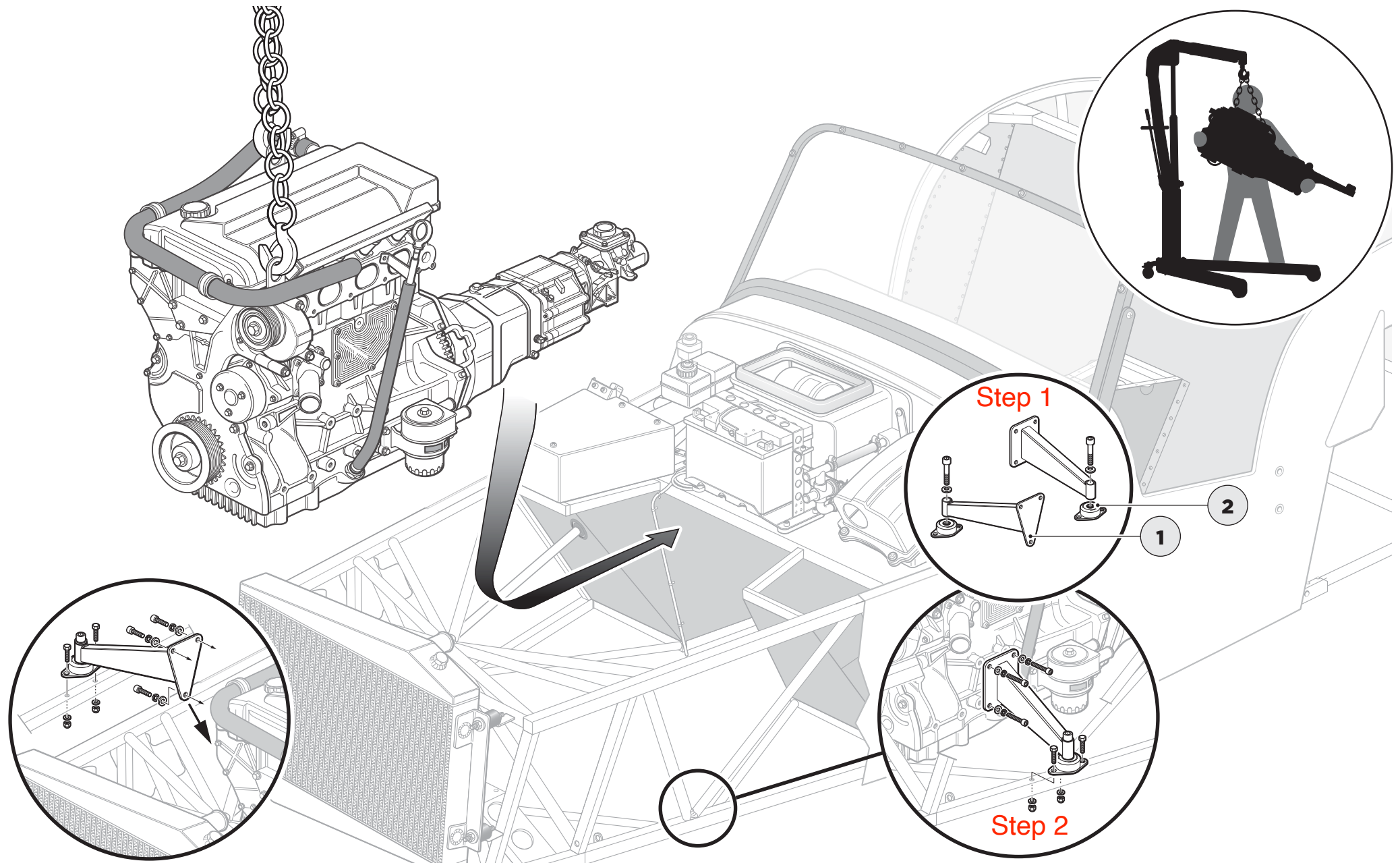
Tighten gradually once all bolts are in.

Chris N

Protect the chassis with soft stuff such as cardboard or a folded towels / blankets.

Harry P

WET / DRY SUMP AT LAST THE ENGINE IS GOING IN

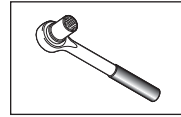


Step 3 - slowly tighten engine mount bolts on either side to pull engine into position

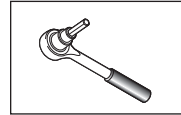
WET / DRY SUMP AND THE GEARBOX IS FIXED IN PLACE

PARTS

TOOLS



13mm
22mm



6mm

FIXINGS

TIPS

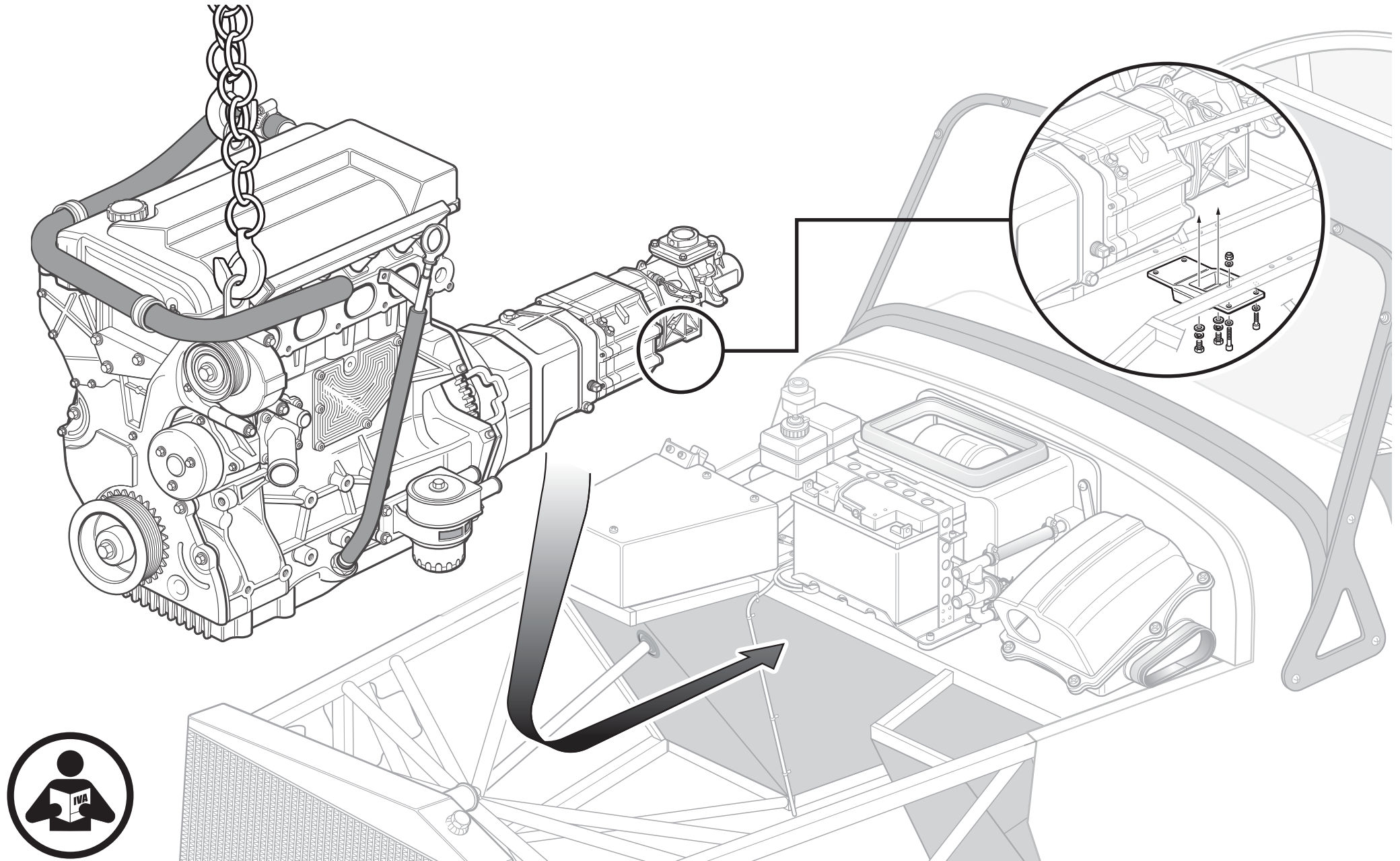
Once the engine is in, the wiring can be connected to the car's loom. It should be self explanatory.

Chris B

See IVA guide – how to secure a loom.

Grant P

WET / DRY SUMP AND THE GEARBOX IS FIXED IN PLACE



5. Engine Components Refit

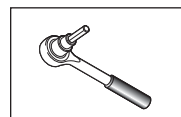
Tip	Source	Original
Refit Starter Motor – torque to 35Nm	Chris Collins	Link
Remove lower Alternator mount from Alternator and loose attach it to the engine block first. Top bolt in alternator first (loose) – then bottom bolt.	Chris Collins	Link
Alternator – detach lower mount from the alternator and loosely attach to engine block	Obodiah	Link
Loosely fit the top bolt next	Obodiah	Link
Gradually tighten the bottom mounting bracket and bolt – then tighten the top	Obodiah	Link

WET / DRY SUMP REFIT ALTERNATOR, BELT & STARTER MOTOR

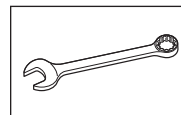
PARTS

- 1** Alternator belt
- 2** Alternator
- 3** Starter motor

TOOLS



8mm



15mm

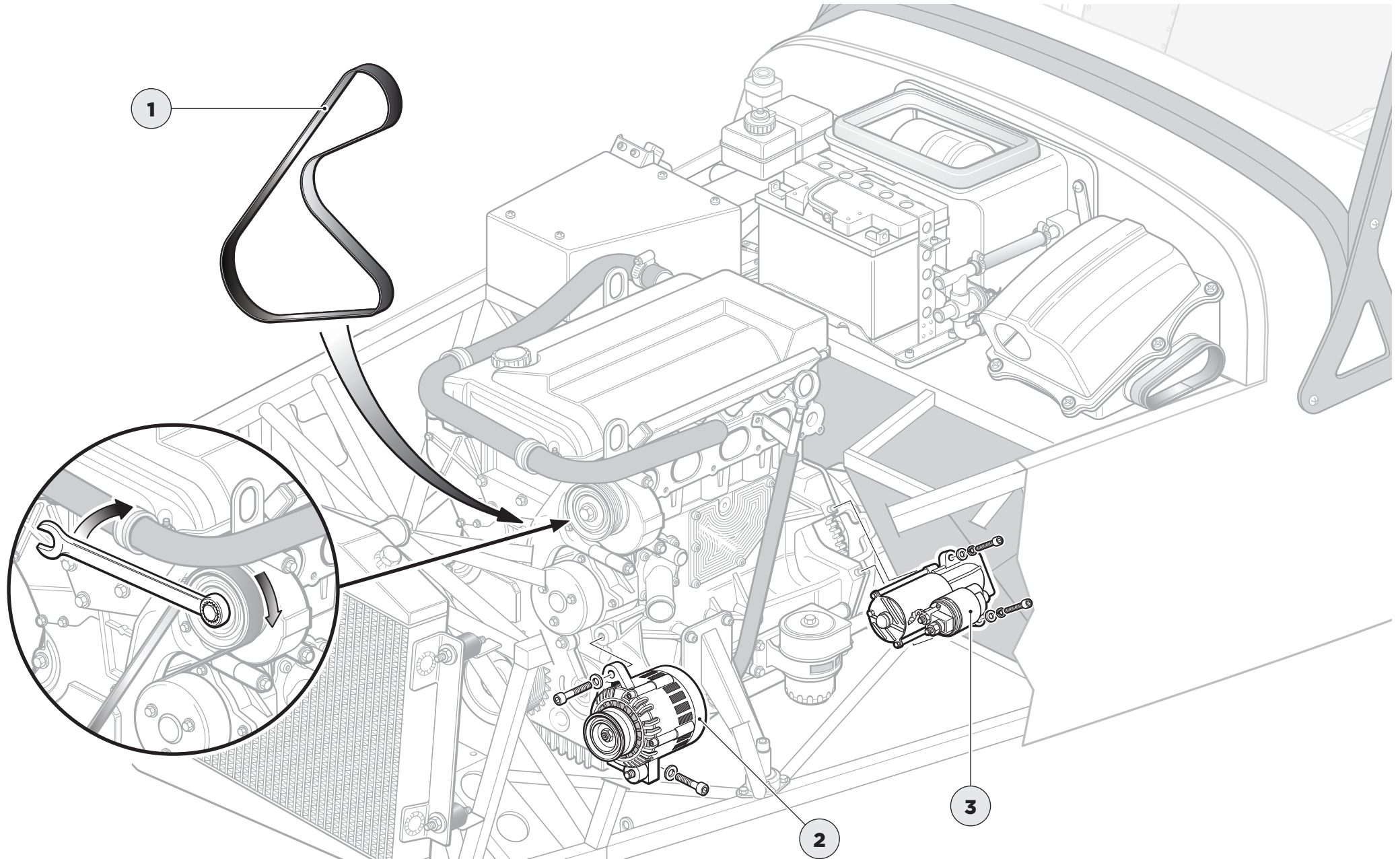
FIXINGS

TIPS

Refit alternator, alternator belt and starter motor.

Lee A

WET / DRY SUMP REFIT ALTERNATOR, BELT & STARTER MOTOR



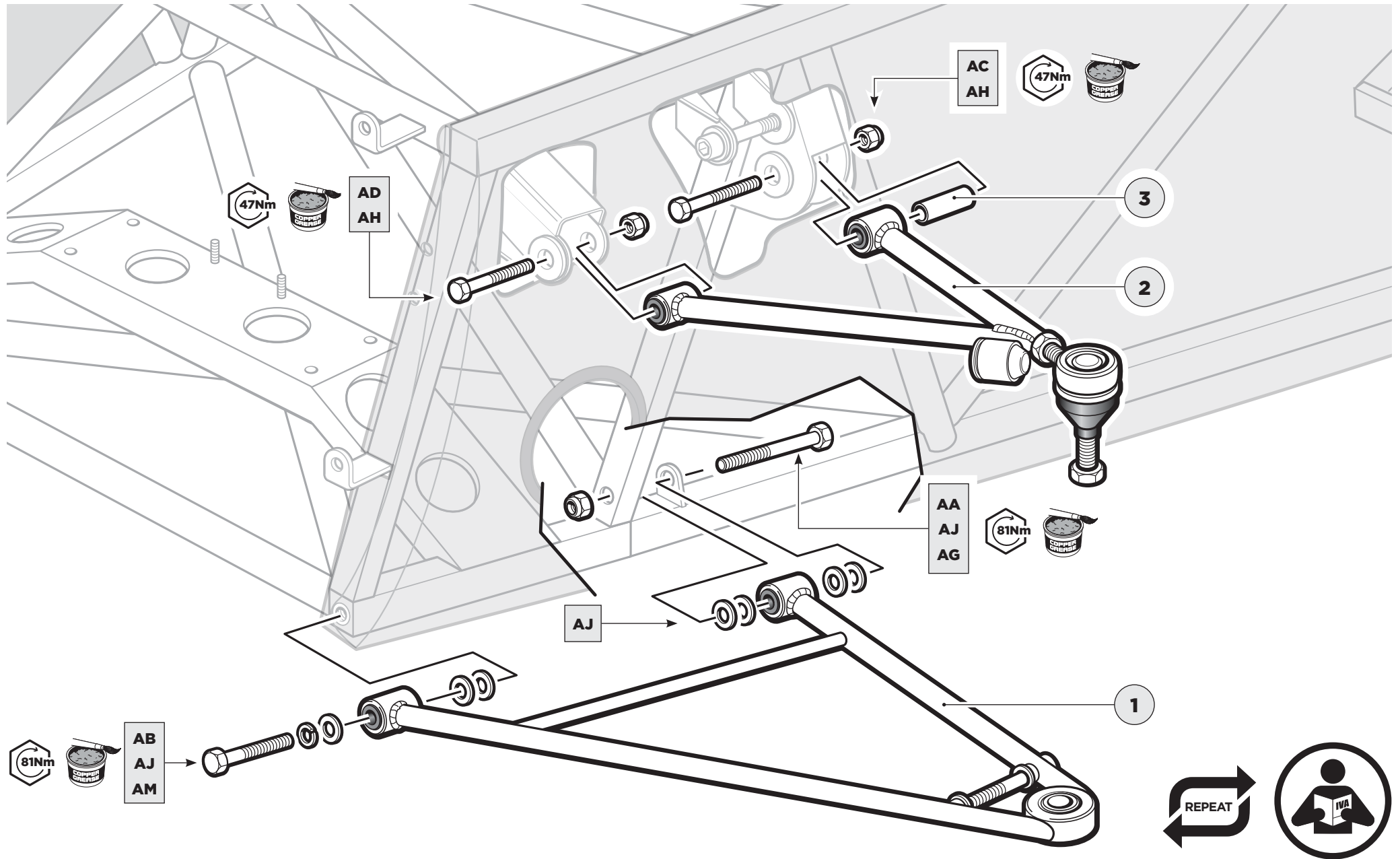
6. Fit Lower Wishbones

Tip	Source	Original
Lower wishbones are handed – circlip faces the ground	John Martin	Link
Question – build manual shows circlip at front of lower wishbone?? (Blogs state washer)	Build manual	
Upper wishbones are NOT handed	John Martin	Link
Upper wishbone rear mount bush – use the correct one. Select from the pack by diameter (ID 10mm, OD 12mm)	Team Ivans	Link
Lift wishbones to horizontal position with the Jack and then torque	Chris Collins	Link
Lower wishbone bolt needs a half height nut to allow threads to be seen (IVA)	Obodiah	Link

7. Fit Upper Wishbones

Tip	Source	Original
Check the welding around ARB mounting cup will allow the rubber boot to fit – BEFORE fitting!	Chris Collins	Link
Dry fit bolts to ensure they align correctly – DON NOT TORQUE until wheels are on the ground	Chris Collins	Link
Fit IVA grommet to chassis (consider using a larger one if going to use heat-shrink approach to wiring in the light cluster) – not shown in the manual	Chris Collins	Link
Check the fit of the headlamp stay (specifically whether the holes are correctly centred) – if not, protect the paintwork and open up the hook with a pry bar	Chris Collins	Link
Insert spacer to upper wishbone – cover with copper ease and use Allen Key (etc) to align rear hole first	Chris Collins	Link
Once fitted, use a bungee cord to hold upper wishbone up and prevent it from fouling on the skin	Chris Collins	Link

START WITH THE SUSPENSION WISHBONES



8. Dampers

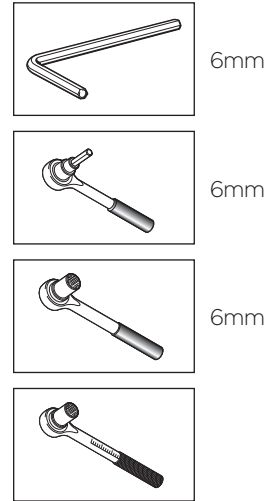
Tip	Source	Original
Mask internal side skin before removing the upper damper bolt	Chris Collins	Link
Assemble necessary tools in arms reach before fitting dampers	Chris Collins	Link
Install with Bilstein readable	John Martin	Link
Apply copper ease and fit lower end of damper first	Chris Collins	Link
Use small Allen Key to align holes on upper end of damper	Chris Collins	Link
May have to apply pressure on the side skin to let bolt slide through holes on upper end	Chris Collins	Link
Cut down 6mm Allen Key will help with removing and fitting the upper retaining bolt	John Martin	Link
Use 19mm spanner on the damper spacer to manipulate the locating hole	John Martin	Link

AND THEN THE DAMPERS

PARTS

- 1 Spring / damper
- 2 Lower damper sleeve
- 3 Upper damper sleeve

TOOLS



FIXINGS

Pack A		CATERHAM		44	
		PACK NUMBER		30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball B12 x 60 (Metric)	8M12100	2	Lower wishbone rear	
2	Ball B12 x 60 (Metric)	8M12000	2	Lower wishbone front	
3	Ball B12 x 60 (Metric)	8M12000	2	Upper wishbone rear	
4	Ball B12 x 60 (Metric)	8M12000	2	Upper wishbone front	
5	Ball B8 x 40 (Metric)	8M0800	4	Anti-roll bar mounting brackets	
6	Plan No 814 x 1.5 Thread	8M0914	1	Temporary use to help lock upper wishbone ball joint	
7	Nylon Nut M12	8M0712	2	Lower wishbone rear	
8	Nylon Nut M12	8M0712	4	Upper wishbone	
9	Plan Washer M12 (Metric)	8M0812	18	Lower wishbone	
10	Plan Washer M8 (Metric)	8M0808	4	Anti-roll bar mounting brackets	
11	Plan Washer 1/2" x 1/2" (Metric)	8M0808	2	Brake pipe	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack A		CATERHAM		44	
		PACK NUMBER		30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Spring Washer M12	8M0812	2	Lower wishbone rear	
13	Spring Washer M8	8M0808	6	Anti-roll bar mounting brackets & upper damper mount	
14	Washer 1/2" Brake pipe	8M0808	2	Brake pipe	
15	Nylon Nut 1/2" (Metric)	8M0712	2	Wing stay	
16	Nylon Nut 1/2" (Metric)	8M0712	2	Front brake, spring mounting (old track pipe)	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

Fixings not contained in the pack will be supplied loosely fitted to the chassis and the wishbone

TIPS

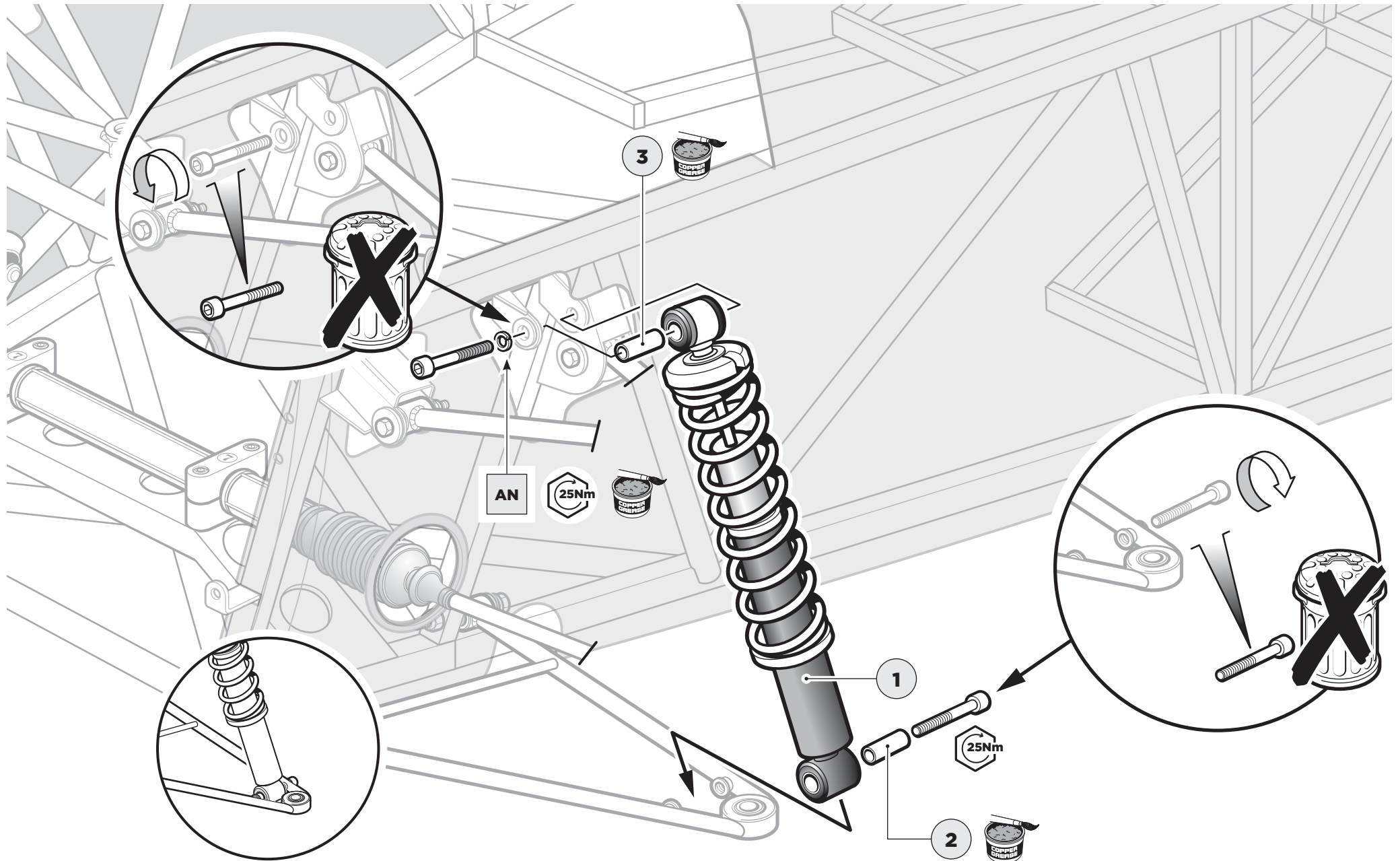
Put the top of the damper on first and be careful not to let it swing into the side of the chassis.

Grant P

The bottom can be a tight fit!

Mick F

AND THEN THE DAMPERS



9. Fit Steering Rack

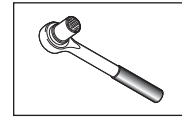
Tip	Source	Original
Don't worry about tight fit of cap head bolts – should be tight (spanner on nyloc nuts)	John Martin	Link
Feed steering rack into the chassis from the inside	John Martin	Link
Consider fitting heat shrink over the exposed metal areas between gaitor and track rod cover	Obodiah	Link
Don't bother tightening until later (rack will need twisting when the column is fitted)	Chris Collins	Link

NOW FOR THE STEERING RACK

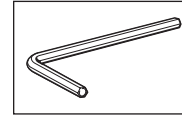
PARTS

- 1 Steering rack
- 2 Rack clamps
- 3 Column universal joint
- 4 Track rod end
- 5 IVA cover

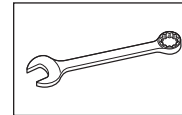
TOOLS



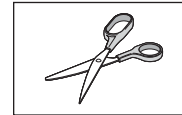
13mm



5mm



10mm
13mm
22mm
3/4"



FIXINGS

Pack B		CATERHAM		55	
		PACK NUMBER		JAC/TW/01	
		RELEASED NOV-19			
STEERING DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	BA Clamped Bolt M6 x 70 DIN913	BMCHEX70	4	Rack clamps	
2	BB Bolt 12 x 110	BB12x110	2	Column clamp	
3	BC Ball Nut x40 G10x 10.9	BMSM40	2	Column to rack universal joint	
4	BD Nylon Nut 12 (100000)	NPN12	1	Steering wheel boss	
5	BE Plain Nut 12	NPN12	2	Track rod lock nut	
6	BF Plain Nut 10 (100000)	NPN10	1	Column clamp (optional vehicle)	
7	BG Nylon Nut M8	NPN8	2	Column to rack universal joint	
8	BH Nylon Nut M6	NPN6	4	Steering rack clamps	
9	BJ Plain Washer 12 x 16 (100000)	WPN12	1	Steering wheel boss	
10	BK Plain Washer 12" Heavy Duty	WPH14	6	Rack clamps and column clamp	
11	BL Spring Washer 12 (100000)	WSP12	2	Column clamp	

x4

x2

x2

x2

x4

x4

TIPS

Finding the right IVA cover isn't obvious because it is effectively a long cap. To use it, you cut the closed end off.

Jamie A

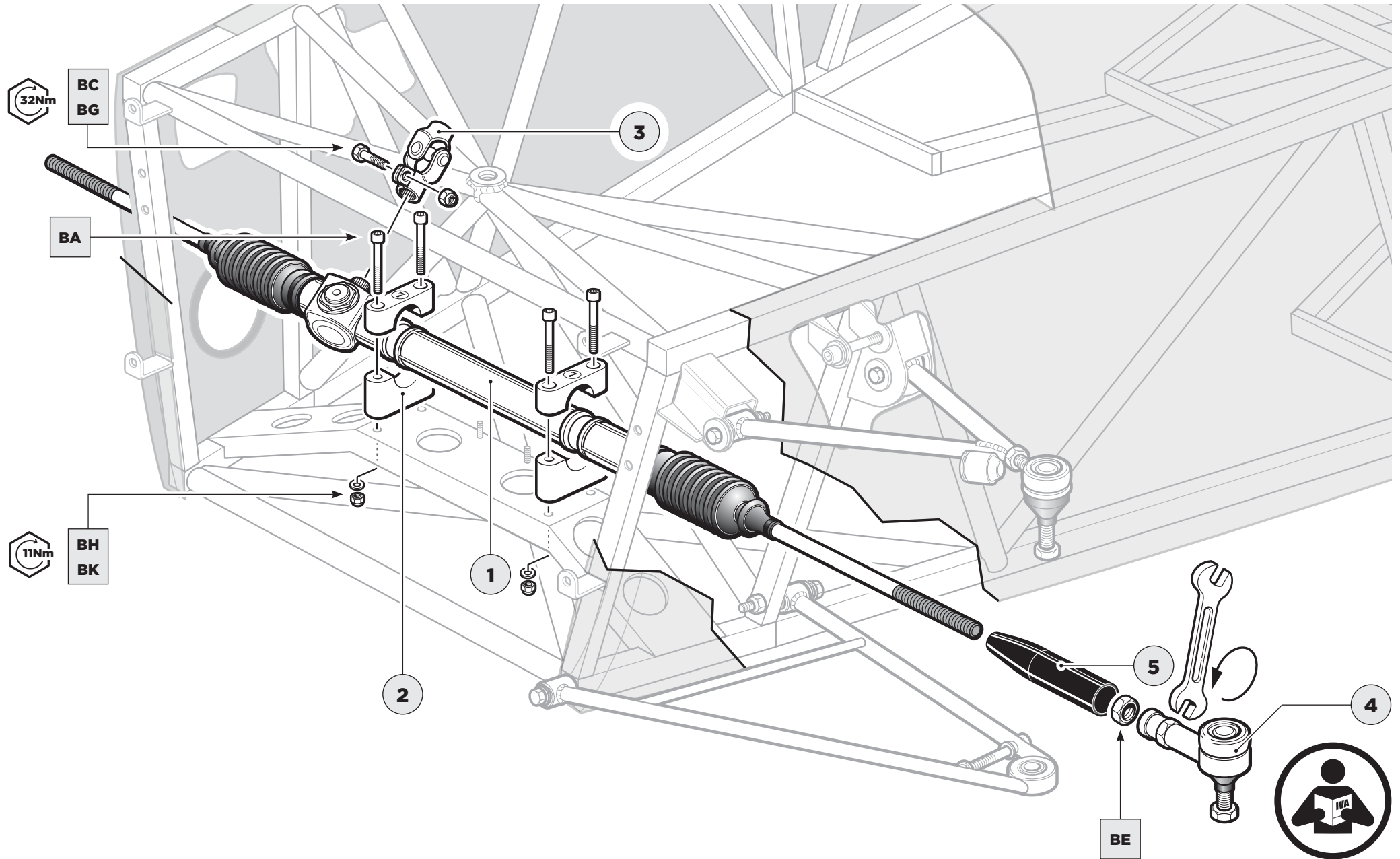
The trackrod end needs to screw on about 12 turns (it will be properly set later when the tracking is done).

Matthew H

Don't fully tighten steering rack for now.

Dan D

NOW FOR THE STEERING RACK



10. Front Uprights & Wingstays

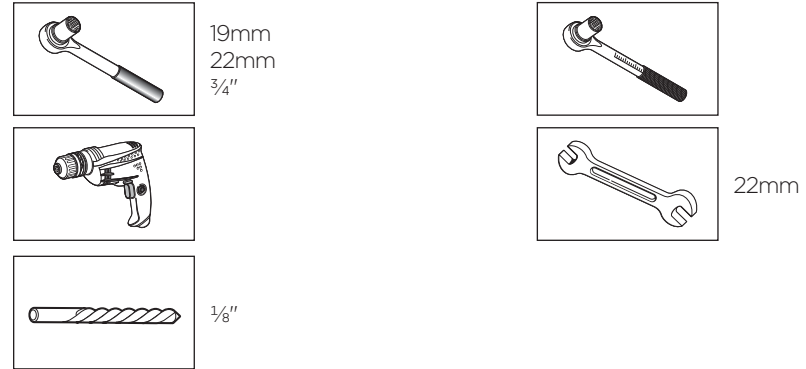
Tip	Source	Original
Top Hat spacer for lower ball joint may require cooling to fit	Chris Collins	Link
Mixed fittings used ; CHECK : Blue Nyloc = metric; White Nyloc = imperial	Chris Collins	Link
1. Remove nuts from upper ball joint and track rod		
2. Fit spacer to upright		
3. Fit top hat to lower wishbone bearing (from below)		
4. Lower upright into lower wishbone – do not dislodge the top hat		
5. Fit ½” UNF to lower wishbone upright – HOLD THE UPRIGHT TO STABILISE		
6. Add the track rod ball joint (finger tight) to stabilise the upright		
7. Slide upper wishbone into the upright		
8. Lift the lower wishbone to horizontal position with jack or similar – allows thread to be exposed on upper joint.		
9. Use the tightening (non-Nyloc nut) to pull the ball joint into (6mm Allen Key into ball joint and 22mm Ring spanner) – then remove the nut		
10. Remove the axle nut and discard washer if there is one		
11. Fit the wing-stay – onto upper ball joint first, then slide onto axle.		
12. Tighten everything (Track Rod = 34Nm not listed on the manual)		
Drill hole in underside of front wingstay BEFORE fitting (Pillar Drill) to avoid drilling on the car	AA	

IT'S TIME FOR THE WINGSTAYS

PARTS

- 1 Wingstay
- 2 Front brake & upright assembly

TOOLS



FIXINGS

Pack A		CATERHAM		PART NUMBER: 30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	AA Bush M12 x 60 (front) rear	BM12100	2	Lower wishbone rear	
2	AE Bush M12 x 60 (front) rear	BM12090	2	Lower wishbone front	
3	AC Bush M12 x 60 (front) rear	BM12080	2	Upper wishbone rear	
4	AD Bush M12 x 60 (front) rear	BM12070	2	Upper wishbone front	
5	AE Bush M8 x 40 (front) rear	BM0800	4	Anti-roll bar mounting brackets	
6	AF Plain Nut M14 x 1.5 thread	NM1414	1	Temporary use to help lock upper wishbone ball joint	
7	AG Nylon Nut M12	NM1212	2	Lower wishbone rear	
8	AH Nylon Nut M12	NM1212	4	Upper wishbone	
9	AJ Plain Washer M12 (front) rear	WP1212	16	Lower wishbone	
10	AK Plain Washer M8 (front) rear	WP0808	4	Anti-roll bar mounting brackets	
11	AL Plain Washer 1/2" x 1/2" (front) rear	WP1616	2	Brake pipe	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack A		CATERHAM		PART NUMBER: 30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	AM Spring Washer M12	WSP1212	2	Lower wishbone rear	
13	AN Spring Washer M8	WSP0808	6	Anti-roll bar mounting brackets & upper damper mount	
14	AP Washer 1/2" (front) rear	WSP1616	2	Brake pipe	
15	AR Nylon Nut 1/2" (front) rear	NM1616	2	Wing stay	
16	AS Nylon Nut 1/2" (front) rear	NM1616	2	Front brake, upright mounting (std track ONLY)	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

x2
x2

TIPS

The drilled hole is for the side repeater earth that we'll fit later. It's easier to drill from the top and down through both sides of the tube, rather than through one side from the bottom (where the earth will be fixed).

Tiago O

Put the 'upright' into the lower wishbone joint then attach the steering before tightening the bottom nut. This stops it all swinging around hitting the side of the chassis.

John S

Some of the fixings required and shown on the drawings, such as the ball joint nut, are already on the part and not in the fixing pack.

Anthony L

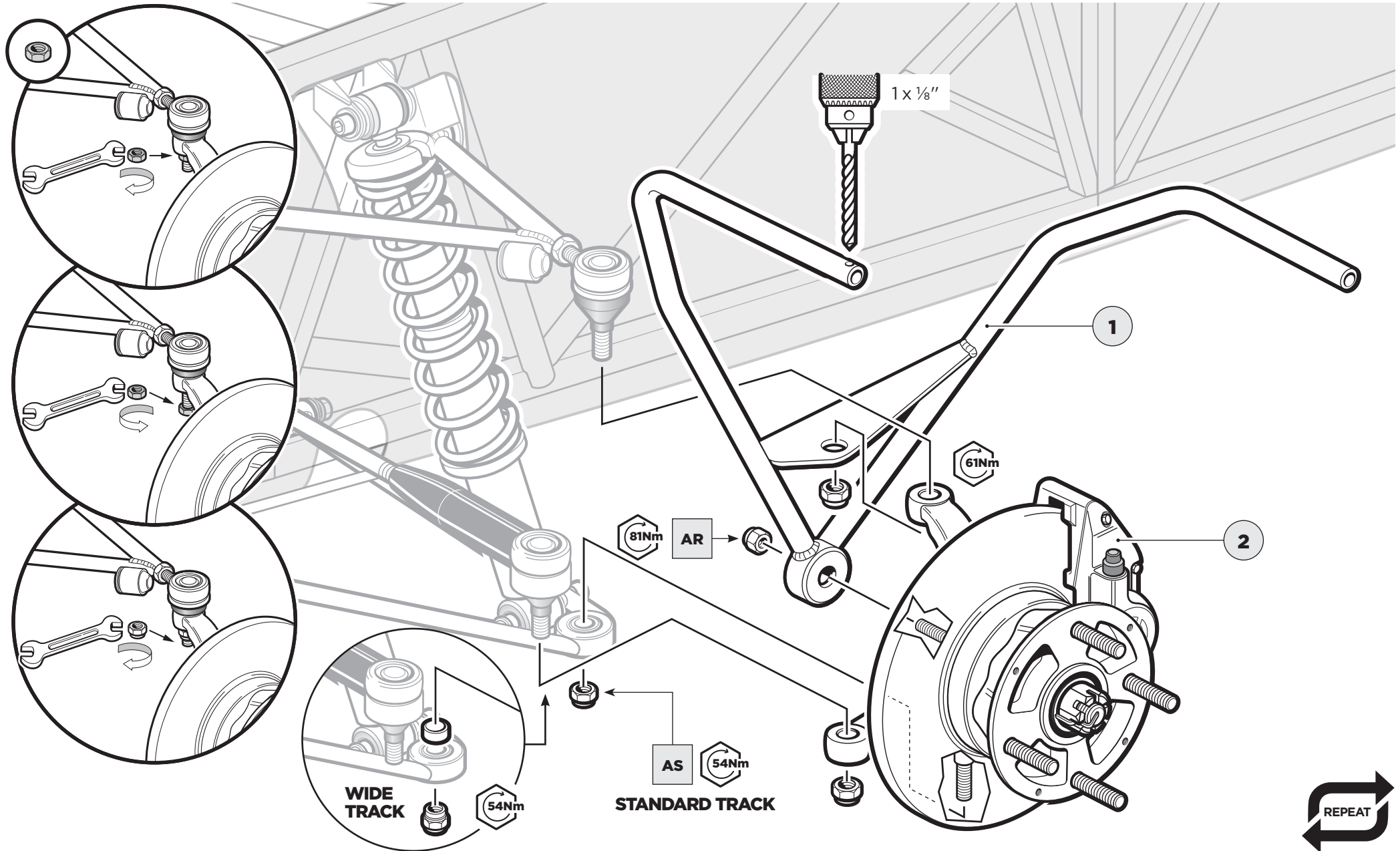
Remove and discard the washer that comes on the back of the assembly before fitting the wingstay; it's not needed.

Rich T

Use the plain nut to pull the top ball joint home before using a nyloc, otherwise the thread will spin.

Chris N

IT'S TIME FOR THE WINGSTAYS





Now is a good time to take some photos

11. Headlight / Indicator Assembly

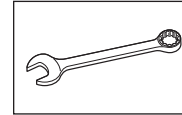
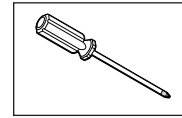
Tip	Source	Original
Rewire using heat shrink to make the assembly better weather protected	Daniel French Chris Collins	Link Link

LET THERE BE LIGHTS

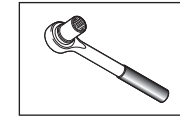
PARTS

- 1 Headlight assembly
- 2 Indicator pod
- 3 Indicator assembly
- 4 Headlight bracket
- 5 IVA trim

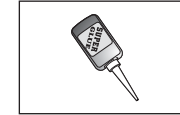
TOOLS



17mm
24mm



17mm



17mm

FIXINGS

Pack C		CATERHAM		45	
		PACK NUMBER		30L002B	
LIGHTING & HORNS					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Screw 10 x 1" (25mm)	F1080	6	Indicator assembly to indicator pod	
2	Screw 8 x 1" (20mm)	F1071	2	Side regulator earth on wing/body	
3	Screw 12 x 1/2" (30mm)	F1072	4	Rear light cluster upper fixing	
4	Screw 12 x 1/2" (30mm)	F1073	4	Rear light cluster lower fixing	
5	Wash Hex 100	H0170	2	Horn bracket to steering rack platform (1800/210/10)	
6	Wash Washer 10	W0170	2	Horn bracket to steering rack platform (1800/210/10)	
7	Ball 100 x 50 (30mm)	B0100	1	Through steering rack platform at motor (1800)	
8	Wash Washer 10/10	W0170	2	Ball Head/hub	
9	Wash Hex 100	H0170	1	Horn base	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 1

x6

TIPS

It's very important to read the IVA Guide before starting this job to ensure grommets and sheathing are in the right place. It's very difficult to add them once fitted!

John S

This is the trickiest job on the car, so once done you can breathe a sigh of relief!

Tiago A

The wiring for the headlights is attached to the chassis when you receive your kit. The wires go through the hole in the end of the headlight bracket and out of the other hole in order to go up into the headlight and over to the indicator.

Jamie A

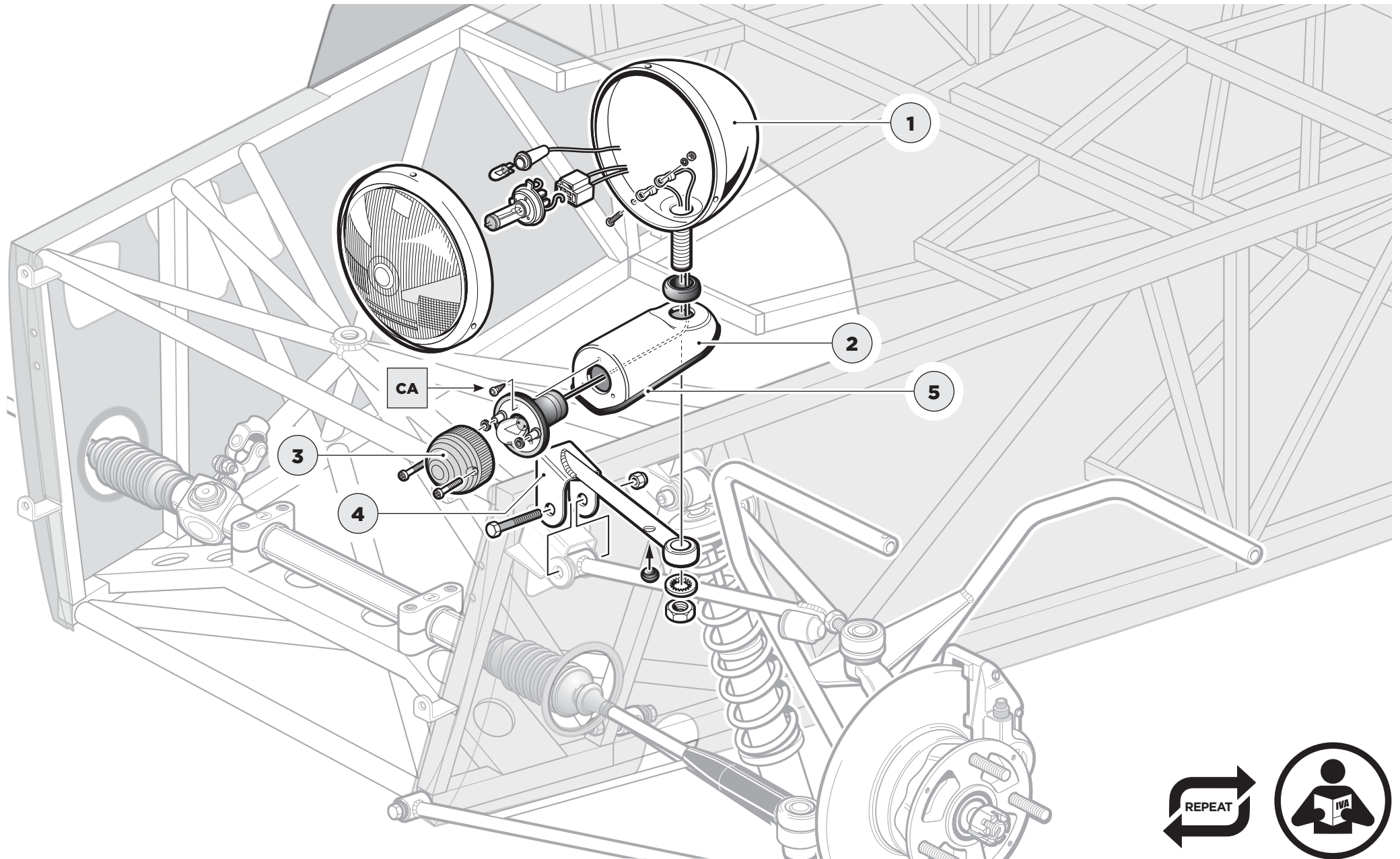
Glue IVA trim all around the edge of the pod before fitting.

Chris B

The tab on the headlight bracket ④ hooks under the wishbone bracket on the chassis.

Harrison P

LET THERE BE LIGHTS



12. Fit the Anti-Roll Bar

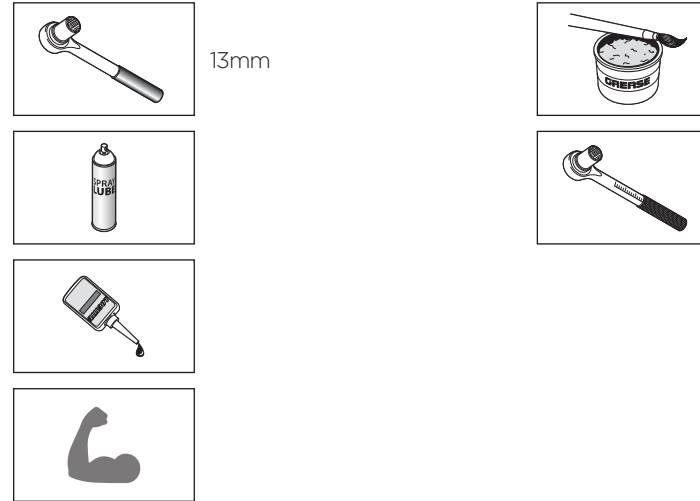
Tip	Source	Original
Select correct bushes by the colour of the dot on the ARB (bushes colour coded in pack)	Chris Collins	Link
Test fit the ARB ball into the socket on the upper wishbone (remove burrs if necessary – remove powder coat residue from cup if necessary) – BALL SHOULD BE TIGHT	Chris Collins	Link
ARB balls may also need de-burring	Obodiah	Link
Use rubber lubricant to put bushes into mounts, and mounts onto ARB. Boots onto ARB.	Chris Collins	Link
Loctite 243 to install balls onto ARB (hand tight)	Chris Collins	Link
Only apply a small amount of grease to the cup before fitting – than pack the cup with grease before fitting the boot.	Chris Collins	Link
Use two cable ties to secure the boot in place	John Martin	Link

LAST PART OF THE FRONT SUSPENSION: CONNECTING THE TWO SIDES TOGETHER

PARTS

- 1 Anti-roll bar
- 2 Anti-roll bar bracket
- 3 Anti-roll bar rubber
- 4 Anti-roll bar ball
- 5 Anti-roll bar dust cover

TOOLS



FIXINGS

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball MJ2 x 40 (Metric)	BM22100	2	Lower wishbone rear	
2	Ball MJ2 x 40 (Metric)	BM22000	2	Lower wishbone front	
3	Ball MJ2 x 40 (Metric)	BM22000	2	Upper wishbone rear	
4	Ball MJ2 x 40 (Metric)	BM22000	2	Upper wishbone front	
5	Ball M6 x 40 (Metric)	BM640	4	Anti-roll bar mounting brackets	
6	Plain Nut M12 x 1.5 Thread	NM121	1	Temporary use to help lock upper wishbone ball joint	
7	Nylon Nut M12	NM121	2	Lower wishbone rear	
8	Nylon Nut M12	NM121	4	Upper wishbone	
9	Plain Washer M12 (Metric)	WM121	18	Lower wishbone	
10	Plain Washer M6 Heavy Duty	WM640	4	Anti-roll bar mounting brackets	
11	Plain Washer 1/2" x 1/2" (Metric)	WM120	2	Brake pads	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Spring Washer M6	WSM61	2	Lower wishbone rear	
13	Spring Washer M6	WSM61	6	Anti-roll bar mounting brackets & upper damper mount	
14	Washer 1/2" (Metric)	WM120	2	Brake pads	
15	Nylon Nut 1/2" (Metric)	NM121	2	Wing stay	
16	Nylon Nut 1/2" (Metric)	NM121	2	Front brake, spring mounting (old track pads)	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

x4

x4

x4

TIPS

Use four small cable ties to secure the dust cover.

Mick F

Grease the balls and cups generously.

Matt T

Check that the colour of the mounting rubbers matches the colour spot on the bar.

John K

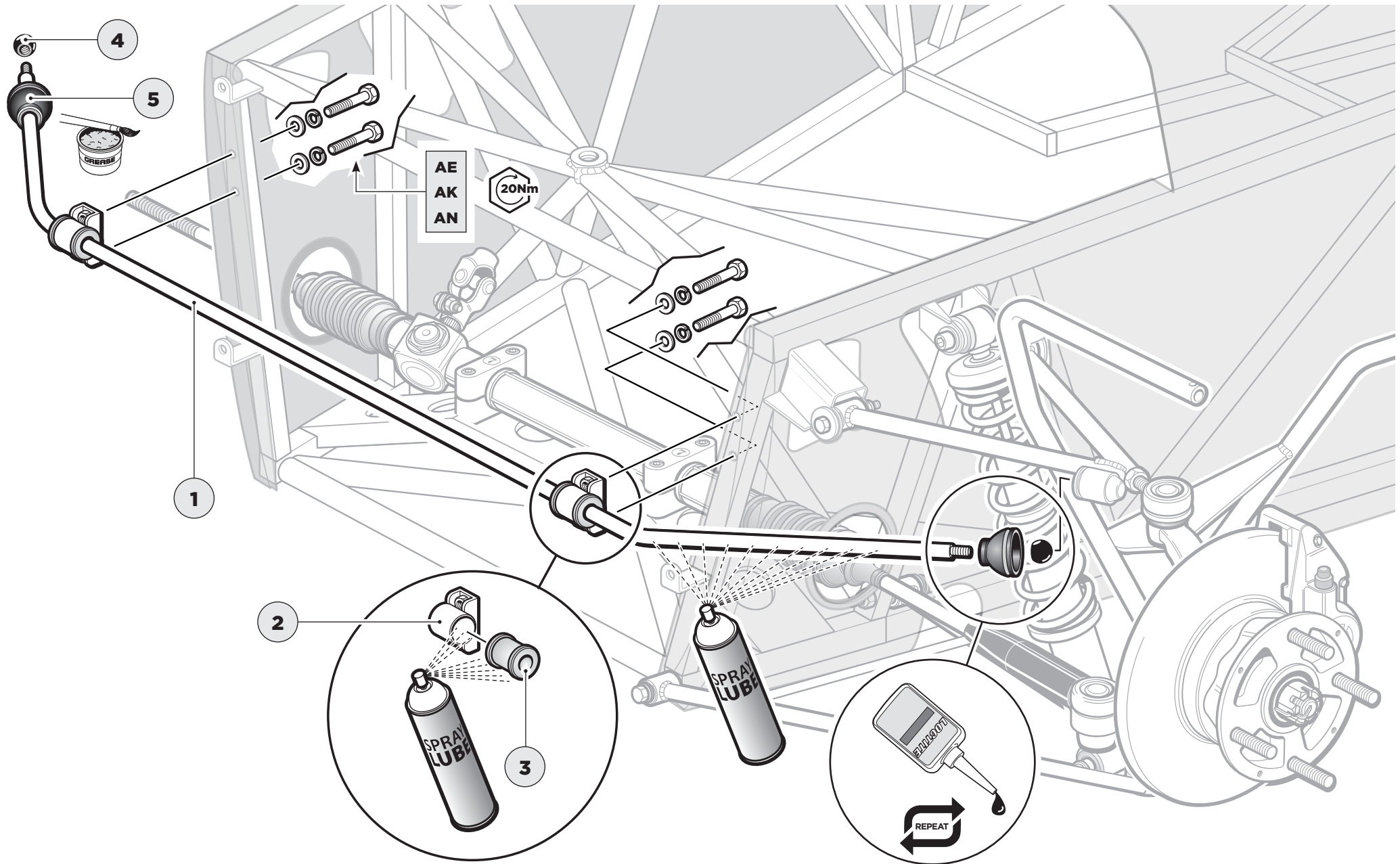
Use the thread lock on the thread of the anti-roll bar, not in the thread of the ball.

Dan D

Getting the assembled anti-roll bar fully into both cups on the upper wishbone can be a bit of a fight. It's made of springy stuff, so don't worry that you are bending it.

Jamie A

LAST PART OF THE FRONT SUSPENSION: CONNECTING THE TWO SIDES TOGETHER



13. Headlight Wiring

Tip	Source	Original
Trim the headlight cables and remake the connections with new Econoseal	Chris Collins	Link

14. Fit the Horns

Tip	Source	Original
Loosen the horn brackets to move the electrical connectors closer together	John Martin	Link

LET'S MAKE SOME NOISE

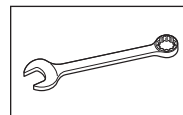
PARTS

- 1 Horn kit (x2)
- 2 Spacer (miscellaneous box)
- 3 Bolt for spacer

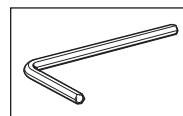
TOOLS



10mm



13mm



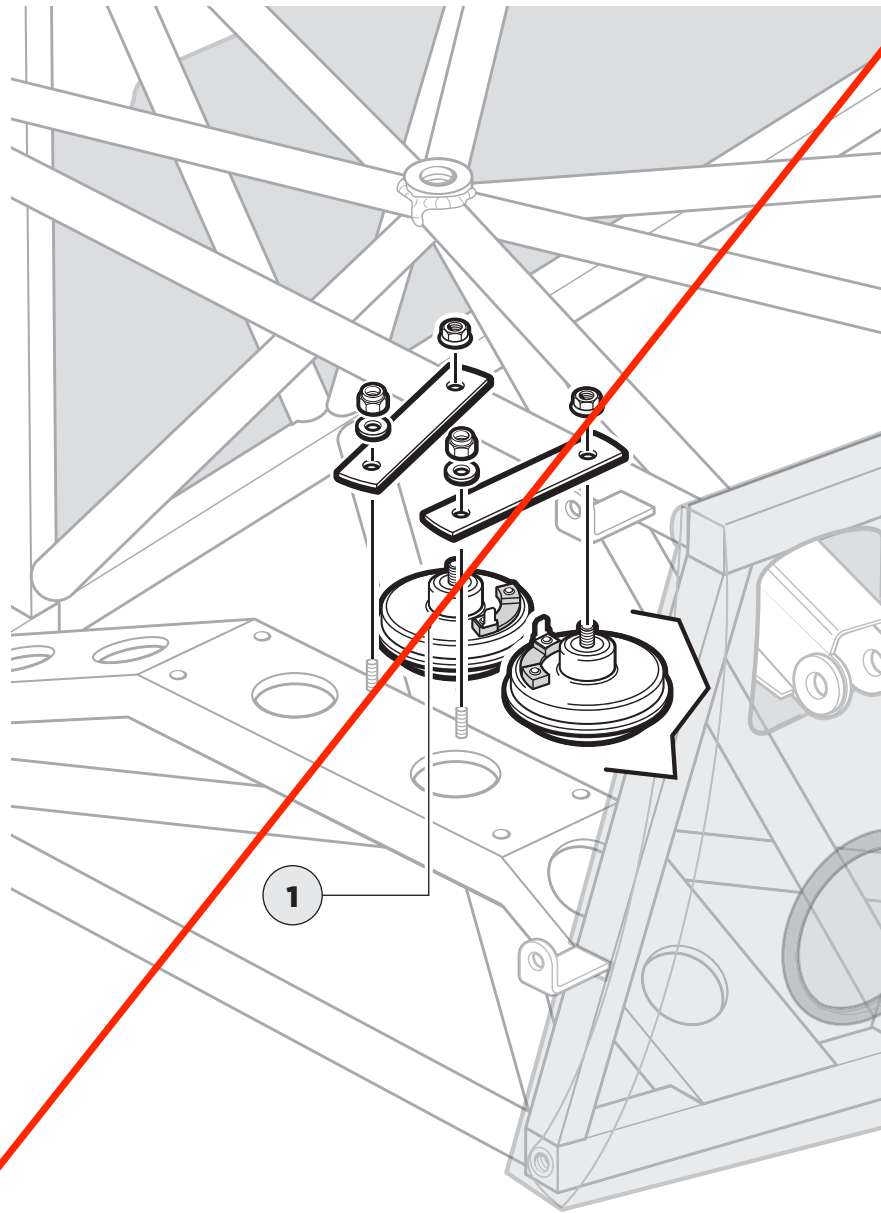
6mm

FIXINGS

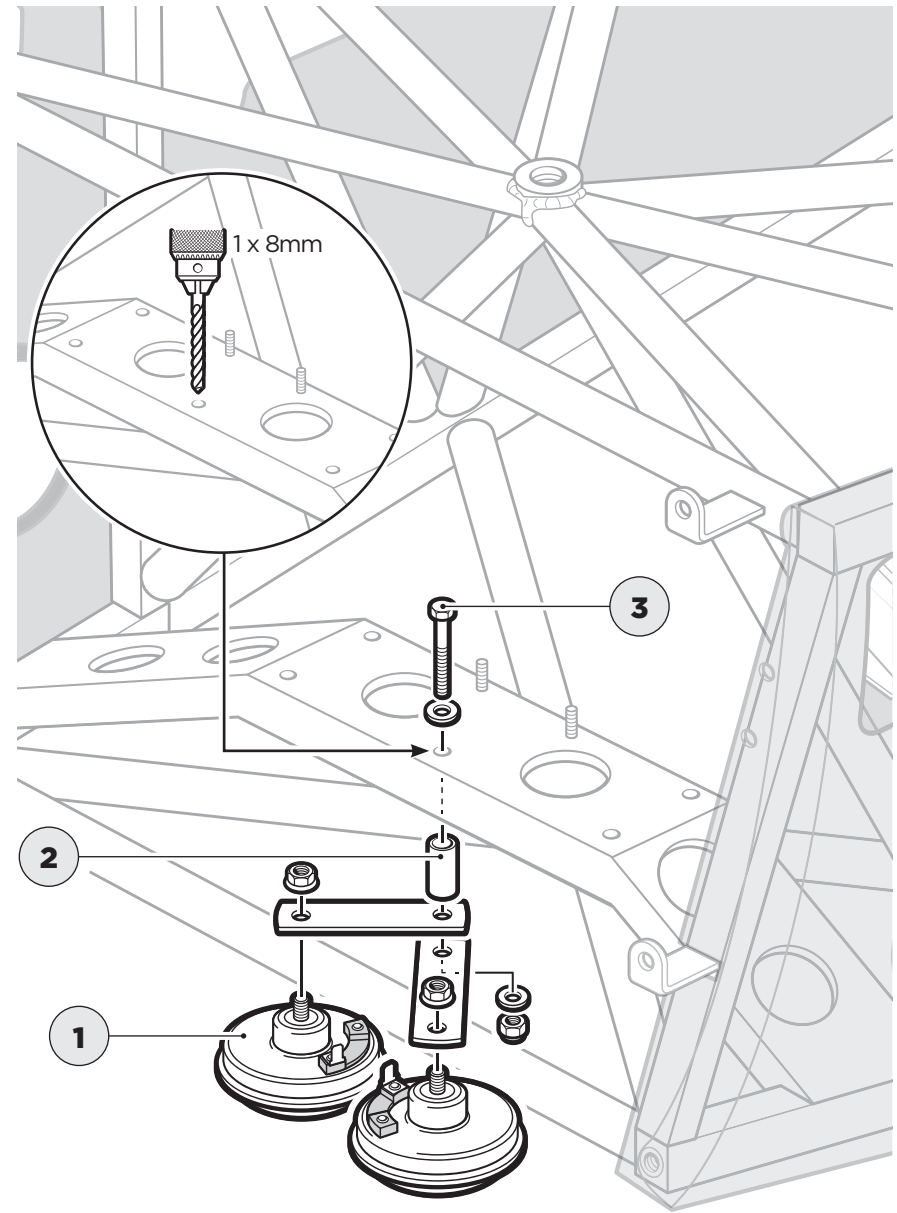
Miscellaneous box

TIPS

270/310/360



420



15. Front Brake Hoses

Tip	Source	Original
Washers supplied in the brake hose bag are NOT the correct ones – supplied in a separate bag	Chris Collins	Link
Correct copper washers are larger and should sit on the small ridge on the adapter	Chris Collins	Link
Correct adapter (two supplied) is the grey one (not copper coloured one)	John Martin	Link

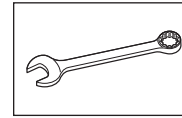
Warm up the copper washers before installing - helps them to bed in and prevent leaks (Chris Collins)

FITTING THE BRAKE HOSES

PARTS

- 1 Brake hose
- 2 Copper washer

TOOLS



13mm (x2)
9/16"

FIXINGS

Pack A		CATERHAM		44	
		PACK NUMBER		30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Stud M12 x 100 DIN913	SM12100	2	Lower wishbone rear	
2	Stud M12 x 60 DIN913	SM12060	2	Lower wishbone front	
3	Stud M12 x 60 DIN913	SM12060	2	Upper wishbone rear	
4	Stud M12 x 60 DIN913	SM12060	2	Upper wishbone front	
5	Stud M8 x 40 DIN913	SM8040	4	Anti-roll bar mounting brackets	
6	Flan Nut M14 x 1.5 Thread	SM1415	1	Temporary use to tighten lock upper wishbone ball joint	
7	Nylon Nut M12	SM1212	2	Lower wishbone rear	
8	Nylon Nut M10	SM1010	4	Upper wishbone	
9	Flan Washer M12 DIN913	WP1212	18	Lower wishbone	
10	Flan Washer M8 DIN913	WP0808	4	Anti-roll bar mounting brackets	
11	Flan Washer 1/2" x 1/2" Newey Slip	WP0808	2	Brake pipe	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack A		CATERHAM		44	
		PACK NUMBER		30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Spring Washer M12	WSM12	2	Lower wishbone rear	
13	Spring Washer M8	WSM08	6	Anti-roll bar mounting brackets & upper damper rod ends	
14	Washer 1/2" Slack end	WS0816	2	Brake pipe	
15	Nylon Nut 1/2" Slack end	NS1212	2	Wing stay	
16	Nylon Nut 1/2" Slack end	NS1212	2	Front brake, spring mounting (old track rod)	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

x2

x2

TIPS

The hose will want to curve once fitted. Make sure the curve points towards the front of the car.

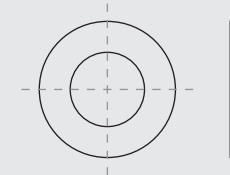
Khalfani D

Brake hoses come in packs of 3: 2 front, 1 back.

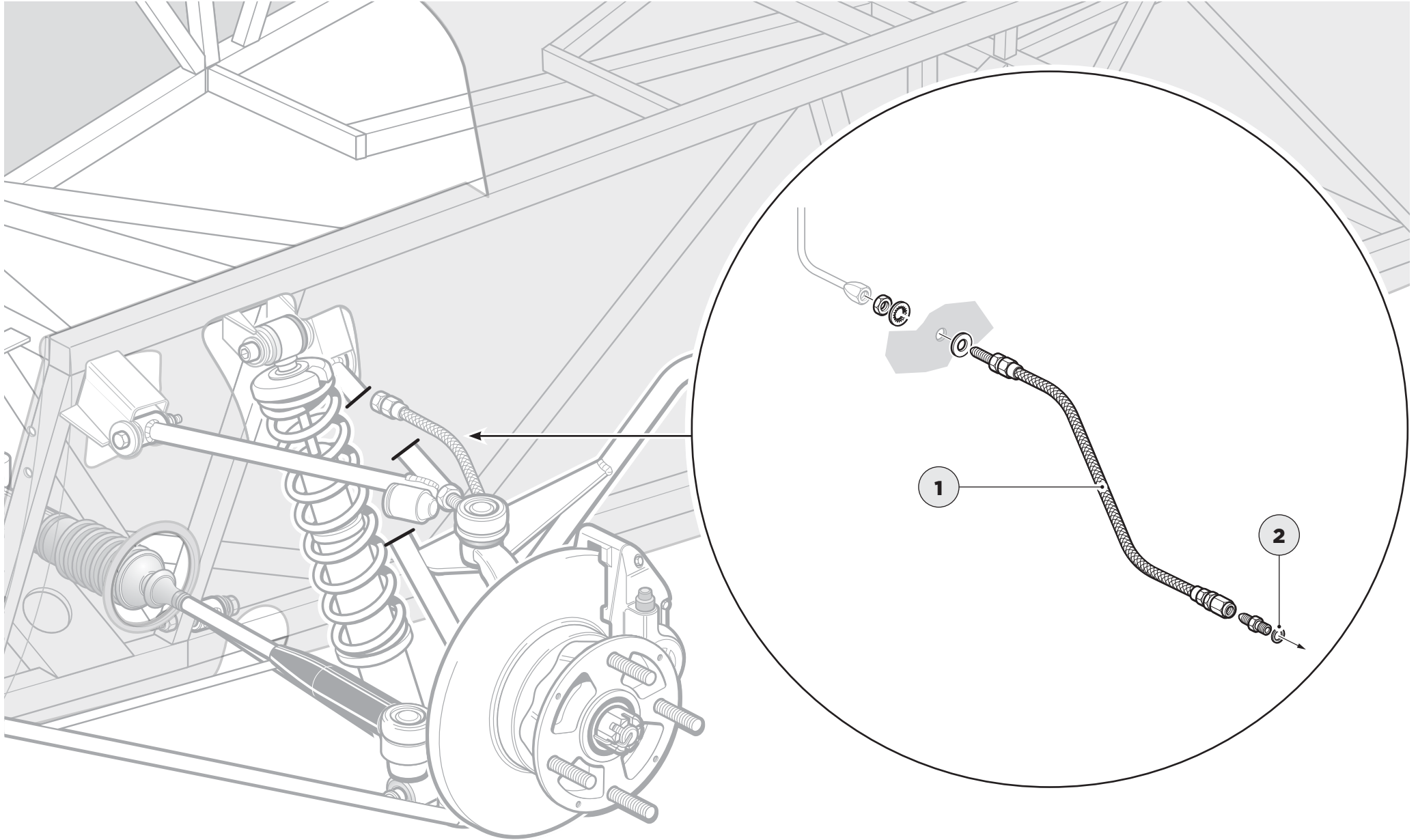
Anthony L

The copper washer should be this size.

James A



FITTING THE BRAKE HOSES



16. Engine Electrical Connections

Tip	Source	Original
Cut factory fitted tie wraps where necessary and arrange wiring loom neatly	Chris Collins	Link
Connect starter motor (red wire labelled "S") – fit IVA cover	Chris Collins	Link

WIRING THE STARTER MOTOR

P A R T S

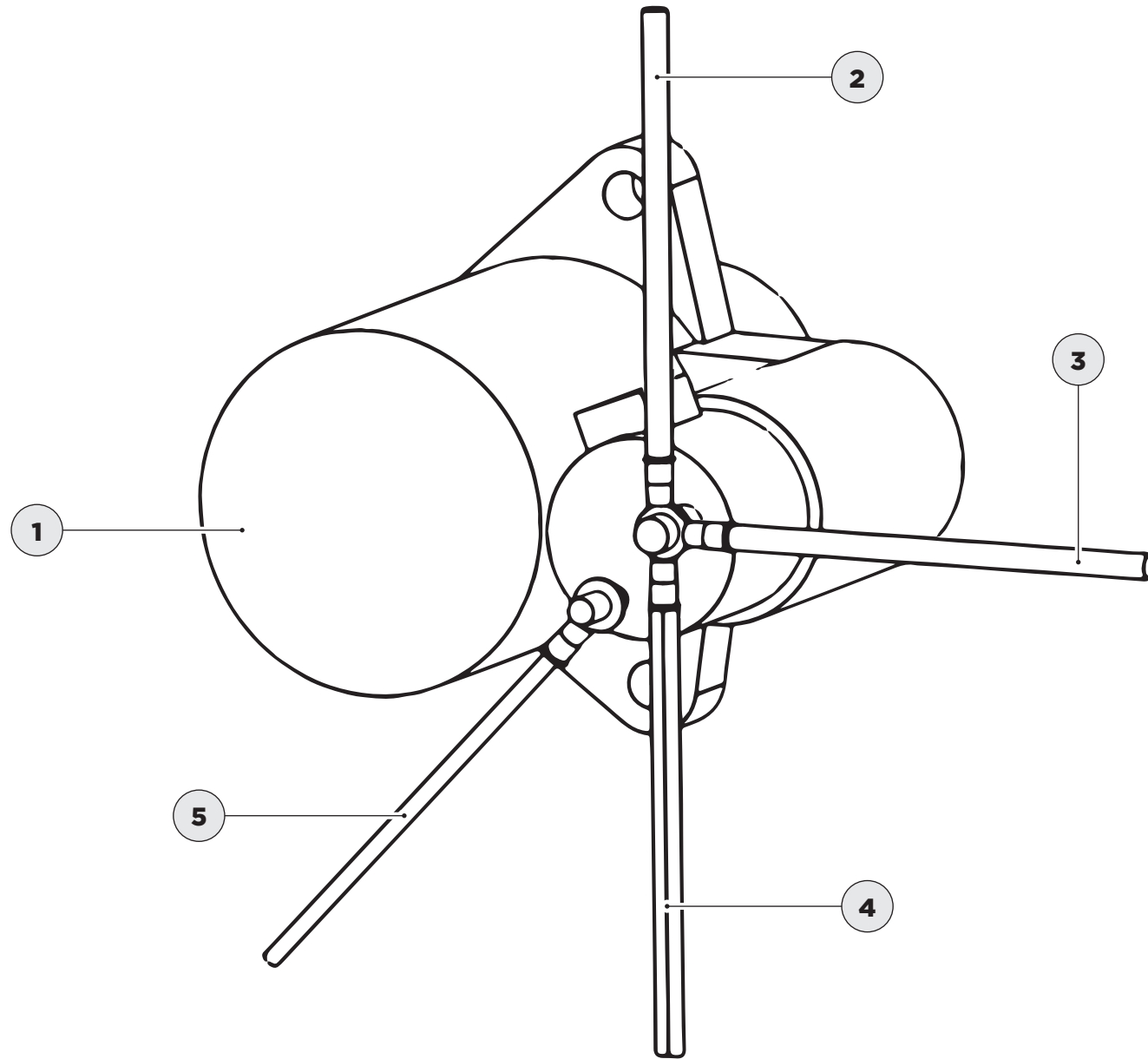
- 1 Starter motor
- 2 Cable from alternator
(brown wire with black sheath)
- 3 Cable from battery
(positive - red wire)
- 4 2 cables from main loom
(2 brown wires joined)
- 5 Cable from engine loom
(white wire with red stripe)

T O O L S

F I X I N G S

T I P S

WIRING THE STARTER MOTOR



17. Hose Fittings

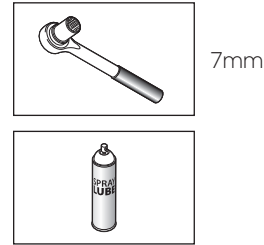
Tip	Source	Original
Be very careful of the oil cooling hoses – tight threads – easily cross-threaded	Multiple!	
Use Copper Slip, tighten by hand then nip up 1/8 turn with a spanner	Obodiah	Link
Hose sub-assembly for temp Sensor – check where the sensor has to connect to and use that to measure the cut point of the hose.		
Use tie-wraps and spare cut hose to create stabilising bridges to secure hoses	N/A	
Re-tighten the hose clips after running	Caterham	
Fuel Line - Requires a special tool to remove once connected – so double check the routing	John Martin	Link
Clutch Hose – Use spare water hose to wrap and protect (use smallest diameter available)	Chris Collins	Link
There may be an adapter in the clutch master cylinder which is not required	Chris Collins	Link
Clutch Hose torque – not specified. Greater than 10Nm but less than 20Nm	Chris Collins	Link
Leave the tidy up of cables and hoses until the end (in case need to re-route)	John Martin	Link
Tie wrap the coolant hose going to the expansion bottle to the oil pipe above the primaries	John Martin	Link
Start with lowest hose (bottom hose) – make sure it does not touch the brake hose	Chris Collins	Link
Seal the temperature sensor into the submarine with PTFE tape or Loctite 567	Various	
Check the connectivity between the earth tag and the body of the sensor	Chris Collins	Link
Make sure the water hose is cut to length to allow the electrical connection to the submarine	Chris Collins	Link
Route the hose under the black water connection to the block	Chris Collins	Link
Consider changing the water hose T-piece to at Gates (7315-00935) part number (28635) version (higher rating)	Chris Collins	Link
Consider using Makalor Supra hose clamps (give more even pressure around the clamp)	Chris Collins	Link

DRY SUMP LOWER RADIATOR HOSE

PARTS

- 1 Lower radiator hose

TOOLS



FIXINGS

Pack D		CATERHAM		44	
ITEM		BASIC DESCRIPTION	PART NUMBER	QTY	USED ON
1	DA	Roll Mat 2.50 (Roll Mat)	888440	1	Expansion tank bracket to chassis
2	DB	Roll Mat 3.50 (Roll Mat)	887442/4	1	Expansion tank to bracket
3	DC	Roll Mat 3.50 (Roll Mat)	888420	4	SM radiator bracket
4	DD	Roll Mat 2.50 (Roll Mat)	887102/4	4	Fan brackets to fan
5	DE	Roll Mat 3.50 (Roll Mat)	888420/10	4	Fan to radiator mounting - 20 (10)
6	DF	Roll Mat 3.50 (Roll Mat)	888420	8	40 Fan to radiator and 20 radiator bracket
7	DG	Roll Mat 3.50 (Roll Mat)	888420	8	Radiator bobbin
8	DH	Roll Mat 3.50 (Roll Mat)	887104	1	Expansion tank bracket
9	DI	Roll Mat 3.50 (Roll Mat)	888420	13	18 x 50 Fan bracket 40 x Fan bracket 1 x Expansion tank bracket
10	DJ	Roll Mat 3.50 (Roll Mat)	888420	4	Radiator bobbin back
11	DK	Roll Mat 3.50 (Roll Mat)	888420	4	Radiator bobbin front

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
ITEM		BASIC DESCRIPTION	PART NUMBER	QTY	USED ON
12	DL	Roll Mat 3.50 (Roll Mat)	888420/4	1	Expansion tank bracket
13	DM	Roll Mat 3.50 (Roll Mat)	888420	8	8 x Radiator bobbin 1 x Expansion tank
14	DN	Hose Clip 20 (Hose)	S0725-40	6	2 x 4 shape hose to water rail 2 x 2 Fan radiator hose 2 x 2 Bottom radiator hose
15	DO	Hose Clip 20 (Hose)	S0723-20	2	1 x Engine outlet to top 1 Engine 1 x Engine outlet to bottom 100
16	DP	Hose Clip 20 (Hose)	S0710-20	18	8 Radiator bobbin 10 Fan bobbin 1 x Expansion tank 4 Fan bobbin 1 x 20 Hose
17	DD	Hose Clip 20 (Hose)	S0710-20	6	Expansion tank small T piece
18	DR	Roll - Black (Roll Mat)	887101/10	12	Coupling cap

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

TIPS

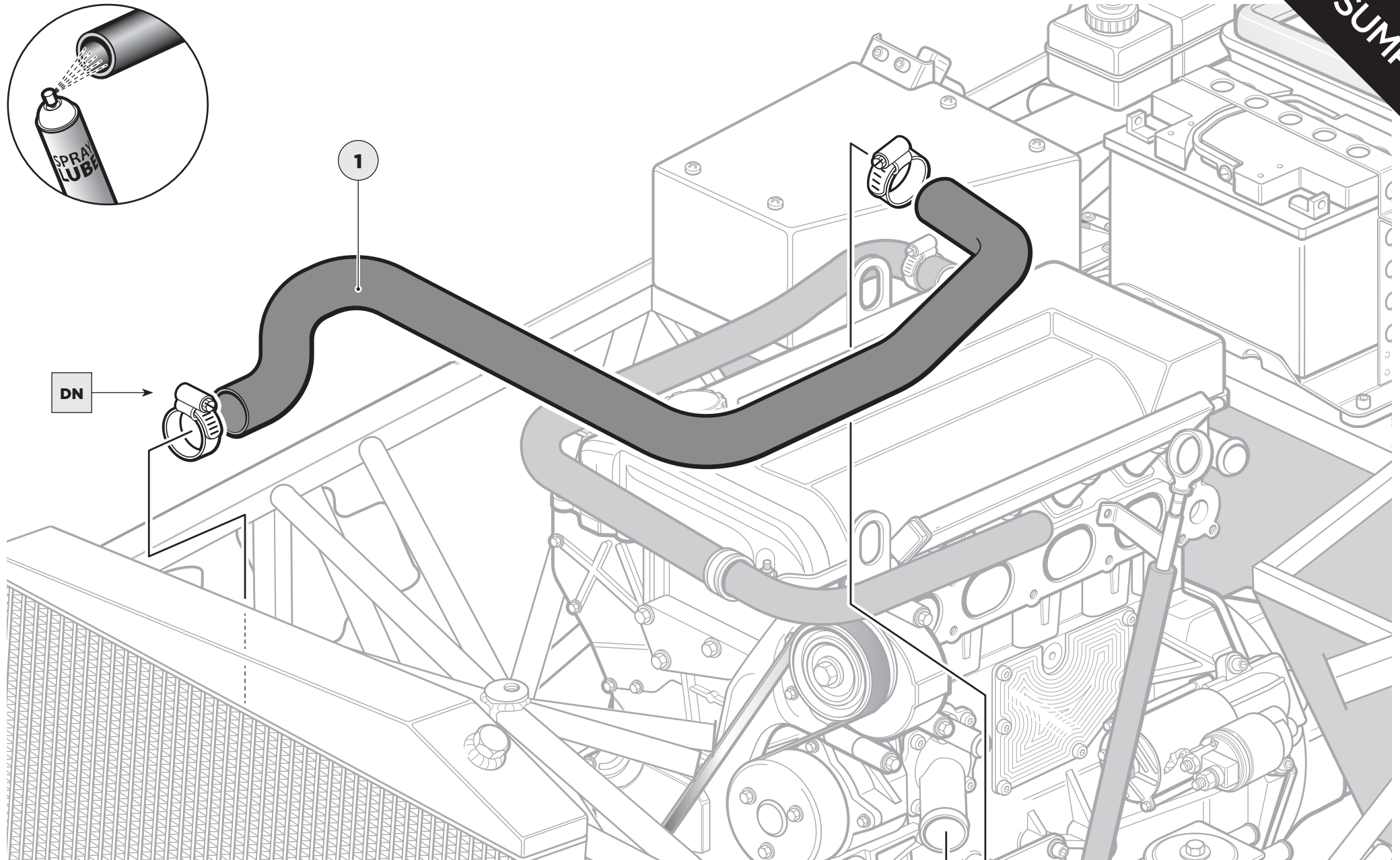
Reminder for later on – nip up once the car has been run.
Mick F

Support hose by cable tying to chassis rails. Make sure they are clear of the steering rack.
Grant P

Fit the hose to the larger outlet on the engine.
Dan D

DRY SUMP LOWER RADIATOR HOSE

DRY SUMP

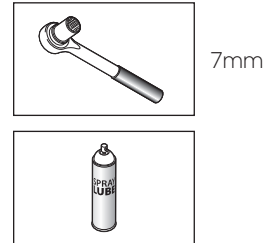


DRY SUMP UPPER RADIATOR HOSE

PARTS

- 1 Upper radiator hose

TOOLS



FIXINGS

Pack D		CATERHAM		44	
PACK NUMBER		SICCATB			
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Nut 2.00 Hex 2.0	888440	1	Expansion tank bracket to chassis	
2	Ball Nut 2.00 Hex 2.0	888440	1	Expansion tank to bracket	
3	Ball Nut 2.00 Hex 2.0	888440	4	SM radiator bracket	
4	Ball Nut 2.00 Hex 2.0	888440	4	Fan brackets to fan	
5	Ball Nut 2.00 Hex 2.0	888440	4	Fan to radiator mounting - 20 (top)	
6	Ball Nut 2.00 Hex 2.0	888440	8	Ball Nut to radiator 4x 20 radiator bracket	
7	Ball Nut 2.00 Hex 2.0	888440	8	Radiator bobbin	
8	Ball Nut 2.00 Hex 2.0	888440	1	Expansion tank bracket	
9	Ball Nut 2.00 Hex 2.0	888440	13	8 x 20 Fan bracket 4 x 20 Fan bracket 1 x Expansion tank bracket	
10	Ball Nut 2.00 Hex 2.0	888440	4	Radiator bobbin back	
11	Ball Nut 2.00 Hex 2.0	888440	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
PACK NUMBER		SICCATB			
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Ball Nut 2.00 Hex 2.0	888440	1	Expansion tank bracket	
13	Ball Nut 2.00 Hex 2.0	888440	8	8 x Radiator bobbin 1 x Expansion tank	
14	Ball Nut 2.00 Hex 2.0	888440	6	2 x 14 slope hose to water rail 2 x Top radiator hose 2 x Bottom radiator hose	
15	Ball Nut 2.00 Hex 2.0	888440	2	1 x Engine outlet to top 1 Engine 1 x Engine outlet to bottom (top)	
16	Ball Nut 2.00 Hex 2.0	888440	18	8 x Radiator bobbin 1 x Expansion tank 2 x Fan 1 x 20 (top)	
17	Ball Nut 2.00 Hex 2.0	888440	6	Expansion tank small 1 piece	
18	Ball Nut 2.00 Hex 2.0	888440	12	Covering cap	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

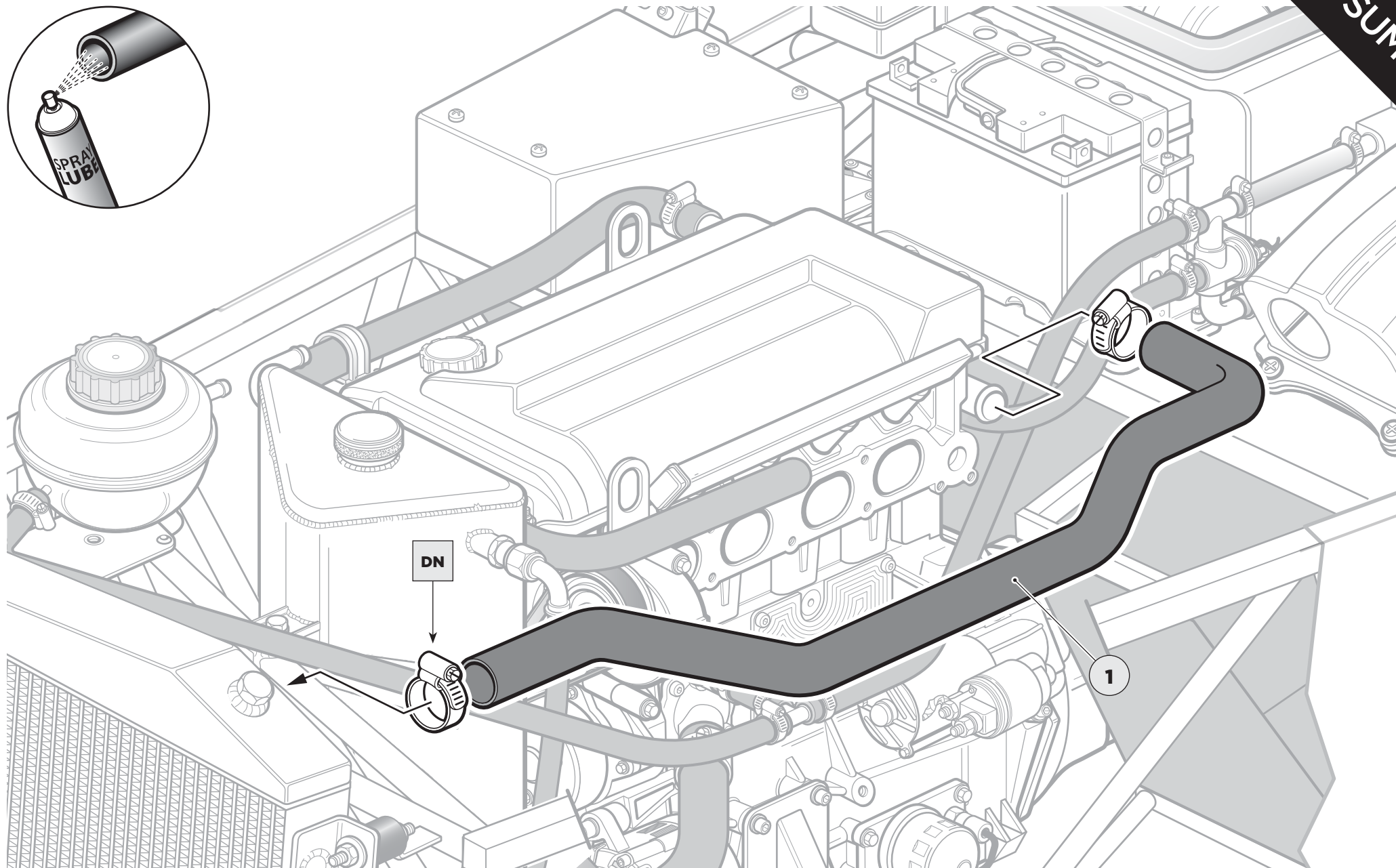
x2

TIPS

Reminder for later on – nip up once the car has been run.
Mick F

DRY SUMP UPPER RADIATOR HOSE

DRY SUMP

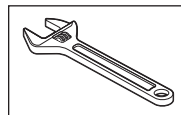


DRY SUMP OIL PIPE - 1 OF 3

PARTS

1 Oil pipe - 39C059

TOOLS



FIXINGS

TIPS

The pipe will fit both ways but you don't want any kinks in the pipe itself – one way will fit better.

Tiago O

Put copper slip on the threads.

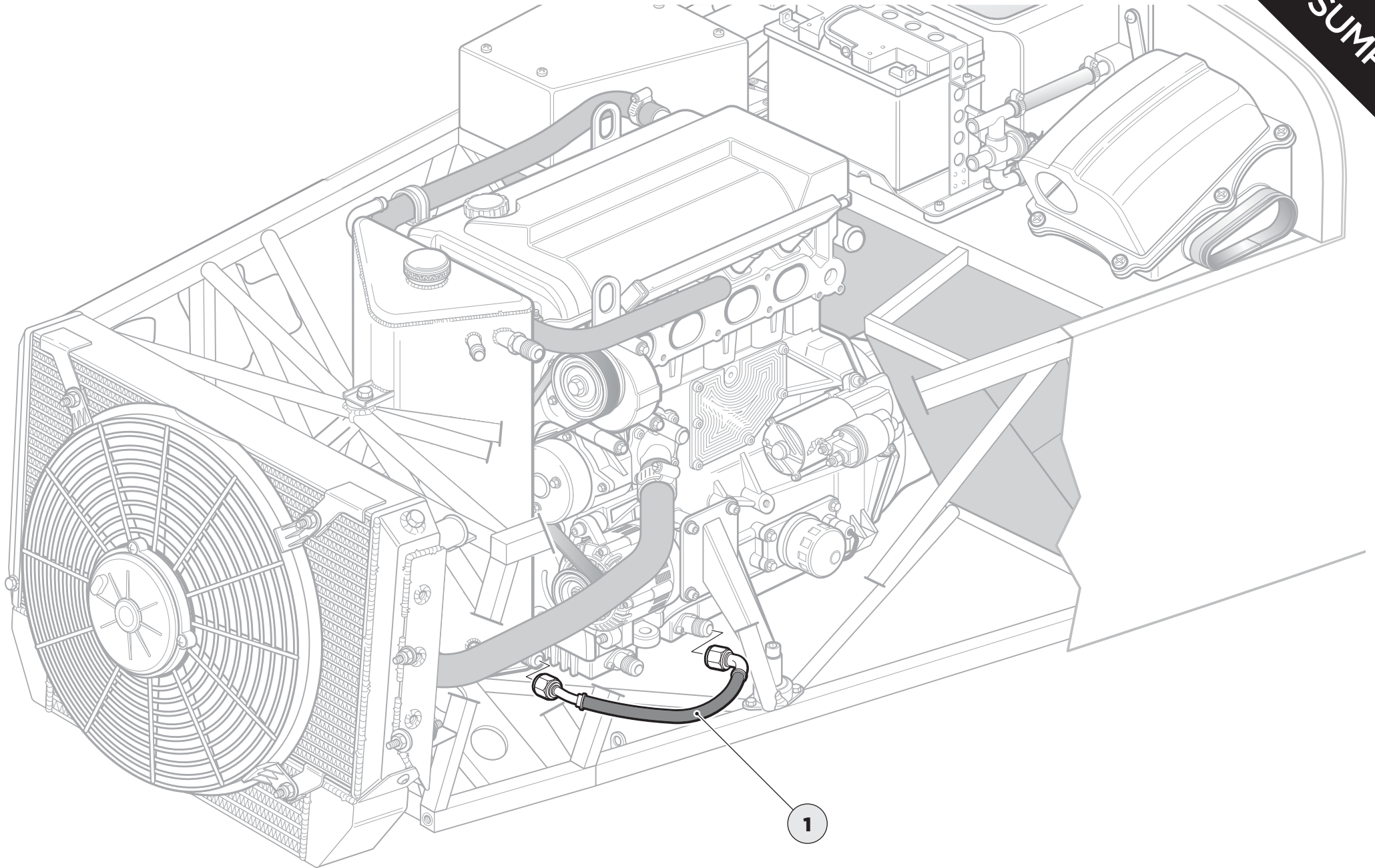
Rich T

Tighten by hand slowly and give a small 'nip' up.

Chris B

Take care not to cross thread.

Anthony L

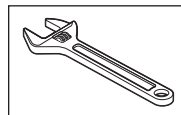


DRY SUMP OIL PIPE - 2 OF 3

PARTS

1 Oil pipe - 39C060

TOOLS



FIXINGS

TIPS

The pipe will fit both ways but you don't want any kinks in the pipe itself – one way will fit better.

Tiago O

Put copper slip on the threads.

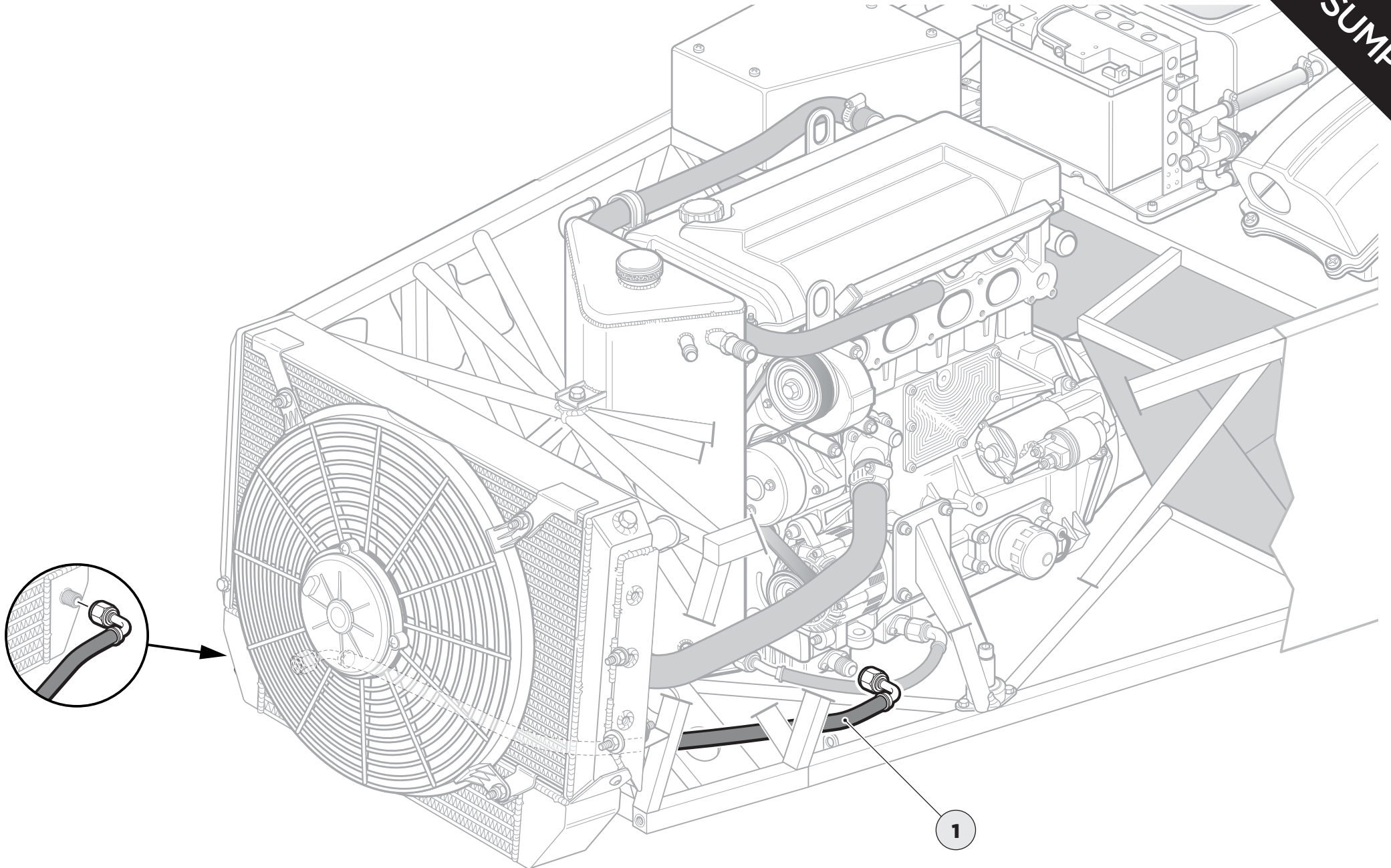
Rich T

Tighten by hand slowly and give a small 'nip' up.

Chris B

Take care not to cross thread.

Anthony L

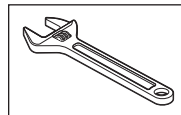


DRY SUMP OIL PIPE - 3 OF 3

PARTS

- 1** Oil pipe -

TOOLS



FIXINGS

TIPS

The pipe will fit both ways but you don't want any kinks in the pipe itself – one way will fit better.

Tiago O

Put copper slip on the threads.

Rich T

Tighten by hand slowly and give a small 'nip' up.

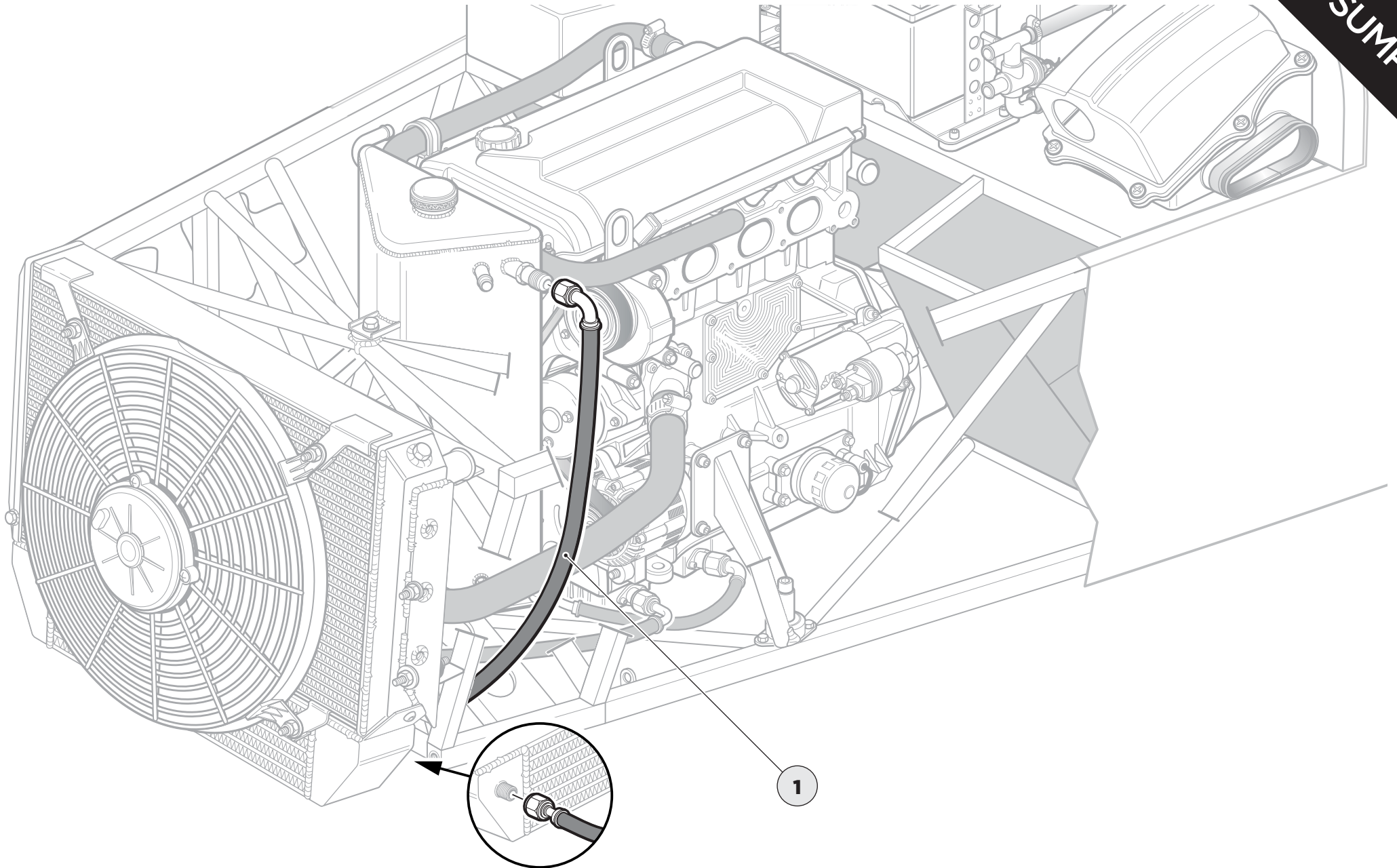
Chris B

Take care not to cross thread.

Anthony L

DRY SUMP OIL PIPE - 3 OF 3

DRY SUMP

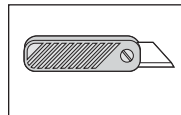


WET / DRY SUMP - A BIT OF SUB-ASSEMBLY (SOME HOSES NEED MODIFYING)

PARTS

- 1 Silicone hoses

TOOLS



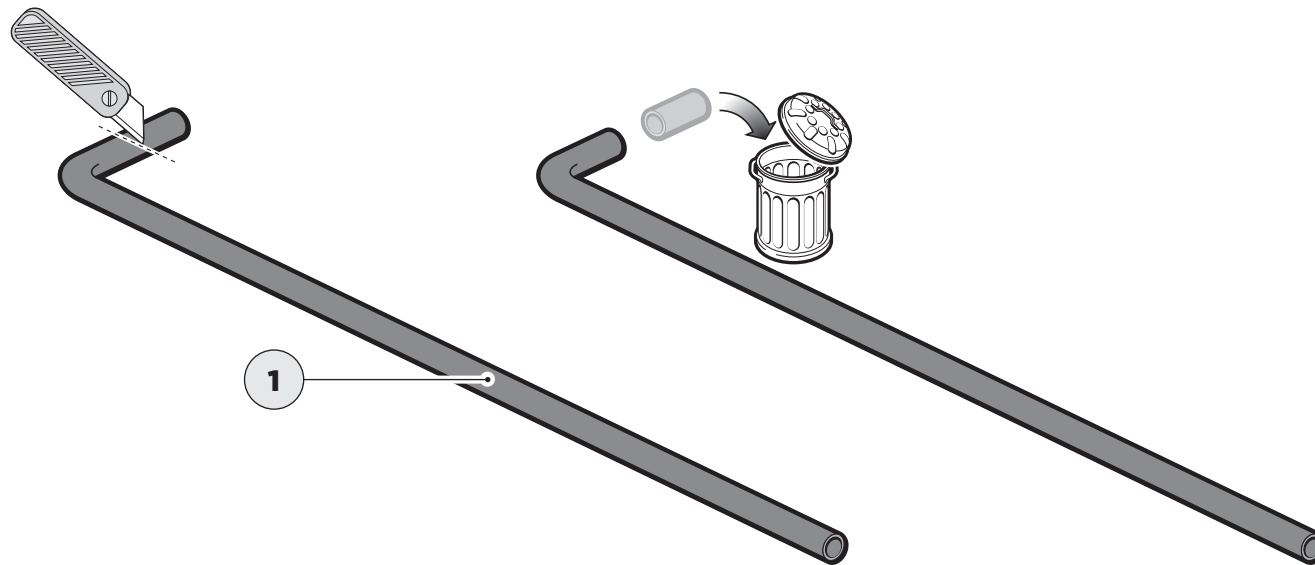
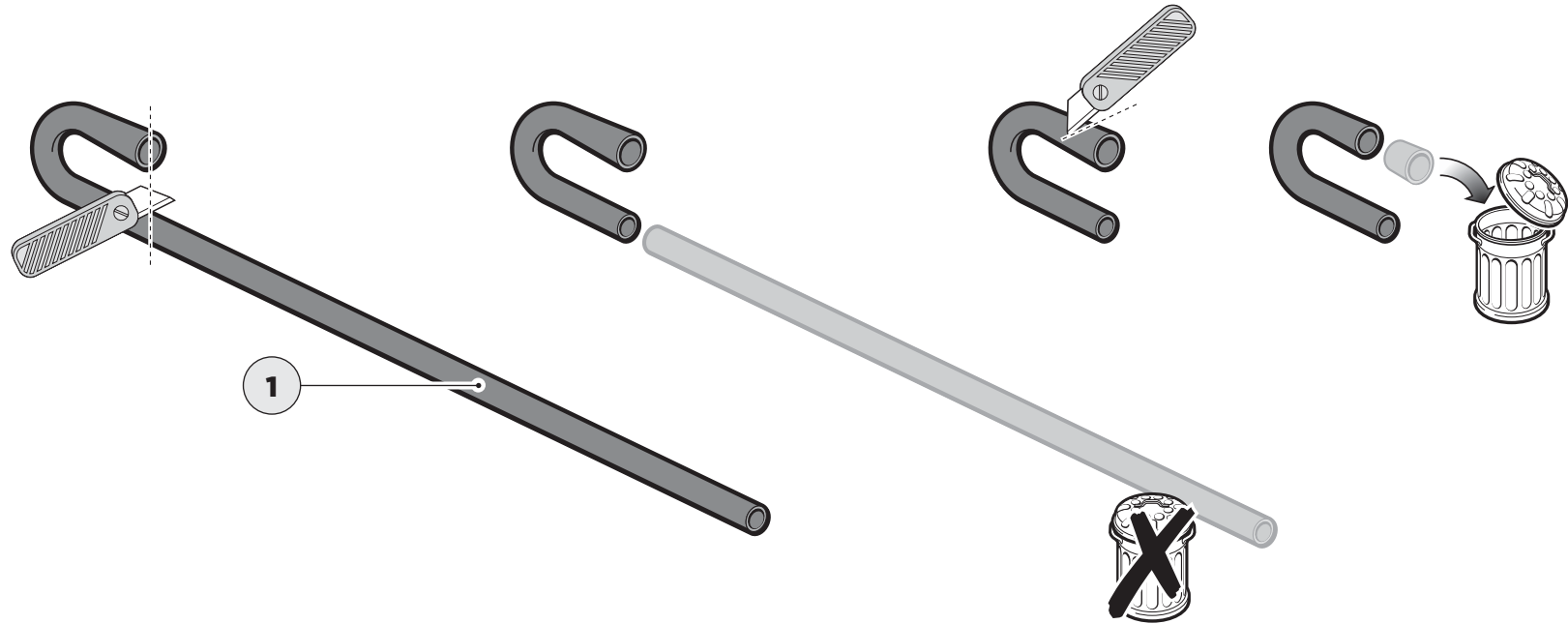
FIXINGS

TIPS

Don't throw away the long piece of hose after cutting.

Rich T

WET / DRY SUMP - A BIT OF SUB-ASSEMBLY (SOME HOSES NEED MODIFYING)

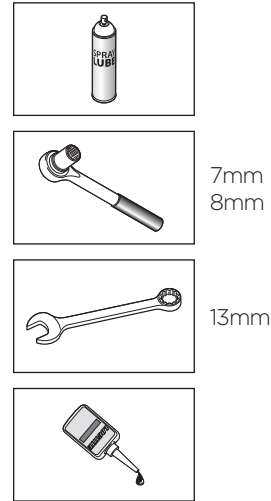


WET / DRY SUMP SUB-ASSEMBLY - TEMPERATURE SENSOR

PARTS

- 1** Temperature sender
- 2** Earth tag
- 3** Cooling submarine

TOOLS



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Mt 2-20 Hexad 2.0	888440	1	Expansion tank bracket to chassis	
2	Ball Mount 1.5 X 3/4"	887142/4	1	Expansion tank to bracket	
3	Submarine 88200 Hexad 2.0	888420	4	SM radiator bracket	
4	Ball Mt 2-18 with Square neck	882102/4	4	Fan brackets to fan	
5	Submarine 88210 Hexad 2.0	888421/2	4	Fan to radiator mounting - 20 1/2"	
6	Plan Nut M8	888774	8	4x Fan to radiator 4x 20 radiator bracket	
7	Plan Nut M8	888774	8	Radiator bobbin	
8	Plan Nut 1/4"	887114	1	Expansion tank bracket	
9	Plan Washer 1/4 Hexad 2.0	888214	13	13 x 1/4" Nut Bracket 4 x 2 Fan Brackets 1 x Expansion tank bracket	
10	Plan Washer 1/4 Hexad 2.0	888214	4	Radiator bobbin back	
11	Plan Washer 1/4 Hexad 2.0	888214/2	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Plan Washer 1/4 Hexad 2.0	888214/2	1	Expansion tank bracket	
13	Spring Washer 1/4 Hexad 2.0	888691/2	8	8 x Radiator bobbin 1 x Expansion tank	
14	Hex Clip 20 Hexad	88720-40	6	2 x 1/4" where hoses connect to 2 x 20 radiator hose 2 x Radiator bobbin	
15	Hex Clip 20 Hexad	88720-30	2	1 x Engine outlet to top 1/2" 1 x Engine outlet to bottom 1/2"	
16	Hex Clip 1/2-20mm	88716-25	18	6 x Radiator bracket 1 x Expansion tank 4 x Dry Sump 4 x Submarine	
17	Hex Clip 8-10mm	88716-16	6	Expansion tank small 1/2 piece	
18	Plan - Black 1/2" x 1/2"	8876-01010	12	Cooling fan	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

TIPS

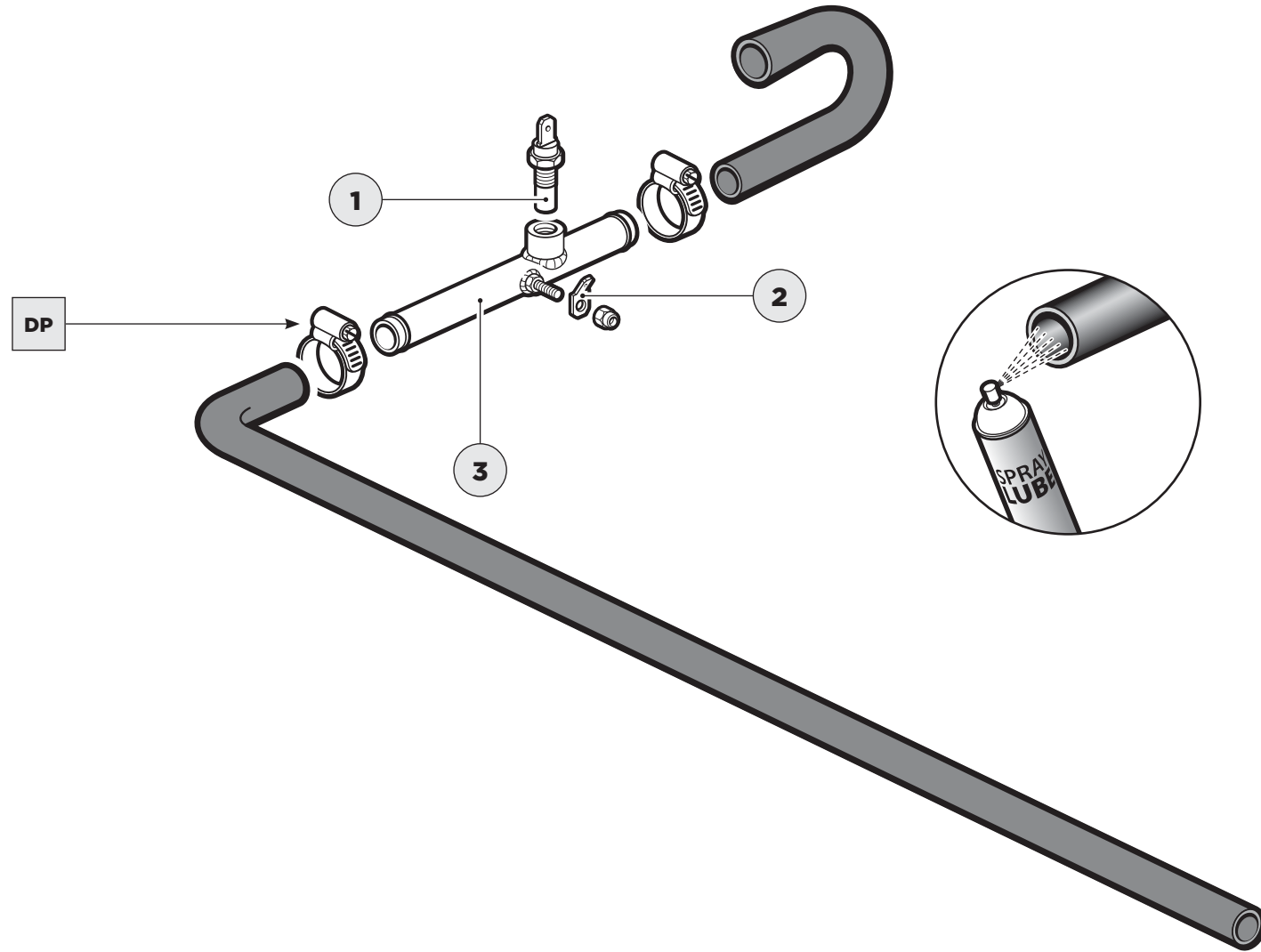
Use a drop of Loctite on the sender.

Tiago O

Be careful not to over-tighten the sender.

Jamie A

WET / DRY SUMP SUB-ASSEMBLY - TEMPERATURE SENSOR

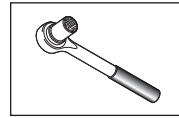


WET / DRY SUMP SUBMARINE

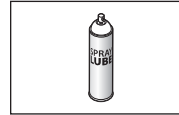
PARTS

1 Submarine assembly

TOOLS



7mm



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	DA Bolt M8 x 20 Hex Hd	888440	1	Expansion tank bracket to chassis	
2	DB Bolt/M8 x 30 Hex Hd	887142/4	1	Expansion tank to bracket	
3	DC Submarine 88820 Hex Hd	888220	4	SM radiator bracket	
4	DD Bolt M8 x 18 with Square neck	887107/4	4	Fan brackets to fan	
5	DE Submarine 88810 Hex Hd	888441/2	4	Fan to radiator mounting - 20 (1/2)	
6	DF Flare Nut M8	88817/4	8	44 Fan to radiator and DV radiator bracket	
7	DG Flare Nut M8	88877/4	8	Radiator bobbin	
8	DH Flare Nut M8	88711/4	1	Expansion tank bracket	
9	DI Flare Washer 16 Hex Hd	88811/4	13	18 x DV Rad Bracket 4 x Fan Brackets 1 x Expansion tank bracket	
10	DJ Flare Washer 16 Hex Hd	88811/4	4	Radiator bobbin back	
11	DK Flare Washer 16 Hex Hd	888211/2/2	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	DL Flare Washer 16 Hex Hd	88811/2/2/4	1	Expansion tank bracket	
13	DM Spring Washer 16 Hex Hd	88816/2	8	8 x Radiator bobbin 1 x Expansion tank	
14	DN Hose Clip 20 - 30mm	88723-40	6	2 x 11 where hoses connect to 2 x 12 radiator hose 1 x 12 expansion tank	
15	DO Hose Clip 22 - 35mm	88723-38	2	1 x Engine outlet to big 1 piece 1 x Engine outlet to heater inlet	
16	DP Hose Clip 17 - 25mm	88716-25	18	8 x Heater brackets 1 x Expansion tank 4 x Dip Sump 4 x Radiator	
17	DD Hose Clip 8 - 10mm	88716-16	6	Expansion tank small 1 piece	
18	DR Bolt - Black 12 x 18 Hex Hd	88716-18/12	12	Cooling fan	

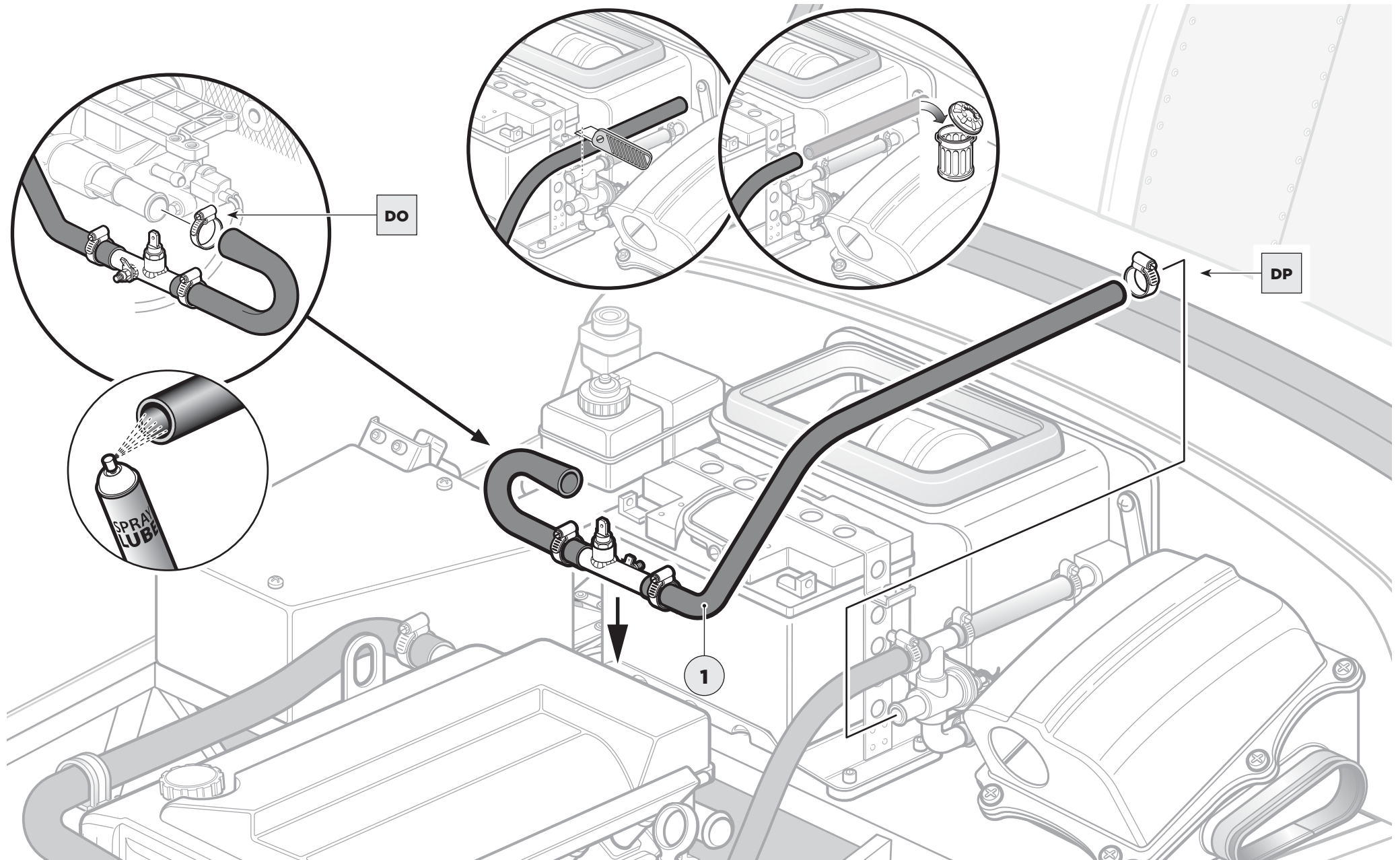
Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x1

x1

TIPS

WET / DRY SUMP SUBMARINE



CONNECTING THE FUEL LINE

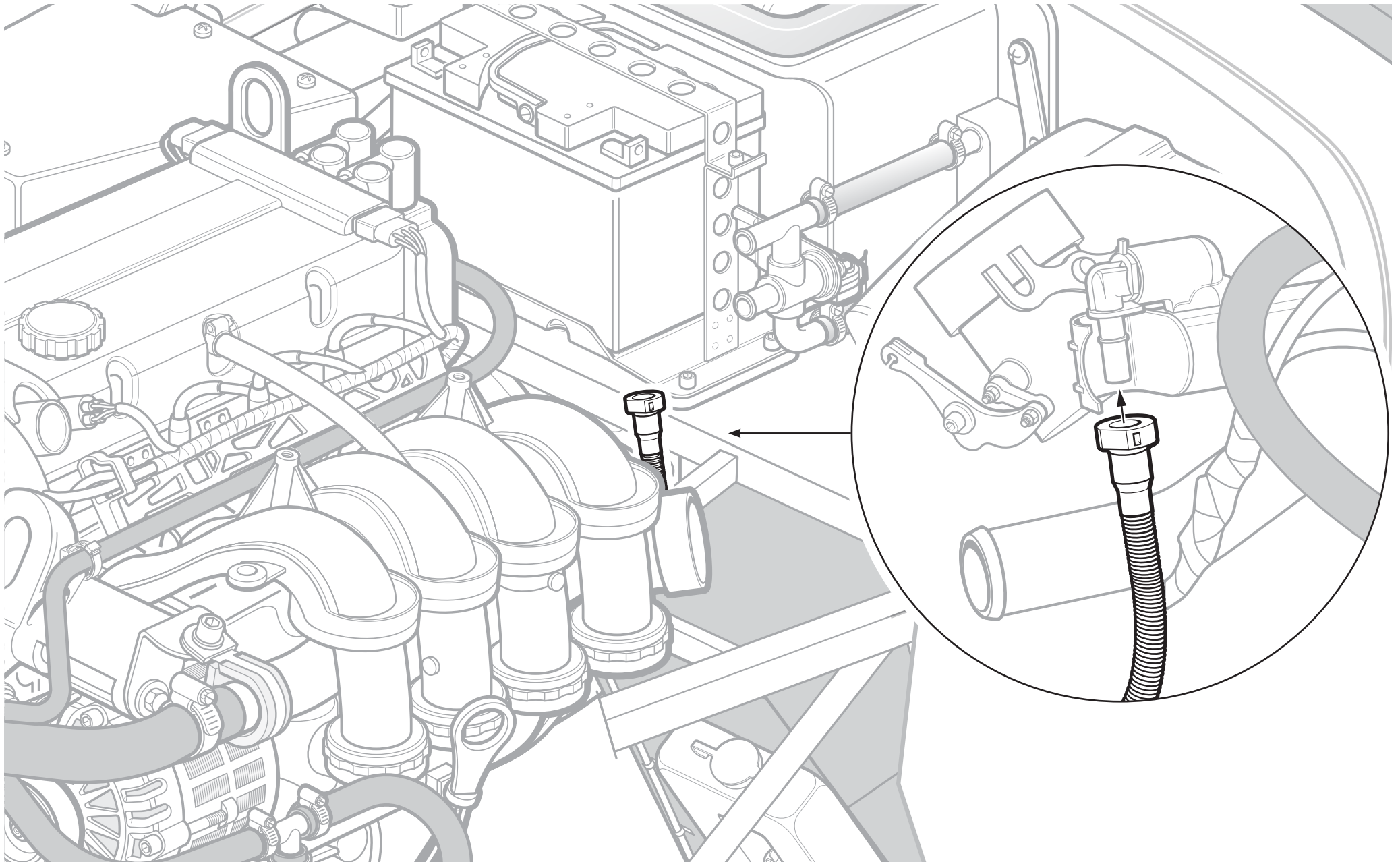
P A R T S

T O O L S

F I X I N G S

T I P S

CONNECTING THE FUEL LINE



18. Fit Primaries

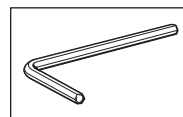
Tip	Source	Original
Fit the primaries before fitting the Dry Sump tank	Beenster	Link
Protect the side skins	Chris Collins	Link
Remove sticky labels and adhesive from the primaries	Chris Collins	Link
Remove the manifold bolts and gasket (note which way it goes) – clean off adhesive residue	Chris Collins	Link
Start with 4th primary (closest to gearbox) then 3rd primary	Chris Collins	Link
Use protection on the skin before fitting the 2nd primary (to avoid collector tag scratching)	Chris Collins	Link
Leave the primary bolts finger tight so that collector fitting is easier	Chris Collins	Link
Compress the springs with tie-wraps to help with collector fitting – then tighten the primaries	Chris Collins	Link

THIS IS EXHAUSTING

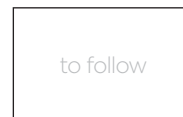
PARTS

- 1 Exhaust manifold gasket
- 2 Exhaust primary pipes
- 3 Cat / Collector
- 4 Exhaust collector springs

TOOLS

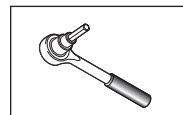


8mm

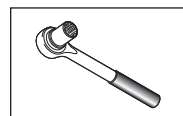


to follow

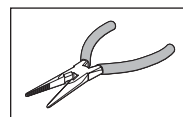
Extension



8mm



17mm
(270 & 310 only)



FIXINGS

Fixings are supplied loosely attached to the engine in place

TIPS

Use cable ties to compress exhaust spring.

Mick F

A pair of pliers are best to help hook over.

James A

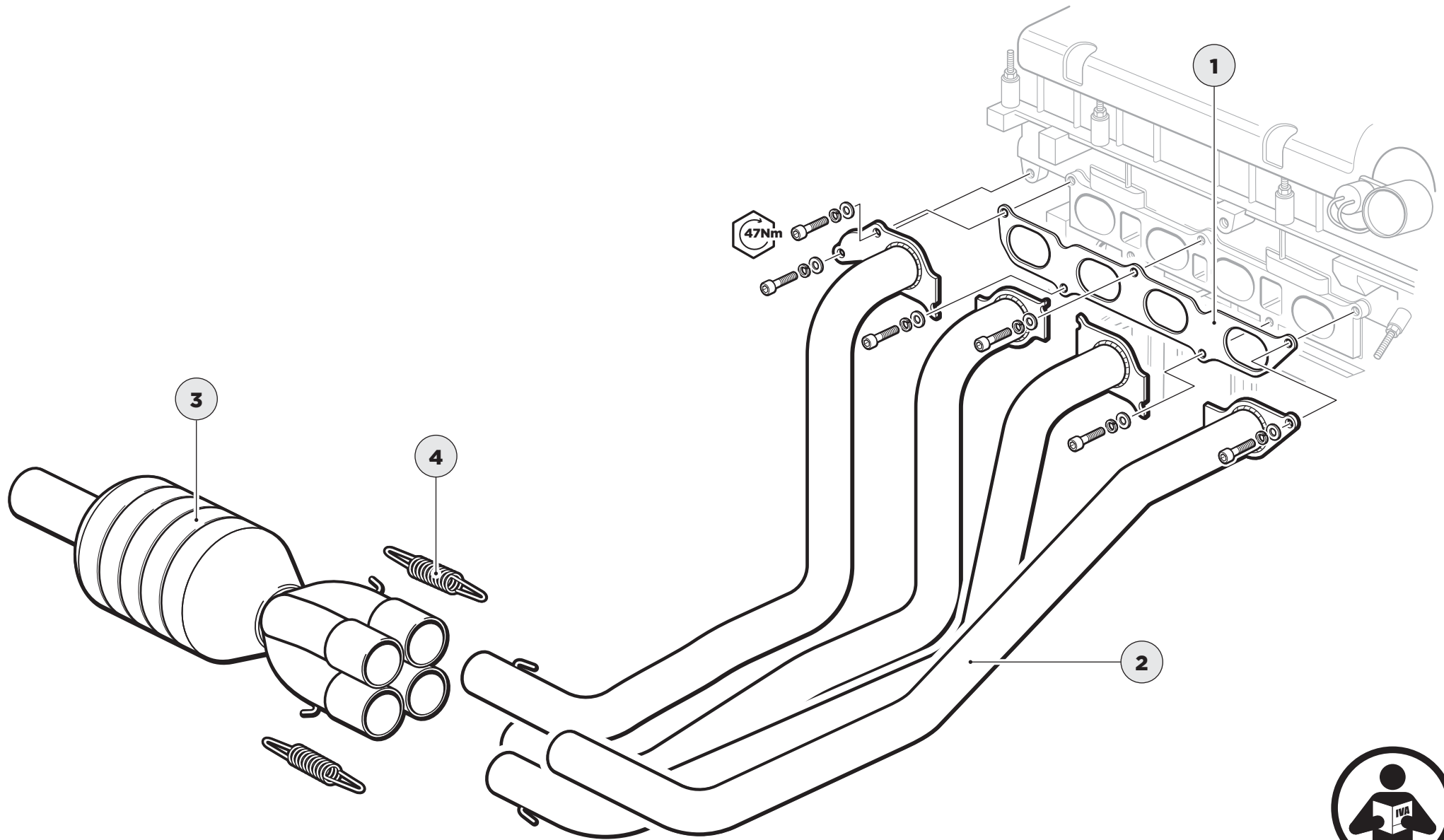
Put masking tape round exhaust hole to prevent scratches.

Chris B

Work out which primary pipe goes where, individually then put all four in plane, starting with the front one & working back. Take care with the hooks on your paintwork.

Chris N

THIS IS EXHAUSTING



19. Dry Sump Tank Fixing

Tip	Source	Original
Fit the pressure sensor with PTFE tape to the tank BEFORE installation in the chassis	Simon Bennett	Link
Use as many washers under the upper fixing to achieve correct height for lower fix P-Clips	Simon Bennett	Link
May have to fit the P-Clips to different chassis struts?	Simon Bennett	Link

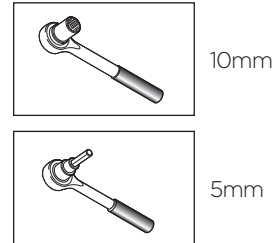
Not pressure sensor - it's a temperature sensor - remove the grub screw from the tank and replace with temp sensor using PTFE can wire into a select switch on the dash to switch between water and oil temp.

DRY SUMP FIXING THE TANK

PARTS

- 1 Dry sump tank
- 2 Temperature sender
- 3 P-clips

TOOLS



FIXINGS

Unmarked bag:

- M8 x 20 caphead
- M8 spring and plain head washer
- M6 x 20 bolts (x2)
- M6 Nyloc (x2)
- 1/4" washers (x2)

TIPS

The M8 caphead fits the tab on the tank to the chassis.

John K

The bottom P-clips fix on to the lower chassis rails.

Grant P

The tab on the tank may need to be spaced out. Use M8 washers.

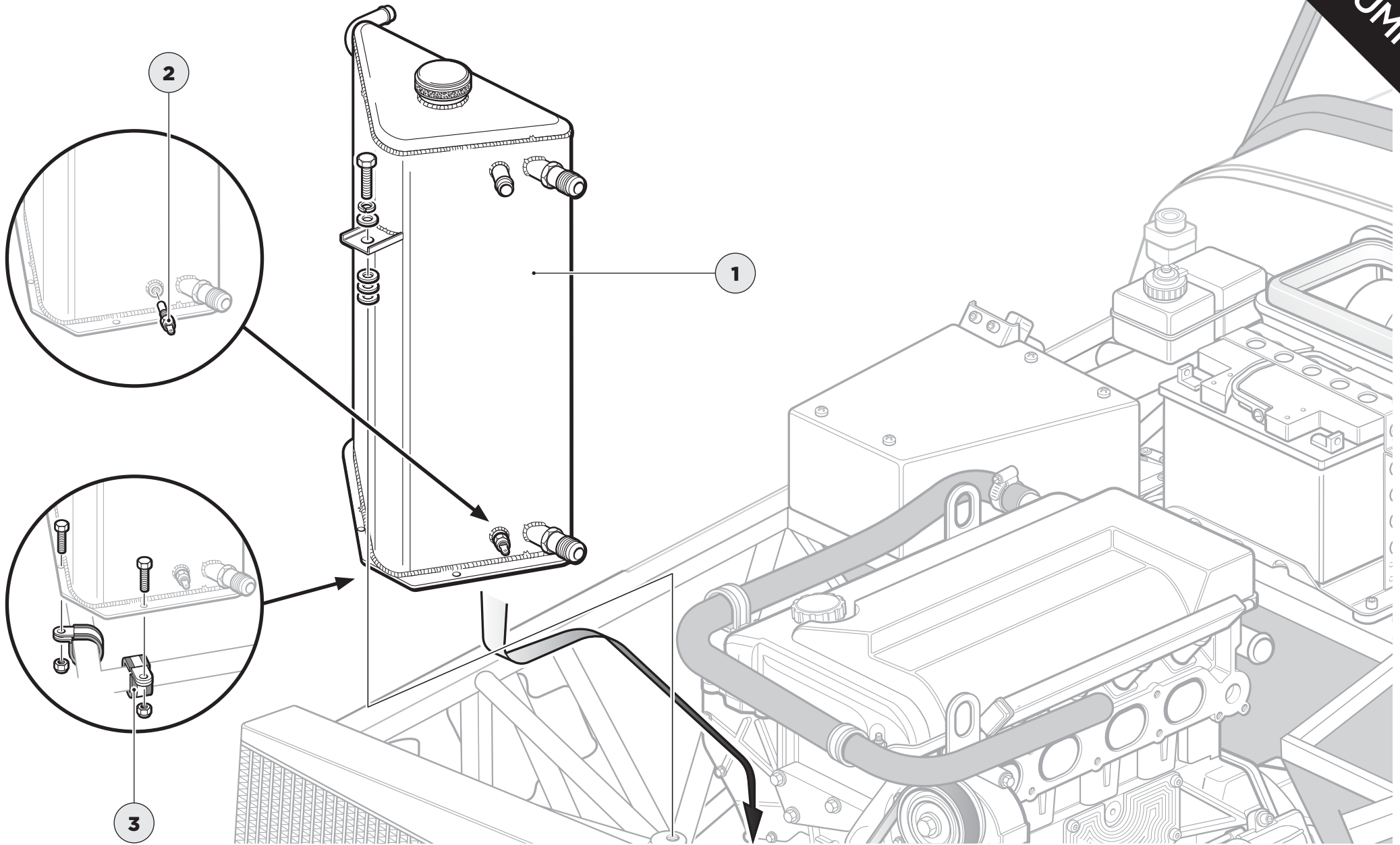
Jamie A

Put PTFE tape in the temperature sensor.

Chris N

DRY SUMP FIXING THE TANK

DRY SUMP



20. Plenum

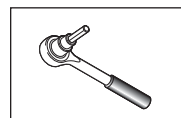
Tip	Source	Original
Refit the Plenum – may need socket extensions / wobble bar to access some bolts	Obodiah	Link
Consider rerouting the wiring in this areas	Chris Collins	Link

WET / DRY SUMP PLENUM

PARTS

1 Plenum

TOOLS



5mm

FIXINGS

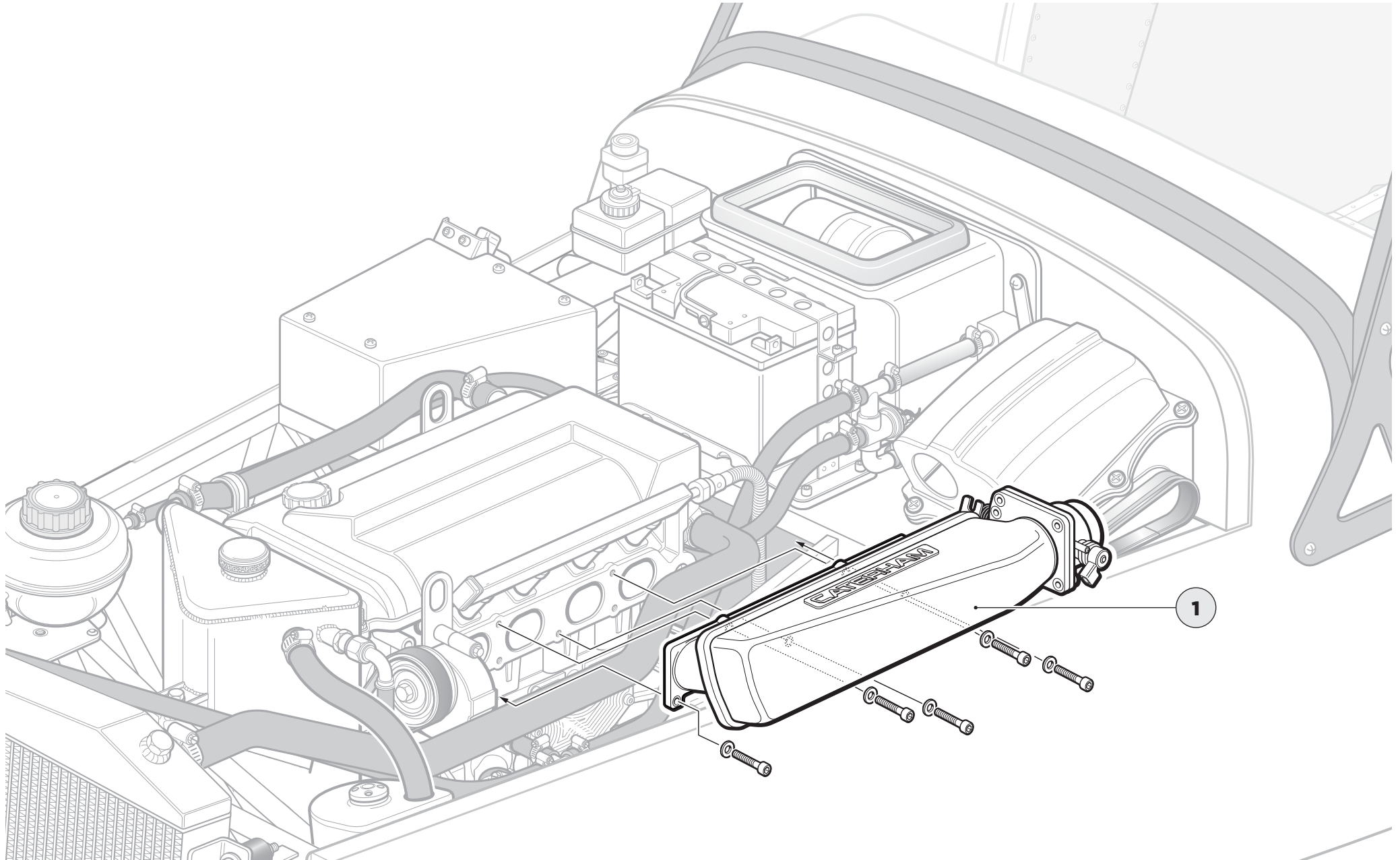
Those removed earlier

TIPS

Refit the plenum.

Dan P

WET / DRY SUMP PLENUM



21. Air Box

Tip	Source	Original
Fit the chassis seal first before fitting the airbox to the chassis	Chris Collins	Link

WET / DRY SUMP AIR BOX HOSE

PARTS

- 1 Airbox hose
- 2 Hose clip

TOOLS



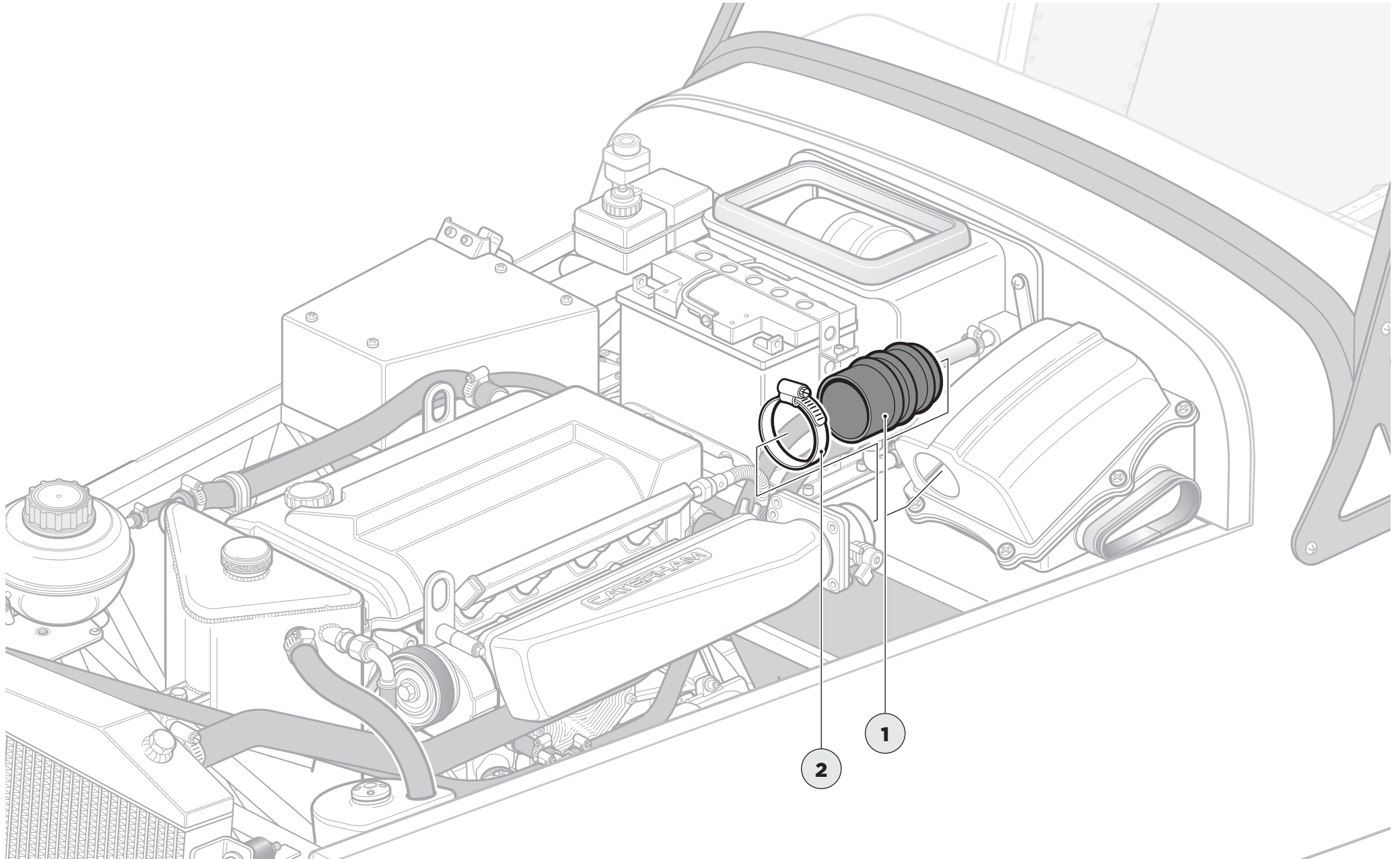
7mm

FIXINGS

All the fixings for this step should be supplied in the airbox.

TIPS

WET / DRY SUMP AIR BOX HOSE



22. Catch Tank

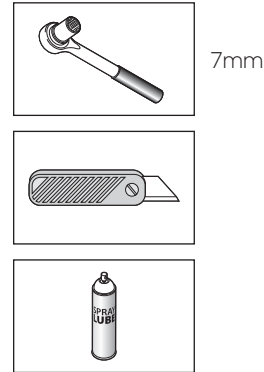
Tip	Source	Original
Bracket should have been drilled and rivetted in chassis preparation (need more space)		
Make sure the bracket is the right way up before riveting	Chris Collins	Link

DRY SUMP CATCH TANK

PARTS

- 1 Silicone hose 90°

TOOLS



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		QUANTITY	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Exp. tank 2.00	888440	1	Expansion tank bracket to chassis	
2	Exp. tank 1.50	888440	1	Expansion tank to bracket	
3	SM radiator bracket	888420	4	SM radiator bracket	
4	Exp. tank 1.50	888440	4	Exp. tank to chassis	
5	Exp. tank 1.50	888440	4	Exp. tank to chassis	
6	Exp. tank 1.50	888440	4	Exp. tank to chassis	
7	Exp. tank 1.50	888440	4	Exp. tank to chassis	
8	Exp. tank 1.50	888440	4	Exp. tank to chassis	
9	Exp. tank 1.50	888440	4	Exp. tank to chassis	
10	Exp. tank 1.50	888440	4	Exp. tank to chassis	
11	Exp. tank 1.50	888440	4	Exp. tank to chassis	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		QUANTITY	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Exp. tank 1.50	888440	1	Expansion tank bracket	
13	Exp. tank 1.50	888440	1	Expansion tank bracket	
14	Exp. tank 1.50	888440	1	Expansion tank bracket	
15	Exp. tank 1.50	888440	1	Expansion tank bracket	
16	Exp. tank 1.50	888440	1	Expansion tank bracket	
17	Exp. tank 1.50	888440	1	Expansion tank bracket	
18	Exp. tank 1.50	888440	1	Expansion tank bracket	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x3

TIPS

The silicone hose you are looking for has a 90° one end and then a long piece.

Chris B

The hose itself should have a grey lining.

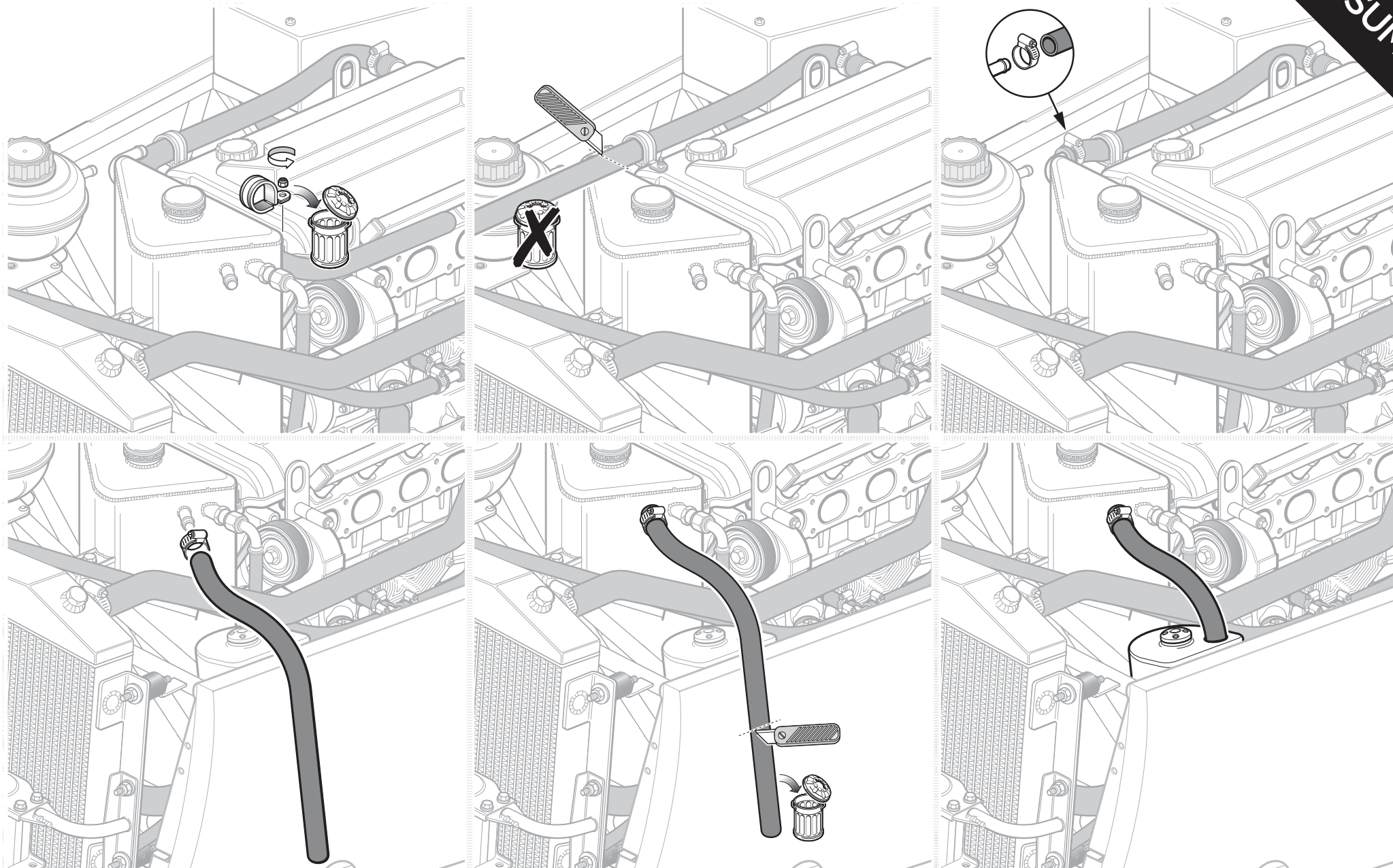
James S

Put hose through P-Clip and attach to tank.

Grant P

Use the excess to run from tank to D-Bottle.

Vincent M



23. Expansion Tank Fitting

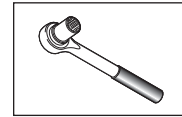
Tip	Source	Original
First hole should be 135mm from the centre of the cruciform – check alignment	Simon Bennett	Link
Use centre punch then 1mm pilot hole	Simon Bennett	Link
Fit correct filler cap to tank and check clearance between cap and nosecone	Simon Bennett	Link
Investigate the lower edge of the expansion tank – see if it needs to be removed	Chris Collins	Link
Use Bluetack to measure the gap between expansion tank top and underside of nose cone. Should be around 10mm	Chris Collins	Link

DRY SUMP FITTING THE EXPANSION BOTTLE

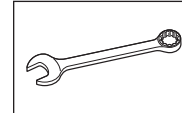
PARTS

- 1 Expansion bottle
- 2 Expansion bottle cap
- 3 Expansion bottle bracket
- 4 Expansion bottle plate

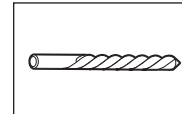
TOOLS



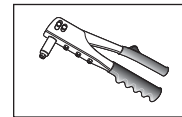
13mm
11mm



11mm



5/32



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Bolt M6 x 20 Grade 8.8	BMS030	1	Expansion tank bracket to chassis	
2	Self-cwk 1/4" x 3/4"	SF14K234	1	Expansion tank to bracket	
3	Subframe BR020 Bracket 4	BMS020	4	SM radiator bracket	
4	Bolt M6 x 16 with square washer	MS10724	4	Fan brackets to fan	
5	Subframe BR020 Fanbracket 4	SFBMS020	4	Fan to radiator cooling - 20 1000	
6	Washer M6 M8	M8079	8	4x Fan to radiator 4x SM radiator bracket	
7	Plain Nut M8	M8079	8	Radiator bobbin	
8	Wlck Nut 1/4"	WNY114	1	Expansion tank bracket	
9	Plain Washer 1/4" Heavy duty	WPH114	13	8 x SIV rad bracket 4 x Fan Brings 1 x Expansion tank bracket	
10	Plain Washer 1/4" Heavy duty	WPH114	4	Radiator bobbin back	
11	Plain Washer 1/4" Heavy duty	SFBMS1020	4	Radiator bobbin front	

x1

x1

x1

x1

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Plain Washer 1/4" x 3/4" Heavy duty	WPH14K234	1	Expansion tank bracket	
13	Spring Washer S16 Heavy duty	WSPH117	9	8 x Radiator bobbin 1 x Expansion tank	
14	Wlck Clip 1/4" 20mm	SC1720-40	6	2 x 1/4" Wlck Clip 2 x 1/4" Wlck Clip 2 x Radiator bobbin	
15	Wlck Clip 1/4" 20mm	SC1720-20	2	1 x Engine outlet to top 1 Engine 1 x Engine outlet to bottom 1 Engine	
16	Wlck Clip 1/4" 20mm	SC1710-20	18	2 x Radiator bobbin 1 x Radiator bobbin 1 x Radiator bobbin 1 x Radiator bobbin	
17	Wlck Clip 1/4" 20mm	SC1710-16	6	Expansion tank small 1 piece	
18	Wlck - Black 1/4" x 3/4"	W150-01015	12	Cowling flap	

x1

x1

x4

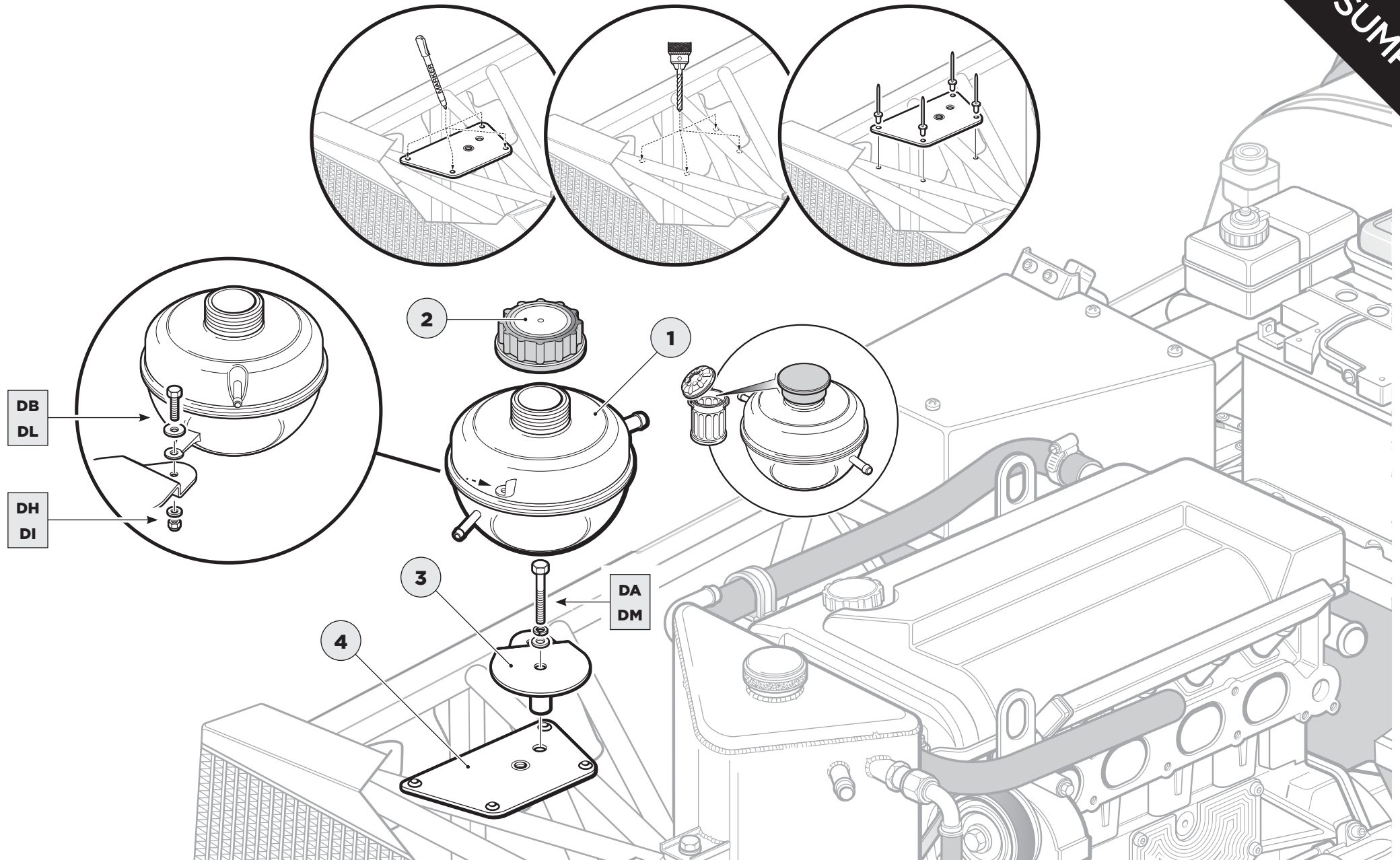
TIPS

Lay the plate over the top of the chassis until the hole sits in the middle of the tube; mark and drill.
Vincent M

Throw away the red cap that came on the expansion bottle.
Lloyd D

DRY SUMP FITTING THE EXPANSION BOTTLE

DRY SUMP

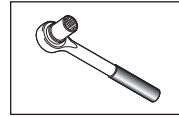


DRY SUMP LAST BIT OF PLUMBING

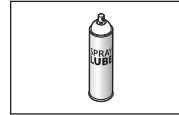
PARTS

1 5/16" hose

TOOLS



7mm



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/TS	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Nut 2-20 Hex Nut	888440	1	Expansion tank bracket to chassis	
2	Ball Nut 1/8-27 Hex Nut	887142/4	1	Expansion tank to bracket	
3	Ball Nut 1/8-27 Hex Nut	888420	4	SM radiator bracket	
4	Ball Nut 1/8-27 Square Neck	887107/4	4	Fan brackets to fan	
5	Ball Nut 1/8-27 Hex Nut	888440/10	4	Fan to radiator bracket - 20 (top)	
6	Ball Nut 1/8-27 Hex Nut	888440	5	4x Fan to radiator 4x 20 radiator bracket	
7	Ball Nut 1/8-27 Hex Nut	888440	8	Radiator bobbin	
8	Ball Nut 1/8-27 Hex Nut	887104	1	Expansion tank bracket	
9	Ball Nut 1/8-27 Hex Nut	888440	13	8 x 20 Fan bracket 4 x Fan bracket 1 x Expansion tank bracket	
10	Ball Nut 1/8-27 Hex Nut	888440	4	Radiator bobbin back	
11	Ball Nut 1/8-27 Hex Nut	888440/10	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/TS	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Ball Nut 1/8-27 Hex Nut	888440/10	1	Expansion tank bracket	
13	Ball Nut 1/8-27 Hex Nut	888440/10	5	8 x Radiator bobbin 1 x Expansion tank	
14	Ball Nut 1/8-27 Hex Nut	887104/40	6	2 x 14 Fan bracket 2 x 14 Fan bracket 2 x 14 Fan bracket	
15	Ball Nut 1/8-27 Hex Nut	887104/30	2	1 x Engine outlet to top 1 frame 1 x Engine outlet to middle frame	
16	Ball Nut 1/8-27 Hex Nut	887104/20	18	6 Radiator bobbin 18 Radiator bobbin 18 Radiator bobbin	
17	Ball Nut 1/8-27 Hex Nut	887104	5	Expansion tank small T-piece	
18	Ball Nut 1/8-27 Hex Nut	887104/10	12	Cooling fan	

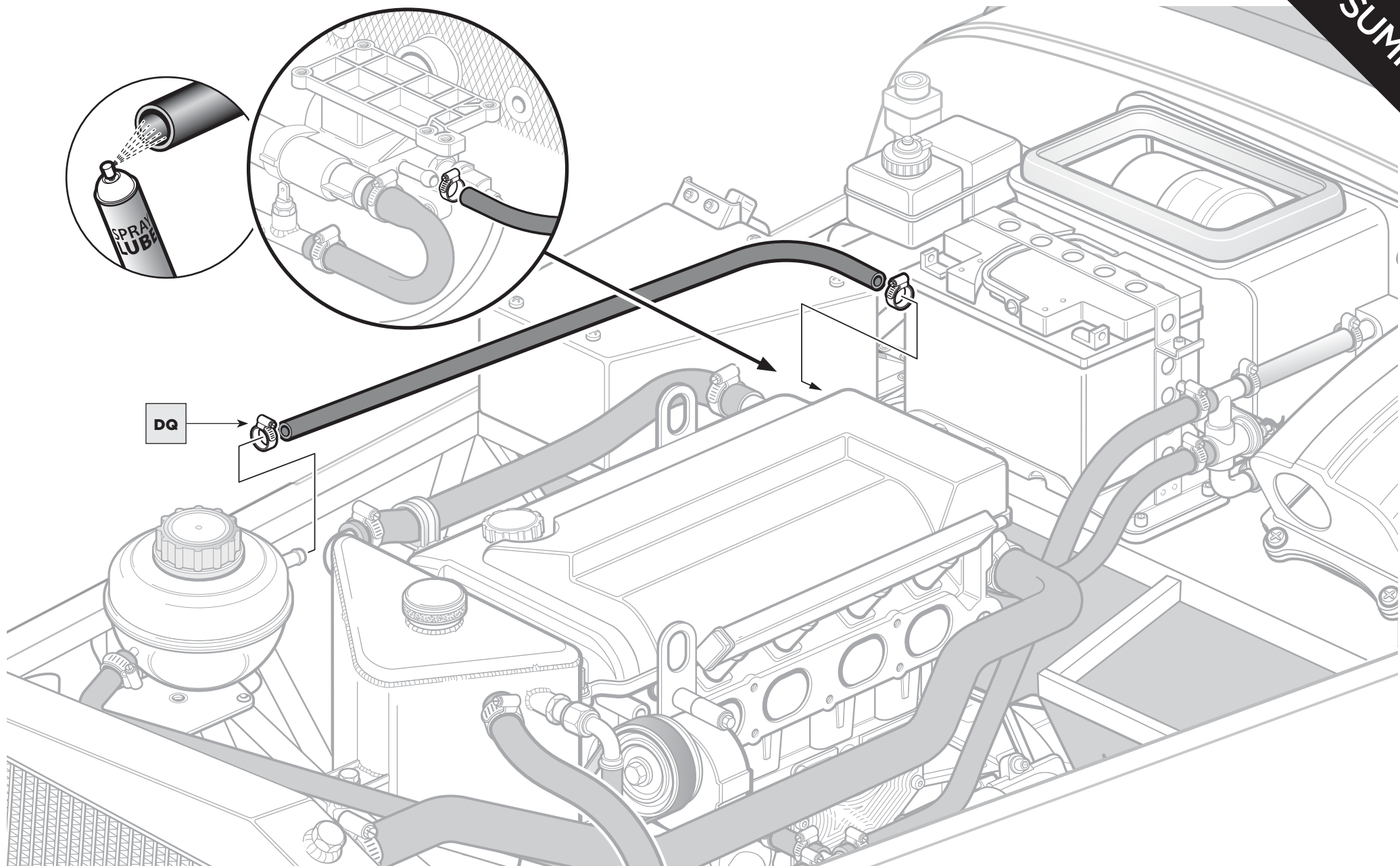
Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

TIPS

DRY SUMP LAST BIT OF PLUMBING

DRY SUMP

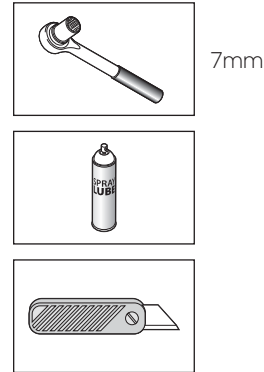


DRY SUMP HOSES

PARTS

- 1** T-piece
- 2** Hose roll
- 3** Reducer hose

TOOLS



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Mt 2-20 Hex 2.0	888440	1	Expansion tank bracket to chassis	
2	Ball Mount 2-20 Hex 2.0	88714224	1	Expansion tank to bracket	
3	Ball Mount 2-20 Hex 2.0	888420	4	SM radiator bracket	
4	Ball Mt 2-18 with Square neck	88710724	4	Fan brackets to fan	
5	Ball Mount 2-18 Hex 2.0	8884210	4	Fan to radiator bracket	
6	Ball Mt 2-18 Hex 2.0	8884210	8	Fan to radiator bracket	
7	Ball Mt 2-18 Hex 2.0	8884210	8	Radiator bobbin	
8	Ball Mt 2-18 Hex 2.0	88710724	1	Expansion tank bracket	
9	Ball Mount 2-18 Hex 2.0	8884210	13	8 x 10V fan bracket 4 x Fan bracket 1 x Expansion tank bracket	
10	Ball Mount 2-18 Hex 2.0	8884210	4	Radiator bobbin back	
11	Ball Mount 2-18 Hex 2.0	8884210	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Expansion tank bracket	8884210	1	Expansion tank bracket	
13	Expansion tank bracket	8884210	8	Expansion tank bracket	
14	Expansion tank bracket	8884210	6	Expansion tank bracket	
15	Expansion tank bracket	8884210	2	Expansion tank bracket	
16	Expansion tank bracket	8884210	18	Expansion tank bracket	
17	Expansion tank bracket	8884210	6	Expansion tank bracket	
18	Expansion tank bracket	8884210	12	Expansion tank bracket	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x1
x7

TIPS

You will need to cut hoses to size.

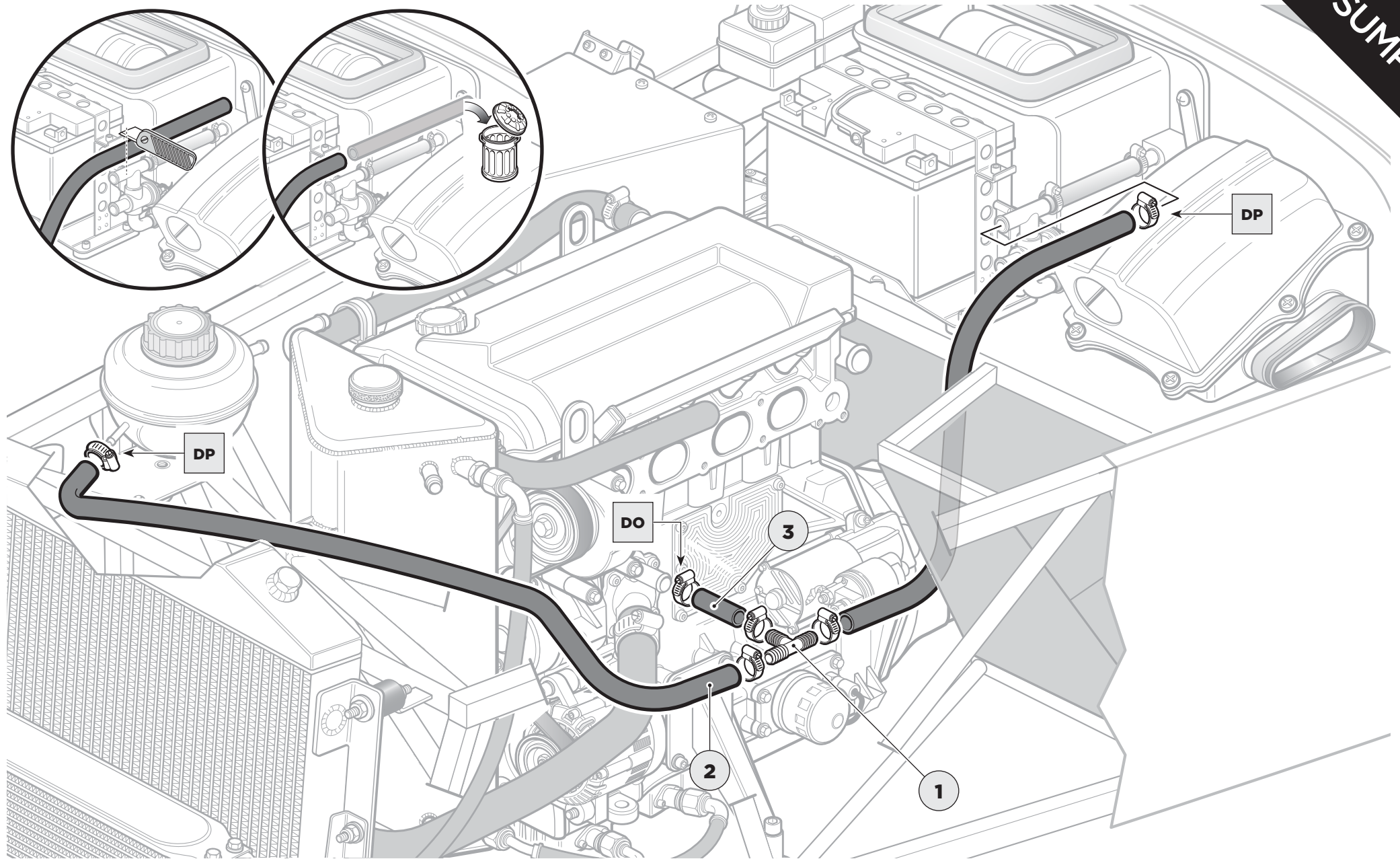
John S

The hose that comes from the engine reduces in diameter to the T-piece.

Chris N

DRY SUMP HOSES

DRY SUMP

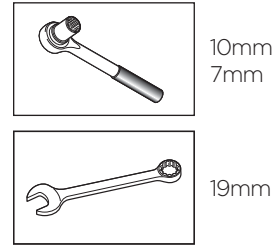


THINGS ARE HEATING UP

PARTS

- 1 Heater
- 2 Valve
- 3 Heater cable
- 4 Lower hose 110mm (cut from long length)
- 5 Upper hose 120mm (cut from long length)
- 6 Grommet

TOOLS



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	DA Bolt M6 x 20 Hexclad	888440	1	Expansion tank bracket	
2	DB Selflocking 5.5" Spring Washer	88744224	1	Expansion tank to bracket	
3	DC Selflocking 88520 Hexclad	888420	4	SM radiator bracket	
4	DD Bolt M6 x 18 with Square Washer	8873224	4	Fan brackets to fan	
5	DE Selflocking M6x16 Flatwasher	88948015	4	Fan to radiator coating: SV only	
6	DF Plain Nut M6	888775	8	1st Fan to radiator and SV radiator bracket	
7	DG Plain Nut M6	888775	8	Radiator bobbin	
8	DH Bolt M6 x 14	8873114	1	Expansion tank bracket	
9	DI Plain Washer 16 Hexclad	8894116	13	1st & SV Fan brackets and Fan Brackets 1 & Expansion tank bracket	
10	DJ Plain Washer 16 SV Hexclad	8894116	4	Radiator bobbin back	
11	DK Plain Washer 16 SV Hexclad	8894116	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	DL Plain Washer 16 SV Hexclad	8894116	1	Expansion tank bracket	
13	DM Spring Washer 16 Hexclad	88948012	8	1st Radiator bobbin 1st Expansion tank	
14	DN Hose Clip 16 Hexclad	8872040	6	2nd & 3rd hose from engine to 2nd & 3rd radiator hose 2nd Radiator bobbin hose	
15	DO Hose Clip 16 Hexclad	8872030	2	1st Engine outlet to top 1 Valve 1st Engine outlet to radiator outlet	
16	DP Hose Clip 17 2-piece	8871625	18	1st Heater bracket 1st Fan Frame 1st Expansion tank 1st Radiator 1st Dip Switch	
17	DI Hose Clip 16 Hexclad	8872030	6	Expansion tank small 1 piece	
18	DR Bolt - Black 12x16 SV	887610110	12	Cooling fan	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x4

TIPS

Remember to remove bungs from heater.

Jamie A

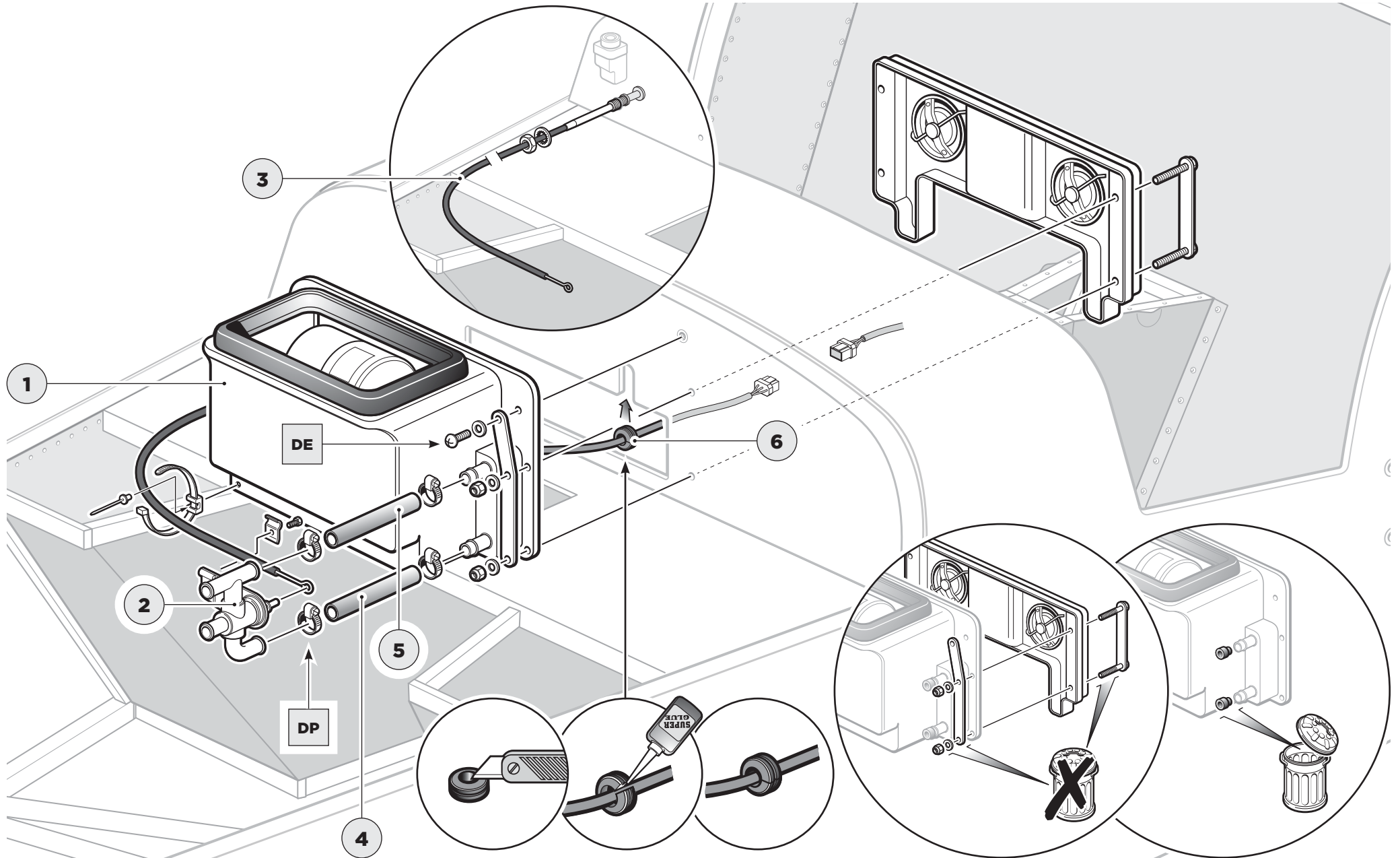
Use 7mm for jubilee clips but not too tight!

Chris B

It's worth re-tightening the jubilee clips after a couple of uses of car.

John S

THINGS ARE HEATING UP



24. Dry Sump Radiator Fitting

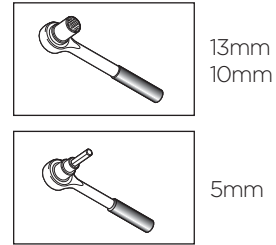
Tip	Source	Original
Should be no issues following recent design change – but check there is good clearance all round – especially top hose connection to bracket.	Mark	Link
Flat edges of fan must align with top and bottom of radiator	Obodiah	Link
Four plastic fan mounts must be pushed into the fan itself before installation – use lube.	Obodiah	Link
Route hoses carefully and complete the headlight wiring	Chris Collins	Link

DRY SUMP FITTING THE RADIATOR

PARTS

- 1 Radiator
- 2 Blanking plate
- 3 Fan
- 4 Radiator bobbins

TOOLS



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/ITS	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	DA Nut M8 x 20 Heavy Duty	888440	1	Expansion tank bracket to chassis	
2	DB Washer 13x 5 1/4"	887142/4	1	Expansion tank to bracket	
3	DC Radiator BRACKET Heavy Duty	888420	4	SM radiator bracket	
4	DD Nut M8 x 18 with Square Section	887107/4	4	Fan brackets to fan	
5	DE Radiator BRACKET Heavy Duty	888420/10	4	Fan to radiator mounting to 20 1/2"	
6	DF Nylon Nut M8	NMFF6	8	8x Fan to radiator bracket	
7	DG Plain Nut M8	NMFF8	8	Radiator bobbin	
8	DH Nylon Nut 1/2"	887114	1	Expansion tank bracket	
9	DI Plain Washer 10 Heavy Duty	887116	13	13 x 10V Nut Bracket 8 x 8 Fan Brackets 1 x Expansion tank to Chassis	
10	DJ Plain Washer 12/16 Heavy Duty	887118	4	Radiator bobbin back	
11	DK Plain Washer 12/16 Heavy Duty	887120/4	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x4

x4

x4

x4

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/ITS	
COOLING SIGMA					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	DL Plain Washer 14/16 Heavy Duty	887122/4	1	Expansion tank bracket	
13	DM Spring Washer 1/2 Heavy Duty	887109/10	8	8 x Radiator bobbin 1 x Expansion tank	
14	DN Hex Cap 10 Heavy	88720/40	6	2 x 10 Heavy Hex Cap 10 Heavy 2 x 10 Radiator cap 2 x 10 Radiator hose	
15	DO Hex Cap 10 20mm	88720/20	2	1 x Engine outlet to top 1 Engine 1 x Engine outlet to bottom 1 Engine	
16	DP Hex Cap 12/16mm	88710/25	18	18 Heavy Hex Cap 12/16mm 18 Expansion tank 18 Heavy 18 12/16mm 18 Radiator	
17	DI Hex Cap 8 10mm	88710/10	6	Expansion tank small 6 pieces	
18	DR Hex - Blank 12/16 1/2"	88710/10/10	12	Cooling fan	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

TIPS

Be careful to tighten the fan gently and with just a nip.

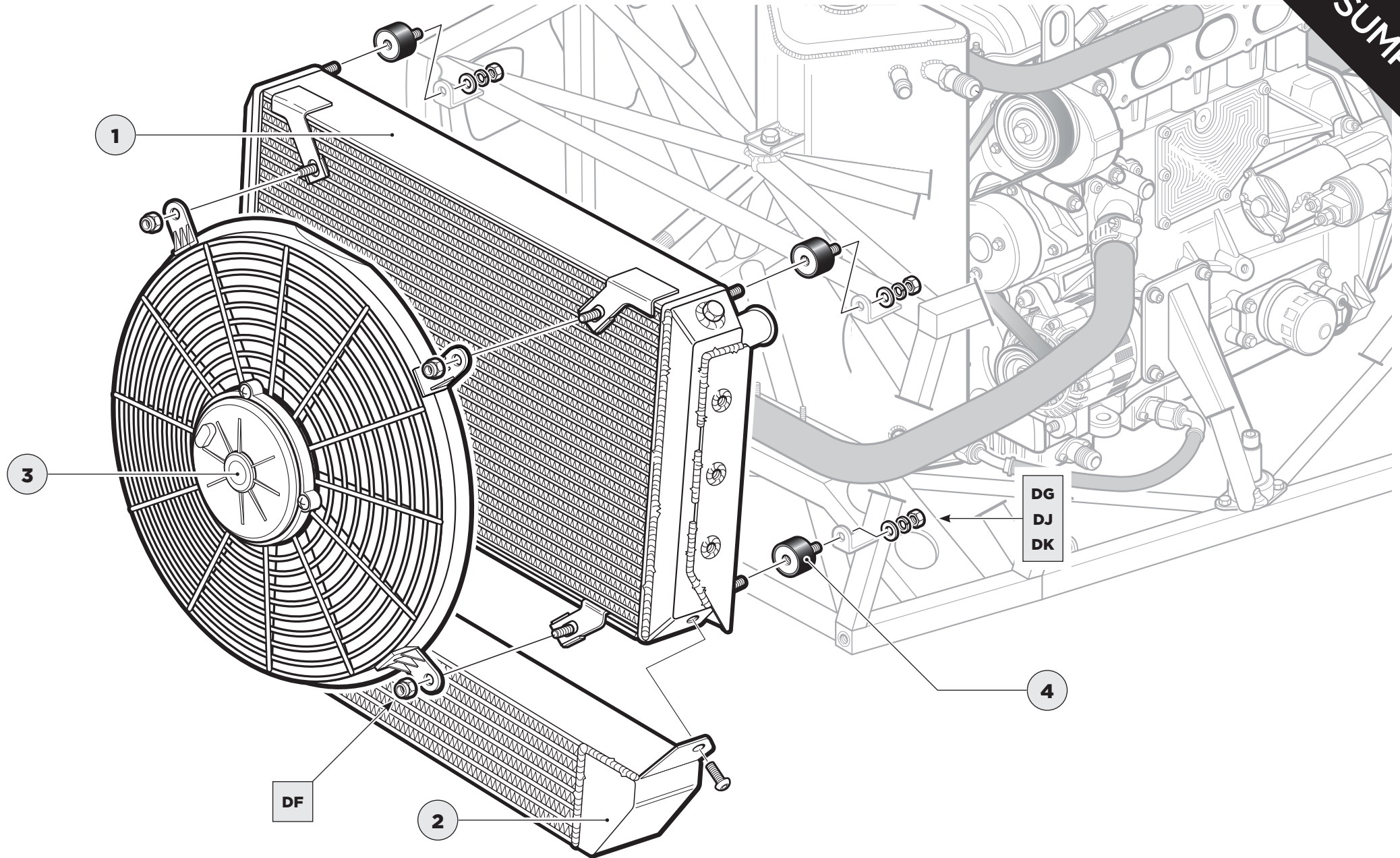
Dan P

The fan should have a 'flat' section on the rim. This should be at the top.

Grant P

DRY SUMP FITTING THE RADIATOR

DRY SUMP

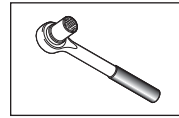


ONE LAST BIT OF PLUMBING...

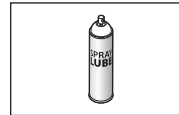
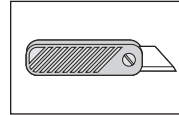
PARTS

1 Hose

TOOLS



7mm



FIXINGS

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/ITS	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Exp. tank 2.25 ltr	888440	1	Expansion tank bracket to chassis	
2	Exp. tank 1.5 ltr	887142/24	1	Expansion tank to bracket	
3	SM radiator bracket	888420	4	SM radiator bracket	
4	Fan brackets to fan	887107/4	4	Fan brackets to fan	
5	Fan to radiator mounting - 20 x 100	888421/2	4	Fan to radiator mounting - 20 x 100	
6	44 Fan to radiator bracket	888474	8	44 Fan to radiator bracket	
7	Radiator bobbin	888476	8	Radiator bobbin	
8	Exp. tank bracket	887114	1	Expansion tank bracket	
9	18 x 100 Fan bracket	888414	13	18 x 100 Fan bracket	
10	Radiator bobbin back	888475	4	Radiator bobbin back	
11	Radiator bobbin front	888473/2	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SIZES/ITS	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Exp. tank bracket	888440/4	1	Expansion tank bracket	
13	4 x 18 Radiator bracket	888414/2	8	4 x 18 Radiator bracket	
14	Exp. tank bracket	887107/40	6	Exp. tank bracket	
15	Exp. tank bracket	887107/38	2	Exp. tank bracket	
16	Hose Clip 17-20mm	80116-25	18	Hose Clip 17-20mm	
17	Exp. tank bracket	887107/4	6	Expansion tank bracket	
18	Covering cap	887107/10	12	Covering cap	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

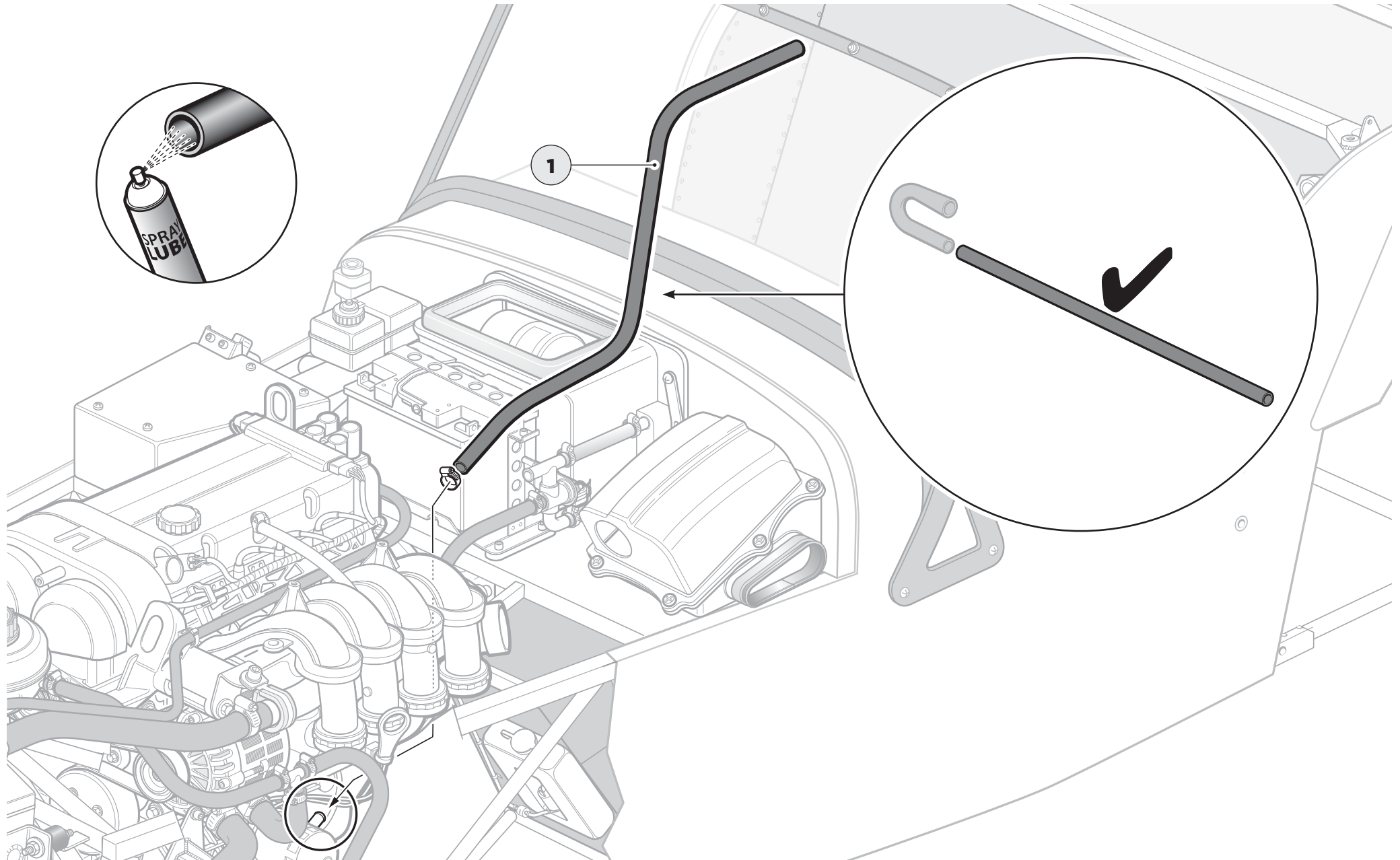
x1

TIPS

Cut off hook and trim if required.

Grant P

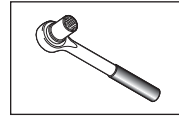
ONE LAST BIT OF PLUMBING...



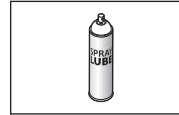
...TO CONNECT THE HEATER

PARTS

TOOLS



7mm



FIXINGS

TIPS

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Nut 2.25 Hex 2.5	888440	1	Expansion tank bracket to chassis	
2	Ball Nut 1.50 Hex 2.0	887442/4	1	Expansion tank to bracket	
3	Ball Nut M8 Hex 8.0	888420	4	SM radiator bracket	
4	Ball Nut 2.00 Hex 2.5	887422/4	4	Fan brackets to fan	
5	Ball Nut M8 Hex 8.0	888420/10	4	Fan to radiator mounting - 20 100g	
6	Ball Nut M8 Hex 8.0	888420	8	4x Fan to radiator 4x 200 radiator bracket	
7	Ball Nut M8 Hex 8.0	888420	8	Radiator bobbin	
8	Ball Nut 1.50 Hex 2.0	887424	1	Expansion tank bracket	
9	Ball Nut M8 Hex 8.0	888420	13	13 x 200 rad bracket 4 x 200 Fan Brackets 1 x Expansion tank bracket	
10	Ball Nut M8 Hex 8.0	888420	4	Radiator bobbin back	
11	Ball Nut M8 Hex 8.0	888420	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack D		CATERHAM		44	
		PACK NUMBER		SICCATB	
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Expansion tank bracket	888440/4	1	Expansion tank bracket	
13	Spring Washer 1.50 Hex 2.0	887422/10	8	8 x Radiator bobbin 1 x Expansion tank	
14	Washers 2.00 Hex 2.5	887420/40	40	2 x 4 x 200 Fan to radiator 4 x 200 radiator base 2 x Radiator bobbin	
15	Washers 2.00 Hex 2.5	887420/20	20	1 x Engine outlet to top 1 200g 1 x Engine outlet to bottom 200g	
16	Hose Clip 17-20mm	80116-25	18	8 x Heater hoses to 20 100g 1 x Expansion tank 4 x Dip Sump 4 x Radiator	
17	Washers 2.00 Hex 2.5	887420/6	6	Expansion tank small 6 pieces	
18	Washers 2.00 Hex 2.5	887420/12	12	Cooling fan	

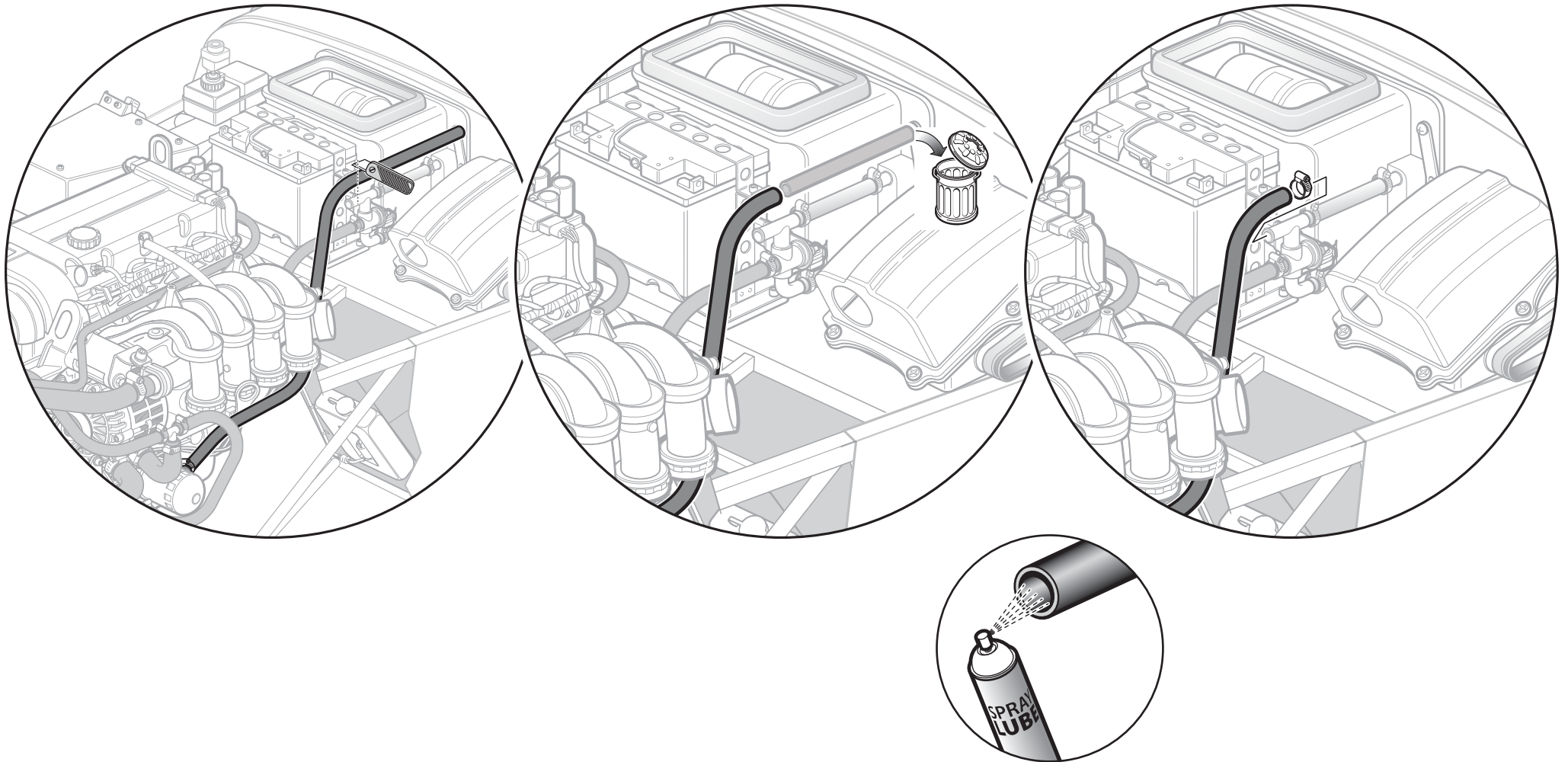
Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x1

The coolant concentrate should be diluted 50/50 with water. It does not need to be exact!

Anthony L

...TO CONNECT THE HEATER



FILL WITH COOLANT

PARTS

Coolant concentrate

TOOLS



FIXINGS

TIPS



Fill expansion bottle to max mark

25. Handbrake and Gear Lever

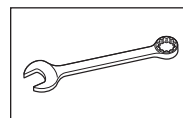
Tip	Source	Original
Hole in the Scuttle might need enlarging for the heater control cable	Chris Collins	Link
SV Chassis – DO NOT CROSS the cable	Manual	
Grease the pin and pulley interface	Chris Collins	Link
Ensure the locating split pin is pointing downwards	Chris Collins	Link
Cable adjustment screws fit into bracket on RHS of the LSD	John Martin	Link
Once the cable and sheath is installed – do not progress further with handbrake until the LSD	Chris Collins	Link
Put a washer either side of the clevis inside the handbrake, rather than two on either side – apply grease	Chris Collins	Link
May have to widen the handbrake bracket in the chassis	Chris Collins	Link
Check the operation of the microswitch before the first handbrake click – adjust if nec.	Chris Collins	Link
Tidy up the excess heatshield and finish off with AI tape	Chris Collins	Link
Fit the gear lever – but protect from dropping a bolt into the gearbox	Chris Collins	Link

FITTING THE HANDBRAKE

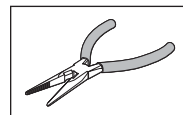
PARTS

- 1 Handbrake assembly
- 2 Handbrake pulley
- 3 Handbrake clevis
- 4 Pulley clevis pin
- 5 Handbrake clevis pin
- 6 Handbrake cable

TOOLS



13mm (x2)



FIXINGS

Miscellaneous pack

- Setscrew 8 (x25)
- Washer M8
- Washer M6

TIPS

Remember to put a loop in inner cable around pulley.

Grant P

Cable tie adjuster end of cable to diff.

Dan D

Use pliers to bend the legs of the split-pins once in place, which then holds them loosely in the clevis pins.

Chris B

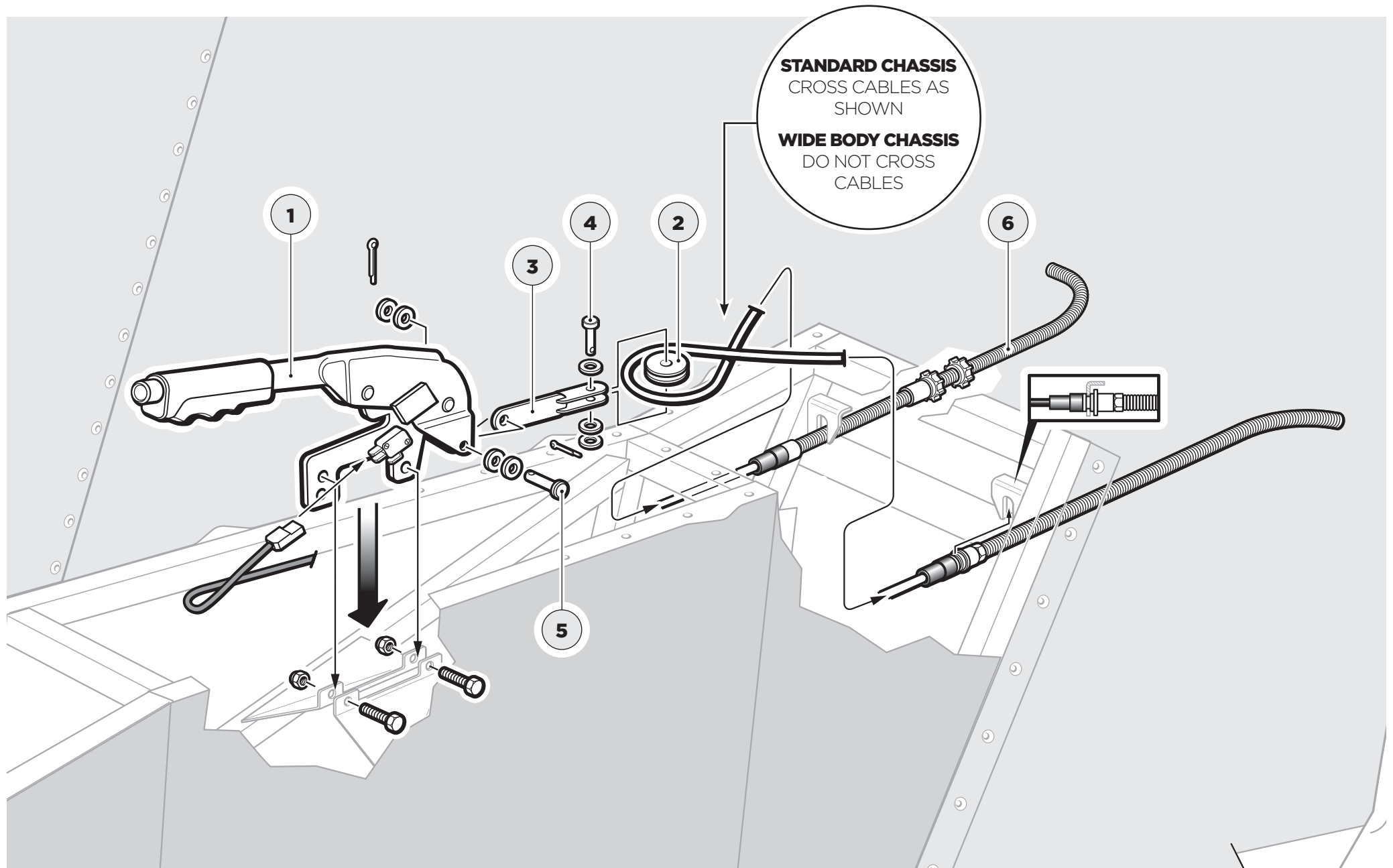
Handbrake wire connector goes to top of terminal & ties up.

Jamie A

After plugging in connector, cable tie and secure any excess wiring.

Dan P

FITTING THE HANDBRAKE



26. Propshaft

Tip	Source	Original
Remove any excess paint from grease nipple and fill with grease (Castrol LM)	Chris Collins	Link
Add spline grease onto prop spline	Chris Collins	Link
Smear some oil onto shaft to protect gearbox seal	Chris Collins	Link
UJ might be a tight fit through the transmission tunnel – if so, push and touch up.	Chris Collins	Link

SLIDE IN THE PROPSHAFT

PARTS

- 1 Propshaft

TOOLS



FIXINGS

TIPS

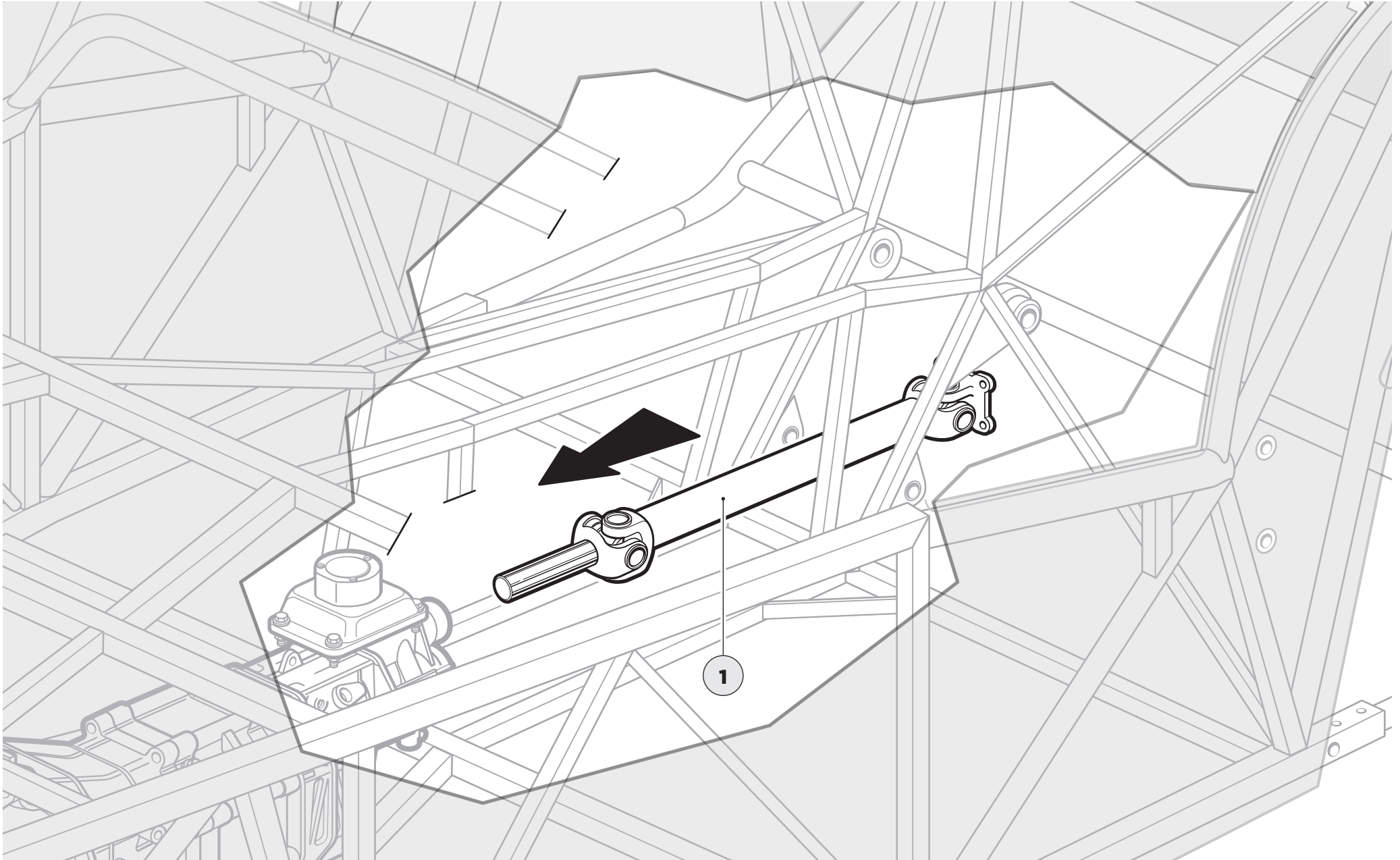
Line the splines in the propshaft to the gearbox.

Anthony L

Grease prop if necessary, it will have a grease nipple.

John S

SLIDE IN THE PROPSHAFT



27. Differential

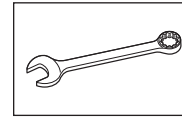
Tip	Source	Original
Paint the exposed metal areas with Engine Enamel	Chris Collins	Link
Loosen the oil filler plug before installing the Diff	Chris Collins	Link
Remove boot panel and use engine hoist to support the Diff through the boot opening	Chris Collins	Link
Locate bottom holes first with screwdriver or pin-punches	Chris Collins	Link
After the LSD is in place, fit the handbrake	Chris Collins	Link
Consider filing a round onto the end of the long bolt to make fitting easier	Chris Collins	Link
Use Copperslip to help with holding the washers in place	Chris Collins	Link
	Chris Collins	Link

HEAVY STUFF: FITTING THE DIFF

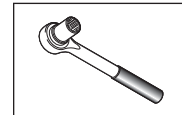
PARTS

1 Differential

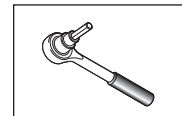
TOOLS



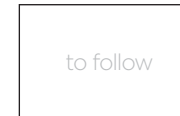
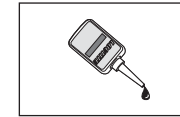
19mm



19mm



10mm
8mm



Extension

FIXINGS

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Bolt 1/2" x 11" LHF	BP12X11	1	Upper diff mounting bolt	
2	Caphead Bolt M12 x 55 Grade 10.9	BMCH12X55	2	Lower diff mounting bolt	
3	Bolt M10 x 55 Grade 10.9	BM10X55	4	Rear hub through axle to front DeDion	
4	Bolt M10 x 55 Grade 10.9	BM10X55	8	3 x 4 Front hub through ear x 4 Caliper carrier bolts	
5	Bolt M10 x 55 Grade 10.9	BM10X55	4	Through rear of axle into reversed DeDion tubes	
6	Caphead Bolt M12 x 25 Grade 12.9	BMCH12X25	4	Propshaft bolts	
7	Caphead Bolt M12 x 25 Grade 12.9	BMCH12X25	2	Diff cage	
8	Half Nuts 1/2" Type	NFY1/2	1	Upper diff bolt	
9	Hex Nut M10	NM10	8	Hub through axle to DeDion	
10	1/2" Hex Nut M10	NM10	4	Rear axle roll bar brackets	
11	Hex washer 1/2" x 7/8"	WPH1/2X7/8	2	Brake pipe	

x1

x2

x4

x1

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Flange washer 1/2" x 3/4" 10mm	WPT12X3/4	16	Flange bearing diff shells	
13	Plain washer 1/2" x 3/4" 10mm	W1/2X3/4	8	Free play on diff	
14	Plain washer 1/2" x 3/4" 10mm	W1/2X3/4	16	Diff shim washers	
15	Washer M12	WPH12	16	Rear DeDion Carrier Carrier Hub	
16	Spring Washer M10	WS10	16	Rear DeDion Tube Carrier Carrier	
17	Softner washer M12	WS12	4	Behind bolt heads on diff	
18	Reinforced washer 1/2"	WR1/2	1	Braked brake hose	
19	Rear 1/2" x 5.5"	1/2-5.5	5	P-clips on DeDion for brake pipe	
20	P-Clip	NC1	5	Brake pipe on DeDion	

* Use as required for spacing

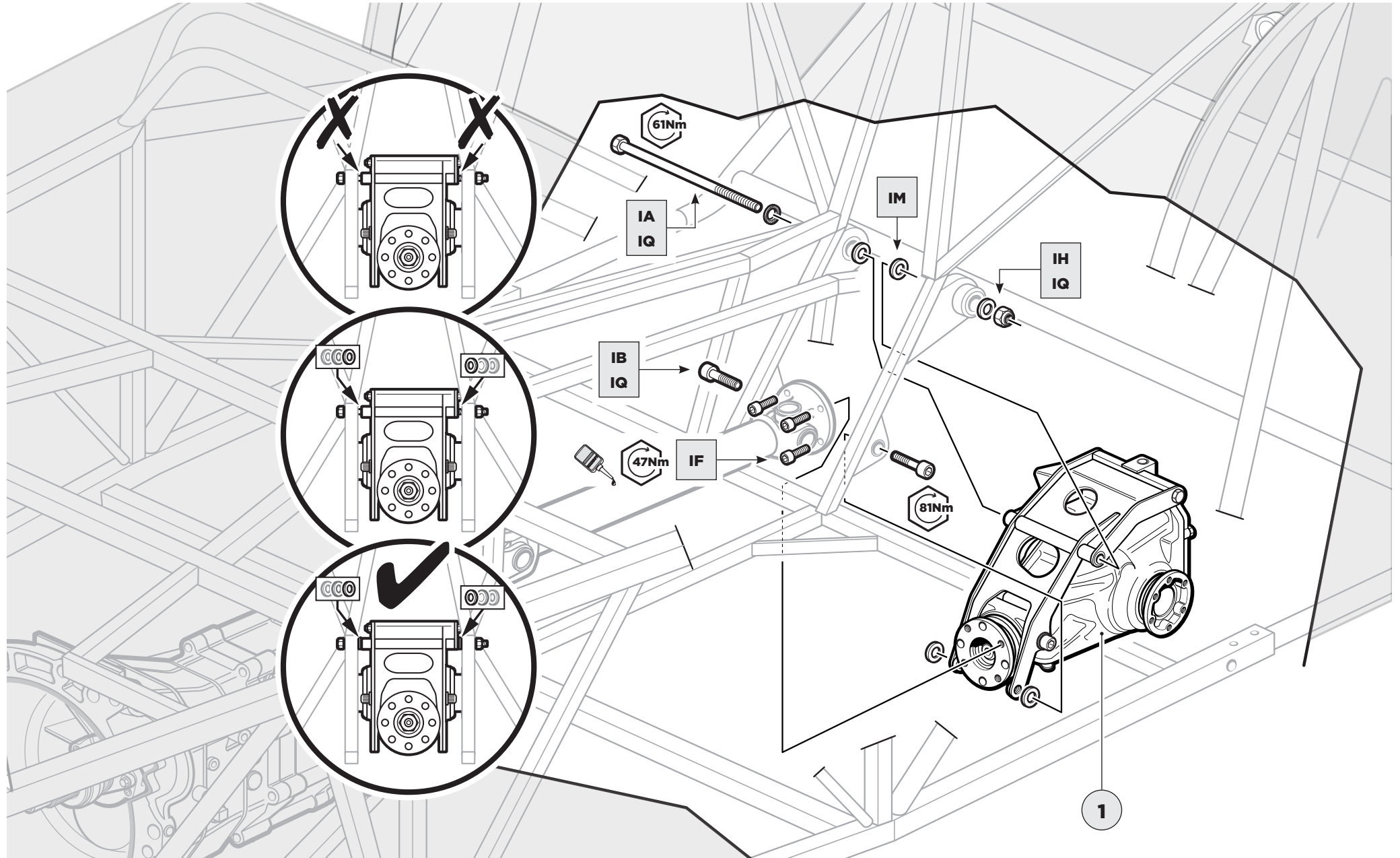
TIPS

Start at bottom right with spanner & work your way around.
Chris B

Make sure propshaft is in first!
Harry P

Lower diff bolts may require more than one washer – try to keep them even.
Tiago O

HEAVY STUFF: FITTING THE DIFF



28. Roll Over Bar

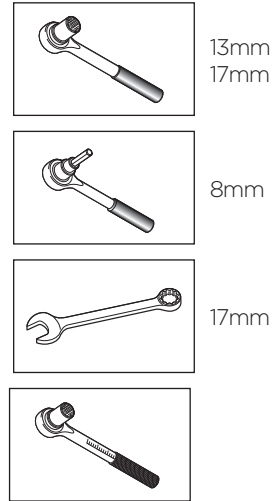
Tip	Source	Original
Must be fitted before the rear dampers	Various	
Remove the factory fitted upper rear shock absorber bolts	Chris Collins	Link
Remove the Hood Support Bracket	Chris Collins	Link
Clean holes of paint by re-tapping (including the harness mounting holes)	Chris Collins	Link
If there are alignment issues – fit bolts into the side having an issue first (not the good side)	Chris Collins	Link

FITTING THE ROLL OVER BAR

PARTS

- 1** Roll over bar

TOOLS



FIXINGS

Pack J		CATERHAM		47	
		PACK NUMBER		30P010A	
ROLL OVER & TRACK DAY BAR SERIES 3 METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Roll M10 x 80 Grade 8.8	BM10080	2	Rear diagonals of roll over bar to mounting brackets	
2	Set screw M8 x 20 Grade 8.8	SM8X20	2	Roll over bar bracket to chassis	
3	Clamp nut M10 x 20	SMCH10X20	2	Roll over bar boss	
4	Nyloc Nut M10	NMNF10	2	Rear diagonals of roll over bar to mounting brackets	
5	Flan Washer M8	WPM88	2	Roll over bar bracket to chassis	
6	Spring Washer M8	WSP888	2	Roll over bar bracket to chassis	
7	Flan Washer M10	WPM1010	4	Rear diagonals of roll over bar to mounting brackets	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 1

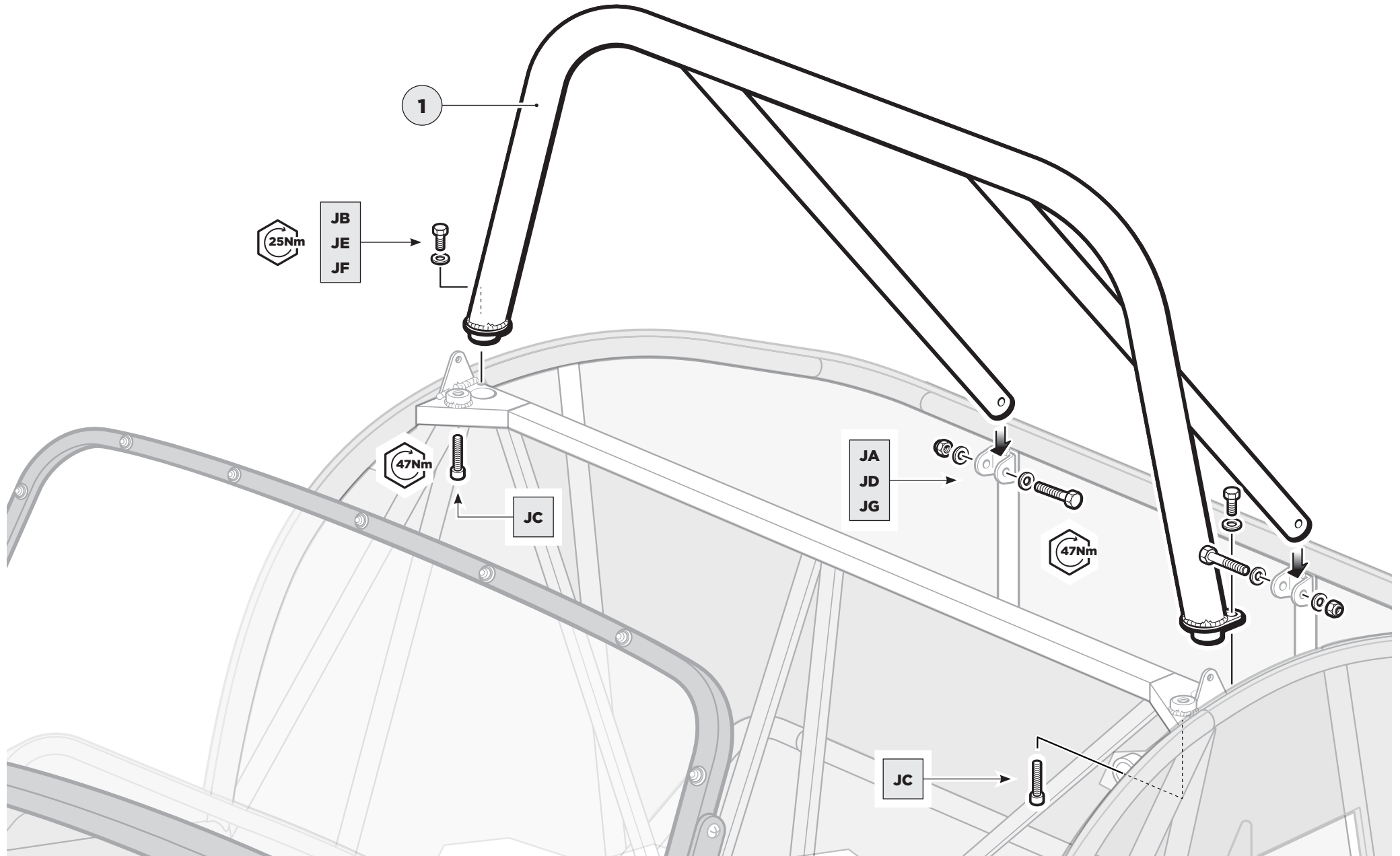
x2
x2
x2
x2
x2
x2
x4

TIPS

If you've fitted the rear dampers they'll need to come off again to do this properly.

Chris B

FITTING THE ROLL OVER BAR



29. Preparing the de Dion tube

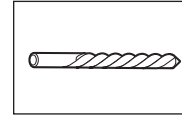
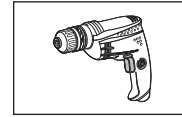
Tip	Source	Original
Drill out holes to 1/8" – then recover with POR15	Chris Collins	Link
Pay attention to the P-Clip direction holding the brake lines – different on either side	Chris Collins	Link
Once Rear Brake Hose is protected with Fuel Line spare tubing, fit to the de Dion before it goes in	Chris Collins	Link
Add protection to Fuel tank, chassis and de Dion ears	Chris Collins	Link
Slide de Dion into chassis with it pointed to the ground, once far side is clear, rotate	Chris Collins	Link

PREPARING THE DEDION TUBE

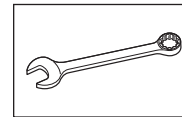
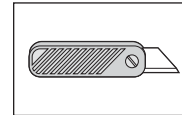
PARTS

- 1 DeDion tube
- 2 LHS brake pipe
- 3 RHS brake pipe
- 4 3 way union
- 5 Brake hose

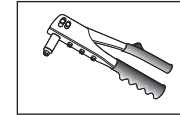
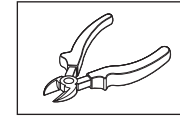
TOOLS



1/8"



11mm
13mm
14mm



FIXINGS

Pack H		CATERHAM		ITEM NUMBER	53
				PACK NUMBER	30R01TD
REAR SUSPENSION DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Joint LHS (Caster 10.0)	SM124100	2	A-frame front mountings	
2	Upper Ball Joint RHS (Caster 10.0)	SM124101	2	Front radius arm (through cockpit)	
3	Ball Joint LHS (Caster 10.0)	SM124102	4	X-2 Lower Race Damper & 2 Rear Radius Arm	
4	Rear Axle Roll Bar Mounting Brackets	SM124103	4	Rear Axle Roll Bar Mounting Brackets	
5	Ball Joint LHS (Caster 10.0)	SM124104	1	A-frame to DeDion	
6	Ball Joint LHS (Caster 10.0)	SM124105	3	X-2 Rear Radius Arm & A-frame to DeDion	
7	Rear Axle Roll Bar Mounting Brackets	SM124106	2	A-frame front mountings	
8	Rear Axle Roll Bar Mounting Brackets	SM124107	2	Front radius arm (through cockpit)	
9	Rear Axle Roll Bar Mounting Brackets	SM124108	2	Rear Axle Roll Bar Drop Link	
10	Rear Axle Roll Bar Mounting Brackets	SM124109	4	Rear Axle Roll Bar Mounting Brackets	
11	Metric Nut M14	MPY114	1	3-way union on DeDion tube	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x1

Pack I		CATERHAM		ITEM NUMBER	44
				PACK NUMBER	30Z1067B
AXLE DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Upper Ball Joint LHS (Caster 10.0)	SM124111	1	Upper ball mounting ball	
2	Lower Ball Joint LHS (Caster 10.0)	SM124112	2	Lower ball mounting ball	
3	Rear Axle Roll Bar Mounting Brackets	SM124113	4	Rear ball through ear to front DeDion	
4	Rear Axle Roll Bar Mounting Brackets	SM124114	8	X-4 Front ball through ear to front DeDion	
5	Rear Axle Roll Bar Mounting Brackets	SM124115	4	Through rear of ear into threaded DeDion tubes	
6	Front Axle Roll Bar Mounting Brackets	SM124116	4	Front ball through ear to front DeDion	
7	Front Axle Roll Bar Mounting Brackets	SM124117	4	Front ball through ear to front DeDion	
8	Front Axle Roll Bar Mounting Brackets	SM124118	2	Off rags	
9	Front Axle Roll Bar Mounting Brackets	SM124119	1	Upper off ball	
10	Front Axle Roll Bar Mounting Brackets	SM124120	8	Hub through ear to DeDion	
11	12" Nylon Nut M8	SM124121	4	Rear axle roll bar dropout	
12	12" Nylon Nut M8	SM124122	2	Brake pipe	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

Pack I		CATERHAM		ITEM NUMBER	44
				PACK NUMBER	30Z1067B
AXLE DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Front Axle Roll Bar Mounting Brackets	SM124123	10	Front spring off set	
13	Front Axle Roll Bar Mounting Brackets	SM124124	8	Front spring off set	
14	Front Axle Roll Bar Mounting Brackets	SM124125	14	Off set washers	
15	Washer M10	SM124126	10	Rear DeDion Carrier Center Hub	
16	Spring Washer M10	SM124127	10	Rear DeDion Tube Carrier Center	
17	Spring Washer M10	SM124128	4	Behind ball studs on off	
18	Shankered Washer 3/8"	WES38	1	Branded brake hose	
19	Steel 1/8" x 3/32"	1661-0414	3	P-clips on DeDion for brake pipe	
20	P-clip	NX1	5	Brake pipe on DeDion	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

x1
x5
x5

Brake pipe washers and nuts are included with the hose

TIPS

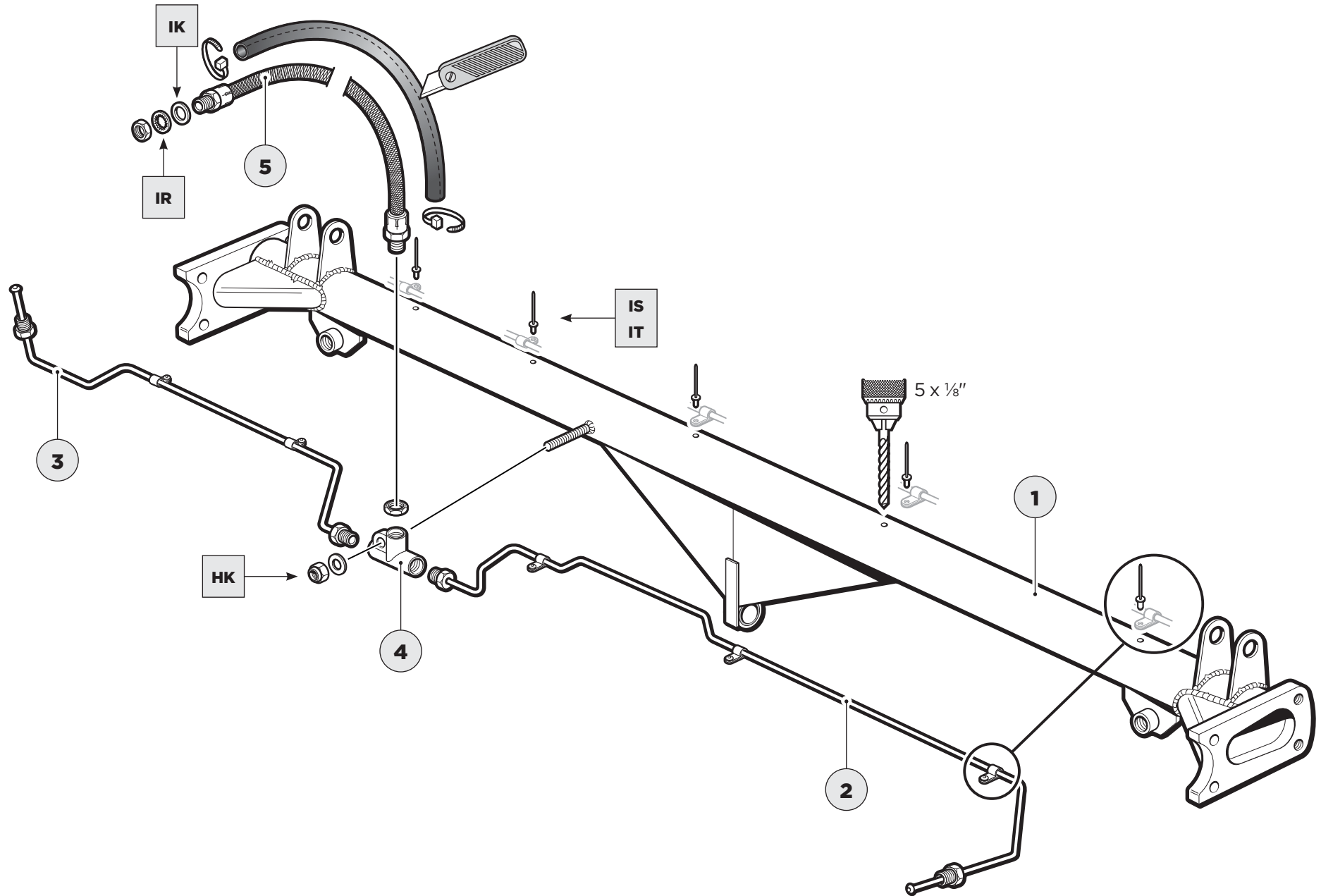
The upper brake hose fittings will become self explanatory on the rear damper installation page.

John K

Tighten the braided pipe 5 into the union before nipping up the locknut.

Chris N

PREPARING THE DEDION TUBE



AND FITTING IT IN PLACE

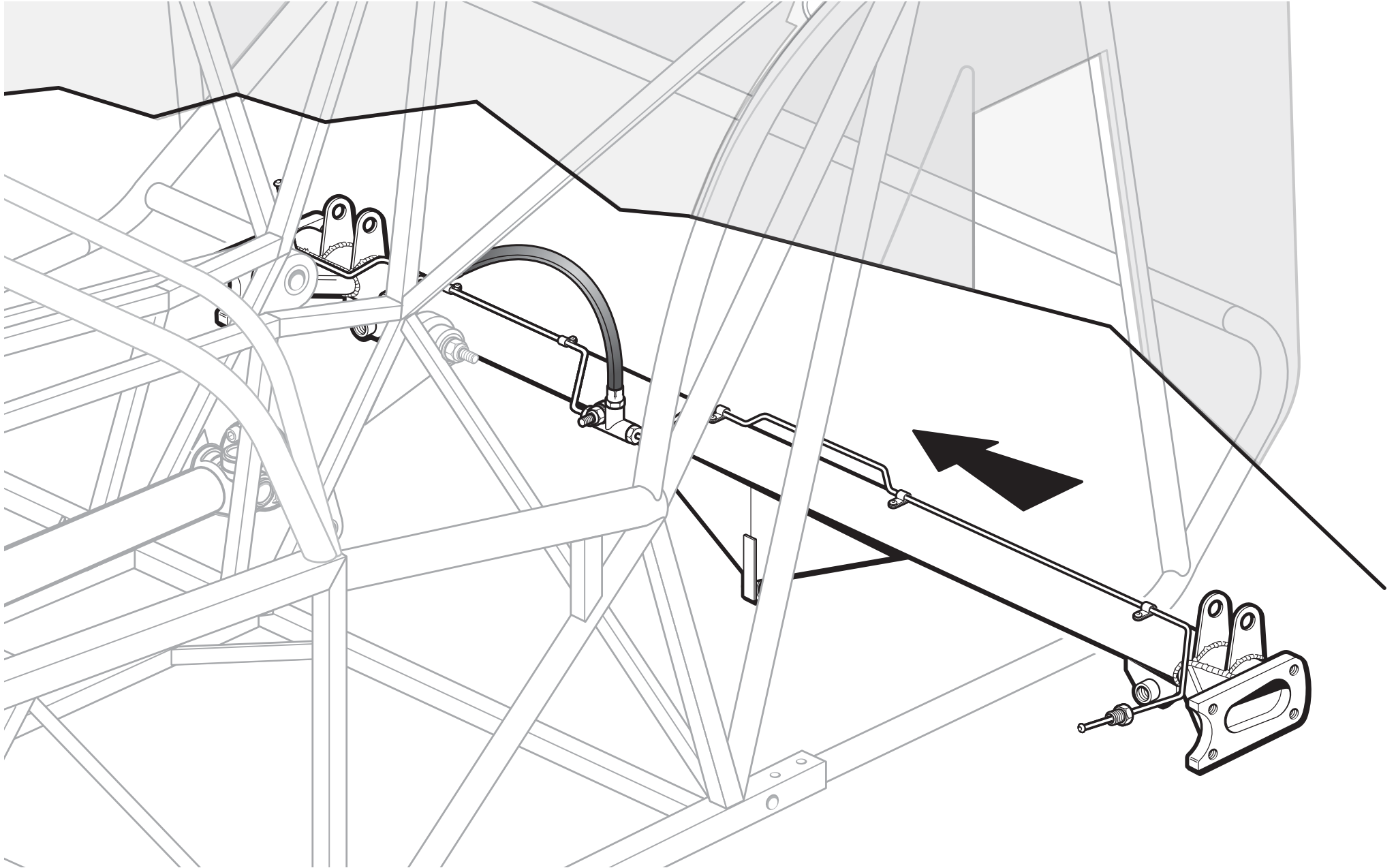
P A R T S

T O O L S

F I X I N G S

T I P S

AND FITTING IT IN PLACE



30. Rear Shocks

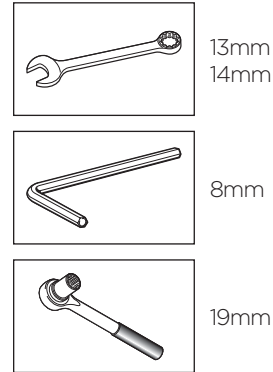
Tip	Source	Original
Consider - Measure and take note the position of the spring platform then wind them all the way down to maximise play	Chris Collins	Link
Apply Copper Slip to spacers and bushes of top – then make sure bolt is home before tightening	Chris Collins	Link
Torque the bolts once the suspension is taking the chassis weight	Chris Collins	Link
Make sure there is a gap between the nut and the brake line (not hose side) union joint	Chris Collins	Link

ATTACHING THE REAR DAMPERS

PARTS

- 1 Rear damper assembly
- 2 Rear damper sleeve

TOOLS



FIXINGS

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Joint L/R (Gask 10.3)	BM124100	2	A-frame front mountings	
2	Coilover Rod (10.3)	BM1211000	2	Front radius arm (through cockpit)	
3	Bush 10" x 2.10" (Gask 10.3)	BF1202102	4	x 2 Lower Rear Damper x 2 Rear Radius Arm	
4	Roller (6 x 40) (Gask 10.3)	BM12030	4	Rear Anti Roll Bar Mounting Blocks	
5	Roll 10" x 2.20" (Gask 10.3)	BF1202104	1	A-frame to DeCleon	
6	Roller (6 x 40) (Gask 10.3)	BM12030	3	x 2 Rear Radius Arm x 1 A-frame to DeCleon	
7	Nuts (M12)	BM12110	2	A-frame front mountings	
8	Nuts (M10)	BM12110	2	Front radius arm (through cockpit)	
9	Nuts (M8)	BM12110	2	Rear Anti Roll Bar Drop Link	
10	Nuts (M8)	BM12110	4	Rear Anti Roll Bar Mounting Blocks	
11	Nuts (M10)	BM12110	1	Roller (6 x 40) to DeCleon tube	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Washer	7620	10	Differential isolation	
13	Plain Washer 10" (Chamfered)	WFH10	20	x 2 Lower Damper x 10 A-frame washers x 6 Radius Arm	
14	Plain Washer 8" x 5" (10")	WPH10070	2	Front Radius Arm	
15	Plain Washer (M)	WPH08	4	Rear Anti Roll Bar Mounting Block	
16	Shim Washer (M2)	302108A	2	Lower Damper	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

x4

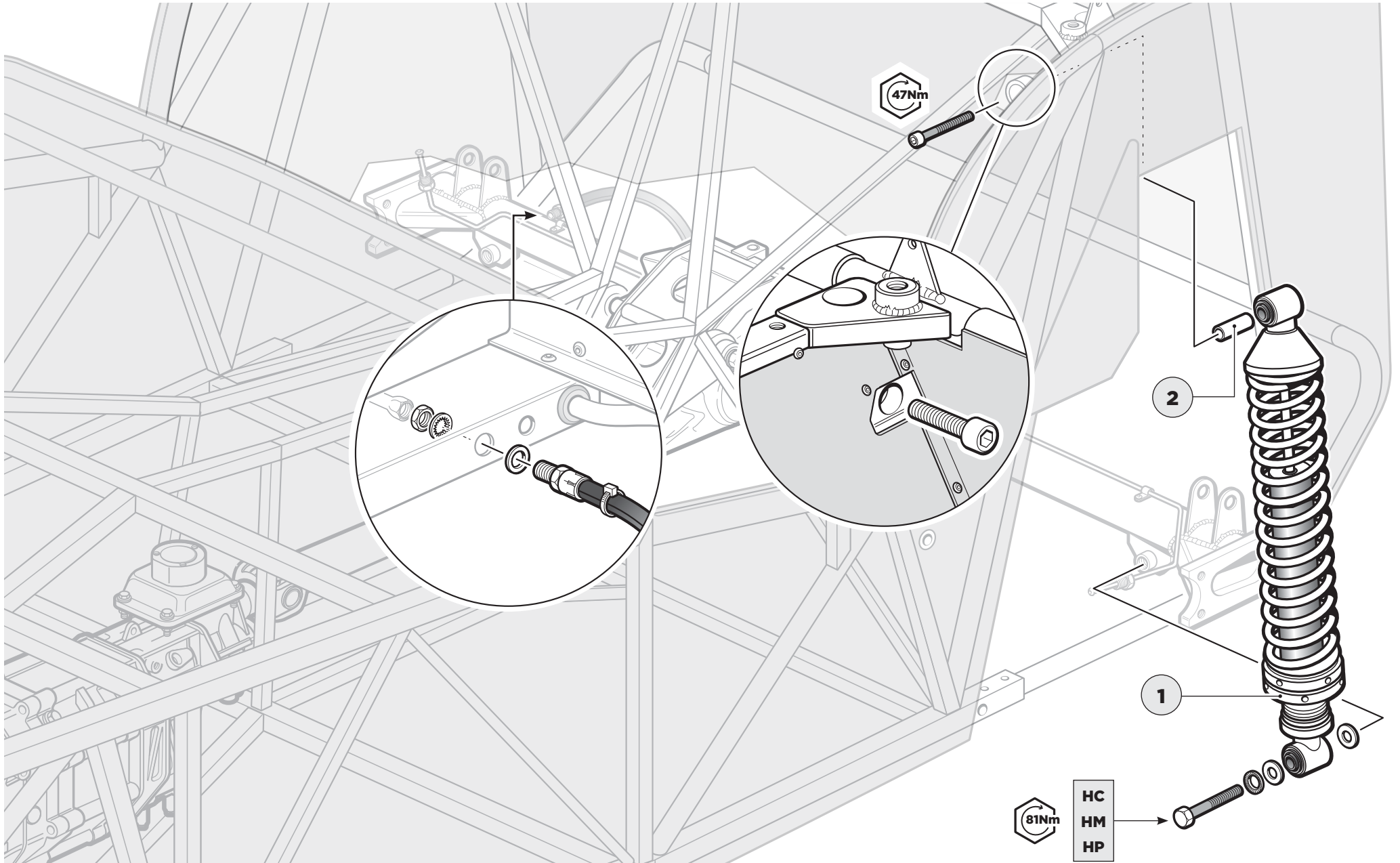
x2

TIPS

Although we show the fitting of the dampers here as part of the rear suspension, it is better to leave this step until you've fitted the roll over bar much later in the process.

Jamie A

ATTACHING THE REAR DAMPERS



31. Radius Arm

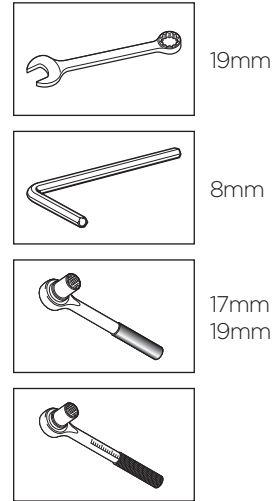
Tip	Source	Original
Bottom chassis hole for "R" specification	Manual	
May need to widen the de Dion bracket lugs to fit the Radius Arm in – use a block of wood	Chris Collins	Link
Chassis bolts are metric (BLUE Nyloc) and de Dion is imperial (WHITE Nyloc)	Chris Collins	Link
Copper Slip on all Radius Arm fixings – don't torque until bearing weight	Chris Collins	Link

THEN THE RADIUS ARM

PARTS

1 Radius arm

TOOLS



FIXINGS

Pack H		CATERHAM		53	
		PACK NUMBER		30R011D	
REAR SUSPENSION DE Dion METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Ball Joint 1.5" (38mm)	BM12110	2	A-frame front mounting	
2	Caphead Bolt M10 x 65	BMCH10565	2	Front radius arm (through cockpit)	
3	Bolt 1/2" x 2.125" Grade 5.8	BF12X2.125	4	x 2 Lower Rear Damper x 2 Rear Radius Arm	
4	Roller Nut M10 x 40 Grade 5.8	BNM1040	4	Rear Anti Roll Bar Mounting Block	
5	Ball 1.5" x 2.125" (38mm)	BM12X2.125	1	A-frame to DeDion	
6	Half Nuts 1/2" (12mm)	NFY1212	3	x 2 Rear Radius Arm x 1 A-frame to DeDion	
7	Roller Nut M12	BNM1212	2	A-frame front mounting	
8	Nylon Nut M10	NMM1010	2	Front radius arm (through cockpit)	
9	Roller Nut M8	BNM808	2	Rear Anti Roll Bar Drop Link	
10	Roller Nut M8	BNM808	4	Rear Anti Roll Bar Mounting Block	
11	Nylon Nut 1/2"	NFY1212	1	Half nut on DeDion tube	

Pack H		CATERHAM		53	
		PACK NUMBER		30R011D	
REAR SUSPENSION DE Dion METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Washer	W020	10	Differential Isolation	
13	Plain Washer 1/2" (12mm)	WPH12	20	x 2 Lower Damper x 10 A-frame washers x 6 Radius Arm	
14	Plain Washer 3/8" x 1/2"	WPH3/8X1/2	2	Front Radius Arm	
15	Plain Washer 1/4"	WPH1/4	4	Rear Anti Roll Bar Mounting Block	
16	Conical Washer M10	SW1010A	2	Lower Damper	

x2

x2

x2

x2

x4

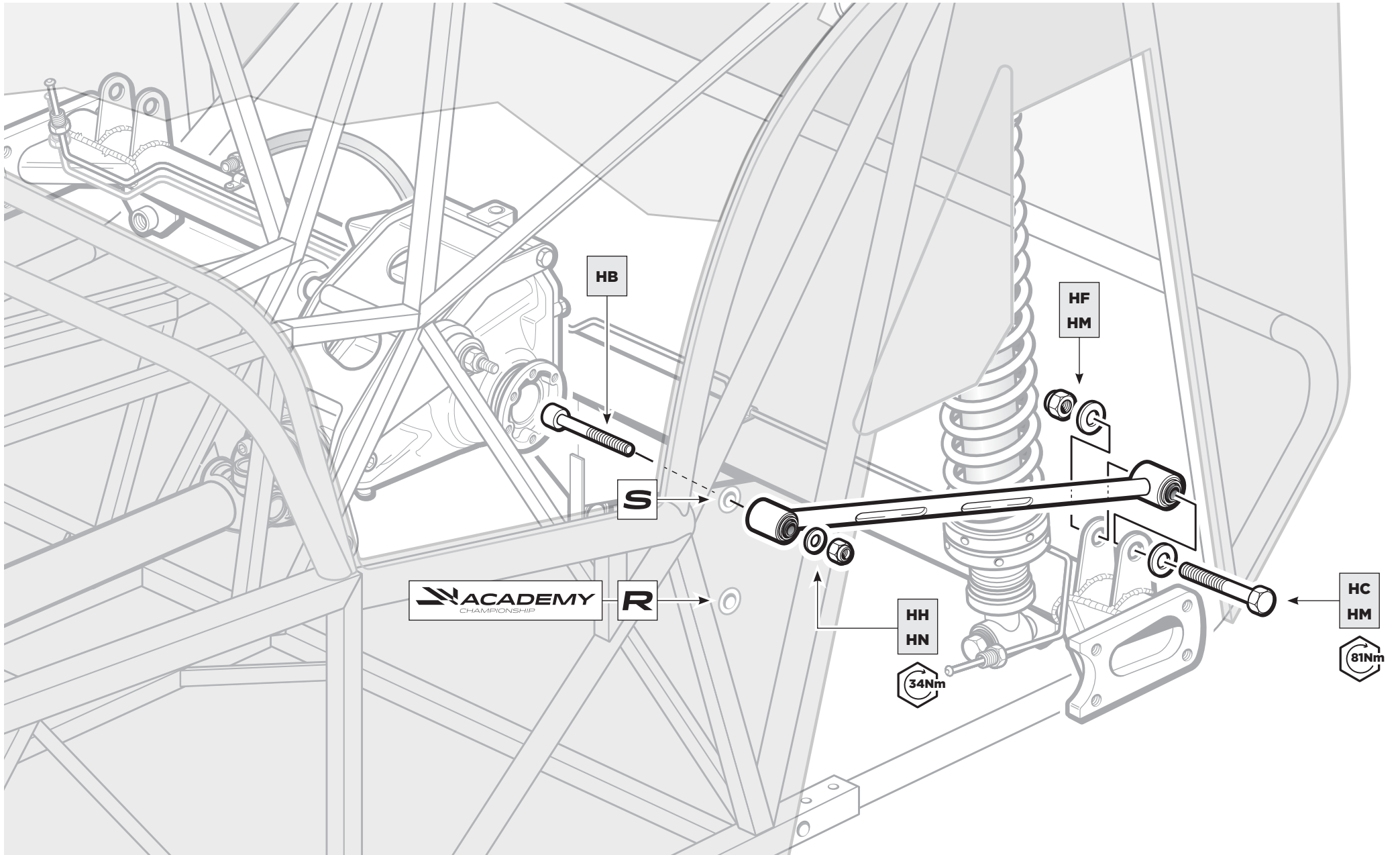
x2

TIPS

Before torquing up these bolts, reposition the axle stands to under the DeDion tube (to hold up the suspension). Make sure front has two axle stands so it is steady when jacking up the rear!

Mick F

THEN THE RADIUS ARM



32. A Frame

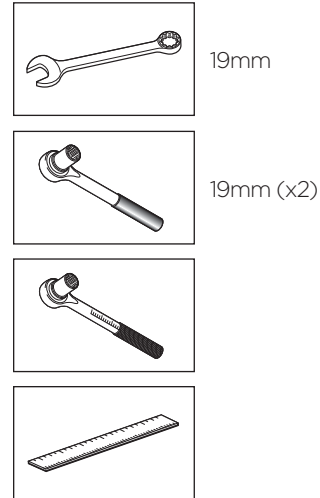
Tip	Source	Original
Ensuring A Frame centring is critical – otherwise A Frame can snap	Chris Collins	Link
Make sure the A Frame is right way up – pivot should be above the frame	Chris Collins	Link
Bolt towards the rear is imperial – front facing bolts (2 off) are metric	Chris Collins	Link
Loose fit all bolts – including Nylon washers in rear bolt (check if these are still necessary)	Chris Collins	Link
Measure the gaps either side and ensure equal number of washers if possible	Chris Collins	Link
Ensure the chamfered side of the washers face the bush	Chris Collins	Link
Raise the car on the de Dion tub and then torque up all the suspension components	Chris Collins	Link

AND NOW THE (CAREFULLY SPACED) A-FRAME

PARTS

- 1 A-frame
- 2 White nylon anti-squeak washers

TOOLS



FIXINGS

Pack H		CATERHAM		53	
		PART NUMBER		30R011D	
REAR SUSPENSION DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	HA A-frame 150	BM12X100	2	A-frame front mountings	
2	HG Cuphead Bolt 1/2" x 3/4"	BM12X100	2	Front radius arm (through cockpit)	
3	HC Bolt 1/2" x 2 1/2" Grade 10.9	BF12X2102	4	x 2 Lower Rear Champs x 2 Rear Radius Arm	
4	HC Bolt M6 x 40 Grade 10.9	BM6X40	4	Rear Anti Roll Bar Mounting Blocks	
5	HE Bolt 1/2" x 2 3/4" Grade 10.9	BF12X234	1	A-frame to DeDion	
6	HF Half Nylon 1/2" Tube	NF12X102	3	x 2 Rear Radius Arm x 1 A-frame to DeDion	
7	HG Nylon Nut M12	NM12X102	2	A-frame front mounts	
8	HA Nylon Nut 1/2"	NM12X100	2	Front radius arm (through cockpit)	
9	HA Nylon Nut 1/2"	NM12X100	2	Rear Anti Roll Bar Drop Link	
10	HA Nylon Nut 1/2"	NM12X100	4	Rear Anti Roll Bar Mounting Blocks	
11	HG Nylon Nut 1/2"	NM12X102	1	x 1 Nylon union on DeDion tube	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

x2

x1

x1

x2

Pack H		CATERHAM		53	
		PART NUMBER		30R011D	
REAR SUSPENSION DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	HL Washer	7620	10	Differential Isolation	
13	HM Plain Washer 1/2" Chamfered	WPH12	20	x 2 Lower Champs x 10 A-frame washers x 8 Radius Arm	
14	HN Plain Washer 1/2" x 3/4"	WPH12X34	2	Front Radius Arm	
15	HD Plain Washer 1/2"	WPH12	4	Rear Anti Roll Bar Mounting Block	
16	HP Lower Washer M12	3212036	2	Lower Champs	

Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

*

* Use as required for spacing

TIPS

Make sure the DeDion tube is equal on both sides.

Tiago O

Use as many HM washers as required to space A-frame.

John K

The A-frame has a 'way up'. The arms should be offset downwards in relation to the front bushes.

Chris N

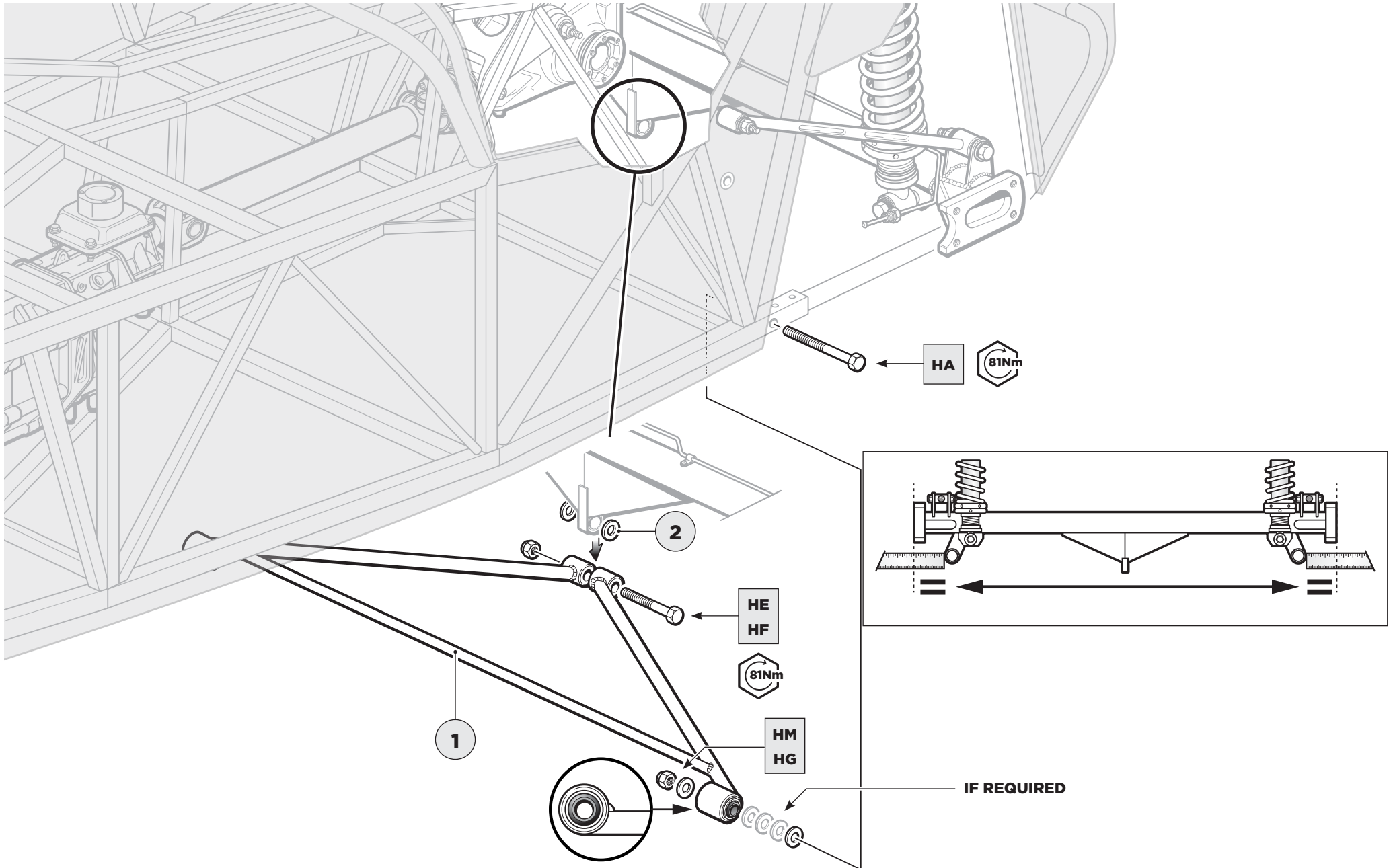
Take care to use the correct nuts as there is a mixture of metric and imperial here.

Lee A

Torque up as before on axle stands.

Rich T

AND NOW THE (CAREFULLY SPACED) A-FRAME



33. Anti-Roll Bar

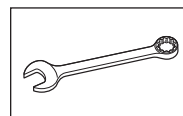
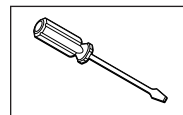
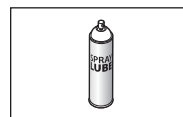
Tip	Source	Original
Protect the paintwork when working the bush over the right angle	Chris Collins	Link

IF YOU HAVE THE OPTIONAL REAR ANTI-ROLL BAR, IT GOES ON LIKE THIS

PARTS

- 1 Rear anti roll bar
- 2 Anti roll bar rubber
- 3 Rear anti roll bar clamp

TOOLS



10mm



10mm

FIXINGS

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Roll Over Protection Device (ROD)	BM234100	2	A-frame front mountings	
2	Upper Roll Over Protection Device (ROD)	BM234101	2	Front radius arm (through cockpit)	
3	Roll Over Protection Device (ROD)	BM234102	4	2 Lower Roll Over Protection Device (ROD) 2 Rear Radius Arm	
4	Bolt M8 x 40 Grade 10.9	BM0000	4	Rear Anti Roll Bar Mounting Blocks	
5	Roll Over Protection Device (ROD)	BM234103	1	A-frame to DeckBox	
6	Roll Over Protection Device (ROD)	BM234104	3	2 Rear Radius Arm 1 A-frame to DeckBox	
7	Roll Over Protection Device (ROD)	BM234105	2	A-frame front mountings	
8	Roll Over Protection Device (ROD)	BM234106	2	Front radius arm (through cockpit)	
9	Roll Over Protection Device (ROD)	BM234107	2	Rear Anti Roll Bar Drop Link	
10	Nylon Nut M8	BM0076	4	Rear Anti Roll Bar Mounting Blocks	
11	Roll Over Protection Device (ROD)	BM234108	1	2 Nylon Insert on DeckBox tube	

x4

x4

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Washer	W020	10	Differential Isolation	
13	Plain Washer 10" Clearance	W1010	20	2 Lower Damper x 10 Airframe Washers 4 Radius Arm	
14	Roll Over Protection Device (ROD)	BM234109	2	Front Radius Arm	
15	Plain Washer M8	W0008	4	Rear Anti Roll Bar Mounting Block	
16	Lower Damper M12	SD2000A	2	Lower Damper	

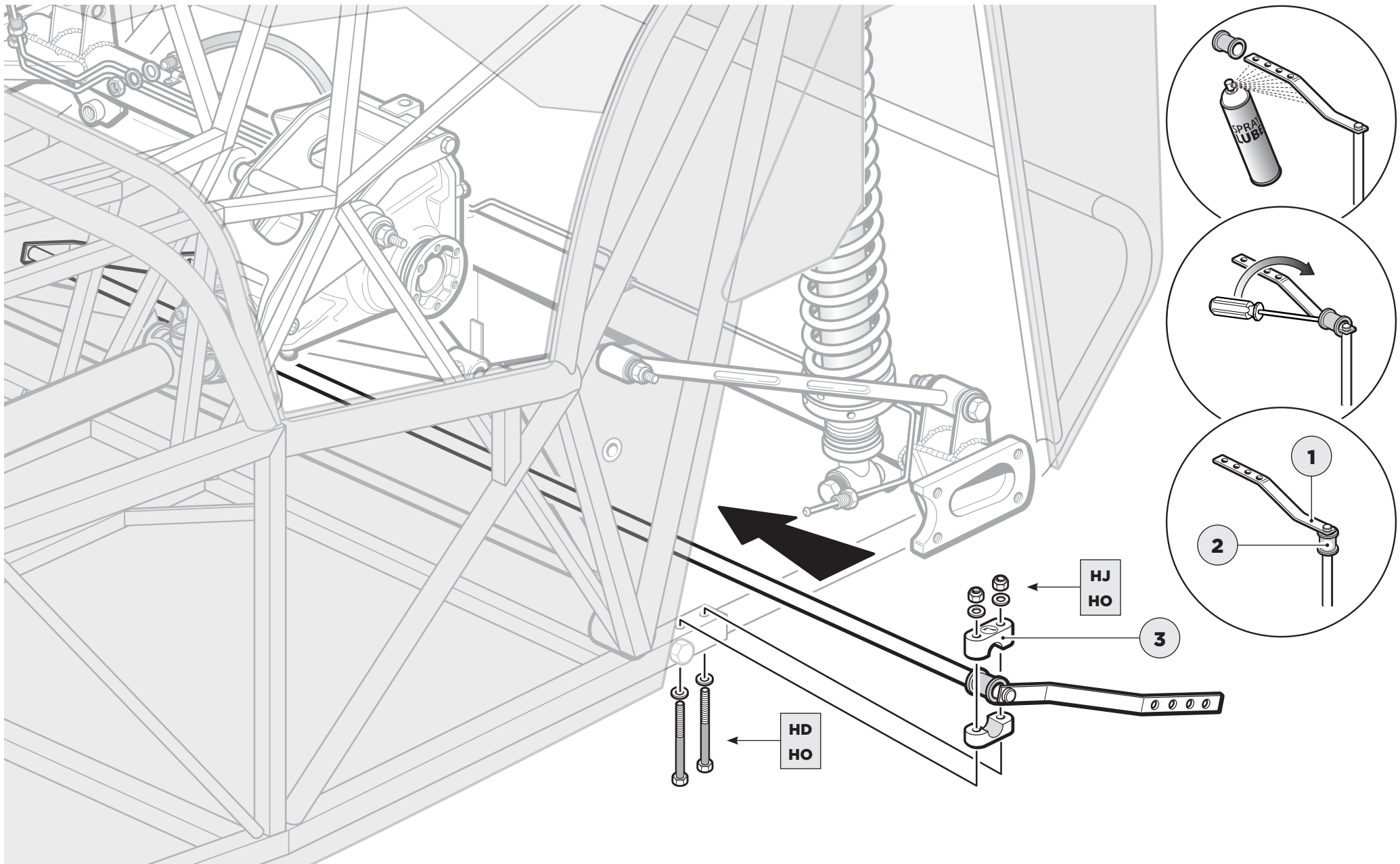
x8

TIPS

Be careful not to slip with the screwdriver!

John S

IF YOU HAVE THE OPTIONAL REAR ANTI-ROLL BAR, IT GOES ON LIKE THIS



34. Drive Shafts

Tip	Source	Original
Check the labels on the drive shaft to get them on the correct side	Chris Collins	Link
Smear a film of oil on the mating surface to ensure a good seal	Chris Collins	Link
Protect the chassis rail so that the shaft has something to rest on when fitted	Manual	

INSERT THE DRIVESHAFTS

PARTS

- 1 Driveshaft
- 2 Driveshaft nut

TOOLS

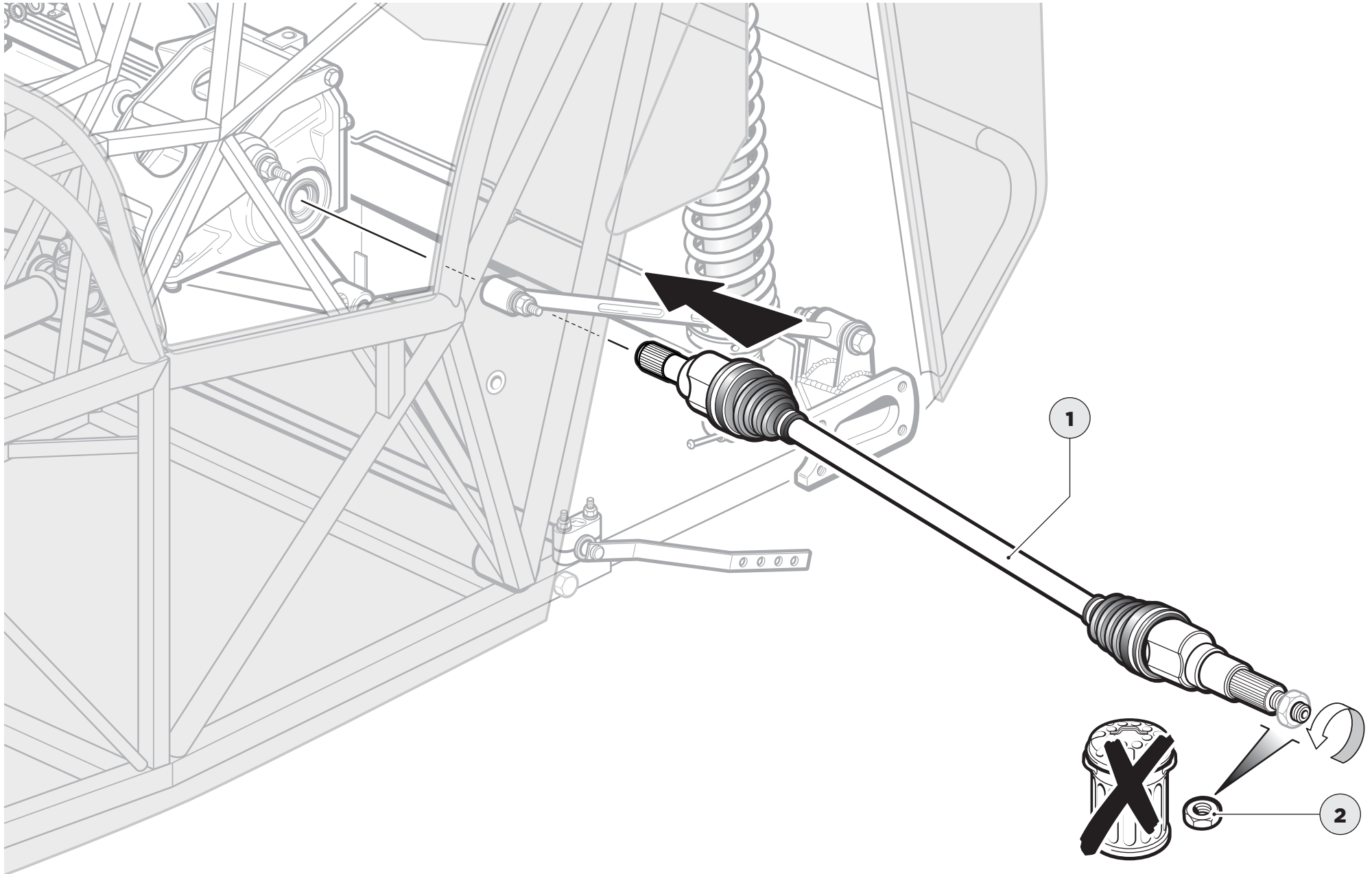
FIXINGS

TIPS

Driveshafts are handed, and so are the nuts, the left hand nut tightens anti-clockwise.

James A

INSERT THE DRIVESHAFTS



35. De Dion Ears / Rear Hub

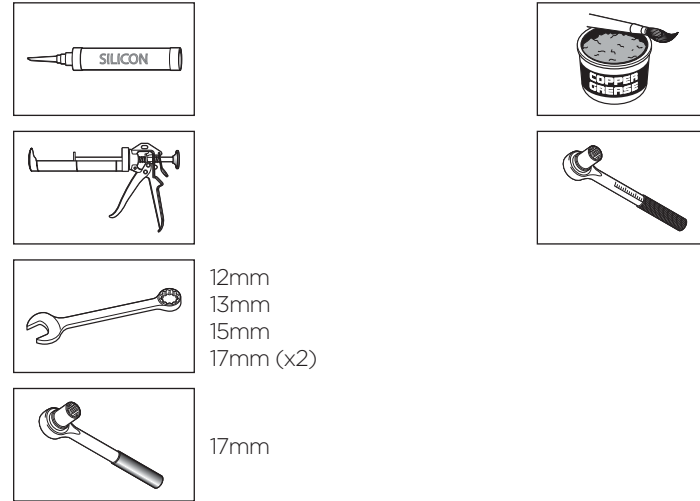
Tip	Source	Original
Spray ACF50 into de Deion tube to prevent corrosion before assembly (silicon sealant also used)	Chris Collins	Link
Use Anti-Fretting compound between hub bearing and shaft (SKF LGAF 3E/0.035)	Chris Collins	Link
After fitting hub – torque the bolts in the usual zigzag pattern	Chris Collins	Link
Use spline grease when fitting the discs	Chris Collins	Link
Are the hub nuts different sizes left to right side? Can order consistent ones if so	Chris Collins	Link
Anti-rattle springs on Delphi pads need adjusting (bend upwards) otherwise they rattle	Chris Collins	Link
Apply Copper Slip to those areas only where the rear of the pads contact the surface of the caliper (different for front and back pads)	Chris Collins	Link
Apply Loctite 243 to the bolts for the carrier to caliper assembly	Chris Collins	Link
Consider using brake pipe bending pliers to bend the brake pipe	Chris Collins	Link
Ensure the self-adjustment system is working by using the foot brake BEFORE the handbrake	Chris Collins	Link
Route handbrake cable away from all moving parts	Obodiah	Link

FITTING THE REAR HUB

PARTS

- 1** Rear brake disc / flange assembly
- 2** Rear hub
- 3** DeDion ear
- 4** Anti roll bar bracket
- 5** Anti roll bar drop link
- 6** Brake calliper
- 7** Brake calliper mount
- 8** Brake pads
- 9** Driveshaft nut
- 10** Driveshaft washer

TOOLS



FIXINGS

Pack 1		CATERHAM		44	
AXLE DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	Hub 12" x 17" 40	BM12A11	1	Upper off mounting bolt	
2	Upper off mounting bolt 12" x 17" 40	BM12A11	2	Lower off mounting bolt	
3	Hub M10 x 55 Grade 10.9	BM10A85	4	Rear hub through ear to front DeDion	
4	Hub M10 x 55 Grade 10.9	BM10A85	8	x 4 Front hub through ear x 4 Caliper carrier bolts	
5	Hub M10 x 40 Grade 10.9	BM10A40	4	Through rear of ear into threaded DeDion holes	
6	Upper off mounting bolt 12" x 17" 40	BM12A11	4	Proprietary bolts	
7	Upper off mounting bolt 12" x 17" 40	BM12A11	2	DR page	
8	Hub M10 x 55 Grade 10.9	BM10A85	1	Upper off bolt	
9	Hub M10	BM10A10	8	Hub through ear to DeDion	
10	12" Nylon Nut 180	BM10A18	4	Rear anti roll bar droplink	
11	Brake pads 12" x 17"	BM10A12	2	Brake pads	

Pack 1		CATERHAM		44	
AXLE DEDION METRIC					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	Plain washer 12" x 34" 700	WPT12A12	16	Front bearing off setup	
13	Plain washer 12" x 34" 700	WPT12A12	8	Front ply off off	
14	Plain washer 12" x 34" x 175" 700	WPT20A	16	DR shims washers	
15	Washer M10	WPM10	16	Rear DeDion Caliper Carrier Hub	
16	Spring Washer M10	WSM10	16	Rear DeDion Tube Caliper Carrier	
17	Ballnut washer 12"	W12	4	Behind both hubs on off	
18	Brake pad 12"	W12A12	1	Braked brake hose	
19	Hub 12" x 17"	W12A12	1	Phillips on DeDion for brake pads	
20	Phillips	W12A12	5	Washer pins on DeDion	

x4
x8
x4
x8
x4

x16
x8

TIPS

Swap the plain nuts on the droplinks for nylons.
Chris B

Remember the driveshaft nuts are handed.
Grant P

Torque up the bearing and ear before fitting the disc.
Dan D

If you don't have an anti roll bar you will only have one bracket (for the right hand side) which holds the speed sensor.
Rich T

36. Brake Pads Check

Tip	Source	Original
Check the brake pads for anti-rattle fixing	Chris Collins	Link

37. Speed Sensor

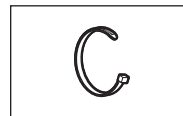
Tip	Source	Original
Consider whether the “Speed Sensor Earth” mod is required (provides a local earth rather than loom earth)	Chris Collins	Link
Ensure the cable is routed away from moving parts of the rear suspension	Chris Collins	Link
Ensure sufficient slack to accommodate suspension movement	Chris Collins	Link

AND SPEED SENSOR (ONE SIDE ONLY)

PARTS

- 1 Speed sensor

TOOLS



FIXINGS

TIPS

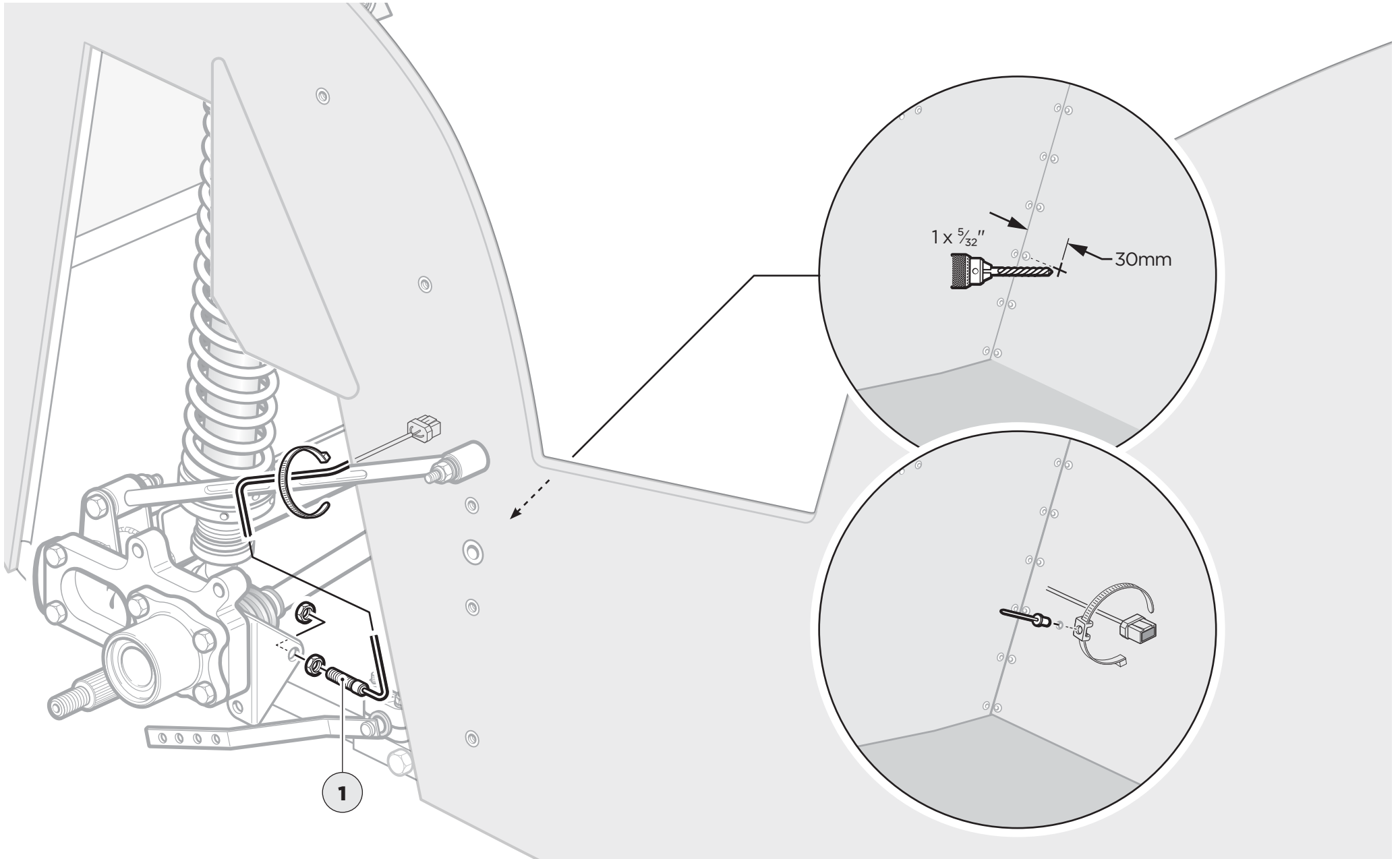
Ensure there is enough slack in the wire to allow for suspension travel.

Tiago O

Adjust sensor gap to approx. 0.8–0.9mm.

Lloyd D

AND SPEED SENSOR (ONE SIDE ONLY)





Now is a good time to take some photos



Have you applied for your IVA yet?

38. Collector

Tip	Source	Original
Apply WD40 to collector openings and gently fit to primaries – watch out for damage to skin	Chris Collins	Link
Use the tie-wrap trick to compress the collector springs	Chris Collins	Link
Open the bend angle of the hooks to ensure a good fit	Chris Collins	Link

39. Steering

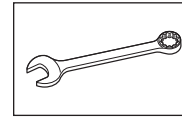
Tip	Source	Original
Remove pedal box cover first	Chris Collins	Link
Install lower column – through the dashboard – through bush in scuttle – through grommet in Cheese Wedge – into pedal box – out of grommet into engine bay.	Chris Collins	Link
Ensure the column does not touch anything	Chris Collins	Link
Consider not install the Top Bush in the dashboard – will need to removed for steering wheel replacement for IVA test	Chris Collins	Link
Hold lower bush in place with a 13mm socket head to prevent it from being pushed out	Chris Collins	Link
Use spline grease on the quick release	Chris Collins	Link

GIVING IT SOME DIRECTION

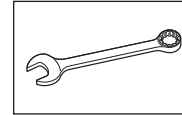
PARTS

- 1 Lower steering column
- 2 Upper steering column
- 3 Steering column clamp
- 4 Steering column clamp plate
- 5 Grub screw
- 6 Steering column bush

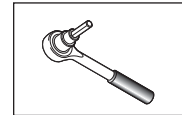
TOOLS



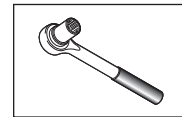
7/16"



13mm



7/32"
13mm



11/16"



FIXINGS

Pack B		CATERHAM		55	
		PACK NUMBER		RELEASED NOV-13	
STEERING DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	BA Rack clamp	BA00001	4	Rack clamp	
2	BE Column clamp	BE00001	2	Column clamp	
3	BC Ball Nut & Washer	BM00040	2	Column to rack universal joint	
4	BD Nylon Nut 12" height	NF01112	1	Steering wheel boss	
5	BE Plain Nut 12"	NF01112	2	Track rod lock out	
6	BE Plain Nut 12" lock type	NF01112	1	Column clamp grub screw bracket	
7	BG Nyloc Nut M8	NF01108	2	Column to rack universal joint	
8	BA Nylon Nut M8	NF01108	4	Steering rack clamp	
9	BJ Plain Washer 12" x 12" O.D. 1.5mm	WF01112	1	Steering wheel boss	
10	BA Plain Washer 12" x 12" O.D. 1.5mm	WF01112	6	Rack clamp and column clamp	
11	BE Spring Washer 12" x 12" O.D. 1.5mm	WF01112	2	Column clamp	

x2

x1

x2

x1

TIPS

Check clearance between steering column & Aux belt tensioner once engine is installed. If necessary, rotate steering rack.

Dan P

Put the clamp in the middle of column with the grooved face of the clamp plate ④ against the column.

Jamie A

Steering rack to be rotated to fit column – don't forget to tighten rack brackets!

Harrison P

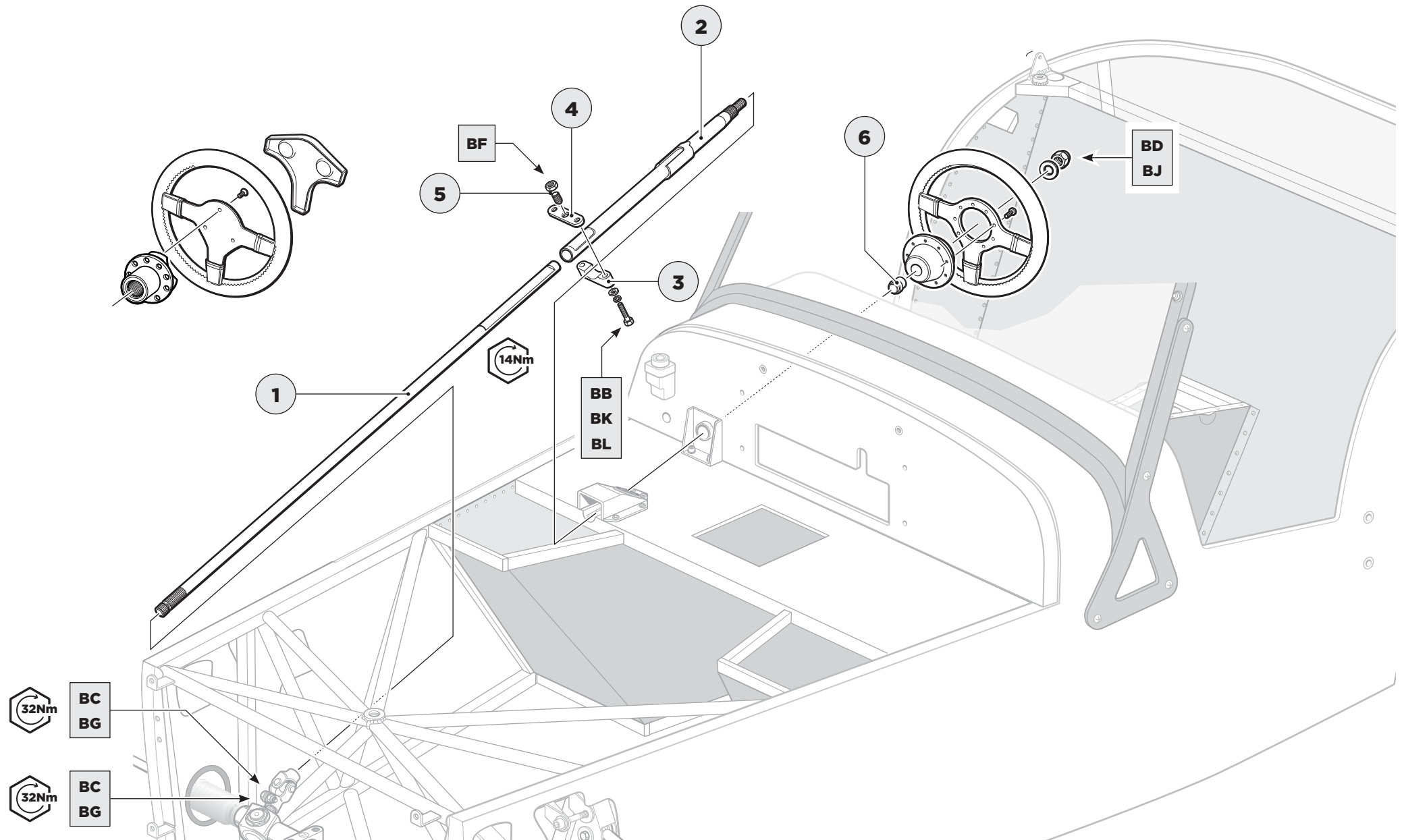
Grease the steering bushes.

Lee A

Fit the clamp bolts first, then grub screw & finish with the locking nut.

Tiago O

GIVING IT SOME DIRECTION



40. Clutch Hose

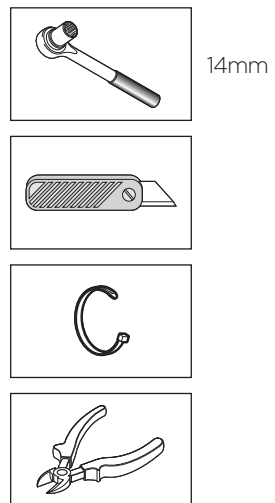
Tip	Source	Original
Measure the diameter of the clutch hose to determine appropriate covering	Chris Collins	Link

PROTECTING & ATTACHING THE CLUTCH HOSE

PARTS

- 1 8mm water hose

TOOLS



FIXINGS

TIPS

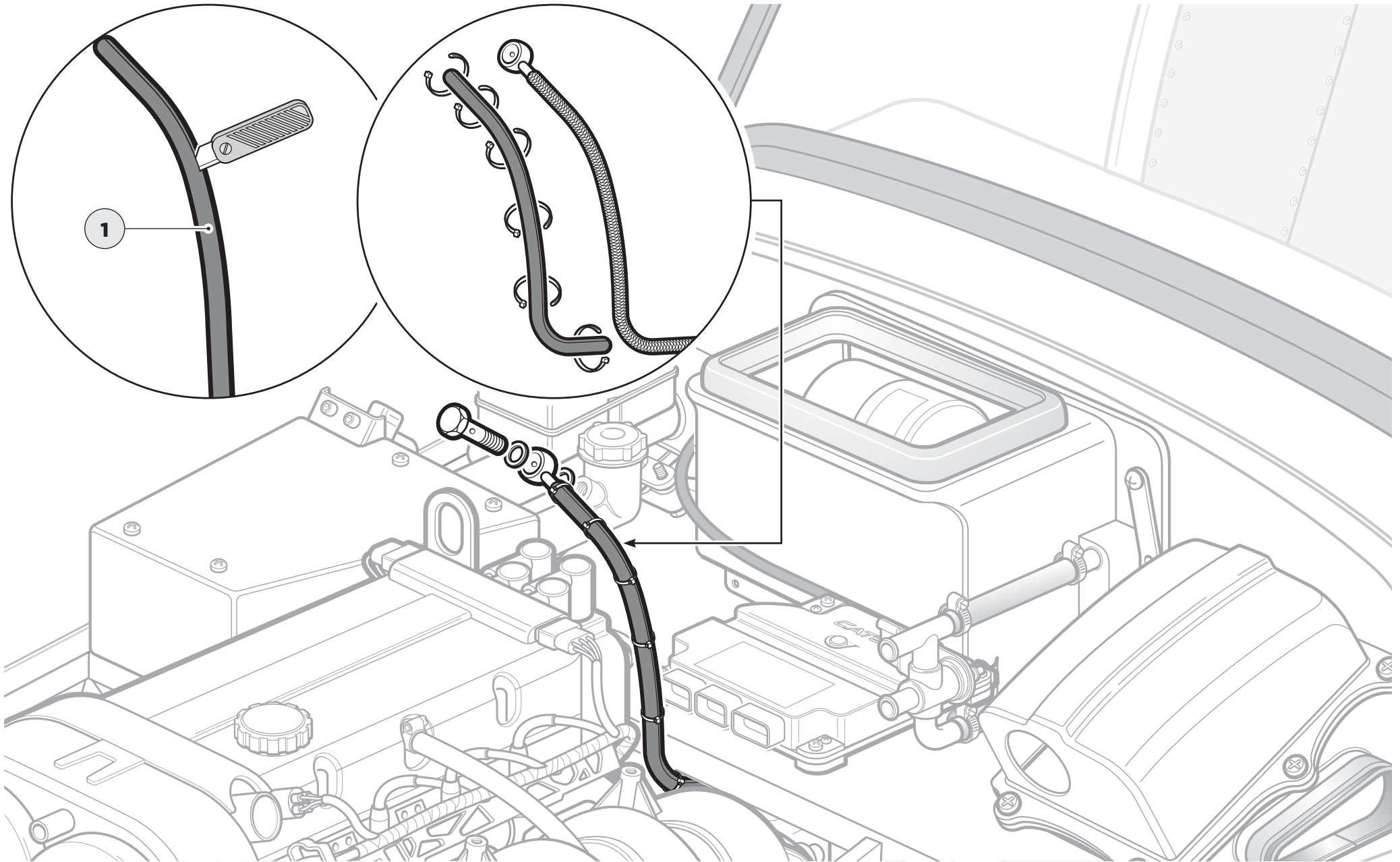
Nip up the banjo bolt.

John K

The hose is used to stop chaffing.

James A

PROTECTING & ATTACHING THE CLUTCH HOSE



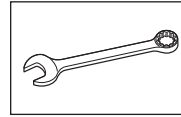
41. Electrical

Tip	Source	Original
Might be sensible to protect the Positive Power cable from the battery with spare water hose	Chris Collins	Link
Connect ECU and Engine loom – connectors can sit under the battery	Chris Collins	Link
Can get better routing of looms by removing the factory fitted cable ties and then refitting	Chris Collins	Link
Earth connections -one to chassis beside battery – the other under a bellhousing bolt – or spare tapped hole in block	Chris Collins	Link

CONNECTING THE BATTERY (POSITIVE / RED FIRST)

PARTS

TOOLS



10mm (x2)

FIXINGS

TIPS

Always connect live side of battery first (red wire).

Chris B

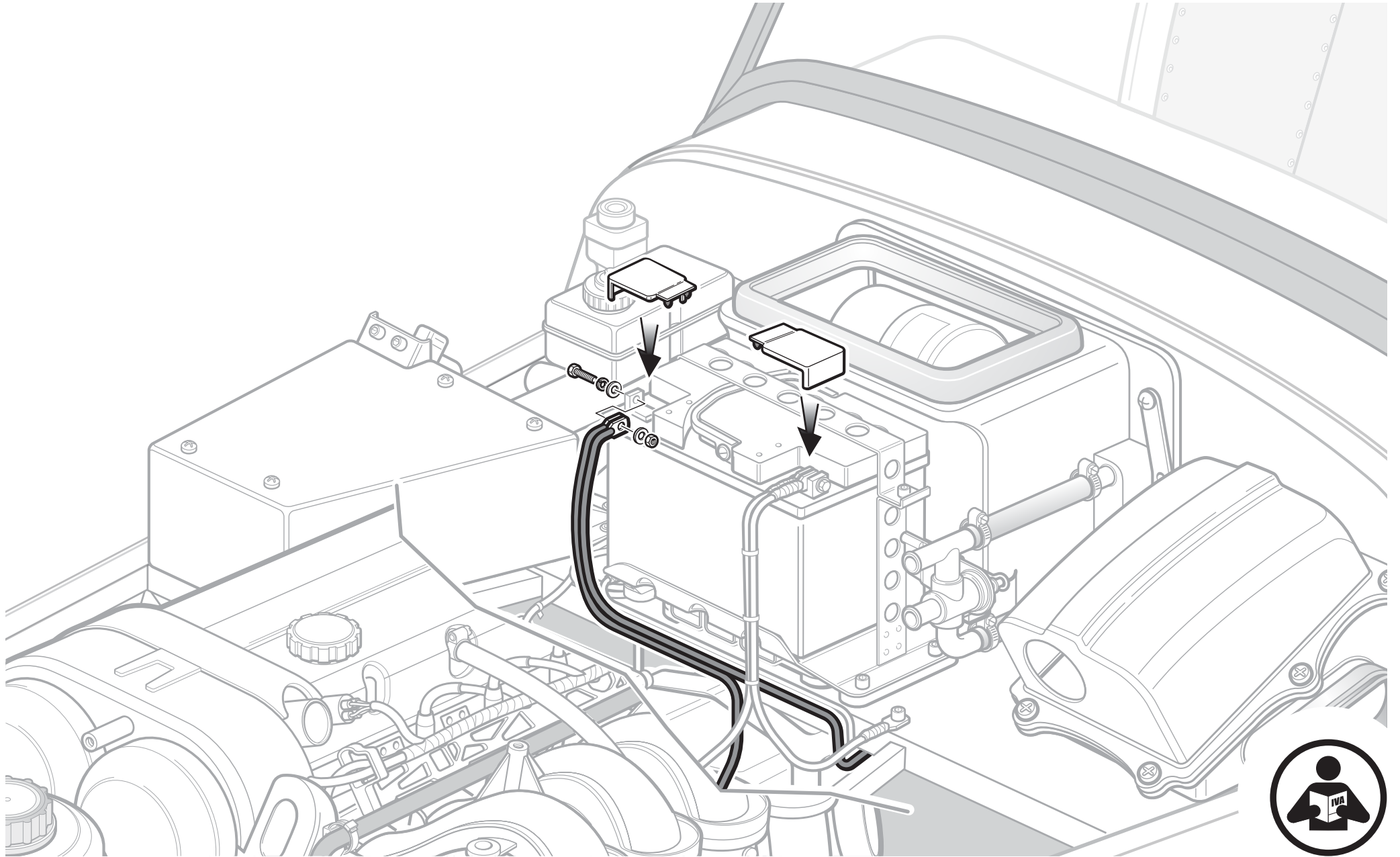
Make the battery the last thing you connect.

Jamie A

Be careful to ensure that the red leads go to the + side and the black wires to the - side.

Dan D

CONNECTING THE BATTERY (POSITIVE / RED FIRST)



PARTS

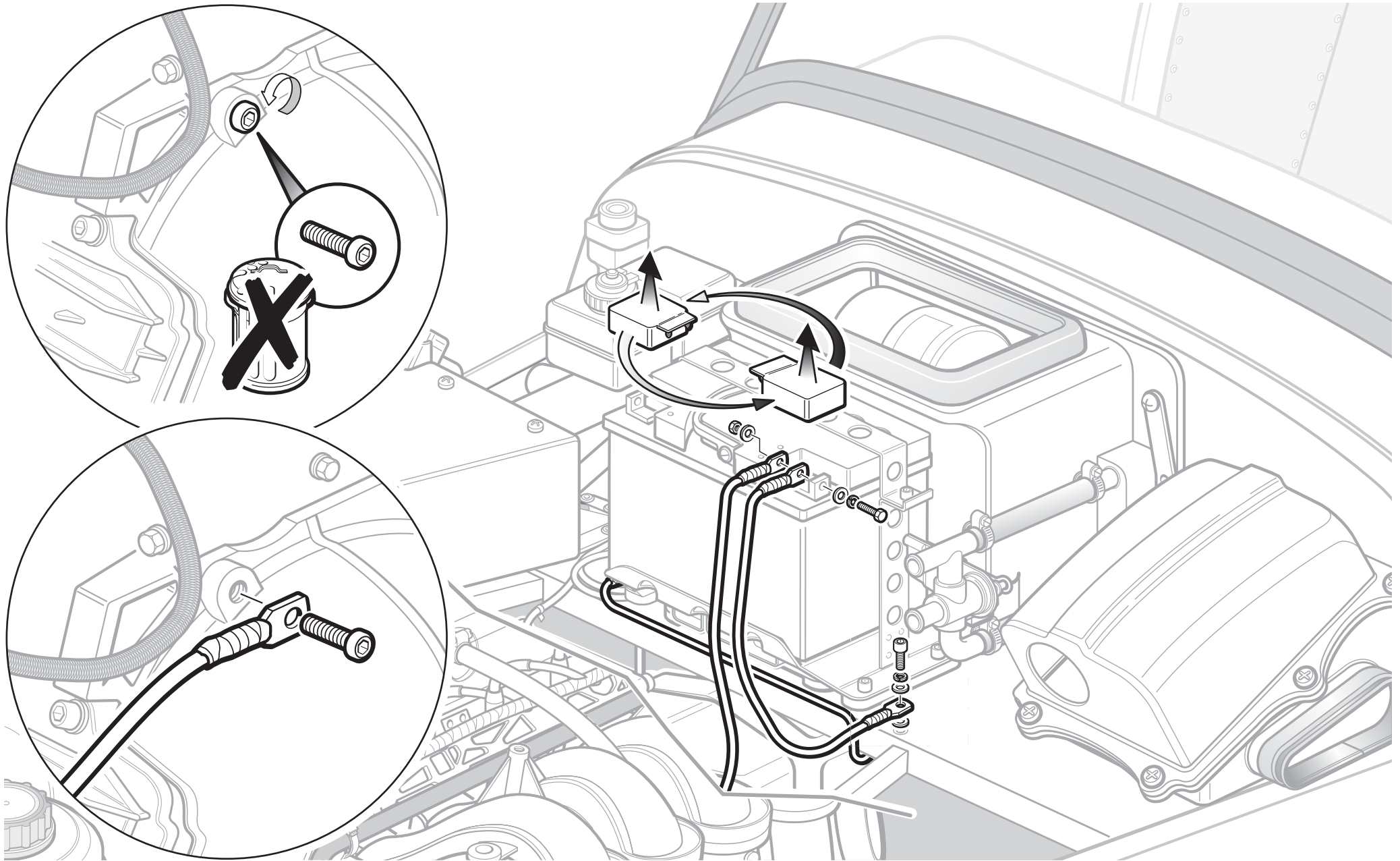
TOOLS

FIXINGS

TIPS

Add a plain M8 or $\frac{5}{16}$ washer underneath the earth lead to chassis.

Dan P



42. Throttle Cable

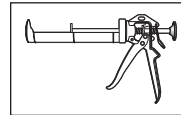
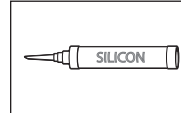
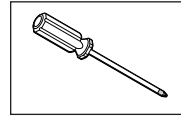
Tip	Source	Original
Could the throttle cable slot on the Throttle Body cause cable chaffing?? (File if necessary)	Obodia	Link
Adjust to give full range of motion on Throttle Body – may need to bend throttle pedal	Obodia	Link
Use Jack handle to bend throttle pedal if necessary!	N/A	
Drill and tap a hole in the plug that secures the cable to the pedal box (IVA?)	Obodia	Link

WET / DRY SUMP THROTTLE CABLE

PARTS

- 1** Throttle cable

TOOLS



FIXINGS

TIPS

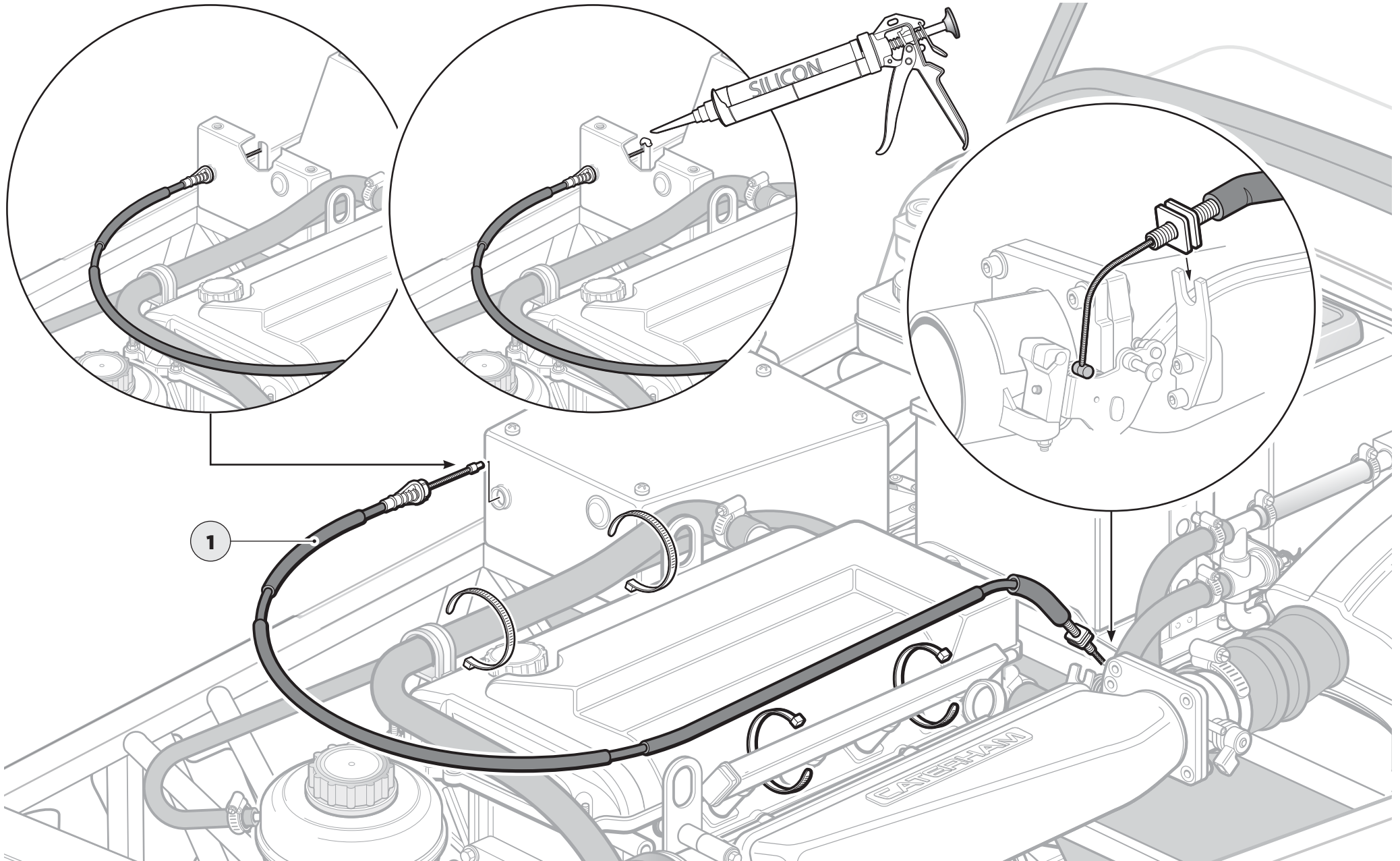
The silicone goes in the top of the pedal to prevent the cable coming out.

Rich T

Cable tie the throttle cable to engine hoist eyelet.

Anthony L

WET / DRY SUMP THROTTLE CABLE



43. Fill the LSD

Tip	Source	Original
Remove the fill plug (should be loose already from previous step)	Chris Collins	Link
Requires 0.8L to fill – takes around 30 minutes.	Obodiah	Link
Use a gravity feed system (funnel and pipe) to fill the LSD with oil – takes time	Chris Collins	Link
Remove the “No Oil” label from the diff!	Chris Collins	Link

FILL THE DIFFERENTIAL WITH OIL

P A R T S

T O O L S

Differential oil

F I X I N G S

T I P S



Differential = 0.8L

44. Brake Bleeding

Tip	Source	Original
Check tightness of all brake line connectors first	Chris Collins	Link
Remove and store the DOT4 label on the reservoir (will not survive a spillage) – replace for IVA	Chris Collins	Link
Ensure plenty of paper towels and cleaner are ready before starting the bleed process	Chris Collins	Link
Order of bleeding : LHR->RHR->RHF->LHF	Chris Collins	Link
Once bleeding is complete then fit the handbrake cable	Chris Collins	Link
Once the handbrake is biting, can torque the propshaft bolts (Loctite 243) – using opposites	Chris Collins	Link

45. Adjust and Secure the Handbrake Cable

Tip	Source	Original
Unscrew the locking nut and adjust to get full operation on three clicks of the handbrake, but full release when the handbrake is down. Will need several attempts to get the cable bedded in	Chris Collins	Link
Secure to the LSD with tie wrap	Chris Collins	Link
Cover with fuel hose for protection and Secure to the A frame with tie wraps (protects the chassis tube)	Chris Collins	Link
Cable needs to avoid the brake hoses and the ARB mounts	Chris Collins	Link

46. Torque up the Propshaft Bolts

Tip	Source	Original
Use the adjusted handbrake to lock the propshaft	Chris Collins	Link

47. Exhaust

Tip	Source	Original
Only fit once the rear wings have been fitted	Various	
Consider upgrading the Jubilee clips to full stainless steel ones	Chris Collins	

48. Engine Start Preparation & Checklist

Tip	Source	Original
Double-check all oil connections, including the Dry Sump tank	Chris Collins	Link
Bleed clutch – whilst checking the clutch fluid reservoir doesn't run out	Chris Collins	Link
Charge battery	Chris Collins	Link
Check the wiring resistance (should be around 14kohms) before connecting the battery (+ first)	Chris Collins	Link
Fill cooling system – dilute with de-ionised water (1:2 collant:water) loosen bleed plug, tighten drain plug first – fill slowly through the expansion tank to allow air to escape	Chris Collins	Link
Fill with oil – 4lt into tank, 3lt in engine block	Chris Collins	Link
Fill with fuel – 20lt	Chris Collins	Link
Disconnect inertia switch behind the scuttle – turn engine over and look for oil pressure	Chris Collins	Link
Reconnect – turn ignition on several times to prime the fuel pump – listen for tone change	Chris Collins	Link
Start!!	Chris Collins	Link

49. After Running

Tip	Source	Original
Nip up all the hose fixings	Manual	

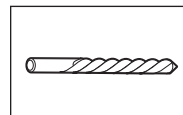
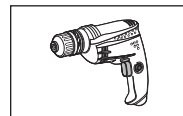
50. Knee Panels

Tip	Source	Original
Use masking tape to mark the position of holes to be aligned	Chris Collins	Link

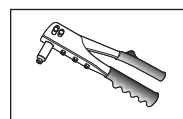
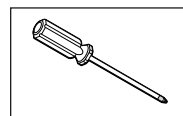
FUSE BOX COVER & KNEE TRIM PADS

PARTS

TOOLS



$\frac{5}{32}$ "



FIXINGS

Chassis fastener pack ZCH01 supplied loose:

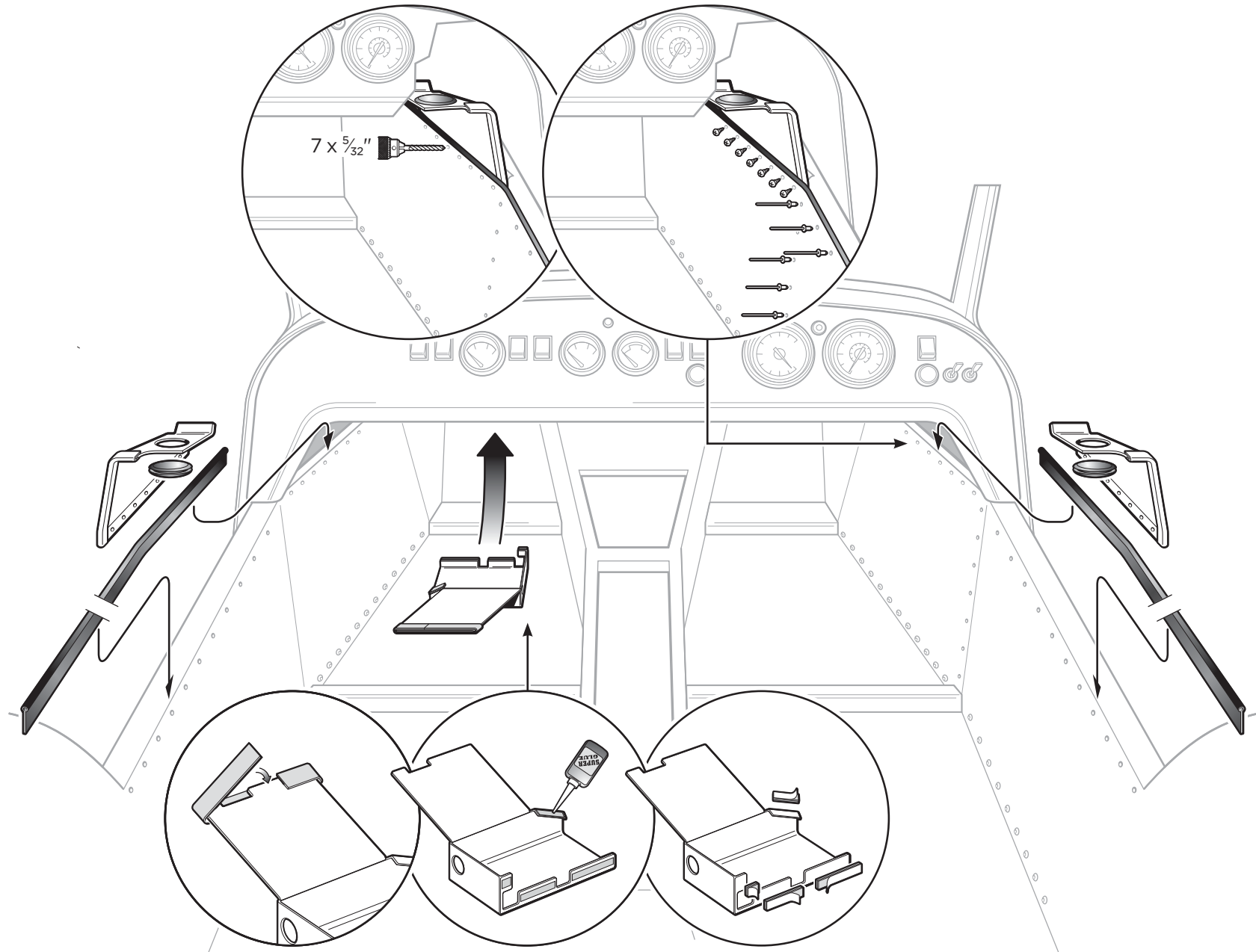
- Screw $\frac{3}{4}$ " x 10
- Rivet $\frac{5}{32}$ x 0.47"

TIPS

Building an Academy Car? If so you'll need to leave the riveting-in of the side panels until after you've fitted the roll cage (p154–155) as the front legs go behind the panel, not over the top of it.

John S

FUSE BOX COVER & KNEE TRIM PADS



51. Rear Wings

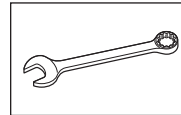
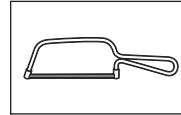
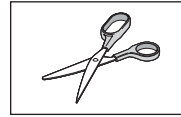
Tip	Source	Original
Cut a slot, rather than a hole, for the radius arm bolt, so that the wing can easily be removed	Chris Collins	Link
Spray underside with Hammerite Underbody Spray – reduces chance of cracks	Obodiah	Link
After IVA – replace the metal bolts with nylon ones (M5x25) to avoid corrosion	Chris Collins	Link
When fitting the metal bolts use plenty of Copper Slip to avoid corrosion	Chris Collins	Link
Ensure the wing protectors line up with the bottom edge of the wing	Chris Collins	Link
Use 4mm bolts to secure stone guards (easy replacement in future)	Obodiah	Link
Use thin stainless washers behind the rivet / nut to spread the load over the fibreglass	Chris Collins	Link
Fit a thin vinyl stripe under the protector butted up to side skin to avoid gap	Chris Collins	Link
Use eye and breathing protectors when modifying the fibre glass wings	John Martin	Link
Clamp wing protector onto wing to mark drill holes onto masking tape over the wing	John Martin	Link
Position the wing protector on the wing allowing for the wing protector trim position	John Martin	Link

FITTING THE REAR WINGS

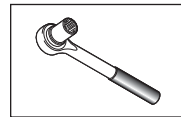
PARTS

1 Rear wing

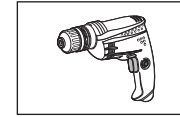
TOOLS



8mm



8mm



to follow

Sanding Drum

FIXINGS

Pack Q		CATERHAM		31	
				PACK NUMBER	
				ZFG12	
REAR WINGS					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	OA	Self Drilling 4.5 x 20	20	Rear Wings	
2	OB	Nylon Nut M5	10	Rear wings through boot	
3	OC	Flare Washer 3/16" x 3/4"	30	Wing washers	
4	OD	Wing Pin 1/4" x 1"	4	Between wing and body	

x20

x10

x30

x4

TIPS

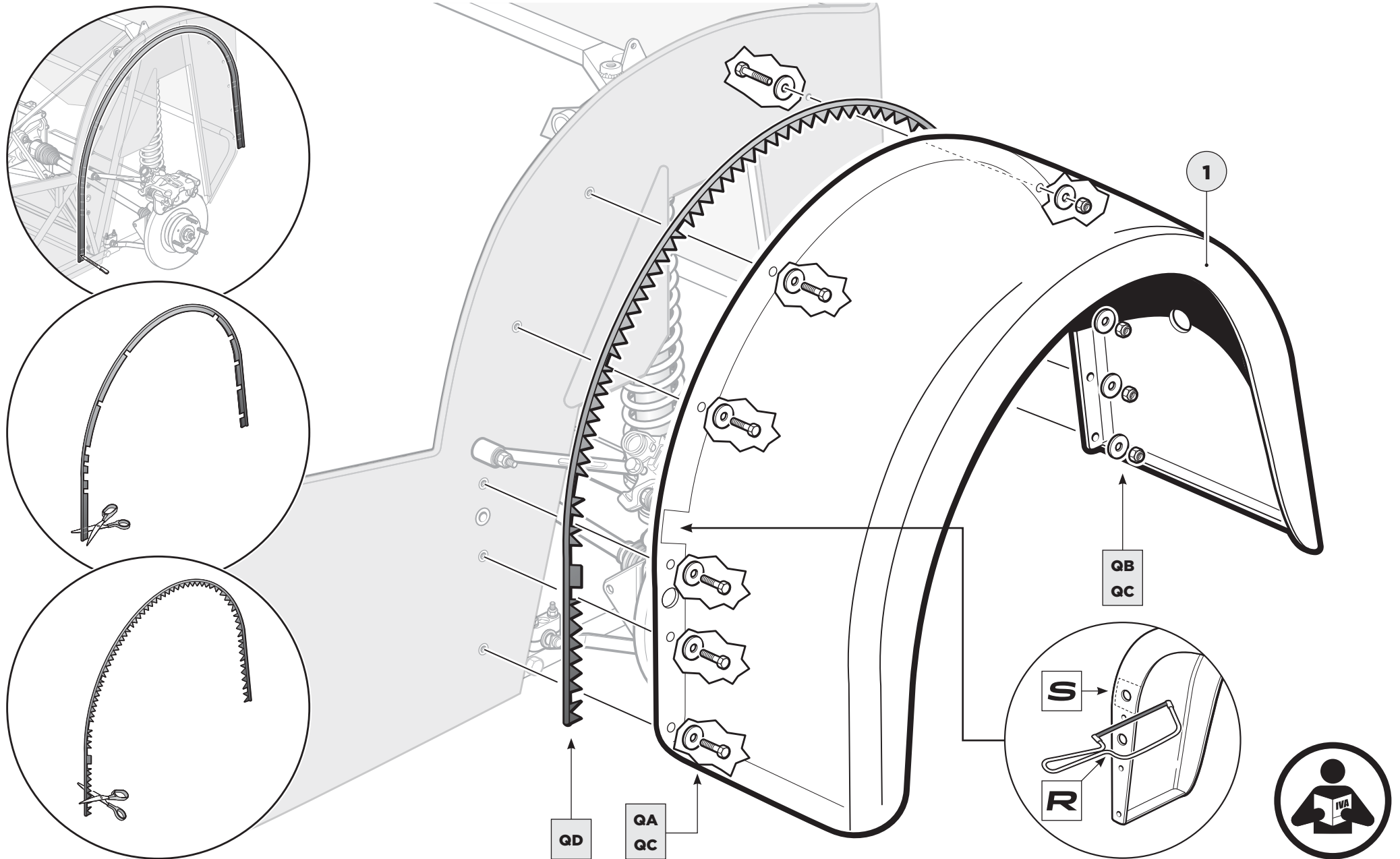
Cut the supplied piping in half and it will be enough for both wings.

Rich T

Don't forget the fuel tank earth strap gets bolted to the RH wing bolt.

Tiago O

FITTING THE REAR WINGS

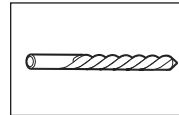
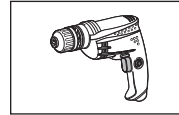
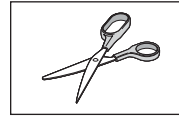


AND THE WING PROTECTORS

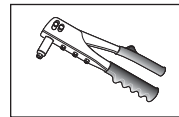
PARTS

- 1 Wing protector

TOOLS



1/8"



FIXINGS

For stainless steel protectors

Pack O		CATERHAM		<small>Part Number</small> ZWS01	
WING PROTECTORS STAINLESS STEEL					
<small>This pack may include extra fasteners to cover different options</small>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	OA Rivet 1/8" X 0.51"	1661-0414	30	Wing protector to wing	
2	OB Wing Plug	76901	2m	Between wing protector and wing	
<small>Drawings are for illustrative purposes only and are not to scale. Page 1 of 1</small>					

For carbon fibre protectors

Pack P		CATERHAM		<small>Part Number</small> ZWS02	
WING PROTECTORS CARBON FIBRE					
<small>This pack may include extra fasteners to cover different options</small>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	PA Rivet Black 1/8" X 0.51"	1610-01046	30	Wing protector to wing	
2	PB Wing Plug	76901	2m	Between wing protector and wing	
<small>Drawings are for illustrative purposes only and are not to scale. Page 1 of 1</small>					

TIPS

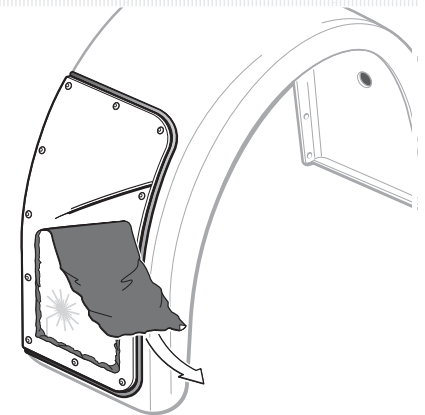
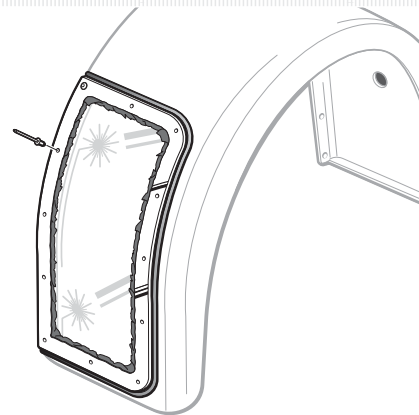
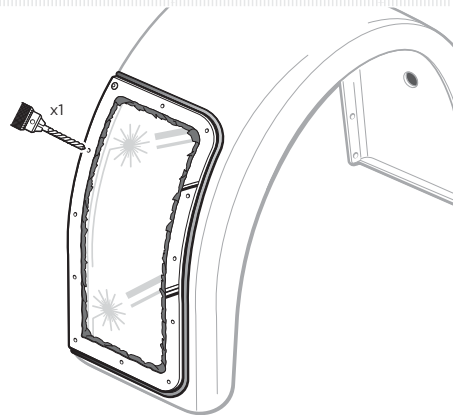
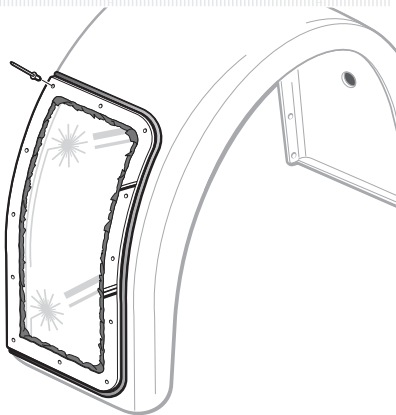
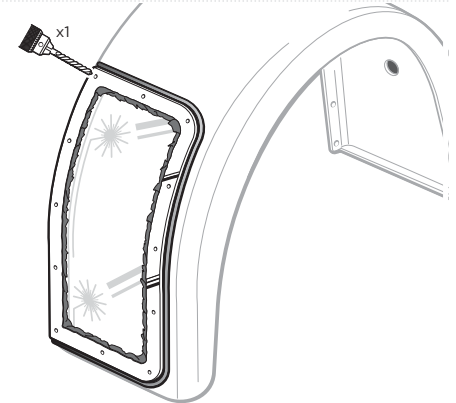
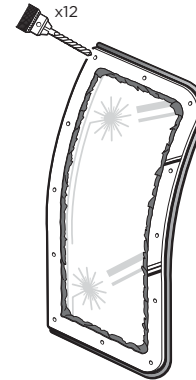
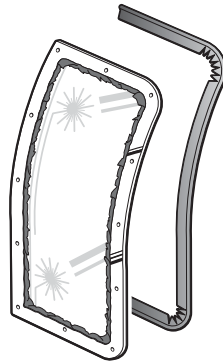
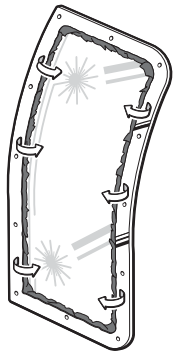
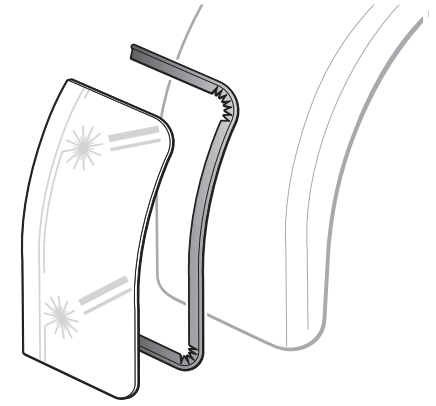
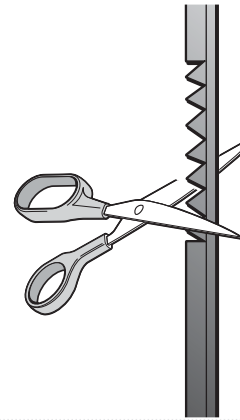
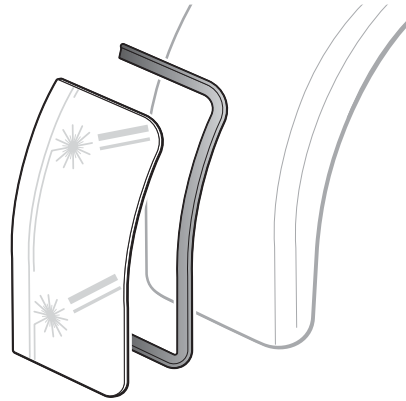
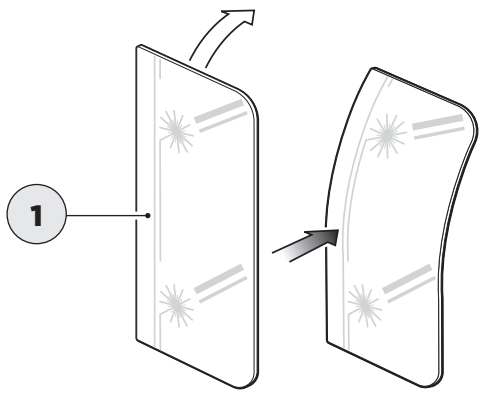
When drilling through protector start on the closest edge to the body. This will help the protector fit correctly.

Chris B

Carbon fibre protectors will not have the protective film shown.

Anthony L

AND THE WING PROTECTORS

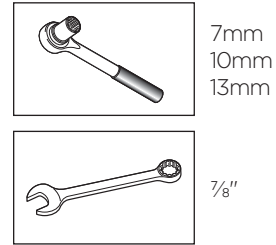


EVEN MORE EXHAUSTING

PARTS

- 1 Silencer
- 2 Exhaust clamp
- 3 Lambda sensor
- 4 Cat guard
- 5 Clip
- 6 Silencer mounting bracket
- 7 Exhaust mounting bobbin

TOOLS



FIXINGS

Pack G		CATERHAM		56	
		PART NUMBER		30X020E	
EXHAUST					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	GA Silencer M8 X 25 Grade 8.8	SMSK25	1	Exhaust Mounting Bracket	
2	GB Flange Nut M8	NFFW8	2	Exhaust Bobbin	
3	GC Spring Washer M8	WSPM8	3	x 1 Exhaust Mounting Bracket x 2 Exhaust Bobbin	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 1

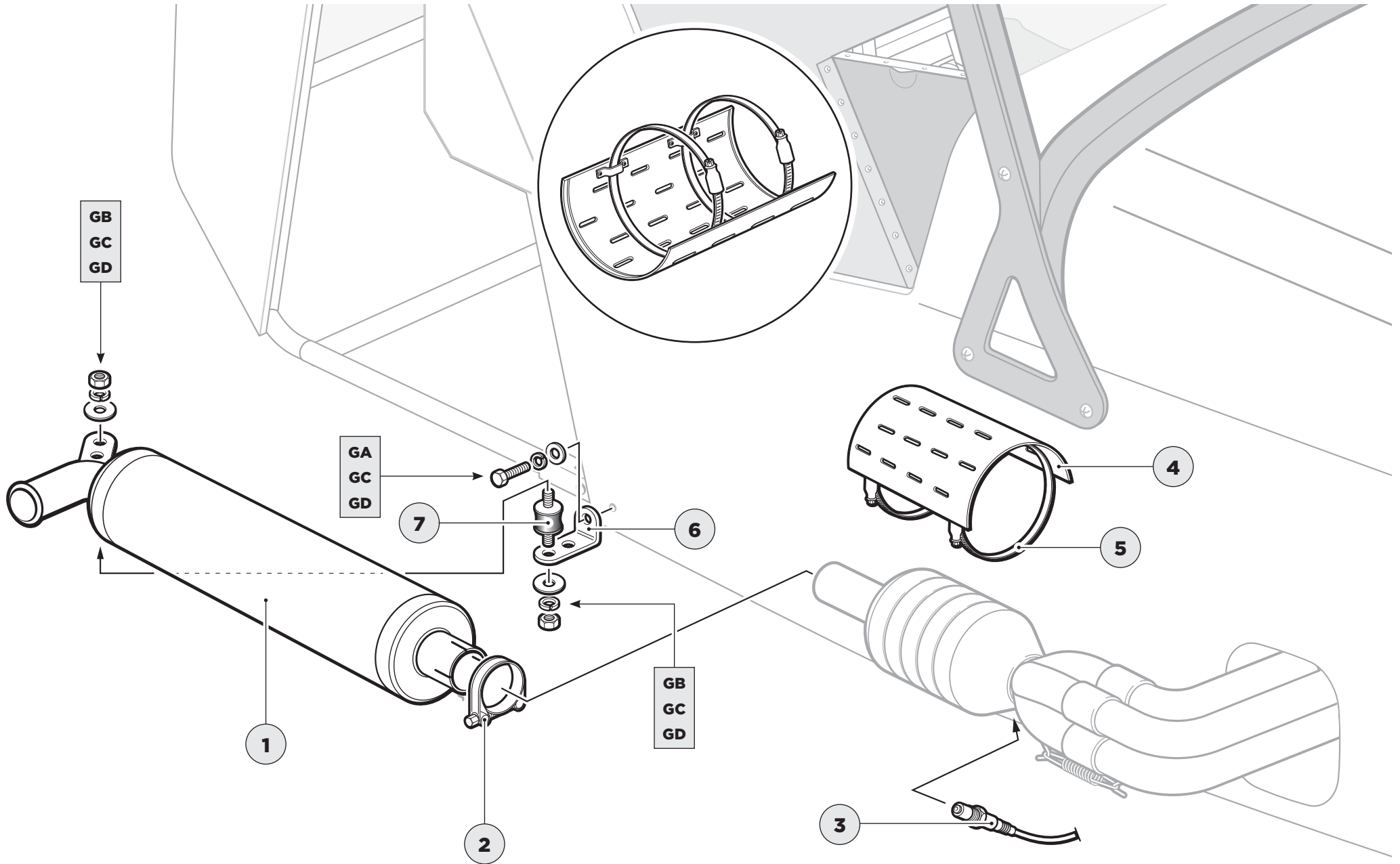
x1
x2
x3

TIPS

Cable tie the Lambda sensor lead neatly out of the way.

Lee A

EVEN MORE EXHAUSTING



52. Nosecone

Tip	Source	Original
Trial fit the nosecone and look for clearance between ARB and wishbone parts – IVA requirement. Dremel if necessary	Chris Collins	Link
Check the gap between the radiator fan motor and the grill – apply rubber pad if necessary	Chris Collins	Link
Check clearance between underside and expansion bottle cap		

53. Carpets

Tip	Source	Original
Remove carpets from packaging and lay flat for a few days before fitting	Chris Collins	Link
Mask the area before spraying the glue	Chris Collins	Link
Add more glue to edges, but less around the LHS bung (gearbox oil filler point)	Chris Collins	Link
Don't glue the Boot Carpet – in case you need to adjust the handbrake position	Obodiah	Link
Do you need to fit the carpets before the roll cage?	Simon Bennett	Link
Holes to be cut into leatherette strip for the seat harness bolts	John Martin	Link
Overspray can be cleaned up with petrol	John Martin	Link
Remove the excess from the top of the transmission tunnel – to allow better fit of tunnel cover	John Martin	Link
Remove ply board from the boot and coat in yacht varnish	John Martin	Link
Mask up boot area (since glue spray into the boot area is necessary)	John Martin	Link

FIT THE TUNNEL CARPET

PARTS

TOOLS



FIXINGS

TIPS

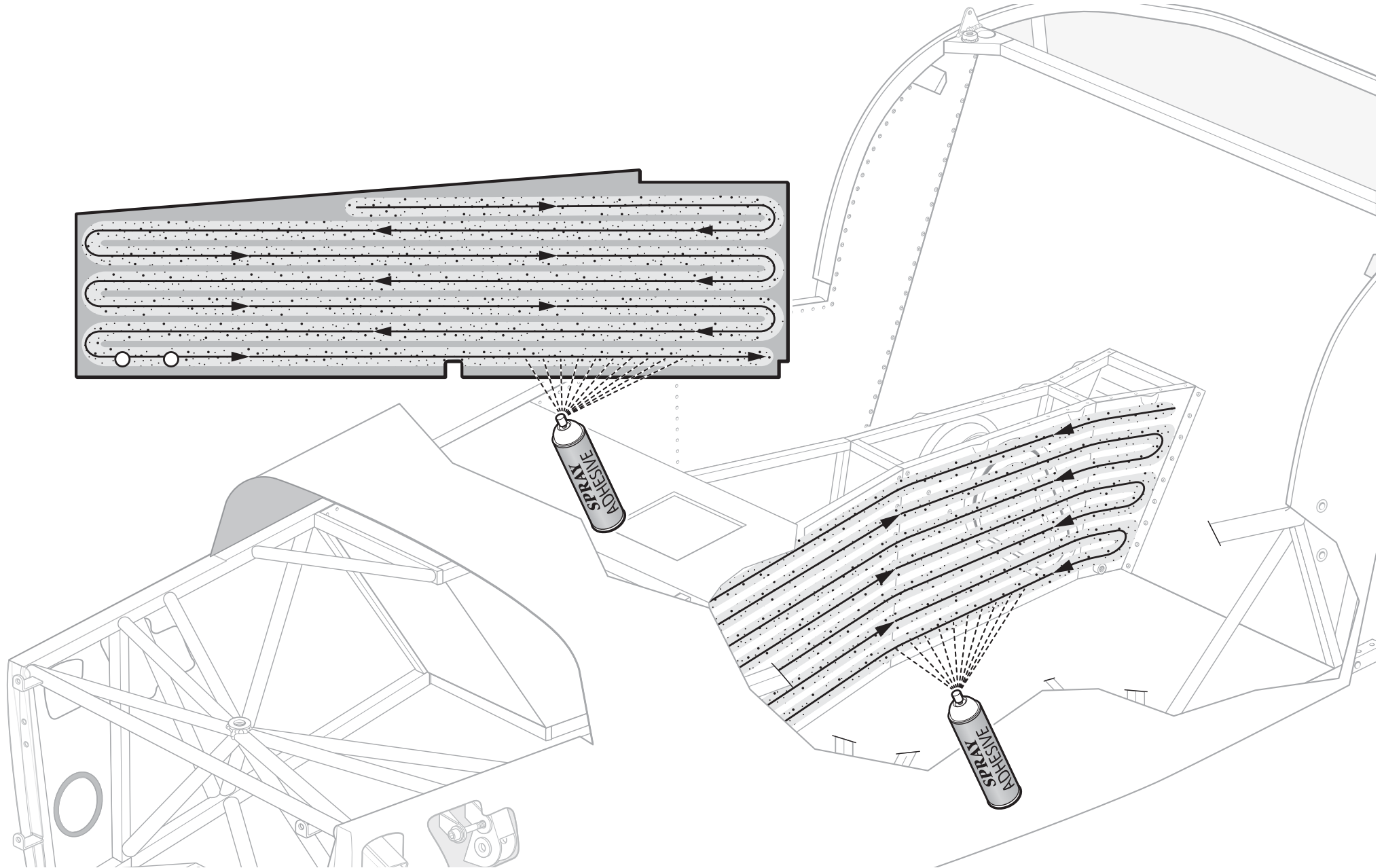
Spray on both tunnel panel and carpet.

John K

Allow the adhesive to go tacky before fitting.

Harry P

FIT THE TUNNEL CARPET



AND THE BOOT CARPET

PARTS

TOOLS



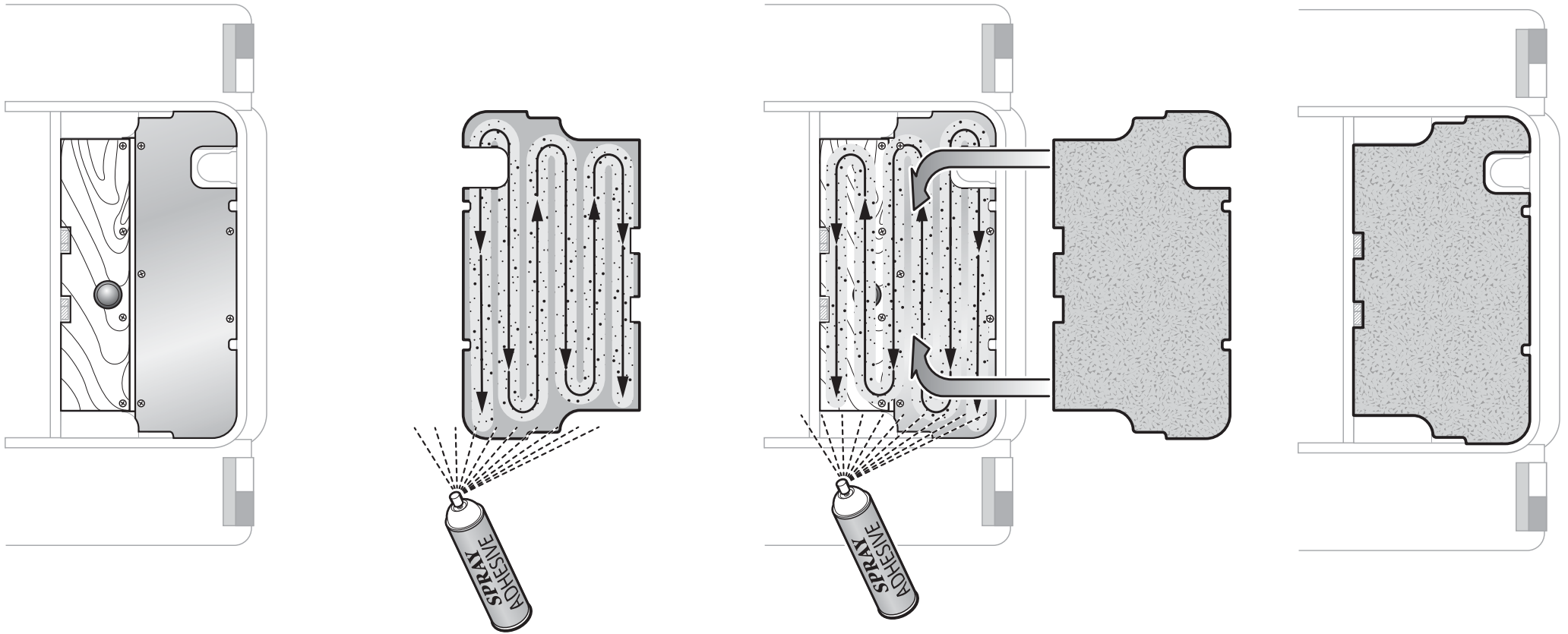
FIXINGS

TIPS

S-Pack cars have a fully carpeted boot. It's something of a jigsaw pattern, but the parts are simply glued in place like the bigger bits.

John S

AND THE BOOT CARPET



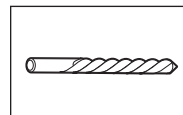
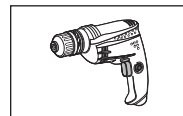
54. Tunnel Top

Tip	Source	Original
Remove gear knob	Chris Collins	Link
Ensure handbrake can be lifted as high as possible	Chris Collins	Link
If necessary bend the bottom edges of the tunnel top to fit the back panel (not the top edge)	Chris Collins	Link

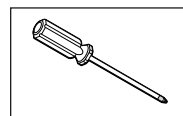
NOW FIT THE TUNNEL TOP

PARTS

TOOLS



1/8"



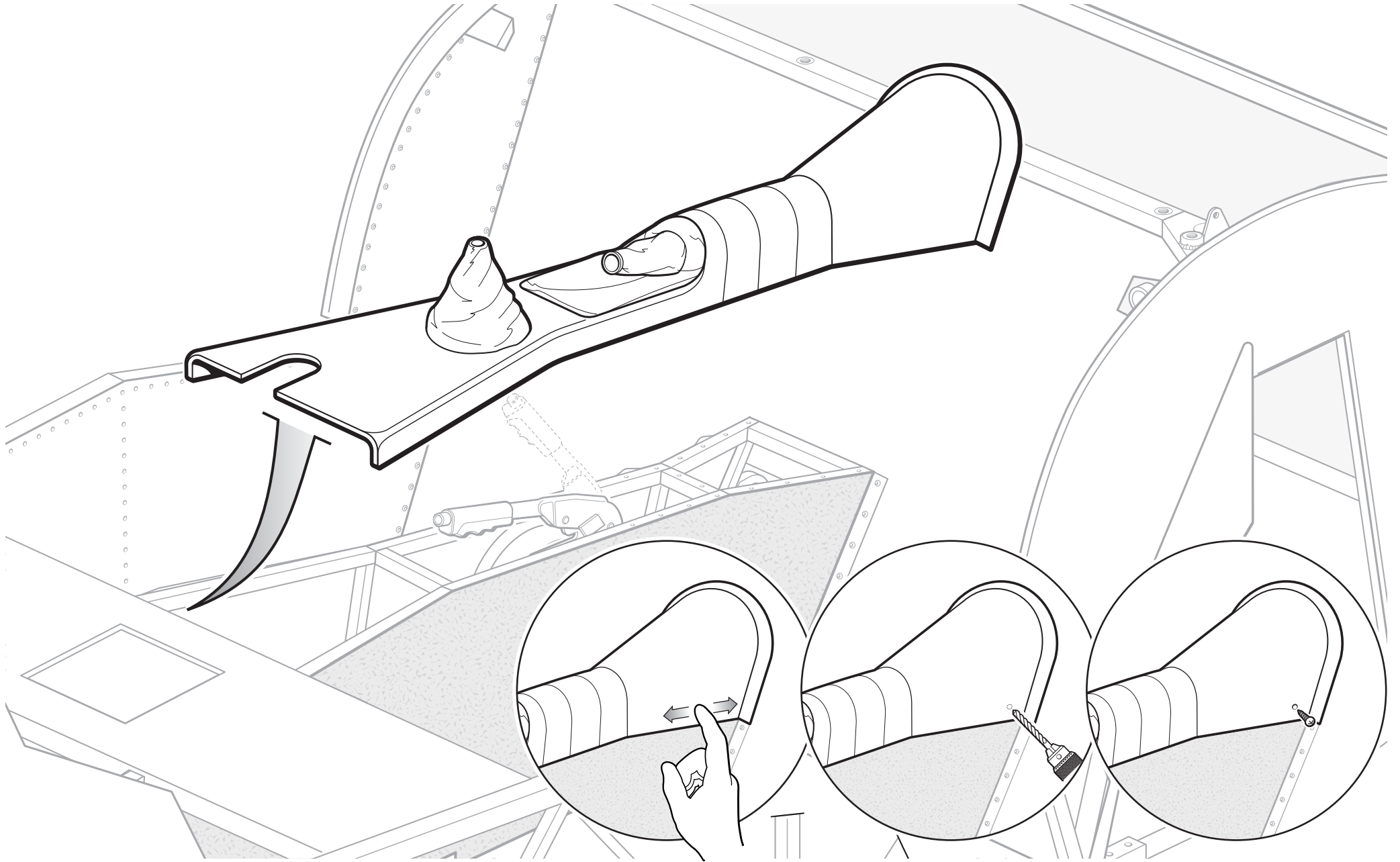
FIXINGS

TIPS

The hole can be seen if you flip the tunnel top over.

Mick F

NOW FIT THE TUNNEL TOP



55. Fuel Filler Shroud

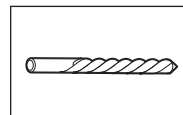
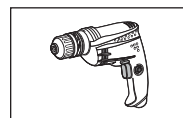
Tip	Source	Original
First fit the washer bottle clip – needs a part made to attach to the side skin or	Chris Collins	Link
Fit the washer bottle to the Fuel Filler shroud (drill holes for the connections)	Obodiah	Link
Put washer one way valve and pump connections insider the Fuel Filler Shroud	Chris Collins	Link
Either trim the carpet around the shroud (template) or trim top off the shroud to fit	Chris Collins	Link

THIS IS A COVER UP

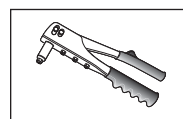
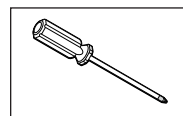
PARTS

- 1 Fuel filler cove
- 2 Tunnel closing panel

TOOLS



5/32"



FIXINGS

Supplied loose:

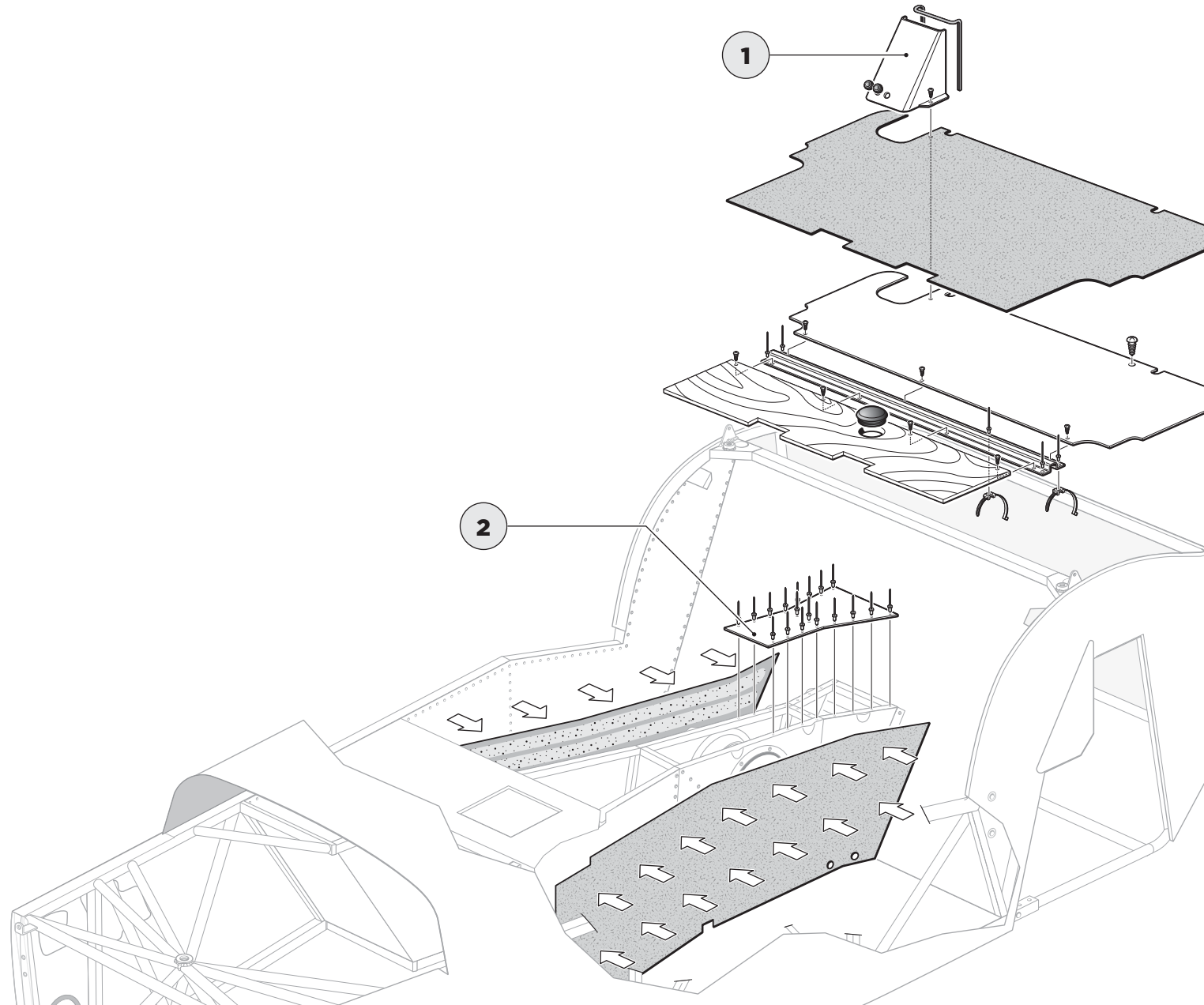
- Rivets
- Screws

TIPS

The fuel filler cover just screws to the boot floor. Drill two holes and use self tapping screws.

Rich T

THIS IS A COVER UP



56. Rear Hub Nut Torquing

Tip	Source	Original
Use a wheel chock and the handbrake to lock the rear wheels	Chris Collins	Link

57. Front Wings

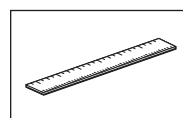
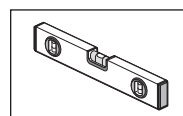
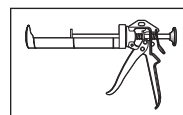
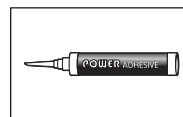
Tip	Source	Original
Fit the IVA trim before fitting the wing – use zapglue (flexible super glue)	Chris Collins	Link
Ensure the wingstay is level – bend if necessary	Chris Collins	Link
Open up hole for the repeater – make sure the correct side is fitted	Chris Collins	Link
Front edge of wing should be 75mm from wingstay (IVA) – masking tape on ruler helps	Chris Collins	Link
Transfer position to tyre and wing so that it can be repeated easily when applying glue	Chris Collins	Link
Score glue area and remove paint from wingstay bonding area	Chris Collins	Link
Apply glue to wingstay then position the wing on it and tape in position for 24 hours	Obodiah	Link
Strengthen the glue area with further glue after first fix – mask area as necessary	Obodiah	Link

JUST WING IT

PARTS

- 1 Cycle wing
- 2 Wheel
- 3 Wheel nuts

TOOLS



FIXINGS

TIPS

Key the wing & wingstay before using adhesive.

John S

You may need to bend the arms of the wingstay to make the wing level.

Anthony L

The $\frac{1}{8}$ " hole you drilled earlier is for the indicator earth.

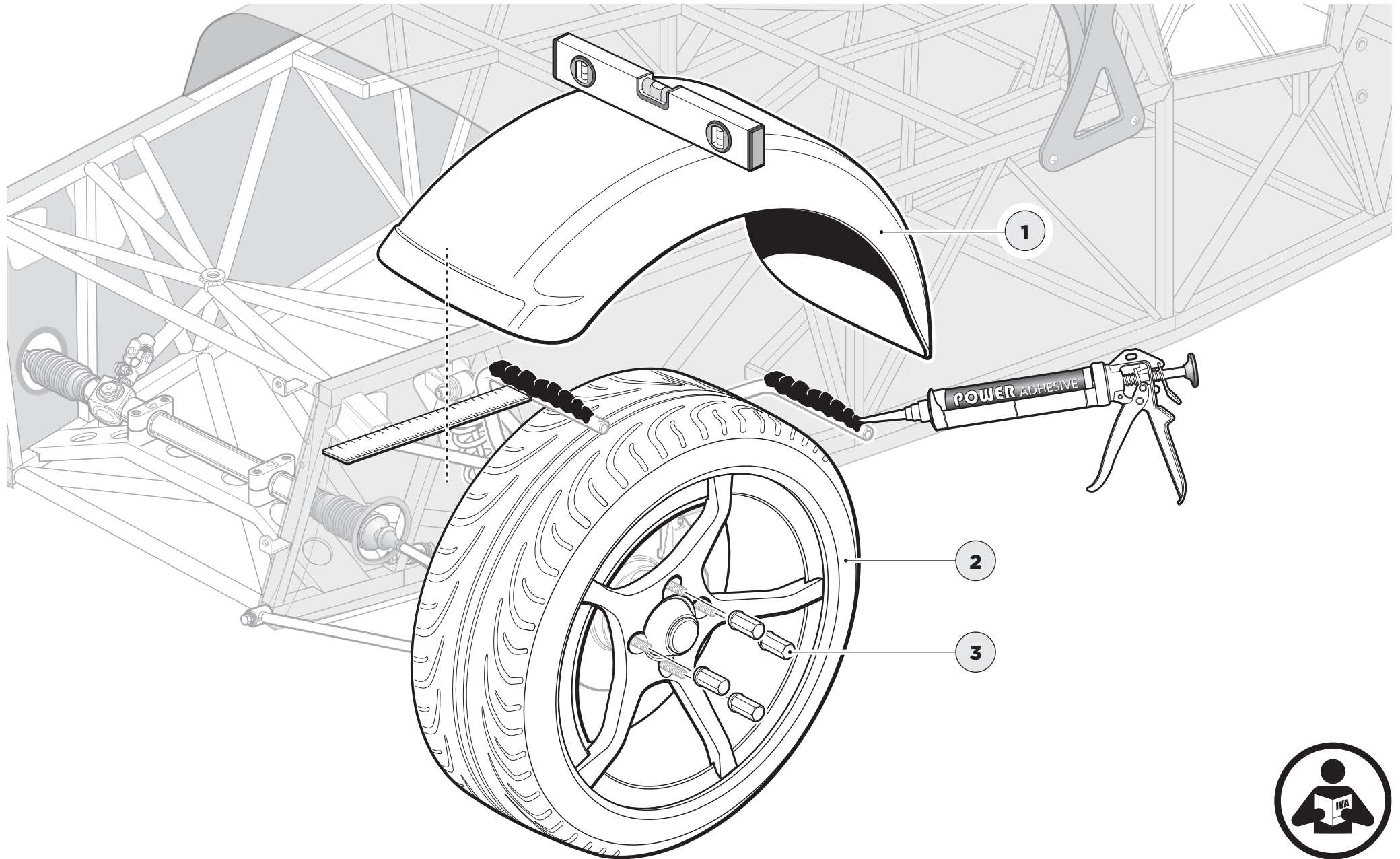
Harry P

The distance from the front edge of the wing to the wingstay should be 80mm.

Lee A

Do a 'dry run' first to make sure the wings are level before using power adhesive.

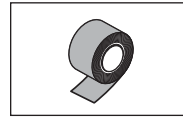
Chris N



TAPE IN PLACE FOR 24 HOURS

P A R T S

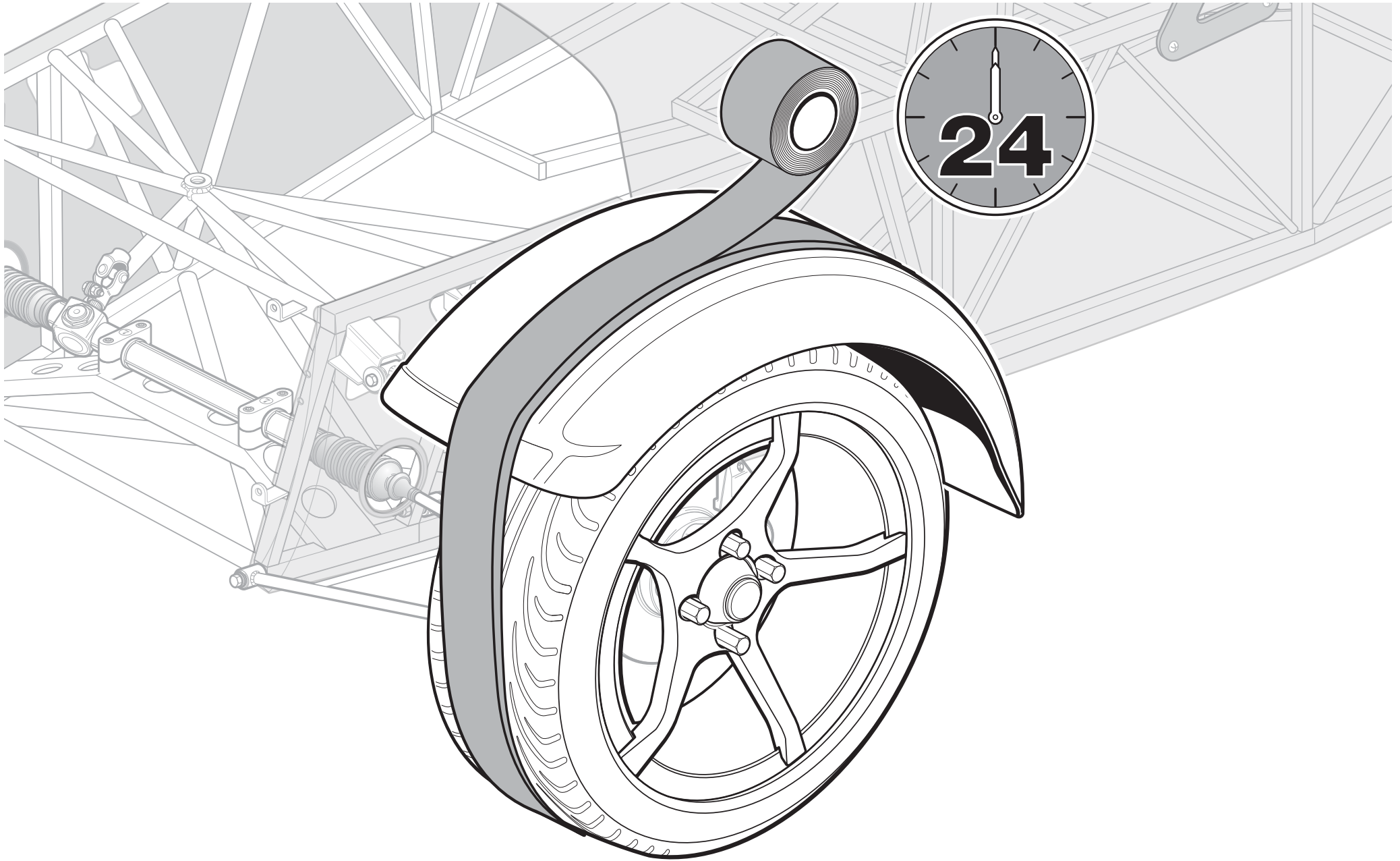
T O O L S



F I X I N G S

T I P S

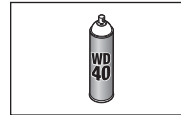
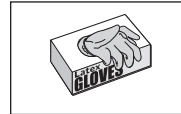
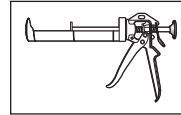
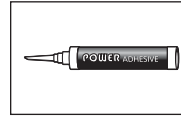
TAPE IN PLACE FOR 24 HOURS



SOME EXTRA ADHESIVE UNDERNEATH

PARTS

TOOLS

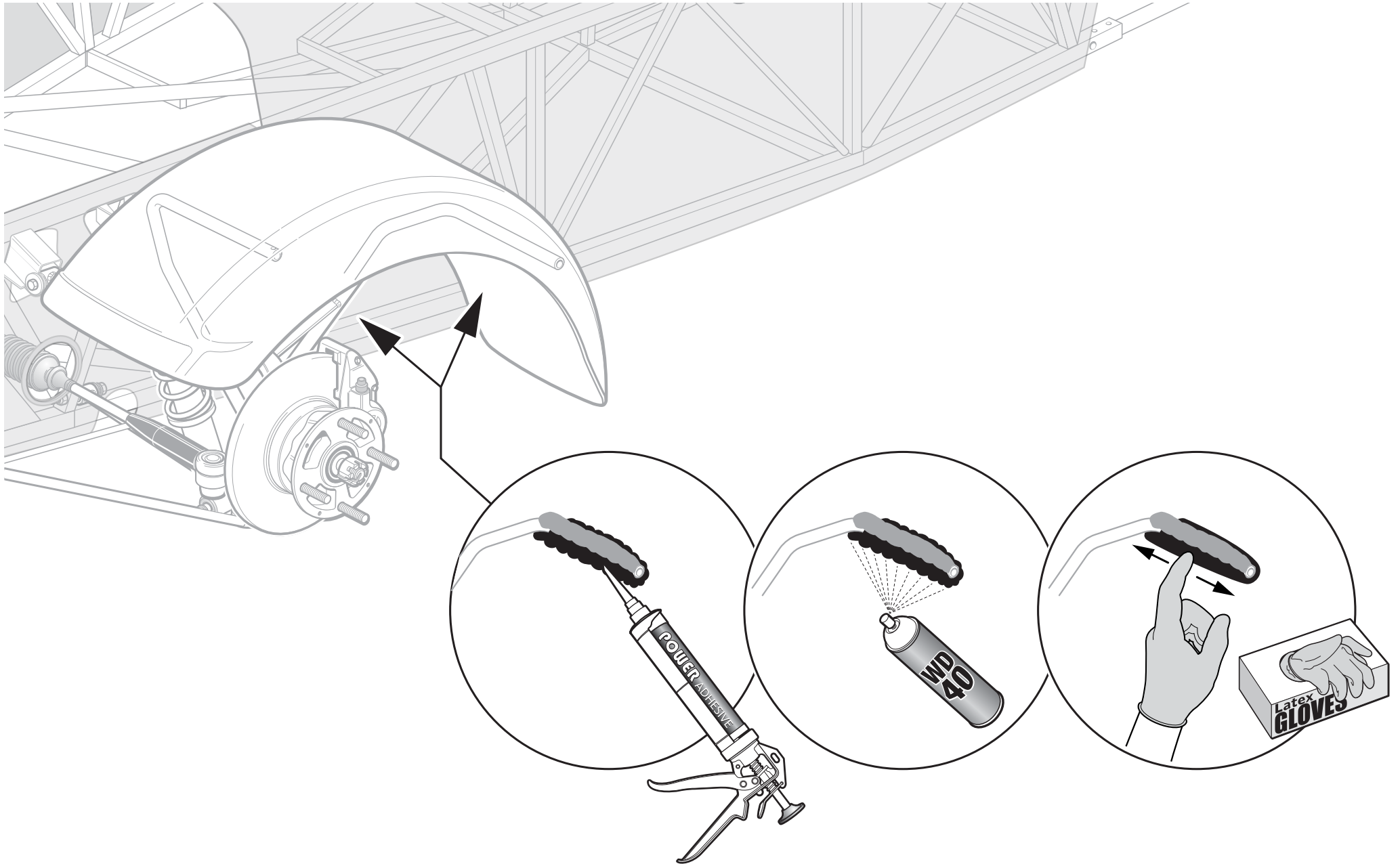


FIXINGS

TIPS

The WD40 will help spread the adhesive.

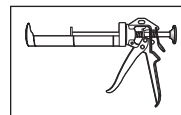
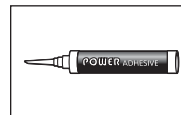
Mick F



FINISH WITH TRIM

PARTS

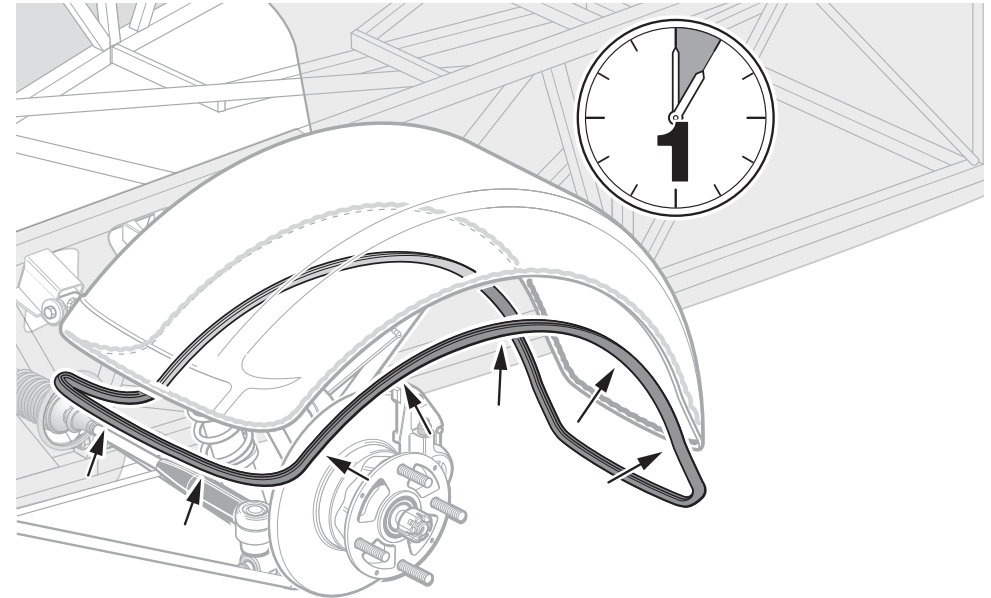
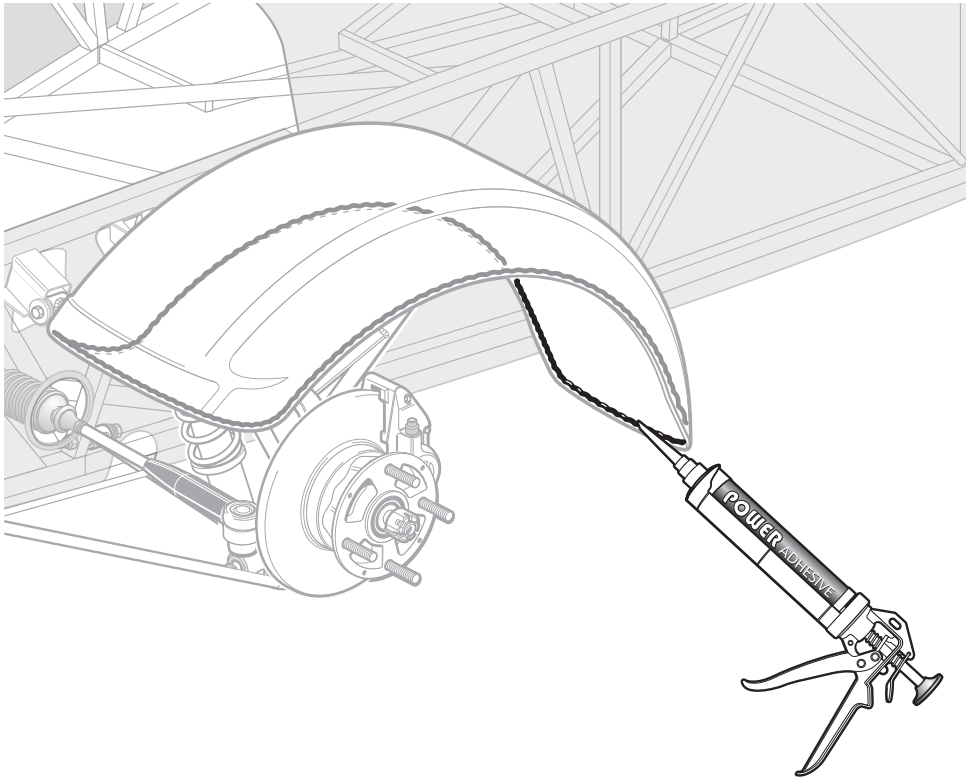
TOOLS



FIXINGS

TIPS

FINISH WITH TRIM



58. Wing Repeaters & Lights

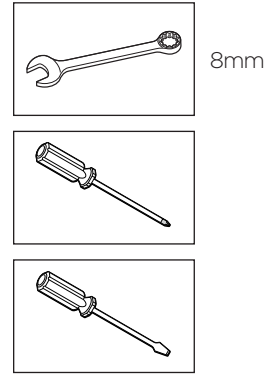
Tip	Source	Original
Fit a guide wire up the wingstay, out of the wing hole and connect to green wire	Chris Collins	Link
Heat shrink the green wire and cover with 4mm silicon tube for protection	Chris Collins	Link
Pull the guide wire down to wingstay opening – then fit grommet – heatshrink up to grommet	Chris Collins	Link
Fit earth connection to the wingstay and test with multimeter to chassis – OR -	Chris Collins	Link
Consider extending the repeater earth wire down into the engine bay	John Martin	Link
When assembling check with a multimeter for shorts as you assemble	AA	

FITTING THE LIGHTS

PARTS

- 1** Side repeater
- 2** Rear light
- 3** Numberplate lamp

TOOLS



FIXINGS

Pack C		CATERHAM		45	
				PACK NUMBER	
				30L002B	
FASTENER PACK - LIGHTING					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	CA Screw 10 x 37 Black hexagon	71060	6	Indicators connecting to indicator pad	
2	CB Screw 8 x 11 Black hexagon	71071	2	Side repeater parts on wingstay	
3	CC Screw 12 x 11* Self tapping	71070	4	Rear light cluster upper fixing	
4	CD Screw 12 x 11* Self tapping	71070	4	Rear light cluster lower fixing	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 1

x4

x4

TIPS

Use a cradle clip & cable tie to keep the rear light loom out of the way.

John S

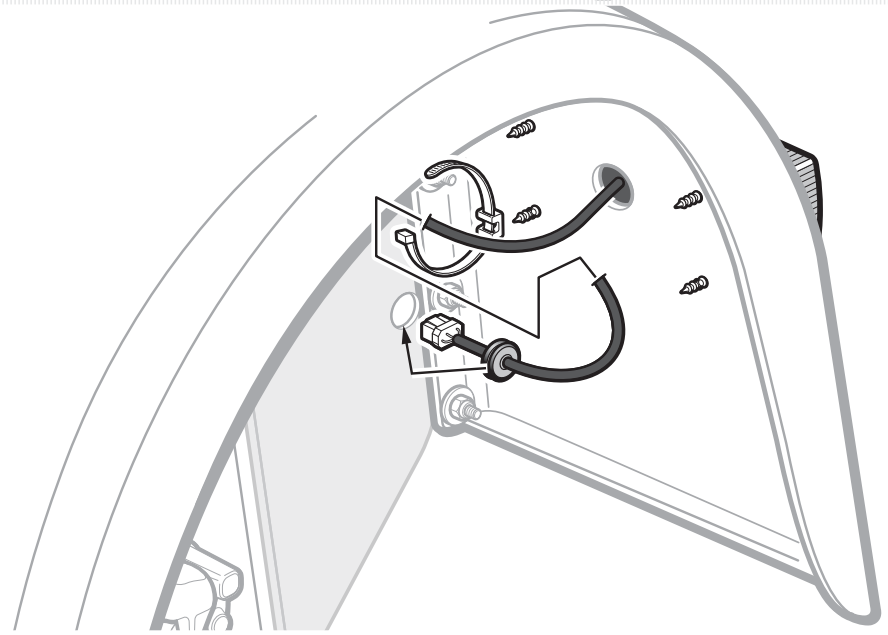
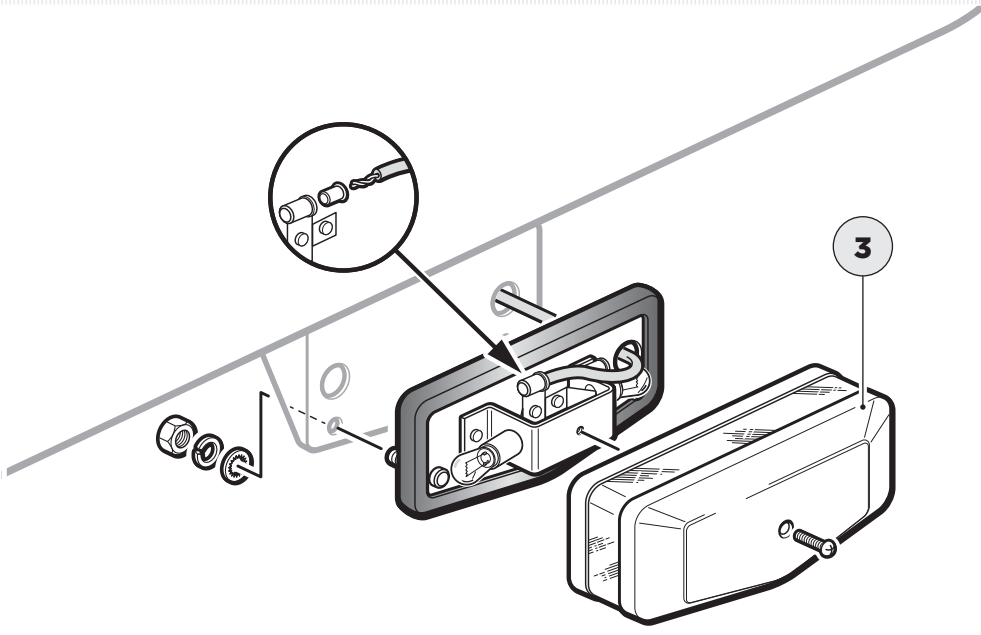
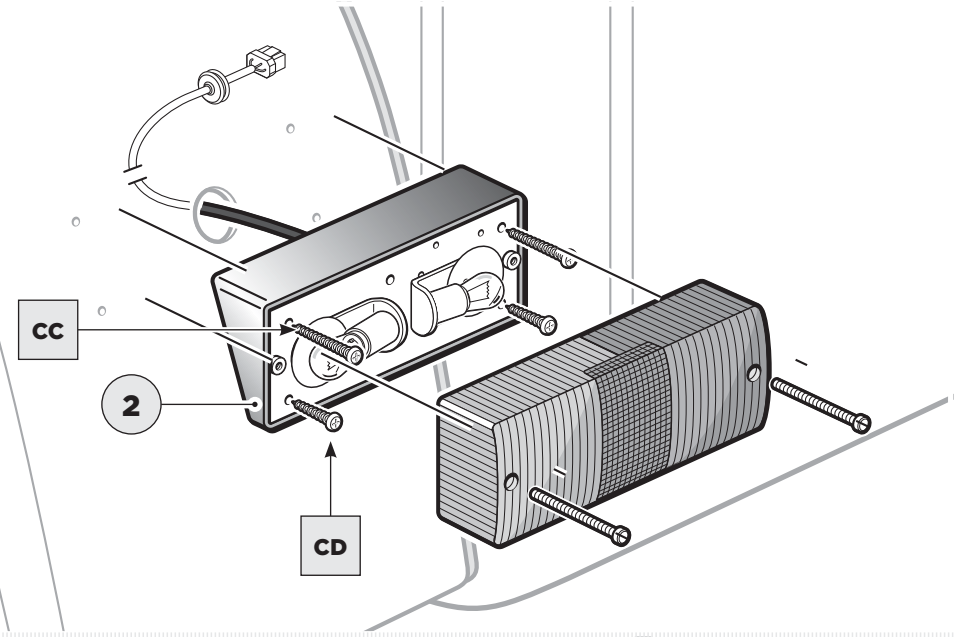
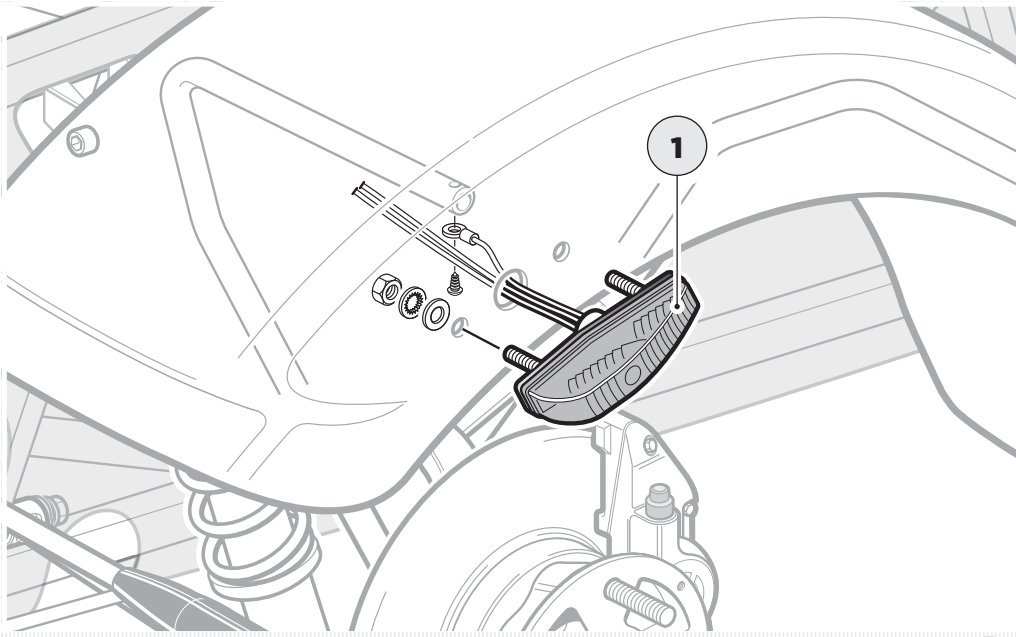
Rubber grommet on rear light goes in the body not the wing.

Jamie A

Indicator repeater wires go through the wingstay.

Chris B

FITTING THE LIGHTS



59. Rear Lights

Tip	Source	Original
IVA requirement – heatshrink wires from connector (need to be covered)	Chris Collins	Link
Consider using bolts & rubber washers rather than self-tapping screws to fix the lights	Chris Collins	Link

60. Wipers

Tip	Source	Original
Run the wiper motors to allow them to settle to a park position before fitting the blades	Chris Collins	Link
Check which direction they go in to.	Chris Collins	Link
Round off sharp edges of wiper blades (IVA)	Chris Collins	Link

FITTING THE WIPERS

PARTS

- 1 Wiper arm
- 2 Wiper blade

TOOLS

FIXINGS

TIPS

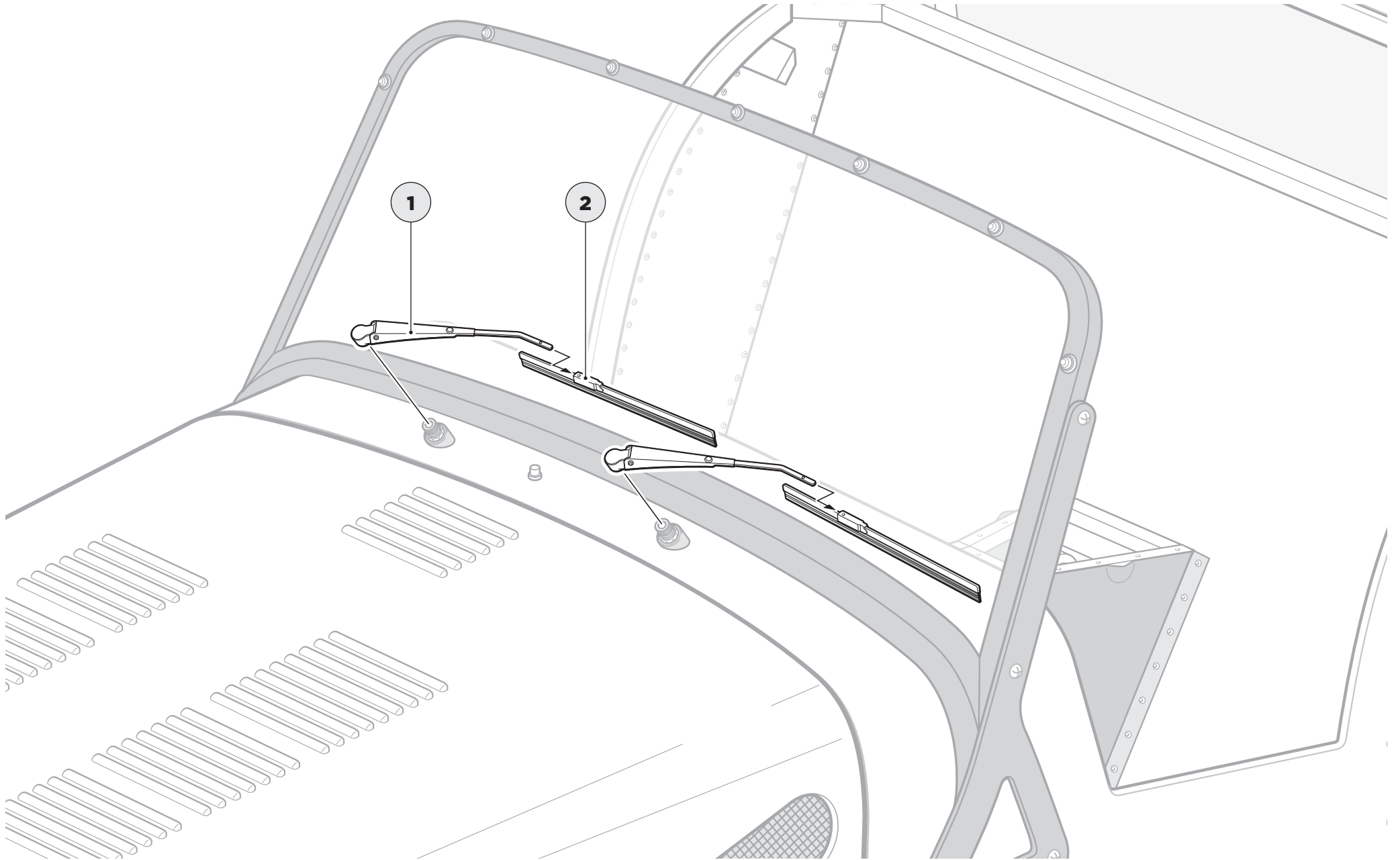
Ensure wipers are in *paused* position before fitting the wiper arms.

John S

Now would be a good time to fill the washer bottle with fluid and test the washers and wipers.

Chris B

FITTING THE WIPERS



61. Fuse Cover

Tip	Source	Original
Leave to last so that a full electrical test can be performed before fitting	Chris Collins	Link
IVA trim on all the sharp edges	Chris Collins	Link
12V Socket can be used as a charge point	Chris Collins	Link
Consider using 3M Dual Lock instead of the Velcro supplied	Chris Collins	Link
Use rubber lubricating spray to help locate the fuse cover	Chris Collins	Link
If keeping the 12V connection fro battery charging – consider adding an extra USB port	N/A	

BELT UP

PARTS

TOOLS



FIXINGS

Supplied with seat belts

TIPS

These will be loosely fitted already – you'll need to tighten & torque.

Chris N

FITTING THE FOUR-POINT HARNESS

PARTS

TOOLS



17mm



FIXINGS

All fixings supplied with the harnesses

TIPS

The buckle is attached to a lap strap and this should be fitted to the tunnel side.

Chris N

For Academy cars with Schroth Harnesses see Page 148.

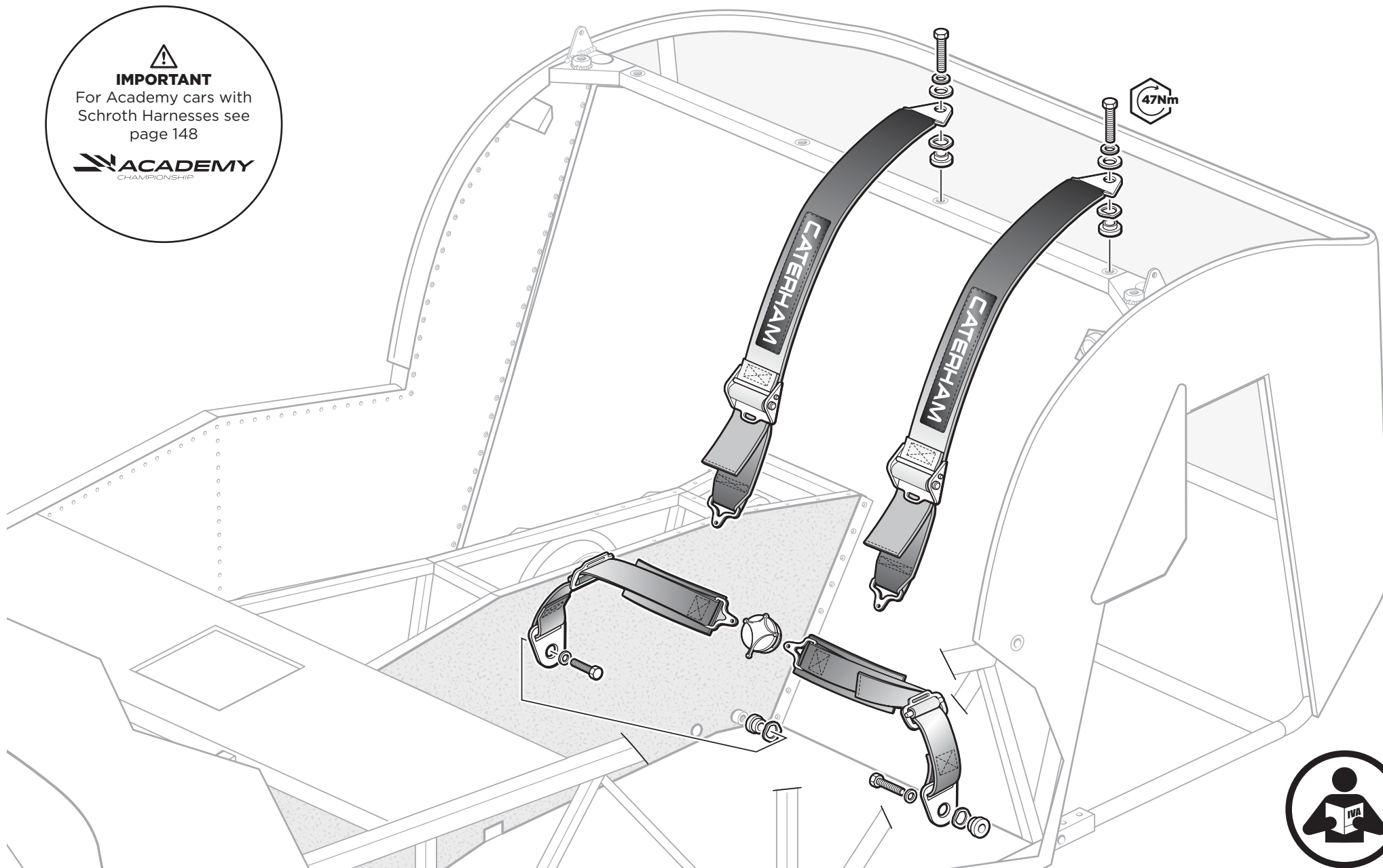
Dan P

FITTING THE FOUR-POINT HARNESS

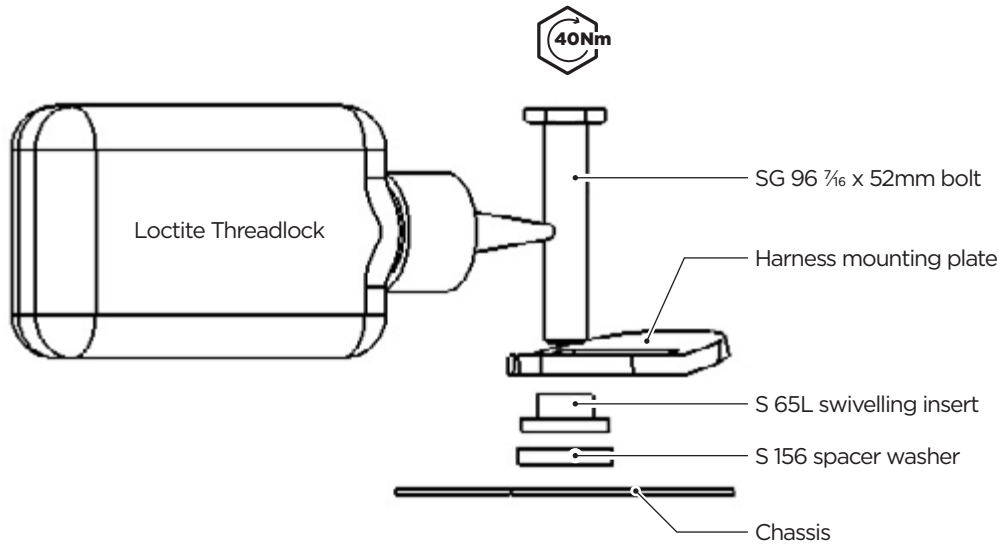


IMPORTANT

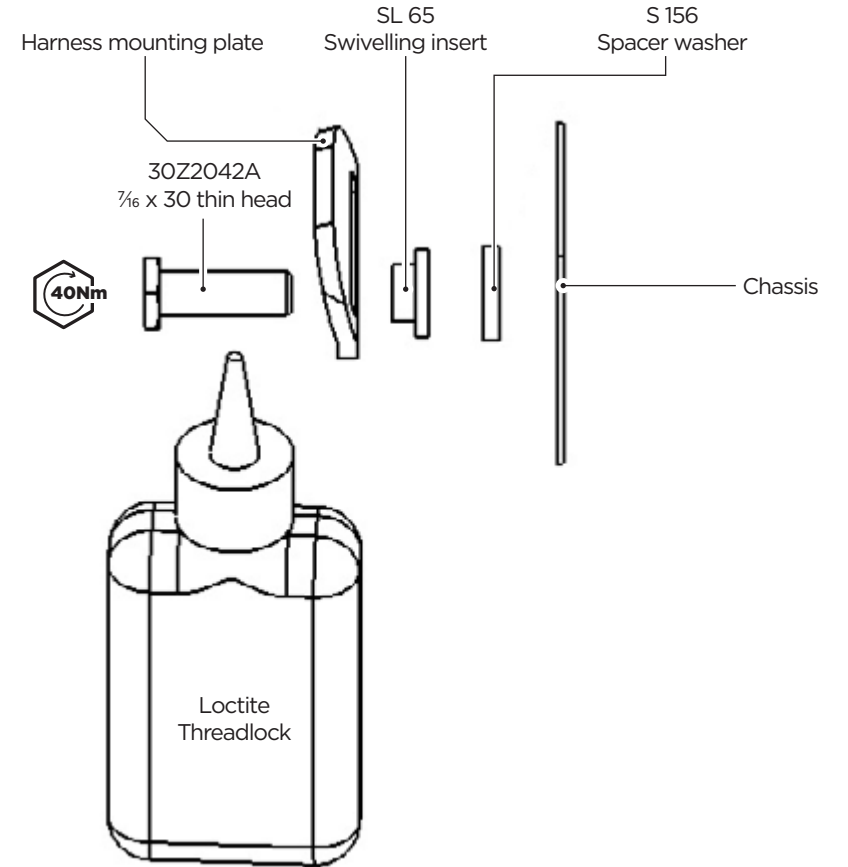
For Academy cars with Schroth Harnesses see page 148



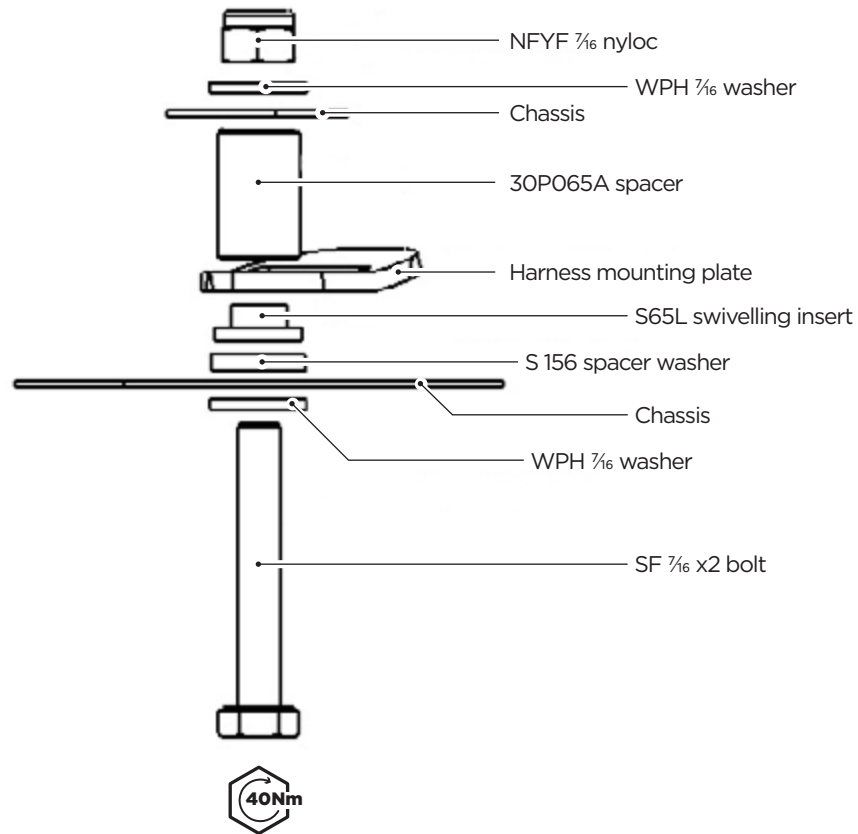
SHOULDER STRAP MOUNTING ORIENTATION



WAIST STRAP MOUNTING ORIENTATION



CRUTCH STRAP MOUNTING ORIENTATION

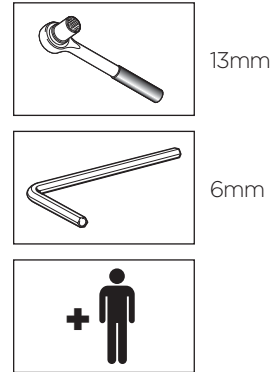


FITTING CLOTH OR LEATHER SEATS

PARTS

- 1** Seat
- 2** Seat base
- 3** Headrest

TOOLS



FIXINGS

Pack L	CATERHAM		62		
			302105B		
CLOTH/LEATHER SEATS ALL CARS					
<small>This pack may include extra fasteners to cover different options</small>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	LA Cheater Bolt M8 X 20 Grade 12.9	SMCH002	4	Through seat runner & floor	
2	LB Nyloc Nut M8	N8N78	4	Under floor	
3	LC Plain Washer M8 X 30	WPH003	4	Under floor	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 1

x4
x4
x4

TIPS

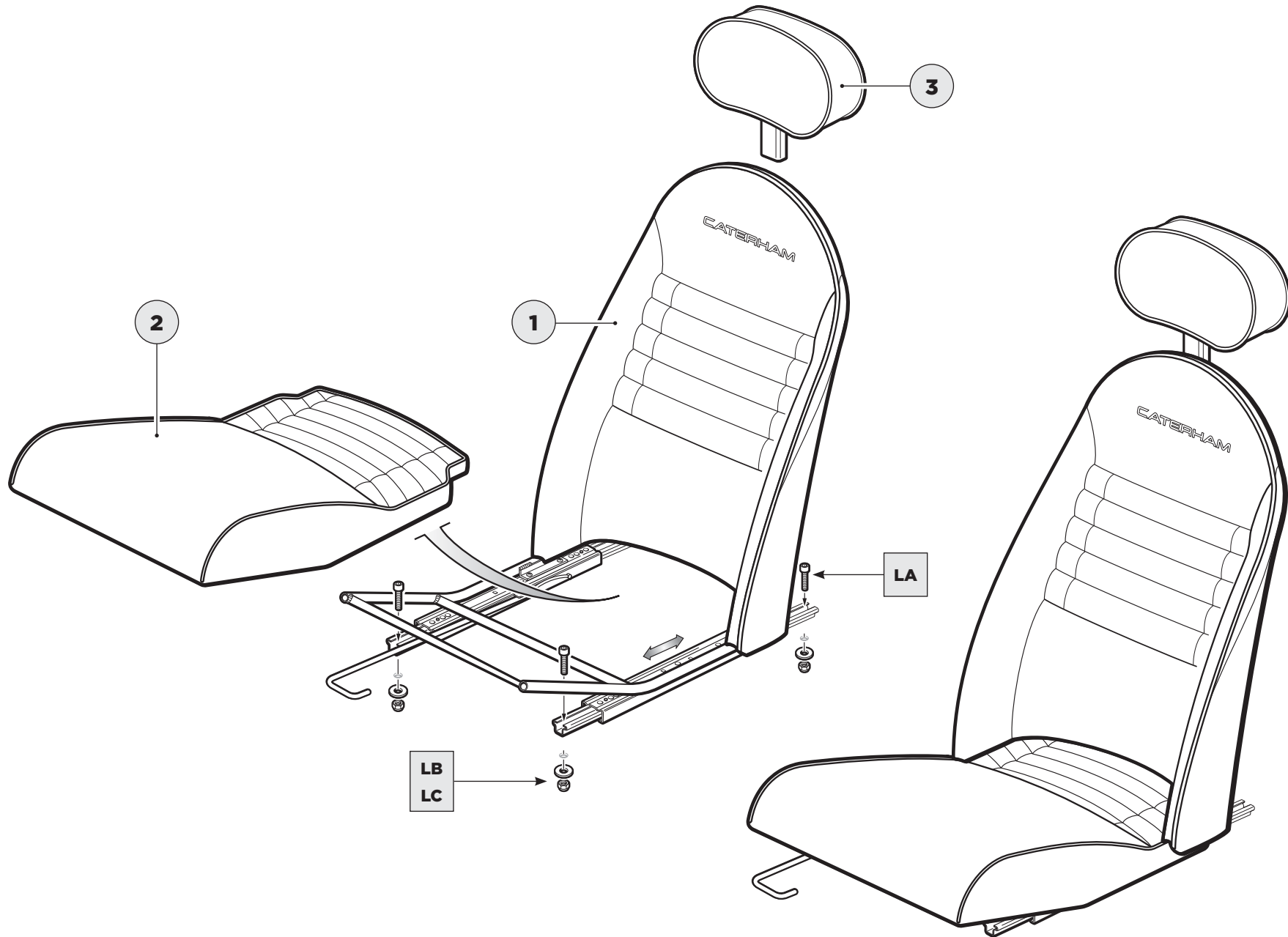
Loosely fit the rear bolts to help locate the front.

Dan D

Nip up all bolts once fitted.

Anthony L

FITTING CLOTH OR LEATHER SEATS



62. IVA Tidy Up

Tip	Source	Original
Double check the entire checklist	Chris Collins	Link
The final push	Chris Collis	Link

63. Bonnet Fit

Tip	Source	Original
Check the clearance between the Coil Cover and the Bonnet	Chris Collins	Link

64. Nosecone

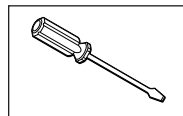
Tip	Source	Original
Ensure the nosecone does not touch any of the suspension components – Dremmel if nec.	Chris Collins	Link
Check if the grill is touching the fan motor – if so, add some self-adhesive foam rubber	Chris Collins	Link
Fit foam rubber to edge of scuttle and the nosecone to protect the bonnet	Manual	
Nosecone badge holes may need adjusting	Chris Collins	Link

THE NOSE CONE BADGE

PARTS

- 1 Nose cone
- 2 Bonnet
- 3 Badge

TOOLS



FIXINGS

TIPS

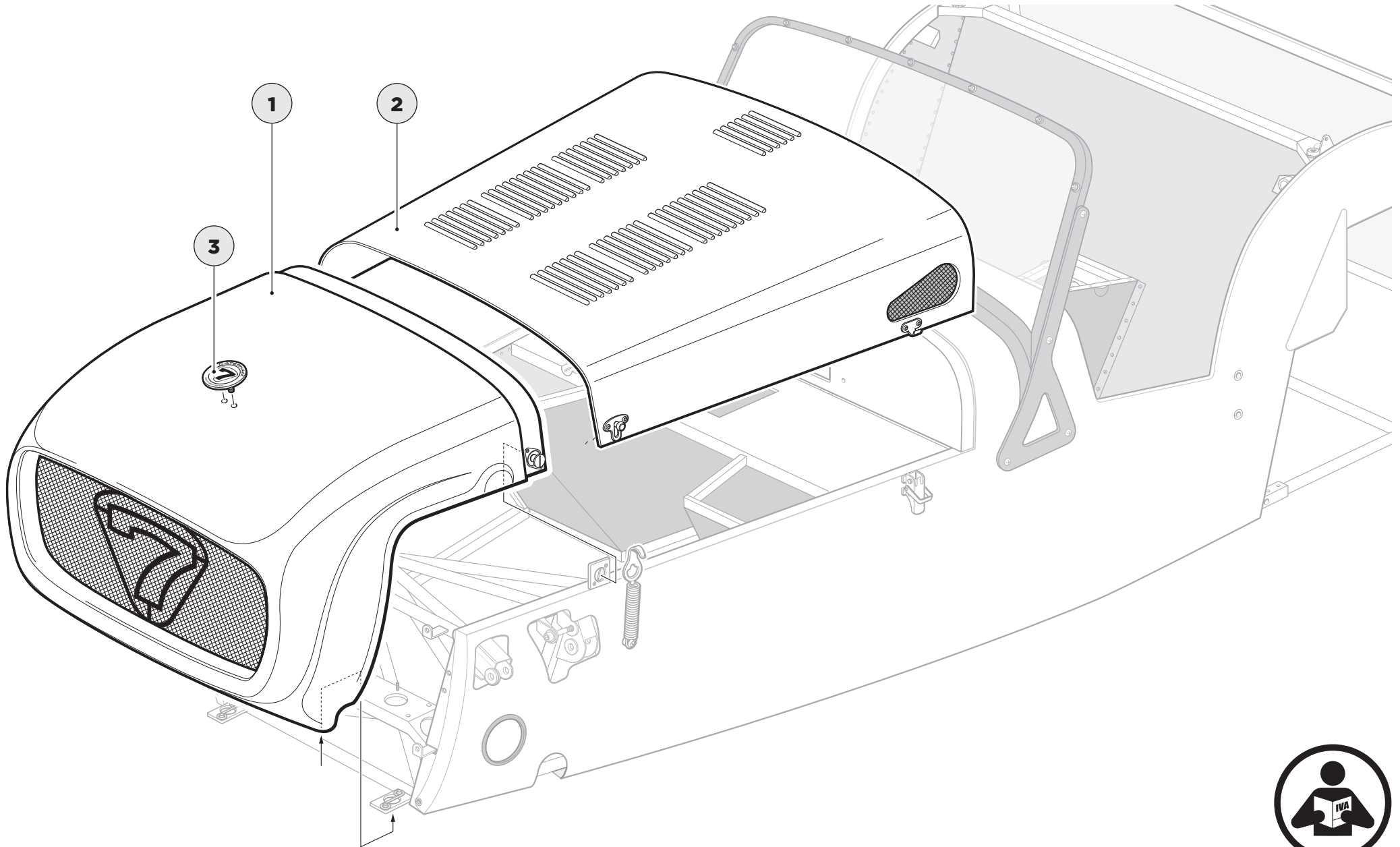
The nose cone goes on before the bonnet.

Anthony L

Stick the supplied foam around the edge of the nose and scuttle where the bonnet will sit (if you've not done already).

Harry P

THE NOSE CONE BADGE

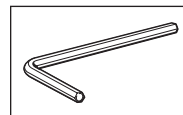
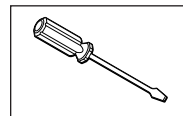


AND FINALLY, AT LAST, THE WING MIRRORS

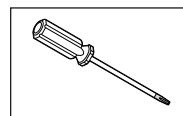
PARTS

-  Mirror head
-  Mirror mount
-  Mirror mount stud
-  Grub screw
-  Fibre washer

TOOLS



2.5mm



T20

FIXINGS

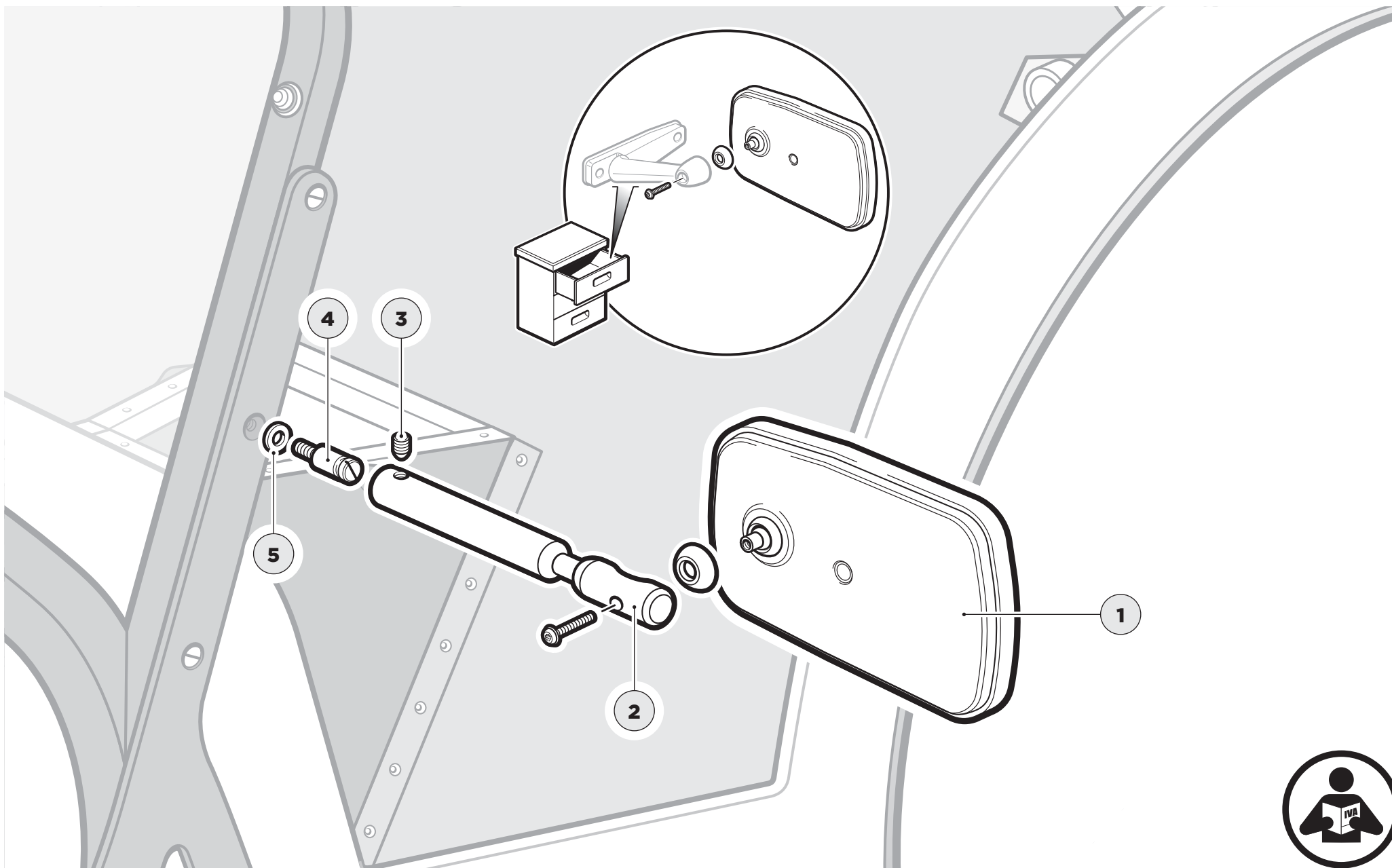
Wing mirror bag

TIPS

You may have to unclick the glass out to tighten up.

Mick F

AND FINALLY, AT LAST, THE WING MIRRORS



THE LAST FEW STEPS...

Your car is almost complete, but before you can drive triumphantly out of the garage (and legally, as far as the end of your driveway) there are a few important things that need to be done. These are, bleeding the brakes, preparing the engine for its first grand firing-up ceremony (it will feel like that, even if you are doing it on your own) and lastly torquing up the suspension.

So, on with bleeding the brakes which cannot be explained with a simple diagram unfortunately:

- 1** Assemble the things you'll need: Brake fluid, both a 10mm and an 11mm spanner, a length of washer hose (or similar clear plastic hose) and a waste fluid receptacle (some form of used bottle is ideal; you won't want to use it again after this)
- 2** Find a volunteer. They need to be able to reach and press the brake pedal, plus respond to your instructions, so whilst a child is fine for this job, someone's might be more inclined to listen to you.
- 3** Fill the brake master cylinder with fresh brake fluid and leave the cap off. **BE CAREFUL NOT TO SPILL ANY ONTO THE PAINTWORK**; if you do, wipe it off immediately. Brake fluid will react with the paintwork causing it to blister and peel.
- 4** Starting at the left rear corner, locate the bleed nipple on the caliper. It will have a rubber cap on it. Remove the cap, remember where you put it, and attach the washer hose to the nipple and put the other end in the waste bottle. This sometimes needs the hose warming up in a cup of hot water to allow it to stretch over the nipple.

- 5 Using the 10mm spanner, 'crack off' the nipple about half of a turn.
- 6 Ask your assistant to pump the pedal a few times. You should see bubbly fluid flowing through the pipe. When the bubbles die down, ask them to hold the pedal down, then tighten the nipple back up. Check and top of the fluid level in the reservoir as necessary.
- 7 Ask them to lift off, then pump it a couple of times, then press the pedal down and hold it down.
- 8 Crack off the nipple again and let the fluid and bubbles flow. It will stop flowing as soon as your assistant has run out of brake pedal travel. Tighten the nipple.
- 9 Repeat steps 8 and 9 until you get 100% bubble free fluid passing through the pipe, remembering to check and top up the reservoir. You will waste quite a lot of brake fluid during this process.
- 10 Once you are satisfied that there are no more bubbles (no more air in the caliper), then you can remove the washer hose and refit the dust cover.
- 11 Repeat steps 5 to 10 for the remaining brakes in this order, right rear next, then right front and lastly left front. The front brake nipples use an 11mm spanner.
- 12 Although tedious, getting all the air out of the braking system is important and will give you a good, firm brake pedal, which is what you need; not a soft spongy one like you have in a regular car. You may need to repeat the whole process after the first drive or two (or even after the car has had a ride on a trailer); air in the braking system is very good at hiding.

Brakes bled and we are ready to fire up the engine. Again, it's easier to explain in writing than draw a diagram. The only thing you'll need for this job is to ensure that you have put some fuel in the car. The shape of the Caterham fuel tank does not lend itself to making use of every last drop, so we recommend an absolute minimum of 10 litres in the tank before trying to start the car. With the tank filled, we are ready for initialisation.

But before anything else:

YOU DID REMEMBER TO PUT OIL IN THE ENGINE AND GEARBOX, RIGHT?

- 1 Reassure yourself the engine is full of oil.
- 2 Disconnect the inertia switch; it's the black thing attached to the engine bay bulkhead under the windscreen that has rubber cap on top and a plug with two wires connecting from underneath. By disconnecting the inertia switch, the fuel pump will not work, so intentionally, the engine will not fire.
- 3 Ensure the gearbox is in neutral, then turn the ignition key and press and hold the start button.
- 4 As the engine cranks over, watch the oil pressure gauge. Keep cranking until the needle starts to climb, then steadies out.
- 5 We now have oil pressure circulating in the engine, which means the engine is ready to be started.
- 6 Reconnect the inertia switch.
- 7 Take a deep breath, mutter 'this is it', cross your fingers and brace yourself.
- 8 Turn the ignition key, press and hold the start button. It will take a few moments for the fuel to get through, so do not expect an instant start.
- 9 All things willing, the engine will start. Hooray! If it stops straight away, don't worry. Try again and once it starts give it a little rev.

YOUR SEVEN *Adventure* AWAITS

That's it. Your car is complete! Well done – you have built a car; a real live car; not many people can say that. If you remembered to put in gearbox and differential oil, and fill the system with coolant, then a tentative edge out onto the driveway is in order. You'll need to pop the wheels on and lower it from the axle stands and just tighten the suspension first.

Let's just run through that quickly:







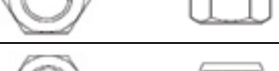
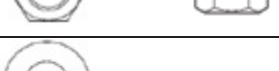



- i. Put a wheel on and do the nuts up a few turns by hand (to ensure they do not cross-thread).
- ii. Tighten them up the best you can with the wheels off the ground.
- iii. Lower the car from the axle stands, front first; taking care that it doesn't lean back on the axle stands at the back (a helper might be handy).
- iv. Torque the wheel nuts to 65lbft (about 85Nm).
- v. Flick back to the pages where we put the wishbones on and torque as shown
- vi. That's it, you're ready to go!




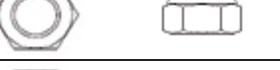

Take care and good luck with the IVA and registration process.

You will soon be experiencing the sheer pleasure of being a Caterham driver. Once again, enjoy!

APPENDIX

FIXING PACKS

Pack A		CATERHAM			SERIAL NUMBER 44	
					PACK NUMBER 30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	AA Bolt M12 x 100 Grade 10.9	BM12X100	2	Lower wishbone rear		
2	AB Bolt M12 x 65 Grade 10.9	BM12X65	2	Lower wishbone front		
3	AC Bolt M10 x 65 Grade 10.9	BM10X65	2	Upper wishbone rear		
4	AD Bolt M10 x 60 Grade 10.9	BM10X60	2	Upper wishbone front		
5	AE Bolt M8 x 40 Grade 10.9	BM8X40	4	Anti-roll bar mounting brackets		
6	AF Plain Nut M14 x 1.5 thread	NMPH14	1	Temporary use to help lock upper wishbone ball joint		
7	AG Nyloc Nut M12	NMYF12	2	Lower wishbone rear		
8	AH Nyloc Nut M10	NMYF10	4	Upper wishbone		
9	AJ Plain Washer M12 Chamfered	WPCM12	18	Lower wishbone		
10	AK Plain Washer M8 Heavy duty	WPHM8	4	Anti-roll bar mounting brackets		
11	AL Plain Washer 3/8" x 3/8" Heavy duty	WPH3/8	2	Brake pipe		
Drawings are for illustrative purposes only and are not to scale.					Page 1 of 2	

Pack A		CATERHAM			SERIAL NUMBER 44	
					PACK NUMBER 30F015B	
FRONT SUSPENSION DeDION CARS (METRIC)						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
12	AM Spring Washer M12	WSHM12	2	Lower wishbone front		
13	AN Spring Washer M8	WSHM8	6	Anti-roll bar mounting brackets & upper damper mount		
14	AP Washer 3/8" Shake-proof	WSS3/8	2	Brake pipe		
15	AR Nyloc Nut 1/2" Half height	NFYH1/2	2	Wing stay		
16	AS Nyloc Nut 1/2" Full height	NFYF1/2	2	Front brake, upright mounting (std track ONLY)		
Drawings are for illustrative purposes only and are not to scale.					Page 2 of 2	

FIXING PACKS

Pack B		CATERHAM		SERIAL NUMBER 55	
				PACK NUMBER	
				3ACZ0021	
				RELEASED NOV-19	
STEERING DeDION CARS (METRIC)					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	BA Caphead Bolt M6 x 70 DIN 912	BMCH6X70	4	Rack clamps	
2	BB Bolt 1/4" x 1 1/2"	BF1/4X1.1/2	2	Column clamp	
3	BC Bolt M8 x 40 Grade 10.9	BM8X40	2	Column to rack universal joint	
4	BD Nyloc Nut 1/2" Half height	NFYH1/2	1	Steering wheel boss	
5	BE Plain Nut 1/2"	NFPF1/2	2	Track rod lock nut	
6	BF Plain Nut 3/16" Half height	NFPFH7/16	1	Column clamp grubscrew locknut	
7	BG Nyloc Nut M8	NMYF8	2	Column to rack universal joint	
8	BH Nyloc Nut M6	NMYF6	4	Steering rack clamps	
9	BJ Plain Washer 1/2" x 1 1/4" Chamfered	WPH1/2	1	Steering wheel boss	
10	BK Plain Washer 3/4" Heavy duty	WPH1/4	6	Rack clamps and column clamp	
11	BL Spring Washer 3/4 Heavy duty	WSH1/4	2	Column clamp	

Drawings are for illustrative purposes only and are not to scale.












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Pack C		CATERHAM		SERIAL NUMBER 45	
				PACK NUMBER	
				30L002B	
LIGHTING & HORNS					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	CA Screw 10 x 1/2" Black Supaflange	71080	6	Indicator assembly to indicator pod	
2	CB Screw 8 x 1/2" Black Supaflange	71077	2	Side repeater earth on wingstay	
3	CC Screw 12 x 1 1/4" Self tapping	71079	4	Rear light cluster upper fixing	
4	CD Screw 12 x 1" Self tapping	71078	4	Rear light cluster lower fixing	
5	CE Nyloc Nut M6	NMYF6	2	Horn bracket to steering rack platform (160/270/310)	
6	CF Plain Washer 3/4" Heavy duty	WPH1/4	2	Horn bracket to steering rack platform (160/270/310)	
7	CG Bolt M8 x 5 Grade 8.8	BM8X50	1	Through steering rack platform & spacer (420)	
8	CH Plain Washer 5/16"	WPH5/16	2	Bolt head/nut	
9	CI Nyloc Nut M8	NMYF8	1	Horn bolt	

Drawings are for illustrative purposes only and are not to scale.








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FIXING PACKS

Pack D		CATERHAM		SERIAL NUMBER	44
				PACK NUMBER	30C047B
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	DA Bolt M8 X 50 Grade 8.8	BM8X50	1	Expansion tank bracket to chassis	
2	DB Setscrew 1/4" X 3/4"	SF1/4X3/4	1	Expansion tank to bracket	
3	DC Setscrew M8X20 Grade 8.8	SM6X20	4	SV radiator bracket	
4	DD Bolt M6 X 16 with square section	30Z1072A	4	Fan brackets to fan	
5	DE Setscrew M6X16 Panhead Pozi	SPHM6X16	4	Fan to radiator cowling - SV only	
6	DF Nyloc Nut M6	NMYF6	8	x4 Fan to radiator x4 SV radiator bracket	
7	DG Plain Nut M8	NMPF8	8	Radiator bobbin	
8	DH Nyloc Nut 1/4"	NFYF1/4	1	Expansion tank bracket	
9	DI Plain Washer 1/4" Heavy duty	WPH1/4	13	8 x SV rad bracket 4 x Fan fixings 1 x Expansion tank bracket	
10	DJ Plain Washer 5/16" Heavy duty	WPH5/16	4	Radiator bobbin back	
11	DK Plain Washer 5/16" x 7/8" Heavy duty	WPH5/17X7/8	4	Radiator bobbin front	

Drawings are for illustrative purposes only and are not to scale.







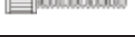
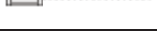
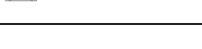

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Pack D		CATERHAM		SERIAL NUMBER	44
				PACK NUMBER	30C047B
COOLING SIGMA					
This pack may include extra fasteners to cover different options					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	DL Plain Washer 1/4" x 7/8" Heavy duty	WPH1/4X7/8	1	Expansion tank bracket	
13	DM Spring Washer 5/16" Heavy duty	WSH5/17	9	8 x Radiator bobbin 1 x Expansion tank	
14	DN Hose Clip 30 - 40mm	SGT25-40	6	2 x U shape hose to water rail 2 x Top radiator hose 2 x Bottom radiator hose	
15	DO Hose Clip 23 - 35mm	SGT23-35	2	1 x Engine outlet to big T piece 1 x Engine outlet to heater inlet	
16	DP Hose Clip 17 - 25mm	SGT16-25	18	6 x Heater inlet/outlet 3 x Big T-piece 1 x Expansion tank 2 x Modine 4 x Dry Sump 2 x Submarine	
17	DQ Hose Clip 8 - 16mm	SGT8-16	6	Expansion tank small T-piece	
18	DR Rivet - Black 5/32" X 0.47"	1610-01015	12	Cowling flap	












Drawings are for illustrative purposes only and are not to scale.

Page 1 of 2

FIXING PACKS









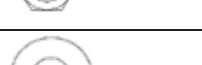


Pack E		CATERHAM		SERIAL NUMBER	66
				PACK NUMBER	3EZ1105F
SIGMA GEARBOX 5 SPEED					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	EA Bolt M14 X 40 Grade 12.9	3EZ1137A	2	AV Mount	
2	EB Caphead Bolt M8 X 40 Grade 12.9	30Z1076A	4	AV Mount	
3	EC Caphead Bolt M12 X 50 Grade 12.9 Coarse Thread	3EZ1142A	4	Gearbox	
4	ED Caphead Bolt M10 X 60 Grade 12.9	BMCH10X60	4	1 x Bellhousing 3 x Starter Motor	
5	EE Caphead Bolt M10 X 55 Grade 12.9	BMCH10X55	3	Bellhousing	
6	EF Caphead Bolt M10 X 40 Grade 12.9	BMCH10X40	3	Bellhousing	
7	EG Caphead Bolt M10 X 35 Grade 12.9	BMCH10X35	2	Engine Mount RHS Top	
8	EH Caphead Bolt M8 X 25 Grade 12.9	BMCH8X25	2	Engine Mount 1 x LHS Top 1 x LHS Bottom	
9	EI Caphead Bolt M8 X 30 Grade 12.9	BMCH8X30	1	Engine Mount LHS Bottom	
10	EJ Caphead Bolt M8 X 35 Grade 12.9	BMCH8X35	2	Engine Mount RHS Bottom	
11	EK Caphead Bolt M6 X 25 Grade 12.9	BMCH6X25	3	Clutch Slave Cylinder	

Drawings are for illustrative purposes only and are not to scale. Page 1 of 2

Pack E		CATERHAM		SERIAL NUMBER	66
				PACK NUMBER	3EZ1105F
SIGMA GEARBOX 5 SPEED					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	EL Buttonhead Bolt M6 X 10 Grade 10.9 Internal Hex	3GZ1163A	3	Gear Lever	
13	EM Plain Washer M14	WPH14	2	AV Mount	
14	EN Plain Washer M12	30Z2031A	4	Gearbox	
15	EO Plain Washer M6	WPHM6	3	Gear Lever	
16	EP Plain Washer 5/16"	WPH5/16	8	AV Mount	
17	EQ Spring Washer M12	WSHM12	4	Gearbox	
18	ER Spring Washer M10	WSHM10	10	x 7 Bellhousing 3 Engine Mount	
19	ES Wire Spring Washer M10	WSHM10	3	Starter Motor	
20	ET Spring Washer M8	WSHM8	5	Engine Mount	
21	EU Spring Washer M6	WSHM6	3	Clutch Slave Cylinder	
22	EV Myloc Nut M8	NMYF8	4	AV Mount	
23	EW Spring Washer M14	30Z2030A	2	AV Mount	






Drawings are for illustrative purposes only and are not to scale. Page 2 of 2

FIXING PACKS

Pack F		CATERHAM		SERIAL NUMBER 66	
				PACK NUMBER	
				3EZ2029B	
DURATEC GEARBOX 5 SPEED					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	FA Bolt M14 X 30 X 1.5 Grade 12.9	30Z2032A	2	AV Mount	
2	FB Caphead M12 X 40 X 1.75 Grade 12.9	BMCH12X40	4	Bellhousing	
3	FC Caphead Bolt M10 X 90 Grade 12.9	BMCH10X90	1	Bellhousing	
4	FD Caphead Bolt M10 X 55 Grade 12.9	BMCH10X55	3	Bellhousing	
5	FE Caphead Bolt M10 X 45 Grade 12.9	BMCH10X45	7	x 5 Bellhousing x 2 Starter Motor	
6	FF Caphead Bolt M8 X 40 Grade 12.9	30Z1076A	4	AV Mount	
7	FG Caphead Bolt M6 X 25 Grade 12.9	BMCH6X25	3	Clutch Release Bearing	
8	FH Buttonhead Bolt M6 X 10 Grade 10.9 Internal Hex	3GZ1163A	3	Gear Lever	
9	FI Nyloc Nut M8	NMYF8	4	AV Mount	
10	FJ Plain Washer M14	WPH14	2	AV Mount	
11	FK Plain Washer M12	30Z2031A	4	Bellhousing	

Drawings are for illustrative purposes only and are not to scale.

Page 1 of 2

Pack F		CATERHAM		SERIAL NUMBER 66	
				PACK NUMBER	
				3EZ2029B	
DURATEC GEARBOX 5 SPEED					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	FL Plain Washer M6	WPHM6	3	Gear Lever	
13	FM Spring Washer M14	30Z2030A	2	AV Mount	
14	FN Spring Washer M12	WSHM12	4	Gearbox	
15	FO Spring Washer M10	WSHM10	4	x 2 Starter Motor x 2 Front Bellhousing	
16	FP Spring Washer M6	WSHM6	3	Clutch Slave Cylinder	

Drawings are for illustrative purposes only and are not to scale.

Page 2 of 2

FIXING PACKS




Pack **G**

CATERHAM

SERIAL NUMBER	56
PACK NUMBER	30X020B

EXHAUST

This pack may include extra fasteners to cover different options

ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	GA Setscrew M8 X 25 Grade 8.8	SM8X25	1	Exhaust Mounting Bracket	
2	GB Plain Nut M8	NFPF8	2	Exhaust Bobbin	
3	GC Spring Washer M8	WSHM8	3	x 1 Exhaust Mounting Bracket x 2 Exhaust Bobbin	

Drawings are for illustrative purposes only and are not to scale.

Page 1 of 1

FIXING PACKS

Pack H		CATERHAM		SERIAL NUMBER 53	
				PACK NUMBER	
				30R011D	
REAR SUSPENSION DEDION METRIC					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	HA Bolt M12 X 100 Grade 10.9	BM12X100	2	A-frame front mountings	
2	HB Caphead Bolt M10 X 65	BMCH10X65	2	Front radius arm (through cockpit)	
3	HC Bolt 1/2" X 2.1/2" Grade 10.9	BF1/2X2.1/2	4	x 2 Lower Rear Damper 2 Rear Radius Arm	
4	HD Bolt M6 X 80 Grade 10.9	BM6X80	4	Rear Anti Roll Bar Mounting Blocks	
5	HE Bolt 1/2" X 2.3/4" Grade 10.9	BF1/2X2.3/4	1	A-frame to DeDion	
6	HF Half Nyloc 1/2" UNF	NFYH1/2	3	x 2 Rear Radius Arm 1 A-frame to DeDion	
7	HG Nyloc Nut M12	NMYF12	2	A-frame front mounts	
8	HH Nyloc Nut M10	NMYF10	2	Front radius arm (through cockpit)	
9	HI Half Nyloc M8	NMYH8	2	Rear Anti Roll Bar Drop Link	
10	HJ Nyloc Nut M6	NMYF6	4	Rear Anti Roll Bar Mounting Blocks	
11	HK Nyloc Nut 1/4"	NFYF1/4	1	3 - way union on DeDion tube	

Drawings are for illustrative purposes only and are not to scale.








Page 1 of 2



Pack H		CATERHAM		SERIAL NUMBER 53	
				PACK NUMBER	
				30R011D	
REAR SUSPENSION DEDION METRIC					
<i>This pack may include extra fasteners to cover different options</i>					
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
12	HL Washer	79029	10	Differential Isolation	
13	HM Plain Washer 1/2" Chamfered	WPH1/2	20	x 2 Lower Damper x 10 A-frame washers 4 Radius Arm	
14	HN Plain Washer 3/8" X 7/8"	WPH3/8X7/8	2	Front Radius Arm	
15	HO Plain Washer M6	WPHM6	4	Rear Anti Roll Bar Mounting Block	
16	HP Schnorr Washer M12	30Z1069A	2	Lower Damper	

Drawings are for illustrative purposes only and are not to scale.



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FIXING PACKS

Pack J		CATERHAM			SERIAL NUMBER 47	
					PACK NUMBER 30P010A	
ROLL OVER & TRACK DAY BAR SERIES 3 METRIC						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	JA Bolt M10 X 60 Grade 8.8	BM10X60	2	Rear diagonals of roll over bar to mounting brackets		
2	JB Setscrew M8 X 20 Grade 8.8	SM8X20	2	Roll over bar bracket to chassis		
3	JC Caphead Bolt M10 X 20	BMCH10X20	2	Roll over bar boss		
4	JD Nyloc Nut M10	NMYF10	2	Rear diagonals of roll over bar to mounting brackets		
5	JE Plain Washer M8	WPHM8	2	Roll over bar bracket to chassis		
6	JF Spring Washer M8	WSHM8	2	Roll over bar bracket to chassis		
7	JG Plain Washer M10	WPHM10	4	Rear diagonals of roll over bar to mounting brackets		
Drawings are for illustrative purposes only and are not to scale.					Page 1 of 1	

Pack O		CATERHAM			SERIAL NUMBER	
					PACK NUMBER ZWS01	
WING PROTECTORS STAINLESS STEEL						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	OA Rivet 1/8" X 0.51"	1661-0414	30	Wing protector to wing		
2	OB Wing Piping	76901	2m	Between wing protector and wing		
Drawings are for illustrative purposes only and are not to scale.					Page 1 of 1	

FIXING PACKS

Pack P		CATERHAM			SERIAL NUMBER PACK NUMBER ZWS02	
WING PROTECTORS CARBON FIBRE						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	PA	Rivet Black 1/8" X 0.51"	1610-01049	30	Wing protector to wing	
2	PB	Wing Piping	76901	2m	Between wing protector and wing	
Drawings are for illustrative purposes only and are not to scale.					Page 1 of 1	

Pack Q		CATERHAM			SERIAL NUMBER 31 PACK NUMBER ZFG12	
REAR WINGS						
<i>This pack may include extra fasteners to cover different options</i>						
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	QA	Set Screw M5 X 20	SM5X20	20	Rear Wings	
2	QB	Nyloc Nut M5	NMYF5	10	Rear wings through boot	
3	QC	Plain Washer 3/16" X 3/4"	WP3/16X3/4	30	Wing washers	
4	QD	Wing Piping 1/4" X 1"	76902	4m	Between wing and body	
Drawings are for illustrative purposes only and are not to scale.					Page 1 of 1	

CATERHAM

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65. PPF

Tip	Source	Original
Can the PPF wrap underneath the side panels (prevent corrosion from creeping from damage on underside).		
XPEL material recommended.		

66. PBC/IVA Check

Tip	Source	Original
Harness bolts require 3 threads visible (bolt coming through retainer)	Simon Bennett	Link
Check for the correct mounting bolt to be used in engine mounting braces	Simon Bennett	Link
Wiring / cooling tubing tidied up – use spacer tubes to hold tubes apart	Simon Bennett	Link
Check copper washers not offset in the brake line connectors	Simon Bennett	Link
Check brake lines not kinked	Simon Bennett	Link
Lambda sensor wiring tidy	Simon Bennett	Link
Use sufficient bonding agent on wingstays	Simon Bennett	Link
Oil pipe fixings – check routing / kinks – keep away from aux belt	Simon Bennett	Link
Wiring / Plumbing tidied up	Simon Bennett	Link

67. Subject

Tip	Source	Original

68. Tool List:

- Vernier callipers
- Multimeter
- Heat shrink gun / materials (7/10/13 mm)
- Rubber lubricant (Halfords or WD-40 PTFE Lubricant)
- Loctite 243
- Dinitrol 3125 HS
- 10mm heatshrink (black)
- 400 Grade wet & dry
- Marker pen – uni posca (semi-permanent)
- Mikalor Stainless Steel hose clamps
- POR15 chassis paint (to touch up)
- Grease gun (for propshaft)
- Tesa Aluminium tape
- Castrol multipurpose LM grease (Prop UJ)
- Engine Enamel (touch up the Diff)
- Anti-fretting compound (SKF LGAF 3E/0.035)

69. Questions:

1. Drill work for Oil Catch Bottle? (Very tight space – factory?)
2. Run-in period?
3. Servicing:
 - a. Engine Oil?
 - b. Gearbox Oil?
 - c. Transmission Oil?
 - d. Brake Fluid?
4. Use heated seats dashboard switch for Oil/Water temp gauge? ([Obadiah7](#))
5. Pedal Box positions?
6. Consider replacing 12V socket with USB port
https://www.amazon.co.uk/dp/B08F37WPDN/ref=syn_sd_onsite_desktop_234?ie=UTF8&pd_rd_plhdr=t&th=1
7. Earth cable from chassis to engine??
8. Is it worth fitting the oil cooling hoses to the radiator before fitting it in the chassis?