

# CATERHAM®



DURATEC - EDITION 2.3

# 

#### ASSEMBLY GUIDE

DURATEC - EDITION 2.3

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

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

For help and support with IVA and registrations contact: ivaapplications@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 <u>downloaded from the Caterham website</u>. 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 IVA and Registration application forms, and a guide on how to complete them, are sent out on request when you are midway or nearing completion of your build. Please email **ivaapplications@caterham.com** for a copy of your prefilled documents.



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<sup>\*</sup>). 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.

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



#### **MY BUILD NOTES**

Download the IVA Checklist Guide: www.caterhamcars.com	
Book IVA Test	
Take plenty of photos	
Arrange post build check	
	This was more fun than I ever expected!

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. 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** 

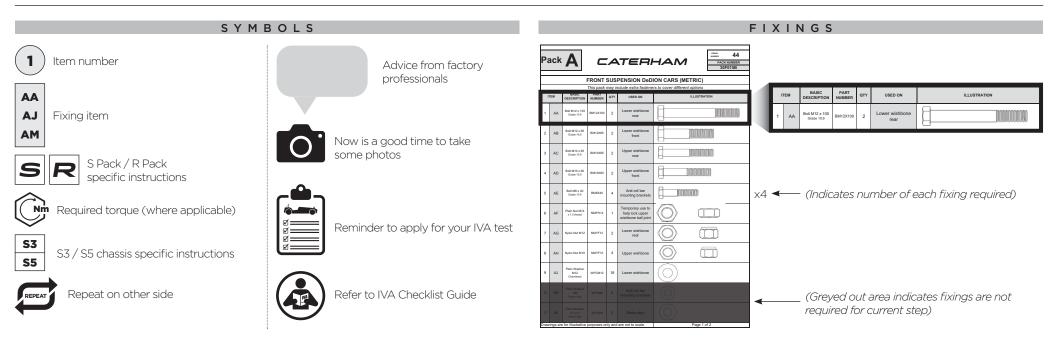
A bolt size is described by its diameter (e.g. M10=10mm) by the length not including the head (e.g. 65mm). James A A 'spring washer' has a split in it and squashes up closed when a fixing is tightened. It is usually used under a bolt head to help resist it coming undone. John S

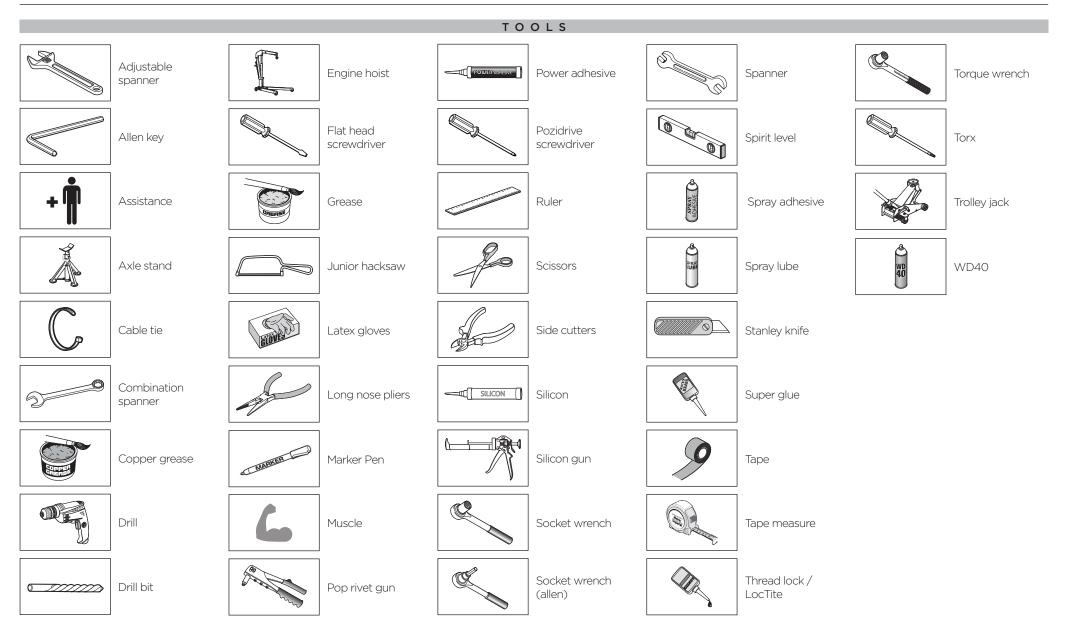
Matt T





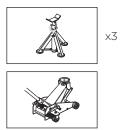
Speak to an expert buildsupport@caterham.com





#### LET'S GET READY

#### PARTS

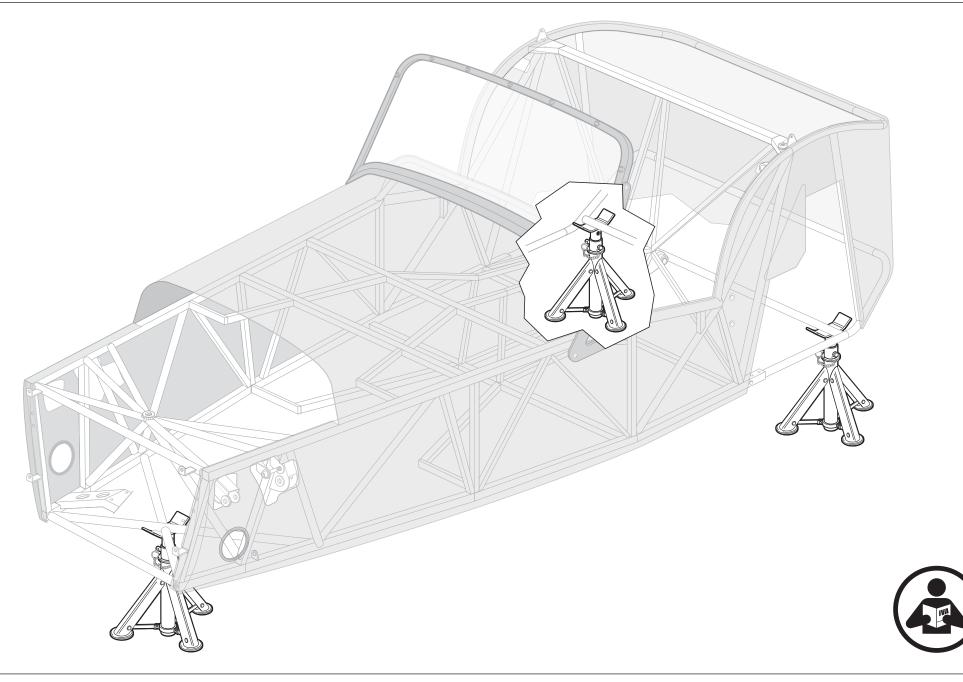


#### FIXINGS

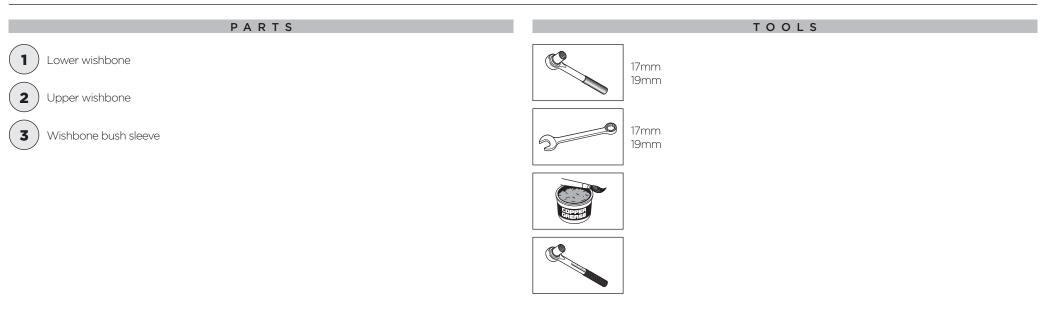
#### TIPS

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



#### START WITH THE SUSPENSION WISHBONES



#### FIXINGS

						ION CARS (METRIC) ars to cover different options	
п	ЕM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	AA	Bolt M12 x 100 Grade 10.9	BM12X100	2	Lower wishbone rear		X2
2	AB	Bolt M12 x 65 Grade 10.9	BM12X65	2	Lower wishbone front		X2
3	AC	Bolt M10 x 65 Grade 10.9	BM10X65	2	Upper wishbone rear		Xź
4	AD	Bolt M10 x 60 Grade 10.9	BM10X60	2	Upper wishbone front		Xź
5	AE	Bolt M8 x 40 Grade 10.9	BM8X40	4	Anti-roll bar mounting brackets		
7	AG	Nyloc Nut M12	NMYF12	2	Lower wishbone rear	$\bigcirc$ $\square$	X
8	АН	Nyloc Nut M10	NMYF10	4	Upper wishbone	$\bigcirc$ $\square$	χź
9	ΑJ	Plain Waaher M12 Chamlered	WPCM12	18	Lower wishbone	$\bigcirc$	x1
10	AK	Plain Washer M8	WPHMS	4	Anti-roll bar mounting brackets		

Pa	ack		FRONT	sus		A	
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
12	АМ	Spring Washer M12	WSHM12	2	Lower wishbone front	ð	x2
13	AN	Spring Washer Mil	WSHM8	6	Anti-roll bar mounting brackets & upper damper mount	Ø	
					Front brake, upright mounting (std track ONLY) are not to scale.	Page 2 of 2	

#### TIPS

For now, only tighten the nuts/bolts lightly and then torque them up when the car is finished and on the ground. This sets the bushes correctly and ensures the best handling.

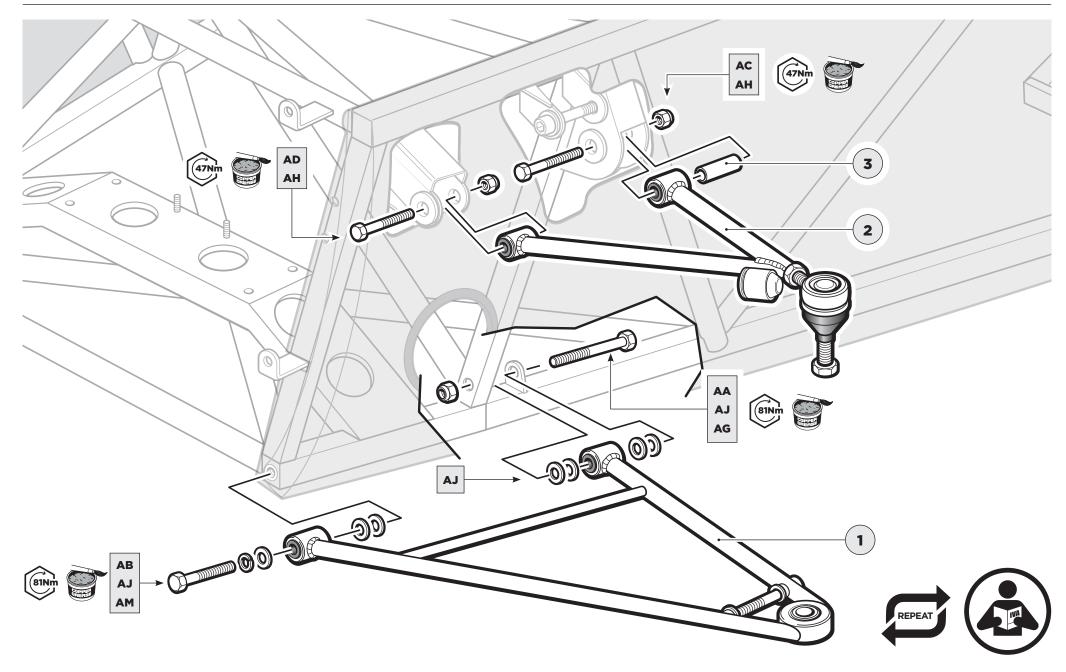
#### Harrison P

The big washers are chamfered and the chamfered side should be towards the wishbone.

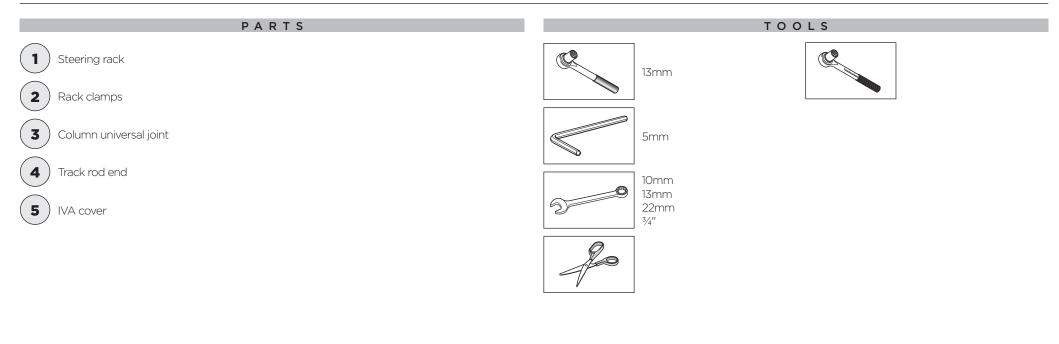
Alex H

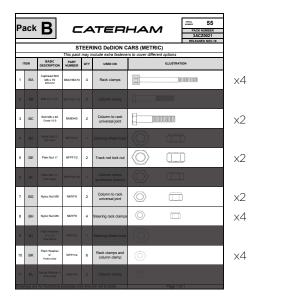
Leave bolt AD loose for now, as we have to take it back out again to put the headlight bracket on later. John K

#### **START WITH THE SUSPENSION WISHBONES**

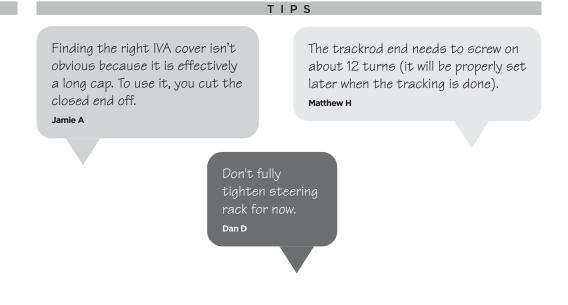


#### NOW FOR THE STEERING RACK

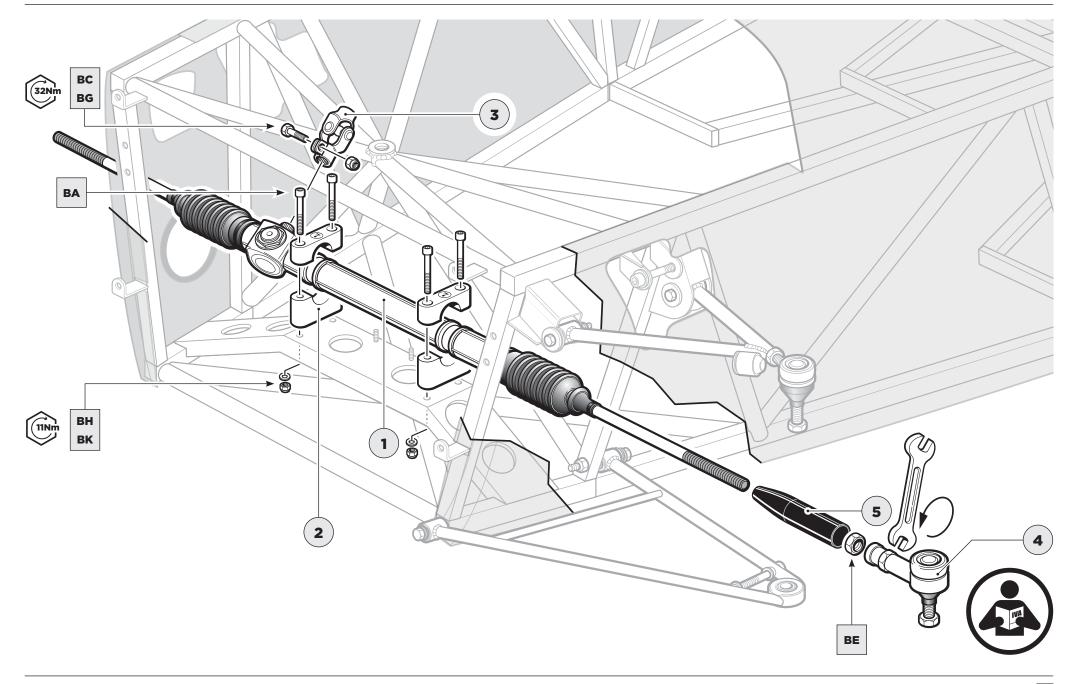




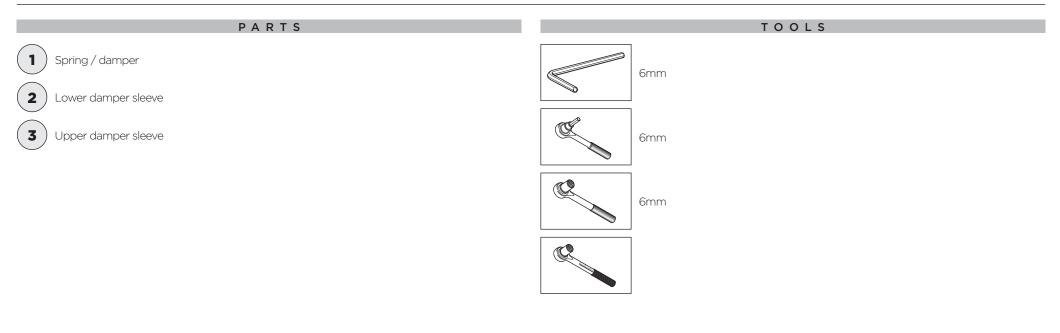
#### FIXINGS



#### NOW FOR THE STEERING RACK



#### AND THEN THE DAMPERS



#### FIXINGS

					ION CARS (METRIC) ins to cover different options		
ITEM	M BASIC PART QI		QTY	USED ON			

# Image: constraint of the second sec

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

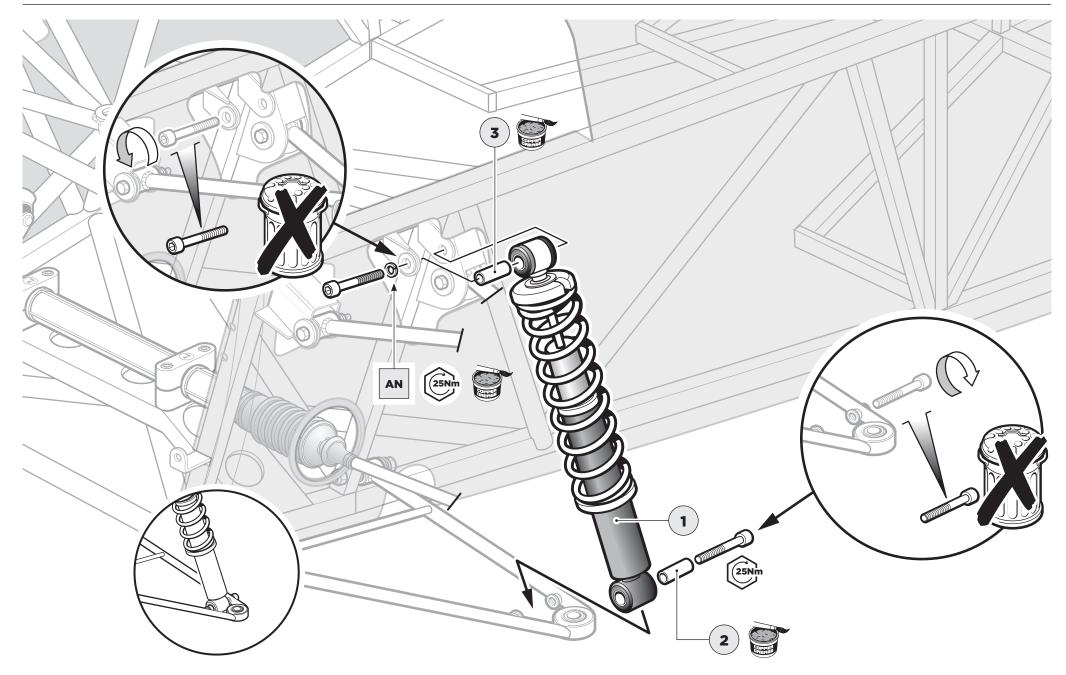
#### TIPS

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



#### IT'S TIME FOR THE WINGSTAYS

#### PARTS TOOLS 19mm 1 Wingstay 22mm 3/4" 2 Front brake & upright assembly 22mm 1/8" 0 IIIIIN

#### 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

side of the chassis.

John S

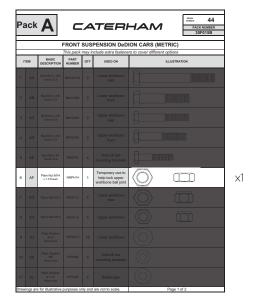
wishbone joint then attach

Some of the fixings required and shown on the drawings, such as the ball the steering before tightening the bottom nut. This stops it joint nut, are already on all swinging around hitting the the part and not in the fixing pack. Anthony L

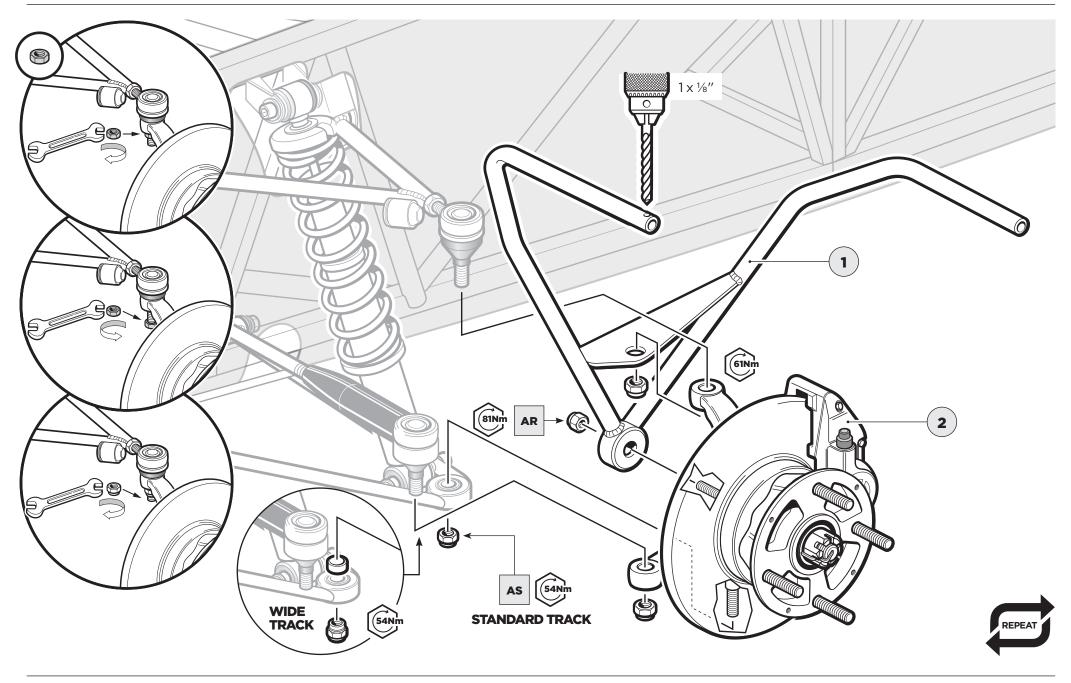
Remove and discard the washer that comes on the back of the assembly before fitting the wingstay; it's not needed. Rich T

Use the plain top ball joint home before using a nyloc, otherwise the thread will spin. Chris N

#### FIXINGS



Α				30F015B
BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
Spring Washer M12	WSHM12	2	Lower wishbone front	0
Nyloc Nut X* Half height	NFYH1/2	2	Wing stay	
Nyloc Nut X* Full height	NFYF1/2	2	Front brake, upright mounting (std track ONLY)	
	BASIC DESCRIPTION Spring Washer MI Spring Washer Mi Shake prof Nyloc Nat S <sup>2</sup> Half heght Nyloc Nat S <sup>2</sup>	This pack This pack Baccurron And Description Provide Investigation Investig	BRONT SUS           Tric pack may to           Bablico         Reff.           Bablico         Reff.	Backer         NAME         OP         Use on maximum           Backer         NAME         OP         Use on           Backer         Name         2         Amendation           Make Marker         NAME         2         Manage           Name Marker         NAME         2         Manage           Name Marker         NAME         2         Manage           Name Marker         NAME         2         Manage



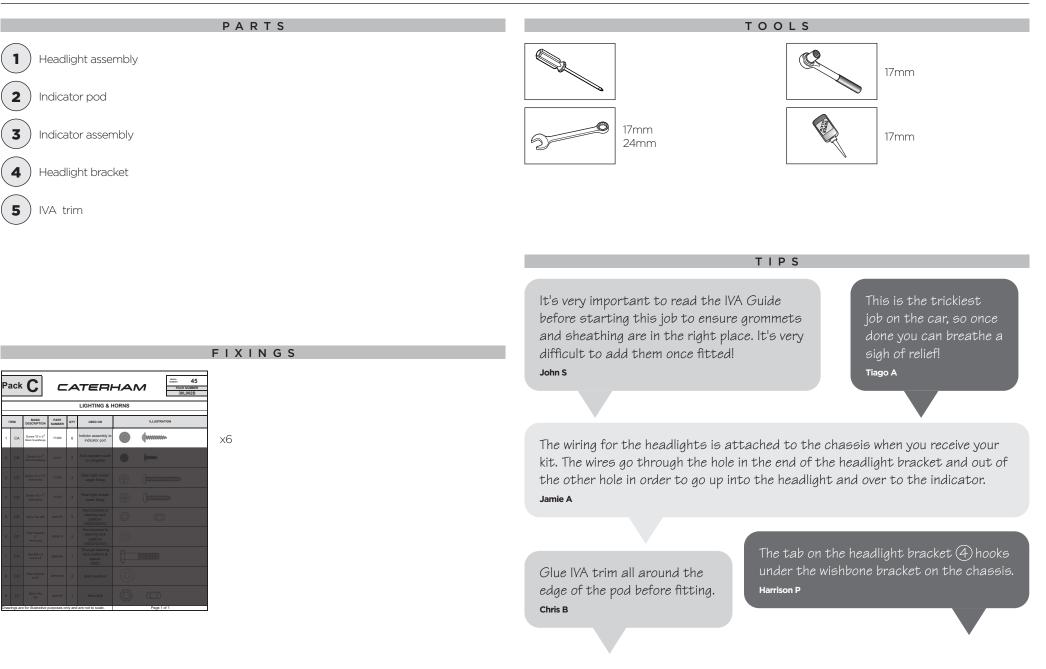


# Now is a good time to take some photos

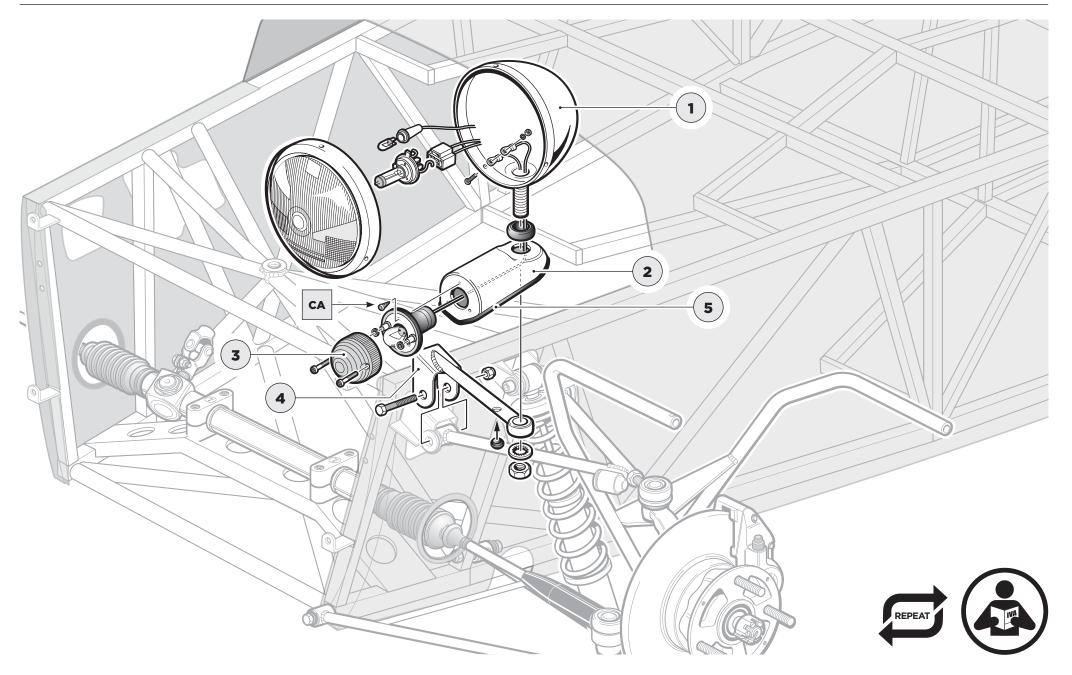


# Have you applied for your IVA yet?

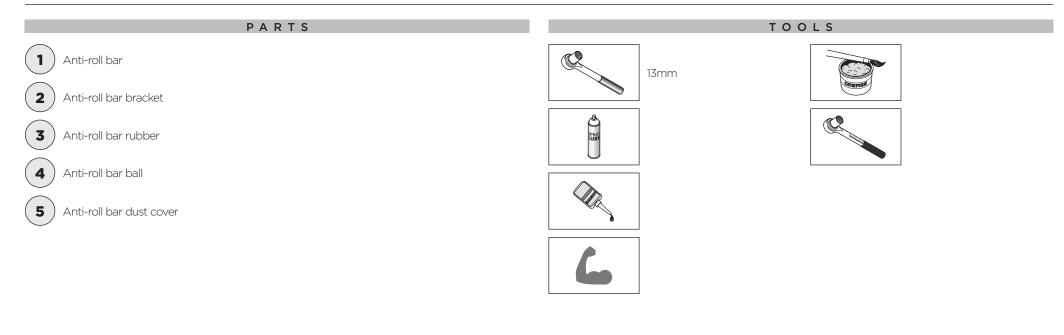
#### LET THERE BE LIGHTS



#### **LET THERE BE LIGHTS**



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

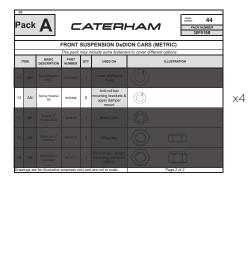


#### FIXINGS

			FRONT This pack	may ir	nclude extra fastene	rs to cover different options
m	EM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
5	AE	Bolt M8 x 40 Grade 10.9	BM8X40	4	Anti-roll bar mounting brackets	
6						
0	AK	Plain Waaher MS Heavy duty	WPHM8	4	Anti-roll bar mounting brackets	$\bigcirc$
1	AL	Plain Washer N* x N* Heavy duty	WPH3/8	2	Brake pipe	$\bigcirc$

CATERHAM

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#### Use four small cable ties to secure the dust cover. Mick F

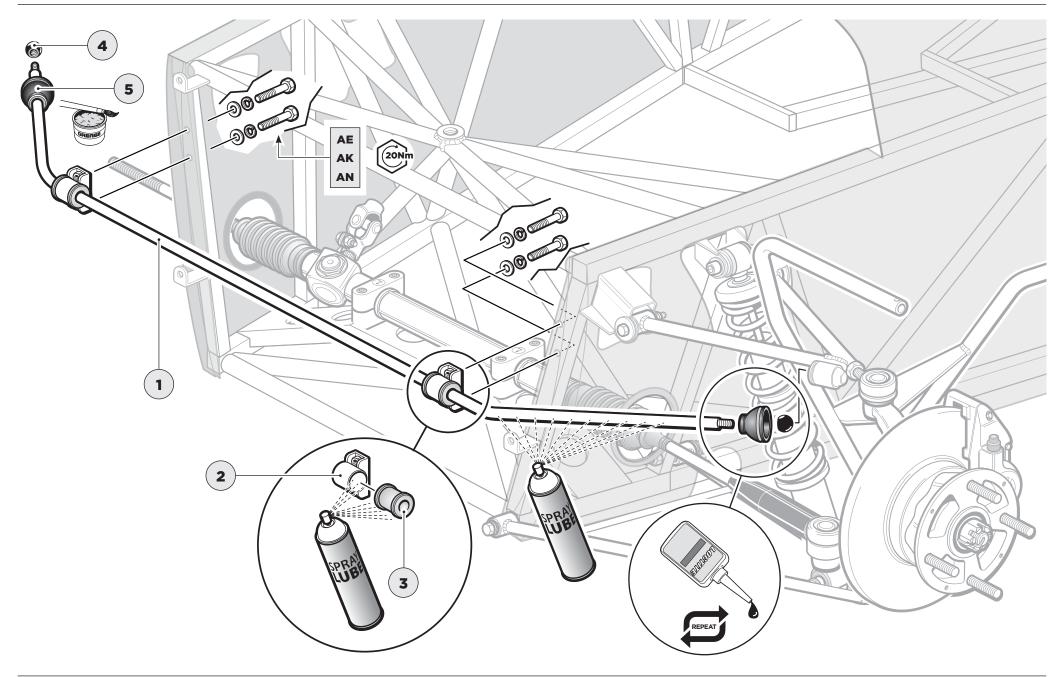
Grease the balls and cups generously. Matt T

Check that the colour of the mounting rubbers matches the colour spot on the bar.  $\ensuremath{\text{John K}}$ 

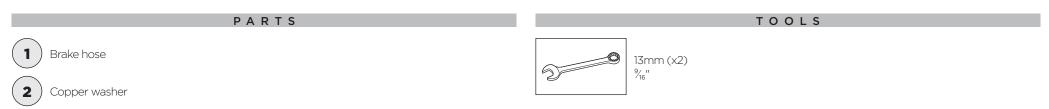
TIPS

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

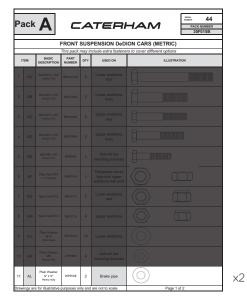
#### LAST PART OF THE FRONT SUSPENSION: CONNECTING THE TWO SIDES TOGETHER

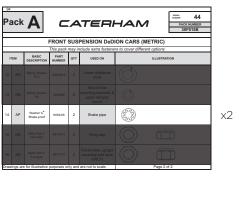


#### **FITTING THE BRAKE HOSES**



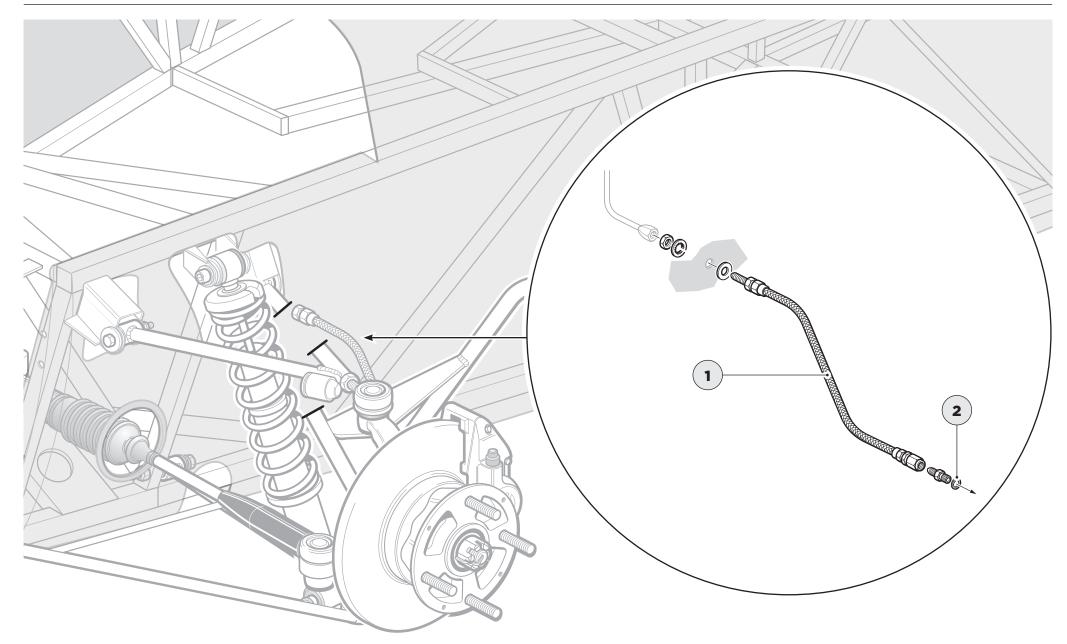
#### FIXINGS



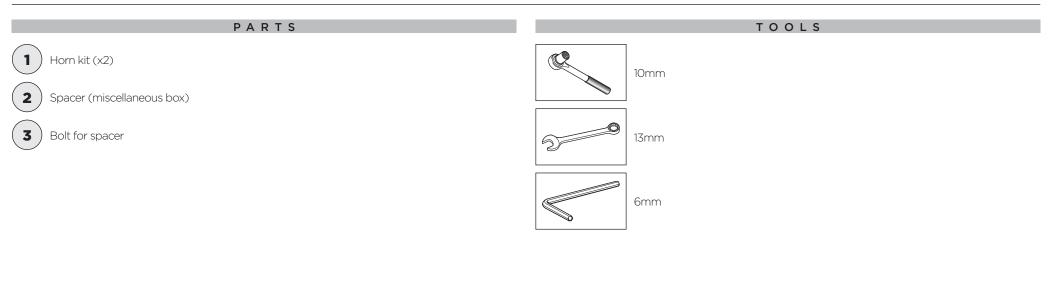


### TIPS The hose will want to curve once fitted. Make sure the curve points towards the front of the car. Khalfani D The copper washer should be this size. James A I = I = I

#### FITTING THE BRAKE HOSES



#### **LET'S MAKE SOME NOISE**



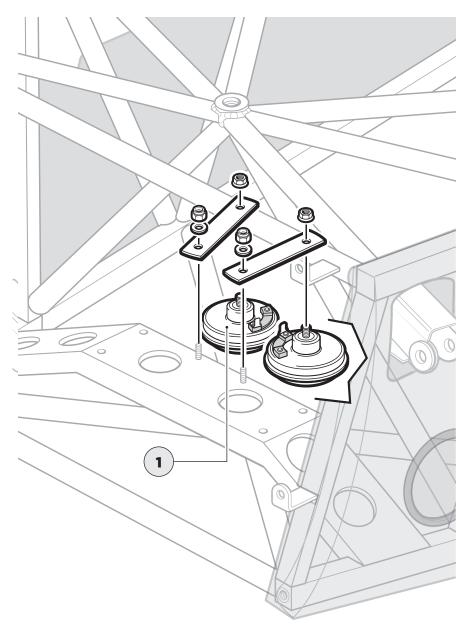
FIXINGS

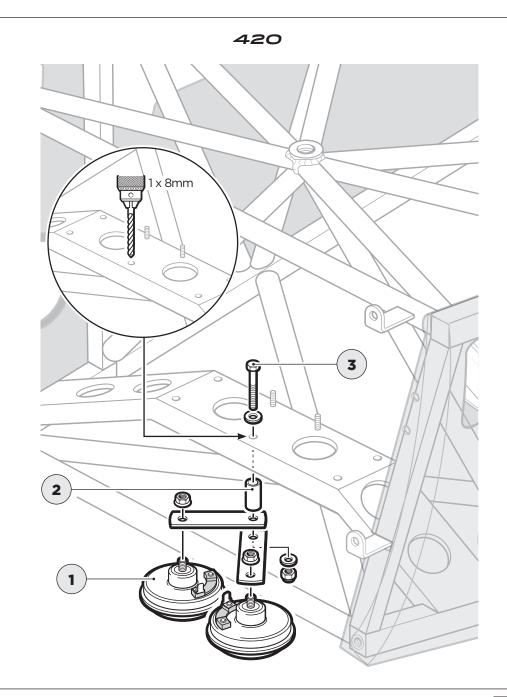
TIPS

Miscellaneous box

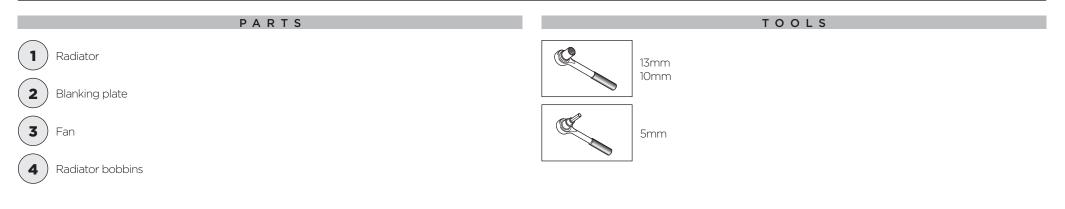
#### LET'S MAKE SOME NOISE

270/310/360





#### WET SUMP FITTING THE RADIATOR



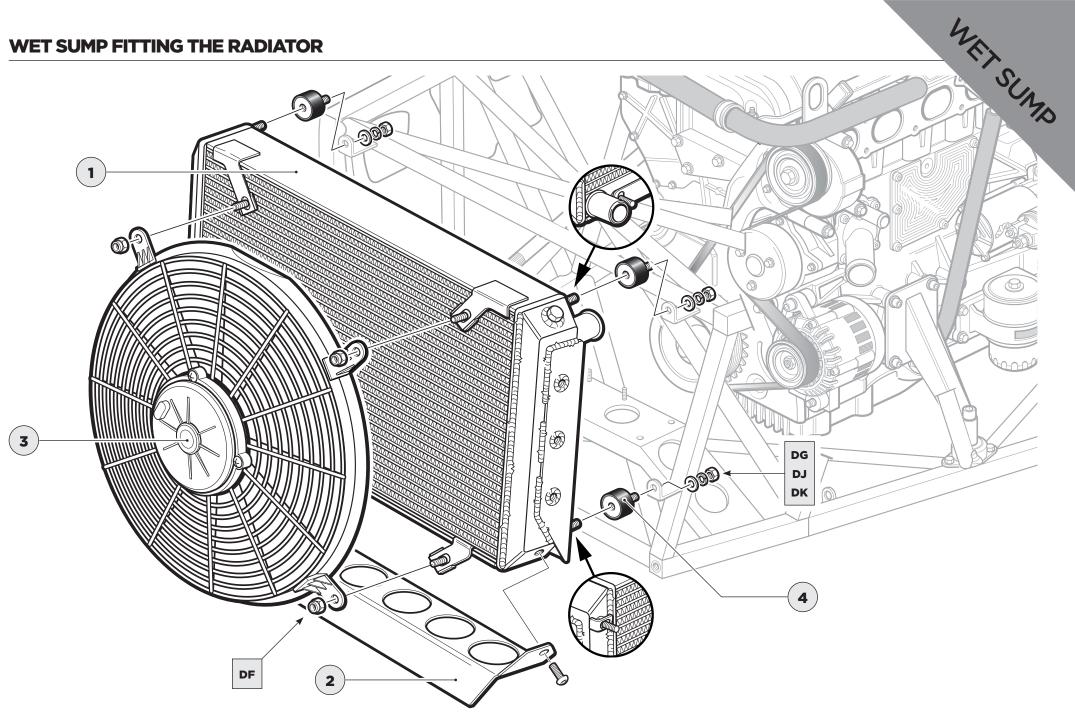
#### FIXINGS

	COOLING SIGMA This pack may include extra fasteners to cover different options									
ITEN	•	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION				
5 1	DF	Nyloc Nut M6	NMYF6	8	x4 Fan to radiator x4 SV radiator bracket	0 0				
7 6	DG	Plain Nut M8	NMPF8	8	Radiator bobbin	0				
	DH	Nyloc Nut 1/4*	NFYF14	1	Expansion tank bracket	Ð				
0	IJ	Plain Washer 5/16* Heavy duty	WPH5/16	4	Radiator bobbin back	$\bigcirc$				
1 1	DK	Plain Washer 5/16" x 7/8" Heavy duty	WPH5/17X7/8	4	Radiator bobbin front	$\bigcirc$				

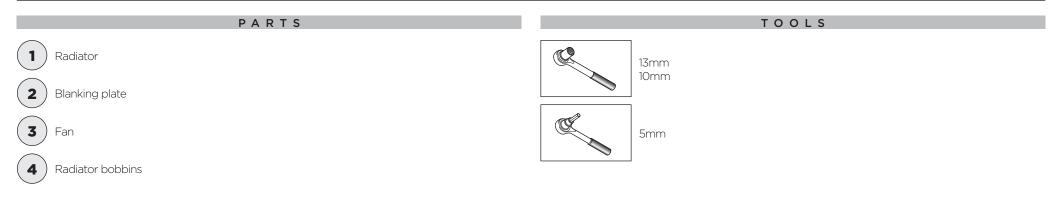
	COOLING SIGMA										
This pack may include extra fasteners to cover different options											
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION						

# Be careful to tighten the fan gently and with just a nip. The fan should have a 'flat' section on the rim. This should be at the top. Grant P Grant P The blanking plate is fitted using two M8X16 bolts, they should be in the box. James A

#### WET SUMP FITTING THE RADIATOR



# **DRY SUMP FITTING THE RADIATOR**



### FIXINGS

			This pack	may ir	COOLING SI	IGMA rs to cover different options	
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
						( <b></b>	
6	DF	Nyloc Nut M6	NMYF6	8	x4 Fan to radiator x4 SV radiator bracket	0 =	)
7	DG	Plain Nut M8	NMPF8	8	Radiator bobbin		)
10	DJ	Plain Waahar 5/18° Heavy duty	WPH5/16	4	Radiator bobbin back	$\bigcirc$	)
11	DK	Plain Waaher 5/16"x 7/8" Heavy duty	WPHS/17X7/8	4	Radiator bobbin front	$\bigcirc$	

Pa	Pack D CATERHAM 44 TACK COMMA											
This pack may include extra fasteners to cover different options												
п	EM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION						
Draw	ngs an	e for illustrative	purposes or	nly and	are not to scale.	Page 1 of 2						

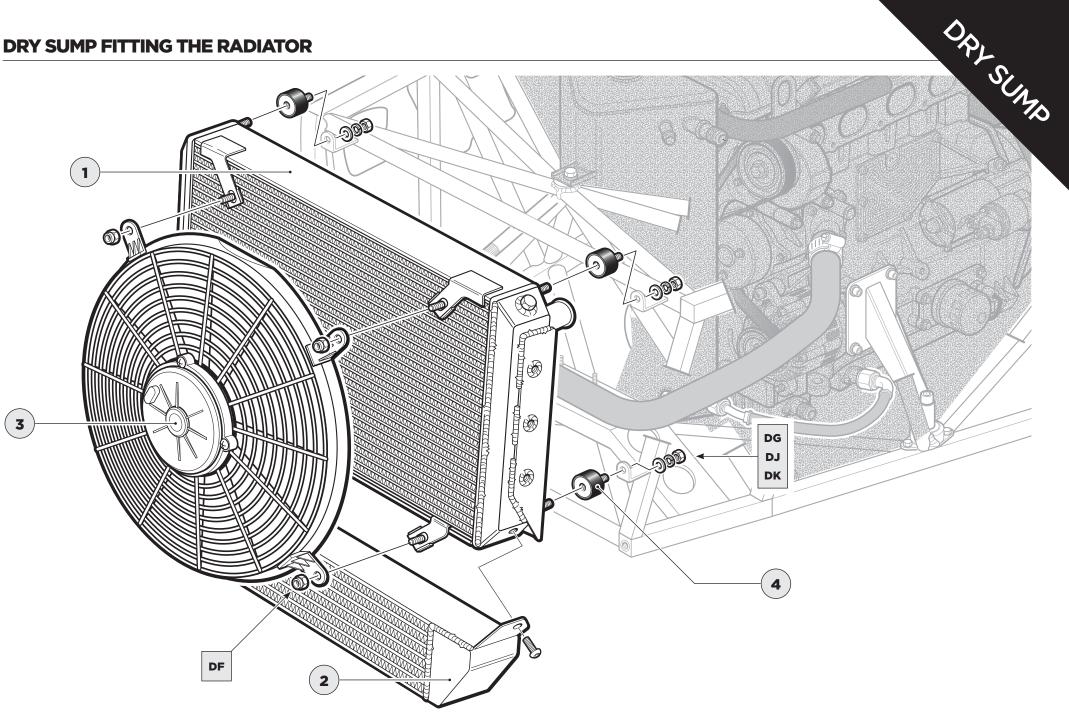
### TIPS

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

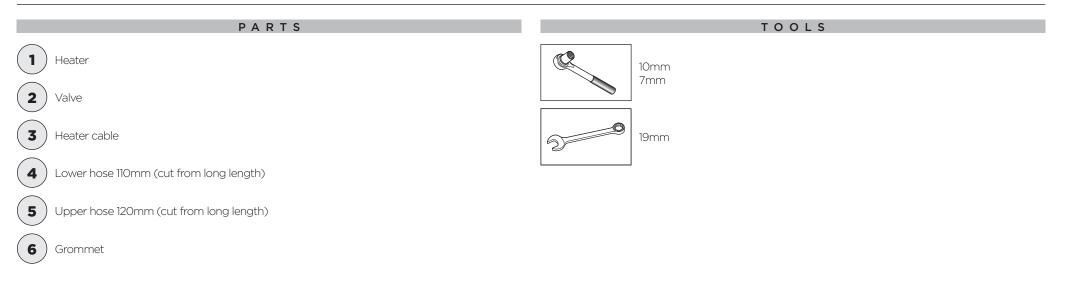
### .....

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

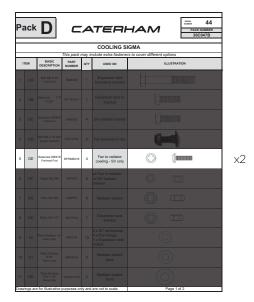
# **DRY SUMP FITTING THE RADIATOR**



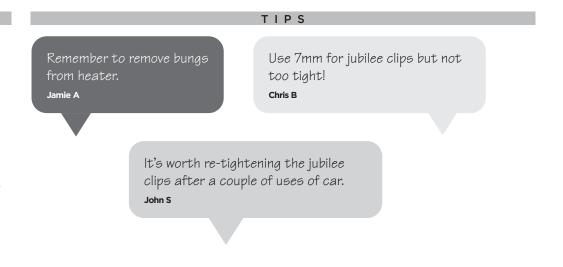
# **THINGS ARE HEATING UP**



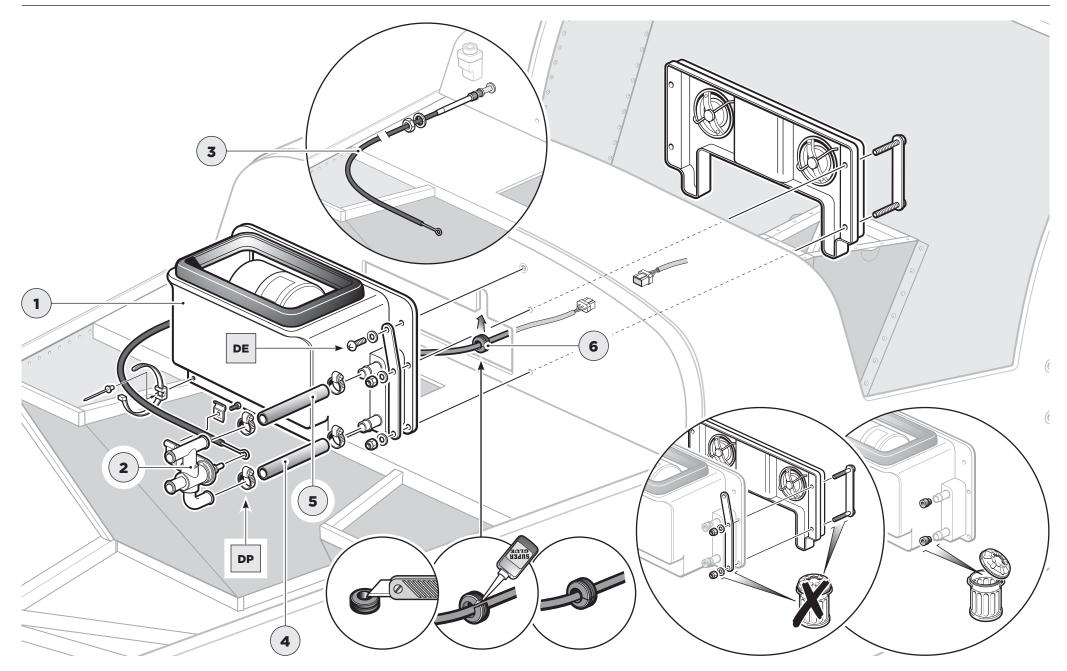
FIXINGS



COOLING SIGMA This pack may include extra fasteners to cover different options											
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	1				
16	DP	Hose Clip 17 - 25mm	SGT16-25	18	6 x Headre inteloutet 3 x Big T-piece 1 x Expansion tank 2 x Modine 4 x Dry Sump 2 x Submarine	0					
17	DQ	Hose Clip 8 - 10mm	SGT8-18	6	Expansion tank small T-piece	Ō					
Draw	ings ar	e for illustrative	aurooner o			Page 1 of 2					



## THINGS ARE HEATING UP



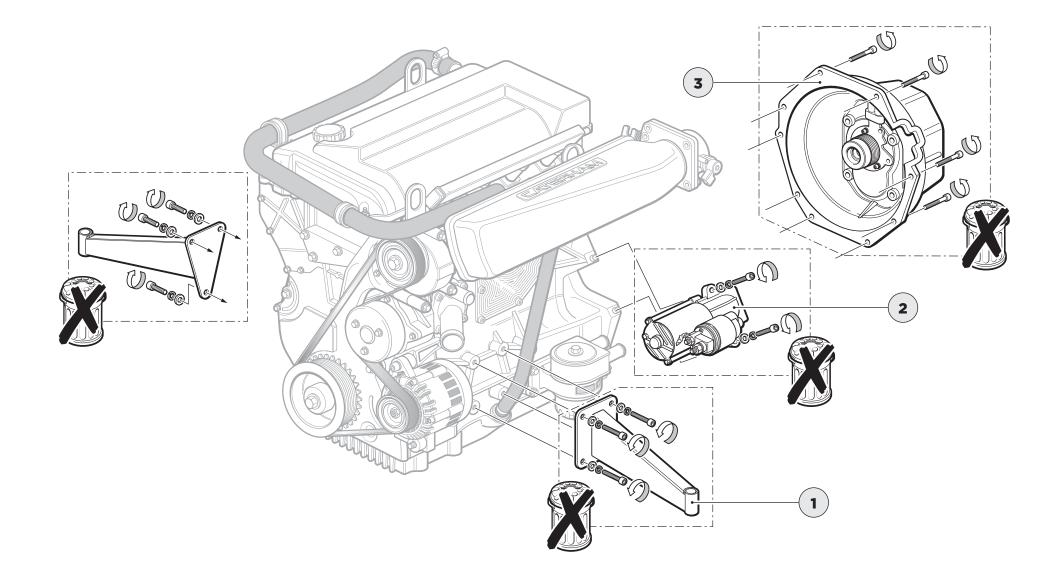
# WET / DRY SUMP REMOVE ENGINE PARTS



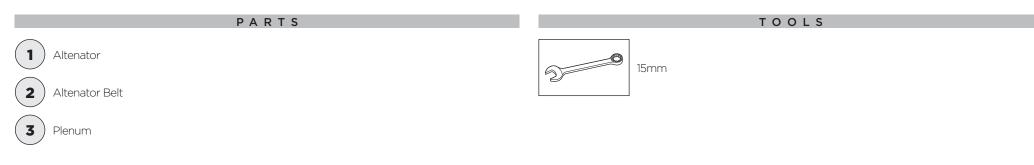
### FIXINGS

### TIPS

Remove the engine mounts, starter motor and bellhousing. <u>Mick F</u>\_\_\_\_\_ Remember where the bolts go.  $\ensuremath{\text{John S}}$ 



# WET / DRY SUMP REMOVE ENGINE PARTS



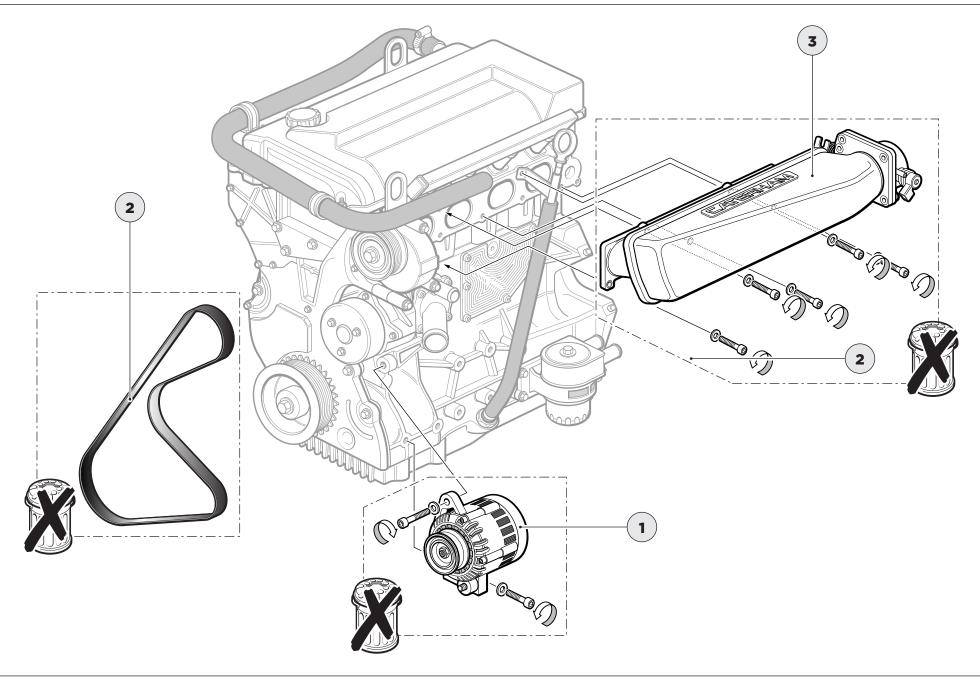
### FIXINGS

### TIPS

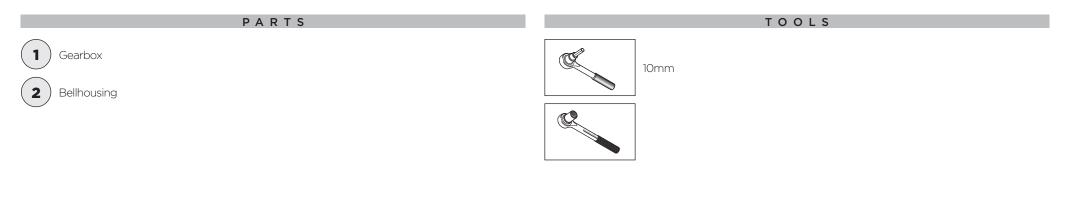
Remove altenator, altenator belt and plenum. Richard  $\ensuremath{\mathsf{T}}$ 

Remember where the bolts go.  $\ensuremath{\text{John S}}$ 

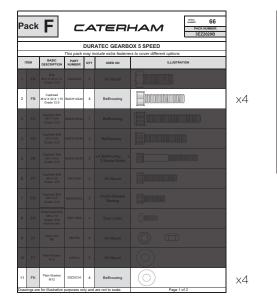
Use a 15mm spanner and turn anti-clockwise to remove altenator. Harrison P

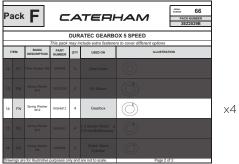


# WET / DRY SUMP ATTACH GEARBOX TO BELLHOUSING

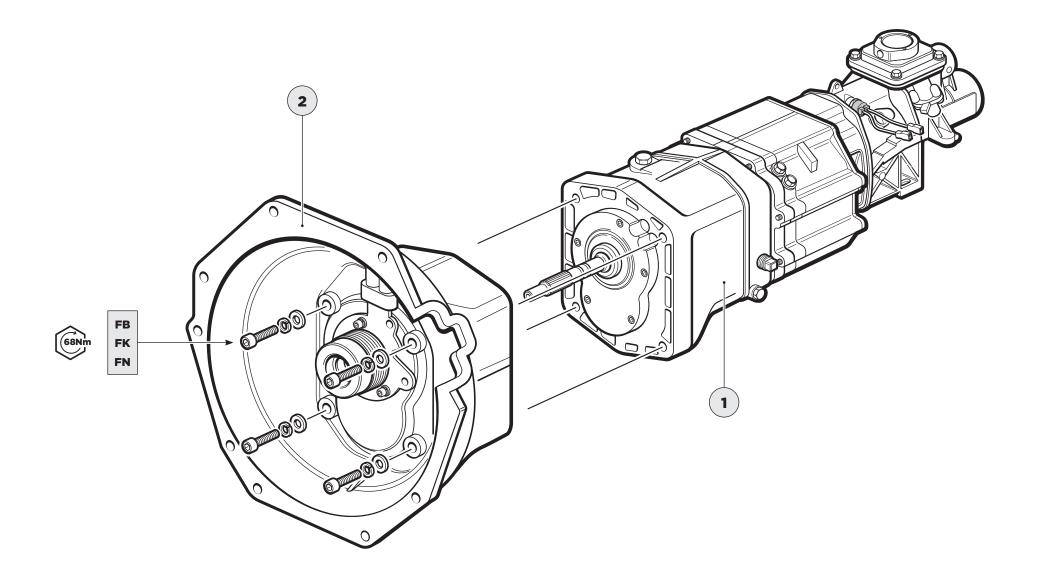


### FIXINGS

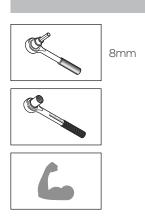




TIPS



# WET / DRY SUMP AND THEN GEARBOX TO ENGINE

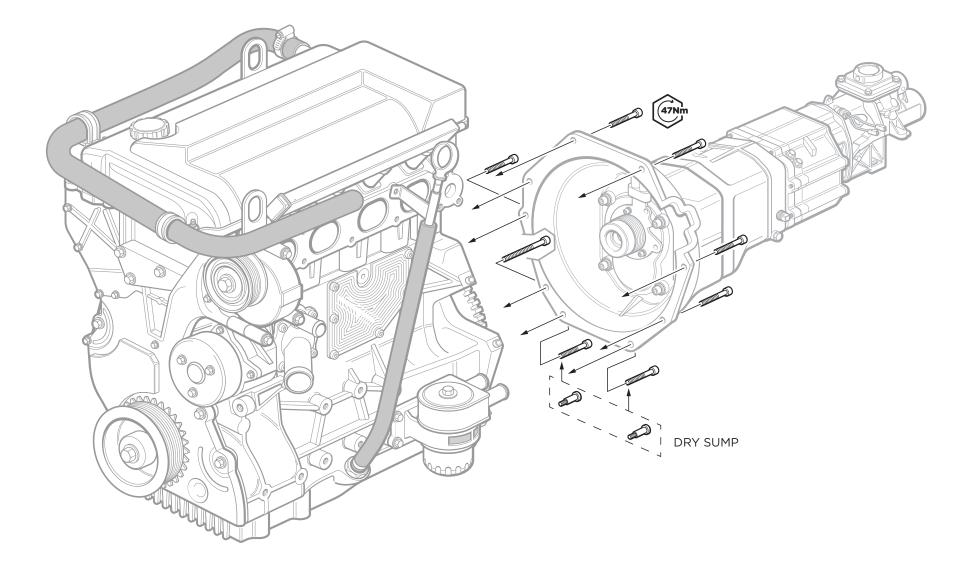


### FIXINGS

### TIPS

TOOLS

Refit bellhousing and gearbox to engine. Harrison P



# FILLING THE ENGINE AND GEARBOX WITH OIL

PARTS	TOOLS

Engine oil SW-30

Gear oil GL4

FIXINGS

TIPS



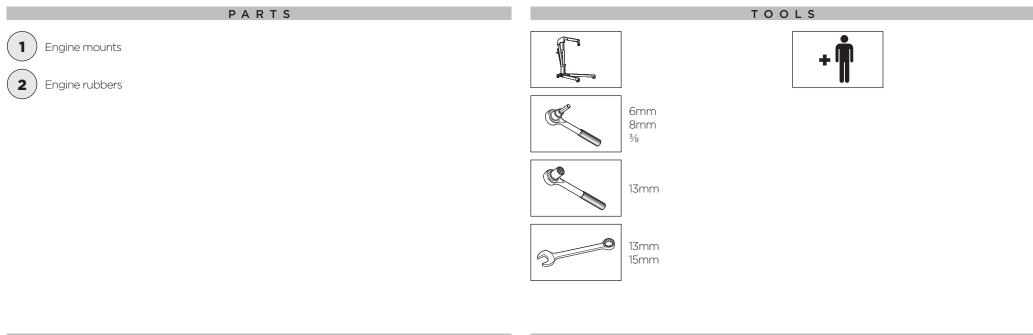


Ford 2.0L Engine Wet Sump = 4.5 Litres Dry Sump = 6.0 Litres (3 Litres in Engine, 3 Litres in Tank, top up if required)

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.

# WET / DRY SUMP AT LAST THE ENGINE IS GOING IN



### FIXINGS

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

### James A

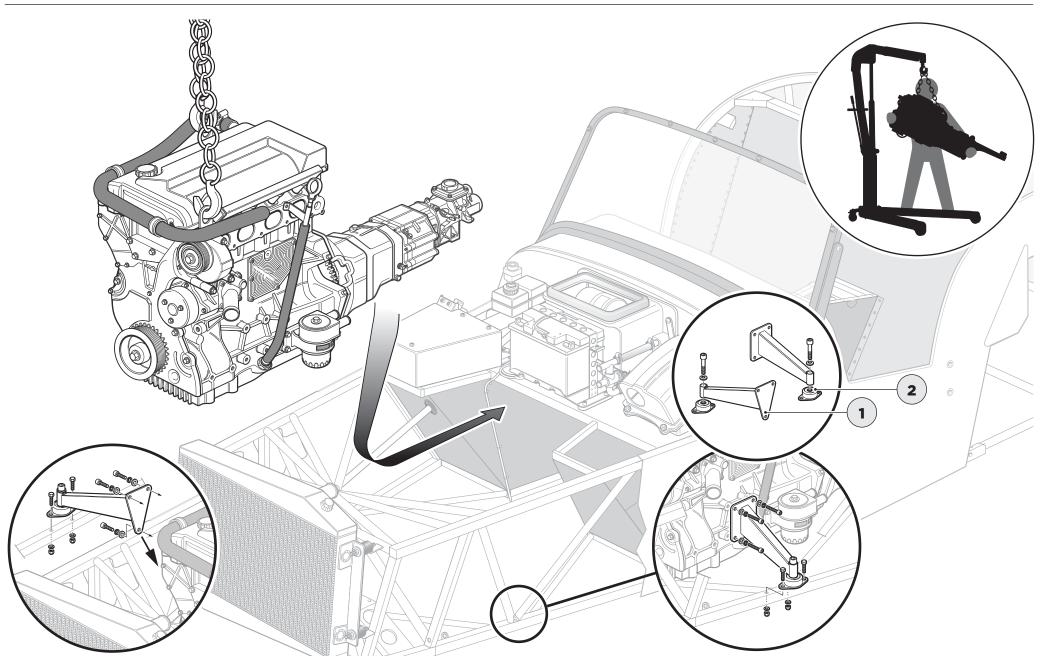
### TIPS

Tighten gradually once all bolts are in.  $\ensuremath{\textit{Chris}\,N}$ 

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

Harry P

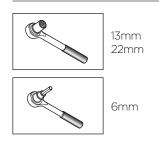
# WET / DRY SUMP AT LAST THE ENGINE IS GOING IN



# WET / DRY SUMP AND THE GEARBOX IS FIXED IN PLACE

### PARTS



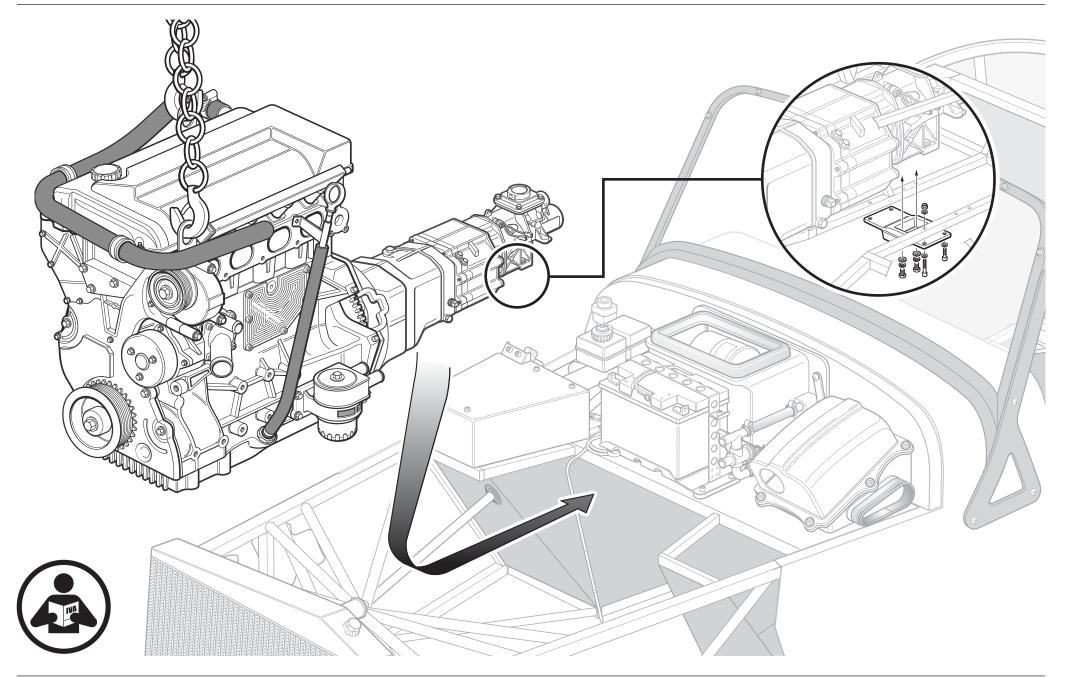


### FIXINGS

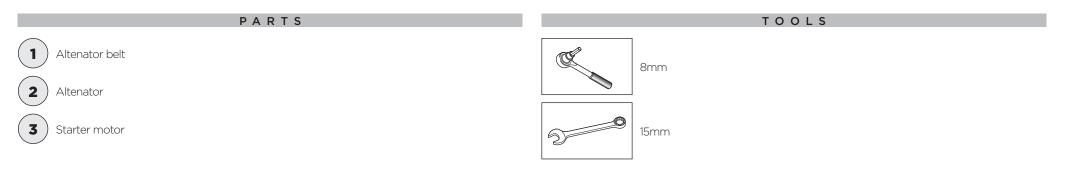
### TIPS

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



# WET / DRY SUMP REFIT ALTENATOR, BELT & STARTER MOTOR

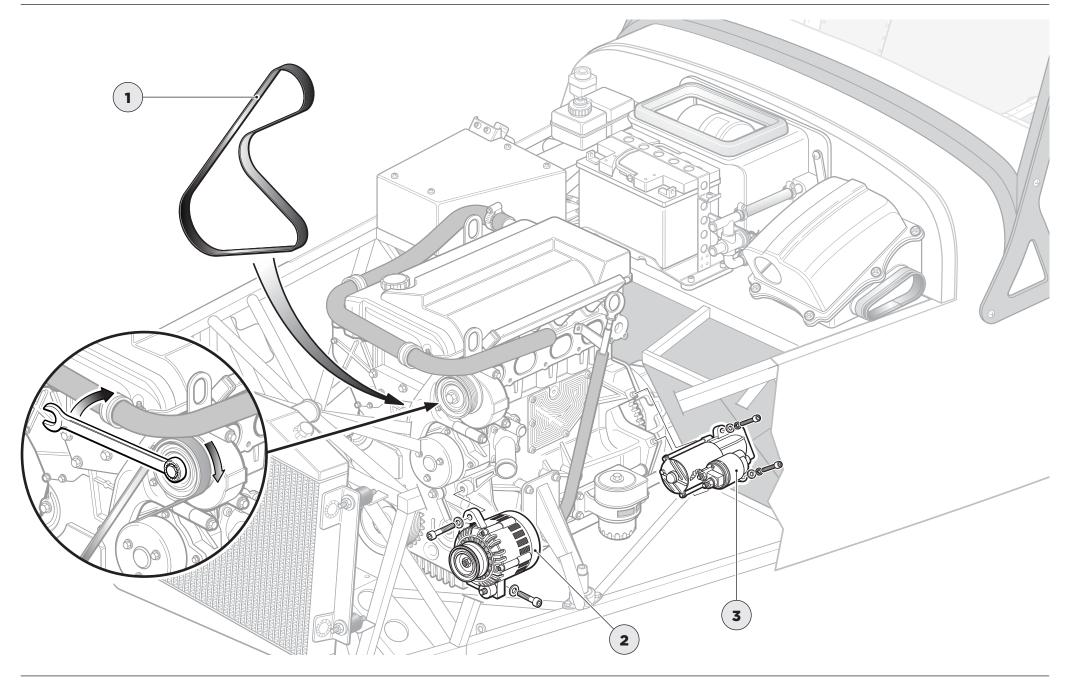


### FIXINGS

### TIPS

Refit altenator, altenator belt and starter motor. Lee A

# WET / DRY SUMP REFIT ALTENATOR, BELT & STARTER MOTOR



# WET SUMP LOWER RADIATOR HOSE

# PARTS TOOLS 1 Lower radiator hose 7mm

### FIXINGS

			This pack	nay ir	COOLING SI	GMA s to cover different options
ITEM		BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
						(

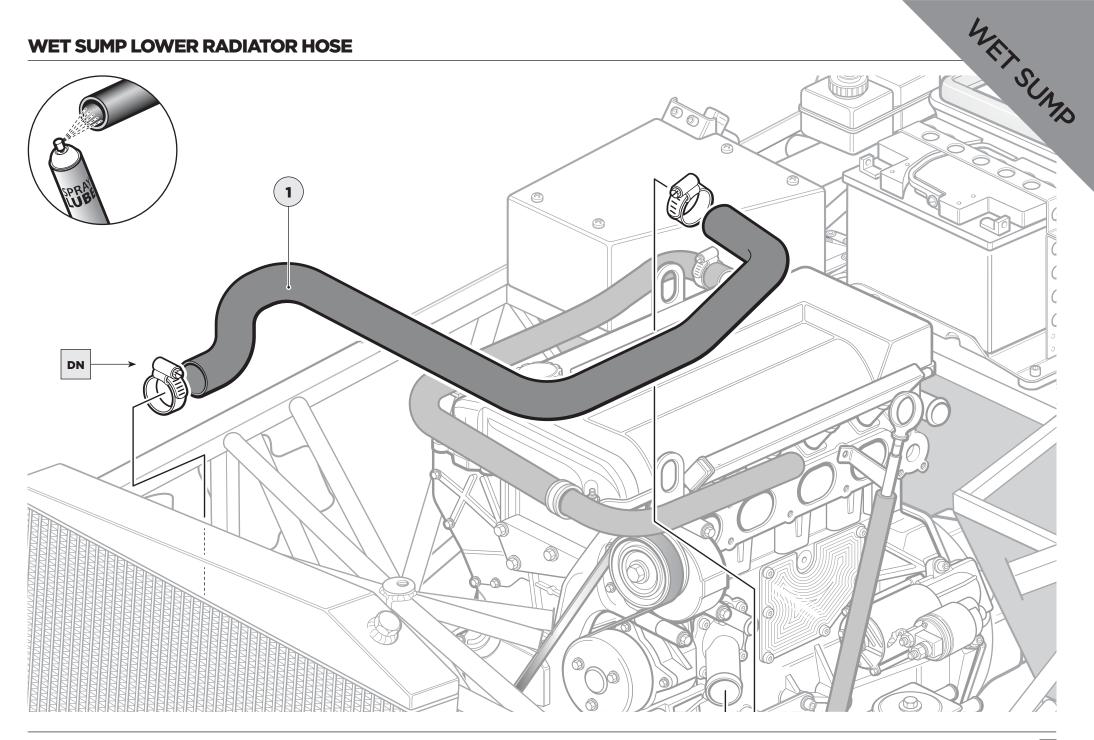
Pa	ack	D	-	Δ	TERI	HAM PACK NUMBER 30C047B	
					COOLING S	IGMA	
			This pack	may i	nclude extra fasterie	rs to cover different options	
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
14	DN	Hose Clip 30 - 40mm	SGT25-40	6	2 x U shape hose to water nil 2 x Top radiator hose 2 x Bottom nadiator hose	Õ	x2
Draw	ings are	e for illustrative	purposes or	nly and	are not to scale.	Page 1 of 2	

### TIPS

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

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



# WET SUMP UPPER RADIATOR HOSE

# PARTS TOOLS 1 Upper radiator hose 7mm

x2

### FIXINGS

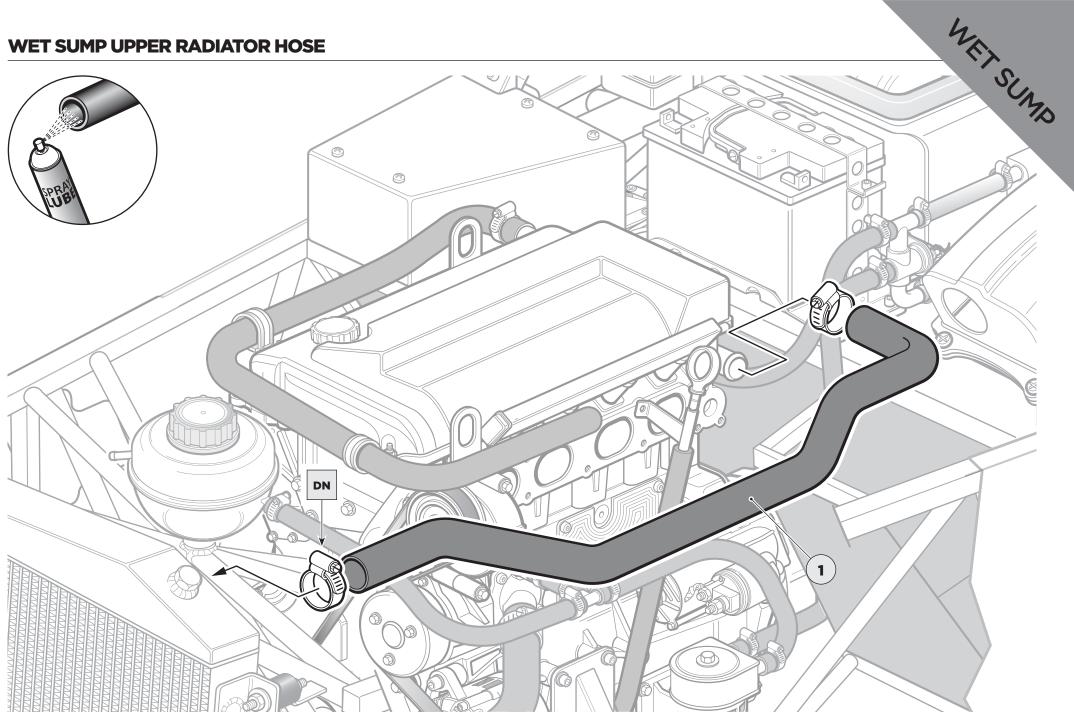
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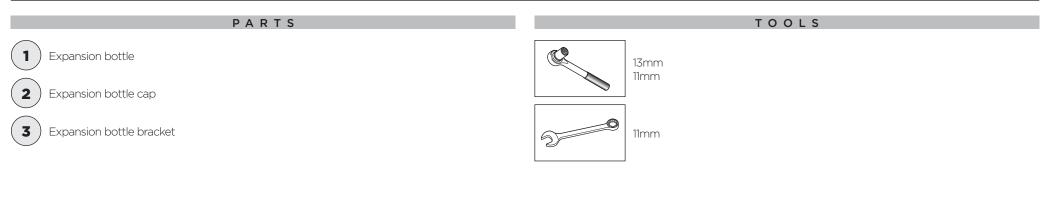
### TIPS

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

# WET SUMP UPPER RADIATOR HOSE



# WET SUMP EXPANSION BOTTLE



### FIXINGS

			This pack	may ir	COOLING SI	IGMA rs to cover different options	
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	DA	Bolt M8 X 50 Grade 8.8	BM8X50	1	Expansion tank bracket to chassis		Х
2	DB	Setacrew 1/4* X 3/4*	SF1/4X3/4	1	Expansion tank to bracket		Х
		Setacrew M8020 Grade 8.8					
						(	
						○ (	
						0 1	
8	DH	Nyloc Nut 1/4*	NFYF1/4	1	Expansion tank bracket		Х
9	DI	Plain Washer 191* Heavy duty	WPH1/4	13	8 x SV rad bracket 4 x Fan fixings 1 x Expansion tank braket	$\bigcirc$	Х
		Plain Washer 5/10 <sup>-</sup> Heavy duty				$\bigcirc$	

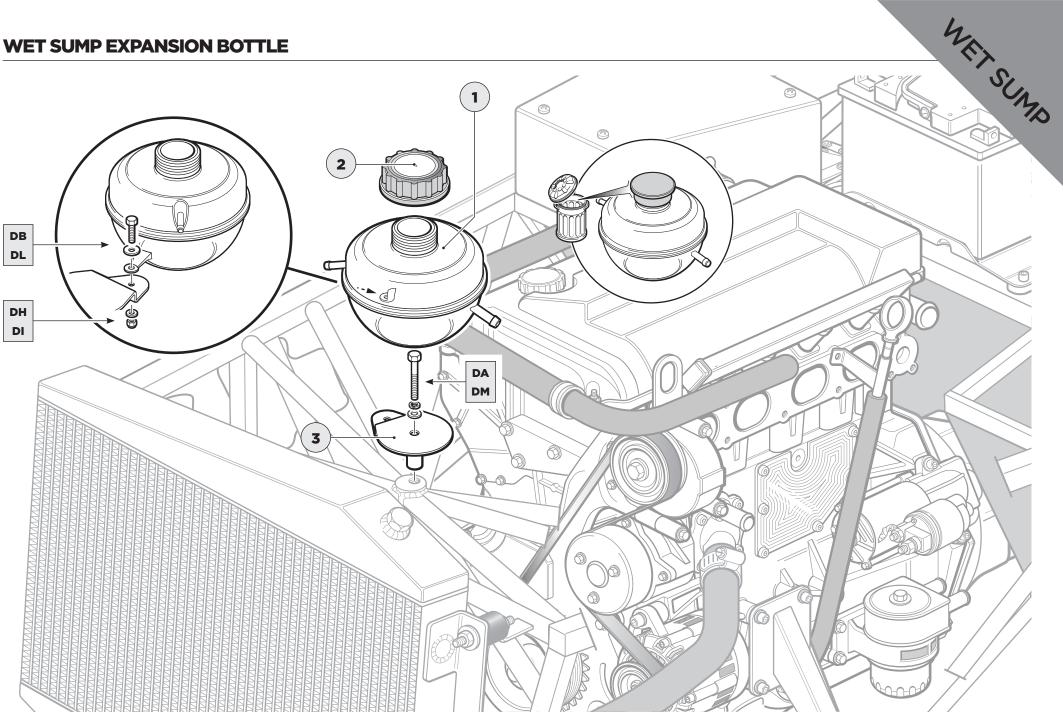
					COOLING S	
n	тем	BASIC	PART NUMBER	may i	used on	rs to cover different options ILLUSTRATION
12	DL	Plain Washer 1/4* x3/3* Heavy duty	WPH140278	1	Expansion tank bracket	$\bigcirc$
13	DM	Spring Washer 5/16" Heavy duty	WSH5/17	9	8 x Radiator bobbin 1 x Expansion tank	Ô
		Hose Clip 30 - 43mm				Õ
raw	ings an	e for illustrative	DURDOR OF O	du and	and and in section	Page 1 of 2

### TIPS

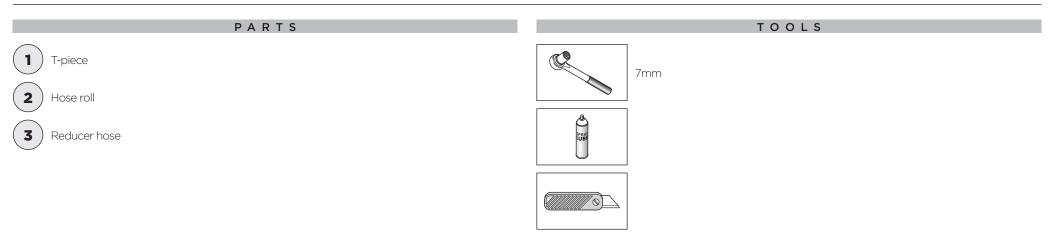
Throw away the red cap that came on the expansion bottle.

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# WET SUMP EXPANSION BOTTLE

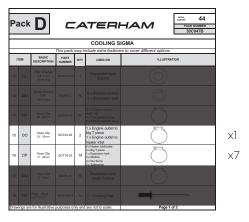


# WET SUMP HOSES



### FIXINGS

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r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
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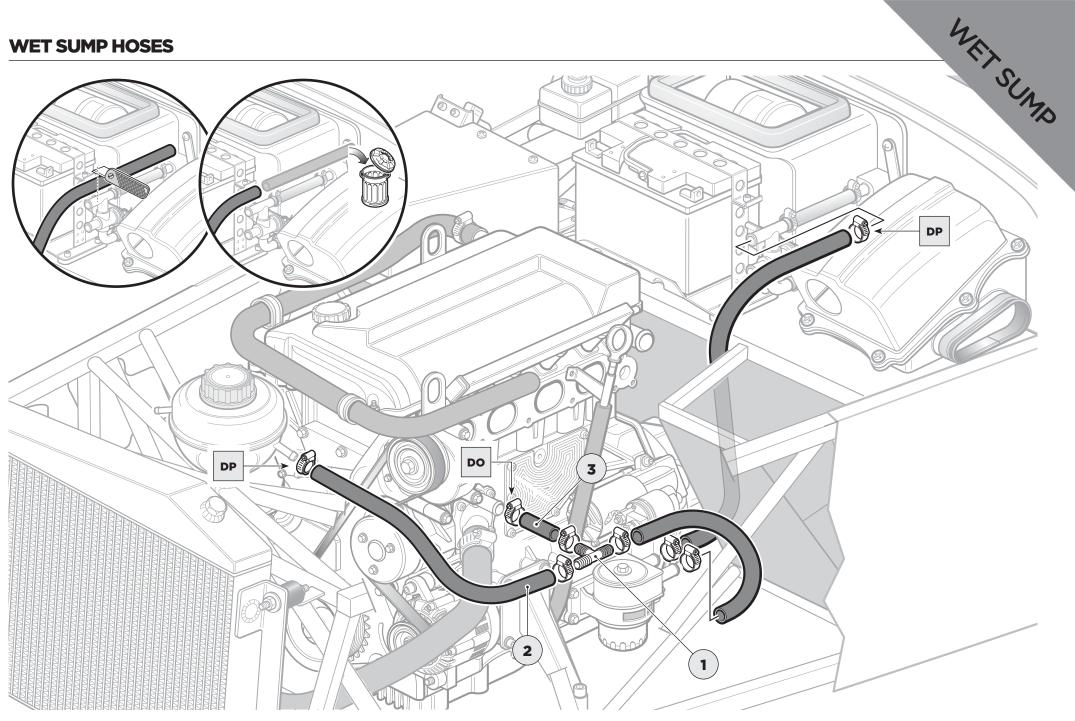
### TIPS

You will need to cut hoses to size.

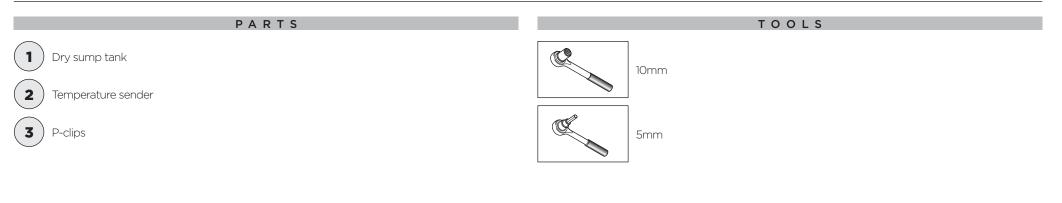
John S

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

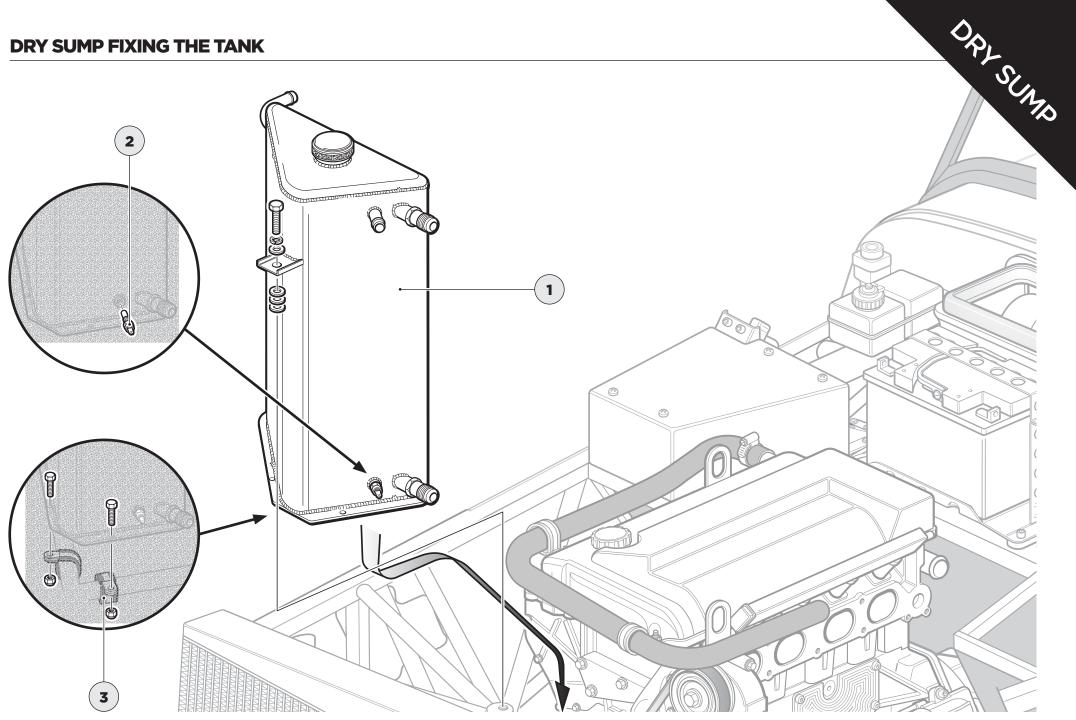
# **WET SUMP HOSES**



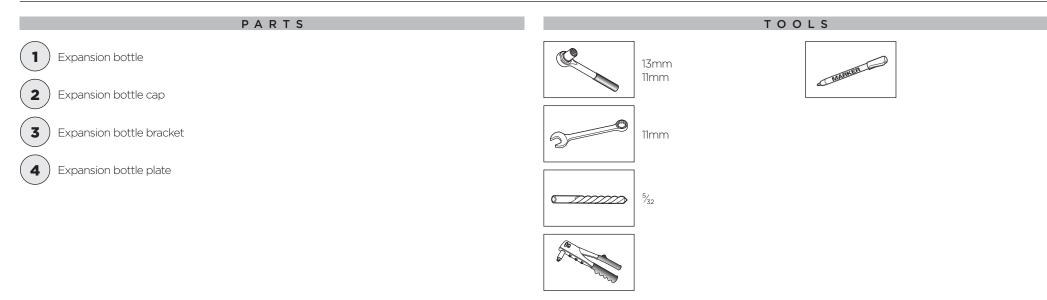
# **DRY SUMP FIXING THE TANK**



FIXINGS	TIPS
<ul> <li>Unmarked bag:</li> <li>M8 x 20 caphead</li> <li>M8 spring and plain head washer</li> <li>M6 x 20 bolts (x2)</li> <li>M6 Nyloc (x2)</li> <li>¼" washers (x2)</li> </ul>	The M8 caphead fits the tab on the tank to the chassis. John K Grant P
	The tab on the tank may need to be spaced out. Use M8 washers. Jamie A



# DRY SUMP FITTING THE EXPANSION BOTTLE



### FIXINGS

			This pack	may ir	COOLING SI	IGMA rs to cover different options	
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	DA	Bolt M8 X 50 Grade 8.8	BM8X50	1	Expansion tank bracket to chassis		X
2	DB	Selacrew 1/4* X 3/4*	SF1/4X3/4	1	Expansion tank to bracket		X
						0 1	
8	DH	Nyloc Nut 1/4*	NFYF1/4	1	Expansion tank bracket	0 11	X
9	DI	Plain Washer 14* Heavy duty	WPH14	13	8 x SV rad bracket 4 x Fan fixings 1 x Expansion tank braket	$\bigcirc$	X
						$\bigcirc$	
						$\bigcirc$	

					COOLING S		
r	TEM	BASIC DESCRIPTION	PART NUMBER	qTY	used on	rs to cover different options ILLUSTRATION	
12	DL	Plain Washer 1/4*x3/3* Heavy duty	WPH1H0708	1	Expansion tank bracket	$\bigcirc$	X
13	DM	Spring Washer 5/16" Heavy duty	WSH5/17	9	8 x Radiator bobbin 1 x Expansion tank	Õ	X
		Hose Clip 30 - 40mm				Ö	
						ð	
						ð	
						Ö	
18	DR	Rivet - Black 5/32" X 0.47"	1610-01015	12	Cowling flap		~

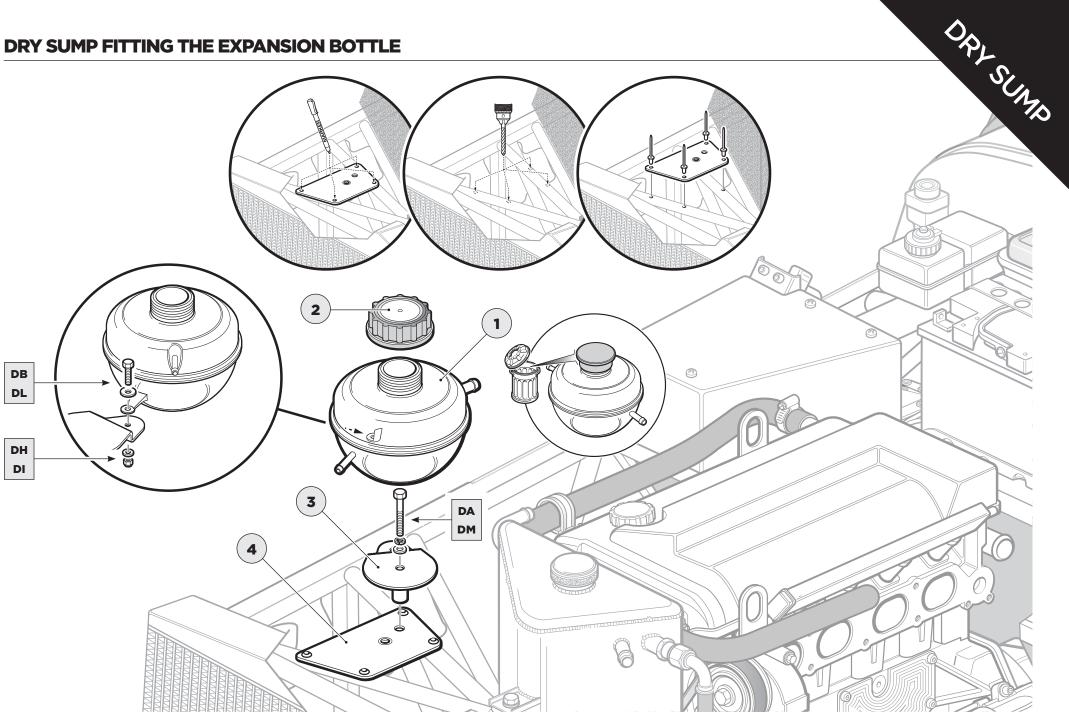
TIPS

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.

# DRY SUMP FITTING THE EXPANSION BOTTLE



# **DRY SUMP LOWER RADIATOR HOSE**

## PARTS TOOLS Q 1 Lower radiator hose 7mm

### FIXINGS

Image: Problem in the state of the	COOLING SIGMA This pack may include extra fasteners to cover different options							
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Image: Constraint of the state of								
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0         DD         Parser within         Pars Local Set 20         Comparison           5         DE         Parsers MAR         4         Pars to random         Comparison								
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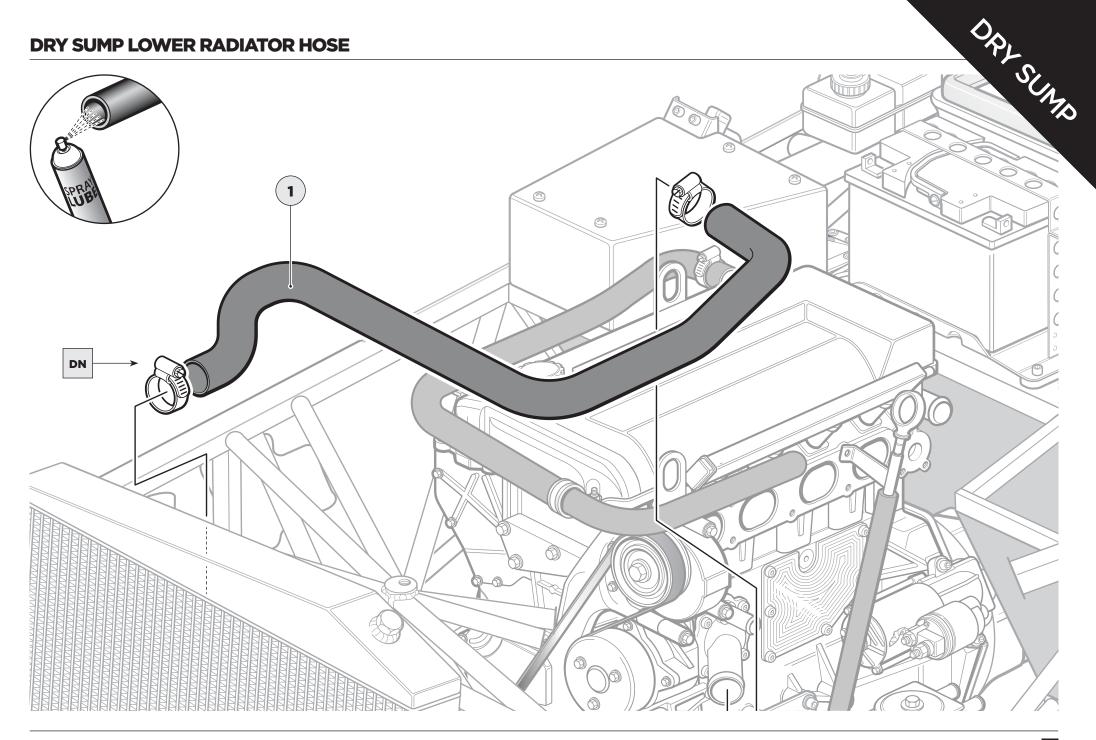
Pa	ack	D	-		TERI	HAM 944	
			<b>T</b>		COOLING S	IGMA rs to cover different options	
r	гем	BASIC DESCRIPTION	PART NUMBER	atr	USED ON	ILLUSTRATION	
14	DN	Hose Clip 30 - 40mm	SGT25-40	6	2 x U shape hose to water nail 2 x Top radiator hose 2 x Bottom radiator hose	Õ	x2
18		Rivet - Black 5/22" X 0.47"	1610-01015		Cowing flap		
Draw	ings an	e for illustrative	purposes or	nly and	are not to scale.	Page 1 of 2	1

### 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

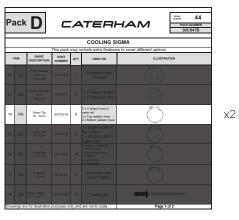


# **DRY SUMP UPPER RADIATOR HOSE**

# PARTS TOOLS 1 Upper radiator hose Image: Comparison of the set of the

### FIXINGS

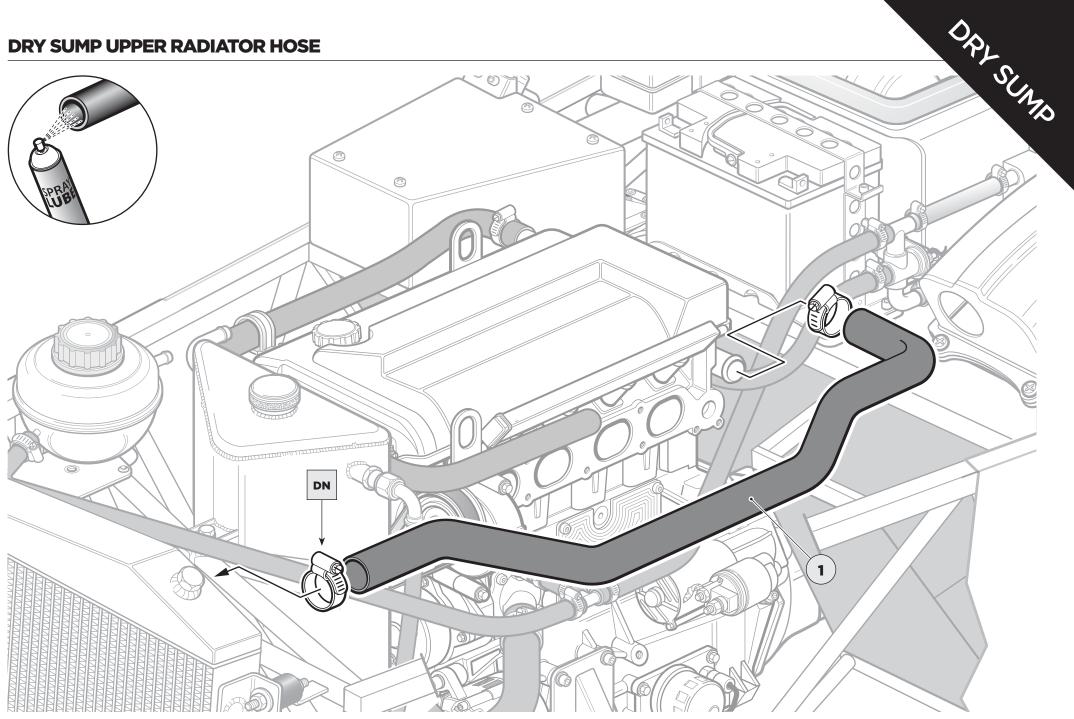
	COOLING SIGMA This pack may include extra fasteners to cover different options								
ITEM		BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION			
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						O ( <b></b>			



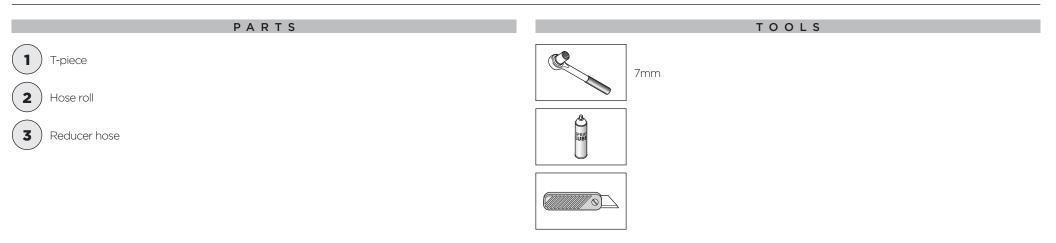
### TIPS

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

# **DRY SUMP UPPER RADIATOR HOSE**



# **DRY SUMP HOSES**



#### FIXINGS

ITEM	COOLING SIGMA This pack may include extra fasteners to cover different options								
	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION				
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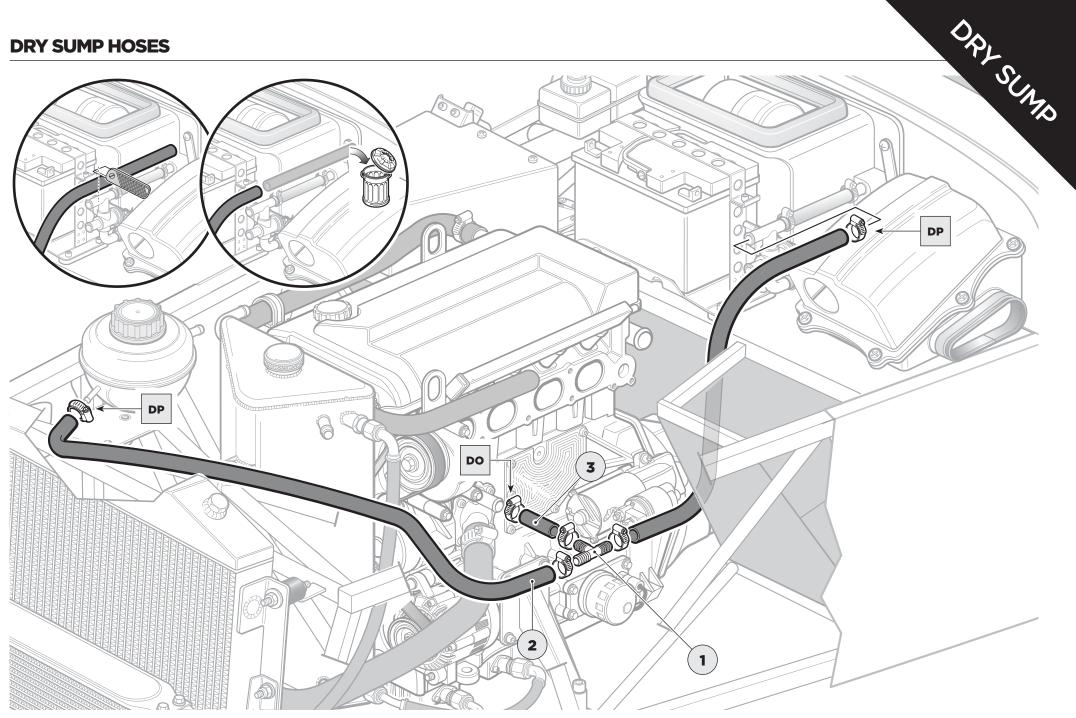
#### TIPS

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**

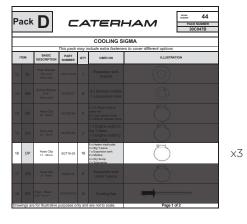


# **DRY SUMP CATCH TANK**

# PARTS TOOLS 1 Silicone hose 90° 7mm Image: Control of the set of th

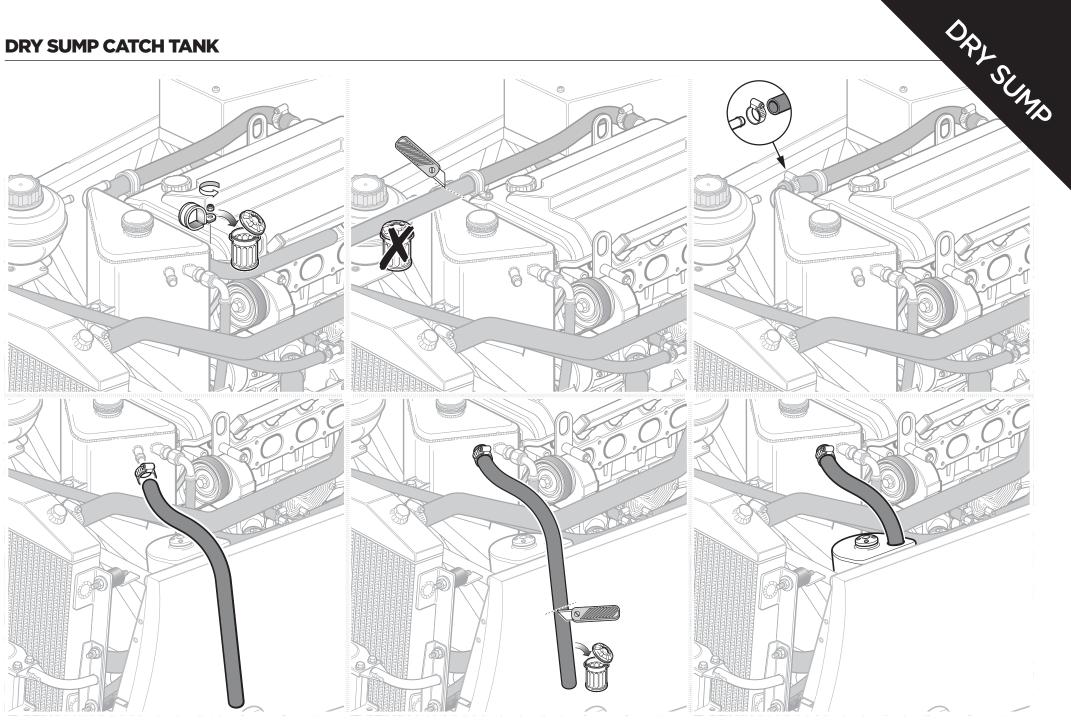
#### FIXINGS

		This pack	GMA s to cover different of	olions		
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
					Ģ	-
						()
_	are for illustrative		_			Page 1 of 2



# TIPS The silicone hose you are looking for has a 90° one end and then a long piece. Chris B Use the excess to run from tank to D-Bottle. Vincent M

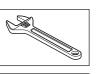
# **DRY SUMP CATCH TANK**



#### DRY SUMP OIL PIPE - 1 OF 3

#### PARTS

**1**) Oil pipe - 39C059

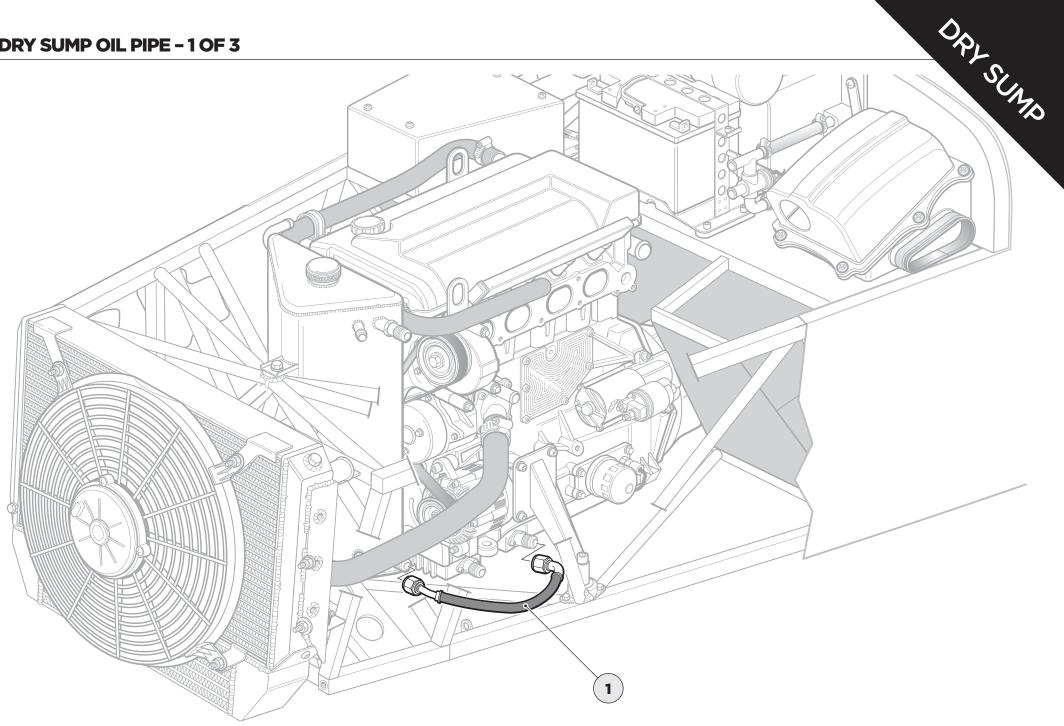


TOOLS



# FIXINGS TIPS The pipe will fit both ways but you<br/>don't want any kinks in the pipe itself<br/>– one way will fit better.<br/>Tiago O Put copper slip on the threads.<br/>Rich T Tighten by hand slowly<br/>and give a small 'nip' up. Take care not to cross thread.<br/>Anthony L

Chris B



#### DRY SUMP OIL PIPE - 2 OF 3

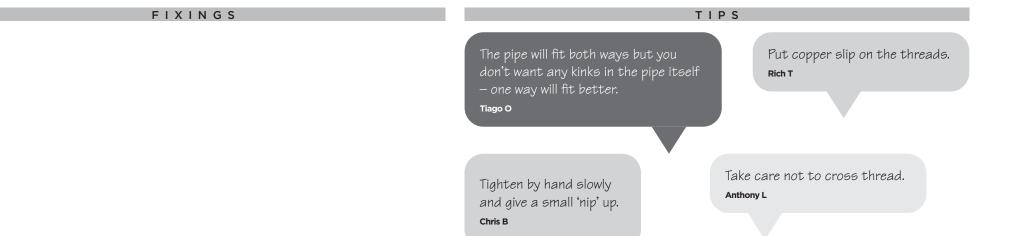
#### PARTS

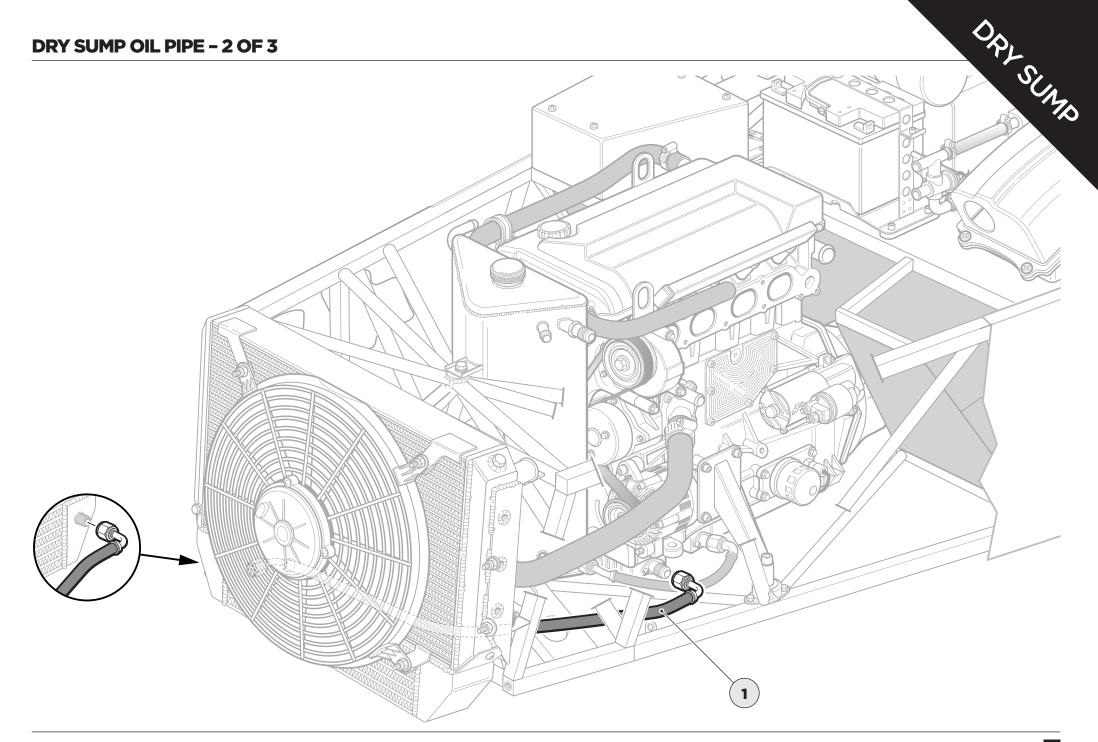
1) Oil pipe - 39C060











#### DRY SUMP OIL PIPE - 3 OF 3

#### PARTS

1) Oil pipe -

TOOLS



Tighten by hand slowly

and give a small 'nip' up.

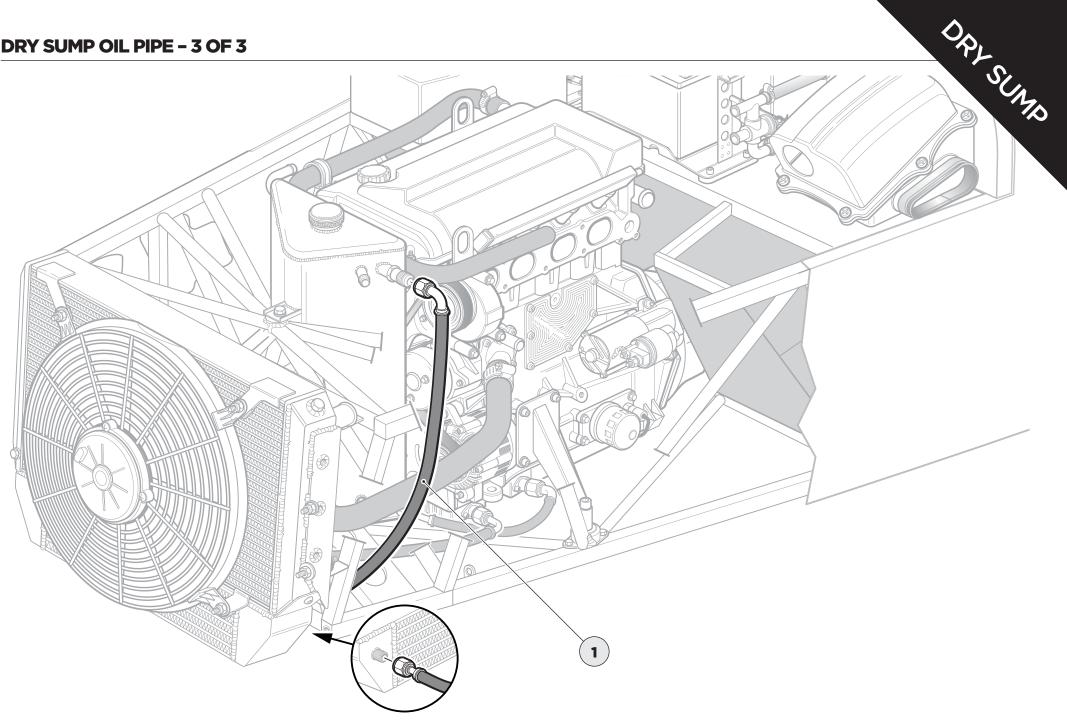
Chris B



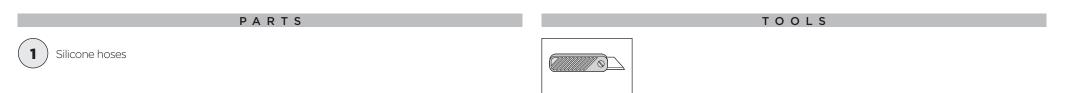
Take care not to cross thread. Anthony L

**Rich T** 

Put copper slip on the threads.



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

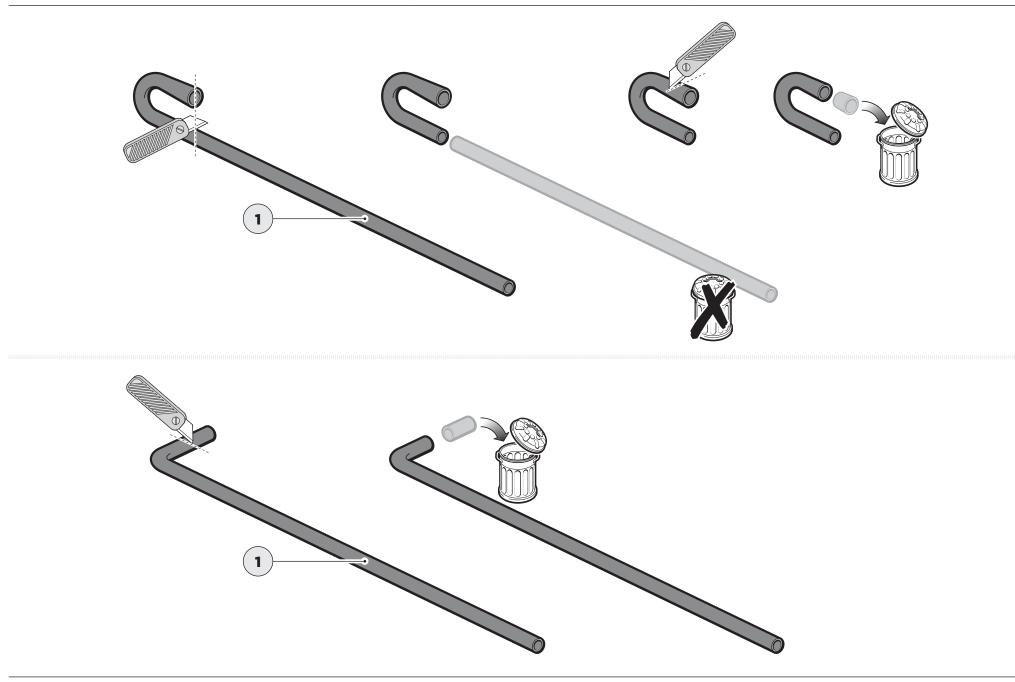


#### FIXINGS

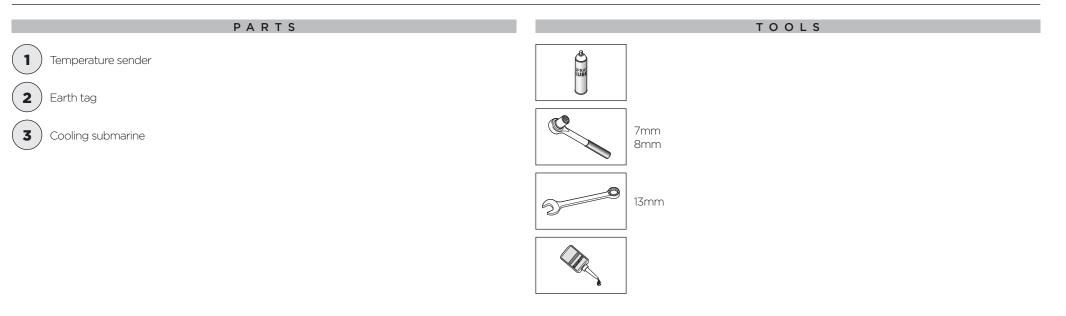
#### TIPS

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



#### FIXINGS

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п	ЕМ	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
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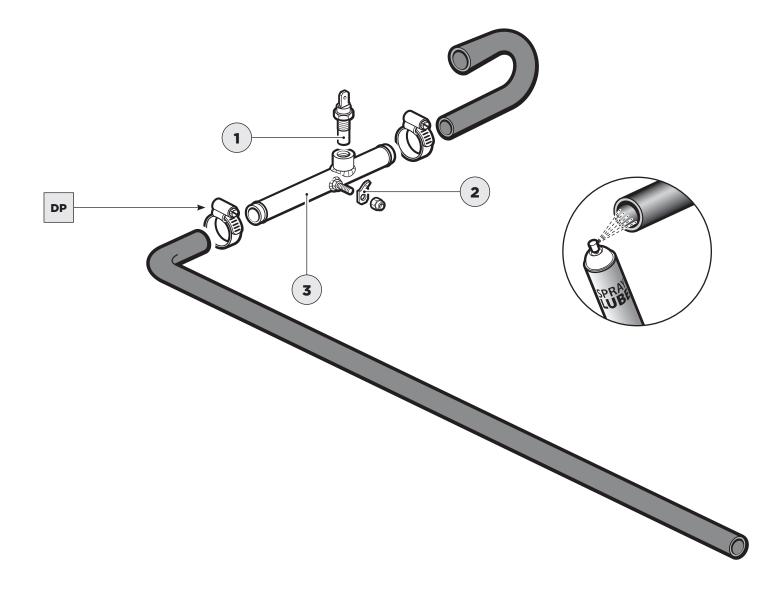
#### TIPS

Use a drop of LocTite on the sender.

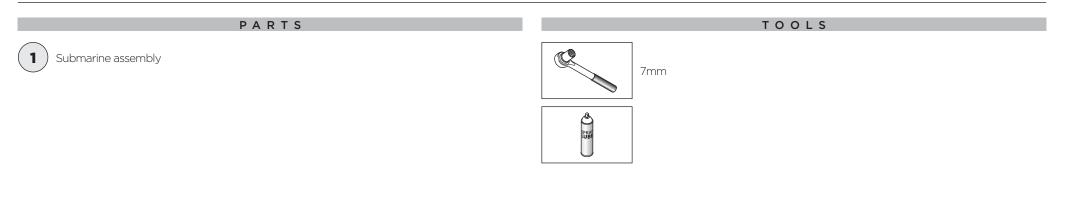
#### Tiago O

PS

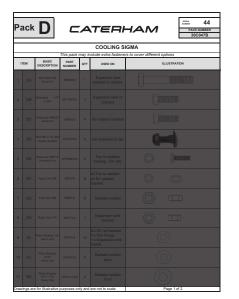
Be careful not to over-tighten the sender. Jamie A

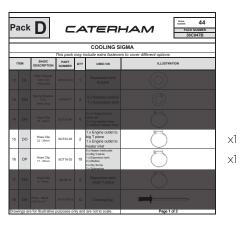


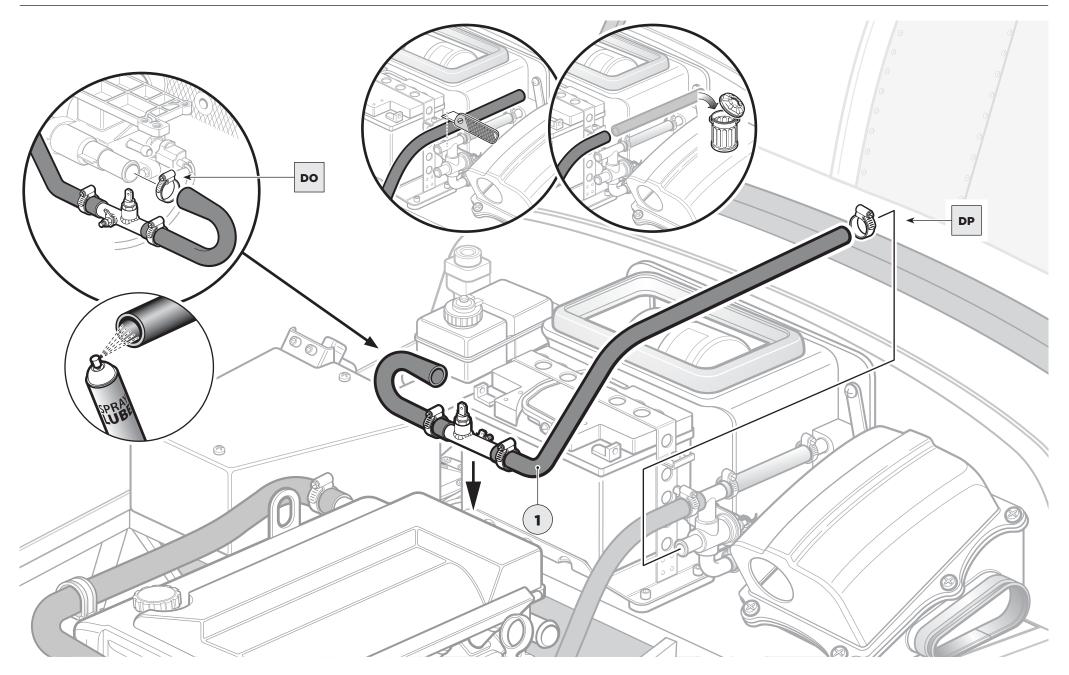
# WET / DRY SUMP SUBMARINE



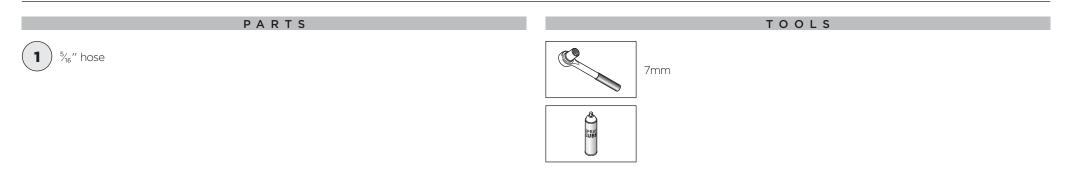
#### FIXINGS





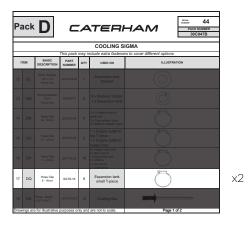


# WET SUMP LAST BIT OF PLUMBING

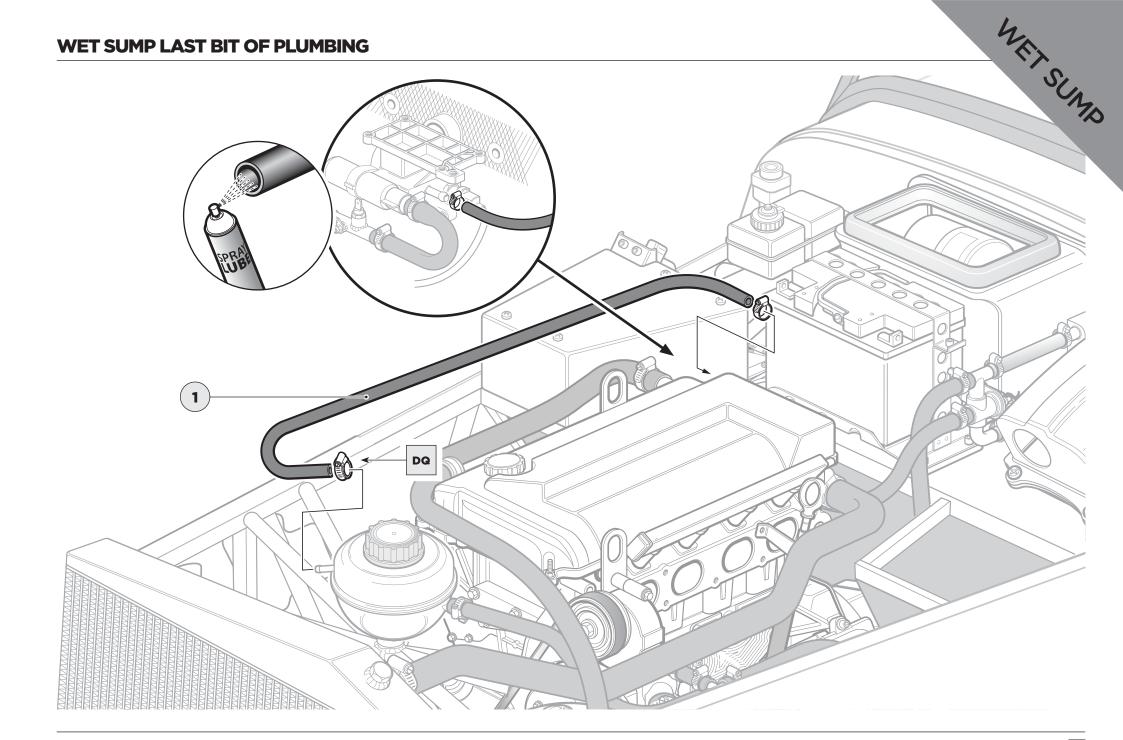


#### FIXINGS

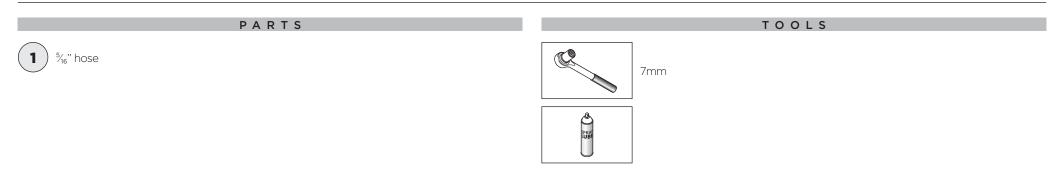




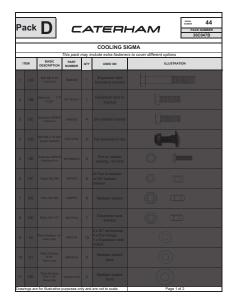


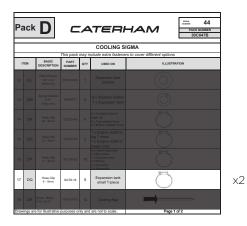


# **DRY SUMP LAST BIT OF PLUMBING**

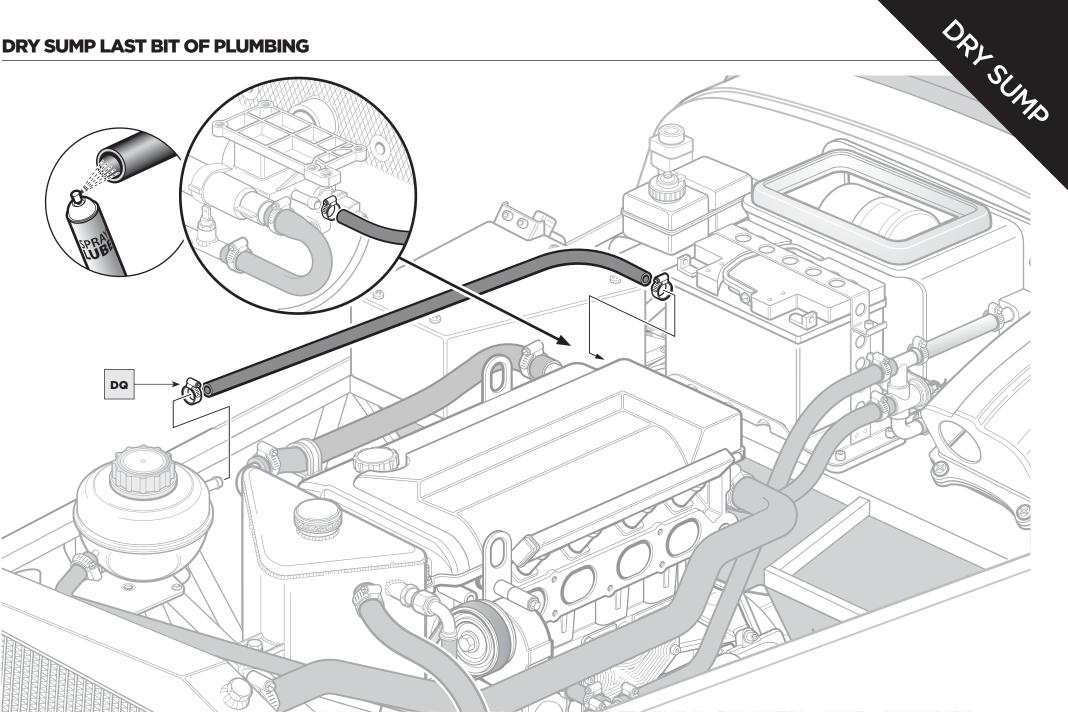


#### FIXINGS

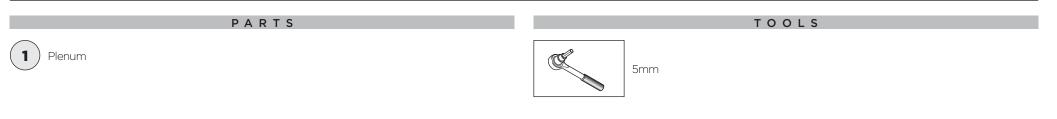




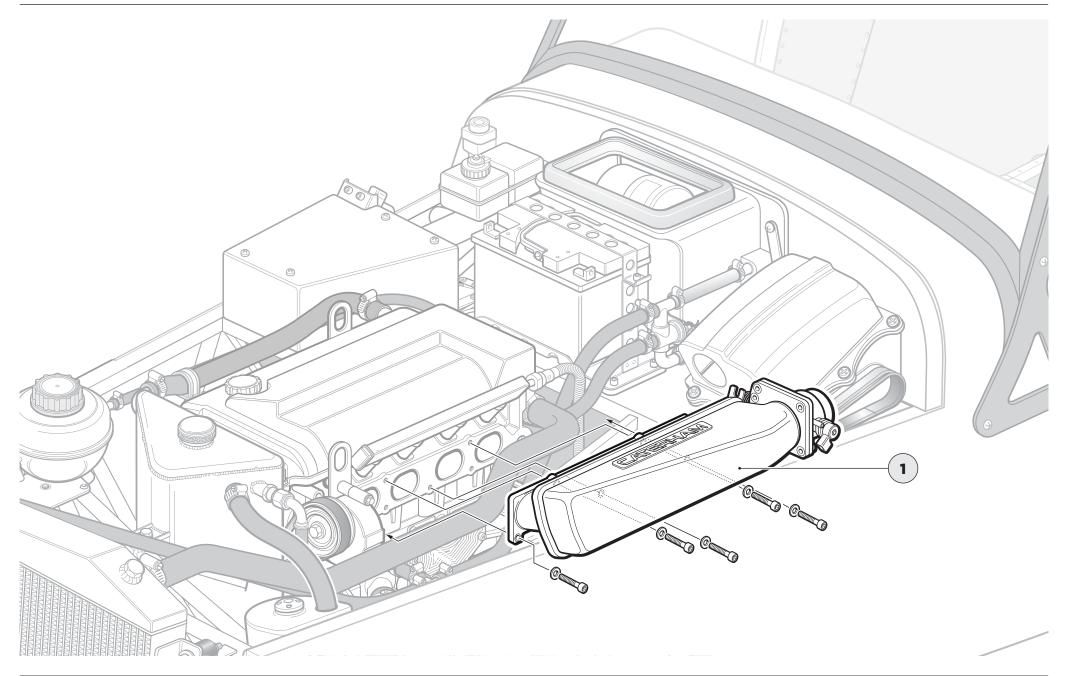
# **DRY SUMP LAST BIT OF PLUMBING**



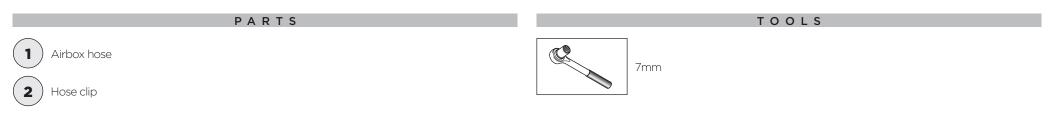
# WET / DRY SUMP PLENUM







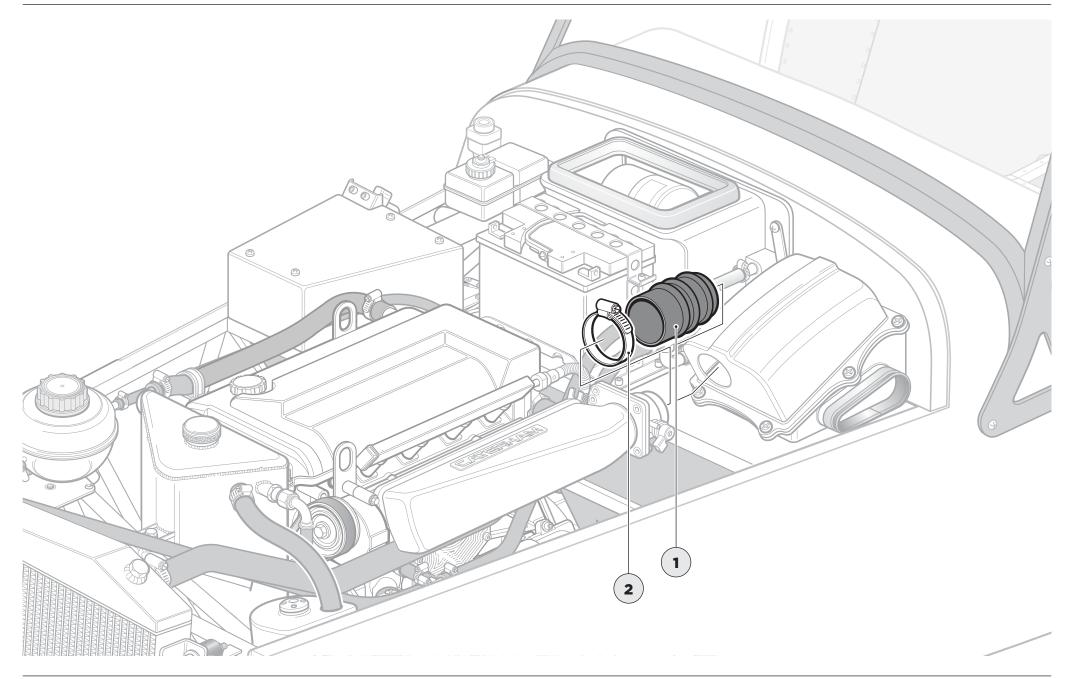
# WET / DRY SUMP AIR BOX HOSE



FIXINGS

TIPS

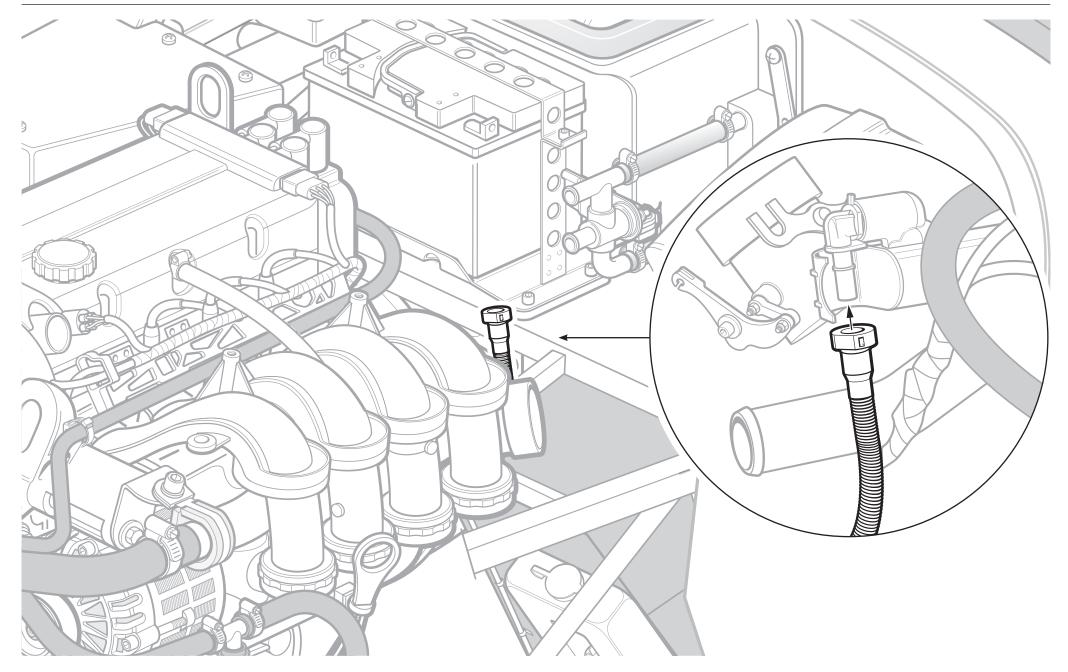
All the fixings for this step should be supplied in the airbox.



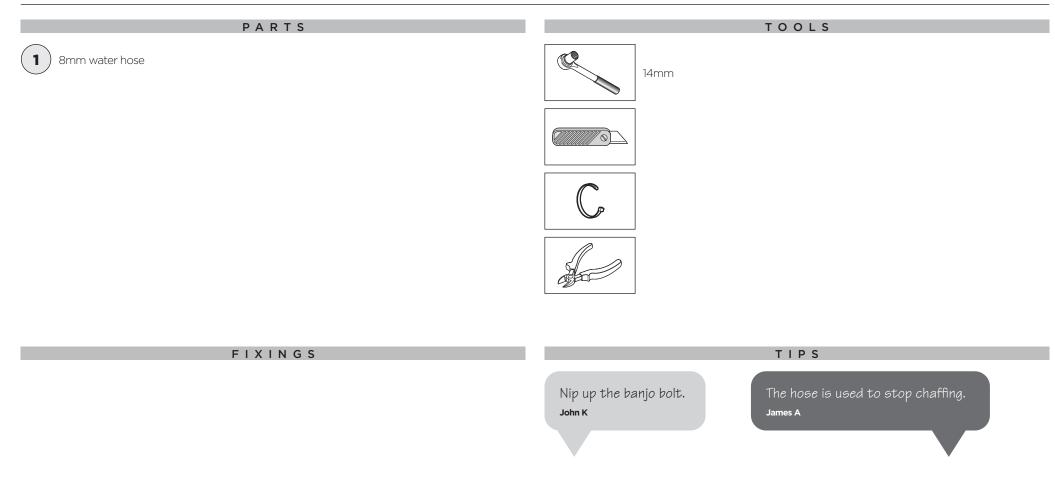
PARTS

TOOLS

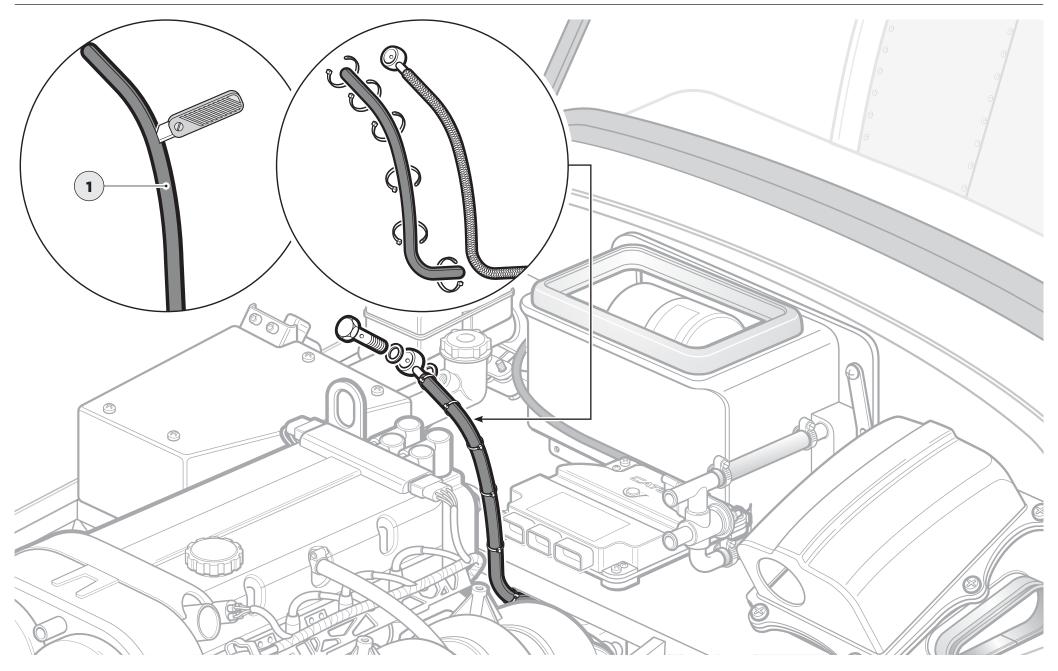
FIXINGS



# **PROTECTING & ATTACHING THE CLUTCH HOSE**



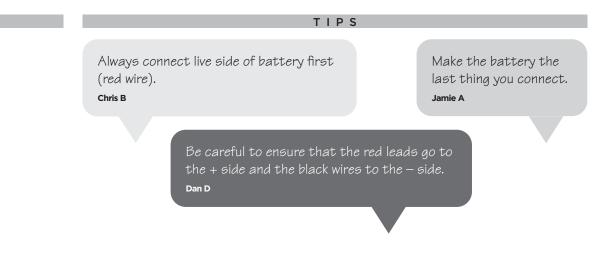
# **PROTECTING & ATTACHING THE CLUTCH HOSE**



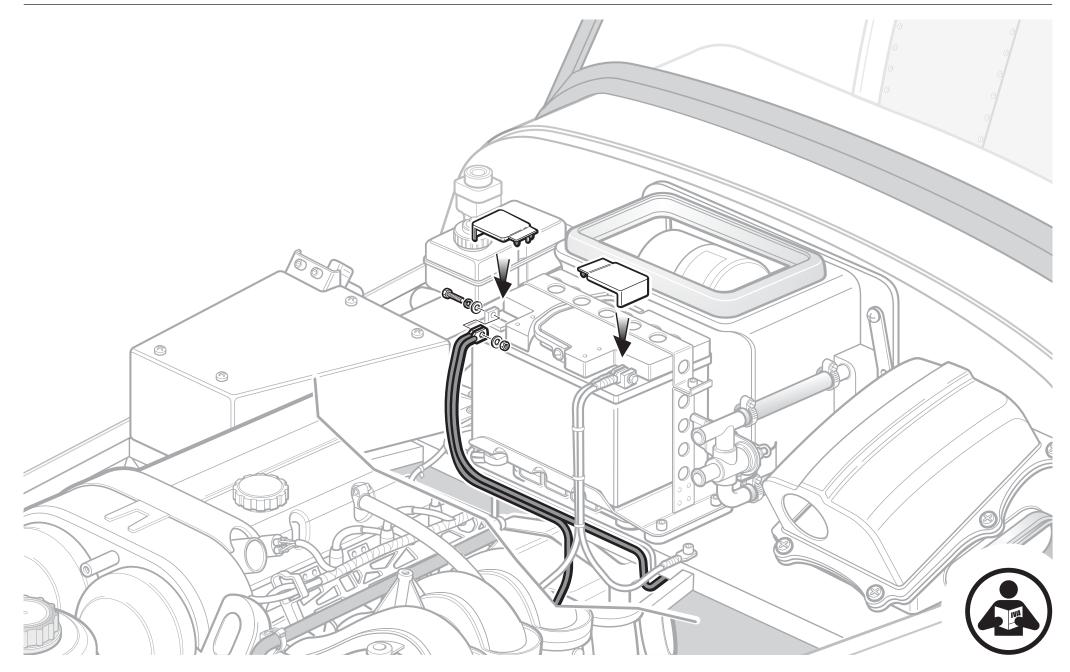
# **CONNECTING THE BATTERY (POSITIVE / RED FIRST)**



#### FIXINGS



# CONNECTING THE BATTERY (POSITIVE / RED FIRST)



# **IT LIVES!**

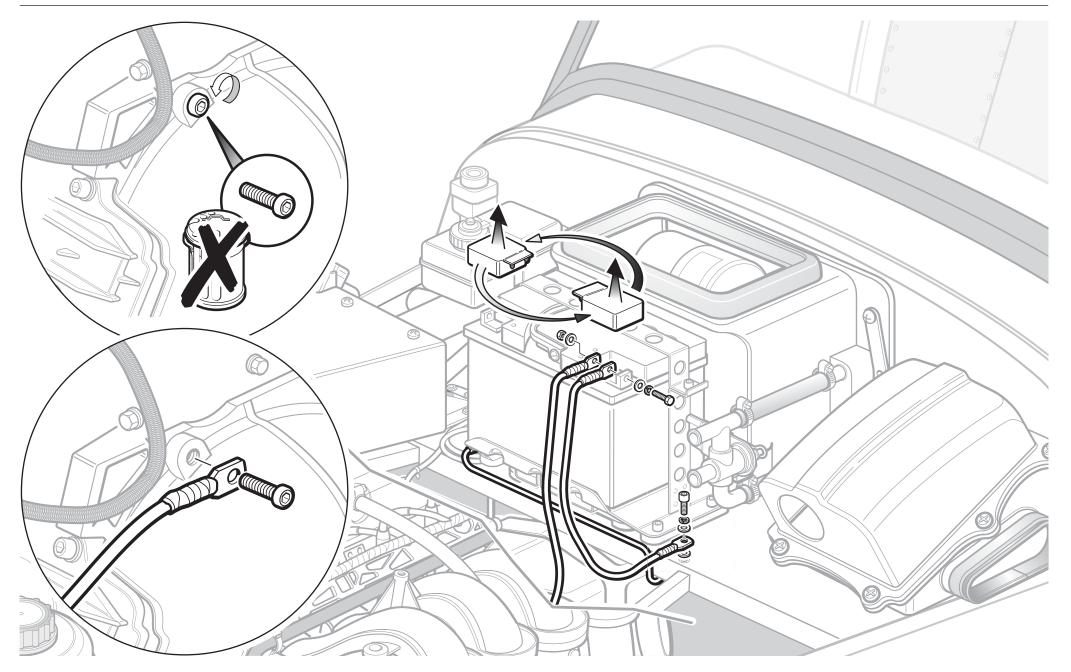
PARTS

TOOLS

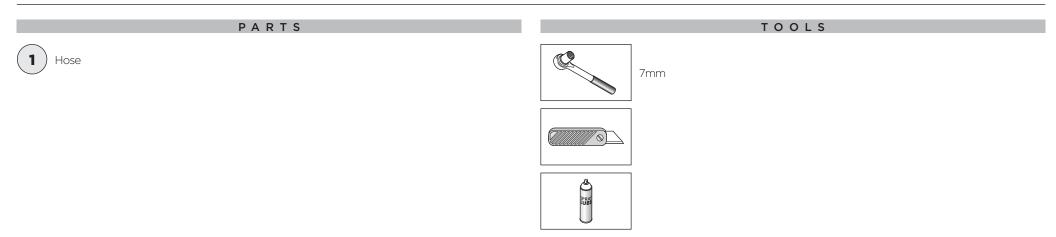
#### FIXINGS

#### TIPS

Add a plain M8 or <sup>5</sup>/16 washer underneath the earth lead to chassis. Dan P



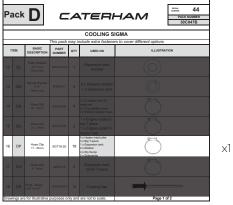
# **ONE LAST BIT OF PLUMBING...**



#### FIXINGS

			This pack	may i	GMA s to cover different options	
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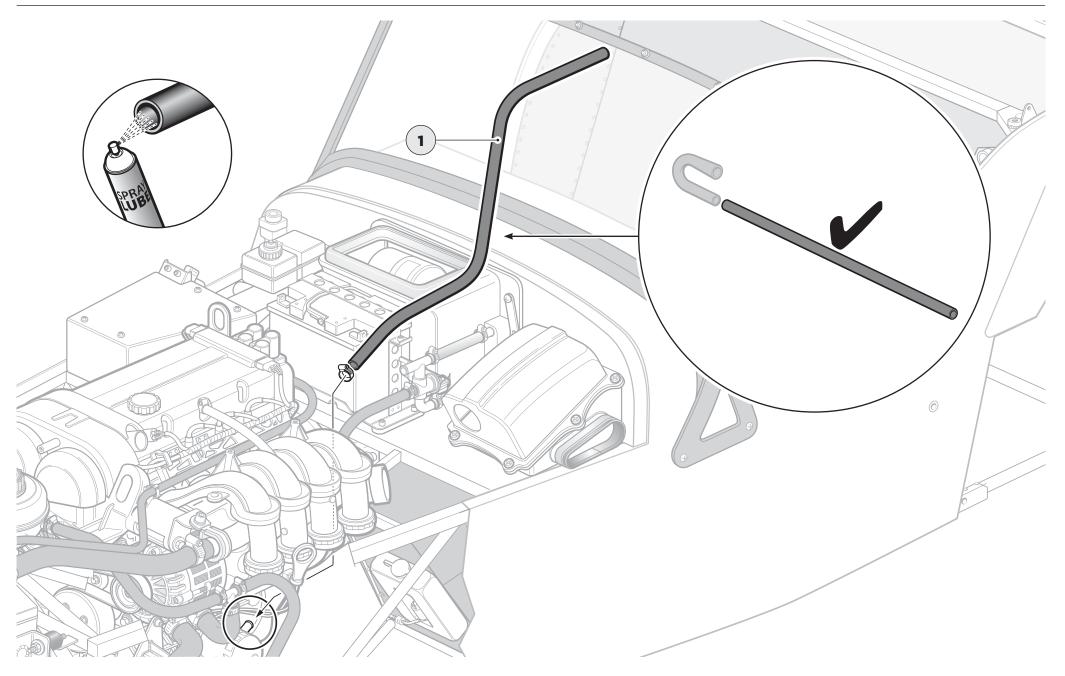
#### \_\_\_\_\_



#### TIPS

Cut off hook and trim if required.

#### Grant P



# ...TO CONNECT THE HEATER

# PARTS TOOLS



#### FIXINGS

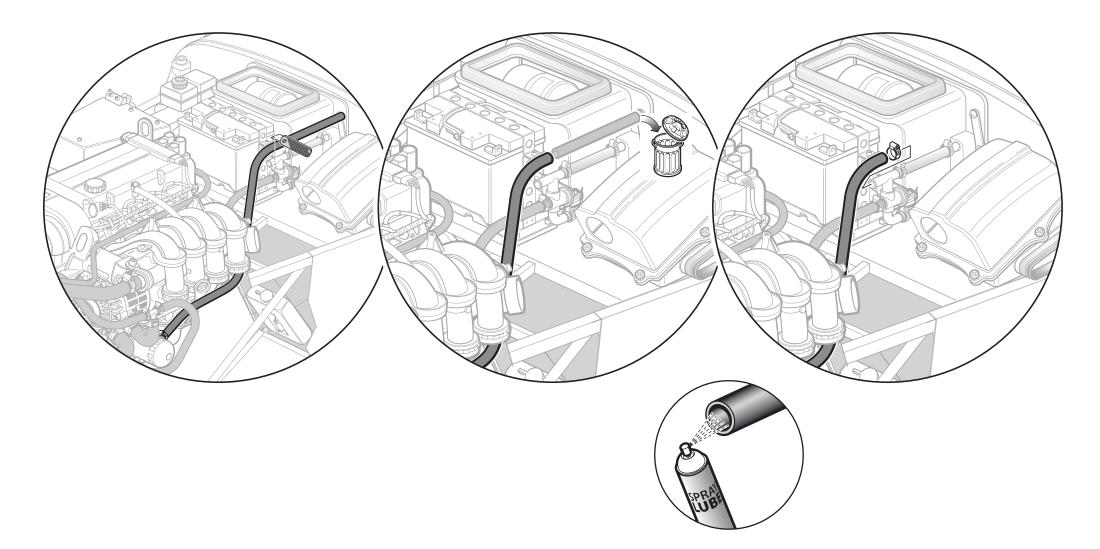
	COOLING SIGMA This pack may include extra fasteners to cover different options							
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION		
						(		
						( <b></b>		

# 

#### TIPS

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

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## WET / DRY SUMP THROTTLE CABLE



## FIXINGS

PARTS

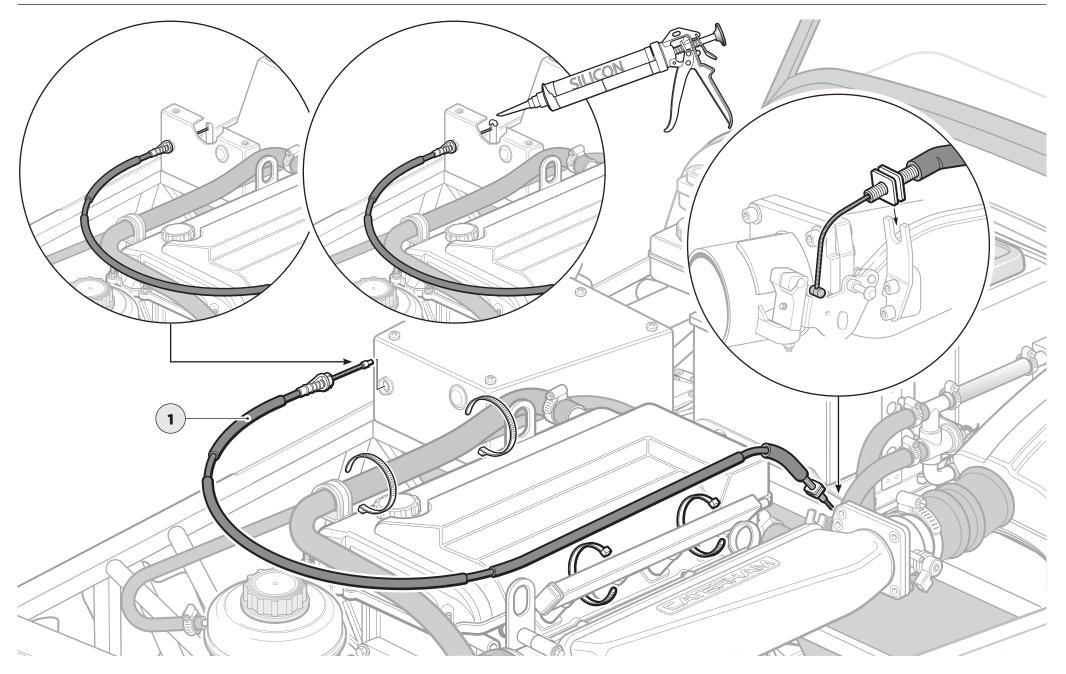
## TIPS

TOOLS

The silicone goes in the top of the pedal to prevent the cable coming out. Rich  $\ensuremath{\mathsf{T}}$ 

Cable tie the throttle cable to engine hoist eyelet. Anthony L

## WET / DRY SUMP THROTTLE CABLE



## **FILL WITH COOLANT**

## PARTS TOOLS Coolant concentrate Image: Coolant concentrate

FIXINGS

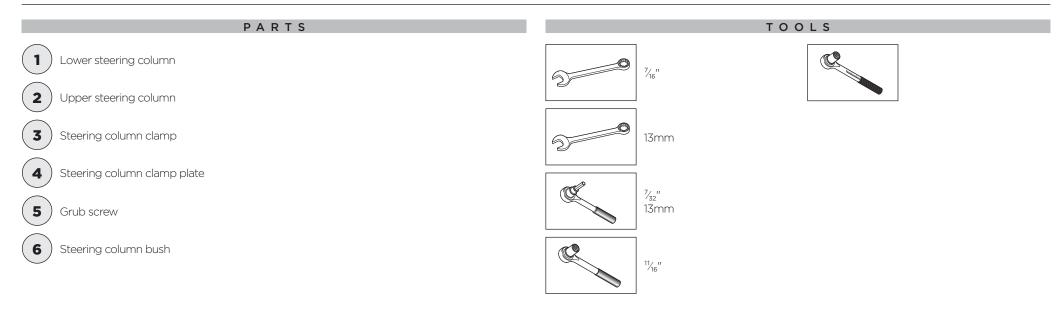
TIPS



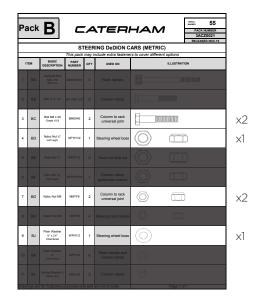


Fill expansion bottle to max mark

## **GIVING IT SOME DIRECTION**



## FIXINGS



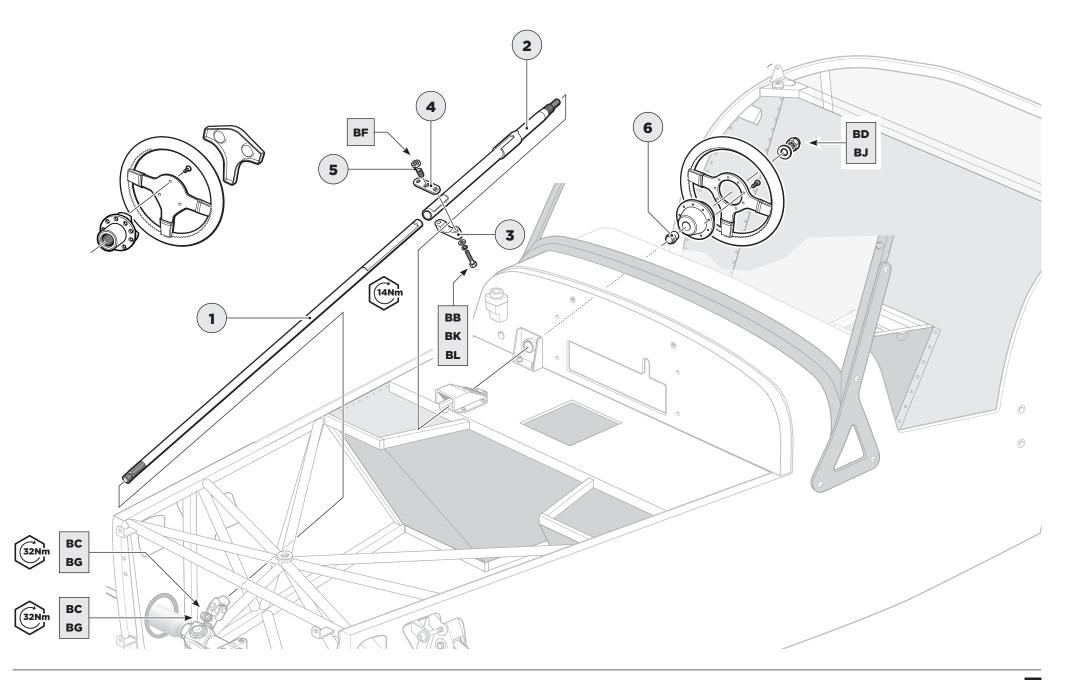
Check clearance between steering column & Aux belt tensioner once engine is installed. If necessary, rotate steering rack.

## TIPS

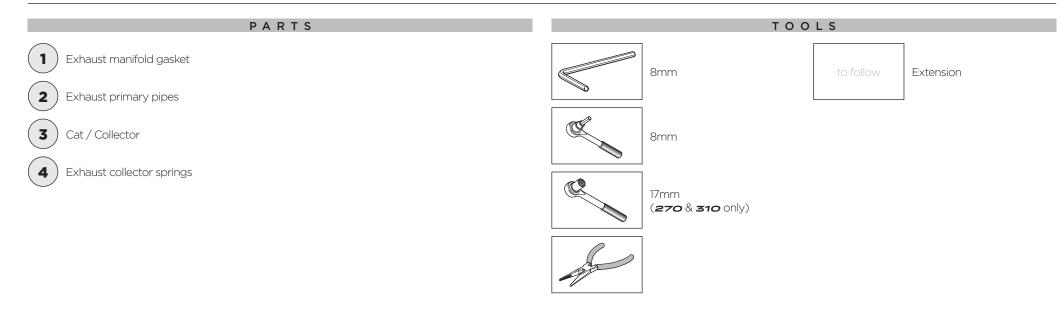
Put the clamp in the middle of column with the grooved face of the clamp plate ④ against the column. Jamie A

Steering rack to be rotated to fit column – don't forget to tighten rack brackets!. Harrison P Grease the steering bushes. Lee A

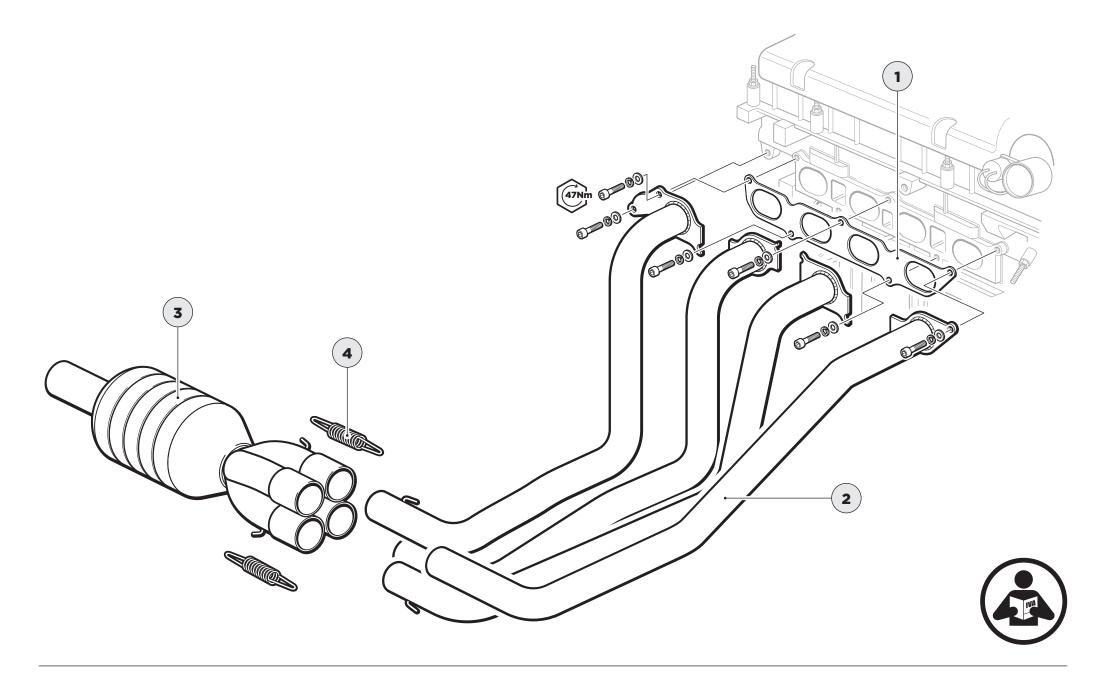
Fit the clamp bolts first, then grubscrew & finish with the locking nut. Tiago O



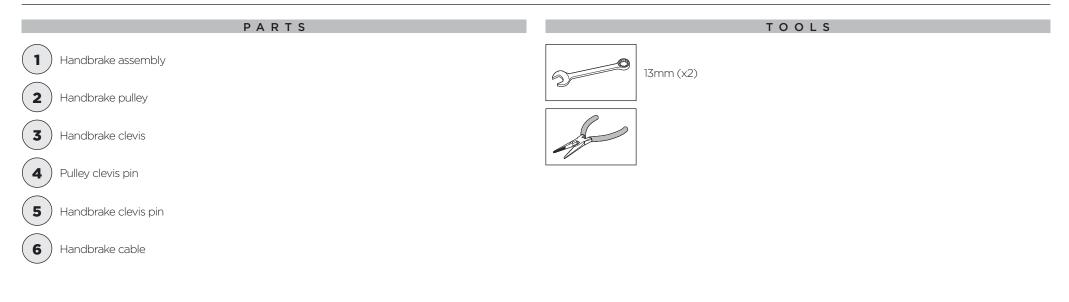
## THIS IS EXHAUSTING



FIXINGS		TIPS
Fixings are supplied loosely attached to the engine in place	Use cable ties to compress exhaust spring. Mick F	A pair of pliers are best to help hook over. James A
	Work out which primary pipe goe individually then put all four in p with the front one & working bac with the hooks on your paintwor <b>Chris N</b>	ane, starting k. Take care

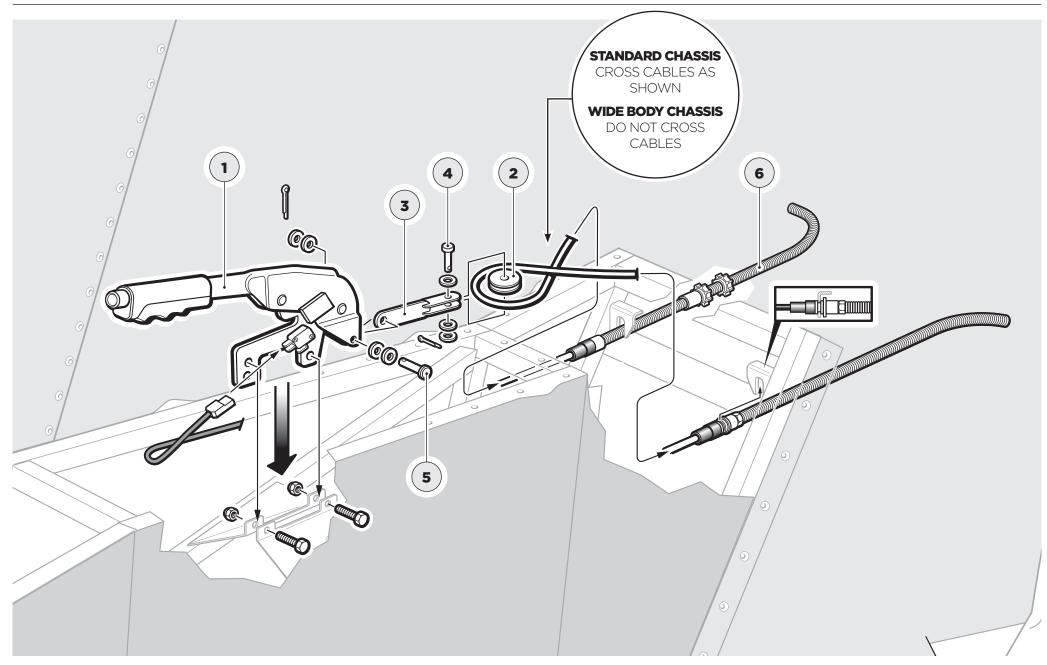


## **FITTING THE HANDBRAKE**



FIXINGS	TIPS
<ul> <li>Miscellaneous pack</li> <li>Setscrew 8 (x25)</li> <li>Washer M8</li> <li>Washer M6</li> </ul>	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**



## **SLIDE IN THE PROPSHAFT**

## PARTS

**1**) Propshaft



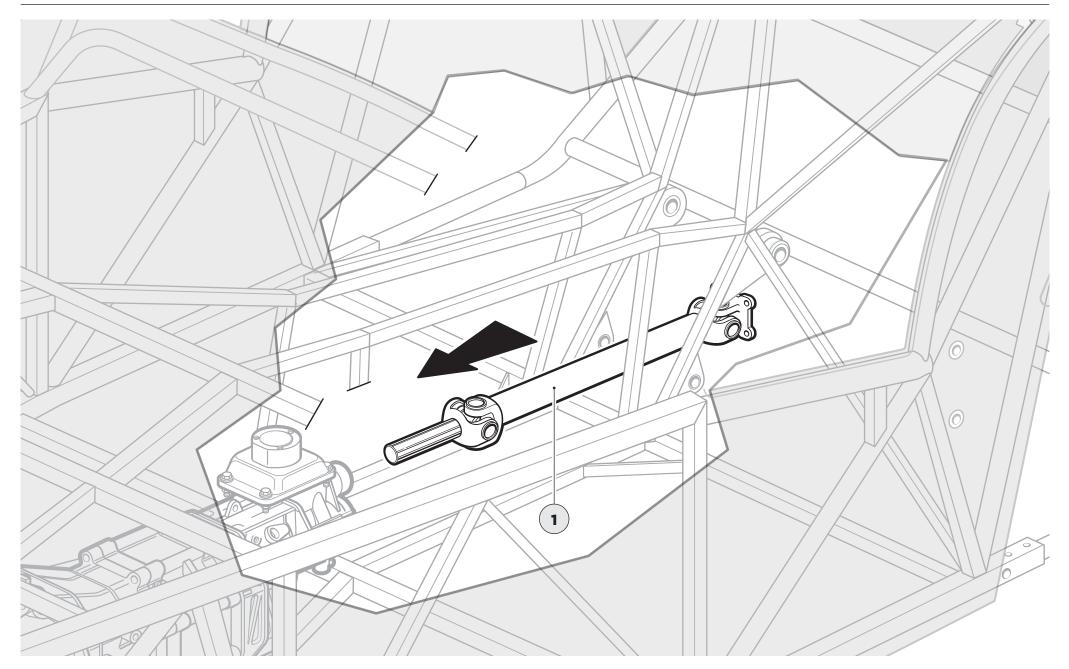
## FIXINGS

## TIPS

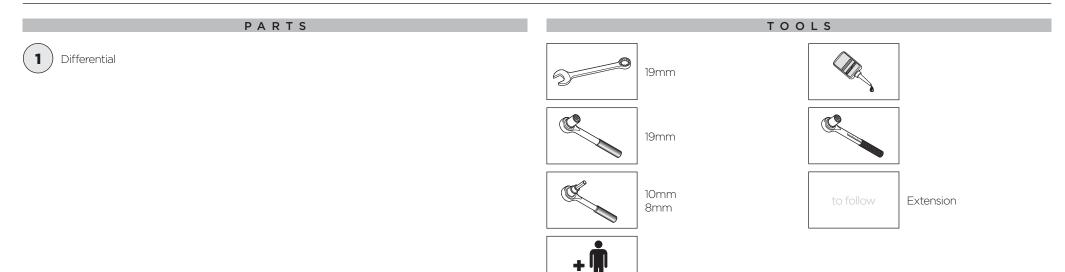
Line the splines in the propshaft to the gearbox. Anthony L Grease prop if necessary, it will have a grease nipple. John S

TOOLS

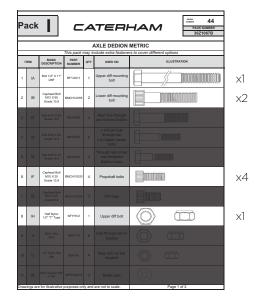
## **SLIDE IN THE PROPSHAFT**



## **HEAVY STUFF: FITTING THE DIFF**

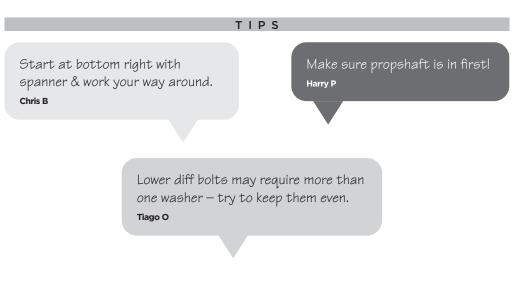


## FIXINGS

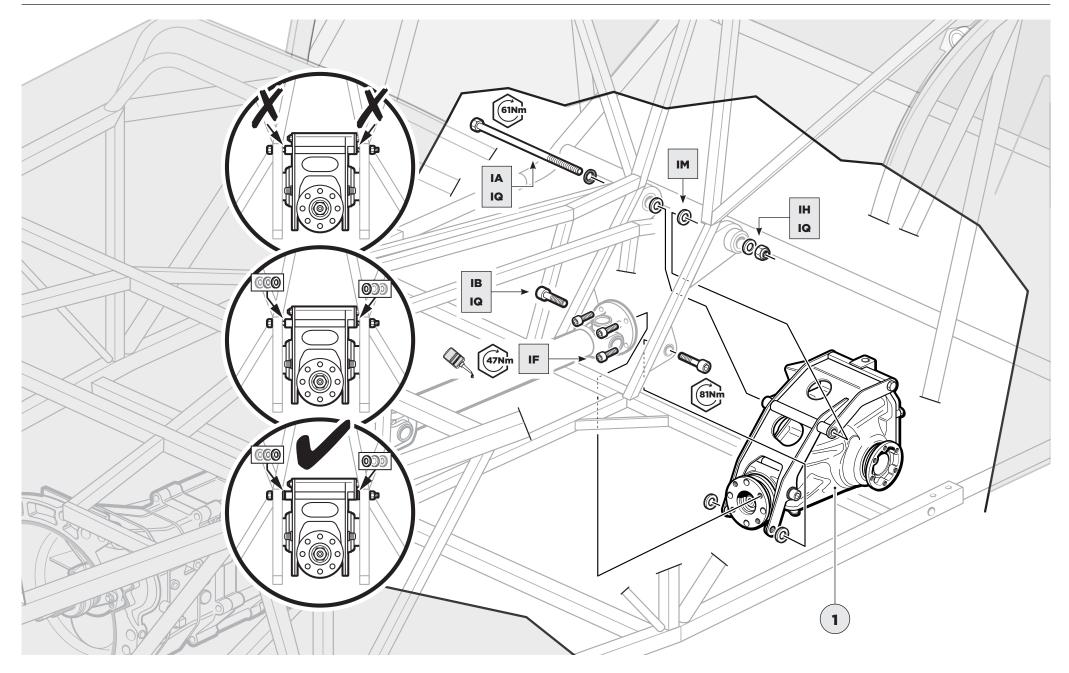


NY         Description         APPE APPE APPE APPE         OPPE APPE APPE         OPPE APPE APPE APPE         OPPE APPE APPE APPE APPE APPE         OPPE APPE APPE APPE APPE APPE APPE APPE				This pack		AXLE DEDION	METRIC rs to cover different options
K     K     K     K     K     K       LB     Rest with VI X 3.4 * Two     7007     4     Free play an dit       LD     Rest with VI X 3.4 * Two     7007     4     Dif data such VI VI data       LD     Rest with VI X 3.4 * Two     7007     4     Dif data such VI VI data       LD     Rest with VI VI data     10     Ender Data such VI VI data     0       LD     Rest with VI VI data     4     Beirde Datas has such VI data     0       LD     Rest with VI VI data     10     Pelap context with VI VI data     0       LB     VI ALSA *     1     Pelap context with VI VI data spector     0	п	ем	BASIC	PART			
N         Xxx <sup>+</sup> Two         7007         I         Pres day on all           N         Xxx <sup>+</sup> Two         Xxx <sup>+</sup> Two         Xxx <sup>+</sup> N         No         L4         D01 date search         Image: sea							
In         Party Trans         Party         Diff all manufactures         Diff all manufactures           10         Marco	3	IM	Plain washer 1/2* X 3/4* Thin	79017	8	Free play on diff	$\bigcirc$
ID     With With With II     ID     Delayer camer       III     Margin Mark     Base Status     Image Camer       III     Margin Mark     Base Status     Image Camer       III     Margin Mark     Base Status     Image Camer       III     Margin Mark     Image Camer     Image Camer       III     Mark     Image Camer     Image Camer       IIII     Mark     Image Camer     Image Camer       IIIIIII     Mark     Image Camer     Image Camer       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	4						
In         In         In         In         Description           ID         String and the state							
ID         M2         4         on aff         O           IB         Mexican         wssa         1         Busilectrans house         Signature           IS         For X11***         VE1.541*         1         Polgo on DoDon         Image: Arrowsing the poly on the poly           If         Arrowsing         M21         4         Brade poly on the poly         Image: Arrowsing the poly							
B     Month     and Section     and Section       B     Month     Perform Dependence       utracel     and Section     and Section	7	IQ			4		0
15 137 1381-3414 3 for brake pipe							
	9	IS		1661-0414	5		
	0	п	P-Clip	NX1	5		P 5

\* Use as required for spacing



## **HEAVY STUFF: FITTING THE DIFF**



## FILL THE DIFFERENTIAL WITH OIL

PARTS

Differential oil

FIXINGS

TIPS

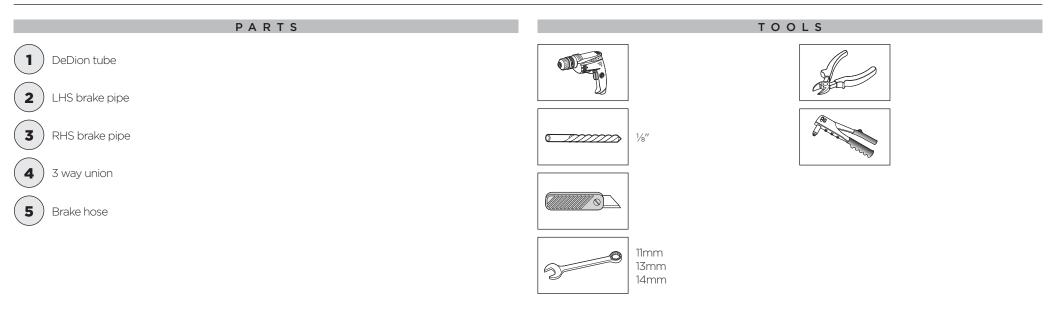
TOOLS





Differential = 0.8L

## **PREPARING THE DEDION TUBE**



## FIXINGS

				USPENSION D		
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON		ILLUSTRATION
1 нк	Nyloc Nut 1/4*	NFYF1/4	1	3 - way union on DeDion tube	$\bigcirc$	

Pa	ack		-	Δ	TER	
					AXLE DEDION	
	тем	BASIC DESCRIPTION	PART NUMBER	QTY	used on	rs to cover different options ILLUSTRATION
1	IA	Bolt 1/2" X 11" UNF	BF1/2X11	1	Upper diff mounting bolt	
11	к	Plain washer 3/8" X 7/8"	WPH3/8X7/8	2	Brake pipe	$\bigcirc$
Drav	vings ar	e for illustrative	purposes or	ly and	are not to scale.	Page 1 of 2

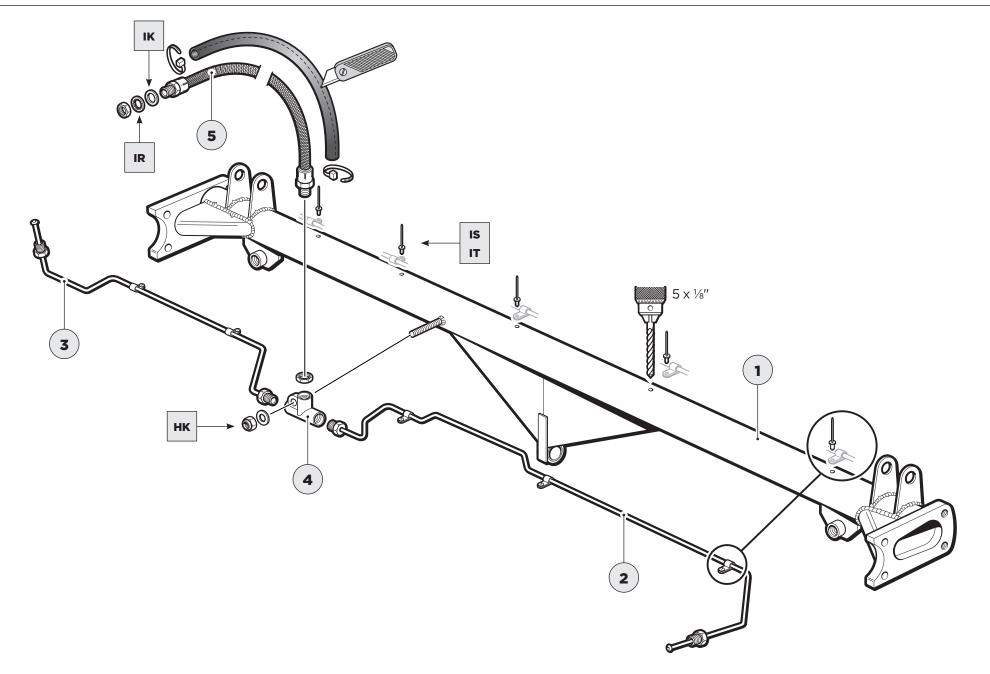
			This pack		AXLE DEDION	METRIC rs to cover different options
n	тем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
						0
3	IR	Shakaproof waaher 3/8*	W\$\$38	1	Braided brake hose	(Trans
Э	IS	Rivet 1/8" X 0.51"	1661-0414	5	P-clips on DeDion for brake pipe	
	п	P-Clip	NK1	5	Brake pipe on DeDion	P 5

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.

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



## AND FITTING IT IN PLACE

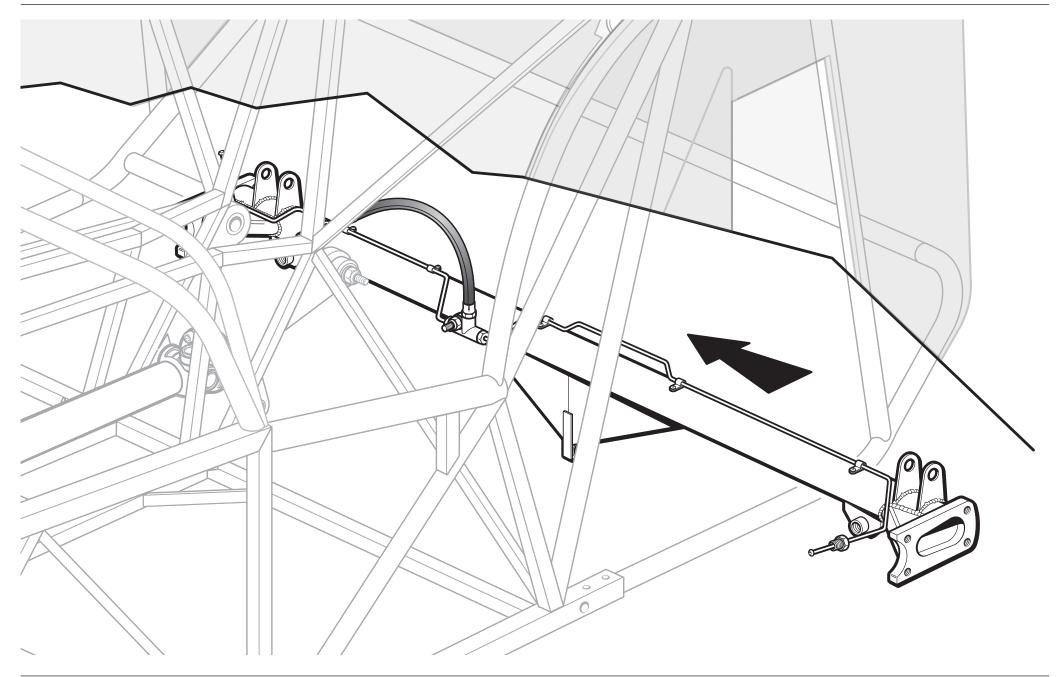
PARTS

TOOLS

FIXINGS

TIPS

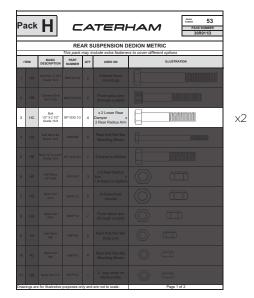
## **AND FITTING IT IN PLACE**



## **ATTACHING THE REAR DAMPERS**

# PARTS TOOLS 1 Rear damper assembly 2 Rear damper sleeve Image: Sleeve

## FIXINGS

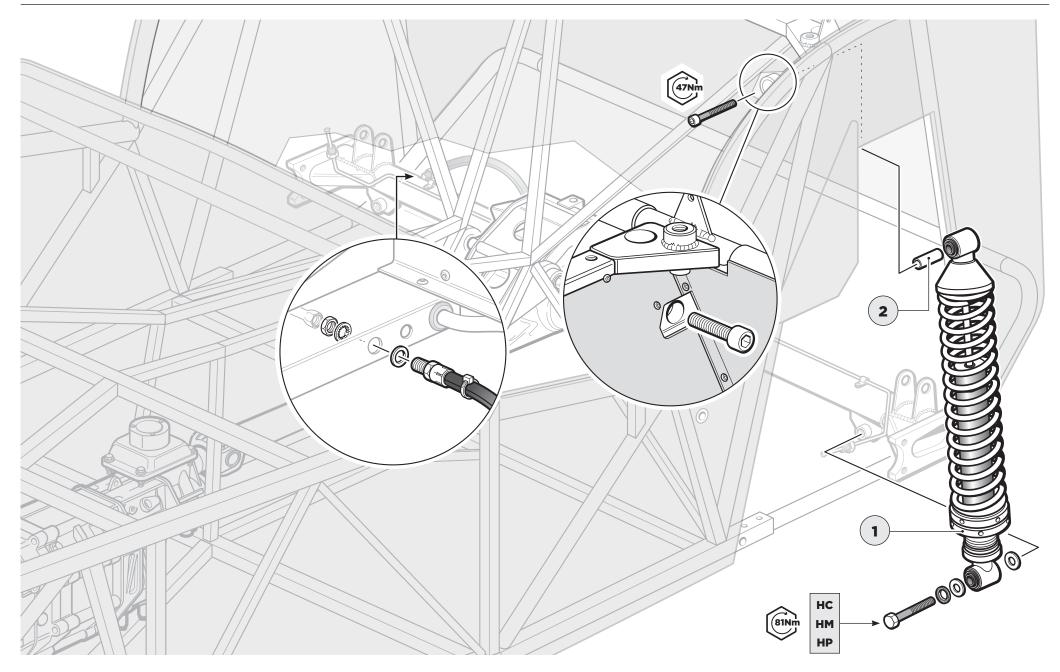


## Back Holl Cancellence Same Same

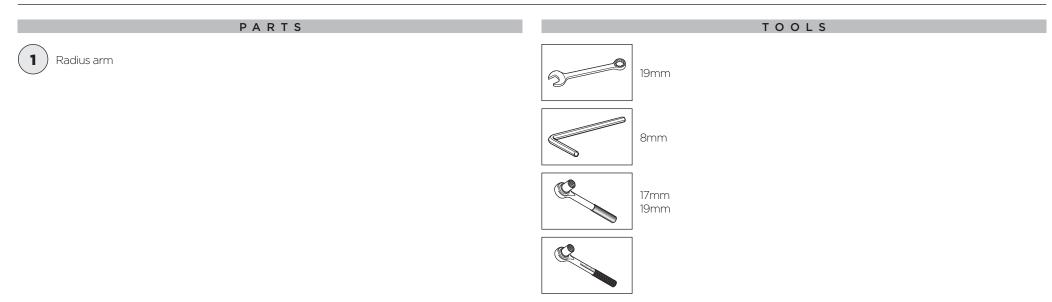
## TIPS

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.

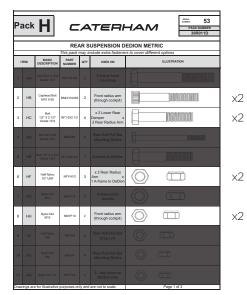
## **ATTACHING THE REAR DAMPERS**

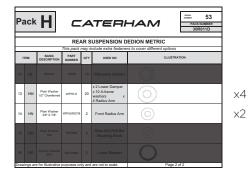


## THEN THE RADIUS ARM



## FIXINGS



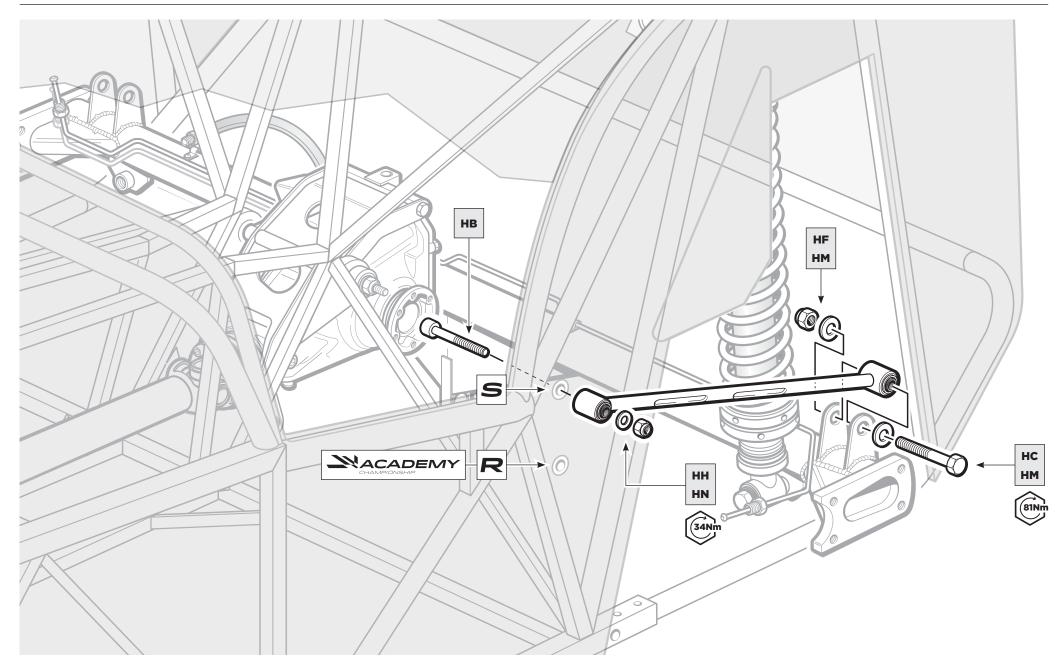


## TIPS

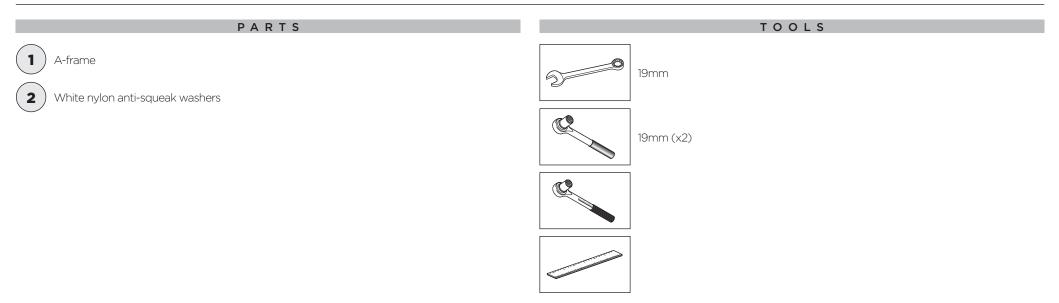
Before torquing up these bolts, reposition the axle stands to under the DeDion tube (to hold up the suspension). Make sure front has two axle stands so it is steady when jacking up the rear!

## Mick F

## THEN THE RADIUS ARM



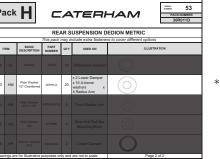
## AND NOW THE (CAREFULLY SPACED) A-FRAME



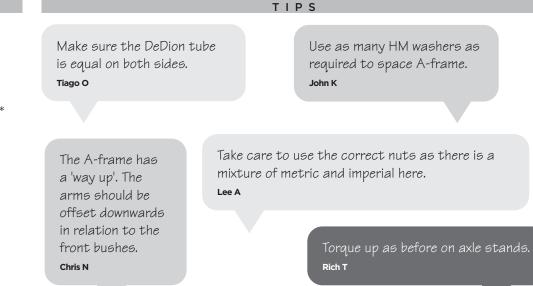
## FIXINGS

Image: Hard State S						USPENSION D sclude extra fastene			
HA         Ocde: 13         BERCHO         2         mountings           2         HA         Ocde: 13         BERCHO         2         mountings           3         HC         Marcellan         BERCHO         2         Performation         BERCHO         2         Statementary           4         HO         Marcellan         BERCHO         4         Statementary         Employee         Employee           5         HE         Marcellan         BERCHO         1         Advance to extract         Employee         Employee           6         HE         Marcellan         Marcellan         1         Advance to extract         Employee         Employee           7         HG         Marcellan         Marcellan         2         Advance to extract         Employee         Employee           8         Marcellan         Marcellan         2         Advance to extract         Employee         Employee         Employee           7         HG         Marcellan         Marcellan         2         Advance to extract         Employee         Employee         Employee           8         Marcellan         Marcellan         2         Advance to extract         Employee         Employee	r	гем			QTY	USED ON		ILLUSTRATION	
2         MI         MIX KIN         MIX KIN         ACX KIN         2         Personal conjunt           3         MIX         MIX KIN         4         Long King         1         Long King         MIX KING         4           4         MIX         MIX KING         4         MIX KING         4         MIX KING         MIX KING         MIX KING           5         MIX         MIX KING         MIX KING         1         Actions to DoDool         MIX KING	1	на		BM12X100	2				
2         AC         Gall MD 20         MI ADD 24         Degree ALL ADD 24         Marge ALL ADD 24           4         AD         Mark MD 26         MI ADD 24         ALL ADD 24         ALL ADD 24           5         HE         Add 25         MI ADD 24         ALL ADD 24         ALL ADD 24           6         HE         Hard MD 25         ALL ADD 24         ALL ADD 24         ALL ADD 24           7         HG         Mark MD 25         ALL ADD 24         ALL ADD 24         ALL ADD 24           8         HA         Mark MD 25         2         All ADD 24         All ADD 24           9         HA         Mark MD 25         2         Andreas to DoDon         All Add 24           9         HA         Mark MD 25         2         All Add 24         All Add 24           9         HA         Mark MD 25         2         Free Add 24         All Add 24           9         HA         Mark MD 25         2         Free Add 24         All Add 24									
4         10         mem max         MAX         4         Meming Back           5         He         Medical Sale         #1.002.54         1         Adams to DeDoor									
b         HE         Orack 113         PTIOD234         1         Artimate Bucklow           6         HF         Total Machine         Artimate Bucklow									
6         16         17         Index         Marries         3         America         America         Index to Dation         Index to Dation           7         HG         Marries         Marries         2         America         Index to Dation         Index to Dation           8         Marries         Marries         2         America to Dation         Index to Dation         Index to Dation           8         Marries         Marries         2         Production         Index to Dation         Index to Dation           9         Marries         Marries         2         Production         Index to Dation	5	HE	Bolt 1/2" X 2.3/4" Grade 10.9	BF1/2X2.3/4	1	A-frame to DeDion			
7         HS         Variation         New York         2         Provide Traduction           8         1016         Marrieria         2         Provide Traduction         Immunolities           9         101         Marrieria         2         Read And Read Ball         Immunolities           40         101         Marrieria         1         Baar And Read Ball         Immunolities	6	HF		NFYH1/2	3	Arm x	$\bigcirc$		
a         141         Tarso         AMAYIN         2         Weeningto competition           b         161         Marriero         2         Mean/Address Competition         Image: Competition           b         161         Marriero         2         Mean/Address Competition         Image: Competition           b         161         Marriero         2         Mean/Address Competition         Image: Competition           b         101         Marriero         2         Mean/Address Competition         Image: Competition           c         301         Marriero         1         Mean/Address Competition         Image: Competition	7	HG		NMYF12	2		$\bigcirc$		
19 Hi tai Nerve 2 Drop Link     10 Drop Link     10 Drop Link     11 Drop Link     11 Drop Link     11 Drop Link	8	нн	Nyloc Nut M10	NMYF10	2		$\bigcirc$		

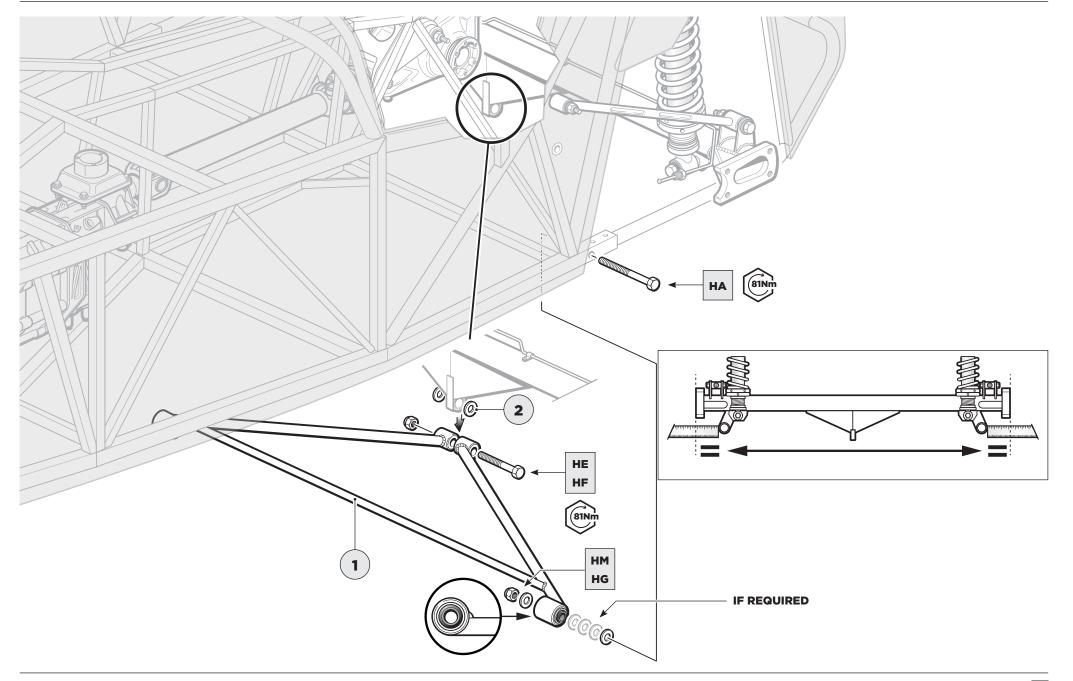




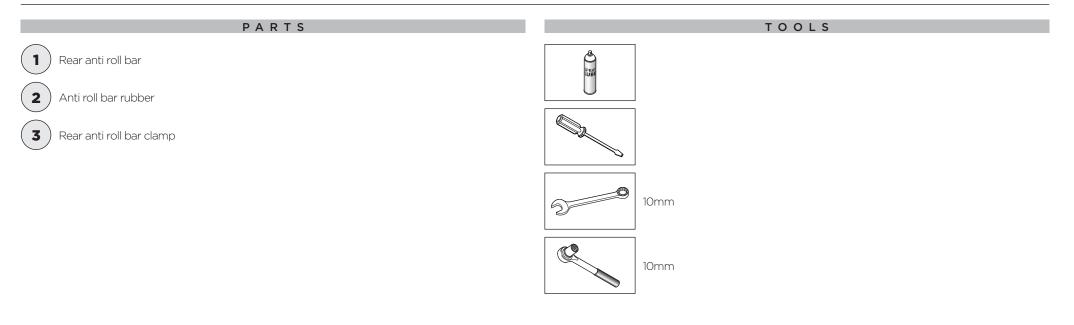
\* Use as required for spacing



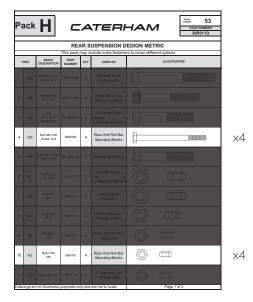
## AND NOW THE (CAREFULLY SPACED) A-FRAME

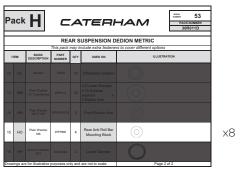


## IF YOU HAVE THE OPTIONAL REAR ANTI-ROLL BAR, IT GOES ON LIKE THIS



## FIXINGS

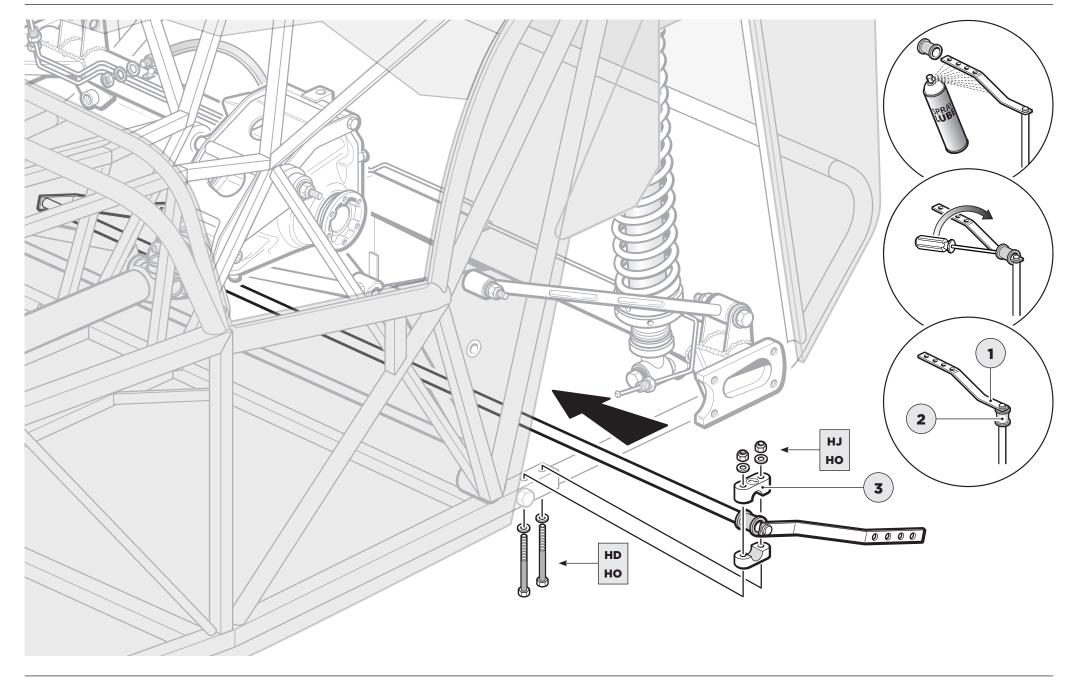




### TIPS

Be careful not to slip with the screwdriver!  ${\scriptstyle John\,S}$ 

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



## **INSERT THE DRIVESHAFTS**

2

Driveshaft nut

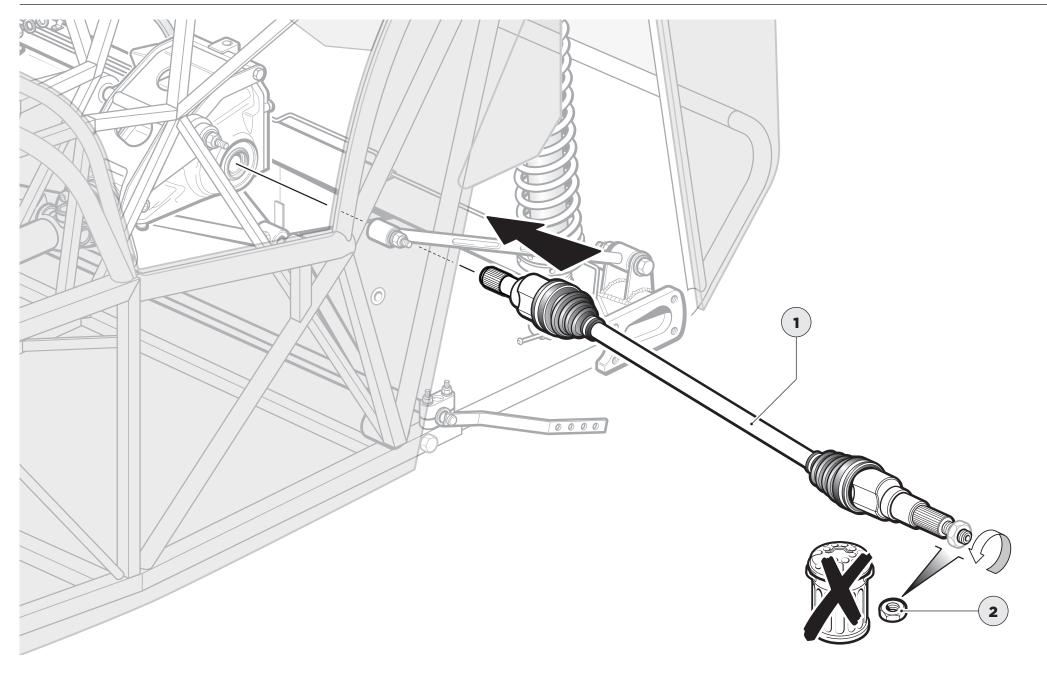
PARTS	TOOLS
1 Driveshaft	

FIXINGS

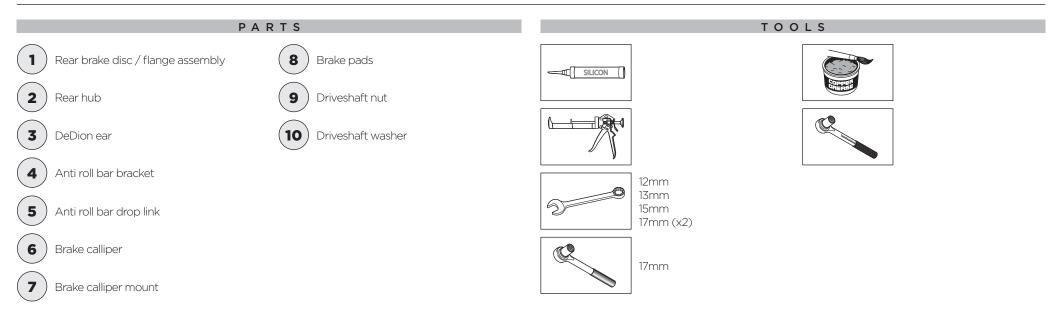
## TIPS

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

## **INSERT THE DRIVESHAFTS**



## **FITTING THE REAR HUB**



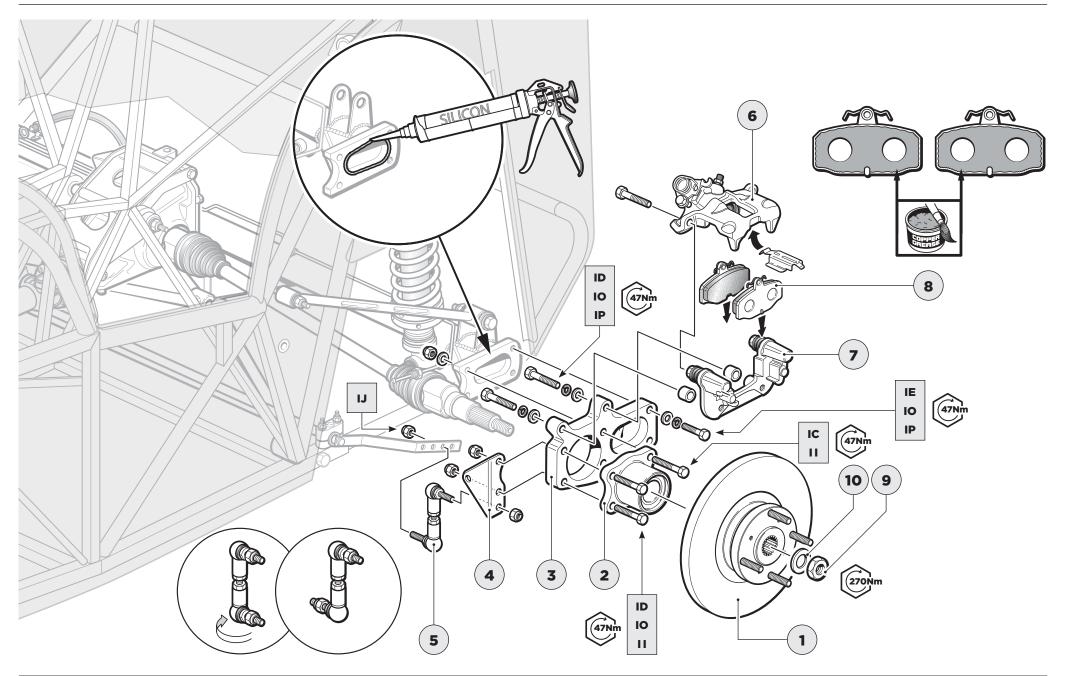
## FIXINGS

			This pack		AXLE DEDION	METRIC rs to cover different options	
п	ЕМ	BASIC DESCRIPTION	PART NUMBER	qτγ	USED ON	ILLUSTRATION	
3	IC	Bolt M10 X 65 Grade 10.9	BM10X85	4	Rear hub through ear to front DeDion		Х
4	ID	Bolt M10 X 55 Grade 10.9	BM10X55	8	x 4 Front hub through ear x 4 Caliper carrier bolts		Х
5	IE	Bolt M10 X 40 Grade 10.9	BM10X40	4	Through rear of ear into threaded DeDion holes		Х
6		Caphead Bolt M10 X 20 Grade 12.9					
						$\bigcirc$ $\square$	
9	н	Nyloc Nut M10	NWYF10	8	Hub through ear to DeDion	$\bigcirc$ $\square$	×
10	IJ	1/2" Nyloc Nut M8	NATYHS	4	Rear anti roll bar droplink		×

Pa	ack		-	ב	TERI		
			Th.:		AXLE DEDION		
r	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	rs to cover different options ILLUSTRATION	
15	10	Washer M10	WPHM10	16	Rear DeDion Caliper Carrier Hub	$\bigcirc$	×16
16	IP	Spring Washer M10	WSHM10	16	Rear DeDion Tube Caliper Carrier	0	x8
						0	
Draw	ings an	e for illustrative	purposes or	ly and	are not to scale.	Page 2 of 2	1



## **FITTING THE REAR HUB**



## AND SPEED SENSOR (ONE SIDE ONLY)

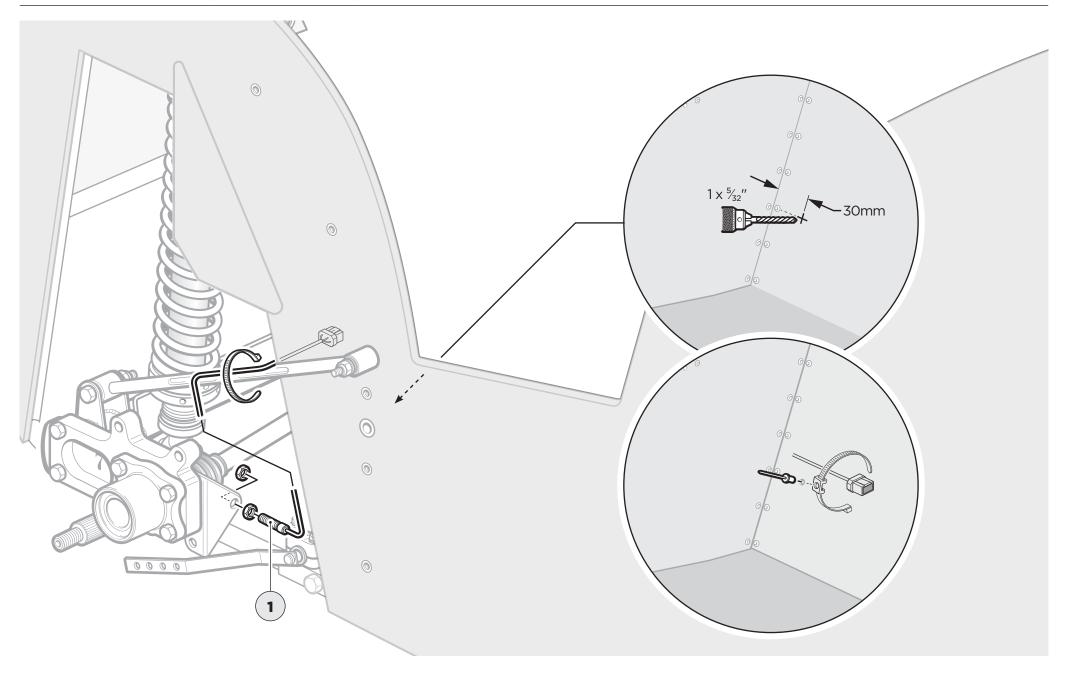


## FIXINGS



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)



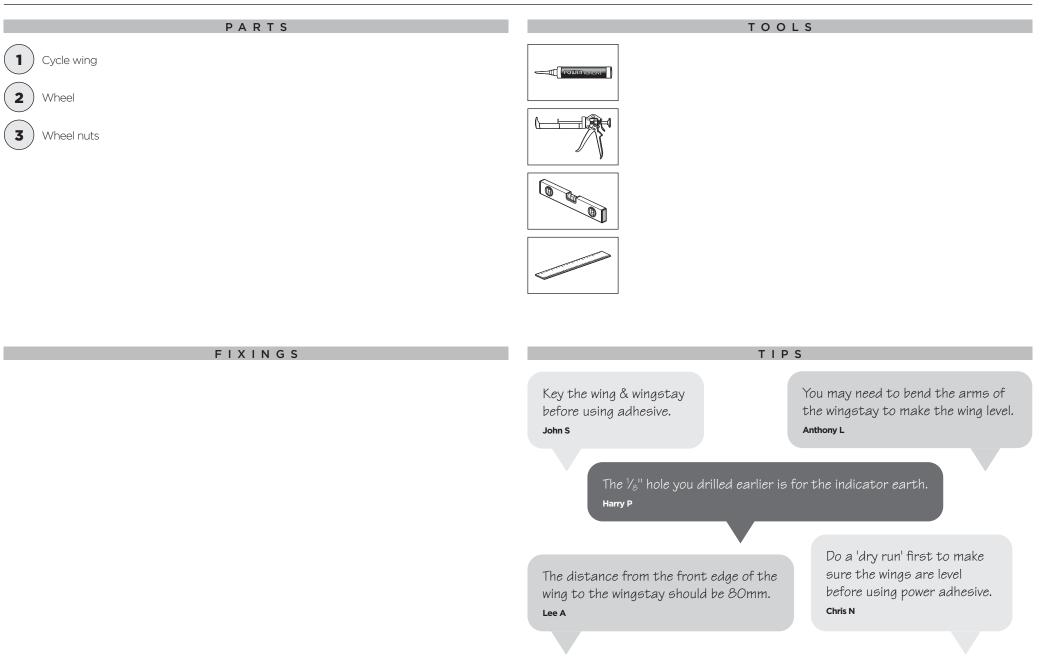


## Now is a good time to take some photos

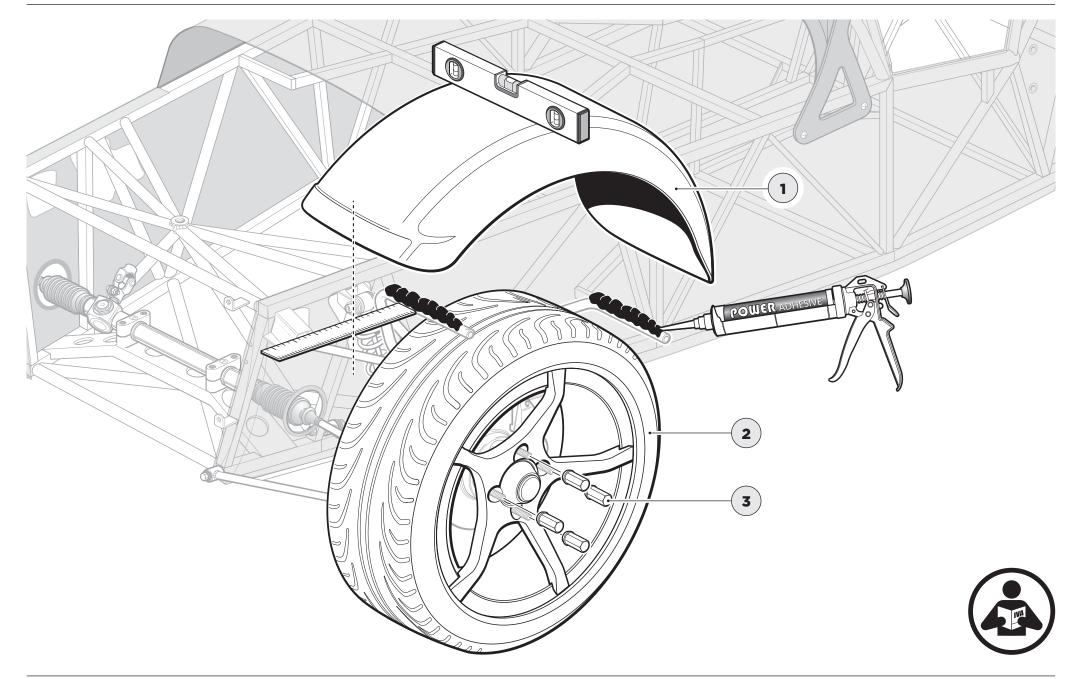


Have you applied for your IVA yet?

# JUST WING IT



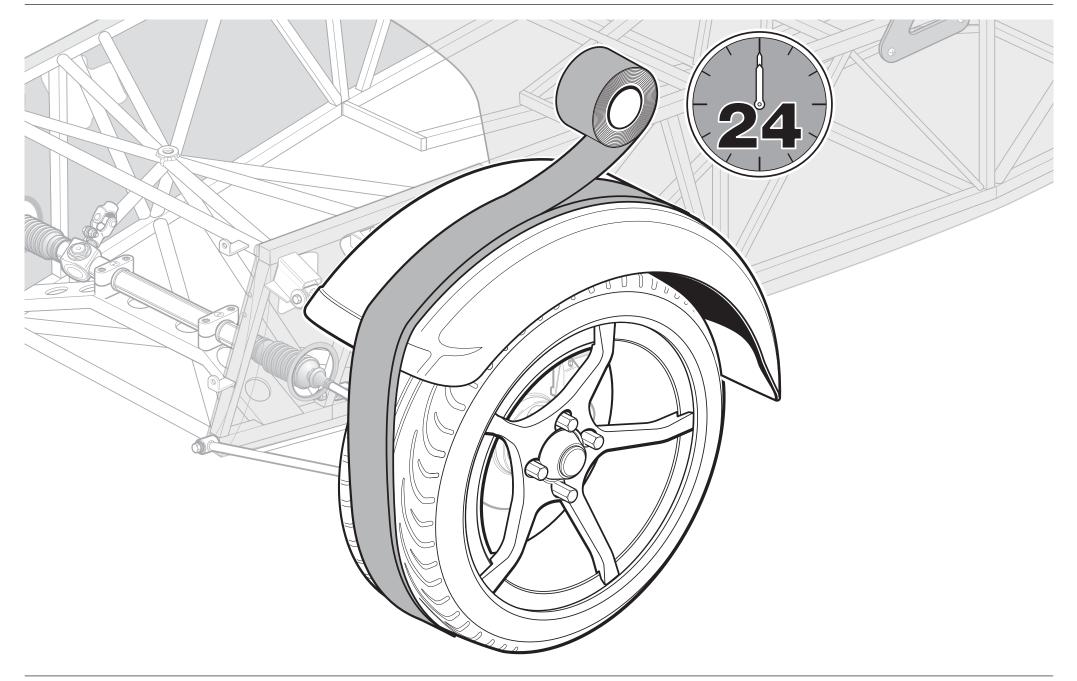
# JUST WING IT



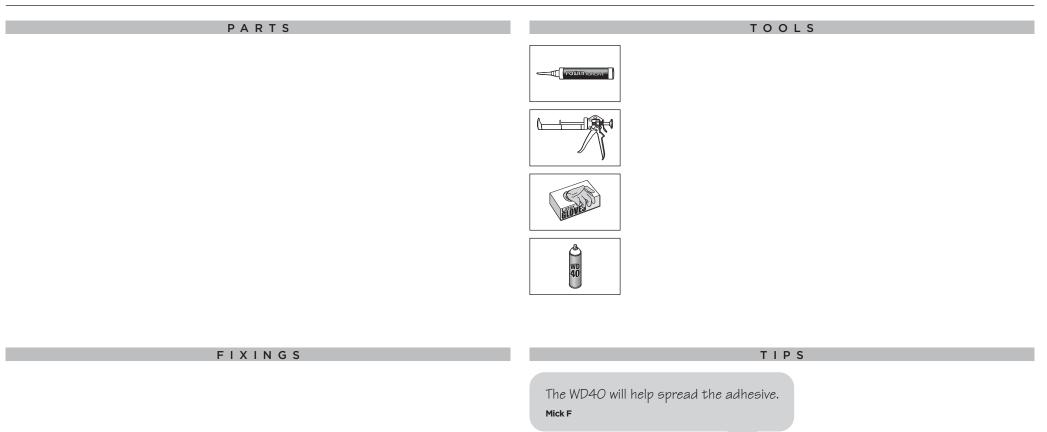
# **TAPE IN PLACE FOR 24 HOURS**

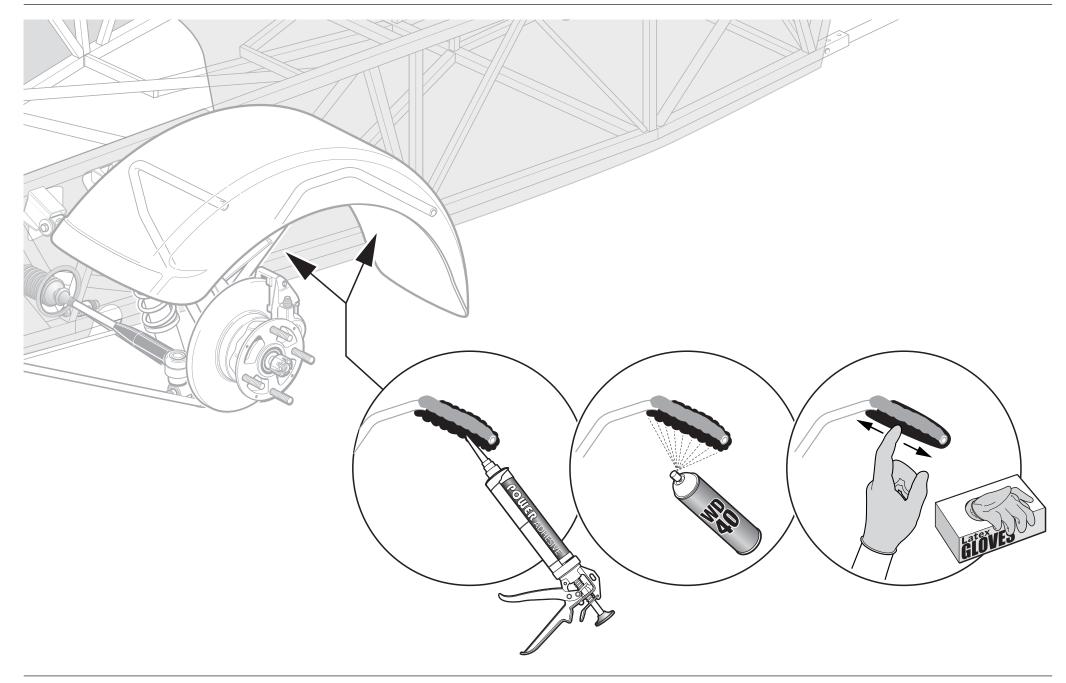
PARTS	TOOLS
FIXINGS	ΤΙΡՏ

# **TAPE IN PLACE FOR 24 HOURS**

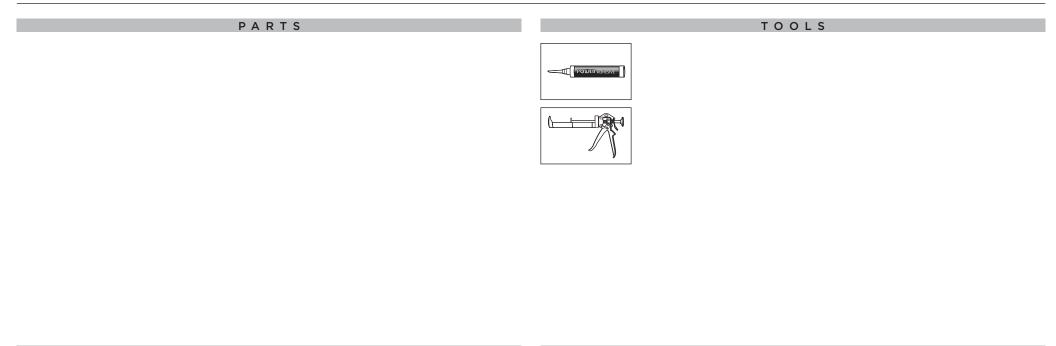


## SOME EXTRA ADHESIVE UNDERNEATH



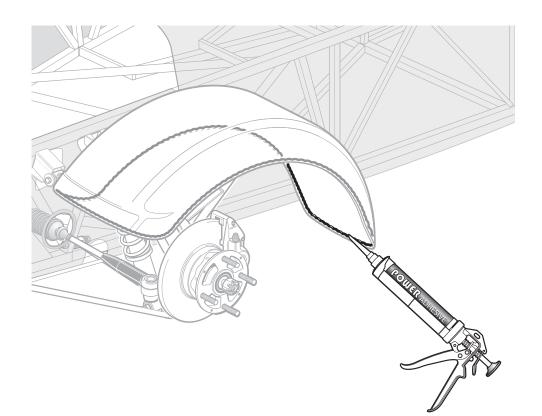


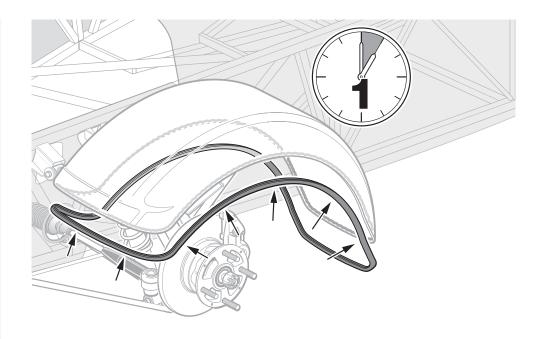
# **FINISH WITH TRIM**



#### FIXINGS

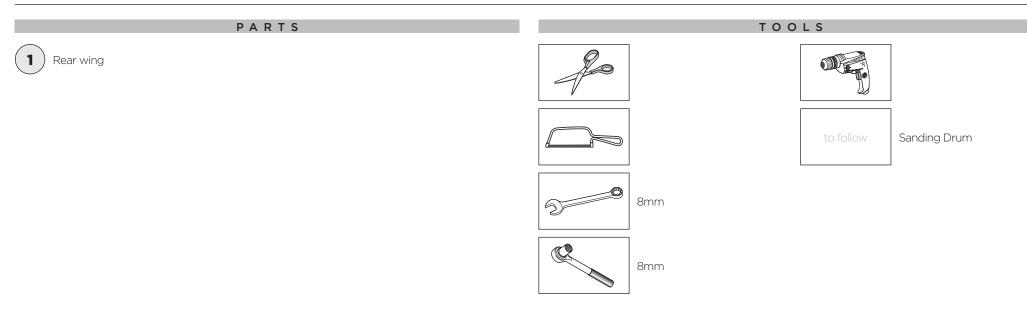
TIPS







# **FITTING THE REAR WINGS**



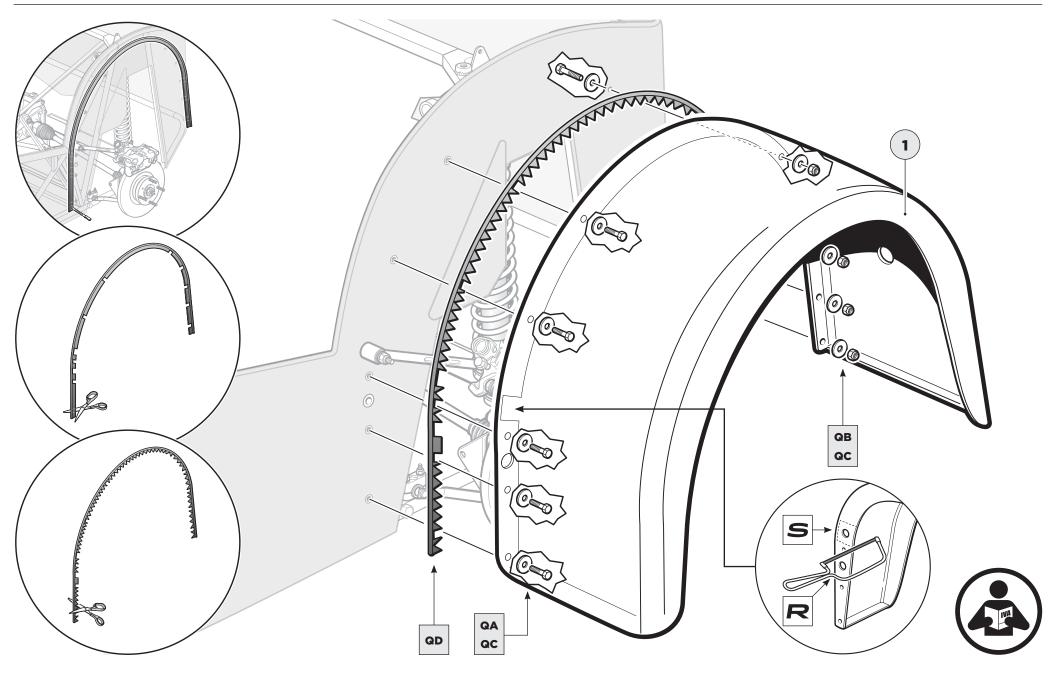
#### FIXINGS

		Q			TER	ZFG12	
			This pack I	nay ir	REAR WIN clude extra fastener	GS 's to cover different options	_
п	ЕМ	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
1	QA	Set Screw M5 X 20	SM5X20	20	Rear Wings		x20
2	QB	Nyloc Nut M5	NMYF5	10	Rear wings through boot	o II	×10
3	QC	Plain Washer 3/16* X 3/4*	WP3/16X3/4	30	Wing washers	$\odot$	x30
4	QD	Wing Piping 1/4" X 1"	76902	4m	Between wing and body		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 TOOLS I Wing protector Image: Comparison of the second of the second

#### FIXINGS

#### For stainless steel protectors

Pa	ack	0	_	Ά	TEAH	HAM	PACK NUMBER ZWS01
						AINLESS STEEL	
			This pack I	nay ir	iclude extra fastene	rs to cover different options	
r	тем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRAT	non
1	OA	Rivet 1/6" X 0.51"	1681-0414	30	Wing protector to wing		$\rightarrow$
2	ов	Wing Piping	76901	2m	Between wing protector and wing	Î 🛛 👌	
Draw	inos are	for illustrative r	urposes on	ly and	are not to scale.	Page 1 c	f1

#### For carbon fibre protectors

Pa	ack	Ρ	_	Ά	TER	HAM PACK NUMBER ZWS02
						CARBON FIBRE
r	TEM	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	
Draw	ings an	e for illustrative p	purposes on	ly and	are not to scale.	Page 1 of 1

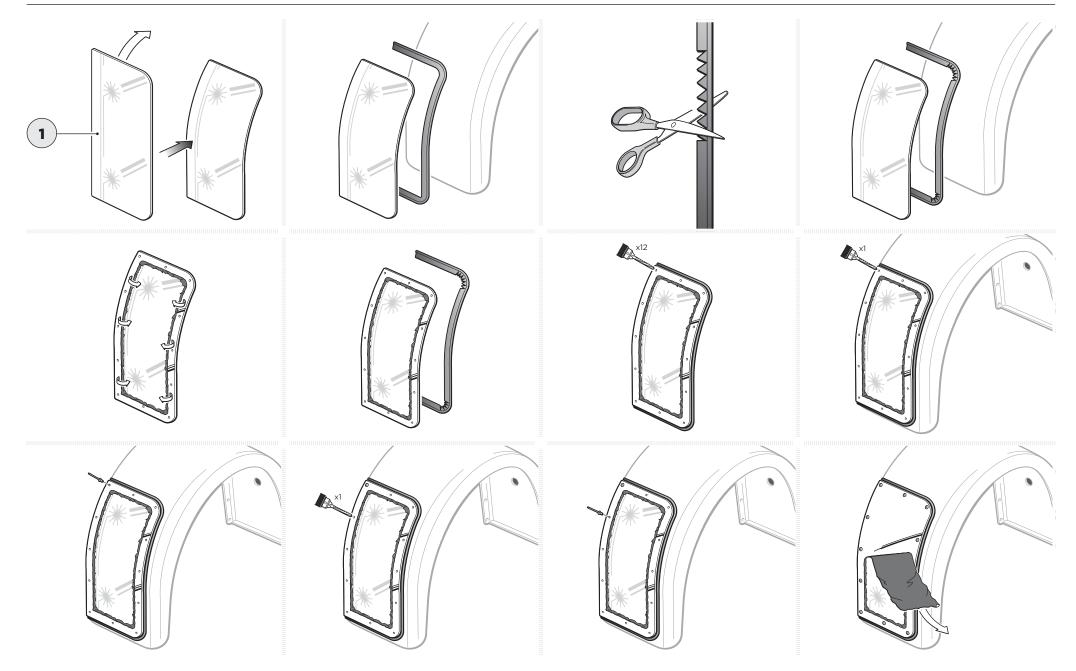
#### TIPS

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

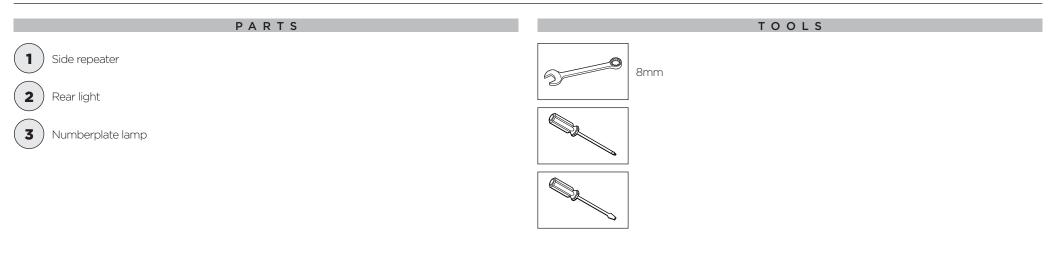
1⁄8″

Carbon fibre protectors will not have the protective film shown. Anthony L

# AND THE WING PROTECTORS

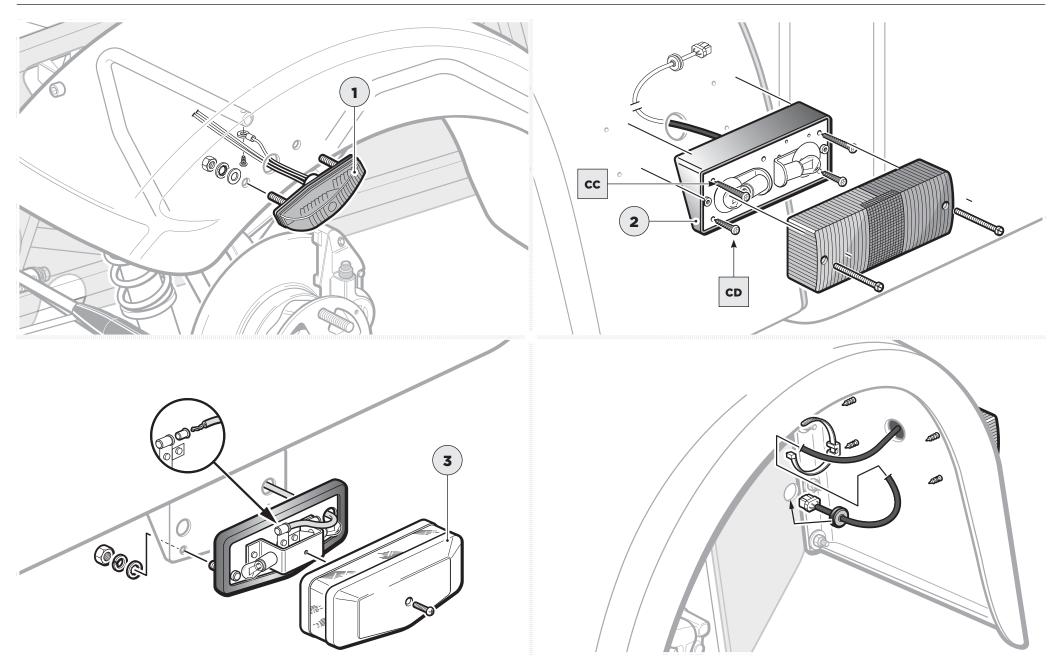


# **FITTING THE LIGHTS**



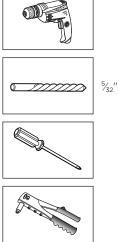
FIXINGS	TIPS	
Pack C CATERHAM 45 FASTENER PACK - LIGHTING FASTENER PACK - LIGHTING	Use a cradle clip & cable tie to keep the rear light loom out of the way.	Rubber grommet on rear light
Image     BASIC DESCRIPTION     MAXIMUM     GTV     Used on       1     CA     Maximum     71000     6     Indicator pod indicator pod	John S	goes in the body not the wing.
2     Cal     Severe 54.5x <sup>2</sup> , Severe 54.5x <sup>2</sup> First product and the outproperty of the severe 54.5x <sup>2</sup> First product and the severe 54.5x <sup>2</sup> 3     Cal     Severe 54.5x <sup>2</sup> , Severe 54.5x <sup>2</sup> First product and the severe 54.5x <sup>2</sup>		Jamie A
3     CC     Scower 12 x 1 <sup>n</sup> Trutys     4     Near High Loader     Col     International Internatinternational International International International In	Indicator repeater wires go through the wingstay. <b>Chris B</b>	

# **FITTING THE LIGHTS**



## **FUSE BOX COVER & KNEE TRIM PADS**

# PARTS TOOLS



#### FIXINGS

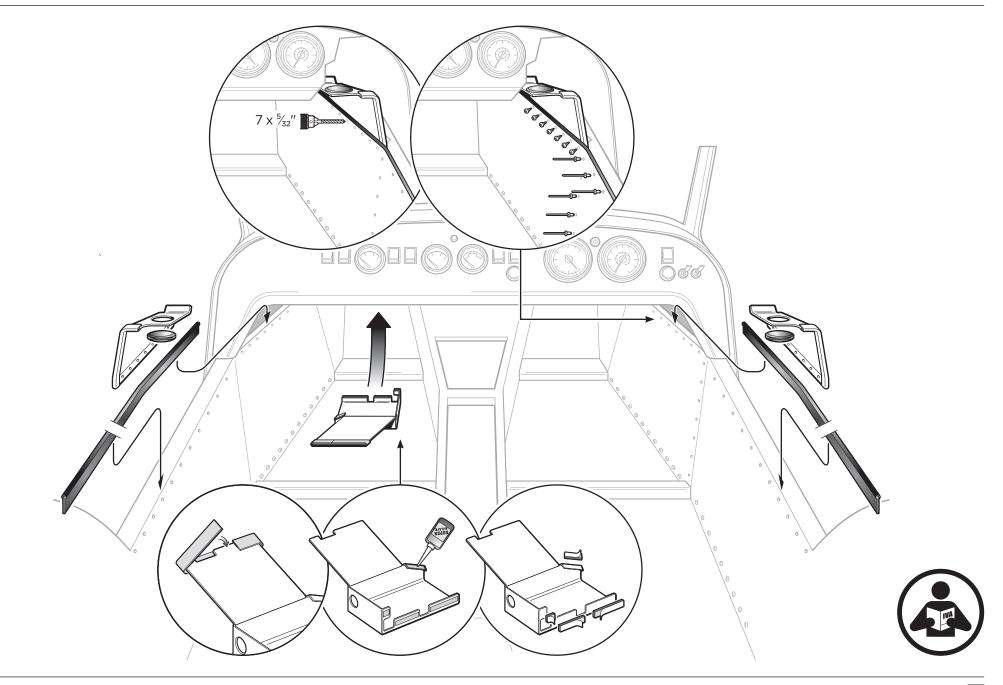
#### Chassis fastener pack ZCH01 supplied loose:

- Screw 3/4" x 10
- Rivet 5/32 x 0.47"

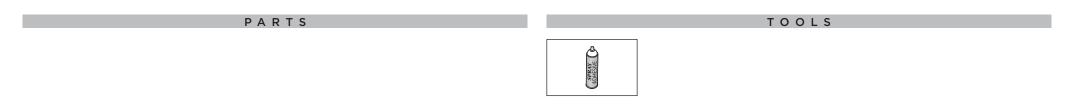
#### TIPS

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.

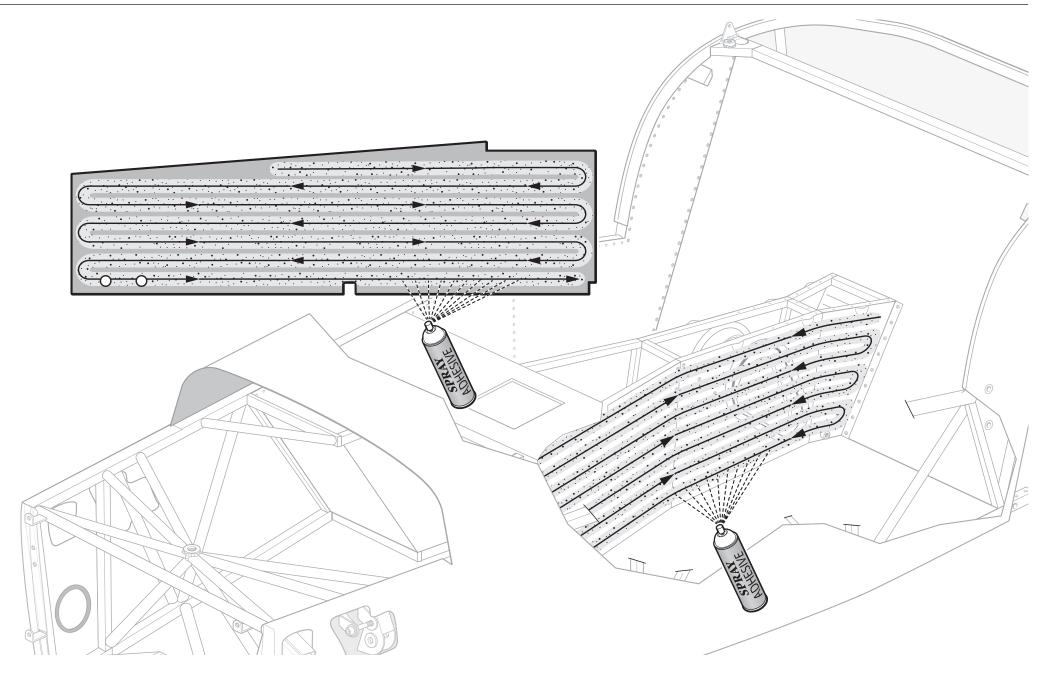
John S



# **FIT THE TUNNEL CARPET**







# AND THE BOOT CARPET

PARTS

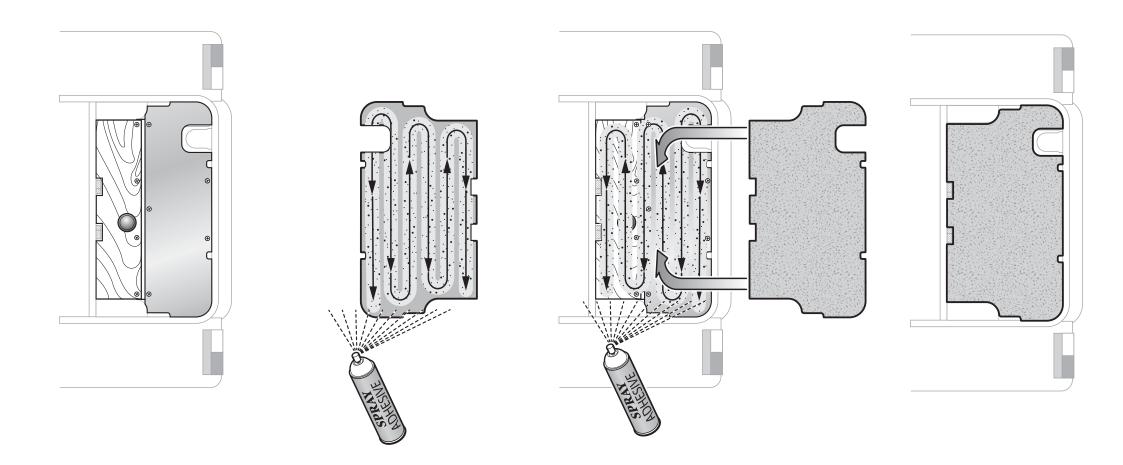
TOOLS



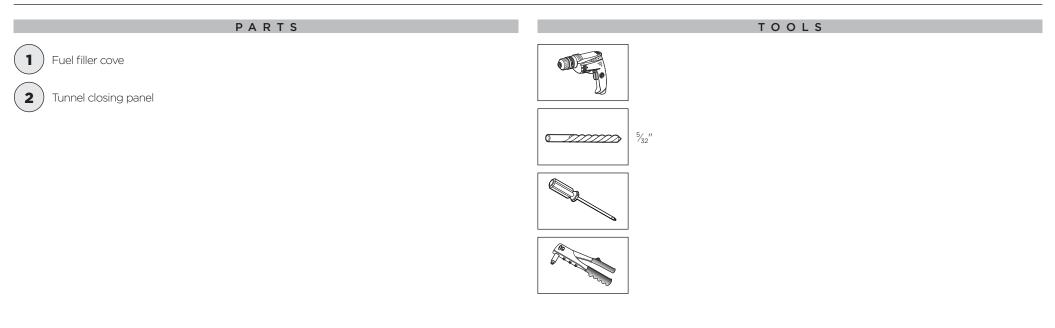
#### FIXINGS

#### 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



# THIS IS A COVER UP



#### FIXINGS

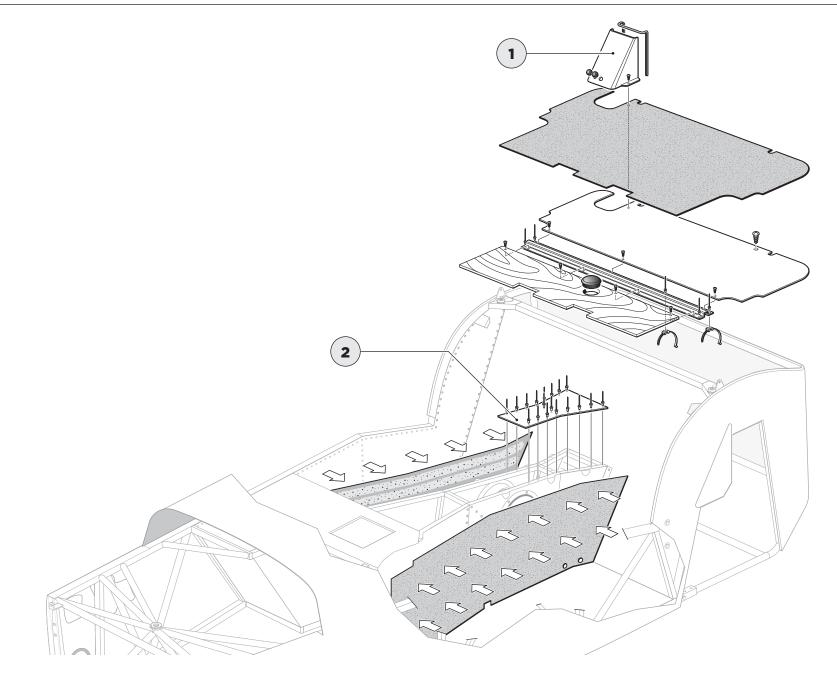
#### Supplied loose:

- Rivets
- Screws

#### TIPS

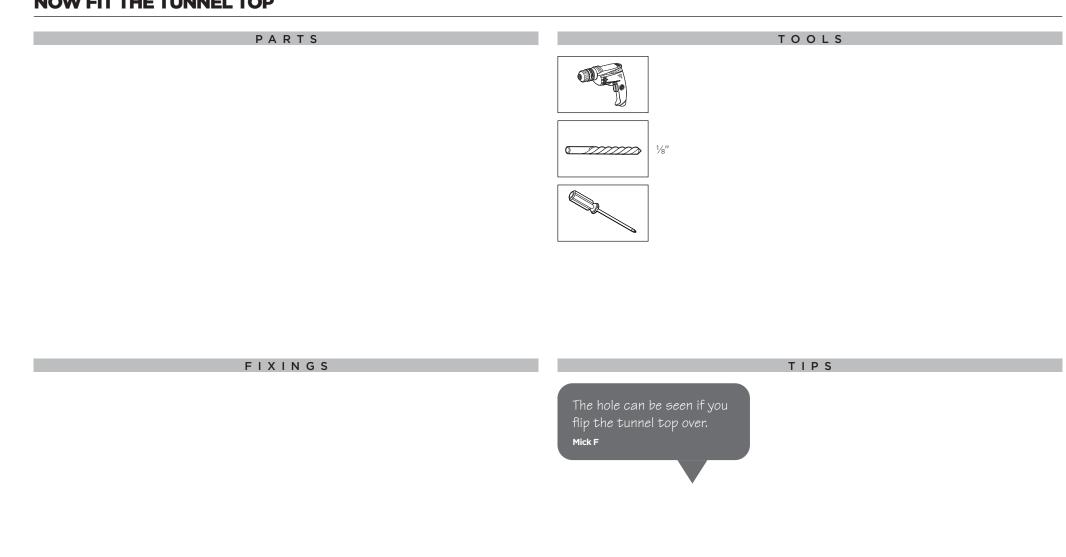
The fuel filler cover just screws to the boot floor. Drill two holes and use self tapping screws. Rich T

# <sup>156</sup> CATERHAM

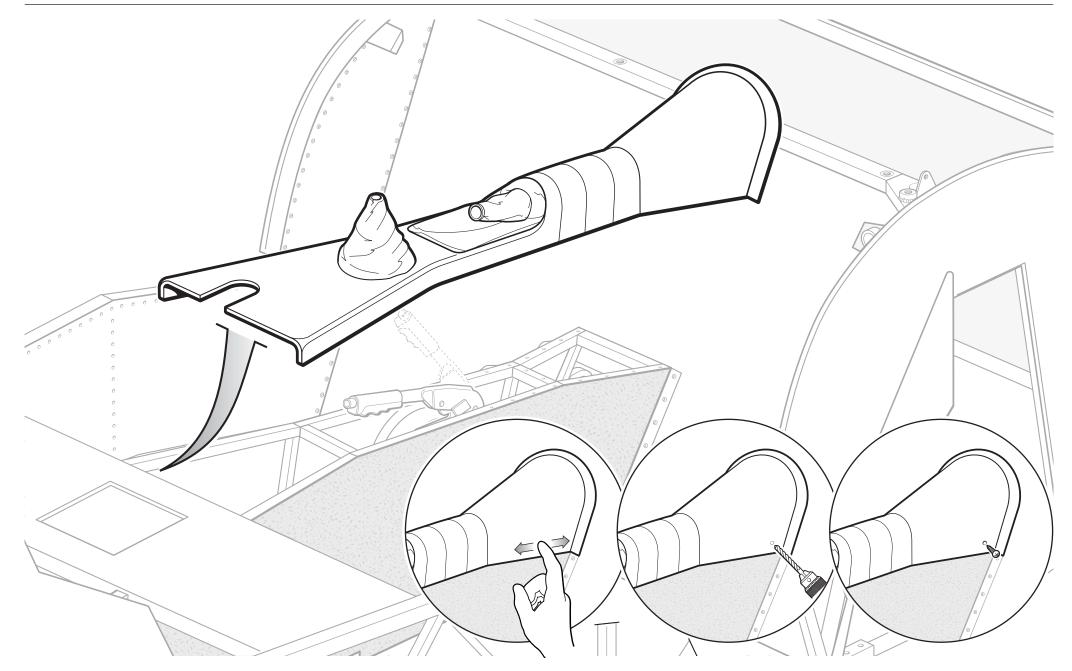




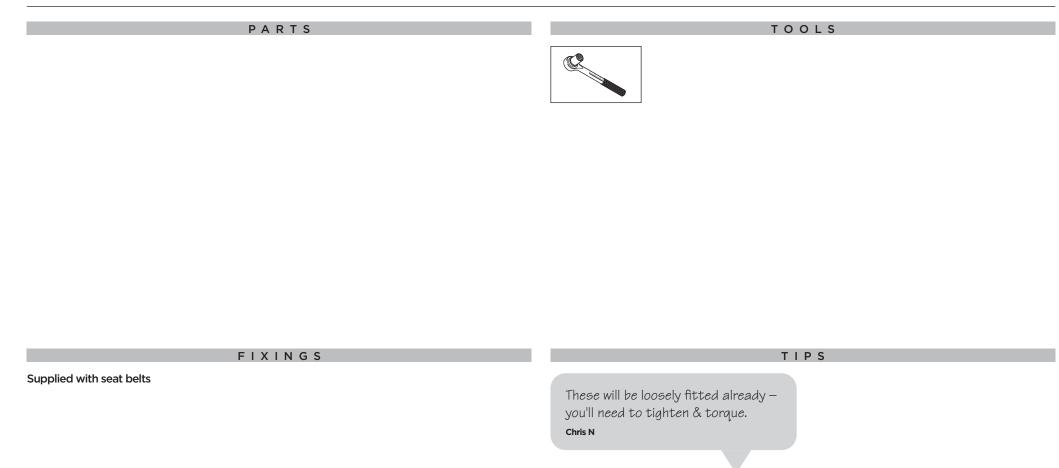
# NOW FIT THE TUNNEL TOP

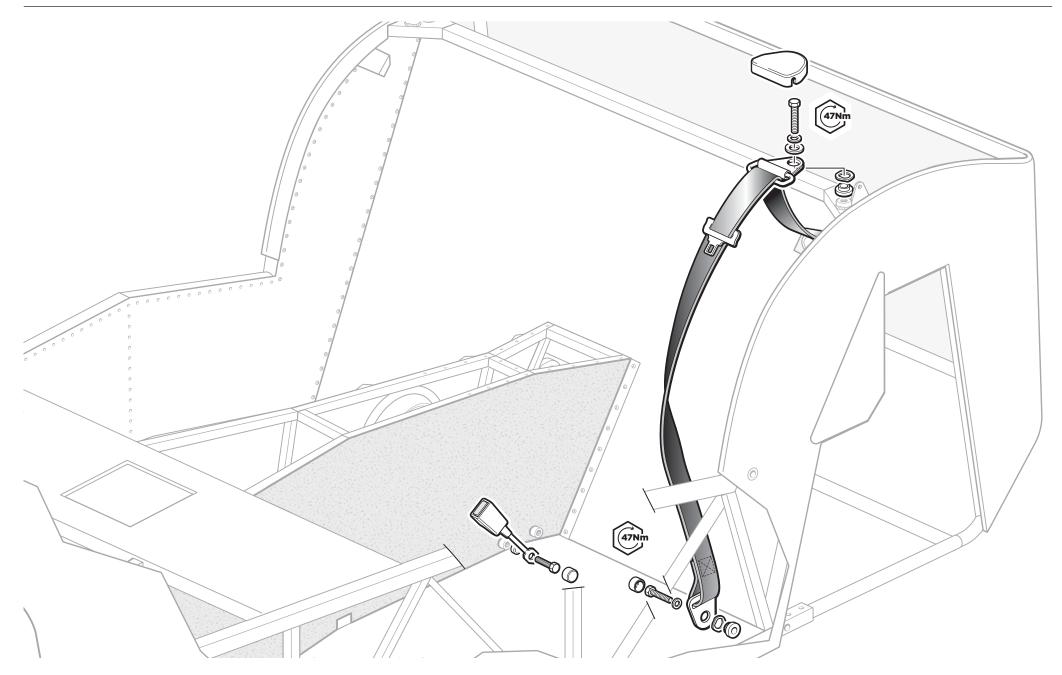


# NOW FIT THE TUNNEL TOP



#### **BELT UP**





# **FITTING THE FOUR-POINT HARNESS**

# PARTS TOOLS 17mm

#### FIXINGS

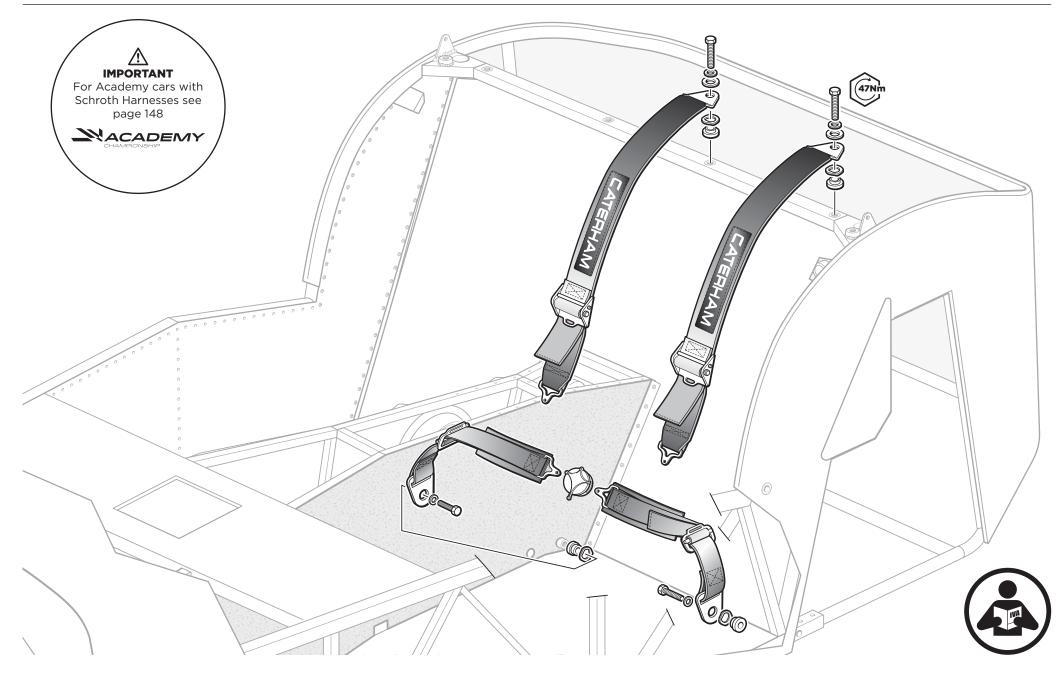
All fixings supplied with the harnesses

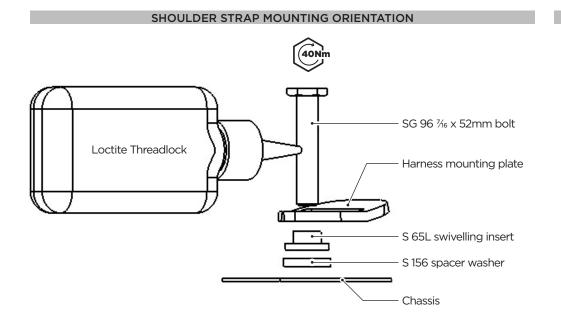
#### TIPS

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

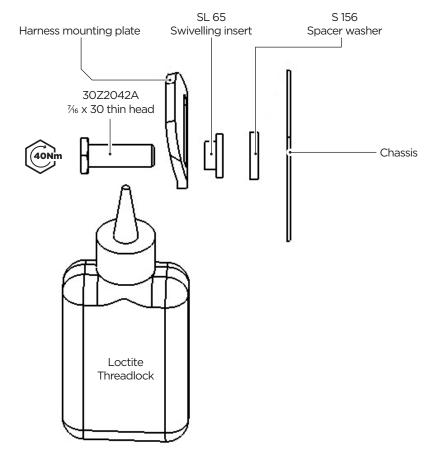
> For Academy cars with Schroth Harnesses see Page 148. Dan P

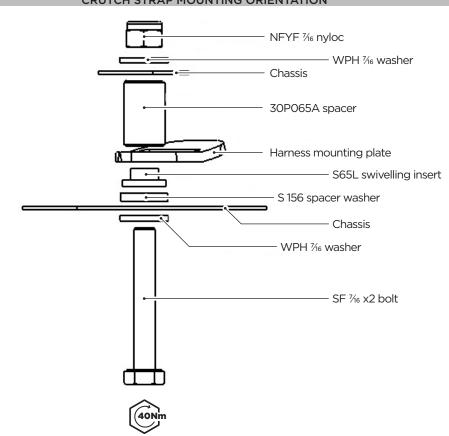
# **FITTING THE FOUR-POINT HARNESS**





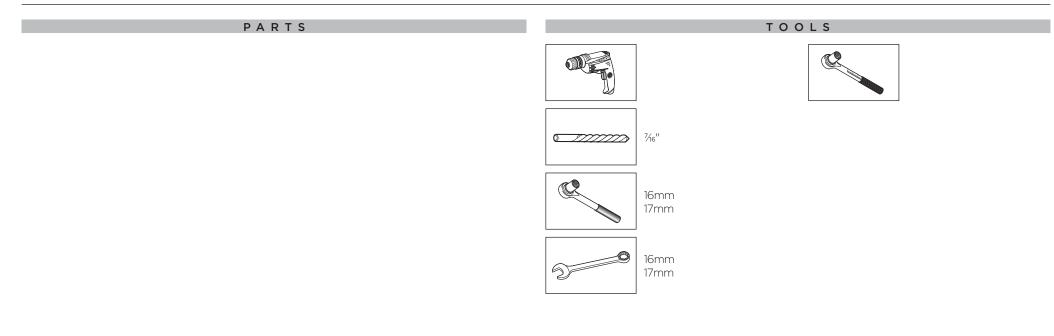
#### WAIST STRAP MOUNTING ORIENTATION





#### **CRUTCH STRAP MOUNTING ORIENTATION**

# **FITTING THE SIX-POINT HARNESS**



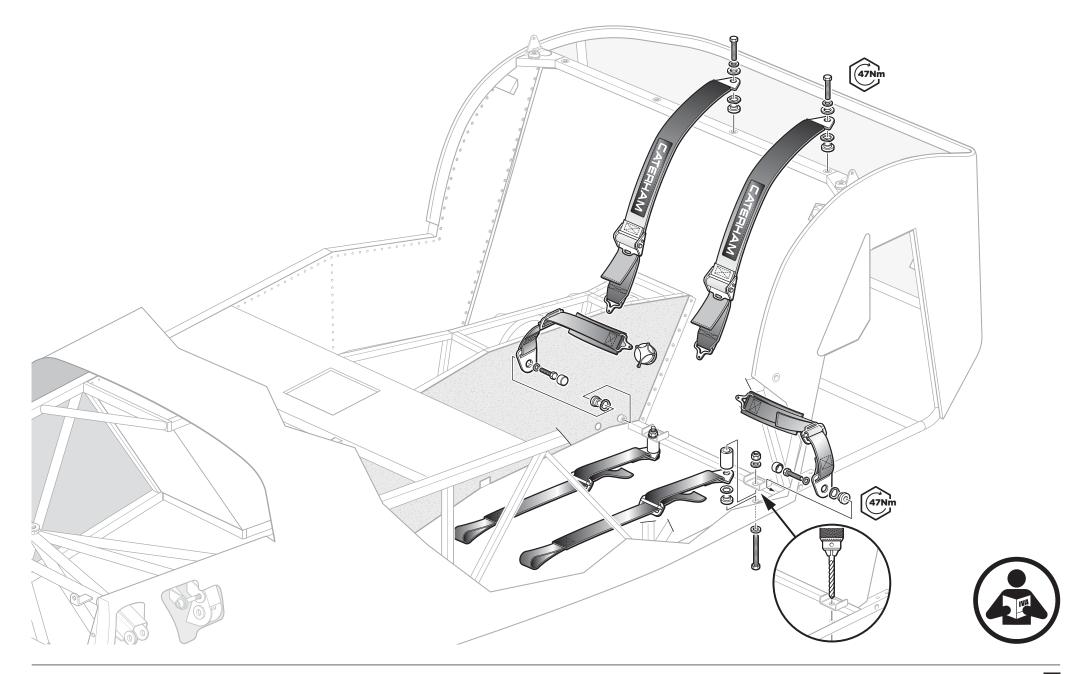
#### FIXINGS

All fixings supplied with the harnesses

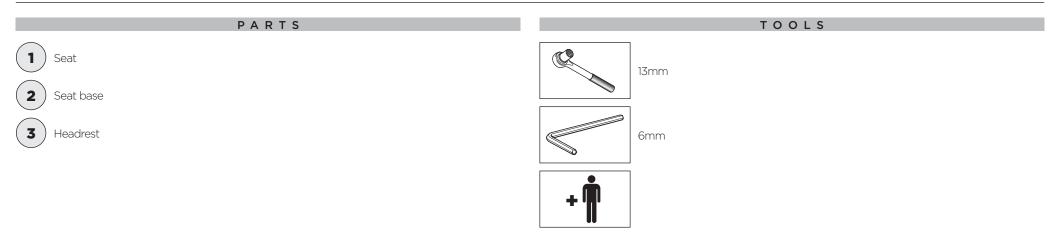
#### TIPS

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

Lee A



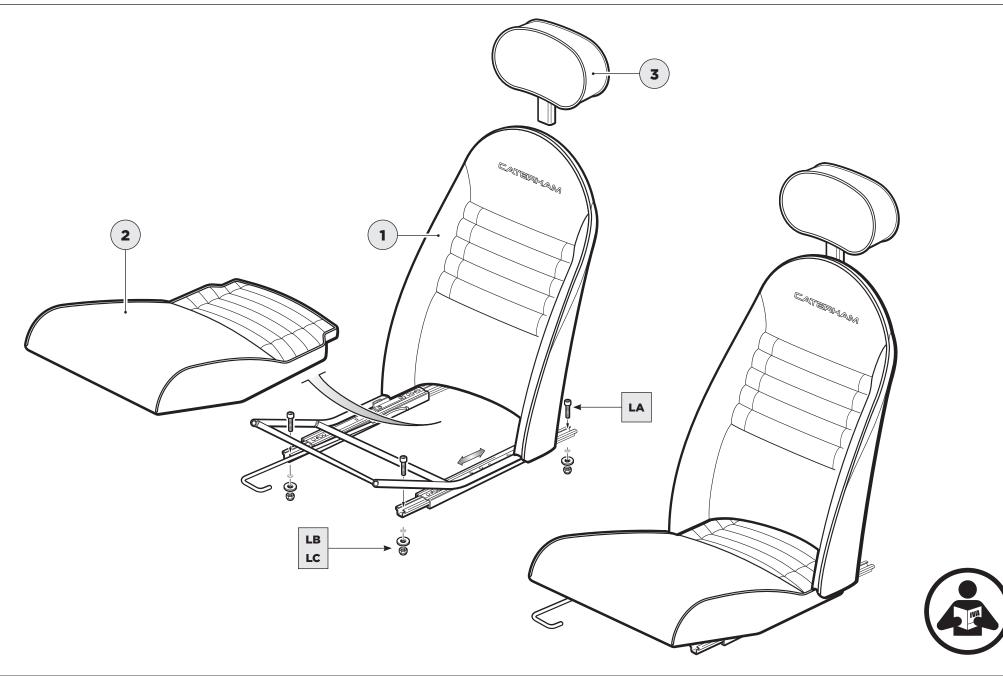
# **FITTING CLOTH OR LEATHER SEATS**



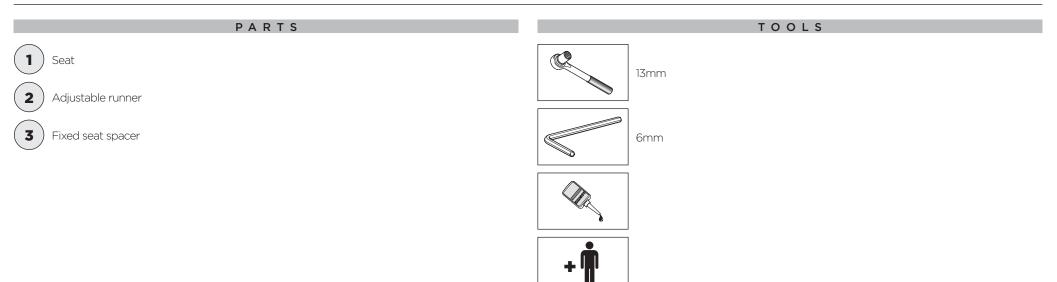
#### FIXINGS

Pa	ack	L					PACK NUMBER 30Z1058B	
				may in	clude extra fastener	s to cover different optic	ons	
n	гем	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLU	STRATION	
1	LA	Caphead Bolt M8 X 20 Grade 12.9	SMCH8420	4	Through seat runner & floor			X
2	LB	Nyloc Nut MB	NATYFS	4	Under floor	$\bigcirc$		X
3	LC	Plain Waaher MB X 30	WPH8c30	4	Under floor	$\bigcirc$		X

TIPS	
Loosely fit the rear bolts to help locate the front.	Nip up all bolts once fitted Anthony L
Dan D	



# **OR FITTING THE RACE SEATS**



#### FIXINGS

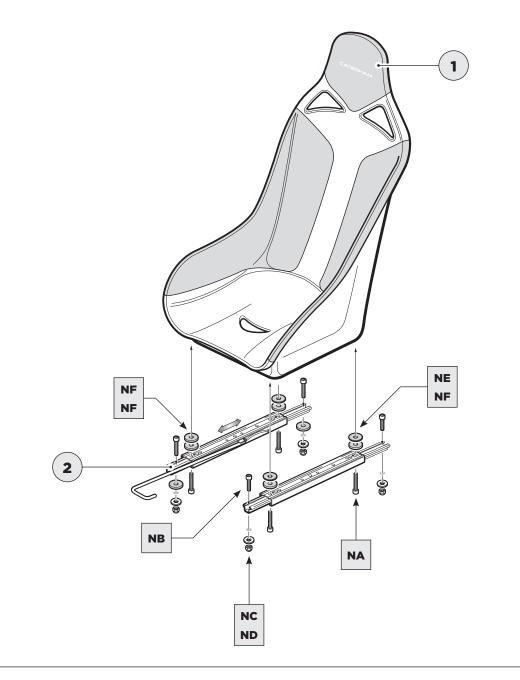
#### For fixed seats

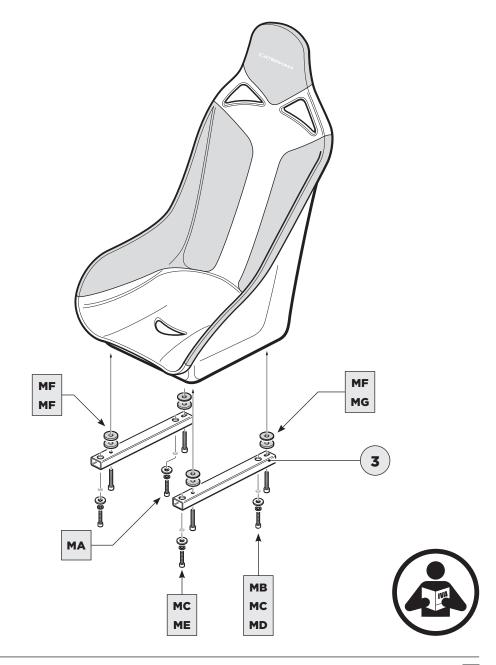
Image: Second	
1         MA         is x.x.s         michado         4         * to seat         michado           2         MB         Colorada Ball         biol x.colo         4         Poporty finandi         michado           3         MS         Generada Ball         biol x.colo         4         Poporty finandi         michado           4         MD         Generada Ball         without a logicar flow standion         Image: colorada Ball         Image: colorada Ball           4         MD         Static X.tolice         emposition         Image: colorada Ball         Image: colorada Ball           6         MD         Walker         microscolorad         d         Specifizion station         Image: colorada Ball	_
2         MB         Tetr 3 to 3         BIO-ROOD         4         spacer for section           3         MC         Symp Tixine         wpoint         8         Boit heads         O           4         MD         Symp Tixine         wpoint         8         Boit heads         O           4         MD         Symp Tixine         wpoint         4         Under floor         O           5         MM         Walker         wpoint 0         4         Spacer box section         O	)
10 5 5 02 10010 2 0 0041000     1002 1 0 0 0041000     1002 1 100     1002 1 100     1002 1 100     1002 1 100     100	
MD STREXT SEE WORKSTAK 4 Underfloor     Strext See Workstak 4 Underfloor     State     Waker enterprocess 4 Spacer box section	)
	;
	;
7 MF Spear Buck Yv2 3 Seat spacer	)
8 MG Specifick Two 5 Seat spacer	;

#### For adjustable seats

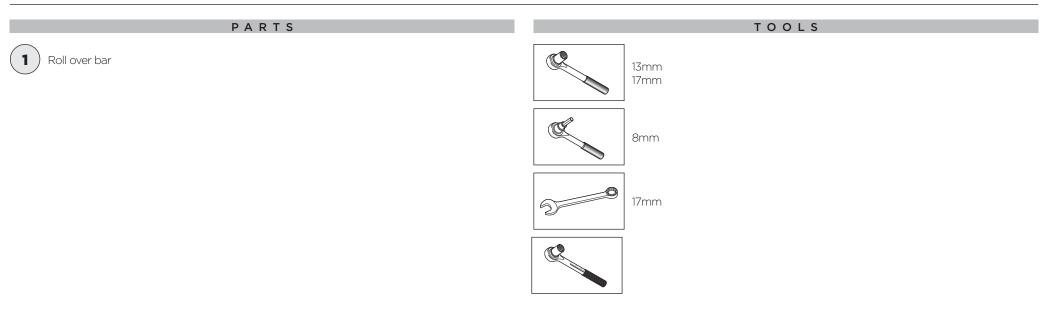
SEATS ADJUSTABLE TILLETT RACING This pack may include extra fasteners to cover different options										
r	ITEM BASIC PART QTY USED ON ILLUSTRATION									
1	NA	Caphead Bolt M8 X 25	BMCH8X25	4	Runner to seat					
2	NB	Caphead Bolt M8 X 20	SMCH8X20	4	Runner to floor					
3	NC	Washer 5/16° X 1 1/4*	WP5/16X1.1.4	4	Under floor	$\bigcirc$				
4	ND	Nyloc Nut M8	NMYF8	4	Under floor					
5	NE	Spacer Black Plastic	TW2	3	Seat spacer	0				
6	NF	Spacer Black Plastic	TW3	5	Seat spacer	0				
kaw	ings are	e for illustrative	purposes on	ly and	are not to scale.	Page 1 of 1				

# Y X4 X5 Put a bit of LocTite on bolts that go into the seat on the runner version. Chris B Loosely fit the rear bolts to help locate the front. Harry P The fixed position seat is for the passenger side! Chris N





# FITTING THE ROLL OVER BAR

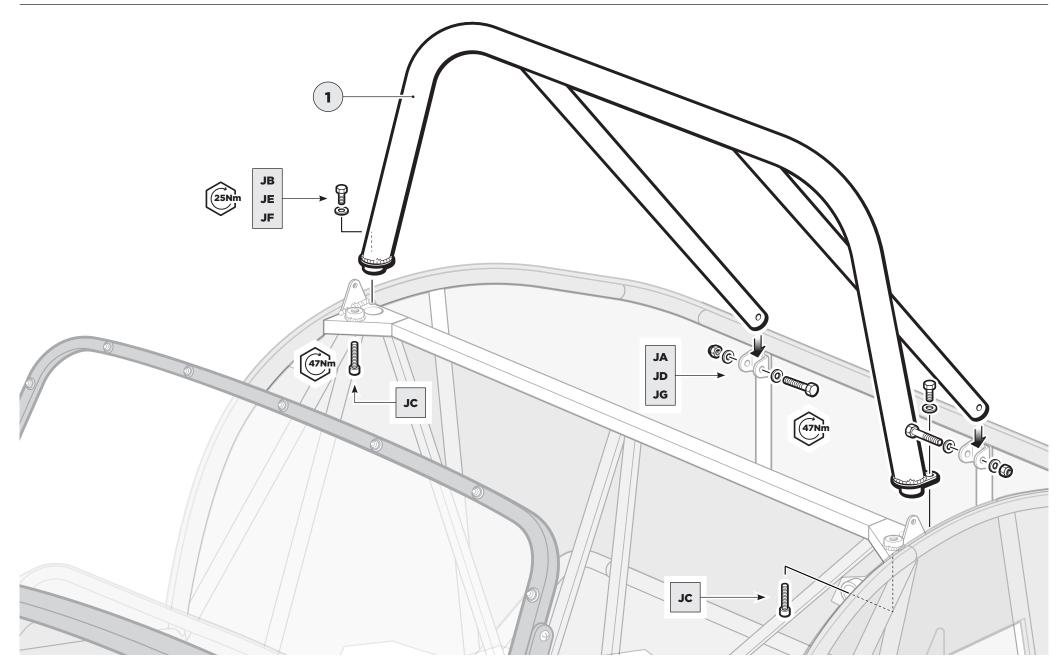


### FIXINGS

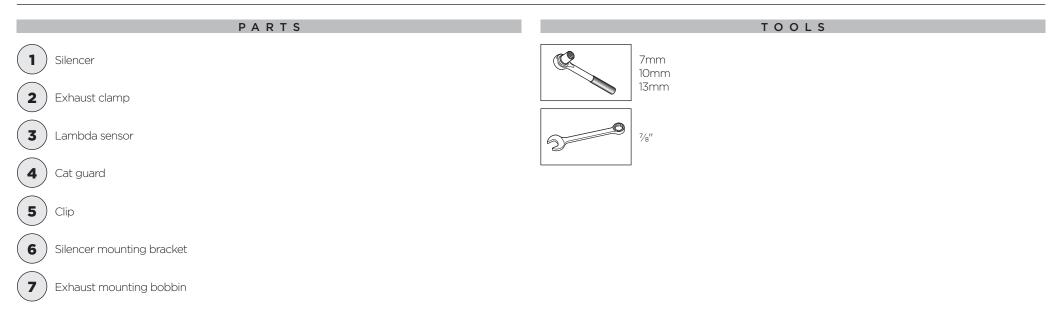
Xź
X2
X2
X2
Xź
X2
Χź

### TIPS

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



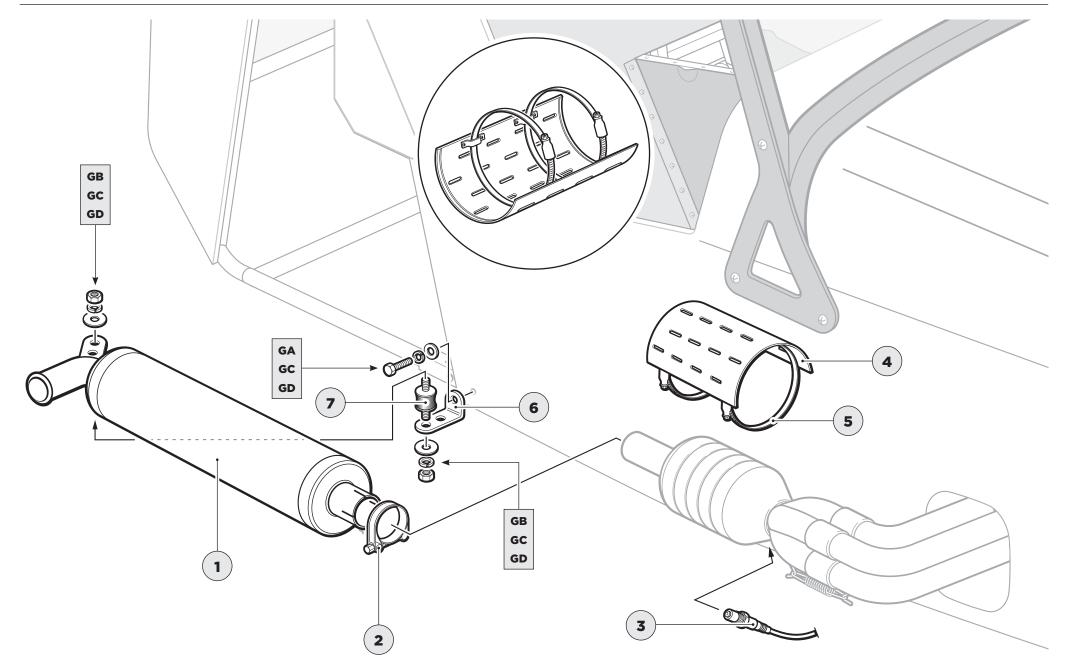
## **EVEN MORE EXHAUSTING**



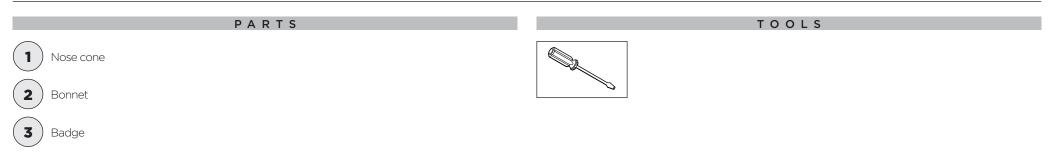
#### FIXINGS TIPS PACK NUMBER 30X020B Pack **G** CATERHAM Cable tie the Lambda sensor lead neatly out of the way. EXHAUST Lee A ITEM BASIC DESCRIPTION PART ILLUSTRATION USED ON Setacrew M8 X 25 Grade 8.8 khaust Mount Bracket x1 Plain Nut M8 $\bigcirc$ $\square$ x2 Exhaust Bobb NEPE 1 Exhaust ounting Brack $(\overline{O})$ oring Washer M8 xЗ

GB

# **EVEN MORE EXHAUSTING**



# THE NOSE CONE BADGE



### FIXINGS

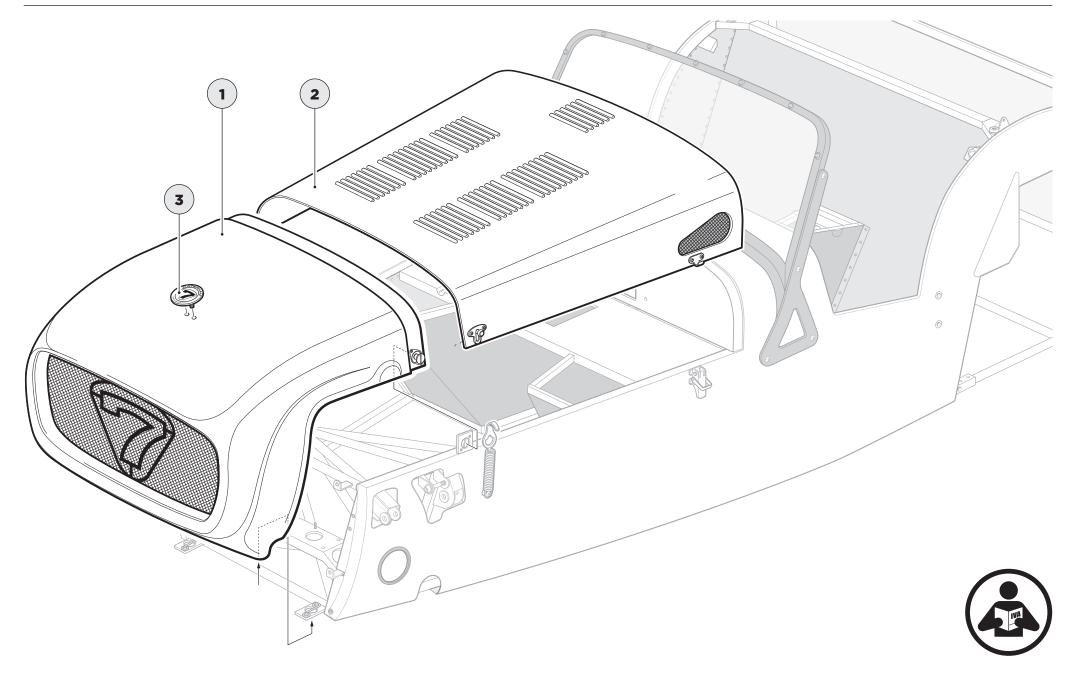
### TIPS

Stick the supplied foam around the edge

of the nose and scuttle where the bonnet

The nose cone goes on before the bonnet. Anthony L

will sit (if you've not done already). Harry P



# **FITTING THE WIPERS**

Wiper blade

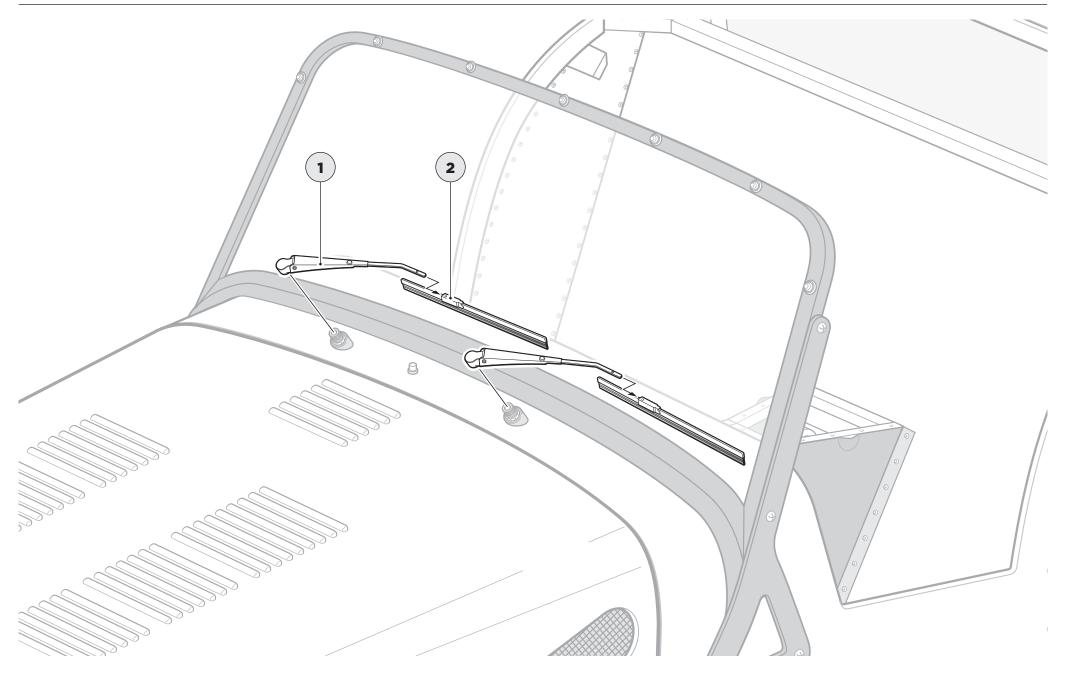
2

PARTS	TOOLS
1 Wiper arm	

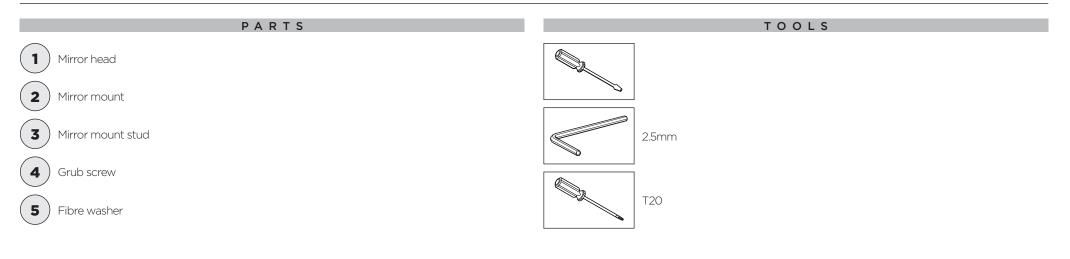
FIXINGS

### 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



# AND FINALLY, AT LAST, THE WING MIRRORS



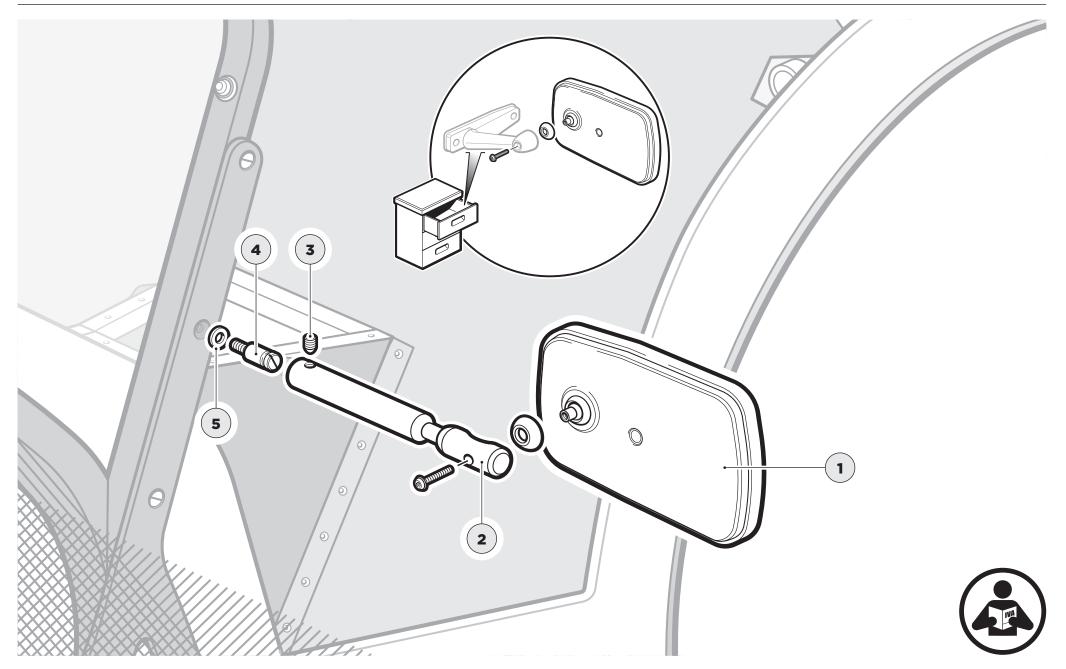
### FIXINGS

Wing mirror bag

### TIPS

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

# AND FINALLY, AT LAST, THE WING MIRRORS

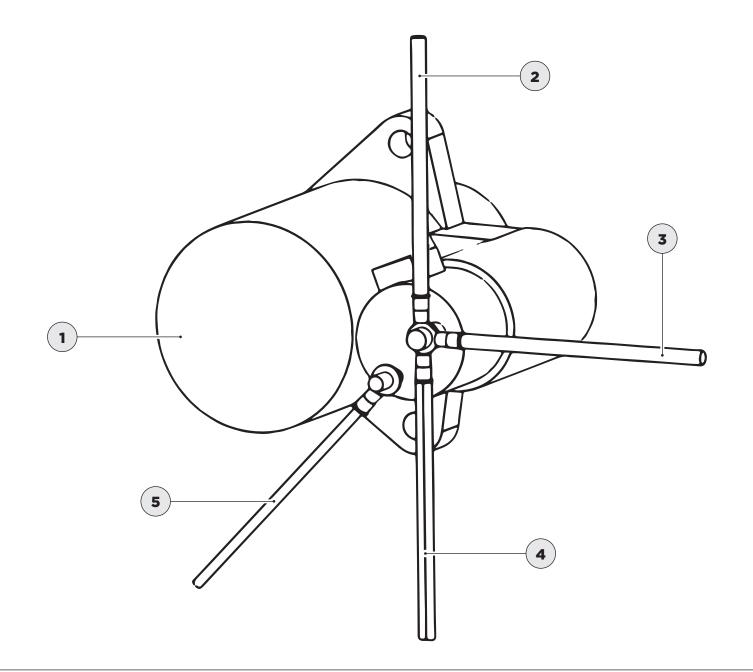


# WIRING THE STARTER MOTOR

	PARTS	TOOLS
1 Starter motor		
2 Cable from altenator (brown wire with black sheath)		
Cable from battery (positive – red wire)		
4 2 cables from main loom (2 brown wires joined)		
<b>5</b> Cable from engine loom (white wire with red stripe)		

### FIXINGS

TIPS



# 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 the 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:

- 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 waster 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.



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

Pa	ack	Α		Δ	TERI	SERIAL NUMBER 44 PACK NUMBER 30F015B
						ION CARS (METRIC) rs to cover different options
ľ	ЕМ	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	$\bigcirc$
11	AL	Plain Washer ¾" x ¾" Heavy duty	WPH3/8	2	Brake pipe	$\bigcirc$
Draw	ings are	e for illustrative	purposes or	nly and	are not to scale.	Page 1 of 2

<sup>94</sup>	nck	Α	C		TERI	HAM	SERIAL NUMBER 44 PACK NUMBER 30F015B
						ION CARS (METRIC)	
т	ЕМ	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRA	TION
12	AM	Spring Washer M12	WSHM12	2	Lower wishbone front	$\bigcirc$	
13	AN	Spring Washer M8	WSHM8	6	Anti-roll bar mounting brackets & upper damper mount	$\bigcirc$	
14	AP	Washer % <sup>"</sup> Shake-proof	WSS3/8	2	Brake pipe	SALA SALA	
15	AR	Nyloc Nut ½" Half height	NFYH1/2	2	Wing stay		D
16	AS	Nyloc Nut ½" Full height	NFYF1/2	2	Front brake, upright mounting (std track ONLY)		Ĵ
Draw	ings are	for illustrative	ourposes or	nly and	are not to scale.	Page 2 d	of 2

Ρ	ack	Β			TERI	HAM	SERIAL NUMBER 55 PACK NUMBER 3ACZ0021
						ARS (METRIC)	RELEASED NOV-19
r	TEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRAT	ION
1	BA	Caphead Bolt M6 x 70 DIN 912	BMCH6X70	4	Rack clamps		11000000000
2	BB	Bolt ¼" x 1½"	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 ½" Half height	NFYH1/2	1	Steering wheel boss		Ĵ
5	BE	Plain Nut ½"	NFPF1/2	2	Track rod lock nut		
6	BF	Plain Nut 7/16" Half height	NFPFH7/16	1	Column clamp grubscrew locknut		
7	BG	Nyloc Nut M8	NMYF8	2	Column to rack universal joint		)
8	вн	Nyloc Nut M6	NMYF6	4	Steering rack clamps		
9	BJ	Plain Washer ½" x 1½" Chamfered	WPH1/2	1	Steering wheel boss	$\bigcirc$	
10	ВК	Plain Washer ¼" Heavy duty	WPH1/4	6	Rack clamps and column clamp	$\bigcirc$	
11	BL	Spring Washer ¼ Heavy duty	WSH1/4	2	Column clamp	Ô	
Draw	ings are	for illustrative p	ournoses on	ly and	are not to scale	Page 1 o	f 1

Pa	ack	С	C	Δ	TER	SERAL NUMBER 45 PACK NUMBER 30L002B
					LIGHTING & H	HORNS
п	ГЕМ	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION
1	CA	Screw 10 x ¾" Black Supaflange	71080	6	Indictor assembly to indicator pod	
2	СВ	Screw 8 x ½" Black Supaflange	71077	2	Side repeater earth on wingstay	(mmm
3	сс	Screw 12 x 1½" 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 ¼" Heavy duty	WPH1/4	2	Horn bracket to steering rack platform (160/270/310)	$\bigcirc$
7	CG	Bolt M8 x 5 Grade 8.8	BM8X50	1	Through steering rack platform & spacer (420)	
8	СН	Plain Washer 5/16"	WPH5/16	2	Bolt head/nut	$\bigcirc$
9	CI	Nyloc Nut M8	NMYF8	1	Horn bolt	
Draw	ings are	e for illustrative	purposes or	nly and	are not to scale.	Page 1 of 1

Pa	ack	D	<b>C</b>		TER	SERIAL NUMBER 44 PACK NUMBER 30C047B
					COOLING SI	
П	ТЕМ	BASIC DESCRIPTION	PART NUMBER	nay in qтү	USED ON	rs to cover different options 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 braket	$\bigcirc$
10	DJ	Plain Washer 5/16" Heavy duty	WPH5/16	4	Radiator bobbin back	$\bigcirc$
11	DK	Plain Washer 5/16" x 7/8" Heavy duty	WPH5/17X7/8	4	Radiator bobbin front	$\bigcirc$
Draw	ings are	e for illustrative	purposes on	ly and	are not to scale.	Page 1 of 2

Pac	k D			TERI	HAM	SERIAL NUMBER 44 PACK NUMBER 30C047B
		This pook	mouti	COOLING S	IGMA rs to cover different options	
ITEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRAT	ION
12 D	Plain Washer 1/4" x 7/8" Heavy duty	WPH1/4X7/8	1	Expansion tank bracket	$\bigcirc$	
13 D	M Spring Washer 5/16" Heavy duty	WSH5/17	9	8 x Radiator bobbin 1 x Expansion tank	$\bigcirc$	
14 D	N 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 D	O Hose Clip 23 - 35mm	SGT23-35	2	1 x Engine outlet to big T piece 1 x Engine outlet to heater inlet		
16 D	P 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 D	Q Hose Clip 8 - 16mm	SGT8-16	6	Expansion tank small T-piece		
18 D	R Rivet - Black 5/32" x 0.47"	1610-01015	12	Cowling flap		>
Drawings	are for illustrative	purposes or	nly and	are not to scale.	Page 1 o	f 2

Pa	ack	Ε	<b>C</b>		TER	HAM	SERIAL NUMBER 66 PACK NUMBER
				SIC	GMA GEARBO	( 5 SPEED	3EZ1105F
		BASIC	This pack	may ir	nclude extra fastene	rs to cover different options	
ľ	FEM	DESCRIPTION	NUMBER	QTY	USED ON	ILLUSTRAT	ION
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		
Draw	ings are	for illustrative	nurnoses or	ly and	are not to scale.	Page 1 o	f 2

Pa	ack	Ε			TER	HAM	SERIAL NUMBER 66 PACK NUMBER 3EZ1105F
				-	GMA GEARBO		
n	ſEM	BASIC DESCRIPTION	This pack PART NUMBER	may ir qтү	USED ON	s to cover different options	
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	$\bigcirc$	
14	EN	Plain Washer M12	30Z2031A	4	Gearbox	$\bigcirc$	
15	EO	Plain Washer M6	WPHM6	3	Gear Lever	$\bigcirc$	
16	EP	Plain Washer 5/16"	WPH5/16	8	AV Mount	$\bigcirc$	
17	EQ	Spring Washer M12	WSHM12	4	Gearbox	$\bigcirc$	
18	ER	Spring Washer M10	WSHM10	10	x 7 Bellhousing x 3 Engine Mount	$\bigcirc$	
19	ES	Wire Spring Washer M10	WSHM10	3	Starter Motor	$\bigcirc$	
20	ET	Spring Washer M8	WSHM8	5	Engine Mount	$\bigcirc$	
21	EU	Spring Washer M6	WSHM6	3	Clutch Slave Cylinder	$\bigcirc$	
22	EV	Myloc Nut M8	NMYF8	4	AV Mount		]
23	EW	Spring Washer M14	30Z2030A	2	AV Mount	$\bigcirc$	
Draw	ings are	e for illustrative i	ournoses or	ly and	are not to scale.	Page	2 of 2

Pa	ack	F	C		TER	SERIAL NUMBER 66 PACK NUMBER 3EZ2029B							
	DURATEC GEARBOX 5 SPEED This pack may include extra fasteners to cover different options												
ſ	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	$\bigcirc$							
11	FK	Plain Washer M12	30Z2031A	4	Bellhousing	$\bigcirc$							
Draw	ings are	e for illustrative	purposes or	ily and	are not to scale.	Page 1 of 2							

Pa	ack	F			TER	HAM	SERIAL NUMBER PACK NUMBER 3EZ2029B					
DURATEC GEARBOX 5 SPEED												
ITEM         BASIC DESCRIPTION         PART NUMBER         QTY         USED ON         ILLUSTRATION												
12	FL	Plain Washer M6	WPHM6	3	Gear Lever	$\bigcirc$						
13	FM	Spring Washer M14	30Z2030A	2	AV Mount	$\bigcirc$						
14	FN	Spring Washer M12	WSHM12	4	Gearbox	$\bigcirc$						
15	FO	Spring Washer M10	WSHM10	4	x 2 Starter Motor x 2 Front Bellhousing	$\bigcirc$						
16	FP	Spring Washer M6	WSHM6	3	Clutch Slave Cylinder	$\bigcirc$						
Draw	ings are	e for illustrative	purposes on	ily and	are not to scale.		Page 2 of 2					

Pa	Pack G CATERHAM 56 PACK NUMBER 30X020B												
	EXHAUST This pack may include extra fasteners to cover different options												
п	EM	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	$\bigcirc$							
Draw	ings are	e for illustrative	purposes or	ly and	are not to scale.	Page 1 c	if 1						

Pa	ack	Η	C		TER	SERIAL 53 NUMBER 53 PACK NUMBER 30R011D					
				-		EDION METRIC rs to cover different options					
r	FEM	BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION					
1	HA	Bolt M12 X 100 Grade 10.9	BM12X100	2	A-frame fromt 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 x 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 x 1 A-frame to DeDion						
7	HG	Nyloc Nut M12	NMYF12	2	A-frame front mounts						
8	нн	Nyloc Nut M10	NMYF10	2	Front radius arm (through cockpit)						
9	ні	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	НК	Nyloc Nut 1/4"	NFYF1/4	1	3 - way union on DeDion tube						
Draw	ings are	e for illustrative	purposes or	ly and	are not to scale.	Page 1 of 2					

Pa	nck	Η			TEAH		SERIAL NUMBER 53 PACK 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	79029	10	Differential Isolation	$\bigcirc$						
13	HM	Plain Washer 1/2" Chamferred	WPH1/2	20	x 2 Lower Damper x 10 A-frame washers x 4 Radius Arm	$\bigcirc$						
14	HN	Plain Washer 3/8" X 7/8"	WPH3/8X7/8	2	Front Radius Arm	$\bigcirc$						
15	НО	Plain Washer M6	WPHM6	4	Rear Anti Roll Bar Mounting Block	$\bigcirc$						
16	HP	Schnorr Washer M12	30Z1069A	2	Lower Damper	$\bigcirc$						
Draw	ings are	e for illustrative	purposes on	ly and	are not to scale.	Page 2	of 2					

Pa	ack	J			TERH	HAM	SERIAL NUMBER 47 PACK NUMBER 30P010A					
		RC	-			AR SERIES 3 METRI	С					
This pack may include extra fasteners to cover different options           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		D					
5	JE	Plain Washer M8	WPHM8	2	Roll over bar bracket to chassis	$\bigcirc$						
6	JF	Spring Washer M8	WSHM8	2	Roll over bar bracket to chassis	$\bigcirc$						
7	JG	Plain Washer M10	WPHM10	4	Rear diagonals of roll over bar to mounting brackets	$\bigcirc$						
Draw	ings are	e for illustrative	purposes on	ly and	are not to scale.	Page 1	of 1					

Pa	ack	0		Ά	TERH	HANN BERAL NUMBER PACK NUMBER ZWS01					
WING PROTECTORS STAINLESS STEEL											
			This pack I	may in	clude extra fastene	rs to cover different options					
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 ОВ		Wing Piping	76901	2m	Between wing protector and wing						
	ingo ore	for illustrativo r		ly and	are not to scale.	Page 1 of 1					

ck	Ρ	C		TERH	SERIAL NUMBER PACK NUMBER ZWS02	Ρ	Pa	ck	Q			TERH	HAM	SERIAL NUMBER 31 PACK NUMBER ZFG12
		WI	IG P	ROTECTORS C	ARBON FIBRE	Г						REAR WIN	GS	
		This pack	may ir	nclude extra fastene	rs to cover different options					This pack r	nay in	clude extra fastenei	rs to cover different options	
	BASIC	PART NUMBER	QTY	USED ON	ILLUSTRATION				BASIC DESCRIPTION	PART NUMBER	QTY	USED ON	ILLUSTRATION	
Rivet Bla 1/8" X 0.		1610-01049	30	Wing protector to wing	( <b>1997</b> )	1	1	QA	Set Screw M5 X 20	SM5X20	20	Rear Wings		
Wing Piping 76901	76901		2m	Between wing protector and wing		2	2	QB	Nyloc Nut M5	NMYF5	10	Rear wings through boot		
e for illustrative purposes only and are not to scale.	purposes only and are not to scale.	nly and are not to scale.	are not to scale.	[	Page 1 of 1	3	3	QC	Plain Washer 3/16" X 3/4"	WP3/16X3/4	30	Wing washers	$\bigcirc$	

Wing Piping 1/4" X 1"

76902

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

4m

QD 4

Between wing and

body

Page 1 of 1



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