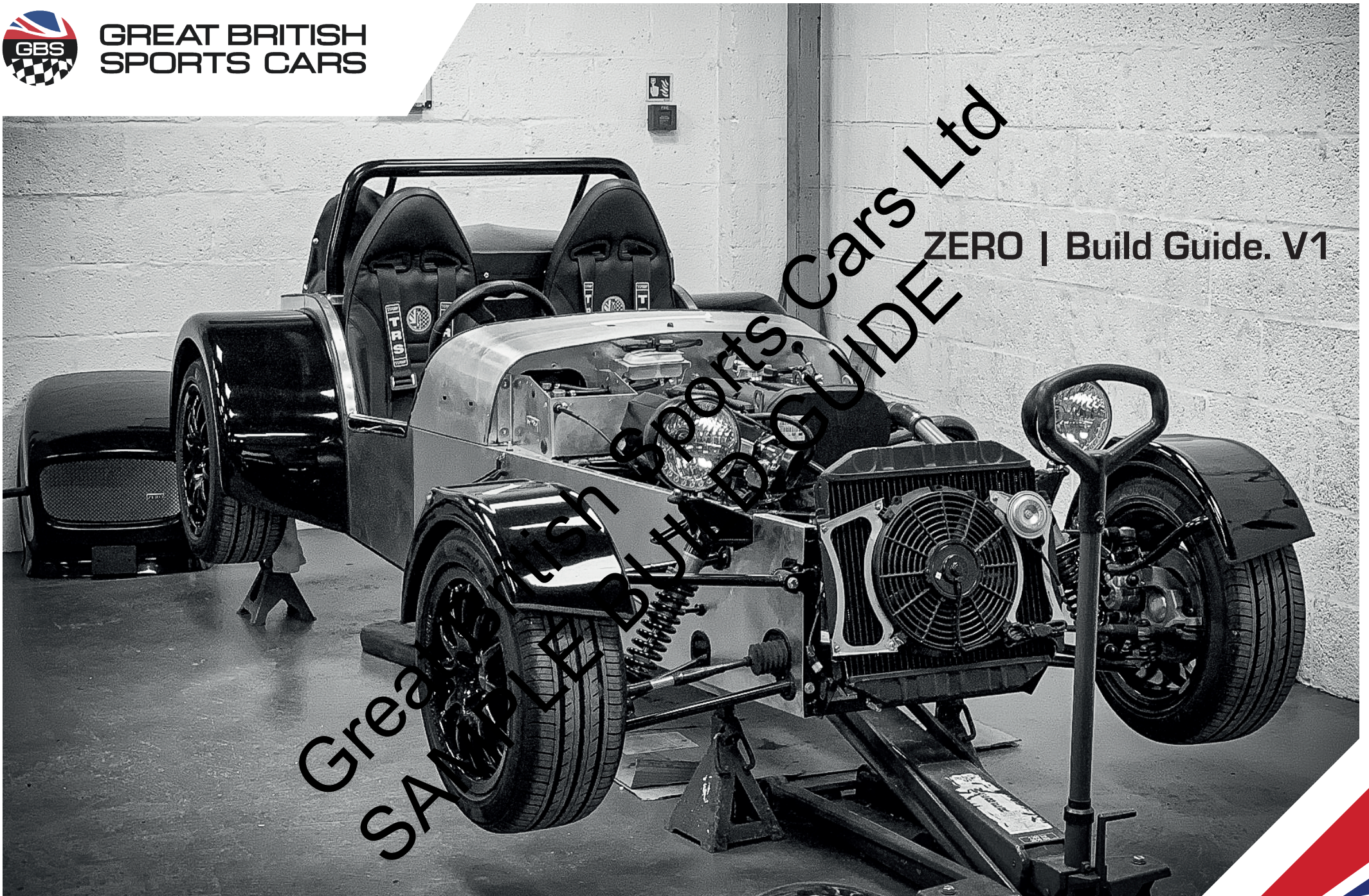




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ZERO | Build Guide. V1

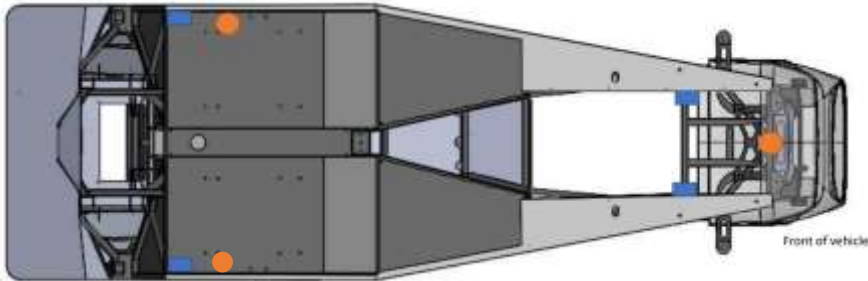
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Jacking Guide-

Underside view



- Recommended jack point
- Recommended Axle stand point

Please note; when jacking or using axle stands on the floor section of the Zero you must position the jack or stand near the edge (as shown above) to prevent floor deformation.

Fixing some tape or foam on to your jack and axle stands will stop them from scratching the chassis.

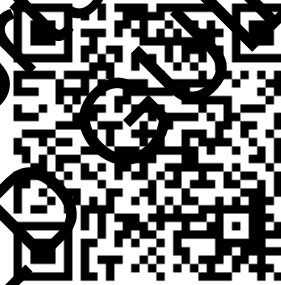
Always make sure that the vehicle is stable before working under it. Failure to do so can be extremely dangerous.

Further resources -

All the required information to assemble your Zero should be contained in this guide, but there are some additional resources available at:

<https://www.greatbritishsportscars.com/technicaldownloads>

The link can be accessed by scanning this QR code.



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SAMPLE BUILD GUIDE



Install Fuel Tank-

Parts:

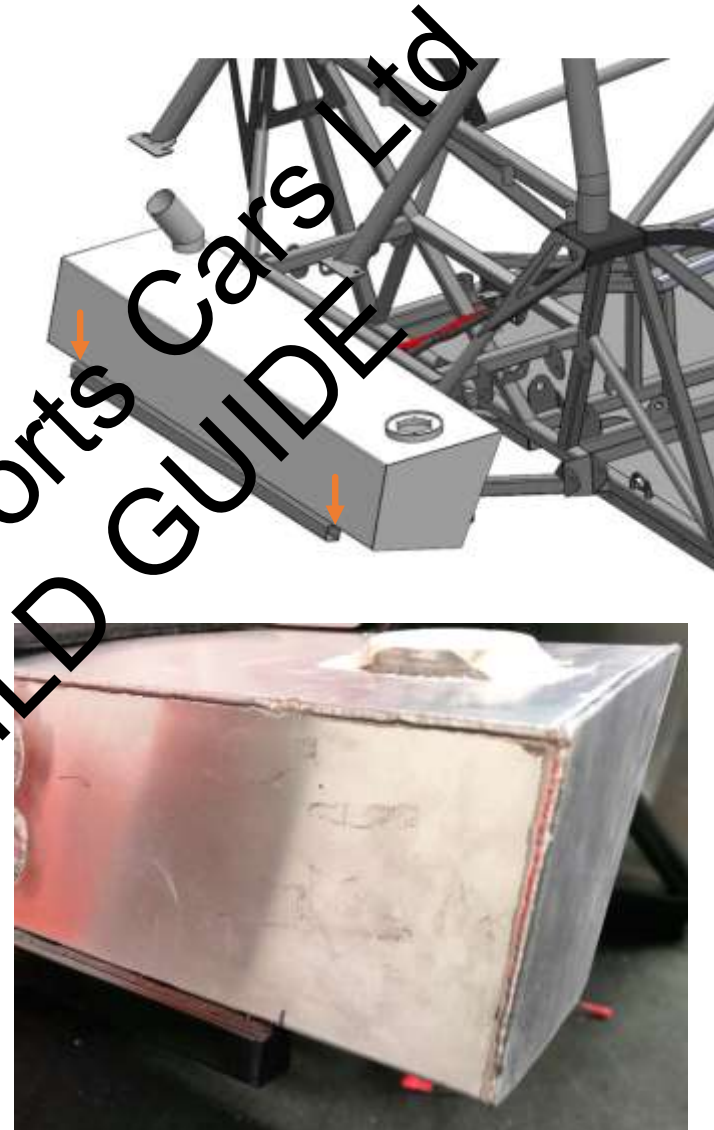
Part Name	Part Number	Qty
Bonding agent	CON0053	1
M6 Riv nut	FAS0097	3

Tools:

Caulking gun
Masking tape
Clamps
Rivnut Tool

Instructions –

1. Test fit the fuel tank to familiarise yourself with where it contacts the chassis.
2. Ensure that it is located centrally and mark the ends of the rear chassis bar (indicated with orange arrows) on the side of the fuel tank with a pen (shown in the second image). This will make it easier to line up when the adhesive has been applied.
3. Make sure the tank is free from any wax or debris. You could vacuum via the sender port. You may like to rinse it out with some petrol. Make sure the outside of the tank is clean and grease free.
4. Fit rivnuts to the front of the fuel tank as access will be tight once fitted.



See more details on the Fuel fittings later in the guide.

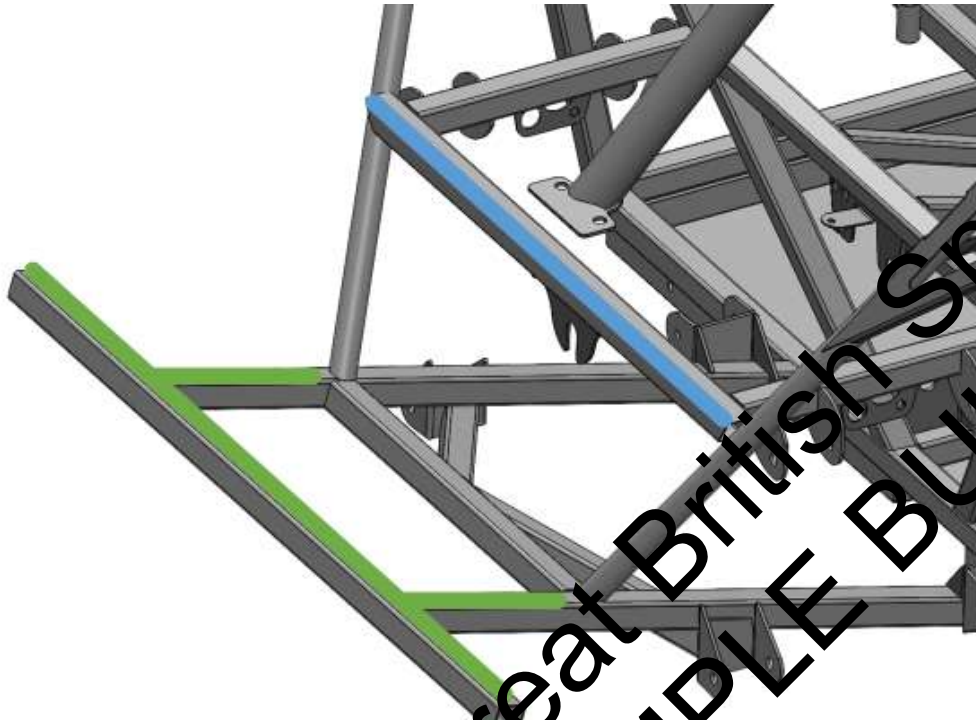


NOTES:

14. Leave to cure for 24hrs before moving.

15. You cannot fit the filler neck yet, but when you do to steps in the next column should be used.

Tip: Cover fuel tank openings with masking tape to prevent any dirt / objects from getting in.



13. Next, apply a bead down the blue line. To get a neat finish it may help to run a curved tool down the seam to make a smooth fillet.



Install Fuel Lines-

For the Duratec, the fuel lines are run on the left-hand side of the tunnel. However, if you are using the Mazda/Zetec engine, with the intake on the right, you should install the fuel lines on the right-hand side instead.

Parts:

Part Name	Part Number	Qty
Brass insert		4
Red Plastic Fuel line	FUE0007	1
Black Plastic Fuel line	FUE0008	1
Grommet	ELC0073	8

Fixings:

Part Name	Part Number	Qty
Mini Clips	FAS0264	4

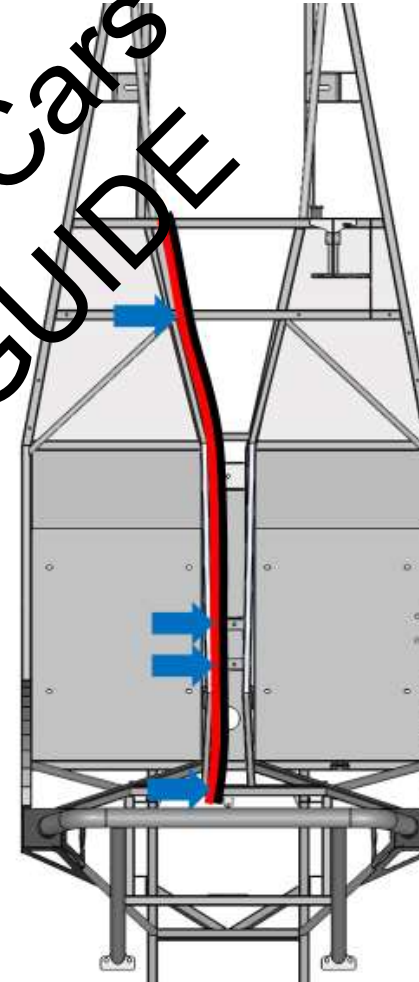
Tools:

Flat head screwdriver.

Tip: 'P' Clips are spaced at approx. 250mm on the chassis for the installation of the fuel lines. These are clipped to the brake lines.

Tip: Please note the brake lines are to be fitted first, see fitment of the brake lines later in the guide.

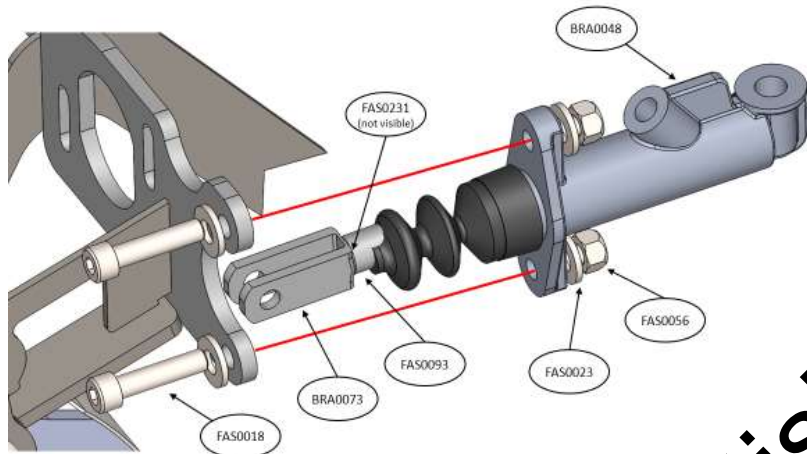
Instruction-



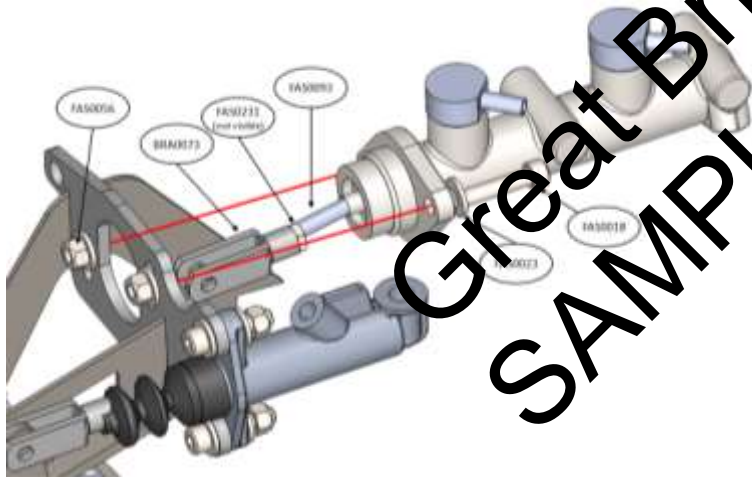
1. Install 8 grommets in the locations shown with blue arrows.



- Attach Fork End (BRA0073) to Push rod (BRA0093) with M8 locknut (FAS0231). Install the clutch master cylinder, ensuring mating faces are clean. If push rods are not already prepared, follow instructions in the Techniques section to cut to length.



- Repeat for brake master cylinder in the same way.



- Install the accelerator pedal onto stud with M10 nut. Connect clevis to pedals with pins and secure in place with Mounting pins (BRA0074)



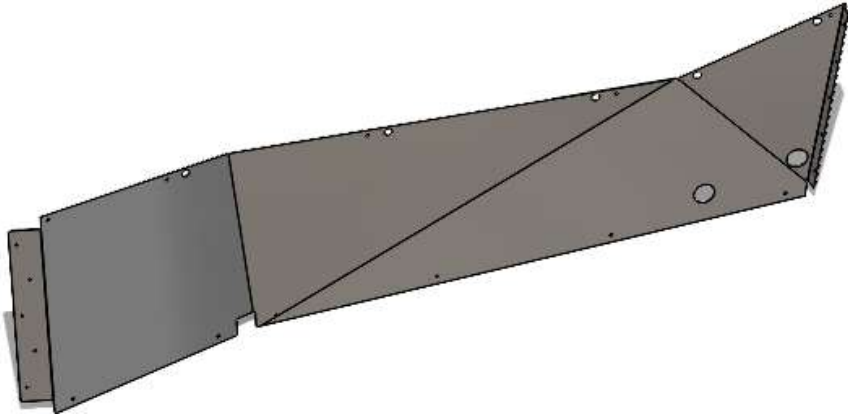
- Bend the top section of the brake pedal stop, as shown with the green arrow and dotted line, so that it nearly touches the back of the pedal lever. This is to ensure that it is not possible for the piston to pull out of the master cylinder.
- Thread an M8 nut onto M8 x 30mm bolt and wind into nut welded to the chassis in the location and direction shown with the blue arrow. You will set the position in the Low-pressure fuel system

Setup section:

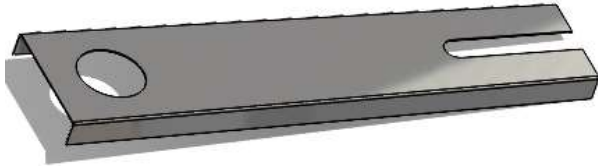
- At this stage, you may like to go back to Step 2 to and add penny washers to adjust pedal alignment if the push rods are angled significantly.
- When you are happy with the alignment, torque the M10 x175mm bolt to 50Nm.



Side Panel (LH & RH):



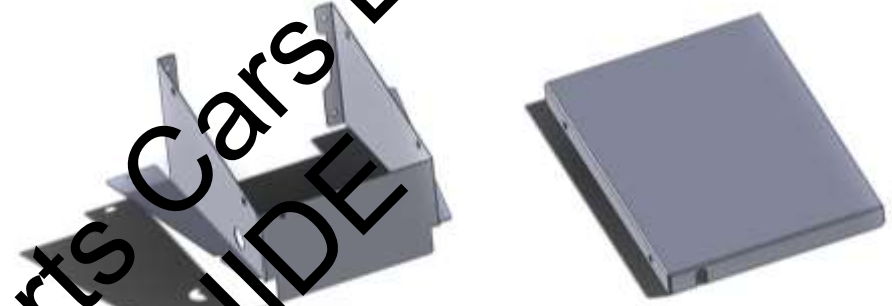
Top Tunnel:



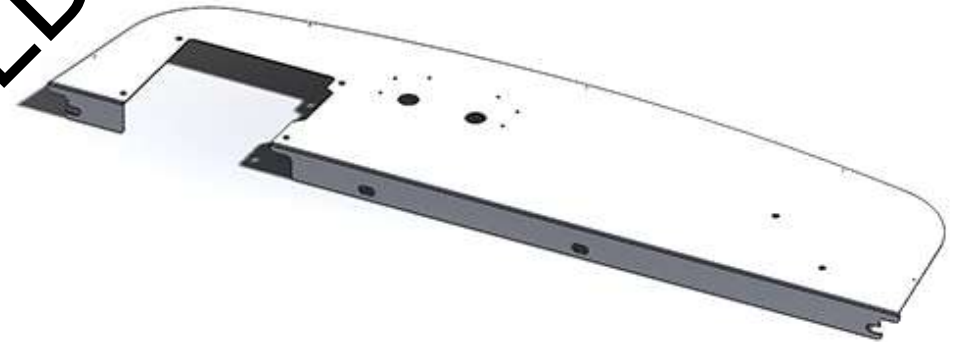
Tunnel Top Rear / Front:



Pedal Box Surround and Lid:



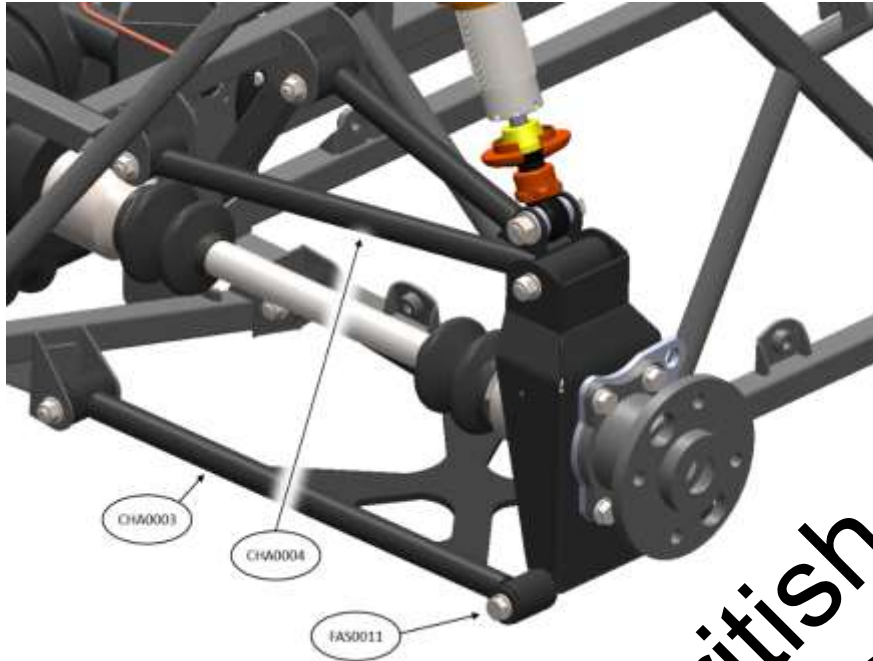
Firewall Panel:



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7. Connect rear lower wishbones to chassis and uprights.



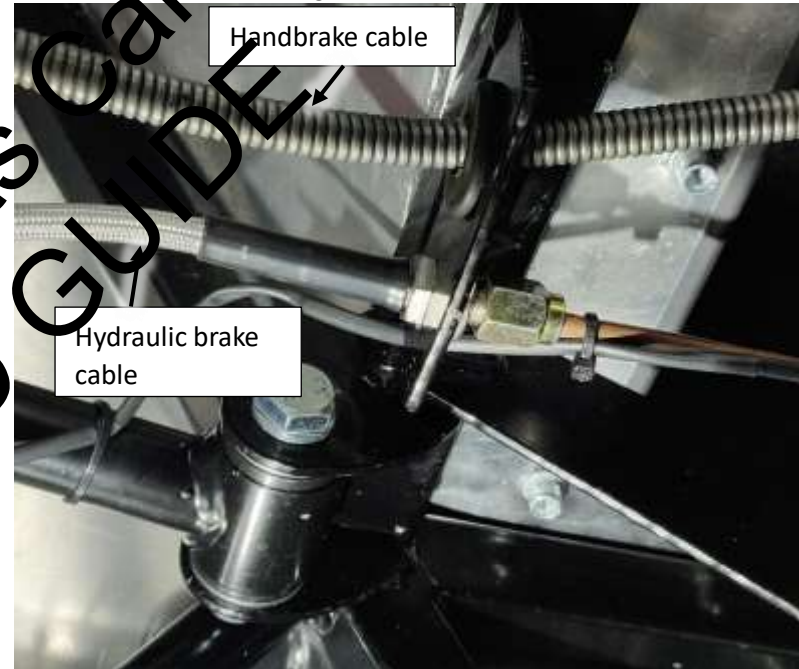
Tip: Once assembled it may be necessary to trim some of the thread off FAS0011 to ensure it clears the inside of the wheel. Mark the position to cut, remove and wind a nut past the cutting point. Hacksaw/cut the excess off the bolt, chamfer the edge with a grinding wheel/flapper disc then unscrew the nut. This will help ensure that the thread is clean of any burrs.

There should be a notch on the inside top wishbone

8. Install both rear brake disks these require no attachment to the hub as they are clamped by the wheel when it is attached.

9. Install rear callipers, torquing bolts to 51-61Nm.

10. Install rear brake flex lines from calliper to the end of hard brake line, held in place by the tab on the chassis. The image below shows the setup looking up from underneath the car.



11. Install handbrake cable to callipers. The rubber disk on the cable has a groove in it that should be slotted into the chassis mounting point. The centre saddle should be connected to the link bar (connected to the handbrake lever) with the included pin and R-clip. There are several variations for the calliper end, but all the cables pass through a hole on the fixed part of the calliper. The inner section of the cable will then hook on to the calliper lever.



Install Steering Column –

Parts:

Part Name	Part Number	Qty
Steering Shaft	STE0016	1

Fixings:

Part Name	Part Number	Qty
M8 x 50mm cap head*	FAS0079	1
M8 x 30mm Bolt	FAS0018	1
M8 Flat washers*	FAS0029	2
M8 Nyloc*	FAS0056	1
Spacers		

*These are in Kit – Part number STE0038

Tools:

Allen key – 6mm
 Hacksaw
 13mm Spanner/Socket

Instructions:

The steering column is made up of 3 main sections - the lower coupling, the mid shaft and the upper shaft where the steering wheel attaches.

1. The best way to install these parts is to start at the bottom. First connect the lower coupling with the female triangle end to the mid section. This joint may have been already welded, depending on your car type.



2. This bottom section can then be slid onto the fine spline on the steering rack as shown in the following photo. Then tighten the nut and bolt to secure. **Ensure this bolt is cut down to clear the Steering Rack Mount.**





3. The upper part of the steering column already has the stalks installed so must be slid through the grommet in the firewall from the driver's side. When you have connected it to the mid shaft it can then be bolted to the mount in front of the pedal box using FAS0018.

4. The completed installation is shown in the following photos.

Mid shaft to upper shaft-



Upper shaft through firewall-



Upper shaft mounting-





Install Bonnet –

Parts:

Part Name	Part Number	Qty
Nose and scuttle protector tape	TRI0029	2
Bonnet finishing trim black	TRI0031	2
Bonnet Pins Black	FAS0124	6
Bonnet Catches	FAS0096	2
Bonnet		1

Tip: The bonnet is different for the standard and GT. A louvered bonnet is only available for the standard Zero.

Fixings:

Part Name	Part Number	Qty
Rivnuts		6

Tools:

Rivet gun
Drill
3.2mm Drill bit
Cutting disc
File

Instructions:

1. Centre punch, drill and fit 6 rivnuts flush into top edge of engine bay, guided by the cut outs in the bodywork panel.
2. Screw in bonnet pins to the rivnuts.
3. Add self adhesive foam tape, carefully punching out circles so that it sits around the bonnet pins.



4. Ensure that the trim has been fitted to the nose cone.
5. Next, manipulate the bonnet panel to slot onto pins and line up with nose cone (may need to move the nose cone up or down slightly)
6. Draw exhaust shape cut-out with pen (it may be done already)



Install Lower Seat Belt harnesses, Seat Rails & Seats-

Parts:

Part Name	Part Number	Qty
Universal Seat Runners (Dual Handle)	INT0075	2
Seat Belt Seats	INT0091	2
	Various options	

Fixings:

Part Name	Part Number	Qty
M8x25mm	FAS0075	12
M8x50mm Cap Head	FAS0279	4
M8 Lock Nut	FAS0056	16
M8 Penny Washer	FAS0045	16
7/16" Seatbelt bolts.	FAS0248	8

Tools:

¼" Spanner/Socket

Instructions:

1. Install the seat belts – note that 7/16" bolts are used rather than metric like the rest of the car.
These threaded holes can sometimes be quite tight because the powder coat can get inside them. Therefore, it is a good idea to run a 7/16th tap down them to clean them out. Additionally, put a dab of grease on the threads before installing them.



If you have opted for the IVA trim upgrade, the shoulder mounts will be replaced with machined inserts as shown. This means that you do not have to install bolt covers for the IVA.



Installing High Pressure Pump & Swirl Pot-

Parts:

Part Name	Part Number	Qty
High Pressure Fuel pipe (swirl pot to red)	FUE0601	1
High Pressure Fuel pipe (black to swirl pot)	FUE0602	1
High Pressure Fuel pipe (pump to fuel rail)	FUE0603	1
High Pressure Fuel pipe (regulator to fuel rail)	FUE0604	1
High Pressure Fuel pipe (swirl pot to regulator)	FUE0605	1
Swirl pot	FUE0017	1
High Pressure Fuel pipe (Swirl pot to pump)13mmID	FUE0606	1
High pressure fuel pump	FUE0200	1
Mounting bracket (N/S or O/S)	FUE0062 FUE0019	1
Brass coupling		2
Fuel regulator	FUE0176	1
Pressure regulator	FUE0187	1
Fuel regulator bracket	FUE0187	1

Fixings:

Part Name	Part Number	Qty
Spring clips	-	
M8 x 20mm Button head	FAS0107	1
M5 x 12mm Button head	FAS0080	4
Circlip	-	10

Tools:

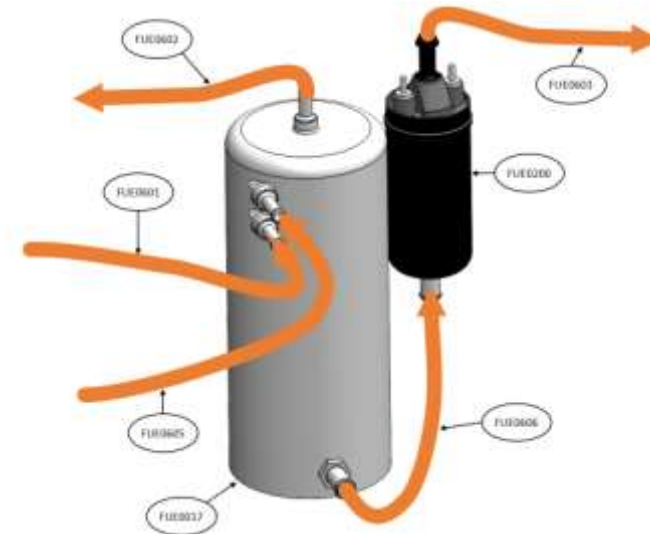
8mm Spanner
Allen key – 3mm, 5mm

Instructions:

Check fuel lines have been cut to the correct lengths below:

- FUE0601 – 60cm
- FUE0602 – 49cm
- FUE0603 – 98cm
- FUE0604 – 11cm
- FUE0605 – 49cm
- FUE0606 – 48cm

1. Connect fuel lines to the swirl pot and high pressure pipe as shown, securing the ends with a spring clip.





2. Lower assembly into position on the same side that you ran the fuel lines.

3. There are several different mounting options brackets, but fundamentally the swirl pot must be bolted to the chassis in front of the firewall and on the opposite side to the exhaust manifold as shown in the following image.



4. Mount the high pressure pump using the mounting bracket and jubilee clip.

5. Next, connect FUE0601 to the red plastic fuel line that you have fitted already using a brass coupling and spring clip.

6. Connect FUE0602 to black plastic fuel line that you ran already using a brass coupling and spring clip.

7. Connect FUE0603 from the output of the high pressure pump to the fuel rail. Then connect the other end of the fuel rail to the pressure regulator using FUE0604 as shown in the next photo. Finally, the lower port of the pressure regulator can be connected with FUE0605 to the swirl pot.

8. Secure the completed lines with p-clips.

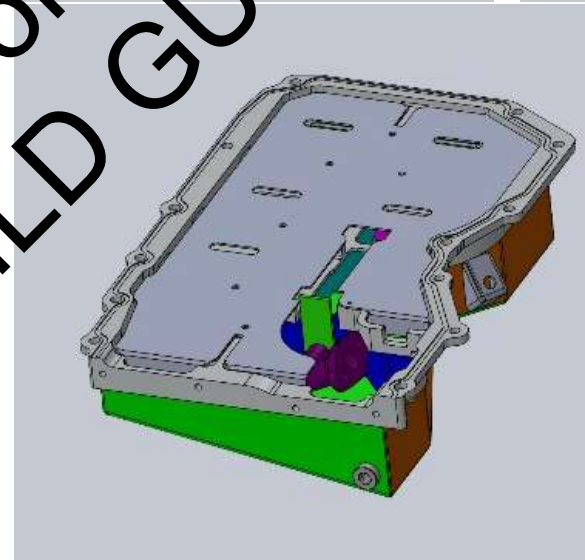
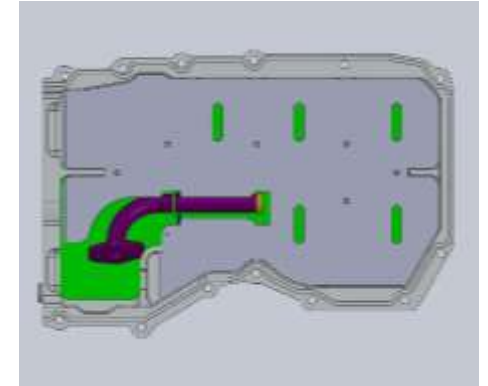
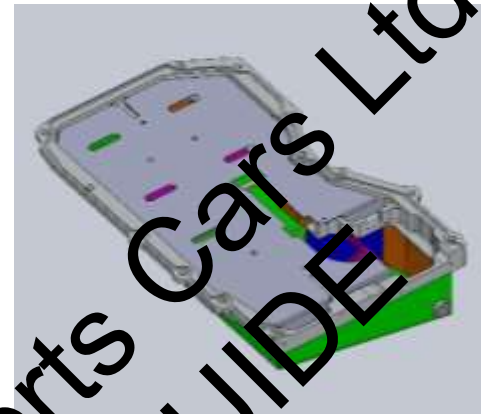




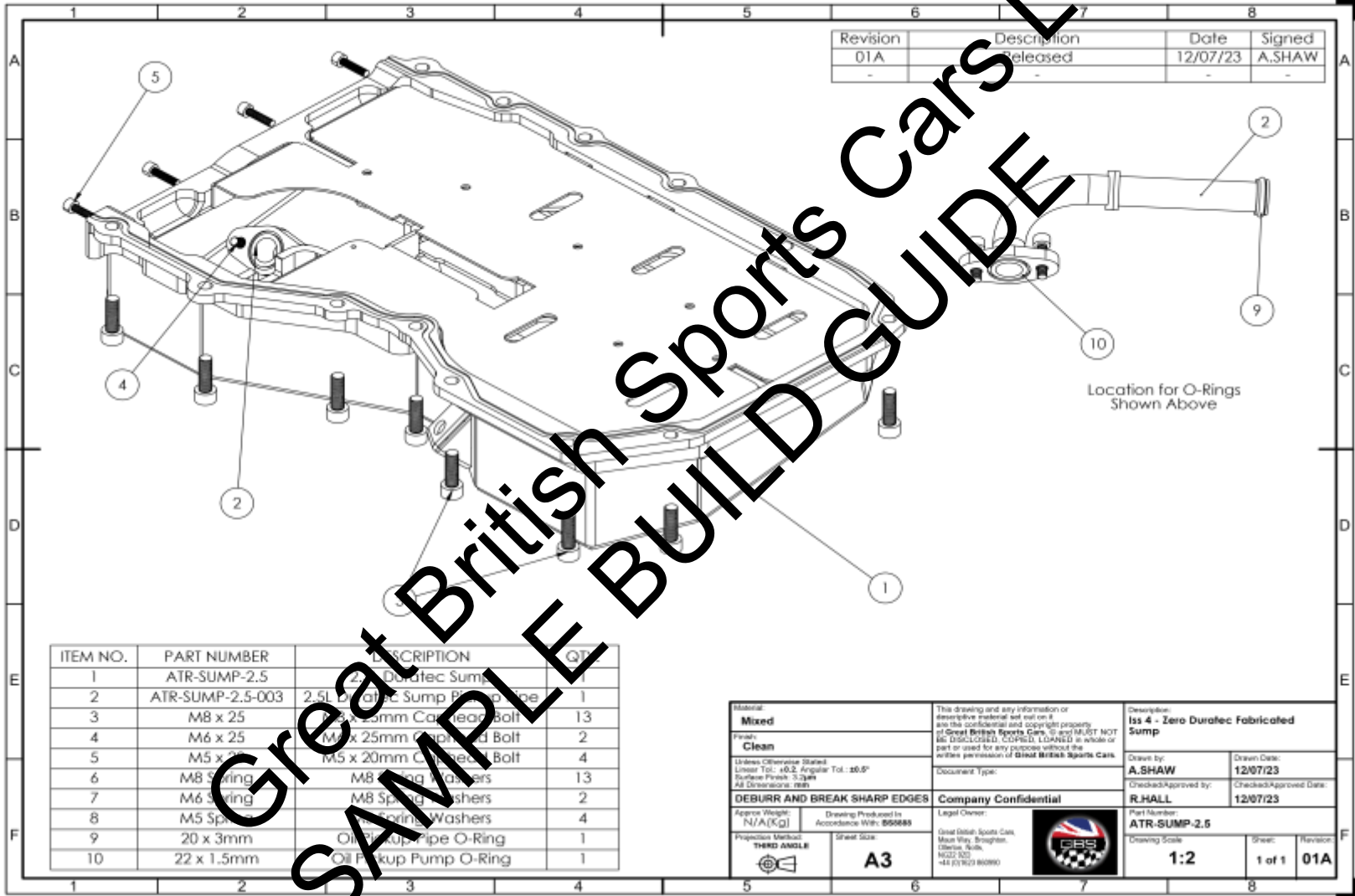
Duratec Sump Fitting Guide: GDE0001
2.5 Duratec Sump / Part Number: ENG0734

What's Included:

- 2.5 Duratec Sump Unit
- 2.5 Duratec Sump Pick up pipe
- Oil Pickup Pipe O-Ring
- Oil Pickup Pump O-Ring
- 2 x M6 x 25mm cap head bolts
- 2x M6 Snor washers
- 13x M8 x 25mm cap head bolts
- 13x M8 Snor washers
- Magnetic Oil bung and sealing washer
- Sump comes with the windage tray pre fitted ready for fitting.



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Revision	Description	Date	Signed
01A	Released	12/07/23	A.SHAW
-	-	-	-

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	ATR-SUMP-2.5	2.5L DuraTec Sump	1
2	ATR-SUMP-2.5-003	2.5L DuraTec Sump Pickup Pipe	1
3	M8 x 25	M8 x 25mm Cap Head Bolt	13
4	M6 x 25	M6 x 25mm Cap Head Bolt	2
5	M5 x 20	M5 x 20mm Cap Head Bolt	4
6	M8 Spring	M8 Spring Washers	13
7	M6 Spring	M6 Spring Washers	2
8	M5 Spring	M5 Spring Washers	4
9	20 x 3mm	Oil Pickup Pipe O-Ring	1
10	22 x 1.5mm	Oil Pickup Pump O-Ring	1

Material: Mixed Finish: Clean <small>Unless Otherwise Stated: Linear Tol: ±0.2; Angular Tol: ±0.5° Surface Finish: 3.2µm All Dimensions: mm</small>	This drawing and any information or descriptive material set out on it are the confidential and copyright property of Great British Sports Cars, and MUST NOT BE DISCLOSED, COPIED, LOANED or part or used for any purpose without the written permission of Great British Sports Cars.	Description: Is4 - Zero DuraTec Fabricated Sump Drawn by: A.SHAW Drawn Date: 12/07/23
DEBURR AND BREAK SHARP EDGES Agree Weight: N/A(Kg) Drawing Produced in Accordance With: BS5889 Third Angle	Company Confidential Legal Owner: Great British Sports Cars Man Way, Brighton, Ox10 4JH, NG22 3ZJ +44 (0)1273 803890	Document Type: Checked/Approved by: R.HALL Checked/Approved Date: 12/07/23
Sheet Size: A3		Part Number: ATR-SUMP-2.5 Drawing Scale: 1:2 Sheet: 1 of 1 Revision: 01A



Blanking Plates:

1. Clean contact surfaces, apply a thin line of RTV and bolt crankcase breather plate as shown to side of engine using 8x M6 bolts and washers.



2. Repeat for EGR blanking plate located above the flywheel using 2 M8 bolts and Schnorr washers.



Fit Clutch & Flywheel –

Fitting the spigot bearing and clutch is one of the most important stages of preparing the engine to be mounted in the car.

Please note: This instruction set is for the 2.0 Zetec engine. Torque settings for the 2.5 Duratec engine will differ.

Parts:

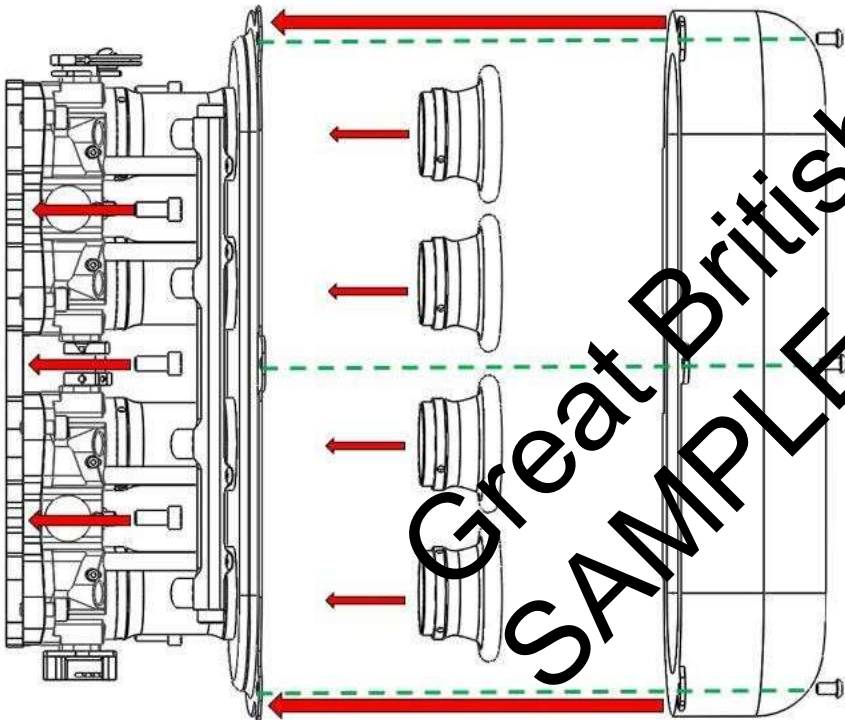
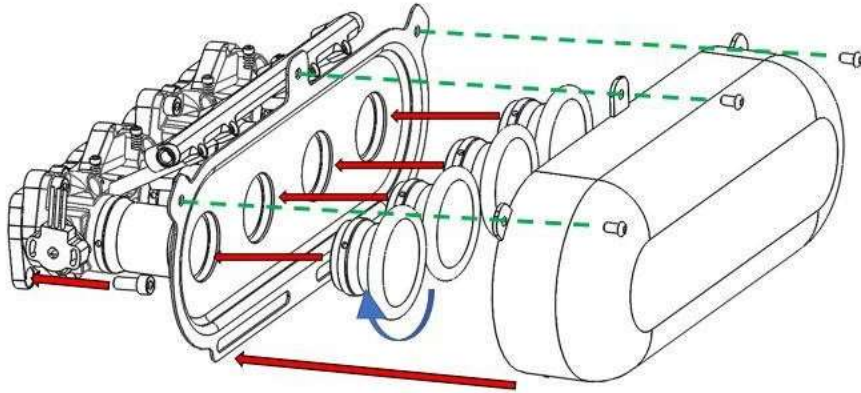
Part Name	Part Number	Qty
Spigot bearing	TRA0005	1
Fly Wheel	TRA0171	1
Fly wheel bolts	TRA0157	6
Clutch cover	TRA0172	1
Clutch plate	TRA0173	1

Instructions:

1. Press the spigot bearing into the crank case so that the oil seal lip is on the outside. We recommend applying some extra grease to the bearing if it is not packed fully. Use a large socket that fits on the outer bearing race to avoid applying force across the ball bearings. If you do not have a press, gently tap in using the socket. Check regularly to make sure that the bearing is sitting in straight.
3. Slide flywheel onto the end of the crankshaft.
4. Bolt flywheel to crank using 6x TRA0157 bolts. Apply nut locker to each thread and then torque.



Spigot bearing fitted.



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Duratec 2.5 Engine-



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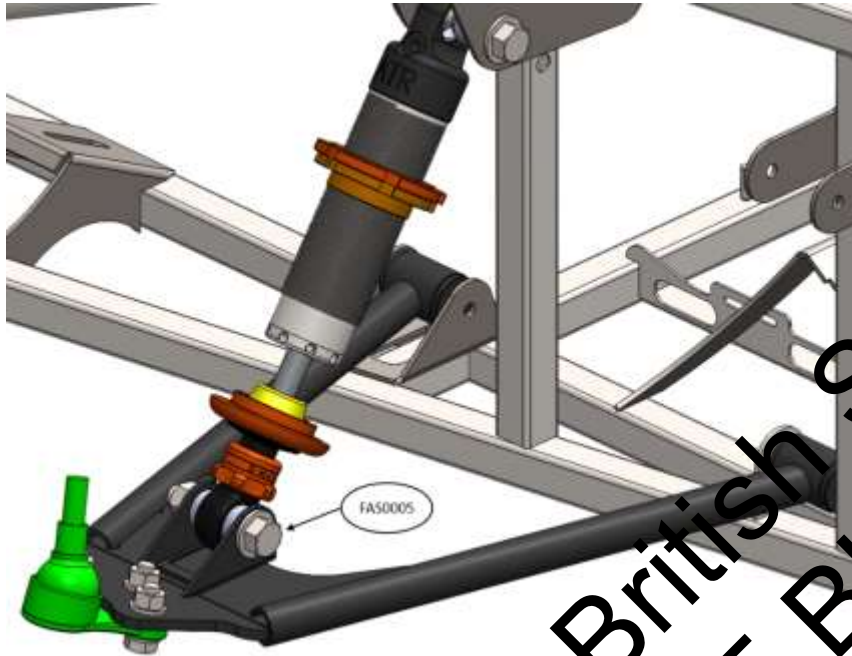


4. Next, wipe off any grease from the lower cup you have removed. Sand the spherical surface lightly with wet and dry paper, making sure to rotate the part so that you remove material evenly. Be cautious about how much you remove as you can't add material back again.
5. Reapply some grease and re-fit. Move the shifter around to distribute grease. If it is still too stiff, repeat the process.





4. Connect to damper to lower wishbone with FAS0005 and two spacers provided in the kit.



5. Install front wing bracket to front upright and bolt assembly to lower wishbone ball joint. Align wing bracket perpendicular to the wheel axle and press into place.



6. Connect top ball joint to upper wishbone and lock with nut.





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Zero Build Guide

Version 1 / September 2023

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