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Exige S2 Race Wheel Arch Fitting Guide

R01SB0153, R01SB0185, R01SB0186, R01SB0187, R01SB0188, R01SB0189, R01SB0300, R01SB0301, R01SB0302, R01SB0303, R01SB0304, R01SB0305

Introduction (RIVET ON EXTERNAL FLANGE)

In order to facilitate larger wider wheels & tyres to improve grip on either all four corners, or just the rear for circuit use, we have styled and developed these bolt on wheel arch flares. The flares allow 40mm more clearance on all corners and allow modified arch inner liners to be re-fitted. The front arch fenders also replace the front under clam winglets and vent out high-pressure air from the front wheel wells to improve stability at high speeds.

The flares are available with internal hidden flange & big head fixings for bolt on, or as bond on units. The internal set up makes a better finish, but some racers may just prefer to rivet an external flange set on please ask if required. The hidden internal fix type could also be bonded on and faired and painted with the complete clamshell if a smoother look is required.

Notes: **Special wider rear flares (+55mm) with or without rear mesh venting to suit 9.5 or 10" rear wheels can be produced if required (as used by Lotus Sport Cadena GT3 team during late 2006).**

40mm front & rear bolt on billet alloy wheel spacers (as used on reverie development car) are available if you wish to run the standard Exige S2 wheels and just increase track width, however for the more discerning enthusiast, particularly for the tuned Exige or Elise we recommend new wheels and tyres. Please download the pdf drawings from our web-site 7.5*17" Et18 with Toyo 215 40 R 17 or 205 40 R 17 and 9 * 17" Et25 with 245 35 R 18 with bolt on 20mm spacers front & rear work well or longer wishbones with std wheels if these should become available from a respected tuner.

Keep an eye on our website as we will list known wheel & tyre packages and other suspension components as they become available. For the moment the easiest option is billet machined centre & split rim wheels, where several manufactures can offer this service to suit the Elise / Exige S2 in several styles.
It is very important that you do not increase the rolling diameter over the standard set up, and check your chosen wheel and tyre package with the suspension in full bump (springs removed) and ½ lock ½ bump.

Parts Available:

Description	Part No.
Exige S2 front wheel arch kit 40mm, grp-unpainted (with hidden internal flanges)	R01SB0153
Exige S2 full wheel arch kit (front & rear), grp-unpainted (with hidden internal flanges) specify +40 or +55mm rears	R01SB0188
Elise/Exige S2 front wheel arch kit 40mm, grp-unpainted (with external flanges)	R01SB0185
Exige S2 rear wheel arch kit, grp-unpainted (with external flanges) please specify 40 or 55mm when ordering	R01SB0187
Exige S2 full wheel arch kit (front & rear), grp-unpainted (with external flanges) please specify +40 or +55mm rears	R01SB0189
Elise S2 full wheel arch kit (front & rear), grp-unpainted (with hidden internal flanges) please specify +40mm or +55mm rear arches	R01SB0300
Elise S2 wheel arch kit (front only), grp-unpainted (with hidden internal flanges)	R01SB0301
Elise S2 wheel arch kit (rear only), grp-unpainted (with hidden internal flanges) please specify +40mm or +55mm rear arches	R01SB0302
Elise S2 full wheel arch kit (front & rear), grp-unpainted (with external flanges) please specify +40mm or +55mm rear arches	R01SB0303
Elise S2 wheel arch kit (front only), grp-unpainted (with external flanges)	R01SB0304
Elise S2 wheel arch kit (rear only), grp-unpainted (with external flanges) please specify +40mm or +55mm rear arches	R01SB0305
Elise S2/Exige S2, 20mm wheel spacers, 4*100mm pcd (pair, for use with wheel arch kits when using rimstock 7.5x17 & 9x18")	R01SB6043
Elise S2/Exige S2, 30mm wheel spacers, 4*100mm pcd (pair, optional for use with +40mm wheel arch kits)	R01SB6026
Elise S2/Exige S2, 40mm wheel spacers, 4*100mm pcd (pair, for use with +40mm wheel arch kits)	R01SB6025
Elise S2/Exige S2, 50mm wheel spacers, 4*100mm pcd (pair, for use with +55mm rear wheel arch kit)	R01SB6042

All fixings are supplied with the arch fenders, but the wheel spacers if required must be ordered separately.

Photo courtesy of Barrie Whight. Lotus Sport Cadena Gt3 Team, with Rear Arch Kit (modified)

S2 Exige with Full Wheel Arch Kit & 40Fr/40Rr mm Wheel Spacers.

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Tools Required

Metric spanner set

Metric socket set

10mm spanner

Drill and drill bits

Air hacksaw or 3" carbide cut off wheel in 90' high speed grinder

Use suitable dust mask, goggles, gloves and ear defenders with this!

Dremel with diamond or tungsten taper point

Sandpaper and block of various grits

Posi bladed Screwdriver

Jack, Axle stands, wheel wrench

Access to quality paint and finishing facilities

Parts supplied

For front arch flares external rivet on type:

2 * nylon 8mm long 45' tapered one end spacers for rear lower front flare sill fixing point.

2* 40mm m5 button head bolt

2* m5 20mm diameter washer

2* m5 jack nut inserts (for front of sills)

2* m5 20mm button head bolts

2* m5 25mm diameter washers

2* m4 *Nyloc nuts for studs

2* m4 std washers

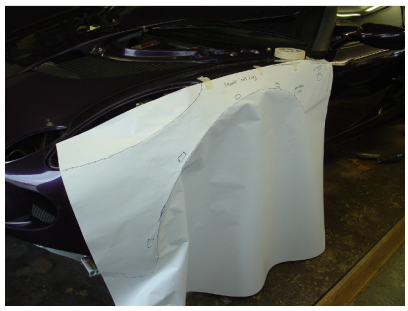
16*4mm * 14mm small dome head peel rivet

1m length of vertical Dx83 rubber edge flap seal for arch liner modifications

For rear arch flares external rivet on type:

16* 4mm * 14mm small dome head peel rivet

6* 3.2mm * 12mm small dome head peel rivet

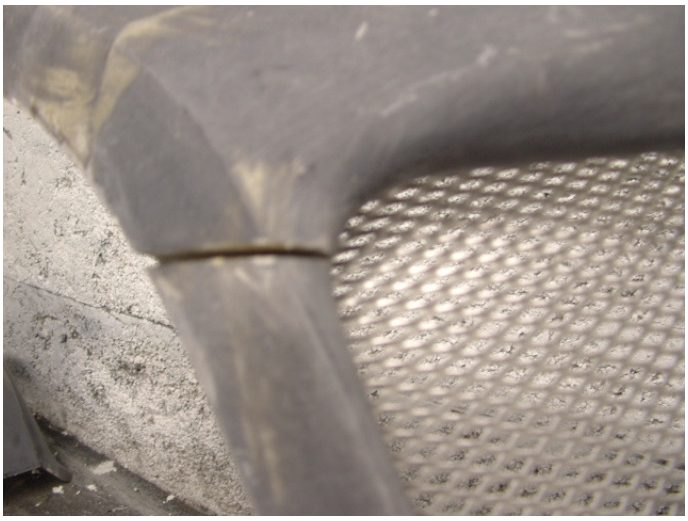
	1. Loosen wheel bolts, Jack up the car carefully as per lotus handbook instructions and support on four axle stands safely, remove the road wheels and the inner wheel arch liners.
	2. Cut the along the wheel arch line of the paper template. Then position paper templates against relevant wing flare and tape in position. The top edge of the paper runs along the panel top styling line. Then trim the wheel arch away with an air hacksaw or 3” carbide cut off wheel (wear correct PPE).
	3. New rear arch trim line shown cut from paper template. Then through the template using a Dremel with a tungsten or diamond taper point, grind in the fixing bolt slots.

	4. Using your Dremel and diamond point cut the side repeater details on the front clam as shown. Then check the arch flares on the front and rear clams, you should be able to hang the arches by inserting the m6 big head studs into the rectangle slotted holes you have made in step 3 using the templates supplied. On the front arches it is very important to move the arch as far rearward as possible so that the vertical face behind the tyre is tight against the sill, otherwise the tyre will fowl on lock at ride height. Check the door gap and sill to fender flare gap at the rear and sand if required. The Arch fender should lock into the alloy chassis sill section underneath also.
	5. Drill one hole in the front sills each side as shown to allow the front arch flares to be bolted up tight back against sill to allow front tyre clearance on lock. It is also advised to fit a rivet higher up, 10mm in from the edge to help pull the arch flush with sill end to clear tyre. **IT IS RECOMMENDED YOU FIT OUT SILL RECESS MOULDINGS TO ALLOW CLEARANCE FOR LARGER THAN STOCK ROLLING RADIUS on the 30mm SPACERS OR TO ALLOW 40mm SPACERS**
	4. Once you have checked the fitment of the front and rear fender flares and made any adjustments required for good fit to sill & door gaps if you are bolting them on as separate items as shown here, have a good bodyshop paint them. Or if fitting permanently and blending and painting clam and arches, then get the fit sorted out and have a body shop paint the complete arches & clamshells.

	5. Location of 45’ sill to front fender spacer and m5 * 40mm button head bolt, this gets hidden under arch flare when fitted, adjust spacer height with grinder to get sill to fender rear lip at correct height. Bolt the arches on and cut any protruding m6 stud away from the back of all nyloc nuts to stop tyre damage.
	6. Plastic sill to front fender cover plate shown refitted, note the outside tag has been carefully ground off and the outer edge held down with a small blob of pu sikaflex adhesive.
	7. Front fender to door and sill gap shown as it should be, ensure this is correct before painting.
	8. Rear arch flare - Drill and fit a 4mm dome headed peel rivet as shown at the front of the rear fenders to sill, then paint body colour with a small brush.

	9. Rear arch flare - Drill and fit a 4mm dome headed peel rivet as shown at the front of the rear fenders to sill. Also parcel tape the arch and apply P40 fibre paste to fill the gap between arch and fender as shown on the corner. Then remove when dry and sand to shape. Sand and blend the rear side too. Once completed paint the rivet body colour with a small brush. 
	10. Rear arch flare – View showing the joggle which aligns with the rear clam to sill joint. If using bolt on arches the arch does not require this split line and joggle as the arch can be un bolted as one to remove the clamshell.
	11. Rear arch flare – View showing the four hidden return tabs which take the bonded on M6 * 16mm big head stud fasteners. Please note this rear arch is shown with the reverie fitted optional rear wheel well venting mesh to reduce high pressure air build up under the arch. This modification will improve down force particularly at speed.
	12. Refit the front inner arch liner. The main rear part needs modifying to allow venting out as shown. The plastic insert parts are cut from what you have removed and bonded and riveted with pu sikaflex. Then fit the vertical lip seal as shown to seal against sill and arch flare vent. Refit the main part with the original lotus fixings. The outer edge should tuck just up above the wheel arch studs & nyloc nuts.

13. More shots of inner front fender flare modifications

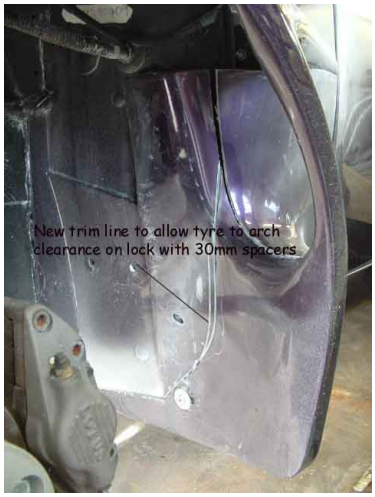


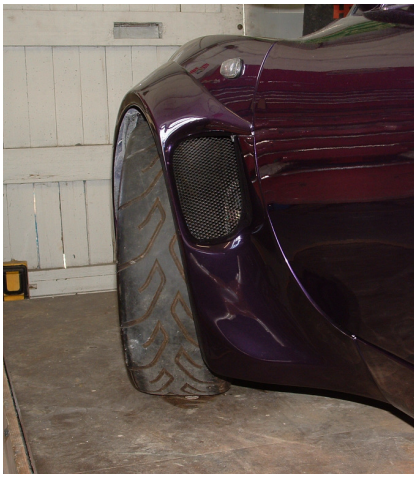
14. More shots from outside looking in through vent. Note on the rear of the aerodynamic shaped arch flare stem there should be a 2.5mm plate with a hole to accept an m5*10mm bolt which allows the two arch pieces to be bolted together.

    If using bolt on arches the arch does not require this split as the arch can be un bolted as one to remove the clamshell.

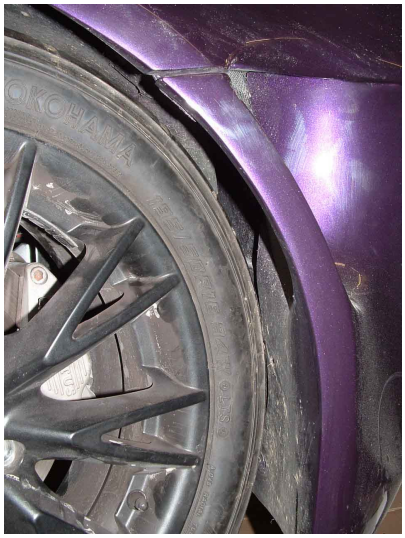
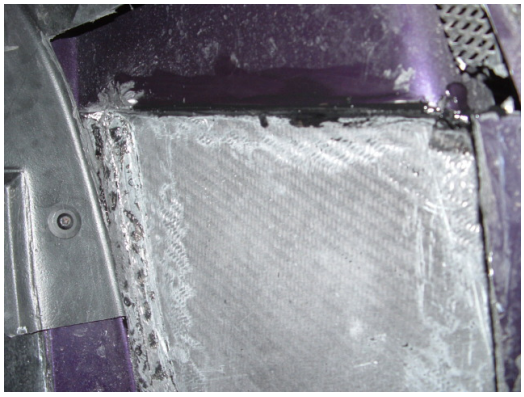
15. Note revised trim line on arch flare to allow more tyre clearance on lock by revealing the original sill end.

    Please note if you wish to use 40mm spacers or the wider rims, you must cut a hole into each sill end and fit the sill end recess moulding to allow tyre clearance on lock.



	16. Close up showing formed in situ expanded alloy grille mesh, now bonded into its perimeter recess slot.
	17. The front headlamp inspection covers need widening by approx 40mm as shown. Cut the profile shown and the plastic hump section out. Then cut some 2.5-3mm black flexible pu plastic strip 60mm wide and rivet it as shown. Seal the cut edge with black pu sikaflex as shown. Then refit this panel to the already fitted main section.
	18. Grille mesh painted and pu bonded onto front face of inside fender to sill over the vent

	19. Std rear inner arch liner shown re fitted using std fixings, no mods.
	20. Fit 40mm wide bolt on wheel spacers to the front and 40mm to the rear (or +55mm if using the wider rear arches) or your choice of wider rim and tyre with no larger than stock rolling radius. If fitting spacers bolt them to the same specified torque as the wheel bolts (you may need a colleague to put his foot on the brake to allow this). Race cars may use 40mm on front but require sill end moving back for lock clearance.
	21. **Make sure excess stud length after nyloc nut cut off and filed. Carefully remove springs from shocks using spring compressors. Then refit shocks and check wheels in full bump on each corner for tyre clearance. Also check front with ½ bump ½ lock. Then if happy refit springs to shocks and refit shocks, torque to specified torques.** **Then re-fit wheels, lower car carefully to ground and remove axle stands. Now torque wheel nuts as per lotus instructions.**
	22. Carefully drive your car around an off highway space to check for rubbing. Then slowly increase radius and speed. If possible try over rougher terrain to check clearance on bumps & lock. You are then ok to check at increasing speeds on a circuit with visual checks to tyres and arches, until you are happy you have made a correct installation without problems.

	**SILL END RECESS MOULDINGS.** AS YOU CAN SEE CLEARANCE ON LOCK IS VERY TIGHT WHEN USING THE STANDARD ROLLING RADIUS TYRES. IT IS RECOMMENDED YOU FIT THE RECESS MOULDINGS TO IMPROVE CLEARANCE; THEY ARE A MUST IF USING 40MM SPACERS OR A TYRE WITH A ROLLING RADIUS SLIGHTLY LARGER. WE RECOMMEND 605MM MAX. **Ensure all studs cut down so nothing can contact the tyre on full bump or ½ bump, ½ lock**
	Make a paper or card template off the supplied sill mouldings. Then position this template against the sill approx 20mm up from the bottom and 20mm away from the chassis. Draw around the template then using a 3” carbide cut off wheel or air hacksaw cut away the sill. BE CAREFUL NOT TO CUT DEEP NEAR THE CHASSIS AS YOU MAY RUPTURE THE PIPES SHOWN IN THE IMAGE.
	Bond and rivet the sill recess moulding in place. The top edge of the moulding needs the return flange trimming off and the vertical section grinding to fit. Fill any gaps neatly with adhesive.
	Now you should be ready to paint the sill ends along with the rest of the wheel arch flares.

You may like to consider a three element reverie 111r rear diffuser to complement your wide fender conversion and further improve grip through improved aerodynamic down force. Also a tailgate mounted or full width adjustable clam mounted rear wing are available and soon a carbon front spoiler. Also to complement the wider look of this conversion and further aid engine cooling we recommend fitment of our wider than stock bolt on carbon side air intake ducts.

WARNING, MOTORSPORT OR DRIVING CAN BE DANGEROUS RESULTING IN DEATH OR PERSONAL INJURY.

READ OUR FITTING INSTRUCTIONS CAREFULLY

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