

sector 111

RTDbrace and RTVbrace instructions.doc

Rev. A

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Assembly Step

Tools/ Parts

Detailed Instructions

Picture/ Illustration

READ FITTING INSTRUCTIONS IN FULL BEFORE INSTALLATION

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1. Lift and Secure Rear of Car



- Jack
- Jack Stands
- Ramps
- Lift



- a. Make sure car is in gear and parking brake is on.
- b. Lift car from designated rear jack points. (Ramps may be necessary if using a floor jack.)
- c. Secure car with jack stands if using a floor jack. (Place jack stands towards the back of the jacking point. It is important

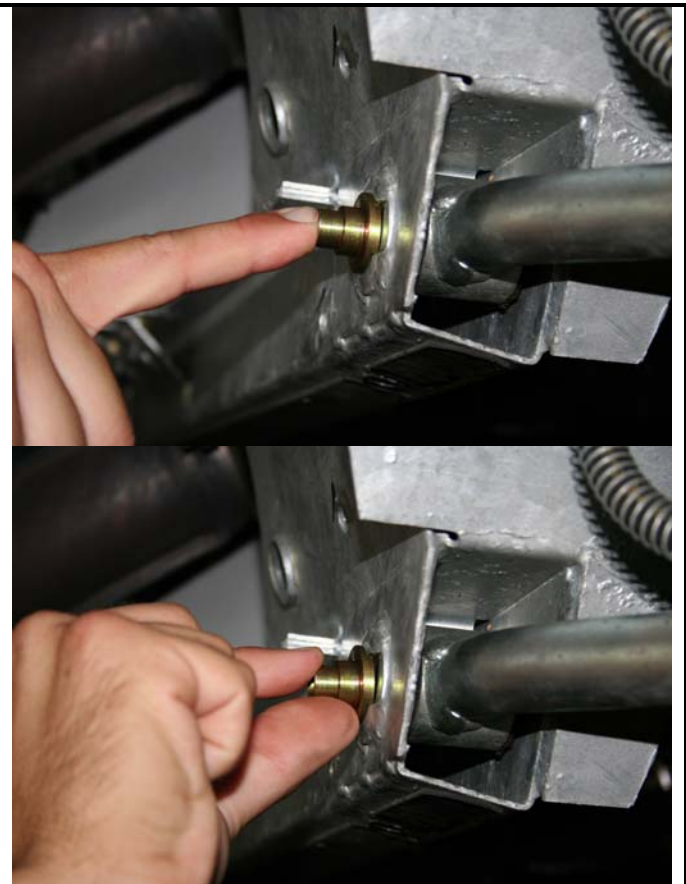
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
		that the weight of the car is not resting on the rear suspension.)	
2.	•	d.	
3. Remove Rear Wheels	<ul style="list-style-type: none"> • Factory Lug Adapter • 17mm Deep Socket • Breaker Bar 	a. Un-bolt wheels and place in a safe spot out of the way.	
4. Remove Rear Diffuser	<ul style="list-style-type: none"> • 8mm Wrench & Socket • 10mm Wrench & Socket • 4mm Allen Wrench • 13mm Wrench 	a. Un-bolt and remove rear diffuser and place in a safe spot.	



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<p>5. Remove Flange Nut</p>	<ul style="list-style-type: none"> • 15mm Wrench • 17mm Wrench 	<p>a. Remove flange nut from inner ball joint stud (Elise/Exige) or pivot bolt (Exige with track pack).</p> <p>b. Repeat step on other side.</p>	
<p>6. Remove Ball Joint Stud / Pivot Bolt</p>	<ul style="list-style-type: none"> • Pry Bar • Hammer • Tapered Punch 	<p>a. On track pack equipped cars use pry bar to remove track brace.</p> <p>b. On non track pack cars use tapered punch and hammer to tap out ball joint studs / pivot bolts. (Alternate side to side with light taps.)</p> <p>c. Note: Ball joint studs / pivot bolts may have resistance from lower pivot pushing.</p>	


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7. Un-clip Brake Line		a. Un-clip brake line clip from tie rod.	

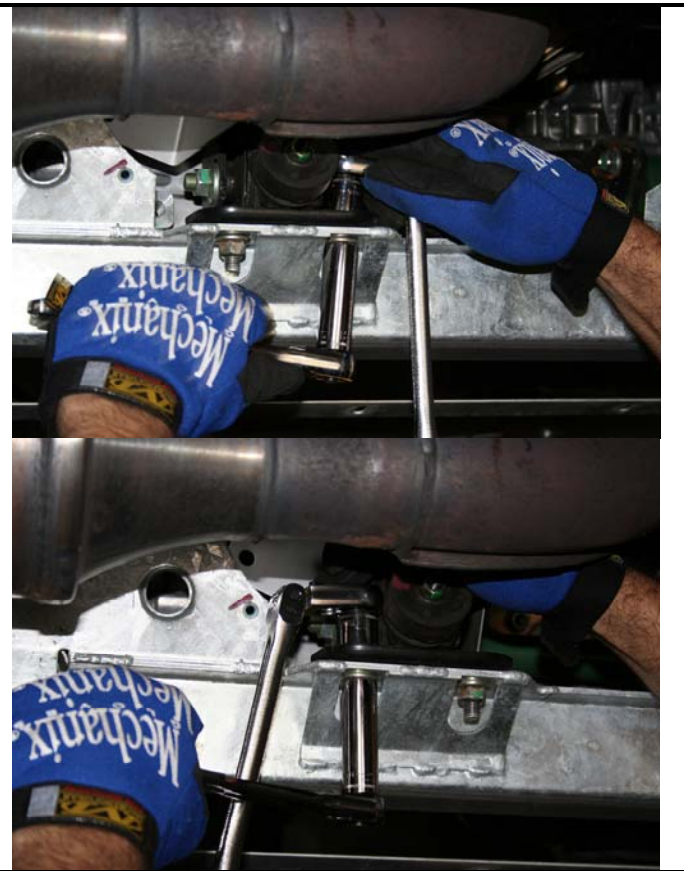
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
<p>8. Remove Tie Rods</p>	<ul style="list-style-type: none"> • 16mm Wrench • 19mm Wrench • Adjustable Crescent Wrench 	<ol style="list-style-type: none"> a. Using the 16mm wrench, hold the tie rod & loosen out board ball joint jam nut. (If 16mm is to tight use a crescent wrench) b. Unscrew tie rod from out board tie rod end. c. Repeat for other side. d. Note: Inboard ends are left hand threads and outboard ends are right hand threads. 	


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9. Clean Frame Pivot Inserts	<ul style="list-style-type: none">• Rag• Pick	a. Clean debris from frame pivot inserts.	


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
10. Locate Frame Adapters	<ul style="list-style-type: none">• Frame Adapter (x2)• Small File	<ol style="list-style-type: none">a. Test fit frame adapters in frame slots.b. If they do not sit flush, file down the galvanized coating in the corners until the frame adapters sit flush.	 The image contains two vertically stacked photographs. Both show a close-up of a person's hand using a small file to smooth the corner of a metal frame. A brass-colored adapter is being inserted into a slot in the frame. The top photo shows the initial test fit, and the bottom photo shows the hand using the file to remove the galvanized coating from the corner to ensure a flush fit.



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11. Skip Step 12 & 13 for RTVbrace	<ul style="list-style-type: none"> • 	a. Skip step 12 and 13 for RTVbrace.	
12. Remove Transmission Mount Heat Shield	<ul style="list-style-type: none"> • 8mm Wrench 	b. Un-bolt transmission mount heat shield	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			


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13. Remove Transmission Mount Bolts	<ul style="list-style-type: none">• 15mm Deep Socket• 17mm Wrench	<ol style="list-style-type: none">a. Un-bolt the two transmission mount bolts nearest the rear of the car.b. Remove all bolts, nuts, and washers.	

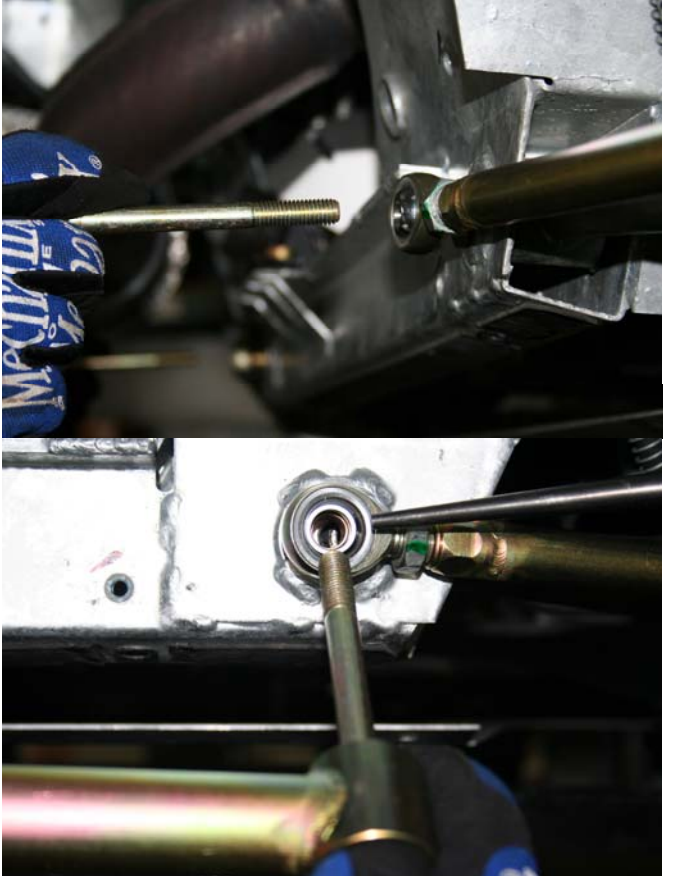
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>14. Make Tie Rod Sub Assembly</p>	<ul style="list-style-type: none"> • Tie Rod (x2) • Stock Left Hand Threaded (LHT) Jam Nut (x2) • Left Hand Threaded (LHT) Tie Rod End (x2) 	<p>a. Thread stock LHT jam nut onto supplied LHT tie rod end.</p> <p>b. Thread LHT tie rod end, with jam nut, into LHT end of tie rod which will be indicated with a groove.</p> <p>*Note: RTVbrace has no identification for RHT vs. LHT. Thread the tie rod ends with caution.</p> <p>c. Repeat for other tie rod.</p> <p>*Note: Tie rod is left hand threaded on one end and right hand threaded on the other.</p> <p>For best results make sure tie rod ends are threaded with an equal amount of turns so that you do not run out of threads.</p> <p>For added strength the tie rods and ends were designed so that minimal threads are exposed when installed and aligned. By</p>	


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		threading the tie rod ends all the way in, it will get it close to where it needs to be. From there simply twist the tie rod itself and both ends will adjust to the appropriate settings.	
15. Install Tie Rod Sub Assembly	<ul style="list-style-type: none">• Tie Rod Sub Assembly	<ol style="list-style-type: none">a. Thread tie rod sub assembly onto right hand threaded (RHT) outboard ball joint.b. Repeat on other side of car.	


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16. RTD Brace Sub-Assembly	<ul style="list-style-type: none">• Pivot Bolt (x2)• Nord-lock (x2)• RTD Brace	<ol style="list-style-type: none">a. Place pivot bolt thru the nord-lock, then thru the cupped end of the RTD Brace.b. Repeat on other side.	


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17. Install Frame Adapters	<ul style="list-style-type: none">• Frame Adapters	<ol style="list-style-type: none">a. Place frame adapter into rod end and then into frame slotb. Repeat on other side.	


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			 The image contains two photographs stacked vertically. Both show a person's hands wearing blue and black work gloves. The hands are holding a brass fitting with a green seal and are in the process of installing it into a metal component. The top photo shows the fitting being held near the component, while the bottom photo shows it being pushed into a hole. The background is dark and out of focus.


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<p>18. Install RTD Brace</p>	<ul style="list-style-type: none"> • RTD Brace Sub-Assembly • 15mm Flange Nut (x2) • Nord-lock (x2) • 15mm Socket • 17mm Socket • Rubber Mallet • Tapered Punch • Torque Wrench 	<ol style="list-style-type: none"> a. With assistance, line up lower a-arm pivot hole and insert pivot bolt with RTD Brace assembly thru the tie rod end and frame adapter. b. Repeat on other side. c. Once the tips of the pivot bolts are in the pivot holes, slowly tap bolts in, alternating side to side. d. Make sure frame adapters are aligned with frame slots before fully tapping in the pivot bolts. e. Slide nord-lock over the threaded end of the pivot bolt and thread on nut to 37ft./lbs (50 nm) f. Check frame adapters periodically to ensure proper alignment. 	


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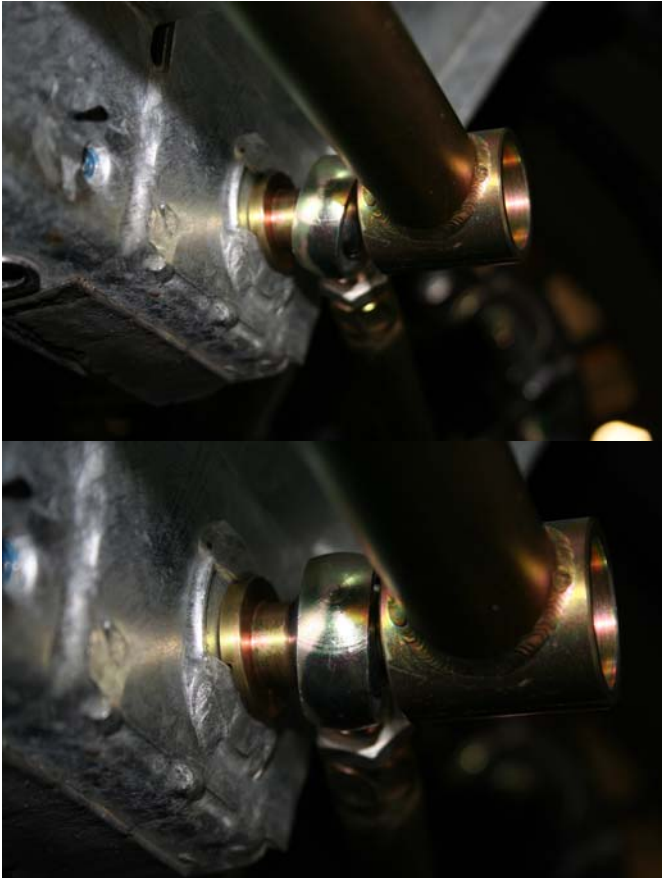
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
19. For RTVbrace Skip Steps 20 & 21	•	a. For RTVbrace, skip steps 20 and 21.	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>20. Install Transmission Mount Bolts and Spacers</p>	<ul style="list-style-type: none"> • New Transmission Mount Bolts • New Transmission Mount Washers • Transmission Mount Spacers • 15mm Deep Socket • 17mm Wrench 	<ol style="list-style-type: none"> a. Place spacers on top of transmission mount and under RTD Brace center bracket. (You may need to use a pry bar to pry the center bracket up in order to fit the spacers into place.) b. Apply 17mm bolt thru washer, thru RTD Brace center bracket, thru transmission mount and sub-frame, and apply blue serviceable Locktight and 15mm bolt. c. Torque to 33ft/lbs (45nm). 	

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21. Re-install Transmission Mount Heat Shield	<ul style="list-style-type: none"> • 8mm Wrench 	<p>a. Re mount heat shield and bolt down using factory hardware.</p>	
22. Rough Alignment	<ul style="list-style-type: none"> • Lotus Factory Manual 	<p>a. Use Lotus Factory Manual to do rough alignment on car.</p>	
23. Clean Up	<ul style="list-style-type: none"> • 16mm Wrench • 19mm Wrench • Blue Serviceable Lock-tight • 8mm Socket & Wrench • 10mm Socket & Wrench • 13mm Socket • 17mm socket • Torque Wrench 	<p>a. Apply a small amount of blue serviceable lock tight to jam nuts and snug down.</p> <p>b. Clamp brake lines back onto tie rods.</p> <p>c. Re-install rear diffuser.</p> <p>d. Re-install wheels.</p> <p>e. Lower car.</p>	

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24. Take to Shop for Final Alignment	<ul style="list-style-type: none">Lug Bolt Adapter	<ol style="list-style-type: none">Make sure the shop centers the range on the tie rod ends. The inboard tie rod end should be phased 90 degrees to the outboard tie rod end.	

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			 The image consists of two vertically stacked photographs. Both show a close-up of a person's hands using silver-colored pliers to adjust a metal component on a vehicle's wheel hub. The component appears to be a brake caliper or a similar part. A flexible metal hose is visible in the background. The top photo shows the pliers being used to pull or push the component, while the bottom photo shows a similar action from a slightly different angle. The background is dark, suggesting the interior of a vehicle's wheel well.