

# sector 111

## READ FITTING INSTRUCTIONS IN FULL BEFORE INSTALLATION

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<p>1. Confirm you have the following parts</p> <ul style="list-style-type: none"> <li>• RTDbrace kit + S99 Outboard Pin Kit</li> </ul>	<p>Tools Required:</p> <ul style="list-style-type: none"> <li>• Jack, Jack Stand or Lift</li> <li>• 8mm,10mm,13mm,14mm, 15mm Socket &amp; Wrench</li> <li>• 14mm,15mm, 17mm Deep Socket</li> <li>• 4mm Allen</li> <li>• Tapered Punch</li> <li>• 15mm,16mm,19mm open end wrench</li> <li>• Adjustable Crescent Wrench</li> <li>• Factory Lug Adapter</li> <li>• Pry Bar</li> </ul>	<ul style="list-style-type: none"> <li>• Rubber Mallet</li> <li>• Torque Wrench</li> <li>• Blue Serviceable Lock Tight</li> <li>• Flat Head Screw Driver</li> <li>• (2) 19mm wrenches <u>or</u> (1)19mm wrench and (1) ¾" wrench</li> <li>• 3/8" drive ratchet</li> <li>• 3/8" drive torque wrench (15-75 ft/lb)</li> <li>• 3/8" drive (4" ext.)</li> </ul>	<p>RTDbrace kit:</p> <ul style="list-style-type: none"> <li>• Rear Chassis Brace</li> <li>• 2 -Toe Links</li> <li>• 2 - Heim links</li> <li>• 2 - Frame Adapter</li> <li>• 2 - Pivot Bolt</li> <li>• 2 - Transmission Bolt</li> <li>• 2 - Transmission Washer</li> <li>• 2 - Transmission Spacer</li> <li>• 4 - Nord-Lock</li> </ul> <p>S99 Outboard Pin Kit:</p> <ul style="list-style-type: none"> <li>○ 4 - M12x1.25 K-nuts</li> <li>○ 2 - M12x1.25 jam nuts</li> <li>○ 2 - M12x1.25 RH Rod ends</li> <li>○ 2 - Tall top hat spacers</li> <li>○ 2 - Short top hat spacers</li> <li>○ 2 - M12 washers</li> <li>○ 2 - S99 pins</li> </ul>
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Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
2. Lift and Secure Rear of Car	<ul style="list-style-type: none"> <li>• Jack</li> <li>• Jack Stands</li> <li>• Ramps</li> <li>• Lift</li> </ul>	<ol style="list-style-type: none"> <li>a. Make sure car is in gear and parking brake is on.</li> <li>b. Lift car from designated rear jack points. (Ramps may be necessary if using a floor jack.)</li> <li>c. Secure car with jack stands if using a floor jack. (Place jack stands towards the back of the jacking point. It is important that the weight of the car is not resting on the rear suspension.)</li> </ol>	
3. Remove Rear Wheels	<ul style="list-style-type: none"> <li>• Factory Lug Adapter</li> <li>• 17mm Deep Socket</li> <li>• Breaker Bar</li> </ul>	<ol style="list-style-type: none"> <li>a. Un-bolt wheels and place in a safe spot out of the way.</li> </ol>	
4. Remove Rear Diffuser	<ul style="list-style-type: none"> <li>• 8mm Wrench &amp; Socket</li> <li>• 10mm Wrench &amp; Socket</li> <li>• 4mm Allen Wrench</li> <li>• 13mm Wrench</li> </ul>	<ol style="list-style-type: none"> <li>a. Un-bolt and remove rear diffuser and place in a safe spot.</li> </ol>	

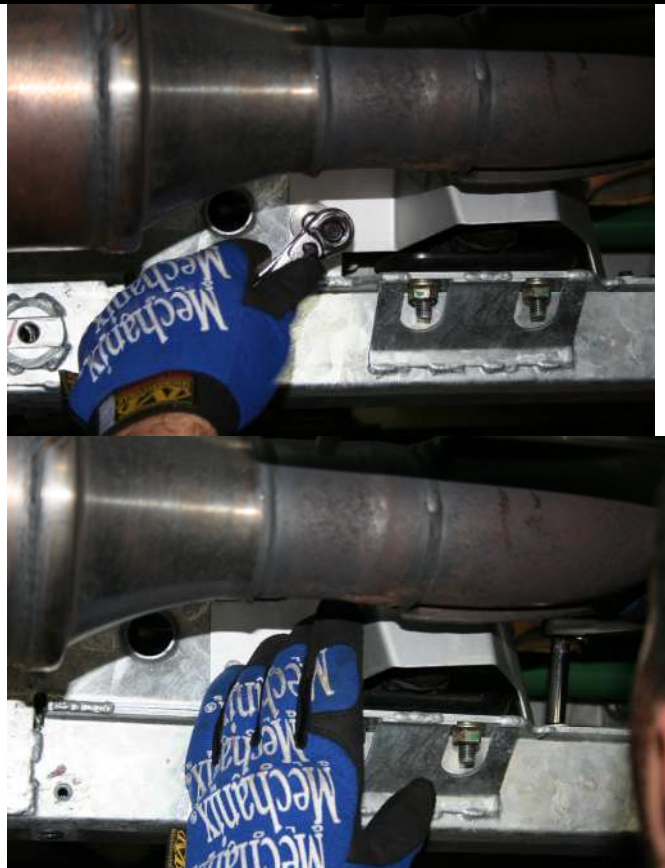
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>5. Remove Flange Nut</p>	<ul style="list-style-type: none"> <li>• 15mm Wrench</li> <li>• 17mm Wrench</li> </ul>	<ol style="list-style-type: none"> <li>a. Remove flange nut from inner ball joint stud (Elise/Exige) or pivot bolt (Exige with track pack).</li> <li>b. Repeat step on other side.</li> </ol>	
<p>6. Remove Ball Joint Stud / Pivot Bolt</p>	<ul style="list-style-type: none"> <li>• Pry Bar</li> <li>• Hammer</li> <li>• Tapered Punch</li> </ul>	<ol style="list-style-type: none"> <li>a. On track pack equipped cars use pry bar to remove track brace.</li> <li>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.)</li> <li>c. Note: Ball joint studs / pivot bolts may have resistance from lower pivot pushing.</li> </ol>	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
7. Un-clip Brake Line		a. Un-clip brake line clip from toe link.	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
8. Remove Toe Link	<ul style="list-style-type: none"><li>• 16mm Wrench</li><li>• 19mm Wrench</li><li>• Adjustable Crescent Wrench</li></ul>	<ol style="list-style-type: none"><li>a. Using the 16mm wrench, hold the toe link &amp; loosen out board ball joint jam nut. (If 16mm is too tight use a crescent wrench)</li><li>b. Unscrew toe link from out board end.</li><li>c. Repeat for other side.</li><li>d. Note: Inboard ends are left hand threads and outboard ends are right hand threads.</li><li>e. Save stock Jam nuts as they will be reused</li></ol>	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
9. Clean Frame Pivot Inserts	<ul style="list-style-type: none"><li>• Rag</li><li>• Pick</li></ul>	a. Clean debris from frame pivot inserts.	
10. Locate Frame Adapters	<ul style="list-style-type: none"><li>• Frame Adapter (x2)</li><li>• Small File</li></ul>	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.	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>11. Remove Transmission Mount Heat Shield</p>	<ul style="list-style-type: none"> <li>8mm Wrench</li> </ul>	<p>a. Un-bolt transmission mount heat shield</p>	

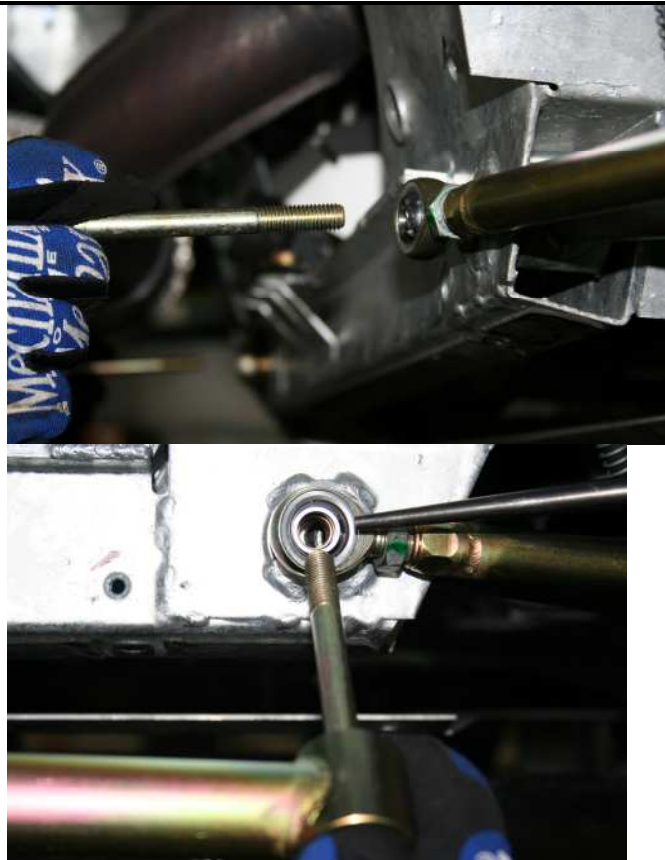
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
12. Remove Transmission Mount Bolts	<ul style="list-style-type: none"><li>• 15mm Deep Socket</li><li>• 17mm Wrench</li></ul>	<ol style="list-style-type: none"><li>a. Un-bolt the two transmission mount bolts nearest the rear of the car.</li><li>b. Remove all bolts, nuts, and washers.</li></ol>	


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
<p>13. Make Toe Link Sub Assembly</p>	<ul style="list-style-type: none"> <li>• Toe link (x2)</li> <li>• Stock Left Hand Threaded (LHT) Jam Nut (x2)</li> <li>• Left Hand Threaded (LHT) Toe Link End (x2)</li> </ul>	<ol style="list-style-type: none"> <li>a. Thread stock LHT jam nut onto supplied LHT toe link.</li> <li>b. Thread LHT toe link, with jam nut, into LHT end of toe link which will be indicated with a groove.</li> <li>c. Repeat for other toe link.</li> </ol> <p>*Note: Toe link is left hand threaded on one end and right hand threaded on the other.</p> <p>For best results make sure toe link ends are threaded with an equal</p>	

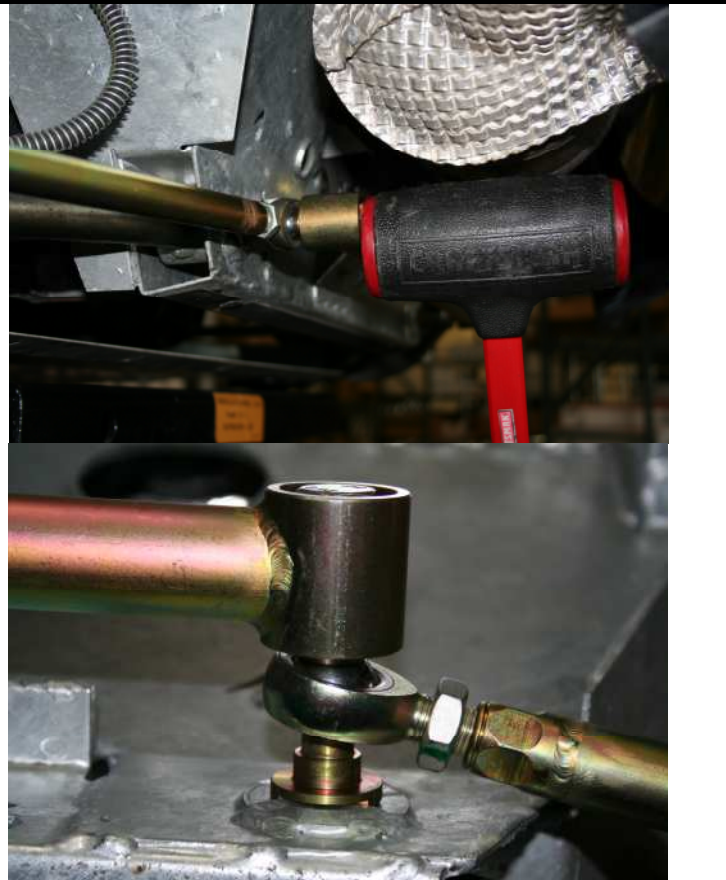
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
		<p>amount of turns so that you do not run out of threads.</p> <p>For added strength the toe links and ends were designed so that minimal threads are exposed when installed and aligned. By threading the toe link ends all the way in, it will get it close to where it needs to be. From there simply twist the toe link itself and both ends will adjust to the appropriate settings.</p>	
<p>14. RTD2brace Sub-Assembly</p>	<ul style="list-style-type: none"> <li>• Pivot Bolt (x2)</li> <li>• Nord-lock (x2)</li> <li>• Central brace</li> </ul>	<ol style="list-style-type: none"> <li>a. Place pivot bolt thru the nord-lock, then thru the cupped end of the Central brace.</li> <li>b. Repeat on other side.</li> </ol>	


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			
<p>15. Install Frame Adapters</p>	<ul style="list-style-type: none"> <li>• Frame Adapters</li> </ul>	<ol style="list-style-type: none"> <li>Place frame adapter into rod end and then into frame slot</li> <li>Repeat on other side.</li> </ol>	

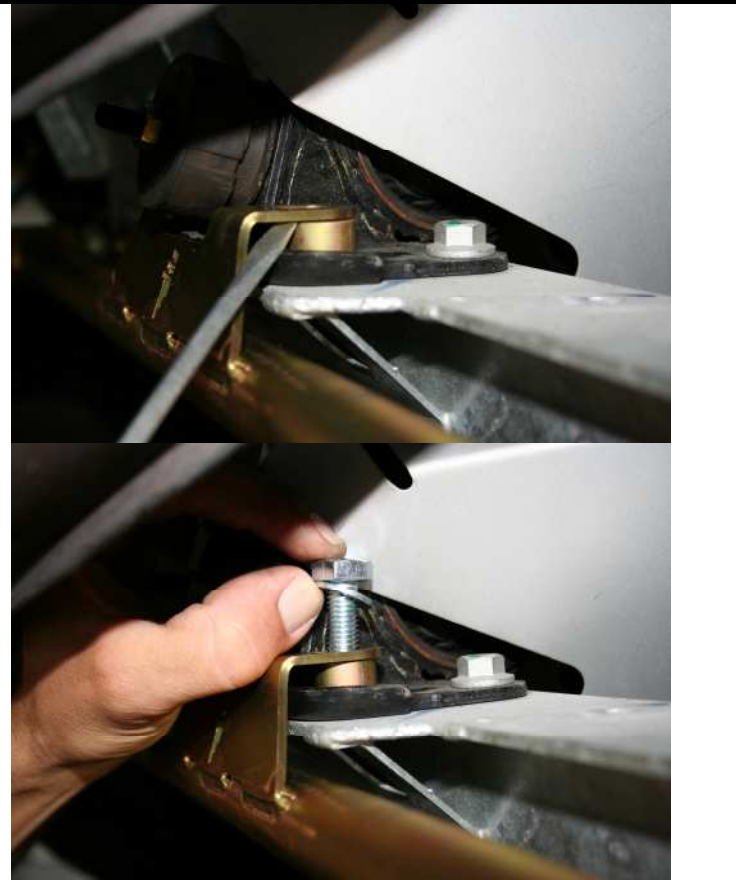
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			 The image contains two photographs stacked vertically. Both show a person's hands wearing blue and black work gloves. The hands are holding a cylindrical metal component with a brass-colored end. In the top photo, the component is being held near a metal surface. In the bottom photo, the component is being inserted into a hole in the metal structure.

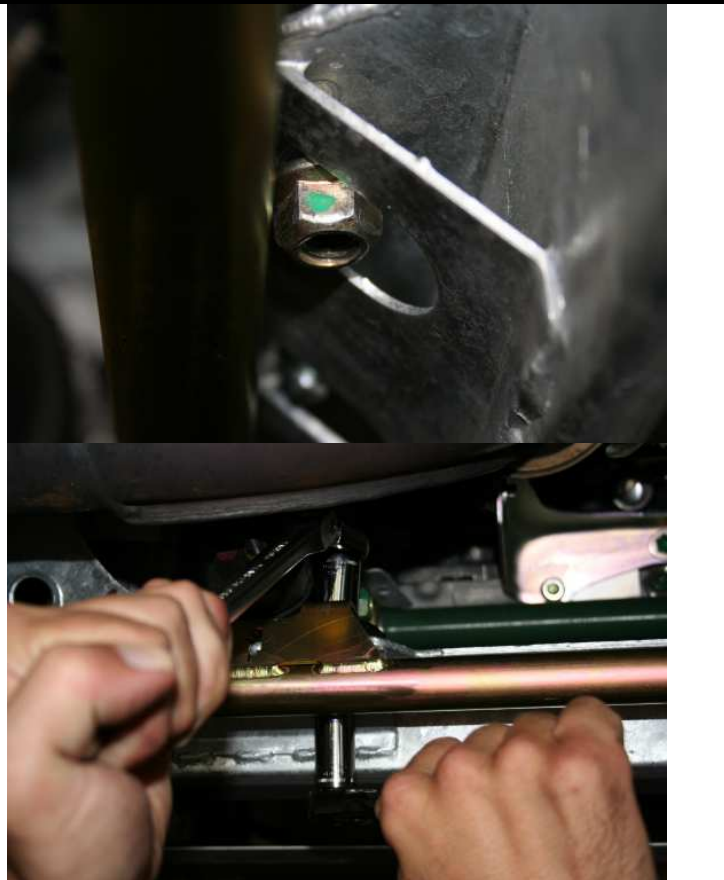
Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
16. Install Central brace	<ul style="list-style-type: none"><li>• RTD2brace Sub-Assembly</li><li>• 15mm Flange Nut (x2)</li><li>• Nord-lock (x2)</li><li>• 15mm Socket</li><li>• 17mm Socket</li><li>• Rubber Mallet</li><li>• Tapered Punch</li><li>• Torque Wrench</li></ul>	<ol style="list-style-type: none"><li>a. With assistance, line up lower a-arm pivot hole and insert pivot bolt with RTD2brace assembly thru the toe link end and frame adapter.</li><li>b. Repeat on other side.</li><li>c. Once the tips of the pivot bolts are in the pivot holes, slowly tap bolts in, alternating side to side.</li><li>d. Make sure frame adapters are aligned with frame slots before fully tapping in the pivot bolts.</li><li>e. Slide nord-lock over the threaded end of the pivot bolt and thread on nut to 37ft./lbs (50 nm)</li><li>f. Check frame adapters periodically to ensure proper alignment.</li></ol>	



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			



Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			

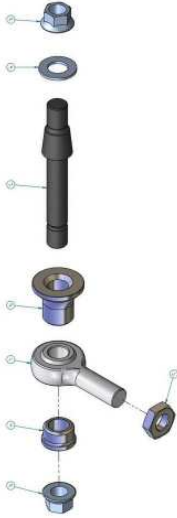

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			 The image contains two photographs. The top photograph shows a person's hand holding a hexagonal bolt, preparing to insert it into a hole in a metal part. The bottom photograph shows the bolt and a matching nut being tightened onto the metal component, which is held in place by a vise.


Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
17. Install Transmission Mount Bolts and Spacers	<ul style="list-style-type: none"><li>• New Transmission Mount Bolts</li><li>• New Transmission Mount Washers</li><li>• Transmission Mount Spacers</li><li>• 15mm Deep Socket</li><li>• 17mm Wrench</li></ul>	<ol style="list-style-type: none"><li>a. Place spacers on top of transmission mount and under RTD2brace center bracket. (You may need to use a pry bar to pry the center bracket up in order to fit the spacers into place.)</li><li>b. Apply 17mm bolt thru washer, thru RTD2brace center bracket, thru transmission mount and sub-frame, and apply blue serviceable Locktight and 15mm bolt.</li><li>c. Torque to 33ft/lbs (45nm).</li></ol>	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
			

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
18. Re-install Transmission Mount Heat Shield	<ul style="list-style-type: none"><li>8mm Wrench</li></ul>	a. Re mount heat shield and bolt down using factory hardware.	
19. Remove stock balljoint from rear uprights.	<ul style="list-style-type: none"><li>19mm wrench</li><li>Ball joint separator</li></ul>	<ul style="list-style-type: none"><li>Loosen M12 nut on ball joint 4 complete turns.</li><li>Do NOT remove nut</li><li>Use ball joint separator to remove ball joint from upright.</li><li>Completely remove M12 nut from ball joint</li></ul>	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>20. Prepare steel pins for installation</p>	<ul style="list-style-type: none"> <li>• (2) 19mm wrenches <u>or</u> (1)19mm wrench and (1) 3/4" wrench</li> </ul>	<ul style="list-style-type: none"> <li>• Remove jam nuts from ball joints</li> <li>• Remove k-nuts from steel pins</li> <li>• Remove parts from pins</li> <li>• Install the 2 jam nuts from the ball joints onto the steel pin and tighten them against each other as shown</li> </ul>	
<p>21. Install the steel pin into the upright.</p>	<ul style="list-style-type: none"> <li>• (2) 19mm wrenches <u>or</u> (1)19mm wrench and (1) 3/4" wrench</li> <li>• 14mm socket</li> <li>• Ratchet</li> </ul>	<ul style="list-style-type: none"> <li>• Install washer and k-nut onto the steel pin.</li> <li>• Tighten the k-nut with the 14mm socket, hold the jam nuts with the 19mm wrench still until the nut is tight to the washer.</li> </ul>	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>22. Screw rod ends and jam nuts into toe links</p> <p>23. Reinstall parts and hardware in the same sequence as shown.</p>		<ul style="list-style-type: none"> <li>• Complete for both sides</li> </ul>	
<p>24. Torque the K-nuts to the pins once you have them installed into both uprights</p>	<ul style="list-style-type: none"> <li>• 14mm socket deep</li> <li>• Torque wrench set to 59 ft/lbs</li> <li>• 3/8 drive extension 4" long</li> </ul>	<ul style="list-style-type: none"> <li>• Torque to 59 ft./lbs.</li> </ul>	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
<p>25. Once the assembly is together on both uprights torque the K-nuts on the pins that hold the assemblies</p>	<ul style="list-style-type: none"> <li>• Torque wrench set to 59 ft/lbs</li> <li>• 14mm socket</li> </ul>	<ul style="list-style-type: none"> <li>• Torque to 59 ft/lbs.</li> </ul>	
<p>26. Clean Up</p>	<ul style="list-style-type: none"> <li>• 16mm Wrench</li> <li>• 19mm Wrench</li> <li>• Blue Serviceable Lock-tight</li> <li>• 8mm Socket &amp; Wrench</li> <li>• 10mm Socket &amp; Wrench</li> <li>• 13mm Socket</li> <li>• 17mm socket</li> <li>• Torque Wrench</li> <li>• Lug Bolt Adapter</li> </ul>	<ul style="list-style-type: none"> <li>• Apply a small amount of blue serviceable lock tight to jam nuts and snug down.</li> <li>• Clamp brake lines back onto tie rods.</li> <li>• Re-install rear diffuser.</li> <li>• Re-install wheels.</li> <li>• Lower car.</li> </ul>	
<p>27. Conduct Alignment</p>		<p>a. Make sure to center the range on the rod ends. The inboard rod end should be phased 90 degrees to the outboard rod</p>	

Assembly Step	Tools/ Parts	Detailed Instructions	Picture/ Illustration
		end.	