

INSTALLATION INSTRUCTIONS



**VW T5 – 4 Corner (Van Version)
1540kg Front Axle Load**

FULL AIR INTELLIRIDE ECAS

W21 - 760 - 3525

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Thank you for purchasing a Driverite-Firestone Air Suspension System.

All work should be carried out in a properly equipped workshop with due regard to Health and Safety Regulations. No further reference to Health and Safety Regulations will be made, but they must be considered at all times.

The kit should be opened and the contents checked against the kit contents provided. Identify the various components and familiarise yourself with them using pictures and information provided.

WARNING

Do not inflate this assembly when it is unrestricted.

IMPORTANT

This kit is not designed to increase the GVW of your vehicle. For your safety and to prevent possible damage to your vehicle, do not exceed the maximum load recommended by the vehicle manufacturer.

Pre-Assembly Information

The fitting of the Driverite Air Suspension System must be carried out by Driverite trained personnel in an authorized workshop, equipped with appropriate equipment and tools.

When routing the tubing avoid sharp bends as these can lead to airline blockages in the long term. All tubing must be cut at right angles with a sharp blade. Do not use a pliers to cut the tubing as this will lead to deforming the tubing and can cause air leaks.

Secure the tubing to the vehicle where necessary and ensure it is not fastened to brake lines.

If it is necessary to route the tubing through sheet metal then you must protect it from abrasion against the metal edges using rubber grommets or conduit.

If the paintwork or corrosion protection layer is damaged it must be re-coated immediately. This can be done using corrosion prevention paint. Ensure only the metal work is coated and protect all other items within close proximity from any paint spray.

Any OEM parts that have been removed in order to fit the air suspension must be replaced back in their original position and condition. If there are any parts that require a torque setting (such as the shock absorbers) then the vehicle manual must be referred to in order to establish the correct torque setting.

Only tighten and torque the shock absorber bolts when the vehicle is at ride height. If the torque setting in this fitting instructions differs from the torque setting stated by the vehicle manufacturer always use the one recommended by the vehicle manufacturer.

Ensure that surrounding components on the vehicle can still be maintained and the air suspension components cannot inhibit servicing these components.

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Kit Contents



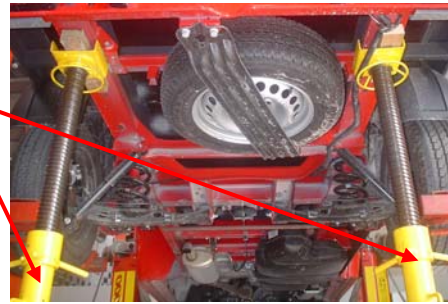
- | | | |
|-----|------------------------------------|--------|
| 1. | Left Hand Rear Airspring Assembly | (x1) |
| 2. | Right Hand Rear Airspring Assembly | (x1) |
| 3. | Left Front Strut | (x1) |
| 4. | Right Front Strut | (x1) |
| 5. | Hardware Assembly | (x1) |
| 6. | Right Rear Height sensor Assembly | (x1) |
| 7. | Left Rear Height sensor Assembly | (x1) |
| 8. | Right Front Height sensor Assembly | (x1) |
| 9. | Left Front Height sensor Assembly | (x1) |
| 10. | Shock Absorbers | (x2) |
| 11. | Air Tubing | (x10M) |
| 12. | Air Tank Assembly | (x1) |
| 13. | Harness | (x1) |

For clarity purposes only the main items have been listed above

Rear Axle Preparation

Raise the vehicle and support the chassis using axle stands.

CHECK



Remove the original shock absorbers. To do this you need to remove the original bolts. (Circled in the picture on the right)

This should be carried out when the vehicle is at ride height.

CHECK



Please note - do not discard these bolts as they are to be re-used.

NOTE: To avoid damage or injury always secure the rear axle and chassis to prevent tension in the parts.
The rear wheels can be removed to create more working room but this kit can be fitted with the rear wheels in place.

With the shock absorbers removed it is possible to further lower the rear axle.

Lower the axle until the coil spring becomes loose.

Ensure the brake lines are not stressed during this procedure.

It is now possible to remove the coil spring.



NOTE: Do not hang the rear axle as this will create too much tension in the brake lines.

The rear coils can now be removed

CHECK



Remove the rubber bump stop (1) and lower spring seat (2).

CHECK



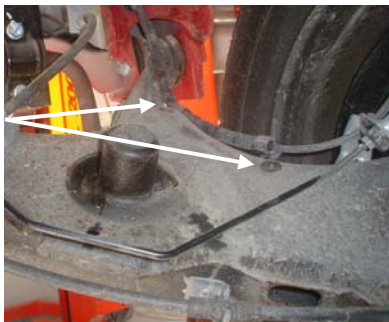
(1)

(2)



Temporarily remove the cable grommets from the wishbone. The purpose of this step is to prevent these cables from getting pinched and damaged when inserting the airspring assembly.

CHECK

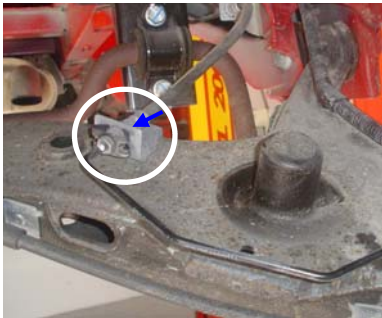


The bracket securing the brake line to the wishbone must be chamfered on the outboard side on both sides of the vehicle. The purpose is to prevent the 90 degree corner from touching and damaging the airspring.

CHECK



→ Outboard



NOTE: The brake lines must be protected during this procedure to prevent any possible damage.

Once the chamfer has been made it is necessary to file down the rough edges to ensure no sharp edges remain.

CHECK



NOTE: The cut surface must be coated with a suitable primer and paint to prevent any corrosion from occurring.



Fitting the Rear Air Spring Assembly

Identify the left air spring assembly and the right air spring assembly.

Right



Left



NOTE: There should be a sticker on each assembly to tell you which side is left and which side is right.

For ease of installation the assembly can be compressed. Insert a short length of tubing into the elbow. To prevent it from returning to its original position the opposite end is plugged using one of the inflation valves (Circled).



Remove the rubber grommet in the wishbone.

CHECK



Insert the lower bracket fastener and line up with the hole in the lower bracket on the opposite side of the wishbone.



Bolt the lower bracket to the lower bracket fastener using the M10 bolts and spring washers. Do not tighten fully at this stage.

CHECK



Place a second lower bracket fastener into the wishbone from the opposite side of the outboard flange. Line it up with the hole in the bracket on the opposite side of the wishbone and bolt in place using the M10 bolts and spring washers.

CHECK



The upper bracket now needs to be bolted in place.



There is a tubular recess in the upper bracket (circled with the solid line). The upper bump stop tube (circled with the broken line) must sit inside this cavity in the upper bracket when in position.

CHECK



Release the air from the airspring assembly and rest the front face of the upper bracket against floor plate.

Bolt in place using the M8 x 40 bolt, spring washer and penny washer with the spring washer situated between the penny washer and the head of the bolt

CHECK



NOTE: Due to tolerances there may be a gap between the front face of the upper bracket and the floor plate when tightening.

If this occurs do not continue to tighten the bolt as this will cause the floor plate to deform. The space must be filled using the 4mm spacer washers..

Remove the bolt and insert spacer washer between the Driverite bracket and the floor plate to fill the gap.

Ensure the rear of the upper bracket is firmly clamping the rear floor plate.

CHECK



Now that the upper bracket is correctly seated the M8 bolt can be tightened.

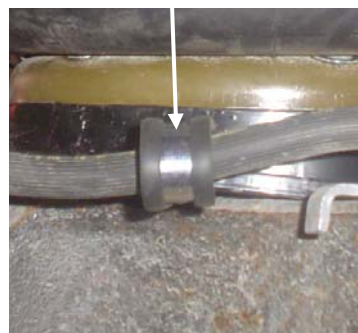
CHECK



Check the top and bottom brackets to ensure they are seated correctly. Relocate the brake lines so they will not make contact with the airspring during its travel. Insert the brake line in the supplied P-Clip on the lower brackets. This keeps the brake line away from the airspring when deflated.

Re-insert the cable grommets back into their original location on the wishbone.

CHECK



Repeat on the opposite side

Fitting The Rear Height Sensors

Loosen the bolts used to secure the anti-roll bar to the vehicle. This procedure should be carried out when the vehicle is at ride height.



Slide the left hand upper height sensor bracket between the rubber bush and the securing bracket. Line up the holes on the Driverite bracket with the holes on the anti roll bar bracket and re-insert the 2 bolts.

CHECK

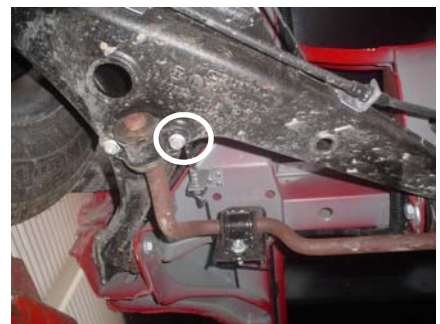


Note:

Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the "Torque Settings" section).



Loosen the inboard bolt that secures the anti roll bar to the wishbone.



Place the square end of the left lower height sensor bracket in place as shown with opposite flange facing up and forward.

The arrow indicates the direction of the front of the vehicle.

CHECK



Note:

Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the "Torque Set-

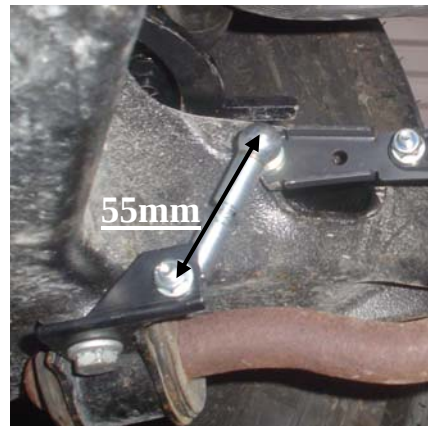


Attach the height sensor to the lower height sensor bracket using the 6mm threaded bar.



Check that the distance from the centre of the upper ball joint to the centre of the lower ball joint is 55mm as shown.

CHECK

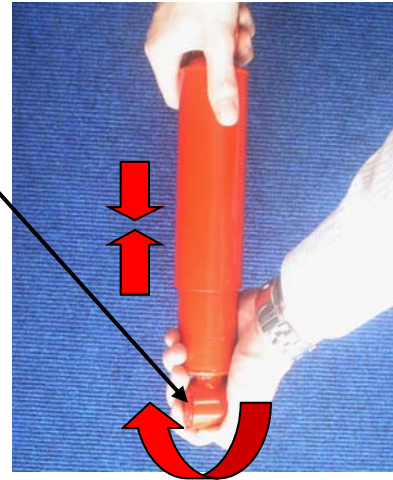


Repeat on the opposite side

Fitting The Rear Shock Absorbers

Adjust the shock absorbers to their softest setting. This can be done by compressing the shock absorber to its shortest length and rotate the end with the rotating arrow clockwise to its fullest position.

CHECK



The shock absorbers are placed in position. Bolt loosely in place.

CHECK



Note:

Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the "Torque Settings" section").



Repeat this procedure on the opposite side.



Front Axle Preparation

Support the front suspension.
Remove the front wheels and plastic mud guard.



Temporarily remove the stabiliser link from the strut.

CHECK



The nut bolting the top of the strut to the body of the vehicle must be removed. In order to gain access to this nut the air filter housing must be dismantled.



Remove the 2 x Torx screws and the metal cover.



It is now possible to gain access to the upper nut.
Remove the protective rubber cover to reveal the securing nut.
Remove it and the large washer.

CHECK



Loosen and remove the 2 nuts that clamp the lower end of the strut.

CHECK

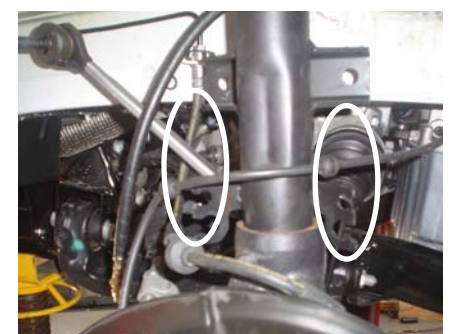


Please note - do not discard these bolts as they are to be re-used.

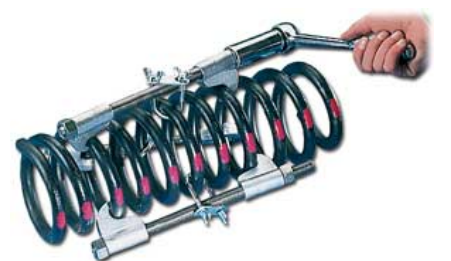


Remove the brake line hoses from the strut.

CHECK



Using spring clamps compress the steel springs and remove the complete strut assembly.



Ensure the brake lines are not stressed or damaged during this procedure.

CHECK



Fitting the New Front Struts

Before installing the new front struts ensure the brake lines are on the outboard side of the strut.
Install the new strut and re-attach the rubber brake lines back in their original position.

CHECK



Re-attach the stabiliser link to the new strut.

CHECK



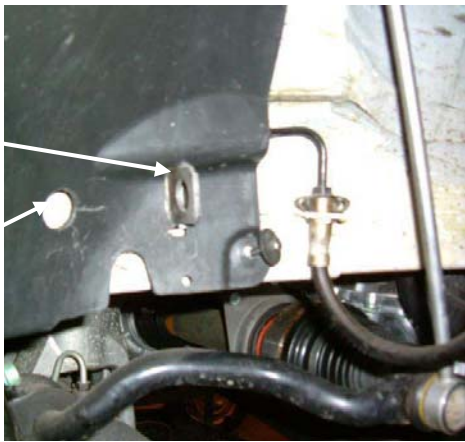
Note:
Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the “Torque Settings” section”).



Fit the airline support bracket to the body of the vehicle as outlined in the following page.

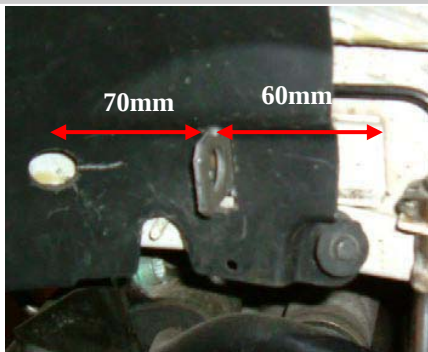
Air Line Bracket

Air Line Hole



Rivet the air line bracket to the channel on the chassis at a position where it is 60mm from the foreword end as indicated in the picture on the right.
Drill a 20mm hole in the plastic shroud 70mm to the rear of the air line bracket so the air line can be routed back to the valve block.

CHECK



The picture on the right shows the air line bracket and air line fitted.

NOTE:

Ensure the airline is not touching the edges of the 20mm hole. If this occurs the hole must be made bigger until there is sufficient space.

CHECK



To avoid getting the airline snagged on the stabiliser link use the P-Clips as shown in the picture on the right

CHECK



Ensure the upper stud is centrally located in the hole. If it is not in the centre (as can be seen in the pictures on the right) the nut will not tighten sufficiently and it will cause a knocking noise when driving.

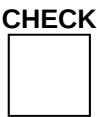
CHECK



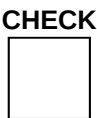
Re-attach the large washer and nut to the top of the strut. Ensure the washer is centrally located in the hole and the rubber end is facing down.



Ensure the base of the strut assembly is seated fully in the lower bracket and the guide pin (indicated by the broken circle) does not become distorted when positioning the strut.



Tighten the 2 nuts that clamp the lower end of the strut.



Note:
Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the "Torque Settings" section").



Repeat on the opposite side

Fitting The Front Height Sensors

Remove the plastic body clip (Circled).

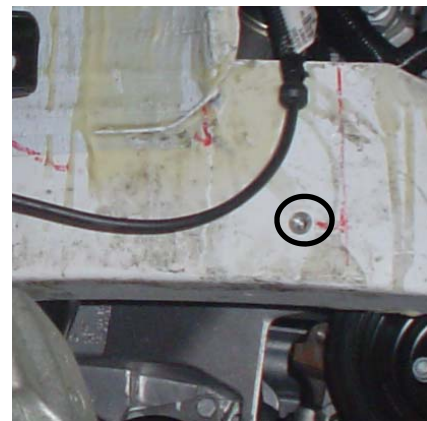


Drill out the hole to 9mm

CHECK



Place the supplied 6mm insert in the hole and rivet in place using a blind rivet tool.



Blind Rivet
Tool



Identify the left and right hand front height sensor assemblies. The photo on the right shows the right assembly. Place the bracket over the chassis so the top flange rests on the top of the chassis and the bottom flange rests on the bottom face of the chassis. Align the hole on the Driverite bracket with the 6mm insert on the chassis and bolt in place using an M6 bolt and spring washer.

CHECK



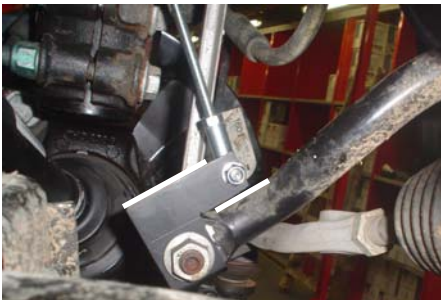
The lower end of the height sensor linkage is attached to the base of the stabiliser link on the anti-roll bar.

Remove the nut.

Place the flange of the Driverite bracket outboard and facing down. Secure the nut back in place.

Ensure the top of the Driverite bracket is running parallel with the anti roll bar as indicated by the white lines on the photo on the right.

CHECK



Note:
These brackets are handed. The flange should always be facing outboard and the end containing the 6mm ball joint should always be facing the rear.

Do not torque at this stage. This process will be carried out when the vehicle is at ride height. (Refer to the “Torque Settings” section”).

Check that the distance from the centre of the upper ball joint to the centre of the lower ball joint is 120mm as shown. Raise and lower to front suspension to ensure the height sensor is not interfering with and other vehicle components. Repeat this procedure with the steering on full lock in both directions.

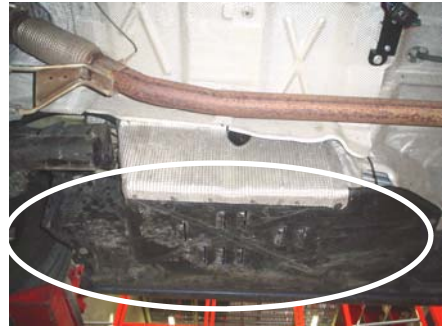
CHECK



Repeat on opposite side.

Fitting the Compressor Assembly

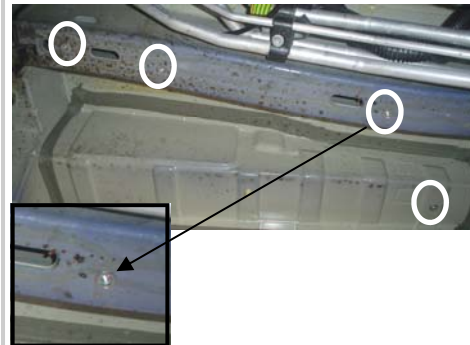
Remove the plastic cover (Circled) from the right side of the vehicle. (When viewed from the rear)



There are 3 holes in the chassis and a fourth in the foot well on the right side of the vehicle. (Circled)
Using a blind rivet tool fix the 4 x M6 inserts into each of these holes. The compressor assembly will be mounted to these holes.



CHECK



Take the preassembled compressor assembly and bolt it to the inserts using the M6 bolts spring washers and flat washers. Ensure the spring washer is between the flat washer and the head of the bolt. Use one of the bolts to fix the relay to the bracket (Circled).



CHECK



Connect the air filter to the compressor and run the intake to a clean dry location with ample air circulation



CHECK



Fitting the Air Tank

The air tank will be installed forward of the spare wheel using the 3 holes circled.



Bolt the assembly to the vehicle as shown using the M8 bolts, flat washers and nyloc nuts. Ensure the end with the air line connection is facing towards the right of the vehicle.

CHECK



Plumb the system as per the illustration on the following page.

To avoid kinks in the airline tubing please use the supplied angle clips to support the tubing where sharp bends are necessary (for example at the compressor).

Route the air intake for the compressor to a clean dry location.

CHECK



NOTE: If the air intake is not located in a clean dry location it could cause the rejuvenating air drier to become saturated. For maximum performance and life of the compressor always route the air intake to a clean dry location where it is not exposed to spray from the road.

Fitting the Horizon Levelling Sensor (if supplied) ---

The horizon levelling sensor is an optional extra, if it is not supplied please skip to the following page. If it is supplied it will be located to the floor of the vehicle using the 2 bolts circled in the picture on the right.

Temporarily remove the indicated bolts.

CHECK

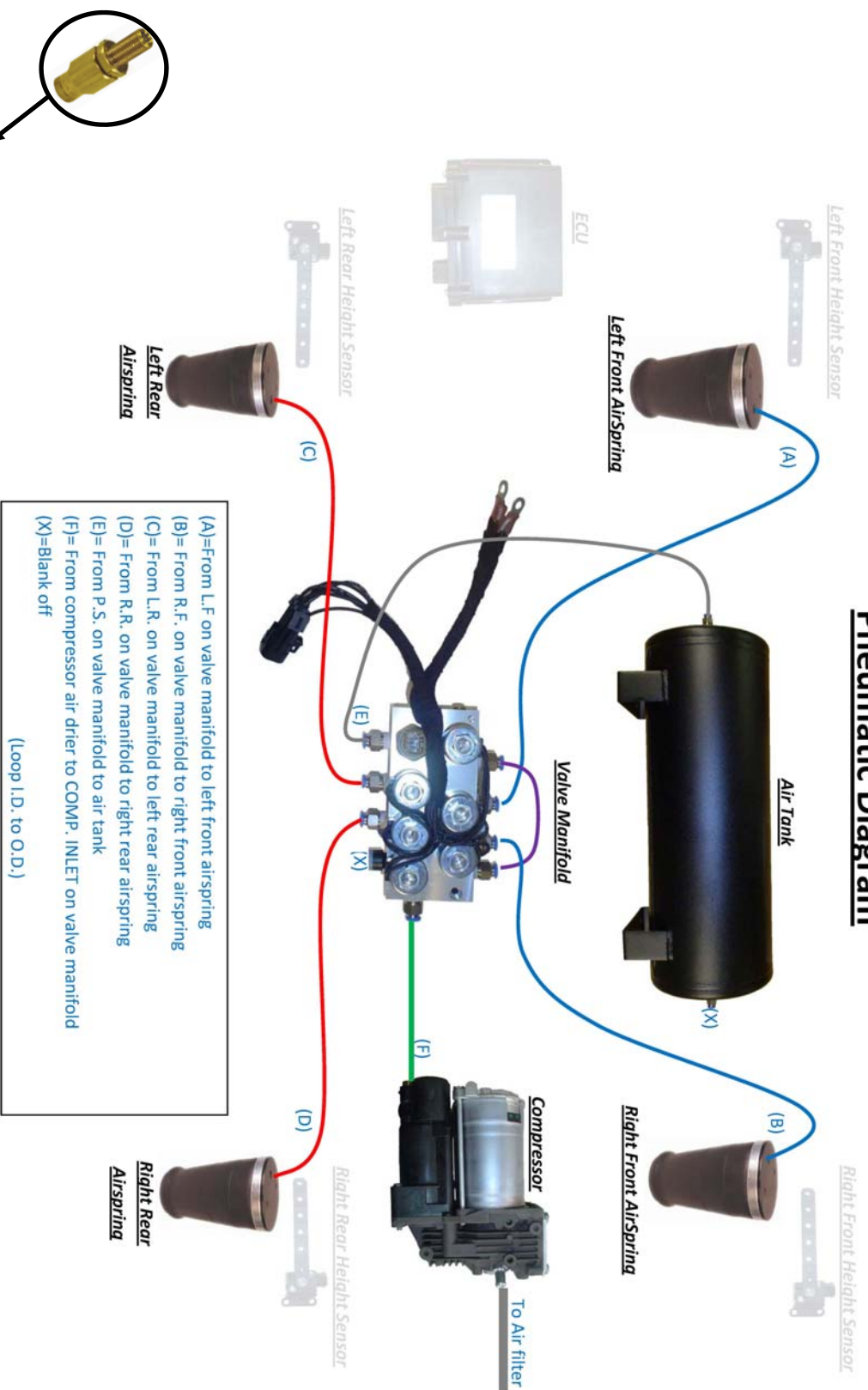


There are 2 labels on the horizon levelling sensor. One of these labels indicates the side of sensor which must face foreword and an arrow indicating the “up” direction. This label must be facing the front of the vehicle. If the sensor is not mounted in the correct orientation the function will not work.

CHECK



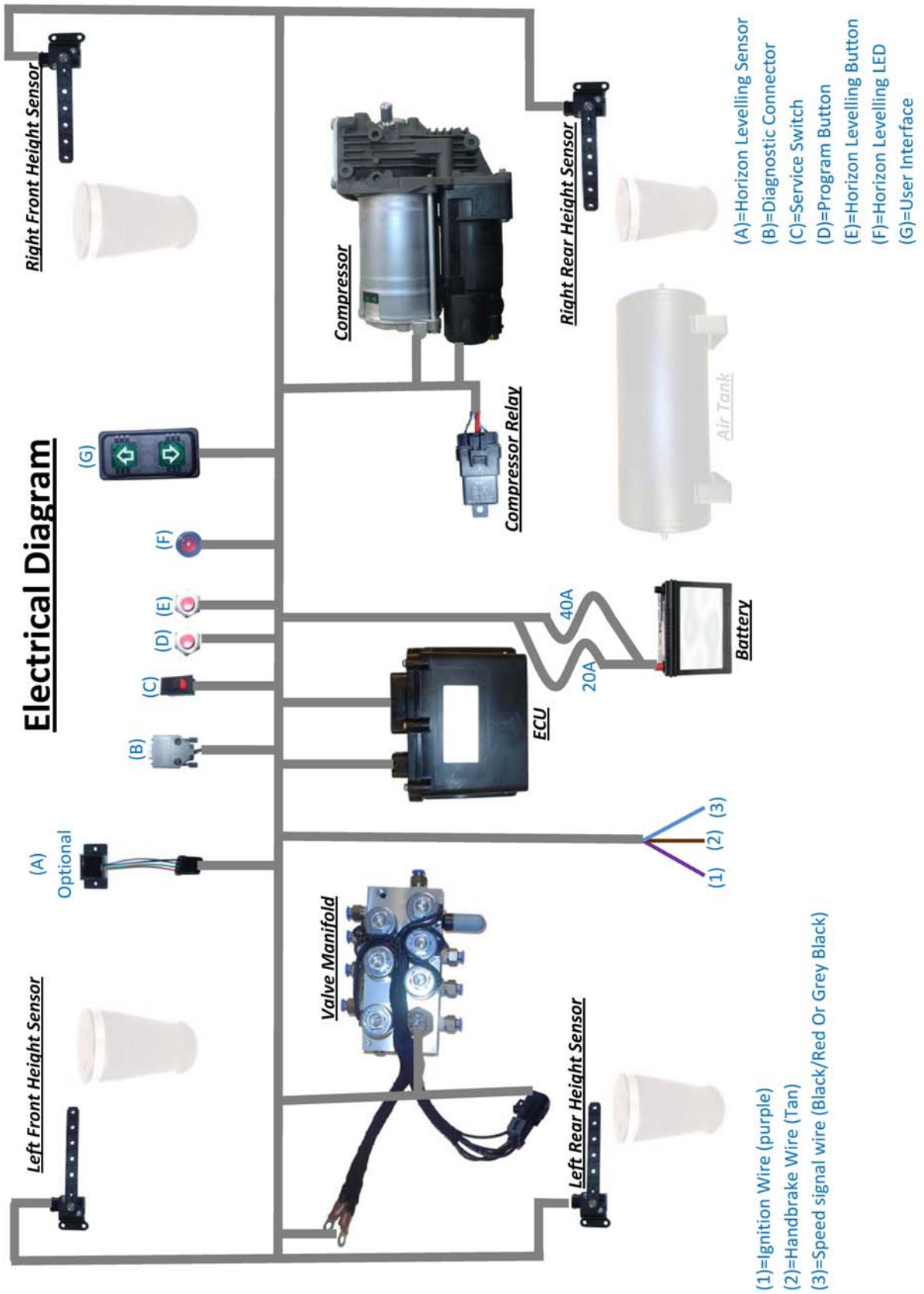
Pneumatic Diagram



Note: Inflation valves have been supplied with this kit. It is optional to install them. The purpose of the inflation valves is to allow for a back up air supply direct to the airsprings if there is a problem with the system such as a dead battery. The inflation valves should only be used for a short period of time. If air enters the system through the inflation valve it is not going through the air drier so moist air can enter the valve block and air springs and damage the system. If a problem occurs only use the inflation valves to bring the vehicle to ride height so it can be driven to a dealer for repairs. Do not use the inflation valves for long periods of time. If using the inflation valves they are installed along the airlines (A), (B), (C) and (D).

Pneumatic Diagram

Electrical Diagram

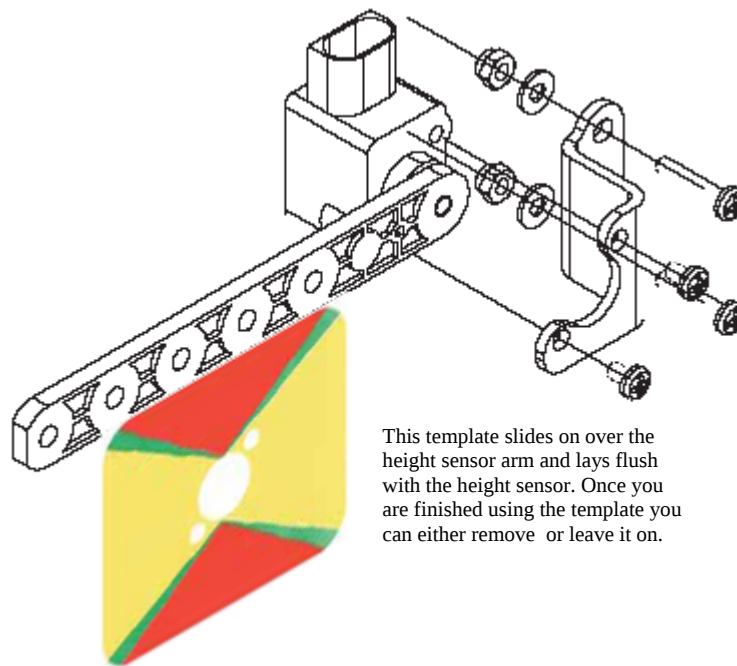


Height Sensor Template

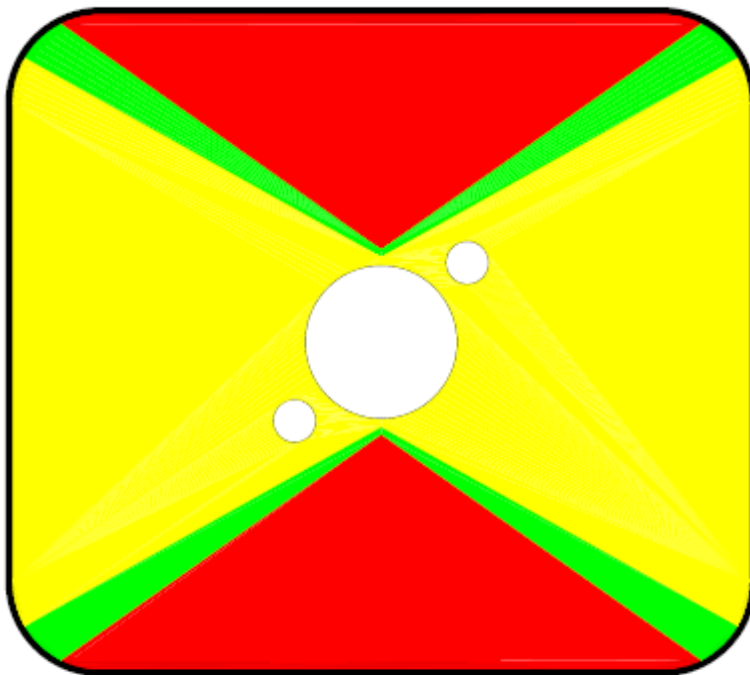
The height sensor arrangement has already been tested for this kit to ensure it is working within its tolerance.

When the axle is hanging (max rebound) the height sensor arm must not enter the lower red section on the template.

When the suspension is compressed onto the bump stops in the shock absorbers (max jounce) the height sensor arm must not enter the upper red section on the template.

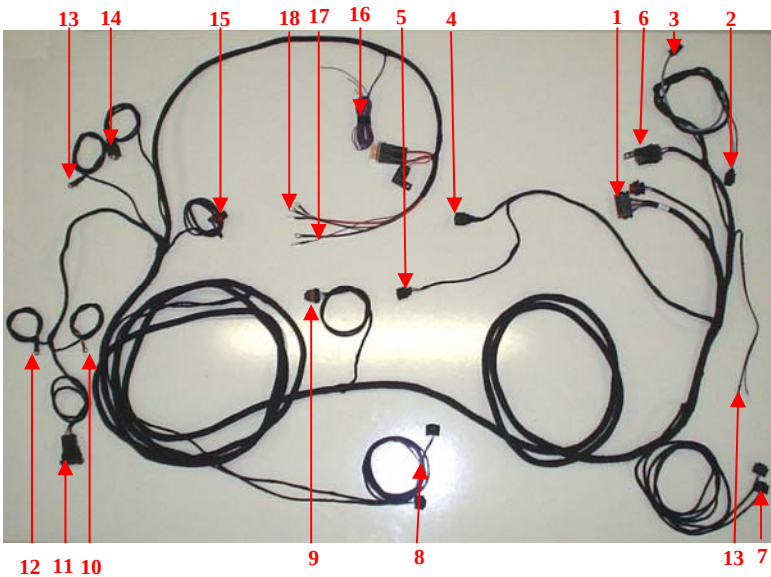


This template slides on over the height sensor arm and lays flush with the height sensor. Once you are finished using the template you can either remove or leave it on.



This template is to scale when printed on A4 paper and can be cut out of the manual and placed over the height sensors as outlined above to establish if the height sensors are working within their tolerances.

Connecting/Routing the Harness



Harness Layout

- 1. ECU Connection
- 2. Compressor Motor
- 3. Compressor Exhaust Solenoid
- 4. Pressure Sensor Connection
- 5. Valve Block Connection
- 6. Compressor Relay
- 7. Rear Height Sensor Connections
- 8. Front Height Sensor Connections
- 9. Horizon Levelling Connection
- 10. Horizon Levelling LED
- 11. User Interface
- 12. Horizon Levelling Button
- 13. Program Button
- 14. Diagnostic Connection
- 15. Service Switch
- 16. Signal Wires
- 17. Ground Wire (Black)
- 18. Constant Live Wire (Red)

The harness is routed starting from the compressor.

CHECK
☐



Connect the pressure sensor to the harness as shown.

CHECK
☐



Connect the valve block to the harness as shown.

CHECK
☐



Connect the ECU to the harness as shown.
Secure any excess harness to the chassis using cable ties.

CHECK



NOTE:

Ensure the harness is not exposed to any sharp objects or close to the exhaust.

Do not attach the harness to the brake lines.



There are 3 wires in each height sensor connection on the harness. 2 of these are common—black/blue and red/blue. The remaining third wire can be used to identify the correct position of the height sensor.

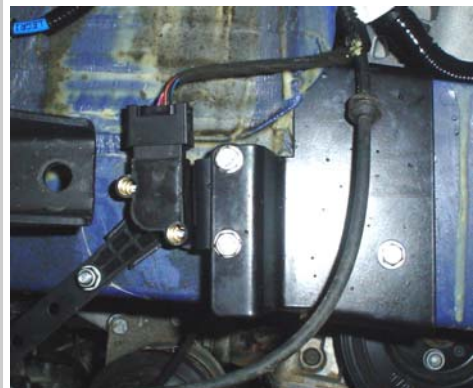
- The connection with the green wire goes to the right rear height sensor.
- The connection with the brown/white wire goes to the left rear height sensor
- The connection with the brown wire goes to the right front height sensor.
- The connection with the white/red wire goes to the left front height sensor.



NOTE:

To avoid getting the height sensor wires snagged on moving parts of the front suspension it is recommended to route the harness to the height sensors on the inboard side of the chassis protecting it from hot surfaces where appropriate.

CHECK



Connecting The Handbrake Wire

Route the brown handbrake wire into the cabin of the vehicle and to the base on the handbrake. Cut to length. There are 2 wire that are attached to the handbrake (Brown and Blue).

The blue wire is cut and the brown wire from the Driverite harness is attached to one end of the cut wire.

The blue wire that was cut is then reconnected using the supplied soldering butt connector.

CHECK



Note:

When heating the soldering butt connector ensure the surround area is protected from the heat gun.

(1)



(2)



Connecting The Speed Signal Wire (Option 1)

There is a fuse box located under the drivers seat.

Attach the speed signal wire (Black/red or grey/black) on the Driverite harness to pin 2 on the yellow housing.

CHECK



Connecting The Speed Wire (Option 2)

If the connector in the fuse box is not available there is a second speed signal pick up point behind the speedometer. In order to remove the instrument cluster you will need to remove the 2 bolts located under the steering column.



To gain access to these bolts remove the grey moulds under the steering wheel as shown.



CHECK



This picture shows the view from under the steering wheel. The 2 circled bolts secure the instrument cluster to the dash. Remove these 2 bolts



CHECK



The instrument cluster can now be removed. At the back it will have one connector. Remove this connector by releasing the orange locking tab. Slide the purple tab up to remove the inner (white) part of the connector. The speed wire on the Driverite harness is spliced into the wire that terminates at Pin 9.



If the vehicle has 2 connector the speed wire from the Driverite harness is connected to the blue connector at Pin 3



CHECK



Connecting The Ignition Wire

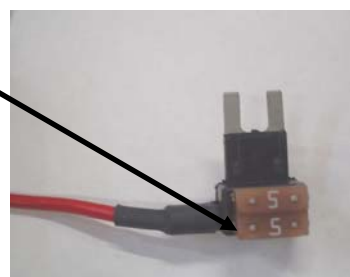
Remove the plastic cover, battery and battery base.
Feed the harness along the bulkhead into the battery compartment.



Temporarily remove the indicated 5A Mini fuse from the fuse box.
This is an ignition controlled fuse.

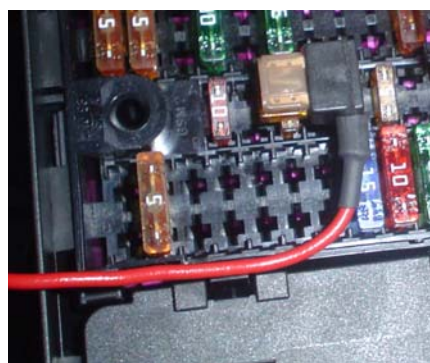


At the end of the ignition (Purple) wire on the harness there is a dual housing mini fuse holder.
There should be a 5A fuse inserted into the end furthest from the male spades on the housing.
Place the removed 5A fuse in the remaining slot as shown.



Insert the 2 exposed spades on the housing into the slot on the fuse box that was previously used to hold the 5A fuse.
Replace the plastic cover over the fuse box.

CHECK



Connecting the +Ve and –Ve wires

Replace the battery base and battery.

Feed the +Ve and –Ve wires from the harness into the battery compartment.

Attached the red wire to the +Ve terminal on the battery and the black wire to the -Ve terminal.

Replace the plastic cover.

CHECK



Torque Settings

Bring the vehicle to ride height using jack stands or the PC tool. The recommended heights are listed below.

(Note: The measurements below are taken from the centre of the wheel to the wheel arch.)

- Ride height =450mm
- Access height =385mm
- Raised height =460mm on the front axle and 480mm on the rear axle

It is now possible to torque all remaining fasteners.

- Rear shock absorber upper bolt =70Nm
- Rear shock absorber lower bolt =120Nm
- Front strut upper nut =80Nm
- Front strut lower nuts =75Nm
- Front stabiliser link upper nut =60Nm
- Front stabiliser link lower nut =60Nm
- Rear anti-roll bar chassis bolts =60Nm

Check all connections.
Ensure all bolts are securely fastened
Follow the instructions on the following pages to programme and calibrate the heights.

NOTE:
There is a time delay in the system.

Replace the protective rubber cover over the nut and washer on the front struts.

CHECK

☐

NOTE:
Ensure the upper stud is centrally located in the hole. If it is not in the centre the nut will not tighten sufficiently and it will cause a knocking noise when driving.



Replace the metal cover and re-assemble the air filter housing.

CHECK

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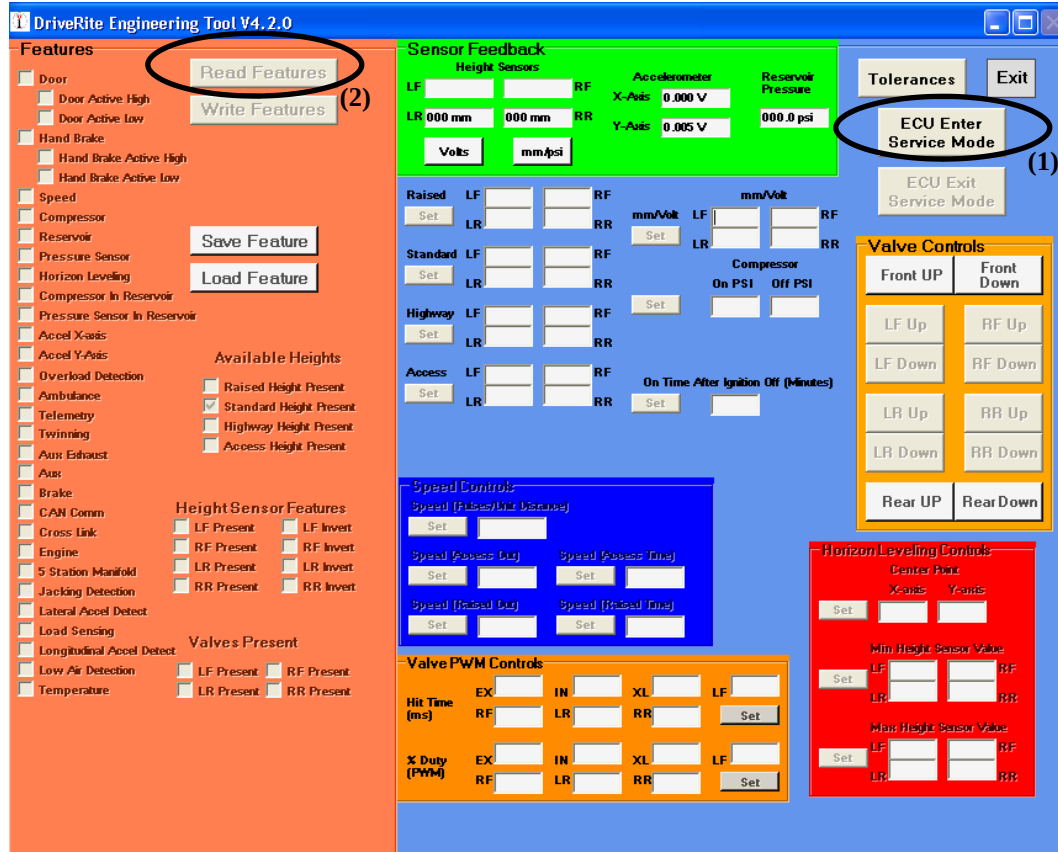
Programming the System

To connect the PC to the ECU:

Connect serial cable to the PC and to the ECU through the wire harness.

Start the vehicle. Start the tool. Click on the 'ECU Enter Service Mode' button (1).

Press the 'Read Features' button (2) to see what features are programmed in the ECU.

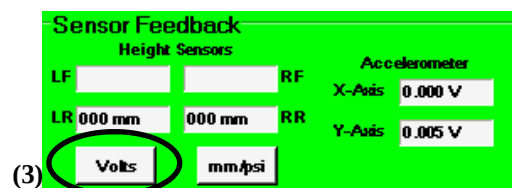


You **must** set the mm/V setting first for each height sensor individually or the system will **not** work properly. This setting calibrates the height sensor in each corner to the suspension movement.



To set the mm/V:

Enable the voltage display in the sensor feedback window by clicking "Volts" (3) and record the sensor voltages on the following page.



Collecting data

- Write down the voltage values in the red boxes below for each corner:
- Measure (in millimetres) from a point on the frame to the suspension in each corner a height sensor exists.
- Write down mm values in the left millimetres box (E.G-Box (A) for the Left Front height sensor, Box (C) for the Right Front height sensor, etc)
- Move the suspension down until the height sensors voltage drops 1 volt.
- Re-measure from the same points on the frame to the suspension in each corner.
- Write down the new mm values in the right millimetres box (E.G-Box B for the Left Front Height sensor, Box (D) for the Right Front height sensor, etc)

Left Front		
Voltage		
Millimeters	(A)	(B)

Right Front		
Voltage		
Millimeters	(C)	(D)

Left Rear		
Voltage		
Millimeters	(E)	(F)

Right Rear		
Voltage		
Millimeters	(G)	(H)

Calibration Calculations

Subtract the millimetres reading as shown below

Calibration Results		
Left Front	(A) - (B)	= (mm)
Right Front	(C) - (D)	= (mm)
Left Rear	(E) - (F)	= (mm)
Right Rear	(G) - (H)	= (mm)

Enter the calibration results into the corresponding corner boxes under the mm/V heading.

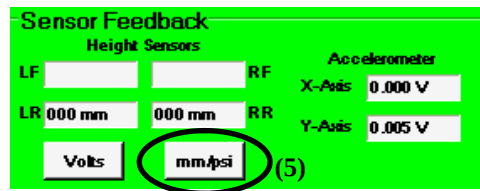
(4)

		mm/Volt	
mm/Volt	LF	45	RF
Set	LR	45	RR

Press the 'Set' button (4) to save the values.

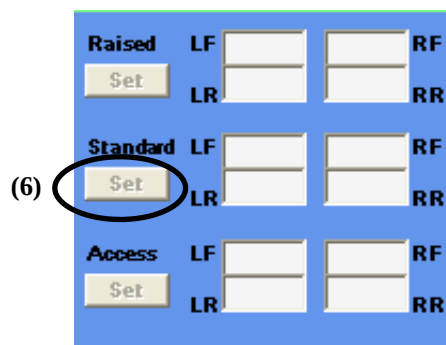
Programming heights

Enable the mm display in the sensor feedback window by clicking “mm/psi” (5).



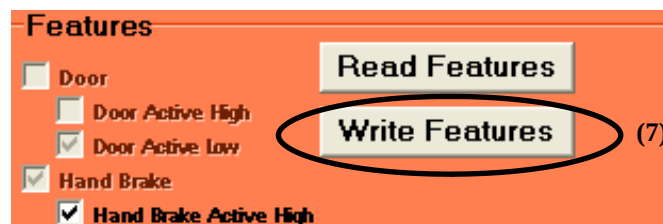
Move the vehicle with the valve controls to the desired height. (Can program any height which is enabled.)

Copy the desired height measurement from the sensor feedback window into the corresponding corners. Press the “Set” (6) button to save the settings. Repeat for all other heights.



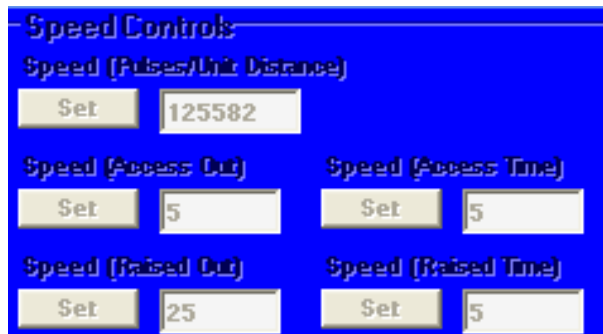
Saving Information

Press the “Write Features” (7) button to store all the information to the ECU.



Speed Control Programming

If a hardware speed signal is available and if the feature is enabled, the pulses per mile/km must be set in order for the speed function to work appropriately. The figure for the T5 is 4000.



A screenshot of a software window titled "Speed Controls" with a blue background. It contains four input fields, each preceded by a "Set" button. The first field is "Speed (Pulses/Unit Distance)" with the value "125582". The second field is "Speed (Access Out)" with the value "5". The third field is "Speed (Access Time)" with the value "5". The fourth field is "Speed (Raised Out)" with the value "25". The fifth field is "Speed (Raised Time)" with the value "5".

Now you will be able to set the speed in which the vehicle will automatically return to the standard (ride) height for access and the raised height.

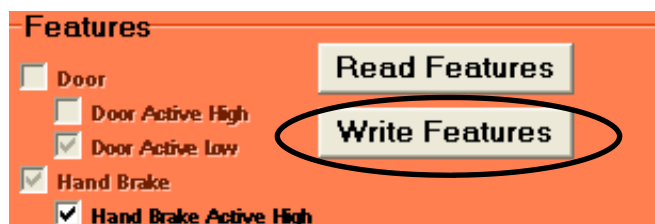
For example, access out speed is set for 5mph/kph for 5 seconds. So the speed must be above 5mph/kph for 5 seconds in order for the system to return to standard height.



A close-up screenshot of the "Speed (Access Out)" and "Speed (Access Time)" settings from the previous window. Both fields are set to the value "5".

Saving Information

Press the "Write Features" button to store all the information to the ECU.



A screenshot of a software window titled "Features" with an orange background. It contains a list of features with checkboxes: "Door" (unchecked), "Door Active High" (unchecked), "Door Active Low" (checked), "Hand Brake" (checked), and "Hand Brake Active High" (checked). To the right of the list are two buttons: "Read Features" and "Write Features". The "Write Features" button is circled in black.

Horizon Levelling Programming (Only applicable if horizon levelling sensor is supplied)

To use this feature, the Horizon Level sensor must be attached to a 4-corner system. The sensor must be mounted onto the surface for which you are trying to level.

Note: the mm/V value must be set first before setting horizon levelling calibrations.

The screenshot shows the 'Horizon Leveling Controls' menu. It has three main sections: 'Center Point', 'Min Height Sensor Value', and 'Max Height Sensor Value'. Each section has a 'Set' button and two input fields for 'X-axis' and 'Y-axis'. In the 'Center Point' section, both fields are set to '5.000'. In the 'Min Height Sensor Value' and 'Max Height Sensor Value' sections, the fields are set to '65535' for all four corners (LF, RF, LR, RR).

Center Point	
X-axis	Y-axis
5.000	5.000

Min Height Sensor Value			
	LF	RF	
Set	65535	65535	RF
	65535	65535	RR

Max Height Sensor Value			
	LF	RF	
Set	65535	65535	RF
	65535	65535	RR

First set the 'min height sensor value' by deflating the vehicle until the vehicle is at its lowest possible height. Then read the mm values from the sensor feedback window and enter them under the 'min height sensor value' windows and press 'set'.

This screenshot shows the 'Min Height Sensor Value' section of the menu. It features a 'Set' button and four input fields for the corners: LF, RF, LR, and RR. All four fields are currently set to the value '65535'.

Min Height Sensor Value			
	LF	RF	
Set	65535	65535	RF
	65535	65535	RR

Now set the 'Max height sensor value' by inflating the vehicle until the vehicle is at its highest possible height. Then read the mm values from the sensor feedback window and enter them under the 'Max height sensor value' windows and press 'set'.

This screenshot shows the 'Max Height Sensor Value' section of the menu. It features a 'Set' button and four input fields for the corners: LF, RF, LR, and RR. All four fields are currently set to the value '65535'.

Max Height Sensor Value			
	LF	RF	
Set	65535	65535	RF
	65535	65535	RR

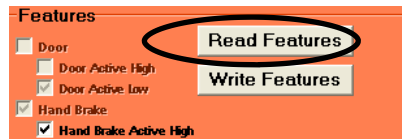
Now you are ready to set the centre point. Place a builder's level on the surface you wish to keep level. Use the valve controls to adjust the vehicle until it is level. Once levelled, read the X-axis and Y-axis values from the 'sensor feedback' and enter them under 'centre point' and press set.

This screenshot shows the 'Horizon Leveling Controls' menu, specifically the 'Center Point' section. It has a 'Set' button and two input fields for 'X-axis' and 'Y-axis', both of which are set to '5.000'.

Center Point	
X-axis	Y-axis
5.000	5.000

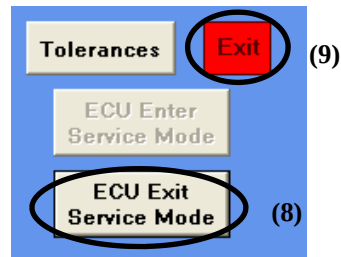
Saving Information

Press the **“Write Features”** button to store all the information to the ECU.



Exiting the Eng Tool

Press the **“ECU Exit Service Mode”** (8) button to and then **‘Exit’** (9) to escape from the Tool.



Checklist

Height Sensor Checklist

CHECK

1. Height sensor orientation is correct
2. Is the threaded bar set to the correct length?

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General Checklist

CHECK

1. Ride , access and raised heights have been set at the correct measurement
2. Shock absorbers have been adjusted to the correct setting
3. Shock absorbers have been torqued at ride height and to the correct torque setting
4. Front struts have been torque at ride height and to the correct torque setting
5. All other nuts and bolts are secure and torqued where stated
6. Harness, air-line and connectors are secure
7. The system was checked for air leaks
8. There is 15mm clearance around the airsprings
9. The ECU, compressor and valve blocks have been connected to the harness. An audible click is heard when the connection is sealed.
10. Height sensors connection are in their correct side and have been connected to the harness. An audible click is head when the connection is sealed.
11. When the airsprings are fully deflated the arm of the height sensor does not come into contact with the vehicles body.
12. When the axle is hanging the arm of the height sensors are not under tension and cannot invert.
13. Air Suspension Stickers have been applied
14. The back page titled "Service Information" on the User Operation Manual (which will be kept in the vehicles glove box) has been completed.
15. User Operation Manual has been placed in the glove box

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For troubleshooting please refer to the "User Operation Manual" supplied with this kit.

Note:

The "User Operation Manual" should be stored in the vehicle that has been installed with the air suspension. This can be referred to by the end user for reference.

Height Settings



Rear Ride Height (mm)=
Front Ride Height (mm)=
Rear Lower Height (mm)=
Front Lower Height (mm)=
Rear Upper Height (mm)=
Front Upper Height (mm)=

Height Sensor Interference Check

Check that the front height sensors do not come into contact with any of the vehicle components throughout the full suspension travel.

- The height sensor components must not touch the stabiliser link at any point through the suspension travel or at any point during full steering lock in both directions.
- There should always be a gap between the height sensor ball joint and the stabiliser link as indicated by the white line in the picture on the right.

CHECK





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