

The Special Disassembly tools in the kit (Picture A) Need to be modified before use by cutting fixture B in half and cutting a slot 8-9mm wide in fixture A refer to the before & after illustrations in the picture , the next pictures along B & C show how the disassembly tools are used ! this will reduce the risk of breakage of the piston connecting rod .

Connecting Rod Removal

- 1 Remove face plate retained by 3 screws
- 2 Remove 4 off cylinder head bolts , cylinder can be removed to one side , take note that the metal shim does not fall out when removing the cylinder head ! if it becomes dislodged from its seating try to observe its orientation on re assembly .
- 3 Remove Piston Liner make sure O ring in the top of the liner remains in place at all times.
- 4 Remove Piston Wear Ring By unwrapping it from around the body of the piston .
- 5 Rotate crank and fit pr assembly tool A under piston head and rotate crank until piston seats correctly within the recess in the tool in compressor housing ,the little block of wood can be used to wedge the crankshaft counter weight to aid crank pin removal .

6 Using the exact size T25 Torx fitting tool slacken the crank bolt, remove the wood block and rotate crank and remove tool A, unscrew crank bolt fully until con rod becomes detached, rotate crank until it will allow complete removal of the connecting rod from the housing.

Piston Seal Installation

- 1 Refer to Picture C cut away the old seal in 2 places to allow 2 thin bladed screwdrivers to gain access under the clamp ring illustrated in picture D! make sure your white pre assembly support ring is fitted around the piston, position the assembly in the vice, **! tighten the vice only enough to secure the piston with the minimal amount of vice pressure so that it does not deform the shape of the piston itself and allows you to remove the clamp ring without the assembly sliding out of the jaws, you can grind 2 flats opposite each other on the white pre-assembly tool to allow a more efficient clamping force this will minimize the risk of the assembly sliding upwards out of the vice whilst removing the clamp ring illustrated in picture E**. It is advisable to use a smaller bladed screwdriver to initially lift the clamp ring by gently tapping the blade into the 2 gaps opposite each other created by your Stanley knife blade in the previous process this will lift the clamp ring slightly and allow you to remove the rest of the old piston seal! then gently tap in a larger blade screwdriver into the 2 gaps evenly this will lift the clamp ring to a higher level, you can now position your 2 larger bladed screwdrivers under the clamp ring illustrated in picture D and gently pry the clamp upwards evenly & slowly until it is removed from the piston Picture E, clean up any burrs caused by the disassembly process to the clamp ring or piston head.
- 2 Fit your new cup seal onto the connecting rod making sure it fully seated on the seating face, place a little loctite on the inside of the clamp ring and by using a 1/2 socket of similar circumference tap down the clamp ring until it comes in contact with the newly fitted seal making sure you do not damage the seal outside profile (**Very important that you do not squash the seal by applying too much downward force when fitting the clamp ring, too much force will deform the seal outside profile which may cause the piston to run tight in the bore resulting in reduced pumping pressure and excessive heat**), tap the clamp ring down in increments, check to see on each increment if the seal revolves! if it revolves tap the clamp ring down a little more! until the seal will not revolve, fitting the clamp ring in this manner will not deform the newly fitted seal and ensure it is securely fitted with the minimum of downward pressure on the clamp ring.

Connecting Rod installation

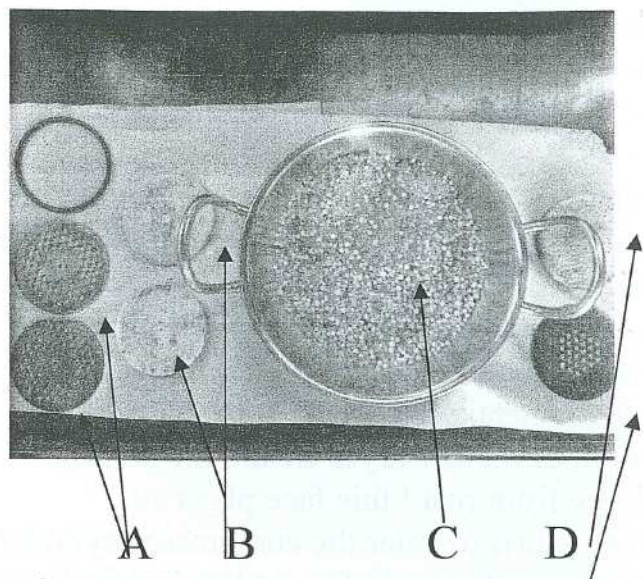
- 1 Clean and remove old gasket compound and old piston seal dust from the compressor housing, place a little loctite on connecting rod crank bolt threads, rotate crank counter weight to a position where you can fit the piston head back through the hole in housing refit the crank bolt and secure in the reverse order of the disassembly procedure utilizing the disassembly tools.
- 2 Rotate crank until the piston is at highest point, fit the new piston wear ring around the body of the piston making sure it locates within the recess in the piston body.
- 3 **Lightly lubricate the Piston seal outside profile with a very slight smear of the special lubricant supplied in the kit** this will aid assembly of the piston into the bore liner and also help the piston seal to wear in properly at 1st start up of the compressor. Fit the bore liner onto the piston slowly until the complete piston head enters the bore position the bore liner back into its final position, the piston should slide up and down in the bore without excessive resistance! this will indicate the piston seal and wear ring are installed correctly.
- 4 Refit the cylinder head onto the piston bore liner observing the shim valve plate is positioned correctly and does not become trapped and damaged whilst refitting the cylinder head into its position.
- 5 Refit and tighten the 4 cylinder head bolts, make sure you do not over tighten these bolts as the aluminium bolt securing locations can easily crumble.
- 6 Lightly coat the compressor housing face where the face plate fits with a light coating of instant gasket compound, Refit the front compressor housing face plate and secure with the 3 screws.

If you purchased an Air Dryer Repair Kit consult the Air Dryer fitting instruction supplement.

! Please refer to the re commissioning Data Sheet Provided With Your Kit

Air Dryer Filtration Repair Kit fitting instructions

PICTURE 1



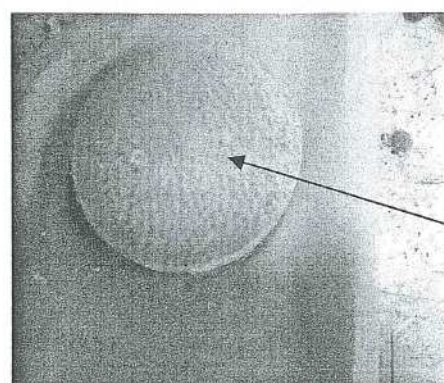
PICTURE 2



Picture 3

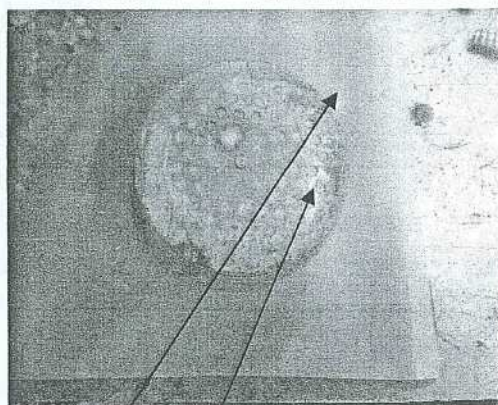


Picture 5 Bottom Filter Plate



Blocked Filter

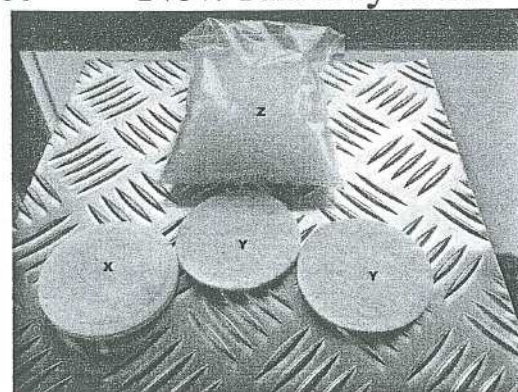
Picture 4 Main Filter Plate



Holes blocked

Rivet

New Air Dryer kit



Note

It is good practice to service the contents of your air compressor air dryer before you re-install the compressor back on your vehicle due to the possibility of the components within the dryer unit restricting air flow due to blockage of the filter plates & filters .

Remove 6 off retaining bolts securing the end cap , observe the position of the small air pipe clipped into the end cap before removing , remove end cap followed by the large tension spring.

Prepare an area on your work bench to catch the filtration media when you remove the **Main filter disk G** ! which is made up of 1000s of tiny granules(**Picture 3**), remove the **Main filter plate G** , empty contents into a bowl which can be then discarded .Clean out the inside of the Air Dryer Housing with some wire wool ! before removing the Remaining filter Plate assembly **D** in picture 1 at the bottom of the Air Dryer unit, this will avoid dust entering into the piston cylinder assembly .

When you have removed the remaining filter plate assembly **D** that is in the bottom of the dryer there is a filter pad on one side of the this plate, peel the filter off the plate and unblock the holes in the plate & wire brush the plate until the plate is clean & smooth, stick the new filter pad **Y** back to the plate by placing a smear of contact adhesive or silicone sealant around the face near the circumference of the metal plate and then stick the pad to it ensuring the pad is central to the plate and no silicone or contact adhesive is blocking any holes in the metal plate.

Before refitting the bottom plate back in the bottom of the Air dryer ensure the bottom face where the metal plate locates is absolutely smooth and free from rust ! this face plays an important part by sealing the metal plate not allowing dust or debris to enter the compressor cylinder and exhaust valve / delivery valve assembly, fit the bottom plate with newly fitted filter pad back into the air dryer (**filter pad facing towards end cap**) .

Place the compressor in a vice with the Air Dryer in a vertical position (make sure the metal filter plate you have just fitted does not fall out) empty the packet of granules (slowly) into the Air Dryer , settle the granules to a level plain, fit your remaining filter pad **Y** on top of the granules , fit one of the Metal filter plates **A** on top of the filter pad **Y** , now fit & position filter spacer ring **X** (complete with remaining filter installed in the centre and original O ring installed around the outside of spacer ring) on top of the recently installed metal plate , fit the remaining metal plate **A** on top of the spacer ring you have just installed .

(! Summarise order of components in the air dryer starting with an empty air dryer) :

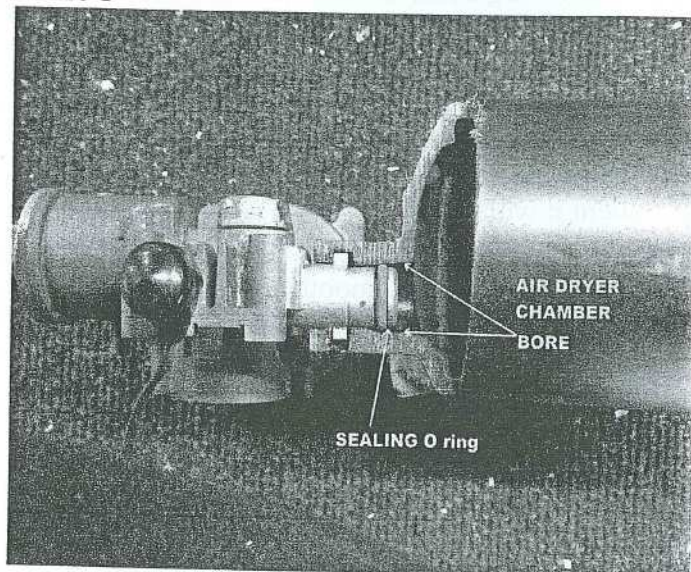
Metal plate **D**, Filter **Y** , Granules , Filter **Y** , metal plate **A** ,Spacer Ring assembly **X**(with O ring) , metal plate **A** , Spring **E** , Air Dryer Cover with T30 fixing screws.)

Refit the large spring on top of your newly installed Air dryer components , Refit your Air dryer cover and secure with the original T30 Torx head screws.

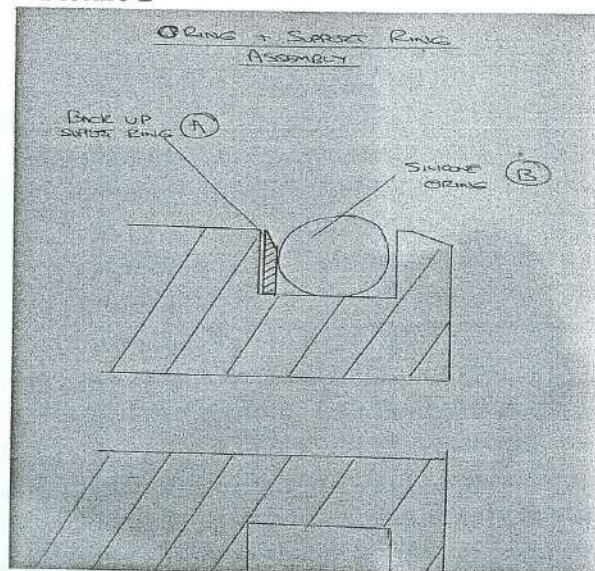
! Please refer to the re commissioning Data Sheet Provided With Your Kit Or i can email you a copy if you did not receive it

Please read the instructions completely before fitting your new kit.

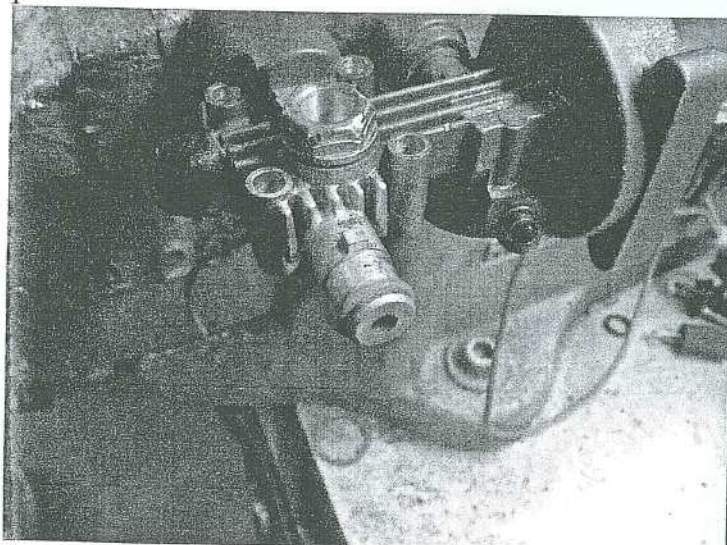
Picture 1



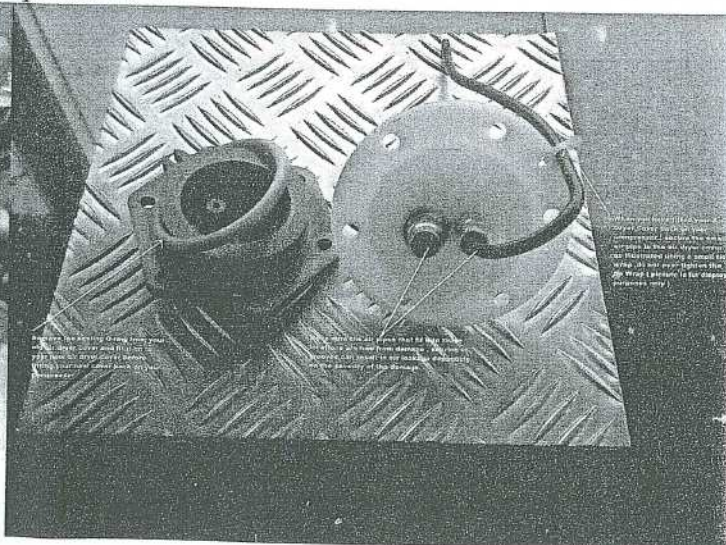
Picture 2



picture 3



picture 4



picture 5

Important Initial Step CHECKING FOR LEAKS

! Please take all appropriate safety precautions when testing with this level of Air Pressure ! on the work bench or under your car , eye protection ,safety clothing must be worn

Before Fitting any new parts supplied in your Air Dryer Cover Repair Kit ! it is very important to test for leakage at the Dryer sealing O ring in **picture 1** ! If you find that there is no leakage from the joint using gas leak detector spray ,with a pressure of approximately 15.8 bar trapped inside the Air Dryer Unit then ! i would strongly recommend you do not disturb the original Joint & O ring . **If it is not possible for you test on the workbench with this level of air pressure ! then tests with compressor fitted on the vehicle can be carried out using leak detector spray** , If you need to replace the joint O ring then go to the **Replacing Joint O ring Instructions**.

Replacing Air Dryer Joint O ring

If you found a leak at the main joint then you will have to remove the air dryer unit from the compressor housing by removing the securing bolt underneath the dryer unit (near the cover) and then twist/rotate the air dryer unit anticlockwise slightly until the peg lines up with the dryer unit joint slot and then by gradually pulling on the dryer unit you will be able to remove the unit, it can be quite tight but be patient it will become detached , remove the old O ring and make sure the aluminium boss is polished smooth and free from oxidation , clean out the inside of the dryer unit particularly where the O ring seats it is very important to make sure this area is smooth and free from damage . Fit your back up support ring into the groove ! **making sure the small chamfer on one side of the back up support ring is fitted the correct way round** as illustrated in **picture 2** , You then fit your new O ring also into the groove in front of the back up spacer ring **picture 2**, smear the lubricant supplied in the kit on the O ring to ease assembly of the dryer unit , Refit the dryer unit in reverse order of disassembly **taking plenty of time to ease it back onto the spigot as there will be more resistance due to the increase O ring Diameter**. Take care you do not damage your new O ring by applying too much immediate pushing force when fitting the dryer unit back on the spigot **! the O ring is soft and can cut easily, slow gentle applied force is required**. Refit the securing bolt under the dryer unit so that the dryer unit is secured in the horizontal plain and not allowed to wobble around).

Fitting New Air Dryer Cover

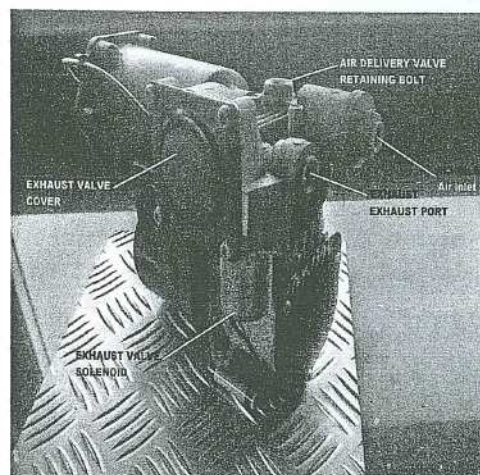
Remove the large silicone O ring from your old air dryer cover (**picture 4**) and fit it onto your new air dryer cover , refit the large spring into the cover and refit cover onto the dryer unit and secure with the T30 torx screws ! Make sure your new cover is fitted in the correct orientation with the 6mm air pipe outlet and 3/16 air pipe outlets in the same position as the original cover (**picture 4**), secure the 3/16 air pipe to the new cover with a small tie wrap as illustrated (**picture 4**).

! Please now refer to the re commissioning Data Sheet Provided With Your Kit

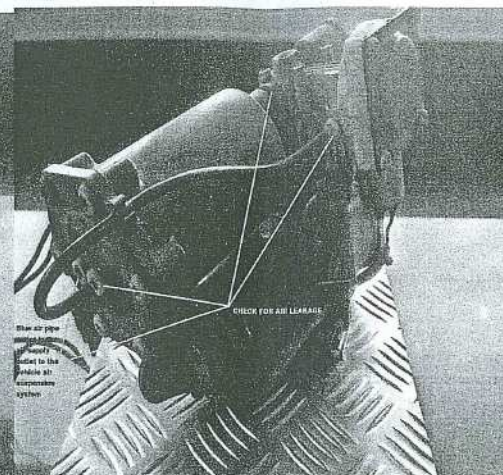
Repeat procedure for leak testing .

Thank you

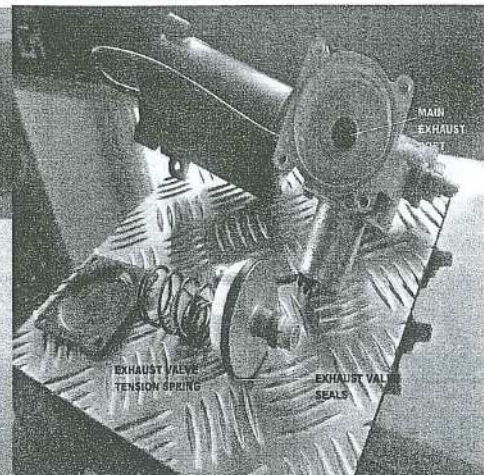
PICTURE 1



PICTURE 2



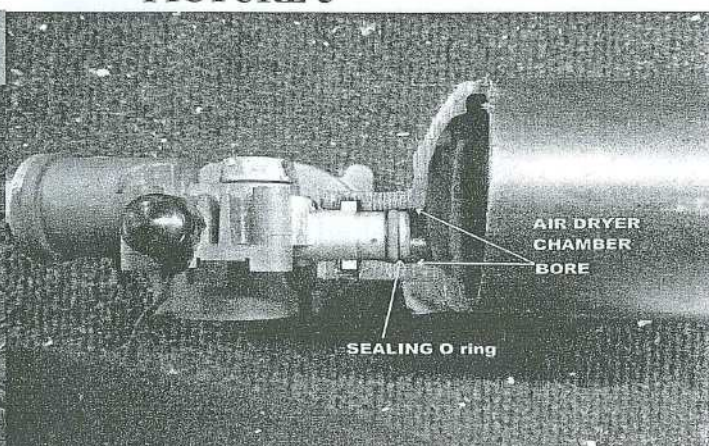
PICTURE 3



PICTURE 4



PICTURE 5



When you have fitted your new kit it is very important to check for air leaks around the compressor and on your air suspension air lines / air bags /solenoids e.t.c . Referring to picture 2 ! check for air leaks (preferably with an air pressure of 220psi trapped inside the compressor Dryer unit) at the points indicated by yellow markings ! also check for air leakage from the exhaust outlet port (picture 1) there should be no leakage from this port , if you have any problems with a leaking air dryer cover / Air dryer chamber O ring Joint, we can supply a replacement Air Dryer cover (picture 4) and O ring for the Air Dryer Chamber (picture 5) on request .

When you have fitted the compressor back on the vehicle ! If you have access to diagnostic equipment with live data option , you can check to see if the air pressure remains constant in the system of the vehicle when the compressor switches off after 1st vehicle start up , if the pressure reduces then you have a leak at the points illustrated in pictures 1 &2&5 or you may have a leak in other areas of your vehicles air suspension system , air suspension struts / air bags.

Check that the air inlet pipe/port (picture 1) is free from restriction ! as this pipe is responsible for the correct amount of air entering the compressor ,there is an air filter and silencer connected in the same line ! note a restricted air intake line can decrease output pressure of the compressor.

Recommissioning procedure

- 1** When you have refitted your compressor back on your vehicle ! please ensure you dont have any leaks on any other part of your vehicles Air suspension system ! if there is a leak in the system it will result in the compressor running indefinitely and thus reaching a unhealthy temperature .
- 2** If your vehicle is positioned on its lowest height setting when you refit your compressor and the receiver tank is totally empty of pressure ! on first start up only allow the compressor to run approximately in 5 minute intervals maximum ! until the height is returned to normal ride automatically ,allow sufficient time for the compressor to cool between intervals until this condition is achieved, do not try to adjust the suspension height whilst the compressor is trying to replenish the tank and lift the car to normal ride height .
- 3** When the car as returned to normal ride height , take note how long the period the compressor is switched off whilst the vehicle is ticking over and is on level ground over a 15 minute period this will give you a good indication whether there is a leak in the system which will result in the compressor switching on & off in short frequent cycles ! if this is the case find out the route cause of the problem , failure to identify a leak will affect the longevity of the compressor unit and can in some cases display a fault message similar to a worn compressor unit ' Not filling the resorvoir quickly enough '.
- 4** When the compressor as switched off and everything appears normal , drive the vehicle normally and allow the compressor to cool under normal conditions , cycling the suspension up and down whilst the vehicle is stationary over many cycles is not good for the compressor unit ! Especially a newly rebuilt unit .

Note

LandyAir manufactures piston seal kits for Air Suspension compressors on variety of different types of vehicles for the home 'Do It Yourself' mechanic ,we are not specialist in vehicle systems /diagnostic procedures ! however it is our aim to try and help our customers were we can by providing information collated from the internet and customer and our own experience so that these complex vehicles with complex air suspension systems can be kept on the road without fault and at the same time keeping costs to a minimum ,we constantly try to improve our products and information.

Please do not hesitate to contact me should you require any further questions.