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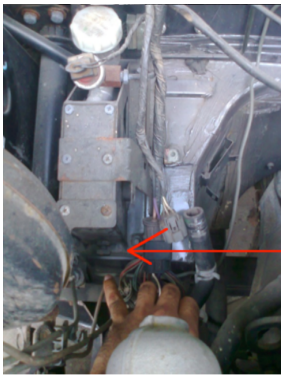
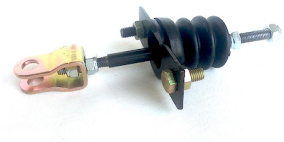
Fitting Guide for Defender 200tdi (RHD)

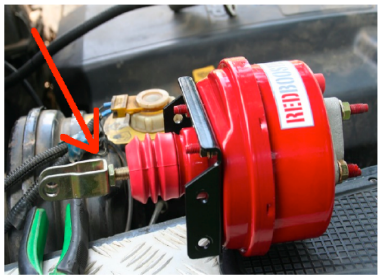
Release the oil by loosening the bleed valve on the slave cylinder and pump the clutch few times to get rid of the old oil. If the oils is black and the pumps are few years old! it's always better if you can replace the Master, slave or both. As they dont last long. Remove the oil pipe from the master pump. Remove inspection lid. Remove the clutch master pump. (Clean the area, wipe and wash the area if there is any brake fluid spilt as it will remove paint) Unscrew the bolt from the clutch pedal unit as far as you can do not remove it (see photos). You can feel the back of the bolt by putting your finger from the pedal side up. The pedal must be able to travel the maximum length.	

				
Main Bracket with Diverter and bearings	Directional rod with rubber boot	Clevis pins	Split pins	Directional rod fitted to the Diverter.

Fixing main Bracket

Put the Main bracket on its position on the pedal box, then put the Direction rod through the inspection hole and through the pedal hole where the clutch master pump was fitted, also put the rubber boot bracket in from the inspection hole, but don't fix anything yet. Fit the Direction rod to the Diverter (One bearing will be fitted to the Diverter) and make sure with the clevis pin is locked with the split pin...
Send the rod through to the pedal box also through the rubber boot, Fit the other bearing to the other side of the Diverter then fit the Bearings to the main bracket and tighten the 4 nuts.

Align all parts of the bracket then tighten the main bracket. The direction rod must go through the rubber boot and make sure the lock nut passes through the boot too.
Then move the diverter to see if it moves freely without any resistance Send the diverter rod though the pedal hole then screw the nut and then tighten it. When press the clutch pedal the diverter should work.
Close the Pedal box inspection plate.



Fixing the Servo and Pump -

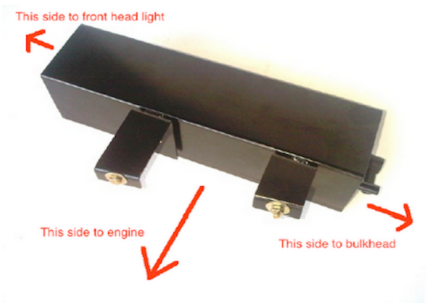
First lift the clutch pedal to the top and wedge it up or hold it up while another fixes the servo

Look at the first photo, you need to screw the U-connector end to the back of the servo.Then you need to place the servo to the main bracket but do not bolt it yet. Make sure it's in its correct place, then when you look at the U-connector of the servo the 2 holes (the U-connector hole and the diverter hole) must align (like the 2nd photo) You should be able to move the clevis pin in and out easily. When all is inline fix and tighten the 4 bolts of the servo back bracket to main bracket and tighten the bolt at the back of the servo next to the U-connector, tighten towards the U-connector. Now when you press the clutch the front rod of the servo must come out.

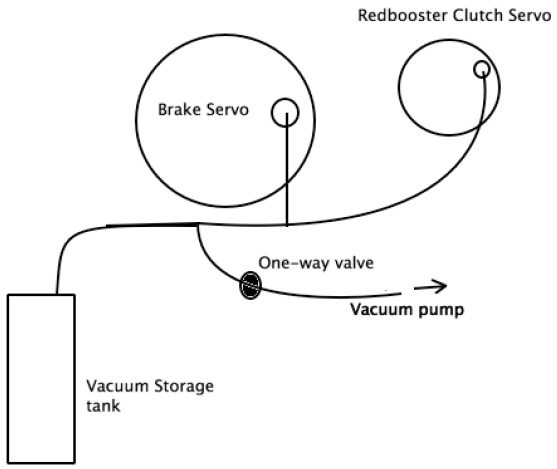
Remove the rod which comes from the back of the master pump by removing the circular clip then refix the circular clip back to the master pump, also remove the rubber boot (Important).

Setting the front rod of the servo -
You must make sure that the front rod of the servo is not pushing the clutch master pump when its not being pressed and not having it too far back.,
The distance between the two ends ideally will be around 1mm. By placing the master pump on the servo you can see if it has excess play/space or gap.Then fit the master pump to the servo and tighten the 2 nuts.

Also if there is a spring on the pedal like the photo you must remove it after fitting the servo, keep it fixed as it helps during installation till servo is fitted These Springs are mainly in 300tdi and Puma's. as it's a directional spring will not work with the servo fitted.



Remove the wing bracket on the drivers side wing this will make room to fit the tank, the positioning of the tank is like the photo but inside the wing
You can send the tank through the inspection hole and place it to the brackets. Use the exciting wing holes to bolt it.
The top inspection plastic plate has 6 long screws you may have to shorten a few also the plastic plate bottom side may have to be shaven off, So before tightening the tank brackets push the tank down as much as it goes.



Vacuum Piping diagram

There are a few methods depending on the status of your vehicle. But you must follow the principles of the diagram

Make sure it's not touching the exhaust or rubbing against any moving parts.

Fitting the Oil pipe

Fit one end to the pump and the other end to the other side of the old pipe which is near the slave cylinder located on the bulkhead.
The bleeding of the Clutch on a TD5 and older is still the same as before all you have done it is changed the position, oil and new pipes the travel remain the same. Bleed kits are the easy way to go but sometimes you still will need one to pump the pedal manually.

Fill the Master cylinder to the top and let the oil go down to the slave also press the pedal a few times and get all the old oil out. Soon as you see new oil is coming out tighten the release nut which is on the slave cylinder..
If you have a bleed kit connect it or go to next stage, fill the bleed kit with oil and pressurize it and release the bleed nut on the slave and let some oil out and as soon as you see there is no air mixed with the oil tighten the release nut and release the pressure from the bleed kit..Start the engine and see where the biting point is, If it's right at the bottom you need to repeat, as there is some air in the line. If nothing has changed after few times you will need to do the foot pumping like below. By past experience the foot pumping is a must as it really builds the pressure in the system.

Start to pump 5 times hard and fast the full length of the pedal and on the last one press and hold the pedal down. Then the other person must release the release nut and let the oil out and then tighten again then only the clutch pedal can be released.
Repeat this 5 times or more to get rid of the air on the oil line. Check for leaks on the line if there is tighten a little bit more.

Troubleshooting

Make sure your vacuum is not leaking from your brake servo as the older the Defenders are they do start to leak if so you should replace it. To see if there is a leak on the brake servo you can block the the vacuum line which goes to the brake servo and start the engine and press the clutch if its the same as before then its not leaking. If it's harder then there is a vacuum leak.