

Subject

A700137: Regulator Assembly Instructions

Instruction:



With the exception of the setting bolt (as described in Step 2) and the “seat” (as described in step 3), do not re-use any components from the old regulator as they are worn and may cause premature failure if used with new regulator components.



Failure to follow these instructions may result in component damage, injury, or death.

1. Measure how far the setting bolt extends from the existing regulator cover in the inlet valve. This can be used as a rough guide for setting system pressure in step 11.
2. Remove the regulator setting bolt and retain it. It will be used in step 11.
3. Remove the regulator cover from the inlet valve. Invert the inlet valve to remove the regulator components. If the chamfered seat comes out discard it as per the note below.



If the seat falls out of the inlet easily, discard it, a new one is provided in the A700137 regulator kit. If the seat does not fall out of the inlet when tipped leave it in place as it will be re-used. Do not try to force or pry the seat out as you will damage the inlet valve.

4. Remove any burrs from the Inlet threads using a mechanics pick (or similar tool) to prevent galling of the threads when installing the new regulator cover.
5. If the seat is being replaced, apply just enough general purpose grease to the chamfered side of the seat to hold it in place during the install. Install the new seat with the chamfered edge of the seat facing into the Inlet and away from the regulator cover (Figure 1). Ensure that there is no excess grease that will block the center of the seat or carry over into the air passage in the Inlet.
6. Install the rubber diaphragm into the Inlet with the ball surface of the diaphragm facing the seat. (Figure 1)
7. Install the regulator spring over the brass boss on the diaphragm. Ensure that the brass boss on the diaphragm sits inside the spring.
8. Install the brass spring seat onto the spring with the ball facing the regulator cover and setting bolt. (Figure 2)
9. Thread the regulator cover onto the inlet and hand tighten until it is in contact with the rubber diaphragm and tighten an additional 1/8 turn. The innermost thread on the regulator cover should be flush with the inlet. (Figure 2 inset)



Over tightening the regulator cover may damage rubber diaphragm.

10. Discard the Philips head setting screw included in the fastener pack.
11. Install the regulator setting bolt (retained from Step 2) and lock nut. Hand tighten until spring resistance is felt. Use the measurement taken in Step 1 as a rough measurement prior to the final pressure adjustment described on Page 3.

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Version	Department	Revision Details	Revised by/date	Checked by/date	Reviewed by/date	Implemented
0	-	-	-	-	-	04 Oct. 2004
A	Eng.	ECN 08-196	-	-	-	25 Sept 2008
B	Eng.	Uncontrolled Update	-	-	-	04 May 2011
C	Tech	ECN 16-004	MSP 13 Jan. 2016	DSB 13 Jan. 2016	CJH 13 Jan. 2016	13 Jan. 2016
D	Tech	ECN 16-012	MSP 28 Jan. 2016	DSB 4 Feb. 2016	CJH 4 Feb 2016	4 Feb 2016

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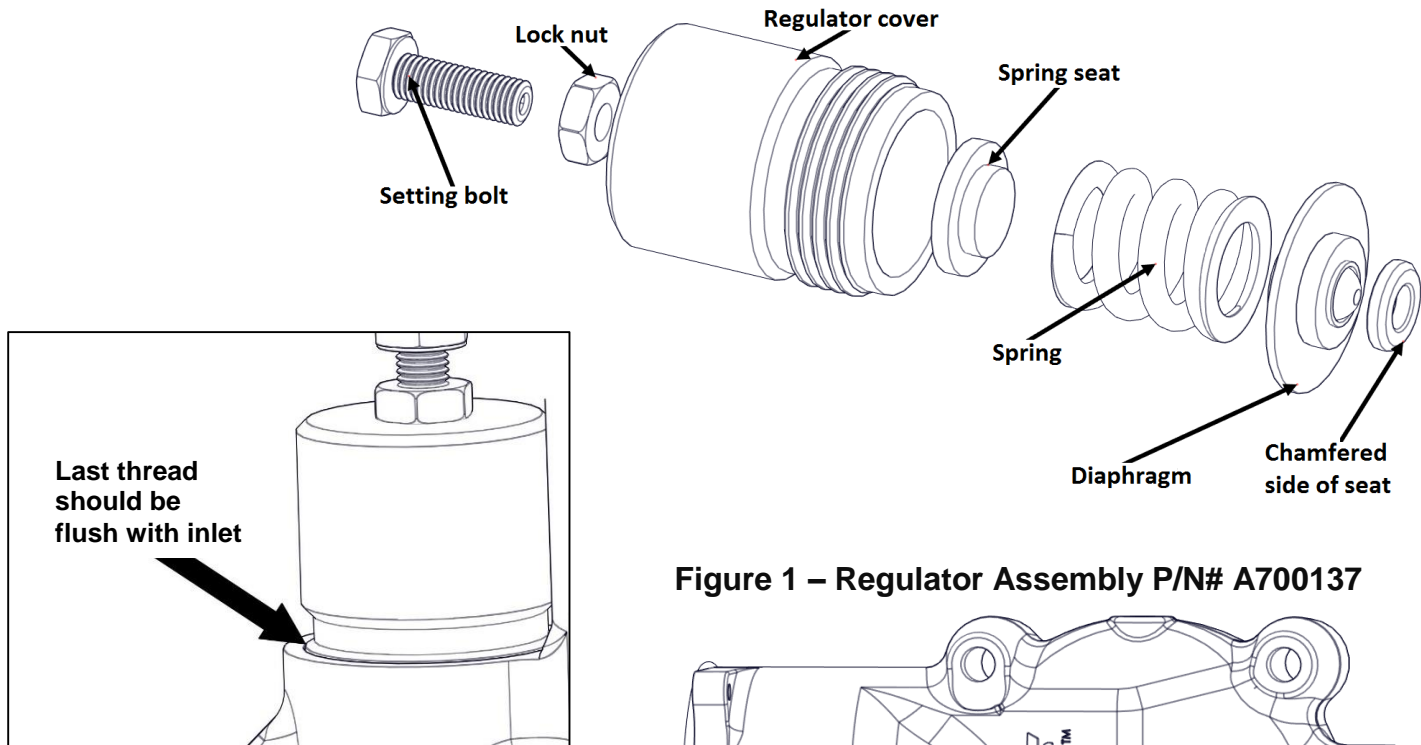


Figure 1 – Regulator Assembly P/N# A700137

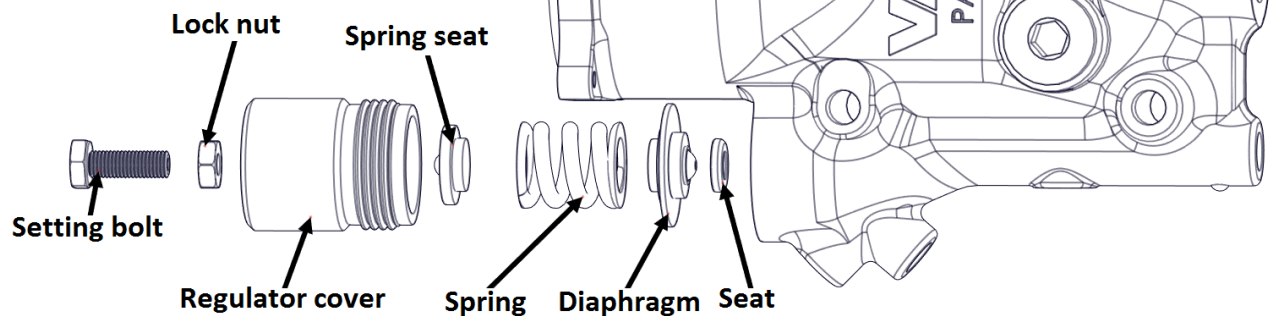


Figure 2 - Inlet Valve and Regulator

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Adjusting the Pressure Regulator

The pressure regulator is adjusted to limit the maximum pressure to a safe level. As pressure and flow are related, this adjustment is also very important for optimum performance.



You cannot accurately adjust system flow (cfm) by using the pressure regulator, this is controlled by engine rpm. VMAC strongly recommends setting system pressure between 145 – 175 psi and using a Filter Regulator Lubricator (FRL) downstream to set desired tool pressure.

1. Attach the VMAC test tool (P/N# A700052) to the tank outlet with the ball valve closed.
2. Make sure that the oil level is correct and the system is at operating temperature.
3. Operate the system until it reaches full pressure. Observe the pressure on the gauge.
4. Loosen the setting bolt lock nut on the regulator. (Figure 3)
5. Pressure can be adjusted within a range of 145-175 psi (999.7 kPa – 1307 kPa), dependent upon your requirements.



Prolonged operation above 175 psi (1307 kPa) may damage the pressure regulator.



Never adjust the pressure to exceed 175 psi (1307 kPa). A pressure of 200 psi (1379 kPa) will result in activation of the pressure relief valve at the air/oil tank. Rapid air loss will occur which may cause component damage, injury, or death.

6. Rotate the setting bolt clockwise to increase pressure. Rotate counter clockwise to decrease pressure. Tighten the lock nut once desired pressure has been set.

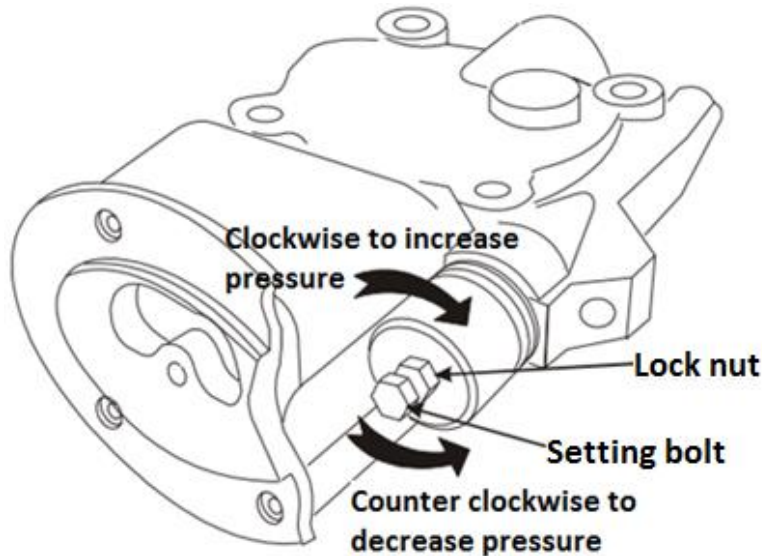


Figure 3

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