

Model N-H420-NG

Parts Description, Installation & Operation

GENERAL The N-H420-NG regulator is designed for use with stationary engines fueled by natural gas, or in on-highway applications fueled by compressed natural gas (CNG).

WARNING! The N-H420-NG should be installed and maintained per these instructions and all applicable federal, state, and local laws and codes.

Special Note in regards to NFPA Pamphlet 58: For indoor applications by NFPA definition, a regulator is not considered a positive shut-off valve. An approved automatic shut-off device is required to be installed. This will shut off the fuel supply should the engine fail while unattended. Shut-off devices come in vacuum- or solenoid-actuated configurations.

IMPORTANT NOTE: The N-H420-NG is rated to 250 psi inlet pressure. In CNG applications (where tank pressure may exceed 3000 psi) a separate high-pressure regulator must be installed between the tank and the N-H420-NG to reduce the incoming pressure below 250 psi.

OPERATION Natural gas enters the regulator primary chamber and the pressure of the incoming gas is reduced to approximately 1.5 psi.

The zero governor N-H420-NG will not pass fuel without a vacuum signal from the carburetor. Its orange secondary spring (N-S3-3) requires approximately -0.5" of water column to initiate fuel flow.

The positive pressure N-H420-NG works well in venturi applications where the vacuum signal to the regulator outlet may be weak at low engine speeds. It will flow fuel at a volumetric rate of approximately 1 CFM with the outlet at atmospheric pressure. Flow is interrupted when approximately 8 inches of water backpressure is developed at the outlet.

INSTALLATION The N-H420-NG should be mounted as close to the carburetor as possible, with the fuel outlet placed in the lowest position for best flow.

SERVICE The N-H420-NG should be periodically checked for leakage. If the unit requires service, we suggest you take it to a qualified service technician. If not available, Woodward will furnish a list of repair facilities or provide service information.

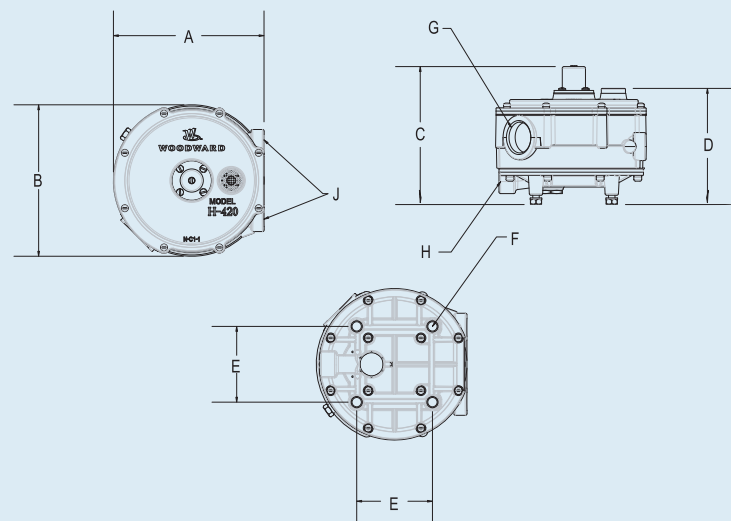


N-H420-NG

- Mounts vertically or horizontally
- Positive pressure version flows fuel at 1.0 CFM with outlet at atmospheric pressure
- Zero governor version with orange secondary spring initiates fuel flow at -0.5 inches of water column

REGULATOR SPECIFICATIONS

- A. Overall Width 5⁷/₁₀" (144.8 mm)
- B. Overall Length 5⁷/₁₀" (144.8 mm)
- C. Depth (N-H420-SNGA) 4⁹/₁₀" (124.5 mm)
- D. Depth (N-H420-SONGA) 4⁹/₁₀" (124.5 mm)
- E. Mounting Holes
Center to Center 2²²/₂₅" (73.2 mm)
- F. Mounting Screws (4) 1/4"-20 x 5/8"
- G. Fuel Outlet NPT 1" (25.4 mm)
- H. Fuel Inlet NPT 1/4" 6.4 mm)
- J. Coolant Inlet and Outlet NPT 3/8" (9.5 mm)



PARTS LISTING

Item	Part No.	Description	Qty.
1	N00-6416	Screw – N-S1-22, 6-32 X 1/4" (N-H420-SNGA only)	4
2	N-C2-4	Cap – Spring Retainer (N-H420-SNGA only)	1
3	N-S2-9	Screw – Spring Adjust (N-H420-SNGA only)	1
4	N-N1-1	NUT – Spring Adjust (N-H420-SNGA only)	1
5	N00-6443	SCREW – N-S1-59 COVER, 8-32 X 5/8" SEMS 8 (RK 4)	
6	N00-5255	Gasket – N-G1-84, Spring Cap (N-H420-SNGA only)	1
7	N00-7004	Screen – Secondary Vent	1
8	N-C1-1-1	Cover – Secondary (N-H420-SNGA only)	1
	N-C1-1	Cover – Secondary (N-H420-SONGA only)	1
9	N-S3-6	Spring – Positive Pressure (N-H420-SNGA only)	1
10*	N-D1-2A	DIAPHRAGM ASSEMBLY, SECONDARY, SILICONE	1
11	N00-6443	Screw – N-S1-59 Cover, 8-32 X 5/8" SEMS	8
12	N-P1-2	Pin – Secondary Lever Fulcrum	1
13	N-L1-1	Lever – Secondary	1
14*	N-V1-1A	VALVE – SECONDARY	1
15	N-S3-3	Spring, Secondary Orange (N-H420-SONGA only)	1
16	N-C1-2	Cover – Primary Diaphragm	1
17	N-S3-4	Spring – Primary Regulator	2
18*	N-D1-3A	DIAPHRAGM ASSEMBLY, PRIMARY	1
19	N00-6104	Fitting – 1/8" NPT Hex Pipe Plug	1
20	N-B1-1CA	Body – Sub-Assembly	1
21	N-P1-3	Pin – Primary Valve Operating	1
22*	N-G1-1	GASKET – GAS & WATER CHAMBER	1
23	N-C1-3	Cover – Gas & Water Chamber	1
24	N-V1-2A	VALVE – PRIMARY	1
25	N-S3-5	Spring – Primary Seat	1
26	N-O1-1	O-RING – LP-GAS INLET	1
27	N-P3-2	Plug – LP-GAS Inlet	1
28*	N00-6400	SCREW – N-S1-3, COVER, 10/24 X 5/8" SEMS 12 (RK 2)	
29	N00-6402	Screw – 1/4-20 UNC-2A X 5/8" Hex	4

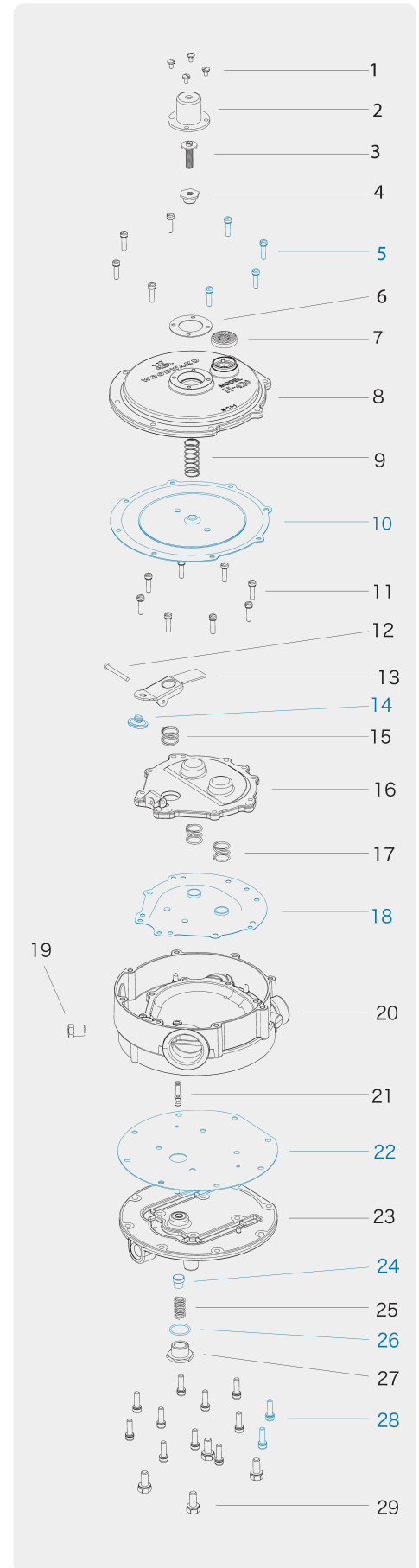
* Indicates Repair Kit Components

REPAIR KIT: (Components shown in blue)

N-RKH420SA Repair Kit with Silicone Diaphragm

ORDERING INFO

Part No.	Description
N-H420-SNGA	Natural Gas Regulator, Adjustable Positive Pressure
N-H420-SONGA	Natural Gas Regulator, Zero Governor w/ Orange Spring (-0.5" WC)



Note: Parts in blue are components of Repair Kit (N-RKH420SA).