



WAVE SPRING SUCTION VALVE CAGE ASSEMBLY INSTRUCTIONS

INSTRUCTIONS

Supersedes: 180.23-M4.1 (797)

Form 180.23-M4.1 (987)

Wave Spring Suction valve assemblies are available with top head overhaul kits only at this time.

JS - 364-47666-019

JG - 364-47666-020

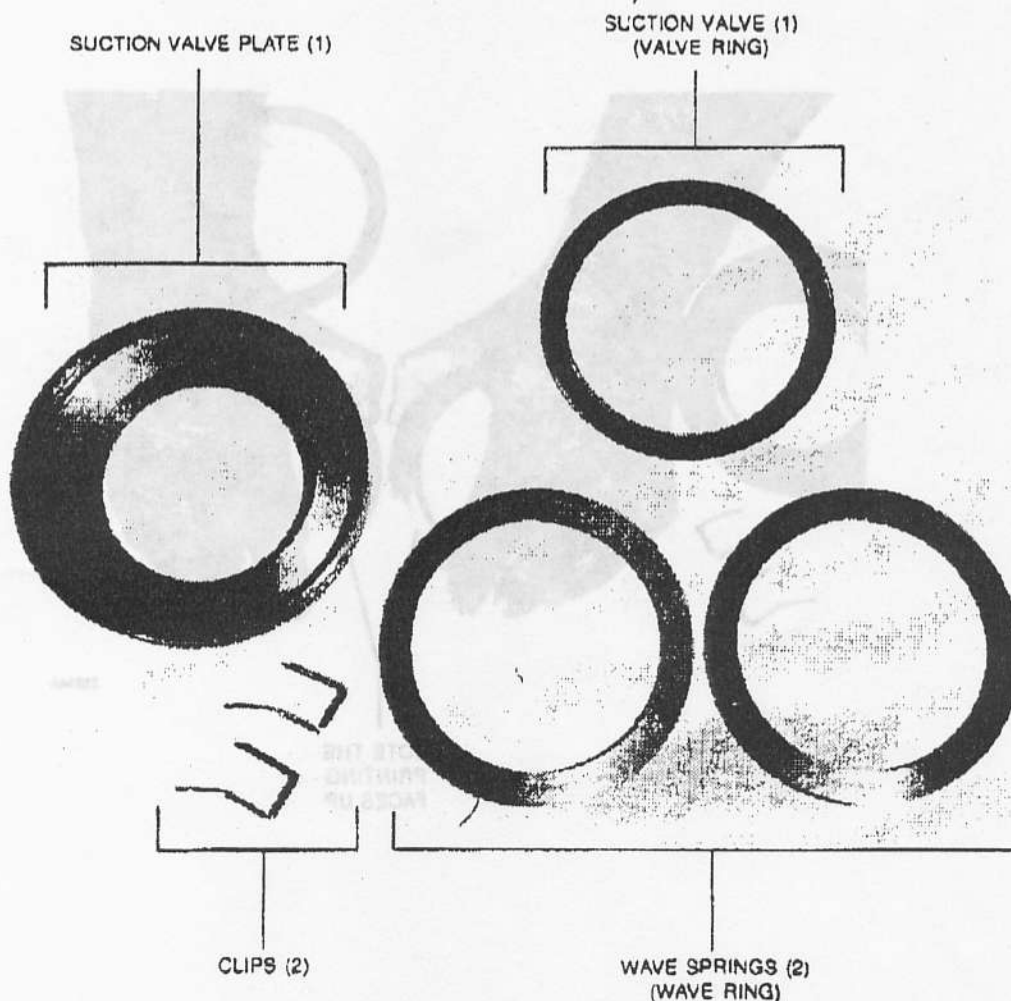
The wave-spring suction-valve assembly replaces the six suction springs with a pair of "wave" springs. The assembly uses a pair of wave springs sandwiched between the valve plate and valve ring. The wave springs are easily identified since they appear to be deformed or bent suction valves.

NOTE: Proper orientation of the two wave springs is critical. The wave springs must be properly oriented to assure they provide proper tension. Once they are properly oriented and installed, they may rotate slightly but will always seek their original position.

Shown below are the parts needed to install the wave spring assembly on a single cylinder. The two clips shown in the photo are not part of the assembly and must be reused for each cylinder assembly. The clips must be removed once the assembly is fitted to the cylinder.

To begin assembly, place the valve cage with the machined surface up and the wave springs with the "printing" on the surface facing up.

(Engineering Assembly Reference 01540)



29630A(R)

NOTE:

Installation of this wave spring suction valve assembly is completed with installation of a new discharge valve assembly, YORK part number 664-48785-000.

The discharge valve, 064-43012-000, should have a date code of 797 or 897. See attachment page 7 of M letter M-331-96.

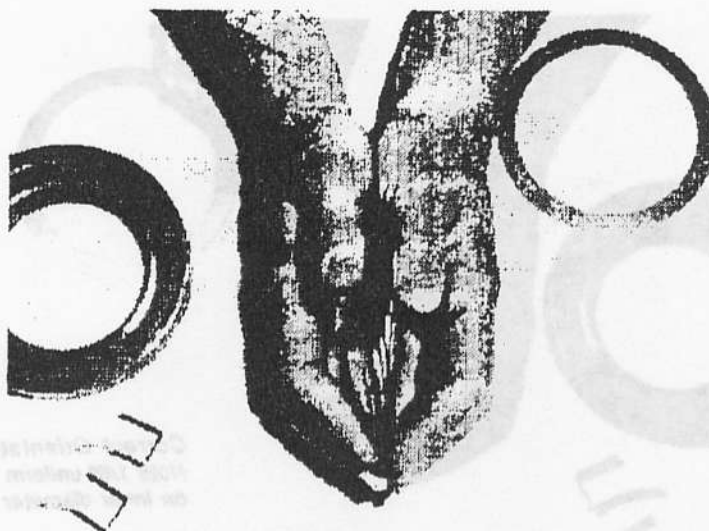
With the printing of the wave springs facing up, grasp the springs as if palming a basketball.



NOTE THE
PRINTING
FACES UP

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Pick up the two springs, and place them lightly together. Assure that the printing on the springs faces the palm of your hands. As you hold the springs lightly together, the top of the springs facing you may be separated by a small gap or one of almost $1/2$ ".



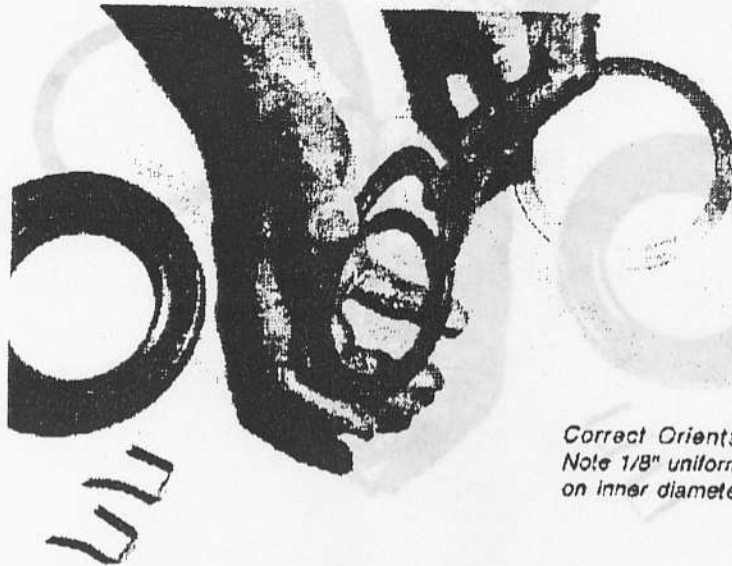
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Rotate the springs in one hand until the springs nest together in the same manner as stackable potato chips. The gap between the two rings facing you will minimize such that rotating a spring in either direction will cause the gap to increase.



20545A

Once the springs are properly oriented and appear to be nested together, holding them loosely by the edges as shown will reveal that the spacing between the two wave springs will be approximately 1/8" uniformly around the inner edges of the two springs. They are now properly oriented and should held in this position without rotating them further.



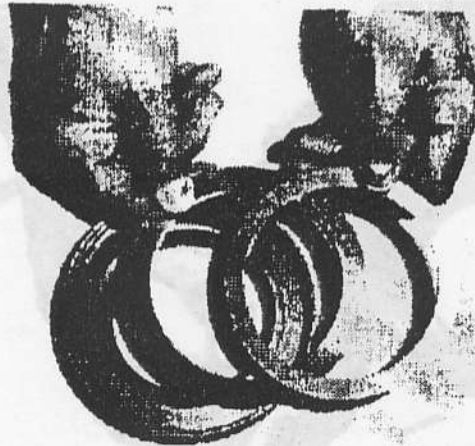
*Correct Orientation.
Note 1/8" uniform gap
on inner diameter*

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The pair of wave springs should be carefully placed on the valve cage. The valve ring should then be placed on top of the wave springs. The photo below shows the wave springs in the right hand and the valve ring in the left.

RIGHT HAND

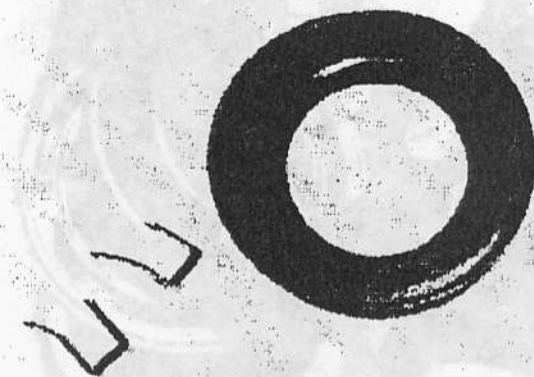
LEFT HAND



28640A

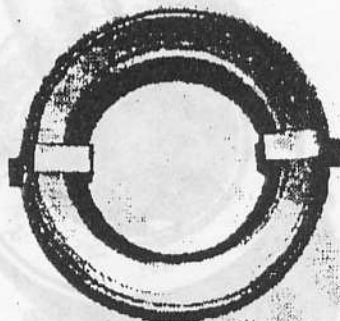
The entire assembly can then be installed on the cylinder sleeve as shown with the clips. Once sealed, the clips can be removed, and the valve cage assembly will drop fully onto the cylinder sleeve.

The completed assembly should look like the photo below:



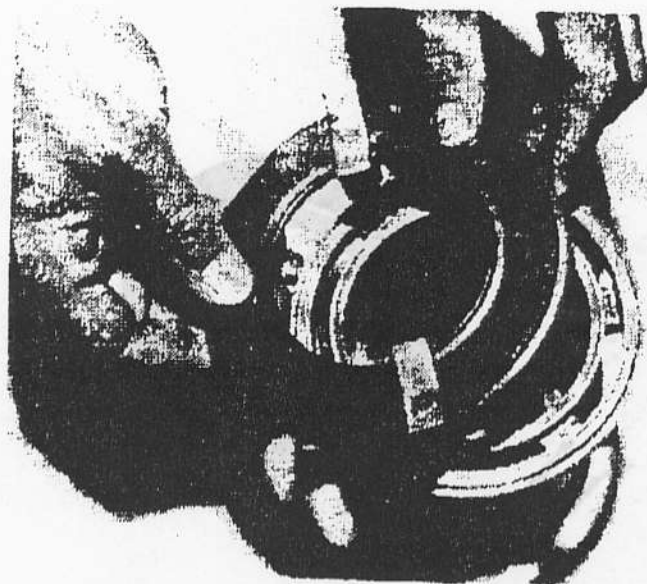
28042A

The clips should now be placed on the assembly, as shown, to keep the valves ring and wave springs from moving during assembly on the cylinder head. The clips should be installed with the shortest arm resting on the suction valve (valve ring). This would also be referred to as the piston or cylinder side of the assembly.



28041A

1 The entire assembly can then be installed on the cylinder sleeve as shown with the clips. Once seated, the clips can be removed, and the valve cage assembly will drop fully onto the cylinder sleeve.



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Once seated on the cylinder, verify that the suction valve is not pinched, by checking that the valve assembly can be rotated on the cylinder in a smooth motion.



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