



## **MAINTENANCE/REPAIR INSTRUCTIONS on BRUSH.**

### **HSRN-NEW**

#### **1 or 2 BRUSHES DO NOT TURN.**

##### **Operations that can also be performed in the field**

**1-C)** Check the various hydraulic fittings (ref.21-M2000511.12 - ref.220-26.0051.31) and the two hydraulic hoses (ref.16-M0000104002-M000104003) for obvious water leakage.

If not, proceed to replace the worn parts.

##### **Operations to be carried out only in the workshop**

#### **Disassembly operations.**

If, after performing the operation in the previous paragraph, one or both brushes continue to fail to turn, it is necessary to proceed with more thorough operations to be carried out only in the workshop on a clean workbench with specialized personnel authorized by MM.

It is necessary to proceed with complete disassembly of the blocked brush(es) or those rotating in a slow and abnormal manner.

**1-Of)** <https://youtu.be/H-0v20HqGeA> Dismantle the hydraulic hose (ref.16-M0000104002-4003) of the brush(es) to be repaired.

**2-Of)** <https://youtu.be/XArAm9qEkUw> Completely unscrew with special slotted screwdriver the nut (ref.9-HSRN-10), remove the bristle disc (ref.6-HSRN-9) and the thrust bearing ring (ref.12-HSRN-8).

**3-Of)** <https://youtu.be/2s1DwZPApUg> Completely unscrew with appropriate Phillips screwdriver the eight countersunk head screws and remove all parts in succession (ref.8-HSRN-1 - ref.11-HSRN-5 - ref.10-HSRN-4 - ref.14-M6300000474DX/SX - ref.13-HSRN-2DX/SX)

DO NOT disassemble the plastic brush latch (ref.7-HSRN-6) from the iron frame.

#### **Maintenance and reassembly operations**

**4-Of)** <https://youtu.be/yTRglegG5RM> Checking the brush closure (ref.7-HSRN-6).

Check that the center hole and the hole with built-in bushing are not enlarged or deformed.

If not, proceed to completely replace the brush latch clearly by first disassembling the worn latch from the iron frame, unscrewing the four M4 screws with appropriate wrench.



**5-Of) <https://youtu.be/VldoGieVckk> Checking the brush shell (ref.8-HSRN-15).**

The 6-mm-diameter steel center pin should be firmly attached to the plastic housing and not wobble, and should show no signs of wear.

Check the 6 mm diam. housing for the gear that it is not enlarged or deformed.

If not, proceed to complete replacement of the housing.

**6-Of) <https://youtu.be/JUw-ifRLiiQ> Checking the nozzle (ref.13-HSRN-2DX/SX).**

The inner holes of the nozzle should be perfectly clean; if not, use a jet of compressed air or a suitable thin wire to remove any impurities.

Reassemble the nozzle in the brush shell.

Caution!!! The nozzles of the two brushes are not interchangeable.

The RIGHT nozzle has the outlet hole on the same axis as the inlet hole and should be screwed fully into its housing with 1/4" GAS thread; the RIGHT nozzle should be mounted in the RIGHT brush only.

The SX nozzle has the outlet nozzle at 90° to the axis of the inlet hole and should be screwed only partially into its own housing with 1/4" GAS thread and with the outlet nozzle arranged in the direction of the impeller vanes; the SX nozzle should be mounted only in the SX brush.

**7-Of) <https://youtu.be/mzMaXoB2Iso> Checking the impeller assembly (ref.14-M6300000474DX/SX)**

Check that the center hole diam. 6 mm is not deformed or enlarged and that the vanes are not reduced in size; if not, proceed with impeller replacement.

Caution!!! The impellers of the two brushes are not interchangeable.

The DX impeller should be mounted only in the DX brush (DX nozzle), while the SX impeller should be mounted only in the SX brush (SX nozzle).

Insert the impeller into the steel center pin of the plastic shell.

**8-Of) <https://youtu.be/dcC9myq2Sao> Checking the gear with stainless pin (REF.10-HSRN-4), of the brass center pin (ref.11-HSRN-5).**

Carefully check all the teeth of the large crown gear and small pinion gear that they are not worn or even broken, and that the stainless shaft of the gear has no deformation due to wear.

If not, proceed to replace the gear and insert it into its 6-diameter housing.

Check the central brass pin for deformation in the central hole and M10x1 thread.

If not, proceed to replace the brass center pin and insert it into the center pin of the plastic shell.

**9-Of) [https://youtu.be/7sE\\_2wo2I0o](https://youtu.be/7sE_2wo2I0o) Assemble the brush shell (ref.8-HSRN-1), with all previously assembled parts, to the brush latch (ref.7-HSRN-6)**

Fully tighten the eight countersunk screws with appropriate Phillips screwdriver without forcing the tightening so much.



**10-Of) <https://youtu.be/7GIbycmfL3c>** Checking the thrust bearing ring (ref.12-HSRN-8)

Check the thrust bearing ring for marks or deep cuts.

If not, proceed to replace the ring and insert it into its housing, above the countersunk screws.

**11-Of) [https://youtu.be/\\_k2N2DYh1jI](https://youtu.be/_k2N2DYh1jI)** Checking the white bristle disc and brush lock nut (ref.6-HSRN-9 - ref.9-HSRN-10)

Carefully check all teeth on the rack of the white bristle disc and the bristles.

If only one or more teeth of the rack are found to be deformed or even broken and the white bristles particularly worn and crushed, it is necessary to proceed with replacement of the complete disc.

Check the brush closing nut, in particular the central hole with M10x1 thread, if it is worn proceed to replace the part

Insert the disc with white bristles into the central brass pin of the brush making sure to match the two-cut joint.

Fully tighten, with a suitable slotted screwdriver, the brush locking nut, avoiding forcing it very hard.

**12-Of) <https://youtu.be/ab8xmvzZnIo>** Screw the brush tube (ref.15-16-M0000104002-3) into the appropriate hydraulic fittings.

Caution!!! The hoses of the two brushes are not interchangeable; they have fittings with different orientations.

The RIGHT tube should only be mounted in the RIGHT brush.

The LEFT tube should only be mounted in the LEFT brush.