

Sec. 6.1 - SPRING DEMOLITION



WARNING

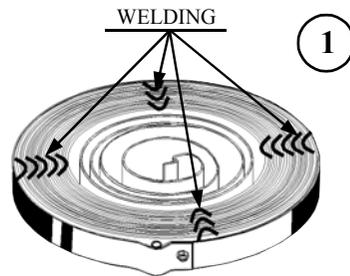
The spring contained in each reel remains always under tension; it is indispensable, before considering it a normal refuse, to weld in 4 points all its turns in order to avoid any possible unwinding.

-a- INTEGRAL BAND «K»



⇒ Weld all the turns as shown in picture 1.

⇒ Dispose the material according to the local rules in force.



-b- BROKEN BEND «K»



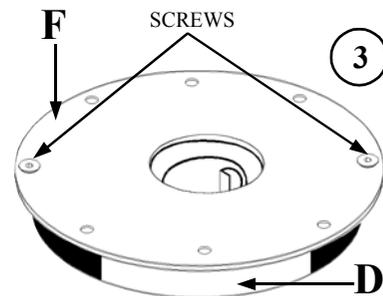
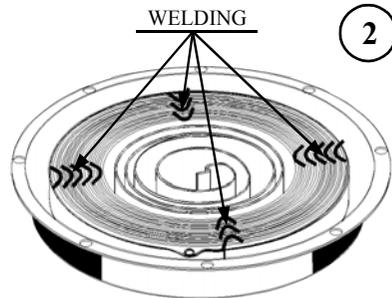
WARNING

Do not take the spring out of its container.
The spring turns must be welded inside the spring container.

⇒ Weld all the turns as shown in picture 2.

⇒ Close the spring container «D» by the cover «F» fixing it with two screws as shown in picture 3.

⇒ Dispose the material according to the local rules in force.



TWIN HOSE REEL

Mod. AG 320 - 340 - 321 - 341 - 370 - 400

Man. Nr. 890.05.01 - 2004/02



Do not start working before the machine, into which the reel will be annexed, will be declared conformity with CE directions that can be applied.
This manual is an integral part of the engine: **the user has to read it before starting working.**

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CE DECLARATION OF CONFORMITY

Company **DEMAC S.r.l.** via R. Murri 14 - 20013 MAGENTA (MI)
DECLARES

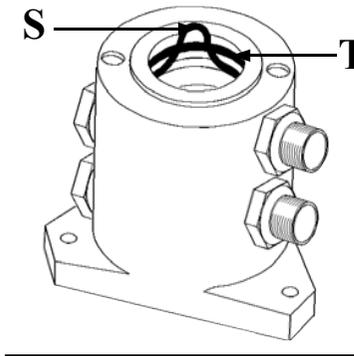
that the machines described below are in accordance with all the essential requirements of the applicable directives

machine description: TWIN HOSE REEL

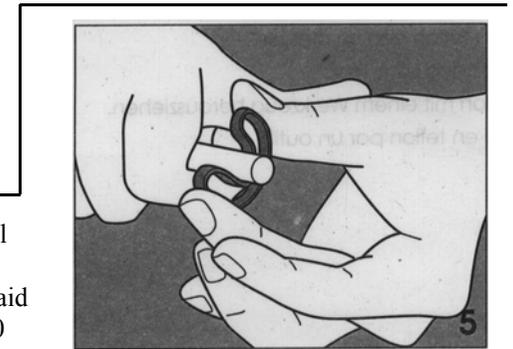
model: AG 320 - 340 - 321 - 341 - 370 - 400

applicable directives: EC DIRECTIVE FOR MACHINERY
N° 98/37 EEC WITH AMENDMENTS

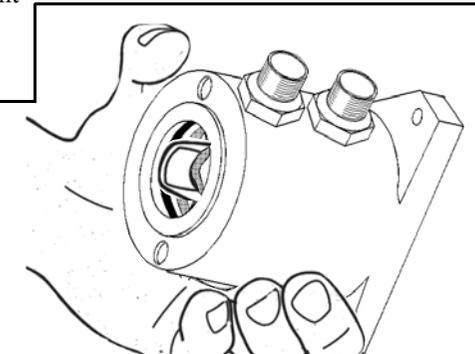
producer's signature: **DOMENICO VARANO**
(Legal Representative)



-12- Place the new O-ring «S» and the new Quad-ring «T» in their grooves.

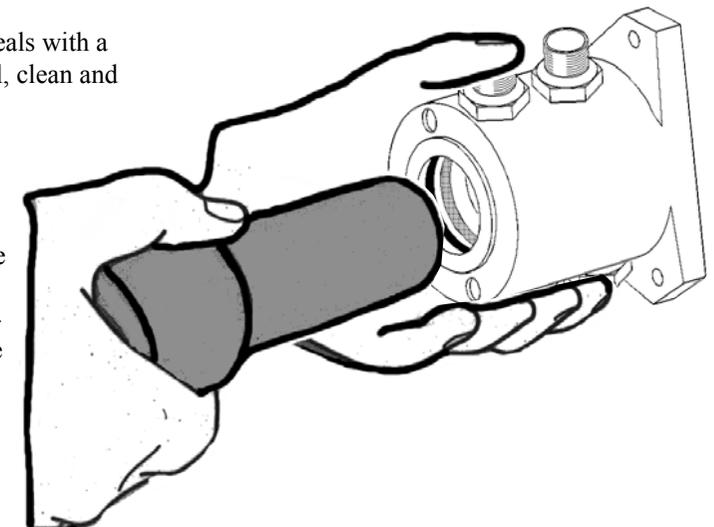


-13- Heat the plastic ring with air or oil (particularly in the cold season). Bend the ring as shown, with the aid of the smooth iron rod of about 10 mm diameter. Avoid the development of sharp bends.



-14- Put the deformed ring in the groove on the O-ring and then straighten the fold by pushing it in the seat.

-15- Calibrate the seals with a plastic mandrel, clean and lubricated.



-16- Reassemble the hose reel following instructions in reverse order.

Sec. 1 - SAFETY PRECAUTIONS

NOTE -The manufacturer declines all responsibility for damage or injury to persons, things or animals caused by:

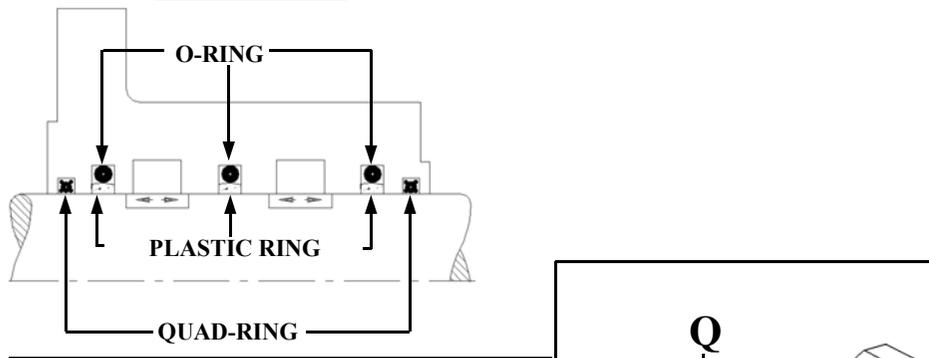
- 1- The incorrect use of the equipment.
- 2- The use of the equipment for aims that are not included in this instructions manual.
- 3- The use of the equipment without taking note of the indispensable precautions contained in this manual.



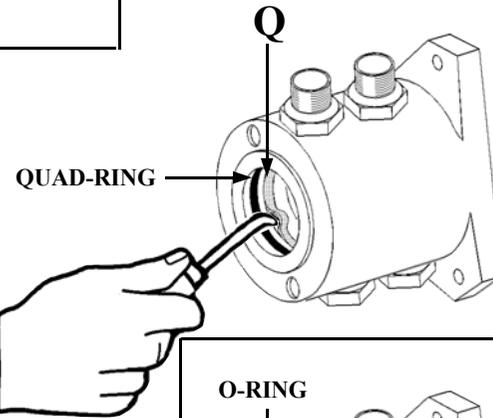
WARNING

- ⇒ Make sure that this instruction is fully understood by the operator before the product is installed and used.
- ⇒ The “AG” is a spring return hose reel assembly designed for use where movements occur requiring continuous variations in hose length, the DEMAC hose reel automatically rewinding the surplus hose.
- ⇒ **Maximum working pressure without hose: 300 bar (30 MPa).**
- ⇒ **Working temperature: -20 / +80 °C (-4 / 176 °F).**
- ⇒ The equipment can be delivered with or without hoses.
- ⇒ Always verify that the hose can tolerate the working pressure, the working temperature and the endurance of the work.
- ⇒ For product liability and safety reasons any modification of the product and its accessories must be agreed upon by the manufacturer.
- ⇒ All locally legislated safety rules with regard to installation, operation and maintenance must be respected at all times.
- ⇒ Before servicing any hydraulic component, relieve the pressure in the system by shutting off the hydraulic supply and actuating the control levers for all functions several times in both directions.
- ⇒ Before disconnecting the open end of the hose, read section 5 of this instructions manual.
- ⇒ **NEVER remove the band around the spring nor disturb its position.**
- ⇒ The maximum attention while handling the spring is recommended. Read the instructions on section 5: Servicing.

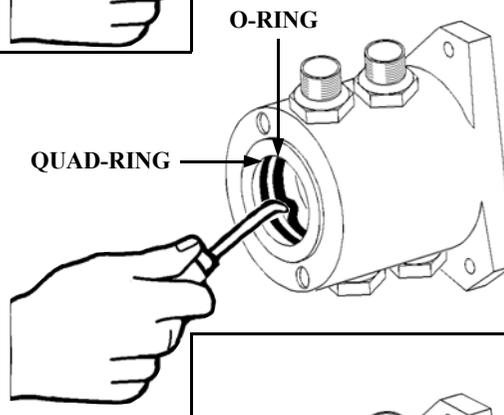
AG GASKET KIT



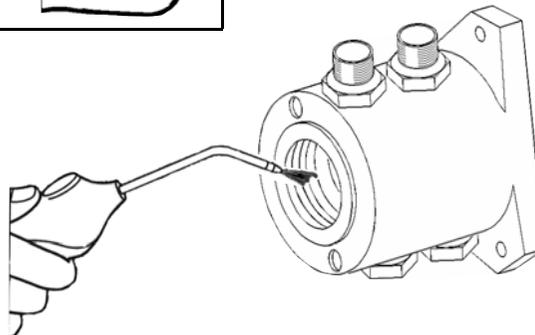
- 9- Remove the plastic ring «Q» by a tool.



- 10- Take off the O-ring and the Quad-ring from their groove and do **not use them again**.



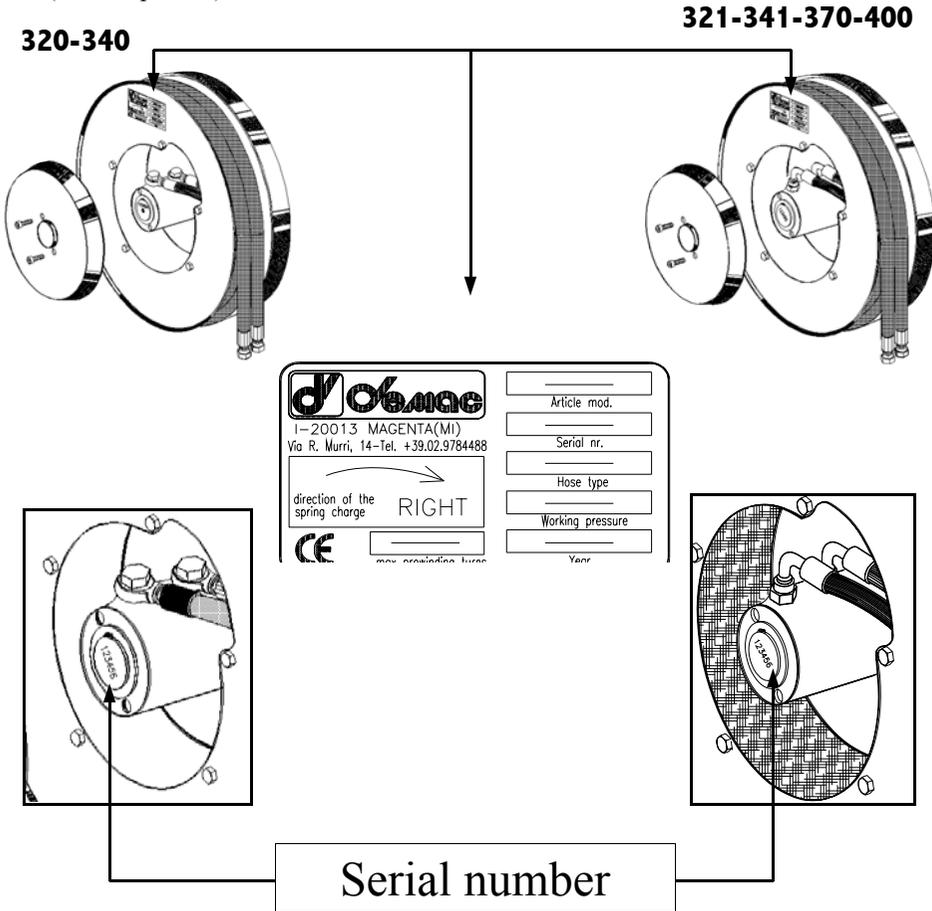
- 11- Clean perfectly the seals seats.



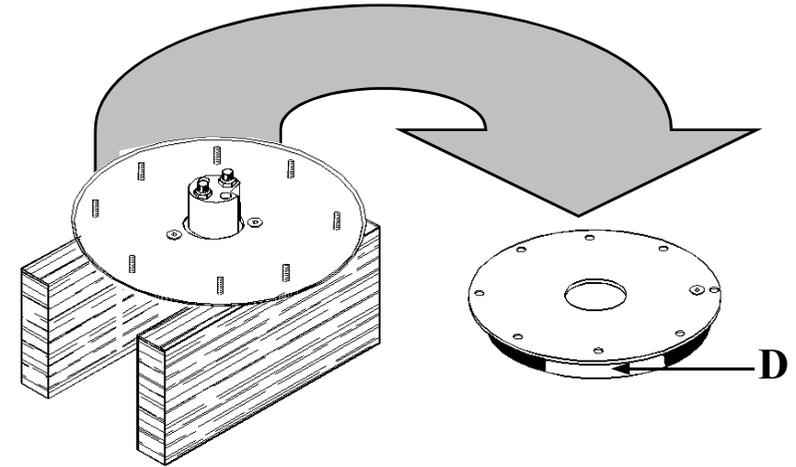
Sec. 2 - IDENTIFICATION



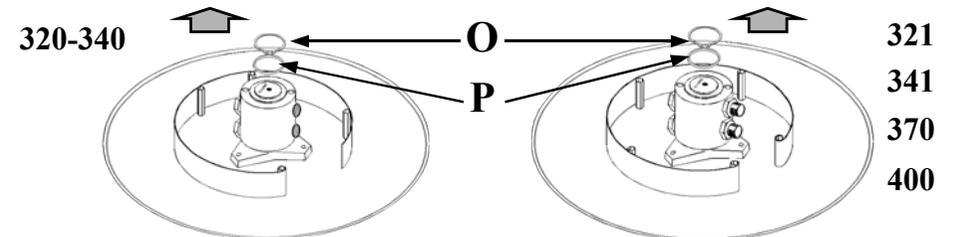
⇒ The part number of the hose reel is marked on the outer part of the shaft too.
(See the picture).



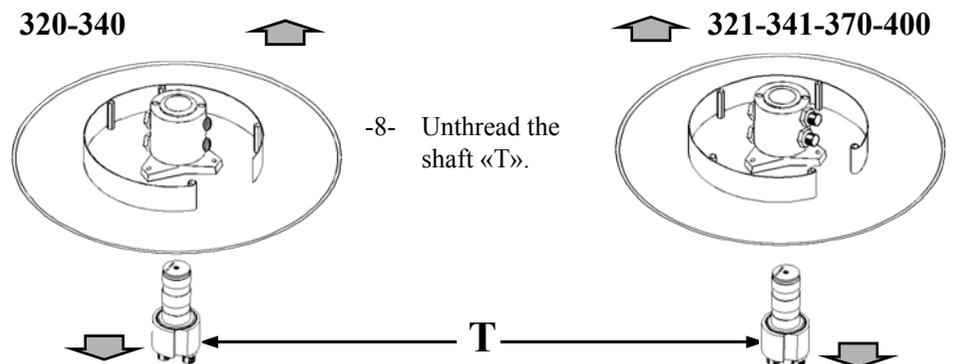
- ⇒ **DEMAC** name plate is clearly visible on the outer part of the hose reel.
- ⇒ It shows the direction of the spring charge and the part number, the model, the year of construction, the working pressure and the max prewinding turns of the hose reel.
- ⇒ **IMPORTANT** When ordering parts or for any other possible request you should always mention the specifications indicated on the name plate.



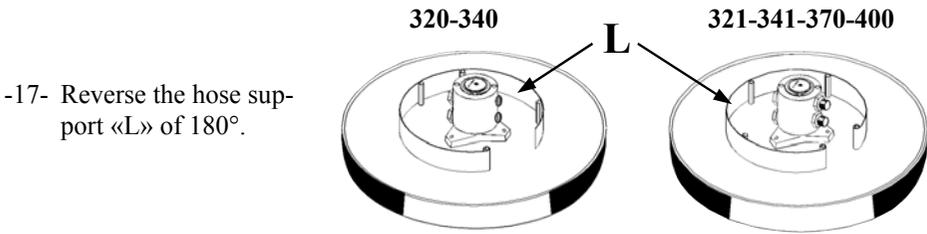
-6- Lift the spring container «D» and turn over it as shown in the picture.



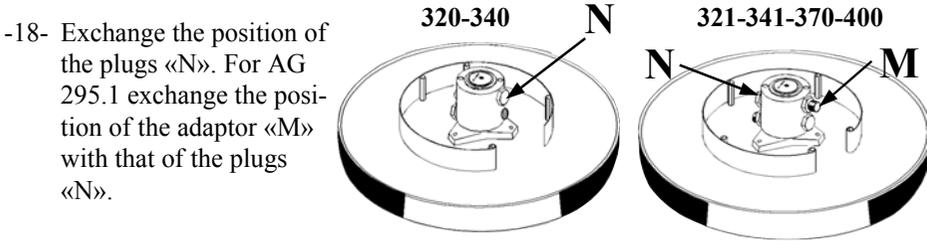
-7- Take off the circlip «O» and the ring «P».



-8- Unthread the shaft «T».



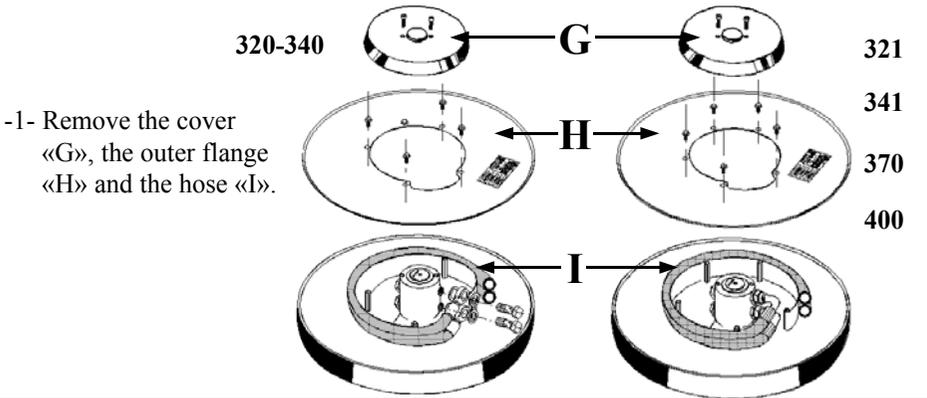
-17- Reverse the hose support «L» of 180°.



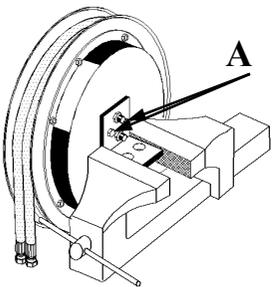
-18- Exchange the position of the plugs «N». For AG 295.1 exchange the position of the adaptor «M» with that of the plugs «N».

-19- Reassemble the hose «I», the outer flange «H» and the cover «G».

Sec. 5.4 - SEALS REPLACEMENT

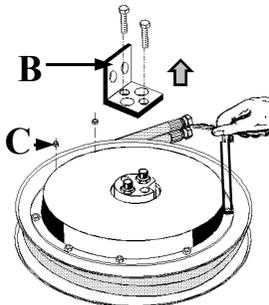


-1- Remove the cover «G», the outer flange «H» and the hose «I».



-2- Place the hose reel in vice, as shown in the picture.
-3- Loosen the screws «A».

-4- Take off the support «B».
-5- Remove the screws «C» from the spring container.

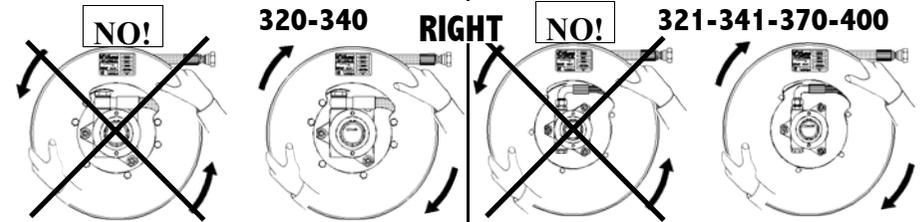


Sec. 3.1 - PREWINDING



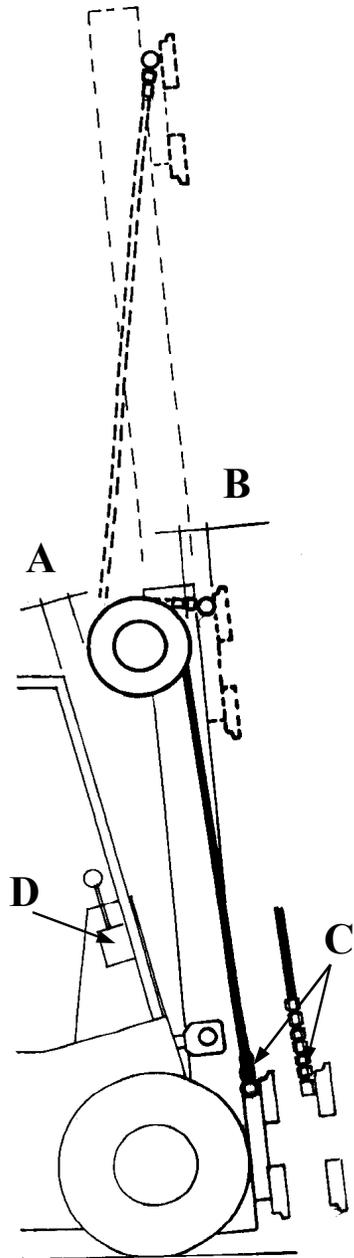
WARNING

During this operation, **do not turn** the reel in the opposite direction to that of rotation indicated on the reel, in order to avoid damage to the inside spring.



Model	Hose type	Hose working length max.	Prewinding turns max.	Turns for hose unwinding	Spring turns max.
AG 320.06	1/4"	5200	2	6,5	10
AG 320.08	5/16"	4700	2	5,5	10
AG 320.10	3/8"	4200	2	4,5	10
AG 340.06	1/4"	5700	1	7,5	10
AG 340.08	5/16"	5000	2	6,5	10
AG 340.10	3/8"	4300	3	5,5	10
AG 321.06	1/4"	3700	2	5,5	10
AG 321.08	5/16"	2900	3	4,5	10
AG 321.10	3/8"	3000	3	4	10
AG 321.12	1/2"	2200	4	3	10
AG 341.06	1/4"	4700	2	6	10
AG 341.08	5/16"	3900	3	5	10
AG 341.10	3/8"	3700	4	4	10
AG 341.12	1/2"	2200	4	3,5	10
AG 370.06	1/4"	5700	2	6	10
AG 370.08	5/16"	5000	2	6	10
AG 370.10	3/8"	4200	3	4,5	10
AG 370.12	1/2"	3200	4	3,5	10
AG 400.06	1/4"	7000	1	7	10
AG 400.08	5/16"	6200	2	6	10
AG 400.10	3/8"	5300	2	5,5	10
AG 400.12	1/2"	4200	3	5	10

Sec. 3.2 - INSTALLATION ON FORK LIFT TRUCKS



- 1- Place the hose reel in the highest position possible so that after the hose reel has been installed, the flanges do not jut out from mast.
- 2- Verify that when the mast is completely tilted backwards and that there remains sufficient space «A» of 50 mm.
- 3- Verify that clearance «B» is:(See tab.1)
- 4- Position the swivel joint or the crocodile joint «C», making sure that it is aligned with the hose reel.
- 5- After the reel has been installed, prewind it as indicated in the table on page 5.

IMPORTANT - DO NOT WIND THE REEL IN THE WRONG DIRECTION, BECAUSE IT COULD CAUSE DAMAGE TO THE SPRING.

- 6- Connect the open end of the hoses to the carriage.
- 7- Connect the feeder hoses to the hydraulic control valve «D».
- 8- Make some full lifting and lowering cycles of carriage and be careful that winding of hoses is correct.

Hose size	«B» min. (mm)
1/4"	50
5/16"	60
3/8"	70
1/2"	80

Tab.1



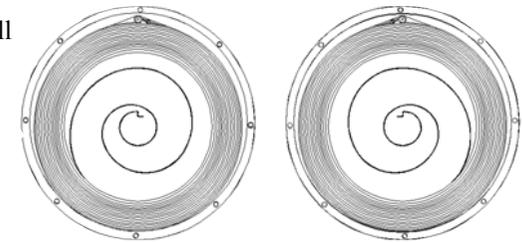
WARNING



Before proceeding, check the integrity of the band «K» around the spring.

- If it is integral follow the instructions from point 15 to point 19.
- If it is broken, demolish the spring following the instructions as indicated to point b of Sec. 6.1. Order a new spring and a new spring container and follow the instructions from point 15 to point 19.

- 14- Turn over the spring and install it in the new direction of rotation of the hose reel (see the picture).



LEFT

RIGHT

- 15- Reassemble the hose reel following in reverse order the instructions of the Section 5.1 from 13 to 8.

- 16- Remove the cover «G», the outer flange «H» and the hose «I».

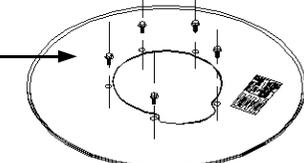
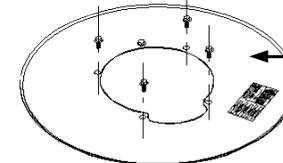
320-340



G



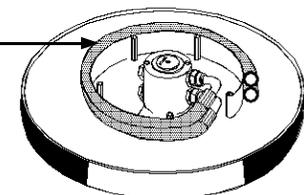
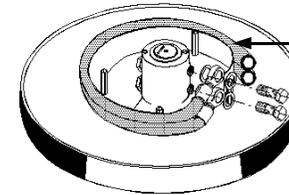
321



341

370

400





WARNING

During this operation, do not turn the reel in the opposite direction to that of rotation indicated on the reel, in order to avoid damage to the inside spring.

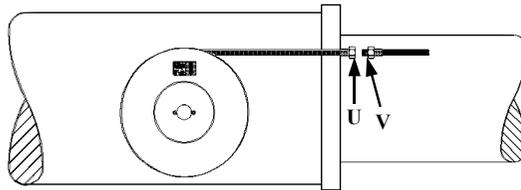
- 9 - Put the cover in its former position.
- 10 - Rewind the spring as many turns as indicated in par.6 of the Section 5.1



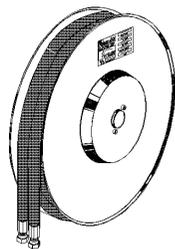
WARNING

We mean “rewindings turns” the total number of turns that the operator must apply on the hose reel, in the direction of the arrow “ROTATION”, to fasten the free end of the hose «U» with the point «V» of the machine.

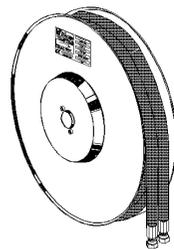
- 11- Connect the free end of the hose «U» to the point «V» of the machine.



Sec. 5.3 - CHANGE OF THE DIRECTION OF ROTATION



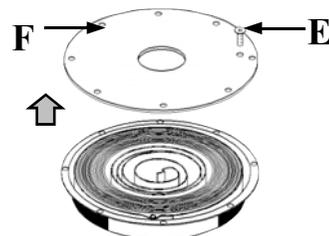
LEFT



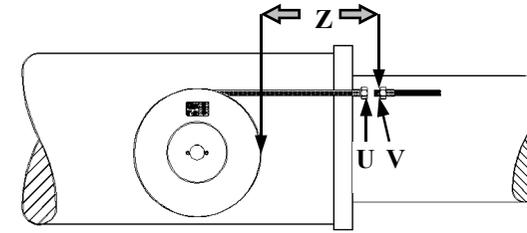
RIGHT

Follow the instructions of Section 5.1 from 1 to 12

- 13- Remove the screw «E» and lift the cover «F».



Sec. 3.3 - INSTALLATION ON TELESCOPIC CRANES



- 1- Place the hose reel, provided with the hose, in the desired position, trying to reduce the minimum clearance «Z» as much as you can.
- 2- After assembling the reel, prewind it by turning it for as many turns in the direction of rotation as indicated in the table in Section 3.1.



WARNING

The prewinding turns are the total number of turns that the operator must apply to the reel in the direction of the arrow “ROTATION” in order to fasten the free end of the hose «U» to point «V» of the machine.

- 3- Connect the free end of the hose «U» to point «V» of the machine.

Sec. 4 - TROUBLE - SHOOTING



WARNING

Before performing any repair operation, read thoroughly the manual at the section “Servicing”.

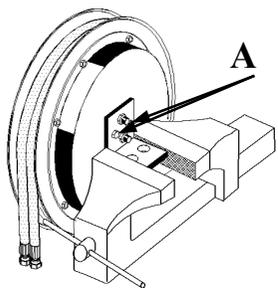
PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
HOSE REEL WINDING ACTION IS JAMMED OR WORKS WRONGLY	⇒ Hose reel spring broken ⇒ Hose reel spring damaged	⇒ Replace the spring
HOSE JUMPING OFF THE REEL	⇒ Inadequate prewind of the spring	⇒ Control the prewinding turns in the table of Section 3.1, page 5
EXCESSIVE WEAR ON HOSES	⇒ Hose reel and junction block not in alignment ⇒ Flanges deformed	⇒ Align reel and junction block ⇒ Replace the flanges
OIL LEAKS AT HUB	⇒ Worn seals	⇒ Replace the seals
OIL LEAKS AT ADAPTORS	⇒ Loose adaptors	⇒ Tighten the adaptors

Sec. 5.1 - SPRING REPLACEMENT



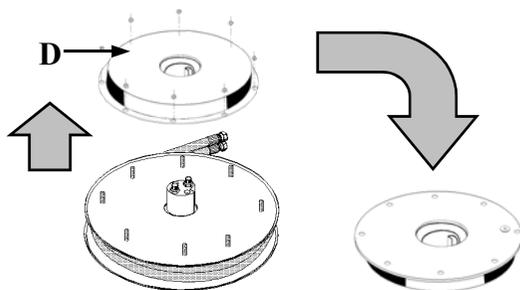
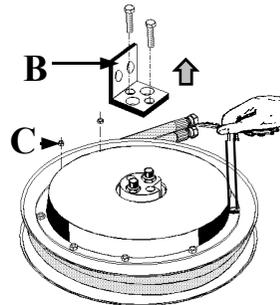
WARNING

- 1- Cold working is recommended when operating the machine.
- 2- Bring the machine to its rest position with its jibs completely lowered.
- 3- Relieve the pressure in the system by shutting off the electric and the hydraulic supply and actuate the control levers for all functions several times in both directions.
- 4- The hose reel spring is prewound when mounted in order to hold the hoses under tension. Before loosening the adaptors at the open end of the hoses, block the reel with the help of a second operator.
- 5- Disconnect the adaptors at the open end of the hose, gathering the discharged oil to avoid the contamination of the surroundings.
- 6- Allow to run down the prewinding of the spring, making the reel turn slowly to a stop. **NOTE: count the turns made before the stop to be able to give the same number of turns of prewinding.**
- 7- Remove the hose reel from the machine.

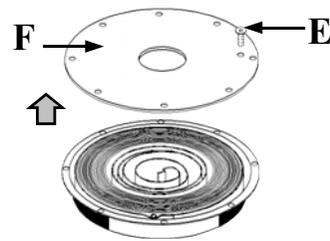


- 8- Block the hose reel in a vice as it is shown in the picture.
- 9- Remove the screw «A».

- 10- Remove the support «B»
- 11- Unscrew the fixing nuts «C» from the spring container.



- 12- Lift the spring container «D» and turn it upside down on a level surface as shown in the picture.



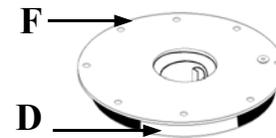
- 13- Remove the screw «E» and lift the cover «F».



WARNING

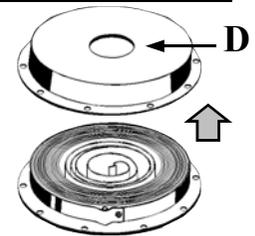


- Before proceeding, check the integrity of the band «K» around the spring.
- If it is integral follow instructions as indicated at points 15 and 16 and demolish the spring as indicated at point a of Sec. 6.1
 - If it is broken follow instructions as indicated at point b of Sec. 6.1



- 14- Place the cover «F» on the container «D» as shown in the picture.

- 15- Turn over the spring container again and raise part «D».

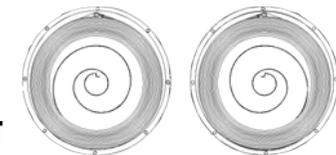


WARNING

The band around the spring must never be removed or its position disturbed. Maximum attention is recommended while handling the spring in order to avoid any possible ejection from the band.

- 16- Install the new spring in the box «D» in the direction of rotation marked on the hose reel (see the picture).

LEFT



RIGHT

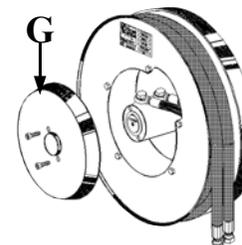
- 17- Assemble the hose reel in reverse order following the instructions from point 13 to point 8.

Sec. 5.2 - HOSE REPLACEMENT



Follow the instructions of Section 5.1 from 1 to 6.

320-340



- 7- Disassemble the cover «G».
- 8- Replace the hose.

321-341-370-400

