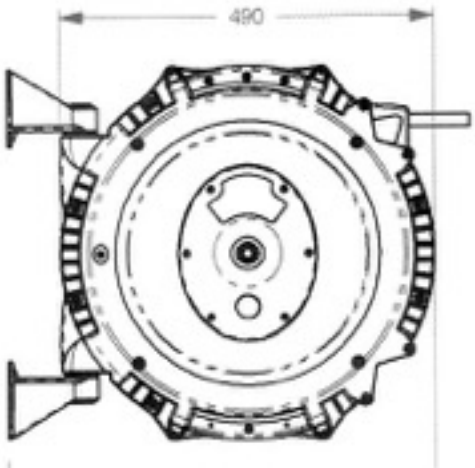
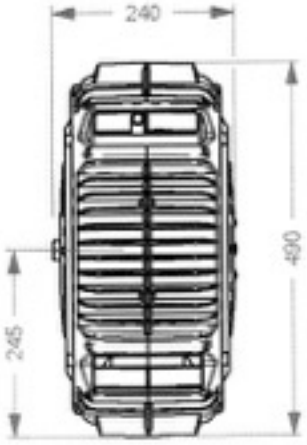
CE

C&RH
CATERING & REFRIGERATION HARDWARE

Operation and Service Manual for Self-Retracting GEN III Hose & Cable Reels, models after 1 June 2004.





Overview

The following operation, service and repair manual has been designed to give the operator / user a full understanding of the operational aspects of the hose and cable reels.

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CE Declaration of Conformity

Declaration of conformity from CRH supplier available upon request. Declaration relates to conformity with our suppliers design specifications and acceptance criteria and the provision of

98/37EC (Machinery Directive)

Terms and Conditions of Warranty

Please refer to CRH terms and conditions.

Procedure for making warranty claims

Please refer to CRH terms and conditions.

Procedures for returning items for service or repair

Please refer to CRH terms and conditions.

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SAFETY PRECAUTIONS

Listing of explanation symbols

Means warning! Watch out! There are possible hazards with this procedure! Possible hazards are shown by this warning symbol.

Means warning moving parts keep away from moving parts and pinch points.

Means consult the service centre or become trained and read the service manual.

Means warning item under tension, this area contains a tensioned spring.

Means warning! Do not remove fasteners or attempt to service without contacting a service centre or becoming fully trained on the service and repair of hose reels.

Means warning! Never let the hose or cable rewind uncontrolled.

Means all positional locking system

Means ensure you have full knowledge of the service or repair task being carried out possible hazards.

Note: Please refer to your local authority for rules and regulations on the safe use of compressed liquids, gases and fuel gases.

Installation Instructions

Connection of the inlet (supply) hose/s

A flexible connection between the reel and the source of supply is required to prevent possible misalignment and binding. **Non flexible connections will void the warranty.** The pressure rating of the inlet hose must be equal to or greater than the rating of the reel.

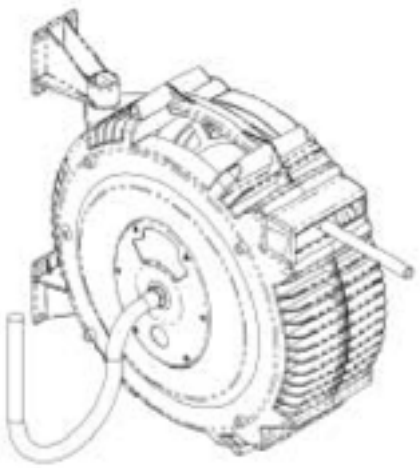
Always check with your local authorities for appropriate rules and regulations for safe use and handling of compressed gases, liquids and fuel gases.

Do not use lubricants or thread sealants on Oxygen connections unless such lubricants or sealants are approved by your authorities for use with Oxygen.

Using the appropriate approved hose and fittings connect the supply line to the inlet connection of the reel.

Ensure you use thread sealants where applicable and permitted. Never over-tighten or under-tighten fittings.

Once connection has been made to the inlet of the reel ensure you make or fit a connection to the outlet of the reel (the main hose) then turn the supply valve on slowly and check for leaks.



Note: Please refer to your local authority for rules and regulations on the safe use of compressed liquids, gases and fuel gases.

Mounting the reel

All Strata Self-Retracting hose reels are fitted with an all position locking system which allows the reel to operate in all positions (360 by 360 degrees). The reel is supplied as standard with a mounting system and brackets that allow ceiling mounting or wall mounting - an optional floor or under bench mount can be purchased for other mounting positions - see the following page for examples.

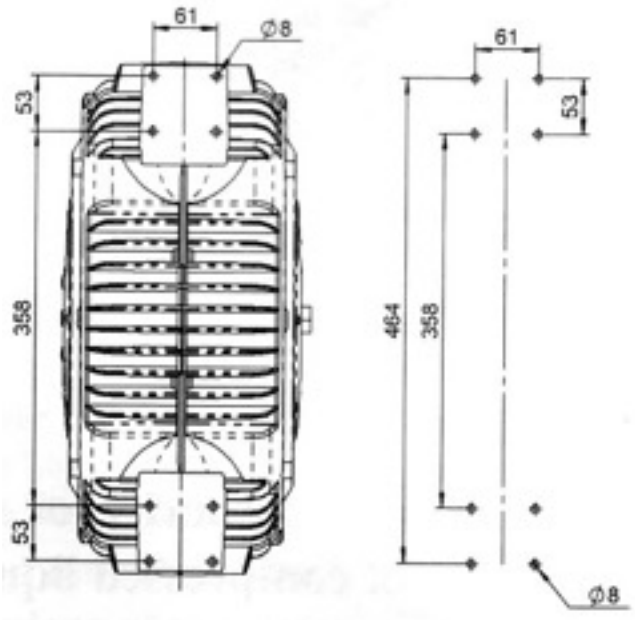
The optimum height for wall mounting is such that it allows the hose or cable to be pulled at an upward or a downward angle of no more than approx. fifteen degrees - angles exceeding this can create undue drag in operation and potentially cause premature wear to the mouth opening of the reel.

For wall mounting where heights above 3 metres are required we suggest the use of the swivel mounting optional floor bracket. Bolt the bracket to the wall and fix the reel in position as you would for ceiling mounting - **Note: the orientation of the wall brackets is important please follow drawings.**

Typical Mounting

Typical Mounting 1

Ceiling Mounting



Fitting Optional Mounting Brackets

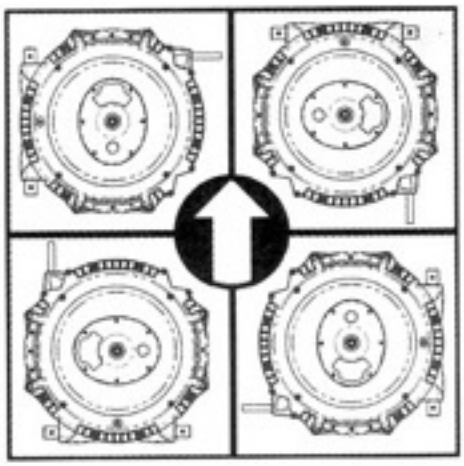
Optional extra mounting brackets are available such as, fixed floor mounting where you do not require the reel to swivel, or extra high wall mounting where you require the reel to be mounted high up on a wall, or swivel floor mounted and under bench mounting.

Swivel Floor Mount

Fixed Floor Mount

Typical extra high wall mount using the Swivel floor mounting bracket

Under bench mounting using the fixed floor mounting bracket



How To Use The Reel

Once you have mounted your reel and made the inlet connection you are ready for operation. In order to familiarise yourself with the function of the reel stand as close as possible to the reel, pulling the hose slowly out you will note a clicking noise. This is the locking pawl running over the locking teeth or ratchet teeth.

As soon as you hear this noise stop pulling and allow the hose to retract a little and it will lock in position. If it won't lock allow the hose to retract back further then pull it again slowly until you hear the first one or two clicks stop pulling and allow the hose to retract a small amount and it will lock.

Now pull it out some more until you hear the next set of clicks and repeat the locking process. The hose will lock about every 3 feet or 1metre increments but only after you have been pulling it with an outward movement. The locking system is designed so that the hose will never lock when rewinding the hose.

Once you are familiar with the system you wont need to listen for the locking clicks as you will automatically know when and where it will lock.

Never let the hose fly back uncontrolled this can cause damage to property or person. Always keep a firm hold of the hose as it is retracting back into the reel.

To rewind the hose pull it out about 1ft or 300mm and then allow it to retract back whilst holding the hose. If you want to stop the rewinding and lock it in position again, pull some hose out until you hear the clicking and allow it to retract a little locking the hose in position.

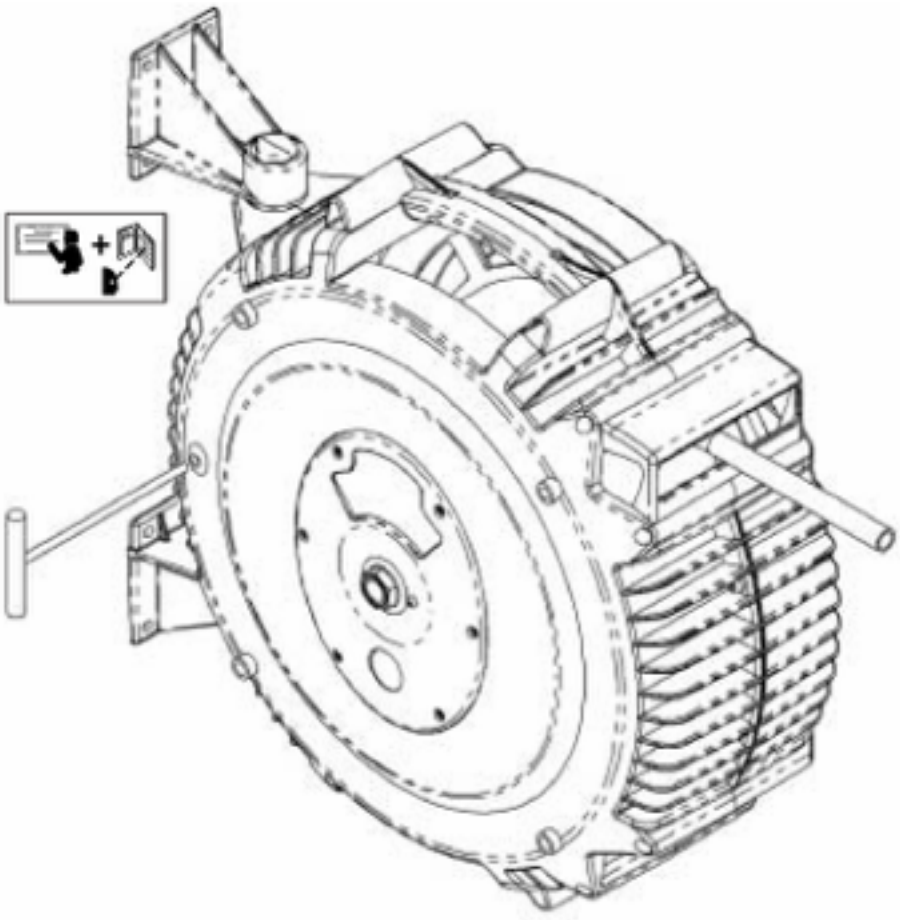
Maintenance and Repair Section

Inserting the locking pin service tool

In the interest of safety we have designed and constructed a special service tool, a locking pin that when inserted through the outer cases it locks the drum from being able to rotate when carrying out service work.

We recommend that this tool be used to prevent damage to the reel or the service person.

By simply rotating the drum, pulling the hose slowly and looking into the service pin hole shown below you will see the line up holes; insert the pin right through the reel so that it protrudes out the opposite side.



Maintenance Procedures

Checking for leaks

Like all moving and rotating components there is a need to make regular maintenance checks. Some of these checks are very simplistic and only require a visual inspection others require service work to be carried out on items such as seals and O rings. For O ring and seal servicing refer to “servicing O rings and seals” further in your manual.

From time to time we recommend that the user checks for leaks, liquid leaks are easily found however gas leaks require some form of leak test, a soapy water test is the most simplistic. Soapy water brushed around each joint will soon indicate a leak when bubbles appear.

Oxygen and Fuel gas reels should be checked regularly to prevent the possibility of fire due to leaking of flammable gases. The soapy water test also applies here however a quick test to determine a leak or not is to pressurise the lines, ensure the blow torch or appliance is turned off. Without touching the regulators turn the main bottle valve off. If you watch the pressure gauge on the regulator and it begins to drop this indicates there is a leak somewhere between the regulator and the blow torch or appliance. If this occurs pressurise the system again and apply the soapy water test to find the leak.

Checking for hose defects

High pressure systems will require a regular test procedure where the system is pressurised to a test pressure and maintained. Most PVC hose reels do not require this test and a simple visual inspection will identify potential hose failures.

Pull all the hose from the reel and lock it in the final position, sliding the hose through your hands look for cuts, bruises, cracks, blistering or hardening of the hose’s skin. Should you find any of these conditions point these out to your workshop foreman or manager so that the appropriate action can be taken.

Servicing or Replacing O Rings and Seals

As with normal and scheduled maintenance checks O rings and seals will need to be serviced or replaced from time to time. The task of replacing the O rings and seals is quite simplistic and should only take a few minutes following the procedure below.

Pull the hose all the way out of the reel and using the service locking tool described in “use of service locking tool” fix the service tool in position. This locks the reel and makes it safe to carry out repairs.

Note: never open the tension side plate or adjust tension with the hose fully or partially extended. All the hose must be fully wound onto the reel.

Disconnect the inlet supply from the inlet fitting on the reel. Remove the six self-tapping screws in the inlet side plate. Remove the side plate and the swivel. At the axle end of the swivel remove the circlip and slide the swivel sleeve off the swivel shaft.

This will expose the O rings and seals - remove these with an appropriate tool.

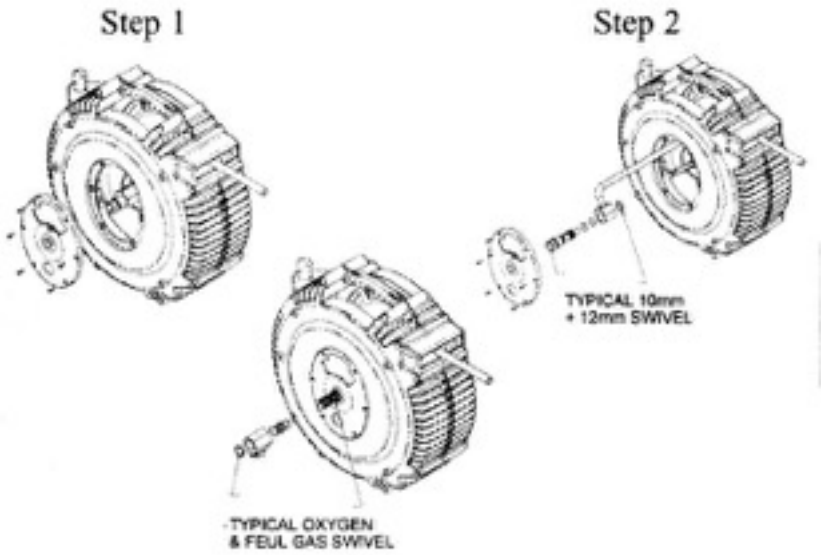
Note: Do not score or scratch the O ring or seal, sealing surfaces.

Replace the O rings and seals and apply an appropriate lubricant.

Note: Use only original seals and O rings, failure to do so will void warranty.

Note: For Oxygen swivels and connection use only approved lubricants refer to your authorities.

Re-assemble the swivel and refit in position, replace the self-tapping screws, holding the hose remove the service tool and rewind your hose. Reconnect the inlet supply and check for leaks refer to “checking for leaks” earlier in the manual.



Adding / Removing Tension

Note: Never add or remove the tension when the hose is extended from the reel. The hose must always be fully wound on the hose reel.

Adding tension

With the hose fully recoiled in the reel remove the two most inner self-tapping screws locked on the tension ring. With a “C” spanner or the tensioning service tool rotate the cap turn, the clockwise one full tensioning cap is a ratchet system so you will note the clicking as you rotate the cap. Always have the screws vertical when finished this way you will always know you have a full turn.

Whenever adding tension only ever add one full turn at a time

Before replacing the screws pull the hose out - check to ensure that all the hose comes out. If you cannot pull the hose all the way out and there are remaining coils left on the reel this indicates that you have over-tensioned the spring or that the spring has run out of power and we suggest that you contact your service centre.

If all is OK replace the two self-tapping screws to lock the cap in position.

Adding /Removing Tension Cont.

Note: Never add or remove tension when the hose is extended from the reel. The hose must always be fully wound on the hose reel.
Removing tension

Removing tension is done for one of two reasons, one that you over tensioned your hose reel and cannot pull all the hose out and the second is that you are replacing the spring drum. There should be no other reason to remove tension from the reel.

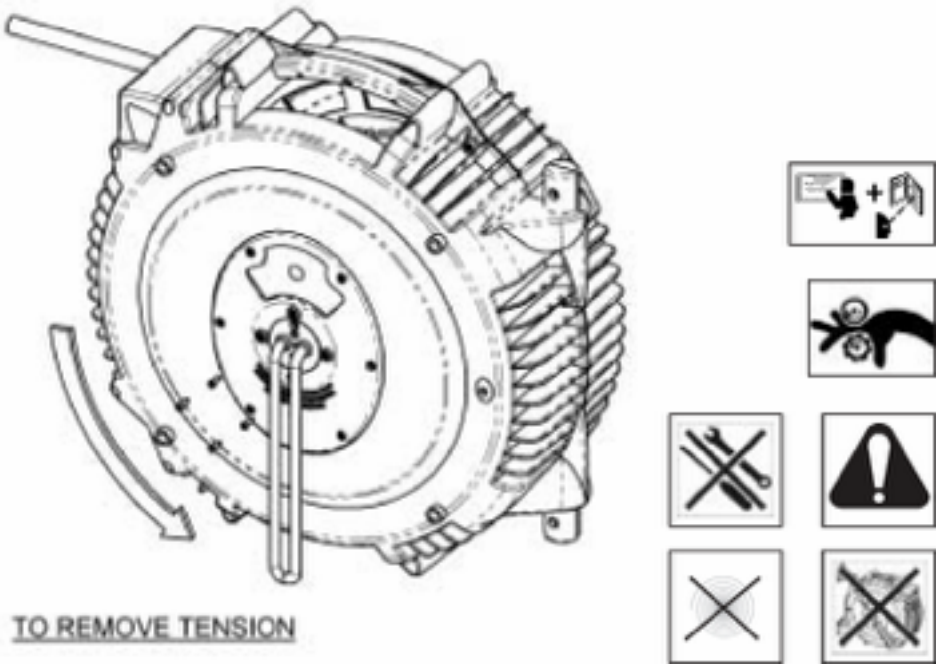
Using a “C” spanner or the service tool hold the centre locking cap and remove the four outer screws.

Note: There is tension on this cap and it will want to spin anticlockwise so hold tightly.

Once the screws are removed allow the cap to unwind in a controlled manner - once the tension is released the cap will sit stationary. This has now released all the tension. Replace the four self-tapping screws ensuring you locate the correct position between the inner rotating cap

and the side plate.

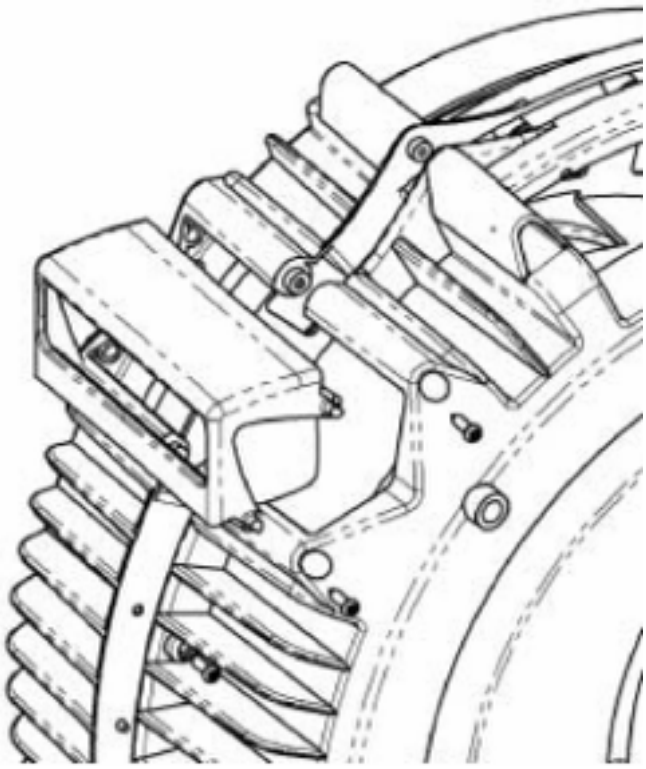
To add tension follow the steps above “Adding tension” if you have removed all the tension and are re-tensioning add five full turns to start with and then one more at a time if necessary. Repeat the steps as described in “Adding tension”.



Repair Procedures

Replacing the mouth guard

The reel has been designed with a replaceable mouth guard to prevent wear to the case of the reel. The amount of wear on the mouth guard is dependant on the amount of use. To replace this, pull some hose from the reel and lock it in position, remove the four fasteners as shown below, stretch the case open slightly to pop the mouth guard out. Remove the hose bumper and slide the mouth guard off and fit the new one in reverse order.



Replacing Swivels, Slip-rings and O Rings Seals

Note: Repairs to electrical cable reels should be carried out by authorised electricians only.

The task of replacing the swivel is the same as replacing the O rings and seals. Follow the procedure below.

Pull the hose all the way out of the reel and using the service locking tool described in “use of service locking tool” fix the service tool in position. This locks the reel and makes it safe to carry out repairs.

Note: Never open the tension side plate or adjust tension with the hose fully or partially extended. All the hose or cable must be fully retracted onto the reel (i.e. fully wound on the drum of the reel).

Disconnect the inlet supply from the inlet fitting on the reel or disconnect the supply cable for the electrical reels. Remove the six self-tapping screws in the inlet side plate. Remove the side plate and the swivel. You will note that the hose is connected to the inner drum with a cable tie. Cut the cable tie but be careful not to cut the hose.

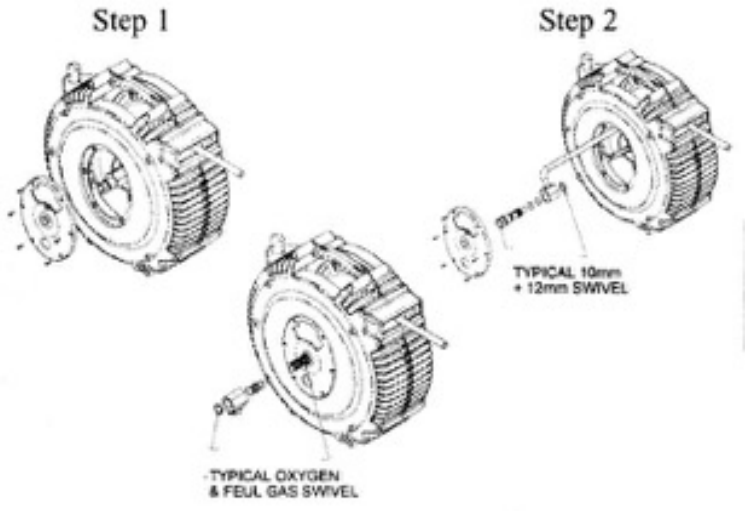
Once this is done it will allow you to pull the hose through the side plate cavity. Pull the hose out far enough to get free access. Remove the crimp clip or simply cut the hose off as close as possible to the hose barb.

“For the electrical reels loosen the screws holding main cable”

Re-connect the hose to the barb of the swivel using a suitable clamp. Replace the swivel and refit the cable tie to hold the hose to the drum and refit the swivel and side plate. Reconnect the inlet supply and check for leaks. Electrical reels should be tested for earth leakage, continuity and correct wiring connection. Remove the service tool while holding the main cable or hose and allow the cable or hose to retract.

Note: Use only original components failure to do so will void warranty.

Note: For Oxygen swivels and connections use only approved lubricants refer to your authorities.



Replacing Hoses or Cables

Note: Repairs to electrical cable reels should be carried out by authorised electricians only.

Follow the same procedure as “replacing the swivel or slip-ring” once you have cut the hose from the swivel or removed the slip-ring pull the hose or cable from the reel via the main

opening.

Note: always check the length and diameter of your replacement hose or cable to ensure it is the same length and diameter as the hose or cable originally supplied on the reel. Each model of reel is designed to retract a certain length and diameter of hose or cable only. Longer lengths or larger diameters will damage the reel and void warranty.

Replace the hose or cable by feeding it through the mouth of the reel and then through the opening in the drum and reconnect to the swivel or slip-ring.

Refit the cable tie to hold the hose to the drum and refit the swivel and side plate. Reconnect the inlet supply and check for leaks. Electrical reels should be tested for earth leakage, continuity and correct wiring connection. Remove the service tool while holding the main cable or hose and allow the cable or hose to retract.

Note: Use only original components failure to do so will void warranty.

Note: For Oxygen swivels and connections use only approved lubricants refer to your authorities.

Replacing The Tension Locking System

Note: Never open the tension side plate or adjust tension with the hose fully or partially extended. All the hose or cable must be fully retracted onto the reel (i.e. fully wound on the drum of the reel).

The first step is to remove tension from the reel. Using a “C” spanner or the service tool hold the centre locking cap and remove the four outer screws.

Note: There is tension on this cap and it will want to spin anticlockwise so hold tightly.

Once the screws are removed allow the cap to unwind in a controlled manner, once the tension is released the cap will sit stationary. This has now released all the tension.

Remove the six self-tapping screws holding the tension side plate. Once you have removed the side plate check to see if the there is any damage to the locking teeth / ratchet teeth located on the inner drum.

If the locking teeth / ratchet teeth are damaged or broken you will need to replace the inner drum spring canister. Refer “replacing broken spring” section at this point.

If these are all OK without damage refit the new side plate assembly and follow the procedure for re-tensioning the reel in the previous section.

To add tension follow the steps above “Adding tension” if you have removed all the tension and are re-tensioning add five full turns to start with and then one more at a time if necessary. Repeat the steps as described in “Adding tension”.

Replacing the Outer Case

To replace the outer cases you must first follow the procedure for “replacing the locking system” once you have removed the tension and removed the tension side plate, remove the

inlet side plate as you would if you were going to replace the swivel. However do not disconnect the swivel from the hose.

Remove the screws around the outer case and split the two halves. Refit the drum into the new case halves and replace the screws.

Refit the inlet side plate. Refit the tension side plate and follow the procedure for “replacing the tension locking system”.

Replacing a Broken Spring

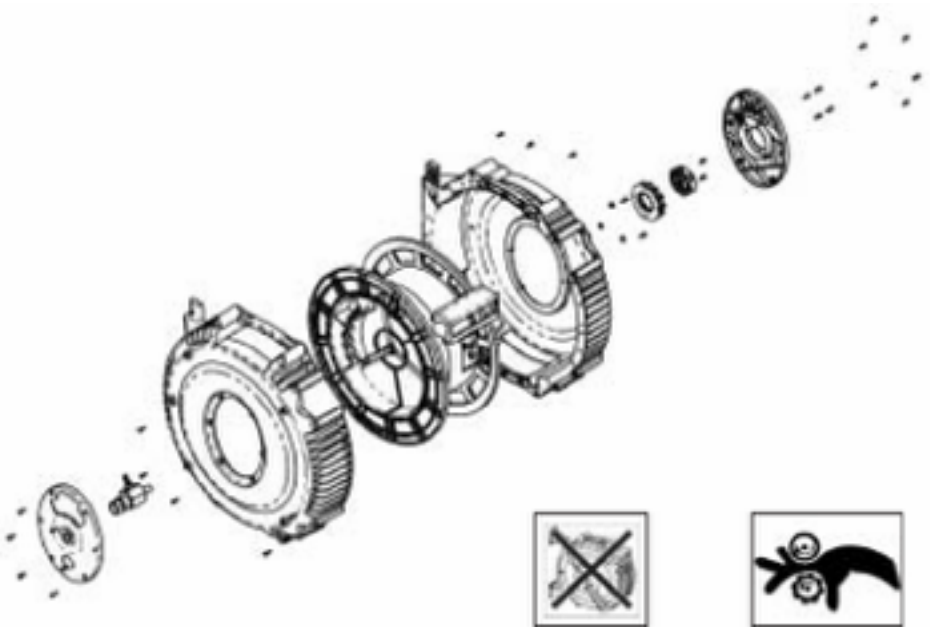
Note: Never open the spring drum assembly as it contains a coiled spring and could cause serious injury.

Due to safety factors we do not sell just the spring instead we sell a complete spring assembly called the spring drum assembly.

To replace the spring drum assembly follow the procedure for;

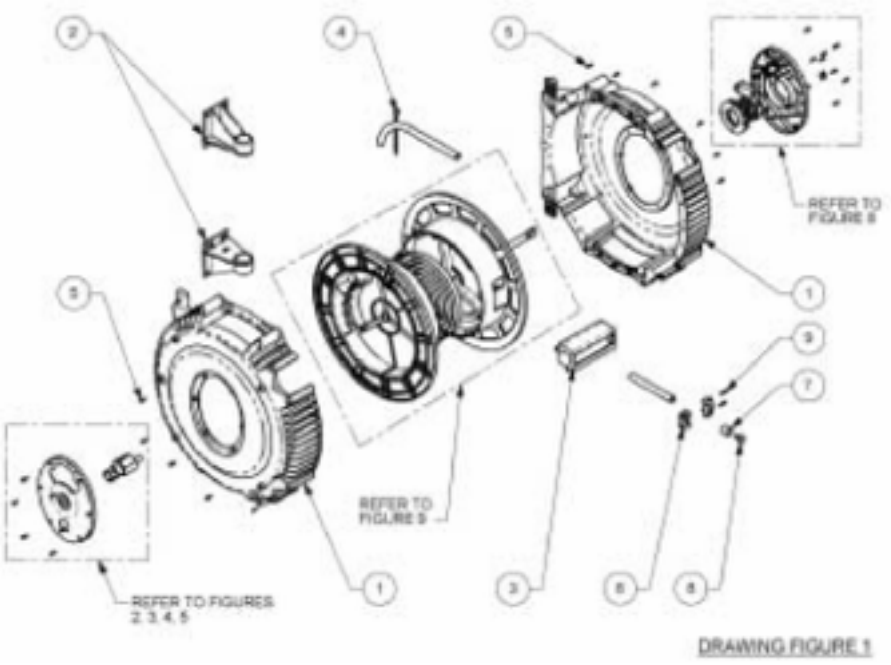
“Replacing the outer cases”.

Once you have got the drum out of the reel remove the hose and refit to the new drum. Rebuild the reel in the same manor as described in “replacing the outer cases”.



Parts Break Down

Typical Main Assembly



DRAWING FIGURE 1

Note: Not all items are sold as individual parts - complex assemblies and spring assemblies are sold in sub-assembly kit form.

Note: Use only original components, failure to do so will void warranty.

Parts Break Down

Typical High Pressure Grease Swivel

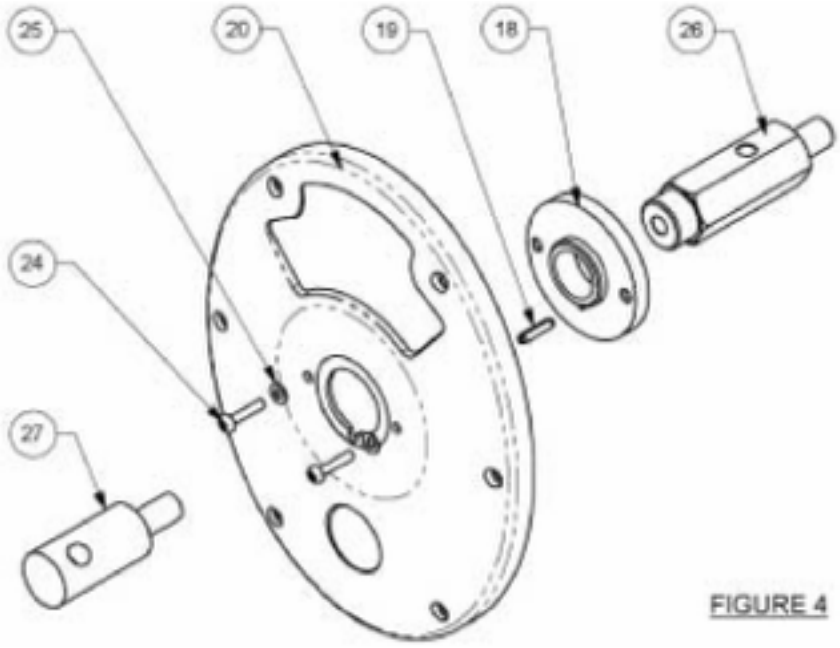


FIGURE 4

Note: This item is sold as an assembly. O-ring service kits are sold separately please quote the model of hose reel you have.

Note: Use only Strata original components failure to do so will void warranty.

Typical Electrical Slip Ring Assembly

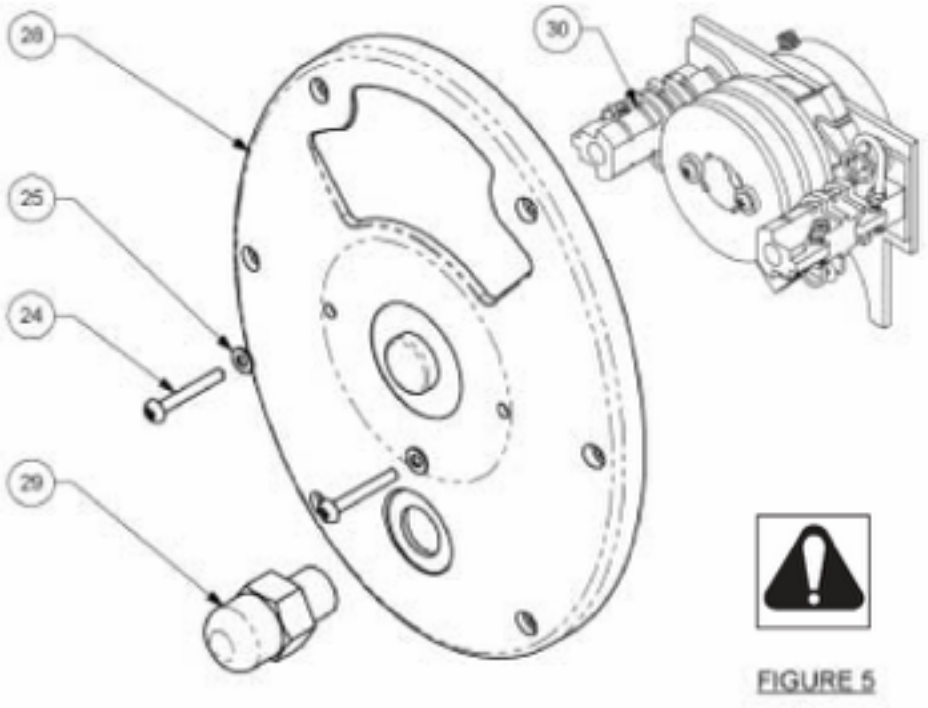


FIGURE 5

Note: This item is sold as an assembly. For slip rings please state what model reel you have.

Always disconnect the electrical supply before carrying out any service or maintenance work.

It is recommended that you use a certified electrical contractor to make any repairs.

Note: Use only Strata original components failure to do so will void warranty.

Parts Break Down

Typical Tension Side Plate Assembly

Note: This item is sold as an assembly.

Note: Use only Strata original components failure to do so will void warranty.

Typical drum and spring assembly

Parts Break Down

Typical Drum and Spring Assembly

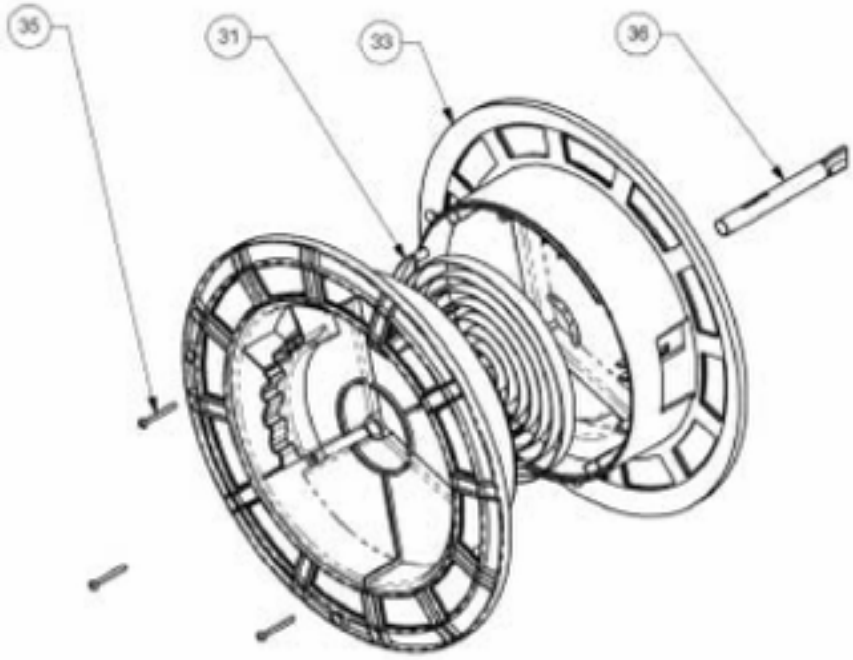


FIGURE 9
SUPPLIED AS AN ASSEMBLY ONLY

Note: This item is sold as an assembly. Do not open the drum assembly.

Note: Use only Strata original components failure to do so will void warranty.

Numerical Part Numbers

Item N/	Ordering	Description

1	SG0405-B	OVAL OUTER CASE BLUE
1	SG0405-BLK	OVAL OUTER CASE BLACK
1	SG0405-G	OVAL OUTER CASE GREEN
1	SG0405-R	OVAL OUTER CASE RED
1	SG0405-Y	OVAL OUTER CASE YELLOW
2	SG0023A	WALL ANGLE BRACKETS ALL REELS
3	SG0408	MOUTH GUARD NYLON
4	SG01 12	CABLE TIE 194MM
5	SG0260	8# X 3/4" PAN PR HI-LO Z/GOLD B POINT
6	SG0017	10-MM HOSE BUMPER
6	SG0040	12-MM HOSE BUMPER
6	SG0041	8-MM HOSE BUMPER
6	SG0042	6-MM HOSE BUMPER
6	SG0060	TWIN 11-MM HOSE BUMPER
7	SG0099	BRASS FERRULE 14-27 I.D.
7	SG0221	BRASS FERRULE BFM687
7	SG0222	BRASS FERRULE BFM718
7	SG0226	BRASS FERRULE BFM78119.84 X 15.88
7	SG0226B	BFM 718B FERRULES 19.84 X 12.70
7	SG0250	BRASS FERRULE BFM478
8	SG0020	HOSE BARB 3/8 X 3/8 BSPT
8	SG0048	HOSE BARB 1/2" X 3/8 BSPM
8	SG0063	HOSE BARB OXY / FUEL GAS 5MM
8	SG0064	OXY NUT 5/8 UNF R/H FEMALE
8	SG0065	ACCET NUT 5/8 UNF L/H FEMALE
8	SG0 129	HOSE BARB 3/8 X 1/4 NTP
8	SG0132	HOSE BARB 1/2X1/2 NTP
8	SG0 146	OXY AND ACET NUTS 3/8 BSP
8	SG0228	HOSE BARB 1/2" BARB 3/8" NPT
8	SG0236	HOSE BARB 3/8" X 3/8" NPT
8	SG0244	HOSE BARB 1/4" BSPT X 3/8"
8	SG0248	HOSE BARB 1/4" X 3/8 BSPM
9	SG0237	BOLT 1/4" X 1 1/4" PAN XRMTSZT
9	SG0238	NUT 1/4" HNZP
10	SG0402-B	OVAL INLET SIDE PLATE LARGE HEX BLUE
10	SG0402-BLK	OVAL INLET SIDE PLATE LARGE HEX BLACK
10	SG0402-G	OVAL INLET SIDE PLATE LARGE HEX GREEN
10	SG0402-R	OVAL INLET SIDE PLATE LARGE HEX RED
10	SG0402-Y	OVAL INLET SIDE PLATE LARGE HEX YELLOW
11	SG0020-S	SWIVEL HOSE BARB SHORT 3/8 X 3/8" BSP
11	SG0048-S	SWIVEL HOSE BARB SHORT 1/2 X 3/8" BSP
11	SG0228-S	SWIVEL HOSE BARB SHORT 1/2 X 3/8" NPT
11	SG0236-S	SWIVEL HOSE BARB SHORT 3/8 X 3/8 NPT
12	SG0504-B	GEN 3 25-MM HEX SWIVEL BODY 3/8" BSPP
12	SG0505-B	GEN 3 25-MM HEX SWIVEL BODY 1/2" BSPP
12	SG0506-B	GEN 3 25-MM HEX SWIVEL BODY 3/8" NPTS
12	SG0507-B	GEN 3 25-MM HEX SWIVEL BODY 1\2" NPTS
12	SG0508-B	GEN 3 22-MM HEX SWIVEL BODY 3/8" BSPP
12	SG0509-B	GEN 3 22-MM HEX SWIVEL BODY 3/8" NPTS
13	SG0504-S	GEN 3 25-MM HEX SWIVEL SHAFT 3/8" BSPP
13	SG0505-S	GEN 3 25-MM HEX SWIVEL SHAFT 1/2" BSPP

Numerical Part Numbers continued

Item N/ Ordering Description

13	SG0506-S	GEN 3 25-MM HEX SWIVEL SHAFT 3/8" NPTS
13	SG0507-S	GEN 3 25-MM HEX SWIVEL SHAFT 1/2" NPTS
13	SG0508-S	GEN 3 22-MM HEX SWIVEL SHAFT 3/8" BSPP
14	SG0071	O-RING BS115 NBR
14	SG0203	O-RING BS115 VITON
14	SG0204	O-RING BS115 EPDM
15	SG0070	22MM EXTERNAL CIRCLIP
16	SG0501	GEN 3 OXY & FUEL GAS SLEEVE
17	SG0500	GEN 3 OXY AND FUEL SHAFT
18	SG0502	GEN 3 HP / OXY & FUEL GAS BEZEL
19	SG0137	ROLL PIN - 6MM OD X 36MM
20	SG0403-B	OVAL INLET S/PLATE HP OXY FUEL BLUE
20	SG0403-BLK	OVAL INLET S/PLATE HP OXY FUEL BLACK
20	SG0403-G	OVAL INLET S/PLATE HP OXY FUEL GREEN
20	SG0403-R	OVAL INLET S/ PLATE HP OXY FUEL RED
20	SG0403-Y	OVAL INLET S/PLATE HP OXY FUEL YELLOW
21	SG0076	OXY EXT NIPPLE SET 5/8 UNF
21	SG0077	CIRCLIP 24-MM EXTERNAL NEW OXY SHAFT
21	SG0078A	ACET EXT NIPPLE 3/8" BSP
21	SG0091	OXY EXT NIPPLES 9/16-18 UNF
21	SG0094	OXY EXT NIPPLES M16 JIS
22	SG0076A	ACET EXT ADAPTOR 5/8 UNF
22	SG0078	OXY EXT NIPPLES 3/8 BSP
22	SG0091A	ACET EXT NIPPLE 9/16-18
22	SG0094A	ACET EXT NIPPLES M16 JIS
23	SG0138	HOSE BARB 1/4" X 1/8 BSPM
23	SG0215	HOSE BARB 3/16" X 1/8 BSP
24	SG0229	M4 X 8MM PHILLIPS HEAD BOLT
25	SG0239	WASHER ZP 5/32 X 7/16 X 20G #02136406
26	SG0503	GEN 3 HP SWIVEL SHAFT 5000 PSI
27	SG0253	HP GREASE SWIVEL PS490102-4-4
28	SG0404-B	OVAL ELECTRICAL S/PLATE BLUE
28	SG0404-BLK	OVAL ELECTRICAL S/PLATE BLACK
28	SG0404-G	OVAL ELECTRICAL S/PLATE GREEN
28	SG0404-R	OVAL ELECTRICAL S/PLATE RED
28	SG0404-Y	OVAL ELECTRICAL S/PLATE YELLOW
29	SG0111	CABLE GLAND M20 X 1.5
30	SG0122	3 PHASE, 4 X RING, SLIP RING
30	SG0124	SINGLE PHASE SLIP RING 3 X RING
31	SG0015	MAIN SPRING PER
32	SG0016	TORSION SPRING LOCKING PAWL
33	SG0018	INNER DRUM ALL REELERS (PAIR)
34	SG0019	12-MM P/ON FASTENER 73020012
35	SG0025	M5 X 60MM PAN XR ZINC HIGH LOW THREAD
36	SG0062	DRUM AXLE
37	SG0232	RECOIL A PAWL
38	SG0318	PUSH ON FASTENER RGA 156RMIP M4
39	SG0401-B	OVAL TENSION SIDE PLATE BLUE
39	SG0401-BLK	OVAL TENSION SIDE PLATE BLACK
39	SG0401-G	OVAL TENSION SIDE PLATE GREEN
39	SG0401-R	OVAL TENSION SIDE PLATE RED
39	SG0401-Y	OVAL TENSION SIDE PLATE YELLOW

Numerical Part Numbers continued

40	SG0406	LOCKING TENSION CAP
41	SG0407	RATCHET LOCKING RING