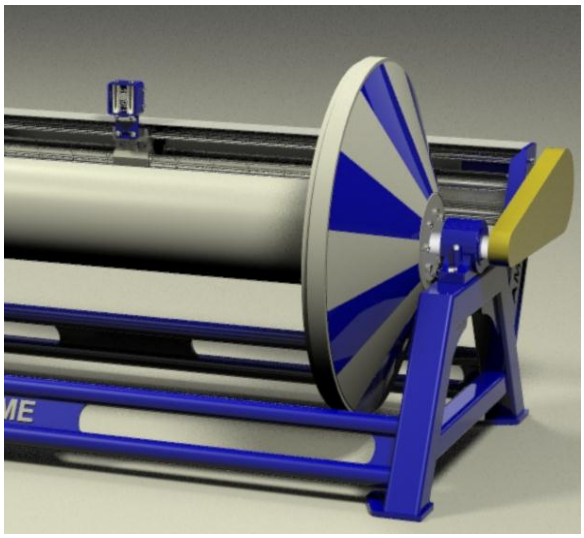
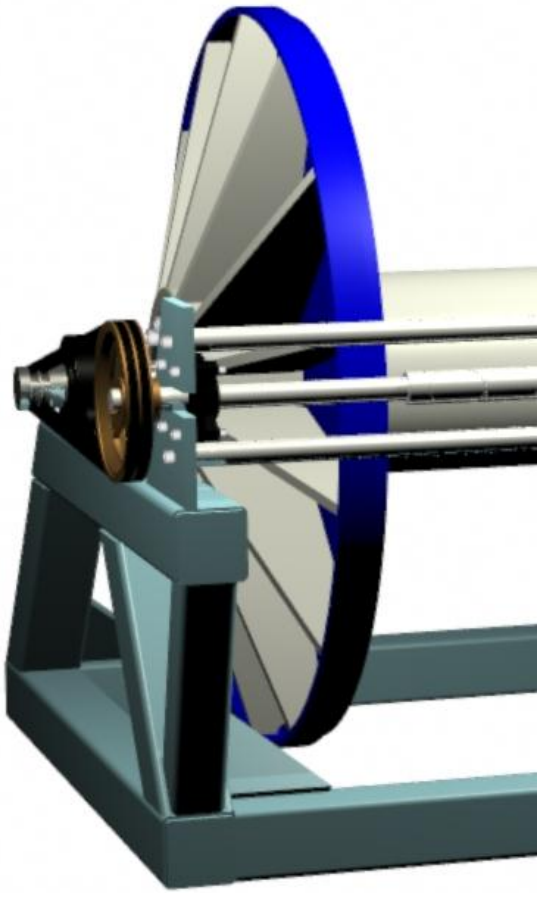
Amerro ENGINEERING

SC800, 1000, 1200, 1500 & 1800 LONGLINE REEL

OPERATIONS MANUAL





Professional Equipment for the Professional Fisherman

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Longline Reel

The Amerro range of longline reels have been designed ultimately for the storage of monofilament line. The main drum is of marine grade aluminium construction with a solid aluminium core and a high quality stainless steel shaft. To increase the life span of the main bearings, coupling and drive motor, the main drum has been balanced during manufacture. The frame is also constructed of marine grade aluminium. It is rigid, durable and compact in size, allowing for optimal free deck space. Because of the materials used in the construction of the reel, it is considerably light but extremely strong.

The longline reels are hydraulically driven during line recovery. To control the speed during recovery a Proportional Directional Control Valve should be fitted. The location of this valve is dependent on the layout of the vessel and the operators preferred method of control. **Please Note**: a sample of a common Proportional Directional Control Valve can be located on the Hydraulic Schematic.

Both a Counter Balance Valve and a Free Spooling Valve must also be fitted prior to operation. These two valves are crucial to the operation of the longline reel. The counter balance valve absorbs the dynamic forces generated by the reel once the flow of oil is interrupted. As the drum decelerates hydraulic fluid flows within the closed loop until the drum stops rotating. Setting this valve is critical and any variation away from the procedures detailed will cause failure of the hydraulic motor. **Please Note**: we recommend the counter balance valve identified on the Hydraulic Schematic. As well as the counter balance valve the free spooling valve must be fitted prior to operation. The free spooling valve fitted to the system allows the LS30 Line shooter to draw line from the reel. The valve also allows the operator to rotate the drum freely, during maintenance.

The line winder fitted to the longline reel is an Archimedes screw type driven by a belt from the main drum. A pawl located within the traversing housing directs the direction of the winding. The pawl is of stainless steel and runs in the groove of the Archimedes guide. This requires greasing on a daily basis and at the completion of fishing operations.

Guards are fitted to the main moving parts and should always be in place and maintained.

It should also be noted the hydraulic system requires the same care as any other high pressure hydraulic system.

INSTALLATION

The longline reels must be firmly fixed to a rigid base. Dimensions of hole locations are depicted in the attached general arrangement. If the reel is to be positioned longitudinally on the vessel, then the longitudinal axis of the drum should follow a plane parallel to the water line of the vessel. Alternately, should the longline reel be located with its longitudinal axis beam wise to the vessel, then the short axis should be mounted parallel to the water line.
Since the unit has been tested in the workshop, then the hydraulic motor is already primed with oil. A new motor would also need priming before use.
Hydraulic lines are connected to the unit as per the directions in the attached hydraulic schematic.

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COUNTER BALANCE VALVE

If a Counter Balance Valve be installed to the longline reel at manufacture, it would be already preset. However, should it not or a new valve is fitted of the type recommended, then the procedure would be as follows:

a. Check that all hydraulic connections are as per the attached hydraulic schematic.
b. Close the spooling valve.
c. Connect Pressure gauges as shown in the attached hydraulic schematic.
d. Unload both counter balance cartridges.
e. Apply Hydraulic pressure until the reel rotates.
f. Remove pressure and check to see which gauge records the pressure as the reel runs down. Note: reel will virtually run freely for several revolutions.
g. Increase the unloading pressure on the counter balance valve cartridge on the side that the pressure was noted.
h. Apply Hydraulic pressure until the reel rotates then remove pressure.
i. Note pressure on gauge and continue procedures of (g to h) until you get the reel up to maximum speed and noting that the number of rotations of the reel after pressure is removed is to be ***NO LESS THAN 6 REVOLUTIONS AND THE RECORDED BACK PRESSURE NO MORE THAN 17.9Mpa***.
j. Continue this procedure of (f to i) for the opposite direction.
k. Secure counter balance valve cartridge locking screws.
l. Remove hydraulic pressure.
m. Remove gauges and reconnect hydraulic hoses.

MAINTENANCE

Reliability of all hydraulic systems is dependent on oil quality and cleanliness. Almost all hydraulic failures are caused by excessive wear from oil contamination or water contamination. It is very important to change oil filters regularly.
How does dirt get in my hydraulic system? Dirt is introduced firstly in new hydraulic systems that have not taken good precautions to keep them clean when assembled. Usually the filter can quickly remove this dirt, but problems are often encountered during the first 100 hours of operation. Secondly dirt is introduced with new oil. Your filter can take care of this, however, if you have hydraulic leaks and are continually adding oil to your system this adds dirt and wear to hydraulic parts and requires additional filter changes.

Never install a hydraulic component in your hydraulic system that is not assured to be clean and in perfect condition. These components put your entire hydraulic system at risk.

The equipment supplied will operate with most good quality hydraulic oil available today. Your local dealer should be able to assist you to choose oil that is good quality, readily available and is appropriate for your climate. If you need assistance for oil selection contact your local supplier.
Hopefully the maintenance tips in this manual will make the small amount of service required easier and your fishing venture will be reliable and successful.

The longline reel is designed to provide long term service with a minimum of maintenance. The reels are designed for the maintenance to be done in a very basic manner with basic tools.

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CLEANING

The longline reel should be washed with fresh water as often as feasible, especially at the end of each trip when it will lay idle for days or weeks. If possible the longline reel should be sprayed with fresh water after each trip or as often as possible to remove salt and help reduce corrosion. Cleaning with soap and water and wiping off with rags or towels is advisable. The longline reel and frame made by Amerro Engineering is constructed from high quality aluminium. Washing with fresh water will help reduce corrosion and electrolysis to the parts attached to the frame and reel such as the motor and bearings

LUBRICATION

Lubrication for the longline reel should be done about once a week. It is important that lubrication be done at the end of a trip. Often bearings will obtain moisture while the boat is out of service for several days or weeks because parts are not regularly re-coated with a grease film. Greasing at the end of a fishing trip fills voids in bearings with grease and removes air and moisture that can cause bearing failure.

Items to be greased:

- Drum Bearing x 1
- Motor Coupling x 1
- Line Guide Unit x 1
- Guide Shaft Support Bearings x 2
- Guide Rollers x 4

Please Note: Over greasing can push bearing seals out of their retainer grooves and make bearings more susceptible to moisture. Careful greasing will fill the bearing, but will not push the seals out of the retaining grooves.

Bearings that make noise or show rust coming from the bearing races and balls should be replaced

LEVEL WINDER

The level winder pawl is the only part on the longline reel that requires periodic replacement from wear. The level winder pawl rides in the diamond shaft groove and pulls the level winder block and roller assembly back and forth to level wind the monofilament. Depending on the greasing frequency and salt water spray on the diamond shaft the level winder may last from 3 months to one year or more before replacement is necessary.

The pawl blade is 6.4mm thick when new and will operate normally until it is worn to about 4.5mm thickness. It is best to open the level winder block halves to inspect the pawl by removing the 4 bolts attaching the block halves. Excessively worn pawls should be replaced.

Excessively worn pawls will eventually bend and stop the level winder. **NEVER** force the level winder to turn. Opening the level winder block for cleaning and straightening the pawl will return the level winder to smooth operation.

Periodically the level winder diamond shaft and block will build up old grease and salt deposits that must be removed by cleaning with a solvent. The grease can be inspected by rubbing it between fingers. When the grease has lost its smoothness and salt grit is obvious the diamond shaft and block should be cleaned.

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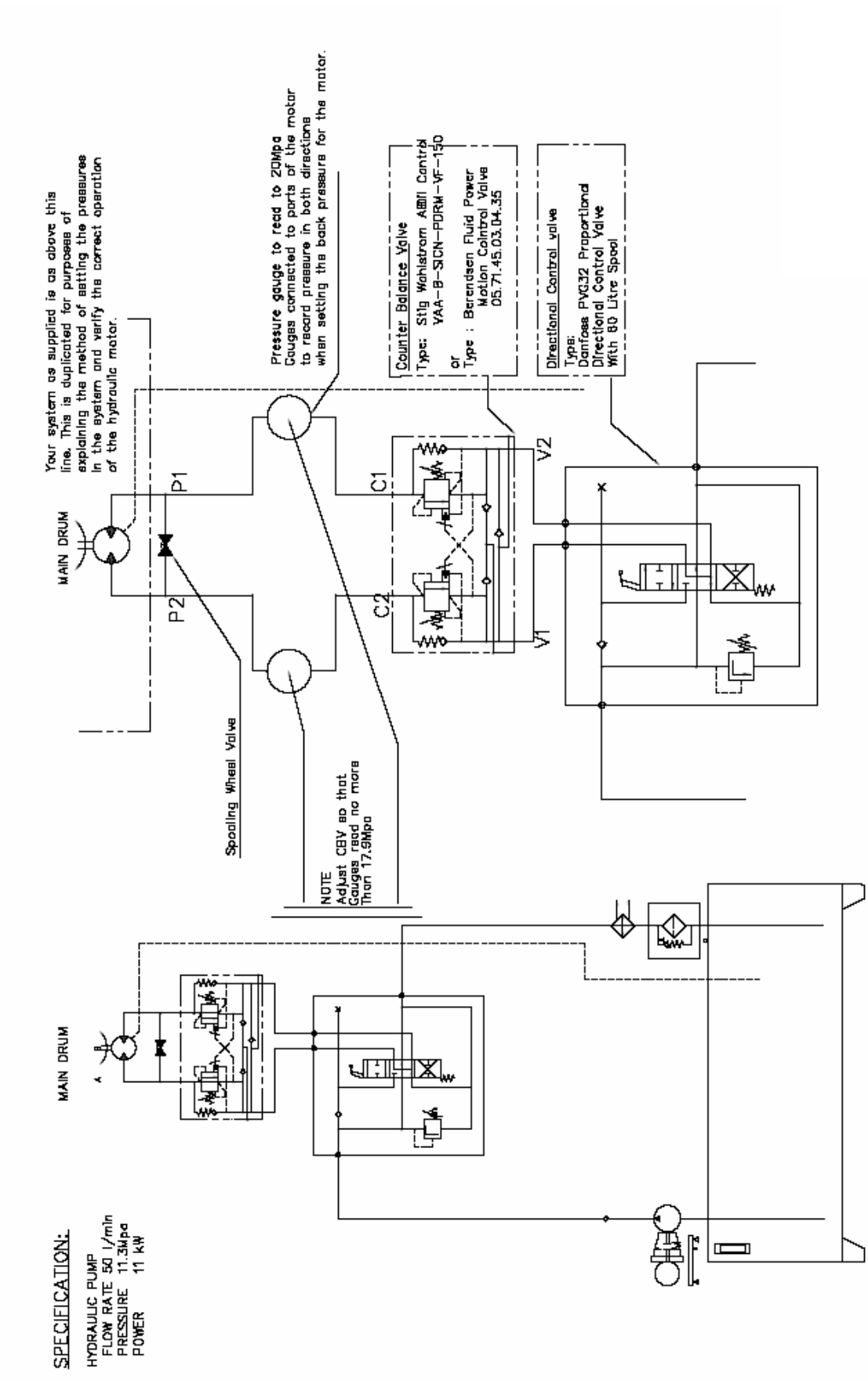
HYDRAULIC SCHEMATIC



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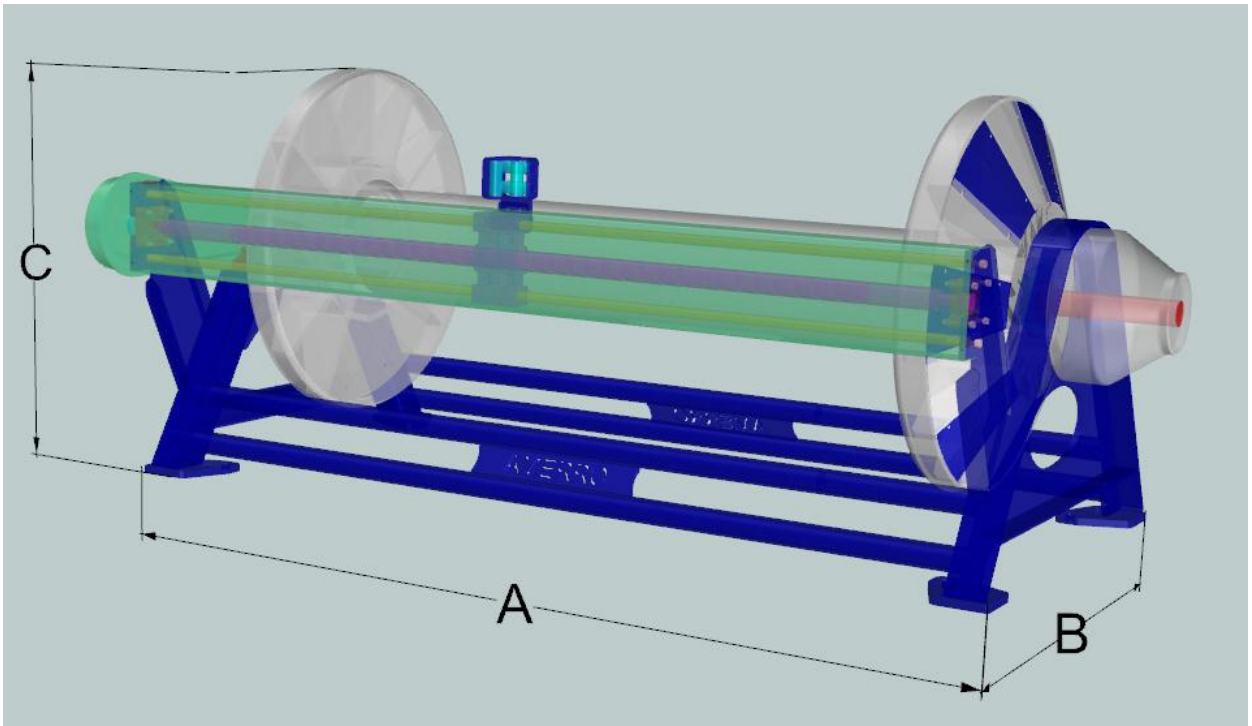
GENERAL ARRANGEMENT & SPECIFICATIONS

Specifications & Capacity

Code	RPM (max)	Required Flow Rate (Litres/minutes)	Required Power	Required Pressure		Line Capacity in Kilometres				
						Line Diameter 3mm	Line Diameter 3.2mm	Line Diameter 3.5mm	Line Diameter 4mm	
SC800	200 RPM	50 L/M	11 kW	1500 PSI		39	53	28	23	
SC1000	200 RPM	50 L/M	11 kW	1500 PSI		71	63	52	37	
SC1200	200 RPM	50 L/M	11 kW	1500 PSI		95	84	70	50	
SC1500	200 RPM	50 L/M	11 kW	1500 PSI		118	105	87	62	
SC1800	200 RPM	50 L/M	11 kW	1500 PSI		140	126	105	75	

Dimensions & Weight

Code	Overall Dimensions			Weight without line approx.	Bolt Down pattern 4 x dia. 20mm Holes (See Following Page)
	A – Length	B – Width	C – Height		
SC800	1403 mm	1095 mm	965 mm	385kg	1173 x 1024
SC1000	1665 mm	1210 mm	1120 mm	415kg	1342 x 890
SC1200	1865 mm	1210 mm	1120 mm	495kg	1542 x 890
SC1500	2165 mm	1210 mm	1120 mm	620kg	1842 x 890
SC1800	2465 mm	1210 mm	1120 mm	745kg	2142 x 890



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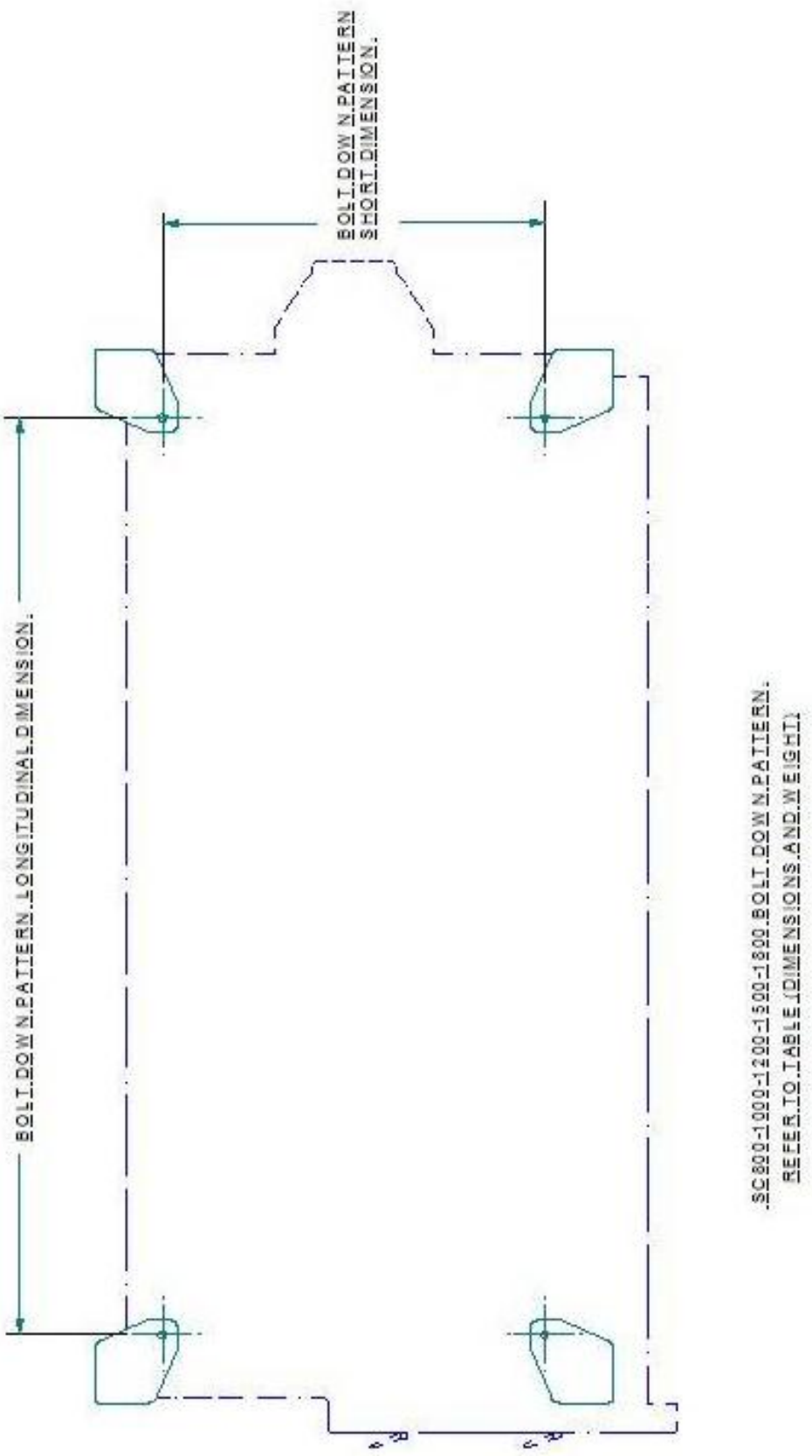

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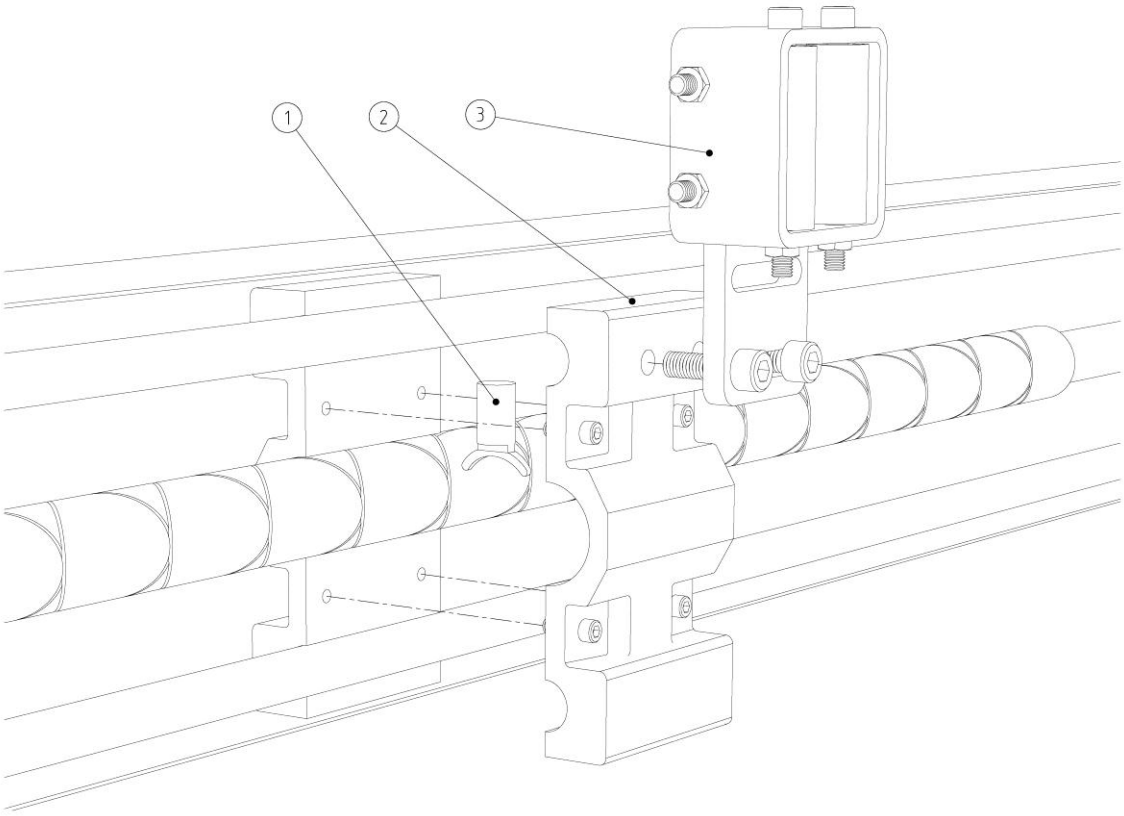
LEVEL WINDER PARTS LIST



Code:	**ASK101**	1
Description:	Line Guide Knuckle	

Code:	**AAX101**	2
Description:	Line Guide Block	

Code:	**AST101S**	3
Description:	Line Guide Roller Traveller	

This model has stainless steel bearings in the rollers.

Code:	**AST101H**	3
Description:	Line Guide Roller Traveller	

This model has high tensile steel bearings in the rollers.

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NOTES: PVG 32 Proportional Directional Control Valve Build Number 157F133607

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