

# SPIDER SERIES

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**Owner's Manual: Part No. 918,269,309 004**

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## 1. Introduction

We congratulate you on this purchase. Be sure to read and understand this user manual before using the tool. This user manual covers the basic aspects for the safe use and operation of this equipment. Illustrations in this user manual can differ slightly, depending on the model.

First of all check that your equipment is complete and undamaged. Notify your Holmatro dealer immediately if the equipment is damaged or incomplete, and do not use the equipment.

This equipment is designed for use by professional, fully trained fire and rescue personnel. Everyone involved in putting the equipment into operation, using it, maintaining it and solving malfunctions must have read and understood this user manual, particularly the safety regulations. To prevent errors of operation and ensure that the equipment works trouble-free, the user manuals must always be available to the operator.

This pump is suitable only for operating double-acting hydraulic rescue equipment with mineral oil hydraulic fluid to an allowable pressure of 720 bar (10,500 psi). There are two versions of the pump available.

- 1.) A Twin-line version with a separate input pressure line and return line.
- 2.) A Core™ technology version with the input pressure line contained inside the return line.

Follow these instructions to ensure your safety and to keep your equipment in good condition.

## 2. Safety Symbols



**THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.**



**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



**NOTICE** is used to address practices not related to physical injury.

### 3. Safety Instructions



Study these instructions carefully before operating this equipment.

- \* Never use a Core™ Technology product with a Twin-line hose product.
- \* Use this equipment only for jobs for which it is designed. If in doubt or not clear, be sure to consult your Holmatro dealer.
- \* Always wear personal protection equipment such as safety goggles, helmet, gloves, protective clothing and safety shoes.
- \* Keep spectators at sufficient distance.
- \* In the event of oil leakage, stop immediately and consult the troubleshooting list.
- \* In the event of unfamiliar noise, vibration or other unusual behavior, stop immediately and consult your Holmatro dealer.
- \* For Twin-line pumps, never disconnect the quick-action couplings when the pump is in operation and when the pressure relief valve of the pump is in the "Pressure/Operation" position.
- \* The equipment must only be operated with non-toxic mineral base hydraulic oil distributed by Holmatro.
- \* Use only original Holmatro accessories and parts.
- \* Observe the maintenance instructions.
- \* Only trained service technicians, certified by Holmatro, are allowed to repair this equipment.
- \* Replace safety symbols / pictograms and / or information labels if worn, illegible, damaged or removed.
- \* Always place the pump on a stable firm base which is free of protrusions or loose matter (gravel, dust)
- \* Use the pump at a minimum distance of 3 feet (1 metre) from buildings/structures.
- \* Never use the pump in an enclosed space and always ensure sufficient ventilation.
- \* Never inhale exhaust gas. It contains Carbon Monoxide, a colorless and odorless gas which can cause loss of consciousness or death.
- \* Keep the exhaust discharge free of foreign objects.
- \* Never refill fuel when the engine is running.
- \* Never refill or even use near open fire.
- \* Fill the fuel tank to the sight glass level. Never overfill.
- \* Remove fuel spillage before starting the engine.
- \* Never lift the pump with chains or steel wire ropes on the carrying handle.
- \* The vehicle or object must be stabilized before beginning any extrication technique.
- \* Never use the relief device tool on pressurized hoses, valve blocks, or rescue tools that are attached to an operating power unit. The pressure relief device is designed for use only on hoses that are disconnected from the pump unit. (See section 7.2.3)

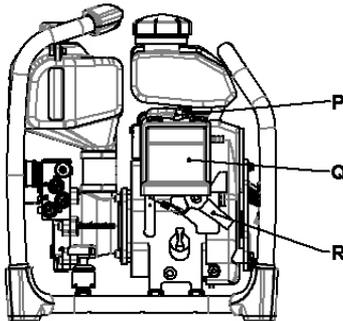
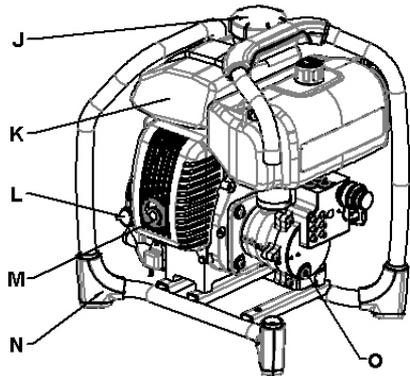
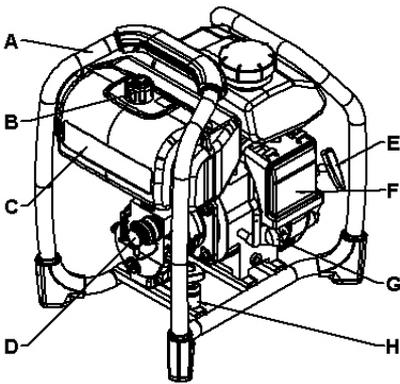
### 4. Operation

The engine/motor drives a two-stage axial piston pump, which is able to deliver the allowable pressure given in the specification table at a specific oil volume.

## 5. Description: Model Series SR10.

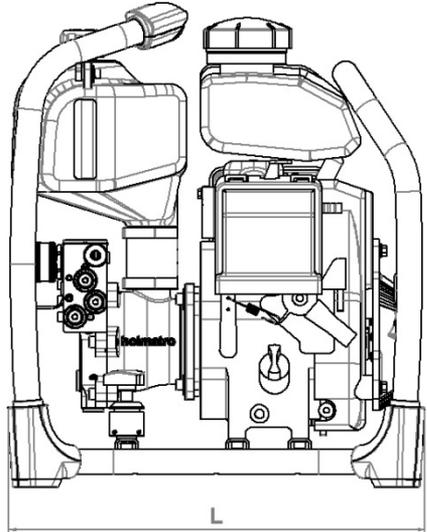
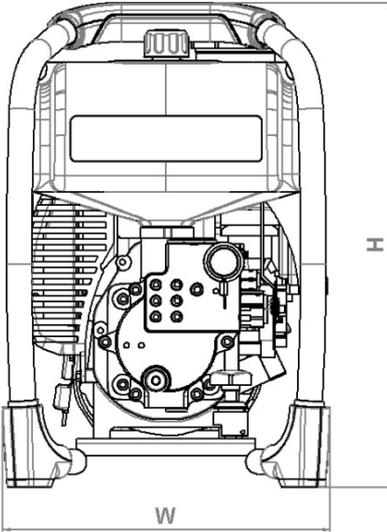
### 5.1 Product identification. (SR10PC1 shown)

- |                   |                     |                         |
|-------------------|---------------------|-------------------------|
| A. Frame          | F. Air filter       | M. Spark arrestor       |
| B. Hydraulic cap  | G. Engine oil drain | N. Foot                 |
| C. Hydraulic tank | H. PRD              | O. Hydraulic oil drain  |
| D. Coupler        | J. Fuel cap         | P. Choke                |
| E. Recoil starter | K. Fuel tank        | Q. Fuel shutoff         |
|                   | L. On/Off switch    | R. Engine speed control |



## 5.2. Specifications: Model Series SR10.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	770 cc	(0.20 gal. /0.81 qt)
Hydraulic oil contents	:	2840 cc	(0.75 gal. /3.0 qt)
Usable hydraulic oil contents	:	2500 cc	(0.66 gal. /2.64 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Engine speed	:	5000 RPM	
Dimensions (LxWxH)	:	360 x 290 x 423 mm(14 3/16" x 11 7/16" x 16 11/16")	
Weight, ready for use (SR10PC1)	:	14.5kg	(31.8 lbs.)
Weight, ready for use (SR10PT1)	:	14.9kg	(32.7 lbs.)

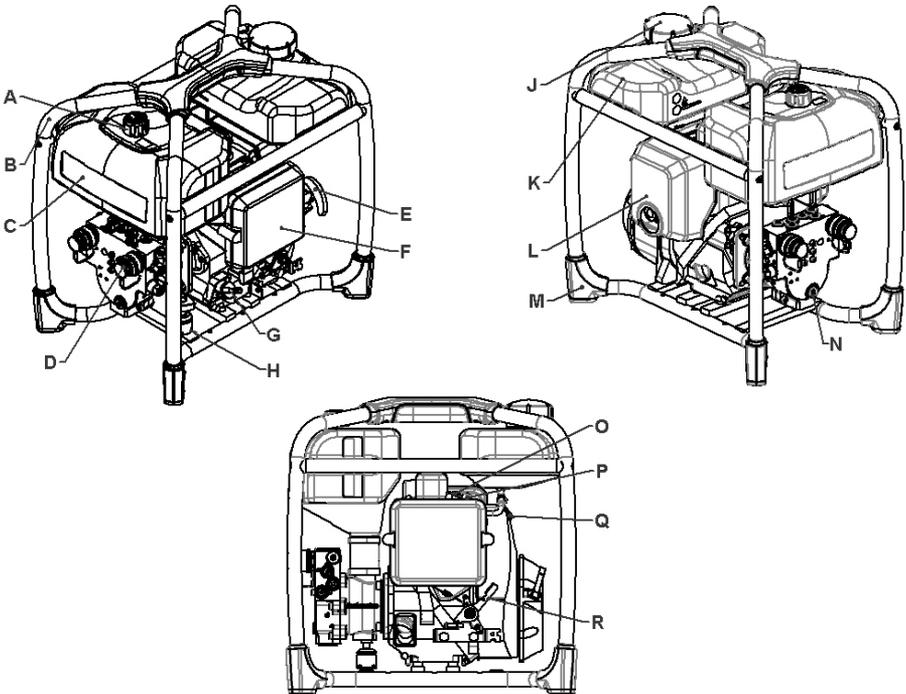


## 6. Description: Model Series SR20.

### 6.1. Product identification.

(SR20PC2 shown)

- |                   |                     |                         |
|-------------------|---------------------|-------------------------|
| A. Hydraulic cap  | F. Air filter       | M. Frame foot           |
| B. Frame          | G. Engine oil drain | N. Hydraulic oil drain  |
| C. Hydraulic tank | H. PRD              | O. Choke                |
| D. Coupler        | J. Fuel cap         | P. Fuel shutoff         |
| E. Recoil starter | K. Fuel tank        | Q. Engine on/off switch |
|                   | L. Spark arrestor   | R. Engine speed control |



## 6.2. Specifications: Model Series SR20.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	1700 cc	(0.45 gal. /1.80 qt)
Hydraulic oil contents	:	4340 cc	(1.15 gal. /4.59 qt)
Usable hydraulic oil contents	:	4000 cc	(1.06 gal. /4.23 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	455 x 315 x 460 mm (17 15/16" x 12 7/16" x 18 1/8")	
<b>Gasoline engines</b>			
Weight, ready for use (SR20PC1)	:	21.7 kg	(47.7 lbs)
Weight, ready for use (SR20PC2)	:	22.7 kg	(50.0 lbs)
Weight, ready for use (SR20PT1)	:	22.1 kg	(48.6 lbs)
Weight, ready for use (SR20PT2)	:	23.6 kg	(51.9 lbs)
<b>Electric motors</b>			
Weight, ready for use (SR20xC1)	:	24.9 kg	(54.8 lbs)
Weight, ready for use (SR20xT1)	:	25.4 kg	(55.8 lbs)
Weight, ready for use (SR20xC2 R)*	:	32.8 kg	(72.3 lbs)
Weight, ready for use (SR20xT2 R)*	:	33.5 kg	(73.8 lbs)

**Motor options: Replace "x" with the desired letter option.**

**D: 1.5/2.5hp, 230V, 50Hz**

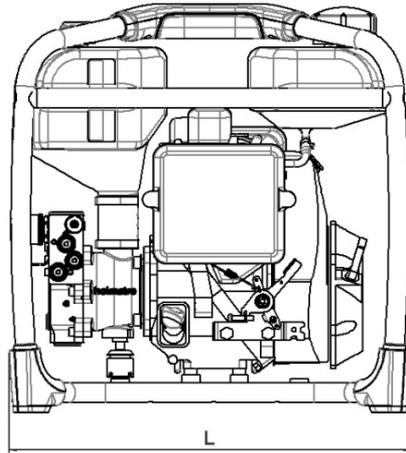
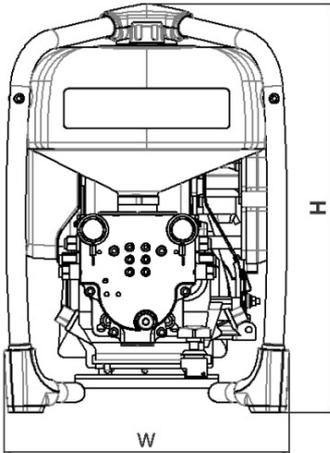
**G: 1.5hp, 115V, 60Hz**

**H: 2.5hp, 230V, 60Hz**

**I: 1.5hp, 230V, 50Hz**

**J: 1.5hp, 115V, 50Hz**

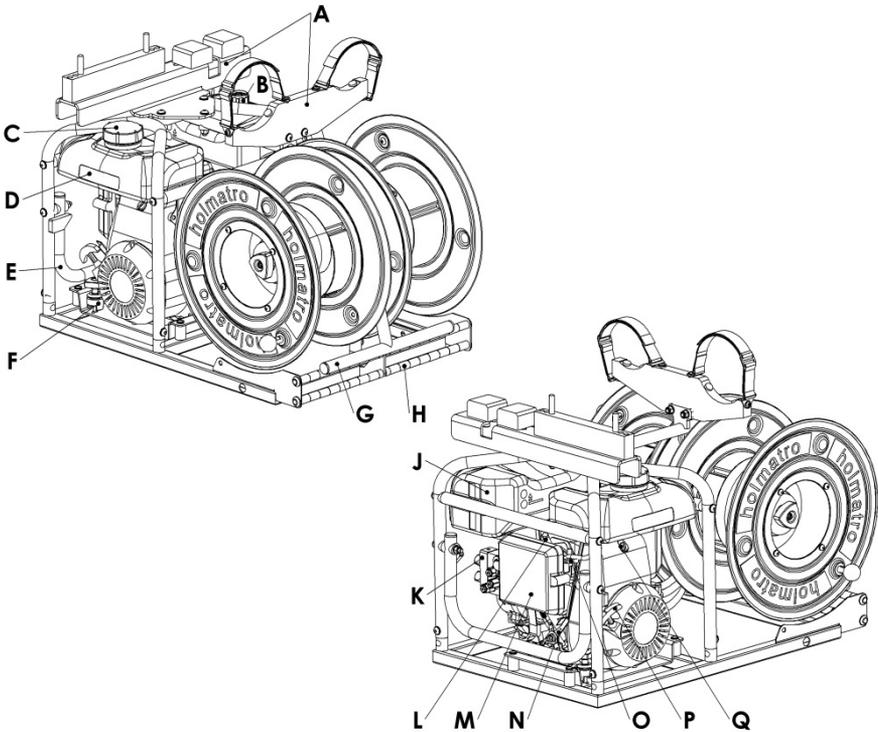
**\*R: Remote mount on/off switch (on frame).**



## 7. Description: Model Series SR31/32.

### 7.1. Product identification. (SR31PC2 shown)

- |                       |                          |                         |
|-----------------------|--------------------------|-------------------------|
| A. Tool mount bracket | F. PRD                   | M. Air filter           |
| B. Hydraulic cap      | G. Carry handle (2)      | N. Engine speed control |
| C. Fuel cap           | H. Hose guide            | O. Fuel shutoff         |
| D. Fuel tank          | J. Muffler               | P. Recoil starter       |
| E. Carry handle (1)   | K. Hose reel connections | Q. Engine on/off switch |
|                       | L. Choke                 |                         |



## 7.2. Specifications: Model Series SR31.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	1700 cc	(0.45 gal. /1.80 qt)
Hydraulic oil contents	:	4340 cc	(1.15 gal. /4.59 qt)
Usable hydraulic oil contents	:	4000 cc	(1.06 gal. /4.23 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Hose reels	:	2 x 15m	(2 x 50ft)
Engine speed	:	4000 RPM	
Motor Speed	:	3600 RPM	
Dimensions (LxWxH)	:	742 x 517 x 555 mm (29 1/4" x 20 3/8" x 21 7/8")	
Dimensions (L <sub>1</sub> xWxH)	:	810 x 517 x 555 mm (31 7/8" x 20 3/8" x 21 7/8")	

### Gasoline engines

Weight, ready for use (SR31PC2)	:	64.5 kg	(141.8 lbs)
Weight, ready for use (SR31PC2W)*	:	66.1 kg	(145.4 lbs)
Weight, ready for use (SR31PT2)	:	73.9 kg	(162.5 lbs)
Weight, ready for use (SR31PT2W)*	:	75.5 kg	(166.1 lbs)

### Electric motors

Weight, ready for use (SR31xC2)	:	72.7 kg	(159.9 lbs)
Weight, ready for use (SR31xC2W)*	:	74.3 kg	(163.5 lbs)
Weight, ready for use (SR31xT2)	:	73.5 kg	(161.8 lbs)
Weight, ready for use (SR31xC2W)*	:	75.2 kg	(165.4 lbs)

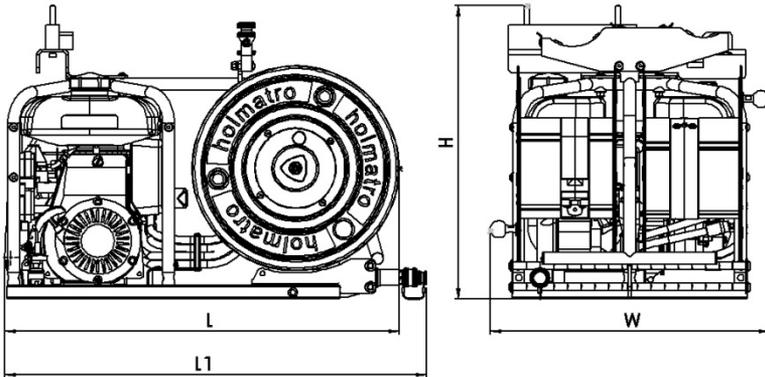
**Motor options: Replace "x" with the desired letter option.**

**D: 2.5hp, 230V, 50Hz**

**H: 2.5hp, 230V, 60Hz**

**I: 2.5hp, 230V, 50Hz**

**\*W = Optional foldable wheel set.**



### 7.3. Specifications: Model Series SR32.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	1700 cc	(0.45 gal. /1.80 qt)
Hydraulic oil contents	:	4340 cc	(1.15 gal. /4.59 qt)
Usable hydraulic oil contents	:	4000 cc	(1.06 gal. /4.23 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Hose reels	:	2 x 20m	(2 x 65ft)
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	742 x 517 x 555 mm (29 1/4" x 20 3/8" x 21 7/8")	
Dimensions (L <sub>1</sub> xWxH)	:	810 x 517 x 555 mm (31 7/8" x 20 3/8" x 21 7/8")	

#### Gasoline engines

Weight, ready for use (SR32PC2)	:	69.4 kg	(152.6 lbs)
Weight, ready for use (SR32PC2W)*	:	71.0 kg	(156.2 lbs)
Weight, ready for use (SR32PT2)	:	81.9 kg	(180.1 lbs)
Weight, ready for use (SR32PT2W)*	:	83.5 kg	(183.7 lbs)

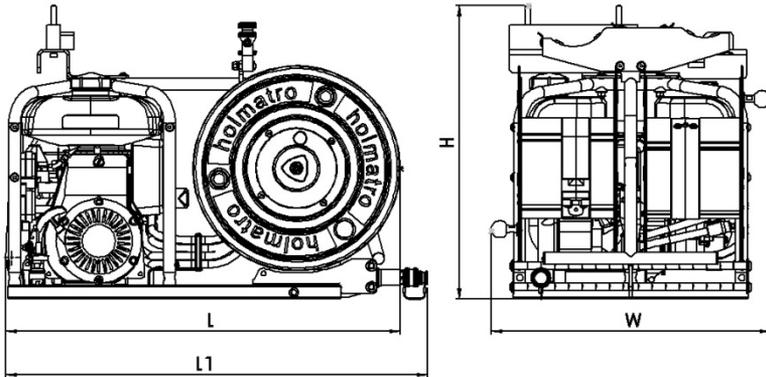
#### Electric motors

Weight, ready for use (SR32xC2)	:	77.6 kg	(170.7 lbs)
Weight, ready for use (SR32xC2W)*	:	79.2 kg	(174.3 lbs)
Weight, ready for use (SR32xT2)	:	78.4 kg	(172.5 lbs)
Weight, ready for use (SR32xC2W)*	:	80.1 kg	(176.1 lbs)

**Motor options: Replace "x" with the desired letter option.**

**D: 2.5hp, 230V, 50Hz      H: 2.5hp, 230V, 60Hz      I: 2.5hp, 230V, 50Hz**

**\*W = Optional foldable wheel set.**

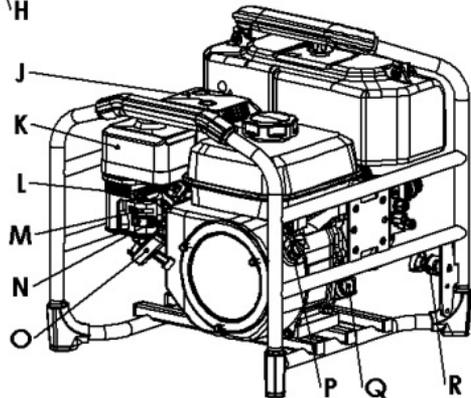
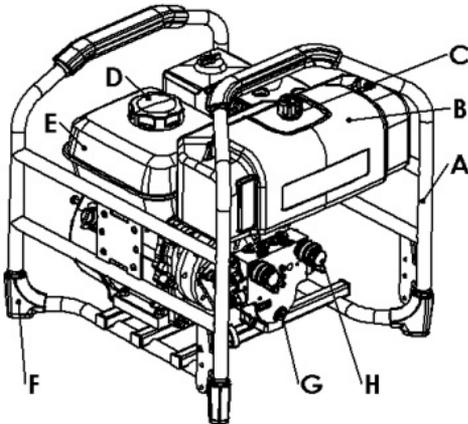


## 8. Description: Model Series SR40.

### 8.1. Product identification.

(SR40PC2 shown)

- |                   |                         |                     |
|-------------------|-------------------------|---------------------|
| A. Frame          | F. Foot                 | M. Choke            |
| B. Hydraulic tank | G. Engine oil drain     | N. Fuel shutoff     |
| C. Hydraulic cap  | H. Coupler              | O. Recoil starter   |
| D. Fuel cap       | J. Muffler              | P. On/Off switch    |
| E. Fuel tank      | K. Air filter           | Q. Engine oil drain |
|                   | L. Engine speed control | R. PRD              |



## 8.2. Specifications: Model Series SR40.

### 8.2.1 SR40 DUO MODELS

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	3100 cc	(0.82 gal. /3.28 qt)
Hydraulic oil contents	:	6340 cc	(1.67 gal. /6.70 qt)
Usable hydraulic oil contents	:	6000 cc	(1.59 gal. /6.34 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	497 x 467 x 492 mm (19 9/16" x 18 3/8" x 19 3/8")	

#### Gasoline engines

Weight, ready for use (SR40PC2)	:	37.3 kg	(82.0 lbs)
Weight, ready for use (SR40PT2)	:	38.1 kg	(83.8 lbs)

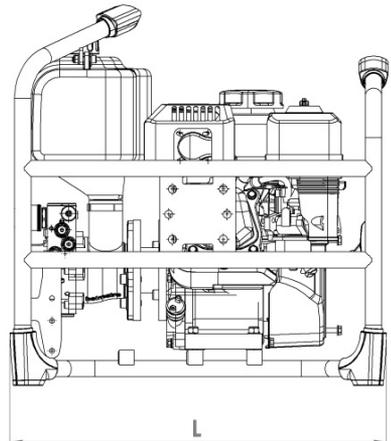
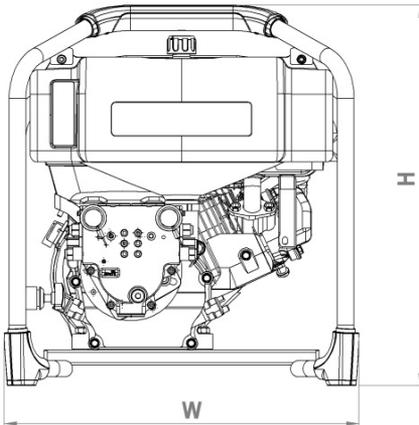
#### Electric motors

Weight, ready for use (SR40xC2)	:	41.0 kg	(90.2 lbs)
Weight, ready for use (SR40xT2)	:	41.9 kg	(92.1 lbs)
Weight, ready for use (SR40xC2 R)*	:	41.9 kg	(92.3 lbs)
Weight, ready for use (SR40xT2 R)*	:	42.6 kg	(93.8 lbs)

**Motor options: Replace "x" with the desired letter option.**

**D: 2.5hp, 230V, 50Hz      H: 2.5hp, 230V, 60Hz      I: 2.5hp, 230V, 50Hz**

**\*R: Remote mount on/off switch (on frame).**



## 8.2.2 SR40 TRIO MODELS

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	3100 cc	(0.82 gal. /3.28 qt)
Hydraulic oil contents	:	6340 cc	(1.67 gal. /6.70 qt)
Usable hydraulic oil contents	:	6000 cc	(1.59 gal. /6.34 qt)
Fuel	:	Unleaded gasoline. See engine manual.	

Engine speed	:	4000 RPM
Motor speed	:	3600 RPM

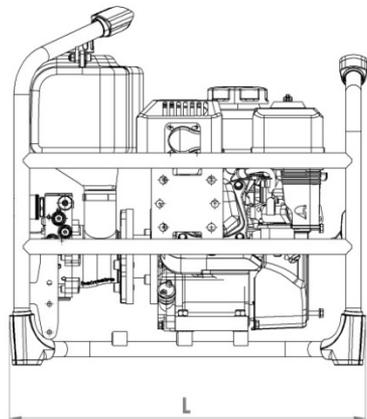
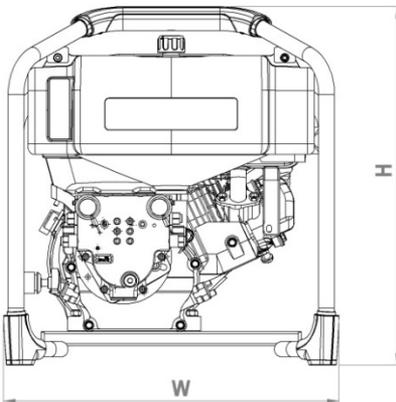
### Gasoline engines

Weight, ready for use (SR40PC3)	:	44 kg	(97 lbs)
Weight, ready for use (SR40PT3)	:	45 kg	(99.2 lbs)
Dimensions (LxWxH)	:	497 x 467 x 492 mm (19 9/16" x 18 3/8" x 19 3/8")	

### Electric motors

Weight, ready for use (SR40xC3R)	:	54 kg	(119 lbs)
Weight, ready for use (SR40xT3R)	:	55 kg	(121.3 lbs)
Dimensions (LxWxH)	:	560 x 467 x 492 mm (22" x 18 3/8" x 19 3/8")	

**Motor options: Replace "x" with the desired letter option.  
H: 4.0hp, 230V, 60Hz**

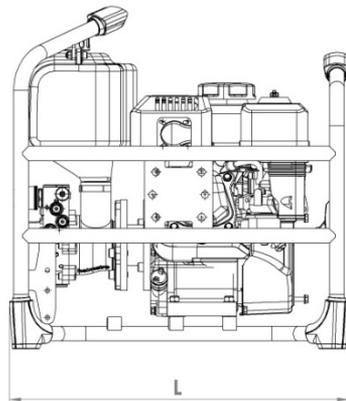
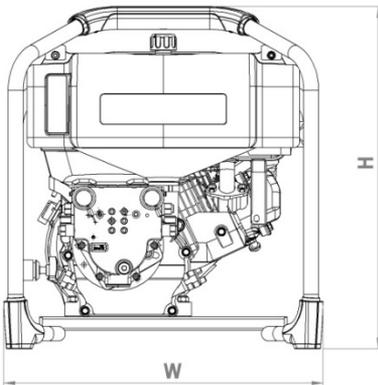


### 8.2.3 SR40 QUATRO MODELS

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	3100 cc	(0.82 gal. /3.28 qt)
Hydraulic oil contents	:	6340 cc	(1.67 gal. /6.70 qt)
Usable hydraulic oil contents	:	6000 cc	(1.59 gal. /6.34 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	497 x 467 x 492 mm (19 9/16" x 18 3/8" x 19 3/8")	

#### Gasoline engines

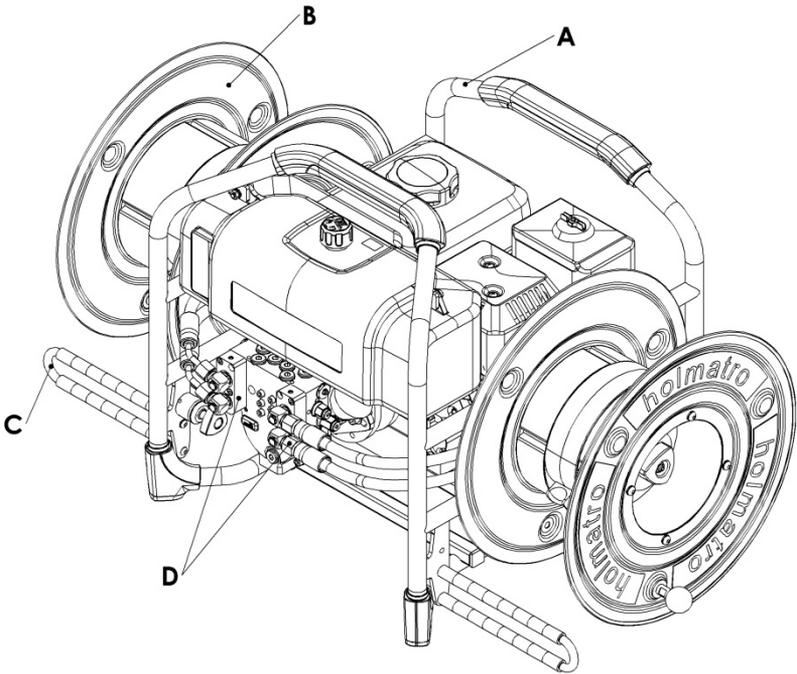
Weight, ready for use (SR40PC4)	:	45 kg	(99.2 lbs)
Weight, ready for use (SR40PT4)	:	46.3 kg	(102.1 lbs)



## 9. Description: Model Series SR41/42.

### 9.1 Product identification.

- A. SR40 Power Unit
- B. Hose reel
- C. Hose guide
- D. Hose reel connections



## 9.2. Specifications: Model Series SR41.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	3100 cc	(0.82 gal. /3.28 qt)
Hydraulic oil contents	:	6340 cc	(1.67 gal. /6.70 qt)
Usable hydraulic oil contents	:	6000 cc	(1.59 gal. /6.34 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Hose reels	:	2 x 15m	(2 x 50ft)
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	497 x 950 x 492 mm (19 9/16" x 37 7/16" x 19 3/8")	

### Gasoline engines

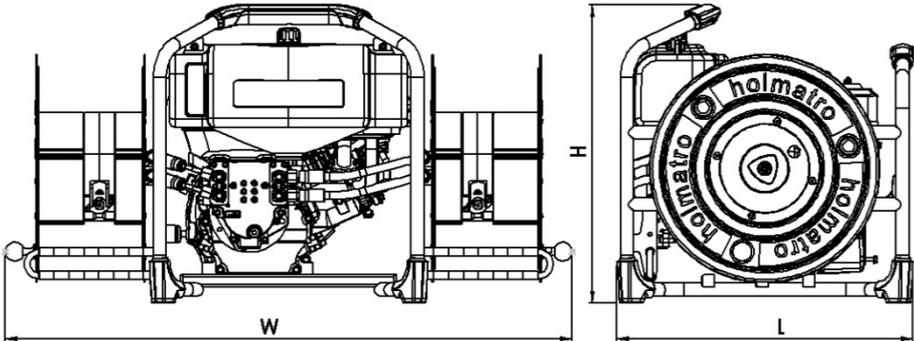
Weight, ready for use (SR41PC2)	:	64.0 kg	(140.7 lbs)
Weight, ready for use (SR41PT2)	:	73.4 kg	(161.4 lbs)

### Electric motors

Weight, ready for use (SR41xC2)	:	67.7 kg	(149.0 lbs)
Weight, ready for use (SR41xT2)	:	77.1 kg	(169.6 lbs)

Motor options: Replace "x" with the desired letter option.

**D:** 2.5hp, 230V, 50Hz      **H:** 2.5hp, 230V, 60Hz      **I:** 2.5hp, 230V, 50Hz



### 9.3. Specifications: Model Series SR42.

Allowable operating pressure	:	720 bar	(10,500 psi)
Fuel tank capacity (Max.)	:	3100 cc	(0.82 gal. /3.28 qt)
Hydraulic oil contents	:	6340 cc	(1.67 gal. /6.70 qt)
Usable hydraulic oil contents	:	6000 cc	(1.59 gal. /6.34 qt)
Fuel	:	Unleaded gasoline. See engine manual.	
Hose reels	:	2 x 20m	(2 x 65ft)
Engine speed	:	4000 RPM	
Motor speed	:	3600 RPM	
Dimensions (LxWxH)	:	497 x 950 x 492 mm (19 9/16" x 37 7/16" x 19 3/8")	

#### Gasoline engines

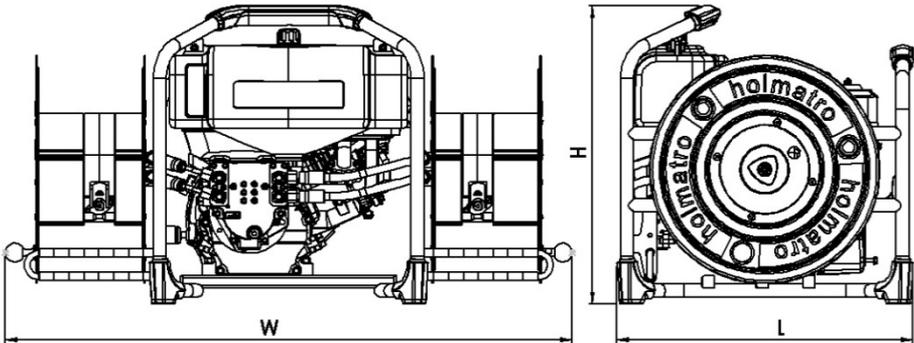
Weight, ready for use (SR42PC2)	:	68.9 kg	(151.5 lbs)
Weight, ready for use (SR42PT2)	:	81.4 kg	(179.0 lbs)

#### Electric motors

Weight, ready for use (SR42xC2)	:	72.6 kg	(159.7 lbs)
Weight, ready for use (SR42xT2)	:	85.1 kg	(187.2 lbs)

Motor options: Replace "x" with the desired letter option.

D: 2.5hp, 230V, 50Hz      H: 2.5hp, 230V, 60Hz      I: 2.5hp, 230V, 50Hz



## 10. Operation

The oil from the hydraulic pump is supplied to the tool via high-pressure hoses. The oil returns at atmospheric pressure to the pump if the tool dead-man's handle is in the neutral position.



**Fig. 1. Tool Control Handle Label.**

Oil is admitted under the tool piston if the dead-man's handle is in the "open" position. The tool will then open. The oil above the piston flows back to the pump.

Oil is admitted above the tool piston if the dead-man's handle is in the "close" position. The tool will close. The oil under the tool piston flows back to the pump.

The tool dead-man's handle always returns to the neutral position when released.

### **TWIN-LINE TOOLS & PUMPS**

The hydraulic system in the unit is provided with a safety valve. This safety valve prevents excessive pressure in the tool if the return line to the pump is blocked or disconnected. Never change the setting of this safety valve. Oil will discharge from the rear of the tool if the return hose becomes blocked or disconnected while the pump pressure relief valve is in "PRESSURE"/"OPERATION" position. If this happens, first switch the pump pressure relief valve to the "RELEASE" position, and then re-connect the return hose of the tool.

### **CORE™ TOOLS & PUMPS**

The hydraulic system in the unit is provided with a safety valve. This safety valve prevents excessive pressure in the tool if the return line to the pump is blocked. Never change the setting of this safety valve. Oil will discharge from the rear of the tool if the return hose becomes blocked while the pump is running. If this happens, first switch the pump engine/motor to OFF and disconnect the hose. Then connect a new hose.

When Holmatro  valve blocks are mounted on your Holmatro power unit, the manual operated release valve is no longer needed. As soon as the hose is connected, oil is flowing through the hose's inner shell and returning back to the tank of the pump through the hose's outer shell. When a rescue tool with the

 adaptor installed has been connected to the hose, oil will flow into the tool. To change from one rescue tool to another, the user simply disconnects the rescue tool from the hose and connects the alternate rescue tool to the hose. Oil always flows from the female coupler into the male coupler for Holmatro

 systems.

**NOTE:** Pumps that are converted from Twin-line to Core™ will continue to use the pressure/release handle to allow oil to flow to the tool. However, the handle may be left in the "PRESSURE" position.

## 11. Use

### 11.1. Initial use (first time only)

Check the equipment for damage. Do not use the equipment if it is not in good condition. Notify the supplier. Check whether the warranty registration card has been supplied and filled in. This must be sent back to Holmatro to register your warranty.

When you receive the pump it must first be made ready for operation. Perform the following actions:

#### 11.1.1. Gasoline engine.

- \* Open the hydraulic oil breather cap.
- \* Check the pump for external damage.
- \* Check whether the bottle with engine oil has been supplied.
- \* Fill the crankcase with the specified amount of engine oil. Check engine manual.
- \* Fill the fuel tank with un-leaded gasoline up to the required level. Check engine manual.
- \* Switch the pump relief valve to its “RELEASE” position (twin line pumps).
- \* Switch the choke lever to its CHOKE position.
- \* Turn fuel shutoff valve to the “OPEN” position.
- \* Turn the engine ON/OFF switch to the “ON” position.
- \* Pull the cord until resistance is felt, let the cord be retracted and then pull fast. Repeat this if the engine does not start the first time. This unit may require several pulls to start the engine when it is received new from the factory. After the initial start-up the engine should start after a few pulls of the recoil.
- \* Guide the starting cord back after starting.

Switch the choke lever to “RUN” after approx. 20 – 30 seconds, or when the engine begins to run irregularly.

**NOTE:** Run the engine for at least 20 minutes or until the engine reaches operating temperature. (Depending on ambient temperature. Run the engine longer in colder weather)

After verifying that the equipment operates, turn off the engine by turning the fuel shutoff valve to “CLOSED” and let the engine cut out. To properly prepare the engine to start again, the following shut down procedure is recommended:

- Turn the fuel shutoff valve to the “CLOSED” position and let the engine cut out.
- Switch the choke lever to the “CHOKE” position and try to start the engine. The engine may re-start and run for a few seconds. This is okay. If the engine does not start, pull the recoil four more times.
- On the last pull, pull the recoil slowly until resistance is felt. This will close the valves so that moisture cannot enter the engine cylinder.
- Leave the fuel shutoff valve in the “CLOSED” position until ready to re-start the engine. The pump is now ready for use.

**NOTE:** The engine ON/OFF switch should be used only to shut down the engine temporarily while the power unit is in operation. The above shut down procedure is recommended when shutting down the engine after operations have concluded.

### 11.1.2. Electric motor.

- \* Open the hydraulic oil breather cap.
- \* Check the pump for external damage.
- \* Check the power unit voltage rating.



Make sure that the power source voltage matches the voltage rating of the power unit. The on/off switch is provided with an under voltage detection device. If the on push button of the on/off switch *moves freely and will not stay down in the on position*, the voltage supply is too

low. If the pump starts and then stops, and the on push button of the on/off switch *moves freely and will not stay down in the on position*, the voltage supply is too low. Have a qualified electrician check the electrical supply to the power unit.

- \* Switch the relief valve to its “RELEASE” position (twin-line pumps).
- \* Check hydraulic oil level. Add oil if needed.
- \* Connect the motor to an appropriate power source.
- \* Switch the motor “ON” by pressing the green button on the switch box.

After verifying that the equipment operates, turn off the motor by pressing the red button on the switch box. Disconnect the power cord from the power source.

The pump is now ready for use.

## 11.2. Connecting hoses and rescue equipment/use of pump.

### 11.2.1. Checklist:

#### Gasoline engine.

- \* Check the engine oil level every time before use. Remove the dipstick and check the level. See Honda Owner's Manual. Refill if the level is too low. Remove excess engine oil if the level is too high. Use only the recommended engine oil described in the Honda manual.
- \* Check the fuel level. Fill to recommended level if low. Use only un-leaded gasoline.
- \* Do not overfill the tank.
- \* Immediately remove any gasoline that spills.
- \* Check the hydraulic oil level. Fill to recommended level if low. Use only recommended hydraulic oil.
- \* Check the hydraulic oil breather cap is in the open position before starting operations.



Check the fluid levels only when the pump is in horizontal position and the engine is switched off. Ensure sufficient ventilation. Do not check near open fire or sparks.



Excess engine oil may cause pre-mature fouling of the spark plug and may also lead to serious engine damage.

#### Electric motor.

- \* Check the hydraulic oil level every time before use.
- \* Remove the dipstick and check the level. Refill if the level is too low. Use only the recommended hydraulic mineral oil.
- \* Check all power cables. Do not use worn or damaged power cords.
- \* Check that the power source voltage matches the voltage rating of the motor.
- \* Check the hydraulic oil breather cap is in the open position before starting operations.



Check the level only when the pump is in horizontal position and the motor is switched off.

## 11.2.2. Coupling

The unit is equipped with different quick-action couplings, i.e. "male" and "female".



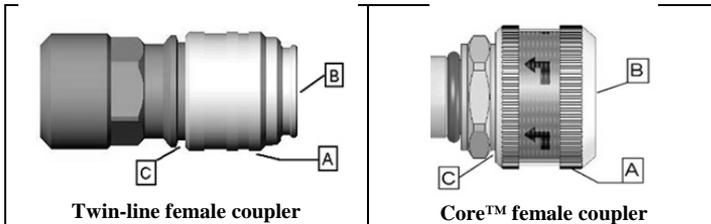
For Twin-line tools, never connect or disconnect the quick-action coupling when the pump relief valve is set to "PRESSURE"/ "OPERATION". Set the pump relief valve to its "NEUTRAL" position before coupling or uncoupling hoses and/or tools.

To couple the hoses using the flat face coupler:

1. Remove the dust caps from both the male and female couplers.
2. Insert the male coupler into the female coupler and push.
3. The coupler's locking ring (A) will move forward to show the coupler is locked.
4. Check to make sure the connection is made by pulling on the two couplers.

To uncouple the hoses using the flat face coupler:

1. Push the hose coupler gently forward into the tool/pump coupler.
2. Turn the locking ring (A) of the coupler ¼ turn counterclockwise when holding it in your hand pointing away from you (direction of large arrow on coupler) **and** pull back on the locking ring (direction of small arrow on coupler).
3. Remove the male coupler from the female coupler if it has not released completely.
4. Make sure you put the dust caps back onto the couplers when not in use. This is an important step to keep dirt and foreign objects from getting into the coupler.



Clean the female coupler by removing any dirt, oil, etc. with a clean dry rag. To ensure the automatic locking capability of the coupler, the couplers and dust caps should be checked periodically and cleaned by following the simple steps below:

1. Rinse the coupler and dust cap with lukewarm water and a soft soap solution.
2. When the coupling is dry and free from water, lubricate the flat end of the coupling (B) with Holmatro recommended hydraulic oil or by spraying WD-40 onto the end.
3. Lubricate the locking sleeve by spraying WD-40 carefully in the area (C) between the back part and the locking sleeve.
4. Connect the nipple into the coupling and see if the locking sleeve easily turns itself to the lock position. Check by pulling the locking sleeve straight back. The nipple should not disconnect.
5. To disconnect the nipple, turn the locking sleeve and pull it backward.
6. Repeat steps 4 and 5 a few times to assist internal lubrication of the locking sleeve.

### 11.2.3. Pressure relief device

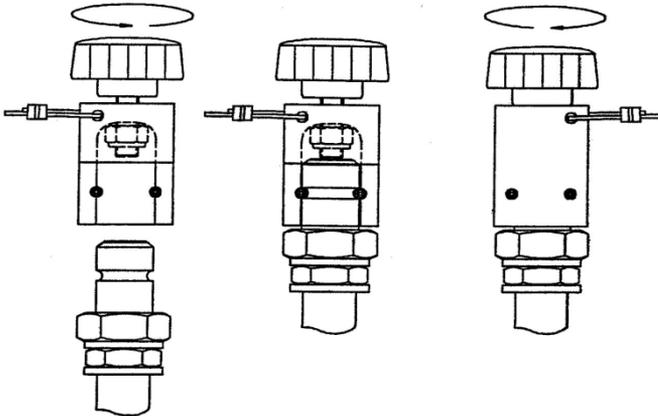
A pressure relief device (PRD) is provided for relieving pressure in the hydraulic hose. The pressure relief device is only used to relieve pressure in hoses caused by elevated temperatures (i.e. if the hoses are left lying in the hot sun). Follow the operation instructions below for proper use of the relief device and observe all warnings

The pressure relief device (PRD) hanging on front of the hydraulic rescue pump is only to be used on pressurized hose caused by elevated temperatures (i.e. if the hoses are lying in the hot sun.)



Never use the pressure relief device (PRD) on the hydraulic pump valve control, on hoses, or on rescue tools when the hydraulic pump is in operation and is generating pressure. The relief device may be damaged and serious injury may occur.

1	2	3
<p>Open knob all the way out counterclockwise.</p>	<p>Position male coupler on hose into the PRD and between the roll pins.</p>	<p>Always turn open side of the relief device away from you to prevent oil spraying upwards into the operator's eyes. Turn the knob in to release pressure in the hose.</p>



## 11.2.4. Starting:

### Gasoline engine.

First complete the checklist in section 11.2.1.

- \* Turn hydraulic breather cap to the “OPEN” position.
- \* Switch the pump relief valve to its “RELEASE” position (Twin line).
- \* Turn fuel shutoff valve to the “OPEN” position.
- \* Switch the choke lever to its “CHOKE” position.
- \* Turn engine ON/OFF switch to the “ON” position.
- \* Pull the cord until resistance is felt, let the cord be retracted and then pull fast. Repeat this if the engine does not start the first time.
- \* Guide the starting cord back after starting.

Switch the choke lever to “RUN” when the engine has warmed up after approx. 20 - 30 seconds, or when the engine begins to run irregularly.

**NOTE:** Start in the “RUN” position if the engine is still warm. Start in the “CHOKE” position if the engine is cold or runs out of gasoline during operation.

**NOTE:** During equipment testing operations, run the engine for at least 20 minutes or until the engine reaches operating temperature. (Depending on ambient temperature. Run the engine longer in colder weather)

### Electric motor.



Make sure that the power source voltage matches the voltage rating of the power unit. The on/off switch is provided with an under voltage detection device that will prevent the motor from running if the voltage is too low.

If the on push button of the on/off switch *moves freely and will not stay down in the “on” position*, the voltage supply is too low. If the pump starts and then stops, and the start button of the on/off switch *moves freely and will not stay down in the “on” position*, the voltage supply is too low. Have a qualified electrician check the electrical supply to the power unit.

- \* Turn hydraulic breather cap to the “OPEN” position.
- \* Connect the power unit to an appropriate power source.
- \* Switch the relief valve to its “RELEASE” position (twin-line pumps).
- \* Press the motor switch to the “ON” position.

### 11.2.5. Operating:

For twin-line SR pumps, the relief valve can be set to the operation/pressure position “1” as soon as the engine is running regularly. To release the pressure and dump oil back to the tank, move the control lever to the release position “0”.



Core™ SR pumps do not use the Pressure/Release handle. The oil now flows through the discharge hose to the hydraulic rescue tool and back to the pump. The tool can perform its function by operating the tool dead-man's control. The pump automatically supplies the required pressure. Make sure that the hydraulic oil breather cap is in the open position before starting operations.

### 11.2.6. Shutting Down:

The pump can be shut down after completion of the work. Make sure that all tools are closed and that all pressure is relieved.



For Twin-line systems, check that the pump relief valve is in its "RELEASE" position before uncoupling. Remove any dirt from the couplings and the dust caps to prevent penetration into the hydraulic system. Take the dust caps apart and place them on the tool's couplings.

#### Gasoline engine.

- \* Close the tool(s) being operated with the pump. (Relieve any pressure in the tool. See tool manual)
- \* Check that the pump relief valve is in its "RELEASE" position (twin-line pumps) before uncoupling hoses.
- \* Turn the engine ON/OFF switch to the “OFF” position.
- \* Close the fuel valve.
- \* Remove any dirt from the couplings and the dust caps to prevent penetration into the hydraulic system.
- \* Take the dust caps apart and place them on the power unit's couplings.

#### Electric motor.

- \* Close the tool(s) being operated with the pump. (Relieve any pressure in the tool. See tool manual)
- \* Check that the pump relief valve is in its "RELEASE" position (twin-line pumps) before uncoupling hoses.
- \* Switch the motor “OFF” by pressing the red button on the switch box.
- \* Remove any dirt from the couplings and the dust caps to prevent penetration into the hydraulic system.
- \* Take the dust caps apart and place them on the power unit's couplings.

### 11.2.7. Cleaning and storage

Clean the unit and any accessories used before storage.

- \* Clean all quick-action couplings. Ensure that the dust caps are installed
- \* Check the pump for external damage and/or oil leakage.
- \* Always store the pump in a horizontal position.
- \* Ensure that the pump cannot tilt during transport. This can cause leakage of hydraulic oil or gas.
- \* Check that the fuel shutoff valve is in the closed position.

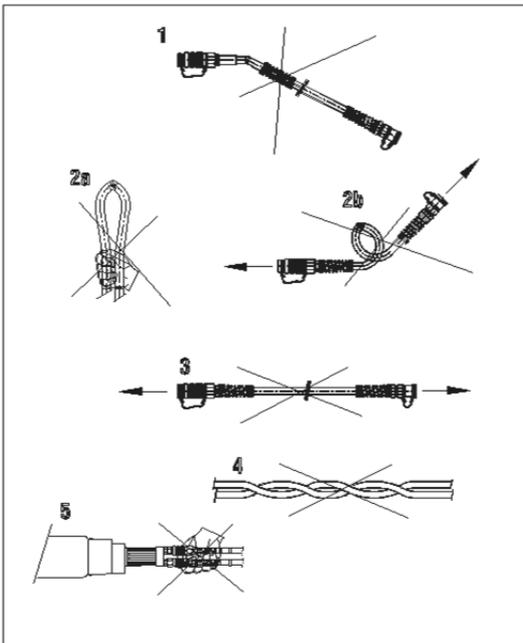
## 11.3. Important additional user information

### 11.3.1. Hoses



The hydraulic hoses that make up the hydraulic system need attention. Observe the following points:

1. Do not use hoses without proper anti-kink devices and prevent kinking behind the attachment.
2. Prevent kinking of the hoses and never bend the hoses beyond their minimum bending radius 89 mm (3 1/2").
3. Do not pull the hoses to move tools or pumps.
4. Prevent twisting of the hose.
5. Do not use the hoses to keep the equipment in position and especially not if the hoses are pressurized.
6. Do not store hoses with the ends coupled together.



### 11.3.2. Gasoline

## NOTICE

The pump engine should be operated using unleaded gasoline as recommended in the Honda manual. Use of any other type of fuels may cause permanent un-repairable damage to the engine.

Avoid high concentrates of alcohol-blended gasoline, and never use leaded gasoline in this power unit. If you use an oxygenated gasoline, be sure it is unleaded and meets the minimum octane rating requirement. Before using an oxygenated gasoline, try to confirm the oxygenate contents. The following are the current United States Environmental Protection Agency (EPA) approved percentages of oxygenates:

**ETHANOL:** You may use gasoline containing up to 10% by volume. Gasoline containing ethanol may be marketed under the name gasohol.

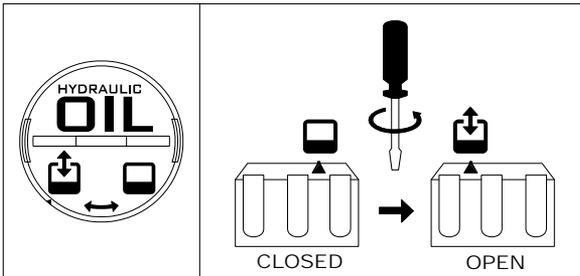
**METHANOL:** You may use gasoline containing up to 5% methanol by volume as long as it also contains co-solvents and corrosion inhibitors to protect the fuel system.

**NOTE:** Check with your fuel supplier for information on any additional gasoline regulations in your area.

### 11.3.3. Hydraulic oil breather cap.

## NOTICE

Make sure the hydraulic breather cap is in the open position before operating any equipment. Slow or no tool movement will result if the breather cap is closed.



Use a screwdriver to rotate the centre part of the breather cap. The triangle indicator on the cap should be aligned with the image on the top of the cap to show “CLOSED” or “OPEN”.

## 12. Troubleshooting

### 12.1. The engine fails to start

1	Check the engine oil level →	<i>(a) No or low engine oil</i>  <i>(b) Excess engine oil</i>	→	(a) Add engine oil to correct level (b) Remove excess engine oil
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*Engine oil level okay*



2	Check the fuel level	<i>No fuel</i>		Add fuel
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*Sufficient fuel*



3	Check the fuel shutoff valve →	<i>Valve "CLOSED"</i>	→	Turn valve to "OPEN"
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*Valve "OPEN"*



4	Check position of the choke switch Cold engine in "CHOKE" position. Hot engine in "RUN" position. →	<i>Incorrect choke Position.</i>	→	Set choke to correct position
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*Choke position okay*



5	Check the position of the pressure relief valve. Must be in the release "0" position for Twin-line pumps. →	<i>Incorrect position</i>	→	Set relief valve to release "0" position
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*Valve position okay*



6	Check for kinked or blocked fuel lines →	<i>Kinked or blocked lines</i>	→	Remove kinks/blockages. Check in-line fuel filter.
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*Fuel lines free of kinks/blockages*



7	Check spark plug →	<i>Fouled spark plug and no or weak spark</i>	→	Replace spark plug
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*Spark plug okay*



8	Consult your Holmatro dealer
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## 12.2. The motor fails to start.

1	Check the motor ON/OFF switch.	→	a.) Switch is in "OFF" position b.) Switch "on" button will not stay down	→	a.) Switch to "ON" position b.) Under voltage detection device activated. Have electrician check voltage supply
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*Motor switch "ON"*



2	Check power supply, 115V or 230V	→	<i>Incorrect power supply</i>	→	Connect to correct power supply for motor.
---	----------------------------------	---	-------------------------------	---	--

*Correct power supply*



3	Check the position of the circuit breaker switches.	→	<i>Breaker switches "OFF"</i>	→	Switch breakers to "ON"
---	---	---	-------------------------------	---	-------------------------

*Breaker switches "ON"*



4	Check the position of the pressure relief valve. Must be in the release "0" position for Twin-line pumps.	→	<i>Incorrect position</i>	→	Set relief valve to release "0" position
---	---	---	---------------------------	---	--

*Valve position okay.*



5	Consult your Dealer
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## 12.3. The motor starts but then stalls.

1	Check power supply, 115V or 230V	→	<i>Incorrect power supply</i>	→	Connect to correct power supply for motor.
---	----------------------------------	---	-------------------------------	---	--

*Correct power supply*



2	Check the position of the circuit breaker switches.	→	<i>Breaker switches "OFF"</i>	→	Switch breakers to "ON"
---	---	---	-------------------------------	---	-------------------------

*Breaker switches "ON"*



3	Check the size/rating and condition of any connected extension cables.	→	<i>Incorrect size/rated or damaged extension cable.</i>	→	Switch to correct size cables. Replace worn/damaged cables.
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*Extension cables okay.*



5	Check on/off switch	→	Switch "on" button will not stay down	→	Under voltage detection device activated. Have electrician check voltage supply
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*On button operates correctly*



6	Consult your dealer
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## 12.4. The quick-action couplings cannot be connected.

1	Check tool control handle position →	<i>Handle in open or close position</i> →	Release control handle to neutral position
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↓ *Control handle in neutral*

2	<u><b>Twin-line:</b></u> Check for pressure in the hose. ----- <u><b>Core:</b></u> Check for pressure in the hose. →	<i>Hose pressurized, but not pre-connected to pump/tool.</i> →	Release pressure in hose using Pressure Relief Device (PRD)
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↓ *Hose pressure relieved*

3	<u><b>Twin-line:</b></u> Check for pressure in the tool. ----- <u><b>Core™:</b></u> Check for pressure in the tool. →	<i>Tool pressurized, but not pre-connected to pressure or return hose line.</i> ----- <i>Tool pressurized, but not pre-connected to hose line.</i> →	Release pressure in tool using PRD ----- Release pressure in tool using PRD
---	---	--	---

↓ *Tool pressure relieved*

4	<u><b>Twin-line:</b></u> Check for pressure in the pump. ----- <u><b>Core™:</b></u> Check for pressure in the pump. →	<i>Pump pressurized, but not pre-connected to hose.</i> ----- <i>Pump pressurized but not pre-connected to hose</i> →	Release pressure at pump using Operation/Release handle. ----- Turn off pump & Consult your Holmatro dealer
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↓ *Pump pressure relieved(Twin-line) or pump not pressurized (Core™)*

5	Check the coupling locking sleeve location or dirt in coupler →	<i>Incorrect position or dirt in coupler</i> →	Release locking sleeve. Clean coupler
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↓ *Locking ring released/Coupler clean*

6	Consult your Holmatro dealer
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## 12.5. The quick-action couplings cannot be disconnected.

1	Check tool control handle position	→	<i>Handle in open or close position</i>	→	Release control handle to neutral position
---	------------------------------------	---	---	---	--

↓ *Control handle in neutral*

2	<p><b>Twin-line:</b> Check the position of the pump pressure relief valve handle.</p> <p>----- →</p> <p><b>Core™:</b> Pump only is pressurized.</p>	→	<p><i>Relief valve handle in PRESSURE position.</i></p> <p>----- →</p> <p><i>System not releasing pressure</i></p>	→	<p>Turn relief valve handle to "RELEASE".</p> <p>-----</p> <p><b>TURN OFF PUMP</b> Consult your Holmatro dealer</p>
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*Valve position in RELEASE (Twin-line) or pump not pressurized (Core™)*

↓

3	Check the coupling locking sleeve location	→	<i>Incorrect position</i>	→	Release locking sleeve
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↓ *Locking ring released*

4	Consult your Holmatro dealer
---	------------------------------

## 12.6. The connected equipment is not operating - or not properly.

1	Check the hydraulic breather cap →	<i>Breather cap closed</i> →	Open the breather cap
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↓ *Breather cap open*

2	Check the pump hydraulic oil level. →	<i>No or low hydraulic fluid</i> →	Add recommended hydraulic fluid up correct level.
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↓ *Hydraulic fluid level correct*

2	<u><b>Twin-line:</b></u> Check the coupler connections. ----- →	<i>Incorrect or incomplete coupling.</i> →	Release pressure at pump and reconnect. ----- Reconnect couplings
	<u><b>Core:</b></u> Check the coupler connections.		

↓ *Couplings correct*

3	<u><b>Twin-line:</b></u> Check the position of the pump pressure relief valve handle. →	<i>Valve in release "0" position.</i> →	Turn relief valve handle to pressure position "1"
---	---	---	---

↓ *Valve position okay*

4	Consult your Holmatro dealer
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Consult your Holmatro dealer in case of other problems or if the solutions provided above do not have the required results.

Caution: If the pump must be returned to an authorized repair facility, ensure that the fuel tank is empty and the engine oil removed.

### ALWAYS SHIP THE POWER UNIT WITH ITS ORIGINAL SHIPPING BOX AND PACKING

# NOTICE

To avoid oil spillage, make sure that the hydraulic breather cap is in the CLOSED position before shipping the pump.

## 13. Maintenance



Wear personal protection equipment during maintenance. Ensure that any spent replaced hydraulic oil is collected and disposed of in a responsible manner; think of the environment.



Engine parts may become hot during use. Work on the pump only after the muffler has cooled down.

### 13.1. Regular maintenance (minimum every 3 months)

Depending on the use, it is necessary to carry out regular maintenance. Increased use will necessitate more frequent maintenance intervals. Consult your Holmatro dealer.

- \* Check whether the safety symbols and product identification labels are still present. If not, consult your Holmatro dealer.
- \* Check the hoses, quick-action couplings and dust caps.
- \* Check the operation of the equipment.
- \* Check the spark plug. Replace if necessary.

### 13.2. Annual maintenance

With the proper care and correct preventive maintenance this unit will ensure many years of safe use. We recommend having the unit checked at least once a year by a trained technician with the proper knowledge and the necessary tools. Your Holmatro dealer can carry out the annual maintenance on a contract basis on your behalf, if desired. This will ensure good and safe operation.

- \* Fuel lines, hydraulic fluid lines, and rubber components associated with these lines should be checked at least every two years and replaced if necessary.

The following can be used for pumps not equipped with an operating hour meter: 50 operating hours  $\approx$  6 months. Remember the personal protection equipment. Ensure that the pump is horizontal and never work on a pump that has not yet cooled down. Work in a well-ventilated area.

### **13.3. Maintenance after the first 20 operating hours.**

These instructions apply only to new pumps.

- \* Engine oil. Remove the dipstick for engine oil. Remove the engine oil drain plug and drain the oil into a drainage container intended for the purpose.
- \* Replace the engine oil drain plug. Refill the crankcase with the correct engine oil to the proper level on dipstick. (See Honda manual). Firmly tighten the dipstick.
- \* Hydraulic oil. Check the hydraulic oil level. Use only the hydraulic oil specified by HOLMATRO. Check with your Holmatro dealer for the recommended hydraulic oil that may be used with Holmatro rescue tools.
- \* Check the spark plug. Replace if necessary. (See Honda manual)

### **13.4. Maintenance after every 50 operating hours.**

- \* Air filter. Follow the instructions in the Honda manual provided.
- \* Spark plug. Remove the spark plug lead and unscrew the spark plug. Check the spark plug and clean it with a steel brush. Remove any carbon deposits from the electrode. Check the gap between the electrodes (shown in the Honda manual) and adjust, if necessary. Replace the spark plug if the electrodes are excessively worn.

### **13.5. Maintenance after every 100 operating hours**

- \* Carry out all the activities described under maintenance after every 50 hours.
- \* We recommend having the fluid changed at least once a year by a trained technician with the proper knowledge and the necessary tools.

### **13.6. Five year maintenance and testing**

- \* We advise you to have the unit checked and tested by your Holmatro dealer certified by Holmatro after a maximum of five years of use. Consult your Holmatro dealer for further details.

### **13.7. Long-term storage**

Carry out the following activities if the pump is not going to be used for 3 months or longer:

- \* Empty the fuel tank. Remaining gasoline will age and may result in difficult starting.
- \* Remove all gasoline from the carburetor. See Honda manual.
- \* Replace the engine oil. See procedure under maintenance after 20 hours.
- \* Clean the pump and re-tighten any screws that may have come loose.
- \* Clean the air filter. See Honda manual.
- \* Pull the starter cord until no more resistance is felt, release the cord and store the pump in that condition.
- \* Store the pump in a dry, well-ventilated area. Use additional preservatives if the area is damp.

Also consult the instructions supplied by the engine manufacturer.

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## 14. Scrapping

The unit can be scrapped at the end of its service life and the various parts may be re-used. Collect the hydraulic oil and dispose of it separately. The unit consists of steel, aluminum, neoprene (seals) and plastic. The unit does not contain any pressurized components.

Also consult your supplier about scrapping.

## 15. Technical information

**Power Unit Model Series: SR10, SR20, SR31/32, SR40/41/42**

Made in the USA

Qualified persons authorized by Holmatro may only make repairs and/or service to Holmatro® rescue tools. An active and presently authorized Holmatro dealer may only disassemble the sealed parts. Contact your Holmatro dealer for further advice if other problems occur. In the event that you are unable to contact your Holmatro dealer, contact Holmatro at:

**Holmatro, Inc.**

505 McCormick Dr.  
Glen Burnie, MD 21061

Fax: (410) 768-4878

Tel: (410) 768-9662

E-mail: [info@holmatro-usa.com](mailto:info@holmatro-usa.com)

Website: [www.holmatro-usa.com](http://www.holmatro-usa.com)



