



POWER SPRAYER

Model: S201

Operator's Manual



BARTELL MORRISON INC. BARTELL MORRISON (USA) LLC
375 ANNAGEM BLVD, MISSISSAUGA, ONTARIO, CANADA, L5T 3A7, 905-364-4200 FAX 905-364-4201
12 INDUSTRIAL DRIVE, KEYPORT, NEW JERSEY, USA, 07735, 732-566-5400 FAX 732-5444

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Bartell Morrison Inc.

375 Annagem Blvd.
Mississauga, Ontario, Canada
L5T 3A7

Toll Free (N.A.): (866) 501-1683
Phone: (905) 364-4200
Facsimile: (905) 364-4201

ORIGINAL LANGUAGE OPERATING INSTRUCTIONS FOR
MORRISON POWER SPRAYERS © 2008 BY
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Address inquiries or reference permissions care of:
Bartell Morrison Inc., 375 Annagem Blvd., Mississauga,
Ontario, Canada, L5T 3A7

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Important Information:

Date of Purchase:

Dealer:

Model Number: S201

Serial Number:

1.0 INTRODUCTION

TO THE OPERATOR:

DO NOT OPERATE THE BARTELL MORRISON S201 POWER SPRAYER UNLESS YOU HAVE READ AND STUDIED THIS MANUAL CAREFULLY.

REMEMBER THAT YOU ARE THE KEY TO SAFETY. GOOD SAFETY PRACTICES NOT ONLY PROTECT YOU, BUT ALSO THOSE WORKING AROUND YOU. MAKE THIS MANUAL A WORKING PART OF YOUR SAFETY PROGRAM.

For safe operation of the power sprayer, you must be a qualified and authorized operator. To be qualified, you must understand these written instructions, have training, including actual operation of the power sprayer and know the safety rules and regulations for your particular job site.

An operator should never use drugs, alcohol or any other substance which can change his/ her alertness or coordination.

This manual is compiled from information available and current at time of approval for printing. Bartell Morrison Inc. reserves the right to improve its products without giving prior notice or incurring any obligation

1.1 MORRISON S201 POWER SPRAYER

The Morrison S201 Power Sprayer is ideal for spraying all types of curing compound on bridge decks, highways, floor slabs, drainage channels, etc, after finishing work is completed. Easily handles form oils, pigmented curing compounds, bond breakers, soaps and detergents, pest control liquids, and most liquid type material.

It is powered by a dependable Honda engine and comes with 25' (7.6m) of 3/8" (0.95cm) hose with an adjustable spray nozzle.

1.2 OPTIONS

Hose Lengths: 50' (15.2m), 75' (22.7m), 100' (30.5m)

Fan Spray Nozzle

Hand Cart

Tow Cart

1.3 Dimensions

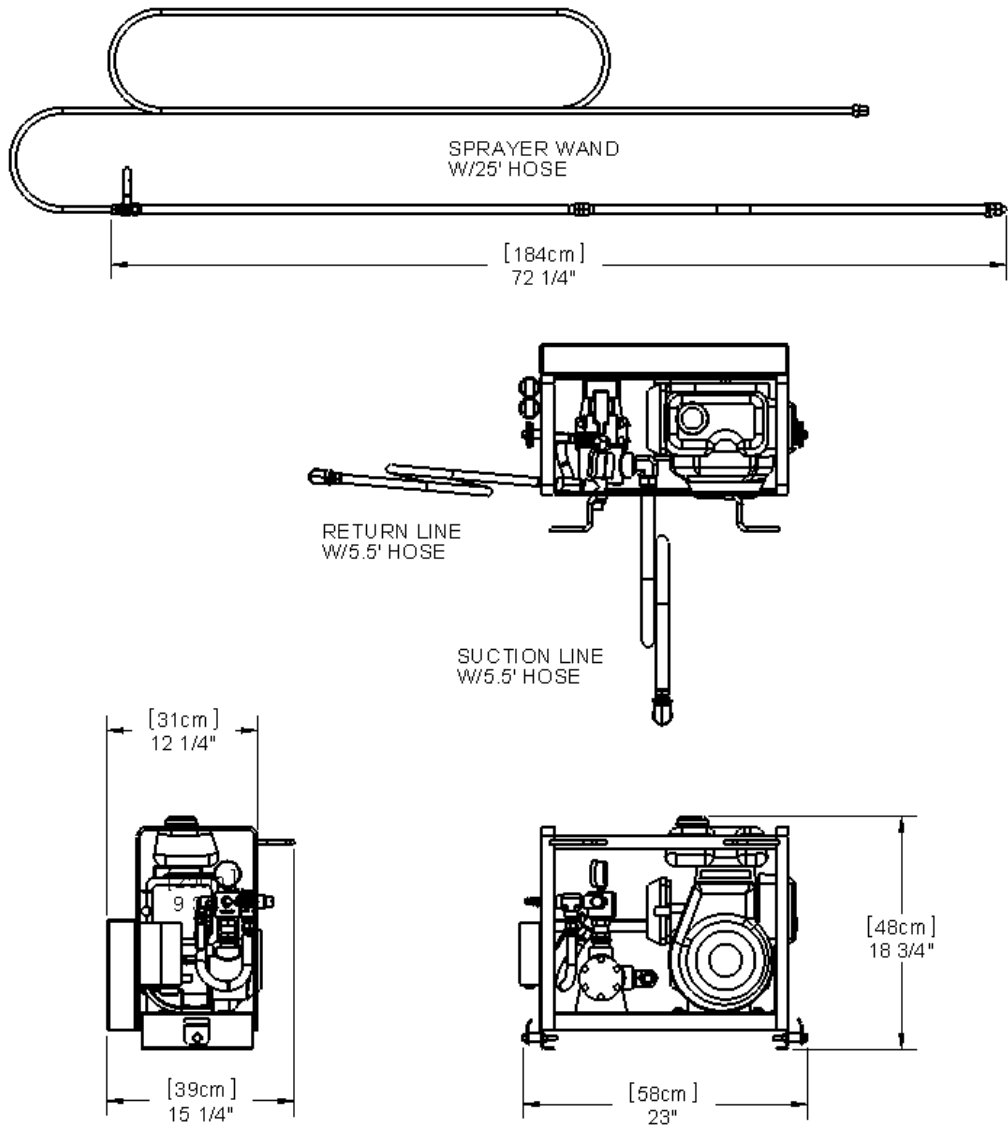


Fig. 1

1.4 Sprayer Main Components

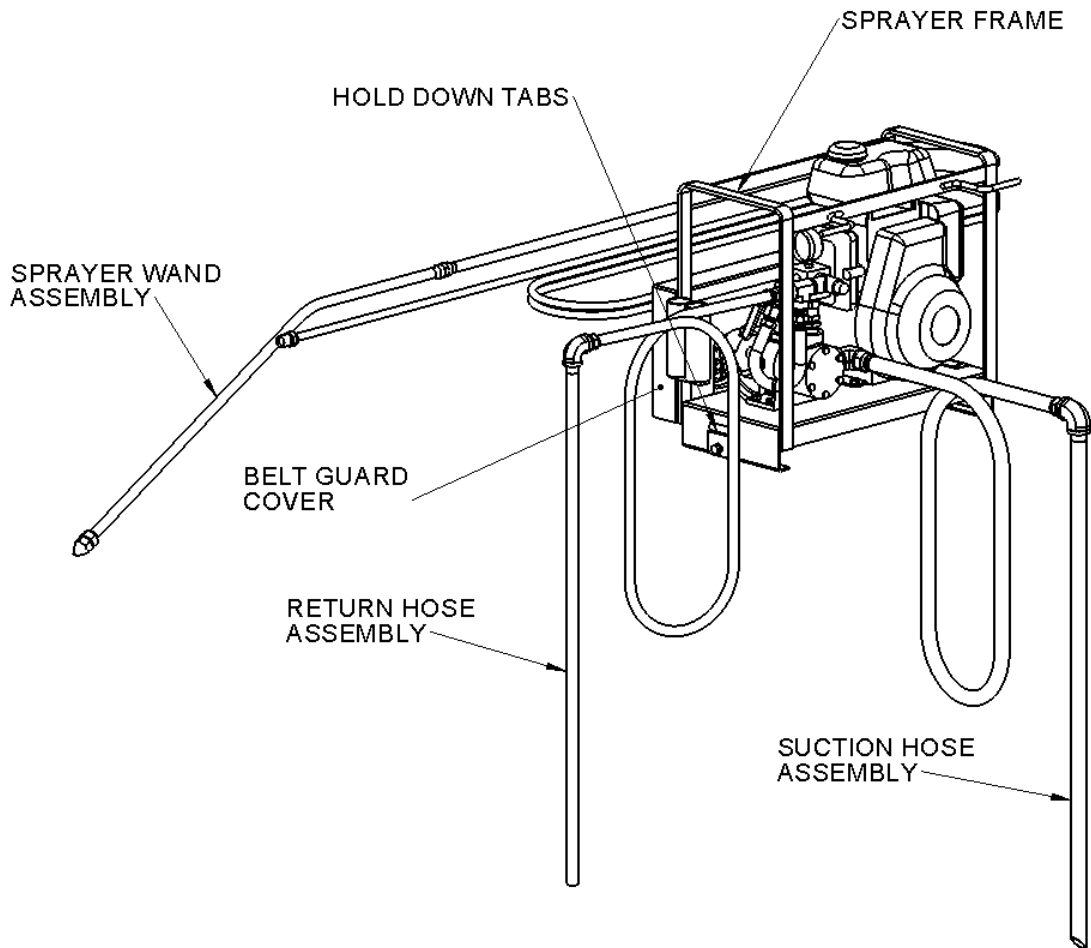


Fig. 2

2.0 SAFETY INSTRUCTIONS



2.1 READ OPERATING INSTRUCTIONS

Read and understand this entire manual before attempting to operate or service the equipment described herein. Failure to follow these operating instructions could result in serious injury or death. Store this manual with the machine and ensure it is apparent and available to any users.

CALIFORNIA PROPOSITION 65 WARNING

Engine exhaust, some of its constituents, and certain vehicle components, contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



2.2 PRODUCT SAFETY AND HAZARD ALERT SYSTEM:

This Operating Manual presents Product Safety and Hazard Alert Information in accordance with *American National Standards Institute* and *International Organization for Standardization* recommendations as laid out in ANSI Z535 and ISO 3864. The callouts of DANGER, WARNING, CAUTION, and NOTE must be followed to reduce or avoid the potential for personal injury, equipment damage, or service-related equipment failures.



Safety Hazard Alert:

Alerts the reader to personal injury hazards and other important, potentially life-saving information.



DANGER:

Beware of a hazardous situation that WILL result in serious personal injury or untimely death.

DANGER



WARNING:

Beware of a hazardous situation that COULD result in serious personal injury or even death.



CAUTION:

Beware of a hazardous situation that could result in minor personal injury or equipment damage.

WARNING

CAUTION

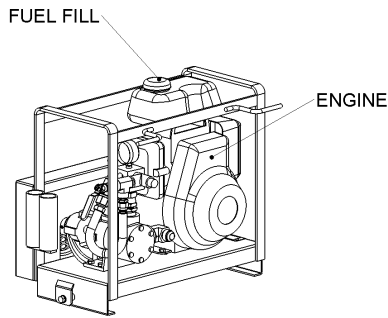


Fig. 3

2.3 FUELING WARNING

ALWAYS handle fuel with care. It is highly flammable.

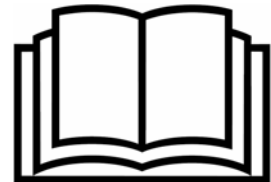
DO NOT refuel while smoking or when near open flame or sparks.

ALWAYS stop engine before refueling. Fill fuel tank outdoors.



2.4 SAFETY RULES

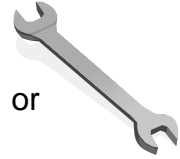
- The instructions provided in this manual are done so to ensure the operator's safety as well as that of other workers, the equipment, and the job site. Failure to abide by these guidelines can lead to serious personal injury and even death. The operator and any service personnel should read and understand the entire manual before working with or servicing the S201.



- The operator's manual should be kept at all times in a place that is accessible to any persons working with the machine. Replacement manuals can be purchased from the equipment manufacturer or from your local dealer.
- Only use parts and attachments supplied or approved by your Bartell Morrison equipment dealer. The consequences of modifying the design of this equipment can include personal injury, equipment failure, and voiding your warranty. If you are unsure about a repair or an apparent malfunction, contact your Bartell Morrison dealer or the technical support line at the bottom of each page of this manual.
- **NEVER** use the S201 in an enclosed space with poor air flow, such as a basement or small room. The gasoline engine produces, among other things, toxic carbon monoxide gas. Without proper ventilation, this gas will build up and cause health effects such as organ damage and *death* to anyone in the vicinity.
- The operator should always be lucid and aware of his/her surroundings. **NEVER** operate the S201 while under the influence of drugs, alcohol, fatigue, sickness, hangover, extreme depression, anti-depressants, or emotional distraction.
- **ALWAYS** wear appropriate personal protective equipment while operating the S201 Power Sprayer. This includes (but is not limited to) safety glasses, hearing protection, protective footwear, and heavy or padded gloves. Other safety gear may be job-site appropriate.



- NEVER leave the S201 unattended while running.
- Children and small animals should NEVER be present in the work area during operation of the S201.
- ALWAYS check your S201 for loose or missing nuts and bolts before starting. Tighten any loose fasteners and replace missing or broken parts.
- Perform all routine maintenance as described within this manual. Failure to do so will void your warranty and will eventually result in premature equipment failure.
- NEVER perform maintenance on a running piece of equipment. Shut down the engine and allow it to cool before servicing the S201, including mechanical work or lubrication.
- ALWAYS replace missing, damaged or unclear safety labels to ensure operator awareness and safety.
- NEVER operate the S201 with missing or damaged safety guards. Replace immediately with appropriate Morrison parts.
- NEVER put hands, feet, or other appendages inside the belt guard while the engine is running, even at idle or with protective clothing, as serious injury may result.
- NEVER wear loose fitting clothing or jewelry around rotating equipment such as the S201 as it may become entangled in the machinery, resulting in serious injury.
- ALWAYS refuel the S201 in a well-ventilated area, away from ignition sources such as sparks, flames, and lit cigarettes. Smoking while fuelling the equipment may result in explosion.
- Ensure the engine has cooled sufficiently before refueling to avoid igniting gasoline fumes.
- NEVER operate the S201 in explosive environments such as paint fumes, methane, natural gas, fine particulate, aerosol propellant, or solvent fumes.
- NEVER smoke near the S201 as stray gasoline fumes may ignite. Operating the S201 around an open flame may also result in explosion.
- ALWAYS shut down the engine and allow it to cool off before lifting or transporting the S201.
- ALWAYS tie down the S201 when being transported in a truck or on a flatbed. Empty the fuel tank if transporting it over long distances.



3.0 SAFETY AND OPERATIONAL LABELS



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1		Product Brand Label
2		Model and Serial Number plate
3		Product Model Number
4		DANGER: Keep hands, feet, and loose clothing away from all moving parts.
5		ATTENTION: Read and understand owner's manual before operating or servicing this equipment.
6		ATTENTION: Do not operate this equipment until the engine is checked and filled with oil.
7		NOTICE: Sprayer must be flushed and cleaned daily. Refer to page 16 for instructions.

4.0 SPRAYER ASSEMBLY

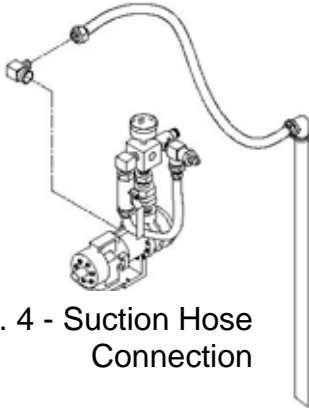


Fig. 4 - Suction Hose Connection

Your new S201 Power Sprayer will arrive with everything you need in one shipping carton. Be sure to examine the content to be certain that the following items were included:

Return Hose: $\frac{1}{2}$ " hose/pipe

Suction Hose: $\frac{3}{4}$ " hose/pipe

Sprayer Wand Assembly: 25 ft. of $\frac{3}{8}$ " hose and (2) $\frac{3}{8}$ " pipes with a coupler

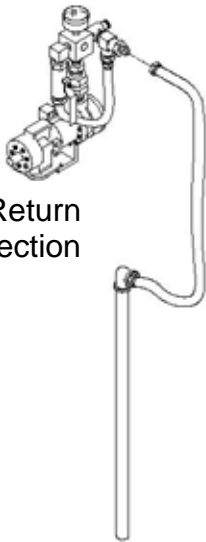


Fig. 5 - Return Hose Connection

1. Remove the sprayer from the carton and place it on the curing drum you will be using. The sprayer should be mounted so that the openings on the drum are accessible on either side of the sprayer. Tighten the hold down tabs on the sprayer to the drum.
2. Attach the suction hose/pipe to the sprayer using the fitting mounted directly to the pump. (See Fig. 4)
3. Attach the fitting end of the return hose/pipe to the sprayer using the $\frac{1}{2}$ " connection on the spray block assembly. (See Fig. 5)
4. Join the two section of the sprayer wand together using the pipe coupling provided. (See Fig. 6)
5. Attach the spray hose to the last fitting on the sprayer block assembly. (See Fig. 6)

You are now ready to begin operation of the sprayer.

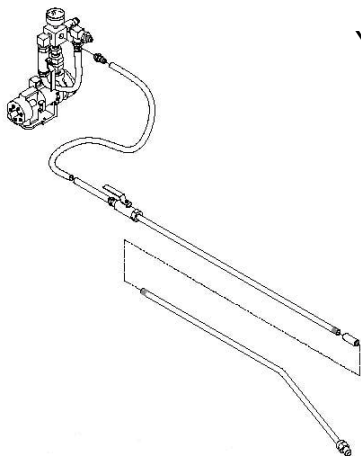


Fig. 6 - Spray Hose & Wand Connection

5.0 SPRAYER OPERATING INSTRUCTIONS

Before starting engine, refer to the engine owner's manual, follow the engine manufacturer's instructions for proper starting procedures, and follow the steps below.

CAUTION: If the material you are working with has solids in it, these will settle to the bottom of the drum. You must agitate it thoroughly before attempting to spray the material. If you do not do this, the sprayer will become clogged and possibly damage the pump.

1. Insert the suction hose into the drum using the larger of the two access holes. We recommend using a support under the hose so that it will not reach the bottom of the drum where sediment can clog the suction hose.
2. Insert the return hose into the drum using the smaller of the two openings.
3. The sprayer has a bypass valve that allows the engine to be started without pressure building in the pump. Rotate the bypass valve handle to the downward position before starting the engine. This valve allows you to stir the curing material by circulating it directly through the pump.
4. Read the engine manufacturer's instructions carefully before starting the engine.
CHECK OIL!!
5. Check the end of the suction hose to be certain it is immersed in the liquid but not in the sediment in the bottom of the drum.
6. With the bypass valve in the on, downward position, start the engine and allow it to run for 2-10 minutes. This aids in the mixing of the spray compound and assures greater pump efficiency and life. (See Fig. 6)

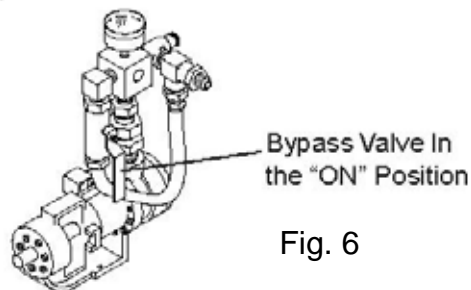


Fig. 6

NOTICE: Some compounds have a tendency to foam when air is introduced. This foaming can cause erratic pump performance. Please do not insert spray nozzle into the drum in an attempt to stir the material! This will only cause more foam in the compound.

7. Be certain the spray wand is off before turning the bypass valve to the off position to pressurize the system.

8. Turn the bypass valve to the off position. You are now ready to spray.
9. Adjustments to the spray pattern can be made with the nozzle at the end of the spray wand. Turn the nozzle counterclockwise to narrow the spray pattern, and clockwise to broaden the spray pattern.

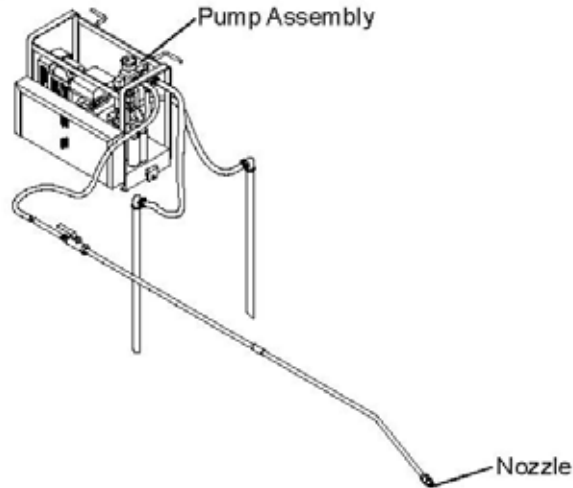


Fig. 7

10. The sprayer has an adjustable pressure relief valve (See Fig. 8) on the block assembly. You may need to vary the pressure according to the viscosity of the material you are using. Thinner liquids tend to need more pressure to assure a good coverage pattern.

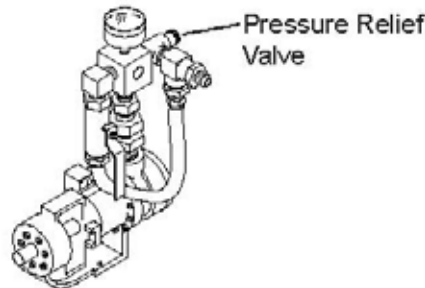


Fig. 8

CAUTION: NEVER EXCEED 150 PSI

11. While not spraying, turn the bypass valve on to remove unnecessary pressure from the pump. Turning off the engine when not spraying will prolong the life of the pump.
12. The return hose may be used to check for any sediment remaining lodged at the bottom of the drum. If none is detected, the suction hose can be lowered

completely into the drum. If sediment remains after several minutes of spraying, it may be necessary to remove the sprayer and stir the material manually.

6.0 PUMP PRESSURE ADJUSTMENT

Please refer to the instruction manual for the pump.

7.0 OPERATING TIPS AND REMINDERS

1. Always start the engine with the bypass valve in the on position to reduce system pressure.
2. Always stir the compound before attempting to operate the sprayer.
3. When not spraying, turn the bypass valve to the on position, or stop the engine. This will add several hours of life to your sprayer.
4. Follow manufacturer's directions and safety procedures in the use of materials used to clean the sprayer.
5. Periodically clean the spray nozzle, as materials tend to clog, causing poor spray performance.
6. Clean the sprayer after every use.
7. Flush after cleaning completely so that no solvents remain in the system.
8. Use care to avoid crimping or damaging hoses. Do not allow accumulations of compounds to build up on hoses.
9. **NEVER** directly spray nozzle in the direction of eyes or face.



8.0 MAINTENANCE

It is essential that the sprayer be cleaned on a daily basis. Parts will not be warranted that fail due to improper cleaning. Use the following steps as a guide to proper cleaning and maintenance.

8.1 Sprayer

1. Place the suction hose into a container that has been filled with a solvent recommended by the compound manufacturer to clean spraying equipment after use.
2. Place the return hose in an empty container the same size, or larger than the one with the cleaning agent.
3. Turn the bypass valve to the on position and start the engine. Allow the cleaning agent to run through the pump for 2-3 minutes.
4. Turn the bypass valve to the off position and spray wand to the on position. Allow the wand to spray into the empty container for about 20 seconds. This procedure may need to be repeated several times to insure that the pump and spray wand are clean.
5. Check the procedures for cleaning provided by the solvent manufacturer. Some cleaning solvents require that they be flushed out with water after they are used. If this is the case, we recommend that a small amount of form oil or diesel fuel be used AFTER using water. This will prevent the internal components of the pump from seizing, due to the formation of rust on the metal gears.
6. Disconnect all the hoses and allow all the liquid to drain from the lines.
7. As you begin your next spraying operation, spray a small amount of compound through the lines and into an empty container. This will clear any remaining water or solvent before it is mixed with the regular spraying compound.

8.2 Engine

Refer to engine owner's manual for specific information regarding maintenance.

Check the oil level in your engine prior to start up and then every 10 hours of operation. Maintain the proper levels at all times.

Drain oil after every 50 hours of operation and refill with grade of oil as recommended in the engine owner's manual.

Above 40 Deg. F (13 Deg. C)- S. A. E. 30

Below 40 Deg. F (13 Deg. C)- S. A. E. 20

Cold Weather Note:

In climates where temperatures are below 35 Deg. F, hard starting may occur. In these cases the oil should be switched to a thinner 15 weight hydraulic fluid.

**Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat
Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita**

We: Bartell Morrison Inc.
375 Annagem Blvd.
Mississauga, Ontario, Canada
L5T 3A7
Tel: 905-364-4200 Fax: 905-364-4201

Declare under our sole responsibility that the product to which this declaration relates is in conformity with the following standard(s) or other normative documents.

Déclarons sous notre responsabilité que le produit cette déclaration est conforme aux normes suivantes ou d'autres documents habituels.

Verklaren onder onze verantwoordelijkheid dat het product naar welke de verklaring verwijst conform de volgende standaards of anders gebruikelijke documenten is.

Declaramos bajo nuestra única responsabilidad que el producto en lo que esta declaración concierne, es conforme con la siguiente normativa u otros documentos.

Declara sob sua responsabilidade que o produto a quem esta declaração interessar, está em conformidade com os seguintes documentos legais ou normas directivas.

Dichiariamo sotto la ns. unica responsabilità che il prodotto al quale questa dichiarazione si riferisce, è fabbricato in conformità ai seguenti standard e documenti di normative.

EN 349:1993	Safety of Machinery - Minimum gaps to avoid crushing of parts of the human body.
EN 418:1993	Safety of Machinery - Emergency stop equipment, functional aspects - Principles for design
EN 12100-1:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 1: Basic Terminology, methodology
EN 12100-2:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 2: Technical Principles
EN ISO 4872:1978	Acoustics - Measurement of Airborne noise emitted by construction equipment intended for outdoor use - Method for determining compliance with noise limits.
EN ISO 5349-1:2001	Mechanical vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. General requirements
EN ISO 5349-2:2001	Mechanical vibration. Measurement and assessment of human exposure to hand-transmitted vibration. Practical guidance for measurement at the workplace.

Following the provisions of Directive(s):

Suivant les directive(s) déterminées:

Volgens de vastgestelde richtlijnen:

Siguiendo las directiva(s):

No seguimento das clausulas da Directiva(s):

Seguendo quanto indicato dalla Direttiva(s):

98/37/EC	Machinery Directive
2000/14/EC	Noise Directive
2001/95/EC	General Product Safety Directive
2002/95/EC	Reduction of Hazardous Waste Directive

Technical Characteristics:
 Caractéristiques techniques:
 Technisch gegevens:
 Características Técnicas:
 Características Técnicas:
 Qualità di tecnico:

Model Modèle Type Modelo Modelo Modello	Machine Serial Number Numéro de Série machine Serienummer machine Máquina número de série Numero de serie da maquina Numero di seria la macchina	Engine Serial Number Numéro de Série moteur Serienummer motor Motor número de série Numero de serie do motor Numero di seria la motore	Weight Masse Gewicht Masa Massa Massa
			Lbs (kg)
MORRISON POWER SPRAYER			95 (43)

Noise Level Puissance acoustique Geluidniveau Nivel Sonoro Nivel del Ruido Potenza Acustica	Pressure level Pression acoustique Geluidsdrkniveau Nivel Acustico Pressão Acústica Pressione Acustica	Vibration level Niveau de vibration Vibratieniveau Nivel de Vibracion Nivel de Vibração Livello di Vibrazione
Lwa (dB)	Lpa (Db)	a _{hv} (m/s ²)
98	99	1.5

The Technical Construction file is maintained at:

Les fiches techniques de construction sont gardées à:
 Het technische constructie document wordt bewaard te:
 El archivo técnico de construcción se mantiene en:
 O arquivo técnico de construção é mantido no (a):
 L'originale dossier tecnico di costruzione è conservato presso:

The authorized representative is:

Le représentant autorisé est:
 Gemachtigd vertegenwoordiger is:
 La representación autorizada es:
 O representante autorizado é:
 Il rappresentate autorizzato:

Signature of Authorized Person:

Signature de la personne autorisée:
 Handtekening van gemachtigd persoon:
 Firma de la persona autorizada:
 Assinatura de pessoa autorizada:
 Firma della persona autorizzata:

Typed name of Authorized Person:

Nom dactylographié de la personne autorisée:
 Getypte naam van gemachtigd persoon:
 Nombre de la persona autorizada:
 Nome datilografado da pessoa autorizada:
 Nome della persona autorizzata:

Title of Authorized Person:

Titre de la personne autorisée:
 Functie van gemachtigd persoon:
 Cargo de la persona autorizada:
 Título da pessoa autorizada:
 Denominación de la persona autorizada:

Date and place of issue:

Data e luogo di emissione:
 Data e lugar de emissão:
 Data e luogo di emissione:

Bartell Morrison Inc.
375 Annagem Blvd.
Mississauga, Ontario, Canada
L5T 3A7
Telephone: 905-364-4200
Facsimile: 905-364-4201
Mr. Steve Adam
International Sales Manager
c.o. Bartell Morrison Europe
Nijverheidsstraat 11
1840 Londerzeel
Belgium
Telephone: +1 514 463 4838
Facsimile: +1 514 697 4239



Robert S. Leggitt

Manager - Engineering

09.01.2009

Mississauga, Ontario, Canada

BARTELL MORRISON INC. BARTELL MORRISON (USA) LLC
 375 ANNAGEM BLVD, MISSISSAUGA, ONTARIO, CANADA, L5T 3A7, 905-364-4200 FAX 905-364-4201
 12 INDUSTRIAL DRIVE, KEYPORT, NEW JERSEY, USA, 07735, 732-566-5400 FAX 732-566-5444

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