GB2S-STDO Power Unit
User Information Manual

DANGER **Understand manual before use. Operating AMKUS Rescue Systems without understanding the manual, receiving proper training, and using appropriate personal protective equipment is a misuse of AMKUS equipment. This manual does not fully address safety. Additional safety information is published in AMKUS Safety Manual LAA-001. Obtain safety information at www.amkus.com/**

CE *EN13204 Designation: MTO*

Thank you for choosing AMKUS Rescue Systems. Read this User Information Manual thoroughly. If you have any questions, please contact your local dealer or AMKUS Rescue Systems.

Please complete the tool registration form included with your equipment and return it to AMKUS Rescue Systems. You may also register your equipment on-line at www.amkus.com.

The serial number for your power unit is identified on the product label which is located on the yellow hydraulic fluid reservoir. Please have the serial number available if you need to contact your local dealer or AMKUS Rescue Systems.

DANGER

PERSONAL RESPONSIBILITY CODE

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. Firefighting and Emergency Response are inherently dangerous activities requiring proper training in their hazards and the use of extreme caution at all times.
2. It is your responsibility to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called upon to use.
3. It is your responsibility to know that you have been properly trained in Firefighting and /or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.
4. It is your responsibility to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. It is your responsibility to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns or other severe injury.

FEMSA

Fire and Emergency Manufacturers and Service Association
P.O. Box 147, Lynnfield, MA 01940 • www.FEMSA.org

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1.0 MEANING OF SAFETY SIGNAL WORDS

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. Per ANSI standard Z535.6, the definitions of the four signal words are as follows:

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

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

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

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

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2.0 SPECIFICATIONS

DECLARED DUAL-NUMBER NOISE EMISSION VALUES in accordance with EN ISO 4871
Measured A-weighted emission sound pressure level, L_{pA} (ref. 20µPa), in decibels: 88.2 Uncertainty, K_{pA}, in decibels: 1.5 Measured A-weighted sound power level, L_{WA} (ref. 1 pW), in decibels: 100.2 Uncertainty, K_{WA}, in decibels: 1.5
Values determined according to Annex B of EN 13204 using the basic standards EN ISO 3744 and EN ISO 11201.

NOTICE **The sum of a measured noise emission value and its associated uncertainty represents an upper bound of the range of values which can occur in measurements.**

Length	19.5” (495mm)
Width	15.0” (381mm)
Height	22.0” (559mm)
Weight (ready to use) (Includes gas, engine oil, hydraulic fluid, couplings)	101 lbs (46kg)
Rated Output Pressure	10,500 psi (724 bar)
Fluid Type	AMKUS MV-1 Mineral Based Hydraulic Fluid (for equipment stored and operated in environments below freezing, use AMKUS MV-0 Mineral Based Hydraulic Fluid)
Hydraulic Fluid Reservoir Capacity	2.0 gal US (7.6 l)
Usable Hydraulic Fluid Capacity	1.45 gal US (5.51 l)
Maximum Angle Of Inclination	20 degrees from horizontal
Safety Data Sheet (SDS) for AMKUS MV1 Hydraulic Fluid is available at AMKUS.com and CHEMTREC.com	

3.0 SAFETY

It is the responsibility of the user to insure that appropriate protective clothing and equipment are used to provide protection from those hazards to which personnel are exposed or could be exposed while working with this product.

⚠CAUTION **Always wear appropriate apparel.**

AMKUS equipment is manufactured with superior craftsmanship and quality that is backed by a factory warranty. AMKUS cannot control how other manufacturers of rescue tools rate, test and warranty their equipment. Therefore, we do not recommend that tools other than AMKUS be connected to our equipment. Mixing AMKUS equipment with another manufacturer’s equipment may cause operational problems, equipment failure or warranty claims to be denied.

⚠CAUTION **Use only AMKUS supplied mineral base hydraulic fluid in all AMKUS equipment.**

4.0 TRAINING

This product is designed to be used by emergency services personnel to facilitate the extrication of victims from entrapment. Its use should be limited to trained personnel only. All personnel using this equipment are assumed to have completed a course of instruction acknowledged as being educationally sound by the local authority having jurisdiction over such training. This document contains basic operating and maintenance instructions only.

⚠CAUTION **Read and understand the engine owner’s manual before operating the engine! Failure to do so could result in personal injury or equipment damage!**

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5.0 ROUTINE MAINTENANCE FOR GASOLINE ENGINE

Follow the maintenance guidelines in the engine owner's manual.

5.1 ROUTINE MAINTENANCE FOR HYDRAULIC PUMP

Normally, you will have a maintenance agreement for your system with your local dealer. However, if you have decided to service the equipment yourself, please review the following instructions carefully.

Change hydraulic fluid after each 20 hours of tool operation (approximately every 2 years). If you suspect your hydraulic fluid has been contaminated in any way, contact your local dealer or AMKUS, Inc.

To change the hydraulic fluid, remove the hydraulic fluid reservoir fill plug/vent cap. Place the unit over a drain pan; unscrew and remove the drain plug. Be careful not to lose it! Allow the hydraulic fluid to drain. Clean and replace the drain plug. Fill the hydraulic fluid reservoir with new AMKUS mineral base hydraulic fluid. Replace the fill plug/vent cap.

Connect the male and female couplings on each of the hydraulic hose line sets, creating a loop. Follow the operating instructions in the engine owner's manual for starting the engine. Then operate the engine at full speed. To purge air from the hydraulic hoses, charge each hose line by moving the knob on the corresponding selector valve to the pressure position (in line with the selected hose line) and allow the fluid to circulate through each hose line for at least one minute. Move each selector valve back to the neutral position. Check the level of the hydraulic fluid in the sight gauge. Add more fluid if necessary. DO NOT OVERFILL.

Uncouple the male and female couplings on each hydraulic hose line set to open the loop that was created earlier.

Check the pressure output of the power unit at each hose line by connecting a pressure gauge to the pressure line (the male coupling). Move the selector valve to charge the line to which the gauge is connected. The nominal pressure of the system is 10,500 psi. The pressure reading you receive should be between 10,000 psi and 11,000 psi. If you have a reading outside of that range, contact your local dealer or AMKUS, Inc. DO NOT ATTEMPT TO ADJUST THE PRESSURE RELIEF SETTING!

5.2 ROUTINE MAINTENANCE FOR HOSES

After each use, wipe clean hydraulic hoses with a light cleaning solvent such as Simple Green®. Inspect hydraulic hoses for damage to the outer rubber cover. Damage exposing the wire braided reinforcement subjects the wire to corrosion and may weaken the hydraulic hose. Remove damaged hydraulic hoses from service. Replace damaged hydraulic hoses immediately.

5.3 ROUTINE MAINTENANCE FOR COUPLINGS

⚠WARNING **Damaged couplings should be replaced immediately. Damaged couplings could cause hydraulic fluid to escape under high pressure. Contact with escaping hydraulic fluid under pressure could result in serious injury or death. Loss of hydraulic pressure prevents the rescue tool from operating properly and may result in serious injury or death.**

Keep hose couplings free of dirt and contaminants. Even with care, residual oils on the moving parts gradually accumulate dirt and grit making hose connections difficult. To clean hose couplings, immerse in, or scrub with, an automotive type aerosol solvent degreaser. Apply a light spray lube (automotive, lock, or gun type) to keep the collars moving easily. The rubber dust caps provided with the tools should be cleaned periodically. Be aware, the hose couplings may be clean, yet the dust caps accumulate dirt during use. Do not cover a clean hose coupling with a dirty dust cap.

5.4 MAINTENANCE RECORDS

It is a user's responsibility to keep maintenance records for each component of the rescue system. Maintenance shall be performed in accordance with the recommendations as outlined in this manual.

5.5 GENERAL MAINTENANCE AND STORAGE

This product is designed to be used by emergency services personnel to facilitate the extrication of victims from entrapment. Its use should be limited to trained personnel only. All personnel using this equipment are assumed to have completed a course of instruction acknowledged as being educationally sound by the local authority having jurisdiction over such training. This document contains basic operating and maintenance instructions only.

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6.0 SET-UP PROCEDURE

AMKUS equipment is manufactured with superior craftsmanship and quality backed by a factory warranty.

NOTICE **Only use AMKUS tools with AMKUS equipment. Mixing AMKUS tools with another manufacturer's equipment may cause operational problems, equipment failure, or denial of warranty claims.**

NOTICE **Only use AMKUS MV1 hydraulic fluid in AMKUS equipment. Using another manufacturer's hydraulic fluid in AMKUS equipment may cause operational problems, equipment failure, or denial of warranty claims.**

Normally, AMKUS equipment is prepared and serviced by your dealer prior to delivery. If, however, you have decided to place the equipment into service yourself, please review the following instructions carefully.

1. Remove equipment from the packing cartons and carefully inspect for damage. Damage that occurs during shipment should be reported immediately to the carrier.
2. The Briggs and Stratton® engine that powers your unit is shipped without engine oil. Fill the engine crankcase with the proper oil as specified in the engine owner's manual.
3. Next, remove the hydraulic fluid reservoir fill plug/vent cap. Fill the hydraulic fluid reservoir with approximately 2.0 gallons U.S. (7.6 liters) of AMKUS mineral base hydraulic fluid. The fluid should reach a level that fills approximately 1/2 of the sight gauge window. Replace the fill plug/vent cap.
4. Following the instructions in the engine owner's manual, fill the engine fuel tank with the specified fuel. Avoid getting dirt or water in the fuel tank. Never use stale or contaminated gasoline or an oil/gasoline mixture.
5. This power unit may be supplied either with hydraulic hoses attached (pump hoses) or with couplings that require extension hoses. If your unit is equipped with couplings, attach the extension hoses to the couplings on the power unit. In either case, connect the male and female couplings on each of the hydraulic hose line sets, creating a loop.
6. Follow the operating instructions in the engine owner's manual for starting the engine. Then operate the engine at full speed.
7. To purge air from the hydraulic hoses, charge each hose line by moving the knob on the corresponding selector valve to the pressure position (in line with the selected hose line) and allow the fluid to circulate through each hose line for at least one minute. Move each selector valve back to the neutral position.
8. Check the level of the hydraulic fluid in the sight gauge. Add more fluid if necessary. **DO NOT OVERFILL.**
9. Uncouple the male and female couplings on each hydraulic hose line set to open the loop that was created earlier. The power unit is now ready to use.

7.0 GETTING STARTED

1. Connect the tool connection hoses to the hose lines from the AMKUS hydraulic power unit. Please note that the male and female couplings on the hose lines leading from the power unit should be connected to the corresponding male and female couplings on the tool connection hoses. To connect the couplings, twist the sleeve on the female coupling so that the notch in the sleeve lines up with the pin. Push the sleeve back so the pin fits into the notch. While holding the sleeve back, push the male coupling into the female coupling. Release the sleeve; it will spring forward into place. Twist the sleeve ¼ turn so that the pin no longer lines up with the notch. Pull on the couplings to check that they are securely connected.
2. Check the engine oil, engine fuel and hydraulic fluid levels. Add as appropriate.

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8.0 OPERATING INSTRUCTIONS

Following the instructions in the engine owner's manual, start the engine. Operate the engine at full speed for maximum rescue tool speed and performance. Use the idle position only when the rescue tools are not being operated.

The GB2S-STDO is a simultaneous operation power unit. This means that two tools can be connected simultaneously and operated either independently or simultaneously.

In order to operate a tool that is connected to the power unit, the appropriate hose line must be charged by moving the knob on the corresponding selector valve to the pressure position (in line with the hose line to which the tool is connected). The selected tool is now operational.

To stop the flow of hydraulic fluid to each hose line, move the knob of the corresponding selector valve to the neutral position (perpendicular to the hose line). The selector valve should be in the neutral position when you are finished with an operation or anytime you wish to stop the flow of hydraulic fluid.

NOTICE **The minimum safe bend radius of the hoses is 4 inches (101.6 mm).**

When you have finished operations, follow the instructions in the engine owner's manual to stop the engine.

9.0 PART IDENTIFICATION

10.0 TROUBLE SHOOTING GUIDE

Any problem not resolved by these suggestions may require you to contact your local dealer or AMKUS, Inc. for further guidance.

PROBLEM	SOLUTION
Engine will not start or poor engine performance	Check owner's manual troubleshooting guide.
Rescue tool lacks power or speed	Check hydraulic fluid level in power unit reservoir.
Fluid leaks at fittings or hoses	Check tightness of hose fittings. Replace damaged hoses.
Tools do not operate	Check to see that the power unit is running. Check to see that the line is charged.

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11.0 GENERAL MAINTENANCE AND STORAGE

1. Always store the tool in a clean dry space.
2. Never store a tools or power unit hoses under pressure.

After each use:

1. Check to see that important tool markings are legible.
   Contact your local dealer or AMKUS Rescue Systems for replacement labels.
2. Wipe tool, hoses, fittings and couplings clean (see routine maintenance for hoses and couplings).
3. Inspect the poser unit, hoses, fittings and couplings after each use for damage, leakage and excessive wear.
4. If damage or excessive wear is noticed, do not use the power unit; contact your local dealer or AMKUS Rescue Systems.

12.0 PARTS, SERVICE AND TECHNICAL INFORMATION

Parts, service and technical information may be obtained from your local AMKUS dealer, or by contacting AMKUS Rescue Systems.

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