AMKUS®
RESCUE SYSTEMS™

EF2S-XL Power Unit
User Information Manual

Certified Model NFPA 1936, 2015 edition

Serial Number_____

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

Please complete the tool registration form included with your equipment and return it to AMKUS, Inc. 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. For quick reference, record the serial number on the cover of this manual. Please have the serial number available if you need to contact your local dealer or AMKUS, Inc.

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Important Safety Instructions

Do not use this product until you have read this manual and understand all safety and operating instructions! Failure to comply with these warnings and instructions may result in serious injury, disease, illness or death.

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.

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.

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 that is acknowledged as being educationally sound by the local authority having jurisdiction over such training. This document contains basic operating and maintenance instructions only.

Read and understand the motor owner's manual before operating the motor! Failure to do so could result in personal injury or equipment damage!

Set-Up Procedures

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. Arrange for a qualified electrician to install the appropriate electrical plug onto the electrical cord that came installed on the electric motor of the power unit. Have the electrician ensure that the electrical circuit from which the unit will be operated is suitable for operating this unit. Refer to the "AMKUS Power Units Electric Motor Specifications" sheet included in the documentation packet that shipped with the power unit.

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 ½ of the sight gauge window. Replace the fill plug/vent cap.

4. The 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.

5. Start the motor by moving the "ON-OFF" switch to the "ON" position.

6. 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.

7. Check the level of the hydraulic fluid in the sight gauge. Add more fluid if necessary. DO NOT OVERFILL.

8. 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.

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 hydraulic fluid levels. Add as appropriate.

Operating Instructions

Start the motor by moving the “ON-OFF” switch to the “ON” position.

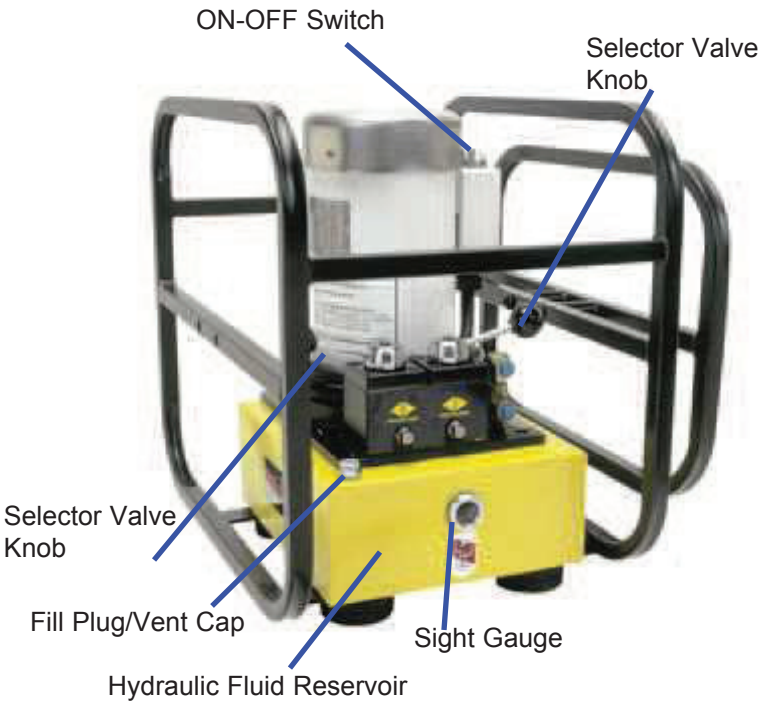
The EF2S-XL is a simultaneous operation power unit. This means that two tools can be connected simultaneously and operated either independently or simultaneously.

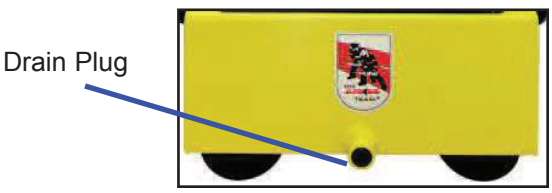
In order to operate a tool that is connected to the power unit, the appropriate hose line must be charged by moving the knob on the corresponding selector valve to the pressure position (in line with the hose line to which the tool is connected). The selected tool is now operational.

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.

Please note that the minimum safe bend radius of the hoses is 4 inches (101.6 mm).

When you have finished operations, stop the motor by moving the “ON-OFF” switch to the “OFF” position.





Routine Maintenance for Electric Motor

This motor has permanently lubricated bearings and normally does not require maintenance.

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. Start the motor by moving the “ON-OFF” switch to the “ON” position. 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!

Routine Maintenance for Hoses

After each use, hoses should be wiped clean with a light cleaning solvent such as Simple Green®. Inspect hoses for damage to the rubber outer cover. Damage which exposes the wire braided reinforcement subjects the wire to corrosion and may weaken the hose. Damaged hoses should be replaced.

Routine Maintenance for Couplings

Couplings should be kept free of dirt and contaminants. They may be most easily cleaned by immersing in, or scrubbing with, a petroleum based solvent such as SAFE-SOL® 140. Couplings should then be lubricated with a non-water based lubricant such as WD-40®. The rubber dust caps which are provided with the tools should also be cleaned periodically. Be aware that while the couplings may be clean, the dust caps will accumulate dirt during use. Do not cover a clean coupling with a dirty dust cap.

Maintenance Records

It is the responsibility of the user 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.

General Maintenance and Storage

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

After each use:

1. Check to see that important markings are legible. Contact your local dealer or AMKUS, Inc. for replacement labels.
2. Wipe hoses, fittings and couplings clean (see routine maintenance for hoses and couplings).
3. Inspect the power 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, Inc.

EF2S-XL Power Unit Specifications

Length: 23.0 in. (584 mm)

Width (with one hose loop standard): 19.0 in. (483 mm)

Height: 20.5 in. (521 mm)

Weight (Ready-to-use): 122.1 lbs. (55 kg)
(Includes hydraulic fluid and couplings)

Rated Output Pressure: 10,500 psi (724 bar)

Fluid Type: AMKUS MV-1 Mineral Base Hydraulic Fluid
(For equipment stored and operated in environments below freezing use AMKUS MV-0 Mineral Base Hydraulic Fluid)

Hydraulic Fluid Reservoir Capacity: 2.0 gals. US (7.6 l.)

Usable Hydraulic Fluid Capacity: 1.45 gals. US (5.5 l.)

Maximum Angle of Inclination: 20 degrees from horizontal

Parts, Service & Technical Information

Parts, service and technical information can be obtained from your local AMKUS dealer or by contacting AMKUS, Inc.

Manufactured in the USA by

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AMKUS, Inc. is an ISO 9001 registered company.

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Troubleshooting Guide

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

Problem	Solution
Motor will not start or poor motor performance	Check owner's manual troubleshooting guide.
Rescue tools lack 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.