TECHNICAL MANUAL

TM 10908A-12/1-1

INSTRUCTIONS FOR

ADVANCED SINCGARS

ASAPS

ALTERNATIVE POWER SUPPLY

MODELS 4 & 6

AND

ADVANCED SINCGARS

ASAPS-SC

ALTERNATIVE POWER SUPPLY

ASAPS-4: NSN 6130-01-458-4040
ASAPS-6: NSN 6130-01-458-4041 USMC TAMCN H7715 IIG
ASAPS-SC: NSN 6130-01-473-0349 USMC TAMCN H7705 IIG

PCN 18410908000


ASAPS 4/6


ASAPS-SC

General Information

The Advanced SINCGARS Alternative Power Supply (ASAPS) is designed to power SINCGARS Radios without the use of communication batteries. Instead it powers the radios using 110v AC (shore power or generator) and/or 12v DC.

While ASAPS will provide power to SINCGARS using either power source independently, it is most effective when both 110v AC and 12v DC are used together because that provides you with an uninterrupted power supply for your radios.

ASAPS 4/6 is designed to lay on its side, back, or stand upright. ASAPS-SC is designed to maximize flexibility for radio and antennae location.

Indicators

ASAPS powered by:

Indicator Lights	110V AC & 12V DC	110V AC	12V DC
110V AC On/Off Switch*	ON	ON	OFF
12V DC	ON	OFF	ON
Radio On/Off Switches*	ON	ON	ON

**Applies only when switch is in the On position.*

CAUTION: If the 12v DC battery ASAPS is connected to is unservicable, the ASAPS external circuit breaker on the front of the ASAPS will pop out/disconnect when the 110v AC is plugged in.

Capabilities & Power Requirements

When ASAPS is used with both 110v AC and 12v DC it provides unmatched reliability. In the event of a loss of 110v AC power, ASAPS will continue to power the radios using the 12v DC battery. To ensure the 12v battery is up to the task, the ASAPS charges the battery as long as the 110v AC is providing power but it will not over charge the battery.

When 110v AC alone is used to power ASAPS, it provides a clean 13.4-13.6v DC. It must be kept in mind that if 110v AC is lost (generator failure for example) then power to the radios is lost until 110v is restored. Losing power like this will not harm the ASAPS although communications will be lost.

When 12v DC is used to power ASAPS, it will continue to supply power as long as the battery is capable. The battery can be installed in a vehicle or free standing. The length of time the radios can be run on a battery without recharging is dependent on several factors:

- Condition of the battery
- State of charge of the battery
- Reserve Capacity (RC) of the battery
- The amount of use of the nets each radio represents.

Note: Field use has shown that standard 6TL military batteries will routinely power six (6) SINCGARS for over 12 hours without charging.

Connecting The Radios

WARNING: **Ensure rocker switches that supply power to the individual radio power cords are set to the "OFF" position before installing the radios.**

Fig. A

1. The battery box should be installed on the back of the radio prior to installation.
2. *(See Fig. A)* Open the clamshell door that normally houses the BA-5590. Plug one of the connectors from ASAPS into the battery connector. The connector will slide on easily when the connector key is properly aligned.

Fig. B

3. *(See Fig. B & C)* Place the supplied rubber gasket in between the battery box doors with the cutout aligned with the top of the radio on the side of the battery box that has the binder posts on it. Place the power cord through the cutout and close the box.

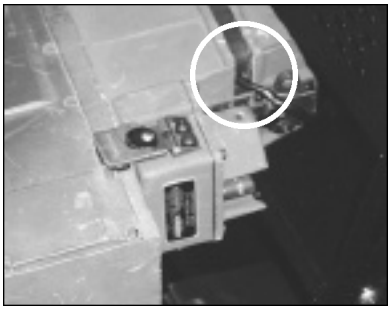

Fig. C

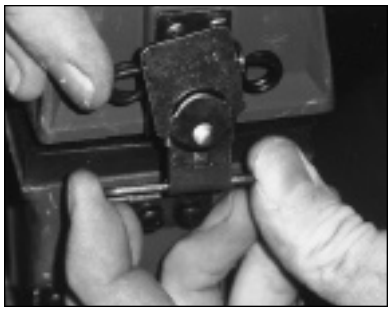

Fig. D

4. *(See Fig. D & E)* Fasten the twist style retainer on the side opposite the binder post using the supplied extension clip. The clip will allow you to use the retainers in the normal fashion while compensating for the additional thickness of the gasket.

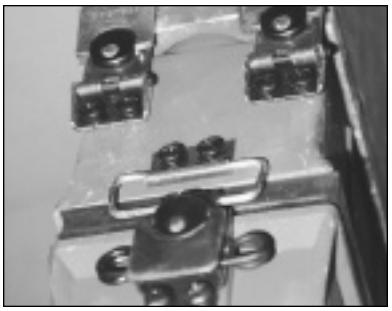

Fig. E

On the binder post side of the battery box, the retaining clip that prevents the two pieces of the clamshell from separating from one another will compensate for the thickness of the gasket. On this side you do not fasten the retainer at all. The connector on the side opposite the binder posts holds everything in place.

NOTE: For ASAPS-SC proceed to Step 7.

5. If SINCGARS remotes are to be used, run the slash wire through the hole in the side of the ASAPS, then connect them to the binder posts in accordance with the SINCGARS Technical Manual.
6. Slide the SINCGARS into the ASAPS and secure it with the supplied thumb screw and retaining washer.
7. Repeat 1-6 for each radio to be installed.

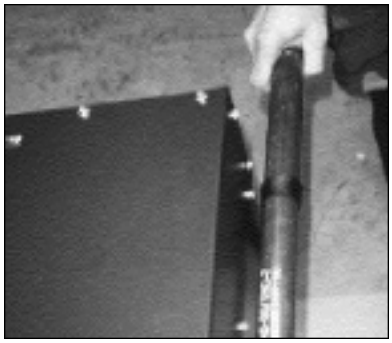

Fig. F

Carrying The ASAPS 4 or 6

(See Fig. F) This illustrates how the ASAPS unit can be lifted by the web handles. The web handles can also be moved to accommodate individual unit preferences.

Connecting Power To ASAPS

- Connecting to 110v AC: Plug ASAPS into any standard 3 prong grounded 110v AC outlet. It will operate using military generator or shore power. If the 110v power switch is in the on position when ASAPS is plugged in, the switch will illuminate and on the ASAPS 4/6 the 12v radio cooling fan will activate. At this time ASAPS will power up to 6 SINCGARS radios through the individual power cords.

  WARNING: Whenever ASAPS is plugged into AC and turned on, the 6-gauge battery cables are carrying 12+ volts of DC current. Care must be used to ensure the red (positive) and black (negative) cable leads do not touch one another or an electrical short and arcing can occur. Allowing both the red and black leads to touch any conductive (metal) surface can also cause shorts and/or arcing. The leads should always be treated as if they are "hot" and carrying current.

- Connecting to 12V DC: ASAPS can be used with any 12V DC vehicle or marine battery. The battery can be installed in a vehicle or free-standing. Power to each radio is controlled by individual on/off switches.

  1. Connecting to a free-standing battery: Attach the red 6-gauge cable lug securely to the positive battery terminal. Attach the black 6-gauge cable lug securely to the negative battery terminal. The supplied quick connector can now be used for connecting and disconnecting ASAPS.
  2. Connecting the ASAPS to a 12V battery installed in a 24V vehicle:

     WARNING: Connecting the ASAPS to a vehicle installed battery incorrectly can result in damage to the ASAPS and radios.

     Neither the radios nor ASAPS are designed to use 24V. Always use the battery that provides the chassis ground for the vehicle. In a HUMVEE the battery in the rear of the battery compartment provides chassis ground for the vehicle. It is recommended the maintenance personnel that are familiar with vehicle wiring make the connection in the vehicle battery box.

     As with the free standing battery the red cable is securely fastened to the positive terminal and the black cable is securely fastened to the negative terminal.

     Note: ASAPS is equipped with a safety disconnect to prevent improper battery connection. If no output is detected, check connections to external battery.

- From this point on, it is recommended that the quick disconnect be used. After the battery is connected and with the AC power off, both the green 12V DC indicator light and the radio on/off light switch should illuminate when turned on.
- Once the battery is connected, sample the power present at the radio connection point using a multimeter. The voltage reading will reflect the battery voltage. Once the 110V AC power is on, the voltage reading will reflect 13.5v +/- .3 volts.
- ASAPS is now prepared for use. Turn on the radio and operate.

SPECIFICATIONS

NSN: ASAPS 4 - 6130-01-458-4040; ASAPS 6 - 6130-01-458-4041; ASAPS-SC - 6130-01-473-0349

NOTE: Electrical data is the same for all ASAPS models.

ELECTRICAL INPUT: 12 VDC (Battery Dependent) and/or 500 watts of 110 VAC 40/70 Hz

HANDLES INPUT AC POWER FLUCTUATIONS FROM 92-135 V AC

ELECTRICAL OUTPUT:
When powered by:
DC — Voltage is battery dependent
AC — ASAPS output is 13.5 +/- .3 VDC

OUTPUT AMPERAGE: DEMAND BASED UP TO 5 AMPS PER CHANNEL

SIZES (All dimensions +/- .125"):
ASAPS 4 — HT: 22" W: 11.5" D: 15.5"
ASAPS 6 — HT: 31" W: 11.5" D: 15.5"
ASAPS-SC — HT: 11" W: 19.75" D: 16.25"

WEIGHTS:
ASAPS 4 — 60 lbs.
ASAPS 6 — 75 lbs.
ASAPS-SC — 33 lbs.

TROUBLESHOOTING:

See the *ASAPS Troubleshooting Chart* (TM 10908A-12/1-2) when ASAPS power supply fails to operate.

LIMITED WARRANTY

What does this Warranty Cover? This warranty covers any defects in workmanship or materials of the ASAPS product under normal use and service.

How Long Does the Coverage Last? This warranty runs for one (1) year from the date of delivery.

What Will PulseTech Do? PulseTech will, at its option, replace or repair any ASAPS product found by PulseTech to be defective at no charge. The repaired or replaced ASAPS product will be shipped from Graywacke within three Business Days of receipt of the returned ASAPS product. A written description of the problem must be included with the returned product from the end user. "Business Days" mean Monday, Tuesday, Wednesday, Thursday or Friday (each a "Weekday") unless such date falls on a holiday observed by PulseTech, in which case the next Weekday will apply. All replaced ASAPS products or parts will remain the property of PulseTech.

What Does This Warranty Not Cover? PulseTech will not be responsible under this warranty if PulseTech determines that (1) upon examination that the ASAPS product failure was (A)caused by misuse, neglect, accident, abnormal condition of operation or handling (including the failure to use the ASAPS product in accordance with PulseTech's instructions and observe the warnings on the ASAPS product and the instruction manual), alteration to the ASAPS product (other than the movement of the carrying straps or an alteration which PulseTech determines does not affect electrical components or function), or other conditions beyond the control of PulseTech or (B) damaged in transit to PulseTech. IN NO EVENT SHALL PULSETECH BE LIABLE FOR ANY DIRECT, SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL PUNITIVE OR EXEMPLARY DAMAGES, EXPENSES, LOST SAVINGS OR LOST PROFITS OR ANY OTHER DAMAGES OF ANY KIND.

How to Get Warranty Service? Call the Engineering Dept. at Graywacke at 419-525-3888 prior to shipping. Send the ASAPS product and a written description of the problem to Graywacke Engineering, 201 East 5th Street, Suite 310, Mansfield, OH 44902. Graywacke will return the repaired or replaced ASAPS product at PulseTech's expense by the same delivery method used to send the ASAPS product to Graywacke.

THIS WARRANTY IS THE SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

SERVICE AGREEMENT

What Does This Service Agreement Cover? This Service Agreement means that PulseTech will provide the repair service described below to the ASAPS product end user on the ASAPS product at Graywacke Engineering at 201 East 5th Street, Suite 310, Mansfield, OH 44902.

How Long Does The Service Agreement Last? This Service Agreement will remain in effect for five (5) years from the date of delivery of the ASAPS product.

What Will PulseTech Do? PulseTech will, at its option, replace or repair any electrical components in the ASAPS product with new or rebuilt ASAPS electrical components at its then current hourly charge plus the cost of replacement parts. If repair of the ASAPS electrical components will require estimated charges (including the cost of replacement parts) in excess of $800.00, PulseTech will contact the ASAPS end user to discuss alternatives. The repaired ASAPS product and an invoice for such repair work will be shipped from Graywacke within three Business Days of the date of receipt of the returned ASAPS product from end user with a written description of the problem unless further information is needed from the end user. "Business Days" mean Monday, Tuesday, Wednesday, Thursday or Friday (each a "Weekday") unless such date falls on a holiday observed by PulseTech, in which case the next Weekday will apply. All replaced ASAPS products or parts will remain the property of PulseTech. By accepting this Service Warranty, the end user agrees to pay such invoice within thirty (30) days of the date of such invoice. PulseTech shall not be obligated under this Service Agreement to any end user for additional repair work if any invoice for prior repair work performed by PulseTech remains unpaid after the due date.

What This Service Agreement Does Not Cover? This Service Agreement does not cover non-electrical components of the ASAPS product. IN NO EVENT SHALL PULSETECH BE LIABLE FOR ANY DIRECT, SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR EXEMPLARY DAMAGES, EXPENSES, LOST SAVINGS OR LOST PROFITS OR ANY OTHER DAMAGES OF ANY KIND.

How do I get Service? Call the Engineering Dept. at Graywacke at 419-525-3888 prior to shipping. Send the ASAPS product and a written description of the problem to Graywacke Engineering, 201 East 5th Street, Suite 310, Mansfield, OH 44902. Graywacke will return the repaired or replaced ASAPS product at PulseTech's expense by the same delivery method used to send the ASAPS product to Graywacke.

THERE ARE NO WARRANTIES EXPRESS OR IMPLIED WITH RESPECT TO REPAIR WORK COMPLETED UNDER THIS SERVICE AGREEMENT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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