



ATD-5928

RECHARGEABLE 12 VOLT 22 AMP/HOUR JUMP START OWNERS MANUAL



- 1700 PEAK AMPS/700 CRANKING AMPS OF STARTING POWER.
- STARTS CARS, TRUCKS, RV's AND BOATS WITHOUT THE NEED OF ANOTHER VEHICLE OR AC POWER CORDS.
- 12V DC SOCKET WITH OVERLOAD PROTECTION PROVIDES POWER FOR ANY 12V APPLIANCE.
- PROVIDES UP TO 50-HOURS OF DC POWER WHEN USED WITH 12V DC APPLIANCES.
- ALLOWS 12V DC APPLIANCES TO BE USED IN REMOTE SITES AND/OR IN EMERGENCIES WHEN COMMERCIAL POWER IS NOT AVAILABLE.
- SOLID-STATE, AUTOMATIC OPERATION AND CIRCUIT PROTECTION.
- REQUIRES NO MAINTENANCE FOR OPTIMUM OPERATION.
- SEALED, MAINTENANCE-FREE, HEAVY-DUTY BATTERY IS SAFE TO USE AND TRANSPORT.
- CAN BE STORED IN ANY POSITION WITHOUT RISKING ACID LEAKAGE.
- 74" HEAVY-DUTY 4 GAUGE COPPER CABLES CAN CARRY MORE AMPERAGE THAN SIMILAR UNITS.
- EASY TO READ COLOR CODED BATTERY METER.
- DC POWER CORD ALLOWS RECHARGING FROM 12V DC SOCKET.
- EXTERNAL 120V AC/12V DC CHARGING ADAPTER WITH AN AUTOMATIC CUT-OFF TO PREVENT OVERCHARGING.
- MOLDED HIGH-IMPACT CASE IS TOUGH AND DURABLE.

Made in China

To ATD Specifications

INTRODUCTION

YOUR POWER PACK UNIT IS DESIGNED AS A COMPACT, DURABLE AND PORTABLE JUMP START SYSTEM FOR 12 VOLT DC VEHICLES AND BOATS. THIS SELF-CONTAINED SYSTEM WILL START MOST VEHICLES AND BOATS WITHOUT THE NEED FOR A HOST VEHICLE OR 120V AC POWER SUPPLY. THIS SYSTEM CAN ALSO BE USED AS A SAFE, PORTABLE SOURCE OF 12V DC ELECTRIC POWER IN REMOTE LOCATIONS AND/OR IN EMERGENCIES.

THE POWER PACK UNIT HAS AN EASY-TO-READ, COLOR-CODED BATTERY METER THAT INDICATES CHARGE LEVEL. A 12V DC SOCKET IS PROVIDED FOR USE WITH APPLIANCES THAT WOULD OPERATE FROM A VEHICLES CIGARETTE LIGHTER OR 12V DC SOCKET. THIS ALLOWS MAXIMUM PORTABILITY AND UTILITY WHEN YOUR POWER PACK UNIT IS USED IN REMOTE LOCATIONS.

FOR MAXIMUM CONVENIENCE, YOUR POWER PACK UNIT CAN BE RECHARGED FROM A 120V AC POWER SOURCE. EXTERNAL 1000 mA RECHARGER/CONVERTER HAS AN AUTOMATIC CUT-OFF THAT PREVENTS OVER CHARGING THE BATTERY. A RED TEST SWITCH SHOWS THE BATTERY CONDITION ON THE METER. A COVERED 12V DC SOCKET IS PROVIDED.

NOTE: ON/OFF SWITCH ONLY CONTROLS POWER TO THE 2 BATTERY CLAMPS. WE SUGGEST YOU KEEP THIS SWITCH IN THE "OFF" POSITION FOR ALL OPERATIONS OTHER THAN JUMP STARTING A CAR.

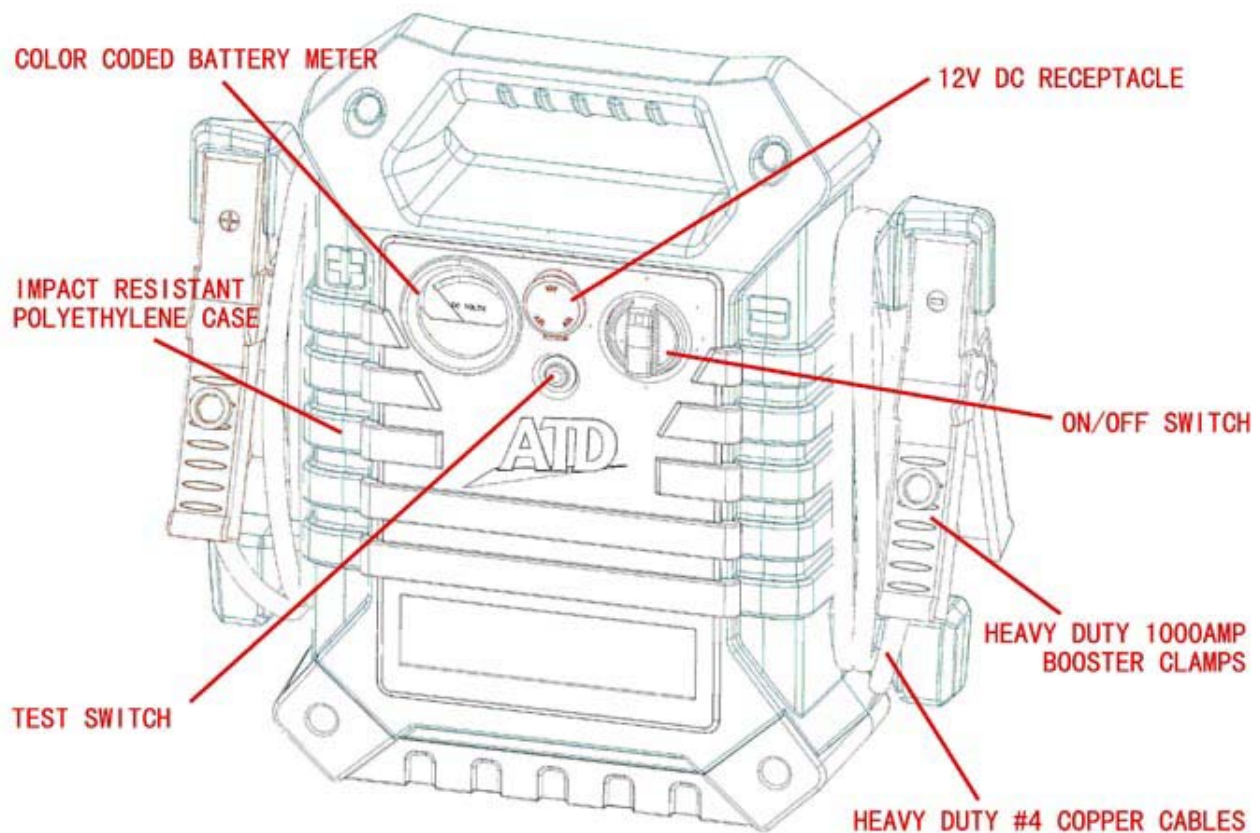


FIGURE 1.

WARNINGS

- **ALWAYS** WEAR EYE PROTECTION WHEN WORKING ON OR AROUND LEAD-ACID BATTERIES.

IF SPLASHED WITH BATTERY ACID: IMMEDIATELY FLUSH AFFECTED AREA SUCH AS FACE AND PARTICULARLY THE EYES WITH CLEAN WATER. CONTINUE FLUSHING FACE AND EYES UNTIL MEDICAL HELP ARRIVES.

- LEAD-ACID BATTERIES GENERATE HYDROGEN GAS DURING NORMAL OPERATION. MORE GAS IS GENERATED WHEN THE BATTERY IS CHARGING. HYDROGEN GAS IS:

1. **EXPLOSIVE**
2. **POISONOUS TO BREATHE**
3. **HIGHLY FLAMMABLE**

- TO AVOID POSSIBLE DAMAGE THAT MAY SHORTEN THE UNITS WORKING LIFE, PROTECT THIS UNIT FROM DIRECT SUNLIGHT, DIRECT HEAT, AND /OR MOISTURE.

- THIS SYSTEM IS DESIGNED TO BE USED ONLY ON VEHICLES OR BOATS WITH 12-VOLT ELECTRICAL SYSTEMS.

- THIS SYSTEM IS NOT DESIGNED TO BE USED AS A REPLACEMENT FOR A VEHICLE BATTERY.

TO AVOID AN EXPLOSION AND/OR THE POSSIBILITY OF BEING SPLASHED WITH BATTERY ACID:

- NEVER ALLOW THE RED AND BLACK CLAMPS TO TOUCH EACH OTHER OR FOR BOTH TO TOUCH THE SAME METAL OBJECT OR ANY ELECTRICALLY CONDUCTIVE MATERIAL FOR THAT MATTER.

- ONLY ATTEMPT TO JUMP START A VEHICLE OR BOAT IN A WELL VENTILATED AREA.

- ALWAYS CONNECT THE RED (+) CLAMP TO THE POSITIVE (+) BATTERY TERMINAL FIRST.

- CONNECT THE BLACK (-) CLAMP TO A NON-MOVING METAL PART ON THE ENGINE NOT TO THE NEGATIVE (-) BATTERY TERMINAL.

RECOMMENDATIONS FOR GETTING THE MOST FROM YOUR NEW POWER PACK UNIT

RECHARGING

1. FOR MAXIMUM BATTERY LIFE, WE RECOMMEND THAT YOUR POWER PACK UNIT BE KEPT FULLY CHARGED AT ALL TIMES. IF THE BATTERY IS ALLOWED TO REMAIN IN A DISCHARGED STATE, BATTERY LIFE WILL BE SHORTENED.

TABLE I SHOWS THE RELATIONSHIP OF THE FREQUENCY OF USE BETWEEN RECHARGING AND THE EXPECTED NUMBER OF CHARGE/RECHARGE CYCLES.

TABLE I. - BATTERY LIFE

<i>NUMBER OF JUMP-STARTS BETWEEN RECHARGING</i>	<i>DISCHARGE AND RECHARGE CYCLES</i>
1	1000+
5	700+
10	500+

2. THE TIME REQUIRED TO FULLY RECHARGE YOUR POWER BOOSTER AFTER JUMP-STARTING AN ENGINE IS A FUNCTION OF HOW MANY JUMP-STARTS ARE PERFORMED BETWEEN RECHARGING SESSIONS. TABLE II SHOWS THE APPROXIMATE RECHARGING TIMES YOU CAN EXPECT.

TABLE II. - RECHARGING TIMES VS. JUMP-STARTS

<i>NUMBER OF JUMP-STARTS</i>	<i>RECHARGING TIME (IN HOURS)</i>	<i>NUMBER OF JUMP-STARTS</i>	<i>RECHARGING TIME (IN HOURS)</i>
1	8	4	32
2	16	5	40
3	24	6	48

3. CHECK THE CHARGE IN YOUR POWER PACK UNIT OFTEN BY DEPRESSING THE RED PUSH-BUTTON SWITCH. THE METER WILL SHOW THE BATTERY CHARGE.

120V AC/12V DC CHARGING :

PLUG THE 120V AC/12V DC CHARGING ADAPTER INTO A WALL OUTLET AND INTO THE RECEPTACLE ON YOUR NEW POWER PACK UNIT. CHARGE THIS DEVICE FOR AT LEAST 4 HOURS OR UNTIL THE METER SHOWS A FULL (14- TO 15-V DC) CHARGE WHEN THE RED ROCKER SWITCH IS DEPRESSED. THE RECHARGING CONVERTER CIRCUIT UNIT HAS AN AUTOMATIC CUT-OFF CIRCUIT SO THE INTERNAL BATTERY CANNOT BE OVERCHARGED. TO RECHARGE YOUR POWER PACK UNIT BATTERY FROM 120V AC FOLLOW THESE STEPS :

1. PULL THE PLUG COVER FROM THE ROUND RECEPTACLE.
2. THE EXTERNAL CHARGER FURNISHED WITH YOUR POWER BOOSTER HAS A 120V AC PLUG AT ONE END AND A 12V DC CIGARETTE PLUG AT OTHER END. PLUG THE 120V AC PLUG INTO 120V AC WALL OUTLET AND THE OTHER INTO THE RECEPTACLE ON THE FRONT PANEL OF YOUR POWER BOOSTER, CHARGING IS IN PROGRESS.
3. PRESSING THE 'TEST' BUTTON WILL INDICATE THE LEVEL OF CHARGE. THE EXTERNAL CHARGER HAS THE AUTOMATIC CUT-OFF THAT PREVENTS OVER CHARGING THE BATTERY.
4. CONTINUE TO CHARGE UNTIL THE VOLTMETER INDICATES FULL CAPACITY IN GREEN AREA WHEN THE TEST BUTTON IS PRESSED

IMPORTANT: DO NOT STOP CHARGING BEFORE THE METER INDICATES FULL CAPACITY IN GREEN AREA.

AT THIS POINT, ONCE THE CHARGER IS DISCONNECTED, THE VOLTAGE WILL SLOWLY SETTLE BACK TO READ 100%. THIS IS QUITE NORMAL AND INDICATES THAT THE BATTERY IS AT FULL CAPACITY.

NOTE: TO FULLY CHARGE A BATTERY COULD TAKE UP TO 72 HOURS, DEPENDING UPON THE STATE OF DISCHARGE. THE UNIT CAN REMAIN PLUGGED INTO THE POWER SOCKET INDEFINITELY AS THE INTERNAL PCB HAS AN AUTOMATIC "FLOAT CHARGING CIRCUIT" WHICH WILL NOT ALLOW AN OVERCHARGE CONDITION OR DAMAGE TO THE BATTERY.

12V DC CHARGING:

YOUR NEW POWER PACK UNIT IS EQUIPPED WITH A RECEPTACLE THAT WILL ALLOW YOU TO RE-CHARGE THIS SYSTEM FROM THE 12V DC SOCKET IN YOUR VEHICLE OR BOAT.

NOTE : WE RECOMMEND THAT YOU USE THE 12V DC RECHARGING PROCEDURE ONLY WHEN IT IS NECESSARY, AS CONTINUED USE OF THE 12V DC RECHARGING PROCEDURE MAY SHORTEN THE SYSTEM'S LIFE.

TO USE THE 12V DC RECHARGING SYSTEM :

1. INSERT THE POWER CORD WITH THE 12V DC PLUG INTO THE 12V DC RECEPTACLE ON YOUR VEHICLE OR BOAT.
2. INSERT THE PLUG AT THE OTHER END OF THIS POWER CORD INTO THE RECEPTACLE ON THE FRONT PANEL OF YOUR POWER BOOSTER.

OPERATION

TO USE YOUR POWER PACK UNIT AS A 12V DC POWER SOURCE:

1. LIFT UP THE COVER OF THE 12V DC RECEPTACLE.
2. INSERT THE 12V DC PLUG FROM THE APPLIANCE INTO THE 12V DC RECEPTACLE.

Note: ON/OFF SWITCH CAN BE LEFT IN THE "OFF" POSITION

TABLE III. WILL GIVE YOU AN IDEA OF WHAT OPERATION TIME YOU CAN EXPECT WHEN STARTING FROM A FULLY CHARGED SYSTEM.

TABLE III. POWER PACK UNIT AS A 12V DC POWER SOURCE

APPLIANCE TYPE	ESTIMATED POWER CONSUMPTION (IN WATTS)	ESTIMATED USAGE TIME (IN HOURS)
FLUORESCENT LIGHTS, CELL PHONES	4	30
RADIOS, FANS, DEPTH FINDERS	9	21
CAMCORDERS, VCR'S, SPOTLIGHTS	15	12
ELECTRIC TOOLS, BILGE PUMPS	24	7
ELECTRIC COOLERS	48	3
AIR COMPRESSORS, CAR VACUUMS	80	1.5

TABLE IV WILL GIVE YOU AN IDEA OF WHAT OPERATION TIME YOU CAN EXPECT WHEN STARTING FROM A FULLY CHARGED SYSTEM. WHEN USING YOUR POWER PACK UNIT AS A 120 V AC POWER SOURCE WITH A POWER INVERTER.

TABLE IV. POWER PACK UNIT AS A 12V DC POWER SOURCE WITH POWER INVERTER

APPLIANCE TYPE	ESTIMATED POWER CONSUMPTION (IN WATTS)	ESTIMATED USAGE TIME (IN HOURS)
SPOTLIGHTS, SUMP PUMPS, & VCR'S	100	1.5
FAXES, TV'S SMALL APPLIANCES	150	1
COMPUTERS , PRINTERS	200	0.75
MEDIUM POWER TOOLS, BLENDERS	250	0.5

JUMP-STARTING:

FOR OPTIMUM PERFORMANCE, WHEN USING YOUR POWER PACK UNIT TO JUMP START A VEHICLE OR BOAT, PLEASE READ AND FOLLOW

THESE STEP-BY-STEP INSTRUCTIONS:

1. SWITCH THE ENGINE OF THE VEHICLE OR BOAT TO BE JUMP-STARTED TO "OFF".
2. CONNECT THE RED (+) "ALLIGATOR" CLAMP TO THE RED (+) POSITIVE BATTERY TERMINAL.
3. CONNECT THE BLACK (-) "ALLIGATOR" CLAMP TO A NON-MOVING METAL PART OF THE ENGINE, **NOT TO THE (-) NEGATIVE BATTERY TERMINAL.**
4. TURN POWER PACK UNIT SWITCH TO "ON".
5. WAIT A MINUTE OR TWO TO LET THE VEHICLE BATTERY TO CHARGE
6. TRY TO START THE VEHICLE BUT **DO NOT TRY FOR MORE THAN 5 TO 6 SECONDS.**
7. IF THE VEHICLE OR BOAT ENGINE DOES NOT START, WAIT AT LEAST 3 MINUTES BEFORE TRYING AGAIN.

UNDER NO CIRCUMSTANCES ALLOW THE RED AND BLACK CLAMPS TO TOUCH EACH OTHER OR A COMMON CONDUCTOR

ONCE THE ENGINE IS RUNNING, **FIRST** DISCONNECT THE BLACK (-) CLAMP AND RETURN THIS CABLE TO ITS STORED POSITION ON THE POWER PACK UNIT, **THEN** DISCONNECT THE RED (+) CLAMP AND RETURN THIS CABLE TO ITS STORED POSITION ON THE POWER PACK UNIT. AS SOON AS POSSIBLE, CONNECT YOUR POWER PACK UNIT SYSTEM TO 120-VAC AND RECHARGE.

BATTERY REPLACEMENT

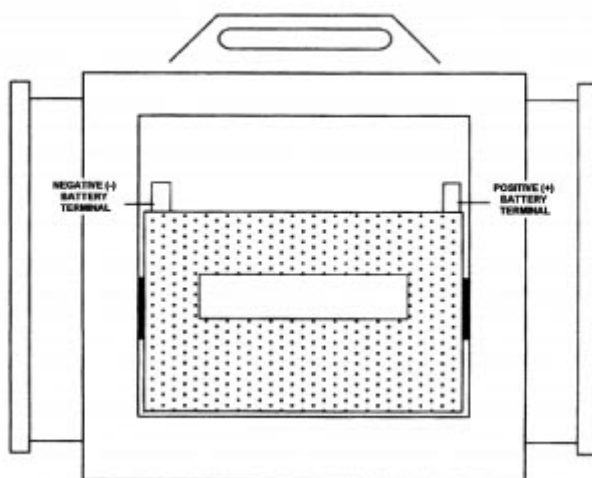


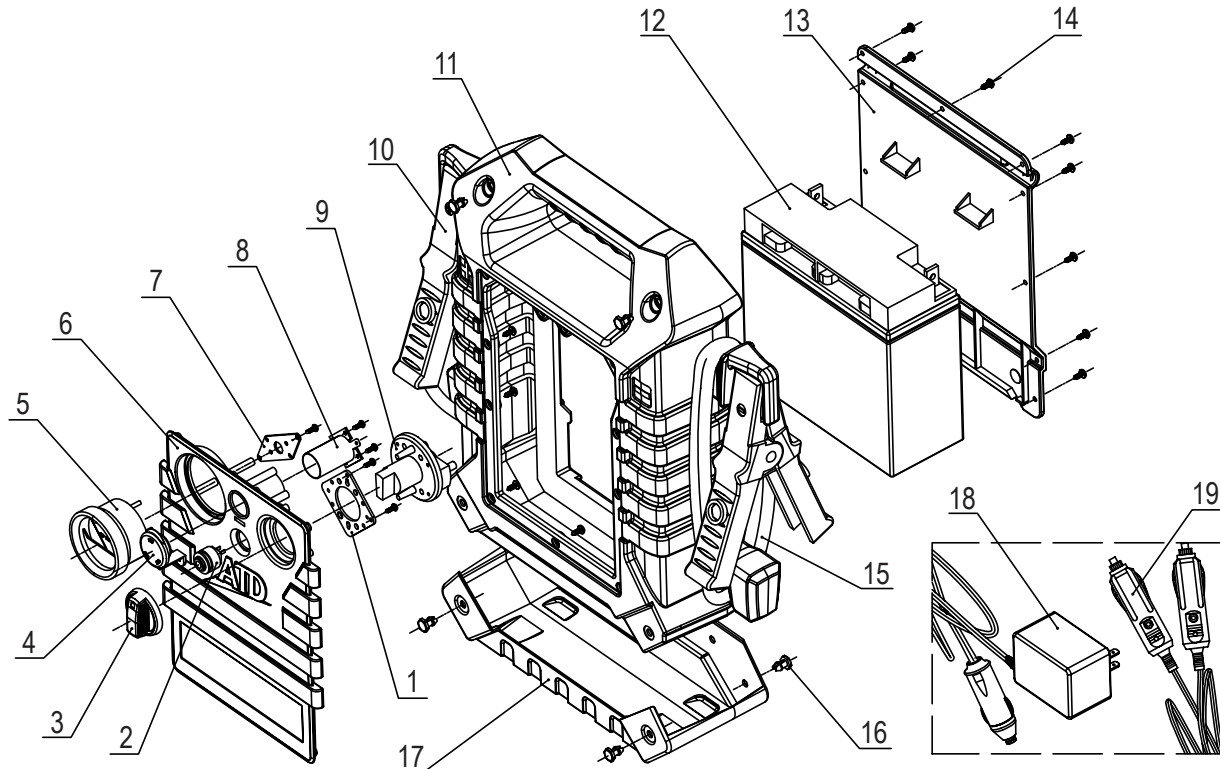
FIGURE 2. - REAR VIEW OF THE POWER PACK UNIT SHOWING THE BATTERY COMPARTMENT

1. UNSCREW AND REMOVE THE ELEVEN (11) PHILLIPS HEAD SCREWS THAT HOLD THE REAR COVER IN PLACE ON THE BACK OF YOUR POWER PACK UNIT.
2. LIFT OFF THE COVER PLATE TO EXPOSE THE BATTERY COMPARTMENT.
3. LIFT THE BATTERY OUT OF THE BATTERY COMPARTMENT.
4. DETACH THE #4 JUMPER CABLES AND THE RED AND BLACK RECHARGING WIRES FROM THE BATTERY TERMINALS .
5. ENSURE THAT THE REPLACEMENT BATTERY IS ORIENTED WITH THE POSITIVE ON THE RIGHT SIDE AND THE NEGATIVE ON THE LEFT SIDE, JUST AS THE OLD BATTERY CAME OUT.
6. CONNECT THE RED #4 JUMPER CABLE AND RED RECHARGING WIRE TO THE POSITIVE (+) BATTERY TERMINAL (ALSO MARKED WITH RED), THEN CONNECT THE BLACK #4 JUMPER CABLE AND RECHARGING WIRE TO THE NEGATIVE (-) BATTERY TERMINAL. DOUBLE CHECK ALL CONNECTIONS, AND TIGHTEN.
7. SLIDE THE NEW BATTERY IN POSITION.
8. REPLACE THE BATTERY COMPARTMENT COVER AND SECURE IN PLACE WITH THE EIGHT (8) "PHILLIPS" (CROSS- HEAD) SCREWS.

SPECIFICATIONS

ITEM #ATD-5928
VOLTAGE12V DC
BOOST POWER700 CRANKING AMPS
PEAK AMPS.....1700 AMPS
BATTERY TYPESEALED, LEAD- ACID, RECHARGEABLE, MAINTENANCE-FREE, 12V DC, 22-AMP-HOURS
BOOSTER CABLES74", #4 AWG 100% COPPER CABLES WITH 1000 AMP "ALLIGATOR" CLAMPS
DIMENSIONS40 x 37 x 13 CM

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ITEM#	ORDERING PART#	DESCRIPTION
1	PRT5928-01	FIXING BOARD, ON/OFF SWITCH
2	PRT5928-02	TEST SWITCH
3	PRT5928-03	KNOB, ON/OFF SWITCH
4	PRT5928-04	COVER, CIGARETTE
5	PRT5928-05	VOLTMETER
6	PRT5928-06	FRONT PANEL
7	PRT5928-07	FIXING BOARD, VOLTMETER
8	PRT5928-08	CIGARETTE LIGHTER SOCKET (INNER)
9	PRT5928-09	ON/OFF SWITCH
10	PRT5928-10	CLAMP, RED & BLACK WITH 4GA CABLE

ITEM#	ORDERING PART#	DESCRIPTION
11	PRT5928-11	CASE
12	ATD5904	BATTERY, 12V/22AH
13	PRT5928-13	BACK COVER
14	PRT5928-14	SCREW
15	PRT5928-10	CLAMP, RED & BLACK WITH 4GA CABLE
16	PRT5928-16	SCREW
17	PRT5928-17	RUBBER BASE
18	PRT5928-18-19	AC CHARGER, 110V 1000mA & DC CORD
19	PRT5928-18-19	AC CHARGER, 110V 1000mA & DC CORD