



P U M P

OPERATION,
PERFORMANCE,
SPECIFICATIONS and
PARTS MANUAL

12 Volt Battery Backup Sump Pump System



- Thank you for purchasing this pump. Take the time to read the instructions carefully before using this product. We strongly recommend that you keep this instruction manual in a safe place for future reference.
- Please refer to our website and the Products Center for additional installation and operation instructions.
- Refer to the website for replacement parts information.

LIMITED WARRANTY

This pump is warranted to be free from defects in material and workmanship and to perform within applicable specifications for a period of one year from date of installation or 18 months from date of manufacture, whichever ever comes first. Obligation under this warranty is limited to repairing or replacing any part thereof, which shall within one year be returned to us with transportation charges prepaid, and proved to be defective.

The above limited warranty takes the place of all other warranties, express or implied and correction of such defects by replacement or repair shall constitute a fulfillment of all obligations under the terms of the warranty, which specifically EXCLUDES any incidental damages caused by or associated with this product or its use. The warranty does not cover any unit which has been damaged either in transit or by misuse, accident or negligence. No warranty or representative not contained herein shall be binding.

MARKS AND MEANING:

⚠ DANGER "Danger" indicates an imminent hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠ WARNING "Warning" indicates an imminent hazardous situation which, if not avoided, MAY result in death or serious injury.

⚠ CAUTION "Caution" indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

PERFORMANCE

Model	HP	GPM at Total Feet of Head					
		0'	10'	15'	20'	21'	
APBS	1/4	45	29	20	5	0	



Battery Backup Model: APBS Specifications

Before installation, read the following instructions carefully. Failure to follow instruction and safety information could cause serious bodily injury, death and/or property damage. Each Ashland Pump is individually factory tested to ensure proper performance. Closely following these instructions will eliminate potential operating problems assuring years of trouble-free service.

Most accidents can be avoided by using common sense.

IMPORTANT - Ashland Pump is not responsible for losses, injury or death resulting from failure to observe these safety precautions, misuse, abuse or misapplication of pumps or equipment.

⚠ DANGER All returned products must be cleaned, sanitized, or decontaminated prior to shipment, to ensure employees will not be exposed to health hazards in handling said materials. All applicable laws and regulations shall apply.



⚠ WARNING Bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Government agencies have determined that leaded copper alloys should not be used in potable water applications.

⚠ WARNING Installation, wiring, and junction connections must be in accordance with the National Electric Code and all applicable state and local codes. Requirements may vary depending on usage and location.

⚠ WARNING Installation and servicing is to be conducted by qualified personnel only.

⚠ DANGER Rotating machinery. Amputation or severe lacerations can result. Keep clear of suction and discharge openings. DO NOT insert fingers into pump with power connected.



⚠ WARNING Always wear eye protection when working on pumps. Do not wear loose clothing that may become entangled in moving parts.

⚠ DANGER Pumps build up heat and pressure during operation. Allow time for pumps to cool before handling or servicing.

⚠ DANGER Hazardous Voltage can shock, burn or cause death. This pump is not intended for use in swimming pools or water installations where human contact with pumped fluid is possible.



⚠ DANGER Risk of electrical shock. To reduce risk of electrical shock, always disconnect pump from power source before handling. **Lock out power & tag.**



⚠ WARNING Do Not use these pumps in water over 145°F. Do not exceed manufactures recommended maximum performance, as this could cause the motor to overheat.

⚠ CAUTION Make sure lifting handles are securely fastened each time before lifting.

⚠ DANGER Do not lift, carry or hang pump by the electrical cables. Damage to the electrical cables can cause shock, burns or death. Never handle connected power cords with wet hands. Use appropriate lifting device.



⚠ WARNING Sump and sewage pumps often handle materials which could cause illness or disease. Wear adequate protective clothing when working on a used pump or piping. Never enter a basin after it has been used.

⚠ DANGER Failure to permanently ground the pump, motor and controls before connecting to power can cause shock, burns or death.



⚠ DANGER These pumps are NOT to be installed in locations classified as hazardous in accordance with the National Electric Code, ANSI/NFPA 70.



⚠ WARNING Do not introduce into any sewer, either directly, or through a kitchen waste disposal unit or toilet: Seafood Shells, Aquarium Gravel, Cat Litter, Plastic Objects, Sanitary Napkins or Tampons, Diapers, Rags, Disposable Wipes or Cloth, Medications, Flammable Material, Oil or Grease, Strong Chemicals, Gasoline.

- Operation against a closed discharge valve will cause premature bearing and seal failure on any pump.
- Any wiring of pumps should be performed by a qualified electrician.
- Cable should be protected at all times to avoid punctures, cuts, bruises, and abrasions-inspect frequently.
- Never handle connected power cords with wet hands.
- Never let cords or plugs lie in water outside the sump pit.



Battery Backup Model: APBS Specifications

Provide proper ventilation. The battery enclosures should be designed to prevent accumulation and concentration by hydrogen gas in “pockets” at the top of the compartment. Vent the battery compartment from the highest point. A sloped lid can also be used to direct the flow to the vent opening location. To reduce the risk of the battery explosion, follow all the instructions of the battery supplier or any equipment you intend to use in the vicinity of batteries.

⚠ WARNING Use the correct insulated tools to make AC/DC wiring connections.

⚠ WARNING Do not install this inverter on or near flammable materials (plywood, chemicals, gas online etc.)

Personal Precautions:

⚠ CAUTION Someone should be within the range of your voice to come to your aid when you work near batteries.

⚠ CAUTION Have plenty of fresh water and soap nearby in the event that battery acid contact skin, clothing or eyes.

⚠ CAUTION Wear complete eye and clothing protection.

⚠ CAUTION Avoid touching eyes while working near batteries. Wash your hands when done.

⚠ CAUTION If battery acid comes in contact with skin or clothing, wash immediately with soap and water.

KNOWING YOUR INVERTER

In its most basic form, an inverter transforms Direct Current (DC) to Alternating Current (AC). The battery pack acts as a reserve to ensure continuous supply of power whenever mains supply from utility power is not available. The inverter is used to charge the batteries when normal utility power is available and converts the battery’s DC to AC voltage to run the pump when utility power is lost.

BATTERY SAFETY

A battery can present a risk of severe burn and injury from high short circuit current. The following precautions should be observed when working on batteries.

1. Do not dispose of battery in a fire. The battery may explode.

2. Do not open or mutilate the battery. Released electrolyte is harmful to the skin and eyes. It may be toxic.
3. The electrolyte is a dilute sulfuric acid that is harmful to the skin and eyes. It is electrically conductive and corrosive. The following procedures should be observed:
 - a. If electrolyte contacts the skin, wash it off immediately.
 - b. If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention.
 - c. Spilled electrolyte should be washed down with a suitable acid neutralizing agent. A common practice is to use a solution of approximately one pound (500 grams) bicarbonate of soda to approximately one gallon (4 liters) of water. The bicarbonate of soda solution be added until the evidence of reaction (foaming) has ceased. The resulting liquid should be flushed with water and the area dried.
4. Do not reverse the battery connections, as it will blow the battery fuse. A power cord has been provided to connect the inverter to incoming AC wall outlet.

BATTERY REQUIREMENTS

Your unit operates on 12VDC battery power when in the power fail mode. A UL recognized deep cycle marine battery should be used. There are two principal types of batteries: starting and deep cycle. There are several different types of battery constitutions including liquid lead acid, nickel iron, nickel cadmium, alkaline and maintenance free. Batteries are sealed or vented.

Starting Batteries

Starting batteries are designed high cranking power applications, but not for deep cycle applications. Do not use these types of batteries with your inverter.

Deep Cycle Batteries

Deep cycle batteries are best suited for use with the inverter. They are designed to have the majority of their capacity used before recharge. Available in many sizes and types, be sure to use at least a 80AH battery.

BATTERIES NOT INCLUDED



Battery Backup Model: APBS Installations

CONTENTS

- 1 - 12 volt battery backup sump pump
- 1 - Control/alarm panel
- 1 - Float switch
- 1 - 12 volt battery charger
- 1 - Extra fuse
- 2 - Battery terminal post clamps
- 2 - Wire ties
- 1 - Plastic battery case (Battery not included)
- 1 - Dual pipe size (1-1/2" or 1-1/4") PVC tee with a 1" threaded fitting for installing the pump
- 4 - Mounting screws

TOOLS & MATERIALS NEEDED

TOOLS:

- Adjustable wrench or socket wrench
- Screwdriver
- Hack saw or PVC pipe cutters
- File or sandpaper for sanding cut pipe
- Clean cloth for wiping water debris

MATERIALS:

- PVC cement and primer
- One 12 Volt Group 24 Deep Cycle Marine Battery

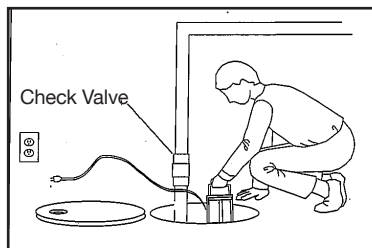
INSTALLATION



DISCONNECT ELECTRICAL POWER FROM PRIMARY SUMP PUMP

STEP 1:

Disconnect check valve or coupling from the discharge pipe and primary sump pump. Then remove primary sump pump and pipe assembly from sump and place in a well lit work area. Re-install check valve at the sump discharge or base. Be sure check valve is below the back up pump.

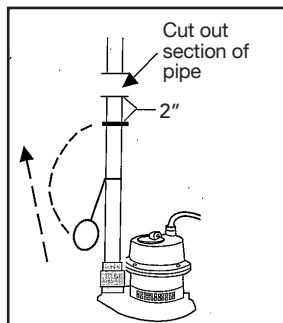


STEP 2:

Hold the automatic float switch up in the hold position. Mark that location on the discharge pipe. From that mark, measure up the pipe 2" and mark the pipe again. At the second mark, cut off a section of the discharge pipe as described below, to allow space for the supplied pump installation tee.

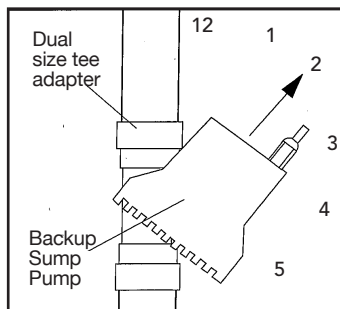
If discharge is 1-1/4" pipe, cut off 1-1/2" of pipe.

If discharge is 1-1/2" pipe, cut off 2" of pipe.



STEP 3:

Thread the Battery Backup Sump Pump onto the dual size pipe tee provided. Once the pump is threaded tight and setting parallel to the discharge pipe, turn the pipe to the 2 o'clock position to prevent air from being trapped in the pump housing. Then cement the installation tee to the discharge pipe with PVC primer and PVC cement.



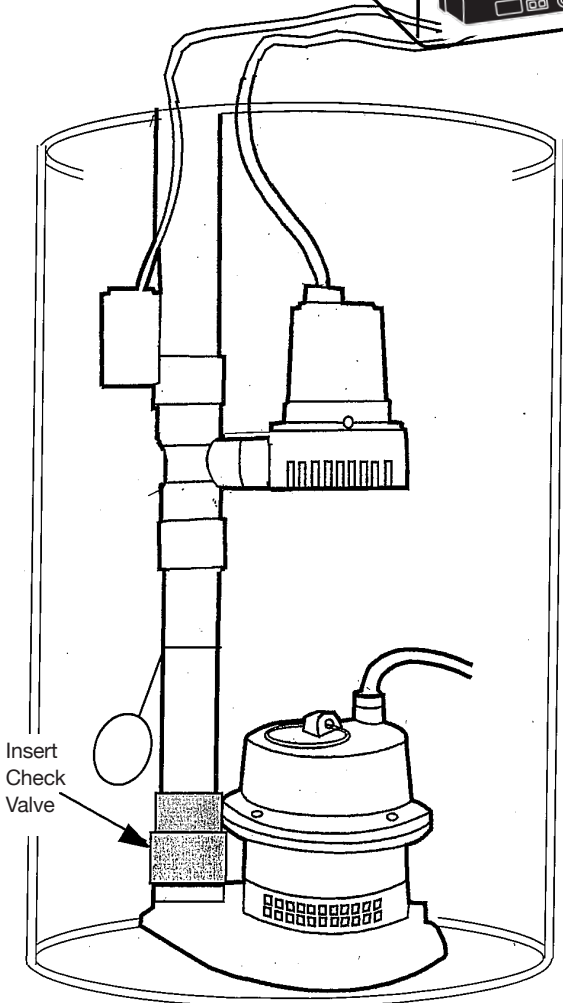
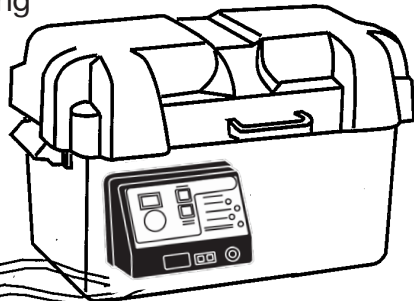
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Battery Backup Model: APBS Installations

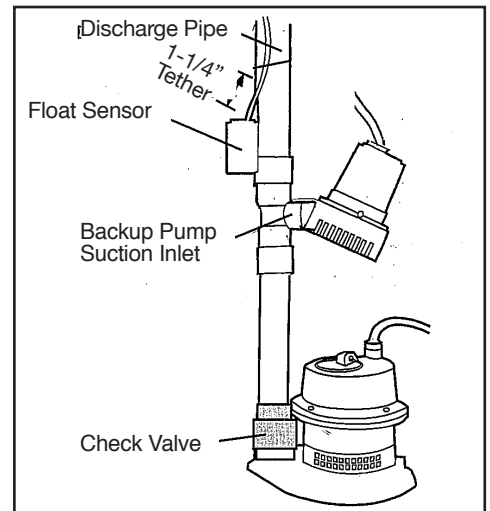
STEP 4:

Replace primary sump pump and Battery Backup Pump assembly into the sump basin. The top of the Battery Backup Pump should be at least 4" below the top of the sump and at least 1" above the highest water level of the primary sump pump. Connect the remaining discharge pipes, check valve and couplings.



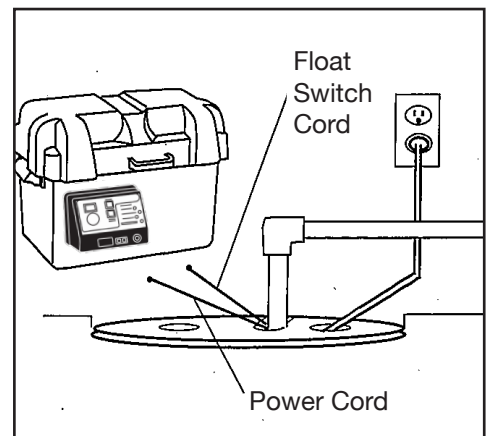
STEP 5:

Attach the automatic float switch to the discharge pipe so that the switch is tethered 1-1/4" from the discharge pipe. Use the supplied wire straps to mount the float switch cord to the discharge pipe.



STEP 6:

Feed the pump and float switch cords through the sump pump vent or utility hole and cover the sump with the sump cover.



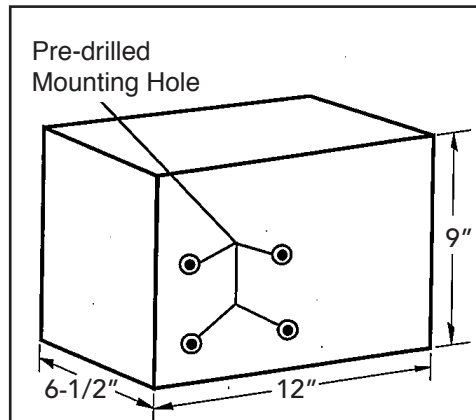


Battery Backup Model: APBS Battery & Control/Alarm Panel Assembly

STEP 1:

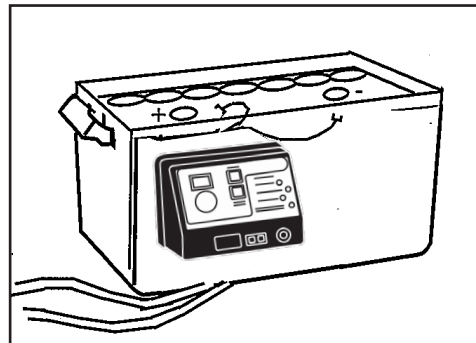
Mount the Control/Alarm Panel to the battery case using the four mounting screws provided. Battery case has four mounting holes predrilled for easy installation of control panel.

For best results, use a Group 24, marine battery. Battery dimensions should not exceed : 9" high (including post) x 12" long x 6-1/2" wide.



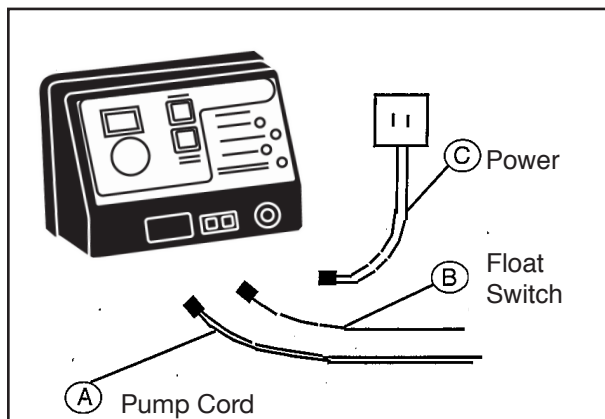
STEP 2:

Insert marine battery into battery case. Attach the RED and BLACK wires from the back of the control/alarm panel to each of the battery clamps provided. Then connect battery clamps to the battery. RED WIRE to the POSITIVE (+) terminal and the BLACK WIRE to the NEGATIVE (-) terminal.



STEP 3:

Plug in the designated components to the control/alarm panel, (A) battery backup pump, (B) the float switch, (C) and the 12 volt transformer.



STEP 4:

Turn the alarm switch on the control/alarm panel to the OFF position and plug the 12 volt transformer in a GFCI outlet. If a GFCI outlet is unavailable, have an electrician install one for you. Once proper power is supplied, turn the alarm switch to the on position. Then plug the primary sump pump to its power source.

YOUR BATTERY BACKUP SUMP PUMP SYSTEM IS READY.



Battery Backup Model: APBS Testing & Operation

TESTING THE SYSTEM

STEP 1:

Disconnect the power to the primary sump pump so the only pump available is the Battery Backup Sump Pump.

STEP 2:

With a garden hose or buckets of water fill the sump basin with water. At the designated level of water, the Battery Backup Sump Pump should activate and the ALARM and ALARM INDICATOR LIGHT should come on. This indicates the system is working.

STEP 3:

Press the RESET button on the control/alarm panel and reconnect power to the primary sump pump. The test is complete.

NOTE: If the Battery Backup Sump Pump failed to activate, review the complete instructions.

NORMAL OPERATION

The Battery Backup Sump Pump is designated as an emergency back up pump in the event your primary sump pump fails or if there is a loss of power to your primary sump pump. THE BATTERY BACKUP SUMP PUMP IS NOT INTENDED FOR USE AS A PRIMARY SUMP PUMP.

PRIMARY SUMP PUMP FAILURE

In the event your primary sump pump fails or loses power, the Battery Backup System will automatically activate when the float switch reaches the ON position. When it turns on, a alarm will sound and the alarm indicator will light. When the water in the sump basin recedes and the pump turns off, the alarm will continue to sound until you depress the ON/OFF switch to the on/off switch to the ON position and press the REST button.

BATTERY LOW

In the event the 12 volt battery charge should drop lower than 11 volts, the alarm will sound and the BATTERY LOW indicator will light. Press the ON/OFF switch to OFF position, disconnect power to the 12 volt transformer from the GFCI outlet and disconnect the pump and float switch cords from the alarm/control panel plugs. Have the battery checked, serviced or replaced if necessary. Once the 12 volt battery is serviced or replaced, reconnect all plugs, cables and power and follow the Test Procedures listed in this owners manual.

BATTERY CHARGING/CHARGED

When the battery is trickle charging or at a full charge (from 13.2V to 15V), the CHARGED indicator will light. Once the battery has dropped below 13.2V (Maintenance Mode), the CHARGING indicator will light. If neither the BATTERY CHARGING or CHARGED indicator lights are on, check all wire connections and plugs to ensure proper hook up.

LEADS REVERSED

If you connect the battery cable to the wrong battery terminal, the LEADS REVERSED indicator will light. Simply remove the battery cable and reconnect to the proper battery terminals. The RED WIRE is connected to the positive (+) terminal and the BLACK wire is connected to the negative (-) terminal. You must replace the 1 amp fuse with the extra fuse provided. Simply turn the fuse cover counter clockwise until the burnt fuse is exposed. Replace the fuse and thread the fuse cover, turning clockwise.

BATTERY MAINTENANCE

The 12 volt marine battery should be tested every four to six months. It is recommended to replace the battery every three to four years. Follow the battery manufacturers recommendations for proper battery maintenance and battery replacement.



**Battery Backup
Model: APBS
Testing & Operation**

Quick “Indicator Light” reference

Green: Battery is in a “Maintenance Charge” or “Fully Charged” mode, battery is good.

Yellow: Battery is in a “Maintenance Charging” mode and has fallen below 13.2V

Reasons for “Maintenance Charging Mode”

1. Water or Power outage event has depleted the voltage below 13.2V
2. Battery is unable to charge above 13.2V (Battery should be serviced or replaced)

Red: Battery voltage is below 11V

Reasons for “Battery Low” mode

1. Water or Power outage event has depleted the voltage below 11V
2. Battery is unable to be charged above 11V (Battery is dead and must be serviced or replaced)
3. Charger is defective and must be replaced



Battery Backup Model: APBS Testing & Operation

Retain Original Purchase Receipt for Warranty Eligibility

Limited Warranty

For a period of time no greater than three (3) years after the original purchase of the subject product, and subject to the conditions of this Limited Warranty, Ashland Pump will repair or replace for the original purchaser only, any portion of your new Ashland Pump product that proves to contain defective materials or defective workmanship, provided the product is properly installed, serviced and operated under normal conditions and according to the manufacturer's instructions. Ashland Pump disclaims all liability, including liability under this Limited Warranty, for improper installation, application or use of its products. Ashland Pump shall have and possess the sole discretion to determine whether to repair or replace defective equipment, parts or components with a new or remanufactured part. Any item to be replaced under this Warranty must be returned to Ashland Pump, or such other place as Ashland Pump may designate, freight prepaid. In the absence of suitable proof of purchase date, the effective date of this warranty will be based upon the date of manufacture as evidenced by the serial number of the product.

There is no other express or implied warranty covering your Ashland Pump product. Without limiting the foregoing, Ashland Pump specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. No warranties or representations at any time made by any representative of Ashland Pump shall vary or expand the provisions of this written Limited Warranty. This Limited Warranty contains the purchaser's exclusive remedy for any alleged defect in the product.

To the greatest extent permissible by applicable law, Ashland Pump shall not be liable or responsible for consequential, incidental or special damages resulting from or related in any manner to any Ashland Pump product or parts. Personal injury and/or property damage may result from improper installation, application or use of your Ashland Pump product. Ashland Pump shall not be liable for any loss, damage, or expenses resulting from the installation or use of its products other than as expressly set forth in this Limited Warranty. Ashland Pump shall in no event be responsible or liable for the cost of field labor or other charges incurred by any purchaser or user in removing and/or reaffixing any Ashland Pump product, part or component or any temporary pumping or other equipment. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Warranty is Void if....

1. Using an extension cord.
2. Any power cord has been cut or the grounding prongs removed or using an adapter fitting.
3. Inverter has been used in an outdoor application.
4. Batteries not meeting the above specifications have been used.
5. Inverter has been submerged in water.
6. Inverter has been tampered with in any manor not described in the above instructions.
7. Working on the inverter, pump or switch while plugged in.
8. Inverter has been disassembled by customer.
9. Inverter has been applied to products exceeding the maximum capacity of the inverter, i.e., a pump other than the one supplied with the unit or more than one pump.
10. Inverter has been applied to the wrong voltage.
11. Removing motor housing, unscrewing impeller, or otherwise removing impeller seal of pump.
12. Running the pump continuously.
13. Pumping chemicals or corrosive liquids.
14. Pumping gasoline or other flammable liquids.
15. Any tags or labels have been removed from the inverter, pump or ion Digital Control Switch.



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Honest, Professional, Dependable

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