



- A division of Airworks Compressors and Mobile Equipment Corp -

GENERATOR

OPERATION MANUAL

AWG-B6K-D6K

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Serial Number _____

AIRWORKS COMPRESSORS CORP.
14503-115 AVE EDMONTON, ALBERTA, CANADA T5M 3B8
PH: 780-454-2263 TOLL FREE: 1-877-454-2263
WWW.AIRWORKSCOMPRESSORS.COM

MOBILE AIR COMPRESSION

SAFETY FIRST

While safety is built into every generator, imprudent operation, negligent maintenance or carelessness can contribute to present serious hazards to life and limb. Gasoline and other fuels always present a hazard of possible explosion or fire.

- Keep fuel container out of reach of children.
- Keep a fire extinguisher nearby. Know its proper use. Consult your local fire department for correct extinguisher type.
- Store fuel only in approved containers and in a well ventilated area. Exhaust fumes are poisonous if inhaled.
- Be sure the generator is well ventilated on all four sides.
- Provide adequate ventilation for the prime mover if it is a gasoline or diesel engine. The output power voltage present in this equipment can cause a fatal electric shock. This equipment must be operated by a responsible adult.
- Do not allow anyone to operate the generator without proper instructions.
- Guard against electric shock.
- Avoid contact with live terminals or receptacles.
- Do not operate this unit in rain or snow.
- Use only 3 prong grounded receptacles and extension cords.
- This unit must be properly grounded.
- On construction sites a customer supplied GFCI (Ground Fault Circuit interrupter) should be utilized to protect the 120 volt AC receptacles.
- When utilizing a lead acid battery starting battery on electric start models, extreme care must be taken when handling or servicing the battery.
- Lead acid batteries emit a colorless explosive hydrogen gas when being charged.
- Battery acid will cause severe burns and eye damage. Use extreme care when handling or servicing the battery. Hot engine parts and the output of the generator could cause serious injury to the operator. The operator must use caution and remain alert when using this unit.
- Do not smoke while servicing battery, an open flame can cause an explosion.
- Do not disconnect battery cables on electric start models from the battery or engine while the unit is cranking or operating. Sparks may cause an explosion.
- Only operate in a well ventilated area.
- All pulleys, belts, etc. Should be provided with safety guards.
- Keep all safety guards and power shields in position and tightly secured.
- When working on or around this unit do not wear neckties or loose shirts, jackets or sleeves that may become caught in moving parts. Only a qualified technician should perform repairs on this equipment.
- Do not work on this equipment while fatigued, under the influence of alcohol or drugs.
- Use extreme caution when working on electrical components. High output voltage from this equipment can cause injury or death.

- When working on this equipment avoid hot mufflers, exhaust manifolds and engine parts which can cause severe burns. Installing and wiring a home standby generator is not a do it yourself project. Consult a qualified licensed electrician or contractor.
- This installation must comply with all national state providence and local codes. Do not connect a generator to a home building except through an approved disconnect switch.
- When working around engines use noise suppression equipment and wear protective devices as necessary. Excessive noise is not only tiring, but continual exposure can lead to loss of hearing.
- Keep you neighbours in mind when noise level is high. Keep generator and surrounding areas clean.
- Remove oily rags and other material that create potential fire hazard. Consult the local fire department.
- Extinguishers rated ABC by the NFPA are appropriate for all applications. Consult the local fire department.
- Keep Extinguisher properly maintained and be familiar with its proper care. The manufacturer recommends that all service including the installation or replacement of service parts be performed only by a qualified electrical service person. Use only factory approved repair parts.
- Do not operate this unit in an enclosed compartment such as found in recreational vehicles or inside box trucks with only the rear open door. All warranties are voided if the unit is operated in any of the previously mentioned enclosures. Operate only outside in a well ventilated area.

VISUAL INSPECTION

Visually inspect the unit before the initial start. Check for loose or missing parts and damages that may have occurred in shipment. If freight damages have occurred, contact the freight company.

PRINCIPLE OF OPERATION

On models AB and AR the generator stator in addition to the main phase out put winding has an auxiliary phase winding that is connected to a capacitor(s). The resultant current flow creates an alternating armature reaction that can be considered the combination of two rotating fields. One field is in the direction of the generator rotation at the same speed. The other is in the opposite direction and inducing in the rotor field winding an electromagnetic field double the rated frequency. By connecting a diode in series with the rotor field winding the current is rectified and the necessary excitation obtained. The voltage regulation at load is ensured by the field build-up generated by the armature reactance and rotating field windings.

SAFETY PRECAUTIONS

Before operating the generator set, read the owner's manual and become familiar with it and your equipment. Safe and efficient operation can be achieved only if the equipment is properly operated and maintained. Many accidents are caused by failure to follow fundamental rules and precautions.

The following symbols found throughout this manual alert you to potentially dangerous conditions to the operator, service personal or the equipment.

DANGER This symbol warns of immediate hazards, which if not avoided, will result in severe personal injury or death.

WARNING This symbol refers to a hazard or unsafe practice, which if not avoided, could result in severe personal injury or death.

CAUTION This symbol refers to a hazard or unsafe practice, which if not avoided, might result in minor or moderate injury or product or property damage.

Before attempting to operate this product read and understand the operator's manual!

Starting procedure for Twister unit:

1. Compressor, generator and welder switches are in the off position (if equipped).
2. Turn key switch counter clockwise (left) to activate intake heater, hold for a minimum of 20 seconds and a maximum of 45 seconds (varies with outside temperature).
3. Turn key fully clockwise to crank position and hold till engine starts (maximum 20 seconds), release key when engine starts.
 - (a) Repeat steps 2 and 3 if engine does not start. If it fails to start after 3 attempts see operation manual trouble shooting guide.
4. Allow engine to idle until operating temperature is reached.
5. Engage required function compressor, generator, welder or any combination of these (if equipped).

Twister is now ready to operate.

Shutdown procedure:

1. Ensure compressor, generator or welder (if equipped) is not under load before shutting down.
2. Switch compressor, generator and welder (if equipped) master switches to off position.
3. Allow twister to idle for 1 minute.
4. Turn key switch to off (center) position.

Safety note: Remove key before performing any maintenance on unit to prevent accidental starting. Do not operate with covers removed.

For technical support call: 780-454-2263

ADJUSTING VOLTAGE

All AB and AR units are inherently regulated. By maintaining at least 3600 RPM input speed on these units the proper voltage of 120/240 volts and frequency (60Hz.) will be delivered by the generator. Lowering the shaft speed of the generator will decrease the voltage and increasing the shaft speed will increase the voltage and frequency (60 Hz.).

DANGER

All gasoline and diesel engines emit carbon monoxide which can kill. Only operate any engine with all four sides of the engine completely open and away from walls, enclosures, compartments, ect. Complete fresh air is required. **DO NOT OPERATE** an engine inside a home/building/recreational vehicle compartment, garage or near open windows of a home or building.

DANGER

All generators **MUST** be grounded according to your local electrical code (or CSA in Canada). External grounding terminals are provided. All generators are internally grounded but an external ground is required by the customer.

ELECTRIC MOTOR CHART

Approximate current requirements

HORSE-POWER	RUNNING WATTS	STARTING WATTS			
		UNIVERSAL MOTOR (sm. appliance)	INDUCTION MOTOR	CAPACITOR MOTOR	SPLIT PHASE MOTOR
1/6	275	400	600	850	1200
1/4	400	500	850	1050	1700
1/3	450	600	950	1350	1950
1/2	600	750	1300	1800	2600
3/4	850	1000	1900	2600	X
1	1000	1250	2300	3000	X
1 1/2	1600	1750	3200	4200	X
2	2000	2350	3900	5100	X
3	3000	X	5200	6800	X
5	4800	X	7500	9800	X

NOTE: For pumps, air compressors, air conditioners, inverters add at least 25% to starting current.

EXTENSION CORD CHART

CONTINUOUS LOAD (use either Amps or Watts below)			MINIMUM GAUGE (AWG)		
AMPS	WATTS		0-50 feet	50-100 feet	100-150 feet
	@120 volts	@240 volts			
2	240	480	22	20	18
3	360	720	22	18	16
4	480	960	20	16	16
5	600	1200	18	16	14
6	720	1440	18	16	14
8	960	1920	16	14	12
10	1200	2400	16	12	12
12	1440	2880	16	12	10
14	1680	3660	14	12	10
16	1920	3840	14	10	10
18	2160	4320	14	10	8
20	2400	4800	12	10	8
22	2640	5280	12	10	8
25	3000	6000	12	10	6
30	3600	7200	10	8	6
35	4200	8400	10	8	4
40	4800	9600	8	6	2
50	6000	12000	6	4	2
60	7200	14400	4	2	

THE FORMULA FOR WATAGE IS VOLTS X AMPERAGE = WATTAGE
 EXAMPLE 120 X 10 = 1200

APPROXIMATE POWER Requirements for Equipment

	WATTAGE REQUIREMENT	
	Starting	Running
Battery charger, 10 amps	-	200
Compressor (see motor charts) -3/4 HP	1900	850
-1 HP	2500	1100
-2 HP	3600	1800
-3 HP	4800	2400
Drill -1/4"	400	300
-3/8"	650	475
-1/2"	900	750
-1"	1250	1000
Welder 100 amps DC	-	3600
Floodlight	--	1000
Grain cleaner, 1/4 HP	1000	650
Grain elevator, 3/4 HP	3000	1400
Grinders (by motor size)		
Heater radiant portable	-	1300
Heater portable liquid fuel -50,000 btu	675	225
-100,000 btu	1260	420
-150,000 btu	1875	625
Impact wrench -1/2"	750	600
-3/4"	900	750
-1"	1400	1200
Milk cooler	1800	1100
Mixer, 3 1/2 cubic feet	2300	1000
Motors-		
Belt sander	2600	1200
Disc sander	2600	1200
Orbital sander	2600	1200
Chain saw	3400	1200
6" circular saw	2200	950
7 1/4" circular saw	2600	1200
8 1/2" circular saw	3000	1500
10" circular saw	3900	2000
Jig saw	400	300
Cutoff saw	3500	2500
Screwdriver	800	550
Soldering iron or gun	-	150
Sump pump	1300	400
Water pump submersible -3000 gph	1750	500
-5000 gph	2500	650
-10000 gph	3750	1000
-15000 gph	5000	1500
Water pump non submersible -3000 gph	2250	600
-5000 gph	2850	750
-10000 gph	4100	1100
-15000 gph	5250	1600

ORDERING PARTS

For parts or services; contact Airworks Compressor Corp. for the name of the nearest authorized service provider. To avoid error and delay in filling your parts order, please furnish all information requested and always refer to the nameplate on the unit by giving the model and serial number. Do not order by reference number or group number if possible, always use the part number. State definite shipping instructions. Any claims for loss or damage to your unit in transit must be promptly filed against the transportation company making the delivery at the time of the delivery. Shipments are complete unless the packing list indicates items are back ordered.

FOR SERVICE OR PARTS CONTACT:

AIRWORKS COMPRESSORS CORP

14503-115 Ave

EDMONTON, ALBERTA

T5M-3B8

PH: 780-454-2263

FAX: 780-452-9969

WEB SITE: www.airworkscompressors.com

ONE YEAR LIMITED WARRANTY

This warranty extends to the original purchase order only. The generator sold is warranted to the original purchase for a period of one (1) year from the original purchase date. Airworks Compressors Corp. warrants the generator sold to be free from defects in material and workmanship if properly installed, serviced and operated within the nameplate rating under normal conditions according to the manufacturer's written instructions.

DISCLAIMERS

This warranty does not apply to any items which must be repaired or replaced due to normal wear, which have been subject to misuse, negligence, accident or which have been repaired, altered by others outside of the manufacturer's factory unless authorized in writing by Airworks Compressors Corp. Under no circumstances will Airworks Compressors Corp. be liable for any consequential damage or expense of any kind, including loss of profits not the fitness of the product for any specific application or particular purpose.

Specifications, procedures, dimensions, policy and liability may change without notice.

PERFORMANCE

Airworks Compressors Corp's obligation under this warranty is limited to correcting without further charge, any part or parts which shall be returned transportation charges prepaid, and which upon examination shall disclose to Airworks Compressors Corp satisfaction to have been originally defective. Other than transportation charges, no charge will be made for such repair, adjustments and or replacements. This remedy is expressly in lieu of all other remedies, and is the purchaser's sole and exclusive remedy hereunder.

For technical assistance:

Email: info@airworkscompressors.com or service@aircorkscompressors.com

Phone: 1-780-454-2263

Toll Free: 1-877-454-2263