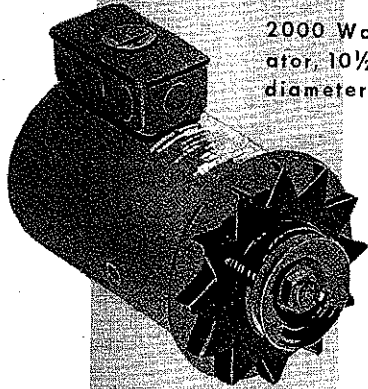


FORNEY POWER LINE

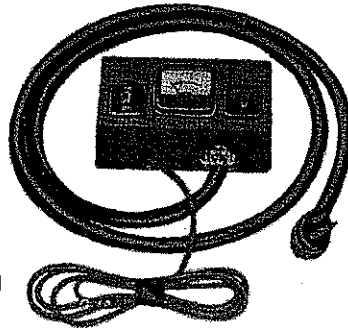
DIVISION OF FORNEY INDUSTRIES INC.

FORT COLLINS, COLORADO



2000 Watt Generator, 10½" x 5½" diameter

Control Panel may be mounted under dashboard or hood



FG 2000 GENERATOR

A POWER PLANT AT YOUR FINGERTIPS
WHEREVER AND WHENEVER YOU NEED IT

INSTANT POWER for skil saws, impact wrenches, spray painting, drills, chain saws, floodlights, hot plates, coffee pots, branding irons, clippers, post hole diggers, etc.

SPECIFICATIONS

SIZE — 10½" x 5½" in diam.

OPERATION — Powered by vehicle fan belt or by adding extra pulley and belt to DC generator.

CONTROLS — Panel contains on-off switch, AC voltmeter, outlet and cable.

WEIGHT — 40 lbs. shipping

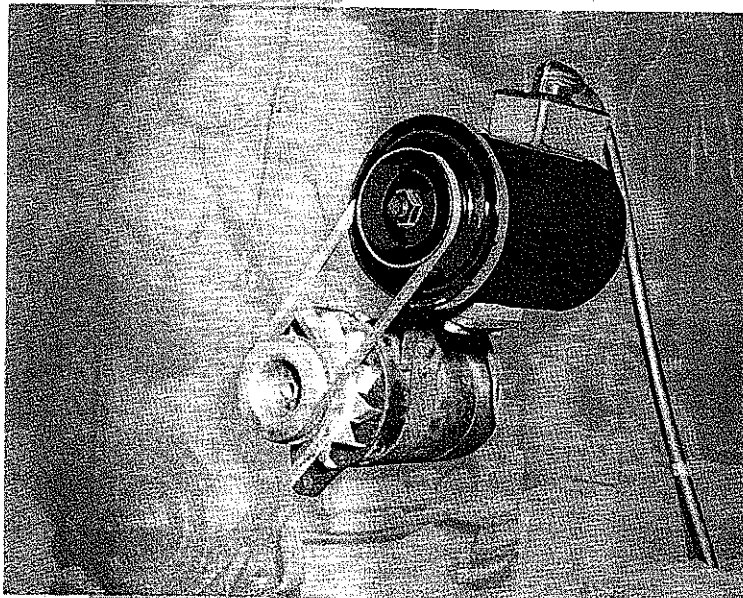
OUTPUT — Maximum 2000 Watts

VOLTAGE — 120V - AC @ 3600 RPM

AMPERES — 15.5 AC

FIELD CURRENT — 10 Amps DC

This 2000 Watt compact AC power generator is mounted under the hood of the vehicle. It is powered by a belt on pulley arrangement in much the same manner as power steering or power brakes. Mounting bracket, pulley and belt kits are available for all popular model trucks, cars and tractors. Vehicle engine runs 1200-1500 RPM in order to obtain 120V 60 cycle current from the generator.



Whether you're at camp or building site — out in the field with your tractor, on the range branding — you have light and power at the flip of a switch. No waiting for power company to install your electricity. Your power supply is always on location.

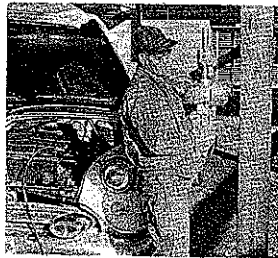
EASY TO INSTALL

POWER - WHEN YOU NEED IT - WHERE YOU NEED IT

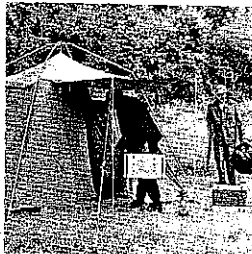
POWER
wherever
and
whenever
you need it



Service Stations



Maintenance



Campers



Farmers

FG 2000 GENERATOR

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Forney
INDUSTRIES, INC.
BOX 563, FORT COLLINS, COLORADO

Forney

MODEL FG-2000

**UNDER-THE-HOOD
ALTERNATOR**

**Operating
and
Service
Instructions**

Forney

Industries, Inc. U.S.A.

Box 563 Fort Collins, Colo. 80521 U.S.A. • Box 1040, Regina, Sask. Canada • 45 Shirley Ave., Kitchner, Ontario Canada

Arc Welders Ltd. CANADA



FORNEY MODEL FG-2000
SPEC # 102

AC GENERATOR

INSTALLATION AND OPERATING INSTRUCTIONS

The Forney Model FG-2000 AC Generator has been designed to be light weight and efficient. You may install it on most motor vehicles using a special mounting kit from the list provided. When the Generator is rotating at 3600 RPM, it will produce 110-120 Volt 60 cycle alternating current.

The Forney Generator is battery excited and units are available for use with 6 or 12 volt ignition systems.

When the Control Switch is in the "OFF" position, the generator will not produce electric current. By placing the Control Switch in the "ON" position with the engine running, your Forney Generator will produce AC electricity.

HOW TO MOUNT THE FORNEY GENERATOR

When mounting your Forney Generator, refer to the instructions enclosed with the mounting bracket. Your Forney Dealer has complete information on mounting bracket kits available for various vehicles.

MOUNTING THE CONTROL UNIT

The Control Panel contains "delicate components." Rough handling may cause permanent damage. You will note the Control Panel is equipped with a flexible control cable of sufficient length to allow mounting on the dash of most vehicles and is connected to the Generator. You will also note a single conductor wire attached to the Control Panel. This wire is to provide "Excitation" current for the Generator.

Select the desired location of the Control Panel and attach the Control Panel by any convenient means to your vehicle. Attach the wire from the Control Panel to the Armature (A) Terminal on the D.C. Voltage Regulator.

NOTE: On alternator equipped vehicles the excitor wire goes to the output terminal on the alternator or to a battery or accessory block terminal.

CAUTION: BE SURE THE CONTROL UNIT SWITCH IS IN THE OFF POSITION WHEN YOUR FORNEY GENERATOR IS NOT IN USE.

OPERATING INSTRUCTIONS

Every Forney Generator has been thoroughly tested and inspected before it leaves the factory. Only a minimum of service is necessary for the Forney Generator to give years of satisfactory power output. Every unit has shielded, sealed, and special grease packed bearings on each end.

Keep the drive belt only as tight as necessary to prevent power loss. A "loose" or "too TIGHT" DRIVE BELT MAY INJURE A BEARING. ALWAYS BE SURE THAT THE PULLEY NUT IS SECURELY TIGHT TO PREVENT DAMAGE TO THE BEARINGS.

FORNEY MODEL FG-2000 GENERATOR
OPERATING INSTRUCTIONS
(Continued)

Check the operation of the Forney Generator. Start the engine of your vehicle. Place the Control Switch to the "ON" position. The voltage output of the Unit varies with your engine speed. Look at the Voltmeter. If your engine is idling slowly, you will notice the voltmeter is indicating 40 to 50 volts (in the red). Accelerate your engine and the voltmeter will respond instantly and should approach the maximum reading (in the yellow). This demonstrates the operation of the Forney Generator. The desired voltage for the operation of tools, appliances, lights, etc., is between 110-120 volts indicated. (The upper green range on the voltmeter).

WHEN OPERATING THE FORNEY GENERATOR, FOLLOW THESE SIMPLE RULES:

1. **POWER TOOLS OR LIGHT BULBS:** Turn the switch on Control Panel to ON position. Adjust engine speed until Voltmeter in Control Panel indicates between 110-120 volts. Start tool operating. Readjust engine speed as necessary.

NOTE: The voltage will increase when tool is turned OFF, but will decrease to 110-120 volts when tool is again turned ON. You DO NOT HAVE TO ADJUST the engine speed between intermittent periods of tool operation.

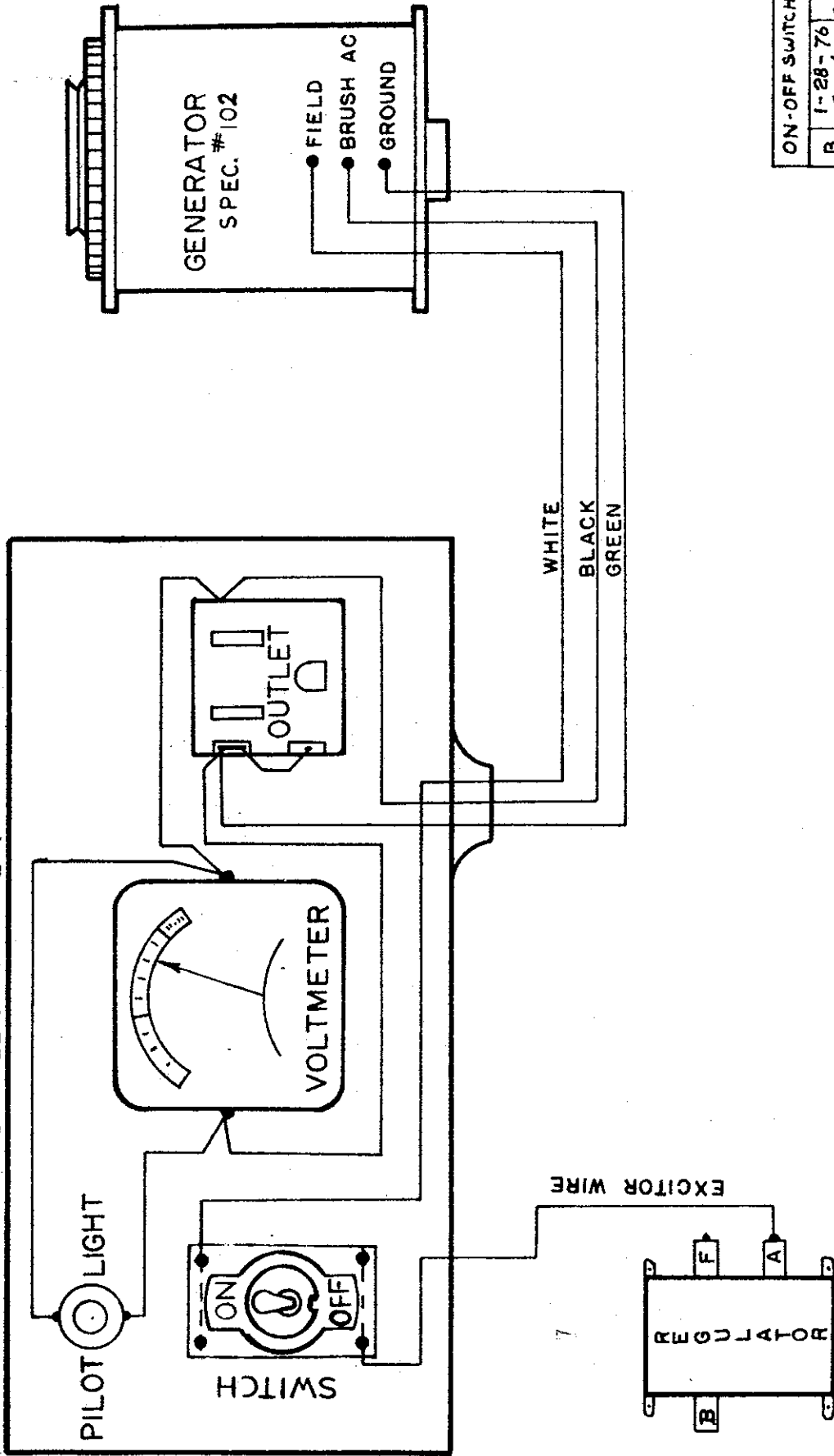
2. **POWER TOOLS OPERATED WITH APPLIANCES OR LIGHT BULBS:** Plug in and turn ON tool or appliance. THEN LIGHTS. When finished with tool or appliance turn OFF LIGHT FIRST, then turn OFF the tool or appliance. This is to prevent high voltage from burning out the light bulbs.
3. **OTHER USES OF THE FORNEY GENERATOR:** Many appliances or devices have no OFF-ON Switch. In this event, increase your engine speed until the Voltmeter in the Control Panel indicates between 110-120 volts and then plug in the appliance, then readjust the engine speed to maintain the desired voltage.

Do not leave appliances with no ON-OFF Switch plugged into the unit when the Generator is not up to operating speed. Also never plug them in until the generator voltage is in operating range. To do so would keep the magnetic field collapsed and keep the unit from generating voltage.

Many users may have a specific use for 60 cycle current. If such is the case, the shaft of the Forney Generator must turn at approximately 3600 RPM. At this speed, the Forney Generator will produce 60 cycle current.

FORNEY INDUSTRIES
P.O. BOX 563
FORT COLLINS, COLORADO

CONTROL PANEL (FRONT VIEW)



ON-OFF SWITCH CHANGE	
B	1-28-76 <i>W.H.A.</i>
PILOT LIGHT ADDED	
A	7-28-66 <i>W.H.A.</i>

PICTORIAL, SCHEMATIC			
GENERATOR MODEL P.L.G.2000 SPEC. # 102			
DRAWN	<i>R.M.C. Vette</i>	FORNEY MANUFACTURING CO.	
DATE	3 - 10 - 65	DIV. OF FORNEY INDUSTRIES, INC.	
SCALE	NONE	FORT COLLINS, COLORADO	
TOL.	± .XX .032	DWG. NO. 7090	

NOTE: IF VEHICLE IS ALTERNATOR EQUIPPED, CONNECT EXCITOR WIRE TO OUTPUT TERMINAL ON ALTERNATOR. DO NOT CONNECT TO ALTERNATOR VOLTAGE REGULATOR.

FORNEY INDUSTRIES, INC.
 BOX 563
 FT. COLLINS, CO. 80522

Cat. #	Description	Drawing Number	List
2011	Armature, Spec 48	7012	\$59.29
2012	Armature, Spec 87	7055	52.03
2013	Armature, Spec 101	-	48.22
2017	Field Coils, 12V	7011	21.78
2018	Field Coils, 6V	-	22.99
2019	Pole Shoe	7010	5.87
2020	Screw, Pole Shoe	-	.12
2021	Bearing, Drive or Rear (EXC48)	7022	3.33
2022	Bearing, Spec 48 Rear	7002	3.58
2025	Ring, Snap, Bearing Retainer	7023	.22
2026	End Plate, Drive End (All)	7021	7.81
2028	End Plate, Rear (Exc 48)	-	7.81
2027	End Plate, Rear, Spec 48 Only	7003	5.32
2029	Bolt, Case	-	.26
2030	Fan-Pulley	7024	3.63
2032	Nut, Shaft	-	.48
2033	Key, Woodruff	-	.12
2037	Brush Holder, Spec 101 AC w. Clip	-	2.25
2038	Brush Holder, Spec 101 Grd. W. Grd Wire	-	2.50
2040	Cap, Brush Holder, 9/16	7007	.31
2041	Cap, Brush Holder, 3/8 Dia.	-	.31
2044	Brush, 3/8 X 3/8	7005	2.12
2045	Brush, 1/4 X 3/8	-	1.76
2050	Control panel for FG 2000	-	33.66
2062	Boot, Rubber, Terminal	-	.48
2064	Terminal Kit	-	.85
2051	Voltmeter	7033	7.99
2054	Receptacle	7032	.97
*2058	Switch, Toggle	-	2.78
2060	Cable Assy Spec 87, 101	-	5.45
2059	Cable Assy, Spec 48	7037	6.48

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: Identification of Spec. #

1. Spec 48 uses one 3" bronze slip ring and one flat aluminum slip ring (Prior to serial # 20152).
2. Spec 87 uses two 3" bronze slip rings (Serial # 20153 to 20745).
3. Spec 101 uses a molded 1-5/8 Dia. slip ring assembly (Serial # 20746 and up).
- * 4. Order toggle switch # 2058 on all generators purchased January 6, 1976 and there- after.



TRUBLE SHOOTING UNDER-THE-HOOD ALTERNATORS

Low Voltage - Can be belt slipping, an overload, excitation wire loose or not connected at the proper place, DC Generator or Alternator not charging properly, brush is sticking, slip ring dirty, open circuit in armature, field coils shorted, engine speed too slow, connections not tight.

How to Correct Some of These Troubles - If belt is slipping either tighten the belt or use a good belt dressing. Castor oil and powdered rosin make a good dressing. Two-thirds castor oil and one-third powdered rosin. Check to make sure you do not have an overload, PLG 2000 Generator on a 12 volt system is capable of approximately 18 amps output. There are two wires leading from the control panel, one is a heavy cable, the other is usually a red wire. This red wire is the excitation wire. It should be connected to armature side of the DC voltage regulator. The two main reasons for connecting it to the armature side of the voltage regulator:

1. If the switch is left on, it will not discharge your battery.
2. From the DC Generator you get about two more volts than you would from the battery. This gives you a better magnetic field; therefore, the output of your Power Line 110 volt Generator will be greater.

On Alternator equipped vehicles the excitation wire connects to a battery terminal. If your DC Generator is not properly charging, this will easily be detected at your amp meter on the dash of the vehicle. To check for sticky brushes, you remove the brush cap and see if the brush operates freely in the brush holder. For a dirty slip ring, this is a visual inspection, clean with fine sandpaper. For a short or an open circuit in the armature, check the armature on a growler. Any local Generator shop can do this. Your field coils can also be checked by any local Generator shop. If the engine speed is too slow, this will cause low voltage.

The most common bad connection is usually where the armature winding is connected to the slip ring. This wire is coated with very heavy Formvar insulation, make sure the insulation has been removed where the connection is made at the slip ring. Make sure there is no paint causing a bad connection.

High Voltage - This is always engine speed is too fast. Over voltage for too long a period will burn out the voltmeter.

Failure to Show any Voltage - DC Generator not charging, broken wire, armature shorted, improper installation, excitation wire not properly connected, volt meter faulty, switch shorted or faulty. Most of these failures were covered under Low Voltage. If the volt meter is faulty, a lot of precaution should be used in attempting to even remove it from the control panel. There are two wires connected to the volt meter and these should be removed with a soldering iron from the terminal posts, not by taking the nuts off. At the rear of the terminal posts there is a very small wire that is almost invisible. If you remove the nuts from the terminal posts you usually break this small wire and the volt meter is beyond repair. A visual inspection will usually show whether the switch is shorted or faulty.

Generator Noisy - Belt too tight, bearings worn, armature dragging field coil, improper alignment of armature, field coil not tight in housing, hard brush, slip rings rough, end bells too tight, end bells cocked. Most of these failures have to be determined by disassembly of the Generator. There are two 1/4" bolts that hold the Generator together. They should have the same tension. By loosening these bolts approximately 1-1/2 turns and then let the Generator run for about one minute, then retighten firmly but not too tight, the end bells will usually align themselves and stop any undue pressure on the bearings.

If the pole shoes are not properly aligned, the Generator will only be noisy when the excitation switch is turned on, or the Generator is being used. This is caused by the magnetic field making the armature thrust forward or backward, causing undue pressure on the end bell or bearing.

Excessive Vibration - Belt worn, Generator not tight on mounting, pole shoes loose, slip ring out of round, drive pulley loose, bearings worn, Generator drive belt not in alignment. These are all visual inspection. If the drive belt is not in proper alignment, this will cause rapid belt wear and as the belt becomes worn, excessive vibration begins. The slip rings are molded and occasionally you will get a slip ring with a hard spot, this will result in roughness that may cause sparking brushes or slight vibration.