

MODEL EVP20 VACUUM PUMP (DELVO)

WARNING

When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

1. **Keep work area clean.**
Cluttered areas and benches invite injuries.
2. **Consider work area environment.**
Don't expose the Pump or components to water.
Keep work area well lit.
Do not use tool in presence of flammable liquids or gases.
3. **Guard against electric shock.**
Prevent body contact with grounded surfaces, such as pipes, radiators, metal structures or other electrical products.
4. **Keep bystanders away.**
Do not permit unauthorized personnel to operate this tool.
5. **Store idle tools.**
When not in use, tools should be stored in a dry, and secured area.
6. **Use right tool.**
Don't use a small tool or attachment to do the job of a heavy-duty tool.
7. **Dress properly.**
Do not wear loose clothing or jewelry. They can be caught in moving parts.
Wear protective hair covering to contain long hair.
8. **Use safety glasses.**
9. **Don't abuse cord.**
Never carry a tool by its cord or yank the cord of the Control Box to disconnect it from a receptacle.
Keep cord from heat, oil, solvent, and sharp edges.
10. **Secure work.**
Use a clamp, fixture, or vise to hold work.
Operators often need both hands to perform job functions.
11. **Don't overreach.**
Keep proper footing and balance at all times.
12. **Maintain tools with care.**
Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Keep handles dry, clean, and free from oil and grease.
13. **Disconnect tools.**
When not in use, and when changing accessories.
14. **Avoid unintentional starting.**
Be sure power switch is off before connecting the Pump plug.

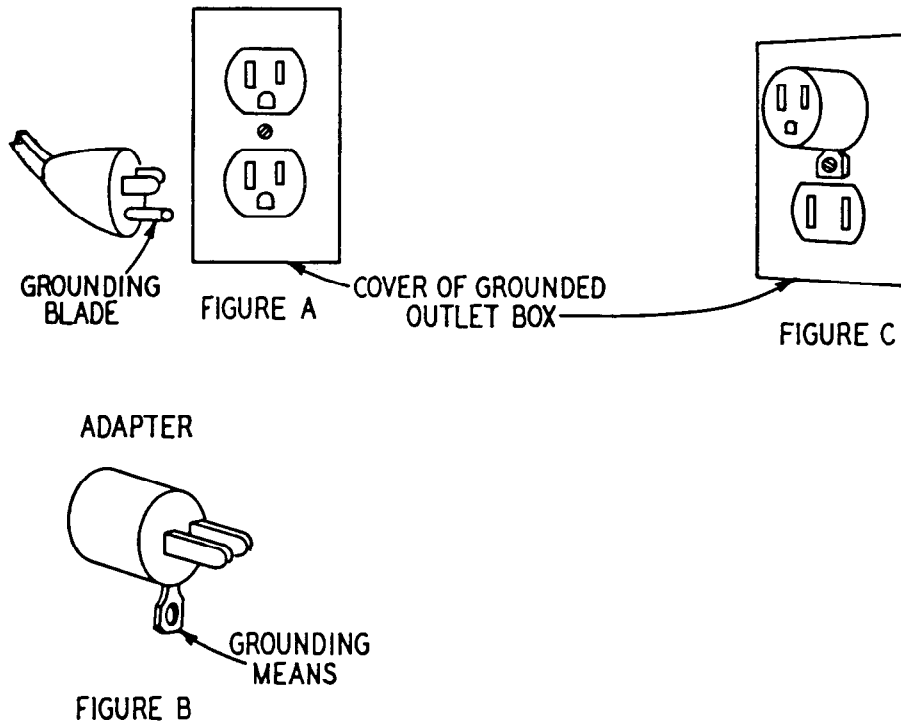
Notice: The use of other than genuine Ingersoll-Rand replacement parts may result in decreased tool performance and increased maintenance, and may invalidate all warranties.

INGERSOLL-RAND®
PROFESSIONAL TOOLS

GROUNDING INSTRUCTIONS

The Vacuum Pump must be grounded while in use to protect the operator from electric shock. This Vacuum Pump is equipped with an approved three-conductor cord and three prong grounding-type plug to fit the proper grounding-type receptacle. If a unit is for use on less than 150 volts, it has a plug that looks like figure A.

An adapter, figure B is available for connecting figure A plugs to two-prong receptacle. The green colored rigid grounding strap extending from the adapter must be connected to a permanent ground such as to properly grounded outlet box.



(Dwg. TPD446-1)

Note: For safe use of adapters the outlet box must be grounded. If there is any doubt have a qualified electrician check connections.

OPERATION CAUTIONS

1. Do not drop or abuse the Vacuum Pump.
2. Whenever a Vacuum Pump is not being used, position the Power Switch to the "OFF" position and unplug the power cord.
3. Keep the air filter clean and free of contaminants. Periodically, remove the filter and clean it with detergent and warm water.

MAINTENANCE

DO NOT ATTEMPT TO REPAIR THIS TOOL

All repairs and maintenance of the Vacuum Pump and its cord must be performed by an authorized servicer. See Form 6647 for the servicer nearest you.

DISASSEMBLY

WARNING: DISCONNECT ELECTRICAL POWER CORD FROM OUTLET BEFORE PERFORMING ANY MAINTENANCE OR REPAIRS ON THIS PUMP.

Disassembly of Housing

1. Unscrew Cover Wing Bolt (2) and remove Air Cleaner Cover (1).
2. Remove two lower Screws (28) from Air Cleaner side of Housing (22).
3. Remove two lower Screws from back of Housing.
4. Remove three upper Screws from Housing Side Cover (23), leaving the two lower screws in place.
5. Remove Housing carefully so as to not damage Switch (33).

Assembly of Housing

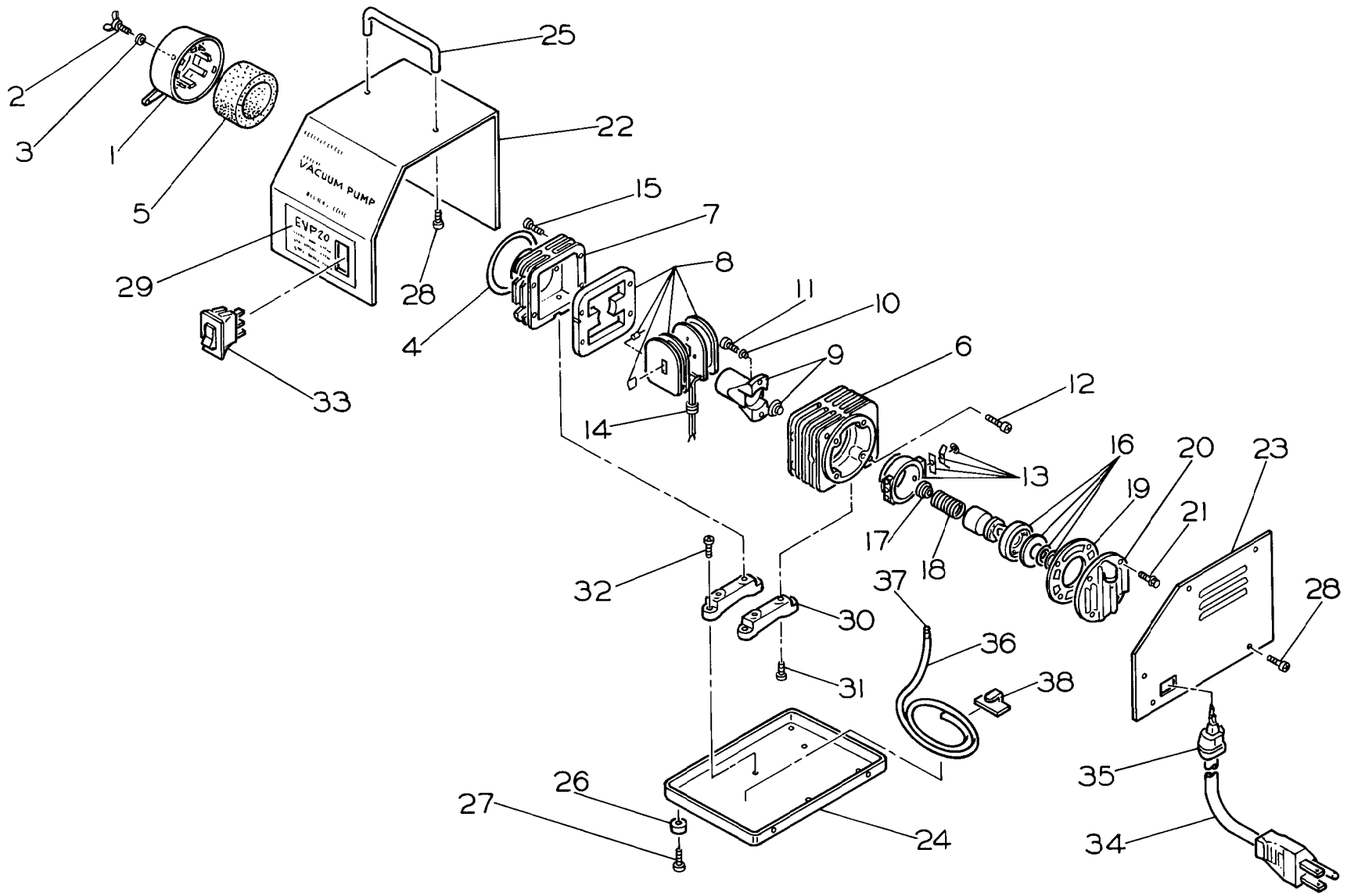
To assemble, reverse disassembly procedure. Be sure that Housing Side Cover is on outside of Housing and Housing Bottom Plate (24).


Replacement of Switch

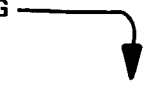
1. To disconnect leads from Switch, hold Switch firmly while grasping wire insulator at stake-on connection and pull away from Switch. **Do not attempt to disconnect leads from Switch by tugging or yanking on leads.**
2. Depress plastic holding tabs located on top and bottom of Switch and push Switch out of the front of the Housing.
3. To reinstall Switch, align white dot at top of Switch plate with **ON** designation on Nameplate (29). Press Switch into front of Housing until locked in place by holding tabs.
4. Connect leads to new Switch in proper sequence. Refer to **Wiring Diagram for EVP20 Vacuum Pump**. The black lead attaches to the S1 connection at the **top** of the Switch. **The top of the Switch is indicated by the white dot on the front of the Switch plate.** The larger white lead running to the motor attaches to the S2 connection at the middle of the Switch. The smaller white lead running from the Cord Assembly (34) attaches to the S3 connection at the bottom of the Switch.

Replacement of Cord Assembly

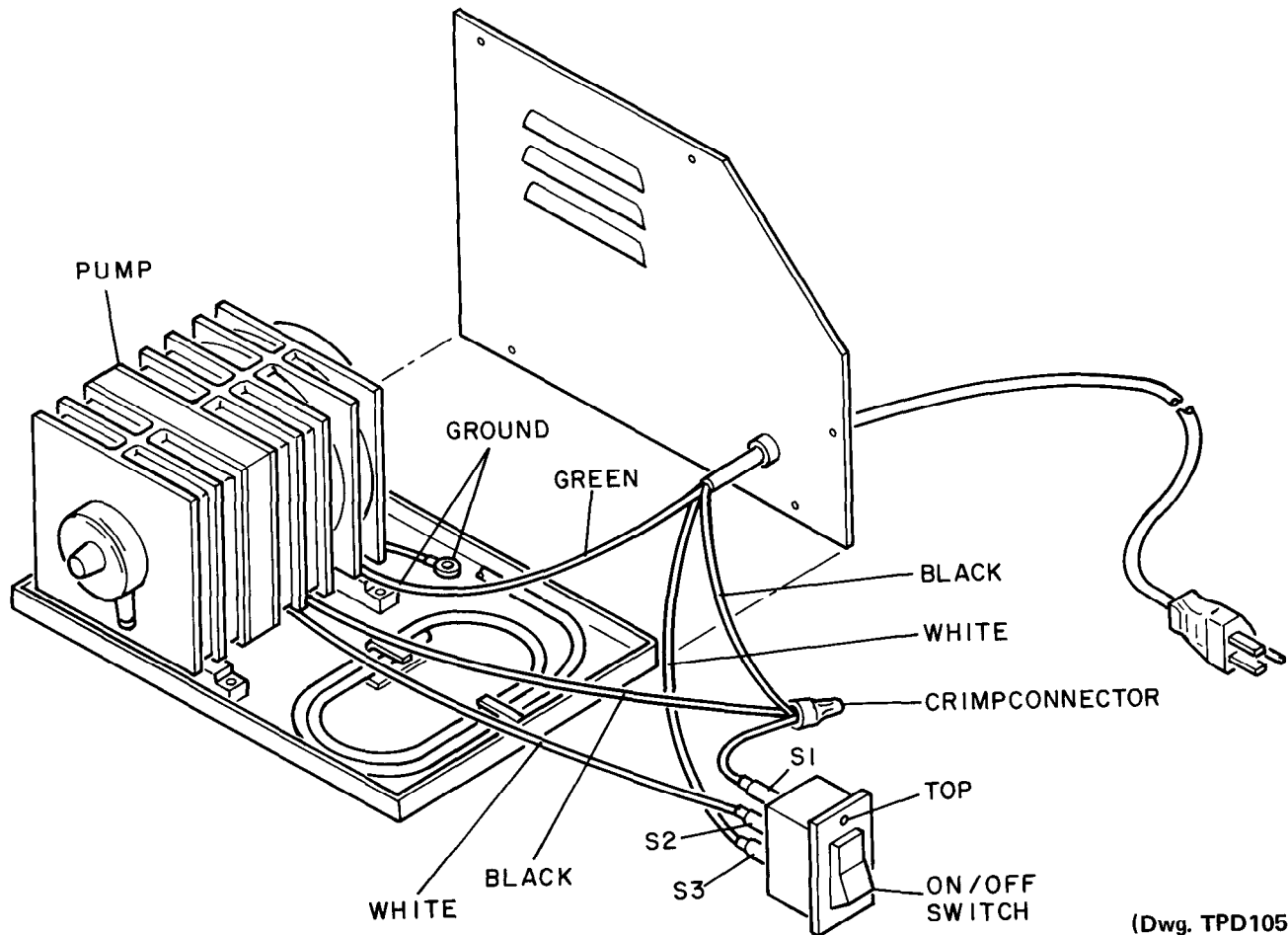
1. Remove the two Screws from the bottom of the Housing Side Cover and lay Housing Side Cover down to expose leads of Cord Assembly.
2. Using Pincer Insertion Tool, remove Cord Stopper (35) from the Housing Side Cover.
3. Disconnect the green ground lead from the cooling fin of the Motor Housing (6) and from Housing Bottom Plate (24).
4. Remove white lead from Switch at S3. Refer to **Replacement of Switch** and **Wiring Diagram for EVP20 Vacuum Pump**.
5. Cut three black leads just behind crimp connector and pull Cord Assembly through Housing Side Cover.
6. Insert leads of new Cord Assembly through Housing Side Cover.
7. Connect green ground lead to identified ground on Motor Housing. **Caution: Do not overtighten.** Connect green lead from Motor Housing to Housing Bottom Plate.
8. Connect black lead from Cord Assembly to black leads from Switch and Motor. Use proper size crimp connector.
9. Connect white lead to the bottom of Switch at S3.
10. Using Pincer Insertion Tool, reinstall Cord Stopper on Power Cord leaving 3/4" of Power Cord jacket beyond Cord Stopper and in the side of Housing Side Cover.
11. Reassemble Housing. Refer to **Assembly of Housing**.



PART NUMBER FOR ORDERING 

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	Air Cleaner Cover Package	EVP20-P627		Housing Package	EVP20-P631
1	Air Cleaner Cover	71A426	22	Housing	20199-24
2	Cover Wing Bolt	10A378	23	Housing Side Cover	20199-25
3	Wing Bolt Seal Washer	05A853	24	Housing Bottom Plate	20199-26
4	Cover O-ring	09A694	25	Handle	20199-27
5	Filter Element	12A174	26	Rubber Foot	20199-31
	Motor Housing Package	EVP20-P629	27	Foot Screw (4)	20199-33
6	Motor Housing	12A157	28	Housing Screw (11)	20199-32
7	Housing End Cap	31C182	29	Nameplate	EVP20-301
8	Field Core	71B431		Motor Mount Package	EVP20-P632
9	Rear Cylinder	97A350	30	Anti-Vibration Motor Mount (2)	71A622
10	Insulation Bushing (2)	10A355	31	Motor Mount Screw (4)	30A898
11	Insulation Bushing Screw (2)	12A599	32	Anti-Vibration Motor Mount	
12	Screw	08A489		Screw (4)	20199-34
13	Front Cylinder	97A349	33	Switch	20199-30
14	Field Core Bushing	11A076		Cord Assembly Package	EVP20-P634
15	Housing Screw	12A600	34	Cord Assembly	5468530K
	Piston Package	EVP20-P630	35	Cord Stopper	5468462K
16	Piston	70A625		Vinyl Suction Tube Package	EVP20-P635
17	Spring Seat	12A155	36	Vinyl Suction Tube (10 ft.)	20199-36
18	Spring	30A585	37	Tube Nipple	20199-37
19	Head Cover Gasket	12A595	38	Tube Stop	20199-38
20	Head Cover	30B586			
21	Head Cover Bolt (4)	12A546			



Wiring Diagram for EVP20 Vacuum Pump

TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Solution
Pump will not run.	Defective Cord Assembly (34)	Use voltmeter to check voltage at S1 and S3. Reading should be 115 volts AC. If there is no reading, replace Cord Assembly. Refer to Replacement of Cord Assembly .
	Defective Switch (33)	Use voltmeter to check voltage at S1 and S2 with Switch ON. Reading should be 115 volts AC. If there is no reading, replace Switch. Refer to Replacement of Switch .
	Defective Pump	Use voltmeter to check voltage at S1 and S2 with Switch ON. If there is reading of 115 volts AC, replace Pump.
Pump runs but produces no vacuum	Dirty Air Filter Element (5)	Clean Air Filter Element with detergent and warm water.
	Obstruction in Vinyl Suction Tube (36)	Remove obstruction.
	Defective Pump	Replace Pump.