

THE FORCE/1 SYSTEM

Three integrated, yet separate sub-systems make up the FORCE/1:

1. **Agitator and Airlock.** The FORCE/1 utilizes a 3/4 h.p. motor coupled to the power transmission (gearbox). Totally enclosed, the transmission is well suited for dusty environments. Changing oil is required annually.
2. **Blower Motor.** To provide maximum single blower pressure and output, the FORCE/1 is equipped with a 966 watt 2-stage blower motor. The blower is connected to the air intake port of the airlock by a metal sleeve.
3. **Electrical.**
 - A. Before turning on machine, be sure extension cord is secured to a grounded 20 amp outlet.
 - B. Never attempt to operate the FORCE/1 with either the machine or operator standing in water.
 - C. Disconnect extension cord from power source before examining or working on the FORCE/1.

RUNNING THE FORCE/1

The FORCE/1 comes with a 14/3 x 50' extension cord. Connect the cord to a "good" 20 amp grounded outlet. To find the proper 20 amp outlet in the home, we suggest using a kitchen appliance or freezer outlet. If necessary, unplug refrigerator or freezer and plug FORCE/1 extension cord into this outlet. The short time the outlet is used will not cause spoilage. Remember to replug the appliance after the job is complete.

To operate the main electrical panel, the remote buttons, either separate or combined, must be in the ON position. Turn agitator selector switch to ON, then turn the blower switch to ON. To use the remote control feature, keep both agitator and blower switches on the main panel in the ON position and use the remote switches to control the machine.

Adjusting Slidegate. The pin-set slide gate regulates the material flow going into the airlock chamber. By adjusting the slidegate you can increase or decrease the volume of material and the distance of the insulation throw from the end of the hose. Pull slidegate out to increase the rate of material flow, push slidegate in to decrease the rate of material flow.

Generator Size. Generator size for your FORCE/1 is 4000 Watt with 50% power boost for start up. Call Intec for further information.

Cold Weather Operation. When using your FORCE/1 in very cold weather, replace the oil in the gear box with Mobil One or 5W-30 high performance synthetic oil. After March, change oil to SAE 90 or 60-30W gearbox oil. Oil capacity is 25 ounces. Call Intec before installing.

CAUTION: LOADING HOPPER

Do not stuff the FORCE/1 hopper with material or attempt to feed it faster by pushing down on the material in the hopper. Such action can cause an electrical overload and possibly damage your machine. When loading cellulose into the machine, empty a bag at a time. Wait until half the contents of the bag have been used before adding the next bag. When using fiber-glass insulation, we suggest cutting the bags in fourths and loading a fourth of a bag at a time. Because of the unique agitator system of the FORCE/1, feeding should be automatic and no bridging should occur. Do not leave excess insulation in the hopper, always clean out at the end of each day.

Additional Hopper Cautions.

- A. Never put hands into hopper while agitator is running.
- B. Keep tools and other foreign objects from falling into hopper.
- C. If any foreign object falls into hopper, stop machine immediately.

MAINTENANCE

Blower Motor. Always keep blower as clean as possible to avoid overheating. If the blower has not been kept clean, overheating will develop causing lower production and possible system failure. Wipe or blow off outside louvered blower filter (on outside of lower housing) as often as needed. This may be every day in an extremely dusty environment. Except for periodically cleaning the blower unit, there's little likelihood of any other maintenance for the first 500 hours of use. This includes checking for worn brushes.

Replacing Blower. Turn machine upside down. Remove both the blower screws and the base mounting screw. Remove wire nuts. Disengage mounting bracket from old blower, mount bracket to new blower before installing assembly. Run a medium size bead of silicone sealant inside blower coupling tube. Re-align old mounting bracket on base and secure. Drill out new hole in blower coupling and through blower discharge. Refasten with screws. Wire nut all wires back together and retie them so that they are away from moving parts.

Airlock Seals and Plates. Unless damaged, seals will not show wear until after 300-500 hours of normal use. If person loading machine gets air blow-back up through the hopper from airlock, inspect seals immediately for cuts or severe wear. Knives, tools and other foreign objects caught in the airlock system can severely damage seals and/or plates.

Nuts and Bolts. A periodic inspection and retightening of all nuts and bolts is recommended.

Gearbox. The gearbox is located in the base section and is gray. It is important that the oil in the gearbox be changed within the first six

months of operation. After initial oil change, the recommended oil change is once a year or every 300 operational hours. To change oil, call Intec.

Hopper and Base. To clean, apply Go-Jo hand cleaner generously and wipe vigorously with a clean, dry rag. This will leave a dull appearance. To return luster, use Armor/All conditioner, following directions on container.

BLOWING SIDEWALLS

The following settings and recommendations should be used as guidelines. Settings may differ from job to job, material to material. Different wall nozzles will achieve different results. Density may change according to hose length and/or humidity.

You need a gradual transition in hose size so that the product flows as evenly as possible through the hose and into the nozzle. Use 50' of 2½" hose at machine. Next, insert 2½" to 2" hose reducer, securing with hose clamps provided. Add 50' of 2" hose.

2-Hole Method. Standard wall construction - 2 X 4 X 16" o.c. Air setting - 90 to 100% air

Hole size in wall	Slide gate opening
2 inch	6½ inches
1 inch	2¼ inches
5/8" brick tool	1½ inches

If you are not getting good compaction or clogging occurs, push slide gate in at 1/2" increments until running conditions are optimum.

Important. When blowing sidewall cavities, try to maintain a fairly constant material level in hopper. One-half hopper load is best. If material levels are not kept constant, sidewall densities may vary.

When sidewall is packed, you'll hear the FORCE/1 blower rev up. Turn off your agitator first, then your blower. This keeps the insulation from packing up in the outlet tube and avoids clogging problems. To restart, reverse shut off procedure.

Coverage. A typical retrofit wall cavity 2" X 4" X 16" on center - 8 ft. high will take 11½ lbs. to 12½ lbs. of cellulose insulation per cavity. Coverage can vary depending upon your product grind, moisture content and quality of insulation. Based on optimum results @ 12 lbs. per 2 X 4 cavity 16" o.c., you can expect the following coverage:

40 lb. bag - Approx. 3½ cavities
30 lb. bag - Approx. 2½ cavities
25 lb. bag - Approx. 2 cavities

CAUTION: BEFORE YOU BEGIN

Operating the FORCE/1 on insufficient current can weaken or damage it. Your FORCE/1 requires a "good" 20 amp grounded outlet to operate.

intec

Taking You Further-Faster

Mailing Address:

P.O. Box 1060
Broomfield, CO
80038-1060

Shipping Address:

3401-A Industrial Lane
Broomfield, CO
80020

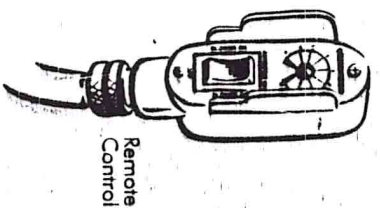
Phone Numbers:

303/466-1611
800/666-1611
FAX: 303/466-0557

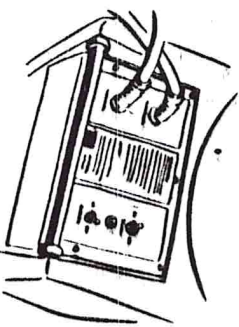
THE FORCE/1 Set-Up and Operations

REMOTE CONTROL: permanently attached to the main panel, the remote allows operation from the attic. Both the agitator and the blower can be operated by the remote control.

ELECTRICAL CONNECTIONS: Before connecting the machine to electrical power, make sure all switches are in the "off" position. Connect the supplied extension cord to a dedicated 115V 20 amp grounded outlet. In the home,

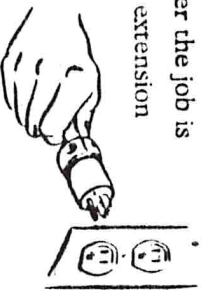


Remote Control



Main Panel

usually fit the amperage requirements. If necessary, these appliances can be temporarily unplugged, enabling the FORCE/1 to use the outlet. Disconnecting these appliances for the short time needed to operate the FORCE/1 will not cause spoilage. Remember to reconnect any unplugged appliance after the job is finished. If your job requires additional extension cords, make sure you use only a 12/3 cord for a 50 foot run or 10/3 cord for a 100 foot extension.



STARTING: To operate the FORCE/1 from the ground, the rocker switch on the remote control must be in the "on" position. Operate the blower and agitator from the main electrical panel toggle switches. To use the remote control feature for attic operation, the switches on the main panel must be "on"; you will control the machine with the rocker switch on

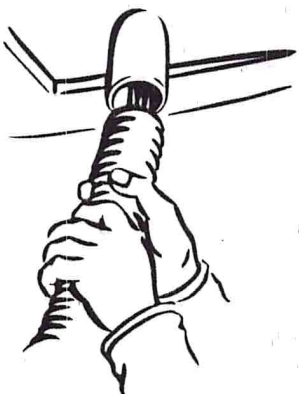
SET-UP & OPERATION

SET-UP & OPERATIONS

THE FORCE/1 Set-Up and Operations, Cont.

the remote cord. In cold weather, your machine is more difficult to start. If possible, store your FORCE/1 in a warm area overnight before starting.

DISTRIBUTION HOSE: For normal attic applications, the two and a half inch hose produces the best results. Always use at least 100 feet of hose on your job. Longer hose length decreases both capacity and material throw. At 200 feet of hose, capacity and throw will be reduced by approximately 30%. If you must use a hose longer than 150 feet, reduce the hose size to two inch diameter.



Distribution Hose

HOPPER SAFETY: Your safety is the most important consideration whenever you are using any machine. Following the instructions in this manual, along with good common sense, should allow you to complete your job in a safe, efficient manner. First, before loading your FORCE/1, follow all safety considerations provided by the manufacturer of the insulation material you are using, including wearing protective masks or respirators. Never wear loose clothing or other items while running this machine. Failure to follow safety precautions may result in permanent injury. Any time you overload the hopper, or anytime you place objects other than insulation material into the hopper, you are risking personal injury or equipment breakdown.

THE FORCE/1 Set-Up and Operations, Cont.

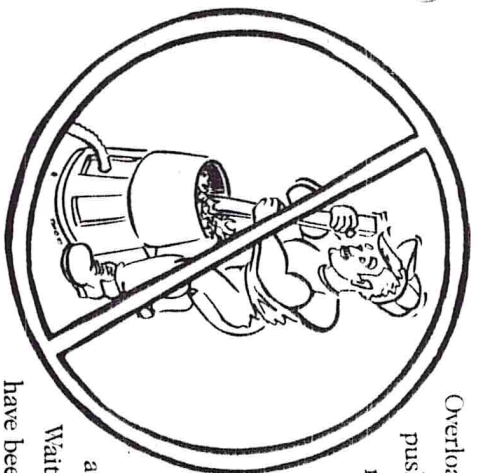
LOADING THE HOPPER: When loading cellulose, place the bag of insulation material on the hopper. Use a razor knife to open the bag so that the material falls into the hopper. Your FORCE 1 is designed to self-feed. For fiberglass, place the bag on the side of the hopper. Cut the bag in half and dispense half of the contents gradually until the agitator breaks up and conditions the material. Then load the remainder of the material according to distribution rate. Forcing insulation material or overloading can cause electrical problems or possible machine damage. Empty no more than one bag at a time into the hopper, waiting until at least half the material has been used before adding additional insulation.

If the agitator stops or the circuit breaker on the main panel trips, unplug the machine from electrical power. Remove the cause of the jam from the hopper. You may have to empty all material to locate and remove the jam. After clearing, reset breaker, reconnect to power and continue normal operation. See the *Troubleshooting* section.



Loading the Hopper

THE FORCE/1 Set-Up and Operations, Cont.



Overloading the hopper or pushing down on the material in the hopper can cause electrical problems or jamming which can damage your machine. When loading your machine, empty only one bag at a time into the hopper. Wait until half the contents have been used before adding another bag. Always clean unused material out of the hopper, airlock, and hose at the end of each job.

Do not put your hands inside the hopper while the machine is running. If a tool or other foreign object accidentally falls into the hopper, turn the machine off immediately. Careless operation of this machine can result in bodily injury.

ADJUSTING SLIDE GATE:

The pin-set slide gate regulates the amount of material entering the airlock. By adjusting the slide gate, you increase or decrease both the amount of material and the material throw distance from the hose. To increase material flow, pull the slide gate out; to decrease push the slide gate in.



Slide Gate Adjustments

THE FORCE/1

Operational Guidelines

ATTIC OPERATIONS:

When blowing cellulose, use a minimum of 100 feet of 2½ inch hose. For installing fiberglass, use a minimum of 150 feet of 2½ inch hose.

Effective blowing of insulation material into an attic requires a "lofting" technique, allowing the material to be thrown in a 6-8 foot arc. Lofting will result in more even coverage and efficient use of material.

BLOWING SIDEWALLS:

When blowing sidewalls, use the following settings and recommendations as guidelines. Remember that settings may change from job to job, material to material, or nozzle to nozzle. Hose length and humidity may also affect your results.

Two hole method, standard wall construction: 2 inches x 4 inches x 16 inches o.c. Air setting: 100%

Hole size in wall	Slide gate opening
2 inches	6½ inches
1 inch	2¼ inches
5/8 inch brick tool	1½ inches

Keeping material levels nearly constant in the hopper will improve sidewall cavity densities. Maintaining the level at approximately half full produces the most consistent results.

A gradual transition in hose size will help ensure the material flows evenly through the nozzle. At the machine, use 50 feet of 2½ inch hose. Next, connect 50 or 100 feet of 2 inch hose using the 2½ to 2 inch reducer, secured by the provided hose clamps. Attach the desired wall nozzle.

The maximum length of hose that should be used with your FORCE/1 is 200 feet.

OPERATIONAL GUIDELINE

THE FORCE/1

Operational Guidelines (Sidewalls), Cont.

If clogging or less than satisfactory compaction occurs, adjust the slide gate inward by ½ inch increments until the situation clears. If the problem doesn't clear, add an additional 50 feet of 2 inch hose and readjust your machine settings.

Insert the insulation nozzle into the lower hole of the wall cavity. Turn blower switch "on" first, then the agitator. When the sidewall is full, the FORCE/1 blower will rev up, trying to work harder and material flow may stop. Turning "off" first the agitator, then the blower keeps the material from clogging the outlet hose. Allow the blower to completely stop before removing the nozzle from the hole. Repeat the procedure using top hole until wall cavity is full.

Caution: If you are inexperienced with blowing sidewalls you may loosen or blow off sheetrock, or you may accidentally fill areas such as closets.

OPERATIONAL GUIDELINE

THE FORCE/1

Safety First

When working with insulation, always wear a long sleeve shirt, gloves, a hat, goggles or safety glasses for eye protection and a 3M brand #8710 nose/mouth filter (or equivalent) for respiratory protection.

Never put your hands into the hopper while the machine is running.

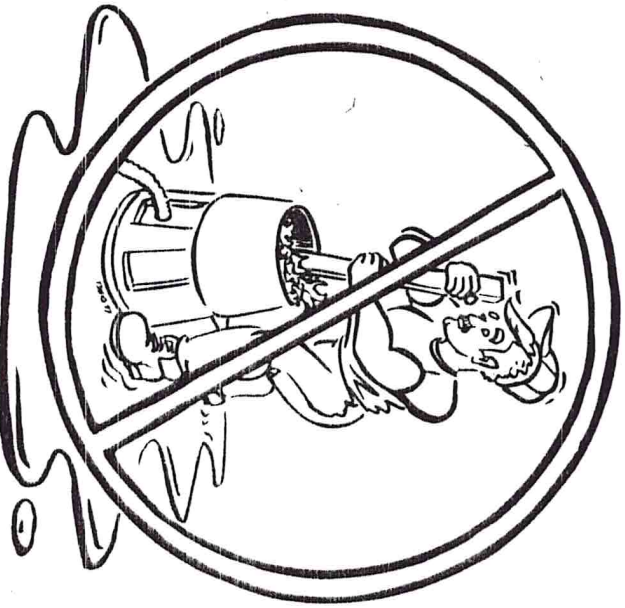
Keep tools and other foreign objects out of the hopper.

Clean all material out of the hopper and the hose when your job is complete.

Never leave your machine unattended while it is running.

Turn "off" and disconnect power before taking a break.

Never operate your machine if it or the operator is standing in water. Serious injury may result.



SAFETY FIRST

THE FORCE/1

Troubleshooting

Problem	Likely Cause	Remedy
Agitator does not operate.	Power cord not plugged in.	Check cord and plug in.
Note: Agitator can not be turned by hand.	Loose power cord/extension cord at electrical connection.	Check condition of electrical plug blades.
	Toggle switch for agitator is not in "on" position.	Flip toggle switch "on" at main panel.
	Circuit breaker tripped on main panel.	Push to reset tripped circuit breaker.
	Jam in airlock exit tube.	Disconnect electrical power. Remove hose from the exit tube. Locate jam and remove material with pliers.
	Jam between blade of agitator and airlock.	Disconnect electrical power. Remove insulation material from hopper. Locate jam and remove material with pliers.
	Bearing on top of gearbox worn or frozen (Bearing guides the agitator shaft).	Have bearing replaced by a qualified technician.
	Start-up capacitor blown on agitator motor.	Have capacitor replaced by a qualified technician.
	Remote rocker switch for agitator motor has failed.	Replace with original factory part.
	Main panel toggle switch for agitator motor has failed.	Replace with original factory part or with a rated 20 amp @ 110V toggle switch.
	Loose wire in electrical system.	Have the system inspected by a qualified technician.

TROUBLESHOOTING

THE FORCE/1 Troubleshooting, Cont.

Problem	Likely Cause	Remedy
Air, but no material, comes out of hose	Slide gate closed.	Open to operating position.
	Bridging (air pocket in hopper).	Turn machine "off" and disconnect from electrical power. Redistribute material in hopper. Reconnect to electrical power.
	Remote rocker switch for agitator motor has failed.	Replace with original factory part.
	Circuit breaker tripped on main panel.	Push to reset.
	Jam between blade of agitator and airlock.	Disconnect electrical power. Remove insulation material from hopper. Locate jam and remove material with pliers.
Blower does not operate.	Blower toggle switch on main panel is "off".	Switch toggle to "on", use remote box to operate.
	Remote rocker switch for blower motor has failed.	Replace with original factory part.
	Loose power cord/extension cord at electrical system.	Check condition of electrical plug blades.
	Loose wire in electrical system.	Have the system inspected and repaired by a qualified technician.
	Worn brushes in blower motor.	Have the brushes inspected and replaced by a qualified technician.

TROUBLESHOOTING TROUBLESHOOTING

THE FORCE/1 Troubleshooting, Cont.

Problem	Likely Cause	Remedy
Machine makes a rattling noise when turned on.	Gearbox drive not engaged with airlock rotor connection.	Loosen gearbox and gearbox stabilizers. Align gearbox and airlock perpendicular to each other.
	Low oil level in gearbox.	Have the gearbox inspected and repaired by a qualified technician if necessary.
Decreased material throw.	Worn airlock seals.	Inspect seals for tears or cuts. See maintenance section to replace or adjust as necessary.
	Kink in hose.	Run hose as straight as possible to help maintain production.
	Excess air leaking into hopper.	Inspect seals for tears or cuts. See maintenance section to replace or adjust as necessary.
Machine does not run	No power.	Check source of electrical power. Possible tripped circuit breaker.
	Main panel circuit breaker tripped.	Push to reset.

THE FORCE/1 Troubleshooting, Cont.

Problem	Likely Cause	Remedy
Agitator trips circuit breaker at main panel.	Low voltage.	FORCE/1 requires a minimum of 20 amps @ 115V. Relocate power cord to a dedicated 20 amp circuit.
	Incorrect size extension cord.	For an additional 50' run, use 12/3 cord. For a 100' run use 10/3 cord.
	Pushing down on material in hopper.	Do not push down on insulation while filling hopper.
	Wet insulation material in hopper.	Do not use wet material. Disconnect electrical power and remove wet material.
	Worn or frozen airlock bearing.	Have bearing checked and replaced by a qualified technician.
Blower trips circuit breaker at power source.	Low voltage.	Blower requires a minimum of 20 amps @ 115V. Use a dedicated refrigerator outlet or equivalent.
	Incorrect extension cord.	For an additional 50' run, use 12/3 cord. For a 100' run use 10/3 cord.
Operator in attic keeps getting shocked.	Static electricity from insulation.	Mix half-and-half solution of water and fabric softener. Mist into insulation while loading hopper. Note: excess moisture will cause jamming.

Note: To clear all jams, turn machine upside down and follow the instructions printed on the motor housing.

TROUBLESHOOTING