modi·systems
accessories for modified bitumen

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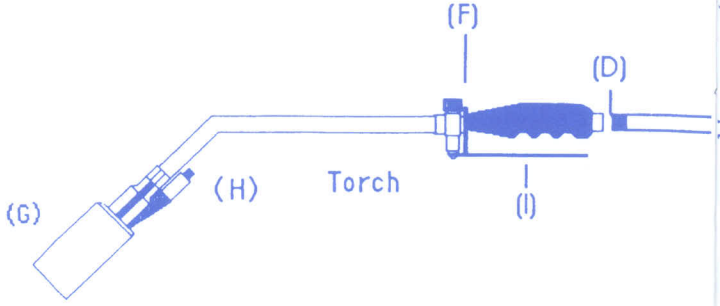
Instruction for Use
and Safety Measures

magnum

READ THIS

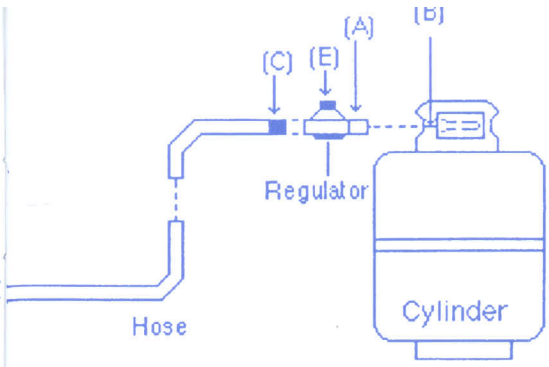


ASSEMBLY

1. Remove plastic cap from regulator inlet nut (A) and attach to cylinder valve opening (B). Securely tighten with wrench (counterclockwise), but do not force.

2. Wrench tighten brass fitting of the rubber hose (C) to the regulator connection, then wrench tighten the other hose fitting (D) to the torch handle connection.

3. Close all valves before operating equipment.



OPERATION

1. Make sure valves are closed on torch.

2. Turn regulator pressure adjusting knob (E) counterclockwise until it turns without tension. (This stops inlet gas flow in high pressure chamber of regulator.)

3. Stand to side of cylinder with cylinder valve outlet facing right or left from operator. Slowly open propane cylinder valve to center open position.

4. Turn regulator pressure adjusting knob (E) five to seven turns clockwise.

5. Check all fittings for leak bubbles with a liquid soap solution.

6. To light torch, open on/off pilot valve (F) **slightly**, a 1/4 turn or less. Be certain that torch tip (G) is facing away from operator. If using a standard ignition torch, use flint or spark lighter to light tip; if torch is equipped with electronic start, depress electronic start button (H). After lighting, adjust pilot valve to desired condition.

7. Depress lever handle (I) for full torching flame and adjust regulator pressure to desired flame. (Caution: **A propane flame is hard to see in outdoor lighting; use extreme care).**

8. Before storing, close cylinder valve and depress lever handle to drain gas from regulator, hose and torch. Close all valves and disconnect regulator from cylinder valve.

9. Keep equipment clean.

10. Torch assembly must be used with a D.O.T. approved container equipped with a U.L. listed shut off valve.

PERSONAL

- Wear proper clothing, long sleeve shirt, long pants, boots and gloves.
- Workmen, other than the torch operator, should be no closer than three feet from open flame.

CONTRACTOR

- It is the contractor's responsibility to observe all fire prevention policies and practices during the installation of the roof system.
- Follow NRCA and OSHA fire protection and prevention provisions including, but not limited to, those listed in OSHA 1962., 150., 151., 152., 153., 1191.-110 as they apply to torch application. comply with all federal, state, and local regulations.
- It is the employer's responsibility to train, instruct, and warn employees on the use of torching equipment.
- Workers should use extra caution around exposed edges of insulation to prevent flame from coming into contact with any flammable material. Contact for any length of time with lead or other materials affected by heat should be avoided.
- Do not use equipment in an enclosed area.
- It is the contractor's responsibility to ensure his employees wear correct clothing; no loose garments. Long sleeves, long pants, boots, and

gloves are recommended.
• Be familiar with NFPAS8 "Standard for the Storage and Handling of Liquified Petroleum Gas" and appropriate publications of the National LP Gas Association: 1301 West 22nd St., Oak Brook, Il. 60521, and the National Fire Protection Association: Batterymarch, Quincy, Mass. 02269.

FIRE DEPARTMENT REGULATIONS

• Written notice should be given to the local fire department and any necessary permits should be acquired.
• the required number of fire extinguishers shall be on the roof at all times.
• Install portable smoke detectors in attics as required by the fire department.
• Foreman on the job shall have fire safety training and shall remain on the job site at least one hour after the application has ended for the day.
• No flammable liquids shall be stored or used on the roof excluding LPG in approved containers. All LPG not in use shall be stored on the ground.

EQUIPMENT DO'S

• Do use an adjustable pilot with a complete shut-off valve.
• Do use a torch stand to direct flame upward when not in use.

• Do use only hose listed for LP gas.
• Do use no more than 50 feet of hose at one time.
• Do use an adjustable regulator with the torch; It should be U.L. listed.
• Do keep vent in pressure regulator unobstructed at all times.
• Do make sure flow of gas through regulator is in the proper direction. Directional flow is stamped on the regulator.
• Do be sure that torching equipment is in good working order and that the cylinder valves are clean.
• Propane tanks should be secured in an upright position and placed at least 10' from the open flame.
• A flint or electronic lighter should be used to ignite the burner. Matches or disposable lighters are unsafe substitutes.
• Should a leak occur, stop work immediately and repair all relevant parts. Do not use torching equipment that is leaking gas at any fitting.
• Do check hoses for wear and tear and do not allow flame to come into contact with them. Heavy equipment should not be rolled over the hoses, and they should be kept free of kinks.
• Should propane odor be detected, stop the torch immediately.
• Do know the difference between liquid and vapor gas bottles and dispensing equipment.

• Do treat the torch as if it is always burning. For example, on bright days it is very hard to see the flame, and when working around mechanical equipment you cannot hear the torch.
• When using a dry chemical type fire extinguisher, direct the chemical stream at the base of the fire from a safe distance of about ten to fifteen feet. Sweep the fire away from you, starting at its nearest point and moving the chemical stream toward the furthest point.
• Other than the operator, workmen should stay a minimum of three feet from the flame.
• NEVER LEAVE A TORCH UNATTENDED.
• When shutting off the torch, close the propane cylinder valve first and let the remaining gas burn out of the hose before closing the torch valve.
• Do increase the size of the bottle or cylinder to keep frosting from occurring.
• Do secure tanks when on the roof, especially 100 lb. tanks.
• Do use soap solution to test for gas leaks before lighting torch. Then check for proper operation of the torch.
• Do check hoses frequently for burned or charred areas.
• Do protect cylinder valves and where possible use cylinders that have valve protection welded to the cylinder.
• Do have an ABC or Halon fire extinguisher on the roof accessible to each worker using the

torch.
• Do repair hoses at the first sign of wear.
• Do check all equipment for wear and repair and/or replace as necessary.
• Do be very careful when working with torches in areas where you cannot see. Pull material away, heat it, and then apply it to the flashing.
• Do protect your equipment. Store it in a tool box.

EQUIPMENT DON'TS

• Don't operate any pressure gauge beyond the top of its scale or in excessive heat (above 150°F) or where there is excessive vibration.
• Do not use equipment without an operating pressure gauge.
• Do not turn a vapor cylinder on its side to increase pressure. Liquid could escape.
• Do not heat a cylinder to increase pressure.
• Do not try to put out a cylinder fire if it cannot be done without tipping the cylinder. Let it burn and call the fire department.
• Do not lift cylinder by the valve. Valve is made of soft brass and is easily cracked or broken.
• Do not leave lighted torch unattended.
• Do not place fire extinguisher too close to LP gas equipment. If fire occurs, you cannot get to fire extinguisher to put out the fire.
• Do not fill gas cylinder or bottle in need of re-

pair.
• Do not lay an operating torch over the edge of a roof.
• Do not use a trowel as a torch stand.
• Do not lay an operating torch to rest on a gas cylinder. If there is a gas leak in the cylinder area there could be a fire.
• Do not tighten the brass fittings too tightly with a wrench.
• Do not use soda acid fire extinguisher-it spreads the flame.
• Do not play with a torch. A flame can be hard to see on a bright day and can ignite skin or clothing instantly.
• Do not use matches when igniting torch; use spark light or electronic start only.

BUILDING DO'S

• Use perlite or fiberglass cant strips.
• Use glass base or #40 organic base sheet on plywood decks, and over cant strip and insulation.
• Use noncombustible insulation as the torching surface.
• Install metal flashings to penetrations or protect flashings with tight lifting felt collar before torching. Walk job every day 1 hour after all torches are out. Fires can result hours after completion of work, so the inspection time may vary depending

on the size of the job and the nature of the application surface and abutments.
• Make sure air conditioning units, exhaust fans, and air intake fans in the work area are shut off at the roof control.
• Use a small torch when flashing near details.
• Shield air conditioning units and other protrusions with perlite or other similar panels when using the torch around them.
• Heat roofing away from air conditioning units, fans, soil pipes, and all other protrusions, and set in place while hot. Care must be taken to avoid flame being pulled into the building interior.
• Feather seams around details with hot trowel.
• When torching at flashings, corners, or voids in the roof or roof deck, never torch directly. Always torch the membrane to be applied and then adhere it to the corner or joint.
• Look for any void, hole, or gap and fill it with noncombustible or perlite cant strip.
• Use caution when torching near pipes in the event there is suction present.
• Failure to utilize the base sheet as recommended by the manufacturer's specification manual is extremely hazardous as the base sheet provides a protective covering for underlying combustibles.
• Torching directly over polyurethane and polyisocyanurate roof insulations should be avoided. RIC//TIMA has recommended that an

interim base ply or a layer of roof insulation, acceptable to the membrane manufacturer, be used to separate the foam roof insulation from the modified sheet and the torch.
• Do install a base sheet over all flammable surfaces and rigid board insulations. Be sure base sheet fits tightly around all deck openings, turns up the wall so the flame cannot flash down and start a fire underneath the deck.

BUILDING DON'TS

• Don't torch anything you cannot see; do not use the torch in areas like under a/c units or behind counterflashing.
• Don't torch to wood fiber cant strips.
• Don't torch to wood fiber insulation.
• Don't torch directly to cant strip, insulation, wood or any other flammable material.
• Don't torch near gas lines.
• Don't torch near electrical wires.
• Don't torch over flammable surfaces such as wood, eps insulations, etc.
• Don't torch around flammable vents.
• Don't torch directly to rigid board insulations.
• Don't point the torch under rooftop equipment.
• Don't point the torch down open roof penetrations.
• Don't point the torch into openings around roof

penetrations.
• Don't point the torch into corners or roof edges where dried wood or fiber may ignite (such as wood blocking or cant strip).
• Don't point the torch at low flashings where there is an overhang and flame could get up under the counterflashing (such as around skylights or prefabricated curbs with fiberboard sidewall insulation).
• Torching equipment is made for roofing application only and should not be used for drying out a roof or as a preheater torch.
• Never apply modified bitumin products directly over exposed conduits or pipes laying on the roof deck.
• LP gas is heavier than air. Do not work in an enclosed area where gas can accumulate without using a fan to dissipate the gas before it has a chance to ignite.
• Don't lay an operating torch directly on to the membrane. There is danger of fire and danger of damaging the membrane.
• Don't lay an operating torch on an open penetration on the roof. If the penetration is part of an air intake system, the flames could be sucked into the building.

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