



# INSTRUCTIONS

INSTALLATION  
OPERATION  
SERVICE

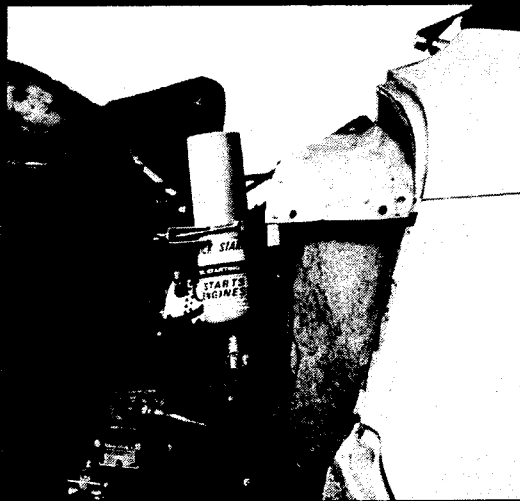
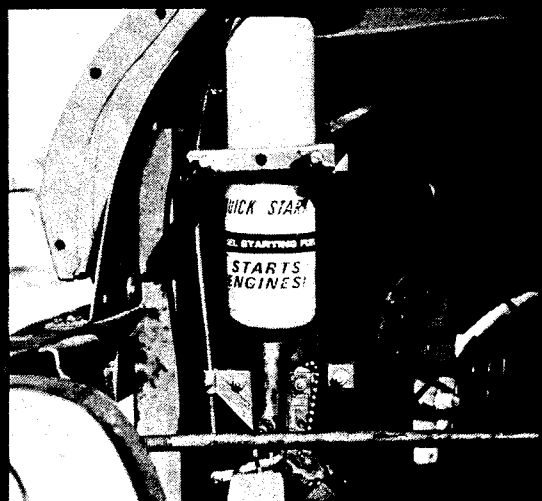
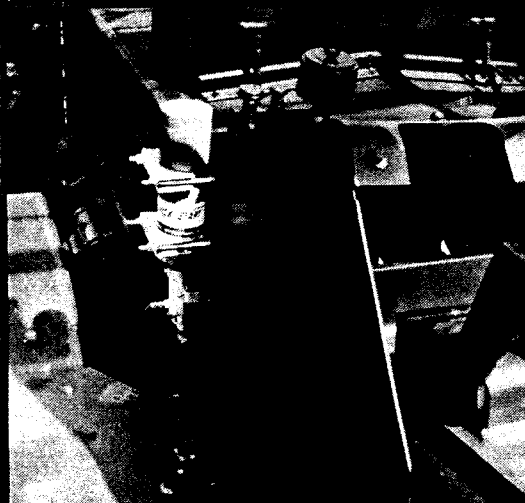
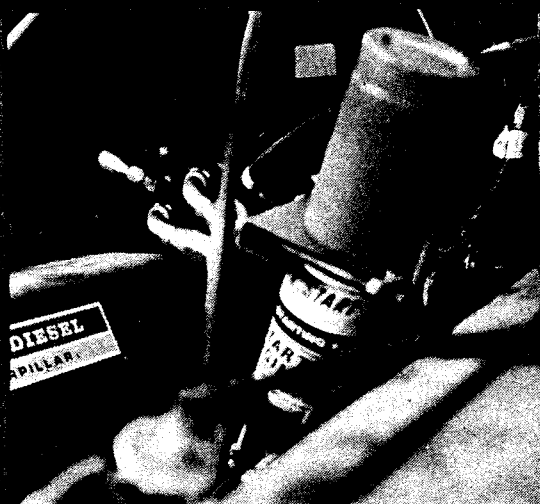


QUICK START PRODUCTS, LTD.  
Highway 251 South  
Rochelle, Illinois 61068

# QUICK START

THE DIESEL STARTER

THE ONLY DIESEL STARTER THAT STARTS ANY DIESEL ENGINE



# STEP 1-LOCATION

- A. QUICK START may be mounted within a reasonable distance of the engine. (Typical locations are shown on page 2.)
1. Tube lengths: 48" maximum (40" maximum for dual manifolds).
  2. DO NOT install QUICK START
    - on the engine,
    - in the operator's cab,
    - adjacent to the exhaust manifold,
    - where environmental temperature might reach 200° F. (The safety relief device on the cylinder will open at 200° F  $\pm$  5° F, allowing the entire contents to be expelled.)
- B. A suitable location may be provided on the firewall, main frame member, radiator frame, hood side, or OUTSIDE cab wall. Otherwise, provide a location by tack-welding a light plate to the main frame, support member, etc. Attach QUICK START as outlined (see Step 2—Mounting).
1. QUICK START mounting may position the cylinder up to 20° from vertical.
  2. Cab-over engine Tractors have a frame at the rear of the cab which is ideal for mounting unit.
  3. Farm tractors, construction machines, etc., ordinarily do not present location problems.
  4. DO NOT INSTALL QUICK START ON THE ENGINE.
  5. Avoid mounting Quick Start where it may be subject to road splash, salt spray, etc.

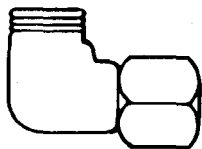
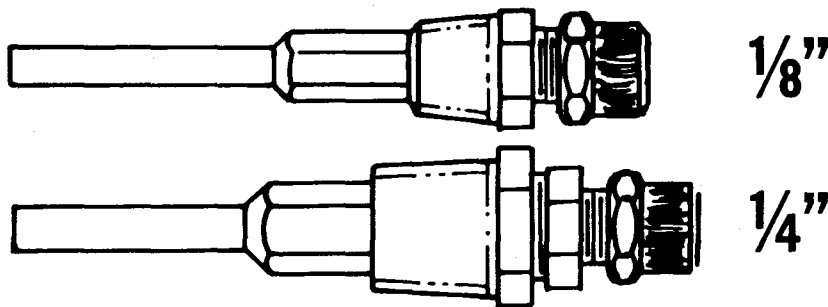
# STEP 2-MOUNTING

- A. Screw cylinder into valve. Bolt this assembly into place using 1/4" bolts or machine screws—making sure there is enough clearance to remove the cylinder. Holes (9/32" size) should be positioned to correspond to the two holes in the valve bracket.
1. The valve should be mounted with 1" threaded hole in an "up" position no more than 20° from vertical.
  2. Length of 1/4" bolts is determined by thickness of mounting plate, or frame, or firewall, etc.
- B. QUICK START PRODUCTS components are designed to work **ONLY** with QUICK START components.
- C. Position cylinder clamp in-line with the valve bracket and approximately 2/3 the distance up the cylinder. Tighten wing nuts snugly to insure the front saddle firmly secures cylinder. (An over-center spring clamp, and a stainless steel quick-release clamp are also available.)

## STEP 3-CONNECTING

- A. Insert one end of nylon or copper tube into ferrule and nut assembly—LP-5146-10 (See drawings below).
- B. Follow same procedure at valve and atomizer ends.  
Tighten the tube nuts at each fitting, while holding tube in place.
- C. Actuate the valve to check for leaks and proper atomizing. A fine spray should be emitted from each orifice of the atomizer.  
This may be done by hand actuation of the lever. (If an electric valve is being used, refer to Step 9, page 9.) Actuate the electric valve with the push button.

### LONG-BLOCK ATOMIZERS



LP-1698-1  
VALVE FITTING



LP-482-1  
VALVE FITTING

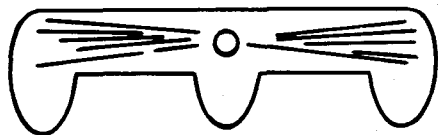


LP-2332-1  
VALVE FITTING

LP 5146 Nut & Ferrule Assembly common to all fittings shown. (For replacement order LP 4270)

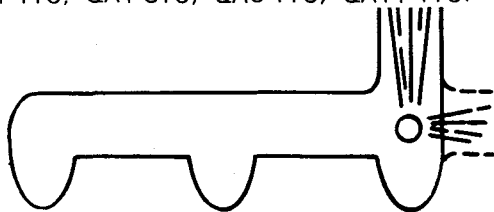
# STEP 4-POSITIONING ATOMIZER

## REPRESENTATIVE MANIFOLD PLUG LOCATIONS IN DIESEL ENGINES.



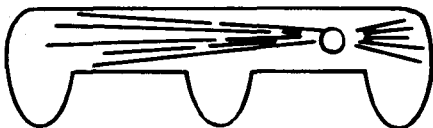
### CENTER LOCATION

CUMMINS 6 IN-L, IH 550 (V) (3), DDA in a GMC, others—(INA). Suggested Atomizers: QA1-1TC, QA1-3TC, QA5-1TC, QA11-1TC.



### END LOCATION

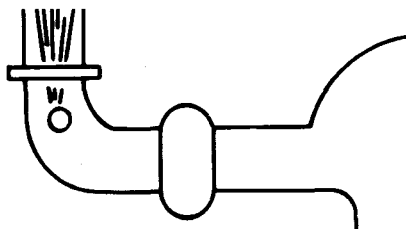
PERKINS: IH 300 to 400; CATERPILLAR 1693, others—(INA). Suggested Atomizers: QA1-5TC, QA2-5TC, QA5-5TC, QA9-1TC.



### OFF-CENTER LOCATION

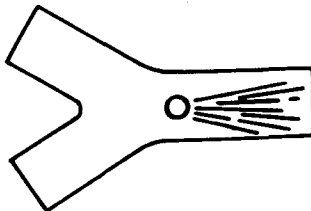
MACK 6 IN-L, others INA. Suggested Atomizers: QA1-6TC, QA1-5TC, QA5-5TC, QA9-1TC.

## ETHER ENTRANCES IN DIESEL ENGINES HORNS, ETC.



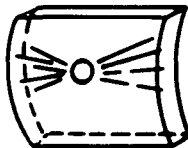
### AIR HORN FOR IN LINES

(The above drawing is similar to the Caterpillar 1674.) Suggested Atomizers: QA1-5TC, QA5-5TC, QA1-4TC, QA5-4TC, QA9-1TC.



### "Y" TYPE FOR V'S

(The above drawing is not typical of any particular engine.) Suggested Atomizers: QA1-5TC, QA5-5TC, QA1-4TC, QA5-4TC, QA9-1TC.



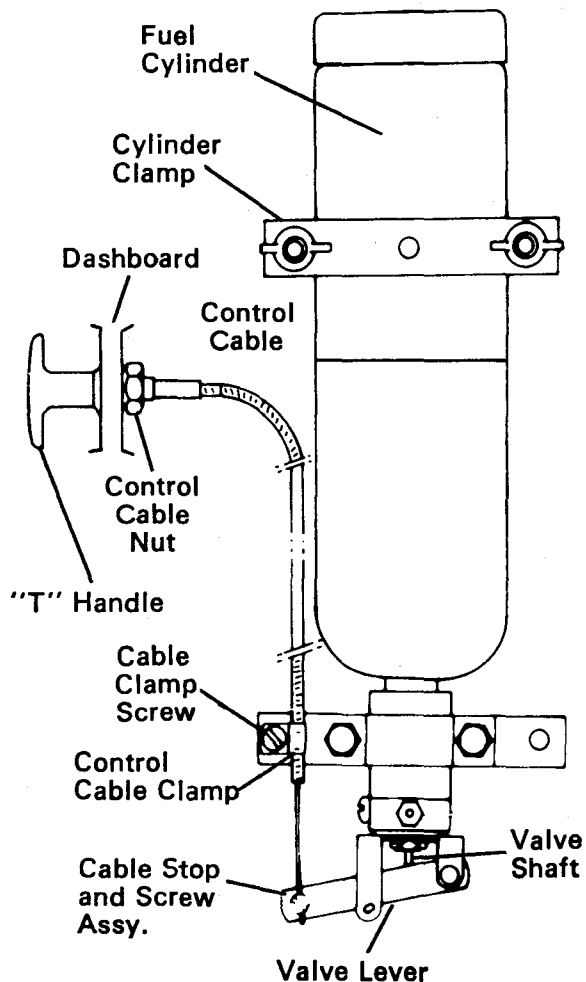
### DETROIT DIESEL AIR BOX

Suggested Atomizers: QA1-1TC, QA5-1TC, QA7-1TC, QA8-1TC, QA11-1TC.

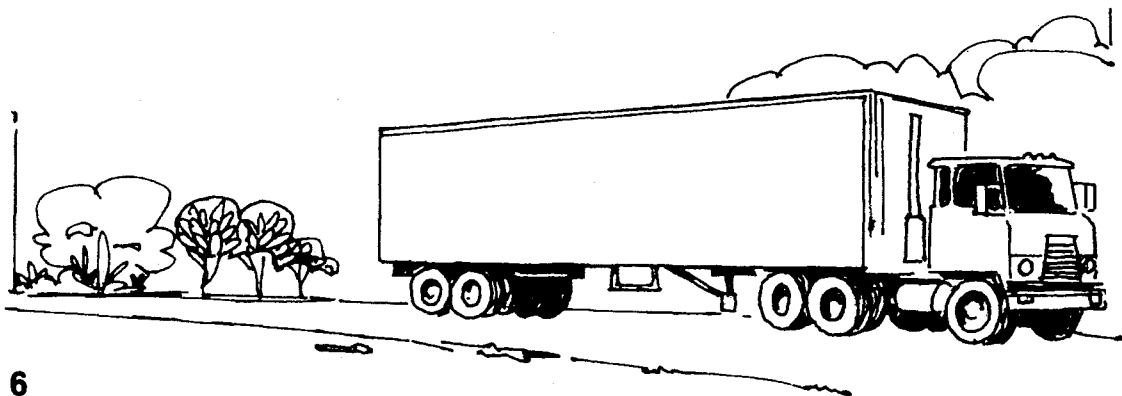
There are innumerable locations for air horn entrances or plugs, some far removed from the combustion area. Most engines provide tapped holes in intake systems. However, if hole is not available, it may be necessary to drill and tap the proper size hole for atomizer. IT IS IMPORTANT TO CENTER THE ATOMIZED SPRAY IN THE AIR STREAM AS CLOSE TO COMBUSTION AS POSSIBLE. GENERALLY, LONG BLOCK ATOMIZERS WITH ONE OR TWO ORIFICES WILL ACCOMPLISH THIS BETTER, ALTHOUGH THE SIDE SPRAY NOZZLE QA9-1TC MAY BE USED. END OPENING ATOMIZERS SHOULD NOT BE USED, TO AVOID WALL WETTING AND PUDDLING.

QUICK START PRODUCTS atomizers are designed to work ONLY with QUICK START PRODUCTS valves and cylinders.

# STEP 5-INSTALLING CONTROL CABLE



- A. The valve may be hand actuated by operating the valve lever.
- B. Drill  $\frac{3}{8}$ " hole in Dashboard and/or Fire-Wall.
- C. Remove nut from control cable.
- D. Insert control cable through  $\frac{3}{8}$ " hole and then through control cable nut. Tighten to hold cable securely to dashboard. Extend free end of cable through cable clamp on valve. (Kinks, looseness or tight bends should be eliminated by cutting off excess). Cable casing should extend approximately  $\frac{1}{2}$ " through the cable clamp. Tighten cable clamp securely.
- E. Insert cable stop through hole in valve lever from the back side. Then run actuator wire through hole in cable stop. Insert cable screw in cable stop.  
NOTE: Before tightening cable screw make sure to leave  $\frac{1}{8}$ " space between cable "T" handle and dashboard. Tighten cable screw.



# STEP 6-STARTING INSTRUCTIONS

**IMPORTANT:** Read Instructions completely before starting.

**A. To activate valve:**

1. Pull handle (or press switch) 3 seconds to fill valve.
2. Push handle in (or release switch) to discharge shot.
3. Allow 3 seconds for shot to discharge.

**B. Starting:**

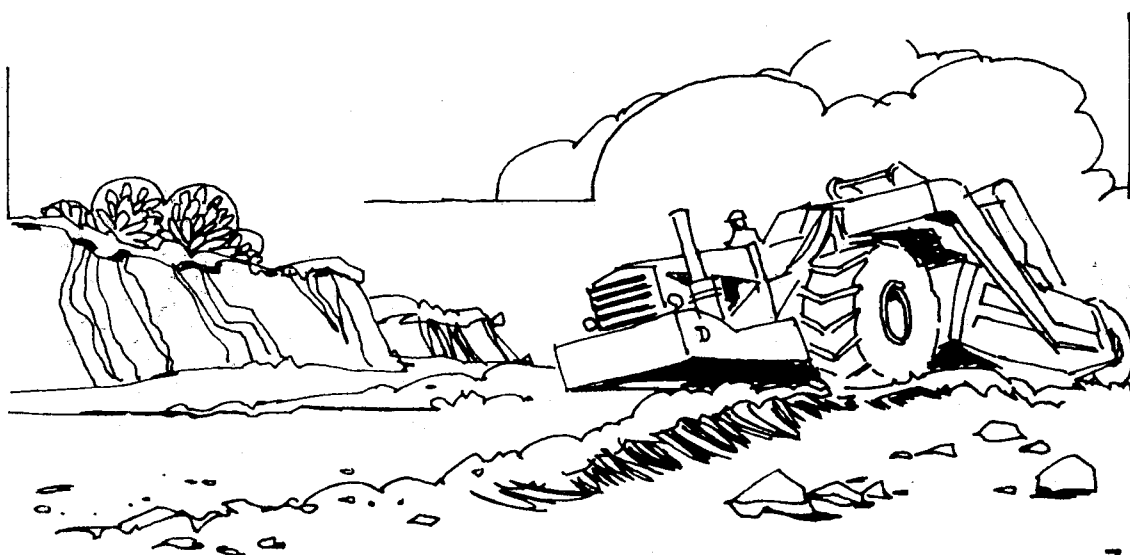
1. Large engines (over 500 CID) actuate valve *prior* to cranking.
2. Small engines (under 500 CID) actuate valve *during* cranking.
3. As engine *starts*, use additional shots if necessary to keep engine running.

**C. CAUTION:** Use only for starting.

Use only in diesel engine applications.

# STEP 7-PREVENTIVE MAINTENANCE

- A. Periodically apply a light coat of oil to exposed portion of mechanical valve shaft. (See Page 6).
- B. During the summer months, REMOVE cylinder to avoid high temperature actuation of the cylinder's safety relief device. Always screw valve cap into valve opening to prevent entrance of road dirt.
- C. In removing cylinder, always be careful to prevent dirt from entering the valve.



# STEP 8-TROUBLE SHOOTING

(IF SYSTEM IS NON-FUNCTIONING)

- A. Check cylinder for hand tightness and FUEL SUPPLY. (Empty cylinder weight is approximately 17 ounces; full cylinder weight is approximately 37 ounces.

If cylinder is empty replace. Before replacing cylinder install new valve gasket (QS-1181) in valve.

- B. If still not functioning, disconnect tubing at valve fitting. Actuate valve.

If valve is non-functioning, remove and replace.

If valve is functioning reassemble valve fitting and connect tube.

Disconnect tube at atomizer.

- C. *Actuate System.* If fuel is not discharged from tube, fuel line is clogged.

1. Remove tube and blow out or replace.

2. Replace tube to valve and atomizer. Remove atomizer from engine and actuate valve. If there is no discharge of ether from atomizer, the atomizer is plugged, and should be replaced.

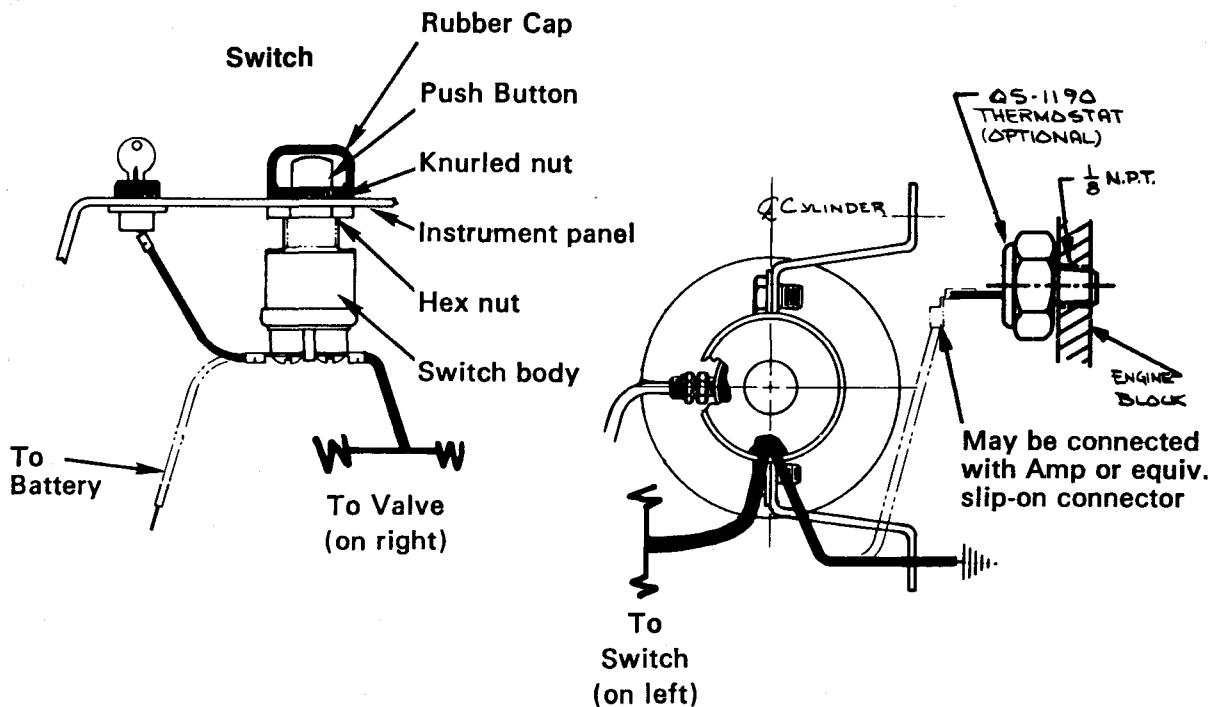


# STEP 9-INSTALLING ELECTRIC VALVE

A. Refer to Steps 1 and 2 (page 3) and follow same procedure.

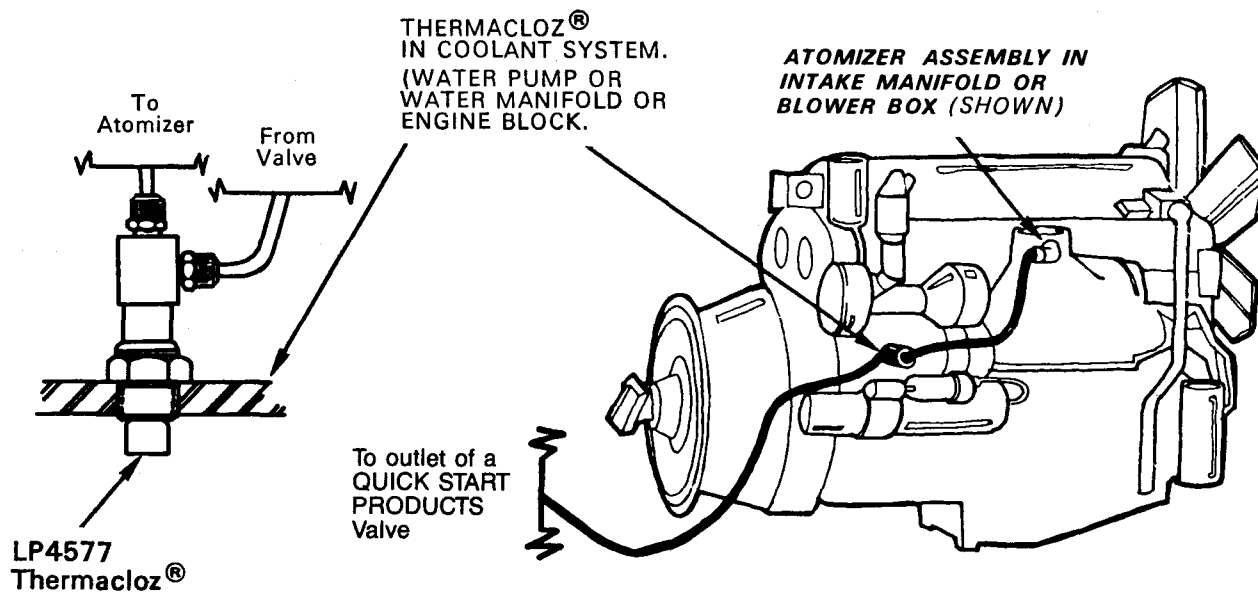
B. Refer to illustration below to simplify installation.

1. Drill 5/8" hole in a convenient location through instrument panel.
2. Install switch as follows:
  - a. Remove Rubber Cap and Knurled nut.
  - b. Turn Hex nut down until it bottoms against body.
  - c. Insert Switch in 5/8" hole.
  - d. Replace Knurled nut and bottom it on thread.
  - e. Turn Hex nut up until it is firm against instrument panel, firmly securing switch in place.
  - f. Replace Rubber Cap.
3. For wiring detail refer to illustration below. Wire ignition switch to QUICK START switch; QUICK START switch to solenoid valve and solenoid valve to ground, or ground interrupt cut-off.



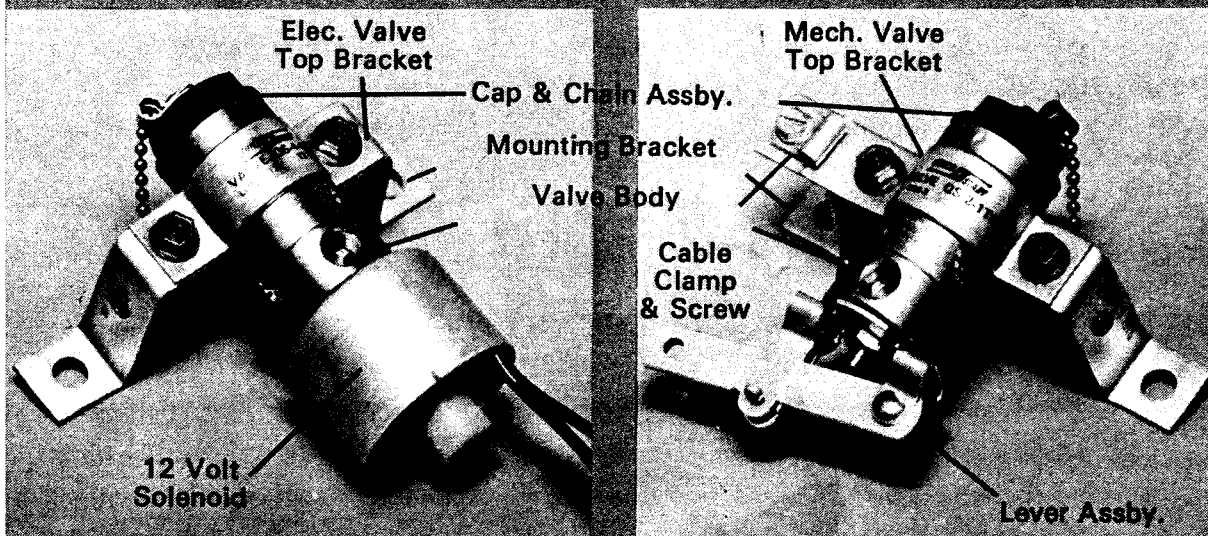
# STEP 10-SAFETY SHUT-OFFS

- A. Thermacloz® Installation (Optional with any QUICK START PRODUCTS Valve).  
1. Follow directions contained in Thermacloz® package.  
2. Refer to illustration below.
- B. Thermostat (Optional with any QUICK START PRODUCTS Electric Valve).  
1. Follow directions contained in Thermostat package.  
2. Refer to illustration on page 9.



# OPTIONAL PARTS

LP-482-1	Valve Fitting—Straight	QA1-5TC	Atom. $\frac{1}{8}$ "—2 side long	QS2-3TC	Valve—hand ac. front 8 cc
LP-535	Cylinder	QA1-6TC	Atom. $\frac{1}{8}$ "—3 (2-1) long	QS2-4TC	Valve—hand ac. rear 8 cc
LP-1058-1	Cylinder Clamp (wire)	QA2-5TC	Atom. $\frac{1}{8}$ "—2 side short	QS3-1TC	Valve—man. front 12 cc
LP-1389-1	Tee—Three Tubes	QA3-1TC	Atom. $\frac{1}{8}$ " elbow—180° long	QS3-2TC	Valve—man. rear 12 cc
LP-1698-1	Valve Fitting—Angle	QA3-2TC	Atom. $\frac{1}{8}$ " elbow—90° long	QS3-3TC	Valve—hand ac. front 12 cc
LP-1779	Switch	QA3-3TC	Atom. $\frac{1}{8}$ " elbow—140° long	QS3-4TC	Valve—hand ac. rear 12 cc
LP-2299	Cylinder Clamp—25G	QA3-5TC	Atom. $\frac{1}{8}$ " elbow—2 side long	QS4-1TC	Valve—elec. 12V 3 cc
LP-2332-1	Valve Tee (2 Tubes)	QA4-5TC	Atom. $\frac{3}{4}$ " elbow—2 side short	QS4-2TC	Valve—elec. 24V 3 cc
LP-2814	Cable Stop Assy.	QA5-1TC	Atom. $\frac{3}{4}$ "—180° long	QS4-3TC	Valve—elec. 12V 6 cc
LP-2978-48	Copper Tube—48"	QA5-2TC	Atom. $\frac{1}{4}$ "—90° long	QS4-4TC	Valve—elec. 24V 6 cc
LP-3239-48	Nylon Tube—48"	QA5-3TC	Atom. $\frac{1}{4}$ "—140° long	QS4-5TC	Valve—elec. 12V 12 cc
LP-3301	Wiring and Conn. Group	QA5-4TC	Atom. $\frac{1}{4}$ "—1 side long	QS4-6TC	Valve—elec. 24V 12 cc
LP-3864R-36	Control Cable 36"	QA6-5TC	Atom. $\frac{1}{2}$ "—2 side long	QS-1107-10	Valve—400g. Bracket
LP-3864R-48	Control Cable 48"	QA7-1TC	Atom. $\frac{1}{4}$ "—1 end	QS-1108-10	Mech. Top Mtd. Brkt.
LP-3864R-60	Control Cable 60"	QA8-1TC	Atom. $\frac{1}{4}$ "—1 end	QS-1114-11	Control Cable Clamp
LP-3864R-72	Control Cable 72"	QA9-1TC	Atom. $\frac{1}{4}$ "—side nozzle	QS-1178	Control Cable Nut
LP-3864R-84	Control Cable 84"	QA10-1TC	Atom. 18mm—1 end	QS-1143-10	Elec. Top Mtd. Brkt.
LP-3864R-120	Control Cable 120"	QA11-1TC	Atom. $\frac{1}{4}$ "—end nozzle	QS-1140-1	24 Volt Solenoid
LP-3864R-144	Control Cable 144"	QB1	Manual Repair Kit	QS-1181	Valve Gasket
LP-4270	Nut and Ferrule Group	QR4-12	Electric Reg. Kit 12V	QS-1189	Cylinder Clamp (bond w/wing nut)
LP-4577	Thermistor	QR4-24	Electric Reg. Kit 24V	QS-1190	Thermistor (Cut-off for electric valves)
QA1-1TC	Atom. $\frac{1}{8}$ "—180° long	QS1-3TC	Valve—man. front 3 cc	QS-1192-1	Cap and Chain Assy.
QA1-2TC	Atom. $\frac{1}{8}$ "—90° long	QS1-2TC	Valve—man. rear 3 cc	QS-1194-1	12 Volt Solenoid
QA1-3TC	Atom. $\frac{1}{8}$ "—140° long	QS2-1TC	Valve—man. front 6 cc		
QA1-4TC	Atom. $\frac{1}{8}$ "—1 side long	QS2-2TC	Valve—man. rear 6 cc		



**ELECTRIC VALVE**  
QS4-3TC  
6cc-12 VOLT

**MECHANICAL VALVE**  
QS2-1TC  
6cc-FRONT OUT.



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