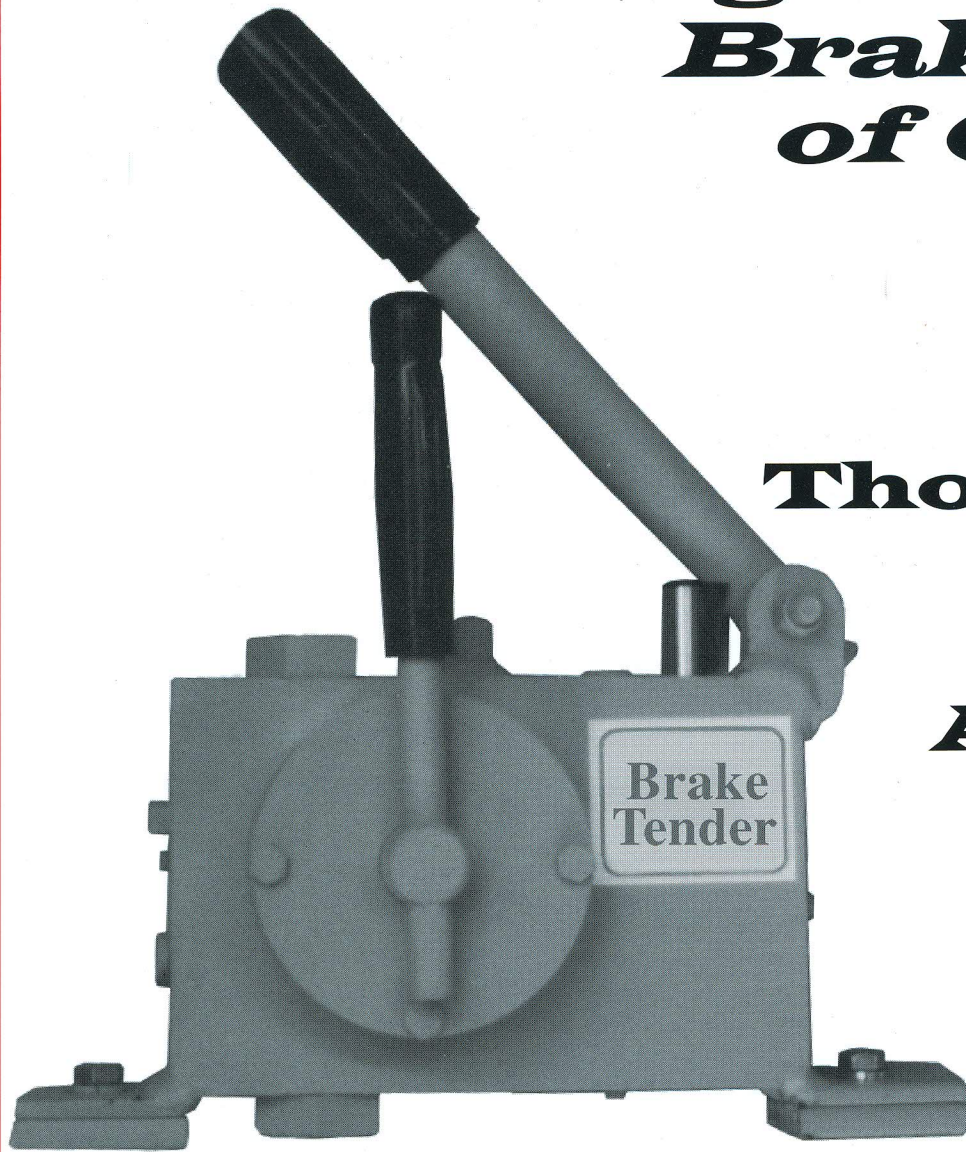


Brake Tender

***The Mining Industry's
Brake Valve
of Choice***



**Thousands In
Operation
In Mines
And Above
Ground**

***Now meeting both
CFR-30-75.523-3 for
Electric Equipment &
CFR-30-75.1909's
Diesel Brake Laws***

Brake Tender

M900 with M930 Charging Valve for single-hand operation

1. Unattended Vehicle - (Parking Brakes Applied)

Without pump pressure, the brake release valve stays in the **SET** position which connects brake to tanks and blocks all pressures from machine system hydraulics and the hand pump. This ensures that the unattended vehicle is *parked*.

2. Vehicle Start-Up - (Parking Brakes Remain Applied)

When the pump on the machine is started, the Brake Tender senses the pressure and shifts the release mechanism, but stays in the **SET** position, which leaves the brake connected to the tank and blocks pressure from the machine's system hydraulics and hand pump so the machine *remains parked*.

3. Vehicle Tramming - (Parking Brakes Released)

When the operator chooses to tram, he or she manually moves the brake release valve handle to the release position. This applies pressure to the brake cylinder and releases the brake, which is indicated on the gauge. Each time the hydraulic pressure in the charging valve falls below 85% of the set pressure, then the charging valve closes and recharges the accumulator which provides a constant standby of pressure to assure that the brakes remain fully released and do not drag on the brake disc while tramming. If the operator does not manually move the brake release valve handle to the release position, then any system hydraulic function may be used without releasing the brake. This satisfies paragraph b (5) The Automatic Emergency Parking Brake to "release only by a manual control that does not operate by any other equipment function."

4. Tramming Interruptions - (Brakes Applied and Released with Pump Running)

When the operator moves the brake release valve handle to the **SET** position, the brake is applied immediately and remains set. It is not affected by any other on-board hydraulic functions being used.

5. Panic Bar Stops - (Parking Brake Applied by Panic Bar)

When the brakes are released and the panic bar is activated, the linkage from the panic bar to the Brake Tender immediately moves the brake release valve to the **SET** position which applies the parking brakes automatically.

6. Automatic Park Feature - (Parking Brakes Applied Automatically)

Should the operator not apply the parking brakes manually when he turns off the vehicle, as the pump pressure decreases, the Brake Tender automatically moves to the **SET** position and the brakes are applied.

7. Tramming - (Primary Equipment Pump)

The pressure created by the on-board pump shifts the lock mechanism which blocks pressure from the hand pump and will not allow the valve to shift to the hand pump. This allows the on-board pump to safely and completely override the Hand Pump.

8. Towing - (Hand-Pump-Created Brake Line Pressure)

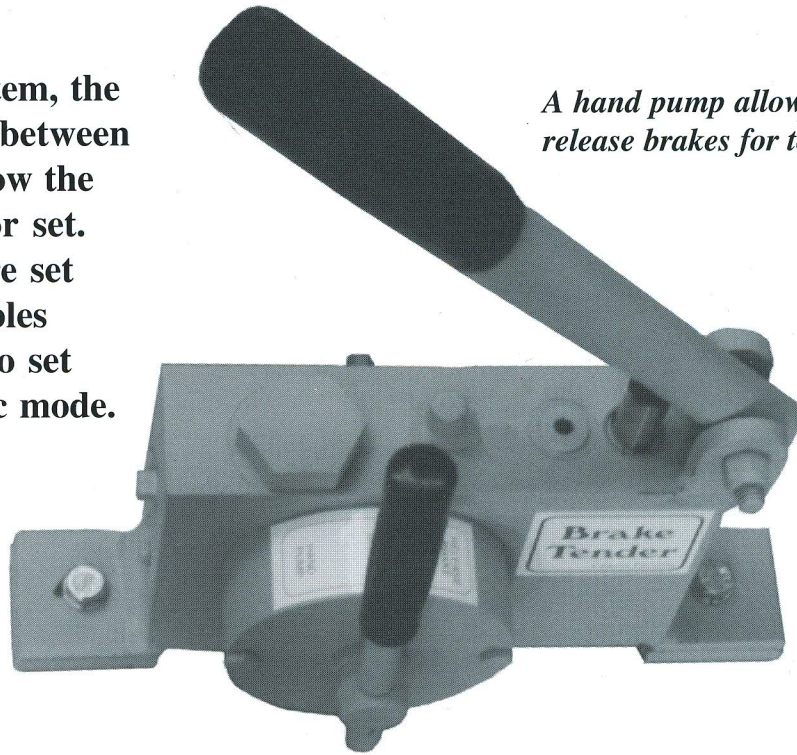
When the on-board hydraulics is shut off, the operator may move the brake release valve handle to the **HAND PUMP** position and pump the handle to the required pressure which is indicated on the gauge. This releases the brake for towing. The brake may be reset by moving the brake release valve handle to **SET** and lock out the hand pump circuit. This safely holds the machine in the parked position until the operator moves the brake release valve handle to release the brake as in step 2.

Brake Tender

M900 Brake Tender and M930 Charging Valve

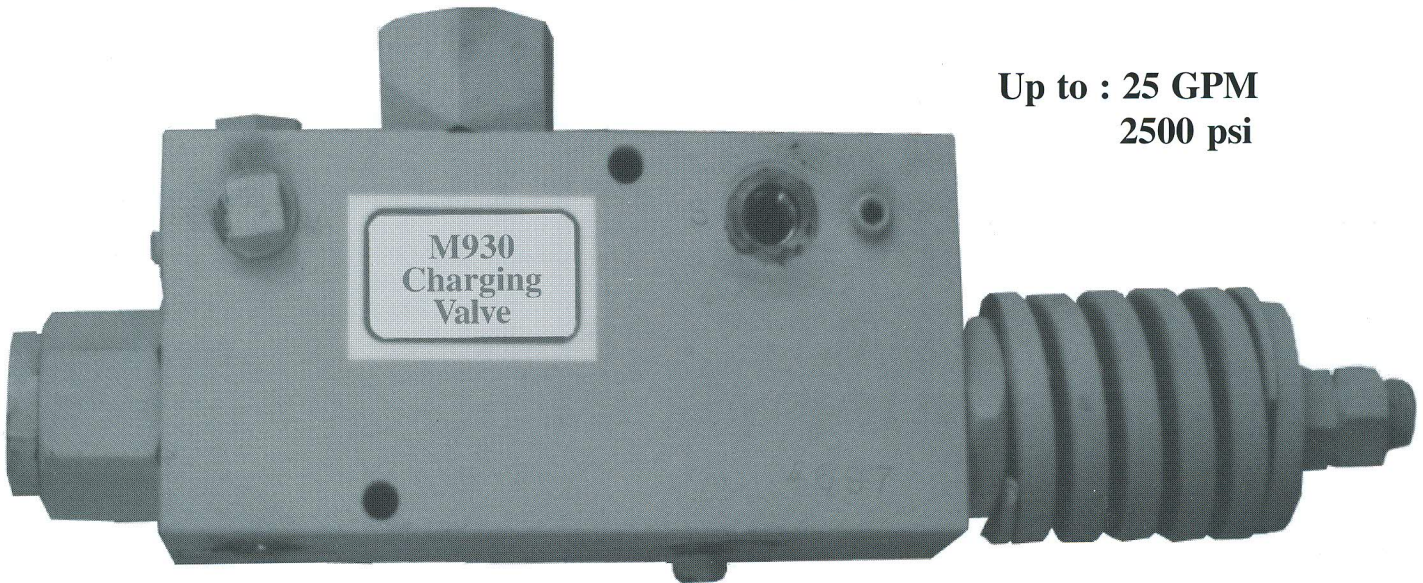
M900 Brake Tender

As the “brains of the braking system, the Brake Tender monitors pressure between the pump and the reservoir to allow the operator to select brake release or set. When the signal is lost, brakes are set automatically. Pilot valves or cables attached will allow the operator to set brakes immediately when in panic mode.



A hand pump allows operator to release brakes for towing!

M930 Charging Valve



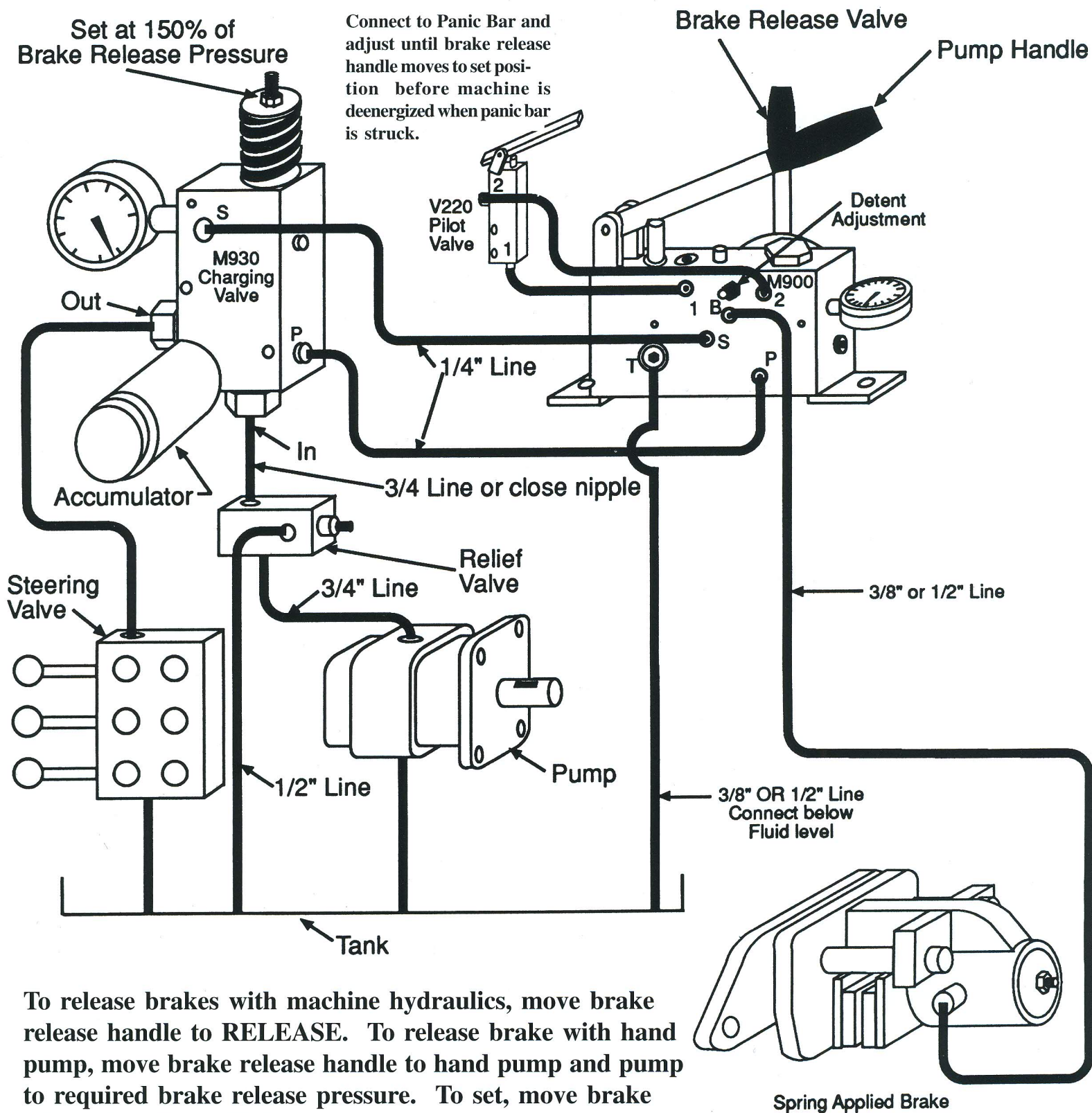
Up to : 25 GPM
2500 psi

Install in circuit between pump and other open center valving to charge accumulators and maintain charge to operate brakes.

Brake Tender

M900 Brake Tender and M930 Charging Valve Hydraulic Linkage

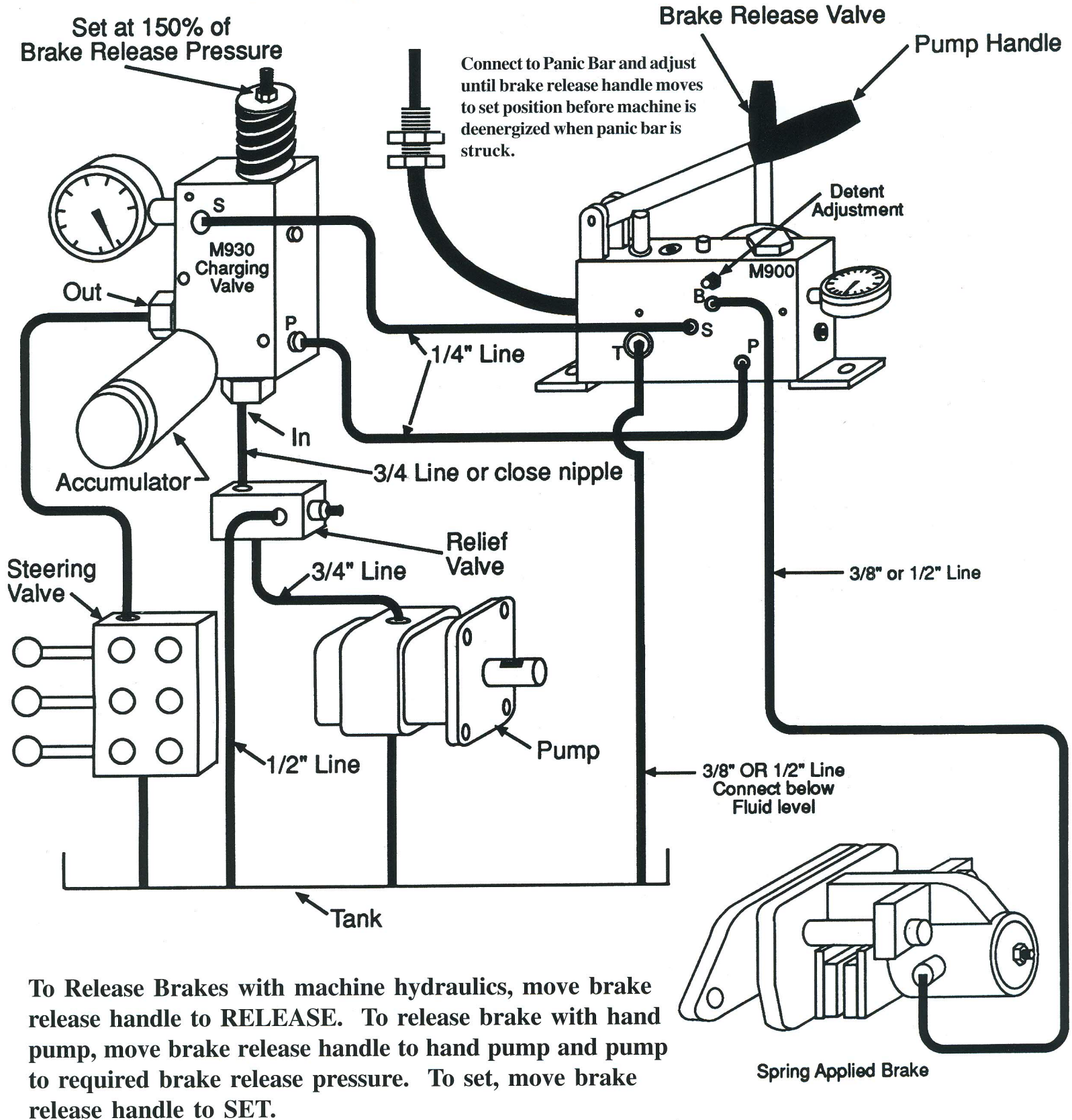
Installation & Operating Instructions for Open-Center Hydraulic Systems



Brake Tender

M900 Brake Tender and M930 Charging Valve Mechanical Linkage

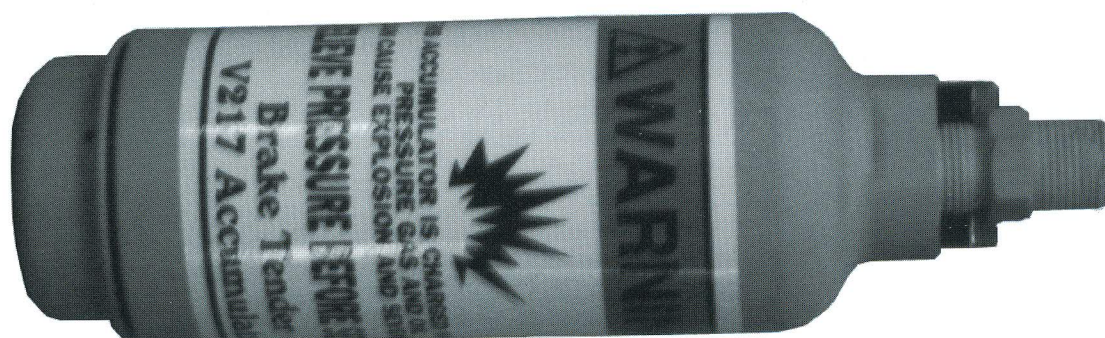
Installation & Operating Instructions for Open-Center Hydraulic Systems



Brake Tender

Accumulators and Pressure Filter

V217 Accumulator



- * Bladder design
- * Precharge 1,000 psi
- * Rated - 3,000 psi
- * 10 cubic inches
- * Repairable

V211 Accumulator



- * Rated - 3,000 psi
- * Precharge - 1,000 psi
- * Piston Design
- * Half-Gallon Accumulator
- * Repairable

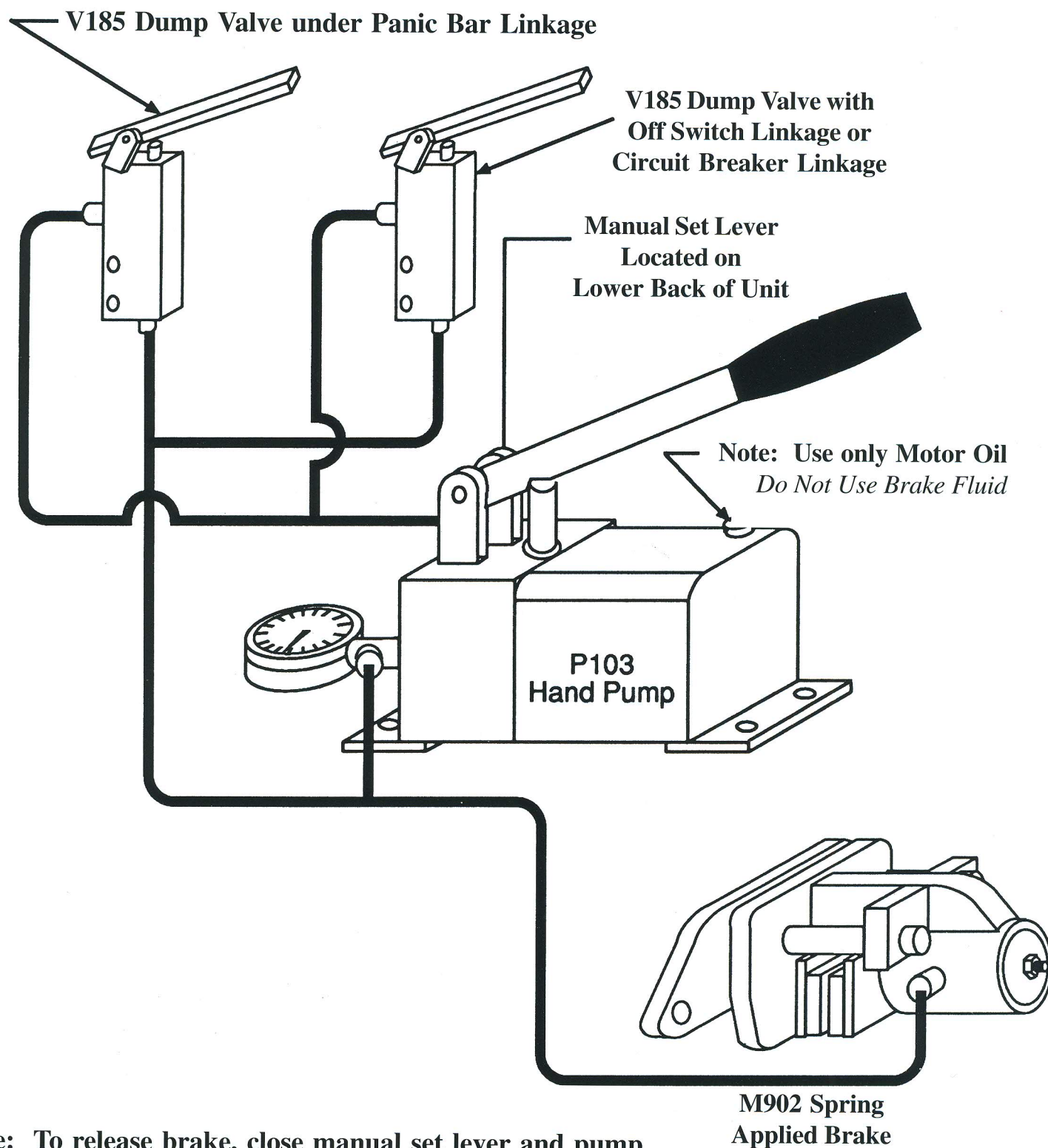
F346 Pressure Filter



- * 30 GPM
- * 3,000 psi
- * 40 Micron
- * Replacement Element F346-1

Brake Tender

Braking System for Machine with no Hydraulics

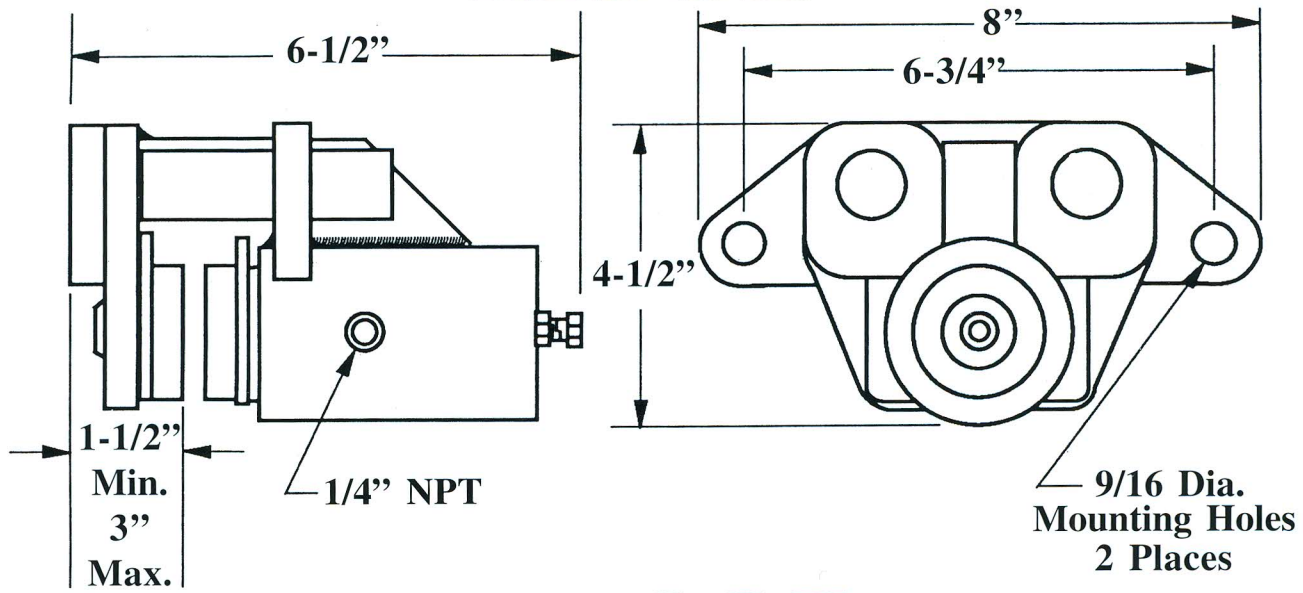


Note: To release brake, close manual set lever and pump gauge to 2500 psi. The brake will automatically set when panic bar is struck or the machine is turned off. The brake may also be set with the manual set lever.

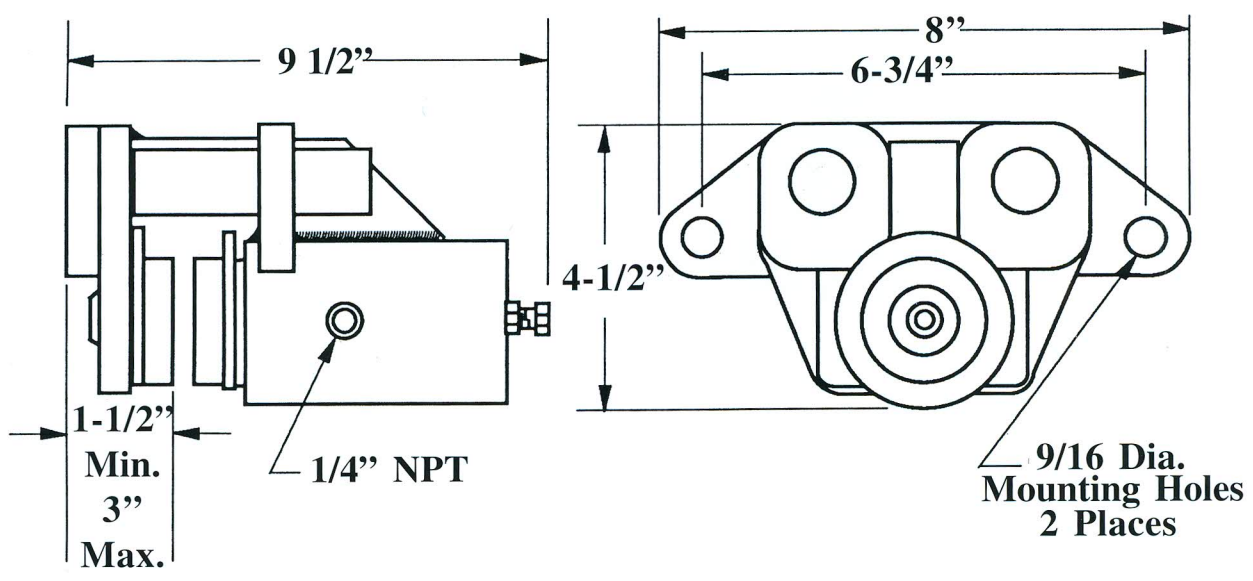
Brake Tender

Spring Applied Brakes

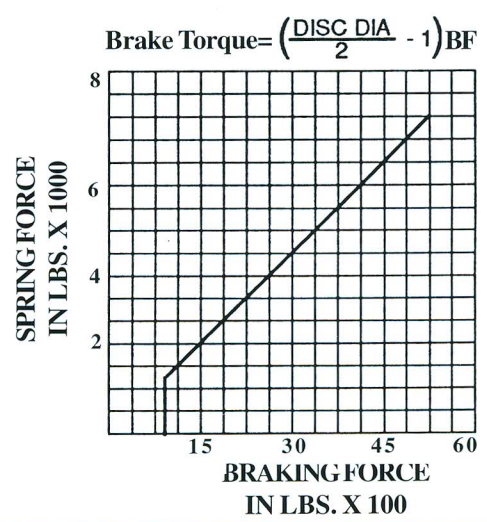
M902



M1025



- BRAKE TYPE - Spring 5,000 lbs
- DISC RANGE - 9" to unlimited
- DISC THICKNESS - 1/2" LININGS - 11 sq. inches
- CLAMPING FORCE - 5,000 lbs
- RETRACTION PRESSURE - 2,000 psi
- MAXIMUM OPERATING PRESSURE - 3,000 psi
- FULL RETRACTION VOLUME - 0.5 cu. in.(M902)
1.5 cu. in.(M1025)
- CALIPER - Steel Construction - Floats for alignment;
Has heavy-duty U-cup seals; Easy pad replacement



Brake Tender

Hand Pumps

HP03R Hand Pump Less Tank



- * 3,000 psi Max
- * Adjustable Relief Set at 1,500 psi
- * 0.3 cubic inches per stroke
- * Manual Release Valve

P103 Hand Pump Tank & Gauge

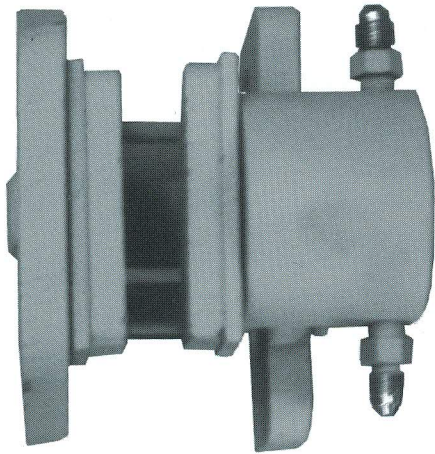
- * 3,000 psi Max
- * 0.3 cubic inches per stroke
- * 1 Quart Tank
- * Manual Release Valve



Brake Tender

Brakes / Pilot Valve & Dump Valve

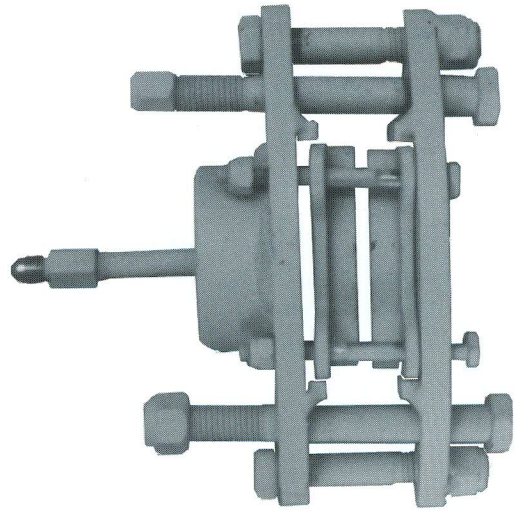
M983 Service Brake



**Fits in Less Space Than Most
Service Brakes**

- * For use with Brake Fluid
- * Can be changed to use with hydraulic oil and V225 Power Brake Valve
- * Uses same Pads as M902 and M1025

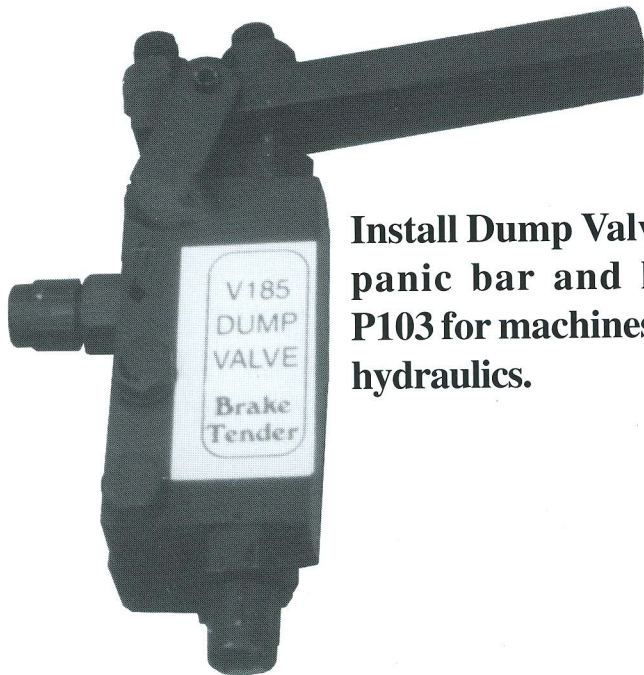
M948 Spring Applied Brake For Small Vehicles



Fits in 12" Wheel

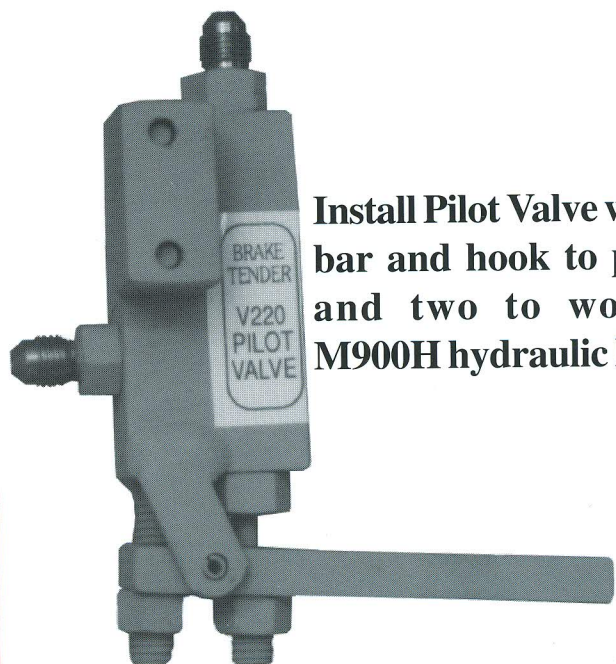
- * 1500 psi
- * 2000 pound spring force

V185 Dump Valve



**Install Dump Valve under
panic bar and hook to
P103 for machines with no
hydraulics.**

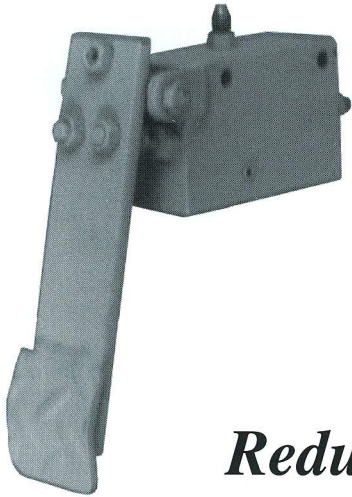
V220 Pilot Valve



**Install Pilot Valve with panic
bar and hook to ports one
and two to work with
M900H hydraulic link.**

Brake Tender **Valves**

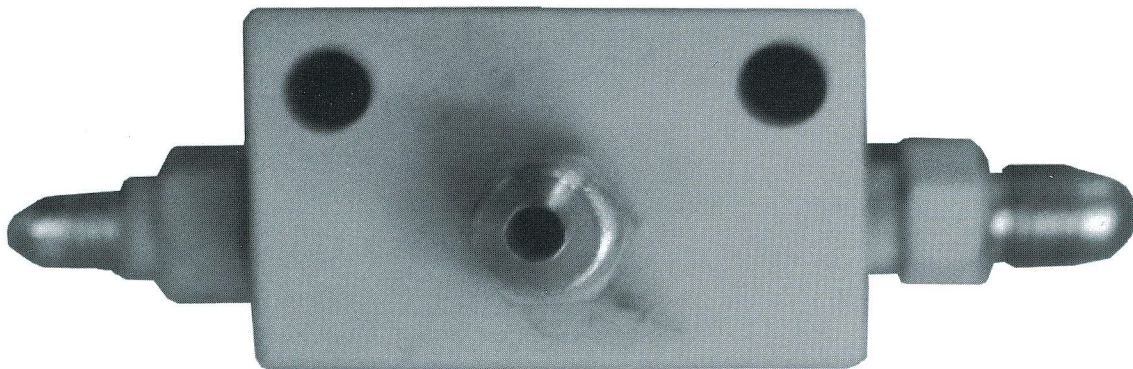
V225 Power Brake Valve



- * 5 pounds effort with your toe can produce up to 2,000 psi for power brakes
- * Use with V211 charged with M930 and operate both service brakes and through an M900 control emergency and park brakes

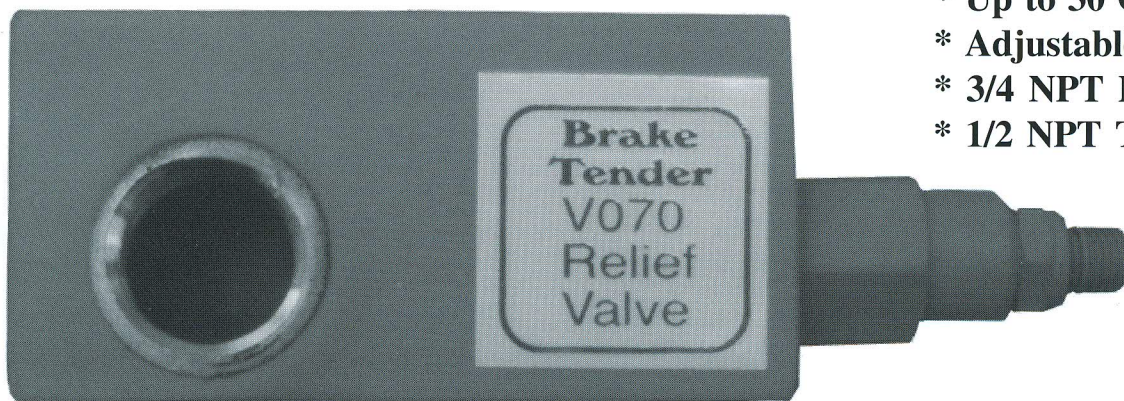
Reduce Operator Fatigue!!!

V207 Single Shuttle Valve



Selects Highest of Two Pressures

V070 Relief Valve



- * Up to 30 GPM
 - * Adjustable to 3,000 psi
 - * 3/4 NPT Pressure Ports
 - * 1/2 NPT Tank Port
-

Brake Tender

“The charging valve makes one lever operation possible on open-center systems like scoops. It does not restrict or affect the machine’s hydraulic operation.”

***- Keith Beavers
Keith’s, Inc.***

“We have installed 14 or 15 units so far with no problems what-so-ever. Being equipment rebuilders, our customers make us the first to know.”

***- Pedro Sword
Pedro’s Repair Shop***

“In a half-shift, this braking system can be installed on almost any piece of equipment. Best of all, it works after installation.”

***- James Clevinger
Royal Machine Works, Inc.***

***Brake Tender
P.O. Box 539
Tazewell Industrial Park
Tazewell, Va 24651***

Brake Tender
www.braketender.com

***Phone:
(540)988-6543
Fax:
(540)988-9566***