TH SERIES AIR / HYDRAULIC BRAKE SYSTEM with ABS

A typical Air-over-Hydraulic (A/H) Anti-Lock Brake System (ABS) consists of wheel speed sensors, an ABS relay valve, an integral Electronic Control Unit (ECU) and an A/H booster. The ECU monitors wheel speeds through the use of two wheel speed sensors mounted on the hubs of the trailer axle. An exciter, also referred to as a tone ring, is a required component of the wheel speed sensing system and is usually included on the axle as received from the axle manufacturer.

When the ECU detects that a sensed wheel has locked up during brake application, the air pressure in the brake chamber on the A/H booster is reduced via the ABS relay valve, allowing the wheel to recover. The ECU then commands the ABS relay valve to apply additional pressure until maximum braking potential is produced. This ABS "cycle" is repeated approximately five times per second as required, or until the trailer is traveling at less than 6 MPH.

The TH series of Air-over-Hydraulic ABS trailer brake systems can be purchased in the following configurations:

1. - this system is designed to conform to all current FMVSS 571.121 regulations for air-over-hydraulic trailer brake systems. However, it is the trailer manufacturer's responsibility to certify that their trailer meets these regulations.
2. - this system does not meet all FMVSS regulations. Specifically, although ABS braking is provided, provisions are not made for the automatic application of mechanical parking brakes.

Features

• Each kit furnished complete with control valves, air tank, air/hydraulic actuator, air hose and hydraulic brake line kit

• Custom Kits are Available

The following table summarizes the most common TH-5000 and TH-6000 series Air/Hydraulic ABS kits.

Part Number	No. of Axles	Suspension	Pressure
TH-6100	-	actuating kit	1000 psi
TH-6102	2	spring	1000 psi
TH-6102T	2	torsion	1000 psi
TH-6103	3	spring	1000 psi
TH-6103T	3	torsion	1000 psi
TH-5100	-	actuating kit	1000 psi
TH-5083	3	spring	800 psi
TH-5102	2	spring	1000 psi
TH-5102T	2	torsion	1000 psi
TH-5103	3	spring	1000 psi
TH-5103T	3	torsion	1000 psi
TH-5123T	3	torsion	1200 psi

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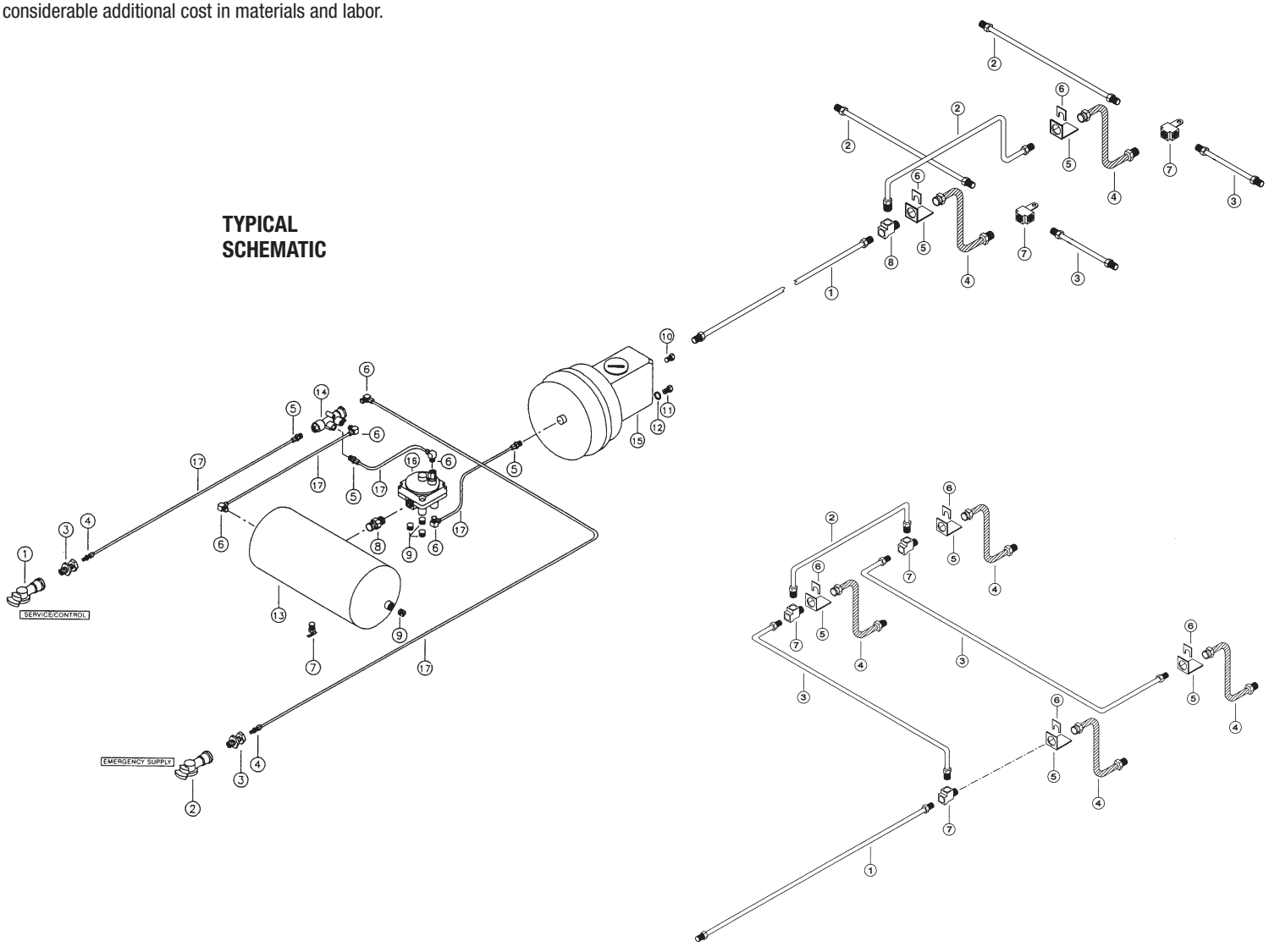
TH-5000 & TH-6000 SERIES with ABS

The TH-6000 system requires all hydraulic brakes to be equipped with a mechanical parking brake. The axle manufacturer can supply their axles with a parking brake feature. The mechanical brakes are linked to a spring brake actuator via a series of cables and are controlled by the ABS relay valve. The hydraulic brakes are used for normal braking and the mechanical brakes are used for emergency braking and parking.

The TH-5000 system provides ABS braking via the hydraulic brakes. Emergency braking is provided via an emergency valve to the hydraulic brakes, but mechanical parking brake capabilities are not provided. It is possible to install mechanical brakes at a later date after the trailer is manufactured but not without considerable additional cost in materials and labor.

Both systems are what is normally referred to as 2S/1M, meaning 2 Sensor / 1 Modulating valve. This is the minimum configuration required by FMVSS 571.121. A 2S/1M system will only sense wheel lockup on one axle on the trailer (the sensed axle). If wheel lockup is detected all brakes are modulated via the ABS relay valve until normal braking is achieved. Because only one axle has ABS sensors, wheel lockup can occur on an unsensored axle and never be detected. The location of the sensed axle is determined based on the number of axles and the type of suspension used. While it is possible to design an air-over-hydraulic trailer brake system with sensors on more than one axle (a 4S/2M system), this would get quite expensive because each axle would require it's own ABS valve, air tank and air/hydraulic booster.

TYPICAL SCHEMATIC



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