

150BMP-K50-1 AIR STARTER INSTALLATION KIT

CAUTION: Do not dismantle an operating system until these instructions have been reviewed by the operator who will complete the installation.

Ingersoll-Rand Starters provide dependable engine cranking for starting internal combustion engines. This Installation Kit has been assembled to assure maximum performance and service life of the Starter.

Since each installation will vary somewhat, the operator will be required to contribute to planning the exact arrangement of the components, especially the air lines, and to make certain that he has the proper equipment to complete the installation.

Starters can be installed in various angular positions to provide a selection of locations for the inlet, exhaust and mounting flange holes. Reorientation should not be done unless necessary to mount the Starter to the engine or connect air lines to the Starter. Keep the Starter free from dirt and foreign particles. Within the space available, determine the most practical arrangement of the Kit components.

Kit Contents	★ 150BMP-K50-1
Pipe Fitting Kit	150BMP-K52
Air Hose Kit	150BMP-K51
Relay Valve	SRV125
Control Valve	SMB-618
Check/Relief Valve	150BMP-1054
Check Valve	150BMP-1056
Muffler	150BM-A674
Gladhand Hose Coupling	150BMP-1058
Pressure Gauge	150BMP-1064
Lubricator	HDL1
Sealant	SMB-441

★ To eliminate the burden of freight and duties, this Kit is furnished less the Air Tank and Brackets, which must then be obtained locally. A 55-gallon steel tank is recommended and should comply with SAE Standard J10b which is repeated on page 4. Ingersoll-Rand Company does **NOT** recommend the use of aluminum air tanks, the welding of brackets to the tank or the welding of the tank to the supporting structure.

Air Hoses in the Kit are furnished in single lengths of each size. **CAUTION:** The hose manufacturer's instructions included in the Kit must be followed in cutting and fitting each length. All lines should be as short as practical and should be adequately supported. Slack should be provided in the line between the engine and any rigid support to allow the line to flex with engine vibration.

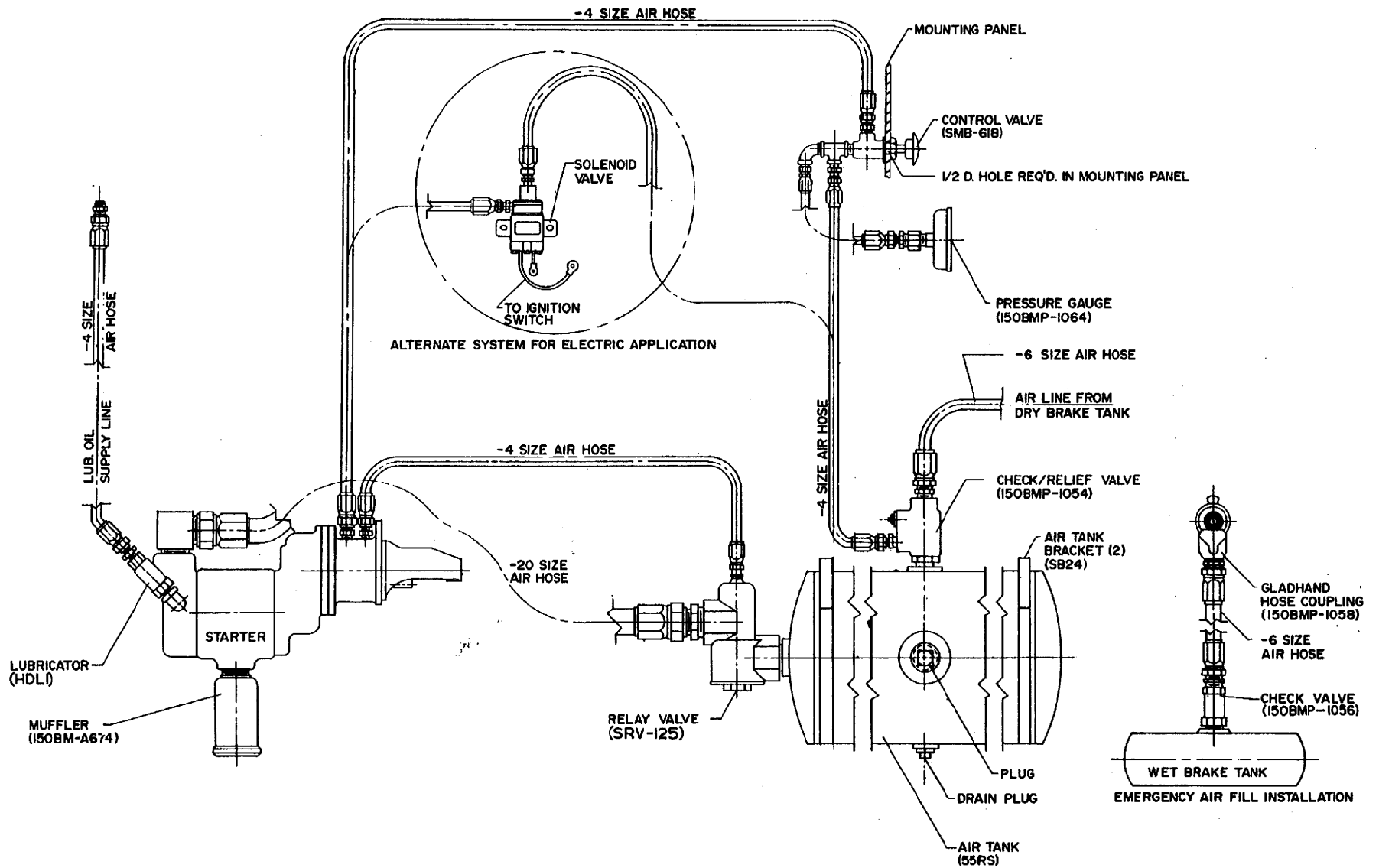
Hose Identification

Hose Marked	Approx. Inside Dia.
--- -4 (-4S)	1/4" (6.5 mm)
--- -6 (-6S)	3/8" (9.5 mm)
--- -20 (-20S)	1-1/4" (32 mm)

Air hose connections **must** be leakproof. When assembling threaded fittings, apply SMB-441 Sealant smoothly to the male threads. Line up the fittings accurately to prevent thread stripping. Tighten threaded connections. The Relay Valve and the combination Check/Relief Valve should be connected directly to the Air Tank with a short pipe nipple. Air hoses should not be subjected to static pressure when the Starter is not in operation.

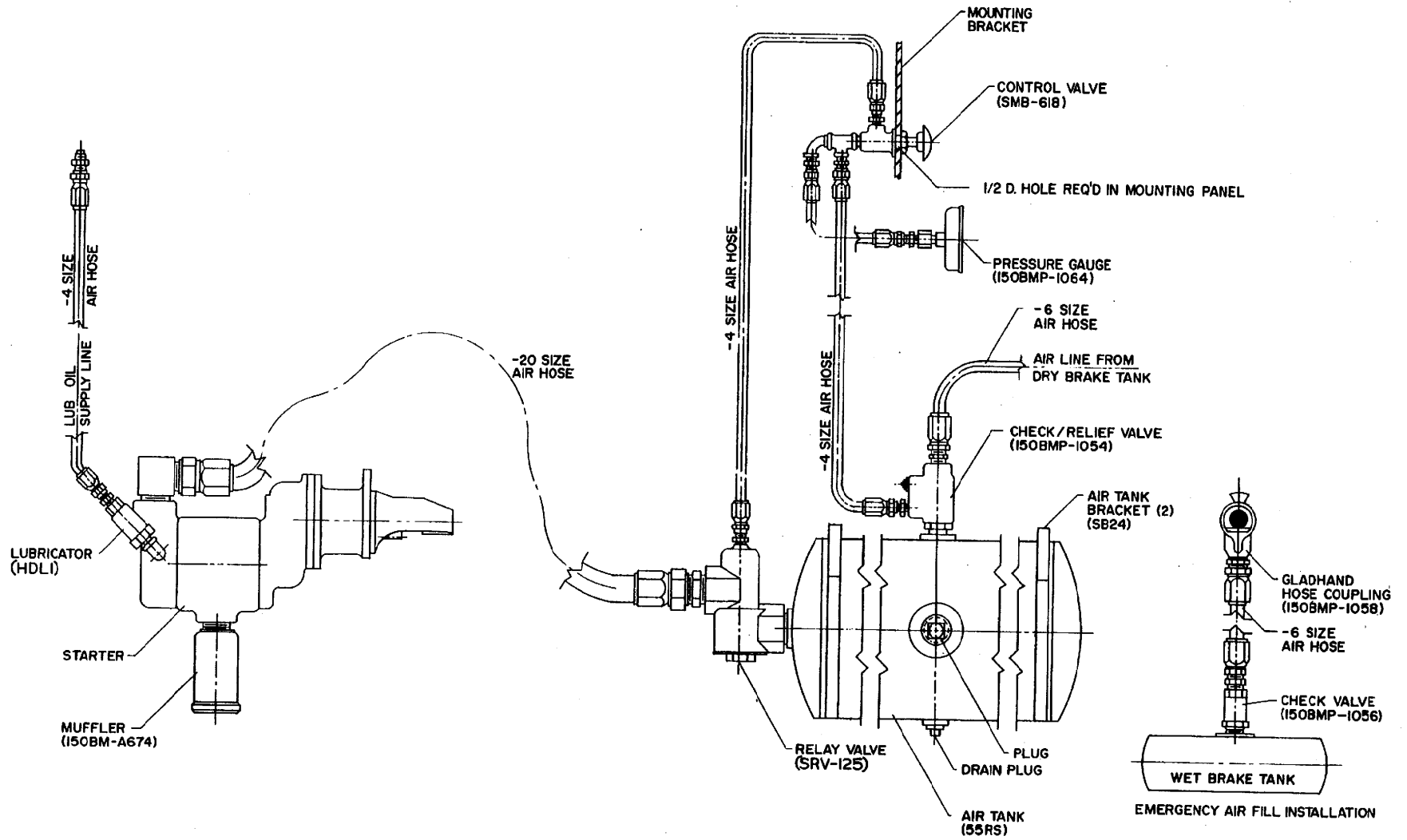
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INGERSOLL-RAND®
ENGINE STARTING SYSTEMS



PIPING DIAGRAM FOR A PRE-ENGAGED STARTER IN VEHICLE INSTALLATION

(Dwg. TPB601-1)



PIPING DIAGRAM FOR AN INERTIA STARTER IN VEHICLE INSTALLATION

(Dwg. TPB602-1)

Mount the Air Tank Brackets to a rigid frame in a protected location as close as practical to the Starter. Rotate the Air Tank into a position that will put all air connections at or above the centerline with the drain connection as nearly straight down as possible.

Locate the Control Valve within reach of the vehicle operator, and the Pressure Gauge within visual range of the operator.

Install the Gladhand Hose Coupling in a location that will be easily accessible when using an outside source to charge the air system.

Lubrication is important to the service life of the Starter. The Ingersoll-Rand HDL1 Lubricator should be attached directly to the Starter or as close as practical. On diesel engines, connect the oil supply line into a fuel oil line. The connection should be on the non-pressurized side of the fuel pump between the fuel tank and the pump, at a location above the Starter so that oil will flow from the fuel line to the lubricator by gravity.

On gasoline engines, and possibly on some diesels, an oil reservoir of sufficient capacity for periodic refilling with SAE 10 non-detergent motor oil should be installed in a convenient location.

The Muffler can be threaded directly into the exhaust of the Starter. If space is limited, the Muffler can be mounted to a truck frame member with a hose clamp. Install a pipe nipple into the Starter exhaust and connect to the Muffler with a piece of radiator hose.

SAE Standard J10b

1. Purpose—The purpose of this standard is to provide minimum performance requirements and a method of identifying new automotive air brake reservoirs.

2. Design Certification Test—All production air brake reservoirs shall be capable of withstanding a hydrostatically applied internal pressure of not less than five times the reservoir rated working pressure. There shall be no indication of rupture or permanent circumferential deformation exceeding 1% after having been subjected to this test pressure.

3. Leakage Test—All air brake reservoirs shall be capable of withstanding twice the indicated, rated working pressure with no measurable leakage. A sealing compound may be used to seal pipe threads.

4. Environmental Tests

4.1 Corrosion Test—All air brake reservoirs shall be protected internally and externally against detrimental corrosion through the use of either a corrosion resistant metal or a suitable protective coating or treatment that will withstand 40 hours exposure to salt spray in accordance with ASTM B117-64. Method of Salt Spray (Fog) Testing. A production reservoir shall be quartered by cutting it in such a manner that each section includes 50% of the end cap and 25% of the shell. After a 72 hour exposure to air, the sectioned test reservoir is then placed in the salt spray booth in a manner to provide thorough drainage. Upon completion of this test, minor and scattered corrosion spots are permissible. Edges or areas damaged in sample preparation, purposely unpainted areas such as threads, and lap areas shall be disregarded in the corrosion evaluation.

4.2 Other Tests—Other tests (hot oil, condensate, structural, alcohol) deemed important shall be resolved between the purchaser and manufacturer.

5. Identification—All air brake reservoirs which meet the requirements of this standard shall be permanently identified to show the manufacturer, SAE J10b, the rated working pressure, and the date of manufacture (day, month and year). For example: XZ—SAE J10b—150 psi max press—010771