

Vehicle System Design Estimate



Quality is Behind the Diamond®

Amerex
7595 Gadsden Highway
Trussville, AL 35173-0081

Vehicle Information

Make: Caterpillar
Type: Haul Truck
Model: 797F
No Engines: 1
Engine HP: 4,000 HP

Operating Weight: 1,375,000 lbs
Hydraulic Capacity:
Diesel Capacity: 1,000 gal
No. Turbo Chargers: 4
Capacity CU Tons: 400

Date Rev: 3/11/14
VSDE No:
Drawing No:

Purpose: Amerex Fire Suppression Systems and components are FM approved and designed to suppress fires on mobile and self-propelled equipment. The primary mission of these systems is to suppress the fire long enough for the operator(s) to safely exit the vehicle/equipment and minimize subsequent damage. They are not intended to be able to extinguish any possible fire that could occur on or near the vehicle. Fires that originate outside of the protected area, within combustible materials outside of the vehicle, environmental hazards and excessive amounts of pressurized flammable liquids are examples of hazards which could exceed the capability of the fire suppression system.

Bill of Materials

QTY	Part #	Description
1	22373	Agent cylinder V75 ABC W/Pressure Switch
34	10250	Cone Nozzle w/Blow-off Cap
1	10147	Pneumatic Control Head
1	22517	Distributor 3/4 x 5
3	10178	Distributor 3/4 x 1/2 x 4
1	10173	Vent Check
2	10262	Check Valve
2	09956	Nitrogen Cylinder
1	10210	Manual Actuator
1	20775	Electric Nitrogen Actuator
1	22838	V250 ABC VS PRSW
1	14053	Manual Switch
1	22579	Linear Actuator
34	10780	Bracket, Nozzle - 90 Degree
2	10354	Bracket, Outdoor Actuator
1	17311	Control Panel III Leads (Back Wiring Exit)
1	16473	Actuator Lead, Shielded - 20'
1	14017	Power Lead - 25'
3	20083-25	Modular Linear Wire (ALHD) w/Spring 25'
1	16457	Thermostat/Manual Switch Lead, Shielded -
1	16458	Thermostat/Manual Switch Lead, Shielded -
1	22869	Pneu Act V250
1	22856	Dist 1-4 V250 (24 noz Config)
4	22698	Dist 1-6 V250 (18-3 24-4 noz config)
1	22260	Bracket Agent Cylinder, V75
1	22966	Weld Ring 1/2 inch

Supplemental Protection:

In applications where there is an opportunity for Flammable Liquids to come into contact with heated surfaces beyond the discharge time of the dry chemical discharge a secondary discharge of Amerex ICE is recommended. The ICE system will cool the surface temperatures and reduce the possibility of a fire re-ignition.

QTY	Part #	Description
2	19724	ICE12
16	19740	ICS Discharge Nozzle
16	19248	ICS Reducer
2	10199	Discharge Fitting Kit
2	22966	Weld Ring 1/2 inch
2	10147	Pneumatic Control Head
4	10178	Distributor

The purpose of this Bill of Materials (BOM) is for reference and estimation purposes only and does not replace an onsite hazard analysis. The BOM estimate should be considered the Minimum level of protection and a complete onsite hazard analysis is required to identify final protection requirements. Additional distributor supplied materials (hose, fittings, hardware etc) not supplied by Amerex will be required.

Note #1

Note #2

Potential Nozzle Locations

Dry chemical Nozzles -34	
Nzl Qty	Haz Description
8	4 turbo chargers from above 2 per
4	Front engine frame rail top and bottom of engine
4	Side left and right
4	Rear engine framework top and bottom of engine
	Sides left and right
2	Rear engine frame rails transmission and hydraulic Control valves
2	front frame rail 1 at front and 1 at rear engine

Liquid ICE nozzles - 8	
Nzl Qty	Haz Description
2	Rear of engine, torque converter and hydraulic valves
4	Hydraulic pumps and torque converter left side of engine
4	Pumps and hydraulic hoses right side of engine

Liquid ICE nozzles - 8	
Nzl Qty	Haz Description
8	2 on each turbo charger
8	Engine Manifold

Note: The information provided in this form is for reference and estimation purposes only. Estimates are determined by information provided in whole or part by the vehicle manufacturer, available sales literature and data sheets, OEM dealers, Amerex field surveys, Amerex distributor experience and field surveys and comparisons with similar types of equipment. Modifications and optional accessory equipment made at the factory, dealer or end user site could change the protection requirements and nullify previous field surveys. A complete hazard analysis and risk assessment will have to be performed on the vehicle to determine the most probable ignition sources along with the fire characteristics and quantity of the various fuels exposed to the ignition sources. The Amerex Fire Suppression system requires periodic maintenance by factory trained and certified individuals to maintain the system in operable condition, including assessing the vehicle for any changes that may affect the system performance.