



Fire Risk Assessment: Bus Engine Compartment

Document Number: ENG-40003-C

Date: 11/06/2019

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Section 1: General Information

Company:	Inspector Name:
Contact Name:	Company:
Address 1:	Phone:
Address 2:	Date of Assessment:
Phone:	Signature:

Fire Risk Assessment Project Number:

Bus Manufacturer and Model:

Bus VIN or ID number:

Bus Engine Gross Volume:

Bus Engine Gross Volume:

Mass of Suppression Agent needed: (use scaling factor in manual if needed)

Estimation of Maximum Air Flow:

Bus Engine Fuel:

Previous Fire Location (If applicable):

Previous Fire Suppression System (If applicable):

System Operating Temperature Range:

Approximate minimum temperature the system may be activated and pressure of the system:

Approximate maximum temperature the system may be activated and pressure of the system:

Lowest and Highest Approved System Pressure:

Bus Maintenance Information (List Personal Responsible):

Image of the Bus :



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Section 2: Potential Hazards

This form relates to Firetrace USA Testing Procedures for Hazard Identification, Risk Assessment and Control (HIRAC). Using Table 1 seen below to fill out the form by:

1. Providing The Specifics
2. Listing the Hazard
3. Assessing the probability of Potential Risk Factor
4. Listing their preventative controls
5. Assigning individual(s) responsible for controls

Once complete submit along with the formal test procedure for approval.

Table 1: Hazard Identification, Risk Assessment and Control (HIRAC)

Severity:	Very Likely Could Happen Any Time	Likely Could Happen Sometime	Unlikely Could Happen But Very Rarely	Very Unlikely Could happen But Probably Never Will
Death or Permanent Disability	High 5	High 5	High 5	Medium 4
Long Term Illness Or Serious Injury:	High 5	High 5	Medium 4	Medium 4
Medical Attention Or Short Term Inca- pacity	High 5	Medium 4	Medium 4	Low 1
First Aid Needed	Medium 4	Medium 4	Low 1	Low 1



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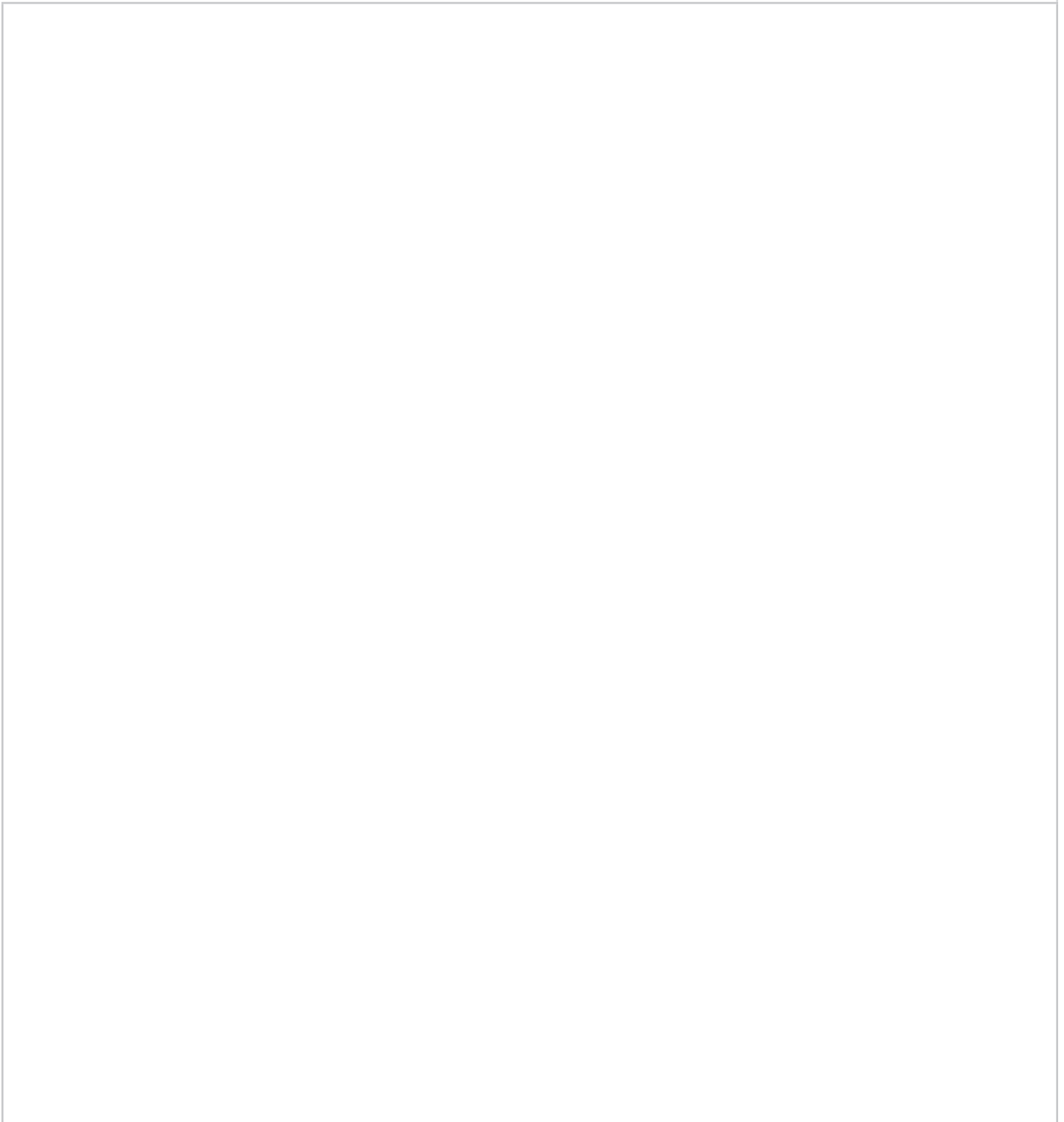
Table 1: Hazard Identification, Risk Assessment and Control (HIRAC)

HAZARD:	RISK ASSESSED BEFORE CONTROL	CONTROL MEASURE(S)	WHO / WHEN	RISK AFTER CONTROL
Manifold Exhaust				
Turbo Charger				
Radiator Airflow				
Pressurized oil and fuel lines				
Auxiliary heaters				
Generators and electrical wiring				



### Section 3: Fire Suppression

#### Proposed Layout and Design of Firetrace SP Suppression System





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Design Questions	Answers
Are there two nozzles located by the maximum airflow of the radiator fans? The nozzles shall point downwards.	
Is there a nozzle near the exhaust around the area where hydraulic oil may drip?	
Is there a nozzle in a compartmentalized area within the engine compartment? (If applicable)	
Is there a total of 6 nozzles?	
If so, have they been properly distributed along the engine compartment risk areas? (Do not include the 2 nozzles by the radiator and the one nozzle in the compartmentalized area as an evenly distributed nozzle)	
Is the discharge piping less than 16ft? (distance from the cylinder to end of the farthest nozzle)	
Has the volume of the engine compartment volume been verified with the amount of suppression chemical needed?	
Was there a need to scale up or down the system?	
If one of these questions was answered as "no" please justify your reasoning:	



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Section 4: Final Submittal

Before any fire suppression installation is done the inspector, owner of the bus, Authority Having Jurisdiction (AHJ), and a Firetrace representative (If inspector is not a Firetrace employee) must sign in this section. By signing here each individual states that they have reviewed this risk assessment and understand the reason for the layout of the equipment.

Inspector Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Owner's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Owner's Name: \_\_\_\_\_

AHJ's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

AHJ's Name: \_\_\_\_\_

AHJ's Title: \_\_\_\_\_

Firetrace Representative's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Firetrace Representative's Name: \_\_\_\_\_

Firetrace Representative's Title: \_\_\_\_\_

Note: Spot check inspections intervals will be establish upon completion of installation. Firetrace will be in charge of this upon Declaration of Installment sign off.