

INSTALLATION PROTOCOL

- ☐ Retrofit installation
☒ Type installation
☐ Repeat installation

Reference:

Company, location & date		Merkavim, Israel, 2019-07-09		
Vehicle/machine type and chassis number		197986		
Position of piston accumulator/detector bottle		Left side in front of back wheel		
Approved working pressure, piston accumulator		Minimum 75 bar/Maximum 145 bar (100-105 bar at +20°C)		
Temp. range piston accumulator/detector bottle		Minimum -30°C/Maximum +65°C		
		OK	N/a	Comments
1. Piston Accumulator				
1.1	Serial number:	1 59968		
1.2	Installation/pressure	☒ ☐		
2. Detector Bottle				
2.1	Serial number:	213032		
2.2	Installation/pressure/angle of bottle	☒ ☐		
3. Novec™ system				
3.1	Serial number:			
3.2	Installation/pressure/angle of bottle	☐ ☒		
4. Distribution system				
4.1	Installation	☒ ☐		
4.2	Tightening/direction of nozzles	☒ ☐		
5. Hydropneumatic detection				
5.1	Installation/protection	☒ ☐		
5.2	Electrical/manual actuator	☐ ☒		
5.3	Solenoid valve	☐ ☒		
6. Electric Activation				
6.1	Installation/accessibility	☐ ☒		
7. Mechanical Activation				
7.1	Installation/accessibility	☐ ☒		
8. Alarm and cabling				
8.1	Functionality check/pressure switch/flash/siren/signal module	☒ ☐		
9. Labels and Seals				
9.1	Check signs/driver information	☒ ☐		
9.2	Check seals	☒ ☐		
10. CHECK: THE SAFETY SCREW HAS BEEN REMOVED				
		☐		
Installation not approved: ☐		Installation approved: ☒		
A. Name and company		Duration	Travel time	Km
Tommy Hokkanen, Fogmaker AB		9/7-2019		
B. Name and company		B. Signature and date		
Eytan Markovetzky				

RISK ASSESSMENT PROTOCOL

☐ Retrofit installation
☒ Type installation

FOGMAKER
INTERNATIONAL AB

Save protocol

Print

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Clear form

Drawing no.:

Info/contract ref./Inst. reg no.:

Company: MERKAVIM Transportation Tech.

Place, date: ISRAEL 2019-07-09

Vehicle/machine type: MARS B8R

Chassis number: 197986

Type of engine, fuel: **Diesel**

Emission class: **Euro IV**

Automatic shut-down:

☐ YES ☒ NO

Please define/clarity:

Standard and/or specification: UNECE Regulation no. 107 (R107)

Type of suppressant: Suppressant -35°C

Mark each nozzle

→ # Spray nozzle

A = Gross volume of protected area [m³]:

4,3

$C_{1502} = [0.8 \text{ lit/min}]$
 $n_{1502} = \text{Nozzles [quantity 0.8 lit/min]:}$

0

B = Extinguishant/cubic metre of protected area [l/m³]:

1,7

$C_{1503} = [1.2 \text{ lit/min}]$
 $n_{1503} = \text{Nozzles [quantity 1.2 lit/min]:}$

13

V = A * B = Total volume of extinguishant [l]:

7,5

$C_{1506} = [3.5 \text{ lit/min}]$
 $n_{1506} = \text{Nozzles [quantity 3.5 lit/min]:}$

0

V_f = Actual volume - piston accumulator(s) [l]:

7,5

$Q = C_{tot} / n_{tot} = \text{Total flow [lit/min]:}$

13,0

Theoretical emptying time (V_f/Q) *60= 34,62

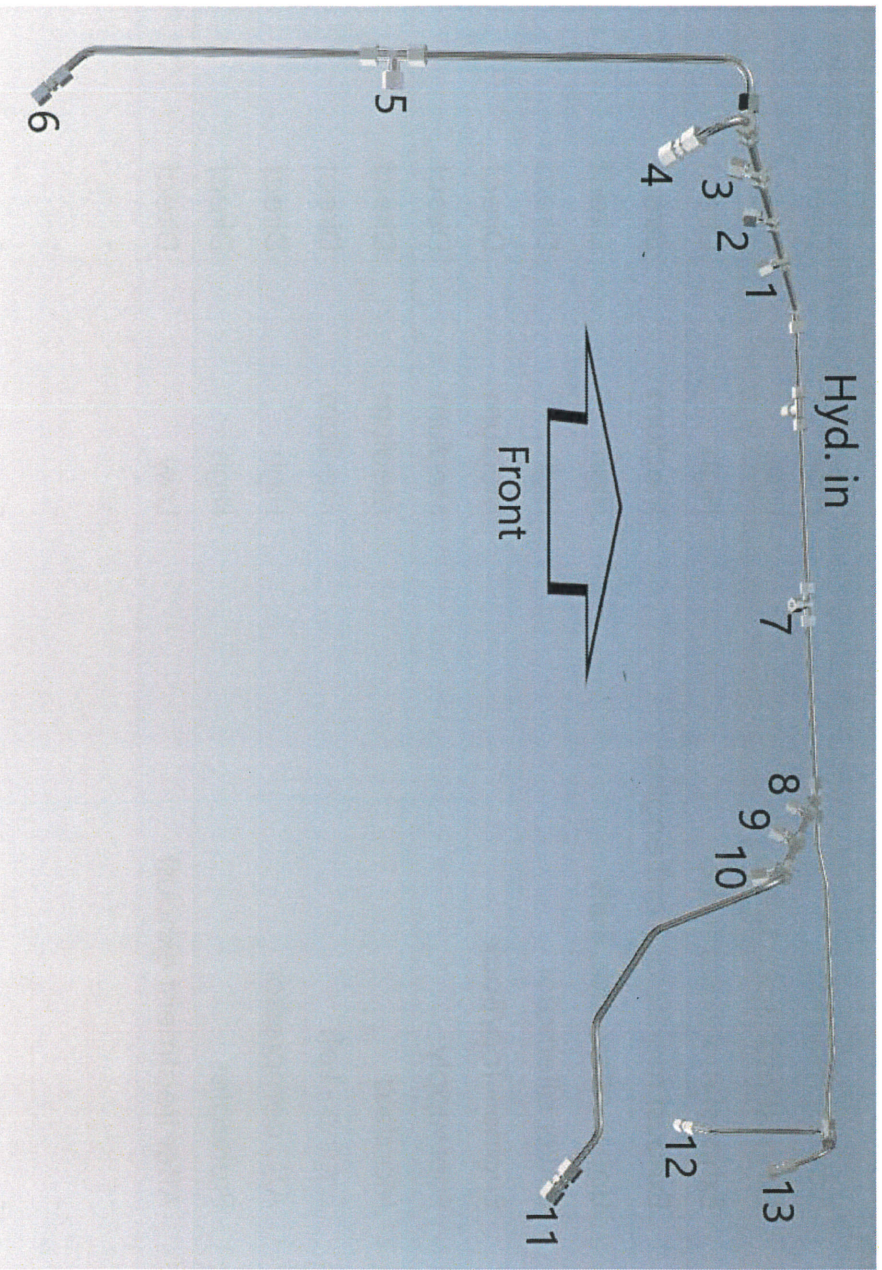
Common risk areas: generator, turbo, fuel feed, electricity, air filter, a/c compressor, heater, air compressor, hydraulics, fuel filter, manifold, starter engine, oil filter, exhaust system and concealed/built-in areas.

# Spray nozzle	Risk area	Risk level Low/Medium/High	Characteristic Volume-building/Partial/Direct
1	Exhaust manifold	High	Direct
2	Exhaust manifold, Turbo	High	Direct
3	Exhaust manifold, Turbo	High	Direct
4	Exhaust manifold, Front engine	Medium	Direct
5	Upper alternator, Belts	High	Direct
6	Lower alternator	High	Direct
7	Engine - Top/Back	Medium	Direct
8	Fuel supply	Medium	Direct
9	Manifold	Medium	Direct
10	Engine - Left	Medium	Direct
11	A/C compressor	High	Direct
12	Preheater	High	Direct
13	After treatment exhaust	Low	Direct
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

# Nozzle	Risk area	Risk level Low/Medium/High	Characteristic Volume-building/Partial/Direct
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
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90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

Comments:

Nozzle location



Authorised approval:

Fogmaker rep. name, position, company:

Date, place, signature:

Tommy Hokkanen, Tech.support manager

9/7-2019 Mary Hollar

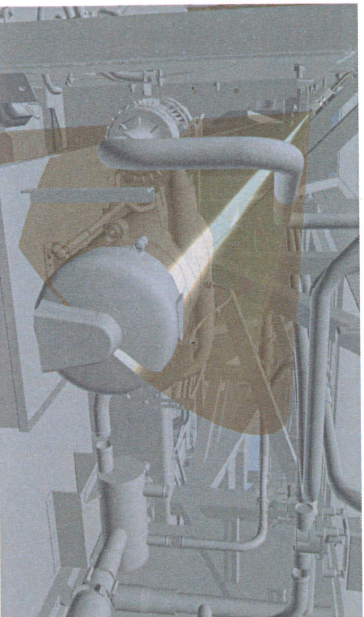
Customer rep. name, position, company:

Date, place, signature:

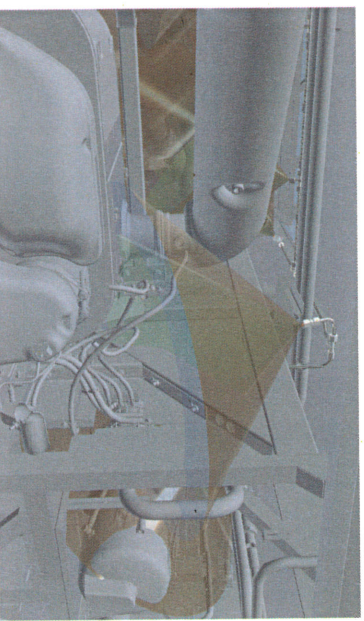
Eytan Markovetz, Vice President Engineering



Spray pattern over engine



Spray pattern over Preheater



Spray pattern over Muffler