

Coolant Heater

Thermo 90 S.21

Diesel - 24 Volt



Service Parts List for
HMMWV (Humvee)

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For additional accessory parts refer to the accessories catalogue.

For replacement heater see:

Thermo 90 S.21 24 V Diesel	Page 4
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Column A/N: Indicates which parts are modified, which parts are new:
A = modification N = new part

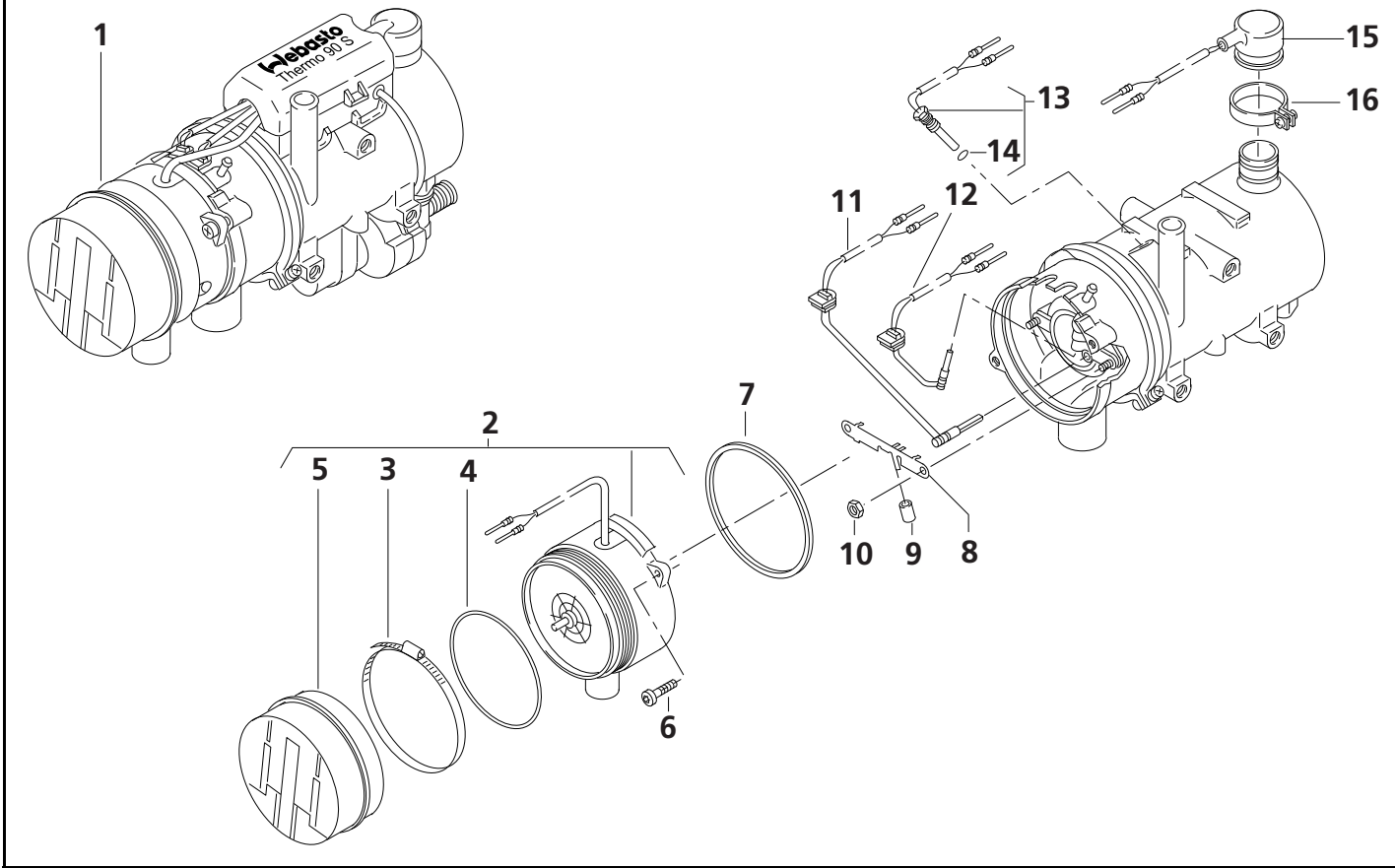
Column Description: Sub-assemblies or components (marked by a point) - offset to the right - are contained in the assembly which is offset one point less.

Example:
fuel pump = assembly
• solenoid valve = sub-assembly
• • gasket = component

The parts dependent on voltage are marked:
12 Volt with red label or dot
24 Volt with green label or dot

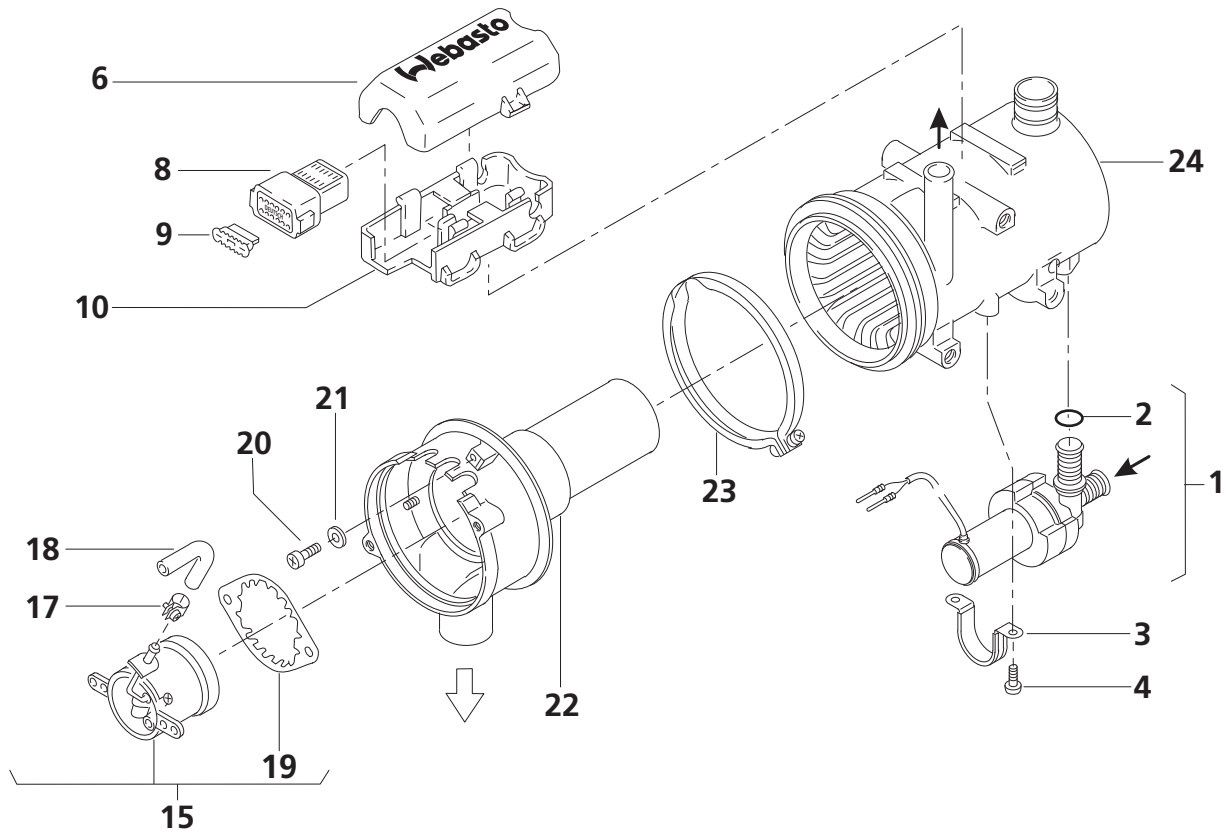
Subject to modification

HMMWV - Thermo 90 S.21 - fig. 1



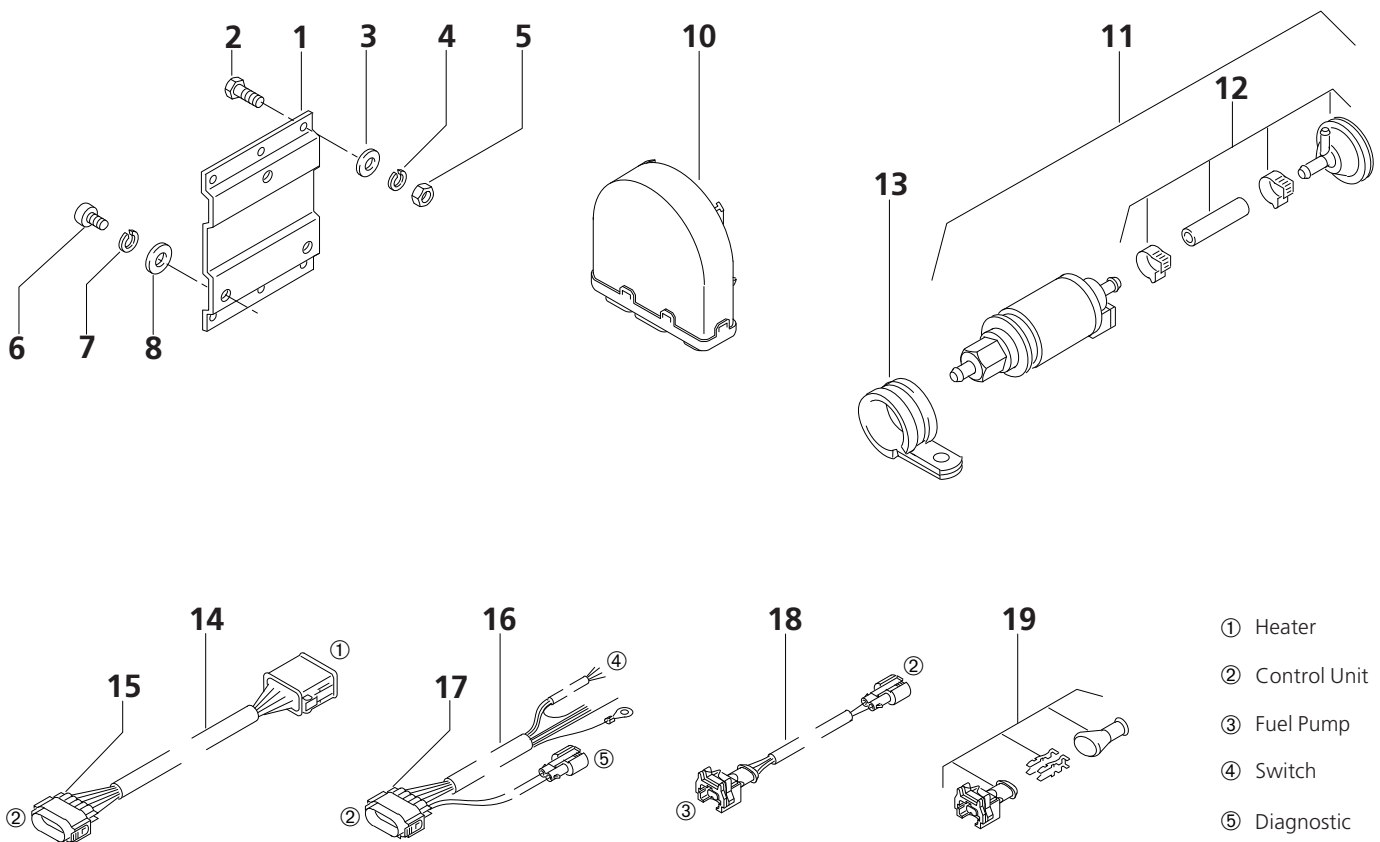
Item	Quantity	Part No.	A/N	Description	Remarks
	Thermo 90 S				
HMMWV - Thermo 90 S.21 24 Volt, Diesel Coolant Heater					
no fig.	1	5000356A		Thermo 90 S.21 24 Volt, Diesel EMI Military Kit	HMMWV kit
1	1	67582C		Thermo 90 S.21 24 Volt, Diesel replacement heater	
Parts for heater					
2	1	9000110A		combustion air fan - complete 24 V	
3	1	139653		• gear clamp Ø 100 - 120 mm DIN 3017	
4	1	34888A		• O-ring gasket Ø 110 x 2 mm DIN 3017	
5	1	88067D		• end cover	
6	2	34295A		screw - self tapping M5 x 20 DIN 7500	
7	1	83515B		O-ring gasket id.Ø 109 / od.Ø 113	
8	1	20817C		support	
9	1	19937B		tube - insulating	
10	2	371009		nut - hexagon M5	
11	1	82407A		flame detector - ceramic	
12	1	82410A		igniter - ceramic 24 V	
13	1	41244F		temperature sensor 90° C (194° F)	
14	1	1320049A		• O-ring gasket Ø 7 x 2 mm DIN 3770	
15	1	37955C		overheat protection (bag) 127° C (260° F)	
16	1	82096A		hose clamp Ø 37 mm	

HMMWV - Thermo 90 S.21 - fig. 2



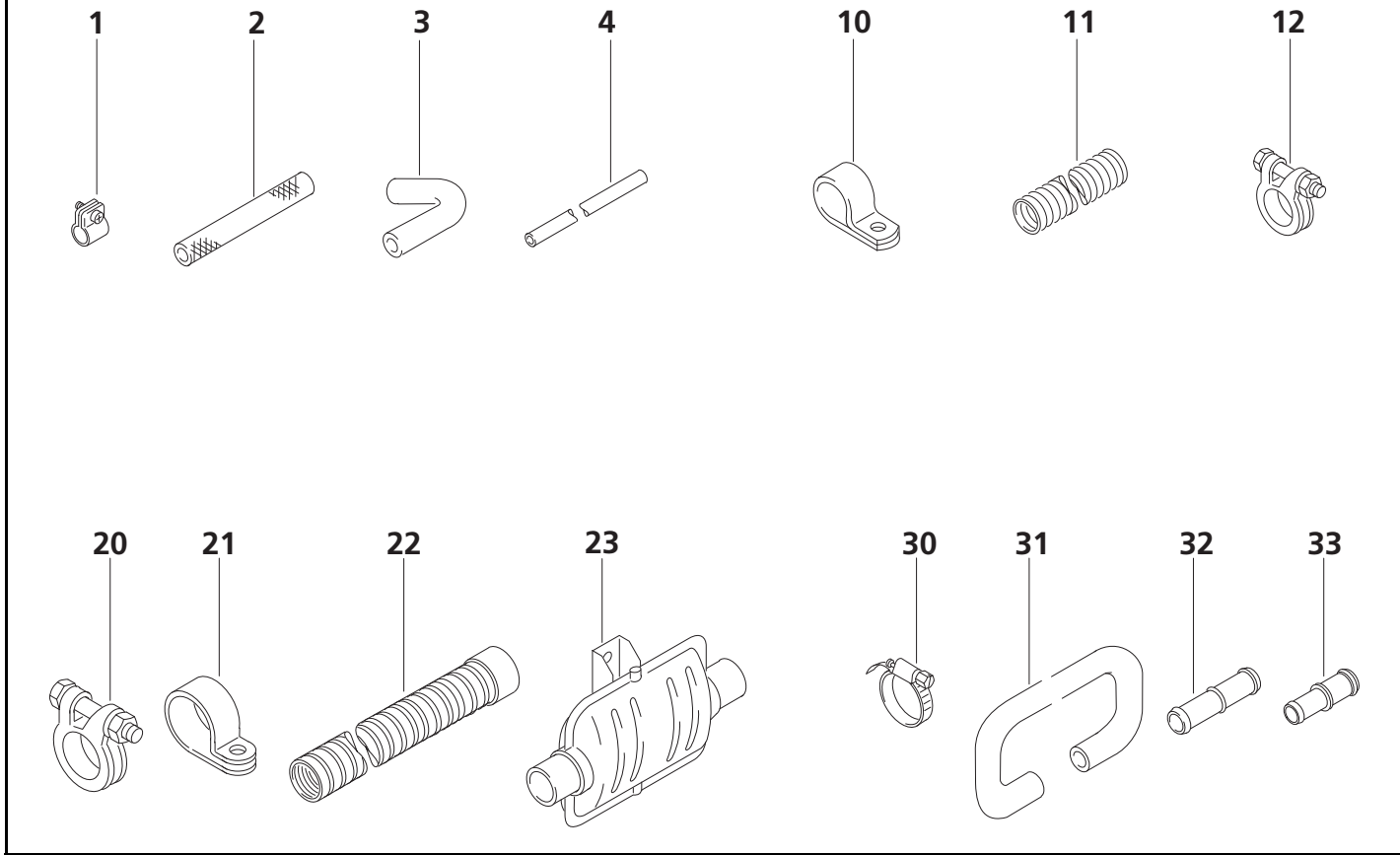
Item	Quantity	Part No.	A/N	Description	Remarks
	Thermo 90 S				
Parts for heater					
1	1	9000111A		coolant circulating pump 24 V	with radio suppression
2	1	22405B		O-ring gasket Ø 19.8 x 2.3 mm DIN 3770	
3	1	38634A		mounting clamp	
4	2	35283A		screw - self tapping M5 x 12 DIN 7500	
5					
6	1	38641C		protective cap	
7	1	85352A		pin housing - 12 pole (bag)	
8	1	85042A		• pin housing - 12 pole	
9	1	41025A		• locking wedge	
10	1	38638B		connector housing	
11-14					
15	1	82413A		burner insert - complete Diesel	
16	1	46374A		• grommet	for fuel connection tube
17	1	5012000A		• clamp - fuel line coupler	
18	1	34859B		• fuel line coupler - 90° id.Ø 4.5 mm	
19	1	32151B		• swirler - combustion air	
20	1	34296A		screw - self tapping M5 x 8 DIN 7500	
21	1	153257		washer - flat B5.3 DIN 125	
22	1	1301836A		burner head - complete 24 V	
23	1	21295A		clamp Ø 129 mm	
24	1	86244B		heat exchanger	

HMMWV - Thermo 90 S.21 - fig. 3



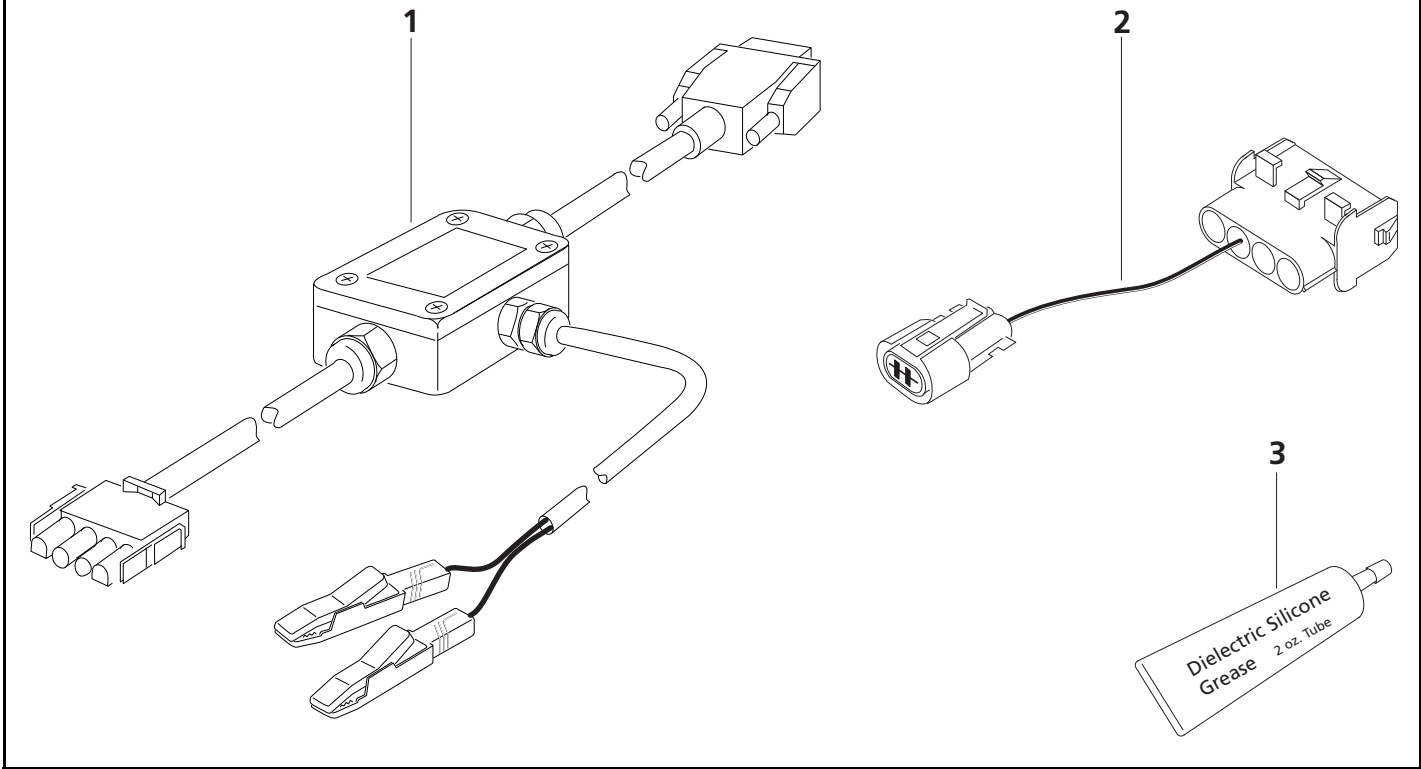
Item	Quantity	Part No.	A/N	Description	Remarks
	Thermo 90 S				
Mounting parts					
1	1	80583A		mounting plate - Thermo 90 S	
2	4	5012014A		screw - hexagon M6 x 20 DIN EN24017	
3	4	153265		washer - flat B6.4 DIN 125	
4	4	152560		washer - locking A6 DIN 128	
5	4	446714		nut - hexagon M6 ISO 4032	OBSOLETE
6	3	902888		screw - allen socket M8 x 16 8.8 DIN 912	
7	3	902712		washer - locking 5/16 in.	
8	3	902714		washer - flat 5/16 in.	
9					
Electrical parts					
10	1	89093C		control unit - SG 1577 24 V	
11	1	1322647A		fuel pump DP 30.02 24 V	
12	1	478814		• membrane damper	
13	1	21499A		pipe clip Ø 35 mm	
14	1	67134A		wiring harness - heater to control unit	
15	1	88655A		• connector plug - 12 pole	
16	1	905782A		wiring harness - power, ground, switch and diagnostic	
17	1	88654A		• connector plug - 12 pole	
18	1	67133A		wiring harness - fuel pump	
19	1	19439A		connector plug with terminals - fuel pump	

HMMWV - Thermo 90 S.21 - fig. 4



Item	Quantity	Part No.	A/N	Description	Remarks
	Thermo 90 S				
Parts for fuel supply					
1	8	5012000A		clamp - fuel line coupler	
2	4	5048432B		fuel line coupler	id.Ø 4.5 mm
3	1	34859B		fuel line coupler - 90°	id.Ø 4.5 mm
4	X	50483931A		fuel line	id.Ø 2 mm
5-9					per meter
Parts for combustion air system					
10	1	5012742A		pipe clip	Ø 33 mm
11	1	5029842A		tube - combustion air inlet	id.Ø 30 mm x 400 mm Lg. stainless steel with end cap
12	1	100424		pipe clamp	Ø 30 - 33 mm
13-19					
Parts for exhaust system					
20	3	5012008A		exhaust clamp	Ø 39 - 42 mm
21	1	126830		pipe clip	Ø 42 mm
22	1	5015527A		tube - exhaust	id.Ø 38 mm x 1000 mm Lg. stainless steel with end cap
23	1	19562E	A	exhaust muffler	od.Ø 38 mm
24-29					
Parts for coolant system					
30	6	901097		hose clamp	Ø 23 - 32 mm
31	1	50126840A		formed hose	Ø 20 mm x 2200 mm lg. 180° formed ends
32	2	66934B		hose connector	20 x 20 mm
33	2	66908B		hose connector	18 x 20 mm

HMMWV - Thermo 90 S.21 - fig. 5



Item	Quantity	Part No.	A/N	Description	Remarks
	Thermo 90 S				
Diagnostic equipment					
1	1	1301728B	A	PC diagnosis	Includes software. Adapter must be ordered separately.
2	1	92556A		test adapter	Thermo 90 S
3	1	50000043		dielectric silicone grease 2 oz.	For electrical connectors (anti-corrosion)
no fig.	1	907400		workshop manual - English Thermo 90 S	Also available at www.techwebasto.com



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