

**RADIATOR AND
COOLING SYSTEM**



SERVICE INSTRUCTION LEAFLET

ISSUED BY
ROLLS-ROYCE LIMITED

RR/R1(b).

SB/LT.1/SF.

Subject :
COOLING SYSTEM
PROTECTION FROM FROST:-ANTI FREEZE ADDITIVES.
ALL MODELS.

Date 11th March, 1947.
of
Issue

This Leaflet cancels RR/R1(a).

The following table indicates the anti-freeze additives recommended and the quantities required to give protection against various degrees of frost.

Attention is drawn to the following points in connection with these additives.

It is essential that whether the basic constituent is glycerine or ethylene glycol, a corrosion inhibitor be included in the mixture. Inhibited ethylene glycol complies with this requirement. In the case of the glycerine base alternative the inhibitor must be added. On no account should these two types of anti-freeze be mixed.

Owing to the adverse affect of glycerine on rubber and the tendency for ethylene glycol to find weak points which may exist in the cooling system, an examination should be made to ensure good coolant joints before either is introduced.

It is desirable to make up the anti-freeze mixture before filling the system, the use of hot water is recommended.

IMPORTANT

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DOCUMENT ARE
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TO BE
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UNAUTHORIZED
PERSON.

Inhibited Ethylene Glycol.

Temperature °Fahrenheit	Degrees of Frost	<u>Inhibited Ethylene Glycol.</u>				
		20 HP 20/25HP 25/30HP	Wraith	Phantom I	Phantom II	Phantom III
22°	10°	4 $\frac{1}{4}$ pts.	3 $\frac{1}{2}$ pts.	8 pts.	7 $\frac{3}{4}$ pts.	6 $\frac{1}{4}$ pts.
12°	20°	7 $\frac{1}{4}$ "	5 $\frac{1}{2}$ "	13 $\frac{1}{2}$ "	13 "	10 $\frac{1}{2}$ "
2°	30°	9 $\frac{3}{4}$ "	7 $\frac{1}{2}$ "	18 "	17 $\frac{1}{4}$ "	14 $\frac{1}{4}$ "
-3°	35°	11 "	8 "	20 "	19 $\frac{1}{2}$ "	16 "
Temperature °Centigrade						
-5°		2 $\frac{1}{4}$ ltrs.	2 ltrs.	4 $\frac{1}{2}$ ltrs.	4 $\frac{1}{2}$ ltrs.	3 $\frac{1}{2}$ ltrs.
-11°		4 "	3 "	7 $\frac{3}{4}$ "	7 $\frac{1}{2}$ "	6 "
-17°		5 $\frac{1}{2}$ "	4 $\frac{1}{4}$ "	10 $\frac{1}{4}$ "	9 $\frac{3}{4}$ "	8 $\frac{1}{4}$ "
-20°		6 $\frac{1}{4}$ "	4 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	11 "	9 "

Continued:

GLYCERINE AND WATERGLASS (SILICATE OF SODIUM).

Temperature °Fahrenheit	Degrees of Frost	20 HP 20/25HP 25/30HP	Wraith	<u>Glycerine in Pints.</u> <u>Waterglass in fl.oz.</u>		
				Phantom I	Phantom II	Phantom III
20°	10°	5 pts. 1½ fl.oz	¾ pts. 1 fl.oz	9½ pts. 2½ fl.oz.	9 pts. 2½ fl.oz.	7½ pts. 2 fl.oz.
12°	20°	7½ " 2 "	5½ " 1½ "	14 " 3½ "	13½ " 3½ "	10¾ " 2½ "
2°	30°	9½ " 2½ "	7 " 2 "	17½ " 4½ "	16½ " 4 "	13¾ " 3½ "
-3°	35°	11¼ " 3 "	8¼ " 2 "	21 " 5½ "	20¼ " 5 "	16½ " 4 "

Temperature
°Centigrade

Glycerine in Litres
Waterglass in CCs.

-5°	3 ltrs. 42 ccs.	2 ltrs. 28 ccs.	5½ ltrs. 70 ccs.	5¼ ltrs. 70 ccs.	4½ ltrs. 56 ccs.
-11°	4¼ " 56 "	3 " 42 "	8 " 98 "	7¾ " 98 "	6 " 70 "
-17°	5½ " 70 "	4½ " 56 "	10 " 126 "	9½ " 112 "	8 " 98 "
-20°	6½ " 84 "	4¾ " 56 "	12 " 154 "	11½ " 140 "	9½ " 112 "