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R.102 - PRELIMINARY SPECIFICATION.

SUGGESTED CAPACITY.

- Gas Volume - 7.38 million cu.ft.
- Gross lift under standard conditions of air density (1225.5 gms/cu.metre) with gas purity of 97% - 226.5 tons.
- Approximate overall hull volume - 8.3 million cu.ft.
- Maximum diameter - 147 feet.
- Maximum height - 150 feet.
- Approximate length - 814 feet.

FIXED WEIGHT.

Structure weight, scaled up strictly on the basis of the present weights for R.101 - 128 tons.

Allowance for half the savings which it is estimated are possible in hull structure weight - 5 tons.

123 tons.

|                       |   |                  |                  |
|-----------------------|---|------------------|------------------|
| Weight of Power Units | - | <u>Scheme 6.</u> | <u>Scheme 1.</u> |
|                       |   | 19 tons          | 15 tons.         |
| TOTAL FIXED WEIGHTS   | - | 142 tons         | 138 tons.        |

DISPOSABLE WEIGHTS.

Allowance for height (4% equivalent to 1,250 ft. above sea level) - 9.5 tons.

\* Allowance for lowest air density at Karachi (1155 gms/cu.metre) % - 11 tons. \* 16.3 tons for 7.38 million cu.ft.

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\* i.e. Best condition at worst time of year.

DISPOSABLE WEIGHTS (Contd.)

|   |   |           |
|---|---|-----------|
| 50 passengers at 5 per ton,<br>includes food, water for<br>drinking and washing,<br>crockery, cooking utensils,<br>linen, stewards etc. | - | 10 tons.  |
| 44 crew at 8 per ton  | - | 5.5 tons. |
| Freight   | - | 5 tons.   |
| Furniture, maps, charts,<br>spares, etc.  | - | 4 tons.   |
| Operating ballast   | - | 10 tons.  |
|   |   | 60.3      |
| TOTAL   | - | 55 tons.  |

|                                 |                  |                  |
|---------------------------------|------------------|------------------|
| <u>LIFT AVAILABLE FOR FUEL.</u> | <u>Scheme 6.</u> | <u>Scheme 1.</u> |
| φ                               | 29.5 tons        | (-) X 33.5 tons. |

|                       |                  |                  |
|-----------------------|------------------|------------------|
| <u>FUEL REQUIRED.</u> | <u>Scheme 6.</u> | <u>Scheme 1.</u> |
|-----------------------|------------------|------------------|

Case 1. 70 hours at 70 m.p.h.

|             |      |    |
|-------------|------|----|
| Liquid fuel | 11.5 | 6  |
| Gas         | 27.0 | 30 |
|             | 38.5 | 36 |

Case 2. 56 hours at 70 m.p.h.  
(Cardington to St. Johns) %

|             |      |      |
|-------------|------|------|
| Liquid fuel | 9.2  | 6.0  |
| Gas         | 21.5 | 22.4 |
|             | 30.7 | 28.4 |

Case 3. 40 hours at 70 m.p.h.  
(Cardington to Baghdad)

|             |      |          |
|-------------|------|----------|
| Liquid fuel | 7.5  | 0.0      |
| Gas         | 17.7 | 23.3     |
| φ           | 25.2 | (-) 23.3 |

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