

726

Rpt. 4c

Date of writing report 15th September, 1964

Received London

Port of TRIESTE No. 16307

Survey held at TRIESTE

No. of visits 14

First date 30.4.1964 Last date 19.8.1964

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown) Owners (Or Consignees) Ship Built at GENOA by Messrs. ANSALDO S.p.A. when Yard No. 1598 Auxiliary Engines made at TRIESTE by Messrs. C.R.D.A. - F.M.S.A. when 1964 Eng. Nos. 5819 - 1598 5820 - 1598 5821 - 1596 Total No. of sets and description (including type name) THREE CRDA-SULZER 6 BCAH 29

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 290 mm Stroke 360 mm 2 or 4 stroke cycle 4 Maximum approved BHP 825 at 500 RPM Corresponding MIP 12.2 Kg/cm2 Maximum pressure 70 Kg/cm2 Fuel Diesel Oil Are cylinders arranged in Vee or other special formation? No If so, No. of cranks per engine Is engine of opposed piston type? No No. and type of mechanically driven scavenger pumps or blowers per engine None No. of exhaust gas driven blowers or superchargers per engine One Is welded construction used for: Bedplate? No Entablature? No Total Internal volume of crankcase (if 20 cu. ft. or over) 1750 lts. No. and total area of crankcase explosion relief devices 3 - 240 cm2 Are flame guards or traps fitted? No Cooling medium for: Cylinders fresh water Pistons None No. of attached pumps: F.W. cooling One S.W. cooling None Lubricating oil One How is engine started? compressed air

SHAFTING. Is a damper or detuner fitted? No No. of main bearings 7 Are bearings of ball or roller type? No Distance between inner edges of bearings in way of cranks 320 mm Crankshaft: solid Material of crankshaft El. furnace steel Approved minimum tensile strength 50 Kg/mm2 Dia. of pins 185 mm Journals 200 mm Breadth of webs at mid throw 295 mm Axial thickness 92 mm If shrunk, radial thickness around eyeholes solid Dia. of flywheel 1500 mm Weight 1400 kgs. Are balance weights fitted? No Total weight Rad. of gyration Dia. of flywheel shaft None Has each engine been tested in shop? yes How long at full power? 4 hours Was it tested with driven machinery attached? yes Was the governing tested and found satisfactory? yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 30.10.62 Date of approval of shafting 30.10.62 Identification marks on shafting LLOYD'S KLN 902 AS 16.4.63 Particulars of driven machinery 690 KVA Alternator LLOYD'S KLN 918 AS 11.4.63 LLOYD'S KLN 933 AS 22.4.63

Port and No. of Certificate for Starting Air Receivers Starting air bottle will be supplied on board.

AUXILIARY GAS TURBINES. BHP per set At RPM of output shaft. Open or closed cycle? Arrangement of turbines. HP drives at RPM HP gas inlet temp. pressure IP at IP LP at LP No. of air compressors per set Centrifugal or axial flow type? Material of turbine blades. Material of compressor blades. No. of air coolers per set. No. of heat exchangers per set. How are turbines started? Are the turbines operated in conjunction with free piston gas generators? Total No. of free piston gas generators. Dia. of working pistons. Dia. of compressor pistons. No. of double strokes per minute at full power. Gas delivery pressure. Gas delivery temperature. Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery attached? Particulars of gearing. Date of approval of plans. Identification marks. Particulars of driven machinery.

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over Our Certificate Nos. 5495, 5496, 5506 For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached? No - (certificates forwarded to Genoa)

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

CANTIERI RIUNITI DELL' ADRIATICO Fabbrica Macchine S. Andrea Manufacturer Is this machinery duplicate of a previous case? yes If so, which? Motors Nos 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible. These auxiliary engines have been constructed with tested materials under special survey in accordance with the Rules, approved plans and Secretary's letters. Material and workmanship are good. The engines have been tested in the shop at full load, with satisfactory results. On completion of the shops trials have been partly dismantled, the parts examined, found good and re-assembled.

Survey Fee Lire 574,695.- Expenses " 15,000.- Date when fee rendered 19.4.60

Signature of Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port:— The above described machinery has been fitted on board the m. t. "RAPHAEL" - Yard No. 1598 - at ANSALDO S.p.A., SESTRI in a proper manner and found satisfactory when tested on the (date) 10th May, 1965, under full working conditions.

(S. DINNEN) Engineer Surveyor to Lloyd's Register

23.10.64

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