

REPLACEMENT PARTS LIST - CONTRACT #535-AC-8131

<u>Part No.</u>	<u>Part Name and Description</u>	<u>No. of Units</u>	<u>Unit Price</u>	<u>Total</u>
503605	Bearing reduction gear pinion This bearing was slightly scored. Replaced with new type having 1/4 inch oil entrance hole instead of 1/8 as previously used.	1	16.65	16.65
503604	Bearing - propeller shaft outer This bearing was scored. Replaced with new type having annular oil groove on inside instead of longitudinal spreader grooves.	1	19.84	19.84
503507 503508	Reduction gear housing - front and rear The two new bushings, parts 503604 and 503605 necessitated the reboring of the cases slightly oversize and then reboring the bushings in place to insure perfect alignment. Rework	1	30.60	30.60
503535	Housing - accessory drive This housing was in good condition, having no apparent failures. However, in order to help eliminate excessive vibration in the rear of the engine, a new housing had been made re-inforced with several additional ribs and also having enlarged oil passages. It was deemed advisable to install this new housing before starting the endurance running. The old housing will be held in reserve as a spare. Included in this replacement were the necessary studs, screws and bushings that go to make up the assembly. This replacement accessory housing stud and bushing assembly was on hand as part of Air Corps contract #535-AC#9060.	1		Government property
503676	Cage - supercharger impeller shaft bearing The new accessory housing part number 503535 has a new location for the supercharger vent necessitating the use of new bearing cage. Replaced from spare parts stock.	1		Government property
503678	Seal - impeller shaft oil The new accessory housing, part number 503535 has a new location for the supercharger vent necessitating the use of a new impeller seal. Replaced from spare parts stock.	1	49.93	49.93
503592	Gear - oil and coolant pump drive Teeth showed signs of wear and as this gear had been subjected to pretty severe treatment during the continued running it was replaced in order to have a new part in the engine at the start of the endurance running. Replaced with new part, no change.	1	157.06	157.06

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503541	Sleeve starter drive shaft The fingers on the end were broken off. No apparent reason for this failure is at hand except the possibility that a previous seizure of this shaft had caused the trouble and it only showed up at this time. Replaced with new part no change.	1		Government prop.
503682	Slinger - impeller shaft oil rear The loosening of the impeller shaft nut caused the oil slinger to wear on the thrust face. Replaced with new part, no change.	1	1.62	1.62
500604	Gear - accessory drive shaft large idler This gear replaced part number 503537 which had been temporarily strengthened after a failure of a similar part. This new design has a strengthened shaft at the point of the previous failure. Replaced with new design.	1	98.66	98.66
503680	Shaft - impeller The loosening of the impeller nut caused the shaft to wear under the thrust bearing and on the splines. The journal on the shaft was chrome plated and re-ground to size. Re-work present part no change.	1	6.12	6.12
503801	Pipe - intake The intake pipe on cylinder 1L was broken off at the flange. Replaced with new part, no change.	1		Government prop.
503655	Gear - camshaft drive inner Three small cracks appeared at the base of the teeth on the R.H. gear. This gear was an old part used as a temporary replacement. See Replacement Parts List of Progress Report dated 10-15-36, page 1. Replaced with new gear on hand as part of spare parts order, material SAE 2512 steel.	1		Government prop.
503534	Bracket - accessory drive housing The pilot that engages the crankcase was slightly galled. Replaced with new part on hand, no change.	1		Government prop.
501087	Ball bearing (Norma-Hoffman 205 S-B) The loosening of the impeller nut caused this bearing to wear on the impeller shaft. Replaced with new part, no change.	1	1.46	1.46

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501109	Retainer - perfect oil Continued usage and frequent dis-assembly has worn out this oil seal. Replaced with new part no change.	1	.18	.18
503726	Housing - camshaft Three studs were loosened by constant assembly and disassembly. Replaced with oversize studs in re-bored holes. Re-work present part.	1	4.08	4.08
500599	Coolant Pump Assembly Continued leaking at the seal in the original pump lead to the design of a coolant pump using a packingless prestone seal. This type of coolant pump has been successfully used on the single cylinder test engine and should be an improvement on the multi-cylinder set-up.	1	<u>346.86</u>	<u>346.86</u>
Total of Replacement Parts List dated 1-15-37				\$733.06

RECAPITULATION

Replacement parts previously reported	\$6,013.58
Total of Replacement Parts List dated 1-15-37	<u>733.06</u>
Total Replacement Parts listed to date 1-15-37	\$6,746.64
Spare Parts Contract W535-AC-8131	
P.O. 37-1091 Invoiced 9-16-36	\$3,372.11
Spare Parts Contract W535-AC-9573	
P.O. 37-3057 Invoiced 1-9-37	\$2,457.13
Total Replacement Parts invoiced to date 1-15-37	<u>5,829.24</u>
Total Government liability to date, 1-15-37, over and above the amount specified in Article 17, as provided for in paragraph #3d, Item 3 of Article 15, subject contract	\$ 917.40

AIR CORPS INSPECTOR'S CERTIFICATE

I certify that the articles listed on pages one to three inclusive of this report dated 1-15-37 were inspected and accepted by me in the quantities stated, and that they conform to the contract requirements for articles and parts used in the subject engine, and that the above replacement articles and parts were necessary for the continued operation of the subject engine.

Silas C. Snyder
 Inspector's Signature

Procurement Inspector
 U. S. Army Air Corps
 Title and Rank

1-27-37
 Date