

Classification changed to
UNCLASSIFIED

by authority of CG, AMC
DATE *2/18/48*

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OR CHANGED TO *Secret*
4/4/46~~

WAR DEPARTMENT

AIR CORPS MATERIEL DIVISION

*Fredrick Petersen
Capt USAS*

MEMORANDUM REPORT ON

Pursuit Single Engine (P-59C), A.C. No. 40-2976 LHS-BC

Date April 15, 1941

SUBJECT: Propeller Tests

SECTION Flying Branch

~~UNCLASSIFIED~~

Contract No. W-535 AC-13383

Expenditure Order No. 580-1-131

SERIAL No. PHQ-M-19-1220-A

Purchase Order No. _____

DATE - 3 Oct 1947

A. Purpose

1. Flight test of Aeroproducts propeller, Model No. 632-S.

B. Test results

1. Flights by Lt. Petersen:

Flight Condition	Altitude Ft.	Indicated		R.P.M.	Free Air Temp. °C.	Prop. Control Position
		Air Speed	Man. Press.			
After T.O.	-	120	40	3000	12	F.O.
Level out	1600	230	30	3200	-	F.O.
Climb	1500	150	30	3000	8	F.O.
Level out	3000	-	30	3200	-	F.O.
Level	8000	230	27	2200	2	6
Shallow turns	8000	230	27	2200	2	6

No hunting of the propeller was encountered. When decreasing or increasing manifold pressure, the r.p.m. under or overspeeds approximately 100, but returns to the previously set r.p.m. Oil was thrown on the windshield from the propeller making it hard to see out.

2. Flights by Captain Lee:

T.O.	Ground	-	45	3000	+30	F.O.
Climb after T.O.	1500	120	45	3200	-	F.O.
Climb	1500	150	30	2400	+16	5
Level out	3500	-	30	2400	+16	5
Level	4000	200	27	2200	+16	6
Shallow turns	4000	-	27	2200	+16	6
Level	4000	200	27	2200	+16	6
Power glide	3500	-	27	2300	-	6

Manifold remained constant at 30 in climb. Believe that the propeller overspeeding range is 3000-3200.

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The propeller overspeeds approximately 150 rpm when the throttle is advanced suddenly or the airplane is nosed over abruptly, but returns without hunting to its original setting.

3. The airplane was also flown by Major Umstead and Major Gerhart with substantially the same results.
4. All pilots reported operation of the propeller as being satisfactory.

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Concurrence:

Distribution: Chief, Exp. Engr. Section
 (Attn: Flight Research Projects)
 Chief, Prod. Engr. Section
 (Attn: Project Office)
Contract 3

Chief, Aircraft Laboratory
 (Attn: Aerodynamics Unit)
 Chief, Propeller Laboratory
 Chief, Material Division, OAS
 (Attn: Executive)

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