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T. O. NO. 03-20-1

# LIST OF PROPELLERS AND GOVERNORS FOR SERVICE AIRCRAFT



This Technical Order replaces T. O. No. 03-20-1 dated  
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Published by authority of the Commanding General, Army Air Forces.

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1. GENERAL.

a. The accompanying tabulation lists the various types of propellers and governors used on service airplanes; also, the blade angle settings and various other propeller system data. The information in this table will apply when conflicting data are found in airplane Handbook Technical Orders. When local conditions make a deviation from the specified setting desirable, from 1/2 degree below to 1 degree above the value given is permitted. A change of 1 degree in blade angle setting will cause a change of from 60 to 90 rpm of noncontrollable propellers while the airplane is in level flight at full throttle.

**CAUTION** Due to the great number of models of propellers and governors, and the high degree of interchangeability, no attempt is made in table II to list all possible models which can be used on a particular airplane. The models shown are those which were installed in production, plus the current production model of the same general type. For further information on interchangeability of propellers and governors, reference may be made to T. O. No. 00-45-1.

b. A maximum permanent reduction of up to 2 inches in specified propeller diameter (1 inch in radius) is permitted on the following aircraft using aluminum-alloy blades:

- (1) All types of bombers.
- (2) All types of fighters.
- (3) Cargo aircraft.
- (4) High-performance photographic airplanes F-3, F-4, F-5, etc.
- (5) O. A. Airplanes (Flying Boats).

c. A maximum permanent reduction of 6 inches in specified propeller diameter (3 inches in radius) is permitted on all other aircraft using aluminum-alloy blades. When it is necessary to reduce the diameter of a propeller from the specified value, the dash number following the blade drawing number will be changed accordingly. (See T. O. No. 03-20-18.)

d. In case of an emergency, any amount of reduction in propeller diameter which will not seriously effect the performance of the airplane involved is permitted. Propellers which have the diameter drastically reduced for emergency will be replaced with propellers of permissible diameter, as soon as the latter are available. On multiengine aircraft using propellers of aluminum-alloy blades, a maximum difference of 2 inches in the diameter of the various installed propellers on the given airplane is permitted.

e. Whenever a reduction of 3 inches or greater in the diameter of a nonfeathering propeller is made, the minimum and maximum blade angles will be set 1 degree higher for each 3 inches of diameter removed. This change is not necessary until a full 3 inches are cut from the propeller diameter. For additional information on cut-down of propellers made of aluminum-alloy blades, see T. O. No. 03-20-18.

f. The diameter of propellers under 13 feet in diameter using Curtiss hollow steel blades may be reduced up to 3/4 inch, (3/8 inch in radius) and blades in propellers with diameters greater than 13 feet and less than 15 feet may be reduced 1 inch (1/2 inch in radius). Any reduction beyond this point may open up the hollow cavity of the blade. Hollow steel blades made by the American Propeller Company can be reduced only 1/8 inch in radius (1/4 inch in propeller diameter). Aeroproducts blades may have a maximum of 1/4 inch of material removed from the tips, allowing the diameter to be reduced 1/2 inch.

g. In many instances, more than one model propeller is listed for use on a given airplane. On multiengine airplanes, it is not permissible to use different model propellers or governors on the same airplanes simultaneously except in an emergency. The same model propellers and governors will normally be used simultaneously on multiengine aircraft except as provided in paragraph 1.c.

2. CURTISS ELECTRIC PROPELLERS.

a. The following table lists data pertaining to direction of rotation and plug position of Curtiss proportional governors:

	Rotation Plug Position	CW Rear	CCW Rear	CW Front	CCW Front
Low Pressure	100006 type	100006	100006-1	100006-8	100006-9
High Pressure	100008 type	100008	100008-1	100008-2	100008-3

The 100008 series governors are interchangeable with 100006 series of the corresponding dash numbers, except on B-26 series airplanes having R-2800-43 engines. In this case, 100008 series governors only will be used.

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b. The fifth column in table II heading "Cam No., Regulator No., Stop Ring, Range or Index" is applicable to the cam number in the case of Curtiss propellers. These cams determine the high, low, and feathering blade angles of Curtiss electric propellers. Propellers having the same blade angle settings do not necessarily have cams of the same part numbers, although this may be true in some cases.

### 3. HAMILTON STANDARD PROPELLERS.

a. The diameter given in the table is the nominal diameter, which does not employ fractional dimensions. The actual diameter is never greater than that given in the table, but may be less by an amount smaller than 1 inch. For example, the nominal diameter of a propeller assembly with an actual diameter of 10 feet, 1/8 inch, would be 10 feet, 1 inch. The same blades installed in different series hubs may have different actual diameters, and where the difference is sufficiently great, different nominal diameters.

b. The term "range" as applied to hydromatic propellers means the maximum and minimum blade angles which the propeller can attain as determined by the dash part number of the high- and low-pitch stops assembled in the dome. Care will be taken that stops of the correct part number are used as determined by the airplane type on which the propeller is to be used, as failure to do so can cause serious reduction of the blade angle up to which constant-speed operation can be maintained, with consequent malfunction in flight. Care will also be taken not to set stops for lower angles than given by the dash part number of the low-pitch stop, or higher angles than given by the dash part number of the high-pitch stop. If this is done, the end of the blade travel is determined by the cam roller striking the end of the cam slot, with resultant damage to these parts.

c. Early high- and low-pitch stops carry two dash numbers, giving the high and low limits of the range. For example, high-pitch stop, part No. 52932-10-90, and low-pitch stop, part No. 52933-10-90, were used in a 23E50 hub to obtain 10-90 range. New production stops carry a single dash number, the number on the high-pitch stop giving the high angle end of the range, and the number on the low-pitch stop the low angle end of the range. In the preceding example, part No. 52932-90 has replaced part No. 52932-10-90, and part No. 52933-10 has replaced 52933-10-90. It is not necessary to re-mark early type rings in service to correspond to the new numbering system, as the old numbers also furnish the necessary information.

d. To obtain closer indexing, the fixed cams in propellers incorporating faired knee type cams are provided with two sets of holes for the fixed cam locating dowels in the barrel. Shifting between the two sets of holes allows the blade and cam gears to be indexed in steps corresponding to one-half tooth space. To obtain the correct range, the proper set of holes must be plugged to prevent use, as well as the proper stop used. The holes to be plugged for the propellers and ranges listed in table II are as follows:

HUB	RANGE	PLUG HOLES MARKED
23E50-505	10-90	B
	14-94	A
	18-98	B
	22-102	A
	26-106	B
	10-90 -25, and -35	A B
	16-96	
	21.25-101.25	B

e. The term "Index" given in the fifth column of table II, applies to Hamilton Standard counterweight propellers. This is the maximum angle the reference station of the blade can assume when the blade is in low rpm (high-pitch) position and is determined by locking pins or keys locking the blade bushing to the counterweight bracket.

f. In the table, blades with old design full-length moulded chafing rings cannot be used in hubs carrying dash numbers over 400. New design split rings are considered generally interchangeable in all hubs. (Refer to T. O. No. 03-20CC-13.) This is correct in the great majority of hubs. For blade installation instructions and the limits of interchangeability, consult AN 03-20CC-1.

g. In setting the blade angle of Hamilton Standard propellers, allowance in the reference radius at which the angle is measured must be made for the differences caused by different type hubs. The amount to be added to the nominal reference radius of 42 inches or 72 inches, as given in table II, is shown in the following table. For example, in setting the angle of a 6135-15 blade installed in a 2B20 hub, the angle will be measured at the 42-inch radius, while the angle of a 6497A-6 blade installed in a 24F60 hub will be measured at the 72-7/16 inch radius.

HUB	ADDITION TO NOMINAL REFERENCE RADIUS
2B20	0
2D30	0
12D40	7/16 inch
34D0	5/16 inch
3E50	1/8 inch
23D40	5/32 inch
33D50	7/16 inch
23E50	1/8 inch
23F60	5/32 inch
24D50	13/16 inch
24F60	7/16 inch

h. On airplane types using standard cam and faired knee cam propellers with different minimum angle settings, the same type hub should be installed on all engines of one airplane. If, in an emergency, it is necessary to combine both types of propellers on the same airplane, the minimum angle of all propellers should be set as close to identical as possible. This will ordinarily require raising the minimum angle used with faired knee cam propellers to that specified for standard cam propellers.

### 4. AEROPRODUCTS PROPELLERS.

The term "Regulator Number" in the fifth column of table II applies to Aeroproducts propellers and gives the part number of the regulator specified for the given model propeller. The blade part number will be found in the last column.

TABLE I  
PROPELLERS FOR SERVICE AIRPLANES - NONCONTROLLABLE

AIRPLANE	INITIAL INSTAL ENGINE	HUB ASSEMBLY PART NO.	BLADE DRAWING NUMBER	BLADE SHANK SIZE NO.	PROP. SHAFT SIZE NO.	NO. OF BLADES	DIAMETER	BLADE ANGLE SETTING AT 42 IN. STATION (DEGREES)
AIRPLANE ADVANCED TRAINING AT-17B & UC-78B	R-755-9	41G2325-9	43K13605 or A707-80 44K24605 C707-80	20	2	7 ft. 6 in.	Fixed Pitch	
AT-17C & UC-78C	R-755-9	90205				7 ft. 6 in.	Fixed Pitch	
TRANSPORT UC-61	R-500-1	Warner 8599 or 8530	86CA69 43K14699			7 ft. 2 in.	Fixed Pitch	
UC-61A	165D							
UC-61E	6-410-B1	43D4385 or Warner 8808	44K13397					
UC-61K		43D4385 or Warner 8808	44K18151			7 ft. 2 in.	Fixed Pitch	
				20	2	8 ft. 6 in.	Fixed	
RESTRICTED	LIAISON L-1 (See Observation, Table II)	0-170-3	Cont Motors A3746	72C42 43K10107	0	2	6 ft. 0 in.	Fixed
L-2, A, B, M								
L-3, B, C	0-170-3	Cont Motors A3746	72C42 43K10107	0	2	6 ft. 0 in.	Fixed	
L-4, A, B	0-170-3	Cont Motors A3746	72C42 43K10107	0	2	6 ft. 0 in.	Fixed	
L-4C	0-145-8	Cont Motors A3746	72C42 43K10107	0	2	6 ft. 0 in.	Fixed	
L-4F	A-75-8	Cont Motors A3746	72C42 43K10107	0	2	6 ft. 0 in.	Fixed	
L-4J	0-170-3	R002-100	R002-205		2	6 ft. 0 in.	Fixed	
L-4J	0-170-3	Annesly 7501	7522		2	6 ft. 0 in.	Controllable	
L-5, B, C, E	0-435-1	Warner 8808	44K15005	20	2	6 ft. 0 in.	Controllable	
L-6	0-200-5	Kinner 8031	44K7797LP (Laminated Process)		2	7 ft. 1 in.	Fixed	
				10	2	6 ft. 4 in.	Fixed	
OBSERVATION AMPHIBIAN								
OA-3	R-975-E	0161687 0171787	35G1907-12 0154613	1	30	2	9 ft. 0 in.	16.0
OA-14	6-440-5	7900	82RS72	1		2	9 ft. 0 in.	15.7
PRIMARY TRAINING								
PT-13	R-680-5	SS-105A, B & C SS-105A, B & C SS-105A, B & C 41D5926	SS-130A-6 SS-130B-6 SS-130C-6 SS-135-6 F0220806	0 0 0 0 0	20 2 2 2 2	2	8 ft. 6 in. 8 ft. 6 in. 8 ft. 6 in. 8 ft. 6 in. 8 ft. 6 in.	11.7 11.7 11.7 11.7 11.5

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TABLE I (Cont)

<u>AIRPLANE</u>	<u>INITIAL INSTAL ENGINE</u>	<u>HUB ASSEMBLY PART NO.</u>	<u>BLADE DRAWING NUMBER</u>	<u>BLADE SHANK SIZE NO.</u>	<u>PROP. SHAFT SIZE NO.</u>	<u>NO. OF BLADES</u>	<u>DIAMETER</u>	<u>BLADE ANGLE SETTING AT 42 IN. STATION (DEGREES)</u>
PT-13A	R-680-7	SS-105A, B & C	SS-130C-6	0 20	20	2	8 ft. 6 in.	11.7 Fixed
PT-13B	R-680-11	31-1776 41D5926 41G2325	35G1907-12 SS-136-6, F0220806 44K9705, 98AA64	1 0 0	20 20 20	2 2 2	9 ft. 0 in. 8 ft. 6 in. 8 ft. 6 in.	11.0 11.7 11.7
PT-17	R-670-5	41D5926 41G2325	SS-135-6 42K19593	0 20	20	2	8 ft. 6 in. 8 ft. 6 in.	14.0 11.7
PT-18 PT-19 & 19A	R-755-7 L-440-1	41D5926 Warner 7900 8599 41G2325-9	SS-135-6 86R61 42K15729 43K15131 43K26463	20 20	20	2 2	8 ft. 6 in. 7 ft. 6 in.	12.7 Fixed
PT-19B				20		2	7 ft. 2 in.	Fixed
PT-20A	XL-365-1	2329 R-440-1 610 (Kinner)	80R1 86	10		2	6 ft. 8 in.	Fixed
PT-22	R-540-1	41G2325 (AC) 41G2325 (AC)	90HASP90 42K12335 90HASP90M 42K12335M 43K26215	20 20 20 20		2 2 2 2	7 ft. 6 in. 7 ft. 6 in. 7 ft. 2 in. 7 ft. 2 in.	Fixed Fixed Fixed Fixed
PT-23	R-670-4	42G23325-9	43K19181 90LA-78	20		2	8 ft. 2 in.	Fixed
TARGET								
PQ-8	0-200-1	Integral Crankshaft Flange	70AB56 43J17934	0 0		2 2	5 ft. 10 in.	Fixed
PQ-8A	0-290-1	Integral Crankshaft Flange	72EB67 44K6611 72EC-66	0		2	6 ft. 0 in.	Fixed
PQ-12A PQ-14 PQ14A, B	0-435-2 0-300-1 0-300-11	43D24385	72HAS 66CA63 66DA63	20 0 0		2 2 2	6 ft. 0 in. 5 ft. 6 in. 5 ft. 6 in.	Fixed Fixed Fixed

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TABLE II

PROPELLERS AND GOVERNORS FOR SERVICE AIRPLANES - CONTROLLABLE

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION MIN. MAX. FEA	GOV GOVERNOR	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
BOMBARDMENT (LIGHT)									
RA-17	R-1535-11	3D40-57-6101A-6 -201- -225-	9 ft. 6 in.	26	18.3	25	None		See note 1
RA-17A	R-1535-13								
A-20 & P-70	R-2600-11	23E50-343-6193A-3 -473-6393A-3 -407-6193A-3 -483-6393A-3	11 ft. 4 in.	23-98	32	90	4H8-G1C 4H8-G15G	.992:1	2400
RA-20A	R-2600-3	23E50-343-6193A-3	11 ft. 4 in.	23-98	30	90	4H8-G1C	.992:1	2400
A-20B	R-2600-11	-381-6193A-3 -407-6193A-3 -483-6393A-3 -473-6393A-3					4H8-G15G		See note 2
A-20C & RDB-7B	R-2600-A5B0	23E50-473-6153A-21	11 ft. 4 in.	18-98	27	88	4K11-G1J 4K11-G2T	1:1	2400
P-70A	R-2600-23						4K8-G15G		See note 3
A-20G & P-70B	R-2600-23	23E50-473-6353A-21	11 ft. 4 in.	18-98	27	88	4K8-G15D 4K8-G23G 4K8-G23G-1 4K8-G30M 4K8-G15G	1:1	2400
	R-2600-A5B0						4K8-G15D 4K8-G23G 4K8-G23G-1 4K8-G30M		
A-20H	R-2600-29	23E50-473-6353A-21	11 ft. 4 in.	18-98	25	88	4K11-G1J 4K11-G2T	.992:1	2580
A-20J	R-2600-23	23E50-505-6353A-21		26-106	25	88	4K8-G15D 4K8-G23G 4K8-G23G-1 4K8-G30M		
A-20K	R-2600-29/23						4K8-G15G		
RA-24	R-1820-52	3E50-345-6103A-9	10 ft. 10 in.	39	19	39	1P12-A 4V19-G	1.106:1	2600
RA-24A	R-1820-52	3E50-111-6511A-9 -143-	10 ft. 10 in.	17 1/2-97 1/2	19.5	48.5	4G10-G1C	1.106:1	2765
RA-24B	R-1820-60	3E50-345-6103A-9 -143-	10 ft. 10 in.	17 1/2-97 1/2	20.5	48.5	1P12A 4G10-G1C 4G10-G1C	1:1	2500
RA-25A	R-2600-8	05325D-A28-89324-12	12 ft. 0 in.	109874-61- 186.5	21.7	51.7	100008-1D -1G	.992:1	2775
A-26B, C	R-2800-27	23E50-473-6359A-18 -505 -573	12 ft. 7 in.	26-106	28	90	4K8-G15G 4K8-G15D 4K8-G23G 4K8-G23G-1 4K8-G30M 4K8-P30M	1:1	2700
A-28	R-1830-49	3E50-345-6157A-0 23E50-474-6379A-0	10 ft. 7 in.	39	19	39	1Q12-A 4K11-GOE	.958:1	2585
			10 ft. 7 in.	10-90	17	88	4K11-B0E 4K11-GOU		
RA-28A	R-1830-67	23E50-473-6379A-0	10 ft. 7 in.	18-98	26	88	4K11-G0L 4K11-GOU	.958:1	2585
RA-29 & RA-29B	GR-1820-0205A	23E50-471-6379A-0	10 ft. 7 in.	18-98	22	88	4K11-G0L	1:1	2500
RA-29A	R-1820-37						4K11-GOU		
RA-30	R-2600-19	23E50-473-6353A-12	12 ft. 1 in.	18-98	25	88	4L11-G0R	.992:1	2580
A-30A, -B,	R-2600-13	23E50-473-6353A-12	12 ft. 1 in.	18-98	23	88	4K8-G15D	.992:1	2580
A-30-C	R-2600-29						4K8-G15G 4K8-G23G 4K8-G23G-1		
RA-31	R-2600-19	23E50-489-6359A-24	12 ft. 1 in.	18-51	26	51	4H10-C9 4G10-G19D	1:1	2400

TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION MIN. MAX. FEA	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
RA-33 (SA-5)	R-1820-87	C532D-F46-89306-16S	10 ft. 6 in.	101498-57-190	20.4	45.4	100008	1:1 2500 104882-8
RA-35A	R-2600-19	23E50-489-6359A-24	12 ft. 1 in.	18-51	23	51	4G10-G19D	.992:1 2580
A-36A	V-1710-F21I	C532D-F92-89303-27W	10 ft. 9 in.	101498-71-176	23	58	100008-1	.845:1 2535
A-36A-1	V-1710-F21h	C532D-F78-89303-27W	10 ft. 9 in.	101498-71-176	23	58	100008-1	.845:1 2535
<b>ADVANCED TRAINING</b>								
AT-6	R-1340-47	12D40-211-6101A-12	9 ft. 1 in.	27	13	27	1M12-G	1.144:1 2570
AT-6A, B, & C	R-1340-AN-1	12D40-201-6101A-12	9 ft. 1 in.	27	11	27	1M12-A	1.144:1 2570
AT-7	R-1340-49	-211-	8 ft. 3 in.	29	14	29	1M12-G	1.144:1 2570
	R-985-AN-1	2D30-235-6167A-15	8 ft. 3 in.	29	14	29	IA2-G5	1:1 2300
	R-985-25						IA2-A5	
AT-8	R-680-9	2B20-229-6135A-15	7 ft. 9 in.	27	12	27	1P12-A	1.040:1 2390
AT-9	R-680-9	2B20-229-6135A-15	7 ft. 9 in.	28	13	28	1Q12-G1	1.040:1 2390
							1Q12-A1	
AT-10	R-680-9	2B20-241-6135A-9	8 ft. 3 in.	26	11	26	1Q12-G1	1.040:1 2390
							1Q12-A1	
AT-11	R-985-AN-1	2D30-235-6167A-15	8 ft. 3 in.	28	13	28	1A2-G5	1:1 2300
AT-12	R-1830-45	3E50-345-6227A-0	10 ft. 6 in.	45	25	45		
AT-13	R-1340-AN-1	12D40-201-6101A-12	9 ft. 0 in.	26	11	26	1M12-G	1.144:1 2574
	-211-							
AT-15	R-1340-AN-1	12D40-211-6101A-12	9 ft. 0 in.	28	13	2	1M12-G	1.144:1 2574
AT-16, A	R-1340-AN-1	12D40-211-6101A-12	9 ft. 0 in.	27	11	27	1M12-G	1.144:1 2574
AT-17 & AT-17A	R-755-9	2B20-229-6135A-15	7 ft. 9 in.	28	13	28	1A4-G5 & 1A4-A5	1:1 2200
AT-17B	R-755-9							
AT-17C	R-755-9							
AT-18	R-1820-87	23E50-471-6379A-0	10 ft. 7 in.	18-98	22	88	None 4K11-GOL 4K11-GOU	See Table 1 See Table 1
AT-21	V-770-11	2D30-247-6101A-12	9 ft. 0 in.	27	12	27	1M12-G	.819:1 2580
<b>BOMBARDMENT (MEDIUM AND HEAVY)</b>								
RB-10	R-1820-17	P-432-2B702SC2	11 ft. 3 in.		26	37	None	
		P-432-2B700SC2	11 ft. 6 in.		26	37		
RB-10B	R-1820-33	P-5315-B612SC1.5 B610SC1.5 B600SC1.5	11 ft. 0 in.		26	35	None	
RB-17B	R-1820-51	23E50-335-6353A-18 -389- -471-	11 ft. 7 in.	10-90	17	88	4K11-GOJ 4K11-BOB 4K11-GOT 4K11-GOJ 4K11-GOT	1.109:1 2440
RB-17C	R-1820-65	23E50-379-6353A-18	11 ft. 7 in.	18-98	21	88	4K11-GOT	1:1 2500
RB-17D	R-1820-65	-393-						
RB-17E	R-1820-87	-473-						
B-17F & G	R-1820-97	23E50-473-6477A-0 -505-6477A-0 -573-	11 ft. 7 in.	18-98	20	88	4G8-G23G-1 4G8-G30M	1:1 2500
RB-18	R-1820-45	3E50-343-6105A-18	11 ft. 7 in.	35	16	34	1A1-A5 4K11-GOL 4K11-BOB 4K11-GOU 4K11-GOU	1.168:1 2570
RB-18A	R-1820-53	23E50-471-6353A-18	11 ft. 7 in.	10-90	17	88	4K11-BOB 4K11-GOU 4K11-GOU	1.106:1 2440
RB-23	R-2600-3	23E50-341-6159A-6 -473-6359A-6	13 ft. 7 in.	18-98	23	93	4K11-B1B 4K11-B2U	1:1 2400
RB-24A	R-1830-33	23E50-337-6153A-12 -391-6153A-12 -473-6353A-18	12 ft. 1 in.	18-98	22	88	3L11-00D 3L11-AOT	.958:1 2590
RB-24B & RB-24C	R-1830-41	23E50-391-6153A-18 -473-6353A-18	12 ft. 1 in.	18-98	22	88	3L11-00D 3L11-AOT	.958:1 2590

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TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION MIN MAX. PEA	GOV GOVERNOR	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
B-24D	R-1830-65 R-1830-43	23B50-391-6353A-18  -473-6477A-0 -505-6477A-0	11 ft. 7 in.	18-98	18 88	3L11-A0J 3L11-00J 3L11-A0T 3G8-A23G-1	.958:1	2590	See note 6
RB-24E B-24G, H, J	R-1830-43 R-1830-43/45/ 65	23B50-473-6477A-0  -505-6477A-0	11 ft. 7 in.	18-98	18 88	3G8-A23G-1	.958:1	2590	See note 8
B-24K	R-1830-75	-573-	11 ft. 7 in.	18-98	18 88	3G8-B23G-1 3G8-B30M 3G8-C30M	.992:1	2580	See note 9
RB-25A, B	R-2600-9	23B50-333-6359A-18	12 ft. 7 in.	18-98	22 90	4L11-G1J 4L11-G15D 4L11-B2T 4G8-G23G-1	.992:1	2580	See note 9
B-25C, B-25D	R-2600-13	-473-	12 ft. 7 in.	18-98	22 90	4L11-G15D 4G8-G15D 4G8-G15G 4G8-G23G 4G8-G23G-1	.992:1	2580	See note 9
B-25G, H and J	R-2600-13	23B50-473-6359A-18 -505-	12 ft. 7 in.	18-98	22 90	4L11-G15D 4G8-G15D 4G8-G15G 4G8-G23G 4G8-G23G-1	.992:1	2580	See note 9
RB-26 TB-26	R-2800-43	C543S-C18-814-3C3-18 814-Cc3-18 814-3C3-18	13 ft. 6 in.	102536- 104.5-6.5	*17 *47	*87 100008-2	1:1	2700	102878-6 See notes 10, 19, and 28
RB-26A & B-26B	R-2800-43	C543S-C4-814-3C3-18 C16-	13 ft. 6 in.	109819- 104.5-6.5	*17 *47	*87 100008-2	1:1	2700	102878-2 10, 19 and 28 109123-2 10, 19, 25 and 28
RB-26A-1	R-2800-43	C543S-C4-814-3C3-18	13 ft. 6 in.	109819- 104.5-6.5	*17 *47	*87 100008-2	1:1	2700	102878-2 10, 19 and 28
B-26B-1	-43	-C12	13 ft. 6 in.	109819- 104.5-6.5	*17 *47	*87	2700	111071-2 10, 19 and 28	
B-26B-2	-41	-C16	13 ft. 6 in.	109819- 104.5-6.5	*17 *47	*87	2700	109123-2 10, 19, 25 and 28	
B-26B-3	-43	-C16					2700	109123-2 10, 19, 25 and 28	
B-26B-4	-43	-C16					2700	109123-2 10, 19, 25 and 28	
B-26B-10	-43	-C12					2700	111071-2 10 and 19	
B-26C, F & G	R-2800-43	C543S-C12-814-3C3-18 C543S-C10-C3821306	13 ft. 6 in.	109819- 104.5-6.5	*17 *47	*87 100008-2	1:1	2700	111071-2 10 and 19
JM-1		C543S-C28-814-3C3-18		109819- 104.5-6.5					
YB-29, B-29, & B-29A		24F60-33-6497A-6 -35-6521A-6 -35-6521A-6 -43-A6521A-6 -73-B6521A-6	16 ft. 7 in.	1.25-101.25					See note 25 See note 26
RLB-30	R-1830-S3C4G	C532D-F22-89303-18	11 ft. 6 in.	109874-65.5- 135	21.5 54.5	89.5 100005-20	.958:1	2587	104882-8
B-32	R-3350-21 -23-	C644S-A24-1016-4C4-18	16 ft. 8 in.	115811-4- 114.5-228-117					

REVERSE

\$15.7	\$17	\$57	\$84.7	102750-2 (Alternator)	1:1	1000 Low to 2800 High (Master Motor Range)	(Power Unit 111978- 1,115996-4) (Syn- chronizer Master Unit 110002-20)
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TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION	GOV GOVERNOR	GOV DRIVE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
RB-34, A	R-2800-31	23E50-473-6477A-12	10 ft. 7 in.	26-106	26 88	4G8-G15D 4K11-G1E 4G8-G23G-1 4K11-G2U	1:1	2700
RB-37	R-2800-31	23E50-473-6477A-12	10 ft. 7 in.	26-106	26 88	4G8-G15D 4K11-G1E 4K11-G2U	1:1	2700
BASIC COMBAT BC-1	R-1340-47	12D40-201-6101A-12 -211-	9 ft. 1 in.	27	11 27	1M12-A	1.144:1	2580
BC-1A	R-1340-47	12D40-201-6101A-12 -211-	9 ft. 1 in.	27	11 27	1M12-A	1.144:1	2580
BASIC TRAINING BT-9A	R-975-7	2D50-37-6107A-0	9 ft. 0 in.	18	13 17.5	None		
BT-9B, C & D	R-975-7	2D50-233-6101A-12 -207-	9 ft. 0 in.	19	13.5 18	None		
BT-10	R-1340-41	12D40-5-6101A-12	9 ft. 1 in.	24	15.5 22	None		
BT-12	R-985-AN-1	2D50-227-6101A-12	9 ft. 1 in.	20	12.5 18.5	None		
BT-13A	R-985-AN-1	2D50-227-6101A-12	9 ft. 1 in.	20	12.5 18.5	None		
BT-13B	R-985-AN-3	2D50-259-42K13717	9 ft. 0 in..	21	13.5 19.6	None		
BT-13B	R-985-25	2D50-259-42K13717	9 ft. 0 in.	21	15.5 19.6	None		
BT-14 & BT-14A	R-985-11A R-985-25/27	2D50-227-6101A-18	8 ft. 6 in.	21	13.5 19.6	None		
BT-15	R-975-11	2D50-233-6101A-12	9 ft. 0 in.	20	14.5 19.5	None		
					12.4 18.3	None		
* Angle Setting at 54 In. Station † Angle Setting at 72 In. Station								
CARGO AND COMBAT C-32	R-1820-25	55014-B4-650-Ccl.5-6 -652-Ccl.5-6	11 ft. 6 in.	89374-38-160	25 40 88.6	100001-3	1.328:1	2600
C-33	R-1820-25	C5315S-C5-652-Ccl.5-6 C5315S-D26-652-101.5-6	11 ft. 6 in.	89374-43-162 101498-43-162	26.7 46.7 88.6	100001-3 100001-3B	1.328:1	2600
C-39	R-1820-55	3E50-65-6111A-6 23E50-335-6353A-18 -471-	11 ft. 6 in. 11 ft. 7 in.	34 10-90	25.5 16 88	None 4B6-C4	1.168:1	2435
UC-40, A & B	R-985-17	2D50-237-6101A-12 -111-	9 ft. 0 in.	24	9 24	1A2-G5	1:1	2300
UC-40D	R-985	2D50-211-6101A-12 -237-	9 ft. 0 in.	26	11 26	1A2-G5	1:1	2300
C-41 & A	R-1830-21	23E50-337-6159A-30T -473-6359A-30T	11 ft. 7 in.	10-90	20 90	4B6-C5 4K11-B1	.964:1	2600
C-42	R-1820-55	23E50-335-6153A-18 -473-	11 ft. 7 in.	10-90	16 88	4B6-4	1.106:1	2435
UC-43	R-985-AN-1	2D50-235-6167A-15	8 ft. 3 in.	29	14 29	1A2-G5	1:1	2300
UC-43A	R-975	2D50-235-6167A-15	8 ft. 3 in.	29	14 29	1A2-G5	1:1	2300
UC-43D	L-5	2B20-209-6135A-9	8 ft. 3 in.	20	14.5 20	1A2-G5	1:1	2300
C-45, A & B	R-985-AN-1	2D50-235-6167A-15	8 ft. 3 in.	29	14 29	1A2-A5	1:1	2300
C-46	R-2800-43	23E50-473-6491A-0	15 ft. 1 in.	10-90	*10 *85	4H8-C8D 4H8-G15G-1	1:1	2700
C-46A	R-2800-51	R-2800-51						See note 13
C-46A-1CU	R-2800-51	C543S-C28-8143C3-18	13 ft. 6 in.	109319- 104.5-6.5	*17° *47° *87	100008-2H	1:1	2700
C-47	R-1830-92	23E50-473-6353A-18	11 ft. 7 in.	18-98	18 88	4K11-G0J 4K11-G0T	.958:1	2590

111071-2 See note  
11 and 25  
See note 21

TABLE II (Cont)

AIRPLANE	INITIAL INSTAL. ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION MIN. MAX. FEA	GOVERNOR	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
C-47A C-47B	R-1830-92 R-1830-90B	23E50-473-6477A-0 -505- -573-	11 ft. 7 in.	10-90 14-94 14-94	16 88 16 88 16 88	4G8-G15D 4G8-G15D 4G8-G15G 4G8-G23G 4G8-G23G-1 4G8-G30M 4K11-FOJ 4K11-GOT	.958:1	2590	
C-48, B, C C-48A	R-1830-S1C3-G R-1830-92	23E50-473-6353A-18 -359-	11 ft. 7 in.	10-90	18 88	4K11-FOJ 4K11-GOT	.958:1	2590	
C-49	R-1820-71	23E50-379-6229A-18 -393-6353A-18 -473-	11 ft. 7 in.	10-90	16 88	4K11-FOJ 4K11-GOT	.958:1	2590	See note 15
C-49A, B, C C-49D C-49E C-49F C-49H C-49J, K C-50 & A	R-1820-71 R-1820-71/G2E R-1820-G2E R-1820-G102A R-1820-G102A GR-1820-G202A R-1820-85	23E50-391-6353A-18 23E50-391-6353A-18 23E50-391-6353A-18 23E50-391-6153A-18 23E50-389-6153A-18 -473- 23E50-389-6153A-18 -473-	11 ft. 7 in.	10-90	16 88	4K11-GOJ 4K11-GOT	1.106:1	2500	
C-50B	R-1820-81	23E50-389-6153A-18 -473-	11 ft. 7 in.	10-90	16 88	4K11-GOJ 4K11-GOT	1.106:1	2590	
C-50C & D	R-1820-79	23E50-389-6153A-18 -473-	11 ft. 7 in.	10-90	16 88	4K11-GOJ 4K11-GOT	1.106:1	2590	
C-52 & A	R-1830-92	23E50-391-6353A-18 -473-	11 ft. 7 in.	10-90	18 88	4K11-GOJ 4K11-GOT	.958:1	2590	
C-53C	R-1830-92	23E50-473-6353A-18	11 ft. 7 in.	10-90	18 88	4K11-GOJ 4K11-GOT	.958:1	2590	See note 21
C-53D	R-1830-92	23E50-473-6477A-0	11 ft. 7 in.	10-90	16 88	4G8-G15D 4G8-G15G 4G8-G23G 4G8-G23G-1	.958:1	2590	
C-54	R-2000-D3G	33D50-79-6457A-0	13 ft. 1 in.	17.5-97.5	24.5 94.5	4L11-G1J 4L11-G2T	.958:1	2590	See note 14
C-54A, B,C,D,E, and F	R-2000-7	23E50-473-6507A-0 -505-6507A-0 -573-6507A-0	13 ft. 1 in.	18-98	24 93	4G8-G15D 4G8-G15G 4G8-G23G 4G8-G23G-1 4G8-G30M	.958:1	2590	
C-56	R-1820-89	23E50-471-6339A-12	10 ft. 7 in.	10-90	20 88	4K11-GOL	1.106:1	2590	
C-57	R-1830-S1C3G	23E50-473-6339A-12	10 ft. 7 in.	18-98	18 88	4K11-GOU	.964:1	2600	
C-59	R-1690-25	23E50-473-6339A-12	10 ft. 7 in.	10-90	18 88	4K11-GOL	1.067:1	2670	
C-60 & A	R-1820-87	23E50-471-6339A-12 -6379A-0 -6477A-12	10 ft. 7 in.	18-98	22 88	4K11-GOL 4G8-G15F 4K11-GOU	1:1	2500	See notes 15, 9 & 29
C-64 & C-64A	R-1340-AN-1	12D40-211-6101A-6 12D40-211-6101A-12	9 ft. 6 in. 9 ft. 0 in.	20 23	9.5 19 11 21	4G8-G23J-1 1M12-G	1.144:1	2580	See note 18

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TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION			GOV GOVERNOR	GOV DRIVE RPM SETTING FOR TAKE-OFF	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
					MIN.	MAX.	FEA				
UC-67	R-2600-3	23E50-341-6159A-6 -473-	13 ft. 7 in.	18-98	23	93		4K11-B1B 4K11-B2U	1:1	2400	
C-69	R-3350	33E60-41-6491A-0	15 ft. 2 in.	10-90	14	84		3G8-A23G-1	1:1	2800	
C-73	R-1340-S1H1-G	23D10-35-6363A-0	10 ft. 1 in.	10-90	23	88		LB15-L6C	1:1	2250	
C-76	R-1830-92	23E50-473-6477A-0	11 ft. 7 in.	10-90	16	88		LG8-G15D LG8-G15G LG8-G23G-1	.958:1	2590	See note 22
UC-78	R-755-9	2B20-251-6135A-15	7 ft. 9 in.	28	13	28		1A4-G5	1:1	2200	
C-87	R-1830-43	23E50-391-6353A-18 -473-6477A-0 -505-6477A-0 -573-6477A-0	11 ft. 7 in.	18-98 14-94	18	88		3L11-A0J 3L11-00J 3L11-AOT 3G8-A23G-1 3G8-B23G-1 3G8-B30M 3G8-C30M	.958:1	2590	See note 6
C-105	R-1830-11	23E50-391-6477A-0 -473-	11 ft. 7 in.	18-98	20	90		3L11-00J 3L11-AOT	.958:1	2580	
PHOTOGRAPHIC F-2 F-3 RF-4	R-985-19	2D30-235-6167A-15	8 ft. 3 in.	29	14	29		1A2-A5	1:1	2100	
	R-2600-11	23E50-407-6193A-3 -473-6393A-3	11 ft. 4 in.	23-98	32	90		4H8-B1A 4H8-B8G-1	1:1	2400	
	V-1710-27R	C-532D-F40-89303-18	11 ft. 6 in.	101498-71- 132.5 109874-68- 138.5	20.3	55.3	87.5	100008-1	.845:1	2535	108328-10 See note 16
	-29L	-F39-88996-18	11 ft. 6 in.	101422-71-135 109-876-68-139	20.3	55.3	87.5	100008	.845:1	2535	108328-9
	-27R	-F58-89303-18	11 ft. 6 in.	101498-71- 132.5 109874-68- 138.5	20.3	55.3	87.5	100008-1	.845:1	2535	106845-30
	-29L	-F55-88996-18	11 ft. 6 in.	101422-71-135 109876-68-139	20.3	55.3	87.5	100008	.845:1	2535	106845-29
	V-1710-49R	C532D-F42-89303-18	11 ft. 6 in.	101498-71- 135.5 109874-68-139	22.7	57.7	87.5	100008-1	.845:1	2535	108328-10 See note 16
	V-1710-53L	C532D-F41-88996-18	11 ft. 6 in.	101422-71-138 109876-68-112	22.7	57.7	87.7	100008	.845:1	2535	108328-9 See note 16
	-49R	-F62-89303-18	11 ft. 6 in.	101498-71- 135.5 109874-68-139	22.7	57.7	87.7	100008-1	.845:1	2535	106845-30 110281-30
	-53L	-F61-88996-18	11 ft. 6 in.	101422-71-138 109876-68-142	22.7	57.7	87.7	100008	.845:1	2535	106845-29 110281-29
↑ # Angles setting at 72 in. Station											
F-5A	V-1710-51R	C532D-F62-89303-18	11 ft. 6 in.	101498-71- 135.5 109874-68-139	22.7	57.7	87.5	100008-1	.845:1	2535	106845-30 See note 16
	-55L	-F61-88996-18	11 ft. 6 in.	101422-71-138 109876-68-142	22.7	57.7	87.5	100008	.845:1	2535	110281-30 106845-29 110281-29
OBSERVATION RO-46A	R-1535-7	3D40-65-6101A-0 -245-	10 ft. 0 in.	29	20	27.5	None				

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TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
RP-39C	V-1710-35	C6315SH-C2-614-1C1.5-21	10 ft. 4-1/2 in.	104534-185.5	•21° •51°	100002-1R	.875:1	2625
P-39D	V-1710-35	C6315SH-C4-614-1C1.5-21	10 ft. 4-1/2 in.	104534-185.5	•21.5 •51.5	100002-1R	.875:1	2625
P-39D-1	V-1710-35	C6315SH-C6-614-1C1.5-21	10 ft. 4-1/2 in.	104534-185.5	•21.5 •51.5	100002-1R	.875:1	2625
P-39D-2	V-1710-63	C6315SH-C12-614-1C1.5-21	10 ft. 4-1/2 in.	104534-185.5	•27.5 •57.5	100002-1L	.926:1	2778
P-39E	V-1710-35	C6315SH-C4-614-1C1.5-21 -C8-614-1C1.5-18	10 ft. 4-1/2 in.	104534-185.5 104534-185.5	•21.5 •51.5 20 50	100002-1R	.875:1	2625
P-39F	V-1710-35	A632S-A1-C20-144-19.5	10 ft. 4-1/2 in.	6500004	18 53			1670
P-39K	V-1710-63	A632S-B1-C20-144-19.5	10 ft. 4-1/2 in.	6500006				1500
P-39L-1	V-1710-63	A632S-A2-C20-144-19.5-B5	10 ft. 4-1/2 in.	6500004	22.5 57.5			See notes 19 and 23
P-39M-1	V-1710-83	A632S-B5-C20-144-19.5	10 ft. 4-1/2 in.	104534-185.5	22.5 57.5	100002-1L	.926:1	2778
P-39N	V-1710-85	C6315SH-C14-614-1C1.5-21 A632S-C1-A20-156-17 -C4-A20	10 ft. 4-1/2 in. 11 ft. 7 in.	104534-185.5 6500101 6500201	•27.5 •57.5 •30 •60 23 58	100002-1L	.926:1	2778
P-39Q	V-1710-35	A632S-C7-A20-156-24M A632S-C4-A20-156-17	11 ft. 0 in. 11 ft. 7 in.	6500201	23 58			See notes 19 and 23
RP-40B	V-1710-33	C532D-F24-89301-3	11 ft. 0 in.	101498-64-183	24.5 54.5	100008-1	.850:1	2550
RP-40C	V-1710-33	C532D-F26-89301-3 -89303-24W	11 ft. 0 in. 11 ft. 0 in.	101498-64-183	21.0 51.0 24.5 54.5	100008-1	.850:1	2550
RP-40D & P-40E	V-1710-39	C532D-F26-89301-3 -89303-24W C532D-F24-89301-3 -89303-24W	11 ft. 0 in. 11 ft. 0 in.	101498-64-183 109874-61-186.5 101498-64-183	21.0 51.0 24.5 54.5	100008-1	.845:1	2535
P-40E-1	V-1710-39	C532D-F66-89301-3 -89303-24W -F52-89301-3 -89303-24W -F86-89303-24W	11 ft. 0 in. 11 ft. 0 in. 11 ft. 0 in. 11 ft. 0 in.	109874-61-186.5 109874-61-186.5 101498-64-183 101498-64-183	21.0 51.0 24.5 54.5 21.0 51.0 21.0 51.0	100008-1	.845:1	2535
P-40F	V-1650-1	C532D-F50-89301-3 -89303-24W C532D-F64-89303-24W	11 ft. 0 in. 11 ft. 0 in. 11 ft. 0 in.	109874-61-186.5 101498-64-183 109874-61-186.5	21.0 51.0 28 58 26.4 56.4	100008-36	.828:1	2485
RP-40G	V-1710-33	C532D-F26-89301-3 -89301-3	11 ft. 0 in. 11 ft. 0 in.	101498-64-183 101498-64-183	28.0 58.0 24.5 54.5	100008-2	.850:1	2535
P-40K	V-1710-73	C532D-F66-89301-3 -89303-24W	11 ft. 0 in. 11 ft. 0 in.	101498-64-183 101498-64-183	21.0 51.0 21.0 51.0	100008-1	.845:1	2535
P-40L	V-1650-1	C532D-F64-89303-24W -89303-24W F96-89303-24W	11 ft. 0 in. 11 ft. 0 in. 11 ft. 0 in.	101498-64-183 101498-64-183 101498-64-183	26.4 56.4 28.0 58.0 24.5 54.5	100008-3	.828:1	2485
P-40M	V-1710-81 V-1710-81/99/115	C532D-F84-89303-24W -89301-3	11 ft. 0 in.	101498-64-183 109874-61-186.5	28.0 58.0 24.5 54.5	100008-1	.845:1	2535

\* Angles setting at 41-1/4 in. station

TABLE II (Cont.)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION			GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
RO-47A	R-1820-49	3E50-219-6111A-6 -313-6105A-24	11 ft. 0 in.	36	16	36	1A1	1.106:1	2430	See note 9
RO-47B	R-1820-57	3E50-357-6111A-6 -219-	11 ft. 0 in.	34	20	34	1A1-45	1.106:1	2540	
L-1	R-680-9	2B20-225-6241A-6	8 ft. 6 in.	20	16	36	1A1-G5	1.106:1	2540	
RO-52	R-1340-51	3D40-271-6167A-18	8 ft. 0 in.	28	11	28	1Q12-A	1.04:1	2390	
OBSERVATION AMPHIBIAN							1Q12-A	1.144:1	2590	
OA-5	R-1820-45	23E50-335-6153A-18 -473-	11 ft. 7 in.	10-90	16	87	4K11-GOJ	1.168:1	2570	
OA-9	R-985-17	2D30-235-6237A-12 -209-	8 ft. 6 in.	22	12	22	4K11-GOT	1:1	2300	
OA-10	R-1830-82	23E50-473-6353A-12	12 ft. 1 in.	10-90	17	88	4K11-GOJ	.958:1	2600	
FIGHTER							4K11-GOT			
RP-36A	R-1830-13	C5315S-512-Ccl.5-12	10 ft. 0 in.	89374-48.2-158-8	20	45	89999	1:1	2700	89379-2
	R-1830-17	C532D-F44-89301-15 F18-89306-228		101498-61-183	17.5	47.5	89999-1			102600-16
RP-36G	GR-1820-Q205A	C532D-F2-89306-228	10 ft. 0 in.	101498-61-183	18	48	89999-1			102600-16
RP-38	V-1710-27R	C5315S-D4-614-Ccl.5-6	11 ft. 6 in.	101498-57-190	23	48	89999-1	1:1	2500	104882-8
				101498-58-158	22.5	57.5	88	.845:1	2535	104044-8 See note 16
				109874-55.5-162						
				101422-58-160.5	22.5	57.5	88	100008	.845:1	2535
				109876-55.5-164.5						104044-7
RP-38D	V-1710-27R	C5315S-D4-614-Ccl.5-6	11 ft. 6 in.	101498-58-158	22.5	57.5	88	100008-1	.845:1	2535
				109874-55.5-162						104044-8 See note 16
				101422-58-160.5	22.5	57.5	88	100008	.845:1	2535
				109876-55.5-164.5						104044-7
				101498-58-157	21.5	56.5	88	100008-1	.845:1	2535
				109874-55.5-161						108328-8
				101422-58-159.5	21.5	56.5	88	100008	.845:1	2535
				109876-55.5-163.5						108328-7
RP-38E	V-1710-27R	C532D-F40-89303-18	11 ft. 6 in.	101498-71-132.5	20.3	55.3	87.5	100008-1	.845:1	2535
				109874-68-138.5						108328-10 See note 16
				101422-71-135	20.3	55.3	87.5	100008	.845:1	2535
				109876-68-139						108328-9
				101422-71-135	20.3	55.3	87.5	100008	.845:1	2535
				109876-68-139						106845-29
				101498-71-132.5	20.3	55.3	87.5	100008-1	.845:1	2535
				109874-68-138.5						106845-30
P-38F	V-1710-49R	C532D-F42-89303-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						108328-9
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						106845-30
				101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						110281-30
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						110281-29
P-38G	V-1710-51R	C532D-F62-89303-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						106845-30 See note 16
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						110281-30
				101498-71-135.5						106845-29
				109874-68-139						110281-29
P-38H, J	V-1710-89R	C532D-F62-89303-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						106845-30 See note 16
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						106845-29
P-38L	V-1710-91L	-F61-88996-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						110281-29
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						110281-29
P-38H, J	V-1710-111R	C532D-F62-89303-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						106845-30 See note 16
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						110281-30
P-38L	V-1710-113L	-F61-88996-18	11 ft. 6 in.	101498-71-135.5	22.7	57.7	87.5	100008-1	.845:1	2535
				109874-68-139						106845-29
				101422-71-138	22.7	57.7	87.5	100008	.845:1	2535
				109876-68-142						110281-29

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TABLE II (Cont)

AIRPLANE	INITIAL INSTAL ENGINE	PROP. ASSY HUB BLADE	DIAMETER	CAM NO., REG NO., STOP RING, RANGE OR INDEX	BLADE ANGLE SETTINGS AT 42 IN. STATION MIN. MAX. FEA	GOV DRIVE RATIO	GOV SPINDLE RPM SETTING FOR TAKE-OFF	MISCELLANEOUS POWER UNIT PART NO. NOTE REFERENCES
P-40R	V-1710-81	0532D-F60-89301-3 -F64-89303-2LW -F64-89303-2LW	11 ft. 0 in.	101498-64-183	24.5 54.5	100008-1	.845:1 2535	10645-28 See notes 30 and 7
RP-43	R-1830-35/37	C532S-C18-714-1C2-24	11 ft. 0 in.	101498-56.5-190.5	22.1 52.1	100006C	.964:1 2600	102600-16 See note 28
RP-43A	R-1830-49	0532S-C18-714-1C2-24	11 ft. 0 in.	101498-56.5-190.5	22.1 52.1	100006C	.964:1 2600	102600-16
RP-43A-1	R-1830-57	0532D-F58-89303-2L	11 ft. 0 in.	101498-71-176	22.5 57.5	100008G	.958:1 2587	102600-16
RP-47B	R-2800-21	0542S-A6-714-102-12 -A22-	12 ft. 2 in.	109861-1-123-210	**28 **58	100008-2G	1:1 2700	See notes 17 and 19 111070-2 See notes 17 and 19
RP-47C, G, K	R-2800-21	-A34-C2721200	12 ft. 2 in.		**27.3 **57.3			111070-2
P-47D	R-2800-21/63/59	-A10-SPA-1	12 ft. 2 in.		**28. **58.			111070-2
P-47L	R-2800-63	0542S-A120-SPA-3 0542S-A114-836-2C2-18 -A122-836-2C2-18 -A124-SPA3 -A126-SPA5 -A130-SPA5 -A132-SPA5	12 ft. 2 in. 13 ft. 0 in. 13 ft. 0 in. 12 ft. 2 in. 12 ft. 2 in. 12 ft. 2 in. 12 ft. 2 in.	109861-1-123.5-210.5 109861-1-123-210	*17.7 *52.7 *18.5 *53.5 *18.5 *53.5 *17.7 *52.7 *17.7 *52.7 *17.7 *52.7 *17.7 *52.7			111974-2,-4 111974-2,-4 111974-2,-4 111974-2,-4 111974-2,-4 111974-2,-4 111974-2,-4
P-47D	R-2800-21/63/59	24E50-65-6507A-2	13 ft. 0 in.	20-110	28 56	4G10-G19D	1:1 2700	See note 20
* Angles setting at 54 inch station				* Angles setting at 54 inch station				
** Angles setting at 53-1/8 inch station				** Angles setting at 43 inch station				
P-47M & N	R-2800-14	0642S-B40-836-14C2-18R1	13 ft. 0 in.	110900-107.5-72.5	*20.2 *55.2	100008-3G	.964:1 2700	110982-2 See notes 19 and 24
P-51(NA73)	R-2800-57					100008-3J		
P-51(NA73)	V-1710-39	C532D-F32-89301-6	10 ft. 9 in.	101498-71-176 109871-68-180	23 58	100008-1	.845:1 2535	101882-10
P-51A-1	V-1710-81	0532D-F68-89303-27W	10 ft. 9 in.	101498-71-176	23 58	100008-1	.845:1 2535	10645-30
P-51B & P-51C	V-1650-3/7	24D50-65-J6523A-24 -J6487A-24 -K6523A-24	11 ft. 2 in.	18.2-73.2	23.2 65.2	4G10-G21D	.828:1 2485	
P-51D	V-1650-3/7	24D50-65-J6523A-24 -J6487A-24 -K6523A-24 -105-6547A-6	11 ft. 2 in.	18.2-73.2	23.2 65.2	4G10-G21D	.828:1 2485	
P-51D	V-1650-3/7	24D50-65-J6523A-24 -J6587A-24 -K6523A-24 -87-K6523A-24 -105-6547A-6	11 ft. 2 in.	18.2-73.2 18.2-73.2	21.2 65.2 24.2 65.2	4G10-G29G 4G10-G21D	.828:1 2485 .828:1 2485	
P-51K	V-1650-3/7	A542-A1-A20-156-24M	11 ft. 0 in.	6500576	22.8 57.8			1430
P-51H	V-1650-9	A542-B1-H20-162-29M5 A542-B2-A2891100	11 ft. 1 in. 11 ft. 0 in.	6500552	23.0 63.0			1430
P-61A	R-2800-10/65	C542S-A56-714-7C2-12	12 ft. 2 in.	109861-1-123-243.5	28. 58. 89.5	100008-2G	1:1 2700	111070-2
P-61C	R-2800-73	C542S-B40-89301-9A C542S-B54-SPA-9A	12 ft. 3 in.	110811-111.5-47	25. 65. 91.7	100008-3J	.964:1 2700	
RP-63	V-1710-47	A642S-D2-A2721107	12 ft. 8 in.	110811-111.5-47	**18.8 **58.8 **85.5	100008-3J	.964:1 2700	
P-63A	V-1710-93	A642S-D1-A20-156-17	11 ft. 7 in.	6500202	24.5 59.5			1345
P-63C	V-1710-117	A642S-D3-A20-156-24M A642S-D1-A20-156-17	11 ft. 0 in. 11 ft. 7 in.	6500202	24.5 59.5			1345
P-63D	V-1710-109	A642S-E1-A20-156-24M	11 ft. 0 in.	6500480	24.5 59.5			1345
P-63E	V-1710-109	A642S-B2-A2891106	11 ft. 6 in.		20. 55.			1220
P-75A	V-3420-23	AD7562-A1-H20C-156-5M5 -H20C-156L-5M5 AD7562-A2-A20A-156-0 -A20A-156L-0	12 ft. 7 in. 13 ft. 0 in.	6500411 (outboard) 6500423 (inboard)	28.7 63.7 (outboard) 28.0 63.0 (inboard) 27.5 62.5 (outboard) 26.0 61.0 (inboard)			1220

## NOTES

1. RA-17 airplanes with R-1535-11A engines use same propeller assemblies as with R-1535-11, except angles set 20 degrees minimum, 25 degrees maximum, 29 degrees index.

2. If 6153A-21 or 6353A-21 blades are used, set angles at 27 degrees minimum, 88 degrees maximum.

3. Certain A-20C airplanes were delivered with 4K11-G0J governors, which cannot be used with fast acting cam propellers. To permit complete interchangeability of propellers on A-20 series airplanes, 4K11-G0J governors removed for any reason from A-20C airplanes will be replaced by 4K11-G1J governors which are suitable for use with standard and fast acting cam propellers.

4. Hydromatic propellers were installed on airplanes, AF No. 42-6732 and subsequent. Accumulator must be used with 4V19-G governor.

5. First 100, A-36 used C532D-F78. No anti-icing. Remainder used C532D-F68 which were changed to -F92. (Refer to T. O. No. 03-20B-25.)

6. 6477A-0 blades can be used only on later airplanes with short ring cowlings. Short cowlings were installed by contractor on airplanes, AF No. 41-23970 and subsequent, except for six airplanes, AF Nos. 42-63752 to 42-63757 inclusive, which have long cowlings. 6477A-0 blades require double capacity governor. 6153A-18 and 6353A-18 blades can be used with single or double capacity governors, and long or short ring cowling.

7. When Curtiss blades, models 89301-3 and 89303-24W are both listed for installation on P-40 series airplanes, either type blade will be supplied, depending upon availability, when replacement propeller assemblies are requested.

8. RB-24E airplanes, AF Nos. 41-28409 to 41-28416 inclusive, and 42-6876 to 42-7005 inclusive, were supplied by contractor with long ring cowlings and cannot use 6477A-0 blades. These airplanes use the same 6153A-18 or 6353-18 blade propellers with the same settings as given for B-24D airplanes.

9. Any propeller listed may be used with either governor listed.

10. RB-26, RB-26A, RB-26A1, RB-26B, B-26B3, and TB-26 airplanes equipped with Curtiss propellers and using engines, models R-2800-5 or R-2800-39 will require blade angle settings of 18 degrees low, 48 degrees high and 86 degrees feather. Airplanes with the afore-mentioned engines will also require governors with a take-off setting of 2600 rpm. Governors, model 100008-2, will be used on all B-26 series airplanes having R-2800-43 engines. However, any of these governors, models 100008-2, 100006-8B or 100006-8C, can be used with the R2800-5 engine. Multiple engine aircraft will have the same model governor installed on each engine. American propeller blades, part No.

C3821306, are interchangeable with Curtiss blades in Curtiss model C543S hubs only in sets of four. It is not permissible to have a propeller assembly consisting of some Curtiss 814-3C3-18 blades and some American blades, part No. C3821306. All propeller assemblies, model C543S, used on B-26 series airplanes (except propeller, models, C543S-C2 and C543S-C18 used on RB26, 12 volts) are interchangeable on other B-26 airplanes.

11. Curtiss electric propellers, model C543S-C10-38213D6, are interchangeable in sets with propellers, model C543S-C28-8143C3-18, on C-46 airplanes. However, propellers, model C543S-C28-8143C3-18, have a higher rate of efficiency and should be used whenever possible.

12. Governor 4B6-C4 can be replaced by 4K13-G by changing the length of the mounting studs on the engine.

13. Early C-46A airplanes have same propeller installation as C-46. When installing Hamilton Standard propeller, place blades in feathered position and set high pitch stop in dome to 83 degrees. (Refer to T. O. No. 03-20CC-18.) When installing dome on barrel, tap blade slightly towards low pitch to mesh gears. Check blade angles by blade shank and barrel marks to insure that gears have meshed in proper relationship.

14. 23E50-473-6507A-0 propeller can be installed on C-54 airplanes if ring cowl is changed to C-54A cowl. Double capacity governor must be used with 23E50-473-6507A-0 propeller.

15. Either blade shown can be used in either hub.

16. Steel bladed and dural bladed propellers can be used interchangeably on any F-4 series, F-5 series, or P-38 series airplanes, provided both propellers of the airplane are replaced. If steel bladed propellers are replaced by dural bladed propellers, a 75-pound weight will be placed in the baggage compartment of the airplane to compensate for the added weight of dural propellers. If steel bladed propellers are used on afore-mentioned airplanes having V-1710-27 and -29 engines, the settings are 21.5 degrees low, 56.5 degrees high, and 88 degrees feather. If steel bladed propellers are used with V-1710-49, -51, -53, and -55 engines, the settings are 22.5 degrees low, 57.5 degrees high, and 88 degrees feather.

17. All Curtiss propeller assemblies for P-47B, C, D, and G airplanes are interchangeable. American propeller blades, part No. C2721200, and A. O. Smith blades, part No. SPA-1, SPA-3, and SPA-5 are interchangeable in C542S hubs with Curtiss blades, part Nos. 714-1C2-12 and 836-2C2-18, provided all four blades are changed. Such procedure also requires a change in blade angles.

18. 6101A-12 blade was installed on later airplanes to increase ground clearance and will be used for replacement if available.

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19. Some Curtiss hollow steel blades when installed in hubs assume a location which does not permit the reference station of the blade to coincide with the propeller radius normally used for checking blade angles. This condition results from dimensional alterations in progressive hub and blade design changes. The following table indicates the radius which should be used for checking blade angles with the various hub-blade combinations listed:

BLADE	HUB	BLADE REFERENCE STATION	PROPELLER RADIUS
614-1C1.5-21	C6315SH	41-1/4 inch	42 inch
614 (except -21)	C6315SH	42 inch	42-3/4 inch
714-1C2	C542S	42 inch	43 inch
C2721200	C542S	42 inch	43 inch
C2871300	C542S	54 inch	54 inch
836-2C2	C542S	54 inch	54 inch
836-14C2-18R1	C642S	54 inch	54 inch
814-1C3	C543S	54 inch	55 inch
814-2C3	C543S	54 inch	54 inch
814-3C3	C543S	54 inch	54 inch
814-4C3	C543S	54 inch	55 inch
C3821306	C543S	52-29/32 inch	54-3/32 inch
SPA-1	C542S	42 inch	43 inch
SPA-3	C542S	53 inch	54 inch
SPA-5	C542S	53 inch	54 inch
SPA-9	C642S	53-1/8 inch	54 inch
SPA-9A	C642S	53-1/8 inch	54 inch
1014 through 1025	C644S	72 inch	73-1/32 inch

20. Anti-icing device assembly, part No. 57963, is omitted from 24E50-65 hub for this airplane. Minimum angle setting of 28 degrees specified permits airplane to be maintained in flight with blades in full low-angle position. Take-off performance is slightly reduced at 28 degrees minimum setting, but is satisfactory for normal operating conditions. Activities operating under conditions requiring maximum take-off performance are authorized to decrease minimum blade angle to not less than 23 degrees. Determination of necessity for this reduction will be a responsibility of the engineering officer of the activity involved.

21. If 6477A-0 blades are used, double capacity governors must be installed.

22. For C-73 airplanes converted to use R-1340-AN-1 engines, use 12D40-211-6101A-12 propeller, set 27 degrees maximum, 11.5 degrees minimum, and 27 degrees index, with 1M12-G or 1M12-A governor, see 2570 governor spindle rpm.

23. P-39 airplanes with an Allison V-1710-85 engine, two to one (2:1) gear reduction and Curtiss propeller model C6315-SH, may use blade angles range of 25 degrees low to 55 degrees high in order to obtain the operating limits as specified in T. O. No. 02-5A-66.

24. -R1 suffixed to the blade assembly number (836-14C2-18R1) indicates that the cuff chafing strip has been bonded to the blade.

25. Curtiss electric propellers, model C543S-C16-814-3C3-18, are identical to propellers, model C543S-C28-814-3C3-18 with the following exceptions. The C28 propellers use an adapter plate, part No. 108025, in place of the adapter, part No. 104161; a slip ring assembly, part No. 109216, in place of slip ring assembly, part No. 102315. The slip ring assembly, part No. 109216, requires the using of spacer, part No. 109220, seal, part No. 109222, and bonding clips, part No. 109225, in place of the insulator, part No. 102312, and seal, part No. 100259. No power unit cover mounting is required on the C28 propeller, since the 108995 power unit cover is used in place of power unit cover, part No. 110008.

26. The blade angle setting, governor maximum rpm setting, and take-off manifold pressure on B-29 series airplanes depends on the propeller hub, governor, and engine types installed on the particular airplane. The installation in all four nacelles must be suitable for 2800 rpm in order for the governors to be set for 2800 rpm. The following table lists the applicable settings, the blade angles being checked at the 72-inch station:

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ENGINE GROUP	PROPELLER	GOVERNOR	TAKE-OFF RPM	TAKE-OFF MP	BLADE ANGLE MIN	BLADE ANGLE MAX
A	24F60-33	All	2600	47.5	21.25	83.25
A	24F60-35	All	2600	47.5	20	84
B	24F60-33	All	2600	47.5	21.25	83.25
B	24F60-35	3G8-A23G-1, 3G8-A23H, 3G8-A23H-1, 3G8-A23Q, and 3G8-23Q-1, 3G8-B48G-1	2600	47.5	20	84
B	24F60-35	3G8-A33H, 3G8-A33H-1, 3G8-A33Q, and 3G8-A33Q-1, without yellow "S" on base flange	2600	47.5	20	84
B	24F60-35	3G8-A33H, 3G8-A33H-1, 3G8-A33Q, and 3G8-A33Q-1, with yellow "S" on base flange	2800	49	19	84
B	24F60-35 24F60-43 24F60-73	3G8-A33F-1 and 3G8-A33G-1 3G8-B33G-1, 3G8-B48G-1 3G8-A48-1, 3G8-C49M, 3G8- B49M	2800	49	19	84

Engines: Group A - R-3350-21 and -23  
Group B - R-3350-19, -21A, -23A, -41, -57, and -59

27. P-39Q-21 and -25 airplanes are equipped with propeller, models A642S-D1 and -D3. These propellers can be replaced with models A632S-C1, -C4, and -C7 propellers. When model A642S is used the 32nd tooth on the control gear should be indexed with the mark on the adapter ring and the blade angles should be set at low 22.5 degrees and high 57.5 degrees. The foregoing changes require other modifications to insure proper airplane operation. These requirements are to increase the number of ballast weights in order to maintain the correct CG; to install a cam with the correct number of lobes in the impulse generator to resynchronize the fuselage guns, and to relocate the arrow stencils for zero shot setting. The change of 3-way and 4-way propellers on these installations is to be accomplished as an emergency measure only taking into consideration the foregoing changes.

28. All Curtiss governors with basic model No. 100008 are interchangeable with governors bearing a letter suffix, indicating a subsequent modification such as 100008-2E, 100008-2G, and 100008-2D, with the exception of Curtiss governor, model No. 100008-2H, which is for use only on C-46 series airplanes. The number preceding the letter suffix indicates direction

of governor shaft rotation and connector plug position and must be considered when requisitioning the desired governor model. (See paragraph 2.a.) On multi-engine aircraft, all engines will be equipped with governors of the same model and letter suffix. On airplane models RP-43, RP-43A, RB-26A, B-26B, and TB-26, governor, model No. 100006, can be replaced with governor, model No. 100008. The number preceding the letter suffix indicates the direction of governor shaft rotation and connector plug position and will be requisitioned accordingly. Governor, model No. 100008, cannot be replaced with governor, model No. 100006.

29. Minimum angle of 20 degrees is authorized for 6339A-12 and 6379A-0 blades on airplanes operating on 91 octane fuel.

30. When it is necessary to replace narrow Curtiss propeller blades, model 89301-3, with wide blades, model 89303-24W, in propellers, models F50, F52, or F66, the model number of the propeller will also be changed to F98, F86, or F96, respectively. Blade angles will be changed to correspond with those indicated for these model propellers.

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