

WAR DEPARTMENT TECHNICAL BULLETIN

**FITS, TOLERANCES, AND WEAR LIMITS
FOR GMC MODEL "270" ENGINE**

Ref: TM 9-1802A; Ordnance Maintenance: Power Plant for 2½-ton 6 x 6 Amphibian Truck (GMC DUKW-353) and 2½-ton 6 x 6 Truck (General Motors), 15 July 1943.

War Department, Washington 25, D. C., 1 March 1945

1. PURPOSE AND SCOPE.

a. This table of fits, limits, tolerances, and maximum wear limits, gives the original minimum, maximum, and desired size of the new parts when manufactured as well as wear limits that indicate that point to which a part may be worn before replacement in order to receive the maximum service with minimum replacement.

b. Accordingly, all parts which have not been worn beyond the dimensions shown in "Additional Allowable Wear or Clearances" column, will be approved for service.

c. The dimensions shown in "Additional Allowable Wear or Clearances" column are additional limits allowable above or below the limits shown in the manufacturer's minimum or maximum columns. For example: paragraph 2 e 1 (a) camshaft journal dimension, the manufacturer's minimum is 2.0287 inches, and the "Additional Allowable Wear or Clearances" column shows 0.002 inch, making the minimum usable size 2.0267 inches; while in paragraph 2 f 1 (a) camshaft bushing dimension, the manufacturer's maximum is 2.0317 inches, and the "Additional Allowable Wear or Clearances" column shows 0.0055 inch, making the maximum allowable size 2.0372 inches.

d. The additional allowable clearance between the camshaft and bushing (as shown in 2 f (2)) is less than the sum of the additional allowable wear on each of the two parts. This is to provide for the greatest possible limits of wear on either of the two surfaces and yet allow the use of these parts properly assembled with other less worn parts, providing the maximum allowable clearance is not exceeded when they are assembled.

NOTE: *In Base Shops after an engine and accessories have been completely dismantled, then and then only will the limits or dimensions shown in the "Remarks" column with asterisk, be substituted for those in the "Additional Allowable Wear or Clearances" column. All other wear limits not given tolerances in the "Remarks" column, will be accepted in approving parts for replacement.*

2. FITS, TOLERANCES, AND WEAR LIMITS.

TB 9-1802A-1

MAKE: GMC (Gasoline) MODEL: 270 Cubic Inch 269.5	MANUFACTURERS' FITS, LIMITS, TOLERANCES AND/OR DIMENSIONS			Additional Allowable Wear or Clearances (inches)	REMARKS
	POINT OF MEASUREMENT	Min (inches)	Desired (inches)		
a. CYLINDERS					
1. Nominal bore diameter and maximum wear diameter.....	3.780	3.781	3.782	0.010	*0.004
2. Out-of-round.....			0.0005	0.005	*0.003
3. Taper.....			0.0005	0.010	*0.004
4. Oversize pistons authorized 0.020 in., 0.040 in., 0.060 in.					
5. Cylinder liners. When cylinders cannot be restored to serviceability by reboring within the above prescribed limits, sleeves will be furnished or authorized for procurement, on special requisitions approved by the Office, Chief of Ordnance-Detroit					
(a) Press fit of sleeve in block (interference)					
(1) Steel sleeves 0.002 in.					
(2) Cast iron sleeves 0.003 in.					
(b) Relation of face of sleeve to face of block—flush					
6. Inspect for cracks, broken studs, gaskets, surfaces, and core plugs					
7. Finish cylinder, after reboring, with 500-grit hone and wash with hot, soapy water					
8. Cylinder bores will have a fine, smooth original finish					
9. Test blocks with hot (110°) water backed with 75 lb air pressure					
b. MAIN BEARING BORES, CAPS AND BEARINGS					
1. Insert type bearing					
2. Bore dimension, nominal and max wear (less insert)					
(a) No. 1 bearing.....	2.8728		2.8738	0.002	
(b) No. 2 bearing.....	2.9038		2.9048	0.002	
(c) No. 3 bearing.....	2.9348		2.9358	0.002	
(d) No. 4 bearing.....	2.9658		2.9668	0.002	

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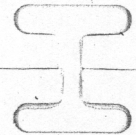
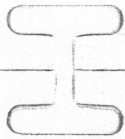
3. Max "warpage" of machined parting surfaces, using straightedge and feeler.....				0.002	
4. Torque tightness of bolts 70 ft-lb to 80 ft-lb					
5. ID bearing bore (less insert) at proper torque tightness.....				0.002	
6. Amount of bearing crush.....	0.00125		0.00225		
7. Max and min amount removable from machined parting surfaces of caps and block					
(a) From cap 0.010 in.					
(b) From block "none"					
8. Check liner surfaces for wear, pits, scores, etc.					
9. Clearance of bearing to crankshaft (main).....	0.0008	0.0025	0.0033	0.002	
10. End play of crankshaft in bearings when installed.....	0.003	0.006	0.008	0.006	*0.003
11. Thickness of lead coating in bearing insert					
(a) Moraine type.....		0.003			
(b) Steel-backed babbitt type.....		0.006			
12. Inside diameter of main bearing inserts when installed at proper torque tightness					
(a) No. 1 bearing.....	2.6853		2.6868	0.002	
(b) No. 2 bearing.....	2.7163		2.7178	0.002	
(c) No. 3 bearing.....	2.7473		2.7488	0.002	
(d) No. 4 bearing.....	2.7783		2.7798	0.002	
c. CRANKSHAFT					
1. Main bearing journals, nominal diameter and max wear					
(a) No. 1 bearing.....	2.6835		2.6845	0.002	
(b) No. 2 bearing.....	2.7145		2.7155	0.002	
(c) No. 3 bearing.....	2.7455		2.7465	0.002	
(d) No. 4 bearing.....	2.7765		2.7775	0.002	
(e) Authorized undersizes 0.010 in., 0.020 in., 0.030 in., 0.040 in.					
(f) Allowable out-of-round.....			0.0005	0.002	
6. When seated in mean diameter with one side flush and pressure applied to opposite side 1139 lb front, 1073 lb front center, 980 lb rear center, 1599 lb rear					

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MAKE: GMC (Gasoline) MODEL: 270 Cubic Inch 269.5	MANUFACTURERS' FITS, LIMITS, TOLERANCES AND/OR DIMENSIONS			Additional Allowable Wear or Clearances (inches)	REMARKS
	POINT OF MEASUREMENT	Min (inches)	Desired (inches)		
c. CRANKSHAFT (Cont'd)					
1. Main bearing journals (Cont'd)					
(g) Allowable runout of nearest center main journal when supported at each end.....			0.002	0.003	
(h) Fillet radius.....	$\frac{3}{32}$		$\frac{1}{8}$		
2. Connecting rod journals, nominal diameter and max wear.....	2.311		2.312	0.002	
(a) Authorized undersizes 0.010 in., 0.020 in., 0.030 in., 0.040 in.					
(b) Allowable out of round.....			0.0005	0.002	
(c) Fillet radius.....	$\frac{3}{32}$		$\frac{7}{64}$		
3. Crankshaft is forged					
4. Straighten if runout is more than.....				0.003	
5. Metallizing is approved when worn beyond max regrind					
6. Runout of flywheel mounting face.....			0.004	0.002	
7. Runout of flywheel face when mounted on crankshaft.....			0.004	0.006	
8. Generator drive pulley runout					
(a) Rear flange.....			0.013	0.012	
(b) Front flange.....			0.018		
9. Balance crankshaft to $\frac{1}{2}$ inch-ounces					
d. TIMING GEARS					
1. Total backlash of camshaft gear.....	0.003	0.003	0.004		With gears mounted on fixed centers they must bind in 4 or 5 locations. When a 0.008 x $\frac{5}{32}$ -inch shim is inserted on inward side of teeth for mating with new gears. For used gears use 0.012 x $\frac{5}{32}$ -inch shim
2. Check gears for wear and defects					
3. Cracked or broken teeth					
4. Gears can be chipped from end of teeth $\frac{1}{4}$ of wearing surface and $\frac{3}{32}$ in. deep. Chipped places to be ground					

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e. CAMSHAFT

1. Diameter of journal					
(a) No. 1 journals.....	2.0287		2.0297	0.002	
(b) No. 2 journals.....	1.9662		1.9672	0.002	
(c) No. 3 journals.....	1.9037		1.9047	0.002	
(d) No. 4 journal.....	1.8412		1.8422	0.002	
2. Allowable undersizes 0.010 in. for regrinding					
3. Allowable runout of center journal, or nearest center, when end journals are supported.....			0.0015	0.003	
4. Permissible wear of lobes from heel to toe.....			0.010	0.050	
5. Straighten if runout is more than.....				0.003	Max if smooth and free from flat spots

f. CAMSHAFT BUSHINGS AND BEARINGS

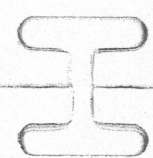
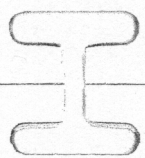
1. Nominal dimensions and max wear ID of bearing					
(a) No. 1 bearing.....	2.0307		2.0317	0.0055	Clearance measured by 0.004 x $\frac{1}{2}$ -inch shim using camshaft to be assembled with block
(b) No. 2 bearing.....	1.9682		1.9682	0.0055	
(c) No. 3 bearing.....	1.9057		1.9067	0.0055	
(d) No. 4 bearing.....	1.8432		1.8442	0.0055	
2. Clearance between camshaft journal and bushing.....	0.001		0.003	0.0055	
3. Replacement bushing (nom diameter)					
(a) No. 1 journal.....	2.0145		2.0175		
(b) No. 2 journal.....	1.9520		1.9550		
(c) No. 3 journal.....	1.8895		1.8925		
(d) No. 4 journal.....	1.8270		1.8300		
4. Interference OD bushing to ID of case.....	0.002		0.003		
5. End play of camshaft when installed.....	0.003		0.005		

g. TAPPET GUIDE (OR BUSHING)

1. Nominal dimension and max wear.....	0.9905		0.9915	0.003	
2. Clearance, tappet to bore.....	0.0005		0.0025	0.005	

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MAKE: GMC (Gasoline) MODEL: 270 Cubic Inch 269.5	MANUFACTURERS' FITS, LIMITS, TOLERANCES AND/OR DIMENSIONS			Additional Allowable Wear or Clearances (Inches)	REMARKS
	POINT OF MEASUREMENT	Min (inches)	Desired (inches)		
h. VALVE SEATS (INSERTS)					
1. Exhaust valve seat					
(a) OD of replacement valve seat inserts					
	(1) Standard	1.565		1.566	
	(2) 0.010	1.575		1.576	
	(b) Interference OD of insert to ID of bore	0.002		0.004	
	(c) Width of valve seat		$\frac{5}{64}$		
	(d) Angle of seat		30°		
	(e) Angle of relief for narrowing width of seat		10°		
	(1) Top of seat		10°		
	(2) Bottom of seat		70°		
	(f) Approval to install seats where none are initially installed. Yes				
2. Intake valve seats					
	(a) OD of replacement valve seat inserts. Standard 0.010 in.				
	(b) Interference OD of insert to ID of bore	0.002		0.004	
	(c) Width of valve seat		$\frac{3}{64}$		
	(d) Angle of seat		30°		
	(e) Angle of relief for narrowing width of seat		10°		
	(1) Top of seat		10°		
	(2) Bottom of seat		70°		
	(f) Approval to install seats where none are initially installed. Yes				
i. VALVE GUIDES					
1. Exhaust					
	(a) Nominal dimension of bore and max wear	0.3427	0.3432	0.3437	0.004 *0.002
	(b) Interference OD of valve guide bushing to ID of bore	0.0005		0.004	



2. Intake					
	(a) Nominal dimension of bore and max wear	0.3427	0.3432	0.3437	0.003 *0.001
	(b) Interference OD of valve guide bushing to ID of bore	0.0005		0.004	
3. Install by press fit					
4. Finish guides after installing					

j. VALVES					
1. Intake					
	(a) Angle of seat		30°		
	(b) Stem diameter	0.3407		0.3412	0.003
	(c) Stem to guide clearance	0.0015		0.003	0.004
	(d) After refacing valve, if thickness from top of head to the edge of refaced outer circle is less than $\frac{1}{64}$ in. replace				
2. Exhaust					
	(a) Angle of seat		30°		
	(b) Stem diameter	0.3397		0.3407	0.004
	(c) Stem to guide clearance	0.002		0.004	0.005
	(d) After refacing valve, if thickness from top of head to the edge of refaced outer circle is less than $\frac{1}{32}$ in., replace				

k. VALVE SPRING					
1. Exhaust valve spring—large					
	(a) Scale reading 124 lb-140 lb at 1.505 in. (min working height)				
	(b) Scale reading 54 lb-62 lb at 1.821 in. (max working height)				
2. Intake valve springs—large					
	(a) Scale reading 124 lb-140 lb at 1.505 in. (min working height)				
	(b) Scale reading 54 lb-62 lb at 1.821 in. (max working height)				

Any spring that fails to register within 10 lb of manufacturer's recommendation at given dimension is rejected

POINT OF MEASUREMENT

Min (inches)

Desired (inches)

Max (inches)

I. CONNECTING ROD

1. Torque tightness of connecting rod bolts (ft-lb).....	40		50	
(a) Stretch on connecting rod bolts (per 2 in.).....			5%	
2. Maximum "warpage" of machined parting surfaces using straight-edge and feeler.....				0.002
3. ID of large crankshaft end.....	2.4563		2.4568	
4. ID insert, when installed, in large crankshaft end				
(a) Steel-backed babbitt type.....	2.3135		2.3146	0.002
(b) Moraine type.....	2.3126		2.3136	0.002
5. Clearance connecting rod bearing to crankshaft				
(a) Steel-backed babbitt type.....	0.0015		0.0036	0.002
(b) Moraine type.....	0.0006		0.0026	0.002
6. Side clearance of connecting rod bearing to crankshaft.....	0.007		0.012	0.006
7. Max amount allowable removable from parting surface of:				
(a) Rod.....			0.010	
(b) Cap.....				
8. Max out-of-round—horizontal.....			0.002	0.002
9. Diameter of small (piston) end.....	1.0455		1.0465	
10. Inside diameter of bushing (small end).....	0.9901		0.9905	0.001
11. Interference OD of bushing to ID of rod.....	0.003		0.006	
12. Fit of piston pin to connecting rod bushing.....	0.0001		0.0007	0.001
13. Allowable twist of connecting rod.....				0.002 in 7 inches
14. Correction by straightening rod. Yes				
15. Balance of rod with				
(a) Large end C/L of crankpin 1 lb 11 oz plus or minus 1/16 oz				
(b) Small end C/L of piston pin 8 5/16 oz plus or minus 1/16 oz				



16. Total weight of rod (less inserts) 2 lb 3 oz				
17. Thickness of connecting rod bearing—standard at crown.....	0.0711		0.0714	
18. Thickness of connecting rod bearing—0.010 oversize at crown.....	0.0761		0.0764	
19. Thickness of connecting rod bearing—0.020 oversize at crown.....	0.0811		0.0814	

m. PISTONS

1. Nominal diameters of pistons available				
(a) Standard.....			3.777	
(b) 0.020.....			3.797	
(c) 0.040.....			3.817	
(d) 0.060.....			3.837	
2. Allowable wear from nominal diameter of skirt.....				0.003
3. Degree of cam used for regrinding "C".....		0.008		
4. Width of ring groove				
Groove No. 1—top.....	0.1255		0.1265	0.004
Groove No. 2.....	0.1255		0.1265	0.004
Groove No. 3.....	0.1255		0.1265	0.004
Groove No. 4.....	0.1885		0.1895	0.004
5. Piston pin diameters				
(a) Standard.....	0.9898		0.9900	0.001
(b) 0.005 oversize.....	0.9948		0.9950	0.001
6. Piston pin bore diameter in piston.....	0.9896		0.9898	0.001
7. Fit between piston pin and piston				
8. Piston selective fit in bore 6 lb scale with 1/2 in. width feeler 0.004 in. thick to run the entire length of cylinder				
9. Clearance, piston to bore				
(a) Top of skirt.....		0.00475		
(b) Bottom of skirt.....		0.00375		
10. Max clearance, piston to bore, used piston, use 0.006 x 1/2 in. feeler inserted to full length of cylinder, 6 lb scale				Select hand press for new pin and piston

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n. RINGS

POINT OF MEASUREMENT	MANUFACTURERS' FITS, LIMITS, TOLERANCES AND/OR DIMENSIONS			Additional Allowable Wear or Clearances (inches)	REMARKS
	Min (inches)	Desired (inches)	Max (inches)		
1. Gap clearance (when fitted in cylinder).....	0.008	0.012	0.015		
2. Clearance of ring in groove of piston					
Groove No. 1.....	0.0015		0.0025	0.004	
Groove No. 2.....	0.0015		0.0025	0.004	
Groove No. 3.....	0.0015		0.0025	0.004	
Groove No. 4.....	0.002		0.0025	0.004	

o. ROCKER ARMS AND SHAFT

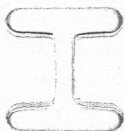
1. Diameter of rocker arm shaft.....	0.791		0.792	0.010	
2. Max runout of rocker arm shaft.....				0.005	
3. Nom diameter of rocker arm and max wear.....	0.7925		0.7935	0.003	
4. Clearance shaft in rocker arm.....	0.0005		0.0025	0.013	
5. Max surface removable from tappet end of rocker arm.....				0.016	

p. FACE OF CYLINDER HEAD

1. Max allowable warpage.....				0.008	Per ft of length
2. Surface grind not more than 0.020 in. from original surface to correct warpage. Min distance from face to flat surface at bottom of combustion chamber 0.889 in.					
3. Check for channeling and check all tapped holes					
4. Permissible amount of channeling before refacing.....				0.002	

q. FACE OF BLOCK

1. Max allowable warpage.....				0.010	
2. Surface grind not more than 0.020 in. from original surface to correct warpage, min distance from top face of block to parting line of main bearing bore, 11.355					



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r. OIL PUMP, GEAR TYPE

1. Output of pump 6 gal/min at 2750 RPM at 50 lb/sq in.....				0.003	
2. Allowable wear on end plates before regrinding.....				0.003	
3. End play between gear and end plate.....	0.0015		0.0045	0.005	
4. Max allowable to grind from surface of plate.....				0.005	
5. Bore dimensions					
(a) Drive gear bore.....	0.5385		0.5395	0.003	
(b) Idler gear bore.....	0.5425		0.5415	0.003	
(c) Housing bore.....	0.543		0.541	0.002	
6. Drive shaft diameter.....	0.5400		0.5405	0.002	
7. Driven shaft diameter.....	0.5400		0.5405	0.002	
8. Clearance between gear to housing (radial).....	0.001		0.003	0.005	
9. Backlash.....	0.003		0.006	0.006	
10. Height of gears.....	1.247		1.249		

s. RELIEF VALVES

1. Free length of spring 2 ³ / ₄ in.					
2. Clearance of valve in body.....	0.003		0.006	0.005	
3. Valve opens at 50 lb					
4. Spring compressed to 1 ¹ / ₁₆ in.....	13 ¹ / ₂ lb		16 ¹ / ₂ lb		

t. FUEL PUMPS (DIAPHRAGM)

1. Capacity in 1 minute, engine RPM 2000 to 2500.....	1 pt				
2. Pressure engine at lowest idling speed.....			3 ³ / ₄ lb		
3. Pump must hold 2 lb/sq in. without operation for 1 minute					

u. FLYWHEEL AND RING GEAR

1. Nominal depth from surface of machined flange for clutch housing to face of clutch surface.....	0.638		0.642		
2. Permissible amount that can be removed from clutch face of flywheel.....				0.020	

u. FLYWHEEL AND RING GEAR (Cont'd)

3. Runout of ring gear.....			0.020	
4. Interference of ID of ring gear to OD of flywheel.....	0.012		0.022	
5. Balance flywheel to within 1/2 inch-ounces.....				
6. Wobble of flywheel machined surface for clutch (measuring from bell housing).....			0.004	0.008
7. Housing face runout (assembly of engine) indicator mounted on flywheel.....			0.007	0.007
8. Concentricity of flywheel to housing bore (assembly of engine) indicator mounted on flywheel.....			0.010	0.010

v. CLUTCH (Single plate, dry disc, diaphragm spring type)

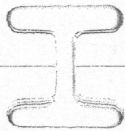
1. Thickness of lined clutch plate.....	0.352		0.372	0.185
2. Thickness of pressure plate.....	1.7005		1.703	
3. Max total amount allowable removable of all surfaces.....				0.045
4. Max thickness shim to compensate for refacing.....				0.045
5. Location of shims to compensate for above.....				
6. Spring scale reading 195 lb to 215 lb at 0.900 in. min.....				
7. Splines in driven disc hub and transmission gear shaft.....	0.0005		0.0055	
8. Clutch housing pilot hole runout.....			0.010	
9. Driven disc runout (1 1/2 in. from outside diameter of flywheel side).....			0.025	
10. Clearance between pressure plate drive lugs and cover.....			0.006	

5. Over-clutch cover retainer bolts, outer pivot ring and inner face of clutch cover

w. GENERATOR—MODEL—DELCO-REMY 1105861

- Generator cold output 40 amp at 8 volt at 1850 RPM
- Total amperes draw all field coils in series 1.82 to 1.94 amp at 6 volts

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3. Amperes draw on one coil, 0.09 amp to 6 volts.....			0.875	0.4375
4. 0.01 amp differential between field coils.....				
5. Length of brushes.....		25 oz		
6. Spring tension on brushes on each spring.....				
7. Clearance between armature and field pole shoe (measured when installed in brgs).....	0.015		0.020	
8. Diameter of commutator.....			1.800	
9. Armature end play.....			0.005	0.010
10. Shaft dimension.....				
(a) Driven end.....	0.669			
(b) Commutator end.....	0.561			
11. Clearance commutator end of shaft to bearing.....	0.001		0.003	
12. Clearance driven end of shaft to bearing.....	0.000		0.0005	
13. Bearings (ball).....				
(a) Inside diameter (driven end).....	0.669			
(b) Outside diameter (driven end).....	1.576			
(c) Inside diameter (commutator end).....	0.669			
(d) Outside diameter (commutator end).....	1.576			
14. Commutator runout.....			0.002	
15. End of commutator segments should not be turned to less than 1.700 in.....				

x. WATER PUMPS

1. Diameter of shaft.....	0.6262		0.6267	0.002
2. Clearance between impeller and pump body.....	0.010		0.035	
3. Packing seal compressed to.....				
(a) 8 lb.....			0.486	
(b) 16 lb.....			0.459	
4. Check ball bearings for wear and defects.....				
5. End play.....	0.003		0.006	0.008
6. Pump housing flange surface to refinished seal washer seat.....		1 13/64		
7. Water pump pulley hub ID.....	0.6237		0.6252	

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POINT OF MEASUREMENT

Min (inches) Desired (inches) Max (inches)

y. FAN

1. Diameter of shaft.....
2. Runout of pulley.....
3. Check blades for cracks and defects
4. Distance from front face of pulley hub to rear face water pump housing.....

0.6262		0.6257	0.002
		0.015	0.015
	4.28125		

z. STARTING MOTOR—MAKE: DELCO-REMY MODEL 1107418

1. Length of brushes.....
2. Spring tension of brushes.....
3. Diameter of commutator.....
4. Bushing ID commutator end.....
5. End play.....
6. Shaft dimension commutator end.....
7. Shaft dimension drive end.....
8. Bushing ID drive end.....
9. Shaft dimension—intermediate.....
10. Bushing ID—intermediate.....
11. Commutator runout.....
12. End of commutator segments should not be turned to less than...

		0.625	0.3125
24 oz		28 oz	
1 5/8		1 11/16	
0.565			
0.005		0.050	
0.5595		0.5605	
0.5595		0.5605	
0.562		0.564	
0.746		0.747	
0.757		0.758	
		0.003	0.002
1.525			

aa. DISTRIBUTORS—MAKE: DELCO-REMY MODEL 1110135

1. Contact gap.....

0.018		0.024	
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2. Cam angle.....
3. Contact spring tension.....
4. Bushings (new)
 - (a) ID of bushing.....
 - (a) OD of shaft.....
6. End play.....
7. Cam runout.....
8. Automatic advance
 - (a) Start.....
 - (b) Intermediate.....
 - (c) Max.....

	35%		
17 oz		21 oz	
0.4903		0.4915	0.001
0.4895		0.4900	0.002
			0.010
		2°	
	Engine RPM	Deg adv	
	400	2°	
	800	10°	
	3400	32°	

ab. CARBURETOR—MAKE: ZENITH MODEL 28 AVII 09472

1. Venturi, Zenith No. 29.....
2. Main jet No. 28.....
3. Main discharge jet No. 70.....
4. Idle discharge holes at idle needle valve.....
5. Pump discharge nozzle No. 12.....
6. Carburetor base warpage max amount can be removed, 0.010 in...
7. Original thickness measured at machined surface of holding bolt holes 1/16 in.
8. Fuel valve seat No. 40.....
9. Idling jet No. 14.....
10. Power jet No. 16.....
11. Well vent No. 20.....
12. Float level.....

1.1426			
0.05516			
0.0571			
0.0826			
0.02364			
0.0788			
0.0275			
0.03152			
0.0394			
1.5			±.015625

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1B-9-1802A-1

1B-9-1002A-1

POINT OF MEASUREMENT	MANUFACTURERS' FITS, LIMITS, TOLERANCES AND/OR DIMENSIONS			Additional Allowable Wear or Clearances (inches)	REMARKS
	Min (inches)	Desired (inches)	Max (inches)		
ac. CARBURETOR—MAKE: ZENITH MODEL 30-0-10046 (cast iron)					
1. Venturi No. 28.....	1.1032				
2. Main jet No. 28.....	0.05516				
3. Idle jet No. 14.....	0.0275				
4. Power jet valve No. 16.....	0.03152				
5. Accelerator jet No. 13.....	0.02561				
6. Well vent No. 16.....	0.03152				
7. Vacuum pump stroke.....	$\frac{3}{4}$				
8. Fuel valve seat No. 40.....	0.0788				
9. Float level.....	$1\frac{3}{8}$				$\pm\frac{1}{32}$

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(A.G. 300.5 (1 Mar 45))
By order of the Secretary of War:

C. G. MARSHALL,
Chief of Staff

OFFICIAL:
J. A. ULIO,
Major General,
The Adjutant General.

Distribution: AAF (10); AGF (10); ASF (2); Dept (10); AAF Com (2); Arm & Sv Bd (2); S Div ASF (1); Tech Sv (2) SVC (10); PC&S (1); PE (Ord O) (5); Dist O, 9 (5); Dist Br O, 9 (3); Reg O, 9 (3); Establishment, 9 (5); Decentralized Sub O, 9 (3); Gen & Sp Sv Sch (10); USMA (2); A (10); CHQ (10); D (2); AF (2); T/ & E: 9-7 (3); 9-9 (3); 9-37 (3); 9-57 (3); 9-65 (2); 9-6 (3); 9-76 (2); 9-127 (3); 9-197 (3); 9-317 (3); 9-32 (2); 9-327 (3); 9-328 (3); 9-377 (3).

DOUGL AS22M AR28M

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