



HUGHES  
SERVICE INFORMATION  
LETTER

LETTER NO. L-68.1\*

DATE 7 August 1972

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\*Supersedes Service Information Letter No. L-68, dated 17 April 1972

TO—All owners and operators of Hughes Helicopters

SUBJECT: LYCOMING SERVICE BULLETIN NO. 336B, DATED 19 JUNE 1972; AND NO 343A, DATED 18 FEBRUARY 1972 - PERIODIC INSPECTION, LUBRICATION AND PARTS REPLACEMENT FOR BENDIX S4LN-1208 MAGNETOS

MODELS AFFECTED: All Model 269C Helicopters

Reference

269 Series - Basic HMI, Issued 1 Feb 1972; Revision No. 1, 10 May 1972

269 Series - HMI Configuration Supplement C, Issued 1 Feb 1972; Revision No. 1, 10 May 1972

Your attention is directed to the subject information reprinted as part of this Service Information Letter.

The instructions provide information for the periodic inspection, lubrication, and parts replacement for Bendix S4LN-1208 magnetos used on H10-360-D1A engines installed on Model 269C helicopters.

Lycoming Bulletin No. 336B specifies mandatory inspection, lubrication and parts replacement procedures for the Bendix magnetos. Lycoming Bulletin No. 343A provides specific inspection and lubrication procedures.

It is recommended that all owners and operators comply with these Bulletins per Lycoming instructions.

Edward F. Koch  
Customer Service Department  
Hughes Tool Company



## Service Bulletin



DATE: June 19, 1972

Service Bulletin No. 336B  
(Supersedes Service Bulletin No. 336A)  
Engineering Aspects are  
FAA (DEER) Approved

SUBJECT: I. Periodic Inspection and Lubrication of Magneto Distributor Bushing  
II. Magneto Parts Replacement - Left Magneto

MODELS AFFECTED: HIO-360-D1A engines installed on Hughes Model C Helicopters.

TIME OF COMPLIANCE: I. Periodic inspection and lubrication at each 50 hour inspection period.  
II. Parts replacement of left magneto at each 100 hour inspection of the aircraft.

### I. PERIODIC INSPECTION AND LUBRICATION

It has been determined that loss of adequate lubrication can cause severe wear and possible damage in the area of the distributor block bushing in the magneto. This condition has been found on Bendix S4LN-1208 magnetos, P/N 10-349285-5 installed on HIO-360-D1A engines. Consequently, all operators of affected helicopters are advised to perform the following item of maintenance on both magnetos at each 50 hours of engine operation.

1. Remove harness outlet plate from each magneto.

2. Remove magneto rear cover. Carefully separate capacitor and retard lead terminals from breaker assemblies.

3. Turn engine until red mark on distributor gear is exactly in alignment with rib on the distributor block. This is to allow removal and re-installation of the distributor block and gear assembly without disturbing magneto to engine timing. If magneto is on the bench, use Bendix 11-8465 HOLDING TOOL to "lock" magneto drive shaft.

4. Remove the four double ended studs. The distributor block and gear can now be withdrawn from the magneto housing.

5. Examine the interior of the magneto for evidence of engine oil. Its presence indicates separation of the LOC-TITE seal between the front bearing outer race and the magneto flange bore. If engine oil is observed, it is recommended that the magneto be overhauled noting in particular for signs of wear caused by bearing movement within the flange. Wear has occurred if the surface treatment, normally a dull greenish-brown, is no longer present and bright, metallic areas are seen. A worn flange must be replaced to insure a satisfactory LOC-TITE seal and bearing fit.

### NOTE

Distributor blocks may or may not have the identification mark shown in figure 1. The following lubrication instructions apply in either case.

6. Separate the distributor block and gear by removing lock ring. See figure 2.

7. Carefully inspect distributor gear for cracks, chipping or excessive tooth wear. Look for a concentration of yellow discoloration on the molding compound near its point of attachment to the shaft. (This could mean overheating has occurred in this area.) Observe shaft for discoloration or galling. (Shaft surface should be silver bright.) Gear exhibiting any of the above should be replaced.

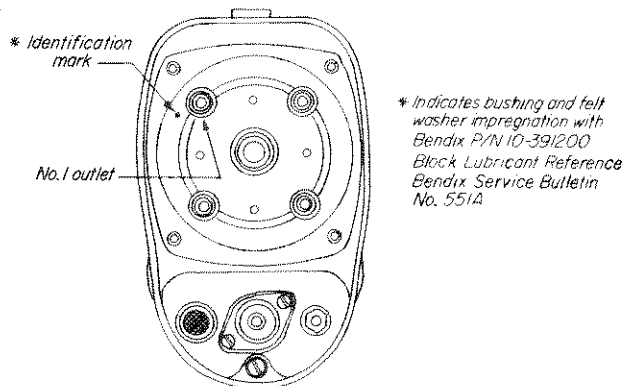


Figure 1. Location of Identification Mark

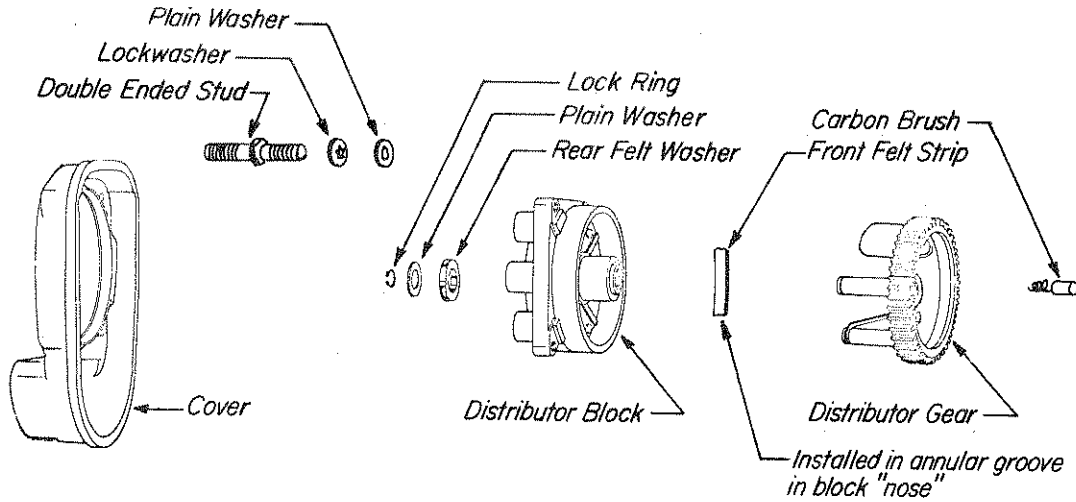


Figure 2. Partial Exploded View Showing Relative Location of Parts

8. Inspect distributor block for evidence of carbon tracking, bushing wear, cracks in high tension towers and excessive fixed electrode erosion. Blocks exhibiting any of the above should be replaced.

9. Remove rear felt washer from the distributor block. If it is not mutilated, it can be cleaned, re-oiled and reused.

a. Clean, by washing in methyl ethyl ketone, unleaded gasoline or similar solvent and allow time to dry.

b. Saturate rear felt washer with Bendix Distributor Block Lubricant P/N 10-391200. Using a clean cloth or paper towel, blot excess oil until flat surfaces take on a "frosted" appearance. Install rear felt washer in distributor block.

c. Apply a thin film of lubricant P/N 10-391200 to gear shaft.

10. Assemble distributor gear to block (reverse of part 6).

11. Reinstall distributor block and gear assembly in magneto housing. Be sure that the distributor gear teeth to pinion gear engagement is the same as when removed, i.e., the red mark on the distributor gear block.

12. Install double ended studs, cover and harness outlet plate.

13. Make appropriate notations in Engine Log Book.

## II. MAGNETO PARTS REPLACEMENT

At each 100 hour inspection the magneto parts, contained in Bendix Kit no. 10-391320, must be replaced in the left magneto (S4LN-1208). Instructions (Form L-1006) for accomplishing the replacement are included in the kit. Additional copies of instructions (Form L-1006) can be obtained from Bendix Electric Components Division, Sidney, N.Y. 13838 or from Avco Lycoming Division, Williamsport, Pa. 17701.

Kits, for domestic use, may be obtained from the following Bendix distributors. It is suggested that kits be ordered in advance for the 100 hour inspection so that a minimum of down time is required.

SOUTH AIRMOTIVE CO.: Dallas, Texas  
 VAN DUSEN AIRCRAFT SUPPLIES: Atlanta, Ga.; Elk Grove Village, Ill.; Kansas City, Kan.; Miami, Fla.; Seattle, Wash.; So. San Francisco, Calif.; Teterboro, N.J.; Vandalia, Ohio; Van Nuys, Calif.

Kits required for export can be procured through your Avco Lycoming distributor from Avco Lycoming.

Make appropriate notation in Engine Log Book. Parts removed from left magneto to be destroyed. Do not reuse in any application.

### PARTS DATA:

Part Number	Name	Price
10-391320	Kit, Magneto Parts	\$21.50
Consists of: - (1) 10-35937-24 Screw; (8) 10-92879-43 Washer; (1) 10-349234 Gear assembly (large); (4) 10-35936-7 Screw; (1) 10-382585 Contact assembly; (1) 10-35936-10 Screw; (1) 10-90751-19 Cotter pin; (1) 10-90788-5 Woodruff key; (3) 10-349652 Screw; (3) 10-53397 Washer; (1) 10-353056 Bearing (front); (1) 10-349351 & 10-349241 Rotating magnet & Gear assembly (small); (1) 10-353060 Bearing (rear).		

NOTE: Revision "B" adds part II and removes form.



**LYCOMING DIVISION**  
WILLIAMSPORT, PA. 17701

# Service Bulletin



DATE: February 18, 1972

Service Bulletin No. 343A  
(Supersedes Service Bulletin No. 343)  
Engineering Aspects are  
FAA (DEER) Approved

SUBJECT: Bendix Electrical Components Division Bulletin No. 551A

MODELS AFFECTED: Bendix S-20, S-200 and S-1200 series magnetos.

TIME OF COMPLIANCE: As required by the subject bulletin.

### NOTE

In paragraph 2 of the previous edition of this bulletin it was stated that periodic lubrication of the oiling felts was not required if new lubricant distributor blocks were installed. However it has been found that regardless if new lubricant distributor blocks have been installed, inspection and relubrication is necessary periodically on the magneto, P/N 10-349285-5 (LW-11563) used on the HIO-360-D1A engine installed in Hughes Model C helicopters. See Avco Lycoming Service Bulletin No. 336A for specific instructions.

It will be noted that the subject bulletin No. 551A specifically recommends installation of the "new lubricant distributor blocks" in S-1200 series magnetos with part numbers 10-349285-1 and -5. (Avco Lycoming Nos. 75453 and LW-11563 respectively.) These particular magnetos are used in Avco Lycoming IO-360-B1D, IO-360-A1C, AIO-360-A1A, HIO-360-C1B, -D1A and TIO-360-A1B aircraft engines. Compliance with the modifications and requirements of this bulletin is recommended for all owners and operators of applicable aircraft.



# SERVICE BULLETIN NO. 551A

Sidney, N. Y. 13838

Printed January 1972  
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## AIRCRAFT

**SUBJECT:** New Distributor Block Lubricant.

**REASON FOR BULLETIN:** To advise that future production distributor block bronze bushings and oiling felts will be impregnated with a new lubricant\* instead of the presently used SAE 30 non-detergent oil.

**EQUIPMENT AFFECTED:** All S-20 series, S-200 series and S-1200 series Magnetos.

### Maintenance (Spare) Parts Affected:

Block - Distributor (4 cyl) 10-52949  
 Block - Distributor (6 cyl) 10-52958  
 Block - Distributor (4 cyl) 10-349211  
 Block - Distributor (6 cyl) 10-349212  
 Block - Distributor (8 cyl) 10-349213  
 Washer - Felt 10-50752

(a.) A boss (raised material) on the distributor block to the left and adjacent to the #1 High Tension Tower.

(b.) An indentation (drill point) .125" dia. .016" deep in the same location as in (a.).

### Compliance:

1. It is recommended that new lubricant distributor blocks be installed in S1200 Series Magnetos part numbers 10-349285-1 and 10-349285-5 in accordance with the following schedule:

(a.) In use on engines with less than 500 operating hours, at operator's convenience.

(b.) In use on engines with more than 500 operating hours, within the next 200 hour period.

2. All affected magnetos except those listed above, at operator's option.

2. Present lubricant block bushings (SAE 30 non-detergent oil) can be reworked to the new lubricant\* type as follows:

(a.) Remove both felt washers, if present. Using trichlorethylene or similar solvent, clean the block surface to remove wax, oil, dirt, etc.

(b.) Place distributor blocks, High Tension Towers up, on a piece of absorbant material, such as cardboard, in a 250° F oven for approximately 4 hours. This should cause impregnating oil to appear on the surface of the bushing and on the absorbant material.

(c.) Remove the block from the oven and using a clean, dry cloth immediately wipe all oil possible

### Detailed Instructions:

1. Distributor block bronze bushings that have been impregnated with the new lubricant\* are identified by either of two methods. (See (a.) or (b.) and Figure 1.).

\*Available from Electrical Components Division Aircraft Distributors in 8 ounce cans under Bendix P/N 10-391200.


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from the ID of the bushing. It may be necessary to do this several times as the part cools.

(d.) Using applicable magneto Overhaul Instructions impregnate the bronze bushing using the new lubricant\* and an in-oven time of 2 hours. Also rewax the block surface per applicable instructions.

(e.) Identify reworked distributor blocks by drilling a hole .125" dia. and .016" deep as shown in Figure 1.

3. Present lubricant (SAE 30 non-detergent oil) felt washers can be reworked as follows:

(a.) Thoroughly clean the felt washer with trichlorethylene or similar solvent to remove all oil. When dry, it should be nearly pure white.

(b.) Saturate the felt washer with the new lubricant\* then gently blot excess oil until the part has a "frosted" appearance.

**NOTE**

If a new lubricant\* distributor block is being assembled to a distributor gear that has been in service, the following precautions should be observed.

(1) Observe the distributor gear shaft for evidence of overheating or presence of a "sticky" residue. Normally, the shaft will have a bright, smooth steel appearance.

(2) Observe the distributor gear teeth for evidence of cracks or excessive wear.

(3) Observe the nylon gear in the hub area for evidence of overheating. Overheating can be determined by noting a concentration of discoloration (orange/yellow) where the nylon gear is molded to the steel axle and/or cracks radiating from this area. If any of the above items are observed it is recommended that a new distributor gear be installed.

**Parts Required Per Article:**

\*Bendix Distributor Block Lubricant  
 P/N 10-391200.

**Special Tools Required:**

None.

**Man Hours Required:**

Replace distributor blocks in magneto - 1/4 hour.  
 Relubricate distributor block bushings - 1/4 hour.

**Weight Change:**

None.

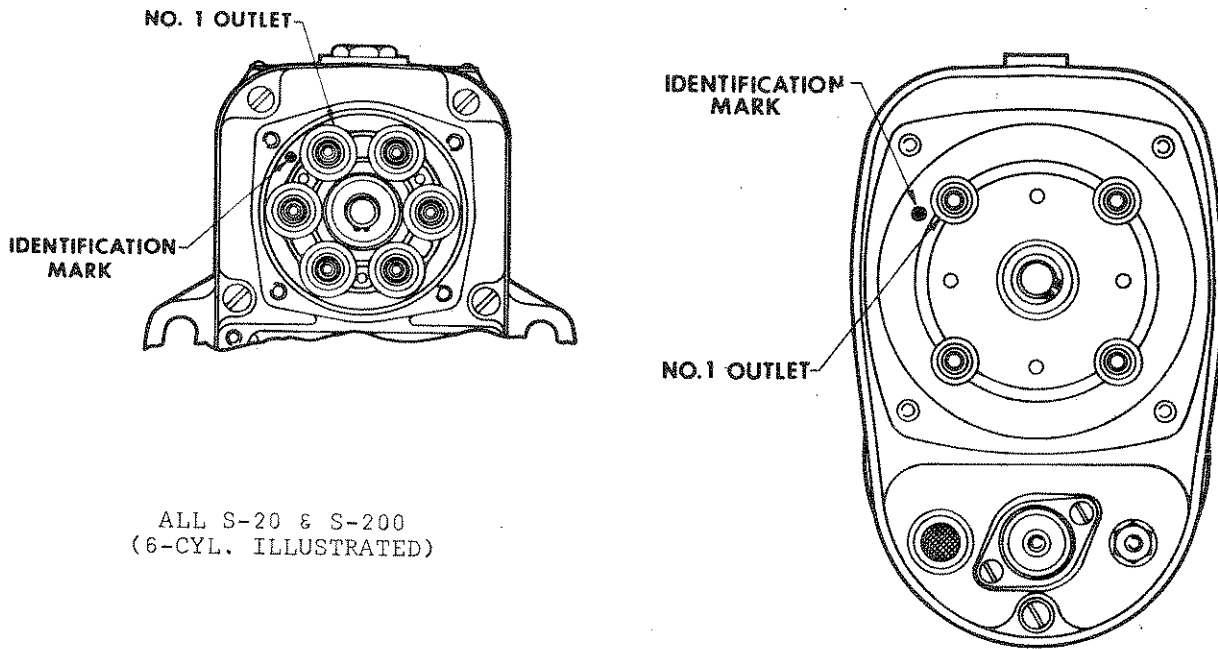
\*Available from Electrical Components Division Aircraft Distributors in 8 ounce cans under Bendix P/N 10-391200.



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ALL S-20 & S-200  
(6-CYL. ILLUSTRATED)

ALL S-1200  
(4-CYL. ILLUSTRATED)

Figure 1.

DISTRIBUTOR BLOCKS AS VIEWED FROM OUTLET END OF MAGNETO