



ELECTRO-MOTIVE DIVISION • GENERAL MOTORS CORPORATION

MAINTENANCE INSTRUCTION

MODERNIZATION RECOMMENDATION

REPLACEMENT OF LUBE OIL STRAINER HOUSING DRAIN VALVES

PURPOSE: To improve the lube oil strainer and lube oil filter housing drain valves and prevent leakage at the valves after engine shutdown.

DISCUSSION: Revisions to provide positive seals have been made in the design of the lube oil strainer housing drain valve and the lube oil filter housing drain valve. Previously the drain valves sealed by clearance fit; the improved components seal by positive spring loading of machined surfaces. Some of the former valves could leak after engine shutdown, reducing the supply of oil available in the strainer housing and the oil filter housing. The improved seals retain greater quantities of oil in the strainer and filter housings after engine shutdown and significantly reduce the chance of undesirable low oil pressure during the initial moments after engine start.

APPLICATION: All EMD engines shipped before February 1977 and equipped with lube oil strainer housings.

REFERENCES: Figs. 1, 2, and 3 of this Modernization Recommendation

NEW MATERIAL REQUIRED:

FILTER DRAIN			STRAINER HOUSING DRAIN		
Qty.	Part No.	Description	Qty.	Part No.	Description
1	9321252	Valve Body	1	9314896	Plate Assembly
1	8269418-A	Pipe Assembly	1	9314899	Gasket
1	9314757	Spring	8	110532	No. 10-24 Screws
1	9314756	Retainer	1	9314919	Valve Seat
			1	9314918	Gasket
			1	9314922	Rod Assembly
			1	9315446	O-Ring
			4	6101225	Washers 3/8"
			4	8032717	Nuts 3/8" Self-locking

COST OF NEW MATERIAL:

The approximate cost of new material per engine is:

Strainer Housing Drain	\$222.00
Filter Drain	85.00
Nutlock 2-1/2 oz. 8352872	10.64

Material will be billed at prices in effect at time of shipment.

PROCEDURE

FILTER DRAIN MODIFICATION

The new filter drain valve design, Fig. 1, spring loads the slider against a seat, with both the slider and seat ground flat to provide a positive seal. The former valve can be modified by interchanging the components listed above and in Fig. 1, with existing components.

STRAINER HOUSING DRAIN MODIFICATION

NOTE: Save the spring, spring retainer, and pin from the old valve rod assembly.

To apply the new design strainer housing drain valve, Fig. 2, four machining operations are required as indicated in Fig. 3.

1. The diameter of the bore for the valve seat at the bottom of the housing must be machined to 1.561" +.001" -.000" so that new valve seat 9314919 may be pressed in.
2. The outside bottom surface at 1.561" hole must be faced off to prepare for application of gasket 9314899 and plate assembly 9314896.
3. Eight holes equally spaced must be drilled and tapped No. 10-24 UNC - 2B THD, 1/2" deep.
4. Drill four 7/16" holes 1/8" deep to provide clearance for studs in plate assembly 9314896.
5. After the machining operations are completed, apply plate assembly 9314896, using No. 10-24 screws 110532 and gasket 9314899. Make certain that the drain slots in the gasket and plate line up with the drain slot in the housing. Apply Nutlock 8352872 to the screw threads before assembly. Stake each screw at three places 120° apart after assembly.
6. Apply gasket 9314918 and valve seat 9314919 to the plate assembly studs, using washers 6101225 and self-locking nuts 8032717. Make certain that the drain slots in the gasket and seat line up with the slot in the stud plate.
7. Insert rod assembly 9314922 into appropriate opening in strainer housing. Slide spring and spring retainer from old rod assembly over the end of the rod assembly, then apply O-ring 9315446 to the rod assembly. Position the assembly as indicated in the cutaway of Fig. 2.
8. Raise the retainer against the spring and insert retainer holding pin from the old rod assembly. Seat the retainer against the pin. Spring pressure against the retainer will secure the pin.

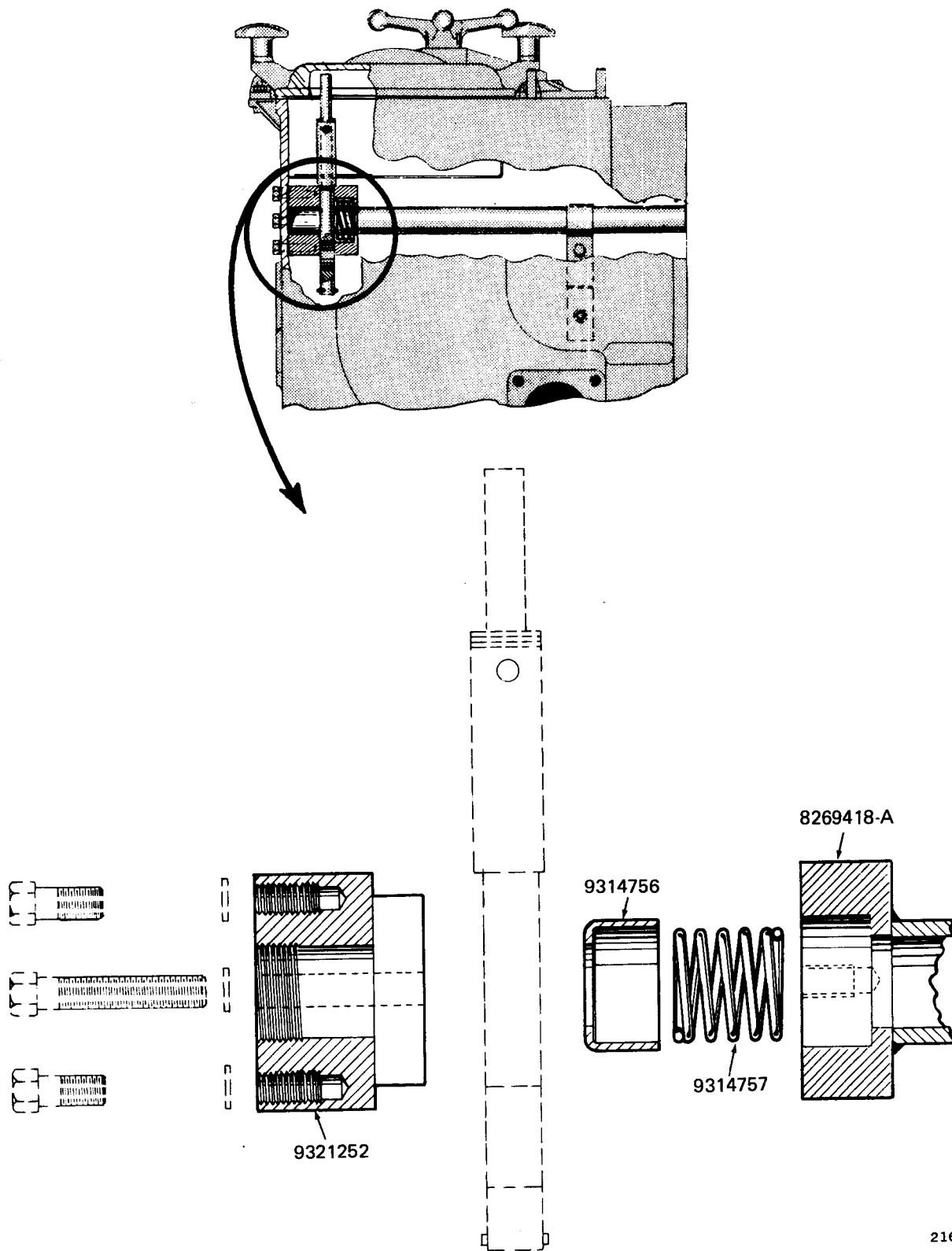


Fig. 1 - Filter Drain Valve - Exploded View

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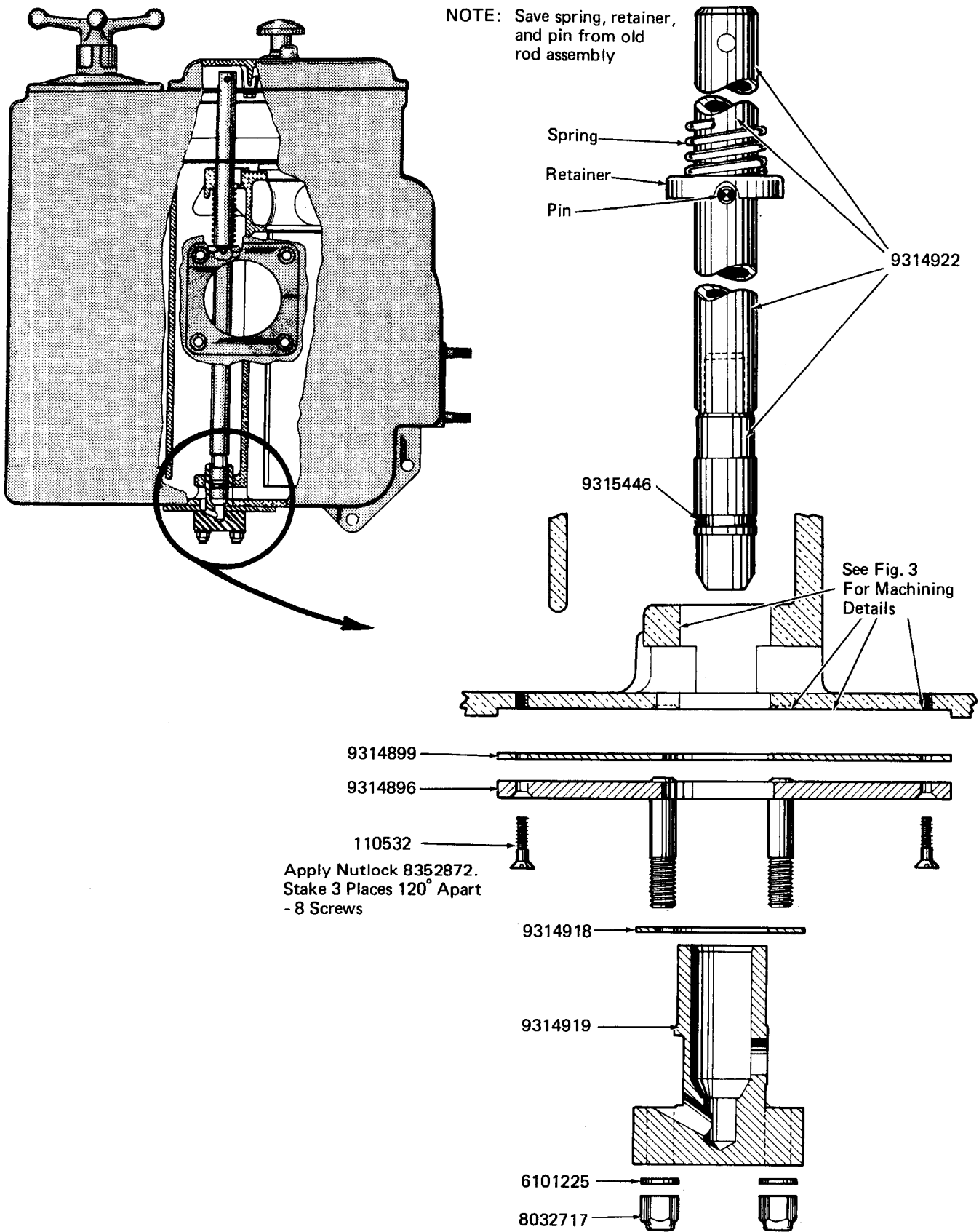


Fig. 2 - Strainer Housing Drain Valve - Exploded View

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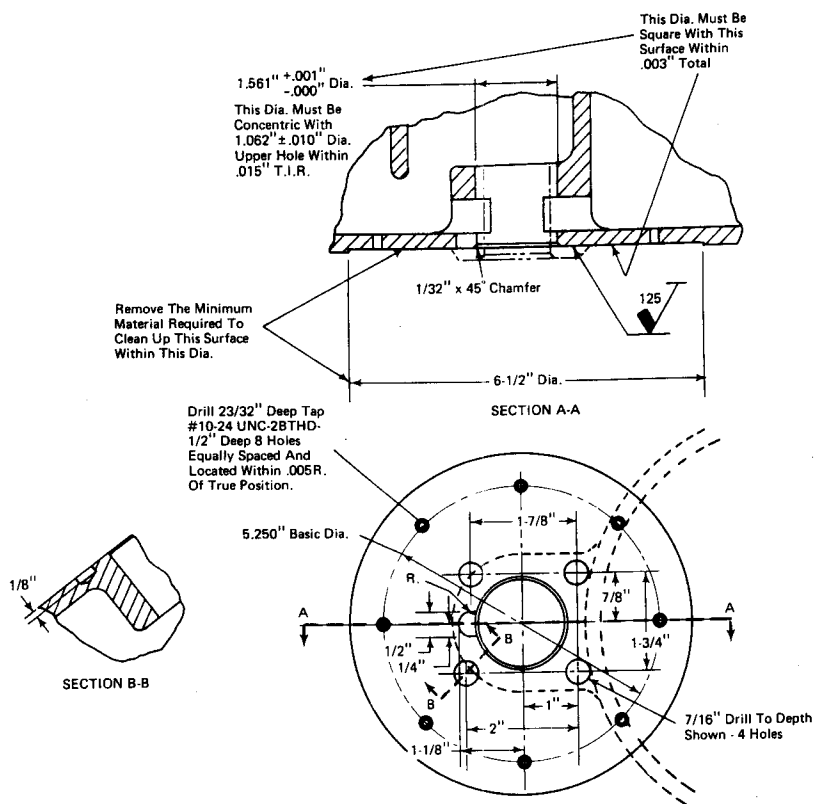
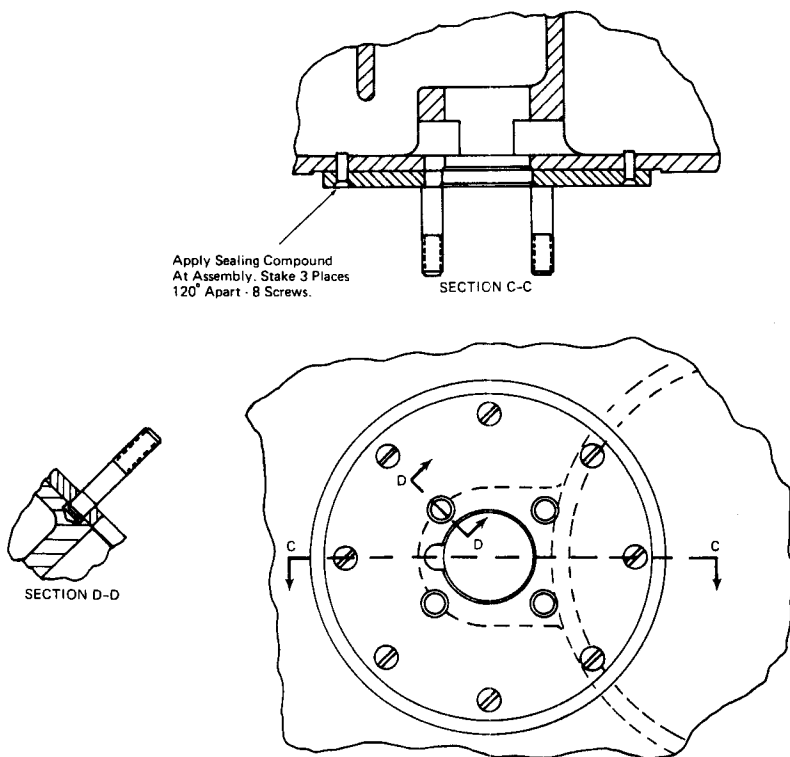


Fig. 3 - Strainer Box Alteration - Part 1



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Fig. 3 - Strainer Box Alteration - Part 2