



652 Oliver Street
Williamsport, PA. 17701 U.S.A.

Tel. 570-323-6181
Fax. 570-327-7101
www.lycoming.com

SERVICE INSTRUCTION

DATE: February 23, 2011

Service Instruction No. 1514B
(Supersedes Service Instruction No. 1514A)
Engineering Aspects are
FAA Approved

SUBJECT: Roller Tappets Part Information Update

MODELS AFFECTED: Lycoming new, rebuilt and overhauled 4 and 6 cylinder aircraft engines with the new roller tappet configuration.

TIME OF COMPLIANCE: Whenever the new roller tappet engines are serviced.

NOTE

Incomplete review of all the information in this document can cause errors. Read the entire Service Instruction to make sure you have a complete understanding of the requirements.

As a product improvement, Lycoming is installing roller tappets on its aircraft engines. Wide deck engines with roller tappets are identified with an “E” suffix after the serial number dash number (Example – L-*****-48E.) On rebuilt and Lycoming overhauled wide deck engines with roller tappets, the letter “A” suffix is replaced with the letter “E” suffix on the engine serial number.

The new parts include roller tappet body assembly, crankcase, camshaft, shorter push rods, shroud tubes and shroud tube seal. The engines use the same hydraulic units and the dry tappet clearance does not change. Refer to Reference 618 in the Table of Limits (SSP-1776) for dry tappet clearance values.

NOTE

At this time, roller tappets are not installed in narrow deck engines.



WARNING

ROLLER TAPPET PARTS ARE NOT INTERCHANGEABLE WITH CURRENT FLAT FACED TAPPETS.

If it is necessary to remove the roller tappet bodies prior to overhaul, they **must be reinstalled in the same location in the crankcase.** The roller tappets are indexed with flats in the new crankcase. It is possible to assemble the roller tappet bodies in two different orientations 180 degrees apart. Either orientation is acceptable while reinstalling. Lubricate all tappet bores, cam lobes and roller tappets with engine oil mixture only. (Refer to the latest revision of Service Instruction No. 1059.) Install the shroud tube seal in the crankcase, then install the shroud tube.



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WARNING

THE ROLLER TAPPETS ARE NOT FIELD REPAIRABLE AND NO DISASSEMBLY IS ALLOWED. THEREFORE, MAGNAFLUX OR ZYGLO INSPECTIONS ARE NOT ALLOWED. A VISUAL INSPECTION FOR INTEGRITY AND FREE ROTATION OF THE ROLLER ACTION IS ACCEPTABLE TO RETURN AN IN-USE ROLLER TAPPET TO SERVICE; HOWEVER, IT IS MANDATORY TO REPLACE ROLLER TAPPETS AT OVERHAUL.

In the event the engine is disassembled for a propeller strike or sudden engine stoppage as defined in the latest revision of Service Bulletin No. 533, all of the roller tappet body assemblies P/N, LRT23381, must be replaced.

Following is a list of push rod assemblies that are employed on 4 and 6 cylinder roller tappet engines only. These push rods are not to be used on non-roller tappet engines.

15F19957-08	15F19957-33	15F19957-60
15F19957-09	15F19957-42	15F19957-61
15F19957-10	15F19957-43	15F21362-08
15F19957-28	15F19957-44	15F21362-09
15F19957-29	15F19957-52	15F21362-10
15F19957-30	15F19957-53	15F21362-18
15F19957-31	15F19957-54	
15F19957-32	15F19957-59	

Refer to the latest revision of Service Instruction No. 1060 for a complete listing of push rod assemblies.

Following is a list of the parts, roller tappet part numbers and flat tappet part numbers for 4 cylinder aircraft engines. (Refer to illustration.)

4 CYLINDER

Item No.	Current Flat Tappet P/N	New Superseding Roller Tappet P/N	Description	
1	LW-11754	15M23451	Camshaft	
	LW-18840	15M23452	Camshaft Assy.	
	LW-12311	15M23453	Camshaft	
	LW-18845	15M23454	Camshaft Assy.	
	LW-12312	15M23455	Camshaft	
	LW-18843	15M23456	Camshaft Assy.	
	15M19407	15M23495	Camshaft (Reverse Rotation)	
	15M19406	15M23496	Camshaft Assy. (Reverse Rotation)	
2	66728	01L23459	Washer, .78 ID x 1-3/8 OD x .041	
3	72877	LRT23381	Body Assy., Hydraulic Tappet Roller	
4	LW-18661	06A23493	Seal, Shroud Tube	
	5	LW-11485	15G23461	Shroud Tube
		72255	15G23462	Shroud Tube
6	68987	15G23494	Shroud Tube	
	LW-13077	15H21201	Spring, Shroud Tube	
	7	LW-13823-1	LW-13823-5	Crankcase Assy.
LW-18399-1		LW-18399-5	Crankcase Assy.	
LW-18402-2		LW-18402-5	Crankcase Assy.	
LW-18770-1		LW-18770-5	Crankcase Assy.	
	11B19524-1	11B19524-5	Crankcase Assy.	

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4 CYLINDER (CONT.)

Item No.	Current Flat Tappet P/N	New Superseding Roller Tappet P/N	Description
	11B20061-1SL	11B20161-1SL	Crankcase Assy.
	11B20061-1SH	11B20161-1SH	Crankcase Assy.
	11B20061-1SB	11B20161-1SB	Crankcase Assy.
	11B20061-1DL	11B20161-1DL	Crankcase Assy.
	11B20061-2SL	11B20161-2SL	Crankcase Assy.
	11B20061-3SL	11B20161-3SL	Crankcase Assy.
	11B20061-3SH	11B20161-3SH	Crankcase Assy.
	11B20061-3SB	11B20161-3SB	Crankcase Assy.
	11D22549	11D22549-5	Crankcase Assy.
	11D22560	11D22560-5	Crankcase Assy.

Following is a list of the parts, roller tappet part numbers and flat tappet part numbers for 6 cylinder aircraft engines. (Refer to illustration.)

6 CYLINDER

Item No.	Current Flat Tappet P/N	New Superseding Roller Tappet P/N	Description
1	LW-13908	15N23373	Camshaft
	LW-19340	15N23374	Camshaft Assy.
	LW-19173	15N23441	Camshaft
	LW-19341	15N23442	Camshaft Assy.
2	66728	01L23459	Washer, .78 ID x 1-3/8 OD x .041
3	72877	LRT23381	Body Assy., Hydraulic Tappet Roller
4	LW-18661	06A23493	Seal, Shroud Tube
5	LW-11485	15G23461	Shroud Tube
	LW-18944	15G23487	Shroud Tube
	72255	15G23462	Shroud Tube
	72257	15G23948	Shroud Tube
6	LW-13077	15H21201	Spring, Shroud Tube
7	11E24000-D1	11E24100-D1	Crankcase Assy.
	11E24000-D2	11E24100-D2	Crankcase Assy.
	11E24000-S1	11E24100-S1	Crankcase Assy.
	11E24000-S2	11E24100-S4	Crankcase Assy.
	11E24000-S3	11E24100-S3	Crankcase Assy.
	11E24000-S4	11E24100-S4	Crankcase Assy.
	11E24001-S1	11E24101-S1	Crankcase Assy.
	11E24002-D3	11E24102-D3	Crankcase Assy.
	11E24004-S1	11E24104-S1	Crankcase Assy.
	11E24005-S1	11E24105-S1	Crankcase Assy.
	11F24020-D1	11F24120-D1	Crankcase Assy.
	11F24020-S1	11F24120-S1	Crankcase Assy.
	11F24020-S3	11F24120-S3	Crankcase Assy.
	11F24020-S8	11F24120-S8	Crankcase Assy.
	11F24022-D3	11F24122-D3	Crankcase Assy.
	11F24022-S3	11F24122-S3	Crankcase Assy.
	11F24023-S3	11F24123-S3	Crankcase Assy.
	11F24023-S6	11F24123-S6	Crankcase Assy.
	11F24024-S7	11F24124-S7	Crankcase Assy.
	11T25020-S1	11T25120-S1	Crankcase Assy.
	11T25020-S3	11T25120-S3	Crankcase Assy.

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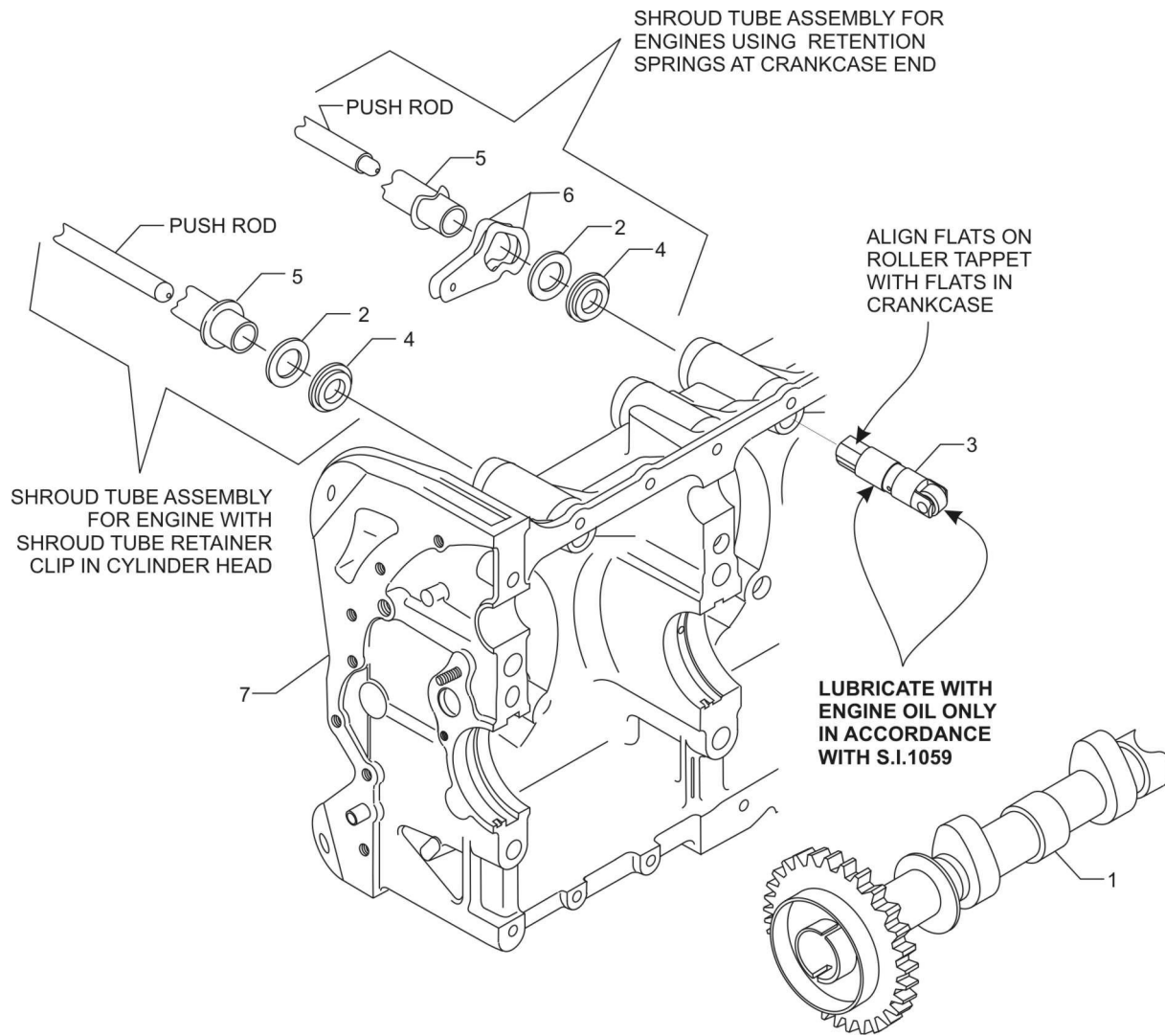


Figure 1. Roller Tappet Assemblies

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