

O-320-H 76 Series Illustrated Parts Catalog

January 2013

PC-122-H 76 Series

LYCOMING © 2013

652 Oliver Street
Williamsport, PA 17701

O-320-H 76 Series Illustrated Parts Catalog

January 2013

PC-122-H 76 Series

LYCOMING © 2013

652 Oliver Street
Williamsport, PA 17701

O-320-H 76 Series Illustrated Parts Catalog

Lycoming Part Number: PC-122-H 76 Series

©2013 by Avco Corporation. All Rights Reserved.

Lycoming and "Powered by Lycoming" are trademarks or registered trademarks of Lycoming.

Lycoming Engines is a division of Avco Corporation

All brand and product names referenced in this publication are trademarks or registered trademarks of their respective companies.

For additional information:

Mailing address:

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

Telephone:

Main Office:	U.S. and Canada Toll Free	+1(800) 258-3279
	Direct	+1(570) 323-6181
Sales Department:		+1(570) 327-7278
		+1(570) 327-7101 (facsimile)

Lycoming's regular business hours are Monday through Friday from 8:00 A.M. through 5:00 P.M. Eastern Time (-5 GMT)

Visit us on the **World Wide Web** at:

<http://www.lycoming.com>

This page intentionally left blank.

LIST OF EFFECTIVE PAGES

<u>Ch-Se-Su</u>	<u>Pages</u>	<u>Date</u>	<u>Ch-Se-Su</u>	<u>Pages</u>	<u>Date</u>
24-20.....	0-1.....	01/13	73-10	32-33	01/13
72-20.....	2-11.....	01/13	74-20	34-35	01/13
72-30.....	12-23.....	01/13	80-10	36-37	01/13
72-50.....	24-31.....	01/13	Service Kits.....	38-40	01/13
			Numerical Index...	41-44	01/13

International Aerotech Academy For Training use Only

This page intentionally left blank.

TABLE OF CONTENTS

<u>Subject</u>	<u>Ch-Se-Su</u>	<u>Page</u>	<u>Date</u>
Frontal			
Record of Revisions		iii	01/13
List of Effective Pages		v	01/13
Table of Contents		vii	01/13
Introduction		ix	01/13
Abbreviations and Acronyms		xiii	01/13
Oversize and Undersize Part Listing		xv	01/13
Electrical Power	24-00		
AC Generation	24-20		
1. Alternator Mounting and Attaching Parts		0-1	01/13
Reciprocating Engine			
	72-00		
Power Section			
	72-20		
1. Crankcase-Assembly		2-3	01/13
2. Crankcase-Related-Parts		4-5	01/13
3. Crankshaft-Assembly-and-Related-Parts		6-7	01/13
4. Camshaft-Assembly-and-Tachometer-Drive		8-9	01/13
5. Crankcase-Attaching-Parts		10-11	01/13
Cylinder Section			
	72-30		
1. Connecting-Rods,-Pistons-and-Ring-Assemblies		12-13	01/13
2. Cylinder-Assembly		14-15	01/13
3. Valve-Assembly-and-Related-Parts		16-17	01/13
4. Cylinder-Related-Parts		18-19	01/13
5. Cylinder-Head-Drain-Tubes and -Intercylinder-Cooling-Baffles		20-21	01/13
6. Intake-Pipes-and-Attaching-Parts		22-23	01/13
Lubrication System			
	72-50		
1. Oil-Level-Gage		24-25	01/13
2. Oil-Sump-Assembly-and-Oil-Suction-Screen		26-27	01/13
3. Oil-Pump-and-Vacuum-Pump-Drive		28-29	01/13
4. Oil-Filter-Assembly-and-Fuel-Pump-Cover		30-31	01/13

<u>Subject</u>	<u>Ch-Se-Su</u>	<u>Page</u>	<u>Date</u>
Engine and Fuel Control _____	73-00	_____	
Fuel Distribution	73-10		
1. Carburetor Assembly		32-33.....	01/13
Ignition Distribution System _____	74-00	_____	
Distribution	74-20		
1. Magnetos,-Magneto-Drives,-Harnesses-and-Spark-Plugs.....		34-35.....	01/13
Starting _____	80-00	_____	
Cranking	80-10		
1. Starter-Motor-and-Attaching-Parts		36-37.....	01/13
Back Section _____			
Service Kit Section		38-40.....	01/13
Numerical Index		31-44.....	01/13

International Aerotech Academy For Training use Only

INTRODUCTION

⚠ CAUTION: DO NOT USE THIS CATALOG AS AN ASSEMBLY OR INSTALLATION DOCUMENT. THIS CATALOG MUST ONLY BE USED TO IDENTIFY PARTS IN CONJUNCTION WITH THE APPLICABLE OVERHAUL MANUAL.

Purpose of this Catalog

This Illustrated Parts Catalog (IPC) contains a complete list of spare parts for the Lycoming O-320-H 76 Series wide cylinder flange model engines.

How to Use this Catalog

This catalog is based on the Air Transport Association (ATA) Spec100 format. In order to clarify illustrations, Lycoming has taken discretion to classify non-system related assemblies and components in the same chapters, because they are physically connected.

This catalog is frequently updated by Service Bulletins (SB) and Service Instructions (SI). The updated information will be incorporated into subsequent full revisions of this catalog.

The ATA two element numbering system provides consistency throughout various manuals. The bottom of each page (beyond the frontal section) contains a two element number (##-##). In the two element numbering, the first two digits represent a chapter, and the next two digits subdivide the material into a more specific section.

The ATA 100 format specifies the subject matter for each chapter-section. According to the ATA Standards, the following chapters apply to the O-320-H 76 Series Illustrated Parts Catalog.

72 (Reciprocating Engine), 73 (Engine and Fuel Control), 74 (Ignition), and 76 (Engine Controls).

EXAMPLE: 74 — 20

Chapter	Section
Ignition	Distribution

NOTE: See the IPC Table of Contents for the sub-systems listed in each section.

Numerical Index

The Numerical Index is a single list of part numbers, names and their locations within the IPC. It is useful for locating parts when you only know the number or name of the part.

Description column

Indentation of a part name represents a lower level of assembly. Attaching parts have the same indentation level and are listed below the parts grouping or assembly they attach to. This column is often referred to as the "Nomenclature" on other ATA Spec manuals.

Units per Assembly Column

Where more than one assembly exists, this column contains the quantity of a specific part required in the build sequence of only one next higher assembly. The letters "AR" represent "as required" for bulk items or non-illustrated select-from-range-parts. "RF" represents items listed for reference purposes only.

Cross Reference List of Manufacturer Parts to Standard Part Numbers**Vendor Accessories**

Parts coverage of Vendor Accessories used on Lycoming engines may be found in the appropriate Vendor's Parts Catalog. A list of vendor's addresses appears in the latest revision of Lycoming Service Letter No. L114.

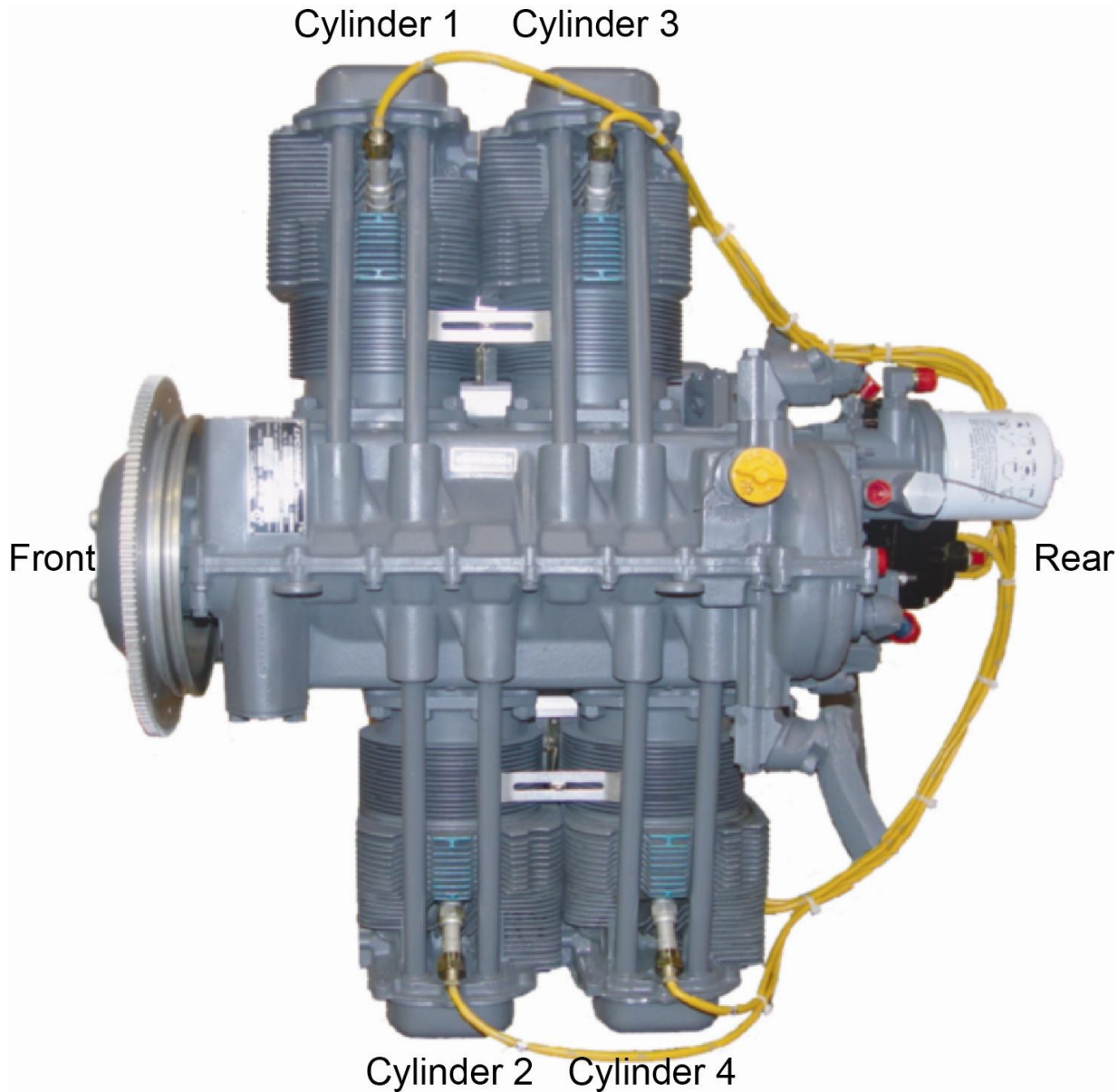
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do not pass through the Lycoming quality control system.

Environmental Compliance

Lycoming is concerned with preserving the environment. Lycoming strongly urges engine owners and repair/overhaul personnel to observe and comply with all federal, state, and local environmental regulations when solvents, paint, fuel, oil, chemicals, or other consumables are used in operating, maintaining, or overhauling an engine component. Please share our concern for, and commitment to a clean earth, clean water, and especially clean air for succeeding generations of flyers.

Perspective of References

In this manual, all references to locations of various components will be designated as if viewing the engine from the rear (or anti-propeller) end. The front of the engine is considered to be the propeller end and the oil sump is considered to be on the bottom of the engine. Cylinders are numbered from front to rear with the odd-numbered cylinders on the right-hand side. The firing order for this engine is 1-3-2-4



Top View of Engine

How to Order Parts and Publications

An Oversize and Undersize Parts List is included in the front section of this catalog, to aid in ordering parts as necessary during overhaul.

Although the information contained in this parts catalog is up-to-date at time of publication, users are advised to procure current information through all Lycoming distributors or from the factory by subscription. Refer to the latest revision of Service Letter No. L114 for subscription information.

1. In order to expedite correct part shipments without delay:
 - a. Always specify the model and serial number of your engine.
 - b. Always specify the part number, nomenclature, and quantity required.

The SB and SI documents are available from Lycoming distributors, or the factory, or by subscription.

Full Revisions of the Illustrated Parts Catalog are available from Lycoming distributors or the factory.

Every effort has been made in preparing this manual to ensure its accuracy. However, any comments, suggestions, or corrections to this manual are welcome and must be directed in writing to:

Technical Publications Coordinator**Lycoming Engines****652 Oliver Street****Williamsport, PA 17701**

NOTE: The owner of the manual must give notification to the factory for a change of address.

Additionally, Lycoming has a Customer Service Hot Line for information and assistance to owners, operators, and maintenance personnel which are servicing Lycoming engines.

Call: U.S. and Canada Toll Free - +1(800) 258-3279

Direct - +1(570) 323-6181

8:00 A.M. – 5:00 P.M. EST (-5GMT)

Monday – Friday.

©2013 by Lycoming. "All Rights Reserved." All Lycoming publications are to be considered copyrighted and may not be reproduced without permission of the company.

ABBREVIATIONS AND ACRONYMS

A	
Adj.	Adjustable
C	
Cyl.	Cylinder
D	
Dia.	Diameter
F	
Fill.	Fillister
H	
Hex.	Hexagon
I	
I.D.	Inside Diameter
N	
No.	Number
O	
O.D.	Outside Diameter
S	
Scav.	Scavenge
T	
Temp.	Temperature
V	
Vac.	Vacuum

This page intentionally left blank.

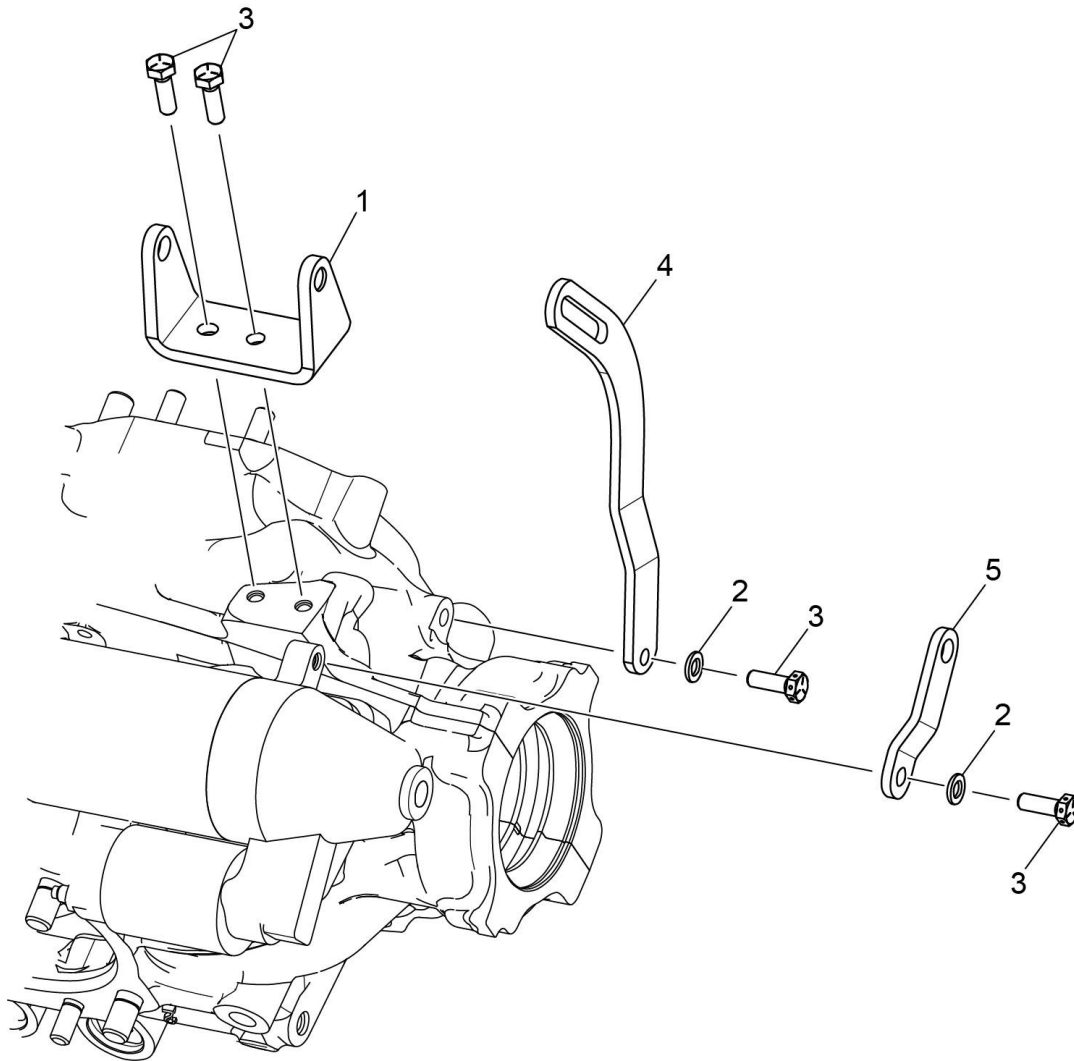
OVERSIZE AND UNDERSIZE PARTS LISTING

Part No.	Description	Oversize (in.)								Undersize (in.)		
		P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
18D26097	BEARING									X	X	X
18M26104	BEARING									X	X	X
LW-13792	SEAL								X			
LW-18815-S	BUSHING		X	X	X	X						
LW-18817-S	BUSHING		X	X	X	X						
STD-2196	DOWEL		X	X	X							
74241	RING			X								
14H21950	RING			X		X						
72057	SEAT		X	X		X	X					
72058	SEAT		X	X		X	X					
61681*	GUIDE		X	X		X	X	X				
16R22291*	GUIDE		X	X		X	X	X				

* - Reference Figure 8 items no. 4 and 5 for valve guides.

NOTE

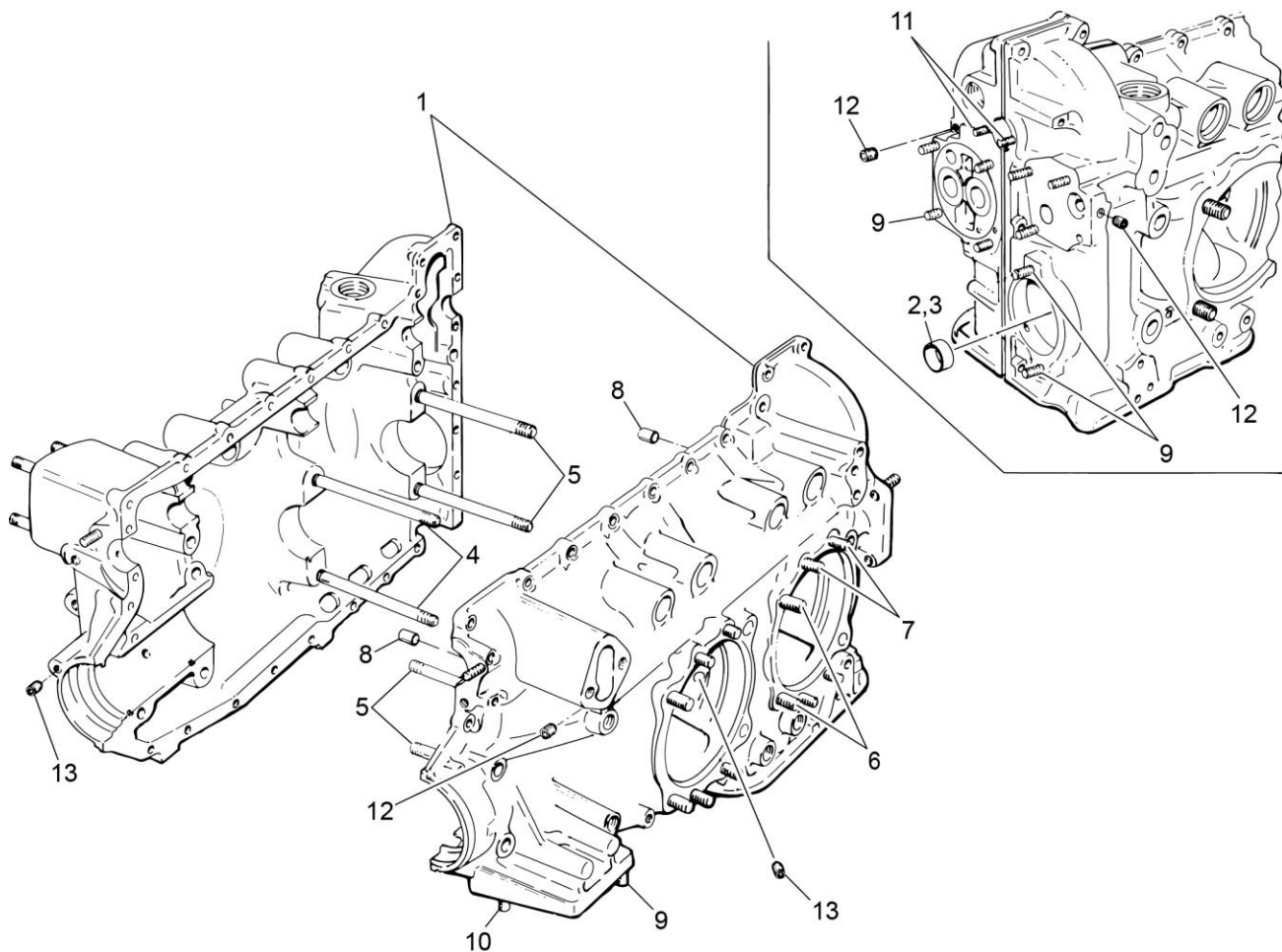
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is "P". These letters are then followed by the number designating the size in thousandths of an inch.



**Alternator Mounting and Attaching Parts
Figure 1**

ELECTRICAL POWER**FIGURE 1 - ALTERNATOR MOUNTING AND ATTACHING PARTS**

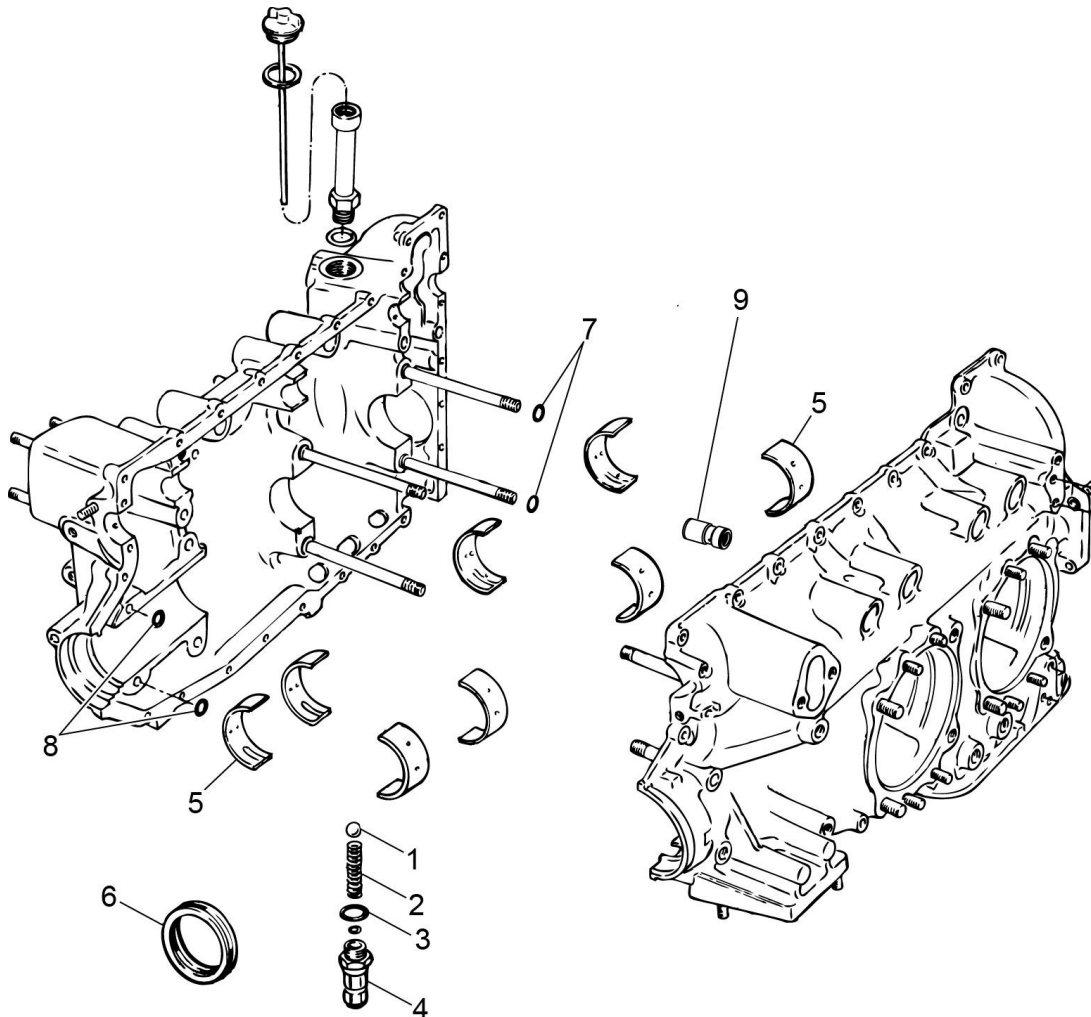
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A21516	BRACKET, Alternator	1
2		STD-35	WASHER, 5/16 plain	2
3		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head	4
4		LW-15351	LINK, Alternator adjusting	1
5		76908	STRUT, Alternator support	1



**Crankcase Assembly
Figure 2**

POWER SECTION**FIGURE 2 - CRANKCASE ASSEMBLY**

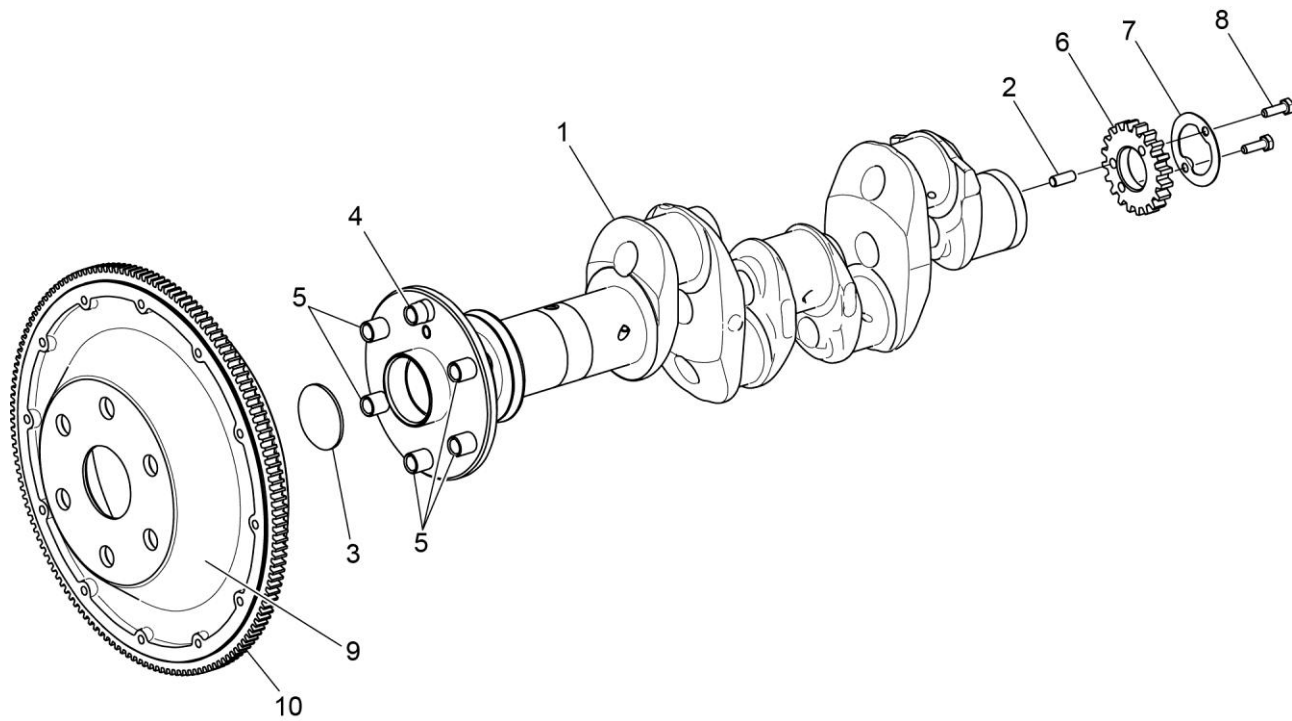
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	LW-18652-S	CRANKCASE ASSEMBLY KIT	1
	P	LW-18652	CRANKCASE ASSEMBLY	1
2		LW-15045	BUSHING, Magneto drive	1
3		STD-394	DOWEL, 3/32 diameter x 3/4 long	1
4		LW-15276	STUD, 1/2-20 x 10-11/16 long	2
5		LW-15277	STUD, 1/2-13 x 8-23/32 long	4
6		50-15	STUD, 1/2-13 x 1-7/8 long	8
7		38-13	STUD, 3/8-16 x 1-5/8 long	16
8		STD-557	DOWEL, 1/2 diameter x 11/16 long	3
9		31C-12	STUD, 5/16-18 x 1-1/2 long	8
10		31C-13	STUD, 5/16-18 x 1-5/8 long	1
11		25C-9	STUD, 1/4-20 x 1-1/8 long	2
12		1102	PLUG, 1/8-27 NPT, allen head	3
13		STD-1339	PLUG, 1/16-27 NPT, allen head	5
<p>P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * Refer to Service Kits Section for applicable Crankcase Assembly Kit Part Numbers.</p>				



**Crankcase Related Parts
Figure 3**

POWER SECTION**FIGURE 3 - CRANKCASE RELATED PARTS**

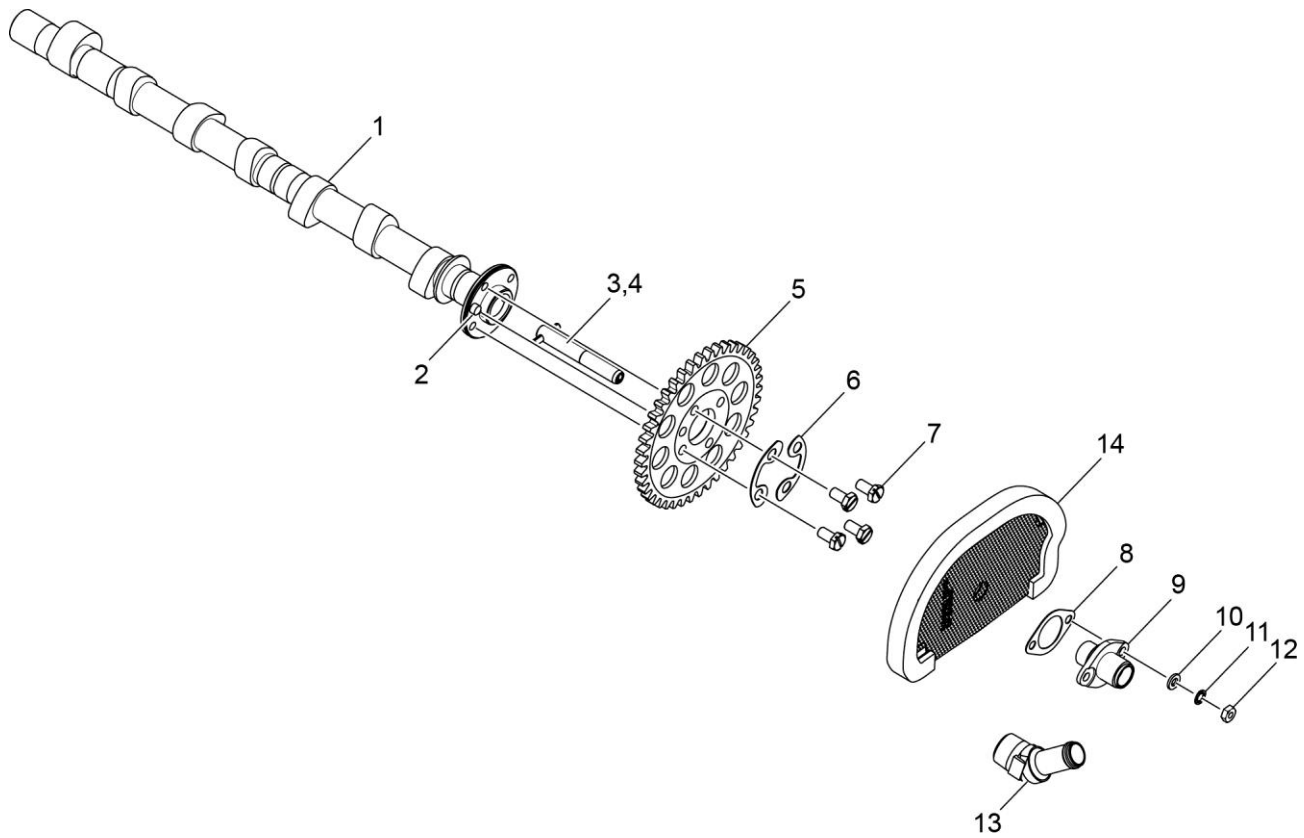
Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	61084	SPRING, Oil pressure relief valve	1
	*	68668	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, Annular, 1-1/4 I.D.	1
4		77808	VALVE ASSEMBLY, Oil pressure relief	1
5		18D26097	BEARING, Crankshaft	8
6	**	LW-13792	SEAL, Crankshaft oil	1
7		72075	SEAL, Oil, 3/32 section x 15/32 I.D.	2
8		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
9		15B28040	LIFTER, Hydraulic	8
<p>* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of SSP-1776, Part I for spring identification.</p> <p>** See latest revision of Lycoming Service Instruction No. 1324 for installation.</p>				



**Crankshaft Assembly and Related Parts
Figure 4**

POWER SECTION**FIGURE 4 - CRANKSHAFT ASSEMBLY AND RELATED PARTS**

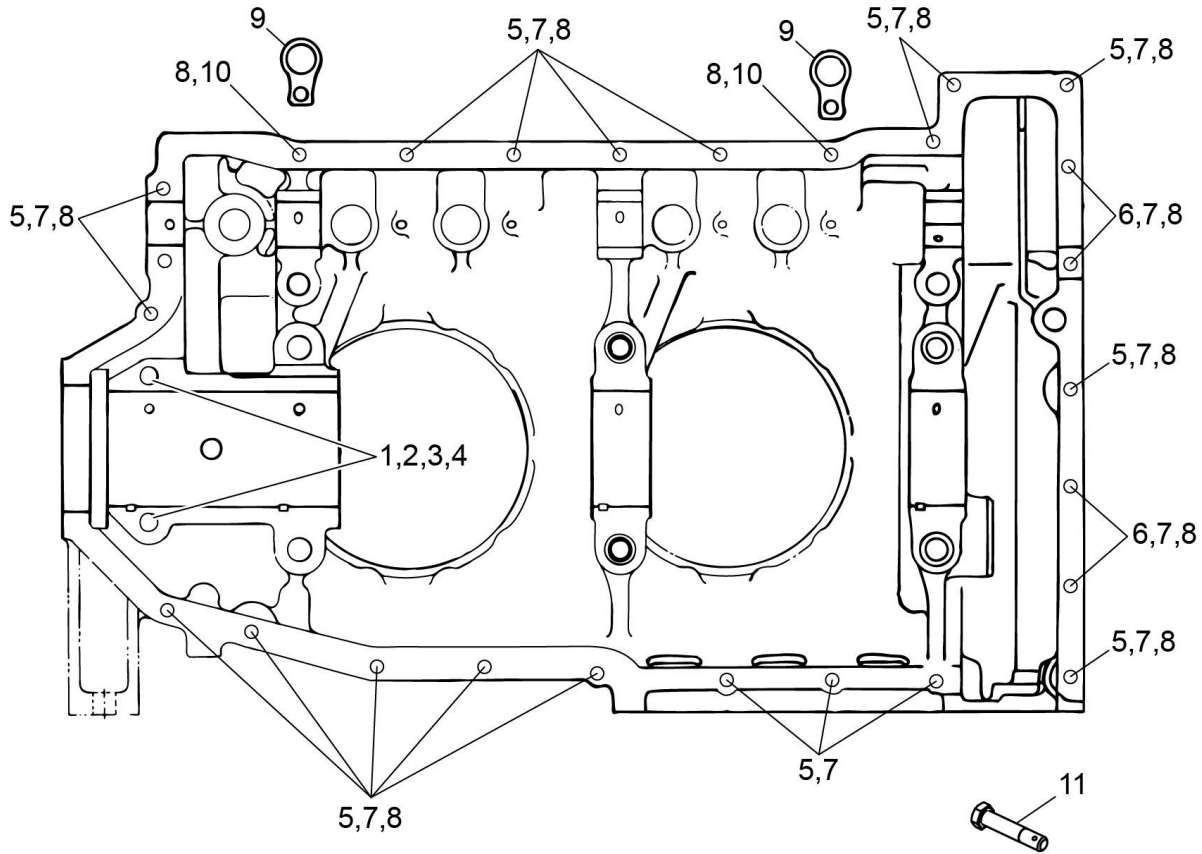
Figure Item	Code	Part Number	Description	Units per Assembly
1		13B47026	CRANKSHAFT ASSEMBLY	1
2		STD-2196	DOWEL, Stepped, 5/16-14 diameter	1
3		STD-1211	PLUG, 2.00 diameter expansion	1
4		LW-11817-S	BUSHING, Propeller flange, long	1
5		LW-11815-S	BUSHING, Propeller flange, short	5
6		LW-15949	GEAR, Crankshaft	1
7		LW-15950	LOCKPLATE, Crankshaft gear	1
8		STD-2155	SCREW, 1/4-28 x 27/32 long	2
9		76628	SUPPORT ASSEMBLY, Starter ring gear	1
10		72566	GEAR, Starter ring, 12/14 pitch	1



**Camshaft Assembly and Tachometer Drive
Figure 5**

POWER SECTION**FIGURE 5 - CAMSHAFT ASSEMBLY AND TACHOMETER DRIVE**

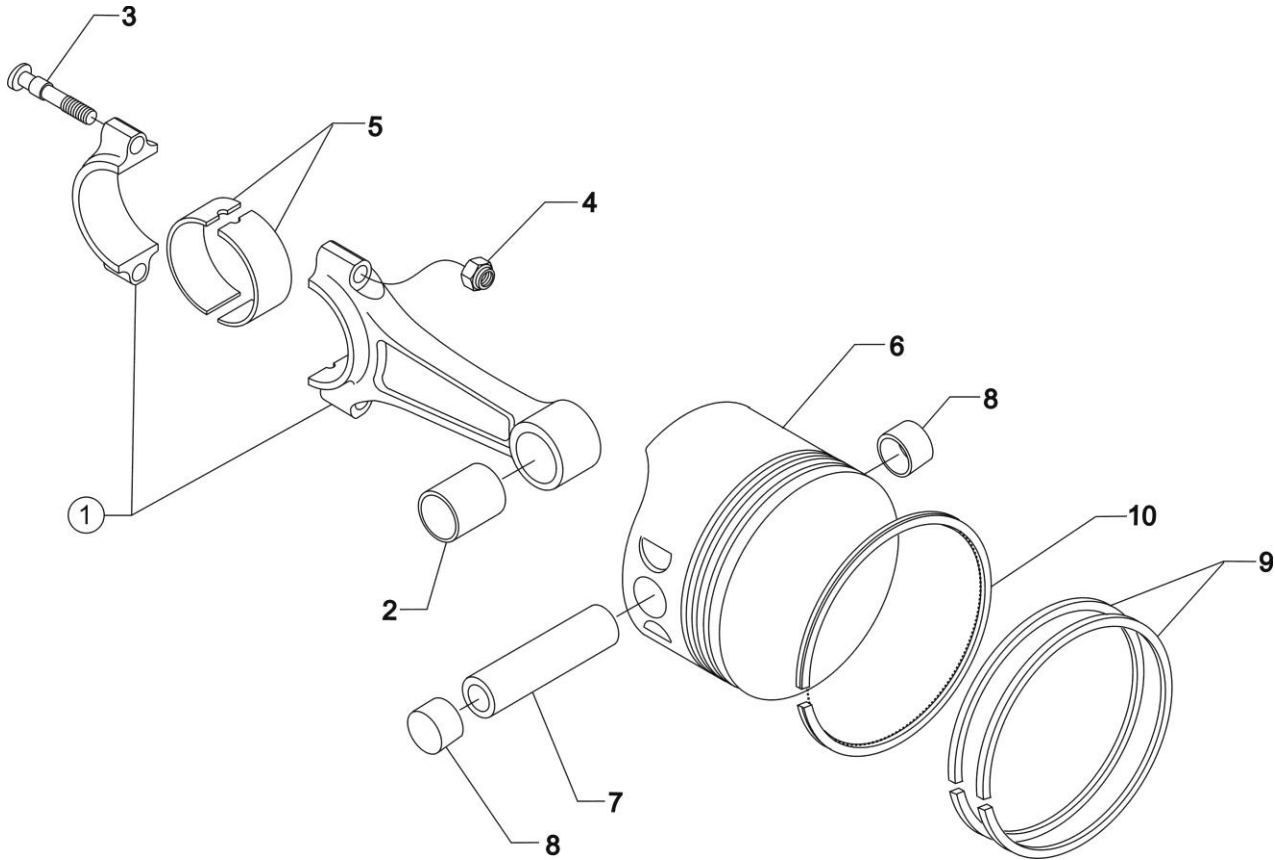
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-16511	CAMSHAFT ASSEMBLY	1
2		STD-1066	DOWEL, 5/16 and 1/4 diameter x 13/32 long	1
3		LW-15032	SHAFT ASSEMBLY, Tachometer	1
4		STD-2169	ROLL PIN, 3/16 x 1-1/8 long	1
5		LW-15031	GEAR, Camshaft	1
6		72078	LOCKPLATE, 5/16 bolt x 1-21/64 spacing	2
7		STD-703	SCREW, 5/16 x 37/64 long	4
8		LW-16573	GASKET, Tachometer adapter	1
9		LW-16575	TACHOMETER ADAPTER & SEAL ASSY.	1
10		STD-8	WASHER, 1/4 plain	2
11		STD-160	WASHER, 1/4 lock, internal teeth	2
12		STD-1411	NUT, 1/4-20 plain	2
13		AN844-12D	ELBOW, 3/4 NPT to 3/4 I.D. hose-4	1
14		LW-15379	BAFFLE, Breather	1



**Crankcase Attaching Parts
Figure 6**

POWER SECTION**FIGURE 6 - CRANKCASE ATTACHING PARTS**

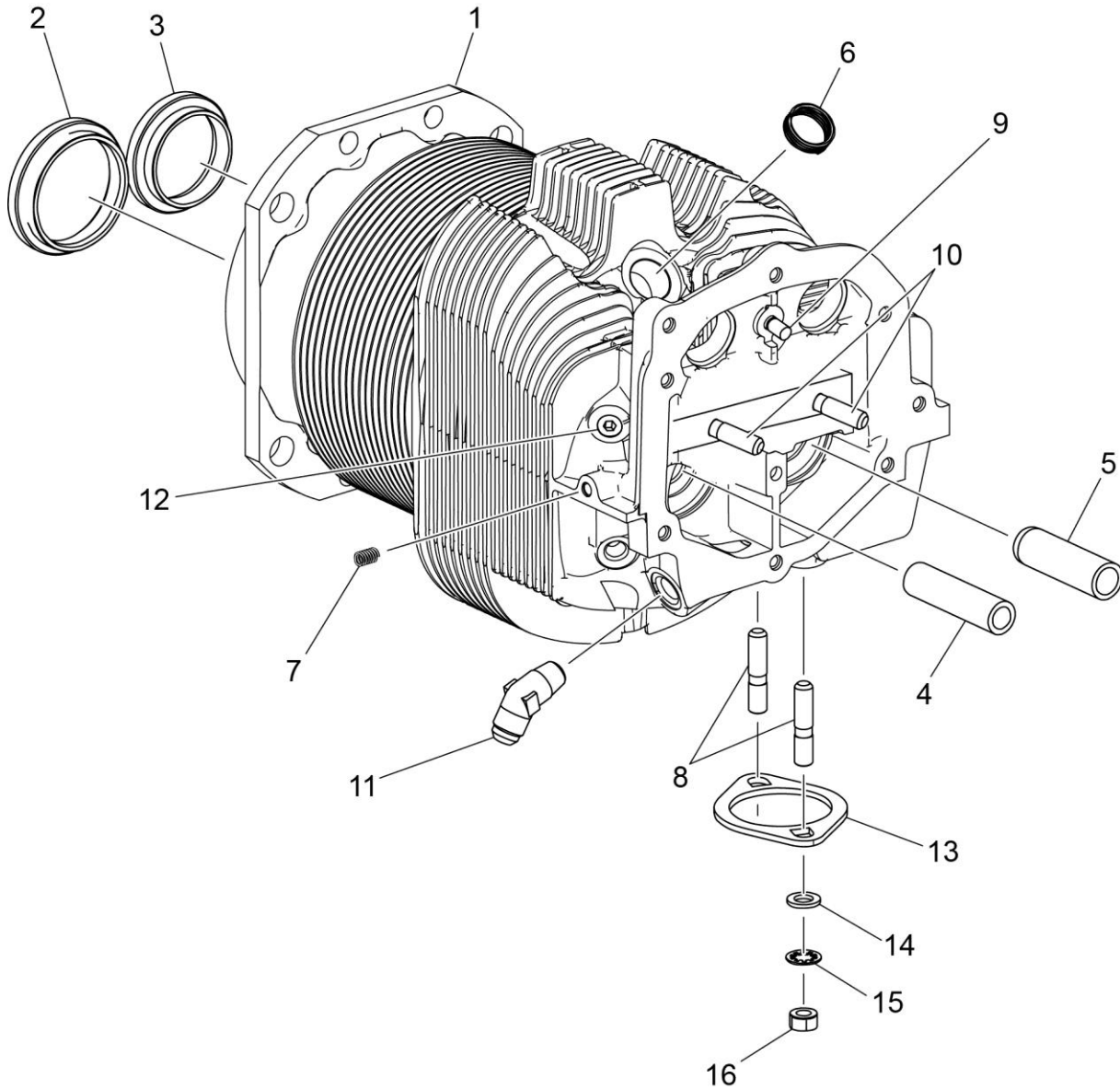
Figure Item	Code	Part Number	Description	Units per Assembly
1		AN6-36A	BOLT, 3/8-24 x 3-13/16 long, hex. head	2
2		STD-33	WASHER, 3/8 plain	4
3		STD-678	WASHER, 3/8 lock, internal teeth	2
4		STD-596	NUT, 3/8-24 plain	2
5		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	19
6		LW-25-3.38	BOLT, 1/4-20 x 3-3/8 long, hex. head	4
7		STD-8	WASHER, 1/4 plain	25
8		STD-160	WASHER, 1/4 lock, internal teeth	24
9		LW-15063	EYE, Lifting	2
10		STD-2047	BOLT, 1/4-20 x 1-3/8 long, hex. head	2
11		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	2



**Connecting Rods, Pistons and Ring Assemblies
Figure 7**

CYLINDER SECTION**FIGURE 7 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

Figure Item	Code	Part Number	Description	Units per Assembly
1		78030-S	CONNECTING ROD ASSEMBLY	4
2		LW-13923	BUSHING, Connecting rod, upper	4
3		78027	BOLT, Connecting rod	8
4		LW-12186	NUT, Connecting rod	8
5		18M26104	BEARING, Connecting rod	8
6		14D23914	PISTON, 9.00:1 compression ratio	4
7		LW-14078	PIN, Piston	4
8		72198	PLUG, Piston pin	8
9		74241	RING, Piston compression	8
10		14H21950	RING, Piston, oil	4

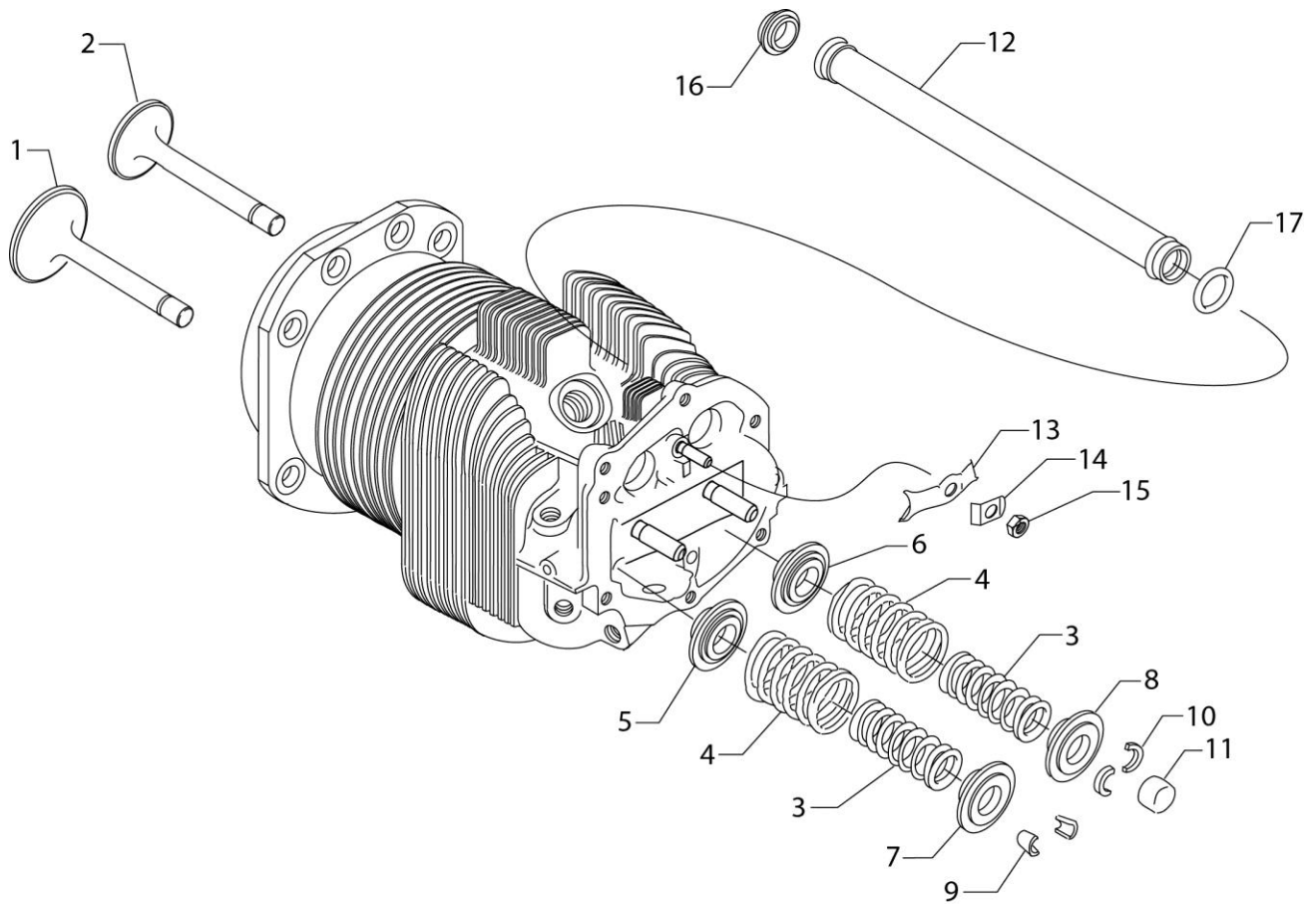


International Aerotech Academy For Training use Only

**Cylinder Assembly
Figure 8**

CYLINDER SECTION
FIGURE 8 - CYLINDER ASSEMBLY

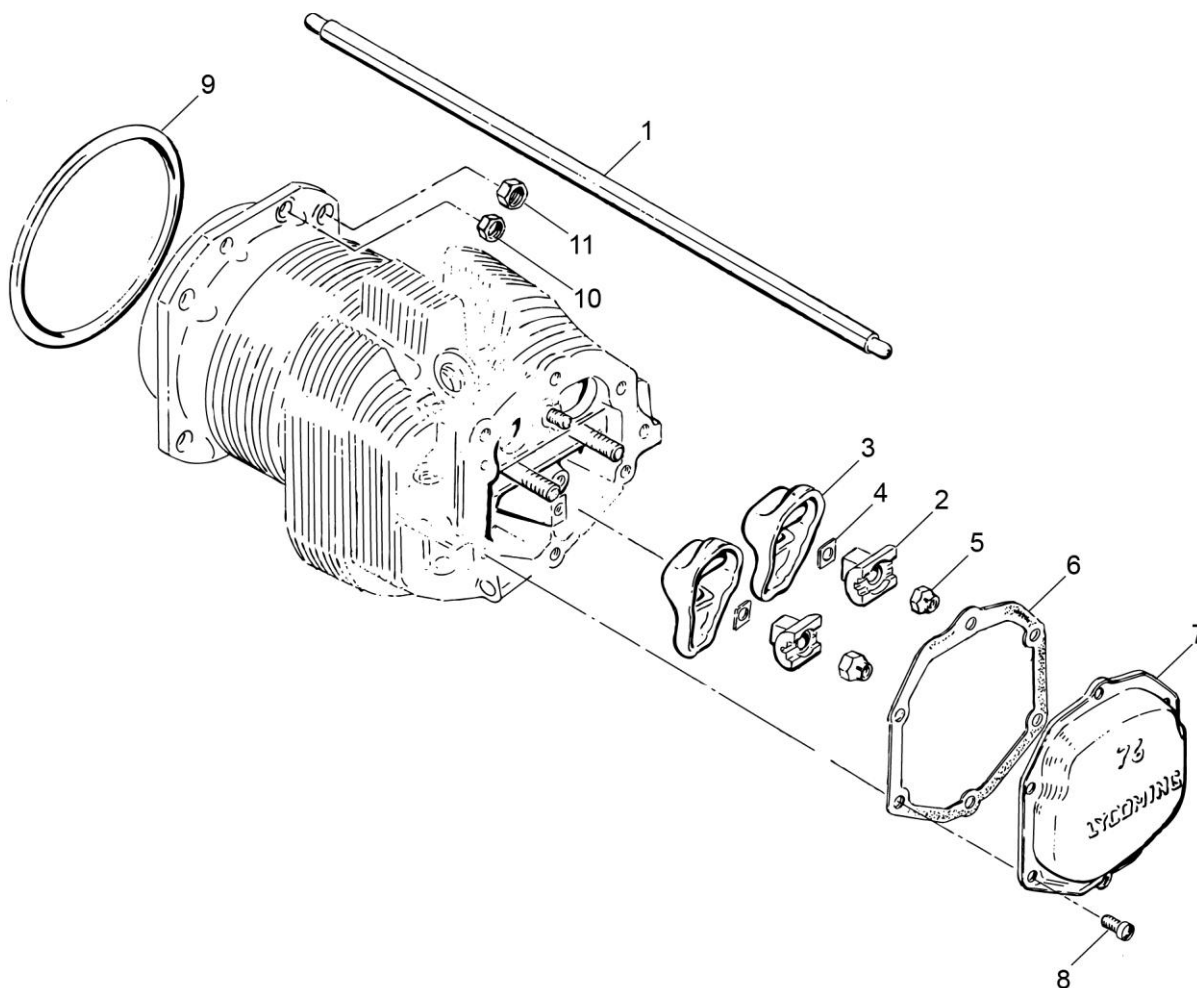
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15318	CYLINDER ASSEMBLY, Nitrided	4
2		72057	SEAT, Intake valve	4
3		72058	SEAT, Exhaust valve	4
4	P*	76943	GUIDE, Valve, intake	4
5	P*	16R22126	GUIDE, Valve, exhaust	4
6	P	66796	INSERT, Spark plug, 1.5 mm	8
7		STD-1353	INSERT, No. 10-24 UNC x 3/8 long	4
8		31C-12	STUD, 5/16-18 x 1-1/2 long	8
9		25C-8	STUD, 1/4-20 x 1.00 long	4
10		31-16	STUD, 5/16-18 x 2.00 long	2
11		LW-15360	ELBOW, 45°, 1/4-28 x 1/2 tube	4
12	**	1102	PLUG, 1/8-27 NPT, allen head	4
13		77611	GASKET, Exhaust flange	4
14		STD-35	WASHER, 5/16 plain	8
15		STD-475	WASHER, 5/16 lock, internal teeth	8
16		STD-1410	NUT, 5/16-18 plain	8
<p>P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * See latest revision of Service Instruction No. 1256 for service valve guides. ** Used on installations without injector or priming lines.</p>				



**Valve Assembly and Related Parts
Figure 9**

CYLINDER SECTION**FIGURE 9 – VALVE ASSEMBLY AND RELATED PARTS**

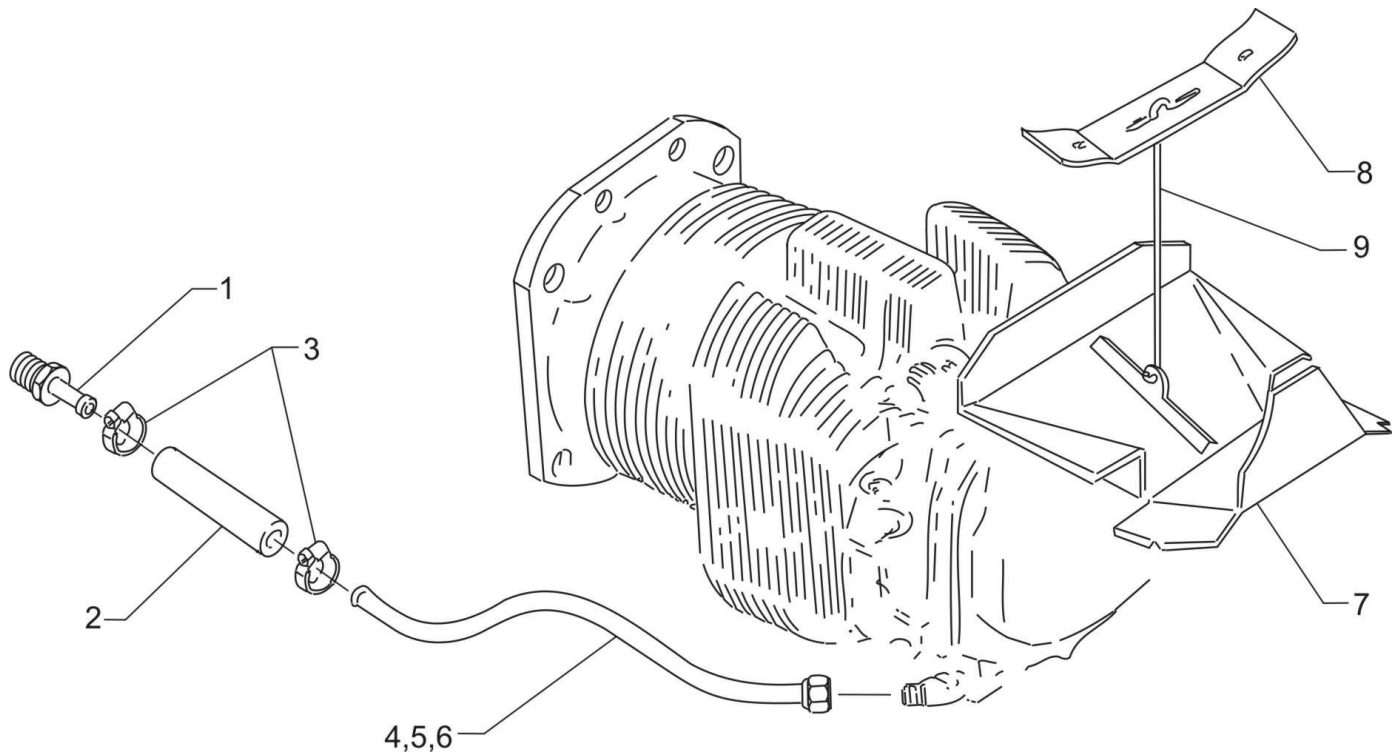
Figure Item	Code	Part Number	Description	Units per Assembly
1		17A23945	VALVE, Intake	4
2		17B23936	VALVE, Exhaust	4
3		LW-11795	SPRING, Valve, inner	8
4		LW-11800	SPRING, Valve, outer	8
5		65441	SEAT, Valve spring, lower intake	4
6		LW-13323	SEAT, Valve spring, lower exhaust	4
7		LW-10077	SEAT, Valve spring, upper intake	4
8		LW-16475	SEAT, Valve spring, upper exhaust	4
9		60009	KEY, Valve, intake	8
10		17C21191	KEY, Valve, exhaust	8
11		LW-15316	CAP, Valve stem exhaust	4
12		LW-16055	SHROUD TUBE	8
13		LW-14995	SPRING, Shroud tube	4
14		LW-12272	LOCKPLATE, Shroud tube	4
15		STD-1411	NUT, 1/4-20 plain	4
16		LW-R-0.750-275	"O" RING	8
17		70310	SEAL, Shroud tube	8



**Cylinder Related Parts
Figure 10**

CYLINDER SECTION**FIGURE 10 – CYLINDER RELATED PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15315	ROD ASSEMBLY, Push	8
2		LW-15407	SEAT, Valve rocker arm	8
3		LW-15014	ROCKER ARM, Valve	8
4	AR	LW-15709	WASHER, 21/64 I.D. x 1/64 thick	AR
5		STD-2237	NUT, 5/16-24 self-locking	8
6		75906	GASKET, Rocker box cover	4
7		LW-15330	COVER, Rocker box	4
8		STD-1925	SCREW, 1/4-20 x 5/8 long, pan head	24
9		71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	4
10		383-B	NUT, 3/8-24 plain	16
11		STD-2090	NUT, 1/2-20 plain	16
AR as required				

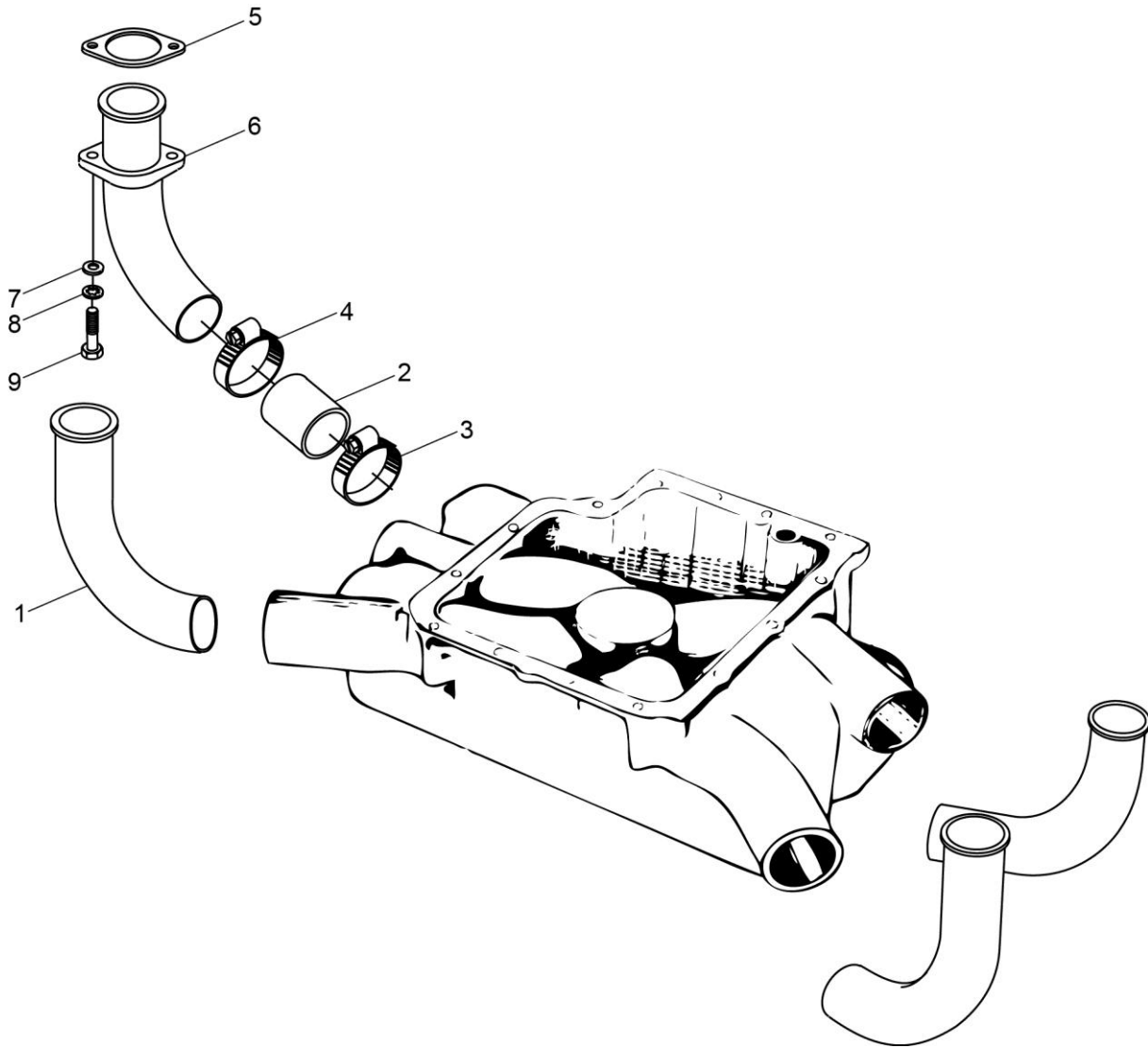


International Aerotech Academy For Training use Only

**Cylinder Head Drain Tubes and Intercylinder Cooling Baffles
Figure 11**

CYLINDER SECTION**FIGURE 11 –CYLINDER HEAD DRAIN TUBES AND INTERCYLINDER COOLING BAFFLES**

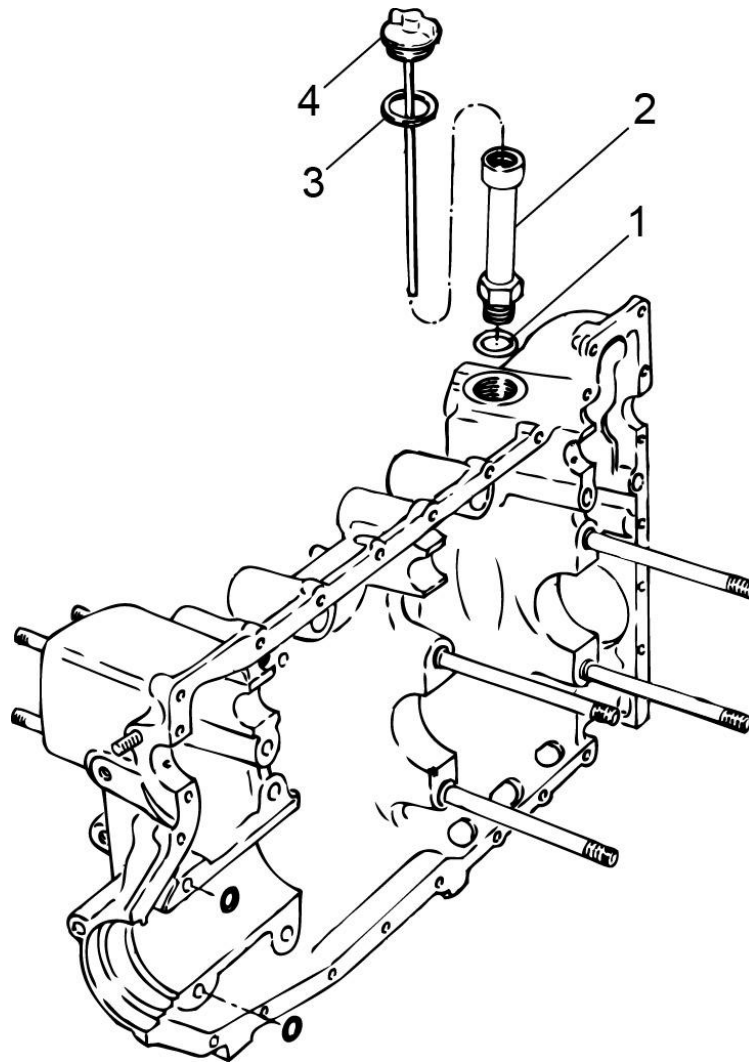
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15359	NIPPLE, 1/4-28 x 1/2 I.D. hose	4
2		LW-15358	HOSE, 1/2 I.D. x 1-7/8 long	4
3		LW-15592-8-08	CLAMP, Hose	8
4		LW-15361	TUBE ASSEMBLY, Oil drain, cylinder no. 1	1
5		LW-15362	TUBE ASSEMBLY, Oil drain, cylinder no. 2	1
6		LW-14680	TUBE ASSEMBLY, Oil drain, cylinders no. 3 & 4	2
7		72569	BAFFLE ASSEMBLY, Intercylinder	2
8		71611	RETAINER, Intercylinder baffle	2
9		71610	HOOK, Intercylinder baffle retainer	2



**Intake Pipes and Attaching Parts
Figure 12**

CYLINDER SECTION**FIGURE 12 – INTAKE PIPES AND ATTACHING PARTS**

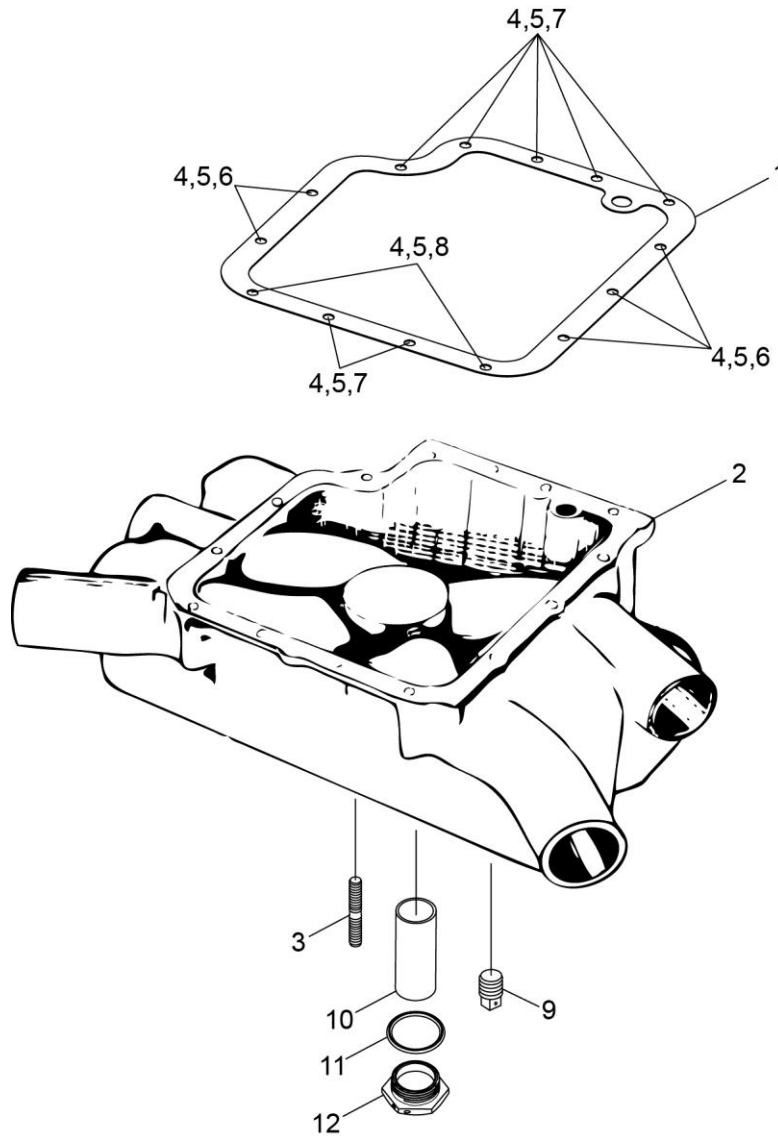
Figure Item	Code	Part Number	Description	Units per Assembly
1		70485	PIPE, Intake	4
2		LW-18101	HOSE, Intake pipe	4
3		LW-15592-8-32	CLAMP, Hose, 2-1/8 - 2-25/32 x 9/16 wide	4
4		LW-15592-8-28	CLAMP, Hose	4
5		71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4
6		73346	FLANGE, Intake pipe, upper	4
7		STD-8	WASHER, 1/4 plain	8
8		STD-160	WASHER, 1/4 lock, internal teeth	8
9		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	8



**Oil Level Gage
Figure 13**

LUBRICATION SYSTEM
FIGURE 13 – OIL LEVEL GAGE

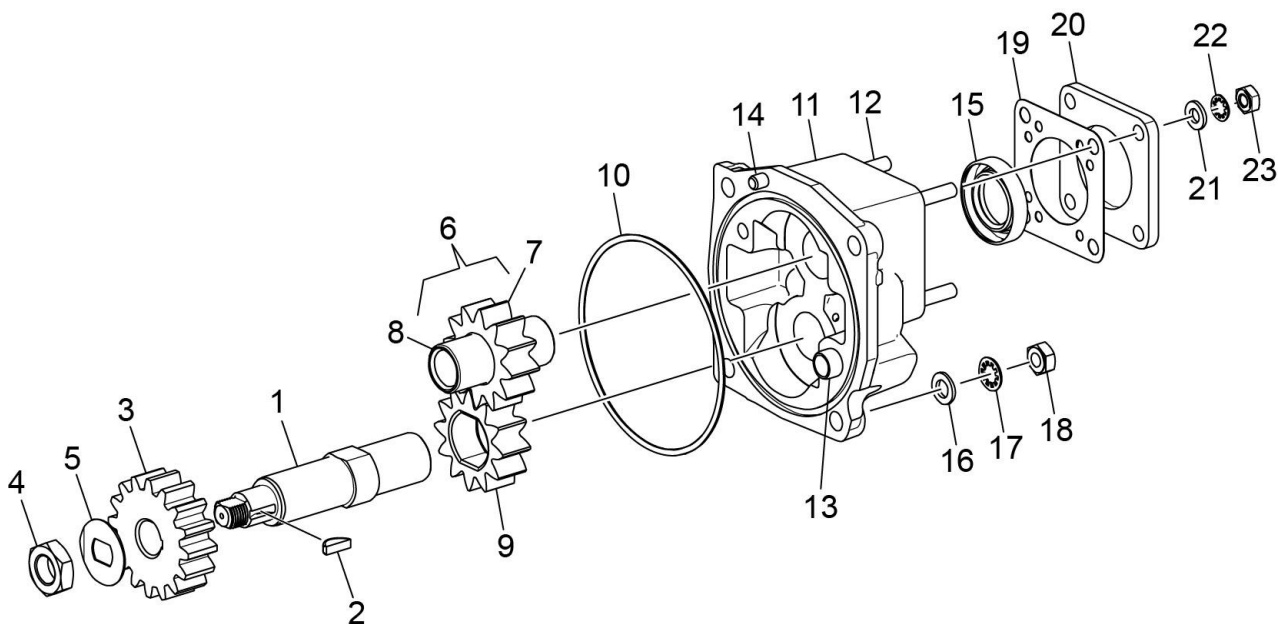
Figure Item	Code	Part Number	Description	Units per Assembly
1		70457	GASKET, Oil filler extension	1
2		75675	EXTENSION, Oil filler, 2-3/16 long	1
3		72220	GASKET, Oil level gage	1
4		LW-14784	GAGE ASSEMBLY, Oil level	1



Oil Sump Assembly and Oil Suction Screen
Figure 14

LUBRICATION SYSTEM**FIGURE 14 – OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN**

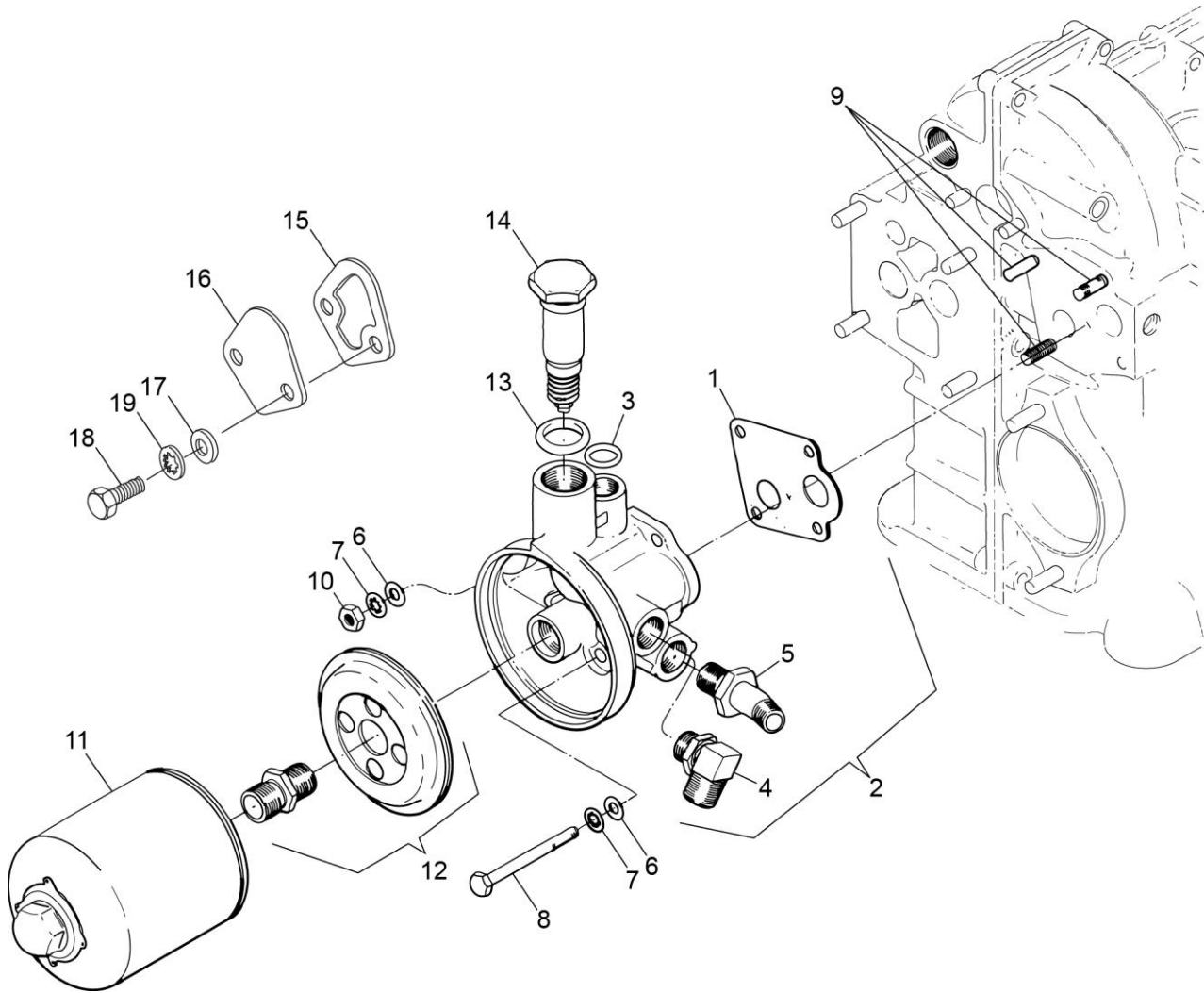
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15071	GASKET, Oil sump	1
2		LW-14293	SUMP ASSEMBLY, Oil	1
3		31C-15	STUD, 5/16-18 x 1-7/8 long	4
4		STD-8	WASHER, 1/4 plain	14
5		STD-160	WASHER, 1/4 lock, internal teeth	14
6		LW-25-5.63	BOLT, 1/4-20 x 5-5/8 long, hex. head	5
7		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	7
8		LW-25-2.56	BOLT, 1/4-20 x 2-9/16 long, hex. head	2
9		STD-551	PLUG, 1/2-14 NPT, square head, drilled	1
10		61378	SCREEN, Oil suction	1
11		06E19769-1.25	GASKET, Annular, 1-1/4 I.D.	1
12		61358	PLUG, 1-1/2 hex. x 1-1/4-12	1



**Oil Pump and Vacuum Pump Drive
Figure 15**

LUBRICATION SYSTEM**FIGURE 15 – OIL PUMP AND VACUUM PUMP DRIVE**

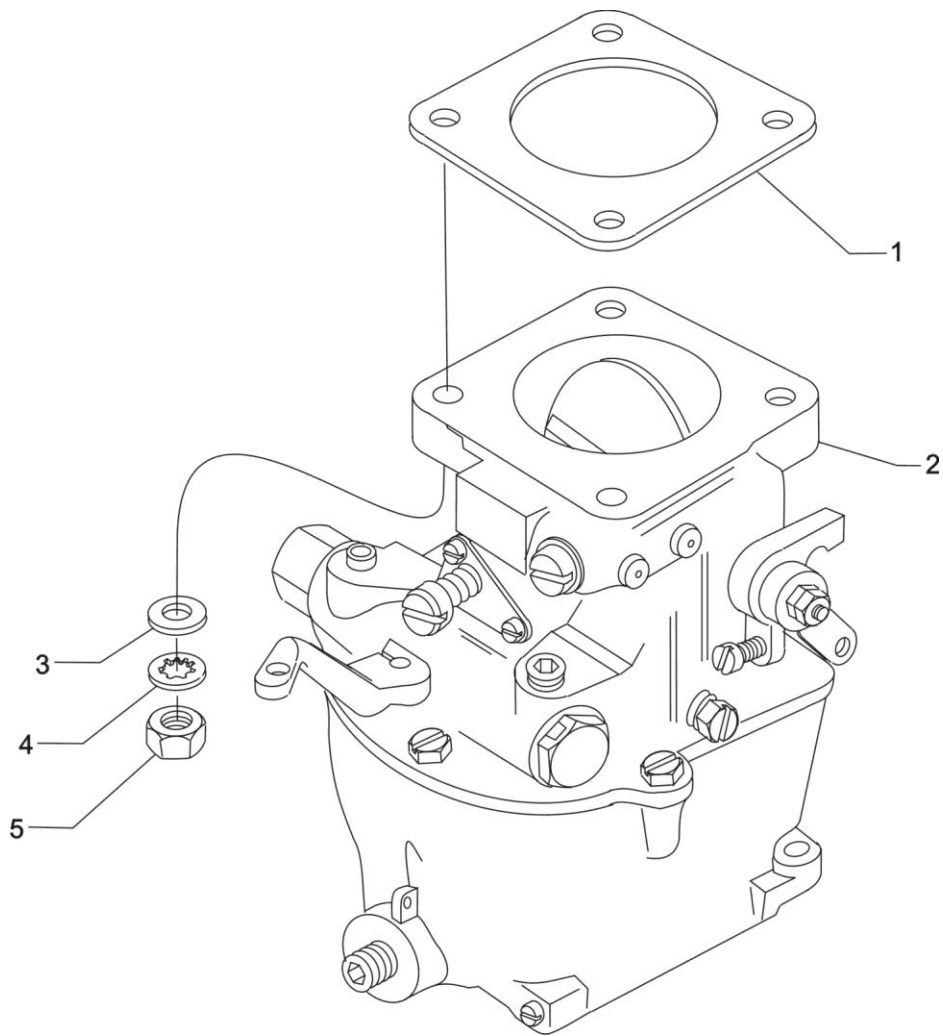
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15345	SHAFT, Oil and vacuum pump drive	1
2		STD-2057	KEY, 5/8 diameter x 5/32 Woodruff	1
3		LW-15263	GEAR, Oil pump drive	1
4		STD-1063	NUT, 9/16-18 x 9/32	1
5		LW-15262	LOCKPLATE, Oil pump	1
6		LW-15999	IMPELLER ASSEMBLY, Oil pump driven	1
7		LW-15997	IMPELLER, Oil pump driven	1
8		LW-15022	SHAFT, Oil pump idler	1
9		LW-15998	IMPELLER, Oil pump driven	1
10		LW-15070	"O" RING, 3-1/2 I.D. x 3/32	1
11		51A21091	BODY ASSEMBLY, Oil pump and vacuum pump drive	1
12		25C-12	STUD, 1/4-20 x 1-1/2 long	4
13		STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	1
14		66145	DOWEL, 1/4 diameter x 1/2 long	1
15		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	1
16		STD-35	WASHER, 5/16 plain	4
17		STD-475	WASHER, 5/16 lock, internal teeth	4
18		STD-1410	NUT, 5/16-18 plain	4
19		8313	GASKET, Vacuum pump	1
20		60430	COVER, Vacuum pump	1
21		STD-8	WASHER, 1/4 plain	4
22		STD-160	WASHER, 1/4 lock, internal teeth	4
23		STD-1411	NUT, 1/4-20 plain	4



**Oil Filter Assembly and Fuel Pump Cover
Figure 16**

LUBRICATION SYSTEM**FIGURE 16 – OIL FILTER ASSEMBLY AND FUEL PUMP COVER**

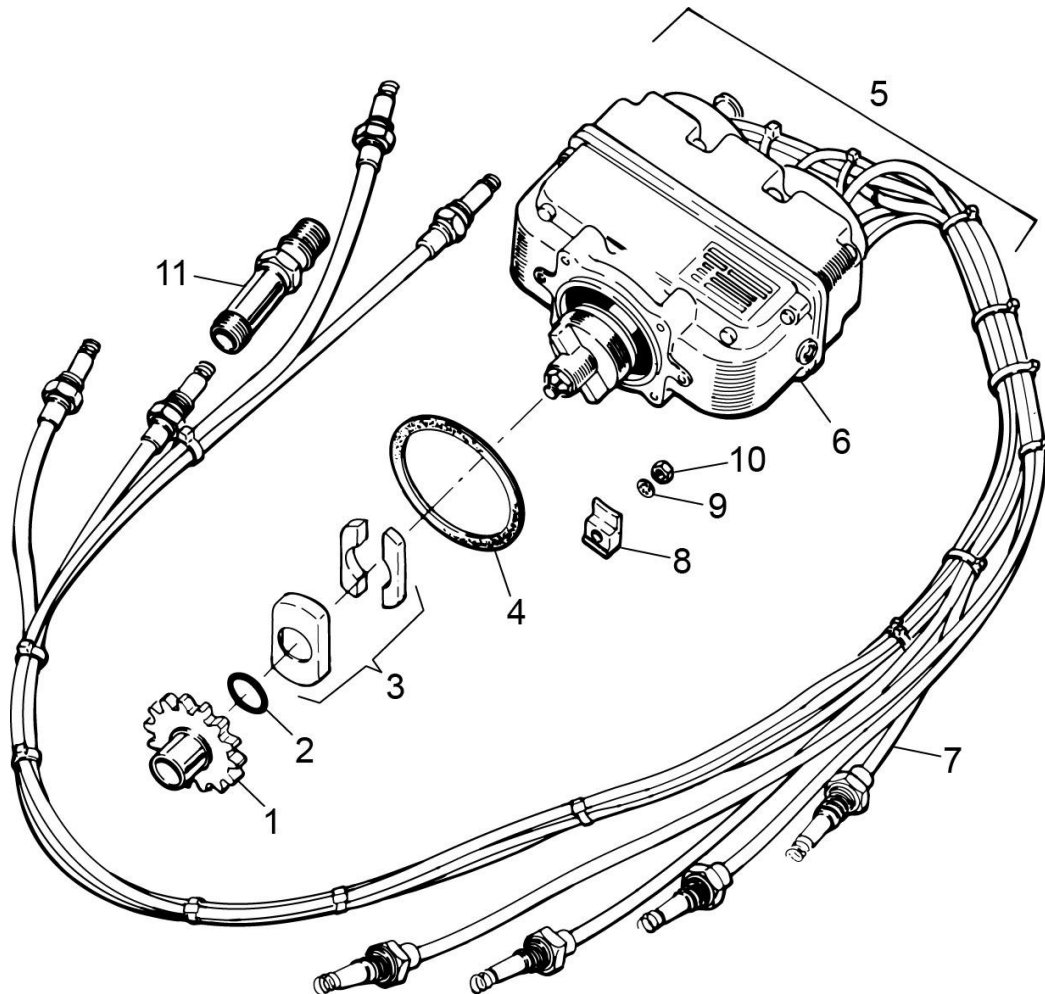
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15046	GASKET, Oil filter adapter	1
2		LW-16118	ADAPTER ASSEMBLY, Oil filter	1
3		MS29512-08	"O" RING, 21/32 O.D. x 3/32 section	2
4		LW-10637	ELBOW, 90-50 tube, 3/4-16 thick	1
5		LW-14685	ELBOW, 1/2 tube x 3/4-16	1
6		STD-8	WASHER, 1/4 plain	4
7		STD-160	WASHER, 1/4 lock, internal teeth	4
8		LW-25-3.00	BOLT, 1/4-20 x 3.00 long, hex. head	1
9		25C-12	STUD, 1/4-20 x 1-1/2 long	3
10		STD-1411	NUT, 1/4-20 plain	3
11	V	LW-13906	OIL FILTER, Short, V CH48103-1	1
12		54E23093	KIT, Converter plate, oil filter	1
13		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
14		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1
15		60096	GASKET, Fuel pump	1
16		03D23350	COVER, Fuel pump	1
17		STD-33	WASHER, 3/8 plain	2
18		LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head	2
19		STD-678	WASHER, 3/8 lock, internal teeth	1
V Vendor Prime Manufacturer part				



**Carburetor Assembly
Figure 17**

FUEL DISTRIBUTION**FIGURE 17 – CARBURETOR ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly
1		66224	GASKET, Carburetor	1
2	V	61B26214	CARBURETOR, MA 4-SPA, V AV 10-5217	1
3		STD-35	WASHER, 5/16 plain	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4
5		STD-1410	NUT, 5/16-18 plain	4
V Vendor Prime Manufacturer part.				



**Magnetos, Magneto Drives, Harnesses and Spark Plugs
Figure 18**

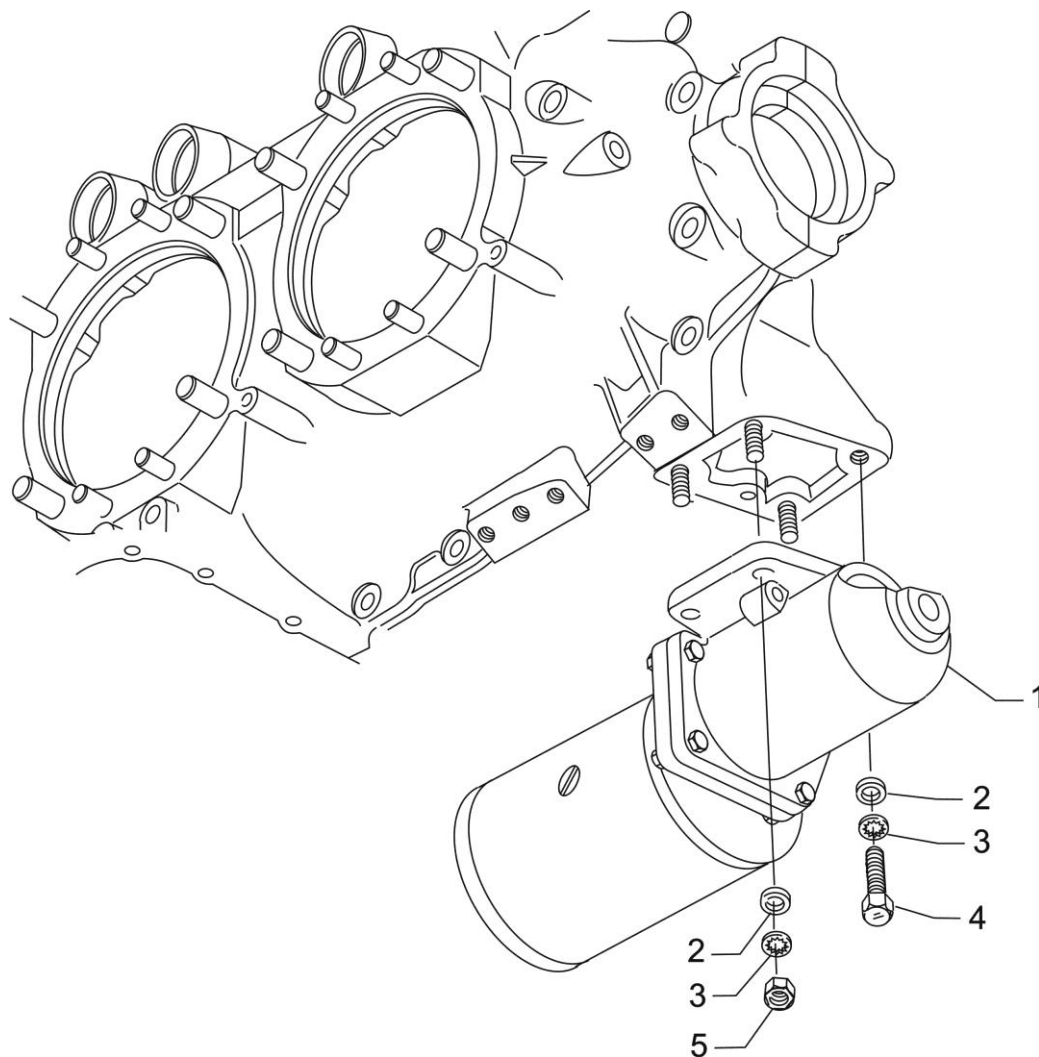
IGNITION DISTRIBUTION SYSTEM**FIGURE 18 -MAGNETOS, MAGNETO DRIVES, HARNESES AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-15659	GEAR, Magneto	1
2		LW-15097	"O" RING, 13/16 I.D. x 1/16 diameter	1
3		LW-16784	CUSHION & RETAINER ASSEMBLY, Magneto	1
4		LW-12681	GASKET, Magneto	1
5	V	66E21567	MAGNETO IGNITION SYSTEM, V 10-785124-115	1
6		LW-682555-14	MAGNETO, Ignition, 20° lag	1
7	V	67H21451	HARNESS ASSEMBLY, TCM V 10-821414-4	1
8		66M19385	CLAMP, Magneto	2
9		STD-475	WASHER, 5/16 lock, internal teeth	2
10		STD-1410	NUT, 5/16-18 plain	2
11	V*	1182-F7	SPARK PLUG, Champion V RHM38E	8
12	**	01P21501-7-51	BAG, Harness attaching	1

V Vendor Prime Manufacturer part
***** Item No. 11 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest revision of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.
****** See below for breakdown of individual parts contained in the magneto and harness attaching bag. These parts are to be added by customer per engine line drawing included in each bag.

01P21501-7-51 – Bag, Magneto Harness Attaching

Part No.	Part Name	Qty.
73152	BRACKET, Support clamp	2
STD-692	SCREW, No. 10-32 x 1/2 long	2
STD-670	LOCKNUT, No. 10-32	2
STD-1874	SCREW, 1/4-20 x 13/16 long, fill. head	4
STD-8	WASHER, 1/4 plain	8



**Starter Motor and Attaching Parts
Figure 19**

CRANKING SECTION**FIGURE 19 - STARTER MOTOR AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1	V	31A26041	STARTER ASSEMBLY, 12V., Kelly V ERZ-8011	1
	V	31B26040	STARTER ASSEMBLY, 24V., Kelly V ERB-8011	1
	V	31B23592	STARTER, Sky-Tec V 149NL	1
2	*	STD-35	WASHER, 5/16 plain	4
3		STD-475	WASHER, 5/16 lock, internal teeth	4
4		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1
5		STD-1410	NUT, 5/16-18 plain	3
<p>V Vendor Prime Manufacturer part * Use with Kelly starters only. NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.</p>				

SERVICE KIT SECTION

SEAL AND GASKET SET

PART NO.	PART NAME	Qty.
LW-14815	KIT - SEAL AND GASKET SET	1
LW-R-0.750-275	"O" RING	8
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12272	LOCKPLATE, Shroud tube	4
LW-12681	GASKET, Magneto	1
LW-13792	SEAL, Crankshaft, oil	1
LW-14260	SEAL, Tachometer drive, oil	1
LW-14995	SPRING, Shroud tube	4
LW-15046	GASKET, Oil filter adapter	1
LW-15070	"O" RING, 3-1/2 I.D. x 3/32	1
LW-15071	GASKET, Oil sump	1
LW-15097	"O" RING, 13/16 I.D. x 1/16 diameter	1
LW-15109	"O" RING, 1-5/8 ID x 3/32 diameter	1
LW-15262	LOCKPLATE, Oil pump	1
LW-15280	SEAL, Shroud tube	8
LW-15950	LOCKPLATE	1
LW-16573	GASKET, Tachometer adapter	1
77611	GASKET, Exhaust flange	4
MS29512-08	"O" RING, 5/8 I.D. x 3/32 section	2
06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	1
06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
06E19769-1.25	GASKET, Annular, 1-1/4 I.D.	2
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
66224	GASKET, Carburetor	1
70310	SEAL, Shroud tube	8
70457	GASKET, Oil filler extension	1
71481	RING, Oil seal, 3/32 diameter x 4-53/64 I.D.	4
71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4
72053	GASKET, Governor	2
72075	SEAL, Oil, 3/32 section x 29/64 I.D.	7
72078	LOCKPLATE, 5/16 bolt x 1-21/64	2
72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
72220	GASKET, Oil level gage	1
72312	RING, Oil seal, 1.00 x 1-5/16	1

SERVICE KIT SECTION (CONT.)**SEAL AND GASKET SET (CONT.)**

LW-14815	KIT – SEAL AND GASKET SET (CONT.)	1
75906	GASKET, Rocker box cover	4
77154	GASKET, Carburetor	1
8313	GASKET, Vacuum pump	1

CYLINDER, PISTON AND RING ASSEMBLY

PART NO.	PART NAME	Qty.
05K21119	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
LW-15318	CYLINDER ASSEMBLY	1
17A23945	VALVE, Intake	1
17B23936	VALVE, Exhaust	1
65441	SEAT, Valve spring, lower intake	1
LW-13323	SEAT, Valve spring, lower	1
LW-11800	SPRING, Valve, outer	2
LW-11795	SPRING, Valve inner	2
LW-10077	SEAT, Valve spring, upper	1
LW-16475	SEAT, Valve spring, upper exhaust	1
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
LW-15316	CAP, Valve stem, exhaust (rotator)	1
1102	PLUG, 1/8-27 NPT, allen head	2
14D23914	PISTON	1
74241	RING, Piston, compression	2
14H21950	RING, Piston, oil	1
LW-14078	PIN, Piston	1
72198	PLUG, Piston pin	2
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
70310	SEAL, Shroud tube	2
LW-15280	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
LW-R-0.750-275	"O" RING	2
77611	GASKET, Exhaust flange	1
71973	GASKET, 2 bolt flange	1
SSP-299	TAG, Use of piston pin plugs	1

SERVICE KIT SECTION (CONT.)**CRANKCASE ASSEMBLY KIT**

PART NO.	PART NAME	Qty.
LW-18652-S	KIT - CRANKCASE ASSEMBLY	1
LW-18652	CRANKCASE ASSEMBLY	1
LW-16573	GASKET, Tachometer adapter	1
LW-16575	TACHOMETER ADAPTER AND SEAL ASSEMBLY	1

NUMERICAL INDEX

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN6-36A	Bolt	11	LW-15316	Cap	17
AN844-12D	Elbow	9	LW-15318	Cylinder Assy.	15
LW-25-0.94	Bolt	27	LW-15330	Cover	19
LW-25-1.25	Bolt	11	LW-15345	Shaft	29
LW-25-1.25	Bolt	23	LW-15351	Link	1
LW-25-2.00	Bolt	11	LW-15358	Hose	21
LW-25-2.56	Bolt	27	LW-15359	Nipple	21
LW-25-3.00	Bolt	31	LW-15360	Elbow	15
LW-25-3.38	Bolt	11	LW-15361	Tube Assy.	21
LW-25-5.63	Bolt	27	LW-15362	Tube Assy.	21
LW-31-1.16	Bolt	37	LW-15379	Baffle	9
LW-31H0.88	Bolt	1	LW-15407	Seat	19
LW-38-0.75	Bolt	31	LW-15592-8-08	Clamp	21
LW-10077	Seat	17	LW-15592-8-28	Clamp	23
LW-10637	Elbow	31	LW-15592-8-32	Clamp	23
LW-11713	Spring	5	LW-15659	Gear	35
LW-11795	Spring	17	LW-15709	Washer	19
LW-11800	Spring	17	LW-15949	Gear	7
LW-11815-S	Bushing	7	LW-15950	Lockplate	7
LW-11817-S	Bushing	7	LW-15997	Impeller	29
LW-12186	Nut	13	LW-15998	Impeller	29
LW-12272	Lockplate	17	LW-15999	Impeller Assy.	29
LW-12681	Gasket	35	LW-16055	Shroud Tube	17
LW-13323	Seat	17	LW-16118	Adapter Assy.	31
LW-13792	Seal	5	LW-16475	Seat	17
LW-13906	Oil Filter	31	LW-16511	Camshaft Assy.	9
LW-13923	Bushing	13	LW-16573	Gasket	9
LW-14078	Pin	13	LW-16575	Tach.Adap.& Seal	9
LW-14293	Sump Assy.	27	LW-16784	Cushion & Ret. Assy.	35
LW-14680	Tube Assy.	21	LW-18085	Spring	5
LW-14685	Elbow	31	LW-18101	Hose	23
LW-14784	Gage Assy.	25	LW-18652	Crankcase Assy.	3
LW-14995	Spring	17	LW-18652-S	Crankcase Assy. Kit	3
LW-15014	Rocker Arm	19	LW-682555-14	Magneto	35
LW-15022	Shaft	29	LW-R-0.750-275	"O" Ring	17
LW-15031	Gear	9	MS29512-08	"O" Ring	31
LW-15032	Shaft Assy.	9	STD-8	Washer	9
LW-15045	Bushing	3	STD-8	Washer	11
LW-15046	Gasket	31	STD-8	Washer	23
LW-15053	Lifting Eye	11	STD-8	Washer	27
LW-15070	"O" Ring	29	STD-8	Washer	29
LW-15071	Gasket	27	STD-8	Washer	31
LW-15097	"O" Ring	35	STD-33	Washer	11
LW-15262	Lockplate	29	STD-33	Washer	31
LW-15263	Gear	29	STD-35	Washer	1
LW-15276	Stud	3	STD-35	Washer	15
LW-15277	Stud	3	STD-35	Washer	29
LW-15315	Rod Assy.	19	STD-35	Washer	33

NUMERICAL INDEX (CONT.)

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
STD-35	Washer	37	31C-12	Stud	15
STD-160	Washer	9	31C-13	Stud	3
STD-160	Washer	11	31C-15	Stud	27
STD-160	Washer	23	38-13	Stud	3
STD-160	Washer	27	50-15	Stud	3
STD-160	Washer	29	383-B	Nut	19
STD-160	Washer	31	1028-B	Ball	5
STD-394	Dowel	3	1102	Plug	3
STD-475	Washer	15	1102	Plug	15
STD-475	Washer	29	1182-F7	Spark Plug	35
STD-475	Washer	33	8313	Gasket	29
STD-475	Washer	35	60009	Key	17
STD-475	Washer	37	60096	Gasket	31
STD-551	Plug	27	60430	Cover	29
STD-557	Dowel	3	61084	Spring	5
STD-557	Dowel	29	61358	Plug	27
STD-596	Nut	11	61378	Screen	27
STD-678	Washer	11	65441	Seat	17
STD-678	Washer	31	66145	Dowel	29
STD-703	Screw	9	66224	Gasket	33
STD-1063	Nut	29	66796	Insert	15
STD-1066	Dowel	9	68668	Spring	5
STD-1211	Plug	7	70310	Seal	17
STD-1339	Plug	3	70457	Gasket	25
STD-1353	Insert	15	70485	Pipe	23
STD-1410	Nut	15	71481	Ring	19
STD-1410	Nut	29	71610	Hook	21
STD-1410	Nut	33	71611	Retainer	21
STD-1410	Nut	35	71973	Gasket	23
STD-1410	Nut	37	72057	Seat	15
STD-1411	Nut	9	72058	Seat	15
STD-1411	Nut	17	72075	Seal	5
STD-1411	Nut	29	72078	Lockplate	9
STD-1411	Nut	31	72091	Ring	5
STD-1925	Screw	19	72198	Plug	13
STD-2047	Bolt	11	72220	Gasket	25
STD-2057	Key	29	72566	Gear	7
STD-2090	Nut	19	72569	Baffle Assy.	21
STD-2155	Screw	7	73346	Flange	23
STD-2169	Roll Pin	9	74241	Ring	13
STD-2237	Nut	19	75675	Extension	25
STD-2196	Dowel		75906	Gasket	19
25C-8	Stud	15	76628	Support Assy.	7
25C-9	Stud	3	76908	Strut	1
25C-12	Stud	29	76943	Guide	15
25C-12	Stud	31	77467	Spring	5
31-16	Stud	15	77611	Gasket	15
31C-12	Stud	3	77808	Valve Assy.	5

NUMERICAL INDEX (CONT.)

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
78027	Bolt	13	17A23945	Intake Valve	17
78030-S	Conn. Rod Assy.	13	17B23936	Exhaust Valve	17
01P21501-7-51	Bag, Harness	35	17C21191	Key	17
03D23350	Cover	31	18D26097	Bearing	5
06A19956	Oil Seal	29	18M26104	Bearing	13
06E19769-0.63	Gasket	31	31A26041	Starter Assy.	37
06E19769-1.25	Gasket	5	31B23592	Starter	37
06E19769-1.25	Gasket	27	31B26040	Starter Assy.	37
07A21516	Bracket	1	51A21091	Body Assy.	29
13B47026	Crankshaft Assy.	7	53E22144	Valve Assy.	31
14D23914	Piston	13	54E23093	Kit	31
14H21950	Ring	13	61B26214	Carburetor	33
15B28040	Lifter	5	66E21567	Mag. Ignition System	35
16R22126	Guide	15	66M19385	Clamp	35
			67H21451	Harness Assy.	35

This page intentionally left blank.