

PARTS CATALOG

AVCO LYCOMING

AIRCRAFT ENGINES

Model VO-540-Series
and
TIVO-540-A2A

Helicopter Engines

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and
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Helicopter Engines

SUPPLEMENTAL PARTS LIST NO. SSP1473

To provide coverage for Avco Lycoming Model

IVO-540-A1A Aircraft Engines

This supplement is arranged to follow the same basic format as the original catalog Avco Lycoming PC-118. It will serve to update and provide full parts information coverage for the Avco Lycoming IVO-540-A1A model aircraft engine. It is primarily designed to be used with the basic catalog as the illustration number in parentheses at the top of each page in this supplement, corresponds with the same illustration number and title in the basic catalog PC-118. Page numbers in this supplement and the basic catalog do not conform; you must use the illustrations. Page titles in this supplement and the title of illustrations in PC-118 do conform.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP

CRANKCASE ASSEMBLY (FIGURE 1)

LW-11040	CRANKCASE ASSEMBLY	1
75302	DOWEL, Crankcase thru stud	4
STD-557	DOWEL, Hollow, 1/2 in. x 11/16 in. long	2
66734	STUD, 1/2-13 x 9-7/8 in. long	4
66990	STUD, 5/16-18 x 1-1/2 in. long	6
50-15	STUD, 1/2-13 x 1-7/8 in. long	12
38-13	STUD, 3/8-16 x 1-5/8 in. long	24
69679	STUD, 9/16-18 x 10-21/32 in. long	4
STD-1315	INSERT, Heli-coil, 1/4-28 x 1/2 in. long	17
65007	RETAINER, Shroud tube seal	12
31-21	STUD, 5/16-18 x 2-5/8 in. long	2
STD-355	PLUG, Allen head, 3/4-14 NPT	1
STD-405	PLUG, Sq. hd. drilled, 1/8-27 NPT	1
38D-19	STUD, Drilled, 3/8-16 x 2-3/8 in. long	1
31-15	STUD, 5/16-18 x 1-7/8 in. long	1
31-24	STUD, 5/16-18 x 3.00 in. long	1
69580	DOWEL, 5/16 in. dia. x 5/8 in. long	2
69823	STUD, 7/16-14 N. form x 2.00 in. long, drilled	8
1102	PLUG, Pipe, socket hd., 1/8-27 NPT	4
25-11	STUD, 1/4-20 x 1-3/8 in. long	4
LW-10647	DOWEL, Crankshaft bearing	8
STD-783	PLUG, Allen hd., 1/4 in. pipe	2
25-10	STUD, 1/4-20 x 1-1/4 in. long	1
STD-1623	INSERT, Heli-coil, 1/4-20 x 3/8 in. long	1

CRANKCASE ATTACHING PARTS

72075	SEAL, Oil, 0.090 in. dia. section x 15/32 ID	4
AN6-16	BOLT, Hex. hd., drive shank, 3/8-24 x 1-53/64 in. long	1
STD-872	NUT, Slotted, 3/8-24	1
STD-33	WASHER, Plain, 3/8 in. (3 max.)	un
AN960-616L	WASHER, 3/8 in. x .032 thick, (1 max.)	un
AN6-24	BOLT, Hex. hd., drilled shank, 3/8-24 x 2-37/64 in. long	2
AN6-21A	BOLT, Hex. hd., 3/8-24 x 2-13/64 in. long	3
AN6-22A	BOLT, Hex. hd., 3/8-24 x 2-21/64 in. long	1
STD-33	WASHER, Plain, 3/8 in.	13
STD-872	NUT, Slotted, 3/8-24	3
STD-713	PIN, 3/32 in. dia. x 3/4 in. long	1
STD-678	WASHER, Internal lock, 3/8 in.	4
STD-596	NUT, Plain, 3/8-24	4
AN4-12A	BOLT, Hex. hd., 1/4-28 x 1-9/32 in. long	5
60803	STRAP, Lifting	2
AN4-15A	BOLT, Hex. hd., 1/4-28 x 1-21/32 in. long	2
AN4-16	BOLT, Hex. hd., drilled shank, 1/4-28 x 1-25/32 in. long	6
STD-8	WASHER, Plain, 1/4 in.	26
STD-160	WASHER, Internal lock, 1/4 in.	7
STD-9	NUT, Plain, 1/4-28	7
STD-97	NUT, Slotted, 1/4-28	6
73772	NOZZLE ASSEMBLY, Piston cooling	6
70338*	SPACER, Breather housing	2

* - Shipped loose.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP

CRANKSHAFT AND CAMSHAFT GROUP (FIGURE 2)

74886*	CRANKSHAFT ASSEMBLY	1
72470	PLUG, Crankshaft oil,front	1
72471	RING, Oil seal,1/8 in.dia.section x 13/16 in.ID	1
70434	JET, Oil	1
74885	CRANKSHAFT	1
72308	BUSHING, Rear crankshaft spline	1
69641	DOWEL, Rear crankshaft spline bushing	3
68965	BOLT, Crankshaft flange	8
STD-858	KEY, Woodruff,5/32 in.x 5/8 in.	1
67687	GEAR, Crankshaft timing	1
67204	PLATE, Crankshaft gear,lock	1
67688	NUT, Crankshaft gear,retaining	1
LW-11021	BEARING, Crankshaft	8
71304	CAMSHAFT ASSEMBLY	1
STD-1066	DOWEL, Stepped,.310 dia.x 13/32 in.long	1
69662	GEAR, Camshaft	1
72078	LOCKPLATE, 5/16 in.bolt x 5/16 in.spacing	2
STD-679	SCREW, 5/16-24 x 27/64 in.long	4
73061	BODY, Hydraulic tappet	12
78290	PLUNGER ASSEMBLY, Hydraulic tappet	12
78524**	SOCKET, Push rod,hydraulic tappet	12

* - Cannot be modified for use with spring coupling drive.

** - Avco Lycoming P/N 65074 may be used as an alternate.

NOTE

Figure 3 in PC-118 does not apply to this model engine.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CYLINDER, PISTON AND VALVE TRAIN

CONNECTING ROD, PISTON AND PISTON RING ASSEMBLIES (FIGURE 4)

77450	CONNECTING ROD ASSEMBLY	6
65819	BUSHING, Connecting rod,upper	6
75060	BOLT, Connecting rod	12
LW-12186	NUT, Connecting rod bolt	12
LW-13212	BEARING, Connecting rod	12
LW-10207	PISTON	6
LW-13444	PIN, Piston	6
60828	PLUG, Piston pin	12
74241	RING, Piston,compression	12
73857	RING, Piston,oil regulating,expander type	6

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CYLINDER, PISTON, AND VALVE TRAIN

CYLINDER ASSEMBLY AND VALVE TRAIN (FIGURE 5)

74236*	CYLINDER ASSEMBLY	6
72212	SEAT, Intake valve	6
71894	SEAT, Exhaust valve	6
LW-11956	GUIDE, Valve	6
LW-11958**	GUIDE, Exhaust valve	6
69260	INSERT, Heli-coil,spark plug,long reach	12
STD-1872	INSERT, Heli-coil,1/8-27	6
31-12	STUD, 5/16-18 x 1-1/2 in.long	12
66670	BUSHING, Rocker shaft,inner	24
25-8	STUD, 1/4-20 x 1.00 in.long	24
STD-783	PLUG, Allen hd.,1/4 in.pipe	6
72343	STABILIZER, Cylinder head fins,15 teeth	6
72344	STABILIZER, Cylinder head fins,26 teeth	6
73946	STABILIZER, Cylinder head fins,20 teeth	6

VALVES AND VALVE SPRINGS

73876	VALVE, Intake	6
74802+	VALVE, Exhaust (rotator type)	6
68325	SEAT, Valve spring,lower	6
73112	SEAT, Valve spring,lower	6
LW-11796	SPRING, Valve,outer	12
LW-11797	SPRING, Valve,auxiliary	12
LW-10077	SEAT, Valve spring	6
60009	KEY, Valve	12
LW-10076	SEAT, Valve spring (rotator type)	6
MS-13997-3	KEY, Valve (rotator type)	12
MS-13998-3	CAP, Valve stem	6

VALVE ROCKER ASSEMBLY

71549	WASHER, Valve rocker,thrust	12
71266	ROCKER ASSEMBLY, Intake valve	6
67114	BUSHING, Valve rocker	6
72626	SHAFT, Valve rocker	12
66732	GASKET, Valve rocker shaft cover	12
66731	COVER, Valve rocker shaft	12
AN936A416	WASHER, Shakeproof lock,1/4 in.	24
STD-9	NUT, Plain,1/4-28	24
74390	ROCKER ASSEMBLY, Exhaust valve	6
74389	BUSHING, Valve rocker	6
67193	GASKET, Rocker box cover	6
69625	COVER ASSEMBLY, Rocker box (left)	3
69626	COVER ASSEMBLY, Rocker box (right)	3

COVER ATTACHING PARTS

STD-1925	SCREW, Pan.hd.,self-locking,1/4-20 x 5/8 long	48
74494†	PLATE, Spark plug caution	6

* - Nitrided cylinder.

** - Ni-resist exhaust valve guides.

+ - 1/2 in.stem diameter inconel exhaust valve.

† - Denotes long reach spark plugs.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CYLINDER, PISTON AND VALVE TRAIN

ROCKER BOX DRAIN TUBES, PUSH ROD ASSEMBLIES, EXHAUST FLANGE (FIGURE 5)

71702	TUBE, Rocker box drain (left)	2
STD-1793	HOSE, 3/8 in.ID x 1-21/32 in.long	6
STD-1924	CLAMP, Hose,1/2 in.-3/4 in.ID x 5/8 in.wide	12
AN840-10D	ADAPTER, Hose to pipe thd.1/2 in.pipe x 5/8 in.dia.hose	2
73731	HOSE, Rocker box drain tube,cylinders no.2-4-6	1
72045	HOSE, Rocker box drain tube,cylinders no.1-3-5	1
STD-1640	CLAMP, Hose,15/16 ID x 1/2 in.wide	4

PUSH ROD ASSEMBLIES

72255	SHROUD TUBE ASSEMBLY, Push rod	12
LW-13077	SPRING, Shroud tube	24
66728*	WASHER, 25/32 ID x 1-1/4 OD x 1/32 in.thick	24
61503	SLEEVE, Shroud tube seal	12
62922	SEAL, Shroud tube	12
LW-11694	SEAL, Shroud tube	12
73556**	ROD ASSEMBLY, Push	un
73557	ROD ASSEMBLY, Push	5
73558	ROD ASSEMBLY, Push	5

CYLINDER HOLD DOWN PLATES AND ATTACHING PARTS

71481	RING, Oil seal,3/32 dia.section x 4-27/32 ID	6
69531	PLATE, Cylinder hold down nut	12
71133	NUT, Cylinder hold down,1/2-20 NF-3	24
71134	NUT, Cylinder hold down,3/8-24 NF-3	24

EXHAUST FLANGE AND ATTACHING PARTS

67195+	FLANGE, Exhaust	6
STD-35	WASHER, Plain,5/16 in.	12
STD-475	WASHER, Shakeproof lock,5/16 in.	12
STD-37	NUT, Plain,5/16-24	12

* - Use a maximum of 24 pieces only.

** - A total of 12 rods required.

+ - Shipped loose.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CRANKCASE COVER, OIL SUMP AND INDUCTION SYSTEM

INDUCTION SYSTEM GROUP (FIGURE 6)

68172	GASKET, Oil sump	1
75751	COVER ASSEMBLY, Crankcase	1
69602	CONNECTION, Intake pipe	6
31D-11	STUD, 5/16-18 x 1-3/8 in.long	4
STD-405	PLUG, Sq.hd.,drilled,1/8 in.pipe	1
61548	PLATE, Name	1
STD-1901	DRIVE STUD, No.4 x 3/16 in.long,round head	4
72437	GASKET, Oil sump	1
71142	SUMP ASSEMBLY, Oil	1
MS124777	HELI-COIL, 5/16-24 x 25/32 in.long	13
STD-8	WASHER, Plain,1/4 in.	11
STD-160	WASHER, Internal lock,1/4 in.	11
STD-9	NUT, Plain,1/4-28	11
AN6290-12	SEAL, .924 ID x .116 dia.section	1
MS9015-12	PLUG, 1-1/16-12 thd.,hex.hd.	1

INTAKE PIPE ASSEMBLIES

71973	GASKET, 2 bolt flange,1-7/8 in.ID	6
73346	FLANGE, Intake pipe upper	6
71932	PIPE, Intake,cylinders no.1 and 6	2
71933	PIPE, Intake,cylinders no.2 and 5	2
71934	PIPE, Intake,cylinders no.3 and 4	2
STD-1792	HOSE, 1-3/4 ID x 2-3/16 OD x 2-3/8 in.long	6
STD-1269	CLAMP, Hose,1-7/8 to 2-1/4 ID x 9/16 in.wide	12

INTAKE PIPE ATTACHING PARTS

STD-8	WASHER, Plain,1/4 in.	12
STD-160	WASHER, Internal lock,1/4 in.	12
STD-1215	BOLT, Hex.hd.,1/4-20 x 1-1/4 in.long	12

CRANKCASE COVER TO CRANKCASE ATTACHING PARTS

STD-8	WASHER, Plain,1/4 in.	34
STD-160	WASHER, Shakeproof-lock,1/4 in.	24
STD-9	NUT, Plain,1/4-28	10
STD-1679	BOLT, Hex.hd.,1/4-28 x 1.00 in.long	14
AN4-12A	BOLT, Hex.hd.,1/4-28 x 1-9/32 in.long	10

BREATHER ASSEMBLY

73124	BREATHER ASSEMBLY	1
71977	BAFFLE, Breather	1

ATTACHING PARTS

STD-82	SCREW, Fill.hd.,drilled,no.10-24 x 1/2 in.long	10
STD-425	WASHER, Plain,no.10	10

NOTE

IVO-540-A1A model engines do not employ a carburetor. Fuel injection is covered in a later section.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

ACCESSORY HOUSING AND ACCESSORY DRIVES

ACCESSORY HOUSING ASSEMBLY (FIGURE 7)

68174	GASKET, Accessory housing	1
70406	HOUSING ASSEMBLY, Accessory	1
STD-1339	PLUG, Pipe, allen hd., 1/16-27 NPT	5
67742	BUSHING, 1-7/8 in.OD x 1-11/16 in.ID x 3/4 long	1
STD-859	DOWEL, 1/8 in.dia.x 9/32 in.long	1
STD-1315	INSERT, Heli-coil, 1/4-28 x 1/2 in.long	4
69286	ANNULUS, Oil seal	1
66145	DOWEL, 1/4 in.dia.x 1/2 in.long	2
25D-11	STUD, Drilled, 1/4-20 x 1-3/8 in.long	8
25-12	STUD, 1/4-20 x 1-1/2 in.long	11
25-13	STUD, 1/4-20 x 1-5/8 in.long	17
25-16	STUD, 1/4-20 x 2.00 in.long	4
25-23	STUD, 1/4-20 x 2-7/8 in.long	1
25D-24	STUD, Drilled, 1/4-20 x 3.00 in.long	1
25-27	STUD, 1/4-20 x 3-3/8 in.long	1
25-34	STUD, 1/4-20 x 4-1/4 in.long	2
25-37	STUD, 1/4-20 x 4-5/8 in.long	1
25-40	STUD, 1/4-20 x 5.00 in.long	1
31-14	STUD, 5/16-18 x 1-3/4 in.long	6
31-21	STUD, 5/16-18 x 2-5/8 in.long	1
31-26	STUD, 5/16-18 x 3-1/4 in.long	1
38-16	STUD, 3/8-16 x 2.00 in.long	6
69637	PLUG, 3/4 in.dia.x 9/16 in.long	1
69658	PIN, Engine timing	1
69335	PLUG, 5/8 in.hex.hd., 1.00-20 thd.	1
1102	PLUG, Allen hd., 1/8-27 NPT	1
STD-71	PLUG, Allen hd., 3/8 in.pipe	2
STD-514	DOWEL, 5/16 in.dia.x 1/2 in.long	2
69636	TUBE AND STRAINER ASSEMBLY, Oil suction	1
STD-111	GASKET, 1.00 in.ID x 1-1/4 in.OD x 3/32 annular	1
67646	BUSHING, 1-1/16 OD x 7/8 ID x 1-7/32 long	1
71341	BUSHING, 1-3/16 OD x 1.00 ID x 1.00 in.long	1

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

ACCESSORY HOUSING AND ACCESSORY DRIVES

ACCESSORY DRIVE COMPONENTS (FIGURES 8 AND 13)

GENERATOR AND MAGNETO DRIVES

67690	WASHER, Generator drive gear thrust	1
69177	GEAR ASSEMBLY, Generator drive	1
72384	SHAFT, Magneto drive idler	1
68568	HUB ASSEMBLY, Magneto drive idler	1
68563	BUSHING, Magneto drive idler gear hub	1
STD-19	DOWEL, .0907 dia.x 7/32 in.long	1
68553	GEAR, Magneto drive idler	1
AN102010	BOLT, Drilled end,1/4-28 x 3/4 in.long	4
STD-8	WASHER, Plain,1/4 in.	4
STD-43	NUT, Slotted shear,1/4-28	4
68545	WASHER ASSEMBLY, Magneto drive idler shaft	1

TACHOMETER AND STARTER DRIVES

STD-1854	WASHER, Seal,5/16 in.dia.	1
STD-1860	SCREW, Flat,fill.hd.,drilled shank,5/16-24 x 3-1/8 in.long	1
STD-2	NUT, Slotted,5/16 in.	1
AN381-2-10	PIN, Cotter,1/16 in.dia.x 5/8 in.long	1
68410	GEAR ASSEMBLY, Tachometer driven	1
STD-547	SEAL, Oil,9/16 ID x 1-1/8 OD x 5/16 in.wide	1
67610	GEAR ASSEMBLY, Starter drive	1
67583	GEAR, Starter drive	1
67609	GEAR, Accessory drive	1
72139	DOWEL, Hollow pin,1/4 in.dia.x 7/16 long	3
AN115907	SCREW, Fill.hd.,drilled,1/4-28 x 1/2 long	6

STARTER DRIVE ADAPTER

67708	GASKET, Starter drive adapter	2
67709	SHIM, Starter drive adapter	1
72182	RING, 1/8 in.dia.section x 1-3/4 in.oil seal	1
68694	ADAPTER ASSEMBLY, Starter drive	1
67596	BUSHING, 1-11/16 OD x 1-1/2 ID x 1.00 in.long	1
71616	BUSHING, 1-11/16 OD x 1-1/2 ID x 1.00 in.long	1
STD-394	DOWEL, .0907 dia.x 11/32 in.long	2

STARTER DRIVE ADAPTER ATTACHING PARTS

STD-8	WASHER, Plain,1/4 in.	6
STD-696	WASHER, 17/64 ID x 1/2 OD x 1/32 in.thick	un
STD-97	NUT, Slotted,1/4-28	6
STD-1702	SEAL, Oil,2-5/8 OD x 1-13/16 ID x 1/2 in.wide	1
67605	JAW, Starter	1
STD-1709	CIRCLIP, 1.15 OD x .07 dia.wire	1
67633	GASKET, Starter drive	1
68186	ADAPTER, Starter	1
1102	PLUG, Allen hd.,1/8-27 NPT	1

MAGNETO, VACUUM PUMP AND FUEL PUMP DRIVES

68565	GEAR, Magneto drive shaft	1
69569	WASHER, Magneto drive shaft gear	1
69570	RING, Magneto drive gear, retaining	1
69566	SHAFT ASSEMBLY, Magneto drive	1
69565	SLEEVE, Magneto drive shaft	1
69567	COUPLING ASSEMBLY, Magneto drive	1
69565	SLEEVE, Magneto drive shaft	1
68875	RETAINER, Magneto drive cushion	2
LW-12136	CUSHION, Magneto drive	4
67704	SHAFT GEAR ASSEMBLY, Vacuum pump	1
STD-1708	SEAL, Oil, 1-7/16 OD x 1.00 ID x .39 in. wide	1
67782	SHAFT GEAR ASSEMBLY, Fuel pump drive	1
STD-213	SEAL, Oil, 3/4 ID x 1-3/8 in. OD	1

ACCESSORY COVERS, GASKETS AND ATTACHING PARTS*

AN4047-1	GASKET, Starter and generator	2
671-B	COVER, Starter and generator	2
STD-33	WASHER, Plain, 3/8 in.	12
STD-678	WASHER, Internal lock, 3/8 in.	12
STD-596	NUT, Plain, 3/8-24 x 21/64 thick	12
8313	GASKET, Vacuum pump and tachometer	2
STD-8	WASHER, Plain, 1/4 in.	8
STD-160	WASHER, Internal lock, 1/4 in.	8
STD-9	NUT, Plain, 1/4-28	8
60430	COVER, Vacuum pump and tachometer	2
1691-C	GASKET, Fuel pump	1
60431	COVER, Fuel pump	1
STD-35	WASHER, Plain, 5/16 in.	4
STD-475	WASHER, Internal lock, 5/16 in.	4
STD-37	NUT, Plain, 5/16-24	4
20415	GASKET, Hydraulic pump	1
72412	COVER, Hydraulic pump	1
STD-35	WASHER, Plain, 5/16 in.	4
STD-475	WASHER, Internal lock, 5/16 in.	4
STD-37	NUT, Plain, 5/16-24	4
67638	SHIM, Accessory drive shaft adapter	1
75026	ADAPTER ASSEMBLY, Accessory drive shaft	1
STD-1315	INSERT, Heli-coil, 1/4-28 x 1/2 in. long	4

ADAPTER ATTACHING PARTS

STD-8	WASHER, Plain, 1/4 in.	8
STD-97	NUT, Slotted, 1/4-28	8
68835	GEAR, Accessory drive	1
30311	BEARING, Accessory idler gear	1
74412	PLATE, Accessory drive shaft adapter	1

PLATE ATTACHING PARTS

AN501A416-12	SCREW, Fill. hd., drilled, 1/4-28 x 3/4 in. long	4
67642	LOCKWASHER, Accessory drive shaft	1
67641	NUT, Accessory drive shaft	1

* - Optional, as engine is manufactured with only accessories listed above.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

ACCESSORY HOUSING AND ACCESSORY DRIVES

ACCESSORY HOUSING COVER, OIL PRESSURE AND OIL SCAVENGE PUMP DRIVE (FIGURES 9 AND 10)

68556	GASKET, Accessory housing cover	1
73904	COVER ASSEMBLY, Accessory housing	1
67653	BUSHING, 1-3/16 OD x 1.00 ID x 1-3/16 in.long	1
STD-951	DOWEL, 1/8 in.dia.x 7/16 in.long	1
68590	BUSHING, 1-3/16 OD x 1.00 ID x 1-3/32 in.long	1
STD-951	DOWEL, 1/8 in.dia.x 7/16 in.long	1
STD-1053	PLUG, .204 to .205 dia.x 5/16 in.long	1
STD-434	DOWEL, 1/8 in.dia.x 21/64 in.long	1
25D-16	STUD, Drilled,1/4-20 x 2.00 in.long	6
25-29	STUD, 1/4-20 x 3-5/8 in.long	1
25-12	STUD, 1/4-20 x 1-1/2 in.long	5
31-14	STUD, 5/16-18 x 1-3/4 in.long	1
38-31	STUD, 3/8-16 x 3-7/8 in.long	6
STD-783	PLUG, Allen hd.,1/4 in.pipe	1
71124	BUSHING, 1-1/2 ID x 1-11/16 OD x 45/64 long	1
1102	PLUG, Allen hd.,1/8-27 NPT	2
STD-1104	PLUG, Square hd.,drilled,3/4-14 NPT	2

OIL AND OIL SCAVENGE PUMP DRIVES

68456	GASKET, Hydraulic and oil pump adapter	1
73089	PUMP ASSEMBLY, Oil	1
73088	BODY ASSEMBLY, Oil pressure pump	1
68466	BUSHING, Oil pump drive shaft	1
STD-394	DOWEL, .0907 dia.x 11/32 in.long	1
MS122200	INSERT, Heli-coil,no.10-24 x 31/64 long	4
25D-21	STUD, 1/4-20 x 2-5/8 in.long	2
25D-24	STUD, 1/4-20 x 3.00 in.long	2
25D-25	STUD, 1/4-20 x 3-1/8 in.long	2
STD-1164	INSERT, Heli-coil,5/16-18 x 5/8 in.long	1
31-14	STUD, 5/16-18 x 1-3/4 in.long	3
31-12	STUD, 5/16-18 x 1-1/2 in.long	1
LW-13036	SLEEVE, Oil relief valve	1
STD-1392	PLUG, .268-.269 dia.x 5/16 long	1
71999	RETAINER, Ball check valve	1
1028-B	BALL, 11/16 in.dia.	1
73761	SPRING, Check valve	1
MS28775-024	SEAL, "O" ring	1
69618	BODY ASSEMBLY, Oil scavenge pump	1
68466	BUSHING, Oil pump drive shaft	1
STD-394	DOWEL, .0907 dia.x 11/32 in.long	1
68161	SHAFT, Oil pump idler long	1
AN381-4-20	PIN, Cotter,1/8 in.dia.x 1-1/4 in.long	1
68468	SPACER, Oil pressure and scavenge pump	1
75516	SHAFT, Oil pump or hydraulic pump	1
66426	IMPELLER, Oil scavenge pump,driving	1
68403	IMPELLER, Oil scavenge pump,driven	1
61297	IMPELLER, Oil pressure pump,driving	1
68404	IMPELLER, Oil pressure pump,driven	1
69647	DOWEL, Oil pump,long	1
67762	DOWEL, Oil pump	1

STD-1973	KEY, Woodruff,1/8 in.x 3/4 in.dia.	1
68467	GEAR, Oil pressure and scavenge pump	1
STD-61	NUT, Slotted shear,1/2-20	1
STD-60	PIN, Cotter,3/32 in.dia.x 1.00 in.long	1
STD-71	PLUG, Allen hd.,3/8 in.pipe	1
STD-8	WASHER, Plain,1/4 in.	6
STD-43	NUT, Slotted shear,1/4-28	6
STD-208	SEAL, Oil,7/8 ID x 1-1/2 OD x 5/16 in.wide	1

ACCESSORY HOUSING COVER AND OIL PUMP ATTACHING PARTS
(TO INCLUDE ACCESSORY HOUSING AND SCAVENGE PUMP)

STD-8	WASHER, Plain,1/4 in.	33
STD-160	WASHER, Internal lock,1/4 in.	32
STD-9	NUT, Plain,1/4-28	32
AN4-12A	BOLT, Hex.hd.,1/4-28 x 1-9/32 in.long	1

OIL FILTER AND OIL RELIEF VALVE ASSEMBLY

AN123908	RING, Oil seal,4-3/4 ID x 1/8 in.dia.section	2
AN900-28	GASKET, Copper asbestos,1-3/4 ID x 3/32 thick	1
70460	WASHER, Oil filter assembly	1
71774	COVER, Oil filter	1
67981	PLUNGER, Oil relief	1
68542	SPRING, Oil pressure relief valve	1
STD-351	GASKET, 31/32 OD x 23/32 ID x 3/32 thick	2
662	NUT, Relief valve adjusting,lock	1
71226	SCREW, Oil relief valve adjusting	1
67940	NUT, Crown,oil relief valve	1
STD-294	GASKET, 7/8 OD x 5/8 ID x 3/32 annular	1
1540	PLUG, Thermometer well	1

NOTE

Figure 11 in PC-118 does not apply to IVO-540-A1A model engines.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

IGNITION SYSTEM

MAGNETO AND IGNITION HARNESS (FIGURE 12)

62224	GASKET, Magneto	2
LW-163050-1	MAGNETO, S6LN-204	1
LW-163010-15	MAGNETO, S6RN-200 (retard breaker)	1

ATTACHING PARTS

STD-1727	WASHER, 3/4 in.OD x 11/32 ID x 1/8 in.thick	4
STD-475	WASHER, Internal lock,5/16 in.	4
STD-37	NUT, Plain,5/16-24	4

MAGNETO DRIVE SHAFT ATTACHING PARTS

STD-35	WASHER, Plain,5/16 in.	1
STD-475	WASHER, Internal lock,5/16 in.	1
STD-37	NUT, Plain,5/16-24	1

LW-11549	CABLE ASSEMBLY, Ignition shielded,all weather	1
72262	SPRING ASSEMBLY	12
72263	TERMINAL STUD	12
LW-10701	GROMMET, Spark plug elbow	12
72250	SPRING, Captive	12
LW-12078	RETAINER, Ferrule	12
LW-11108	FERRULE, Ignition lead	24
LW-11111	ELBOW ASSEMBLY, Spark plug,70°	6
LW-11118	ELBOW ASSEMBLY, Spark plug,90°	6
LW-11944-48S-70-75	LEAD ASSEMBLY, 1B,3B,4B,6B,5T,6T	6
LW-11944-48S-90-75	LEAD ASSEMBLY, 2B,5B,3T,4T	4
LW-11944-72S-90-75	LEAD ASSEMBLY, 1T,2T	2
76753	SLEEVING RING, Plastic	6
LW-11385	PLATE, Ignition cable outlet	2
LW-12886	WASHER, Curved spring	12
LW-11384	GROMMET, Distributor	2
73245	EYELET	12
75941	IDENTIFICATION TAPE, Ignition	1
76843	PLATE, Spark plug cable baffle,1 wire	2
76844	PLATE, Spark plug cable baffle,2 wire	2

IGNITION CABLE ATTACHING PARTS

73751	CLAMP, Rubber dip,3-wire	2
STD-670	STOP NUT, Elastic,no.10-32	13
STD-692	SCREW, Round hd.,no.10-32	13
MS21919-G14	CLIP, 7/8 in.ID for no.10 screw	1
71824	CLAMP, Rubber dip,2-wire	3
68604	CLAMP, Rubber dip,1-wire	3
MS21919-G12	CLAMP, Ignition harness (at shroud tubes)	4
76735	BRACKET, Extension	1
STD-28	WASHER, No.10,plain	4
STD-1925	SCREW, Pan hd.,self-locking,1/4-20 x 5/8 in.long	4
76734	ZIP STRAPS	8
72351	SCREW, Self-locking,no.10-32	8
72453	CLAMP, 1-3/4 in.ID with 11/32 in.offset	6
STD-553	SCREW, No.6-32 x 1/2 in.long	6
AN365-632C	NUT, Self-locking,no.6-32	6
STD-696	WASHER, Plain,thin,1/4 in.	un

MAGNETO TERMINAL KITS

LW-157209	KIT, Magneto ground terminal	2
LW-157208	KIT, Magneto retard terminal	1

SPARK PLUG ASSEMBLY

1182-Y3	SPARK PLUG (Champion RHB-36P) (shielded long reach)	12
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NOTE

Disregard ignition harness assembly illustrations in basic catalog, and Figures number 24, 25, 26, and 27.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CYLINDER, PISTON AND VALVE TRAIN

INTERCYLINDER COOLING BAFFLES (FIGURE 18)

65614	PLUG, Baffle attaching	4
STD-1687	WASHER, External lock,no.10	4
STD-1686	SCREW, Fill.hd.,no.10-32 x 7/16 in.long	4
74718	BAFFLE ASSEMBLY, Intercylinder	4
71610	HOOK, Intercylinder baffle retaining	4
71611	RETAINER, Intercylinder baffle	4

PRIMING SYSTEM

74376*	ELBOW ASSEMBLY, Primer,45°	1
1102	PLUG, Allen hd.,1/8-27 NPT (assemble in cyl.heads)	6

* - Shipped loose.

LYCOMING IVO-540-A1A MODEL AIRCRAFT ENGINE

CRANKCASE COVER, OIL SUMP AND INDUCTION SYSTEM

FUEL INDUCTION SYSTEM (FIGURE 28)

68129	GASKET, Fuel injector adapter	1
75754	ADAPTER, Fuel injector	1

ADAPTER ATTACHING PARTS

STD-35	WASHER, Plain,5/16 in.	4
STD-50	NUT, Slotted shear,5/16-24	4
73032	GASKET, Fuel injector	1
75969	INJECTOR, Fuel (Bendix 2524255-3)	1

INJECTOR ATTACHING PARTS

STD-1748	BOLT, Drilled end,5/16-24 x 1-3/32 in.long	4
STD-35	WASHER, Plain,5/16 in.	4
STD-50	NUT, Slotted shear,5/16-24	4
MS29512-6	SEAL, Oil,5/64 dia.section x 15/32 ID	1
AN815-6	UNION, Flared tube,3/8 in.tubing	1
74151*	NOZZLE, Injection (Bendix 2524107-1)	6
75762	MANIFOLD ASSEMBLY, Fuel (Bendix 2524248-1)	1
75756	BRACKET, Fuel manifold	1

BRACKET ATTACHING PARTS

STD-251	WASHER, Internal lock,no.10	4
STD-82	SCREW, Rd.hd.,no.10-24 x 1/2 in.long	4
75836	STRUT, Fuel manifold bracket	1

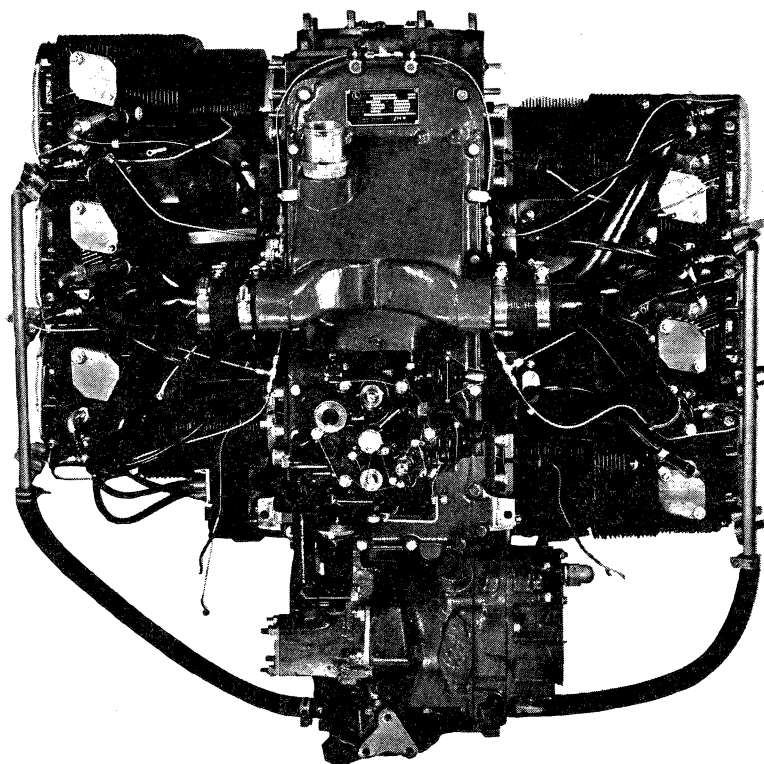
STRUT ATTACHING PARTS

LW-12202	CLIP, 3/4 in.ID for no.10 screw	1
STD-425	WASHER, Plain,no.10	1
STD-860	SCREW, Fill.hd.,no.10-32 x 5/8 in.long	2
STD-670	NUT, Self-locking,no.10-32	2
LW-12098-3-252	TUBE ASSY., Fuel man.to nozzle,cyl.no.1-6	2
LW-12098-3-412	TUBE ASSY., Fuel man.to nozzle,cyl.no.2	1
LW-12098-1-174	TUBE ASSY., Fuel man.to nozzle,cyl.no.3	1
LW-12098-3-350	TUBE ASSY., Fuel man.to nozzle,cyl.no.4	1
LW-12098-1-092	TUBE ASSY., Fuel man.to nozzle,cyl.no.5	1

TUBE ASSEMBLY ATTACHING PARTS

75837	BRACKET, Fuel line support	1
72036	CLIP, 3/4 in.ID for no.10 screw	1
73650	CLIP, 1/4 in.ID,cushion type for 1/4 in.dia.screw	17
STD-860	SCREW, Fill.hd.,no.10-32 x 5/8 in.long	6
STD-425	WASHER, Plain,no.10	10
STD-670	NUT, Self-locking,no.10-32	6
STD-8	WASHER, Plain,1/4 in.	7
STD-1925	SCREW, Pan.hd.,self-locking,1/4-20 x 5/8 in.long	7
LW-12799-6-150	HOSE ASSEMBLY,Fuel inj.to fuel manifold	1

PARTS CATALOG



MODEL VO-540-SERIES and TIVO-540-A2A HELICOPTER ENGINES

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

INTRODUCTION

1. GENERAL.

This Illustrated Parts Catalog lists, describes and illustrates all procurable parts for the Lycoming Helicopter Engines listed herein.

2. MODEL EXPLANATION SECTION.

This section provides information which will familiarize the user with the various models in this publication. This information - relating to accessories, accessory drives and major components - is listed under individual model headings.

3. GROUP ASSEMBLY PARTS LIST.

The Group Assembly Parts list divides the equipment into various groups of assemblies and related parts; however this grouping bears no relationship to the order of assembly or disassembly of the engine. Each parts group listing is accompanied by an exploded view illustrating the parts listed and showing their relationship to each other. The illustrations are adjacent to each parts group.

The "Ref. No." column provides the necessary cross reference between the parts listing and the applicable illustration.

The "Part Number" column indicates the Lycoming, AN or vendor part number. In cases where vendor items have an equivalent Lycoming part number, the Lycoming number will appear in this column and the vendor part number and reference to the vendor and vendor part will be made in the description column. Details of certain vendor items do not have an equivalent Lycoming number; in these instances the vendor number will appear in the part number column.

The "Description Column" provides the basic noun name together with descriptive or dimensional information required to completely describe the part. The descriptions are indented under the numbered subcolumn headings to show the relationship of the parts to assemblies or subassemblies, non-procurable parts such as a crankcase half, cylinder barrel or unstudded housings are not listed. The NOTES appearing in the description column contain pertinent service information and reference should be made to the contents before ordering parts. References to Lycoming Service Bulletins, Letters and Instructions should be carefully observed.

The "QTY. Per Eng." column indicates the number required for each engine at that particular location only and is not to be construed to mean quantity for the complete engine.

The "Model Usage" column is utilized to reflect, the application of parts to specific engine models. When this column is blank the particular parts are common to all engines covered by this publication.

4. NUMERICAL INDEX PARTS SECTION.

This section consists of an alpha-numerical arrangement of all assemblies and detail parts in the Group Assembly Parts List.

In the "Figure and Reference Number" column, the digits preceding the dash refer to the figure in the Group Assembly Parts List on which a part or assembly is illustrated. The digits following the dash are the assigned reference numbers of parts or assemblies.

The "Part Number" column in paragraph (3) also applies to the "Numerical Index Parts Section".

The "Description" column provides the basic noun only.

The "QTY. Per Eng." column in paragraph (3) also applies to the "Numerical Index Parts Section".

5. NUMERICAL OVERSIZE AND UNDERSIZE PARTS SECTION.

This section consists of a list of such parts that may be procured in sizes other than standard.

6. SERVICE REPLACEMENT SET SECTION.

This section consists of a listing of service replacement sets or kits such as seal and gasket sets of complete cylinder, piston and ring assembly kits. The individual details of these service kits are listed individually in the group assembly parts list section and may be so procured.

7. INSTRUCTIONS FOR ORDERING PARTS.

When ordering parts it is essential that the complete and correct part number and name be given. In addition it will be helpful if the engine model and serial number be provided. This information will be found on the name plate of the engine.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

MODEL EXPLANATION SECTION

MODEL VO-540-A1A

INCLUDES FOLLOWING MAJOR COMPONENTS AND DRIVES:

"AN" Starter drive (AND-20004)
"AN" Vacuum pump drive (AND-20000)
"AN" Generator drive (AND-20002)
"AN" Electric tachometer drive (AND-20005)
"AN" Fuel Pump drive (AND-20003)
"AN" Hydraulic pump drive (AND-20001)
Pressure carburetor PS-7BD (Bendix) Lycoming P/N 71937
Dual magnetos (S6LN-20, S6RN-21) 1 each Lycoming P/Nos. 71435 and 71436
Shielding, Ignition (light weight) Lycoming P/N 71396
Shielded spark plugs, Lycoming P/N 1182-K3
Exhaust flange (stainless steel), Lycoming P/N 67195
Priming system (6 point)
Intercylinder baffles
Chrome plated cylinder barrels (plain piston rings)
Crankcase assembly, Lycoming P/N 71945
Crankshaft assembly, Lycoming P/N 71930
Piston (compression ratio 7.30:1), Lycoming P/N 71940
Crankcase cover assembly, Lycoming P/N 71935
Accessory housing assembly, Lycoming P/N 71951
This housing (71951) does not incorporate a 70292 plug in fuel pump drive pad.
Oil pump assembly, Lycoming P/N 71772 (provision for hydraulic pump drive)

OPTIONAL EQUIPMENT

Cylinder Assy. (Nitrided, with chrome half wedge piston rings.)
Cylinder Assy. (Chrome, with plain half wedge piston rings.)
Cable Assy., Ignition shielded (conduit type), Lycoming P/N 70423
Cable Assy., Ignition shielded (non-conduit type), Lycoming P/N 73339
Cable Assy., Ignition shielded (non-conduit type), Lycoming P/N 74341
Hand crank starter jaw, (located at generator drive pad) Lycoming P/N 69645
Accessory housing assembly, Lycoming P/N 72559
This housing (72559) incorporates 70292 plug in fuel pump drive pad.
Oil pump assembly, Lycoming P/N 71769 (no provision for hydraulic pump drive)

MODEL VO-540-A2A

SAME AS -A1A WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

MODEL VO-540-B1A

SAME AS -A1A WITH THE FOLLOWING EXCEPTIONS:

Carburetor (MA-6-AA), Lycoming P/N 72407
Carburetor adapter assembly, Lycoming P/N 72406
Crankcase cover assembly, Lycoming P/N 72404

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

MODEL EXPLANATION SECTION

MODEL VO-540-B2A

SAME AS -B1A WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, Reference 1.)

MODEL VO-540-B1B3

Crankshaft and counterweight assembly, Lycoming P/N 73337
Chrome plated cylinder barrels (plain piston rings)
Crankcase cover assembly, Lycoming P/N 72404
Carburetor adapter assembly, Lycoming P/N 72406
Carburetor, Model MA-6-AA, Lycoming P/N 72407
Accessory housing assembly, Lycoming P/N 71951
This housing (71951) does not incorporate a 70292 plug in fuel pump drive pad.
"AN" Starter drive (AND-20004)
"AN" Vacuum pump drive (AND-20000)
"AN" Generator drive (AND-20002) Provision for hand crank starter jaw
"AN" Electric tachometer drive (AND-20005)
Oil pump assembly, Lycoming P/N 71772 (provision for hydraulic pump drive)
Crankcase assembly, Lycoming P/N 71945
Dual magnetos (S6LN-204, S6RN-200) 1 each Lycoming P/Nos. 72038 and 74174.
Shielding, Ignition (light weight) Lycoming P/N 71396

OPTIONAL EQUIPMENT

Cylinder Assy. (Nitrided, with chrome half wedge piston rings)
Cable Assy., Ignition shielded (conduit type) Lycoming P/N 70423
Cable Assy., Ignition shielded (non-conduit type), Lycoming P/N 73339
Cable Assy., Ignition shielded (non-conduit type), Lycoming P/N 71396
Cable Assy., Ignition shielded (non-conduit type), Lycoming P/N 74341
Hand crank starter jaw, (located at generator drive pad) Lycoming P/N 69645
Accessory housing assembly, Lycoming P/N 72559
This housing (72559) incorporates 70292 plug in fuel pump drive pad.
Oil pump assembly, Lycoming P/N 71769 (no provision for hydraulic pump drive.)
"AN" Fuel pump drive (AND-20003)
"AN" Hydraulic pump drive (AND-20001)

MODEL VO-540-B1C

SAME AS -B1A WITH THE FOLLOWING EXCEPTIONS:

Dual magnetos (S6LN-204, S6RN-200) 1 each Lycoming P/Nos. 72038 and 74174.

MODEL VO-540-B2C

SAME AS -B1C WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

MODEL EXPLANATION SECTION

MODEL VO-540-B1D

Lycoming Model VO-540-B1C can be converted to Model VO-540-B1D by the use of dual carburetor kit no. 72907.

MODEL VO-540-B2D

SAME AS -B1D WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

MODEL VO-540-B1E

Lycoming Model VO-540-B1A can be converted to Model VO-540-B1E by the use of dual carburetor kit no. 72907.

MODEL VO-540-B2E

SAME AS -B1E WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

MODEL VO-540-C1A

SAME AS -B1D WITH THE FOLLOWING EXCEPTIONS:

Piston (compression ratio 8.7:1), Lycoming P/N 72249

MODEL VO-540-C2A

SAME AS -C1A WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

MODEL VO-540-C1B

SAME AS -B1E WITH THE FOLLOWING EXCEPTIONS:

Piston (compression ratio 8.7:1), Lycoming P/N 72249.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

MODEL EXPLANATION SECTION

MODEL VO-540-C2B

SAME AS -C1B WITH THE FOLLOWING EXCEPTIONS:

Spring coupling accessory drive
(See "NOTE", Figure 2, reference 1.)

MODEL VO-540-C1C3

SAME AS -B1B3 WITH THE FOLLOWING EXCEPTIONS:

Piston (compression ratio 8.7:1), Lycoming 72249
Two MA-6AA carburetors, Lycoming P/N 72920.

MODEL TIVO-540-A2A

"AN" Starter drive (AND-20004)
"AN" Generator drive (AND-20002) Provision for hand crank starter jaw
"AN" Fuel pump drive (AND-20003)
"AN" Vacuum pump drive (AND-20000)
"AN" Hydraulic pump drive (AND-20001)
"AN" Electric tachometer drive (AND-20005)
Crankcase assembly, Lycoming P/N 73878 (See Figure 1, Reference 1A.)
Crankshaft assembly, Lycoming P/N 74626 (Required with spring drive coupling.)
Piston (compression ratio 7.30:1), Lycoming P/N 73976-S
Cylinder and head assembly (Nitrided), Lycoming P/N 74236 (Chrome piston rings)
Crankcase cover assembly, Lycoming P/N 74239
Accessory housing assembly, Lycoming P/N 73886
Accessory housing cover assembly, Lycoming P/N 73094
Oil pump assembly, Lycoming P/N 73089 (provision for hydraulic pump drive.)
Dual magnetos (S6LN-204, S6RN-200) 1 each Lycoming P/Nos. 72038 and 74174
Oil sump assembly, Lycoming P/N 73705
Intercylinder cooling baffles
Cable Assy., Ignition shielded, Lycoming P/N 72459
Turbocharger, Lycoming P/N 73895
Turbocharger Exhaust system
Fuel distribution system

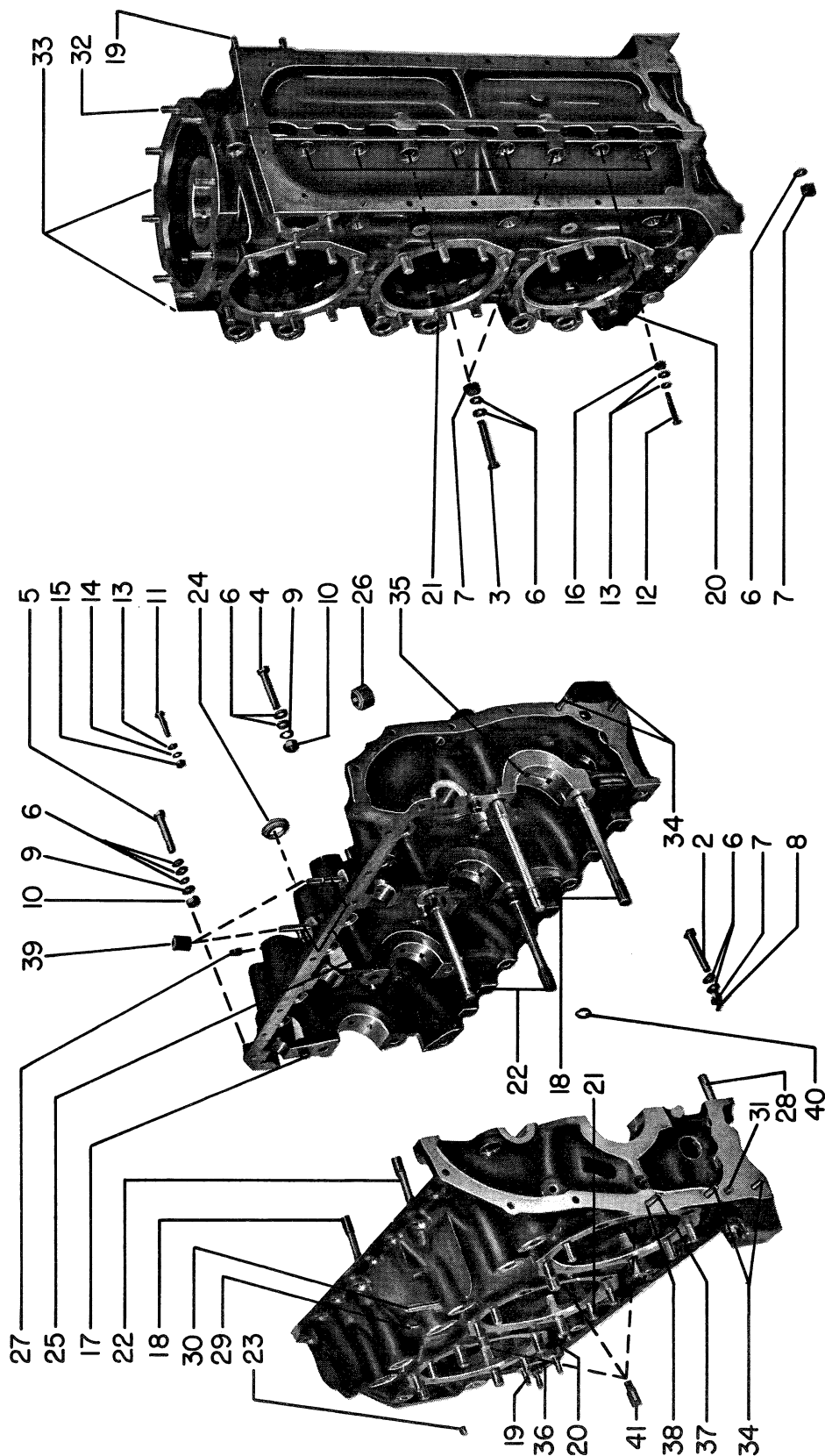
LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 1 - CRANKCASE GROUP

Ref. No.	Part Number		1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A										
1-1	73333		CRANKCASE ASSEMBLY, Machining No longer available; service with 71945 machining crankcase assembly.					1	VO-540-B1B3	
1A	73878		CRANKCASE ASSEMBLY, Machining No longer available; service with 71945 machining crankcase assembly.					1	TIVO-540-A2A	
NOTE										
Original version of TIVO-540-A2A engines incorporated 73878 crankcase assy.										
1B	71945		CRANKCASE ASSEMBLY, Machining					1		
NOTE										
Any build of 71945 machining assembly using crankcases made from 70399 (right crankcase) casting prior to revision "AP" and from 70400 (left crankcase) casting prior to revision "AS" must be used only in engines without counterweights - namely - Models other than VO-540-B1B3. Machining assembly 71945 using crankcase made from 70399 (right crankcase) casting subsequent to revision "AP" and from 70400 (left crankcase) casting subsequent to revision "AS" provides necessary clearance for counterweights and is inter- changeable with 73333 machining crankcase assembly incorporated in Model VO-540-B1B3 engines.										
ATTACHING PARTS										
2	AN6-16		BOLT, Hex. hd. dr. shank, 3/8-24 X 1-53/64 in. long					1		
3	AN6-24		BOLT, Hex. hd. dr. shank, 3/8-24 X 2-37/64 in. long					2		
4	AN6-21A		BOLT, Hex. hd., 3/8-24 X 2-13/64 in. long					3		
5	AN6-22A		BOLT, Hex. hd., 3/8-24 X 2-21/64 in. long					1		
6	STD-33		WASHER, Plain, 3/8 in.					16		
7	STD-872		NUT, Slotted, 3/8-24					4		
8	STD-713		PIN, 3/32 dia. X 3/4 in. long					1		
9	STD-678		WASHER, Internal teeth, 3/8 in. lock					4		
10	STD-596		NUT, Plain, 3/8-24					4		
11	STD-1230		BOLT, Hex. head, 1/4-28 X 1-9/32 in. long					7	All Models Excep TIVO-540-A2A	
	STD-1230		BOLT, Hex. head, 1/4-28 X 1-9/32 in. long					5	TIVO-540-A2A	
12	AN4-16		BOLT, Hex. hd. dr. shank, 1/4-28 X 1-25/32 in. long					6		
13	STD-8		WASHER, Plain, 1/4 in.					26	All Models Excep TIVO-540-A2A	
	STD-8		WASHER, Plain, 1/4 in.					24	TIVO-540-A2A	
14	STD-160		WASHER, Internal teeth, 1/4 in. lock					7	All Models Excep TIVO-540-A2A	
	STD-160		WASHER, Internal teeth, 1/4 in. lock					5	TIVO-540-A2A	
(Attaching Parts Continued on Next Page)										

(Attaching Parts Continued on Next Page)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL INSERTS ON BOTTOM AND SIDES ARE (REF. NO.23)
COMPLETE CRANKCASE ASSEMBLIES (REF. NO.1-1A-1B)

ALL MODELS

Figure 1 - Crankcase Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 1 - CRANKCASE GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS (Continued)									
1-15	STD-9						NUT, Plain, 1/4-28	7	
16	STD-97						NUT, Slotted, 1/4-28	6	
							-----*		
17	STD-557						DOWEL, Hollow, 1/2 dia. X 11/16 in. long	2	
18	66734						STUD, 1/2-13 X 9-7/8 in. long	4	
19	66990						STUD, 5/16-18 X 1-1/2 in. long	6	
20	50-15						STUD, 1/2-13 X 1-7/8 in. long	12	
21	38-13						STUD, 3/8-16 X 1-5/8 in. long	24	
22	69679						STUD, 9/16-18 X 10-21/32 in. long	4	
23	STD-1315						INSERT, Heli-Coil, 1/4-28 X 1/2 in. long	17	
24	65007						RETAINER, Shroud tube seal	12	
25	31-21						STUD, 5/16-18 X 2-5/8 in. long	2	
26	STD-355						PLUG, Allen head, 3/4-14 NPT	1	
27	STD-405						PLUG, Sq. hd. dr., 1/8-27 NPT	1	
28	38D-19						STUD, Drilled, 3/8-16 X 2-3/8 in. long	1	
29	31-15						STUD, 5/16-18 X 1-3/4 in. long	1	
							Replaces 31-14 stud.		
30	31-24						STUD, 5/16-18 X 3.00 in. long	1	
31	69580						DOWEL, 5/16 dia. X 5/8 in. long	2	
32	69823						STUD, Dr., 7/16-14 N. Form X 2.00 in. long	8	
33	1102						PLUG, Socket, 1/8 pipe X 47/64 in. long	4	
34	25-11						STUD, 1/4-20 X 1-3/8 in. long	4	
35	69796						DOWEL, Crankshaft bearing	8	
36	STD-783						PLUG, Allen, 1/8 in. pipe	2	
37	25-10						STUD, 1/4-20 X 1-1/4 in.	1	
38	STD-1623						INSERT, Heli-Coil, 1/4-20 X 3/8 in.	1	
39	70338						SPACER, Breather housing (shipped loose)	2	
40	72075						SEAL, Oil, 3/32 dia. section X 15/32 in. ID	8	
							Supersedes STD-336.		
41	73772						NOZZLE ASSY., Piston cooling	6	

NOTE

In order to eliminate breather trouble, the above piston cooling nozzle assembly (73772) has been incorporated in current production engines beginning with engine serial number 572-43 to reduce oil flow. Replace (72216) piston cooling nozzle assy. with 73772 at next overhaul.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 2 - CRANKSHAFT AND CAMSHAFT GROUP

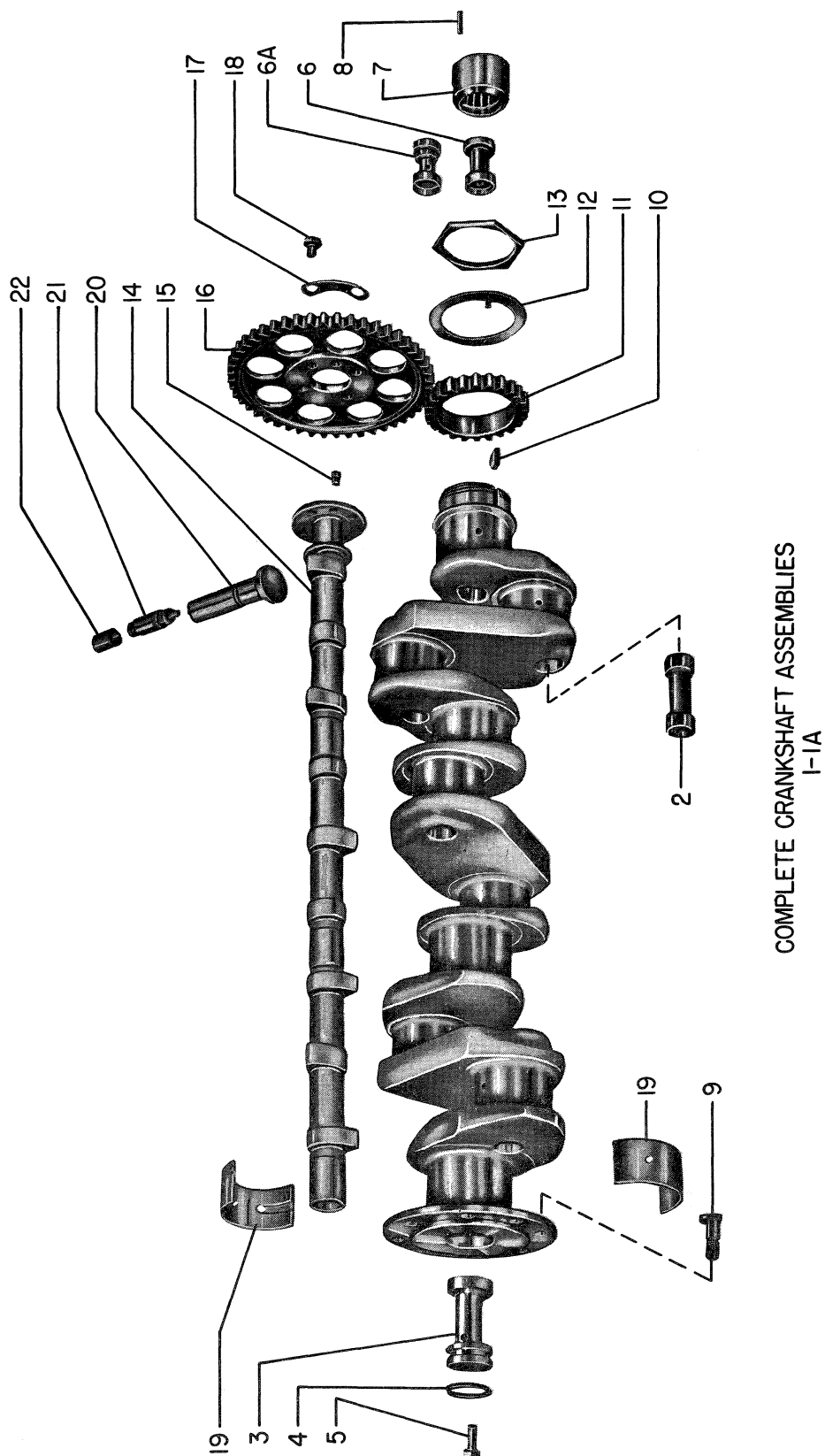
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
2-1	71930	CRANKSHAFT ASSEMBLY						1	VO-540-A1A, B1A, B1C, B1D, C1A, C1B
NOTE									
This crankshaft, when modified for Hiller in accordance with Lycoming Service Bulletin No. 292A to be used with a spring drive coupling, necessitates a model change such as: A1A becomes A2A, B1C becomes B2C, C1A becomes C2A B1A becomes B2A, B1D becomes B2D, C1B becomes C2B B1E becomes B2E									
1A	74626	CRANKSHAFT ASSEMBLY (Hiller installation) Required with spring drive coupling.						1	VO-540-A2A, B2A, B2C, B2D, C2A, C2B, TIVO-540-A2A
2	45226	TUBE, Crankshaft, oil						6	
3	72305	PLUG, Crankshaft oil, front This plug along with its oil seal ring (72312) supersedes 70432 plug. See Lycoming Bulletin No. 261.						1	
4	72312	RING, Oil seal, 1/8 dia. section X 1.00 in. ID Required with 72305 front crankshaft oil plug. See Lycoming Service Bulletin No. 261.						1	
5	70434	JET, Oil Incorporated in 72305 front crankshaft oil plug for the purpose of lubricating the gear box in those installation which employ a "wet clutch". Some installations are equipped with a "dry clutch" in the gear box and for these installations the 70434 oil jet must be removed and replaced with a standard 1/8 in. steel pipe plug. See Lycoming Service Bulletin No. 261.						1	
6	69844	TUBE, Crankshaft oil, rear Detail part of 71930 crankshaft assembly.						1	VO-540-A1A, B1A, B1C, B1D, C1A, C1B
NOTE									
Rear crankshaft oil tube 69844 must be removed and 69843 installed for Hiller when spring drive coupling is installed. See Lycoming Service Bulletin No. 292A.									
6A	69843	TUBE, Crankshaft oil, rear (See above "NOTE".)						1	VO-540-A2A, B2A, B2C, B2D, C2A, C2B, TIVO-540-A2A
7	72308	BUSHING, Rear crankshaft spline Supersedes 69642.						1	
	72308 P10	BUSHING, Rear crankshaft spline Some crankshafts manufactured at Lycoming have this P10 oversize bushing installed; if necessary; service with a P10 oversize bushing.						1	
8	69641	DOWEL, Rear crankshaft spline bushing						3	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 2 - CRANKSHAFT AND CAMSHAFT GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
2-9	68965		BOLT, Crankshaft flange	8	
10	STD-858		KEY, Woodruff, 5/32 X 5/8 in.	1	
11	67687		GEAR, Crankshaft timing	1	
ATTACHING PARTS					
12	67204		PLATE, Crankshaft gear lock	1	
13	67688		NUT, Crankshaft gear retaining	1	
-----*					
14	71304		CAMSHAFT ASSEMBLY	1	
15	STD-1066		DOWEL, Stepped, 5/16 dia. X 13/32 in. long	1	
16	69662		GEAR, Camshaft	1	
ATTACHING PARTS					
17	72078		LOCKPLATE, 5/16 bolt X 1-21/64 in. spacing Supersedes 66144.	2	
18	STD-679		SCREW, 5/16-24 X 27/64 in. long	4	
-----*					
19	69961		BEARING, Crankshaft (use in pairs)	8	
	72415		BEARING, Crankshaft (use in pairs) Alternate to 69961	8	
20	73061		BODY, Hydraulic tappet (Hyperbolic body, wide seat) 73061 supersedes 72877. These two parts are interchangeable and each requires hydraulic tappet plunger assembly 72876 or 73062. See Lycoming Service Instruction number 1011A.	12	
CAUTION					
Never mix 72876 and 73062 hydraulic tappet plunger assemblies in the same engine. The leakdown rate is different and will cause erratic engine operation.					
21	72876		PLUNGER ASSEMBLY, Hydraulic tappet (Wide shoulder, fast leakdown) 72876 supersedes and interchangeable with 71791. See Lycoming Service Instruction number 1011A.	12	
22	65074		SOCKET, Push rod, hydraulic tappet	12	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



COMPLETE CRANKSHAFT ASSEMBLIES
1-1A

MODELS - VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A

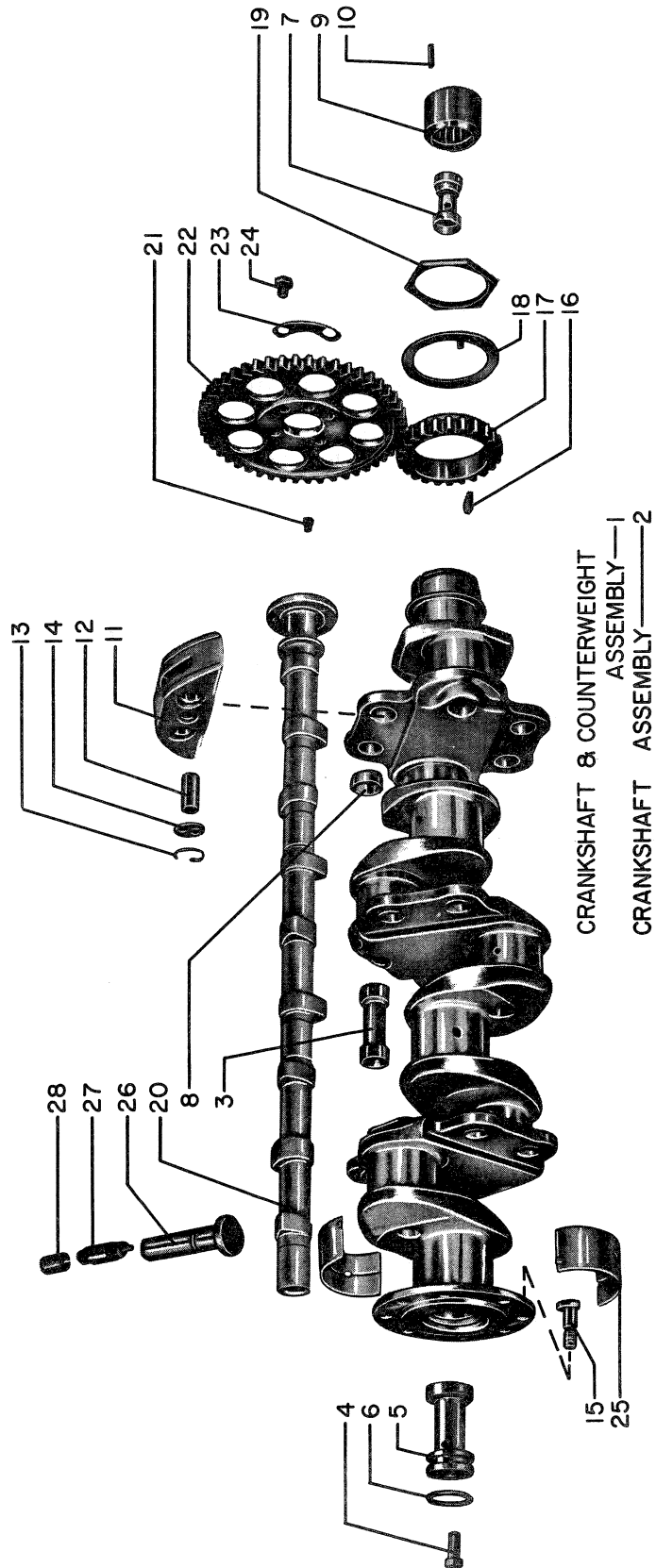
Figure 2 - Crankshaft and Camshaft Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 3 - CRANKSHAFT AND CAMSHAFT GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - VO-540-B1B3									
3-1	73337						CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY	1	
2	73336						CRANKSHAFT ASSEMBLY	1	
3	45226						TUBE, Crankshaft oil	6	
4	70434						JET, Oil	1	
							Incorporated in 72305 front crankshaft oil plug for the purpose of lubricating the gear box in those installations which employ a "wet clutch". Some installations are equipped with a "dry clutch" in the gear box and for these installations the 70434 oil jet must be removed and replaced with a standard 1/8 in. steel pipe plug. See Lycoming Service Bulletin No. 261.		
5	72305						PLUG, Crankshaft oil, front	1	
							This plug along with its oil seal ring (72312) supersedes 70432 plug. See Lycoming Service Bulletin No. 261.		
6	72312						RING, Oil seal, 1/8 dia. section X 1.00 in. ID	1	
							Required with 72305 front crankshaft oil plug. See Lycoming Service Bulletin No. 261.		
7	69844						TUBE, Crankshaft oil, transfer, rear	1	
8	70256						BUSHING, Crankshaft, dynamic counterweight	12	
9	72308						BUSHING, Rear crankshaft spline	1	
							Supersedes 69642		
	72308 P10						BUSHING, Rear crankshaft spline	1	
							Some crankshafts manufactured at Lycoming have this P10 oversize bushing installed; if it needs to be replaced, it must be serviced in the field with a P10 oversize bushing.		
10	69641						DOWEL, Rear crankshaft spline bushing	3	
11	72534						COUNTERWEIGHT ASSEMBLY, Dynamic (3.158 order)	6	
12	73338						ROLLER, Dynamic counterweight	12	
13	71906						RING, Internal retaining	24	
14	71907						WASHER, Dynamic counterweight	24	
15	68965						BOLT, Crankshaft flange	8	
16	STD-858						KEY, Woodruff, 5/32 X 5/8 in	1	
17	67687						GEAR, Crankshaft timing	1	
ATTACHING PARTS									
18	67204						PLATE, Crankshaft gear lock	1	
19	67688						NUT, Crankshaft gear retaining	1	
							-----*		
20	71304						CAMSHAFT ASSEMBLY	1	
21	STD-1066						DOWEL, Stepped, 5/16 dia. X 13/32 in. long	1	
22	69662						GEAR, Camshaft	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - VO-540-B1B3

Figure 3 - Crankshaft and Camshaft Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 3 - CRANKSHAFT AND CAMSHAFT GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS									
3-23	72078						LOCKPLATE, 5/16 bolt X 1-21/64 in. spacing Supersedes 66144.	2	
24	STD-679						SCREW, 5/16-24 X 27/64 in. -----*	4	
25	69961						BEARING, Crankshaft (use in pairs)	8	
	72415						BEARING, Crankshaft (use in pairs) Alternate to 69961	8	
26	73061						BODY, Hydraulic tappet (Hyperbolic body, wide seat) 73061 supersedes 71731. These two parts are interchangeable and each requires hydraulic tappet plunger assembly 72876. See Lycoming Service Instruction number 1011.	12	
27	72876						PLUNGER ASSEMBLY, Hydraulic tappet (wide shoulder, fast leakdown) 72876 supersedes and interchangeable with 71791. See Lycoming Service Instruction Number 1011.	12	
28	65074						SOCKET, Push rod, hydraulic tappet	12	

FIGURE 4 - PISTON, PISTON RINGS AND CONNECTING ROD GROUP

APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A

4-1	71940						PISTON (compression ratio 7.30:1) Used with either nitrided or chrome cylinder assemblies. A supply of 71940 pistons is being maintained for service.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
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NOTE

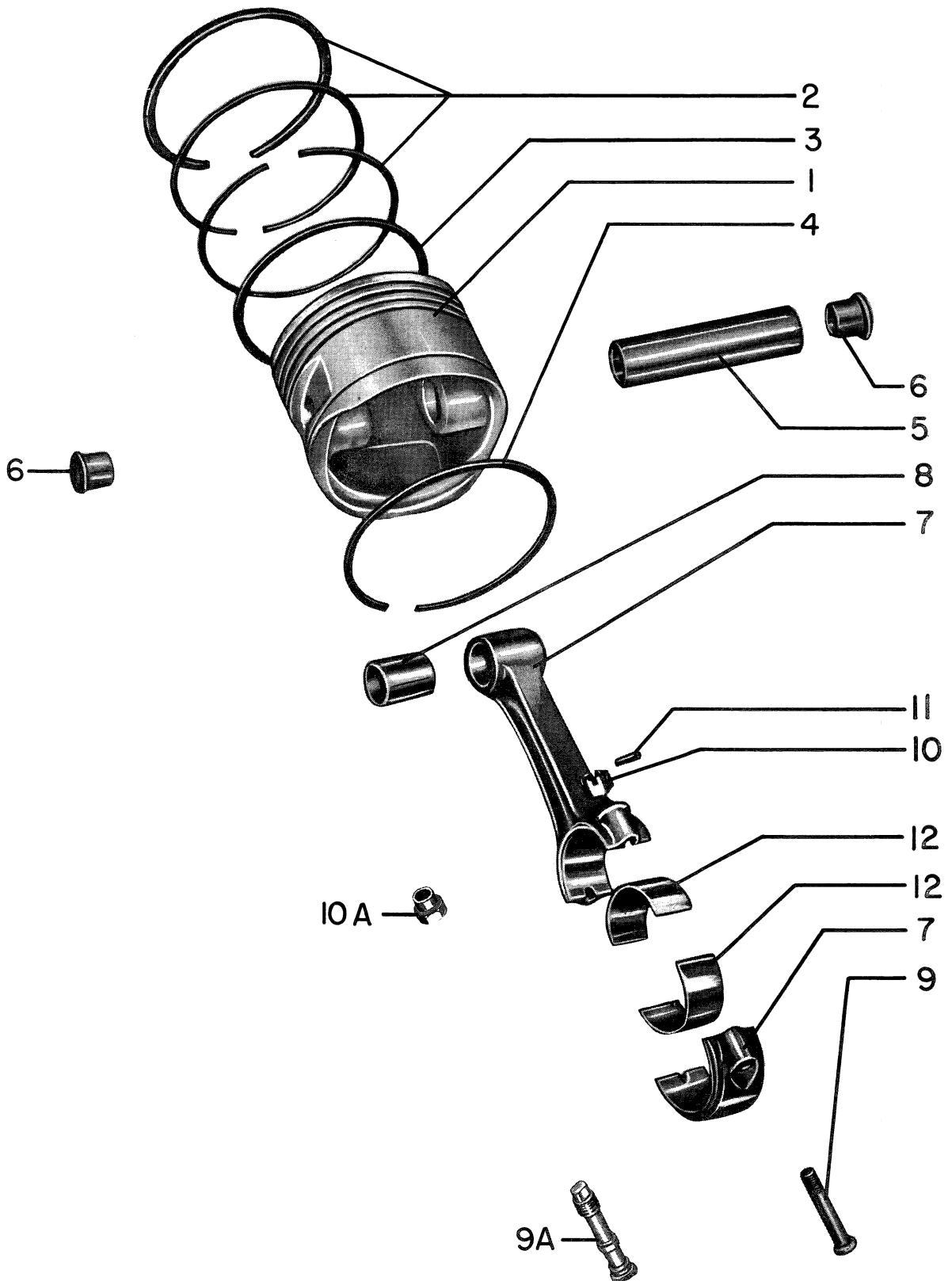
71940 piston requires 3-74241, 1-69457, 1-69330 chrome rings or 3-71939, 1-72454, 1-69235 unplated rings.

	73976-S						PISTON (Compression ratio 7.30:1) (Cold-forged) Used with either nitrided or chrome cylinder assemblies.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, TIVO-540-A2A
--	---------	--	--	--	--	--	---	---	---

NOTE

Requires 3-74241, 1-73857, 1-69330 chrome rings; 3-71939, 1-73998, 1-69235 unplated rings.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL MODELS

Figure 4 - Piston, Piston Rings and Connecting Rod Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 4 - PISTON, PISTON RINGS AND CONNECTING ROD GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
4-1	72249		PISTON (compression 8.7:1) Used with either nitrided or chrome cylinder assemblies. A supply of 72249 pistons is being maintained for service.	6	VO-540-C1A, C2A, C1B, C2B
			NOTE		
			72249 piston requires 3-74241, 1-69457, 1-69330 chrome rings or 3-71939, 1-72454, 1-69235 unplated rings.		
	73947-S		PISTON (compression ratio 8.7:1) Used with either nitrided or chrome cylinder assemblies.	6	VO-540-C1A, C2A, C1B, C2B
			NOTE		
			Required 3-74241, 1-73857, 1-69330 chrome rings or 3-71939, 1-73998, 1-69235 unplated rings.		
2	74241		RING, Piston, top compression (chrome) Used with 71940, 73976-S, 72249 or 73947-S pistons. 74241 ring supersedes 72446 ring.	18	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	71939		RING, Piston, top compression (unplated) Used with 71940, 73976-S, 72249 or 73947-S pistons.	18	" " "
	74241		RING, Piston, top compression (chrome) Used with 73976-S pistons.	18	TIVO-540-A2A
3	69457		RING, Piston, oil regulating, expander type (chrome) Used with 71940 or 72249 pistons.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	72454		RING, Piston oil regulating, expander type (unplated) Used with 71940 or 72249 pistons.	6	" " "
	73857		RING, Piston, oil regulating, expander type (chrome) Used with 73976-S or 73947-S pistons.	6	
	73998		RING, Piston, oil regulating, expander type (unplated) Used with 73976-S or 73947-S pistons.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
4	69330		RING, Piston, scraper (chrome) Used with 71940, 73976-S, 72249 or 73947-S pistons.	6	
	69235		RING, Piston, scraper (unplated) Used with 71940, 73976-S 72249, or 73947-S pistons.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B

CAUTION

Under no consideration can chrome piston rings be used in a chrome barrel.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 4 - PISTON, PISTON RINGS AND CONNECTING ROD GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
4-5	69650						PIN, Piston	6	
6	72198						PLUG, Piston pin	12	
7	73174-S						CONNECTING ROD ASSEMBLY, Machining Supersedes and interchangeable with 71947-S	6	
NOTE									
VO-540 series engines with serial nos. 101-43 to 724-43 inclusive, 727-43 to 743-43 inclusive, 747-43 and 753-43 are built with connecting rods (72947) having bolts that are secured by tightening to a specified torque limit. VO-540 series engines with serial nos. 725-43, 726-43, 744-43, 745-43, 746-43, 748-43, 749-43, 750-43, 751-43, 752-43, 754-43 and up are built with connecting rods (73174) having bolts that are secured by tightening to a specified stretched length. Engines incorporating either 71947 (production) or 71947-S connecting rod assemblies must be modified in accordance with Lycoming Service Bulletin No. 296A which require the 71087 connecting rod bolts to be replaced by 74033 (stretch type) bolts; and the 71950 nuts with 72796 nuts. When supply of 74033 bolts and 72796 nuts is exhausted; service with 74751 bolts and 74646 nuts (crimp type). Connecting rod assemblies (73174 and 73174-S) require 73172 bolts and 72796 nuts as attaching parts. When supply of 73172 bolts and 72796 nuts is exhausted; service with 74645 bolts and 74646 nuts (crimp type).									
8	65819						BUSHING, Connecting rod, upper	6	
9	71087						BOLT, Connecting rod (non-stretch type) Detail part of older type 71947 or 71947-S. This bolt requires 71950 nut and STD-1853 pin.	12	
	74033						BOLT, Connecting rod (stretch type) Detail part of 71947 or 71947-S. This bolt requires 72796 nut and STD-1853 pin. See Lycoming Service Bulletin No. 296A.	12	
	73172						BOLT, Connecting rod (stretch type) Detail part of 73174 or 73174-S. This bolt requires 72796 nut and STD-1853 pin.	12	
9A	74751						BOLT, Connecting rod (stretch type) Detail part of 71947 or 71947-S. This bolt requires 74646 nut, when supply of 74033 bolts and 72796 nuts is exhausted.	12	
	74645						BOLT, Connecting rod (stretch type) Detail part of 73174 or 73174-S. This bolt requires 74646 nut, when supply of 73172 bolts and 72796 nuts is exhausted.	12	
10	71950						NUT, Connecting rod Detail part of older type 71947 or 71947-S This nut is used with 71087 bolt and STD-1853 pin.	12	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 4 - PISTON, PISTON RINGS AND CONNECTING ROD GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
4-10	72796						NUT, Connecting rod Detail part of 71947 or 71947-S. This nut is used with 74033 bolt and STD-1853 pin.	12	
	72796						NUT, Connecting rod Detail part of 73174 or 73174-S. This nut is used with 73172 bolt and STD-1853 pin.	12	
10A	74646						NUT, Connecting rod (crimp type) Detail part of 71947 or 71947-S. Used with 74751 bolt when supply of 74033 bolts and 72796 nuts is exhausted.	12	
	74646						NUT, Connecting rod (crimp type) Detail part of 73174 or 73174-S. Used with 74645 bolt when supply of 73172 bolts and 72796 nuts is exhausted.	12	
11	STD-1853						PIN, 3/32 dia. X 9/16 in. long Used with 71947 or 71947-S when using 71087 bolts, 71950 nuts or 74033 bolts and 72796 nuts.	12	
	STD-1853						PIN, 3/32 dia. X 9/16 in. long Used with 73174 or 73174-S When using 73172 bolts and 72796 nuts.	12	
12	71949						BEARING, Connecting rod	12	
	72217						BEARING, Connecting rod (Alternate to 71949 - use in pairs.)	12	

APPROVED CYLINDER, PISTON AND RING ASSEMBLIES

Low Compression	Nitrided Steel With Half Wedge Rings	Chrome With Half Wedge Rings	Nitrided Steel With Half Wedge Rings	Chrome With Half Wedge Rings
VO-540-A and B Series				
Cylinder	73881	72636	73881	72636
Piston	71940	71940	73976-S	73976-S
Top Ring	74241 ch.	71939 pl.	74241 ch.	71939 pl.
2nd Ring	74241 ch.	71939 pl.	74241 ch.	71939 pl.
3rd Ring	74241 ch.	71939 pl.	74241 ch.	71939 pl.
Oil Reg.	69457 ch.	72454 pl.	73857 ch.	73998 pl.
Scraper	69330 ch.	69235 pl.	69330 ch.	69235 pl.
Cylinder	75171	-----	75171	-----
Piston	71940	-----	73976-S	-----
Top Ring	74241 ch.	-----	74241 ch.	-----
2nd Ring	74241 ch.	-----	74241 ch.	-----
3rd Ring	74241 ch.	-----	74241 ch.	-----
Oil Reg.	69457 ch.	-----	73857 ch.	-----
Scraper	69330 ch.	-----	69330 ch.	-----
Cylinder	75137	-----	74558	75173
Piston	73976-S	-----	73976-S	73976-S
Top Ring	74241 ch.	-----	74241 ch.	71939 pl.
2nd Ring	74241 ch.	-----	74241 ch.	71939 pl.
3rd Ring	74241 ch.	-----	74241 ch.	71939 pl.
Oil Reg.	73857 ch.	-----	73857 ch.	73998 pl.
Scraper	69330 ch.	-----	69330 ch.	69235 pl.
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 4 - PISTON, PISTON RINGS AND CONNECTING ROD GROUP

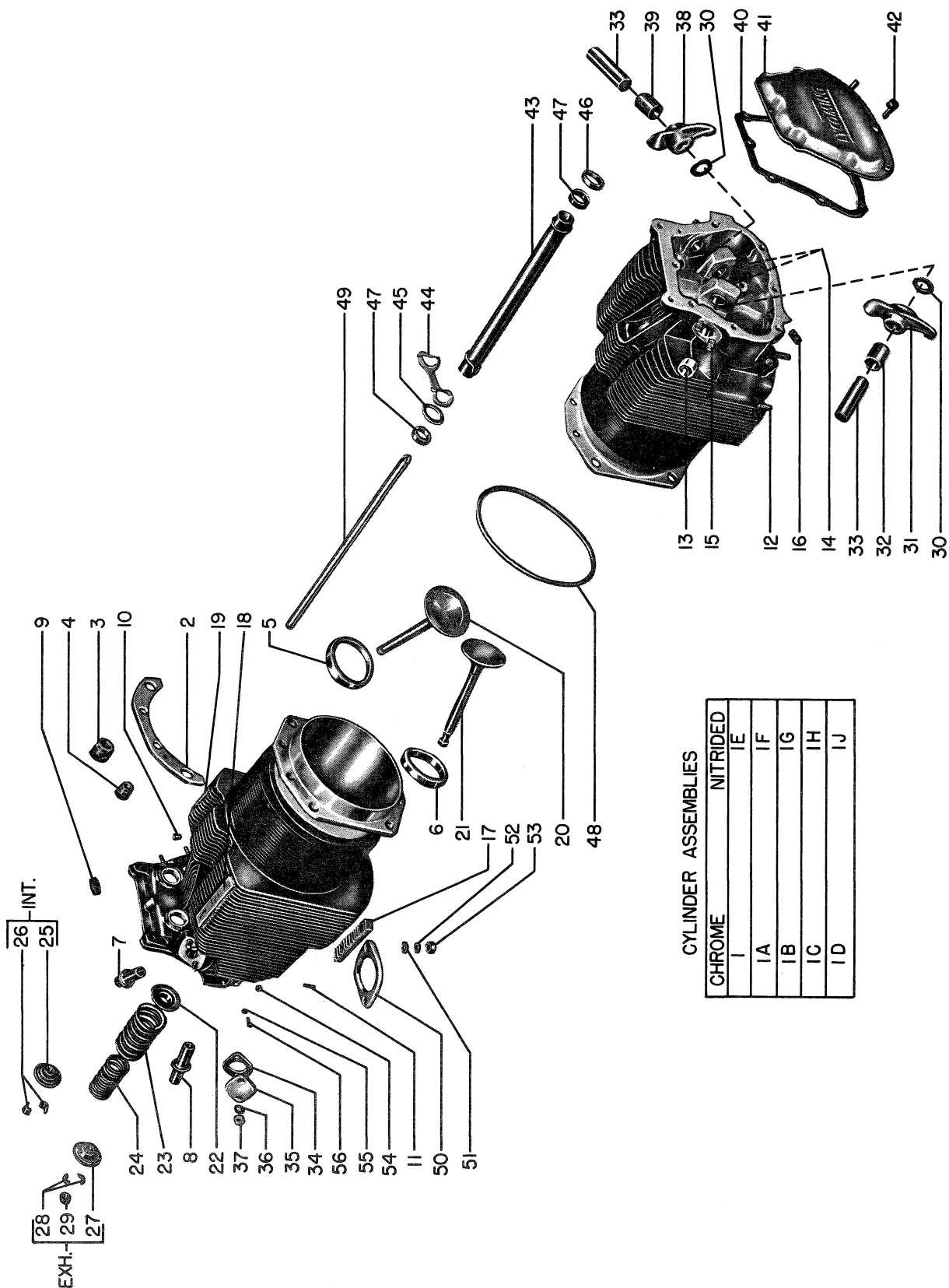
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPROVED CYLINDER, PISTON AND RING ASSEMBLIES (Continued)									
High Compression		Nitrided Steel With Half Wedge Rings		Chrome With Half Wedge Rings		Nitrided Steel With Half Wedge Rings		Chrome With Half Wedge Rings	
VO-540-C Series									
Cylinder	73881						72636	73881	72636
Piston	72249						72249	73947-S	73947-S
Top Ring	74241 ch.						71939 pl.	74241 ch.	71939 pl.
2nd Ring	74241 ch.						71939 pl.	74241 ch.	71939 pl.
3rd Ring	74241 ch.						71939 pl.	74241 ch.	71939 pl.
Oil Reg.	69457 ch.						72454 pl.	73857 ch.	73998 pl.
Scraper	69330 ch.						69235 pl.	69330 ch.	69235 pl.
Cylinder	75171						-----	75171	-----
Piston	72249						-----	73947-S	-----
Top Ring	74241 ch.						-----	74241 ch.	-----
2nd Ring	74241 ch.						-----	74241 ch.	-----
3rd Ring	74241 ch.						-----	74241 ch.	-----
Oil Reg.	69457 ch.						-----	73857 ch.	-----
Scraper	69330 ch.						-----	69330 ch.	-----
Cylinder	75137						-----	74558	75173
Piston	73947-S						-----	73947-S	73947-S
Top Ring	74241 ch.						-----	74241 ch.	71939 pl.
2nd Ring	74241 ch.						-----	74241 ch.	71939 pl.
3rd Ring	74241 ch.						-----	74241 ch.	71939 pl.
Oil Reg.	73857 ch.						-----	73857 ch.	73998 pl.
Scraper	69330 ch.						-----	69330 ch.	69235 pl.
-----*									
Low Compression									
TIVO-540-A2A									
Cylinder	74236								
Piston	73976-S								
Top Ring	74241 ch.								
2nd Ring	74241 ch.								
3rd Ring	74241 ch.								
Oil Reg.	73857 ch.								
Scraper	69330 ch.								
-----*									

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
5-1	71956						CYLINDER AND HEAD ASSEMBLY (chrome) This cylinder and head assembly (71956) used on engines with serial numbers 101-43 thru 128-43 is superseded by (72214) which uses new intake valve seat (72212) that allows clearance for reseating tool.	6	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A
NOTE									
Intake valve seat (71408) is not replaceable in cylinder and head assembly (71956). If intake valve seat need be replaced, cylinder and head assembly (71956) must be serviced with cylinder and head assembly (72636) and (71381) 7/16 inch dia. rotator type sodium cooled exhaust valve.									
1A	72214						CYLINDER AND HEAD ASSEMBLY (chrome) This cylinder and head assembly supersedes (71956). Supersedure was made to permit use of new intake valve seat (72212) which allows clearance for reseating tool. (72214) is used on engines with serial numbers 129-43 thru 409-43. If (72214) need be replaced; service with cylinder and head assembly (72636) and (71381) 7/16 inch dia. rotator type sodium cooled exhaust valve.	6	" " "
1B	72636						CYLINDER AND HEAD ASSEMBLY (chrome) Supersedes and interchangeable with (72214) cylinder and head assembly with proper exhaust valve beginning with engine serial number 410-43. (72636) requires (71381) 7/16 inch dia. rotator type sodium cooled exhaust valve. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
1C	75172						CYLINDER AND HEAD ASSEMBLY (chrome) (Requires long reach spark plug.) (Optional Equipment) 75172 incorporates exhaust valve guide (72897) to receive 1/2 inch dia. rotator type sodium cooled exhaust valve (73111 or 73875) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys MS13997-3 and valve stem caps MS13998-3.	6	" " "
1D	75173						CYLINDER AND HEAD ASSEMBLY (chrome) (Requires long reach spark plug.) (Optional Equipment) 75173 incorporates ni-resist exhaust valve guide (73979) to receive 1/2 inch dia. rotator type inconel exhaust valve (74052 or 74802) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys MS13997-3 and valve stem caps MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	" " "

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL MODELS

Figure 5 - Cylinder Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
5-1E	73881		CYLINDER AND HEAD ASSEMBLY (nitrided) (Optional Equipment) 73881 incorporates exhaust valve guide (72897) to receive 1/2 inch dia. rotator type sodium cooled exhaust valve (73111 or 73875) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys MS13997-3 and valve stem caps MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
1F	75171		CYLINDER AND HEAD ASSEMBLY (nitrided) (Requires long reach spark plug.) (Optional Equipment) 75171 incorporates exhaust valve guide (72897) to receive 1/2 inch dia. rotator type sodium cooled exhaust valve (73111 or 73875) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys MS13997-3 and valve stem caps MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	" " "
1G	74236		CYLINDER AND HEAD ASSEMBLY (nitrided) (Requires long reach spark plug.) 74236 incorporates ni-resist exhaust valve guide (73979) to receive 1/2, inch dia. rotator type inconel exhaust valve (74052 or 74802) which require outer and inner valve spring seats 73115 and 73112 respectively, valve keys, MS13997-3 and valve stem caps, MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	TIVO-540-A2A
1H	74558		CYLINDER AND HEAD ASSEMBLY (nitrided) (Optional Equipment) 74558 incorporates ni-resist exhaust valve guide (73979) to receive 1/2 inch dia. rotator type inconel exhaust valve (74052 or 74802) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys, MS13997-3 and valve stem caps, MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
1J	75137		CYLINDER AND HEAD ASSEMBLY (Nitrided) Opt. Equipt. (Requires long reach spark plug.) 75137 incorporates ni-resist exhaust valve guide (73979) to receive 1/2 inch dia. rotator type inconel exhaust valve (74052 or 74802) which require outer and inner valve spring seats, 73115 and 73112 respectively, valve keys MS13997-3 and valve stem caps MS13998-3. See Figure 4, Approved Cylinder, Piston and Ring Assemblies.	6	VO-540-B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS									
5-2	69531						PLATE, Cylinder hold-down nut	12	
3	71133						NUT, Allen head, 1/2-20 NF-3	24	
4	71134						NUT, Allen head, 3/8-24 NF-3	24	
-----*									
5	71408						SEAT, Intake valve Incorporated in cylinder and head assembly (71956) only. No longer available; see "NOTE", Reference number 5-1.	6	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A
	72212						SEAT, Intake valve (Procurable in P10, P20 or P30 oversizes only.) Supersedes (71408) to allow clearance for reseating tool. 72212 is used in cylinder and head assembly 72214, beginning at engine serial number 129-43 and all 72636, 74158, 74159, 73881, 74236, 74558 and 75137 cylinder and head assemblies.	6	
6	71407						SEAT, Exhaust valve (Procurable in P10, P20 or P30 oversizes only.) Incorporated in 71956 and 72214 cylinder and head assemblies. Requires 71938 rotator type sodium cooled exhaust valve.	6	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A
	71894						SEAT, Exhaust valve (Procurable in P10, P20 or P30 oversizes only.) Incorporated in 72636, 74158, 74159, 73881, 74236 and 74558 cylinder and head assemblies. 72636 requires rotator type 7/16" dia. sodium cooled exhaust valve (71381). 74158 and 73881 require either 73111 or 73875 rotator type 1/2" dia. sodium cooled exhaust valve. 74159, 74236, 74558 and 75137 require either 74052 or 74802 rotator type 1/2" dia. inconel exhaust valve	6	
7	66713						GUIDE, Valve, intake	6	
8	69693						GUIDE, Valve, exhaust Incorporated in cylinder and head assemblies 71956, 72214 and 72636.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	72897						GUIDE, Valve, exhaust Incorporated in 74158 and 73881 cylinder and head assemblies to receive either 73111 or 73875 rotator type 1/2" dia. sodium cooled exhaust valve.	6	" " "
	73979						GUIDE, Valve, exhaust (ni-resist) Incorporated in 74159, 74236, 74558 and 75137 cylinder and head assemblies to receive 74052 or 74802 rotator type 1/2" dia. inconel exhaust valve.	6	
9	66796 P10						INSERT, Spark plug (for short reach spark plug) Available in P10 oversize only. Detail part of 71956, 72214, 72636, 73881, 74158, 74159 and 74558 cylinder and head assemblies.	12	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
5-9	69260 P10						INSERT, Spark plug (for long reach spark plug) (Available in P10 oversize only.) Detail part of 74236 and 75137 cylinder and head assemblies.	12	VO-540-B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B, TIVO-540-A2A
10	STD-1872						INSERT, Heli-Coil, 1/8-27 Detail part of 74236 cylinder and head assembly.	6	TIVO-540-A2A
11	31-12						STUD, 5/16-18 X 1-1/2 in. long	12	
12	25-12						STUD, 1/4-20 X 1-1/2 in. long	12	
13	66670						BUSHING, Rocker shaft, inner	24	
14	STD-859						DOWEL, 1/8 dia. X 9/32 in. long Later version of 72636 cylinder and head assembly does not incorporate STD-859 dowel at rocker shaft bushing	12	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
15	25-8						STUD, 1/4-20 X 1.00 in. long	24	
16	STD-783						PLUG, Allen, 1/4 in. pipe	6	
17	72343						STABILIZER, Cylinder head fins, 15 teeth	6	
18	72344						STABILIZER, Cylinder head fins, 26 teeth	6	
19	73946						STABILIZER, Cylinder head fins, 20 teeth	6	TIVO-540-A2A
20	73117						VALVE, Intake Supersedes and interchangeable with 71953.	6	
	73876						VALVE, Intake (Alternate to 73117 intake valve.)	6	
21	71938						VALVE, Exhaust (rotator type) sodium cooled, 7/16" Used with 71956 and 72214 cylinder and head assemblies.	6	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A
	71381						VALVE, Exhaust (rotator type) sodium cooled, 7/16" Used with 72636 cylinder and head assembly only.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	73111						VALVE, Exhaust (rotator type) sodium cooled, 1/2" This increased diameter valve can be used only with 73881 or 74158 cylinder and head assemblies.	6	" " "
	73875						VALVE, Exhaust (rotator type) sodium cooled, 1/2" (Alternate to 73111 exhaust valve.)	6	" " "
	74052						VALVE, Exhaust (rotator type) inconel, 1/2" Used with 74159, 74236 and 75137 cylinder and head assemblies.	6	
	74802						VALVE, Exhaust (rotator type) Inconel, 1/2" (Alternate to 74052 exhaust valve.)	6	
22	68325						SEAT, Valve spring, lower	12	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A
	68325						SEAT, Valve spring, lower Required when using 72636, 73881, 74158, 74159, 74236 or 75137 cylinder and head assemblies with increased diameter exhaust valves (73111, 73875, 74052 or 74802).	6	
	73112						SEAT, Valve spring, lower Used with 73881, 74158, 74159, 74236 or 75137 cylinder and head assemblies. 73112, 73115, MS13997-3 and MS13998-3 are required with (rotator type) exhaust valve (73111, 73875, 74052 or 74802.)	6	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
5-23	68326		SPRING, Valve, outer	12	
24	68328		SPRING, Valve, auxiliary	12	
25	68327		SEAT, Valve spring	6	
26	60009		KEY, Valve	12	
27	69698		SEAT, Valve spring (rotator type) Required on all engines incorporating sodium cooled exhaust valves, 71381 or 71938. Engines with increased diameter exhaust valves (73111, 73875, 74052 or 74802) require 73115 rotator type valve spring seat.	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	73115		SEAT, Valve spring (rotator type) 73115 is used with 73881, 74158, 74159, 74236 or 75137 cylinder and head assemblies. 73112, 73115, MS13997-3 and MS13998-3 are required with (rotator type) exhaust valves (73111, 73875, 74052 or 74802.)	6	
28	72050		KEY, Valve (rotator type) Required on all engines incorporating sodium cooled exhaust valves 71381 or 71938.	12	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	MS13997-3		KEY, Valve (rotator type) MS13997-3 is used with 73881, 74158, 74159, 74236 or 75137 cylinder and head assemblies. 73112, 73115, MS13997-3 and MS13998-3 are required with (rotator type) exhaust valves (73111, 73875, 74052 or 74802).	12	
29	69697		CAP, Valve stem Required with sodium cooled exhaust valves 71381 or 71938. Increased diameter (rotator type) exhaust valves (73111, 73875, 74052 or 74802).	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	MS13998-3		CAP, Valve stem MS13998-3 is used with 73881, 74158, 74159, 74236 or 75137 cylinder and head assemblies. 73112, 73115, MS13997-3 and MS13998-3 are required with (rotator type) exhaust valves (73111, 73875, 74052 or 74802).	6	
30	71549		WASHER, Valve rocker thrust	12	
	71549-1		WASHER, Valve rocker thrust	AR	
	71549-2		WASHER, Valve rocker thrust	AR	
	71549-3		WASHER, Valve rocker thrust Select for proper clearance; See Lycoming Service Bulletin Number 225A.	AR	
31	71266		ROCKER ASSEMBLY, Intake valve	6	
32	67114		BUSHING, Valve rocker	6	
33	68806		SHAFT, Valve rocker	12	
34	66732		GASKET, Valve rocker shaft cover	12	
35	66731		COVER, Valve rocker shaft	12	
ATTACHING PARTS					
36	STD-160		WASHER, Shakeproof lock, 1/4 in.	24	
37	STD-9		NUT, Plain, 1/4-28	24	
			-----*		
38	74390		ROCKER ASSEMBLY, Exhaust valve Supersedes 71265. (See Lycoming Service Instruction No. 1067.)	6	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 5 - CYLINDER GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
5-39	74389						BUSHING, Valve rocker	6	
40	67193						GASKET, Rocker box cover	6	
41	69625						COVER ASSEMBLY, Rocker box (left)	3	
	69626						COVER ASSEMBLY, Rocker box (right)	3	
ATTACHING PARTS									
42	STD-1826						SCREW, Fill. hd. self-locking, 1/4-20 X 5/8 in. long	48	
							-----*		
43	72255						SHROUD TUBE ASSEMBLY, Push rod	12	
							Supersedes and interchangeable with 71928.		
44	66717						SPRING, Shroud tube	6	
45	66728						WASHER, 25/32 ID X 1-1/4 OD X 1/32 in. thick	24	
							(Maximum of 2 per tube)		
46	61503						SLEEVE, Shroud tube seal	12	
47	62922						SEAL, Shroud tube	24	
48	71481						RING, Oil seal, 3/32 dia. section X 4-27/32 in. ID	6	
49	73556						ROD ASSEMBLY, Push (13.055-13.068)	AR	
							Supersedes and interchangeable with 71994.		
	73557						ROD ASSEMBLY, Push (13.082-13.095)	AR	
							Supersedes and interchangeable with 71995.		
	73558						ROD ASSEMBLY, Push (13.109-13.122)	AR	
							Supersedes and interchangeable with 71995-1.		
							(12 push rods required; select for proper fit.)		
NOTE									
							Part Numbers are stamped on 73500 Series		
							push rod assemblies only.		
50	67195						FLANGE, Exhaust	6	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
ATTACHING PARTS									
51	STD-35						WASHER, Plain, 5/16 in.	12	
52	STD-475						WASHER, Shakeproof lock, 5/16 in.	12	
53	STD-37						NUT, Plain, 5/16-24	12	
							-----*		
54	65614						PLUG, Baffle attaching	4	
ATTACHING PARTS									
55	STD-1687						WASHER, No. 10 lock external teeth	4	
56	STD-1686						SCREW, Fill. head, no. 10-32	4	
							-----*		

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

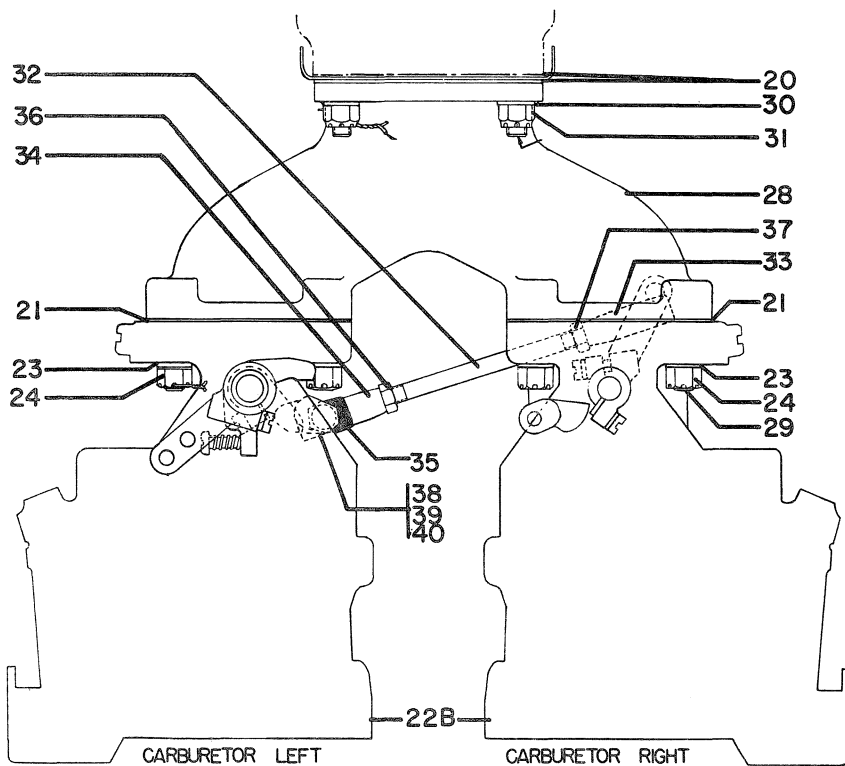
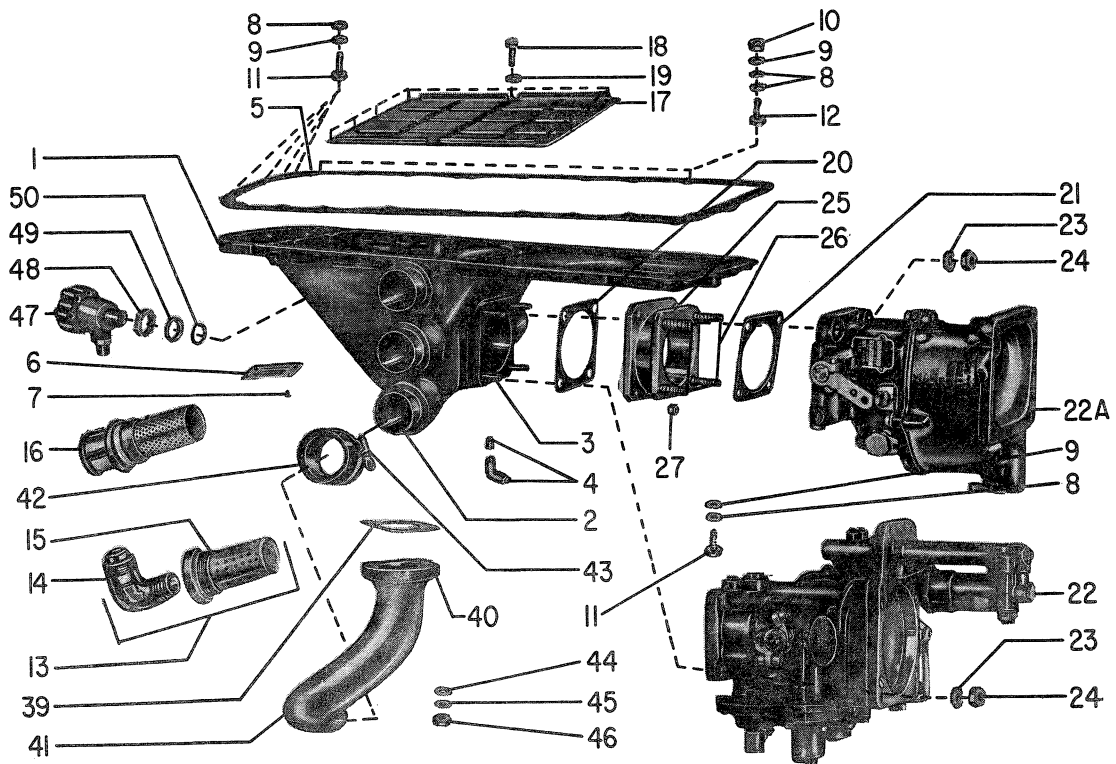
FIGURE 6 - INDUCTION SYSTEM GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A					
6-1	71935		COVER ASSEMBLY, Crankcase Requires use of carburetor 71937 only.	1	VO-540-A1A, A2A
	72404		COVER ASSEMBLY, Crankcase Requires use of carburetor adapter assembly 72406 and carburetor 72407.	1	VO-540-B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	73060		COVER ASSEMBLY, Crankcase Requires use of dual carburetor adapter assembly 72930 and two (2) 72920 carburetors.	1	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
	74239		COVER ASSEMBLY, Crankcase Requires use of 73895 turbocharger and 74539 fuel injector. See Figure 24, reference numbers 1 and 22, for these illustrated parts, used with this cover assembly.	1	TIVO-540-A2A
2	69602		CONNECTION, Intake pipe	6	
3	31D-14		STUD, 5/16-18 X 1-3/4 in. long Detail part of crankcase cover assembly 71935.	4	VO-540-A1A, A2A,
	31D-12		STUD, 5/16-18 X 1-1/2 in. long Detail part of crankcase cover assemblies, 72404 and 73060.	4	VO-540-B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	STD-1164		INSERT, Heli-Coil, 5/16-18 X 5/8 in. long Detail part of crankcase cover assembly 74239.	4	TIVO-540-A2A
4	STD-405		PLUG, Sq. hd. dr., 1/8 in. pipe (One additional required in crankcase cover assembly 74239.)	1	
	74376		ELBOW ASSY., Primer 45° (Single point primer system, Bell installation; see "NOTE", Figure 16, reference 13.	1	VO-540-B1B3
5	68172		GASKET, Crankcase cover	1	
6	61548		PLATE, Name	1	
ATTACHING PARTS					
7	STD-1901		DRIVE STUD, Rd. hd., no. 4 X 3/16 in. long (Supersedes AN535-4-3)	4	
-----*					
ATTACHING PARTS (CRANKCASE COVER ASSEMBLY TO CRANKCASE)					
8	STD-8		WASHER, Plain, 1/4 in.	34	
9	STD-160		WASHER, Internal teeth, 1/4 in. lock	24	
10	STD-9		NUT, Plain, 1/4-28	10	
11	STD-1679		BOLT, Hex. hd., 1/4-28 X 1.00 in. long	14	
12	STD-1230		BOLT, Hex. hd., 1/4-28 X 1-9/32 in. long	10	
-----*					
13	73144		BREATHER AND FLARED TUBE ELBOW ASSEMBLY (Optional Equipment)	1	VO-540-B1B3, B1C, B2C, B1D, B2D
14	MS20822-12D		ELBOW, 3/4 in. flared tube and 3/4 in. NPT 90°	1	" " "
15	73124		BREATHER ASSEMBLY	1	" " "
16	71921		BREATHER ASSEMBLY	1	
17	71977		BAFFLE, Breather	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 6 - INDUCTION SYSTEM GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS					
6-18	STD-82		SCREW, Fill. hd. dr., no. 10-24 X 1/2 in. long	10	
			Supersedes STD-375.		
19	STD-425		WASHER, Plain, no. 10	10	
			-----*		
20	68129		GASKET, Carburetor	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C
			Required with 71937 carburetor or 72406 carburetor adapter assembly.		
	68129		GASKET, Carburetor	2	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
			Required with 72930 dual carburetor adapter assembly.		
21	66224		GASKET, Carburetor	1	VO-540-B1A, B2A, B1B3, B1C, B2C
			Required with 72407 carburetor.		
	66224		GASKET, Carburetor	2	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
			Required with two (2) 72920 carburetors.		
22	71937		CARBURETOR	1	VO-540-A1A, A2A
			Same as Bendix Products Div., Part No. 391710-4 Model PS-7BD. Altitude compensated to 30,000 ft. pressure altitude.		
22A	72407		CARBURETOR	1	VO-540-B1A, B2A, B1B3, B1C, B2C
			Same as Marvel-Schebler, Model MA-6-AA; Part No. 10-4218-1.		
22B	72920		CARBURETOR	2	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
			Same as Marvel-Schebler, Model MA-6-AA; Part No. 10-4401-1.		
ATTACHING PARTS					
23	STD-35		WASHER, Plain, 5/16 in.	4	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C
			Required to attach either 71937 or 72407 carburetor.		
	STD-35		WASHER, Plain, 5/16 in.	8	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
24	STD-2		NUT, Slotted, 5/16-24	4	VO-540-A1A, A2A
			Required to attach 71937 carburetor.		
	STD-1013		NUT, Slotted, 5/16-24 (Castle)	4	VO-540-B1A, B2A, B1B3, B1C, B2C
			Supersedes STD-2.		
			Required to attach 72407 carburetor.		
	STD-2		NUT, Slotted, 5/16-24	8	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
			Required to attach two (2) 72920 carburetors.		
			-----*		
25	72406		ADAPTER ASSY., Carburetor	1	VO-540-B1A, B2A, B1B3, B1C, B2C
			Used with crankcase cover assembly 72404 and carburetor 72407.		
26	31D-11		STUD, 5/16-18 X 1-3/8 in. long	4	" " "
ATTACHING PARTS					
27	STD-2		NUT, Slotted, 5/16-24	4	" " "
			-----*		



ALL MODELS

Figure 6 - Induction System Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 6 - INDUCTION SYSTEM GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
6-28	72930		ADAPTER ASSY., Dual carburetor Used with crankcase cover assembly 73060 and two (2) 72920 carburetors.	1	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
29	31D-14		STUD, Drilled, 5/16-18 X 1-3/4 in. long	8	" " "
ATTACHING PARTS					
30	STD-35		WASHER, Plain, 5/16 in.	4	" " "
31	STD-1013		NUT, Castle, 5/16-24	4	" " "
-----*					
32	73316		ROD, Dual carburetor (Supersedes 73072; See "NOTE", reference no. 35.)	1	VO-540-B1D, B2D, C1A, C2A, C1B, C2B
33	74062		ROD END, Dual carburetor, left (Supersedes 73107; See "NOTE", reference no. 35.)	1	" " "
34	74063		ROD END, Dual carburetor (Supersedes 73096; See "NOTE", reference no. 35.)	1	" " "
35	STD-696		WASHER, Plain, 1/4 in. (See "NOTE", reference no. 35)	2	" " "
	STD-131		BOLT, Hex. hd. dr. shank, 1/4-28 X 1.00 in. long (See "NOTE", reference no. 35)	2	" " "
	STD-97		NUT, Slotted, 1/4-28	2	" " "
	STD-68		PIN, Cotter, 1/16 X 1/2 in. long	2	" " "
NOTE					
Consult Lycoming Service Instruction No. 1095 for improved dual carburetor throttle linkage. Engines with serial nos. 862-43 and up incorporate the improved throttle linkage change.					
36	STD-9		NUT, Plain, 1/4-28	1	" " "
37	AN315-4L		NUT, Plain, 1/4 in. (left hand)	1	" " "
38	STD-8		WASHER, Plain, 1/4 in.	2	" " "
39	71973		GASKET, 2 bolt flange, 1-7/8 in. ID	6	
40	73346		FLANGE, Intake pipe, upper Supersedes and interchangeable with 60069.	6	
41	71932		PIPE, Intake cylinder, No. 1 and 6	2	
	71933		PIPE, Intake cylinder, No. 2 and 5	2	
	71934		PIPE, Intake cylinder, No. 3 and 4	2	
42	STD-1792		HOSE, 1-3/4 ID X 2-3/16 OD X 2-3/8 in. long	6	
43	STD-1269		CLAMP, Hose, 1.88-2.25 ID X 9/16 in. wide Supersedes and interchangeable with 72417.	12	
ATTACHING PARTS					
44	STD-8		WASHER, Plain, 1/4 in.	12	
45	STD-160		WASHER, Internal teeth, 1/4 in. lock	12	
46	STD-9		NUT, Plain, 1/4-20	12	
-----*					
47	74601		BY-PASS, Altitude idle air Same as Bendix Corp., Bendix Products Aerospace Div., Part No. 2524165-2.	1	TIVO-540-A2A
48	AN6289-D16		NUT, 1-5/16-12 (Alternate AN6289-16)	1	TIVO-540-A2A
49	STD-1922		GASKET, "O" ring	1	TIVO-540-A2A
50	STD-1921		RING	1	TIVO-540-A2A

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 7 - ACCESSORY HOUSING GROUP

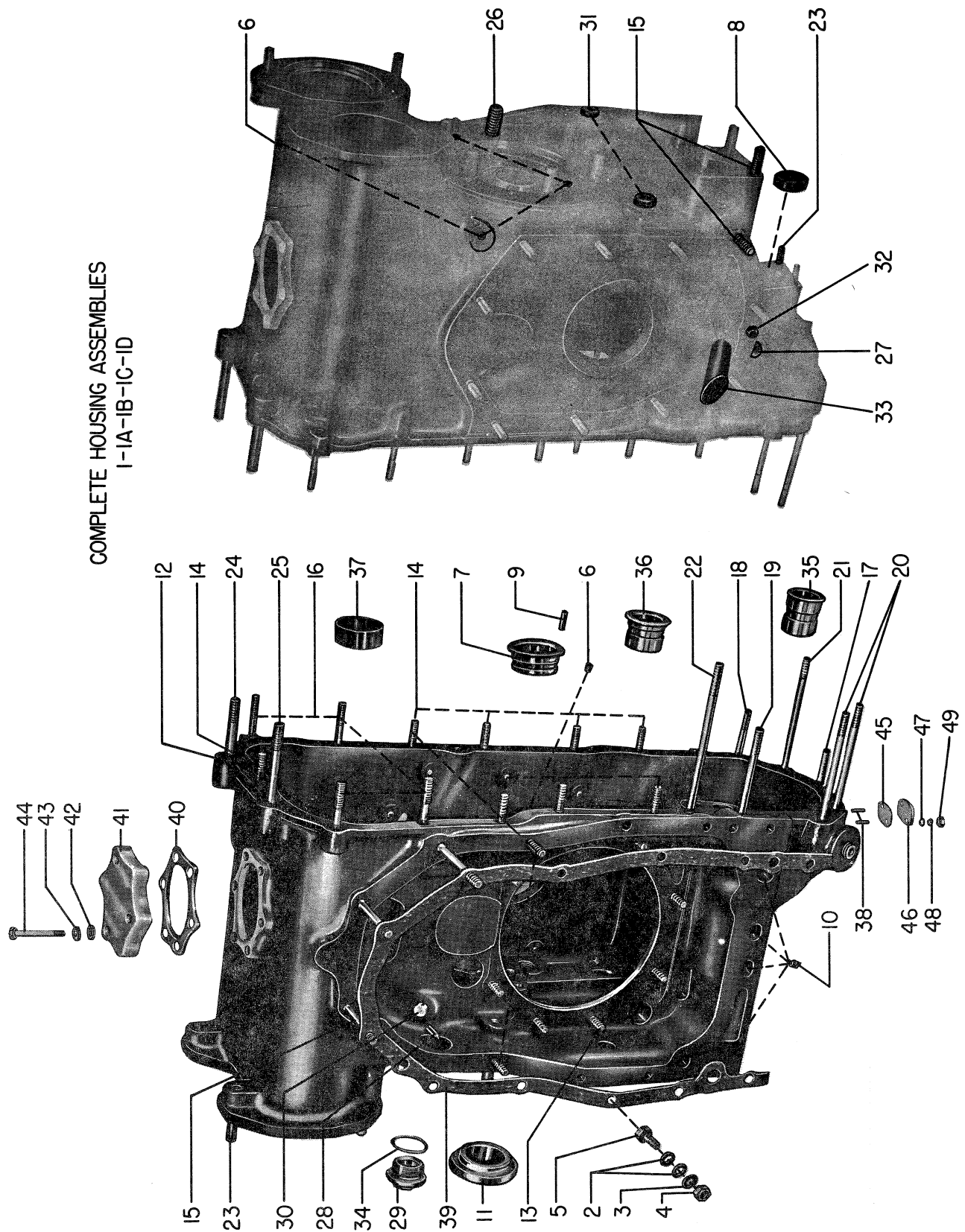
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
7-1	71951	HOUSING ASSY., Accessory (Optional to 72559) This assembly is the same as 72559 except 71951 housing does not incorporate. A 70292 plug in the fuel pump drive pad. When supply of 71951 housing assemblies is exhausted; service with 70406 housing assembly.					1	VO-540-A1A, B1A, B1B3, B1C, B1D, C1A	
1A	72559	HOUSING ASSY., Accessory (Optional to 71951) This assembly is same as 71951 when (70292 fuel pump drive pad plug) is removed. When supply of 72559 housing assemblies is exhausted; service with 70404 housing assembly.					1	" " "	
1B	70406	HOUSING ASSY., Accessory (Optional to 70404) This assembly is the same as 70404 except 70406 housing does not incorporate a 70292 plug in the fuel pump drive pad.					1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B	
1C	70404	HOUSING ASSY., Accessory (Optional to 70406) This assembly is same as 70406 when (70292 fuel pump drive pad plug) is removed.					1	" " "	
NOTE									
Engines with serial numbers 729-43 and up incorporate either 70406 or 70404 accessory housing assemblies which do not have the breather pad machined.									
1D	73886	HOUSING ASSY., Accessory					1	TIVO-540-A2A	
ATTACHING PARTS									
2	STD-8	WASHER, Plain, 1/4 in.					33		
3	STD-160	WASHER, Internal teeth, 1/4 in. lock					32		
4	STD-9	NUT, Plain, 1/4-28					32		
5	STD-1230	BOLT, Hex. head, 1/4-28 X 1-9/32 in. long					1		
-----*									
6	STD-1339	PLUG, Allen head, 1/16-27 pipe					5		
7	67742	BUSHING, 1-7/8 OD X 1-11/16 ID X 3/4 in. long					1		
8	70292	PLUG, Fuel pump drive pad (Incorporated in 70404 and 72559 accessory housing assemblies only.)					1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B	
9	STD-859	DOWEL, 1/8 dia. X 9/32 in. long					1		
10	STD-1315	INSERT, Heli-Coil, 1/4-28 X 1/2 in. long					4		
11	69286	ANNULUS, Oil seal					1		
12	66145	DOWEL, 1/4 dia. X 1/2 in. long					2		
13	25D-11	STUD, Drilled, 1/4-20 X 1-1/2 in. long					8		
14	25-12	STUD, 1/4-20 X 1-1/2 in. long					11		
15	25-13	STUD, 1/4-20 X 1-5/8 in. long					17		
16	25-16	STUD, 1/4-20 X 2.00 in. long					4		
17	25-23	STUD, 1/4-20 X 2-7/8 in. long					1		

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 7 - ACCESSORY HOUSING GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
7-18	25D-24						STUD, Drilled, 1/4-20 X 3.00 in. long	1	
19	25-27						STUD, 1/4-20 X 3-3/8 in. long	1	
20	25-34						STUD, 1/4-20 X 4-1/4 in. long	2	
21	25-37						STUD, 1/4-20 X 4-5/8 in. long	1	
22	25-40						STUD, 1/4-20 X 5.00 in. long	1	
23	31-14						STUD, 5/16-18 X 1-3/4 in. long	6	
24	31-21						STUD, 5/16-18 X 2-5/8 in. long	1	
25	31-26						STUD, 5/16-18 X 3-1/4 in. long	1	
26	38-16						STUD, 3/8-16 X 2.00 in. long	6	
27	69637						PLUG, 3/4 dia. X 9/16 in. long	1	
28	69658						PIN, Engine timing	1	
29	69335						PLUG, 5/8 hex. hd., 1.00-20 thd.	1	
30	1102						PLUG, Allen, 1/8 in. pipe	1	
31	STD-71						PLUG, Allen, 3/8 in. pipe	2	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B TIVO-540-A2A
	STD-71						PLUG, Allen, 3/8 in. pipe	1	
32	STD-514						DOWEL, 5/16 dia. X 1/2 in. long	2	
33	69636						TUBE AND STRAINER ASSY., Oil suction	1	
34	STD-111						GASKET, Annular, 1.00 ID X 1-1/4 OD X 3/32 in.	1	
35	67646						BUSHING, 1-1/16 OD X 7/8 ID X 1-7/32 in. long	1	
36	71341						BUSHING, 1-3/16 OD X 1.00 ID X 1.00 in. long	1	
37	71123						BUSHING, 1-5/16 ID X 1-1/2 OD X 3/4 in. long	1	
38	25-10						STUD, 1/4-20 X 1-1/4 in. long	2	TIVO-540-A2A
39	68174						GASKET, Accessory housing	1	
NOTE									
VO-540 engines with serial nos. 101-43 to 726-43 inclusive require the following parts (reference numbers, 40, 41, 42, 43 and 44).									
40	67746						GASKET, Accessory housing breather	1	VO-540 Series
41	72044						COVER, Accessory housing breather	1	" "
ATTACHING PARTS									
42	STD-8						WASHER, Plain, 1/4 in.	3	" "
43	STD-160						WASHER, Internal teeth, 1/4 in. lock	3	" "
44	STD-1419						BOLT, Hex. head, 1/4-20 X 1-1/8 in. long	3	" "
-----*									
45	73368						GASKET, Scavenge oil inlet adapter	1	TIVO-540-A2A
46	73367						COVER, Scavenge oil inlet	1	" "
ATTACHING PARTS									
47	STD-8						WASHER, Plain, 1/4 in.	2	" "
48	STD-160						WASHER, Internal teeth, 1/4 in. lock	2	" "
49	STD-9						NUT, Plain, 1/4-28	2	" "
-----*									

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

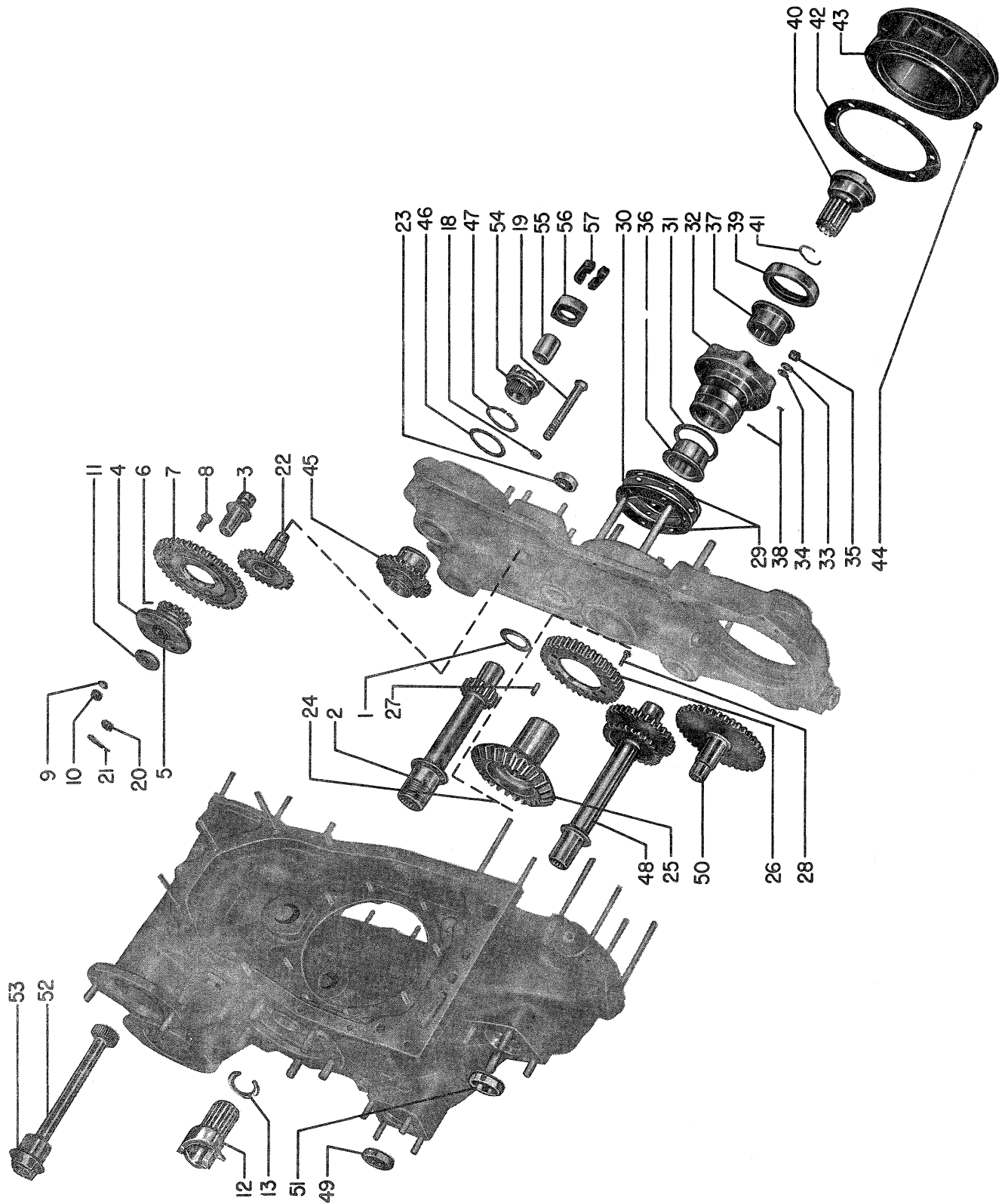


LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 8 - ACCESSORY DRIVES GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
8-1	67690						WASHER, Generator drive gear thrust	1	
2	69177						GEAR ASSEMBLY, Generator drive	1	
3	72384						SHAFT, Magneto drive idler	1	
4	68568						HUB ASSEMBLY, Magneto drive idler	1	
5	68563						BUSHING, Magneto drive idler gear hub	1	
6	STD-19						DOWEL, 3/32 dia. X 7/32 in. long	1	
7	68553						GEAR, Magneto drive idler	1	
ATTACHING PARTS (FOR REFERENCE NUMBERS 4 AND 7)									
8	AN102010						BOLT, Dr. end, 1/4-28 X 3/4 in. long	4	
9	STD-8						WASHER, Plain, 1/4 in.	4	
10	STD-43						NUT, Slotted shear, 1/4-28	4	
-----*									
11	68545						WASHER ASSEMBLY, Magneto drive idler shaft	1	
12	69645						JAW, Hand crank (Opt. Equipt.)	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
13	STD-136						CIRCLIP, Wire, .724 dia. X 1/16 in. wire (Opt. Equipt.)	1	" " "
OPTIONAL EQUIPMENT (REF. NOS. 14 TO 17 INCLUSIVE NOT ILLUSTRATED)									
14	AN4047-1						GASKET, Hand crank cover assembly	1	" " "
15	69568						COVER ASSY., Hand crank	1	" " "
ATTACHING PARTS									
	STD-33						WASHER, Plain, 3/8 in.	6	" " "
	STD-678						WASHER, Internal teeth, 3/8 in. lock	6	" " "
	STD-596						NUT, Plain, 3/8-24 X 21/64 in. thk.	6	" " "
-----*									
16	69810						CAP ASSY., Hand crank (Opt. Equipt.)	1	" " "
17	69494						CHAIN ASSY., Hand crank starting cap retainer (Opt. Equipt.)	1	" " "
18	STD-1854						WASHER, 5/16 in. dia. (seal)	1	
19	STD-1860						SCREW, Flat fill. hd. dr. shank, 5/16-24 X 3-1/8 in.	1	
20	STD-2						NUT, Slotted, 5/16 in.	1	
21	AN381-2-10						PIN, Cotter, 1/16 dia. X 5/8 in. long	1	
22	68410						GEAR ASSY., Tachometer driven	1	
23	STD-547						SEAL, Oil, 9/16 ID X 1-1/8 OD X 5/16 in. wide	1	
24	67610						GEAR ASSY., Starter drive	1	
25	67583						GEAR, Starter drive	1	
26	67609						GEAR, Accessory drive	1	
27	72139						DOWEL, Hollow pin, 1/4 dia. X 7/16 in. long	3	
28	STD-1833						SCREW, Fill. hd. dr., 1/4-28 X 1/2 in. long	6	
29	67708						GASKET, Starter drive adapter	2	
30	67709						SHIM, Starter drive adapter	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL MODELS

Figure 8 - Accessory Drives Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 8 - ACCESSORY DRIVES GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
8-31	72182		RING, Oil seal, 1/8 dia. section X 1-3/4 in. ID (Required with starter drive adapter assy. 68694.)	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	74382		RING, Oil seal, 3/32 dia. section X 2.00 in. ID (Required with starter drive adapter assy. 74432.)	1	VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B, TIVO-540- A2A
32	68694		ADAPTER ASSY., Starter drive	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	74432		ADAPTER ASSY., Starter drive (steel) (Hiller installation only.)	1	VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B, TIVO-540- A2A

ATTACHING PARTS

33	STD-8		WASHER, Plain, 1/4 in.	6	
34	STD-696		WASHER, 17/64 ID X 1/2 OD X 1/32 in. thick	AR	
35	STD-97		NUT, Slotted, 1/4-28	6	
			-----*		
36	67596		BUSHING, 1-11/16 OD X 1-1/2 ID X 1.00 in. long	1	
37	71616		BUSHING, 1-11/16 OD X 1-1/2 ID X 1.00 in. long	1	
38	STD-394		DOWEL, 3/32 dia. X 11/32 in. long	2	
39	STD-1702		SEAL, 2-5/8 OD X 1-13/16 ID X 1/2 in. wide	1	
40	67605		JAW, Starter	1	
41	STD-1709		CIRCLIP, Wire, 1-5/32 OD X 5/64 in. dia.	1	
42	67633		GASKET, Starter drive	1	
43	68186		ADAPTER, Starter	1	
44	1102		PLUG, Allen, 1/8-27 NPT	1	
45	68565		GEAR, Magneto drive shaft	1	
46	69569		WASHER, Magneto drive shaft gear	1	
47	69570		RING, Magneto drive gear retaining	1	
48	67704		SHAFT GEAR ASSY., Vacuum pump	1	
49	STD-1708		SEAL, 1-7/16 OD X 1.00 ID X 25/64 in. wide	1	
50	67782		SHAFT GEAR ASSY., Fuel pump drive	1	
51	STD-213		SEAL, Oil, 3/4 ID X 1-3/8 in. OD	1	
52	69566		SHAFT ASSEMBLY, Magneto drive	1	
53	69565		SLEEVE, Magneto drive shaft	1	
54	69567		COUPLING ASSEMBLY, Magneto drive	1	
55	69565		SLEEVE, Magneto drive shaft	1	
56	68875		RETAINER, Magneto drive cushion	2	
57	68874		CUSHION, Magneto drive	4	

**STANDARD EQUIPMENT
(REF. NOS. 58 TO 65 INCLUSIVE NOT ILLUSTRATED)**

58	AN4047-1		GASKET, Starter and generator	2	
59	671-B		COVER, Starter and generator	2	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 8 - ACCESSORY DRIVES GROUP

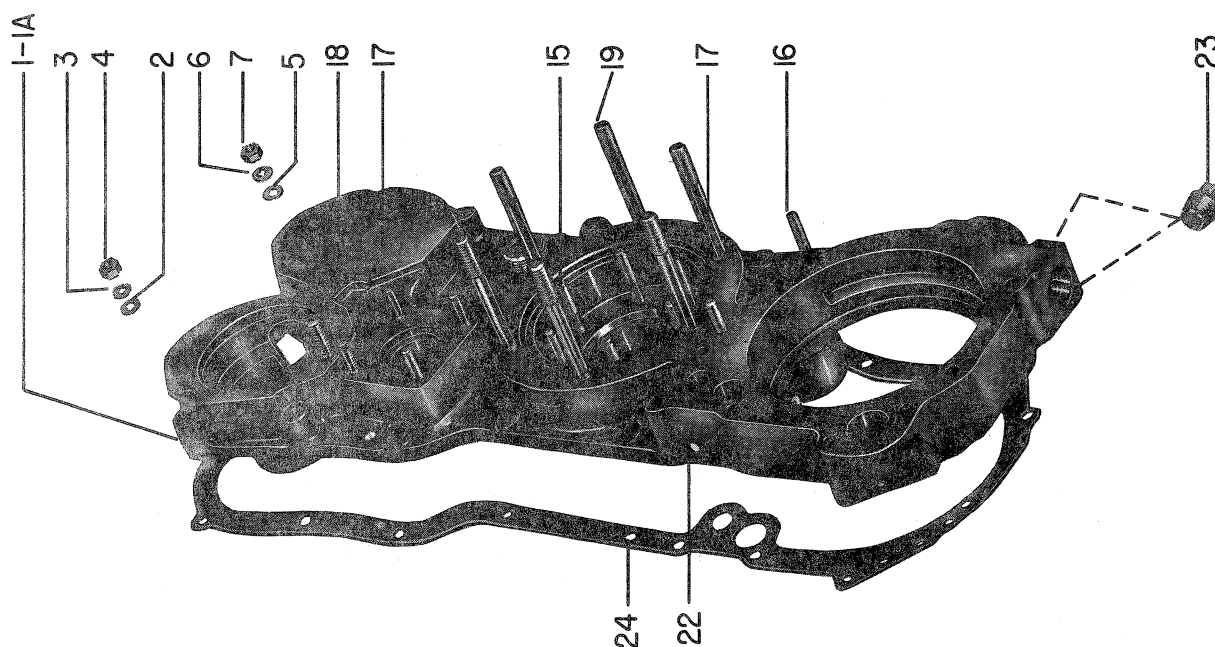
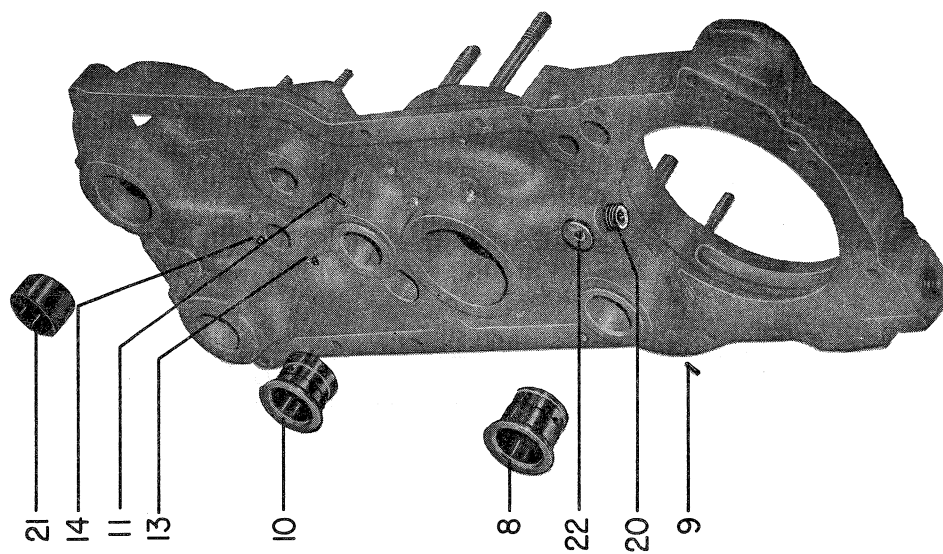
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS									
8-59	STD-33						WASHER, Plain, 3/8 in.	12	
	STD-678						WASHER, Internal teeth, 3/8 in. lock	12	
	STD-596						NUT, Plain, 3/8-24 X 21/64 in. thick	12	
							-----*		
60	8313						GASKET, Vacuum pump and tachometer	2	
61	60430						COVER, Vacuum pump and tachometer	2	
ATTACHING PARTS									
	STD-8						WASHER, Plain, 1/4 in.	8	
	STD-160						WASHER, Internal teeth, 1/4 in. lock	8	
	STD-9						NUT, Plain, 1/4-28	8	
							-----*		
62	1691-C						GASKET, Fuel pump	1	
63	60431						COVER, Fuel pump	1	
ATTACHING PARTS									
	STD-35						WASHER, Plain, 5/16 in.	4	
	STD-475						WASHER, Internal teeth, 5/16 in. lock	4	
	STD-37						NUT, Plain, 5/16-24	4	
							-----*		
64	20415						GASKET, Hydraulic pump	1	
65	72412						COVER, Hydraulic pump	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	20414						COVER, Hydraulic pump (cast) (Hiller installation only.)	1	VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B, TIVO-540- A2A
ATTACHING PARTS									
	STD-35						WASHER, Plain, 5/16 in.	4	
	STD-475						WASHER, Internal teeth, 5/16 in. lock	4	
	STD-37						NUT, Plain, 5/16-24	4	
							-----*		

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 9 - ACCESSORY HOUSING COVER GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A					
9-1	68440		COVER ASSY., Accessory housing 68440 accessory housing cover assembly is studded for either 71769 or 71772 oil pump assemblies. Engines with serial numbers to 657-43 inclusive, incorporate this (68440) acc. hsg. cover assy. 68440 is superseded by 73094 when present supply of service stock is exhausted.	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A
NOTE					
Accessory housing cover assembly 68440 differs from 73094 only in that the (1) 25-17 stud at the (1) one o'clock position on the oil pump mounting surface is replaced with (1) 25-29 stud to accomodate new oil pump assemblies, (73089 or 73091). Accessory housing cover assembly (68440) may be restudded at the aforementioned location to receive the new pumps.					
1A	73094		COVER ASSY., Accessory housing Supersedes 68440; see above "NOTE", for interchangeability. Engines with serial numbers 658-43 and above, incorporate 73094 on VO-540 series engines and 101-57 and above on TIVO- 540-A2A engines.	1	VO-540-C1B, C2B, TIVO-540-A2A
ATTACHING PARTS					
2	STD-8		WASHER, Plain, 1/4 in.	19	
3	STD-160		WASHER, Internal teeth, 1/4 in. lock	19	
4	STD-9		NUT, Plain hex, 1/4-28	19	
5	STD-35		WASHER, Plain, 5/16 in.	2	
6	STD-475		WASHER, Internal teeth, 5/16 in. lock	2	
7	STD-37		NUT, Plain, 5/16-24	2	
-----*					
8	67653		BUSHING, 1-3/16 OD X 1.00 ID X 1-3/16 in. long	1	
9	STD-951		DOWEL, 1/8 dia. X 7/16 in. long	1	
10	68590		BUSHING, 1-3/16 OD X 1.00 ID X 1-3/32 in. long	1	
11	STD-951		DOWEL, 1/8 dia. X 7/16 in. long	1	
12	STD-740		PLUG, Slotted, 3/4 in. pipe (Shipping part; no illustrated)	1	
13	STD-1053		PLUG, .204-.205 dia. X 5/16 in. long	1	
14	STD-434		DOWEL, 1/8 dia. X 21/64 in. long	1	
15	25D-16		STUD, Drive, 1/4-20 X 2.00 in. long	6	
16	25-17		STUD, 1/4-20 X 2-1/8 in. long (Detail part of 68440 accessory housing cover assembly. See "NOTE" in reference 9-1.)	1	
	25-29		STUD, 1/4-20 X 3-5/8 in. long (Detail part of 73094 accessory housing cover assembly. See "NOTE" in reference 9-1.)	1	
17	25-12		STUD, 1/4-20 X 1-1/2 in. long	5	
18	31-14		STUD, 5/16-18 X 1-3/4 in. long	1	
19	38-31		STUD, 3/8-16 X 3-7/8 in. long	6	
20	STD-783		PLUG, Allen, 1/4-28 NPT	1	
21	71124		BUSHING, 1-1/2 ID X 1-11/16 OD X 45/64 in. long	1	
22	1102		PLUG, Allen, 1/8-27 NPT	2	
23	STD-1104		PLUG, Sq. hd. dr., 3/4-14 NPT	2	
24	68556		GASKET, Accessory housing cover	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL MODELS

Figure 9 - Accessory Housing Cover Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 10 - OIL PUMP GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
10-1	71772	PUMP ASSY., Oil (Provision for hydraulic pump drive.) 71772 is no longer available; service with 73089. Both 71772 and 73089 oil pump assemblies are machined to receive a longer capacity oil filter assembly (72785). Engines with serial numbers to 657-43 inclusive, incorporate 71772 oil pump assembly.						1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A
1A	73089	PUMP ASSY., Oil (Provision for hydraulic pump drive.) Engines with serial numbers 658-43 and above, incorporate 73089 oil pump assembly on VO-540 series engines and serial number 101-57 and above on TIVO-540-A2A engines.						1	VO-540-C1B, C2B, TIVO-540-A2A
ATTACHING PARTS									
2	STD-8	WASHER, Plain, 1/4 inch						9	
3	STD-160	WASHER, Internal teeth, 1/4 in. lock						9	
4	STD-9	NUT, Plain hex, 1/4-28						9	
-----*									
5	71771	BODY ASSY., Oil pressure pump (Detail part of 71772 oil pump assy.) 71771 is no longer available; service with 73088						1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A
NOTE									
If 71771 oil pressure pump body assembly need be replaced with 73088, the accessory housing cover assy. (68440) which it requires, must be modified by replacing the 25-17 stud at the one o'clock position on the oil pump mounting surface with a 25-29 stud.									
	73088	BODY ASSY., Oil pressure pump (Detail part of 73089 oil pump assy.) Provision for 3/4-14 NPT hole and 4-bolt flange connection at oil inlet location. Requires accessory housing cover assy. (73094).						1	VO-540-C1B, C2B, TIVO-540-A2A
6	68466	BUSHING, Oil pump drive shaft						1	
7	STD-394	DOWEL, 3/32 dia. X 11/32 in. long						1	
8	69620	PLUG, .627-.628 dia. X .41-.46 in. long Detail part of 71771 oil pressure pump body assy. (Not illustrated)						1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A
9	MS122200	INSERT, Heli-Coil, 10-24 X 31/64 in. long (Detail part of 73088 oil pressure pump body assy.)						4	
10	25D-21	STUD, 1/4-20 X 2-5/8 in. long						2	
11	25D-24	STUD, 1/4-20 X 3.00 in. long						2	
12	25D-25	STUD, 1/4-20 X 3-1/8 in. long						2	

Exploded view diagram of an oil pump assembly. The diagram shows the main pump body (1) with various internal and external components. Key parts include:

- Internal Components:** Gears (28, 33, 32, 36, 29), shafts (10, 12), and a plate (28).
- External Components:** Cover (56), gasket (39), and various fasteners (screws, bolts, nuts, washers, springs).
- Assembly Sequence:** Indicated by dashed lines and arrows showing the relationship between parts.

 The legend at the bottom right identifies the assembly as:

- OIL PUMP ASSEMBLIES
- REF. NO. 1-1A
- GASKET - HYDRAULIC PUMP REF. NO. 61
- COVER - HYDRAULIC PUMP REF. NO. 57

ALL MODELS

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 10 - OIL PUMP GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
10-13	STD-1164						INSERT, Heli-Coil, 5/16-18 X 5/8 in. long	1	
14	31-14						STUD, 5/16-18 X 1-3/4 in. long	3	
15	31-12						STUD, 5/16-18 X 1-1/2 in. long	1	
16	68473						SLEEVE, Oil relief valve	1	
17	STD-1392						PLUG, .268-.269 dia. X 5/16 in. long	1	
18	71999						RETAINER, Ball, check valve	1	
19	1028-B						BALL, 11/16 in. dia.	1	
20	73761						SPRING, Check valve	1	
							Supersedes and interchangeable with 654-B.		
21	69618						BODY ASSY., Oil scavenge pump	1	
ATTACHING PARTS									
22	STD-8						WASHER, Plain, 1/4 in.	6	
23	STD-43						NUT, Slotted shear, 1/4-28	6	
							-----*		
24	68466						BUSHING, Oil pump drive shaft	1	
25	STD-394						DOWEL, 3/32 dia. X 11/32 in. long	1	
26	68161						SHAFT, Oil pump idler, long	1	
27	AN381-4-20						PIN, Cotter, 1/8 dia. X 1-1/4 in. long	1	
28	68468						SPACER, Oil pressure and scavenge pump	1	
29	69671						SHAFT, Oil pump	1	
30	66426						IMPELLER, Oil scavenge pump, driving	1	
31	68403						IMPELLER, Oil scavenge pump, driven	1	
32	61297						IMPELLER, Oil pressure pump, driving	1	
							(Supersedes and interchangeable with 73872.)		
33	68404						IMPELLER, Oil pressure pump, driven	1	
34	69647						DOWEL, Oil pump, long	1	
35	67762						DOWEL, Oil pump	1	
36	AN280H406						KEY, Woodruff, 1/8 X 3/4 in. dia.	1	
37	68467						GEAR, Oil pressure and scavenge pump	1	
ATTACHING PARTS									
38	STD-61						NUT, Slotted shear, 1/2-20	1	
39	STD-60						PIN, Cotter, 3/32 dia. X 1.00 in. long	1	
							-----*		
40	STD-740						PLUG, Slotted, 3/4 in. pipe (shipping part)	1	
							(Not illustrated)		
41	STD-71						PLUG, Allen hd., 3/8 in. pipe	1	
42	AN123908						RING, Oil seal, 4-3/4 ID X 1/8 in. dia. section	2	
43	AN900-28						GASKET, Copper, asbestos, 1-3/4 ID X 3/32 in. thick	1	
44	STD-208						SEAL, Oil, 7/8 ID X 1-1/2 OD X 5/16 in. wide	1	
45	70460						WASHER, Oil filter assembly	1	
46	72785						OIL FILTER ASSEMBLY	1	
							Supersedes and interchangeable with 71589.		
47	71774						COVER, Oil filter	1	
48	67981						PLUNGER, Oil relief	1	
49	68542						SPRING, Oil pressure relief valve	1	
50	STD-351						GASKET, Annular, 31/32 OD X 23/32 ID X 3/32 in. thick	2	
51	662						NUT, Relief valve adjusting lock	1	
52	71226						SCREW, Oil relief valve adjusting	1	
53	67940						NUT, Oil relief crown	1	
54	STD-294						GASKET, Annular, 7/8 OD X 5/8 ID X 3/32 in.	1	
55	1540						PLUG, Thermometer well	1	
56	68456						GASKET, Hydraulic and oil pump adapter	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 10 - OIL PUMP GROUP

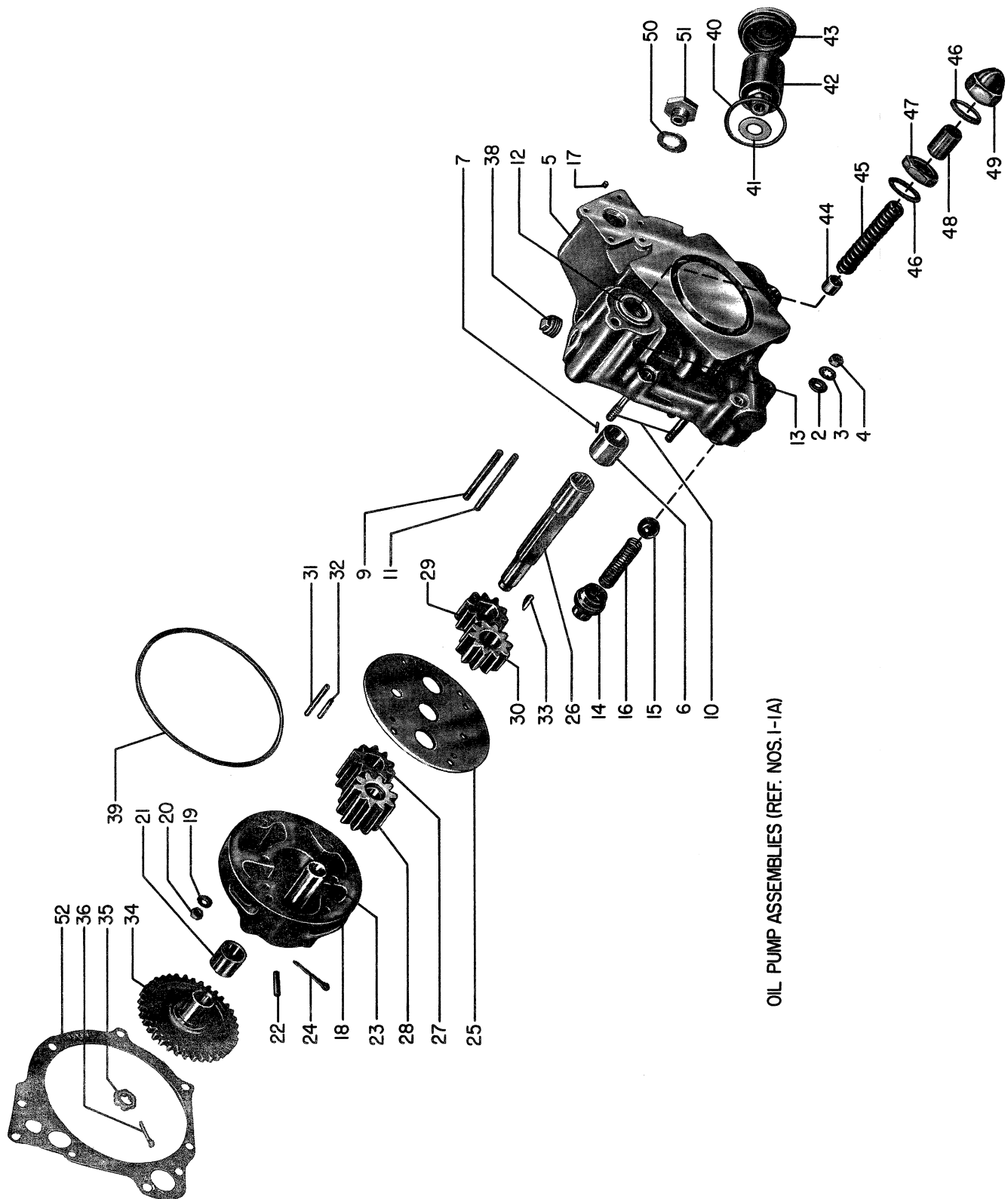
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
THE FOLLOWING REFERENCE NUMBERS ARE NOT ILLUSTRATED.									
10-57	72412						COVER, Hydraulic pump	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	20414						COVER, Hydraulic pump (cast) (Hiller installation only.)	1	VO-540-A1A, A2A, B1A, B2A, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B, TIVO-540- A2A
ATTACHING PARTS									
58	STD-35						WASHER, Plain, 5/16 in.	4	
59	STD-475						WASHER, Internal teeth, 5/16 in. lock	4	
60	STD-37						NUT, Plain, 5/16-24	4	
							-----*		
61	20415						GASKET, Hydraulic pump	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 11 - OIL PUMP GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
11-1	71769						PUMP ASSY., Oil (Optional Equipment) (No provision for hydraulic pump drive.) 71769 is no longer available; service with 73091. Both 71769 and 73091 oil pump assemblies are machined to receive a larger capacity oil filter assembly (72785).	1	
1A	73091						PUMP ASSY., Oil (Optional Equipment) (No provision for hydraulic pump drive.)	1	
ATTACHING PARTS									
2	STD-8						WASHER, Plain, 1/4 in.	9	
3	STD-160						WASHER, Internal teeth, 1/4 in. lock	9	
4	STD-9						NUT, Plain hex, 1/4-28	9	
-----*									
5	71770						BODY ASSY., Oil pressure pump (Detail part of 71769 oil pump assy.) 71770 is no longer available; service with 73086.	1	
NOTE									
If 71770 oil pressure pump body assembly need be replaced with 73086, the accessory housing cover assy. (68440) which it requires, must be modified by replacing the 25-17 stud at the one o'clock position on the oil pump mounting surface with a 25-29 stud.									
	73086						BODY ASSY., Oil pressure pump (Detail part of 73091 oil pump assy.) Provision for 3/4-14 NPT hole and 4-bolt flange connection at oil inlet location. Requires accessory housing cover assy. (73094).	1	
6	68466						BUSHING, Oil pump drive shaft	1	
7	STD-394						DOWEL, 3/32 dia. X 11/32 in. long	1	
8	69620						PLUG, .627-.628 dia. X .41-.46 in. long Detail part of 71770 oil pressure pump body assy. (Not illustrated.)	1	
9	25D-21						STUD, 1/4-20 X 2-5/8 in. long	2	
10	25D-24						STUD, 1/4-20 X 3.00 in. long	2	
11	25D-25						STUD, 1/4-20 X 3-1/8 in. long	2	
12	68473						SLEEVE, Oil relief valve	1	
13	STD-1392						PLUG, .268-.269 dia. X 5/16 in. long	1	
14	71999						RETAINER, Ball, check valve	1	
15	1028-B						BALL, 11/16 in. dia.	1	
16	73761						SPRING, Check valve Supersedes and interchangeable with 654-B.	1	
17	MS122200						INSERT, Heli-Coil, 10-24 X 31/64 in. long (Detail part of 73086 oil pressure pump body assy.)	4	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



OIL PUMP ASSEMBLIES (REF. NOS. 1-1A)

MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 11 - Oil Pump Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 11 - OIL PUMP GROUP

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
11-18	69618		BODY ASSY., Oil scavenge pump	1	
			ATTACHING PARTS		
19	STD-8		WASHER, Plain, 1/4 in.	6	
20	STD-43		NUT, Slotted shear, 1/4-28	6	
			-----*		
21	68466		BUSHING, Oil pump drive shaft	1	
22	STD-394		DOWEL, 3/32 dia. X 11/32 in. long	1	
23	68161		SHAFT, Oil pump idler, long	1	
24	AN381-4-20		PIN, Cotter, 1/8 dia. X 1-1/4 in. long	1	
25	68468		SPACER, Oil pressure and scavenge pump	1	
26	69605		SHAFT, Oil pump	1	
27	66426		IMPELLER, Oil scavenge pump, driving	1	
28	68403		IMPELLER, Oil scavenge pump, driven	1	
29	61297		IMPELLER, Oil pressure pump, driving	1	
30	68404		IMPELLER, Oil pressure pump, driven	1	
31	69647		DOWEL, Oil pump, long	1	
32	67762		DOWEL, Oil pump	1	
33	AN280H406		KEY, Woodruff, 1/8 X 3/4 in. dia.	1	
34	68467		GEAR, Oil pressure and scavenge pump	1	
			ATTACHING PARTS		
35	STD-61		NUT, Slotted shear, 1/2-20	1	
36	STD-60		PIN, Cotter, 3/32 dia. X 1.00 in. long	1	
			-----*		
37	STD-740		PLUG, Slotted, 3/4 in. pipe (shipping part) (Not illustrated)	1	
38	STD-71		PLUG, Allen hd., 3/8 in. pipe	1	
39	AN123908		RING, Oil seal, 4-3/4 ID X 1/8 in. dia. section	2	
40	AN900-28		GASKET, Copper, asbestos, 1-3/4 ID X 3/32 in. thick	1	
41	70460		WASHER, Oil filter assembly	1	
42	72785		OIL FILTER ASSEMBLY	1	
			Supersedes and interchangeable with 71589.		
43	71774		COVER, Oil filter	1	
44	67981		PLUNGER, Oil relief	1	
45	68542		SPRING, Oil pressure relief valve	1	
46	STD-351		GASKET, Annular, 3/4 ID X 3/32 in. thick	2	
47	662		NUT, Relief valve adjusting lock	1	
48	71226		SCREW, Oil relief valve adjusting	1	
49	67940		NUT, Oil relief crown	1	
50	STD-294		GASKET, Annular 7/8 OD X 5/8 ID X 3/32 in.	1	
51	1540		PLUG, Thermometer well	1	
52	68456		GASKET, Hydraulic and oil pump adapter	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

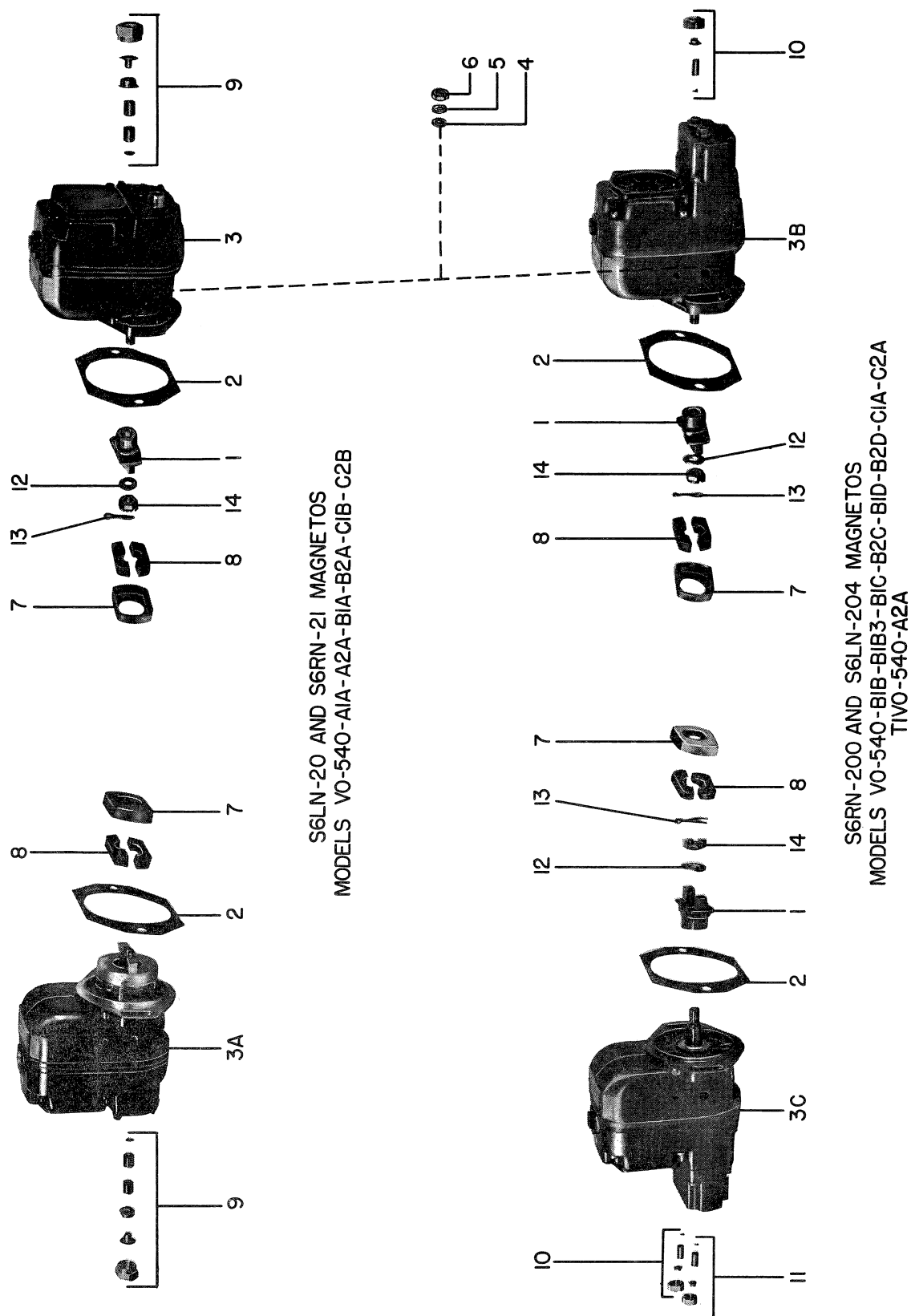
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 12 - MAGNETOS AND MAGNETO DRIVES GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
12-1	69208						COUPLING, Magneto drive	1	VO-540-A1A, A2A B1A, B2A, C1B, C2B
	69208						COUPLING, Magneto drive	2	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A
2	62224						GASKET, Magneto (Supersedes 45663.)	2	
3	71436						MAGNETO (Same as Bendix-Scintilla No. 10-51365-33, Type S6LN-20.)	1	VO-540-A1A, A2A, B1A, B2A, C1B, C2B
3A	71435						MAGNETO, Impulse coupling (Same as Bendix-Scintilla No. 10-51365-34, Type S6RN-21.)	1	" " "
3B	72038						MAGNETO (Same as Bendix-Scintilla No. 10-163050-1, Type S6LN-204.)	1	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A
3C	74174						MAGNETO, Retard breaker (Same as Bendix-Scintilla No. 10-163010-15, Type S6RN-200.) 74174 replaces 71163 magneto.	1	" " "
ATTACHING PARTS									
4	STD-1727						WASHER, 3/4 OD X 11/32 ID X 1/8 in. thick	4	
5	STD-475						WASHER, Internal teeth, 5/16 in. lock	4	
6	STD-37						NUT, Plain, 5/16-24	4	
							-----*		
7	68875						RETAINER, Magneto drive cushion	2	
8	68874						CUSHION, Magneto drive	4	
9	61566						KIT ASSEMBLY, Magneto ground terminal	2	VO-540-A1A, A2A, B1A, B2A, C1B, C2B
10	71574						KIT, Magneto ground terminal	2	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A
11	71571						KIT, Magneto retard terminal	1	" " "
12	10-4093						WASHER	1	VO-540-A1A, A2A, B1A, B2A, C1B, C2B
	10-4093						WASHER	2	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A
13	10-90751-19						PIN, Cotter	1	VO-540-A1A, A2A, B1A, B2A, C1B, C2B
	10-90751-19						PIN, Cotter	2	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A
14	10-163151						NUT	1	VO-540-A1A, A2A, B1A, B2A, C1B, C2B
	10-163151						NUT	2	VO-540-B1B3, B1C, B2C, B1D, B2D, C1A, C2A, TIVO-540-A2A.



ALL MODELS

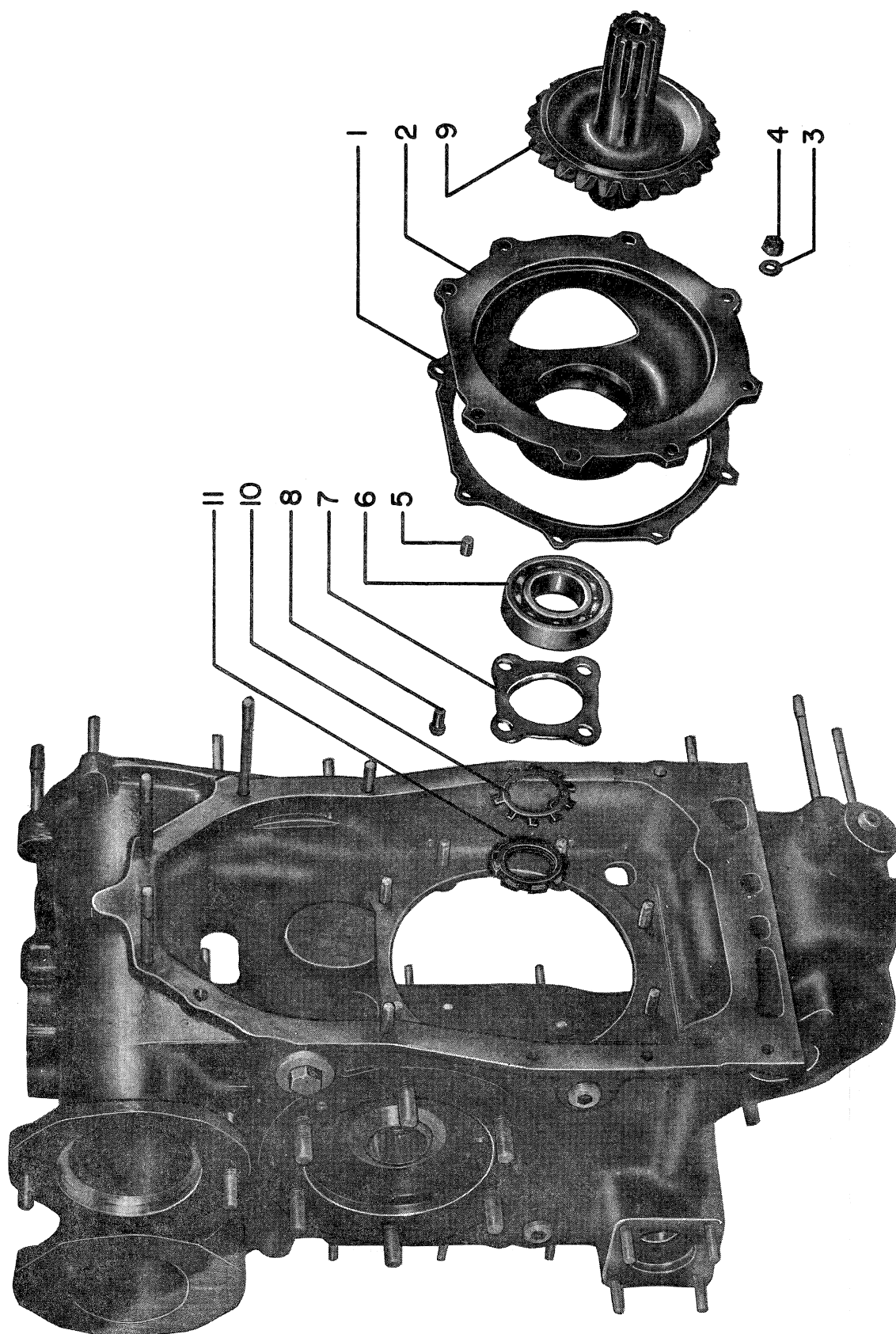
Figure 12 - Magnetos and Magneto Drives Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 13 - ACCESSORY DRIVE GEAR AND ADAPTER GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, B1A, B1B3, B1C, B1D, C1A, C1B									
13-1	67638						SHIM, Accessory drive shaft adapter	1	
2	67639						ADAPTER, Accessory drive shaft The accessory idler gear bearing (30311) is retained in this adapter by one (1) STD-1698 ring.	1	
NOTE									
In the event this adapter has to be replaced; service with 75026 adapter assembly, 74412 plate and four (4) AN501A416-12 screws.									
	75026						ADAPTER ASSEMBLY, Accessory drive shaft The accessory idler gear bearing (30311) is retained in this adapter assembly by one (1) 74412 plate and four (4) AN501A416-12 screws.	1	
NOTE									
67639 and 75026 and their respective bearing retaining parts are interchangeable in sets.									
ATTACHING PARTS									
3	STD-8						WASHER, Plain, 1/4 in. Maximum of 16 pcs. can be used.	AR	
4	STD-97						NUT, Slotted, 1/4-28 -----*	8	
5	STD-1315						INSERT, Heli-Coil, 1/4-20 X 1/2 in. long	4	
6	30311						BEARING, Accessory idler gear	1	
7	74412						PLATE, Accessory drive shaft adapter	1	
ATTACHING PARTS									
8	AN501A416-12						SCREW, Fill. hd. dr., 1/4-28 X 3/4 in. long -----*	4	
9	68835						GEAR, Accessory drive	1	
ATTACHING PARTS									
10	67642						LOCKWASHER, Accessory drive shaft	1	
11	67641						NUT, Accessory drive shaft -----*	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A1A, B1A, B1B3, B1C, B1D, C1A AND C1B

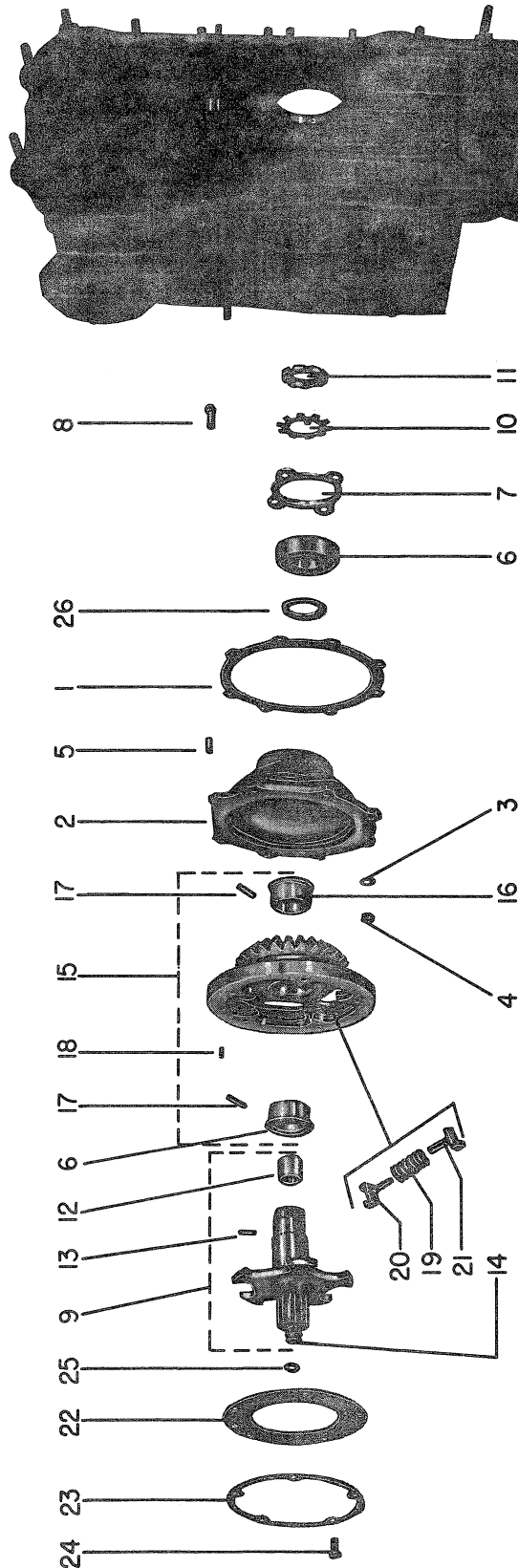
Figure 13 - Accessory Drive Gear and Adapter Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 14 - ACCESSORY DRIVE GEAR AND ADAPTER GROUP (SPRING TYPE)

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A2A, B2A, B2C, B2D, C2A, C2B AND TIVO-540-A2A									
14-1	67638						SHIM, Accessory drive shaft adapter	1	
2	67639						ADAPTER, Accessory drive shaft The accessory idler gear bearing (30311) is retained in this adapter by one (1) STD-1698 ring.	1	
NOTE									
In the event this adapter has to be replaced; service with 75026 adapter assembly, 74412 plate and four (4) AN501A416-12 screws.									
	75026						ADAPTER ASSEMBLY, Accessory drive shaft The accessory idler gear bearing (30311) is retained in this adapter assembly by one (1) 74412 plate and four (4) AN501A416-12 screws.	1	
NOTE									
67639 and 75026 and their respective bearing retaining parts are interchangeable in sets.									
ATTACHING PARTS									
3	STD-8						WASHER, Plain, 1/4 in.	8	
4	STD-97						NUT, Special, 1/4-28	8	
-----*									
5	STD-1315						INSERT, Heli-Coil, 1/4-20 X 1/2 in. long	4	
6	30311						BEARING, Accessory idler gear	1	
7	74412						PLATE, Accessory drive shaft adapter	1	
ATTACHING PARTS									
8	AN501A416-12						SCREW, Fill. hd. dr., 1/4-28 X 3/4 in. long	4	
-----*									
9	74617						SHAFT ASSEMBLY, Accessory drive	1	
ATTACHING PARTS									
10	67642						LOCKWASHER, Accessory drive shaft	1	
11	67641						NUT, Accessory drive shaft	1	
-----*									
12	74613						PLUG, Accessory drive shaft	1	
13	STD-1177						DOWEL, 1/8 dia. X 9/32 in. long	1	
14	69683						TUBE, Accessory drive shaft oil transfer	1	
15	74615						GEAR ASSEMBLY, Accessory drive	1	
16	67630						BUSHING, Supercharger and accessory drive gear	2	
17	STD-798						DOWEL, 3/32 dia. X 9/32 in. long	2	
18	STD-1774						PIN, 1/8 dia.	1	
19	74616						SPRING, Accessory drive coupling	5	
20	74660						GUIDE, Accessory drive coupling, long (Supersedes 72778.)	5	
21	74506						GUIDE, Accessory drive coupling, short (Supersedes 72777.)	5	
22	74221						PLATE, Accessory drive coupling	1	
23	67258						LOCKPLATE, Supercharger drive coupling	1	
24	STD-1459						BOLT, Hex. head, #10-32 X 17/32 in. long	5	
25	STD-1006						RING, Oil seal, 7/16 ID X 3/32 in. dia.	1	
26	67640						WASHER, Accessory drive shaft thrust	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A2A, B2A, B2C, B2D, C2A, C2B AND TIVO-540-A2A

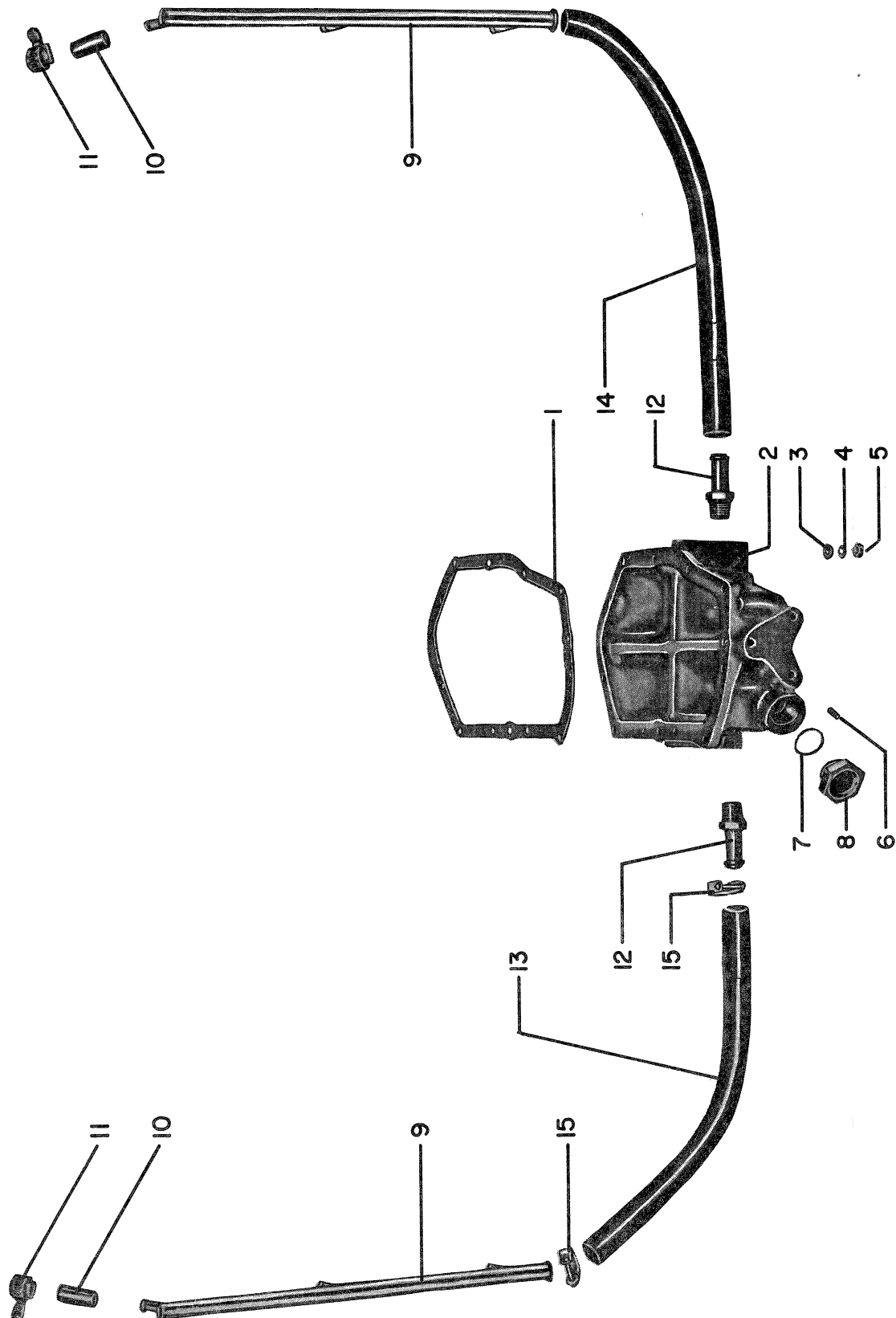
Figure 14 - Accessory Drive Gear and Adapter Group (Spring Type)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 15 - OIL SUMP AND RELATED PARTS GROUP

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
15-1	72437						GASKET, Oil sump	1	
2	71142						SUMP ASSY., Oil	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	73705						SUMP ASSY., Oil	1	TIVO-540-A2A
ATTACHING PARTS									
3	STD-8						WASHER, Plain, 1/4 inch	11	
4	STD-160						WASHER, Internal teeth, 1/4 inch lock	11	
5	STD-9						NUT, Plain, 1/4-28	11	
							-----*-----		
6	MS124777						HELI-COIL, 5/16-24 X 25/32 in. long	13	
7	AN6290-12						SEAL, 59/64 ID X .116 in. dia. section	1	
8	MS9015-12						PLUG, Hex., 1-1/16 - 12 thd.	1	
9	71702						TUBE, Rocker box drain	2	
10	STD-1793						HOSE, 3/8 ID X 1-21/32 in. long	6	
11	STD-1924						CLAMP, Hose, 1/2-3/4 ID X 5/8 in. wide (Supersedes STD-1252)	12	
12	AN840-10D						ADAPTER, Hose to pipe thd. - 1/2 pipe X 5/8 in. dia. hose	2	
13	73731						HOSE, Rocker box drain tube, cylinders 2-4-6 (Supersedes 71703)	1	
14	72045						HOSE, Rocker box drain tube, cylinders 1-3-5	1	VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B
	73883						HOSE, Rocker box drain tube, cylinders 1-3-5	1	TIVO-540-A2A
15	STD-1640						CLAMP, Hose, 15/16 ID X 1/2 in. wide	4	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



ALL MODELS

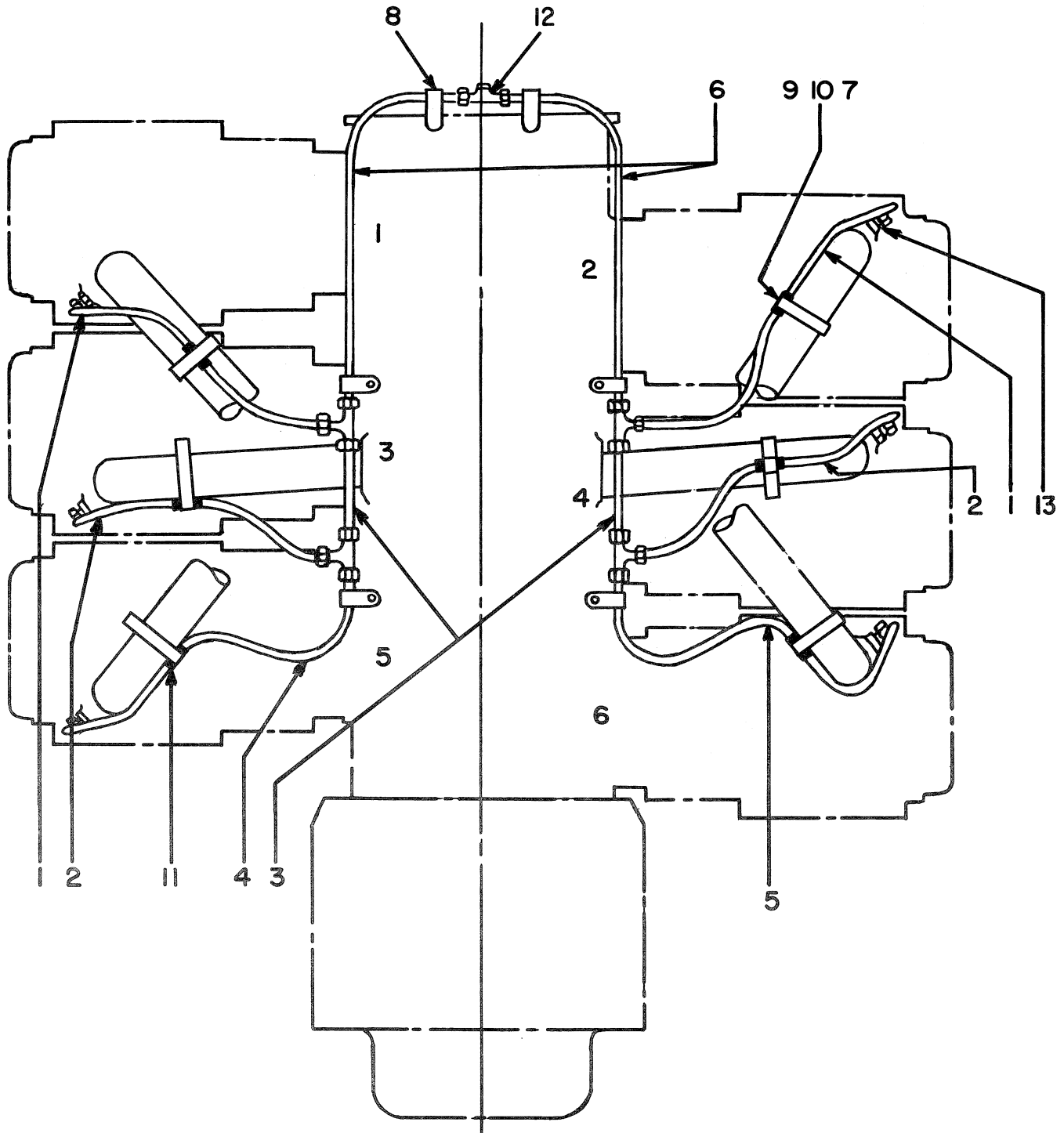
Figure 15 - Oil Sump and Related Parts Group

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 16 - PRIMING SYSTEM

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B					
16-1	61581-9		TUBE ASSEMBLY, Primer (16-11/16 in. long, cylinders 1 and 2)	2	
2	61581-5		TUBE ASSEMBLY, Primer (14-9/16 in. long, cylinders 3 and 4)	2	
3	61581-10		TUBE ASSEMBLY, Primer (5.00 in. extension)	2	
4	61581-1		TUBE ASSEMBLY, Primer (15-5/16 in. long, cylinder 5)	1	
5	61581-4		TUBE ASSEMBLY, Primer (16-5/16 in. long, cylinder 6)	1	
6	61581-3		TUBE ASSEMBLY, Primer (10-5/16 in. long - inter.)	2	
7	71910		CLAMP, Primer line	6	
8	62254		CLIP, Primer line	6	
ATTACHING PARTS					
9	AN365-632C		NUT, Self-locking, #6-32	6	
10	STD-553		SCREW, Rd. head, #6-32 X 1/2 in. long	6	
11	71811		-----*----- SLEEVE, Priming line Detail part of primer tube assemblies, 61581-1, 61581-4, 61581-5 and 61581-9.	6	
12	STD-853		TEE, Union, 1/8 in. tube	5	
13	74225		NIPPLE ASSY., Primer (Supersedes STD-546.)	6	
NOTE					
A single point primer system, assembled in center zone at hole now used for measuring manifold pressure, is provided for Bell installations. Use number six (6) cylinder primer hole for measuring manifold pressure. This change removed all primer lines and attaching parts and added the following optional parts which are not illustrated.					
14	1102		PLUG, Allen, 1/8-27 NPT (Assemble in each cylinder primer hole when using single point priming system.)	6	
15	74376		ELBOW ASSY., Primer, 45° (ship loose) (Optional) (See Figure 6, reference 4 for this illustrated part.)	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



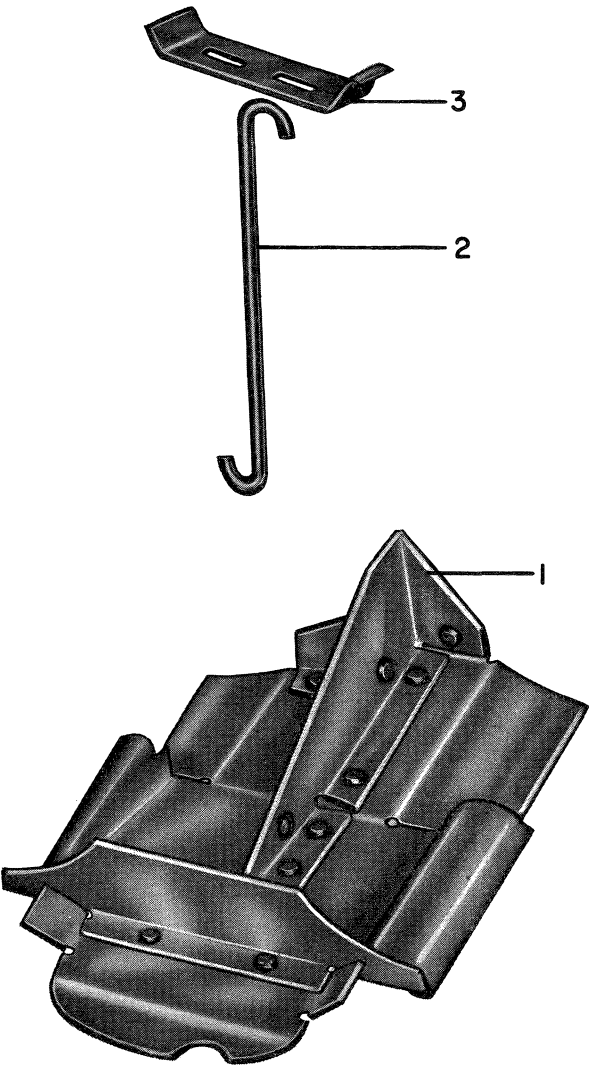
MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 16 - Priming System

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 17 - INTERCYLINDER COOLING BAFFLES

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
17-1	71578						BAFFLE ASSEMBLY, Intercylinder (When supply of 71578 is exhausted; service with 74718.)	4	
ATTACHING PARTS									
2	71610						HOOK, Intercylinder baffle retainer	4	
3	71611						RETAINER, Intercylinder baffle	4	
-----*									



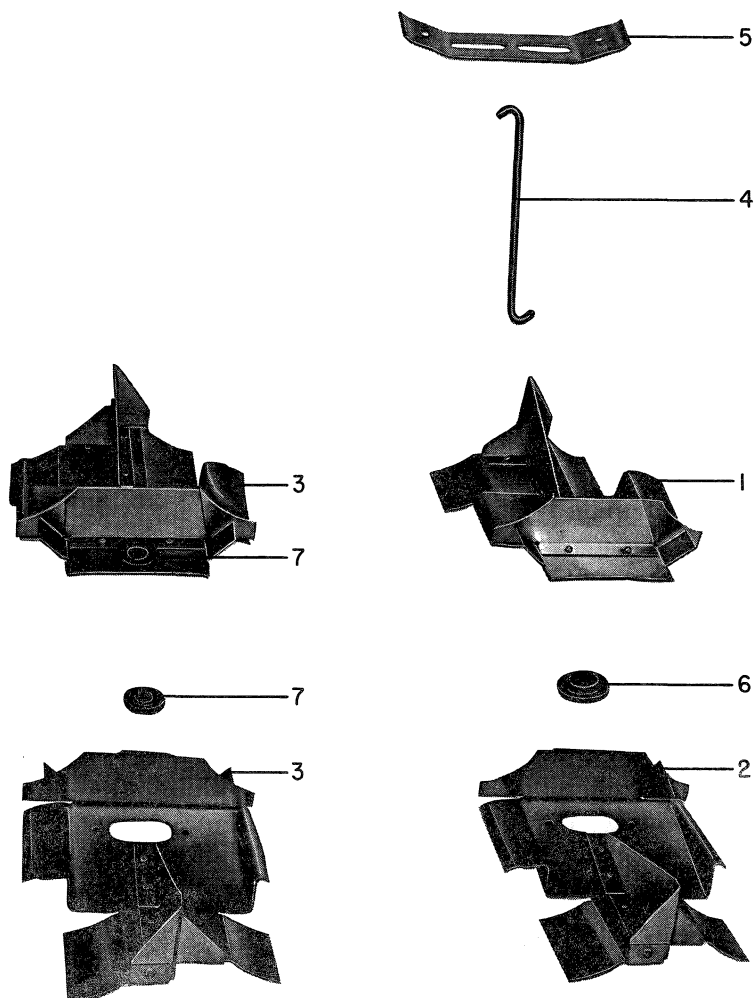
MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 17 - Intercylinder Cooling Baffles

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 18 - INTERCYLINDER COOLING BAFFLES

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - TIVO-540-A2A					
18-1	71578		BAFFLE ASSEMBLY, Intercylinder, cylinders 2-4 When supply of 71578 is exhausted; service with 74718.)	1	
2	74826		BAFFLE ASSEMBLY, Intercylinder, cylinders 1-3	1	
3	74827		BAFFLE ASSEMBLY, Intercylinder, cylinders 3-5 and 4-6	2	
ATTACHING PARTS					
4	71610		HOOK, Intercylinder baffle retainer	4	
5	71611		RETAINER, Intercylinder baffle	4	
-----*					
6	AN931-12-17		GROMMET, Elastic	1	
7	MS35489-14		GROMMET, Elastic	2	



MODEL - TIVO-540-A2A

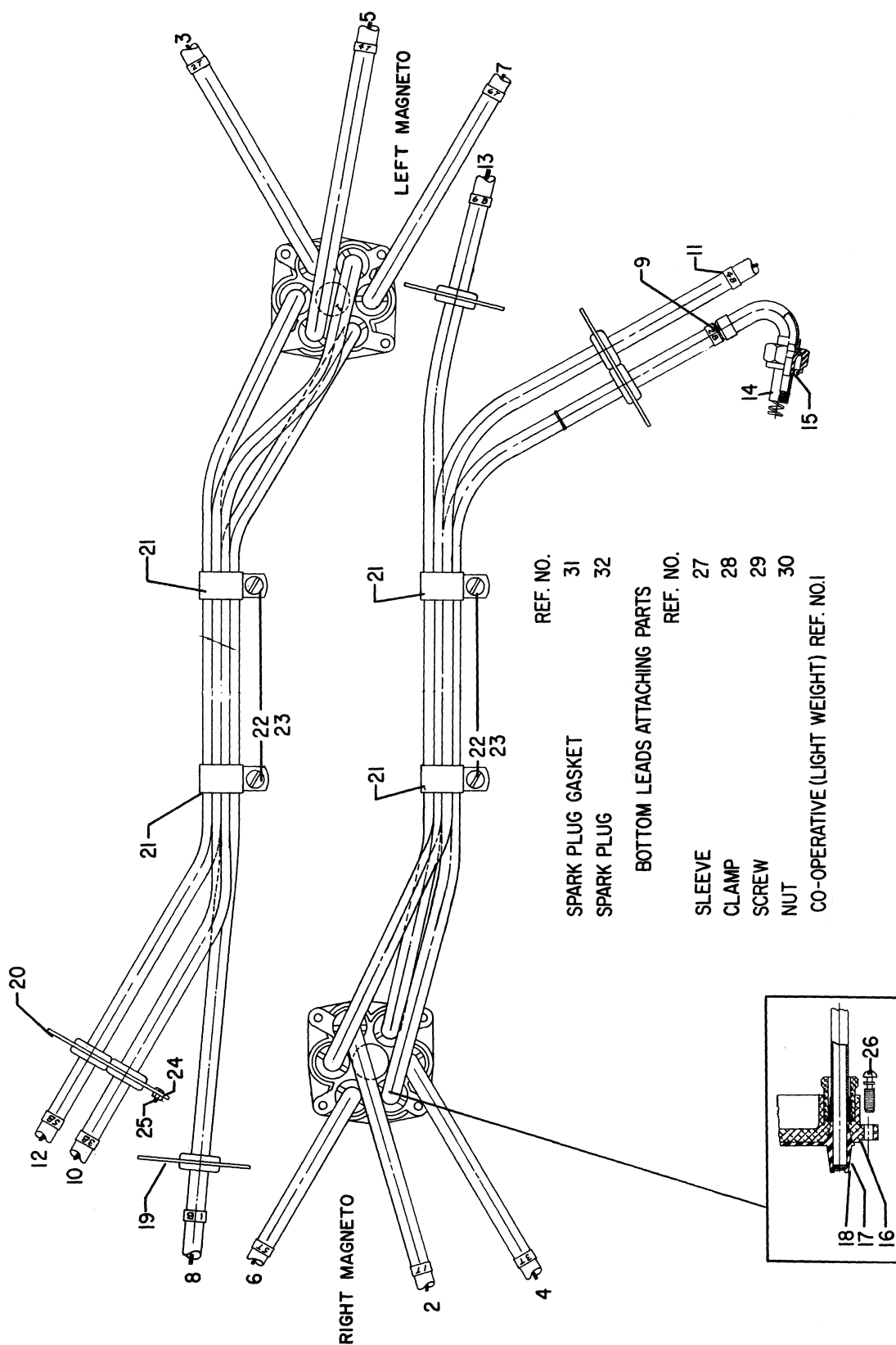
Figure 18 - Intercylinder Cooling Baffles

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 19 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
19-1	71396						CABLE ASSY., Ignition, shielded Same as Co-operative Industries, Inc. Chester, N. J. P/N 58499. Does not meet MIL- Specification AN-I-27. Non-Conduit type, spark plug elbows are not procurable.	1	
NOTE									
May be used with any magneto applicable to the VO-540 Series.									
Service parts for 71396 are:									
2	58513-2504						LEAD ASSY., Top No. 1	1	
3	58513-2204						LEAD ASSY., Top No. 2	1	
4	58513-1804						LEAD ASSY., Top No. 3	1	
5	58513-1504						LEAD ASSY., Top No. 4	1	
6	58513-1304						LEAD ASSY., Top No. 5	1	
7	58513-0904						LEAD ASSY., Top No. 6	1	
8	58513-5804						LEAD ASSY., Bottom No. 1	1	
9	58513-5804						LEAD ASSY., Bottom No. 2	1	
10	58513-5104						LEAD ASSY., Bottom No. 3	1	
11	58513-5604						LEAD ASSY., Bottom No. 4	1	
12	58513-5004						LEAD ASSY., Bottom No. 5	1	
13	58513-4904						LEAD ASSY., Bottom No. 6	1	
14	71489						SLEEVE, Spark plug terminal	12	
15	71401						COLLAR, Spark plug terminal	12	
16	66835						PLATE, Ignition cable outlet, shielded	2	
17	66836						GROMMET, Ignition cable, 6 wire	2	
18	73245						EYELET, Cable contact	12	
Supersedes and interchangeable with 71875.									
19	54210						PLATE (Single grommet)	2	
20	54211						PLATE (Dual grommet)	2	
21	54219						CLAMP	4	
22	5152						NUT	4	
23	6799						SCREW	4	
ATTACHING PARTS									
24	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long	8	
25	STD-670						NUT, Self-locking, #10-32	8	
26	72351						SCREW, Self-locking, #10-32	8	
-----*									
BOTTOM LEADS ATTACHING PARTS (NOT ILLUSTRATED)									
27	66216						SLEEVE, Ignition cable	6	
28	71911						CLAMP, Offset, (intake pipe)	6	
29	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long	6	
30	AN365-632C						NUT, Self-locking, #6-32	6	
REFERENCE NUMBERS 31 AND 32 ARE NOT ILLUSTRATED									
31	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug)	12	
32	1182-K3						SPARK PLUG (.018-.022 gap) Same as AC SR-87.	12	
	1182-J3						SPARK PLUG (.018-.022 gap) Same as Champion REM38E (Alternate to 1182-K3.)	12	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

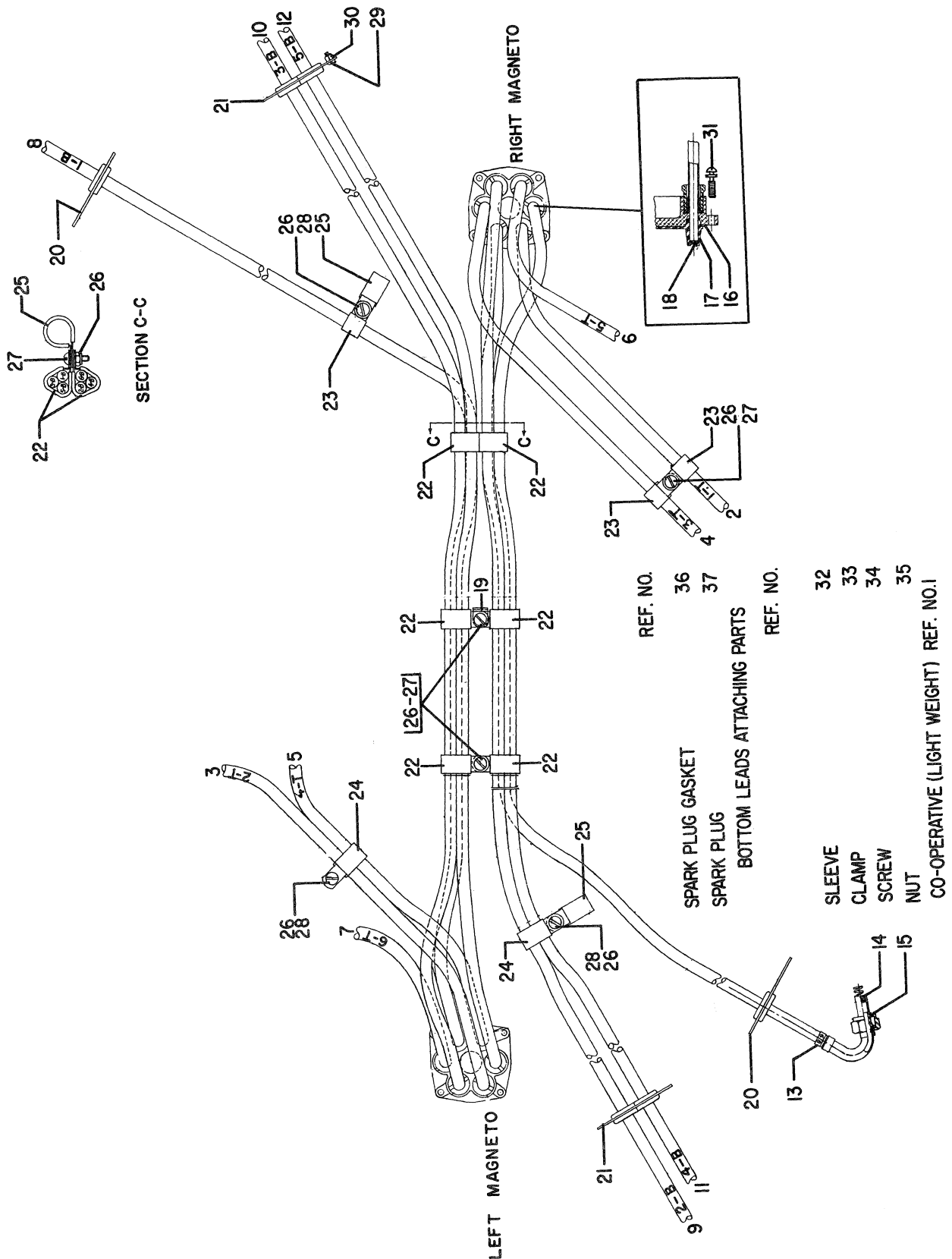
Figure 19 - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 20 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
20-1	73339						CABLE ASSY., Ignition shielded Same as Co-operative Industries, Inc. Chester, N. J. P/N 59297. Does not meet MIL- Specification AN-I-27. Non-conduit type, spark plug elbows are not procurable.	1	
NOTE									
May be used with any magneto applicable to the VO-540 Series.									
Service parts for 73339 are:									
2	58513-2504						LEAD ASSY., Top No. 1	1	
3	58513-2204						LEAD ASSY., Top No. 2	1	
4	58513-1804						LEAD ASSY., Top No. 3	1	
5	58513-1504						LEAD ASSY., Top No. 4	1	
6	58513-1304						LEAD ASSY., Top No. 5	1	
7	58513-0904						LEAD ASSY., Top No. 6	1	
8	58513-5804						LEAD ASSY., Bottom No. 1	1	
9	58513-5804						LEAD ASSY., Bottom No. 2	1	
10	58513-5104						LEAD ASSY., Bottom No. 3	1	
11	58513-5604						LEAD ASSY., Bottom No. 4	1	
12	58513-5004						LEAD ASSY., Bottom No. 5	1	
13	58513-4904						LEAD ASSY., Bottom No. 6	1	
14	71489						SLEEVE, Spark plug terminal	12	
15	71401						COLLAR, Spark plug terminal	12	
16	66835						PLATE, Ignition cable outlet, shielded	2	
17	66836						GROMMET, Ignition cable, 6 wire	2	
18	73245						EYELET, Cable contact	12	
Supersedes and interchangeable with 71875.									
19	52442						BRACKET	1	
20	54210						PLATE (Single grommet)	2	
21	54211						PLATE (Dual grommet)	2	
22	54219						CLAMP	6	
23	6778						CLAMP	3	
24	6783						CLAMP	2	
25	6802						CLAMP	3	
26	5152						NUT	7	
27	6456						SCREW	4	
28	6799						SCREW	3	
ATTACHING PARTS									
29	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long	8	
30	STD-670						NUT, Self-locking, #10-32	8	
31	72351						SCREW, Self-locking, #10-32	8	
-----*									
BOTTOM LEADS ATTACHING PARTS (NOT ILLUSTRATED)									
32	66216						SLEEVE, Ignition cable	6	
33	71911						CLAMP, Offset (intake pipe)	6	
34	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long	6	
35	AN365-632C						NUT, Self-locking, #6-32	6	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 20 - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 20 - IGNITION SHIELDING ASSEMBLY

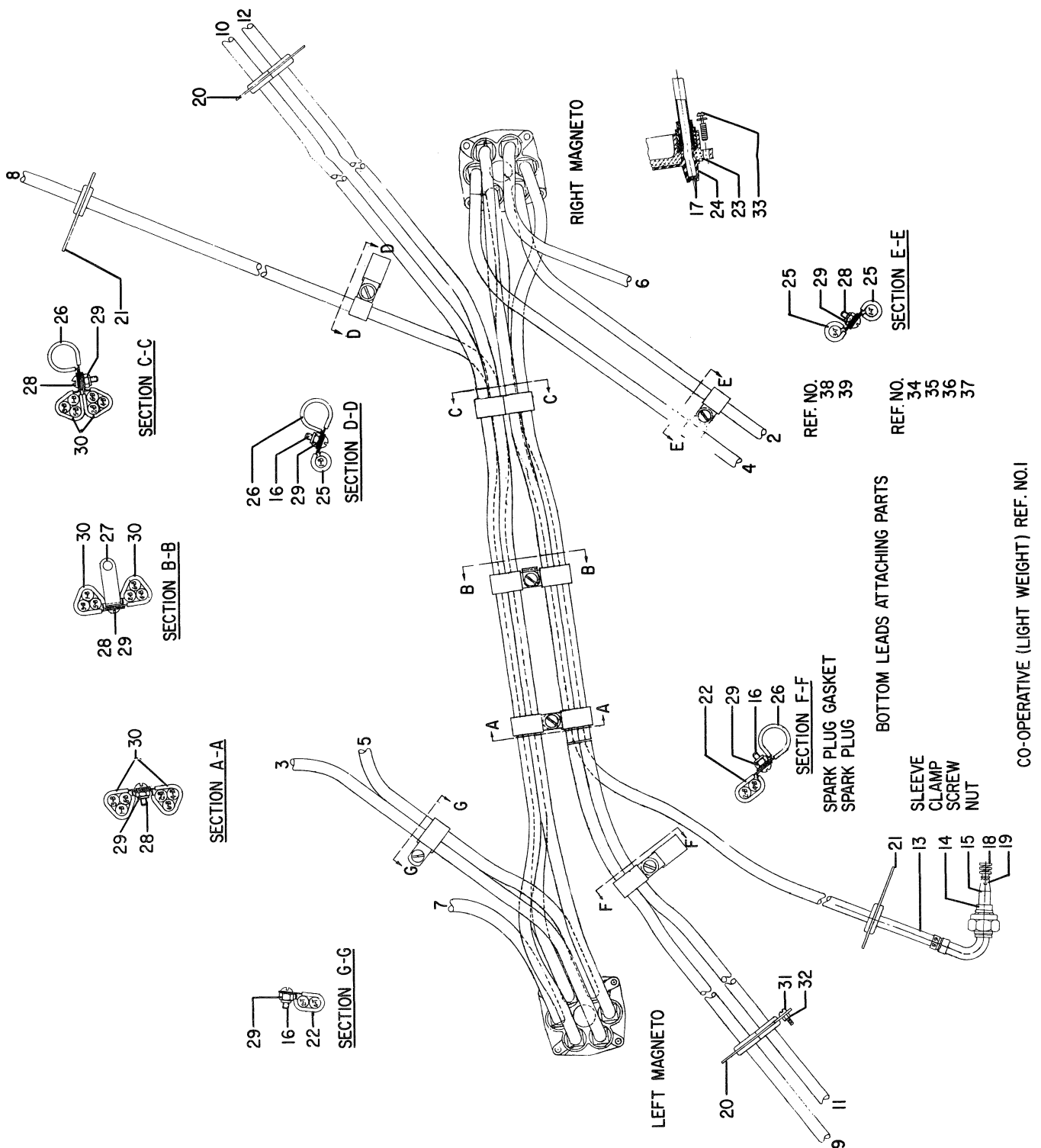
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
REFERENCE NUMBERS 36 AND 37 ARE NOT ILLUSTRATED									
20-36	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug)	12	
37	1182-K3						SPARK PLUG (.018-.022 gap) Same as AC SR-87.	12	
	1182-J3						SPARK PLUG (.018-.022 gap) Same as Champion REM38E. (Alternate to 1182-K3.)	12	

FIGURE 20A - IGNITION SHIELDING ASSEMBLY

APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B
AND C2B

20A-1	75175						CABLE ASSY., Igniton, shielded Same as Co-operative Industries, Inc. Chester, N. J. P/N 59996. Non-conduit type, spark plug elbows are not procurable. This cable assy. can be used with either long or short (3/4 in.) all weather plugs. See "NOTE" at end of section.	1	
							Service Parts for 75175 are:		
2	59997-2504						LEAD ASSY., Top No. 1	1	
3	59997-2204						LEAD ASSY., Top No. 2	1	
4	59997-1804						LEAD ASSY., Top No. 3	1	
5	59997-1504						LEAD ASSY., Top No. 4	1	
6	59997-1304						LEAD ASSY., Top No. 5	1	
7	59997-0904						LEAD ASSY., Top No. 6	1	
8	59997-5804						LEAD ASSY., Bottom No. 1	1	
9	59997-5804						LEAD ASSY., Bottom No. 2	1	
10	59997-5104						LEAD ASSY., Bottom No. 3	1	
11	59997-5604						LEAD ASSY., Bottom No. 4	1	
12	59997-5004						LEAD ASSY., Bottom No. 5	1	
13	59997-4904						LEAD ASSY., Bottom No. 6	1	
14	7612						SPRING	12	
15	51218						GROMMET	12	
16	6799						SCREW	3	
17	73245						EYELET	12	
18	5028						SPRING	12	
19	7982						STUD	12	
20	54211						LEAD SUPPORT	2	
21	54210						LEAD SUPPORT	2	
22	6783						CLAMP	2	
23	66835						PLATE	2	
24	66836						GROMMET	2	
25	6778						CLAMP	3	
26	6802						CLAMP	3	
27	52442						BRACKET	1	
28	6456						SCREW	4	
29	5152						NUT	7	
30	54219						CLAMP	6	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 20A - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 20A - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
ATTACHING PARTS									
20A-31	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long	8	
32	STD-670						NUT, Self-locking, #10-32	8	
33	72351						SCREW, Self-locking, #10-32	8	
-----*									
BOTTOM LEADS ATTACHING PARTS (Not Illustrated)									
34	66216						SLEEVE, Ignition cable	6	
35	71911						CLAMP, Offset (intake pipe)	6	
36	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long	6	
37	AN365-632C						NUT, Self-locking, #6-32	6	
-----*									
REFERENCE NUMBERS 38 AND 39 ARE NOT ILLUSTRATED									
38	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug.)	12	
39	1182-Y3						SPARK PLUG (.015-.018 gap) (3/4-20 barrel, long reach, platinum points) Same as Champion RHB36P.	12	
	1182-G4						SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points) Same as AC 281.	12	
	1182-C4						SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points) Same as BG RB39R.	12	
NOTE									
71575 cable assy. can be used with engines employing cylinders machined for short reach spark plugs provided the following short reach all weather spark plugs are used: 1182-D4, 1182-M3, 1182-U2 and 1182-X3. See Lycoming Service Instruction No. 1042B.									

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 21 - IGNITION SHIELDING ASSEMBLY

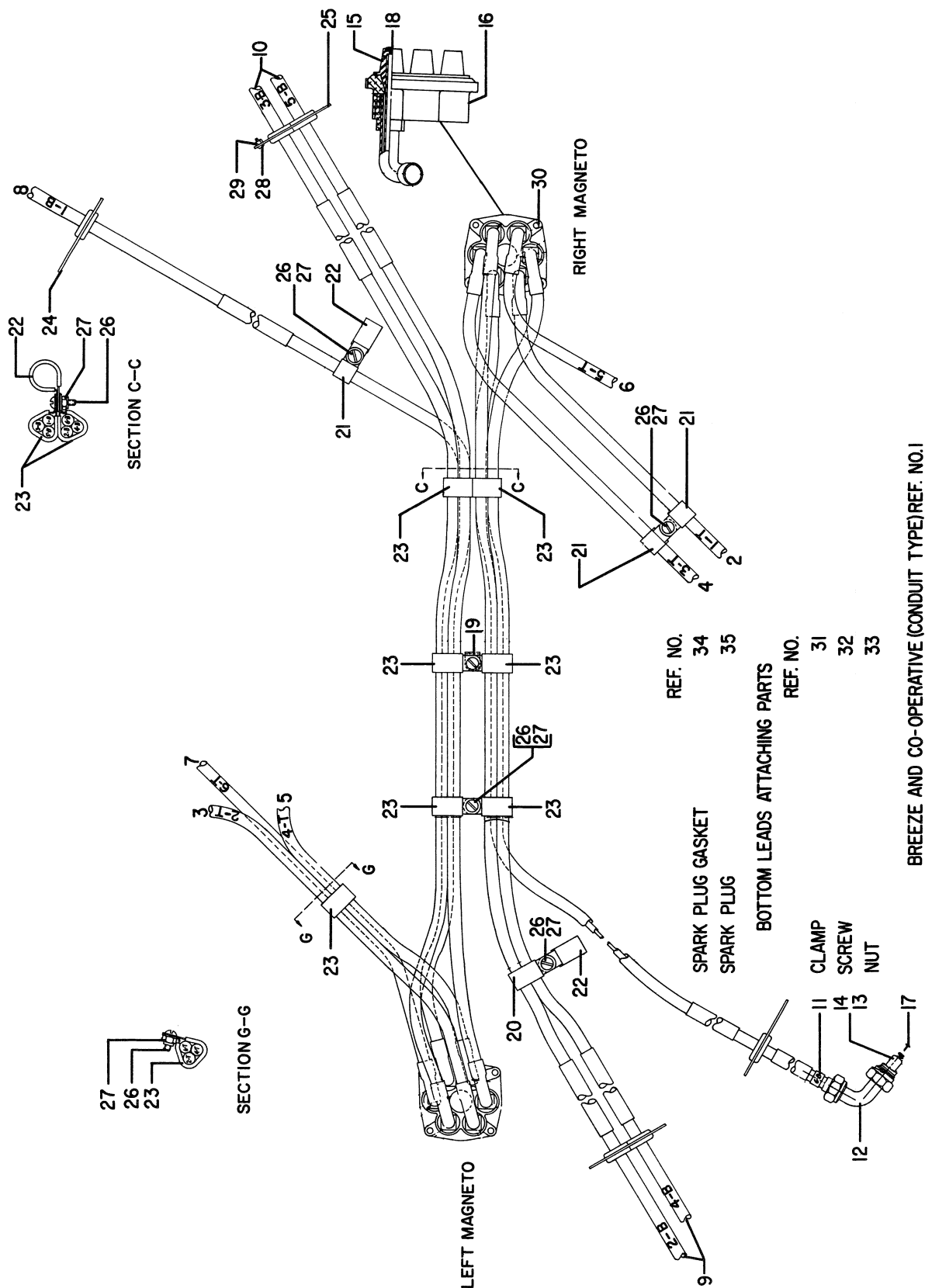
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
21-1	70423	CABLE ASSY., Ignition shielded Same as Breeze Corporation Inc. Union, N. J. P/N E-3561 or Co-operative Industries, Inc. Chester, N. J. P/N 59271. Conduit type, meets with MIL-Specification AN-I-27.						1	
NOTE									
May be used with any magneto applicable to the VO-540-Series.									
Service parts for 70423 are:									
2	E-1199-602-1808 59278	CONDUIT ASSY., Top No. 1					Breeze	1	
3	E-1199-603-1800 59276	CONDUIT ASSY., Top No. 2					Co-operative	1	
4	E-1199-602-1200 59281	CONDUIT ASSY., Top No. 3					Breeze	1	
5	E-1199-602-0908 59274	CONDUIT ASSY., Top No. 4					Co-operative	1	
6	E-1199-603-0604 59279	CONDUIT ASSY., Top No. 5					Breeze	1	
7	E-1199-602-1200 59277	CONDUIT ASSY., Top No. 6					Co-operative	1	
8	E-1134-111-10 59273	CONDUIT ASSY., Bottom No. 1					Breeze	1	
9	E-1134-112-10 59280	DUAL CONDUIT ASSY., Bottom No. 2 and 4					Co-operative	1	
10	E-1134-112-20 59275	DUAL CONDUIT ASSY., Bottom No. 3 and 5					Breeze	1	
11	E-1134-111-20 59282	DUAL CONDUIT ASSY., Bottom No. 3 and 5					Co-operative	1	
12	AN3104-2 5585	CONDUIT ASSY., Bottom No. 6					Breeze	1	
13	71489	CONDUIT ASSY., Bottom No. 6					Co-operative	1	
14	5651	ELBOW ASSY. (110°)					Breeze	12	
15	E-1181-30-1 66836	ELBOW ASSY. (110°)					Co-operative	12	
		SLEEVE, Spark plug terminal						12	
		COLLAR, Spark plug terminal					Co-operative	12	
		COLLAR, Spark plug terminal					Breeze	12	
		GROMMET, Ignition cable, 6 wire						2	
		Requires twelve 5178 (Co-operative) sleeves.							
	E-1360-9-3	GROMMET					Breeze	2	
16	66835	PLATE, Ignition cable outlet, shielded						2	
17	5422	NAIL					Co-operative	12	
18	73245	EYELET, Cable contact						12	
		Supersedes and interchangeable with 71875.							
19	52442	BRACKET					Co-operative	1	
	E-1046-41-8	BRACKET					Breeze	1	
20	6783	CLAMP					Co-operative	1	
	E-1348-14-10	CLAMP					Breeze	1	
21	6778	CLAMP					Co-operative	3	
	MS21919-G6	CLAMP					Breeze	3	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 21 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
21-22	6802						CLAMP	Co-operative	3
	MS21919-G12						CLAMP	Breeze	3
23	54219						CLAMP	Co-operative	7
	E-1348-13-10						CLAMP	Breeze	7
24	54586						BRACKET (Single grommet)	Co-operative	2
25	54588						BRACKET (Dual grommet)	Co-operative	2
26	6456						SCREW	Co-operative	7
	AN520-10-8						SCREW	Breeze	7
27	5152						NUT	Co-operative	7
	AN365-1032						NUT	Breeze	7
ATTACHING PARTS									
28	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long		8
29	STD-670						NUT, Self-locking, #10-32		8
30	72351						SCREW, Self-locking, #10-32		8
-----*									
BOTTOM LEADS ATTACHING PARTS (Not Illustrated)									
31	71911						CLAMP, Offset (intake pipe)		6
32	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long		6
33	AN365-632C						NUT, Self-locking, #6-32		6
REFERENCE NUMBERS 34 AND 35 ARE NOT ILLUSTRATED.									
34	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug.)		12
35	1182-K3						SPARK PLUG, (.018-.022 gap) (Same as AC SR-87)		12
	1182-J3						SPARK PLUG (.018-.022 gap) Same as Champion REM38E. (Alternate to 1182-K3.)		12

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B

Figure 21 - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 21A - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B AND C2B									
21A-1	74403	CABLE ASSY., Ignition shielded						1	
		Same as Breeze-Illinois Inc., Wyoming, Ill. P/N E-3577 or Co-operative Industries Inc., Chester, N. J. P/N 59840. Conduit type, meets with MIL-Specification AN-I-27. This cable assy. can be used with either long or short (3/4 in.) all weather plugs. See "NOTE" at end of section.							
		Service parts for 74403 are:							
2	E-1199-602-1808 59847	CONDUIT ASSY., Top No. 1				Breeze	1		
3	E-1199-603-1800 59845	CONDUIT ASSY., Top No. 2				Co-operative	1		
4	E-1199-602-1200 59850	CONDUIT ASSY., Top No. 2				Breeze	1		
5	E-1199-602-0908 59843	CONDUIT ASSY., Top No. 3				Co-operative	1		
6	E-1199-603-0604 59848	CONDUIT ASSY., Top No. 3				Breeze	1		
7	E-1199-602-1200 59846	CONDUIT ASSY., Top No. 4				Co-operative	1		
8	E-1134-111-10 59842	CONDUIT ASSY., Top No. 4				Breeze	1		
9	E-1134-112-10 59849	CONDUIT ASSY., Top No. 5				Co-operative	1		
		CONDUIT ASSY., Top No. 5				Breeze	1		
10	E-1134-112-20 59844	CONDUIT ASSY., Top No. 6				Co-operative	1		
		CONDUIT ASSY., Top No. 6				Breeze	1		
11	E-1134-111-20 59851	CONDUIT ASSY., Bottom No. 1				Co-operative	1		
12	E-1124-271-10 7726	CONDUIT ASSY., Bottom No. 1				Breeze	1		
13	AN4164-22 5028	DUAL CONDUIT ASSY., Bottom No. 2 and 4				Co-operative	1		
14	E-3471 7410	DUAL CONDUIT ASSY., Bottom No. 2 and 4				Breeze	1		
15	E-1181-88-2 51581	DUAL CONDUIT ASSY., Bottom No. 3 and 5				Co-operative	1		
16	E-4305 54356	DUAL CONDUIT ASSY., Bottom No. 3 and 5				Breeze	1		
17	E-1405-2-1 6783	CONDUIT ASSY., Bottom No. 6				Co-operative	1		
18	66835	CONDUIT ASSY., Bottom No. 6				Breeze	1		
19	E-1360-9-3 66836	ELBOW ASSY. (110°)				Co-operative	1		
		ELBOW ASSY. (110°)				Breeze	1		
20	E-1405-1 6778	SPRING ASSY.				Co-operative	12		
21	E-1405-1-2 6802	SPRING ASSY.				Breeze	12		
		STUD				Co-operative	12		
		STUD				Breeze	12		
		GROMMET				Co-operative	12		
		GROMMET				Breeze	12		
		SPRING ASSY.				Co-operative	12		
		SPRING ASSY.				Breeze	12		
		CLAMP				Co-operative	1		
		CLAMP				Breeze	1		
		PLATE, Ignition cable outlet, shielded				Co-operative	2		
		GROMMET				Breeze	2		
		GROMMET, 6 Wire				Co-operative	2		
		Requires twelve 5178 (Co-operative) Sleeves.							
		CLAMP				Breeze	3		
		CLAMP				Co-operative	3		
		CLAMP				Breeze	3		
		CLAMP				Co-operative	3		

Diagram illustrating the spark plug lead assembly for a four-cylinder engine, showing the connection between the spark plug gasket and the spark plug, and the routing of the leads to the left and right magnetos.

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

LEFT MAGNETO

RIGHT MAGNETO

BOTTOM LEADS ATTACHING PARTS

SPARK PLUG GASKET
SPARK PLUG
CLAMP
SCREW
NUT
BREEZE AND CO-OPERATIVE (CONDUIT TYPE) REF. NO. 1

REF. NO. 32
REF. NO. 33
REF. NO. 29
REF. NO. 30
REF. NO. 31

62D

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 21A - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
21A-22	E-1046-41-8						BRACKET	1	Breeze
	52442						BRACKET	1	Co-operative
23	ANS20-10-8						SCREW	7	Breeze
	6456						SCREW	7	Co-operative
24	AN365-1032						NUT	7	Breeze
	5152						NUT	7	Co-operative
25	E-1405-3-1						CLAMP	7	Breeze
	54219						CLAMP	7	Co-operative

ATTACHING PARTS

26	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long	8	
27	STD-670						NUT, Self-locking, #10-32	8	
28	72351						SCREW, Self-locking, #10-32	8	

-----*

BOTTOM LEADS ATTACHING PARTS (Not Illustrated)

29	71911						CLAMP, Offset (intake pipe)	6	
30	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long	6	
31	AN365-632C						NUT, Self-locking, #6-32	6	

-----*

REFERENCE NUMBERS 32 AND 33 ARE NOT ILLUSTRATED.

32	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug.)	12	
33	1182-Y3						SPARK PLUG (.015-.018 gap) (3/4-20 barrel, long reach, platinum points.) Same as Champion RHB36P.	12	
	1182-G4						SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points.) Same as AC 281.	12	
	1182-C4						SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points.) Same As BG RB39R.	12	

NOTE

74403 cable assy. can be used with engines employing cylinders machined for short reach spark plugs provided the following short reach all weather spark plugs are used: 1182-D4, 1182-M3, 1182-U2 and 1182-X3. See Lycoming Service Instruction No. 1042B.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

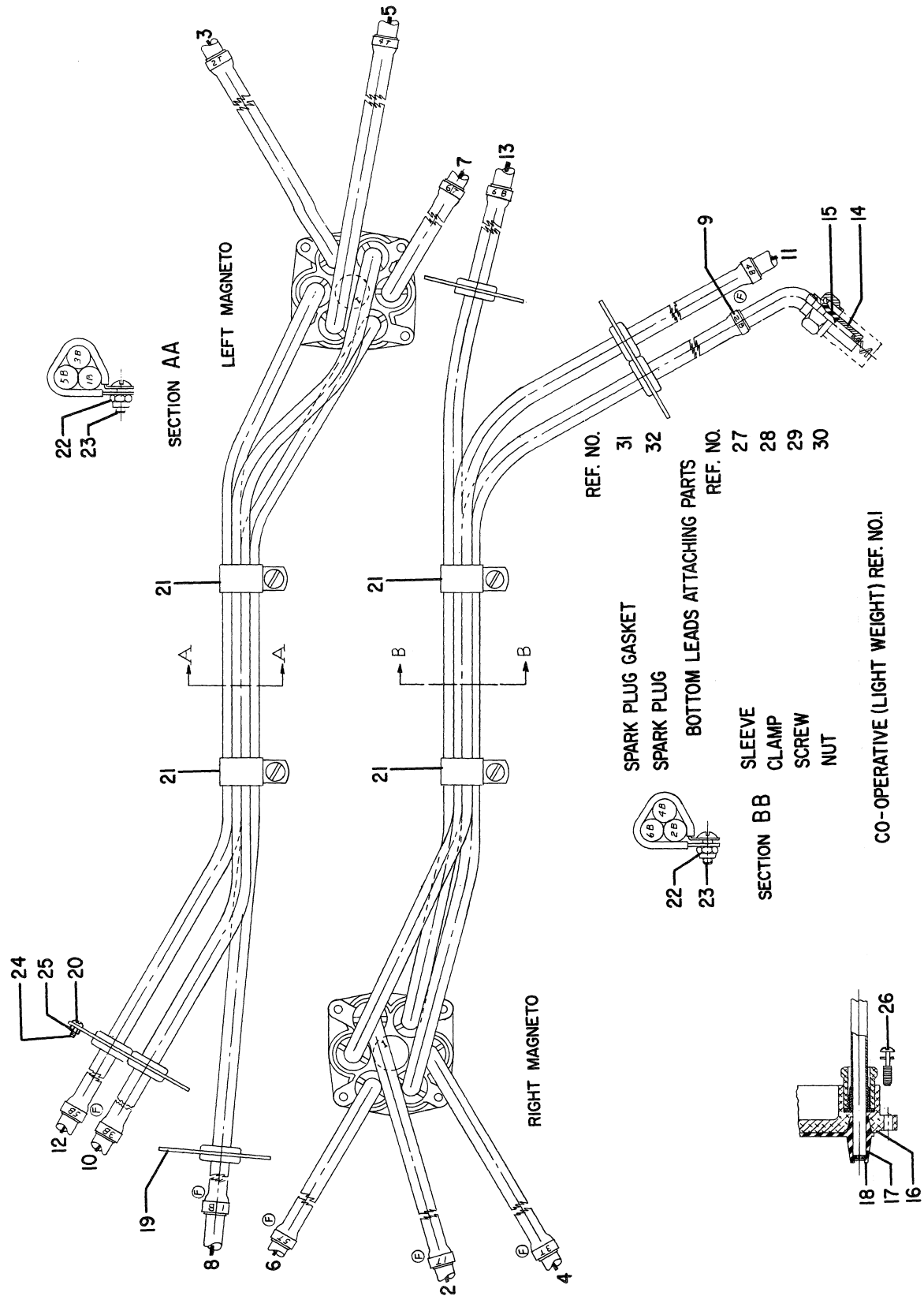
Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 22 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - VO-540-B1B3									
22-1	74341						CABLE ASSY., Ignition shielded Same as Co-operative Industries, Inc. Chester, N. J. P/N 59686. Non-conduit high temperature (silicone) type; spark plug elbows are not procurable.	1	
							Service parts for 74341 are:		
2	59651-2504						LEAD ASSY., Top No. 1	1	
3	59651-2204						LEAD ASSY., Top No. 2	1	
4	59651-1804						LEAD ASSY., Top No. 3	1	
5	59651-1504						LEAD ASSY., Top No. 4	1	
6	59651-1304						LEAD ASSY., Top No. 5	1	
7	59651-0904						LEAD ASSY., Top No. 6	1	
8	59687-5804						LEAD ASSY., Bottom No. 1	1	
9	59688-5804						LEAD ASSY., Bottom No. 2	1	
10	59687-5104						LEAD ASSY., Bottom No. 3	1	
11	59687-5604						LEAD ASSY., Bottom No. 4	1	
12	59688-5004						LEAD ASSY., Bottom No. 5	1	
13	59687-4904						LEAD ASSY., Bottom No. 6	1	
14	71489						SLEEVE, Spark plug terminal	12	
15	7269						COLLAR, Spark plug terminal	12	
16	66835						PLATE, Ignition cable outlet, shielded	2	
17	66836						GROMMET, Ignition cable, 6 wire	2	
18	73245						EYELET, Cable contact	12	
							Supersedes and interchangeable with 71875.		
19	54210						PLATE, (Single grommet)	2	
20	54211						PLATE, (Dual grommet)	2	
21	54219						CLAMP	4	
22	5152						NUT	4	
23	6799						SCREW	4	
ATTACHING PARTS									
24	STD-692						SCREW, Rd. head, #10-32 X 1/2 in. long	8	
25	STD-670						NUT, Self-locking, #10-32	8	
26	72351						SCREW, Self-locking, #10-32	8	
-----*									
BOTTOM LEADS ATTACHING PARTS (NOT ILLUSTRATED)									
27	66216						SLEEVE, Ignition cable	6	
28	71911						CLAMP, Offset (intake pipe)	6	
29	STD-553						SCREW, Rd. head, #6-32 X 1/2 in. long	6	
30	AN365-632C						NUT, Self-locking, #6-32	6	
REFERENCE NUMBERS 31 AND 32 ARE NOT ILLUSTRATED									
31	STD-295						GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug.)	12	
32	1182-N3						SPARK PLUG (.015-.019 gap) (Optional Equipment) Same as Champion REM38P.	12	
	1182-P2						SPARK PLUG (.015-.018 gap) (Optional Equipment) Same as AC SR-83-P (Alternate to 1182-N3.)	12	



MODEL - VO-540-B1B3

Figure 22 - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 23 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODELS - VO-540-A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D, C1A, C2A, C1B, C2B AND TIVO-540-A2A									
23-1	72459	CABLE ASSY., Ignition shielded						1	
		Same as Co-operative Industries, Inc. Chester, N. J. P/N 59765. Non-conduit high temperature (silicone) type; spark plug elbows are not procurable. This cable assy. can be used with either long or short (3/4 in.) all weather plugs. See "NOTE" at end of section.							
		Service parts for 72459 are:							
2	59766-2504	LEAD ASSY., Top No. 1						1	
3	59766-2204	LEAD ASSY., Top No. 2						1	
4	59766-1804	LEAD ASSY., Top No. 3						1	
5	59766-1504	LEAD ASSY., Top No. 4						1	
6	59766-1304	LEAD ASSY., Top No. 5						1	
7	59766-0904	LEAD ASSY., Top No. 6						1	
8	59694-5804	LEAD ASSY., Bottom No. 1						1	
9	59693-5804	LEAD ASSY., Bottom No. 2						1	
10	59694-5104	LEAD ASSY., Bottom No. 3						1	
11	59694-5604	LEAD ASSY., Bottom No. 4						1	
12	59693-5004	LEAD ASSY., Bottom No. 5						1	
13	59694-4904	LEAD ASSY., Bottom No. 6						1	
14	7612	SPRING ASSY.						12	
15	51218	GROMMET						12	
16	7982	STUD						12	
17	5028	SPRING ASSY.						12	
18	73245	EYELET, Cable contact						12	
		Supersedes and interchangeable with 71875.							
19	66836	GROMMET, Ignition cable, 6 wire						2	
20	66835	PLATE, Ignition cable outlet, shielded						2	
21	54210	PLATE (Single grommet)						2	
22	54211	PLATE (Dual grommet)						2	
23	54219	CLAMP						4	
24	5152	NUT						4	
25	6799	SCREW						4	
ATTACHING PARTS									
26	STD-692	SCREW, Rd. head, #10-32 X 1/2 in. long						8	
27	STD-670	NUT, Self-locking, #10-32						8	
28	72351	SCREW, Self-locking, #10-32						8	
-----*									
BOTTOM LEADS ATTACHING PARTS (Not Illustrated)									
29	66216	SLEEVE, Ignition cable						6	
30	71911	CLAMP, Offset (Intake pipe)						6	
31	STD-553	SCREW, Rd. head, #6-32 X 1/2 in. long						6	
32	AN365-632C	NUT, Self-locking, #6-32						6	
REFERENCE NUMBERS 33 AND 34 ARE NOT ILLUSTRATED									
33	STD-295	GASKET, Annular, 31/32 OD X 23/32 ID X 5/64 in. (Furnished with spark plug.)						12	
34	1182-Y3	SPARK PLUG (.015-.018 gap) (3/4-20 barrel, long reach, platinum points.) Same as Champion RHB36P.						12	

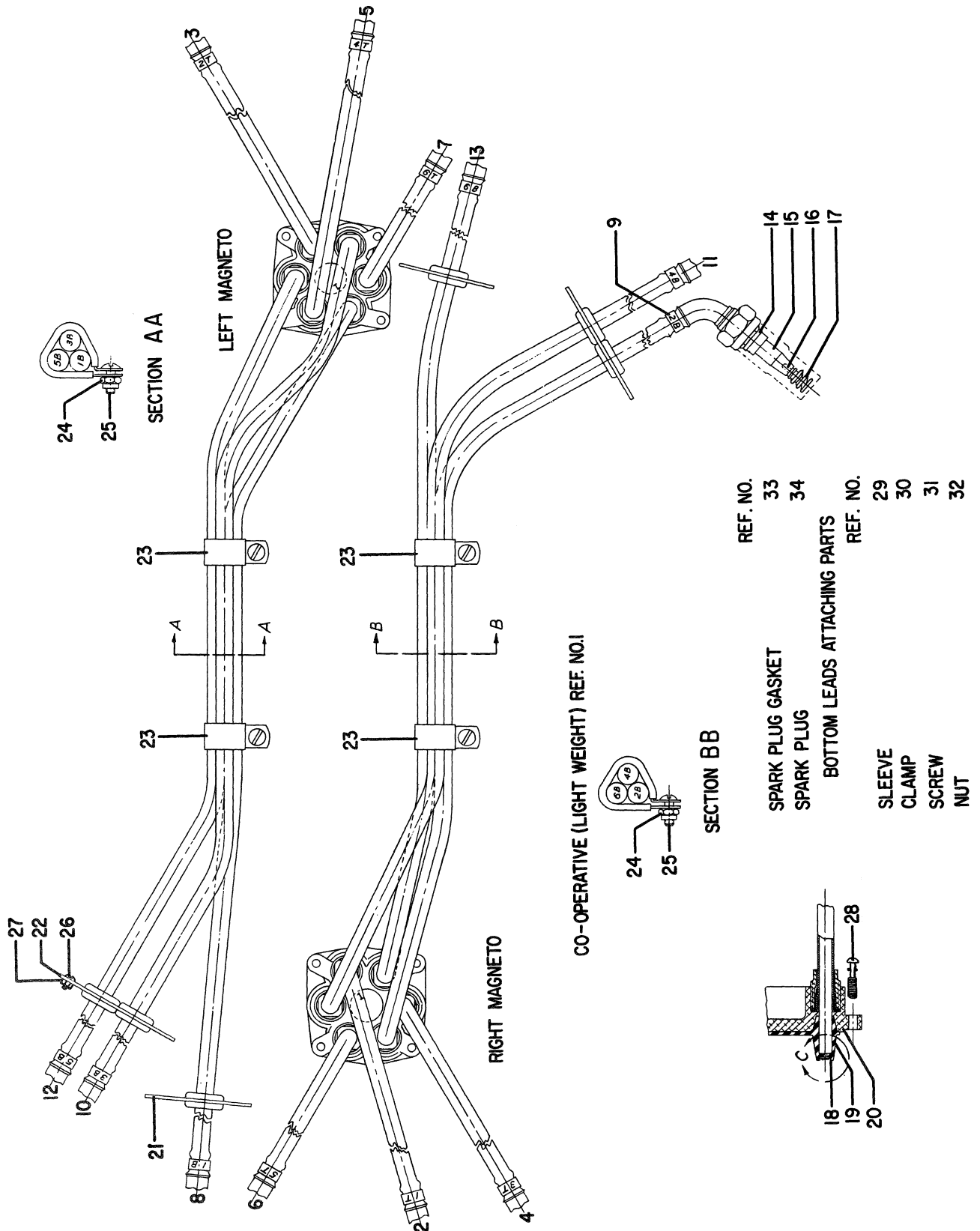


Figure 23 - Ignition Shielding Assembly

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 23 - IGNITION SHIELDING ASSEMBLY

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
23-34	1182-G4		SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points.) Same as AC 281.	12	
	1182-C4		SPARK PLUG (.015-.018 gap) Alternate to 1182-Y3 (3/4-20 barrel, long reach, platinum points.) Same as BG RB39R.	12	

NOTE

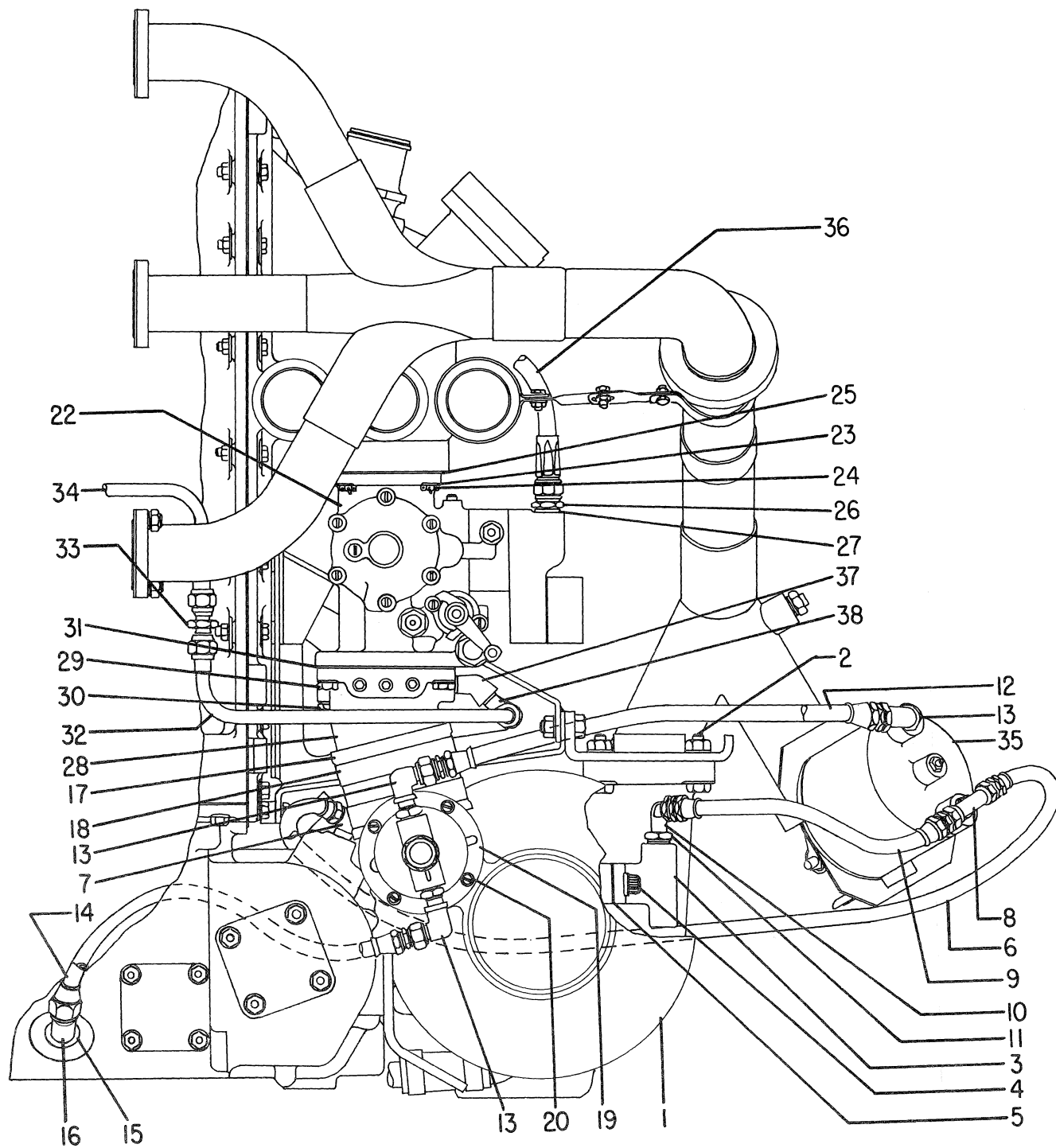
72459 cable assy. can be used with engines
employing cylinders machined for short reach
spark plugs provided the following short reach
all weather spark plugs are used: 1182-D4,
1182-M3, 1182-U2, and 1182-X3. See Lycoming
Service Instruction No. 1042B.

FIGURE 24 - FUEL INJECTOR AND TURBOCHARGER INSTALLATION (RIGHT SIDE VIEW)

APPLICABLE MODEL - TIVO-540-A2A

24-1	73895		TURBOCHARGER Same as Airesearch Industrial Div., Los Angeles, Calif., Model T-1112, Part No. 404830-1.	1	
ATTACHING PARTS					
2	AN6C13A		BOLT, Hex hd., 3/8-24 X 1-15/32 in. long	4	
	AN960-C616		WASHER, Plain, 3/8 in.	8	
	MS20500-624		NUT, Hex. self-locking, 3/8-24 UNF-38	4	
-----*					
3	73377		CHECK VALVE ASSEMBLY	1	
ATTACHING PARTS					
4	STD-33		WASHER, Plain, 3/8 in.	2	
	STD-678		WASHER, Internal teeth, 3/8 in. lock	2	
	73348		BOLT, Allen head, 3/8-16 NC-3 X 3/4 in. long	2	
-----*					
5	73775		GASKET, Check valve	1	
6	74543		HOSE ASSY., Engine to by-pass valve	1	
7	AN822-4-4		ELBOW, 90°	1	
8	AN834-4D		TEE, Universal, 1/4 in. flared tube bulkhead	1	
	AN924-4D		NUT, Exhaust by-pass fitting	1	
	MS29512-4		GASKET, Straight thread tube fitting	1	
9	73319		HOSE ASSY., Check valve to waste gate	1	
10	AN822-4-4		ELBOW, 90°	1	
11	AN912-2D		BUSHING, Reducer, 3/8 NPT to 1/4 in. NPT	1	
12	73321		HOSE ASSY., By-Pass valve to controller	1	
13	AN833-6D		ELBOW, 90° Universal 3/8 in. flared tube bulkhead	3	
	AN924-6D		NUT, Universal fitting, 3/8 in. flared bulkhead	3	
	MS29512-6		GASKET, Straight thread tube fitting	3	
14	73321		HOSE ASSY., Controller to accessory housing	1	
15	AN912-2D		BUSHING, Reducer, 3/8 NPT to 1/4 in. NPT	1	
16	AN823-6		ELBOW, 3/8 flared tube and 1/4 in. NPT, 45°	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - TIVO-540-A1A

Figure 24 - Fuel Injector and Turbocharger Installation (Right side view)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 24 - FUEL INJECTOR AND TURBOCHARGER INSTALLATION (RIGHT SIDE VIEW)

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
24-17	73896		HOSE, 3.00 in. ID (turbocharger to carb. adapter)	1	
			ATTACHING PARTS		
18	AN737TW114		CLAMP, 3-1/8 to 3-9/16 ID X 9/16 in. wide	2	
19	73898		CONTROLLER, Density	1	
			ATTACHING PARTS		
20	STD-375		SCREW, No. 10-24 NC-3 X 5/8 in. long	4	
	STD-28		WASHER, Plain, no. 10	4	
	STD-251		WASHER, Internal teeth, no. 10 lock	4	
21	73314		GASKET, Density controller (Not illustrated) (See Figure 26, reference 23 for this illustrated part.)	1	
22	74539		INJECTOR, Fuel Same as Bendix Corp. Bendix Products Aerospace Div., P/N 2524154-1, Model No. RS-5BD2.	1	
			ATTACHING PARTS		
23	STD-1727		WASHER, Plain, 5/16-1/8 in. thk.	2	
24	73833		BOLT, 5/16-18 NC	4	
	STD-35		WASHER, Plain, 5/16 in. (Not illustrated) Used with attaching bolts 73833 on fuel inlet side.	2	
25	66224		GASKET, Fuel injector	1	
26	AN815-6		UNION, Flared tube	1	
27	MS29512-6		GASKET	1	
28	74600		ADAPTER, Fuel injector	1	
			ATTACHING PARTS		
29	STD-8		WASHER, Plain, 1/4 in.	3	
	STD-160		WASHER, Internal teeth, 1/4 in. lock	3	
	MS20074-04-07		BOLT, 1/4-20 X 29/32 in. long	3	
30	STD-8		WASHER, Plain, 1/4 in.	1	
	STD-160		WASHER, Internal teeth, 1/4 in. lock	1	
	MS20074-04-15		BOLT, 1/4-20 X 1-21/32 in. long	1	
31	73189		GASKET, Fuel injector adapter	1	
32	74741		TUBE ASSY., Manifold to adapter, right lower	1	
33	AN815-6D		UNION, 3/8 in. flared tube	1	
34	74742		TUBE ASSY., Manifold to adapter	1	
35	73897		VALVE, Exhaust by-pass Same as Airesearch Industrial Div., Model No. VB3-3-1.	1	
36	73151		HOSE ASSEMBLY, Fuel injector to manifold	1	
37	AN915-2D		ELBOW, Internal and external thread	1	
38	AN825-6D		TEE, Tubing, 3/8 in.	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
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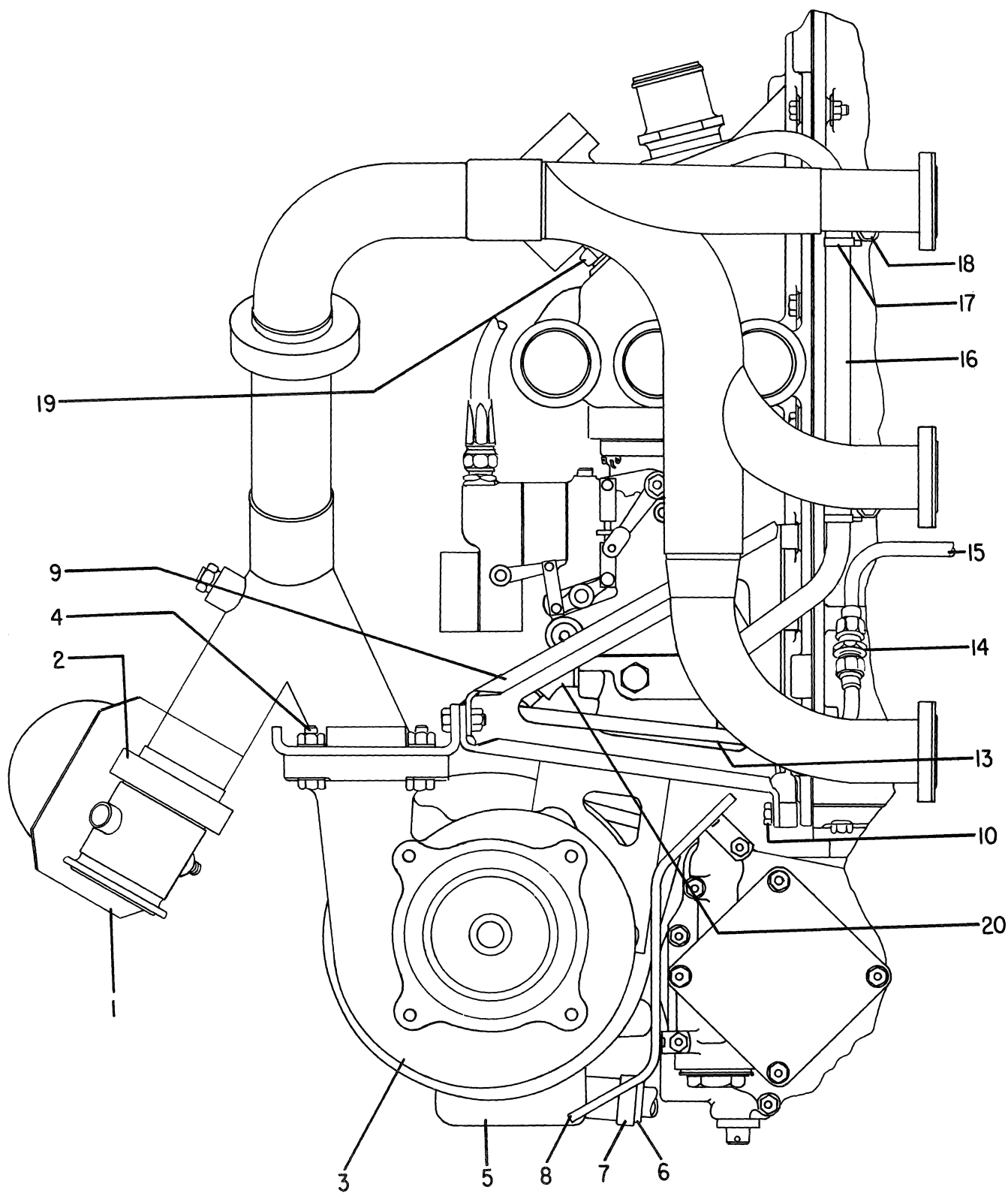
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 25 - FUEL INJECTOR AND TURBOCHARGER INSTALLATION (LEFT SIDE VIEW)

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - TIVO-540-A2A					
25-1	73897		VALVE, Exhaust by-pass Same as Airesearch Industrial Div., Model No. VB3-3-1.	1	
2	24502-225		COUPLING, J11 Marman aircraft joint (Ship one (1) loose)	2	
	16933-225-6		FLANGE, J11 Marman aircraft joint (Ship loose)	1	
	24096-225-N		GASKET, J11 Marman aircraft joint (Ship one (1) loose)	2	
3	73895		TURBOCHARGER Same as Airesearch Industrial Div., Los Angeles, Calif., Model T-1112, Part No. 404830-1.	1	
ATTACHING PARTS					
4	AN6C13A		BOLT, Hex. hd., 3/8-24 X 1-15/32 in. long	4	
	AN960-C616		WASHER, Plain, 3/8 in.	8	
	MS20500-624		NUT, Hex. self-locking, 3/8-24 UNF-38	4	
-----*					
5	73779		BAFFLE, Turbocharger heat, inner	1	
6	73781		HOSE, 3/4 ID X 2-1/2 in. long	2	
ATTACHING PARTS					
7	AN737TW38		CLAMP, Hose, 15/16 ID to 1-3/16 ID X 9/16 in. wide	4	
-----*					
8	73343		BAFFLE, Turbocharger heat, outer	1	
9	73361		SUPPORT ASSY., Turbocharger	1	
ATTACHING PARTS					
10	AN101122 STD-160		BOLT, Hex. head, 1/4-28 X 1-1/2 in. long	4	
			WASHER, Internal teeth, 1/4 in. lock	4	
(See Figure 26, reference nos. 24 and 25 for the following illustrated attaching parts.)					
11	AN101124 STD-160		BOLT, Hex head, 1/4-28 X 1-5/8 in. long	1	
			WASHER, Internal teeth, 1/4 in. lock	1	
12	AN4-17A STD-160		BOLT, Hex. head, 1/4-28 X 1-29/32 in. long	1	
			WASHER, Internal teeth, 1/4 in. lock	1	
	STD-8		WASHER, Plain, 1/4 in.	1	
	STD-9		NUT, Hex., 1/4-28	1	
-----*					
13	74744		TUBE ASSY., Manifold to adapter left lower	1	
14	AN815-6D		UNION, Flared tube, 3/8 in.	1	
15	74743		TUBE ASSY., Manifold to adapter, left upper	1	
16	74496		TUBE, Idle air by-pass to fuel injector	1	
ATTACHING PARTS					
17	74495		CLIP, (Cushion type), 5/8 ID for 1/4 in. dia. screw	2	
18	STD-896 STD-160		BOLT, Hex. head, 1/4-28 X 1/2 in. long	2	
			WASHER, Internal teeth, 1/4 in. lock	2	
-----*					
See Figure 6, reference numbers 48, 49 and 50 for the following illustrated parts. (Reference 19)					
19	AN6289-D16 STD-1922 STD-1921		NUT, 1-5/16-12 (Alternate AN6289-16)	1	
			GASKET, "O" ring	1	
			RING	1	
20	AN915-2D		ELBOW, Internal and external thread	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - TIVO-540-A2A

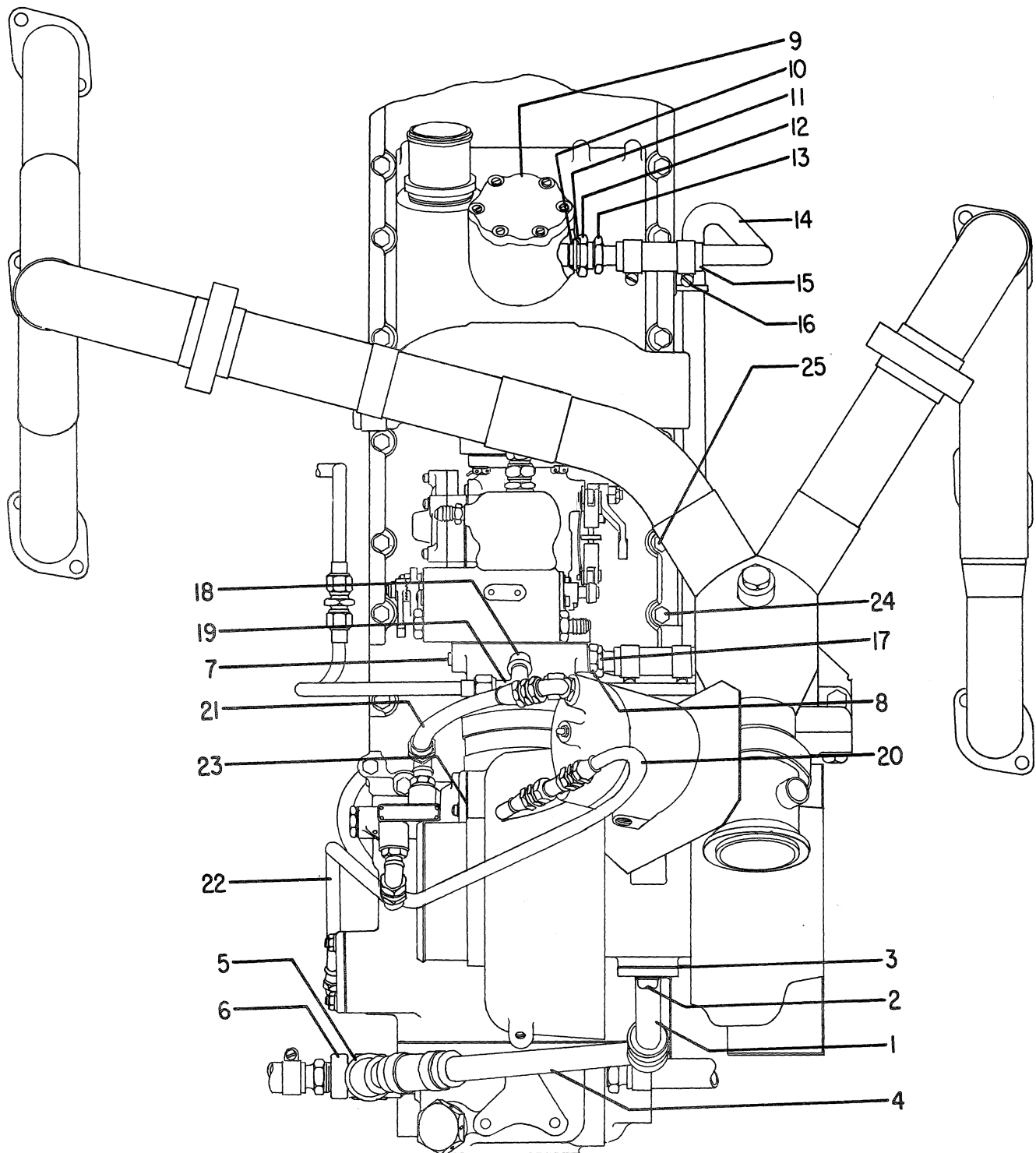
Figure 25 - Fuel Injector and Turbocharger Installation (Left side view)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 26 - FUEL INJECTOR AND TURBOCHARGER INSTALLATION (BOTTOM VIEW)

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - TIVO-540-A2A					
26-1	73325		ELBOW, Turbocharger oil outlet	1	
ATTACHING PARTS					
2	STD-678		WASHER, Internal teeth, 3/8 in. lock	2	
	STD-1592		BOLT, Hex. head, 3/8-16 NC-3 X 3/4 in.	2	
-----*					
3	73782		GASKET, Turbocharger oil outlet	1	
4	73641		TUBE, Turbocharger, oil drain	1	
5	AN844-12D		ELBOW, 3/4 NPT and 3/4 in. ID hose, 45°	1	
6	73671		TEE, Turbocharger oil drain	1	
7	1102		PLUG, 1/8-27 NPT	3	
8	AN814-4D		PLUG, Bleeder assy., screw thread	1	
	STD-829		GASKET, 15/32 ID X 11/16 OD X 5/64 in. thk	1	
9	74601		BY-PASS, Altitude idle air (Same as Bendix Corp., Bendix Products Aerospace Div., Part No. 2524165-2.)	1	
10	STD-1923		GASKET, "O" ring	1	
11	STD-1920		RING	1	
12	AN6289-D10		NUT, 7/8-14	1	
13	AN807-10D		ADAPTER, Hose, 45/64 in. universal	1	
14	74496		TUBE, Idle air by-pass to fuel injector	1	
15	STD-1576		HOSE, 5/8 ID X 31/32 OD X 2-1/2 in. long	2	
ATTACHING PARTS					
16	AN737TW-38		CLAMP, Hose	4	
-----*					
17	AN840-9D		NIPPLE, Pipe thd. to hose	1	
18	AN915-2D		ELBOW, Internal and external thread	1	
19	AN825-6D		TEE, Tubing, 3/8 in.	1	
20	74543		HOSE ASSY., Engine to by-pass valve	1	
21	73321		HOSE ASSY., By-pass valve to controller	1	
22	73321		HOSE ASSY., Controller to accessory housing	1	
23	73314		GASKET, Density controller	1	
ATTACHING PARTS (FOR 73361 TURBOCHARGER SUPPORT)					
24	AN101124		BOLT, Hex head, 1/4-28 X 1-5/8 in. long	1	
	STD-160		WASHER, Internal teeth, 1/4 in. lock	1	
25	AN4-17A		BOLT, Hex. head, 1/4-28 X 1-29/32 in. long	1	
	STD-160		WASHER, Internal teeth, 1/4 in. lock	1	
	STD-8		WASHER, Plain, 1/4 in.	1	
	STD-9		NUT, Hex., 1/4-28	1	
-----*					

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - TIVO-540-A2A

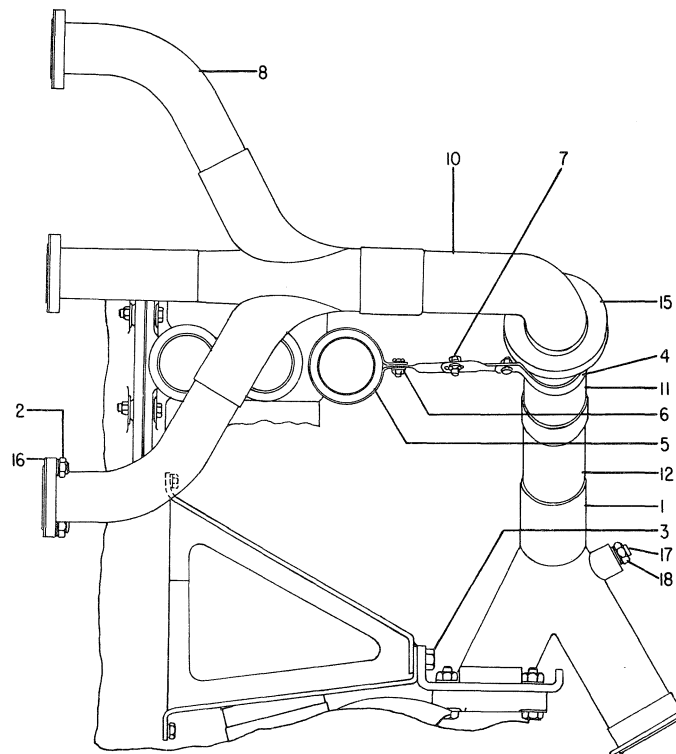
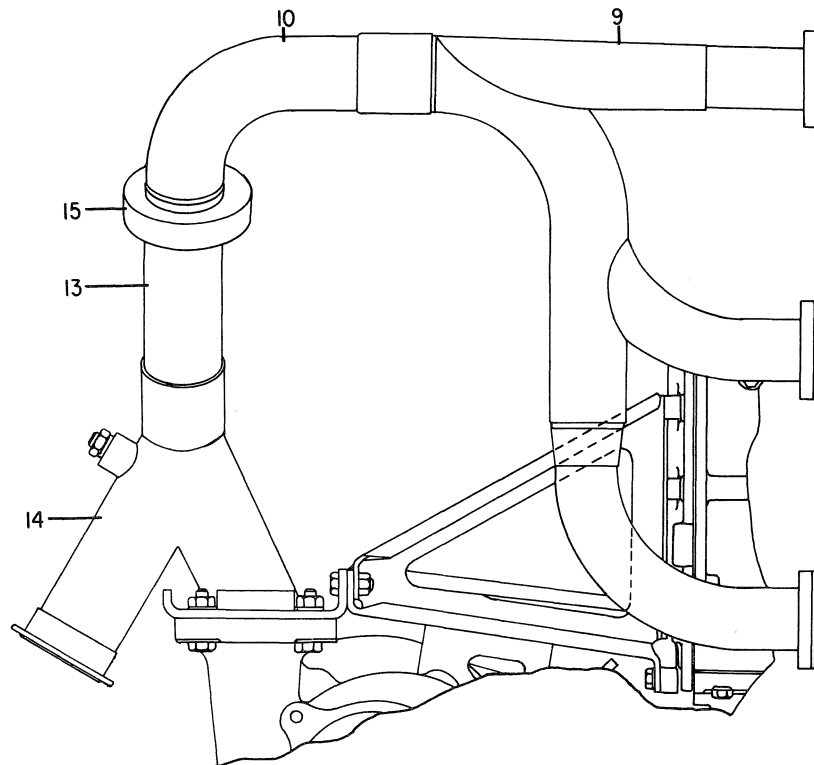
Figure 26 - Fuel Injector and Turbocharger Installation (Bottom view)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 27 - TURBOCHARGER EXHAUST SYSTEM

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - TIVO-540-A2A									
27-1	72966						MANIFOLD AND PIPING ASSEMBLY, Exhaust	1	
ATTACHING PARTS									
2	STD-35						WASHER, Plain, 5/16 in.	12	
	STD-475						WASHER, Shakeproof lock, 5/16 in.	12	
	STD-37						NUT, Plain, 5/16-24	12	
3	AN6C-10A						BOLT, Hex. head, 3/8-24 UNF-3A X 1-5/64 in. long	2	
	AN960C-616						WASHER, Plain, 3/8 in.	2	
	MS20500-624						NUT, Hex. self-locking, 3/8-24 UNF-3B, 1200°	2	
4	73695						BRACKET, Exhaust support (bottom)	1	
5	73696						BRACKET, Exhaust support (top)	1	
6	STD-1459						BOLT, #10-32 NF-3 X 17/32 in. long	2	
	STD-251						WASHER, Internal teeth, #10 lock	2	
	STD-63						NUT, #10-32 NF-3	2	
7	STD-160						WASHER, Internal	1	
	STD-9						NUT, Plain, 1/4-28	1	
	STD-896						BOLT, 1/4-28 X 1/2 in. long	1	
-----*									
8	73893						MANIFOLD ASSY., Exhaust, right	1	
9	73183						MANIFOLD ASSY., Exhaust, left	1	
10	73894						BEND ASSY., Manifold pipe	2	
11	73182						PIPE ASSY., Exhaust, right	1	
12	73180						BEND, Exhaust right	1	
13	73179						PIPE ASSY., Exhaust, left	1	
14	73181						TRANSITION ASSY., Turbocharger	1	
15	24502-200						COUPLING, Marman	2	
	17189-200-N						GASKET, Marman	2	
16	73720						GASKET, Exhaust manifold	12	
17	1102						PLUG, 1/8-27 NPT	1	
18	AN912-1S						BUSHING, Reducer, 1/4 to 1/8 in. NPT	1	

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - TIVO-540-A2A

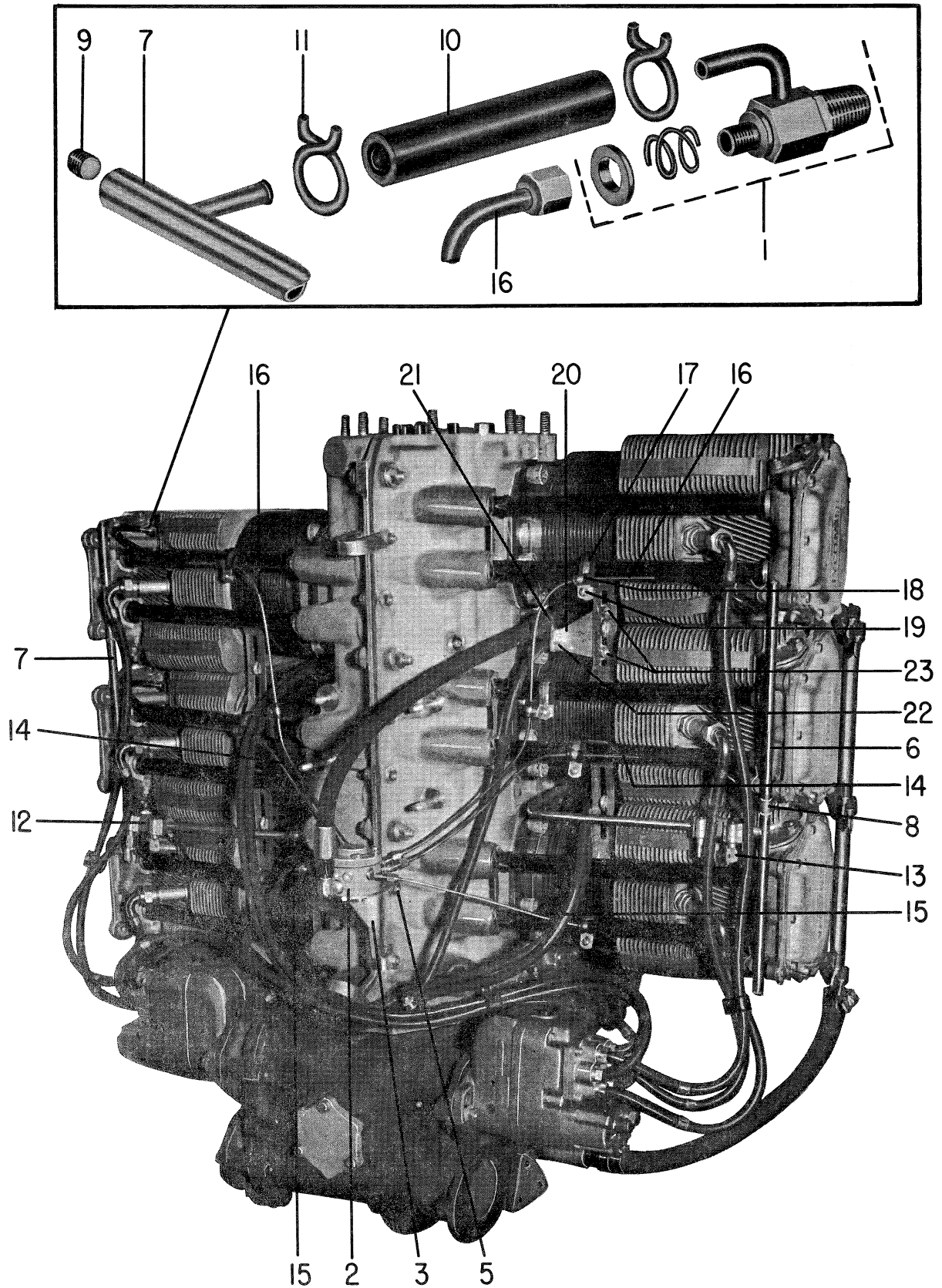
Figure 27 - Turbocharger Exhaust System

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 28 - FUEL DISTRIBUTION SYSTEM

Ref. No.	Part Number	1 2 3 4 5	Description	Qty. per Eng.	Model Usage
APPLICABLE MODEL - TIVO-540-A2A					
28-1	74591		NOZZLE ASSY., Manifold air bleed Same as Bendix Products Div., Bendix Aviation Corp., So. Bend, Ind. their part No. 2524151-2.	6	
2	72292		MANIFOLD ASSY., Fuel Same as Bendix Products Div., Bendix Aviation Corp., So. Bend, Ind. their part no. 2524166-2.	1	
ATTACHING PARTS					
3	74392		BRACKET, Fuel manifold	1	
4	STD-82		SCREW, no. 10-24 X 1/2 in. long (Not illustrated)	4	
	STD-251		WASHER, Internal teeth, No. 10 lock (Not illustrated)	4	
5	AN4-14A		BOLT, 1/4-28 X 1-17/32 in. long	2	
	STD-8		WASHER, Plain, 1/4 in.	2	
	STD-160		WASHER, Internal teeth, 1/4 in. lock	2	
	STD-9		NUT, Plain, 1/4-28	2	
-----*					
6	74630		MANIFOLD, Cylinder air bleed, cyls. 1-3-5 (right)	1	
7	74629		MANIFOLD, Cylinder air bleed, cyls. 2-4-6 (left)	1	
ATTACHING PARTS					
8	74499		SUPPORT, Cyl. air bleed manifold	2	
	STD-29		SCREW, Rd. head, no. 10-32 X 3/8 in. long	2	
	STD-251		WASHER, No. 10 lock	2	
	STD-63		NUT, No. 10-32	2	
-----*					
9	STD-1339		PLUG, Allen head, 1/16-27	4	
10	74493		HOSE, 3/16 in. ID nozzle to manifold	6	
ATTACHING PARTS					
11	STD-1913		CLAMP, Hose, 7/16 in. OD	12	
-----*					
12	74492		HOSE, 3/8 in. ID air bleed manifold	2	
ATTACHING PARTS					
13	STD-1252		CLAMP, 3/8 in. ID hose	4	
-----*					
14	73237		TUBE ASSY., Fuel manifold to nozzle (cyls. 3 and 4)	2	
15	73964		TUBE ASSY., Fuel manifold to nozzle (Cyls. 5 and 6)	2	
16	74831		TUBE ASSY., Fuel manifold to nozzle (cyls. 1 and 2)	2	
ATTACHING PARTS					
17	72036		CLIP, 3/4 ID for 3/16 in. screw	8	
18	AN742-5C		CLIP, 3/16 ID for 3/16 in. screw	8	
19	STD-860		SCREW, No. 10-32 X 5/8 in. long	8	
	STD-425		WASHER, No. 10	8	
	STD-670		NUT, Self-locking, No. 10	8	
-----*					

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST



MODEL - TIVO-540-A2A

Figure 28 - Fuel Distribution System

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

FIGURE 28 - FUEL DISTRIBUTION SYSTEM

Ref. No.	Part Number	1	2	3	4	5	Description	Qty. per Eng.	Model Usage
28-20	74278						BRACKET ASSEMBLY, Fuel line, support	1	
ATTACHING PARTS									
21	74733						CLIP, 1/2 in. ID (double cushion type) (TA774D2-8)	1	
22	STD-860						SCREW, No. 10-32 X 5/8 in. long	1	
	STD-425						WASHER, No. 10	1	
	STD-670						NUT, Self-locking, no. 10	1	
23	STD-692						SCREW, Rd. head, no. 10-32 X 1/2 in. long	2	
	STD-425						WASHER, No. 10	2	
-----*------									

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL OVERSIZE AND UNDERSIZE PARTS SECTION

The following is a listing of all parts that may be procured in sizes other than standard and an explanation of the oversize and undersize symbols.

The symbol "P" suffixed to the standard size part number indicates the part may be procured in oversize; the symbol "M" indicates undersize. The numerals 03, 10, 12, 20 etc. following the symbol "P" or "M" indicate the extent of deviation from standard, in thousandths of an inch, in oversize or undersize.

Example A: 66670-P10 indicates 66670 may be procured in .010 oversize.

Example B: 71949-M03 indicates 71949 may be procured in .003 undersize.

<u>Part No.</u>	<u>Part Name</u>	<u>Undersize or Oversize Available</u>
71949	Bearing, Connecting rod	M03-M10
69641	Dowel, Rear crankshaft spline bushing	P10-P20
69961	Bearing, Crankshaft	M03-M10
72139	Dowel	P10-P20
66670	Bushing, Rocker shaft, inner	P05-P10
-----	Guides, Valve	P05-P10-P20-P30
-----	Seats, Valve	P10-P20-P30
-----	Studs	P03-P07-P12
71549	Washer, Valve rocker thrust	See Service Bulletin No. 225A.
72308	Bushing, Rear crankshaft spline	P10
* -----	Pistons	P10-P20
* -----	Rings, Piston	P10-P20

* No oversize piston or rings may be used in chrome or nitrided cylinders.

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
71900-1	SEAL AND GASKET SET - COMPLETE	VO-540 SERIES
	Consisting of:	
1	1691-C	Gasket - Fuel Pump
2	8313	Gasket - Vacuum pump (Vacuum Pump and Tach. Drive Pad)
1	20415	Gasket - Hydraulic Pump
2	62224	Gasket - Magneto
24	62922	Seal - Shroud Tube
12	66732	Gasket - Valve Rocker Shaft Cover
6	67193	Gasket - Rocker Box Cover
1	67633	Gasket - Starter Drive
2	67708	Gasket - Starter Drive Adapter
1	67746	Gasket - Accessory Housing Breather
2	68129	Gasket - Carburetor
1	68172	Gasket - Crankcase Cover
1	68174	Gasket - Accessory Housing
1	68456	Gasket - Hydraulic and Oil Pump Adapter
1	68556	Gasket - Accessory Housing Cover
1	72437	Gasket - Oil Sump
6	71481	Ring - Oil Seal-Cylinder Base
6	71973	Gasket - 2 Bolt Flange
2	AN123908	Ring - Oil Seal (Oil Pump Body Assembly)
2	AN4047-1	Gasket - Accessory Drive
1	AN6290-12	Seal
1	AN900-28	Gasket - Copper Asbestos
1	STD-111	Gasket - Annular
1	STD-208	Seal - Oil
1	STD-213	Seal - Oil
1	STD-294	Gasket - Annular
12	STD-295	Gasket - Spark Plug
8	72075	Seal - Oil
2	STD-351	Gasket - Annular
1	STD-547	Seal - Oil
1	72182	Ring - Oil Seal
1	STD-1702	Seal - Oil
1	STD-1708	Seal - Oil
1	STD-1854	Washer (Seal)
1	71189	Box - Set Up
2	66224	Gasket - Carburetor
1	67204	Lockplate - Crankshaft Timing Gear
2	72078	Lockplate - Camshaft Gear
1	67642	Lockwasher - Acc. Drive Shaft
1	72312	Ring - Oil Seal

74445-1	SEAL AND GASKET SET	TIVO-540-A2A
	Consisting of:	
1	AN900-28	Gasket - Copper, Asbestos
2	AN4047-1	Gasket - Accessory Drive
1	AN6290-12	Seal - Oil
2	AN123908	Ring - Oil Seal
1	MS28778-10	Gasket
1	MS29512-4	Gasket - Straight Thread Tube Fitting
4	MS29512-6	Gasket - Straight Thread Tube Fitting
1	STD-111	Gasket - Annular
1	STD-208	Seal - Oil
1	STD-213	Seal - Oil
1	STD-294	Gasket - Annular
12	STD-295	Gasket
2	STD-351	Gasket - Annular
1	STD-547	Seal - Oil
1	STD-829	Gasket

(Continued on Next Page)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

Part Number

Part Name

74445-1

SEAL AND GASKET SET (Cont'd.)

TIVO-540-A2A

Consisting of:

1	STD-1006	Ring - Oil Seal
1	STD-1702	Seal - Oil
1	STD-1708	Seal - Oil
1	STD-1854	Washer (Seal)
1	1691-C	Gasket - Fuel Pump
2	8313	Gasket - Vacuum Pump
1	20415	Gasket - Hydraulic Pump
2	24096-225-N	Gasket - J11 Marman Aircraft Joint
2	62224	Gasket - Magneto
24	62922	Seal - Shroud Tube
1	66224	Gasket - Fuel Injector
12	66732	Gasket - Valve Rocker Shaft Cover
6	67193	Gasket - Rocker Box Cover
1	67204	Plate - Crankshaft Gear Lock
1	67258	Lockplate - Acc. Drive Coupling
1	67633	Gasket - Starter Drive
1	67642	Lockwasher - Acc. Drive Shaft
2	67708	Gasket - Starter Drive Adapter
1	68172	Gasket - Oil Sump
1	68174	Gasket - Accessory Housing
1	68456	Gasket - Hydraulic and Oil Pump Adapter
1	68556	Gasket - Accessory Housing Cover
1	71189	Box - Set-Up
6	71481	Ring - Oil Seal (Cylinder Base)
6	71973	Gasket - 2-Bolt Flange
1	72075	Seal - Oil
2	72078	Lockplate - Camshaft Gear
1	72437	Gasket - Oil Sump
1	73189	Gasket - Fuel Injector Adapter
1	73314	Gasket - Density Controller
1	73368	Gasket - Scavenge Oil Inlet Adapter
12	73720	Gasket - Exhaust Manifold
1	73775	Gasket - Check Valve
1	73782	Gasket - Turbocharger Oil Outlet
1	74382	Ring - Oil Seal

72028

CYLINDER, PISTON AND RING ASSY. - COMPLETE (Chrome Plated Barrel and Plain Piston Rings.)

A1A, A2A, B1A, B2A,
B1B3, B1C, B2C, B1D,
B2D

Consisting of:

1	72636	Cylinder Assembly (Chrome Plated)
2	60009	Key - Valve
2	72050	Key - Valve (Rotator Type)
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
2	68325	Seat - Valve Spring Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	72454	Ring - Piston Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69235	Ring - Piston Scraper
1	69650	Pin - Piston
1	69697	Cap - Valve Stem
1	69698	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
2	71549	Washer - Valve Rocker Thrust

(Continued on Next Page)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
72028	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Cont'd)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
1	71381	Valve - Exhaust (Rotator Type)
3	71939	Ring - Piston Compression
1	71940	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set Up
4	STD-9	Nut - Plain 1/4-28
4	STD-160	Washer - Shakeproof Lock 1/4 in.
8	STD-1826	Screw - Fillister Head, Self Locking, 1/4-20 X 5/8 inch long.
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil
72028-2	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Nitrided Barrels, Low Compression Piston, Chrome Rings.)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
1	73881	Cylinder Assembly (Natural Choke)
2	60009	Key - Valve
2	MS13997-3	Key - Valve (Rotator Type)
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
1	73112	Seat - Valve Spring, Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	69457	Ring - Piston, Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston Scraper
1	69650	Pin - Piston
1	MS13998-3	Cap - Valve Stem
1	73115	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
2	71549	Washer - Valve Rocker Thrust
1	73111 or 73875	Valve - Exhaust (Rotator Type)
3	74241	Ring - Piston Compression
1	71940	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set-Up
4	STD-9	Nut - Plain, 1/4-28
4	STD-160	Washer - Shakeproof Lock, 1/4 in.
8	STD-1826	Screw - Fillister Head, Self-Locking, 1/4-20 X 5/8 in. long
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
74013	CYLINDER, PISTON AND RING ASSY. (Nitrided Barrels, Low Compression Piston, Chrome Rings. Piston has Wider Second Land and Narrow Oil Ring.) Consisting of: 2 60009 Key - Valve 4 62922 Seal - Shroud Tube 2 66731 Cover - Valve Rocker Shaft 2 66732 Gasket - Valve Rocker Shaft Cover 1 67193 Gasket - Rocker Box Cover 1 68325 Seat - Valve Spring, Lower 2 68326 Spring - Valve Outer 1 68327 Seat - Valve Spring 2 68328 Spring - Valve Auxiliary 2 68806 Shaft - Valve Rocker 1 69330 Ring - Piston Scraper 1 69650 Pin - Piston 1 71195 Box - Set 1 74390 Rocker Assembly - Exhaust Valve 1 71266 Rocker Assembly - Intake Valve 1 71481 Seal - Cylinder Base Oil 2 71549 Washer - Valve Rocker Thrust 1 73117 (73876) Valve - Intake 2 72198 Plug - Piston Pin 3 74241 Ring - Piston Compression 1 73111 or 73875 Valve - Exhaust (Rotator Type) 1 73112 Seat - Valve Spring, Lower 1 73115 Seat - Valve Spring (Rotator Type) 1 73857 Ring - Piston, Oil Regulating (Expander Type) 1 73881 Cylinder Assembly (Natural Choke) 1 73976-S Piston 2 MS13997-3 Key - Valve (Rotator Type) 1 MS13998-3 Cap - Valve Stem 4 STD-9 Nut 4 STD-160 Washer 8 STD-1826 Screw	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
74025	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Chrome Plated Cylinder Barrel, Plain Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring. Sodium Cooled Exhaust Valve.) Consisting of: 2 60009 Key - Valve 4 62922 Seal - Shroud Tube 2 66731 Cover - Valve Rocker Shaft 2 66732 Gasket - Valve Rocker Shaft Cover 1 67193 Gasket - Rocker Box Cover 1 68325 Seat - Valve Spring, Lower 2 68326 Spring - Valve, Outer 1 68327 Seat - Valve Spring 2 68328 Spring - Valve, Auxiliary 2 68806 Shaft - Valve Rocker 1 69235 Ring - Piston, Scraper 1 69650 Pin - Piston 1 69697 Cap - Valve Stem 1 69698 Seat - Valve Spring (Rotator Type) 1 71195 Box - Set Up 1 71266 Rocker Assy. - Intake Valve 1 71381 Valve - Exhaust (Rotator Type) 1 71481 Seal - Cylinder Base Oil	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

Part Number	Part Name	
74025	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Cont'd)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
2	71549	Washer - Valve Rocker Thrust
3	71939	Ring - Piston, Top Compression
2	72050	Key - Valve (Rotator Type)
2	72198	Plug - Piston Pin
1	72636	Cylinder Assy. (Chrome)
1	73117 or 73876	Valve - Intake
1	73976-S	Piston (Cold Forged)
1	73998	Ring - Piston, Oil Reg. (Expander Type) (.154-.155)
1	74390	Rocker Assy. - Exhaust Valve
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
75034	CYLINDER, PISTON AND RING ASSY. (Nitrided Barrels, With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve, Low Compression Piston, Chrome Rings. Piston Has Wider Second Land and Narrow Oil Ring.)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
2	60009	Key - Valve
4	62922	Seal - Shroud Tube
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston Scraper
1	69650	Pin - Piston
1	71195	Box - Set
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
3	74241	Ring - Piston Compression
1	74052 or 74802	Valve - Exhaust (Rotator Type Inconel)
1	73112	Seat - Valve Spring, Lower
1	73115	Seat - Valve Spring (Rotator Type)
1	73857	Ring - Piston, Oil Regulating (Expander Type)
1	74558	Cylinder Assembly (Natural Choke)
1	73976-S	Piston
2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

Part Number

Part Name

75160

CYLINDER, PISTON AND RING ASSY.

(Nitrided Barrels, With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve, Low Compression Piston, Chrome Rings, Long Reach Spark Plugs. Piston Has Wider Second Land and Narrow Oil Rings.)

A1A, A2A, B1A, B2A,
B1B3, B1C, B2C, B1D,
B2D

Consisting of:

2	60009	Key - Valve
4	62922	Seal - Shroud Tube
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston Scraper
1	69650	Pin - Piston
1	71195	Box - Set-Up
1	71266	Rocker Assy. - Intake Valve
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
2	72198	Plug - Piston Pin
3	74241	Ring - Piston Compression
1	73112	Seat - Valve Spring, Lower
1	73115	Seat - Valve Spring (Rotator Type)
1	73117 (73876)	Valve - Intake
1	73857	Ring - Piston, Oil Regulating (Expander Type)
1	73976-S	Piston
1	74052 or 74802	Valve - Exhaust (Rotator Type) Inconel
1	74390	Rocker Assy. - Exhaust Valve
1	75137	Cylinder Assy. - Natural Choke
2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw

75226

CYLINDER, PISTON AND RING ASSY.

(Chrome Plated Long Reach Cylinder Assy. With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve, Plain Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring.)

A1A, A2A, B1A, B2A,
B1B3, B1C, B2C, B1D,
B2D

Consisting of:

2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
2	60009	Key - Valve
4	62922	Seal - Shroud Tube
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
2	68326	Spring - Valve, Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve, Auxiliary
2	68806	Shaft - Valve Rocker
1	69235	Ring - Piston, Scraper
1	69650	Pin - Piston
1	69697	Cap - Valve Stem

(Continued on Next Page)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

Part Number	Part Name	
75226	CYLINDER, PISTON AND RING ASSY. (Cont'd.)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
1	73115	Seat - Valve Spring (Rotator Type)
1	71195	Box - Set Up
1	71266	Rocker Assy. - Intake Valve
1	74052 or 74802	Valve - Exhaust (Rotator Type) Inconel
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
3	71939	Ring - Piston, Top Compression
2	72050	Key - Valve (Rotator Type)
2	72198	Plug - Piston Pin
1	75173	Cylinder Assy. (Chrome Long Reach)
1	73112	Seat - Valve Spring Lower
1	73117 or 73876	Valve - Intake
1	73976-S	Piston (Cold Forged)
1	73998	Ring - Piston, Oil Reg. (Expander Type) (.154-.155)
1	74390	Rocker Assy. - Exhaust Valve
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
75231	CYLINDER, PISTON AND RING ASSY. (Nitrided, Long Reach Cylinders, Low Compression Piston, Chrome Rings.)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
1	75171	Cylinder Assembly (Natural Choke) Long Reach
2	60009	Key - Valve
2	MS13997-3	Key - Valve (Rotator Type)
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
1	73112	Seat - Valve Spring, Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	69457	Ring - Piston, Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston Scraper
1	69650	Pin - Piston
1	MS13998-3	Cap - Valve Stem
1	73115	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assy. - Exhaust Valve
1	71266	Rocker Assy. - Intake Valve
2	71549	Washer - Valve Rocker Thrust
1	73111 or 73875	Valve - Exhaust (Rotator Type)
3	74241	Ring - Piston Compression
1	71940	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set Up
4	STD-9	Nut - Plain, 1/4-28
4	STD-160	Washer - Shakeproof Lock, 1/4 in.
8	STD-1826	Screw - Fillister Head, Self-Locking, 1/4-20 X 5/8 In. Long
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
75232	CYLINDER, PISTON AND RING ASSY. (Nitrided, Long Reach Cylinders, Low Compression Piston, Chrome Rings. Piston Has Wider Second Land and Narrow Oil Ring.)	A1A, A2A, B1A, B2A, B1B3, B1C, B2C, B1D, B2D
	Consisting of:	
2	60009	Key - Valve
4	62922	Seal - Shroud Tube
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
2	68326	Spring - Valve Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston Scraper
1	69650	Pin - Piston
1	71195	Box - Set
1	74390	Rocker Assy. - Exhaust Valve
1	71266	Rocker Assy. - Intake Valve
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
3	74241	Ring - Piston Compression
1	73111 or 73875	Valve - Exhaust (Rotator Type)
1	73112	Seat - Valve Spring, Lower
1	73115	Seat - Valve Spring (Rotator Type)
1	73857	Ring - Piston, Oil Regulating (Expander Type)
1	75171	Cylinder Assy. (Natural Choke) Long Reach
1	73976-S	Piston
2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
72028-1	CYLINDER, PISTON AND RING ASSY. (Chrome Plated Barrel and Plain Piston Rings.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	72636	Cylinder Assembly (Chrome Plated)
2	60009	Key - Valve
2	72050	Key - Valve (Rotator Type)
2	66731	Cover - Valve, Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
2	68325	Seat - Valve Spring Lower
2	68326	Spring - Valve, Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	72454	Ring - Piston Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69235	Ring - Piston Scraper
1	69650	Pin - Piston
1	69697	Cap - Valve Stem
1	69698	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
2	71549	Washer - Valve Rocker Thrust

(Continued on Next Page)

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
72028-1	CYLINDER, PISTON AND RING ASSY. (Cont'd.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	71381	Valve - Exhaust (Rotator Type)
3	71939	Ring - Piston Compression
1	72249	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set Up
4	STD-9	Nut - Plain 1/4-28
4	STD-160	Washer - Shakeproof Lock 1/4 Inch
8	STD-1826	Screw - Fillister Head, Self-Locking, 1/4-20 X 5/8 Inch Long
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil
72028-3	CYLINDER, PISTON AND RING ASSY. (Nitrided Barrel, High Compression Piston, Chrome Rings.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	73881	Cylinder Assembly (Natural Choke)
2	60009	Key - Valve
2	MS13997-3	Key - Valve (Rotator Type)
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
1	73112	Seat - Valve Spring, Lower
2	68326	Spring - Valve, Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	69457	Ring - Piston, Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston, Scraper
1	69650	Pin - Piston
1	MS13998-3	Cap - Valve Stem
1	73115	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
2	71549	Washer - Valve Rocker Thrust
1	73111 or 73875	Valve - Exhaust (Rotator Type)
3	74241	Ring - Piston, Compression
1	72249	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set-Up
4	STD-9	Nut - Plain, 1/4-28
4	STD-160	Washer - Shakeproof Lock 1/4 In.
8	STD-1826	Screw - Fillister Head, Self-Locking 1/4-20 X 5/8 In. Long
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
74029	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Nitrided Cylinder Barrel, Chrome Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring. Sodium Cooled Increased Dia. Exhaust Valve.) Consisting of: 2 60009 Key - Valve 4 62922 Seal - Shroud Tube 2 66731 Cover - Valve Rocker Shaft 2 66732 Gasket - Valve Rocker Shaft Cover 1 67193 Gasket - Rocker Box Cover 1 68325 Seat - Valve Spring, Lower 2 68326 Spring - Valve, Outer 1 68327 Seat - Valve Spring 2 68328 Spring - Valve, Auxiliary 2 68806 Shaft - Valve Rocker 1 69330 Ring - Piston, Scraper 1 69650 Pin - Piston 1 71195 Box - Set Up 1 71266 Rocker Assy. - Intake Valve 1 71481 Seal - Cylinder Base Oil 2 71549 Washer - Valve Rocker Thrust 2 72198 Plug - Piston Pin 3 74241 Ring - Piston, Top Compression 1 73111 or 73875 Valve - Exhaust (Rotator Type) 1 73112 Seat - Valve Spring, Lower 1 73117 or 73876 Valve - Intake 1 73115 Seat - Valve Spring (Rotator Type) 1 73857 Ring - Piston, Oil Reg. (Expander Type) (.154-.155) 1 73881 Cylinder Assy. (Nitrided) 1 73947-S Piston (Cold Forged) 1 74390 Rocker Assy. - Exhaust Valve 2 MS13997-3 Key - Valve (Rotator Type) 1 MS13998-3 Cap - Valve Stem 4 STD-9 Nut 4 STD-160 Washer 8 STD-1826 Screw	C1A, C2A, C1B, C2B, C1C3
74029-1	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Chrome Plated Cylinder Barrel, Plain Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring. Sodium Cooled Exhaust Valve.) Consisting of: 2 60009 Key - Valve 4 62922 Seal - Shroud Tube 2 66731 Cover - Valve Rocker Shaft 2 66732 Gasket - Valve Rocker Shaft Cover 1 67193 Gasket - Rocker Box Cover 1 68325 Seat - Valve Spring, Lower 2 68326 Spring - Valve, Outer 1 68327 Seat - Valve Spring 2 68328 Spring - Valve, Auxiliary 2 68806 Shaft - Valve Rocker 1 69235 Ring - Piston, Scraper 1 69650 Pin - Piston 1 69697 Cap - Valve Stem 1 69698 Seat - Valve Spring (Rotator Type) 1 71195 Box - Set Up 1 71266 Rocker Assy. - Intake Valve 1 71381 Valve - Exhaust (Rotator Type)	C1A, C2A, C1B, C2B, C1C3

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
74029-1	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Cont'd.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
3	71939	Ring - Piston, Top Compression
2	72050	Key - Valve (Rotator Type)
2	72198	Plug - Piston Pin
1	72636	Cylinder Assy. (Chrome)
1	73117 or 73876	Valve - Intake
1	73947-S	Piston (Cold Forged)
1	73998	Ring - Piston, Oil Reg. (Expander Type)
1	74390	Rocker Assy. - Exhaust Valve
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
75036	CYLINDER, PISTON AND RING ASSY. (Nitrided Cylinder With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve, Chrome Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
2	60009	Key - Valve
4	62922	Seal - Shroud Tube
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
2	68326	Spring - Valve, Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve, Auxiliary
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston, Scraper
1	69650	Pin - Piston
1	71195	Box - Set Up
1	71266	Rocker Assy. - Intake Valve
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
2	72198	Plug - Piston Pin
3	74241	Ring - Piston, Top Compression
1	74052 or 74802	Valve - Exhaust (Rotator Type) Inconel
1	73112	Seat - Valve Spring, Lower
1	73117 or 73876	Valve - Intake
1	73115	Seat - Valve Spring (Rotator Type)
1	73857	Ring - Piston, Oil Reg. (Expander Type) (.154-.155)
1	74558	Cylinder Assy. (Nitrided)
1	73947-S	Piston (Cold Forged)
1	74390	Rocker Assy. - Exhaust Valve
2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

Part Number	Part Name																																																																																														
75161	CYLINDER, PISTON AND RING ASSY. (Nitrided Cylinders With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve Chrome Piston Rings, Long Reach Spark Plugs. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring.) Consisting of: <table> <tr><td>2</td><td>60009</td><td>Key - Valve</td></tr> <tr><td>4</td><td>62922</td><td>Seal - Shroud Tube</td></tr> <tr><td>2</td><td>66731</td><td>Cover - Valve Rocker Shaft</td></tr> <tr><td>2</td><td>66732</td><td>Gasket - Valve Rocker Shaft Cover</td></tr> <tr><td>1</td><td>67193</td><td>Gasket - Rocker Box Cover</td></tr> <tr><td>1</td><td>68325</td><td>Seat - Valve Spring, Lower</td></tr> <tr><td>2</td><td>68326</td><td>Spring - Valve, Outer</td></tr> <tr><td>1</td><td>68327</td><td>Seat - Valve Spring</td></tr> <tr><td>2</td><td>68328</td><td>Spring - Valve, Auxiliary</td></tr> <tr><td>2</td><td>68806</td><td>Shaft - Valve Rocker</td></tr> <tr><td>1</td><td>69330</td><td>Ring - Piston, Scraper</td></tr> <tr><td>1</td><td>69650</td><td>Pin - Piston</td></tr> <tr><td>1</td><td>71195</td><td>Box - Set Up</td></tr> <tr><td>1</td><td>71266</td><td>Rocker Assy. - Intake Valve</td></tr> <tr><td>1</td><td>71481</td><td>Seal - Cylinder Base Oil</td></tr> <tr><td>2</td><td>71549</td><td>Washer - Valve Rocker Thrust</td></tr> <tr><td>2</td><td>72198</td><td>Plug - Piston, Pin</td></tr> <tr><td>3</td><td>74241</td><td>Ring - Piston, Top Compression</td></tr> <tr><td>1</td><td>73112</td><td>Seat - Valve Spring, Lower</td></tr> <tr><td>1</td><td>73115</td><td>Seat - Valve Spring (Rotator Type)</td></tr> <tr><td>1</td><td>73117 or 73876</td><td>Valve - Intake</td></tr> <tr><td>1</td><td>73857</td><td>Ring - Piston, Oil Reg. (Expander Type) (.154-.155)</td></tr> <tr><td>1</td><td>73947-S</td><td>Piston (Cold Forged)</td></tr> <tr><td>1</td><td>74052 or 74802</td><td>Valve - Exhaust (Rotator Type) Inconel</td></tr> <tr><td>1</td><td>74390</td><td>Rocker Assy. - Exhaust Valve</td></tr> <tr><td>1</td><td>75137</td><td>Cylinder Assy. (Nitrided)</td></tr> <tr><td>2</td><td>MS13997-3</td><td>Key - Valve (Rotator Type)</td></tr> <tr><td>1</td><td>MS13998-3</td><td>Cap - Valve Stem</td></tr> <tr><td>4</td><td>STD-9</td><td>Nut</td></tr> <tr><td>4</td><td>STD-160</td><td>Washer</td></tr> <tr><td>8</td><td>STD-1826</td><td>Screw</td></tr> </table>	2	60009	Key - Valve	4	62922	Seal - Shroud Tube	2	66731	Cover - Valve Rocker Shaft	2	66732	Gasket - Valve Rocker Shaft Cover	1	67193	Gasket - Rocker Box Cover	1	68325	Seat - Valve Spring, Lower	2	68326	Spring - Valve, Outer	1	68327	Seat - Valve Spring	2	68328	Spring - Valve, Auxiliary	2	68806	Shaft - Valve Rocker	1	69330	Ring - Piston, Scraper	1	69650	Pin - Piston	1	71195	Box - Set Up	1	71266	Rocker Assy. - Intake Valve	1	71481	Seal - Cylinder Base Oil	2	71549	Washer - Valve Rocker Thrust	2	72198	Plug - Piston, Pin	3	74241	Ring - Piston, Top Compression	1	73112	Seat - Valve Spring, Lower	1	73115	Seat - Valve Spring (Rotator Type)	1	73117 or 73876	Valve - Intake	1	73857	Ring - Piston, Oil Reg. (Expander Type) (.154-.155)	1	73947-S	Piston (Cold Forged)	1	74052 or 74802	Valve - Exhaust (Rotator Type) Inconel	1	74390	Rocker Assy. - Exhaust Valve	1	75137	Cylinder Assy. (Nitrided)	2	MS13997-3	Key - Valve (Rotator Type)	1	MS13998-3	Cap - Valve Stem	4	STD-9	Nut	4	STD-160	Washer	8	STD-1826	Screw	C1A, C2A, C1B, C2B, C1C3
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75227	CYLINDER, PISTON AND RING ASSY. (Chrome Plated Long Reach Cylinder With Ni-Resist Guide to Receive 1/2 Dia. Inconel Exhaust Valve, Plain Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring.) Consisting of: <table> <tr><td>2</td><td>MS13997-3</td><td>Key - Valve (Rotator Type)</td></tr> <tr><td>1</td><td>MS13998-3</td><td>Cap - Valve Stem</td></tr> <tr><td>2</td><td>60009</td><td>Key - Valve</td></tr> <tr><td>4</td><td>62922</td><td>Seal - Shroud Tube</td></tr> <tr><td>2</td><td>66731</td><td>Cover - Valve Rocker Shaft</td></tr> <tr><td>2</td><td>66732</td><td>Gasket - Valve Rocker Shaft Cover</td></tr> <tr><td>1</td><td>67193</td><td>Gasket - Rocker Box Cover</td></tr> <tr><td>1</td><td>68325</td><td>Seat - Valve Spring, Lower</td></tr> <tr><td>2</td><td>68326</td><td>Spring - Valve, Outer</td></tr> <tr><td>1</td><td>68327</td><td>Seat - Valve Spring</td></tr> <tr><td>2</td><td>68328</td><td>Spring - Valve, Auxiliary</td></tr> <tr><td>2</td><td>68806</td><td>Shaft - Valve Rocker</td></tr> <tr><td>1</td><td>69235</td><td>Ring - Piston, Scraper</td></tr> <tr><td>1</td><td>69650</td><td>Pin - Piston</td></tr> <tr><td>1</td><td>73115</td><td>Seat - Valve Spring (Rotator Type)</td></tr> </table>	2	MS13997-3	Key - Valve (Rotator Type)	1	MS13998-3	Cap - Valve Stem	2	60009	Key - Valve	4	62922	Seal - Shroud Tube	2	66731	Cover - Valve Rocker Shaft	2	66732	Gasket - Valve Rocker Shaft Cover	1	67193	Gasket - Rocker Box Cover	1	68325	Seat - Valve Spring, Lower	2	68326	Spring - Valve, Outer	1	68327	Seat - Valve Spring	2	68328	Spring - Valve, Auxiliary	2	68806	Shaft - Valve Rocker	1	69235	Ring - Piston, Scraper	1	69650	Pin - Piston	1	73115	Seat - Valve Spring (Rotator Type)	C1A, C2A, C1B, C2B, C1C3																																																
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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
75227	CYLINDER, PISTON AND RING ASSY. (Cont'd.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	71195	Box - Set Up
1	71266	Rocker Assy. - Intake Valve
1	74052 or 74802	Valve - Exhaust (Rotator Type)
		Inconel
1	71481	Seal - Cylinder Base Oil
2	71549	Washer - Valve Rocker Thrust
3	71939	Ring - Piston, Top Compression
2	72198	Plug - Piston Pin
1	75173	Cylinder Assy. (Chrome), Long Reach
1	73112	Seat - Valve Spring Lower
1	73117 or 73876	Valve - Intake
1	73947-S	Piston (Cold Forged)
1	73998	Ring - Piston, Oil Reg. (Expander Type)
1	74390	Rocker Assy. - Exhaust Valve
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
75228	CYLINDER, PISTON AND RING ASSY. (Nitrided Long Reach Cylinder, High Compression Piston, Chrome Rings.)	C1A, C2A, C1B, C2B, C1C3
	Consisting of:	
1	75171	Cylinder Assy. (Natural Choke) Long Reach
2	60009	Key - Valve
2	MS13997-3	Key - Valve (Rotator Type)
2	66731	Cover - Valve Rocker Shaft
2	66732	Gasket - Valve Rocker Shaft Cover
1	67193	Gasket - Rocker Box Cover
1	68325	Seat - Valve Spring, Lower
1	73112	Seat - Valve Spring, Lower
2	68326	Spring - Valve, Outer
1	68327	Seat - Valve Spring
2	68328	Spring - Valve Auxiliary
1	69457	Ring - Piston, Oil Regulating (Expander Type)
2	68806	Shaft - Valve Rocker
1	69330	Ring - Piston, Scraper
1	69650	Pin - Piston
1	MS13998-3	Cap - Valve Stem
1	73115	Seat - Valve Spring (Rotator Type)
1	74390	Rocker Assembly - Exhaust Valve
1	71266	Rocker Assembly - Intake Valve
2	71549	Washer - Valve Rocker Thrust
1	73111 or 73875	Valve - Exhaust (Rotator Type)
3	74241	Ring - Piston, Compression
1	72249	Piston
1	73117 (73876)	Valve - Intake
2	72198	Plug - Piston Pin
1	71195	Box - Set Up
4	STD-9	Nut - Plain, 1/4-28
4	STD-160	Washer - Shakeproof Lock 1/4 In.
8	STD-1826	Screw - Fillister Head, Self-Locking, 1/4-20 X 5/8 In. Long
4	62922	Seal - Shroud Tube
1	71481	Seal - Cylinder Base Oil

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
75229	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Nitrided Long Reach Cylinder Assy., Chrome Piston Rings. Cold Forged 5-Ring Piston and (.154-.155) Oil Reg. Ring. Sodium Cooled Increased Dia. Exhaust Valve.) Consisting of:	C1A, C2A, C1B, C2B, C1C3
	2 60009 Key - Valve	
	4 62922 Seal - Shroud Tube	
	2 66731 Cover - Valve Rocker Shaft	
	2 66732 Gasket - Valve Rocker Shaft Cover	
	1 67193 Gasket - Rocker Box Cover	
	1 68325 Seat - Valve Spring, Lower	
	2 68326 Spring - Valve, Outer	
	1 68327 Seat - Valve Spring	
	2 68328 Spring - Valve, Auxiliary	
	2 68806 Shaft - Valve Rocker	
	1 69330 Ring - Piston, Scraper	
	1 69650 Pin - Piston	
	1 71195 Box - Set Up	
	1 71266 Rocker Assy. - Intake Valve	
	1 71481 Seal - Cylinder Base Oil	
	2 71549 Washer - Valve Rocker Thrust	
	2 72198 Plug - Piston Pin	
	3 74241 Ring - Piston, Top Compression	
	1 73111 or 73875 Valve - Exhaust (Rotator Type)	
	1 73112 Seat - Valve Spring, Lower	
	1 73117 or 73876 Valve - Intake	
	1 73115 Seat - Valve Spring (Rotator Type)	
	1 73857 Ring - Piston, Oil Reg. (Expander Type) (.154-.155)	
	1 75171 Cylinder Assy. (Nitrided) Long Reach	
	1 73947-S Piston (Cold Forged)	
	1 74390 Rocker Assy. - Exhaust Valve	
	2 MS13997-3 Key - Valve (Rotator Type)	
	1 MS13998-3 Cap - Valve Stem	
	4 STD-9 Nut	
	4 STD-160 Washer	
	8 STD-1826 Screw	
74434	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Nitrided Barrels, Low Compression Piston, Chrome Half Wedge Rings. Piston Has Wider Second Land and Narrow Oil Ring Cylinder Assy. Requires Long Reach Spark Plug.) Consisting of:	TIVO-540-A2A
	2 60009 Key - Valve	
	4 62922 Seal - Shroud Tube	
	2 66732 Gasket - Valve Rocker Shaft Cover	
	1 67193 Gasket - Rocker Box Cover	
	1 68325 Seat - Valve Spring, Lower	
	2 68326 Spring - Valve, Outer	
	1 68327 Seat - Valve Spring	
	2 68328 Spring - Valve, Auxiliary	
	2 68806 Shaft - Valve Rocker	
	1 69330 Ring - Piston, Scraper	
	1 69650 Pin - Piston	
	1 71195 Box - Set Up	
	1 71266 Rocker Assy., Intake Valve	
	1 71481 Seal - Cylinder Base Oil	
	2 71549 Washer - Valve Rocker Thrust	
	2 72198 Plug - Piston Pin	

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LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

SERVICE REPLACEMENT SET SECTION

<u>Part Number</u>	<u>Part Name</u>	
74434	CYLINDER, PISTON AND RING ASSY. - COMPLETE (Cont'd.)	TIVO-540-A2A
	Consisting of:	
2	72710	Cover - Valve Rocker Shaft
1	73112	Seat - Valve Spring, Lower
1	73115	Seat - Valve Spring (Rotator Type)
1	73117 or 73876	Valve - Intake
1	73976-S	Piston
1	73857	Ring - Piston, Oil Regulating, Expander Type
1	74052 or 74802	Valve - Exhaust (Rotator Type) Inconel
1	74236	Cylinder Assy. (Natural Choke) (Long Reach Spark Plug)
3	74241	Ring - Piston, Compression
1	74390	Rocker Assy. - Exhaust Valve
2	MS13997-3	Key - Valve (Rotator Type)
1	MS13998-3	Cap - Valve Stem
4	STD-9	Nut
4	STD-160	Washer
8	STD-1826	Screw
72907	KIT, DUAL CARBURETOR	AR
	This Kit Provides Material and Instructions to Convert Lycoming Model VO-540-B1A to VO-540-B1E and B1C to B1D.	
	Consisting of:	
4	31D-12 P03	Stud - .3125-18 X 1.50 Long
2	68129	Gasket - Carburetor
4	AN960-516 (STD-35)	Washer - .3125 Plain
4	STD-1013	Nut - .3125-24 Slotted
AR	STD-1823	Lockwire - .032 Dia.
1	73073	Carburetor Assy. - Dual (Installation)
1	72930	Adapter Assy. - Dual Carburetor
2	66224	Gasket - Carburetor
2	72920	Carburetor
8	AN960-516 (STD-35)	Washer - .3125 Plain
8	STD-2	Nut - .3125-24 Slotted
AR	STD-1823	Lockwire - .032 Dia.
1	73316	Rod - Dual Carburetor
1	AN315-4R (STD-9)	Nut - .250-28 Plain
1	AN315-4L	Nut - .250-28 Plain (Left Hand)
1	74063	Rod End - Dual Carburetor
1	74062	Rod End - Dual Carburetor (Left)
2	STD-696	Washer - .250 Plain
2	AN960-416 (STD-8)	Washer - .250 Plain
2	STD-97	Nut - .250-28 Slotted
2	AN381-2-8 (STD-68)	Pin - .06 X .50 Long - Cotter
2	STD-131	Bolt - .250-28 X 1.00 Long - Drilled

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
28-5	AN4-14A	Bolt	2	21-12	AN3104-2	Elbow Assy.	12
1-12	AN4-16	Bolt	6	8-14	AN4047-1	Gasket	1
25-12	AN4-17A	Bolt	1	8-58	AN4047-1	Gasket	2
26-25	AN4-17A	Bolt	1	26-12	AN6289-D10	Nut	1
1-2	AN6-16	Bolt	1	6-48	AN6289-D16	Nut	1
1-4	AN6-21A	Bolt	3	25-19	AN6289-D16	Nut	1
1-5	AN6-22A	Bolt	1	15-7	AN6290-12	Seal	1
1-3	AN6-24	Bolt	2	25-10	AN101122	Bolt	4
27-3	AN6C-10A	Bolt	2	25-11	AN101124	Bolt	1
24-2	AN6C13A	Bolt	4	26-24	AN101124	Bolt	1
25-4	AN6C13A	Bolt	4	8-8	AN102010	Bolt	4
10-36	AN280H406	Key	1	10-42	AN123908	Ring	2
11-33	AN280H406	Key	1	11-39	AN123908	Ring	2
6-37	AN315-4L	Nut	1	21-19	E-1046-41-8	Bracket	1
16-9	AN365-632C	Nut	6	21-8	E-1134-111-10	Conduit Assy.	1
19-30	AN365-632C	Nut	6	21-11	E-1134-111-20	Conduit Assy.	1
20-35	AN365-632C	Nut	6	21-9	E-1134-112-10	Dual Conduit	1
21-33	AN365-632C	Nut	6		Assy.		
22-30	AN365-632C	Nut	6	21-10	E-1134-112-20	Dual Conduit	1
23-32	AN365-632C	Nut	6		Assy.		
21-27	AN365-1032	Nut	7	21-14	E-1181-30-1	Collar	12
8-21	AN381-2-10	Pin	1	21-5	E-1199-602-0908	Conduit Assy.	1
10-27	AN381-4-20	Pin	1	21-4	E-1199-602-1200	Conduit Assy.	1
11-24	AN381-4-20	Pin	1	21-7	E-1199-602-1200	Conduit Assy.	1
13-8	AN501A416-12	Screw	4	21-2	E-1199-602-1808	Conduit Assy.	1
14-8	AN501A416-12	Screw	4	21-6	E-1199-603-0604	Conduit Assy.	1
21-26	AN520-10-8	Screw	7	21-3	E-1199-603-1800	Conduit Assy.	1
25-7	AN737TW38	Clamp	4	21-23	E-1348-13-10	Clamp	7
26-16	AN737TW38	Clamp	4	21-20	E-1348-14-10	Clamp	1
24-18	AN737TW114	Clamp	2	21-15	E-1360-9-3	Grommet	2
28-18	AN742-5C	Clip	8	15-8	MS9015-12	Plug	1
26-13	AN807-10D	Adapter	1	5-28	MS13997-3	Key	12
26-8	AN814-4D	Plug	1	5-29	MS13998-3	Cap	6
24-26	AN815-6	Union	1	24-29	MS20074-04-07	Bolt	3
24-33	AN815-6D	Union	1	24-30	MS20074-04-15	Bolt	1
25-14	AN815-6D	Union	1	24-2	MS20500-624	Nut	4
24-7	AN822-4-4	Elbow	1	25-4	MS20500-624	Nut	4
24-10	AN822-4-4	Elbow	1	27-3	MS20500-624	Nut	2
24-16	AN823-6	Elbow	1	6-14	MS20822-12D	Elbow	1
24-38	AN825-6D	Tee	1	21-21	MS21919-G6	Clamp	3
26-19	AN825-6D	Tee	1	21-22	MS21919-G12	Clamp	3
24-13	AN833-6D	Elbow	3	24-8	MS29512-4	Gasket	1
24-8	AN834-4D	Tee	1	24-13	MS29512-6	Gasket	3
26-17	AN840-9D	Nipple	1	24-27	MS29512-6	Gasket	1
15-12	AN840-10D	Adapter	2	18-7	MS35489-14	Grommet	2
26-5	AN844-12D	Elbow	1	10-9	MS122200	Insert	4
10-43	AN900-28	Gasket	1	11-17	MS122200	Insert	4
11-40	AN900-28	Gasket	1	15-6	MS124777	Heli-Coil	13
27-18	AN912-1S	Bushing	1	6-24	STD-2	Nut	4
24-11	AN912-2D	Bushing	1	6-24	STD-2	Nut	8
24-15	AN912-2D	Bushing	1	6-27	STD-2	Nut	4
24-37	AN915-2D	Elbow	1	8-20	STD-2	Nut	1
25-20	AN915-2D	Elbow	1	1-13	STD-8	Washer	24
26-18	AN915-2D	Elbow	1	6-8	STD-8	Washer	34
24-8	AN924-4D	Nut	1	6-38	STD-8	Washer	2
24-13	AN924-6D	Nut	3	6-44	STD-8	Washer	12
18-6	AN931-12-17	Grommet	1	7-2	STD-8	Washer	33
24-2	AN960-C616	Washer	8	7-42	STD-8	Washer	3
25-4	AN960-C616	Washer	8	7-47	STD-8	Washer	2
27-3	AN960C-616	Washer	2				

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
8-9	STD-8	Washer	4	10-41	STD-71	Plug	1
8-33	STD-8	Washer	6	11-38	STD-71	Plug	1
9-2	STD-8	Washer	19	6-18	STD-82	Screw	10
10-2	STD-8	Washer	9	28-4	STD-82	Screw	4
10-22	STD-8	Washer	6	1-16	STD-97	Nut	6
11-2	STD-8	Washer	9	6-35	STD-97	Nut	2
11-19	STD-8	Washer	6	8-35	STD-97	Nut	6
13-3	STD-8	Washer	AR	13-4	STD-97	Nut	8
14-3	STD-8	Washer	8	14-4	STD-97	Nut	8
15-3	STD-8	Washer	11	7-34	STD-111	Gasket	1
24-29	STD-8	Washer	3	6-35	STD-131	Bolt	2
24-30	STD-8	Washer	1	8-13	STD-136	Circlip	1
25-12	STD-8	Washer	1	1-14	STD-160	Washer	5
26-25	STD-8	Washer	1	1-14	STD-160	Washer	7
28-5	STD-8	Washer	2	5-36	STD-160	Washer	24
1-15	STD-9	Nut	7	6-9	STD-160	Washer	24
5-37	STD-9	Nut	24	6-45	STD-160	Washer	12
6-10	STD-9	Nut	10	7-3	STD-160	Washer	32
6-36	STD-9	Nut	1	7-43	STD-160	Washer	3
6-46	STD-9	Nut	12	7-48	STD-160	Washer	2
7-4	STD-9	Nut	32	9-3	STD-160	Washer	19
7-49	STD-9	Nut	2	10-3	STD-160	Washer	9
9-4	STD-9	Nut	19	11-3	STD-160	Washer	9
10-4	STD-9	Nut	9	15-4	STD-160	Washer	11
11-4	STD-9	Nut	9	24-29	STD-160	Washer	3
15-5	STD-9	Nut	11	24-30	STD-160	Washer	1
25-12	STD-9	Nut	1	25-10	STD-160	Washer	4
26-25	STD-9	Nut	1	25-11	STD-160	Washer	1
27-7	STD-9	Nut	1	25-12	STD-160	Washer	1
28-5	STD-9	Nut	2	25-18	STD-160	Washer	2
8-6	STD-19	Dowel	1	26-24	STD-160	Washer	1
24-20	STD-28	Washer	4	26-25	STD-160	Washer	1
28-8	STD-29	Screw	2	27-7	STD-160	Washer	1
1-6	STD-33	Washer	16	28-5	STD-160	Washer	2
24-4	STD-33	Washer	2	10-44	STD-208	Seal	1
5-51	STD-35	Washer	12	8-51	STD-213	Seal	1
6-23	STD-35	Washer	4	24-20	STD-251	Washer	4
6-23	STD-35	Washer	8	27-6	STD-251	Washer	2
6-30	STD-35	Washer	4	28-4	STD-251	Washer	4
9-5	STD-35	Washer	2	28-8	STD-251	Washer	2
10-58	STD-35	Washer	4	10-54	STD-294	Gasket	1
24-24	STD-35	Washer	2	11-50	STD-294	Gasket	1
27-2	STD-35	Washer	12	19-31	STD-295	Gasket	12
5-53	STD-37	Nut	12	20-36	STD-295	Gasket	12
9-7	STD-37	Nut	2	21-34	STD-295	Gasket	12
10-60	STD-37	Nut	4	22-31	STD-295	Gasket	12
12-6	STD-37	Nut	4	23-33	STD-295	Gasket	12
27-2	STD-37	Nut	12	10-50	STD-351	Gasket	2
8-10	STD-43	Nut	4	11-46	STD-351	Gasket	2
10-23	STD-43	Nut	6	1-26	STD-355	Plug	1
11-20	STD-43	Nut	6	24-20	STD-375	Screw	4
10-39	STD-60	Pin	1	8-38	STD-394	Dowel	2
11-36	STD-60	Pin	1	10-7	STD-394	Dowel	1
10-38	STD-61	Nut	1	10-25	STD-394	Dowel	1
11-35	STD-61	Nut	1	11-7	STD-394	Dowel	1
27-6	STD-63	Nut	2	11-22	STD-394	Dowel	1
28-8	STD-63	Nut	2	1-27	STD-405	Plug	1
6-35	STD-68	Pin	2	6-4	STD-405	Plug	1
7-31	STD-71	Plug	1	6-19	STD-425	Washer	10
7-31	STD-71	Plug	2	28-19	STD-425	Washer	8

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
28-22	STD-425	Washer	1	6-24	STD-1013	Nut	4
28-23	STD-425	Washer	2	6-31	STD-1013	Nut	4
9-14	STD-434	Dowel	1	9-13	STD-1053	Plug	1
5-52	STD-475	Washer	12	2-15	STD-1066	Dowel	1
9-6	STD-475	Washer	2	3-21	STD-1066	Dowel	1
10-59	STD-475	Washer	4	9-23	STD-1104	Plug	2
12-5	STD-475	Washer	4	6-3	STD-1164	Insert	4
27-2	STD-475	Washer	12	10-13	STD-1164	Insert	1
7-32	STD-514	Dowel	2	14-13	STD-1177	Dowel	1
8-23	STD-547	Seal	1	1-11	STD-1230	Bolt	5
16-10	STD-553	Screw	6	1-11	STD-1230	Bolt	7
19-29	STD-553	Screw	6	6-12	STD-1230	Bolt	10
20-34	STD-553	Screw	6	7-5	STD-1230	Bolt	1
21-32	STD-553	Screw	6	28-13	STD-1252	Clamp	4
22-29	STD-553	Screw	6	6-43	STD-1269	Clamp	12
23-31	STD-553	Screw	6	1-23	STD-1315	Insert	17
1-17	STD-557	Dowel	2	7-10	STD-1315	Insert	4
1-10	STD-596	Nut	4	13-5	STD-1315	Insert	4
19-25	STD-670	Nut	8	14-5	STD-1315	Insert	4
20-30	STD-670	Nut	8	7-6	STD-1339	Plug	5
21-29	STD-670	Nut	8	28-9	STD-1339	Plug	4
22-25	STD-670	Nut	8	10-17	STD-1392	Plug	1
23-27	STD-670	Nut	8	11-13	STD-1392	Plug	1
28-19	STD-670	Nut	8	7-44	STD-1419	Bolt	3
28-22	STD-670	Nut	1	14-24	STD-1459	Bolt	5
1-9	STD-678	Washer	4	27-6	STD-1459	Bolt	2
24-4	STD-678	Washer	2	26-15	STD-1576	Hose	2
26-2	STD-678	Washer	2	26-2	STD-1592	Bolt	2
2-18	STD-679	Screw	4	1-38	STD-1623	Insert	1
3-24	STD-679	Screw	4	15-15	STD-1640	Clamp	4
19-24	STD-692	Screw	8	6-11	STD-1679	Bolt	14
20-29	STD-692	Screw	8	5-56	STD-1686	Screw	4
21-28	STD-692	Screw	8	5-55	STD-1687	Washer	4
22-24	STD-692	Screw	8	8-39	STD-1702	Seal	1
23-26	STD-692	Screw	8	8-49	STD-1708	Seal	1
28-23	STD-692	Screw	2	8-41	STD-1709	Circlip	1
6-35	STD-696	Washer	2	12-4	STD-1727	Washer	4
8-34	STD-696	Washer	AR	24-23	STD-1727	Washer	2
1-8	STD-713	Pin	1	14-18	STD-1774	Pin	1
9-12	STD-740	Plug	1	6-42	STD-1792	Hose	6
10-40	STD-740	Plug	1	15-10	STD-1793	Hose	6
11-37	STD-740	Plug	1	5-42	STD-1826	Screw	48
1-36	STD-783	Plug	2	8-28	STD-1833	Screw	6
5-16	STD-783	Plug	6	4-11	STD-1853	Pin	12
9-20	STD-783	Plug	1	8-18	STD-1854	Washer	1
14-17	STD-798	Dowel	2	8-19	STD-1860	Screw	1
26-8	STD-829	Gasket	1	5-10	STD-1872	Insert	6
16-12	STD-853	Tee	5	6-7	STD-1901	Drive Stud	4
2-10	STD-858	Key	1	28-11	STD-1913	Clamp	12
3-16	STD-858	Key	1	26-11	STD-1920	Ring	1
5-14	STD-859	Dowel	12	25-19	STD-1921	Ring	1
7-9	STD-859	Dowel	1	6-50	STD-1921	Ring	1
28-19	STD-860	Screw	8	6-49	STD-1922	Gasket	1
28-22	STD-860	Screw	1	25-19	STD-1922	Gasket	1
1-7	STD-872	Nut	4	26-10	STD-1923	Gasket	1
25-18	STD-896	Bolt	2	15-11	STD-1924	Clamp	12
27-7	STD-896	Bolt	1	12-12	10-4093	Washer	1
9-9	STD-951	Dowel	1	12-12	10-4093	Washer	2
9-11	STD-951	Dowel	1	12-13	10-90751-19	Pin	1
14-25	STD-1006	Ring	1	12-13	10-90751-19	Pin	2

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
12-14	10-163151	Nut	1	19-32	1182-J3	Spark Plug	12
12-14	10-163151	Nut	2	20-37	1182-J3	Spark Plug	12
5-15	25-8	Stud	24	21-35	1182-J3	Spark Plug	12
1-37	25-10	Stud	1	19-32	1182-K3	Spark Plug	12
7-38	25-10	Stud	2	20-37	1182-K3	Spark Plug	12
1-34	25-11	Stud	4	21-35	1182-K3	Spark Plug	12
5-12	25-12	Stud	12	22-32	1182-N3	Spark Plug	12
7-14	25-12	Stud	11	22-32	1182-P2	Spark Plug	12
9-17	25-12	Stud	5	23-34	1182-Y3	Spark Plug	12
7-15	25-13	Stud	17	10-55	1540	Plug	1
7-16	25-16	Stud	4	11-51	1540	Plug	1
9-16	25-17	Stud	1	8-62	1691-C	Gasket	1
7-17	25-23	Stud	1	23-17	5028	Spring Assy.	12
7-19	25-27	Stud	1	19-22	5152	Nut	4
9-16	25-29	Stud	1	20-26	5152	Nut	7
7-20	25-34	Stud	2	21-27	5152	Nut	7
7-21	25-37	Stud	1	22-22	5152	Nut	4
7-22	25-40	Stud	1	23-24	5152	Nut	4
7-13	25D-11	Stud	8	21-17	5422	Nail	12
9-15	25D-16	Stud	6	21-12	5585	Elbow Assy.	12
10-10	25D-21	Stud	2	21-14	5651	Collar	12
11-9	25D-21	Stud	2	20-27	6456	Screw	4
7-18	25D-24	Stud	1	21-26	6456	Screw	7
10-11	25D-24	Stud	2	20-23	6778	Clamp	3
11-10	25D-24	Stud	2	21-21	6778	Clamp	3
10-12	25D-25	Stud	2	20-24	6783	Clamp	2
11-11	25D-25	Stud	2	21-20	6783	Clamp	1
5-11	31-12	Stud	12	19-23	6799	Screw	4
10-15	31-12	Stud	1	20-28	6799	Screw	3
7-23	31-14	Stud	6	22-23	6799	Screw	4
9-18	31-14	Stud	1	23-25	6799	Screw	4
10-14	31-14	Stud	3	20-25	6802	Clamp	3
1-29	31-15	Stud	1	21-22	6802	Clamp	3
1-25	31-21	Stud	2	22-15	7269	Collar	12
7-24	31-21	Stud	1	23-14	7612	Spring Assy.	12
1-30	31-24	Stud	1	23-16	7982	Stud	12
7-25	31-26	Stud	1	8-60	8313	Gasket	2
6-26	31D-11	Stud	4	8-65	20414	Cover	1
6-3	31D-12	Stud	4	10-57	20414	Cover	1
6-3	31D-14	Stud	4	8-64	20415	Gasket	1
6-29	31D-14	Stud	8	10-61	20415	Gasket	1
1-21	38-13	Stud	24	25-2	16933-225-6	Flange	1
7-26	38-16	Stud	6	27-15	17189-200-N	Gasket	2
9-19	38-31	Stud	6	25-2	24096-225-N	Gasket	2
1-28	38D-19	Stud	1	27-15	24502-200	Coupling	2
1-20	50-15	Stud	12	25-2	24502-225	Coupling	2
10-51	662	Nut	1	13-6	30311	Bearing	1
11-47	662	Nut	1	14-6	30311	Bearing	1
8-59	671-B	Cover	2	2-2	45226	Tube	6
10-19	1028-B	Ball	1	3-3	45226	Tube	6
11-15	1028-B	Ball	1	23-15	51218	Grommet	12
1-33	1102	Plug	4				
7-30	1102	Plug	1	20-19	52442	Bracket	1
8-44	1102	Plug	1	21-19	52442	Bracket	1
9-22	1102	Plug	2	19-19	54210	Plate	2
16-14	1102	Plug	6	20-20	54210	Plate	2
26-7	1102	Plug	3	22-19	54210	Plate	2
27-17	1102	Plug	1	23-21	54210	Plate	2
23-34	1182-C4	Spark Plug	12	19-20	54211	Plate	2
23-34	1182-G4	Spark Plug	12	20-21	54211	Plate	2

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
22-20	54211	Plate	2	23-13	59694-4904	Lead Assy.	1
23-22	54211	Plate	2	23-10	59694-5104	Lead Assy.	1
19-21	54219	Clamp	4	23-11	59694-5604	Lead Assy.	1
20-22	54219	Clamp	6	23-8	59694-5804	Lead Assy.	1
21-23	54219	Clamp	7	23-7	59766-0904	Lead Assy.	1
22-21	54219	Clamp	4	23-6	59766-1304	Lead Assy.	1
23-23	54219	Clamp	4	23-5	59766-1504	Lead Assy.	1
21-24	54586	Bracket	2	23-4	59766-1804	Lead Assy.	1
21-25	54588	Bracket	2	23-3	59766-2204	Lead Assy.	1
19-7	58513-0904	Lead Assy.	1	23-2	59766-2504	Lead Assy.	1
20-7	58513-0904	Lead Assy.	1	5-26	60009	Key	12
19-6	58513-1304	Lead Assy.	1	8-61	60430	Cover	2
20-6	58513-1304	Lead Assy.	1	8-63	60431	Cover	1
19-5	58513-1504	Lead Assy.	1	10-32	61297	Impeller	1
20-5	58513-1504	Lead Assy.	1	11-29	61297	Impeller	1
19-4	58513-1804	Lead Assy.	1	5-46	61503	Sleeve	12
20-4	58513-1804	Lead Assy.	1	6-6	61548	Plate	1
19-3	58513-2204	Lead Assy.	1	12-9	61566	Kit Assy.	2
20-3	58513-2204	Lead Assy.	1	16-4	61581-1	Tube Assy.	1
19-2	58513-2504	Lead Assy.	1	16-6	61581-3	Tube Assy.	2
20-2	58513-2504	Lead Assy.	1	16-5	61581-4	Tube Assy.	1
19-13	58513-4904	Lead Assy.	1	16-2	61581-5	Tube Assy.	2
20-13	58513-4904	Lead Assy.	1	16-1	61581-9	Tube Assy.	2
19-12	58513-5004	Lead Assy.	1	16-3	61581-10	Tube Assy.	2
20-12	58513-5004	Lead Assy.	1	12-2	62224	Gasket	2
19-10	58513-5104	Lead Assy.	1	16-8	62254	Clip	6
20-10	58513-5104	Lead Assy.	1	5-47	62922	Seal	24
19-11	58513-5604	Lead Assy.	1	1-24	65007	Retainer	12
20-11	58513-5604	Lead Assy.	1	2-22	65074	Socket	12
19-8	58513-5804	Lead Assy.	1	5-54	65614	Plug	4
19-9	58513-5804	Lead Assy.	1	4-8	65819	Bushing	6
20-8	58513-5804	Lead Assy.	1	7-12	66145	Dowel	2
20-9	58513-5804	Lead Assy.	1	19-27	66216	Sleeve	6
21-8	59273	Conduit Assy.	1	20-32	66216	Sleeve	6
21-5	59274	Conduit Assy.	1	22-27	66216	Sleeve	6
21-10	59275	Dual Conduit Assy.	1	23-29	66216	Sleeve	6
21-3	59276	Conduit Assy.	1	6-21	66224	Gasket	1
21-7	59277	Conduit Assy.	1	6-21	66224	Gasket	2
21-2	59278	Conduit Assy.	1	24-25	66224	Gasket	1
21-6	59279	Conduit Assy.	1	10-30	66426	Impeller	1
21-9	59280	Dual Conduit Assy.	1	11-27	66426	Impeller	1
21-4	59281	Conduit Assy.	1	5-13	66670	Bushing	24
21-11	59282	Conduit Assy.	1	5-7	66713	Guide	6
22-7	59651-0904	Lead Assy.	1	5-44	66717	Spring	6
22-6	59651-1304	Lead Assy.	1	5-45	66728	Washer	24
22-5	59651-1504	Lead Assy.	1	5-35	66731	Cover	12
22-4	59651-1804	Lead Assy.	1	5-34	66732	Gasket	12
22-3	59651-2204	Lead Assy.	1	1-18	66734	Stud	4
22-2	59651-2504	Lead Assy.	1	5-9	66796 P10	Insert	12
22-13	59687-4904	Lead Assy.	1	19-16	66835	Plate	2
22-10	59687-5104	Lead Assy.	1	20-16	66835	Plate	2
22-11	59687-5604	Lead Assy.	1	22-16	66835	Plate	2
22-8	59687-5804	Lead Assy.	1	23-20	66835	Plate	2
22-12	59688-5004	Lead Assy.	1	19-17	66836	Grommet	2
22-9	59688-5804	Lead Assy.	1	20-17	66836	Grommet	2
23-12	59693-5004	Lead Assy.	1	21-15	66836	Grommet	2
23-9	59693-5804	Lead Assy.	1	22-17	66836	Grommet	2
				23-19	66836	Grommet	2
				1-19	66990	Stud	6

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

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FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
5-32	67114	Bushing	6	11-52	68456	Gasket	1
5-40	67193	Gasket	6	10-6	68466	Bushing	1
5-50	67195	Flange	6	10-24	68466	Bushing	1
2-12	67204	Plate	1	11-6	68466	Bushing	1
3-18	67204	Plate	1	11-21	68466	Bushing	1
14-23	67258	Lockplate	1	10-37	68467	Gear	1
8-25	67583	Gear	1	11-34	68467	Gear	1
8-36	67596	Bushing	1	10-28	68468	Spacer	1
8-40	67605	Jaw	1	11-25	68468	Spacer	1
8-26	67609	Gear	1	10-16	68473	Sleeve	1
8-24	67610	Gear Assy.	1	11-12	68473	Sleeve	1
14-16	67630	Bushing	2	10-49	68542	Spring	1
8-42	67633	Gasket	1	11-45	68542	Spring	1
13-1	67638	Shim	1	8-11	68545	Washer Assy.	1
14-1	67638	Shim	1	8-7	68553	Gear	1
13-2	67639	Adapter	1	9-24	68556	Gasket	1
14-2	67639	Adapter	1	8-5	68563	Bushing	1
14-26	67640	Washer	1	8-45	68565	Gear	1
13-11	67641	Nut	1	8-4	68568	Hub Assy.	1
14-11	67641	Nut	1	9-10	68590	Bushing	1
13-10	67642	Lockwasher	1	8-32	68694	Adapter Assy.	1
14-10	67642	Lockwasher	1	5-33	68806	Shaft	12
7-35	67646	Bushing	1	13-9	68835	Gear	1
9-8	67653	Bushing	1	8-57	68874	Cushion	4
2-11	67687	Gear	1	12-8	68874	Cushion	4
3-17	67687	Gear	1	8-56	68875	Retainer	2
2-13	67688	Nut	1	12-7	68875	Retainer	2
3-19	67688	Nut	1	2-9	68965	Bolt	8
8-1	67690	Washer	1	3-15	68965	Bolt	8
8-48	67704	Shaft Gear Assy.	1	8-2	69177	Gear Assy.	1
8-29	67708	Gasket	2	12-1	69208	Coupling	1
8-30	67709	Shim	1	12-1	69208	Coupling	2
7-7	67742	Bushing	1	4-4	69235	Ring	6
7-40	67746	Gasket	1	5-9	69260 P10	Insert	12
10-35	67762	Dowel	1	7-11	69286	Annulus	1
11-32	67762	Dowel	1	4-4	69330	Ring	6
8-50	67782	Shaft Gear Assy.	1	7-29	69335	Plug	1
10-53	67940	Nut	1	4-3	69457	Ring	6
11-49	67940	Nut	1	8-17	69494	Chain Assy.	1
10-48	67981	Plunger	1	5-2	69531	Plate	12
11-44	67981	Plunger	1	8-53	69565	Sleeve	1
6-20	68129	Gasket	1	8-55	69565	Sleeve	1
6-20	68129	Gasket	2	8-52	69566	Shaft Assy.	1
10-26	68161	Shaft	1	8-54	69567	Coupling Assy.	1
11-23	68161	Shaft	1	8-15	69568	Cover Assy.	1
6-5	68172	Gasket	1	8-46	69569	Washer	1
7-39	68174	Gasket	1	8-47	69570	Ring	1
8-43	68186	Adapter	1	1-31	69580	Dowel	2
5-22	68325	Seat	6	6-2	69602	Connection	6
5-22	68325	Seat	12	11-26	69605	Shaft	1
5-23	68326	Spring	12	10-21	69618	Body Assy.	1
5-25	68327	Seat	6	11-18	69618	Body Assy.	1
5-24	68328	Spring	12	10-8	69620	Plug	1
10-31	68403	Impeller	1	11-8	69620	Plug	1
11-28	68403	Impeller	1	5-41	69625	Cover Assy.	3
10-33	68404	Impeller	1	5-41	69626	Cover Assy.	3
11-30	68404	Impeller	1	7-33	69636	Tube and	1
8-22	68410	Gear Assy.	1			Strainer Assy.	
9-1	68440	Cover Assy.	1	7-27	69637	Plug	1
10-56	68456	Gasket	1	2-8	69641	Dowel	3

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
3-10	69641	Dowel	3	5-30	71549-3	Washer	AR
8-12	69645	Jaw	1	12-11	71571	Kit	1
10-34	69647	Dowel	1	12-10	71574	Kit	2
11-31	69647	Dowel	1	17-1	71578	Baffle Assy.	4
4-5	69650	Pin	6	18-1	71578	Baffle Assy.	1
7-28	69658	Pin	1	17-2	71610	Hook	4
2-16	69662	Gear	1	18-4	71610	Hook	4
3-22	69662	Gear	1	17-3	71611	Retainer	4
10-29	69671	Shaft	1	18-5	71611	Retainer	4
1-22	69679	Stud	4	8-37	71616	Bushing	1
14-14	69683	Tube	1	15-9	71702	Tube	2
5-8	69693	Guide	6	11-1	71769	Pump Assy.	1
5-29	69697	Cap	6	11-5	71770	Body Assy.	1
5-27	69698	Seat	6	10-5	71771	Body Assy.	1
1-35	69796	Dowel	8	10-1	71772	Pump Assy.	1
8-16	69810	Cap Assy.	1	10-47	71774	Cover	1
1-32	69823	Stud	8	11-43	71774	Cover	1
2-6A	69843	Tube	1	16-11	71811	Sleeve	6
2-6	69844	Tube	1	5-6	71894	Seat	6
3-7	69844	Tube	1	3-13	71906	Ring	24
2-19	69961	Bearing	8	3-14	71907	Washer	24
3-25	69961	Bearing	8	16-7	71910	Clamp	6
3-8	70256	Bushing	12	19-28	71911	Clamp	6
7-8	70292	Plug	1	20-33	71911	Clamp	6
1-39	70338	Spacer	2	21-31	71911	Clamp	6
7-1C	70404	Housing Assy.	1	22-28	71911	Clamp	6
7-1B	70406	Housing Assy.	1	23-30	71911	Clamp	6
21-1	70423	Cable Assy.	1	6-16	71921	Breather Assy.	1
2-5	70434	Jet	1	2-1	71930	Crankshaft Assy.	1
3-4	70434	Jet	1	6-41	71932	Pipe	2
10-45	70460	Washer	1	6-41	71933	Pipe	2
11-41	70460	Washer	1	6-41	71934	Pipe	2
4-9	71087	Bolt	12	6-1	71935	Cover Assy.	1
7-37	71123	Bushing	1	6-22	71937	Carburetor	1
9-21	71124	Bushing	1	5-21	71938	Valve	6
5-3	71133	Nut	24	4-2	71939	Ring	18
5-4	71134	Nut	24	4-1	71940	Piston	6
15-2	71142	Sump Assy.	1	1-1B	71945	Crankcase Assy.	1
10-52	71226	Screw	1	4-12	71949	Bearing	12
11-48	71226	Screw	1	4-10	71950	Nut	12
5-31	71266	Rocker Assy.	6	7-1	71951	Housing Assy.	1
2-14	71304	Camshaft Assy.	1	5-1	71956	Cyl. and Hd. Assy.	6
3-20	71304	Camshaft Assy.	1				
7-36	71341	Bushing	1	6-39	71973	Gasket	6
5-21	71381	Valve	6	6-17	71977	Baffle	1
19-1	71396	Cable Assy.	1	10-18	71999	Retainer	1
19-15	71401	Collar	12	11-14	71999	Retainer	1
20-15	71401	Collar	12	28-17	72036	Clip	8
5-6	71407	Seat	6	12-3B	72038	Magneto	1
5-5	71408	Seat	6	7-41	72044	Cover	1
12-3A	71435	Magneto	1	15-14	72045	Hose	1
12-3	71436	Magneto	1	5-28	72050	Key	12
5-48	71481	Ring	6	1-40	72075	Seal	8
19-14	71489	Sleeve	12	2-17	72078	Lockplate	2
20-14	71489	Sleeve	12	3-23	72078	Lockplate	2
21-13	71489	Sleeve	12	8-27	72139	Dowel	3
22-14	71489	Sleeve	12	8-31	72182	Ring	1
5-30	71549	Washer	12	4-6	72198	Plug	12
5-30	71549-1	Washer	AR	5-5	72212	Seat	6
5-30	71549-2	Washer	AR	5-1A	72214	Cyl. & Hd. Assy.	6

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

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FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
4-12	72217	Bearing	12	24-36	73151	Hose Assy.	1
4-1	72249	Piston	6	4-9	73172	Bolt	12
5-43	72255	Shroud Tube	12	4-7	73174-S	Conn. Rod Assy.	6
		Assy.		27-13	73179	Pipe Assy.	1
28-2	72292	Manifold Assy.	1	27-12	73180	Bend	1
2-3	72305	Plug	1	27-14	73181	Transition Assy.	1
3-5	72305	Plug	1	27-11	73182	Pipe Assy.	1
2-7	72308	Bushing	1	27-9	73183	Manifold Assy.	1
3-9	72308	Bushing	1	24-31	73189	Gasket	1
2-7	72308 P10	Bushing	1	28-14	73237	Tube Assy.	2
3-9	72308 P10	Bushing	1	19-18	73245	Eyelet	12
2-4	72312	Ring	1	20-18	73245	Eyelet	12
3-6	72312	Ring	1	21-18	73245	Eyelet	12
5-17	72343	Stabilizer	6	22-18	73245	Eyelet	12
5-18	72344	Stabilizer	6	23-18	73245	Eyelet	12
19-26	72351	Screw	8	24-21	73314	Gasket	1
20-31	72351	Screw	8	26-23	73314	Gasket	1
21-30	72351	Screw	8	6-32	73316	Rod	1
22-26	72351	Screw	8	24-9	73319	Hose Assy.	1
23-28	72351	Screw	8	24-12	73321	Hose Assy.	1
8-3	72384	Shaft	1	24-14	73321	Hose Assy.	1
6-1	72404	Cover Assy.	1	26-21	73321	Hose Assy.	1
6-25	72406	Adapter Assy.	1	26-22	73321	Hose Assy.	1
6-22A	72407	Carburetor	1	26-1	73325	Elbow	1
8-65	72412	Cover	1	1-1	73333	Crankcase Assy.	1
10-57	72412	Cover	1	3-2	73336	Crankshaft Assy.	1
2-19	72415	Bearing	8	3-1	73337	Crankshaft and	1
3-25	72415	Bearing	8			Counterweight	
15-1	72437	Gasket	1			Assy.	
4-3	72454	Ring	6	3-12	73338	Roller	12
23-1	72459	Cable Assy.	1	20-1	73339	Cable Assy.	1
3-11	72534	Counterweight	6	25-8	73343	Baffle	1
		Assy.		6-40	73346	Flange	6
7-1A	72559	Housing Assy.	1	24-4	73348	Bolt	2
5-1B	72636	Cyl. & Hd. Assy.	6	25-9	73361	Support Assy.	1
10-46	72785	Oil Filter Assy.	1	7-46	73367	Cover	1
11-42	72785	Oil Filter Assy.	1	7-45	73368	Gasket	1
4-10	72796	Nut	12	24-3	73377	Check Valve Assy.	1
2-21	72876	Plunger Assy.	1	5-49	73556	Rod Assy.	AR
3-27	72876	Plunger Assy.	12	5-49	73557	Rod Assy.	AR
5-8	72897	Guide	6	5-49	73558	Rod Assy.	AR
6-22B	72920	Carburetor	2	26-4	73641	Tube	1
6-28	72930	Adapter Assy.	1	26-6	73671	Tee	1
27-1	72966	Manifold and	1	27-4	73695	Bracket	1
		Piping Assy.		27-5	73696	Bracket	1
6-1	73060	Cover Assy.	1	15-2	73705	Sump Assy.	1
2-20	73061	Body	12	27-16	73720	Gasket	12
3-26	73061	Body	12	15-13	73731	Hose	1
11-5	73086	Body Assy.	1	10-20	73761	Spring	1
10-5	73088	Body Assy.	1	11-16	73761	Spring	1
10-1A	73089	Pump Assy.	1	1-41	73772	Nozzle Assy.	1
11-1A	73091	Pump Assy.	1	24-5	73775	Gasket	1
9-1A	73094	Cover Assy.	1	25-5	73779	Baffle	1
5-21	73111	Valve	6	25-6	73781	Hose	2
5-22	73112	Seat	6	26-3	73782	Gasket	1
5-27	73115	Seat	6	24-24	73833	Bolt	4
5-20	73117	Valve	6	4-3	73857	Ring	6
6-15	73124	Breather Assy.	1	5-21	73875	Valve	6
6-13	73144	Breather and	1	5-20	73876	Valve	6
		Flared Tube		1-1A	73378	Crankcase Assy.	1
		Elbow Assy.		5-1E	73881	Cyl. & Hd. Assy.	6

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
15-14	73883	Hose	1	25-17	74495	Clip	2
7-1D	73886	Housing Assy.	1	25-16	74496	Tube	1
27-8	73893	Manifold Assy.	1	26-14	74496	Tube	1
27-10	73894	Bend Assy.	2	28-8	74499	Support	2
24-1	73895	Turbocharger	1	14-21	74506	Guide	5
25-3	73895	Turbocharger	1	24-22	74539	Injector	1
24-17	73896	Hose	1	24-6	74543	Hose Assy.	1
24-35	73897	Valve	1	26-20	74543	Hose Assy.	1
25-1	73897	Valve	1	5-1G	74558	Cyl. & Hd. Assy.	6
24-19	73898	Controller	1	28-1	74591	Nozzle Assy.	6
5-19	73946	Stabilizer	6	24-28	74600	Adapter	1
4-1	73947-S	Piston	6	6-47	74601	By-Pass	1
28-15	73964	Tube Assy.	2	26-9	74601	By-Pass	1
4-1	73976-S	Piston	6	14-12	74613	Plug	1
5-8	73979	Guide	6	14-15	74615	Gear Assy.	1
4-3	73998	Ring	6	14-19	74616	Spring	5
5-21	74052	Valve	6	14-9	74617	Shaft Assy.	1
6-33	74062	Rod End	1	2-1A	74626	Crankshaft Assy.	1
6-34	74063	Rod End	1	28-7	74629	Manifold	1
12-3C	74174	Magneto	1	28-6	74630	Manifold	1
14-22	74221	Plate	1	4-10A	74646	Nut	12
16-13	74225	Nipple Assy.	6	4-10A	74646	Nut	12
5-1F	74236	Cyl. & Hd. Assy.	6	14-20	74660	Guide	5
6-1	74239	Cover Assy.	1	28-21	74733	Clip	1
4-2	74241	Ring	18	24-32	74741	Tube Assy.	1
28-20	74278	Bracket Assy.	1	24-34	74742	Tube Assy.	1
22-1	74341	Cable Assy.	1	25-15	74743	Tube Assy.	1
6-4	74376	Elbow Assy.	1	25-13	74744	Tube Assy.	1
16-15	74376	Elbow Assy.	1	4-9A	74751	Bolt	12
8-31	74382	Ring	1	4-9A	74751	Bolt	12
5-39	74389	Bushing	6	5-21	74802	Valve	6
5-38	74390	Rocker Assy.	6	18-2	74826	Baffle Assy.	1
28-3	74392	Bracket	1	18-3	74827	Baffle Assy.	2
13-7	74412	Plate	1	28-16	74831	Tube Assy.	2
14-7	74412	Plate	1	13-2	75026	Adapter Assy.	1
8-32	74432	Adapter Assy.	1	14-2	75026	Adapter Assy.	1
28-12	74492	Hose	2	5-1H	75137	Cyl. & Hd. Assy.	1
28-10	74493	Hose	6				

ADDITIONAL PARTS

20A-37	AN365-632C	Nut	6	21A-19	E-1360-9-3	Grommet	2
21A-31	AN365-632C	Nut	6	21A-20	E-1405-1-1	Clamp	3
21A-24	AN365-1032	Nut	7	21A-21	E-1405-1-2	Clamp	3
21A-13	AN4164-22	Spring Assy.	12	21A-17	E-1405-2-1	Clamp	1
21A-23	ANS20-10-8	Screw	7	21A-25	E-1405-3-1	Clamp	7
21A-22	E-1046-41-8	Bracket	1	20A-38	STD-295	Gasket	12
21A-12	E-1124-271-10	Elbow Assy.	1	21A-32	STD-295	Gasket	12
21A-8	E-1134-111-10	Conduit Assy.	1	20A-36	STD-553	Screw	6
21A-11	E-1134-111-20	Conduit Assy.	1	21A-30	STD-553	Screw	6
21A-9	E-1134-112-10	Dual Conduit Assy.	1	20A-32	STD-670	Nut	8
21A-10	E-1134-112-20	Dual Conduit Assy.	1	21A-27	STD-670	Nut	8
21A-15	E-1181-88-2	Grommet	12	20A-31	STD-692	Screw	8
21A-5	E-1199-602-0908	Conduit Assy.	1	21A-26	STD-692	Screw	8
21A-4	E-1199-602-1200	Conduit Assy.	1	20A-39	1182-C4	Spark Plug	12
21A-7	E-1199-602-1200	Conduit Assy.	1	21A-33	1182-C4	Spark Plug	12
21A-2	E-1199-602-1808	Conduit Assy.	1	20A-39	1182-G4	Spark Plug	12
21A-6	E-1199-603-0604	Conduit Assy.	1	21A-33	1182-G4	Spark Plug	12
21A-3	E-1199-603-1800	Conduit Assy.	1	20A-39	1182-Y3	Spark Plug	12
21A-14	E-3471	Stud	12	21A-33	1182-Y3	Spark Plug	12
21A-16	E-4305	Spring Assy.	12	20A-18	5028	Spring	12

LYCOMING AIRCRAFT ENGINE GROUP ASSEMBLY PARTS LIST

NUMERICAL INDEX PARTS SECTION

FIG-REF. NO.	PART NO.	PART NAME	QTY.	FIG-REF. NO.	PART NO.	PART NAME	QTY.
21A-13	5028	Spring Assy.	12	21A-9	59849	Dual Conduit	1
20A-29	5152	Nut	7			Assy.	
21A-24	5152	Nut	7	21A-4	59850	Conduit Assy.	1
20A-28	6456	Screw	4	21A-11	59851	Conduit Assy.	1
21A-23	6456	Screw	7	20A-7	59997-0904	Lead Assy.	1
20A-25	6778	Clamp	3	20A-6	59997-1304	Lead Assy.	1
21A-20	6778	Clamp	3	20A-5	59997-1504	Lead Assy.	1
20A-22	6783	Clamp	2	20A-4	59997-1804	Lead Assy.	1
21A-17	6783	Clamp	1	20A-3	59997-2204	Lead Assy.	1
20A-16	6799	Screw	3	20A-2	59997-2504	Lead Assy.	1
20A-26	6802	Clamp	3	20A-13	59997-4904	Lead Assy.	1
21A-21	6802	Clamp	3	20A-12	59997-5004	Lead Assy.	1
21A-14	7410	Stud	12	20A-10	59997-5104	Lead Assy.	1
20A-14	7612	Spring	12	20A-11	59997-5604	Lead Assy.	1
21A-12	7726	Elbow Assy.	1	20A-8	59997-5804	Lead Assy.	1
20A-19	7982	Stud	12	20A-9	59997-5804	Lead Assy.	1
20A-15	51218	Grommet	12	20A-34	66216	Sleeve	6
21A-15	51581	Grommet	12	20A-23	66835	Plate	2
20A-27	52442	Bracket	1	21-16	66835	Plate	2
21A-22	52442	Bracket	1	21A-18	66835	Plate	2
20A-21	54210	Lead Support	2	20A-24	66836	Grommet	2
20A-20	54211	Lead Support	2	21A-19	66836	Grommet	2
21A-25	54219	Clamp	7	20A-35	71911	Clamp	6
20A-30	54219	Clamp	6	21A-29	71911	Clamp	6
21A-16	54356	Spring Assy.	12	20A-33	72351	Screw	8
21A-8	59842	Conduit Assy.	1	21A-28	72351	Screw	8
21A-5	59843	Conduit Assy.	1	20A-17	73245	Eyelet	12
21A-10	59844	Dual Conduit Assy.	1	21A-1	74403	Cable Assy.	1
21A-3	59845	Conduit Assy.	1	1-1F	75171	Cyl. & Hd. Assy.	6
21A-7	59846	Conduit Assy.	1	1-1C	75172	Cyl. & Hd. Assy.	6
21A-2	59847	Conduit Assy.	1	1-1D	75173	Cyl. & Hd. Assy.	6
21A-6	59848	Conduit Assy.	1	20A-1	75175	Cable Assy.	1