

# AERO INDUSTRIES, INC.



**ENGINE DIVISION**

**SYRACUSE, NEW YORK**

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
I		
<u>CAMSHAFT</u>		
17656	Camshaft	1
10199	Camshaft - not available - replace with 17656	
17543	Gear-Camshaft (To Engine 11808 Incl.)	1
17655	Gear-Camshaft (Engine 11809 and up)	1
17707	Bushing-Camshaft	8
6x15	Key-Woodruff	1

When using Camshaft No. 17656 to replace Camshaft No. 10199,  
Gear No. 17655 must be substituted for No. 17543.

II		
<u>CRANKCASE</u>		
18218	Crankcase Assembly	
17516	Crankcase Half (Cyl. 2-4-6 Half) Not Furnished	
17515	Crankcase Half (Cyl. 1-3-5 Half) Separately	
#18719	Stud-Crankshaft Brg., Inside Front Upper with Dowel	1
#18718	Stud-Crankshaft Brg., Inside Front Lower & Center	5
#17714	Stud-Crankshaft Brg., Upper Rear with Dowel	1
#17713	Stud-Crankshaft Brg., Lower Rear	1
#17712	Stud-Crankcase Front Tie	1
#17711	Stud-Crankshaft Brg., Outside Front	2
#17710	Stud-Crankshaft Bearing	4
17709	Dowel-Crankcase, 3 in C" case, 4 in Engine Mount Bracket	7
#17661	Stud-Cylinder Hold-Down 7/16	24
#17660	Stud-Cylinder Hold-Down 3/8	24
12201	Nut-Sltd. 3/8-24, Inside Crankshaft Bearing Stud	6
19021	Washer-Crankshaft Bearing Stud	10
23x63	Nut-Elastic Stop 3/8-24, Outside Crankshaft Bearing Stud	4
23x62	Nut-Elastic Stop 5/16-24, Tie Bolt & Stud	7
5x22	Washer-Plain 5/16, Tie Bolt and Camshaft Bearing Stud	17
2x225	Screw-Hex. Hd. Body 5/16-24x7 3/16, Bottom Tie Bolt	3
18474	Gasket-Prop. Control Pad Cover ) To cover oil	1
18475	Cover-Propeller Control Pad ) hole not used	1
19x17	Washer-Shakeproof Lock ) on this model	3
2x190	Screw-Hex. Head )	3
8x120	Cotter Key - Main Bearing Stud )	3
18344	Seal-Oil Header (not in gasket set) Replaced One	1
18333	Washer-Oil Header Seal ) #10105 after	1
	) Engine #13967	
2x232	Screw-Hex. Hd. 5/16-24x1 3/8 Bottom Tie Bolt	3
3x84	Nut-Castle 5/16-24, Camshaft Bearing Stud	4
28x83	Dowel-1/4x3/4, In Crankcase to Timing Case	2
18243	Dowel-Ph. Bronze, Thrust Washer to Crankcase	8

# Service Oversize Only

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
CRANKCASE (CONT)		
8x114	Pin-Cotter 1/16x5/8, Camshaft Bearing Stud	4
7x31	Plug-Slotted Headless Pipe 1/8	3
7x36	Plug-Slotted Headless Pipe 1/4 (Plug holes in Oil Header)	3
31x21	Thread Silk	10"
17225	Plate-Oil By-Pass )	1
17224	Gasket-Oil By-Pass Plate ) To	1
19x17	Washer-Shakeproof Lock 5/16, ) Engine	
	Oil By-Pass Plate ) No. 11020	4
2x176	Screw-Hex. Hd. 5/16-18x1 3/8, ) Incl.	
	Oil By-Pass Plate )	4
17717	Stud-Mounting Bracket (When replacement is necessary use Screw 2x190)	
17862	Plate-Oil By-Pass )	1
17613	Gasket-Oil By-Pass Plate ) Engine	1
19x14	Washer-Shakeproof Lock 1/4, ) No. 11021	
	Oil By-Pass Plate ) and	5
2x164	Screw-Hex. Hd. 1/4-20x1 ) Up	
	By-Pass Plate to Crankcase )	5
3x84	Nut-Castle 5/16-24, Mtg. Brkt. Stud ) Used only on engine	8
5x22	Washer-Plain 5/16, Mounting Bracket ) equipped with	8
32x14	Wire-Steel Lacing .041 ) Mounting Brkt. Studs 32"	
2x169	Screw-Hex. Hd. 5/16-18x5/8 ) Crankcase Cover	16
19x17	Washer-Shakeproof Lock 5/16 ) to Crankcase	16
17884	Bracket-Engine Mounting (3 Req. when Fuel Pump is installed)	4
11923	Bracket-Engine Mounting & Fuel Pump )	1
10359	Gasket-Fuel Pump Bracket ) Bellanca	1
10501	Washer-Engine Mounting Bracket	8
19x17	Washer-Shakeproof Lock 5/16 Engine Mounting Bracket	8
2x190	Screw-Hex. Hd. 5/16-18x7/8, Mounting Bracket	8
24x32	Rubber-Crankcase Packing (14")	1
10371	Packing-Crankcase Bearing Stud	3
10246	Bushing-Engine Mounting Rubber	8
10105	Packing-Crankcase Bolt, Stud and Oil Header	5
17765	Cover Assembly-Crankcase	1
17086	Cover-Crankcase ) Not Furnished	
17198	Neck-Oil Filler ) Separately	
18532	Gasket-Crankcase Cover	1

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
III		
<u>CRANKSHAFT</u>		
18013	Crankshaft Assembly - (To Engine 11060 Incl.)	1
P-4106	Crankshaft - Not Furnished Separately	
#17536	Bushing-Crankshaft Flange (Replace with Oversize Only)	8
18487	Crankshaft Assembly	1
18486	Crankshaft - Not Furnished Separately	
#17536	Bushing-Crankshaft Flange	8
17643	Plug-Crankshaft	1
7x31	Plug-1/8 Hd. Socket Pipe	1
9x110	Screw-10-32x5/16, Set, Plug to Crankshaft	1
17718	Retainer-Crankshaft Oil Seal	2
17725	Gear-Crankshaft	1
17662	Bolt-Propeller Hub	8
18014	Plate-Propeller Hub Front (To Engine 11060 Incl.)	1
17036	Seal - Crankshaft Oil	1
8x120	Pin-Cotter 3/32 x 3/4, Inside Bearing Stud	6
19180	Key-Gear to Shaft	2
5x23	Washer-Plain, 3/8 Propeller to Shaft	8
2x314	Screw-Dr. Hex. Hd. 1/4-20x1/2, Retainer to Case	2
17808	Washer-Crankshaft Thrust (Use in Pairs Only)	4
17577	Plate-Propeller Hub Front (Engine 11061 and up)	1
##17724	Bushing-Crankshaft, Propeller End (Cyl. 2-4-6 Half)	1
##17723	Bushing-Crankshaft, Propeller End (Cyl. 1-3-5 Half)	1
##17722	Bushing-Crankshaft, Gear End (Cyl. 2-4-6 Half)	1
##17721	Bushing-Crankshaft, Gear End (Cyl. 1-3-5 Half)	1
##17720	Bushing-Crankshaft, Center (Cyl. 2-4-6 Half)	2
##17719	Bushing-Crankshaft, Center (Cyl. 1-3-5 Half)	2
##17665	Bushing-Crankshaft, Propeller End (Cyl. 1-3-5 Half)	1
##17666	Bushing-Crankshaft, Propeller End (Cyl. 2-4-6 Half)	1

## IV

CYLINDER

17999	Cylinder Assembly - To Engine 12508 Incl.) (Not available - Replace with No. 18431)	6
18953	Cylinder - Not Furnished Separately)	
17518	Liner-Cylinder	6
14248	Screw-Cylinder Liner Lock	24
18391	Pin-Cylinder Liner Lock	12
#17316	Guide-Exhaust Valve	6
#18499	Insert-Exhaust Valve Seat	6
#17668	Guide-Inlet Valve	6
#18498	Insert-Inlet Valve Seat	6

## Available in Undersize  
# Service Oversize Only

Model 6A4-150-B3  
March 1, 1963

PARTS LIST

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>CYLINDER (CONT)</u>		
17475	Insert-Spark Plug Helicoil	18
10234	Plug-Spark Plug Hole	6
11846	Gasket-Spark Plug Hole Plug	6
#17563	Stud-Exhaust Pipe Flange	12
2x191	Screw-Hex. Hd. 5/16-18x1 3/4 )	18
14872	Washer-Lock, Use with 17608 )	18
	and 17607 Rockers )	18
19x17	Washer-Lock, Use with 17758 and 18067 Rockers	18
18431	Cylinder Assembly - (Engine 12509 and Up)	6
17690	Cylinder - Not Furnished Separately	
17518	Liner-Cylinder	6
14248	Screw-Cylinder Liner Lock	24
18391	Pin-Cylinder Liner Lock	12
#18112	Guide-Exhaust Valve	6
#18111	Guide-Inlet Valve	6
#18499	Insert-Exhaust Valve Seat	6
#18498	Insert-Inlet Valve Seat	6
17475	Insert-Spark Plug Helicoil	18
10234	Plug-Spark Plug Hole	6
11846	Gasket-Spark Plug Hole Plug	6
#17563	Stud-Exhaust Pipe Flange	12
23x12	Palnut 7/16-20 )	24
23x11	Palnut 3/8-24 )	24
19484	Nut-Hex. 3/8-24 )	24
18495	Nut-Hex. 7/16-20 )	24
19021	Washer-Plain 3/8, Cylinder Hold-down Stud	24
19022	Washer-Plain 7/16, Cylinder Hold-down Stud	24
18048	Ring-Cylinder Seal (To Engine 11020 Incl.)	6
17729	Ring-Cylinder Seal (Engine 11021 and Up)	6

V

VALVE MECHANISM

18084	Valve-Exhaust (18431 Cylinder) Stem Dia. Between Valve Hd. and Locking Groove (.4350 Stem Dia.)	6
17339	Valve-Exhaust (17999 Cylinder) (.3725 Stem Dia.)	6
10908	Valve-Inlet	6
10824	Spring-Valve	12
17726	Washer-Valve Spring, Upper	12
10189	Washer-Valve Spring	12
10770	Washer-Valve Spring, Shim 1/64	As Req.
10202	Washer-Valve Spring, Shim 1/32	As Req.
10032	Key-Valve Spring Retaining	24
17758	Rocker Assembly-Ex. 5/16 Adjusting Screw (Replace with 19524)	

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## PARTS LIST

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
19524	Rocker Assembly-Exhaust Valve (Forged Type)	6
18649	Rocker-Exhaust Valve ) Not Furnished	
19522	Bushing-Valve Rocker ) Separately	
18067	Rocker Assembly - Inlet, 5/16 Adjusting Screw (Replace with 19523)	
19523	Rocker Assembly - Inlet Valve (Forged Type)	6
18648	Rocker-Inlet Valve ) Not Furnished	
19522	Bushing-Valve Rocker ) Separately	
17411	Support-Valve Rocker, Outer ) Use with	12
17410	Support-Valve Rocker, Center ) Forged Rockers	6
17409	Screw-Valve Rocker Adj. 5/16 ) Nos. 17758 and	12
3x214	Nut-Hex. Jam 5/16-24, Adj. Screw ) 18067	12
2x191	Screw-Hex. Hd. 5/16-18x1 3/4 )	18
14872	Washer-Lock (Used with 17607 & 17608 Rockers & 18650 & 18651 ) Rocker	
		18
19x17	Washer-Shakeproof Lock (Used ) to	
	with 17758 & 18067 Rockers Only ) Cylinder	18
17654	Screw-Valve Rocker Adjusting 3/8	12
3x210	Nut-Hex. Jam 3/8-24 Adjusting Screw	12
17628	Support-Valve Rocker, Outer ) Used with	12
17627	Support-Valve Rocker, Center ) Rocker Nos.	6
17654	Screw-Valve Rocker Adjusting ) 17607 and	12
3x210	Nut-Hex. Jam 3/8-24, Adj. Screw ) 17608, 18650 & 18651	12
19392	Pin-Valve Rocker	6
17727	Gasket-Valve Cover	6
18561	Cover-Valve	6
12x28	Screw-Fill. Hd. 1/4-20x3/8 ) Valve Cover	36
19x14	Washer-Shakeproof Lock 1/4 ) to Cylinder	36
23x15	Palnut - 5/16-24 ) Rocker Pin	18
5x22	Washer-Plain 5/16 ) to	18
3x93	Nut-Hex. 5/16-24 ) Cylinder	18
17864	Packing-Valve Lifter Rod Tube	24
17689	Rod Assembly - Valve Lifter	12
17688	Rod-Valve Lifter ) Not	
17401	Button-Valve Lifter Rod ) Furnished	
17400	Cup-Valve Lifter Rod ) Separately	
18178	Tube Assembly - Valve Lifter Rod	12
17657	Tube-Valve Lifter Rod - Not Furnished Separately	
18072	Circlet-Valve Lifter Rod Guide	12
17783	Lifter-Valve (Wilcox-Rich)	12
18369	Lifter-Valve (Johnson-Replace with 17783)	12
18169	Unit-Valve Lifter ) For	12
10772	Body-Valve Lifter ) 17783	12
18662	Valve-Hydraulic Lifter (For 18369 Lifter)	12
18688	Ring-Hydraulic Lifter Valve Retaining (For 18369 Lifter)	12

Stamped valve rocker supports can be used with forged rockers.

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
VI		
<u>MANIFOLD</u>		
17676	Pipe Assembly - Manifold Equalizer	2
17675	Pipe-Manifold Equalizer	) Not Furnished
17674	Adapter-Manifold Equalizer Pipe	) Separately
17680	Bracket-Manifold Equalizer Pipe	1
17500	Manifold - Inlet	2
17673	Hose-Manifold Equalizer Pipe	1
19228	Clamp - Hose	2
17672	Pipe-Distributing Zone	2
5456	Packing-Equalizer and Zone Pipe	6
17544	Flange - Exhaust Pipe	6
11252	Flange - Distributing Zone Pipe	6
17671	Gasket - Inlet Manifold	6
18213	Zone Assembly - Distributing	1
#12254	Stud-Distributing Zone	4
17545	Gasket-Exhaust Pipe	6
2x13	Screw-Inlet Manifold	12
2x169	Screw-Hex. Hd. 5/16-18x5/8, Pipes to Manifold	12
2x332	Screw-Hex. Dr. Hd. 1/4-20x2 1/2 ) Zone to	2
15169	Washer-Dist. Zone Screw Lock ) Time Case	2
19487	Nut-Exhaust Stud	12
7x31	Plug-Sltd. Headless Pipe 1/8" Cylinder Primer Holes	2
12x120	Screw-Rd. Hd. No. 10-32x1/2 ) Front Pipe	1
19x15	Washer-Shakeproof Lock No. 10 ) to Bracket	1
19x17	Washer-Shakeproof Lock 5/16 Pipes to Manifold, Exhaust Flange and Manifold to Cylinder	24
VII		
<u>OIL LEVEL GAUGE - OIL COOLER - BREATHER</u>		
10728	Gauge Assembly - Oil Level	1
10727	Sleeve-Oil Level Gauge	) Not Furnished
10556	Collar-Oil Gauge	) Separately
18554	Cooler Assembly-Oil (Substitute for No. 18229)	1
18655	Cooler-Oil	1
19481	Valve-Oil Cooler Thermostatic	1
18647	Gasket-Oil Cooler Thermostatic Valve	1
17831	Tube-Crankcase Breather	1
10508	Cap-Oil Filler	1
8x17	Pin-Cotter 3/32x1/2, Rigid Tube to Starter Cover	1
8x115	Pin-Cotter 3/32x1 1/4, Flex. Tube to Rigid Tube	1
2x233	Screw-Hex. Hd. 1/4-28x1/2 ) (To Engine 11659 Incl. ) Cooler	4
5x21	Washer-Plain 1/4 ) to	4
23x611	Nut-Elastic Stop 1/4-28 ) Bracket	4

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## PARTS LIST

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>OIL LEVEL GAUGE - OIL COOLER - BREATHER (CONT)</u>		
14688	Gasket-Oil Filler Cap	1
18231	Bracket-Oil Cooler, Odd Side	1
18232	Bracket-Oil Cooler, Even Side	1
17694	Bumper-Oil Cooler Bracket	2

## VIII

OIL PUMP AND OIL PIPES

3x82	Nut-Castle 1/4-28x Inlet Pipe to Cover	)	2
5x21	Washer-Plain 1/4x Inlet Pipe to Cover	) To	2
2x316	Screw-Hex. Dr. Hd. 1/4-20x3 3/8, Pump to C'case	) Engine	4
10095	Screen-Oil Inlet	) 11020	1
10091	Gasket-Oil Inlet Pipe	) Incl.	1
17159	Pipe-Oil Inlet	)	1
17998	Pump Assembly-Oil (Engine 11021 and up)	)	1
17740	Body-Oil Pump	)	1
18329	Cover Assembly-Oil Pump	)	1
18275	Cover-Oil Pump	) Not	
18328	Pipe-Inlet	) Furnished	
15095	Stop-Oil Inlet Float	) Separately	
19887	Gear-Oil Pump Drive	)	1
19886	Gear-Oil Pump Driven	)	1
18180	Gear-Oil Pump Shaft	)	1
17734	Shaft-Oil Pump Drive	)	1
17735	Shaft-Oil Pump Stationary	)	1
6x114	Key-Woodruff No. 212, Gears to Shaft	)	2
17949	Bracket-Oil Inlet Pipe	)	1
15234	Clamp-Oil Inlet Pipe	)	1
14520	Float-Oil Inlet Pipe	)	1
15114	Washer-Relief Valve Nut	)	2
17932	Ball-Oil Cooler Relief Valve 9/16	) Engine	1
17921	Gage-Oil Cooler Relief Valve Ball	) No.	1
17913	Spring-Cooler Relief Valve	) 11201	1
18536	Nut-Oil Pump & Cooler Relief Valve	) and	2
10997	Spring-Oil Pump Relief Valve	) up	1
18976	Plunger-Oil Pump Relief Valve	)	1
2x331	Screw-Hex. Dr. 1/4-20x2 3/4, Pump to C'case	)	4
14946	Clip-Oil Inlet Float - (To Engine 13400 Incl.)	)	1
5x21	Washer-Plain 1/4, Brkt. to C'case 2, Pump to C'case 4	)	6
5x25	Washer-Plain No. 10, Clamp to Bracket	)	1
8x116	Pin-Cotter 1/8 x 1, Oil Float	)	1
12x213	Screw-Dr. Fill. Hd. 1/4-20x5/8, Bracket to Crankcase	)	2
12x47	Screw-Dr. Fill. Hd. No. 10-32x1/2, Clamp to Bracket	)	1
23x41	Nut-Square No. 10-32, Clamp to Bracket	)	1



<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>OIL PUMP AND OIL PIPES (CONT)</u>		
32x14	Wire-Steel Lacing, .041, Brkt. Clamp Spring Nut & Oil Pump 27"	
17994	Elbow-Flared Tube 45°	1
17869	Pipe-Oil Cooler Inlet	1
17868	Pipe-Oil Cooler Return	1
14558	Sleeve-Coupling 1/2	1
14557	Nut-Coupling 1/2	1
17564	Clamp-Hose	6
12369	Hose-Oil Cooler Pipe	3
17x28	Nipple-Pipe 3/8	1
17887	Pipe-Oil Cooler Return	1
17695	Nipple-Pipe Thread 1/2	1
17564	Clamp-Hose	8
12369	Hose-Oil Cooler Pipe	4
17x28	Nipple-Pipe 3/8	1
18092	Pipe-Oil Cooler Inlet	1
18209	Pipe-Oil Cooler	1
18182	Pipe-Oil Cooler Return	1

IX

OIL PAN

18000	Pan-Oil	1
18001	Bushing-Oil Drain Plug - Not Furnished Separately	
17579	Plate-Oil Pan Flange	1
10239	Plug-Oil Drain	1
10366	Gasket-Oil Pan	1
3x93	Nut-Hex. 5/16-24, Oil Pan to Timing Case	3
5x22	Washer-Plain 5/16, Oil Pan to Timing Case	3
12x29	Screw-Fill. Hd. 5/16-18x3/4, Timing Case to Crankcase to Oil Pan	24
19x17	Washer-Shakeproof Lock 5/16, Timing Case to Crankcase to Oil Pan	24
23x15	Palnut-5/16, Oil Pan to Timing Gear Case	3
32x14	Wire-Steel Lacing .041, Drain Plug	5"

## PARTS LIST

Model 6A4-150-B3  
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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
X		
<u>CONNECTING RODS</u>		
19633	Connecting Rod Assembly	6
17540	Rod-Connecting - Not Furnished Separately	
17738	Bushing-Connecting Rod, Upper	6
19632	Bolt-Connecting Rod	12
12201	Nut-Slotted 3/8-24	12
17739	Bushing-Connecting Rod, Lower	12
8x120	Pin-Cotter 3/32 x 3/4, Connecting Rod Bolts	12
XI		
<u>PISTONS, PINS &amp; RINGS</u>		
17554	Piston-7.0:1	6
@17658	Pin-Piston	6
17685	Plug-Piston Pin	12
18761	Ring-Piston, Top Groove	) Order 6
18762	Ring-Piston, 2nd Groove	) in 6
18763	Ring-Piston, 3rd Groove	) Sets No. 15061 6
XII		
<u>TIMING GEAR CASE</u>		
18448	Case Assembly-Timing Gear, Accessory End	1
18204	Case-Timing Gear - Not Furnished Separately	
#10369	Stud-Magneto	4
#5136	Stud-Generator	4
#17746	Stud-Starting Motor	2
18447	Case Assembly-Timing Gear, Crankcase End	1
18203	Case-Timing Gear - Not Furnished Separately	
#17865	Stud-Oil Pan to Timing Gear Case	1
#18006	Stud-Oil Pan to Timing Gear Case	2
Service 18447 and 18448 in pairs to Engine No. 12947. Can be serviced separately with Engine No. 12984 & up.		
2x170	Screw-Hex. Hd. ) Hold 18227 and 18228 Timing Gear	2
19x113	Washer-Shakeproof Lock ) Cases Together	2
18202	Bolt-Timing Gear Case Dowel	2
10085	Gasket-Timing Gear Case, Inner	1
10120	Gasket-Timing Gear Case, Outer	1
2x149	Screw-Hex. Hd. 1/4-20x5/8, Timing Cases together	10
2x168	Screw-Hex. Hd. 5/16-18x2 1/4, Timing Cases to C'case	2
2x183	Screw-Hex. Hd. 5/16-18x7/8, Timing Cases to C'case	8

# Service Oversize Only

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>TIMING GEAR CASE (CONT)</u>		
19x14	Washer-Shakeproof Lock 1/4, Timing Cases together	10
5x21	Washer-Plain 1/4, Dowel Bolt	2
19x17	Washer-Shakeproof Lock 5/16, Timing Case to C'case	2
23x61	Nut-Elastic Stop 1/4-28, Dowel Bolt	2
18313	Washer-Timing Gear Case Lock (Sides)	6
14508	Washer-Timing Gear Case Lock (Top)	1
XIII		
<u>CARBURETOR AND FUEL PUMP</u>		
17584	Carburetor (Marvel No. 10-2971 MA3 SPA) (Stinson)	1
18004	Carburetor (Marvel No. 10-2971-P MA3 SPA)	1
17962	Pump-Fuel (AC No. 1539072)	1
2x219	Screw-Hex. Hd. 5/16-24x1 1/4	2
11922	Rod-Fuel Pump Push, Outer	1
10361	Rod-Fuel Pump Push, Inner	1
10360	Gasket-Fuel Pump	1
10942	Gasket-Carburetor	1
#12254	Stud-Carburetor	4
23x61	Nut-Elastic Stop 1/4-28, Carburetor to Zone	4
32x14	Wire-Steel Lacing .041, Carburetor Throttle Lever	6"
XIV		
<u>STARTER AND GENERATOR</u>		
19318	Connector-Switch, Delco No. 1885036	1
10750	Motor-Starting (Delco No. 1109651)	1
11019	Switch-Solenoid, Starting	1
19233	Gasket-Starting Motor	1
17762	Cover Assembly-Starter Drive Shaft	1
17761	Cover-Starter Drive Shaft - Not Furnished Separately	
5573	Tube-Crankcase Breather	1
17015	Gear & Hub Assembly-Starter	1
17014	Hub-Starter Gear	) Not Furnished
17748	Gear-Starter Ring	) Separately
10603	Gear-Generator	1
10602	Hub-Generator Gear	) With 15 Amp Generator
10601	Absorber-Generator	) Only - To Engine 12813
	Gear Shock	) Incl. - Bellanca

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>STARTER AND GENERATOR (CONT)</u>		
**17996	Hub-Generator Gear ) With 25 Amp Generator	1
19314	Absorber-Generator ) Only - All Stinson and also	
	Gear Shock ) Bellanca - Engine 12814 & up	1
17911	Housing-Tachometer Drive	1
17414	Gasket-Tachometer Drive Housing	1
17743	Gear-Tachometer Driven	1
17745	Sleeve-Tachometer Connector	1
17744	Connector-Tachometer Drive	1
19389	Seal-Tachometer Drive Oil	1
17556	Generator (Delco-1101877-25 Amp) ) All Stinson & also	1
5637	Gasket-Generator ) Bellanca Engines Nos.	1
17559	Regulator-Voltage (Delco 1118384) ) 12814 and Up	1
18428	Generator (E.A.L. GFU 4101-15 Amp) ) Bellanca	1
5637	Gasket-Generator ) to Engine No.	1
18188	Regulator-Voltage (EAL VRS4014A) ) 12813 Incl.	1
17741	Gasket-Starter Drive Shaft Cover	1
2x150	Screw-Hex. Hd. 1/4-20x3/4, Starter Cover to Timing Case	2
2x166	Screw-Hex. Hd. 1/4-20x1/2, Tach. Hsg. to Timing Case	2
23x61	Nut-Elastic Stop 1/4-28, Generator to Timing Case	4
23x63	Nut-Elastic Stop 3/8-24, Starter to Timing Case	2
19x14	Washer-Shakeproof Lock, Starter Cover & Tachometer Housing to Timing Case	4
XV		
<u>MAGNETO</u>		
11669	Gear Assembly-Magneto Drive	1
10130	Gear-Magneto Drive ) Not Furnished	
17752	Hub-Magneto Drive Gear ) Separately	
6x19	Key-Woodruff No. 61, Magneto Drive to Gear Hub	1
17742	Gear-Tachometer Drive	1
18543	Gear-Magneto Drive (Absorber No. 19313 must be used)	2
11047	Magneto (Eisemann RFJHPE35)	2
10134	Adapter-Magneto	2
5512	Gasket-Magneto	4
17751	Washer-Crankshaft Gear Nut Lock	1
17750	Nut-Crankshaft Gear	1
10601	Absorber-Magneto Gear Shock (With 11045 Gear Only)	16
5x19	Washer-Plain 5/16, Magneto to Timing Case	4
23x62	Nut-Elastic Stop 5/16-24, Magneto to Timing Case	4
19313	Absorber-Magneto Gear Shock (With 18543 Gear Only)	2
19148	*Shim-Magneto Drive Absorber (With 18543 Gear Only)	2
	*Not to be used with Gears marked "C".	

\*\* See Service Bulletin No. 28 for Replacement of Generator Gear Shock Absorber and Generator Gear.

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
<u>FOLLOWING WIRES AND TERMINALS FOR EISEMANN MAGNETO</u>		
14x510	Wire Assembly-High Tension 36", No. 4 Top	1
14x59	Wire Assembly-High Tension 42", No. 6 Top	1
14x58	Wire Assembly-High Tension 29", No. 2 Top	1
14x57	Wire Assembly-High Tension 38", No. 5 Top	1
14x56	Wire Assembly-High Tension 35", No. 6 Bottom, No. 3 Top	2
14x55	Wire Assembly-High Tension 38", No. 5 Bottom	1
14x54	Wire Assembly-High Tension 31", No. 4 Bottom, No. 1 Top	2
14x53	Wire Assembly-High Tension 34", No. 3 Bottom	1
14x52	Wire Assembly-High Tension 23", No. 2 Bottom	1
14x51	Wire Assembly-High Tension 28", No. 1 Bottom	1
11073	Terminal-High Tension Wire, Magneto End	12
5551	Terminal-High Tension Wire, Plug End (Straight)	8
18191	Terminal-High Tension Wire, Plug End (90°)	4
5546	Plug-Spark (Champion AJ-66)	12
18164	Wire Assembly-Magneto Ground (Eisemann) Less Adapter	2
18008	Magneto-Scintilla 10-51365-2 (Engine 13886 and Up)	2
18225	Wire Assembly-Magneto Ground (Scintilla)	2
18220	Terminal-Ground Wire )	
18436	Sleeve-Ground Wire )	
18222	Ferrule-Ground Wire, Inner ) Not	
18223	Ferrule-Ground Wire, Outer ) Furnished	
18224	Nut-Ground Wire ) Separately	
14x3	Wire-Shielded Low Tension )	
<u>WIRES FROM EVEN SIDE SCINTILLA MAGNETO AS FOLLOWS:</u>		
14x472	Wire Assembly-High Tension 26", No. 1 Top, No. 4 Bottom	2
14x466	Wire Assembly-High Tension 20", No. 2 Bottom	1
14x478	Wire Assembly-High Tension 32", No. 3 Top	1
14x484	Wire Assembly-High Tension 38", No. 5 Top	1
14x480	Wire Assembly-High Tension 34", No. 6 Bottom	1
<u>WIRES FROM ODD SIDE SCINTILLA MAGNETO AS FOLLOWS:</u>		
14x415	Wire Assembly-High Tension 29", No. 1 Bottom	1
14x475	Wire Assembly-High Tension 29", No. 2 Top	1
14x421	Wire Assembly-High Tension 35", No. 3 Bottom	1
14x478	Wire Assembly-High Tension 32", No. 4 Top	1
14x429	Wire Assembly-High Tension 43", No. 5 Bottom	1
14x486	Wire Assembly-High Tension 40", No. 6 Top	1
19557	Wire Assembly-High Tension (Shielded-Eisemann)	1
19558	Wire Assembly-High Tension (Shielded-Scintilla)	1
25x41	Screw-No. 4x3/8, Parker Kalon, Type A, Terminal)	12
5x121	Washer-No. 4, Plain, Terminal )	12
18191	Terminal-H.T. Wire, Plug End 90° ) For	3
5551	Terminal-H.T. Wire, Plug End, Straight ) Scintilla	9
15029	Grommet-High Tension Wire ) Magneto	2
15030	Plate-Magneto Outlet (15032 for Shielded) )	2
4x115	Washer-Lock ) Magneto Outlet )	8
12x42	Screw-Fill. Hd. ) Plate to Magneto )	8
NOTE: High Tension Wire Terminals (Plug End) are included in High Tension Wire Assemblies..Magneto #18088 does not include above listed parts.		
18045	Gasket Assembly	1

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
2x13	Screw-Hex. Hd. 5/16-18x1, Inlet Manifold	
2x149	Screw-Hex. Hd. 1/4-20x5/8, Timing Cases Together	10
2x150	Screw-Hex. Hd. 1/4-20x3/4, Starter Cover to Timing Case	2
2x164	Screw-Hex. Hd. 1/4-20x1, By-Pass Plate to Crankcase (Engine No. 11021 and Up)	5
2x166	Screw-Hex. Hd. 1/4-20x1/2, Tach. Housing to Timing Case	2
2x168	Screw-Hex. Hd. 5/16-18x2 1/4, Timing Case to Crankcase	2
2x169	Screw-Hex. Hd. 5/16-18x5/8, Crankcase to Cover 16, Pipes to Manifold 12	28
2x170	Screw-Hex. Hd., Timing Gear Case	2
2x176	Screw-Hex. Hd. 5/16-18x1 3/8, Oil By-Pass Plate	4
2x183	Screw-Hex. Hd. 5/16-18x7/8, Timing Case to Crankcase	8
2x190	Screw-Hex. Hd. 5/16-18x7/8, Mounting Bracket	9
2x191	Screw-Hex. Hd. 5/16-18x1 3/4, Rocker Pin to Cylinder	18
2x219	Screw-Hex. Hd. 5/16-24x1 1/4, Fuel Pump to Bracket	2
2x225	Screw-Hex. Hd. 5/16-24x7 3/16, Bottom Tie Bolt	3
2x232	Screw-Hex. Hd. Body 5/16-24x1 3/8, Bottom Tie Bolt	3
2x233	Screw-Hex. Hd. 1/4-28x1/2, Cooler to Bracket	4
2x237	Screw-Hex. Hd. 1/4-28x5/8, Cooler to Bracket	4
2x314	Screw-Hex. Dr. Hd. 1/4-20x1/2, Retainer to Crankcase	2
2x316	Screw-Hex. Dr. Hd. 1/4-20x3 3/8, Pump to Crankcase (To Engine No. 11020 Incl.)	4
2x331	Screw-Hex. Dr. Hd. 1/4-20x2 3/4, Oil Pump to Crankcase	4
2x332	Screw-Hex. Dr. Hd. 1/4-20x2 1/2, Zone to Timing Case	2
3x82	Nut-Castle 1/4-28	2
3x84	Nut-Castle 5/16-24	4
3x93	Nut-Hex., 5/16-24	21
3x210	Nut-Hex. Jam 3/8-24, (Used with Stamped Rocker)	12
3x214	Nut-Hex. Jam 5/16-24 (Used with Forged Rocker)	12
4x115	Washer-Lock	8
5x19	Washer-Plain 5/16 (3/32" Thick)	4
5x21	Washer-Plain 1/4	12
5x22	Washer-Plain 5/16 (1/16" Thick)	54
5x23	Washer-Plain 3/8	8
5x25	Washer-Plain No. 10	1
5x121	Washer-Plain No. 4	12
6x15	Key-Woodruff No. 6, Camshaft Gear to Shaft	1
6x19	Key-Woodruff No. 61, Magneto Drive Gear to Hub	1
6x114	Key-Woodruff No. 212, Oil Pump Gears to Shaft	2
7x31	Plug-Sltd. Headless Pipe 1/8", Hole in C'case Prop. End & Sides 3 Cylinder Primer Holes 2, C'shaft 1	6
7x36	Plug-Sltd. Headless Pipe 1/4", Oil Holes in Rear Case	3

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
8x17	Pin-Cotter 3/32x1/2, Rigid Tube to Shaft Cover	1
8x115	Pin-Cotter 3/32x1 1/4, Flex. Tube to Rigid Tube	1
8x116	Pin-Cotter 1/8x1, Oil Float (Engine 11021 and Up)	1
8x118	Pin-Cotter 1/16x5/8, Camshaft (Bearing Stud)	4
8x120	Pin-Cotter 3/32x3/4, Inside Brg. Studs 6, Connecting Rod Bolts 12	18
9x110	Screw-10-32x5/16, Set, Plug to Crankshaft	1
12x14	Screw-Fillister Head	8
12x28	Screw-Fillister Head 1/4-20x3/8, Valve Cover	36
12x29	Screw-Fillister Head 5/16-18x3/4, Oil Pan to Crankcase and Timing Case	24
12x47	Screw-Dr. Fill. Head No. 10-32x1/3, Clamp to Bracket	1
12x120	Screw-Rd. Hd. No. 10-32x1/2, Front Pipe to Bracket	1
12x213	Screw-Dr. Fill. Head 1/4-20x5/8, Oil Inlet Bracket to Crankcase	2
14x3	Wire-Shielded Low Tension	
14x415	Wire Assembly-High Tension 29", No. 1 Bottom	1
14x421	Wire Assembly-High Tension 35", No. 3 Bottom	1
14x429	Wire Assembly-High Tension 43", No. 5 Bottom	1
14x466	Wire Assembly-High Tension 30", No. 2 Bottom	1
14x472	Wire Assembly-High Tension 26", No. 1 Top, No. 4 Bottom	2
14x475	Wire Assembly-High Tension 29", No. 2 Top	1
14x478	Wire Assembly-High Tension 32", No. 3 & No. 4 Top	2
14x480	Wire Assembly-High Tension 34", No. 6 Bottom	1
14x484	Wire Assembly-High Tension 38", No. 5 Top	1
14x486	Wire Assembly-High Tension 40", No. 6 Top	1
14x51	Wire Assembly-High Tension 28", No. 1 Bottom	1
14x52	Wire Assembly-High Tension 23", No. 2 Bottom	1
14x53	Wire Assembly-High Tension 34", No. 3 Bottom	1
14x54	Wire Assembly-High Tension 31", No. 4 Bottom, No. 1 Top	2
14x55	Wire Assembly-High Tension 38", No. 5 Bottom	1
14x56	Wire Assembly-High Tension 35", No. 6 Bottom, No. 3 Top	2
14x57	Wire Assembly-High Tension 38", No. 5 Top	1
14x58	Wire Assembly-High Tension 29", No. 2 Top	1
14x59	Wire Assembly-High Tension 42", No. 6 Top	1
14x510	Wire Assembly-High Tension 36", No. 4 Top	1
17x28	Nipple-3/8" Pipe Thread to 5/8 Hose, In By-Pass Plate Return	1
19x14	Washer-Shakeproof Lock 1/4	53
19x15	Washer-Shakeproof Lock No. 10	1
19x17	Washer-Shakeproof Lock 5/16	95
19x113	Washer-Shakeproof Lock 3/8	2

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
23x11	Palnut-3/8-24, Cylinder to Crankcase	24
23x12	Palnut-7/16-20, Cylinder to Crankcase	24
23x15	Palnut-5/16-24, Oil Pan Stud in Crankcase	21
23x41	Nut-Square No. 10-32, Clamp to Bracket	1
23x61	Nut-Elastic Stop 1/4-28	10
23x62	Nut-Elastic Stop 5/16-24	13
23x63	Nut-Elastic Stop 3/8-24	6
23x611	Nut-Elastic Stop 1/4-28, Oil Cooler to Bracket	4
24x32	Rubber-Crankcase Packing (14")	1
25x12	Screw-Parker Kalon No. 4	4
25x41	Screw-Parker Kalon, Type A, Terminal, No. 4x3/8	12
28x83	Dowel - 1/4 x 3/4	2
28x841	Dowel - Ph. Bronze	8
31x21	Thread - Silk	10"
32x14	Wire-Steel Lacing .041	70"
5255	Wrench-Spark Plug	1
5456	Packing-Equalizer and Zone Pipe	6
5512	Gasket-Magneto	4
5546	Plug-Spark (Champion AJ-66)	12
5551	Terminal-High Tension Wire, Plug End (Straight)	8
5573	Tube-Crankcase Breather (In Starter Drive Shaft Cover)	1
5637	Gasket-Generator	1
10032	Key-Valve Spring Washer Retaining	24
10085	Gasket-Timing Gear Case, Inner	1
10091	Gasket-Oil Inlet Pipe ) To Engine	1
10095	Screen-Oil Inlet Pipe ) 11020 Incl.	1
10105	Packing-Crankcase Bolt, Stud and Oil Header	5
10120	Gasket-Timing Gear Case, Outer	1
10130	Gear-Magneto Drive	
10134	Adapter-Magneto	2
10135	Gasket-Tachometer Drive Housing	
10189	Washer-Valve Spring, Bottom	12
10199	Camshaft - (To Engine 11808 Incl.)	1
10202	Washer-Valve Spring Bottom Shim 1/32"	As Req.
10234	Plug-Spark Plug Hole	6
10239	Plug-Oil Drain	1
10246	Bushing-Engine Mounting Rubber	8
10359	Gasket-Fuel Pump Bracket )	1
10360	Gasket-Fuel Pump ) Bellanca	1
10361	Rod-Fuel Pump Push, Inner )	1
10366	Gasket-Oil Pan	1
10371	Packing-Crankcase Bearing Stud	3
10501	Washer-Engine Mounting Bracket	8
10508	Cap-Oil Filler	1



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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
10556	Collar-Oil Gauge	
10601	Absorber-Mag. & Gen. Gear Shock, 8 used with 15 Amp Gen.	24
10602	Hub-Generator Gear (Bellanca)	1
10603	Gear-Generator	1
10727	Sleeve-Oil Level Gauge	
10728	Gauge Assembly - Oil Level	1
10750	Motor-Starting (Delco 1109651)	1
10770	Washer-Valve Spring Bottom Shim 1/64"	As Req.
10772	Body-Valve Lifter	12
10824	Spring-Valve	12
10908	Valve-Inlet	6
10942	Gasket-Carburetor	1
10997	Spring-Oil Pump Relief Valve	1
11019	Switch-Starting Motor, Solenoid (Delco 1457)	1
11047	Magneto (Eisemann RFJHPE-35)	2
11073	Terminal-High Tension Wire, Magneto End	12
11252	Flange-Distributing Zone Pipe	6
11259	Wrench-Socket Head, Manifold Screws	1
11669	Gear Assembly-Magneto Drive	1
11846	Gasket-Spark Plug Hole Plug	6
11922	Rod-Fuel Pump Push, Outer	1
11923	Bracket-Mounting and Fuel Pump ) Bellanca	1
12201	Nut-Sltd. 3/8-24, Inside of C'shaft Bearing Stud 6 Connecting Rod Bolts 12	18
12369	Hose-Oil Cooler Pipe	4
14248	Screw-Cylinder Liner Lock	24
14508	Washer-Timing Gear Case Lock (Top)	1
14520	Float-Oil Inlet (Engine 11021 and up)	1
14557	Nut-Coupling 1/2", Oil By-Pass Plate ) To Engine	1
14558	Sleeve-Coupling 1/2", In Oil By-Pass Plate ) 11020 Incl.	1
14688	Gasket-Oil Filler Cap	1
14872	Washer-Lock, Use with 17608 and 17607 Rockers Rocker Pin to Cylinder	18
14946	Clip-Oil Inlet Float	1
15029	Grommet-High Tension Wire	2
15030	Plate-Magneto Outlet	2
15061	Piston Ring Set	
15095	Stop-Oil Inlet Float	
15114	Washer-Relief Valve Nut	2
15169	Washer-Distributing Zone Screw Lock	2
15234	Clamp-Oil Inlet Pipe	1
17015	Gear-Hub Assembly, Starter	1
17036	Seal-Crankshaft Oil	1
17086	Cover-Crankcase	
17159	Pipe-Oil By-Pass Plate	1
17198	Pipe-Neck-Oil Filler	

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
17224	Gasket-Oil By-Pass Plate	1
17225	Plate-Oil By-Pass	1
17339	Valve-Exhaust (Engine 12508 Incl.) .3725 Stem Dia.	6
17401	Button-Valve Lifter Rod	
17409	Screw-Valve Rocker Adj. 5/16 (Use with Forged Rocker)	12
17410	Support-Valve Rocker, Center	18
17411	Support-Valve Rocker, Outer	12
17414	Gasket-Tachometer Drive Housing	
17500	Manifold-Inlet	2
17515	Crankcase Half (Cylinders 2-4-6 Half)	
17516	Crankcase Half (Cylinders 1-3-5 Half)	
17518	Liner-Cylinder	6
17540	Rod-Connecting	
17543	Gear-Camshaft (To Engine 11808 Incl.)	1
17544	Flange-Exhaust Pipe	6
17545	Gasket-Exhaust Pipe	6
17554	Piston 7.0:1	6
17556	Generator - 25 Amp (Delco 1101877)	1
17559	Regulator-Voltage 25 Amp (Delco 1118358)	1
17564	Clamp - Hose	8
17577	Plate-Propeller Hub, Front (Engine 11061 and Up)	1
17579	Plate-Oil Pan Flange	1
17584	Carburetor (Marvel No. 10-2971 MA 3 SPA)	1
17613	Gasket-Oil By-Pass Plate (Engine 11021 and Up)	1
17627	Support-Valve Rocker, Center ) Stamping	6
17628	Support-Valve Rocker, Outer ) Engine 11494 and Up	12
17643	Plug-Crankshaft	1
17654	Screw-Valve Rocker Adj. 3/8, (Use with Stamped Rocker)	12
17655	Gear-Camshaft (Engine 11809 and Up)	1
17657	Tube-Valve Lifter Rod	
@17658	Pin-Piston	6
17662	Bolt-Propeller Hub	8
17665	Bushing-Crankshaft-Propeller End (Cyl. 1-3-5 Half)	
17666	Bushing-Crankshaft-Propeller End (Cyl. 2-4-6 Half)	
17671	Gasket-Inlet Manifold to Cylinder	6
17672	Pipe-Distributing Zone	2
17673	Hose-Manifold Equalizer Pipe	1
17674	Adapter-Manifold Equalizer Pipe	
17675	Pipe-Manifold Equalizer Pipe	
17676	Pipe Assembly-Manifold Equalizer	2
17680	Bracket-Manifold Equalizer Pipe	1
17685	Plug-Piston Pin	12
17688	Rod-Valve Lifter	12
17689	Rod Assembly-Valve Lifter	12
17690	Cylinder	
17694	Bumper-Oil Cooler Bracket	2
17695	Nipple-Oil Cooler Return Pipe, 1/2 Pipe Thread 5/8 Hose (Engine 11021 and Up)	1

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
17707	Bushing-Camshaft (Cylinder 1-3-5 Half)	4
17708	Bushing-Camshaft (Cylinder 2-4-6 Half)	4
17709	Dowel-Crankcase and Engine Mounting Bracket	7
17718	Retainer-Crankshaft Oil Seal	2
###17719	Bushing-Crankshaft (Cylinder 1-3-5 Center)	2
###17720	Bushing-Crankshaft (Cylinder 2-4-6 Center)	2
###17721	Bushing-Crankshaft (Cylinder 1-3-5 Gear End)	1
###17722	Bushing-Crankshaft (Cylinder 2-4-6 Gear End)	1
###17723	Bushing-Crankshaft (Cylinder 1-3-5 Prop End)	2
###17724	Bushing-Crankshaft (Cylinder 2-4-6 Prop End)	2
17725	Gear-Crankshaft	1
17726	Washer-Valve Spring, Upper	12
17727	Gasket-Valve Cover	6
17729	Ring-Cylinder Seal (Engine 11021 and Up)	6
17734	Shaft-Oil Pump Drive	1
17735	Shaft-Oil Pump Stationary	1
17738	Bushing-Connecting Rod, Upper	6
17739	Bushing-Connecting Rod, Lower	12
17740	Body-Oil Pump	1
17741	Gasket-Starter Shaft Cover	1
17742	Gear-Tachometer Drive	1
17743	Gear-Tachometer Driven	1
17744	Connector-Tachometer Drive	1
17745	Sleeve-Tachometer Connector	1
17748	Gear-Starter Ring	1
17750	Nut-Crankshaft Gear	1
17751	Washer-Crankshaft Gear Nut Lock	1
17752	Hub-Magneto Drive Gear	1
17758	Rocker Assembly-Ex. 5/16 Adjusting Screw (Replace with 19524)	
17761	Cover-Starter Drive Shaft	
17762	Cover Assembly-Starter Drive Shaft	1
17765	Cover Assembly - Crankcase	1
17783	Lifter-Valve	12
17808	Washer-Crankshaft Thrust (Use in Pairs Only)	4
17831	Tube-Crankcase Flexible, Aluminum 50"	1
17862	Plate-Oil By-Pass (Engine 11021 and Up)	1
17864	Packing-Valve Lifter Rod Tube	24
17868	Pipe-Oil Cooler Return ) To Engine	1
17869	Pipe-Oil Cooler Inlet ) 11020 Incl.	1
17884	Bracket-Engine Mtg. (3 Req. when Fuel Pump Installed)	4
17887	Pipe-Oil Cooler Return (Engine 11021 and Up)	1
17911	Housing-Tachometer Drive	1
17913	Spring-Oil Cooler Relief Valve (Engine 11021 and Up)	1
17921	Cage-Oil Cooler Relief Valve Ball (Engine 11021 and Up)	1
17932	Ball-Oil Cooler Relief Valve (Engine 11021 and Up)	1
17949	Bracket-Oil Inlet Pipe	1
17953	Plug-Spark (E.A.L. A-4A) Substitute	12

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
17962	Pump-Fuel - AC SP-1539072	1
17994	Elbow-Flared Tube 45° 3/8 Pipe Thread (To Engine 11020 Incl.)	1
17996	Hub-Generator Gear	1
17998	Oil Pump Assembly	1
17999	Cylinder Assembly	6
18000	Pan-Oil	1
18001	Bushing-Oil Drain Plug	
18004	Carburetor-Marvel No. 10-2971-P MA3-SPA (Bellanca)	1
18008	Magneto - Scintilla 10-51365-2	
18013	Crankshaft Assembly (To Engine 11060 Incl.)	1
18014	Plate-Propeller Hub, Front (To Engine 11060 Incl.)	1
18045	Gasket Assembly	1
18048	Ring-Cylinder Seal (To Engine 11020 Incl.)	6
18067	Rocker Assembly-Inlet, 5/16 Adjusting Screw	
18072	Circlet-Valve Lifter Rod Guide	12
18084	Valve-Exhaust (Engine 12509 and Up)	6
18088	Magneto-Scintilla No. 10-51365-2 (Engine 13886 and Up)	2
18092	Pipe Oil Cooler Inlet	1
18164	Wire Assembly-Magneto Ground (Eisemann)	2
18169	Unit-Valve Lifter	12
18178	Tube-Assembly-Valve Lifter Rod	1
18180	Gear-Oil Pump	1
18182	Pipe-Oil Cooler Return (Use with 18229 Oil Cooler)	1
18183	Pipe-Oil Cooler Inlet ) To Engine	1
18184	Pipe-Oil Cooler Return ) 11020 Incl.	1
18188	Regulator (E.A.L. VRS-4014A - 15 Amp) Bellanca (To Engine 12813 Incl.)	1
18191	Terminal-H.T. Wire, Plug End 90°	3
18202	Bolt-Timing Gear Case Dowel	2
18203	Case-Timing Gear	
18204	Case-Timing Gear	
18209	Pipe-Oil Cooler Inlet (Use with 18229 Oil Cooler)	1
18213	Zone-Distributing	
18218	Crankcase Assembly	1
18220	Terminal-Ground Wire	
18222	Ferrule-Ground Wire-Inner	
18223	Ferrule-Ground Wire-Outer	
18224	Nut-Ground Wire	
18225	Wire Assembly-Magneto Ground (Scintilla)	2
18230	Bracket-Oil Cooler Bumper	2
18231	Bracket-Oil Cooler, Odd Side	1
18232	Bracket-Oil Cooler, Even Side	1
18243	Dowel-Ph. Bronze, Thrust Washer to Crankcase	8
18275	Cover-Oil Pump	
18313	Washer-Timing Gear Case Lock (Sides)	6
18328	Pipe-Inlet	
18329	Cover Assembly-Oil Pump (Engine 11021 and Up)	1
18333	Washer-Oil Header Seal (Replaces one 10105 after Engine 13967)	1

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SPARE PARTS LIST  
IN NUMERICAL ORDER

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY. PER ENGINE</u>
18344	Seal-Oil Header (Replaces one 10105 after Engine 13967)	1
18359	Screw-Inlet Manifold	12
18391	Pin-Cylinder Liner Lock	12
18428	Generator (E.A.L. GFU-4101N - 15 Amp) Bellanca (To Engine 12813 Incl.)	1
18431	Cylinder Assembly	6
18447	Case Assembly-Timing Gear, Crankcase End	1
18448	Case Assembly-Timing Gear, Accessory End	1
18474	Gasket-Propeller Control Pad Cover	1
18475	Cover-Propeller Control Pad	1
18486	Crankshaft	
18487	Crankshaft Assembly	1
18498	Insert-Inlet Valve Seat	6
18499	Insert-Exhaust Valve Seat	6
18532	Gasket-Crankcase Cover	1
18536	Nut-Oil Pump Relief Valve Spring	2
18543	Gear-Magneto Driven	2
18554	Cooler Assembly-Oil	1
18561	Cover-Valve	6
18647	Gasket-Oil Cooler Thermostatic Valve	1
18649	Rocker-Exhaust Valve	
18662	Valve-Hydraulic Lifter (For 18369 Lifter)	12
18688	Ring-Hydraulic Lifter Valve Retaining (For 18369 Lifter)	12
18761	Ring-Piston	6
18762	Ring-Piston	6
18763	Ring-Piston	6
18953	Cylinder	
18976	Plunger-Oil Pump Relief Valve	1
19148	Shim-Magneto Drive Absorber	2
19021	Washer-Plain 3/8, Crankshaft Bearing Studs 10, Cylinder Hold-down Studs 24	34
19022	Washer-Plain 7/16, Cylinder Hold-down	24
19180	Key-Crankshaft Gear	1
19228	Clamp-Hose	2
19233	Gasket-Starter	1
19313	Absorber-Magneto Gear Shock (With No. 18543 Gear Only)	2
19314	Absorber-Generator Gear Shock	1
19318	Connector-Switch, Delco No. 1885036	1
19389	Seal-Tachometer Drive Oil	1
19392	Pin-Valve Rocker	6
19481	Valve-Oil Cooler Thermostatic	1
19484	Nut-Hex. 3/8-24	
19485	Nut-Hex. 7/16-20	
19487	Nut-Exhaust Stud	
19522	Bushing-Valve Rocker	
19523	Rocker Assembly-Inlet Valve	
19524	Rocker Assembly-Exhaust Valve	
19557	Wire Assembly-High Tension, Shielded	
19558	Wire Assembly-High Tension, Shielded	
19632	Bolt-Connecting Rod	
19633	Rod Assembly-Connecting	
19886	Gear-Oil Pump Driven	
19887	Gear-Oil Pump Drive	

SPARE PARTS LIST  
OVERSIZE AND UNDERSIZE

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<u>STANDARD PART NO.</u>	<u>O/S - U/S PART NO.</u>	<u>DESCRIPTION</u>	<u>O/S</u>	<u>U/S</u>
5136		Stud-Generator		
	5136 <del>/</del> .003	Stud-Generator	<del>/</del> .003	
	5136 <del>/</del> .006	Stud-Generator	<del>/</del> .006	
	5136 <del>/</del> .009	Stud-Generator	<del>/</del> .009	
10369		Stud-Magneto		
	10369 <del>/</del> .003	Stud-Magneto	<del>/</del> .003	
	10369 <del>/</del> .006	Stud-Magneto	<del>/</del> .006	
	10369 <del>/</del> .009	Stud-Magneto	<del>/</del> .009	
12254		Stud-Carburetor		
	12254 <del>/</del> .003	Stud-Carburetor	<del>/</del> .003	
	12254 <del>/</del> .006	Stud-Carburetor	<del>/</del> .006	
	12254 <del>/</del> .009	Stud-Carburetor	<del>/</del> .009	
17316	18037	Guide-Exhaust Valve )To Engine	<del>/</del> .001	
17316	18038	Guide-Exhaust Valve )No. 12508	<del>/</del> .002	
17316	18039	Guide-Exhaust Valve )Incl.	<del>/</del> .005	
17536	17941	Bushing-Crankshaft Flange	<del>/</del> .001	
17536	17942	Bushing-Crankshaft Flange	<del>/</del> .002	
17536	17943	Bushing-Crankshaft Flange	<del>/</del> .003	
17536	17944	Bushing-Crankshaft Flange	<del>/</del> .004	
17563		Stud-Exhaust Pipe Flange		
	17563 <del>/</del> .003	Stud-Exhaust Pipe Flange	<del>/</del> .003	
	17563 <del>/</del> .006	Stud-Exhaust Pipe Flange	<del>/</del> .006	
	17563 <del>/</del> .009	Stud-Exhaust Pipe Flange	<del>/</del> .009	
17658	18040	Pin-Piston	<del>/</del> .001	
17658	18041	Pin-Piston	<del>/</del> .002	
17660		Stud-Cylinder Holddown 3/8		
	17660 <del>/</del> .003	Stud-Cylinder Holddown 3/8	<del>/</del> .003	
	17660 <del>/</del> .006	Stud-Cylinder Holddown 3/8	<del>/</del> .006	
	17660 <del>/</del> .009	Stud-Cylinder Holddown 3/8	<del>/</del> .009	
17661		Stud-Cylinder Holddown 7/16		
	17661 <del>/</del> .003	Stud-Cylinder Holddown 7/16	<del>/</del> .003	
	17661 <del>/</del> .006	Stud-Cylinder Holddown 7/16	<del>/</del> .006	
	17661 <del>/</del> .009	Stud-Cylinder Holddown 7/16	<del>/</del> .009	
17665		Bushing-Crankshaft		
	18537	Bushing-Crankshaft		-.010
	18538	Bushing-Crankshaft		-.020
17666		Bushing-Crankshaft		
	18539	Bushing-Crankshaft		-.010
	18540	Bushing-Crankshaft		-.020

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SPARE PARTS LIST  
 OVERSIZE AND UNDERSIZE

STANDARD PART NO.	O/S - U/S PART NO.	DESCRIPTION	O/S	U/S
17668	18034	Guide-Inlet Valve )To Engine	/.001	
17668	18035	Guide-Inlet Valve )No. 12508	/.002	
17668	18036	Guide-Inlet Valve )Incl.	/.005	
17710		Stud-Camshaft Bearing		
	17710/.003	Stud-Camshaft Bearing	/.003	
	17710/.006	Stud-Camshaft Bearing	/.006	
	17710/.009	Stud-Camshaft Bearing	/.009	
17711		Stud-C'shaft Bearing, Outside Front		
	17711/.003	Stud-C'shaft Bearing, Outside Front	/.003	
	17711/.006	Stud-C'shaft Bearing, Outside Front	/.006	
	17711/.009	Stud-C'shaft Bearing, Outside Front	/.009	
17712		Stud-Crankcase, Front Tie		
	17712/.003	Stud-Crankcase, Front Tie	/.003	
	17712/.006	Stud-Crankcase, Front Tie	/.006	
	17712/.009	Stud-Crankcase, Front Tie	/.009	
17713		Stud-Crankshaft Bearing, Lower Rear		
	17713/.003	Stud-Crankshaft Bearing, Lower Rear	/.003	
	17713/.006	Stud-Crankshaft Bearing, Lower Rear	/.006	
	17713/.009	Stud-Crankshaft Bearing, Lower Rear	/.009	
17714		Stud-Crankshaft Bearing, with Dowel, Upper Rear		
	17714/.003	Stud-Crankshaft Bearing	/.003	
	17714/.006	Stud-Crankshaft Bearing	/.006	
	17714/.009	Stud-Crankshaft Bearing	/.009	
17715		Stud-Crankshaft Bearing, Inside Front, Lower Center		
	17715/.003	Stud-Crankshaft Bearing	/.003	
	17715/.006	Stud-Crankshaft Bearing	/.006	
	17715/.009	Stud-Crankshaft Bearing	/.009	
17716		Stud-Crankshaft Bearing		
	17716/.003	Stud-Crankshaft Bearing	/.003	
	17716/.006	Stud-Crankshaft Bearing	/.006	
	17716/.009	Stud-Crankshaft Bearing	/.009	
17717		Stud-Mounting Bracket		
	17717/.003	Stud-Mounting Bracket	/.003	
	17717/.006	Stud-Mounting Bracket	/.006	
	17717/.009	Stud-Mounting Bracket	/.009	
17719	18026	Bushing-Crankshaft, Center (Cylinder 1-3-5)		-.010
17719	18027	Bushing-Crankshaft, Center (Cylinder 1-3-5)		-.020

SPARE PARTS LIST  
OVERSIZE AND UNDERSIZE

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<u>STANDARD PART NO.</u>	<u>O/S - U/S PART NO.</u>	<u>DESCRIPTION</u>	<u>O/S</u>	<u>U/S</u>
17720	18028	Bushing-Crankshaft, Center (Cylinder 2-4-6)		-.010
17720	18029	Bushing-Crankshaft, Center (Cylinder 2-4-6)		-.020
17721	18030	Bushing-Crankshaft, Gear End (Cylinder 1-3-5)		-.010
17721	18031	Bushing-Crankshaft, Gear End (Cylinder 1-3-5)		-.020
17722	18032	Bushing-Crankshaft, Gear End (Cylinder 2-4-6)		-.010
17722	18033	Bushing-Crankshaft, Gear End (Cylinder 2-4-6)		-.020
17723	18022	Bushing-Crankshaft, Prop. End Nose (Cylinder 1-3-5)		-.010
17723	18023	Bushing-Crankshaft, Prop. End Nose (Cylinder 1-3-5)		-.020
17724	18024	Bushing-Crankshaft, Prop. End Nose (Cylinder 2-4-6)		-.010
17724	18025	Bushing-Crankshaft, Prop. End Nose (Cylinder 2-4-6)		-.020
17739	18020	Bushing-Connecting Rod, Lower		-.010
17739	18021	Bushing-Connecting Rod, Lower		-.020
17746		Stud-Starter Motor		
	17746/.003	Stud-Starter Motor	/.003	
	17746/.006	Stud-Starter Motor	/.006	
	17746/.009	Stud-Starter Motor	/.009	
17865		Stud-Oil Pan in Timing Case 1 5/16		
	17865/.003	Stud-Oil Pan in Timing Case 1 5/16	/.003	
	17865/.006	Stud-Oil Pan in Timing Case 1 5/16	/.006	
	17865/.009	Stud-Oil Pan in Timing Case 1 5/16	/.009	
18006		Stud-Oil Pan in Timing Case		
	18006/.003	Stud-Oil Pan in Timing Case	/.003	
	18006/.006	Stud-Oil Pan in Timing Case	/.006	
	18006/.009	Stud-Oil Pan in Timing Case	/.009	
18111	18338	Guide-Inlet Valve )	/.001	
18111	18339	Guide-Inlet Valve ) Engine	/.002	
18111	18340	Guide-Inlet Valve ) No.	/.005	
		) 12509		
18112	18341	Guide-Exhaust Valve ) and	/.001	
18112	18342	Guide-Exhaust Valve ) Up	/.002	
18112	18343	Guide-Exhaust Valve )	/.005	



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SPARE PARTS LIST  
 OVERSIZE AND UNDERSIZE

STANDARD PART NO.	O/S - U/S PART NO.	DESCRIPTION	O/S	U/S
18498		Insert-Valve Seat (Inlet)		
	18508	Insert-Valve Seat (Inlet)	/.001	
	18509	Insert-Valve Seat (Inlet)	/.002	
	18510	Insert-Valve Seat (Inlet)	/.005	
	18511	Insert-Valve Seat (Inlet)	/.010	
18499		Insert-Valve Seat (Exhaust)		
	18512	Insert-Valve Seat (Exhaust)	/.001	
	18513	Insert-Valve Seat (Exhaust)	/.002	
	18514	Insert-Valve Seat (Exhaust)	/.005	
	18515	Insert-Valve Seat (Exhaust)	/.010	
18718		Stud-Crankcase Bearing		
	18718/.003	Stud-Crankcase Bearing	/.003	
	18718/.006	Stud-Crankcase Bearing	/.006	
	18718/.009	Stud-Crankcase Bearing	/.009	
18719		Stud-Crankcase Bearing		
	18719/.003	Stud-Crankcase Bearing	/.003	
	18719/.006	Stud-Crankcase Bearing	/.006	
	18719/.009	Stud-Crankcase Bearing	/.009	

