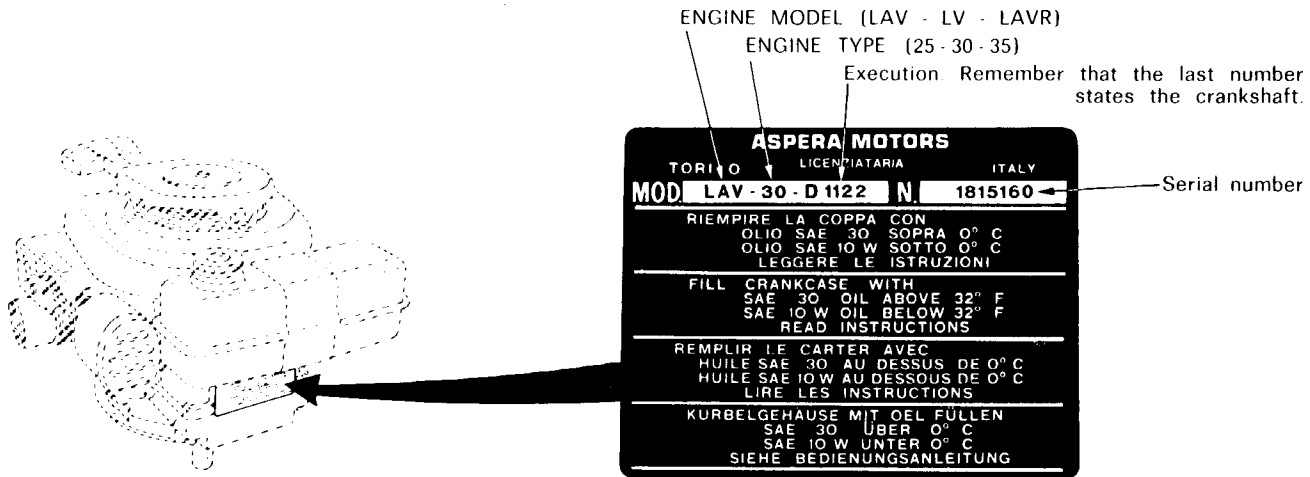


ENGINE IDENTIFICATION

I° Identification of Model - Type - Serial number of 4-stroke engines with vertical crankshaft

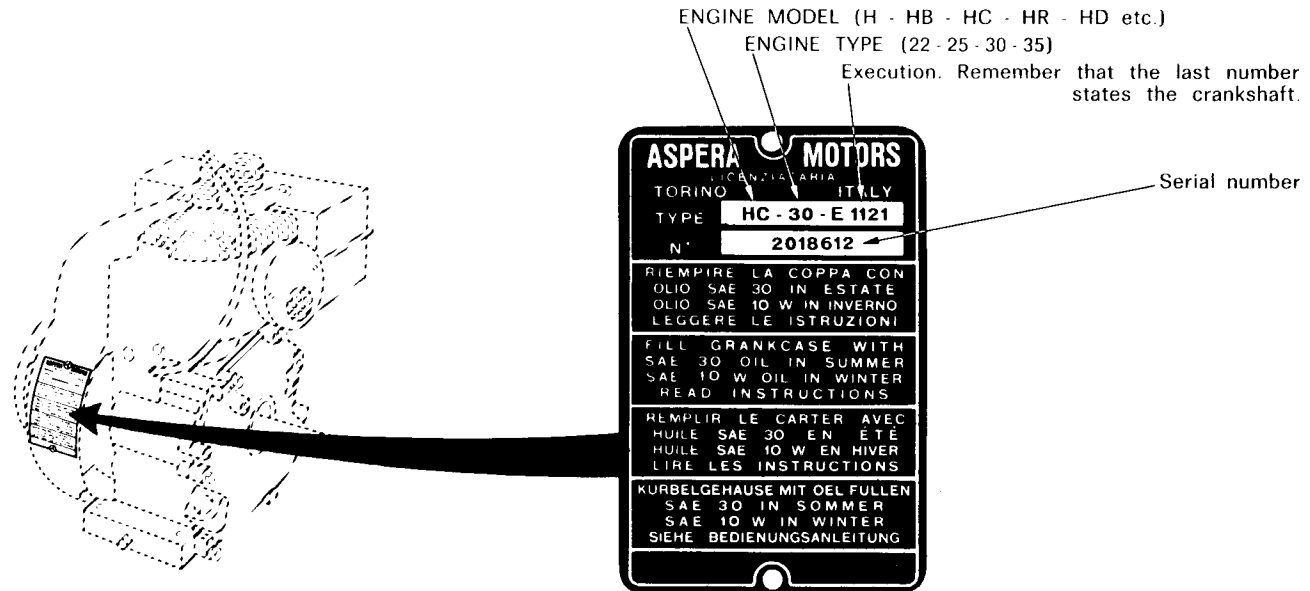


ENGINE MODEL (LAV - LV - LAVR)
ENGINE TYPE (25 - 30 - 35)
Execution. Remember that the last number states the crankshaft.

ASPERA MOTORS		
TORINO	LICENZIATARIA	ITALY
MOD. LAV - 30 - D 1122	N°	1815160 ←
RIEMPIRE LA COPPA CON OLIO SAE 30 SOPRA 0° C OLIO SAE 10 W SOTTO 0° C LEGGERE LE ISTRUZIONI		
FILL CRANKCASE WITH SAE 30 OIL ABOVE 32° F SAE 10 W OIL BELOW 32° F READ INSTRUCTIONS		
REMPLIR LE CARTER AVEC HUILE SAE 30 AU DESSUS DE 0° C HUILE SAE 10 W AU DESSOUS DE 0° C LIRE LES INSTRUCTIONS		
KURBELGEHAUSE MIT OEL FULLEN SAE 30 UBER 0° C SAE 10 W UNTER 0° C SIEHE BEDIENUNGSANLEITUNG		

Serial number

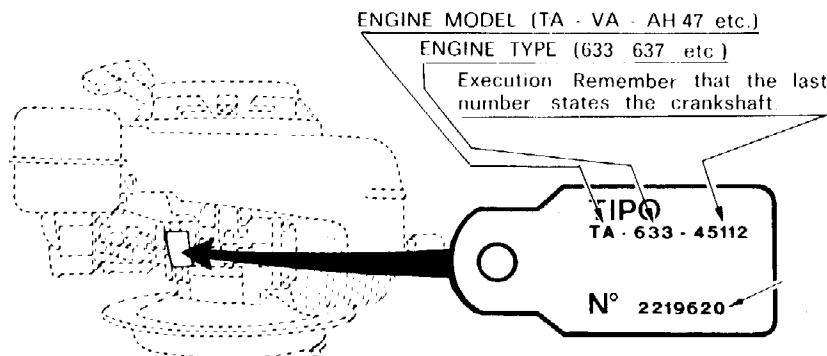
II° Identification of Model - Type - Serial number of 4-stroke engines with horizontal crankshaft



ENGINE MODEL (H - HB - HC - HR - HD etc.)
ENGINE TYPE (22 - 25 - 30 - 35)
Execution. Remember that the last number states the crankshaft.

ASPERA MOTORS		
TORINO	LICENZIATARIA	ITALY
TYPE	HC - 30 - E 1121	Serial number
N°	2018612 ←	
RIEMPIRE LA COPPA CON OLIO SAE 30 IN ESTATE OLIO SAE 10 W IN INVERNO LEGGERE LE ISTRUZIONI		
FILL CRANKCASE WITH SAE 30 OIL IN SUMMER SAE 10 W OIL IN WINTER READ INSTRUCTIONS		
REMPLIR LE CARTER AVEC HUILE SAE 30 EN ETE HUILE SAE 10 W EN HIVER LIRE LES INSTRUCTIONS		
KURBELGEHAUSE MIT OEL FULLEN SAE 30 IN SOMMER SAE 10 W IN WINTER SIEHE BEDIENUNGSANLEITUNG		

III° Identification of Model - Type - Serial number of 2-strokes engines



ENGINE MODEL (TA - VA - AH 47 etc.)
ENGINE TYPE (633 637 etc.)
Execution. Remember that the last number states the crankshaft.

TIPO	TA - 633 - 45112
N°	2219620 ←

CHAPTER B

Four stroke engines with horizontal crankshaft

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Reduction Gearbox 6:1	B 2
HT-HTB 25-30-35	B 3
HS 25-30-35	B 9
HS-HSB 40	B 13
HBL 25-30-40	B 19
HBP 40	B 25

Specifications	25-30		35		40	
	mm.	in.	mm.	in.	mm.	in.
Bore	58,7	2.31	63,5	2.50	66,7	2.62
Stroke	46,8	1.84	46,8	1.84	49,4	1.94
Displacement	127 cc.		184 cc.		172 cc.	
R.P.M. Standard	3.600		3.600		3.600	
Timing B.T.D.C.	1,42	.056	1,01	.040	0,89	.035
Points gap	0,50	.020	0,50	.020	0,50	.020
Plug gap	0,60	.024	0,60	.024	0,60	.024
Valve clearance (cold)	0,20	.008	0,20	.008	0,20	.008

CHAPTER C

2 Stroke engines

INDEX

	page
TA 633 - 637 - 639	C 3
VA 633 - 637	C 9
AV 520 RMS	C 15
AV 600 RMS	C 19
AV 750 RMS	C 25
MV 100 S	C 29
AV 125	C 33

Specifications	TA 633-637-639		VA 633-637	
	mm.	in.	mm.	in.
Bore	50,8	2.00	53,1	2.09
Stroke	41,4	1.62	42,5	1.67
Displacement	83,7 cc.		95,0 cc.	
R.P.M. Standard	3.600		3.600	
Timing B.T.D.C.	3,96	0.156	3,96	0.156
Points gap	0,50	.020	0,50	.020
Plug gap	0,60	.024	0,60	.024

Specifications	AV 520		AV 600/MV 100S		AV 750/AV 125	
	mm.	in.	mm.	in.	mm.	in.
Bore	53,1	2.09	53,1	2.09	56,0	2.20
Stroke	38,1	1.50	44,4	1.74	50,0	1.96
Displacement	84,5 cc.		98,4 cc.		123 cc.	
R.P.M. Standard	3.600		3.600		3.600	
Timing B.T.D.C.	2,36	.093	2,36	.093	2,36	.093
Points gap	0,50	.020	0,50	.020	0,50	.020
Plug gap	0,60	.024	0,60	.024	0,60	.024

CARBURETTORS

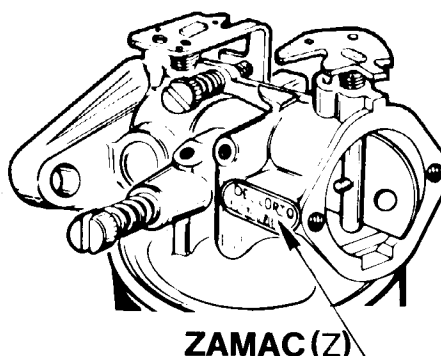
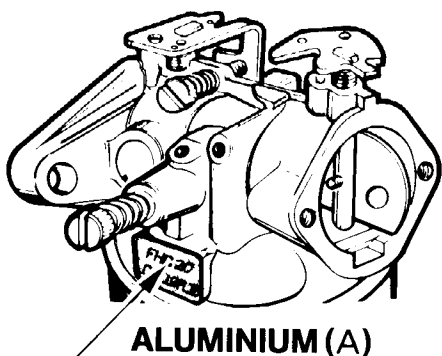
When ordering parts proceed as follows:

- 1) Refer to the engine parts list to establish Part. No. of carburettor. This will show the page number (within this chapter) on which the exploded view can be found.
- 2) Float type-when more than one carburettor is shown an "←" indicates that a component is fitted to a certain carburettor
- 3) Diaphragm type-Components which differ are indicated by the Part. No. of the original carburettor in brackets
e.g. Page 10 Ref. No. 29 Part. 2711.0013 is fitted to carburettors 2301.0003 and 2301.0014.

Carburettors can be identified by the position of the name plate.

Name plate beside air adjustment screw = ZAMAC

Name plate underneath air adjustment screw = ALUMINIUM



Numerical list of carburettors

A) Diaphragm with primer

Part. No.	Page	Engine type
2301.0003	D10	AV 520
2301.0004	D10	TA/VA
2301.0005	D11	TA/VA/AV 520
2301.0009	D11	AV 750 FLYMO

B) Diaphragm with choke

Part. No.	Page	Engine type
2301.0011	D11	AV 750 RMS
2301.0014	D10	TA/VA/AV 520-600
2301.0015	D10	AV 520

C) Float carburettors

Part. No.	Page	Engine type	Part. No.	Page	Engine type
2302.0001 (Z)	D4	HB	2302.0027 (A)	D6	AV 600 (S.A.)
2302.0001 (A)	D2	HB	2302.0028 (A)	D2	HSB 40 (G.S.)
2302.0002 (Z)	D8	TA/VA/AV 525-605	2302.0029 (A)	D2	HS/HBL/HBP 40
2302.0002 (A)	D6	TA/VA/AV 525-605	2302.0030 (A)	D6	AV 520-600 (snorkel)
2302.0004 (Z)	D8	TA/VA O.B.	2302.0032 (A)	D2	HS/HBL 25-30-35
2302.0005 (Z)	D8	AH 81 O.B.	2302.0033 (A)	D2	HS/HBL 25-30-35
2302.0011 (Z)	D4	LAV 40 / 172	2302.0037 (A)	D2	LAV 172
2302.0011 (A)	D2	LAV 40 / 172	2302.0038 (A)	D2	LAV 35
2302.0012 (Z)	D4	HS/HBP 40	2302.0039 (A)	D2	HBL/HBP 40 G
2302.0012 (A)	D2	HS/HBP 40	2302.0040 (A)	D6	MV100S/AV600
2302.0017 (Z)	D8	TA/VA/AV 520-600	2302.0043 (A)	D6	MV100S (MIRACLE)
2302.0017 (A)	D6	TA/VA/AV 520-600	2302.0044 (Z)	D4	LAV 25/30 (old type)
2302.0019 (A)	D2	HS/HBL 40	2302.0051 (A)	D2	HTB 25-30-35
2302.0020 (A)	D2	LAV 40	2302.0053 (A)	D6	AV 600 (G.C.R.)
2302.0022 (A)	D6	AV 520-600	2302.0054 (A)	D2	BV-BVR 150
2302.0024 (A)	(A)	D6	2302.0055 (A)	D2	BV-BVR 172
2302.0024 (A)	D6	AV 750	2303.0004 (A)	D6	AV 600 (S.A.)
2302.0025 (A)	D2	LAV 30	2303.0005 (A)	D6	AV 750
2302.0026 (A)	D6	AV 750	2303.0006 (A)	D6	AV 520-600 FLYMO

D) Special air filters

Snorkel filter assy page D12

STARTERS

CHAPTER E

When ordering parts proceed as follows:

- 1) Refer to engine parts list to establish Part number of starter. This will show the page number (within this Chapter) on which the exploded view can be found.
- 2) When more than one starter is shown on a list, components which differ are identified by the engine type in brackets.
e.g. Page 3 Ref. No. 14 Part. No. 17410001 is fitted to four-stroke engines only.

Numerical list of Starters

Starter No.	Page
421.0020	E 5
1421.0004	E 3
1421.0007	E 2
1421.0026	E 4
421.0510	E 7
421.0527	E 8
1421.0017	E 3
1421.0021	E 3
1421.0023	E 4
441.0002 (ELECTRICAL)	E 6
1421.0033	E 9
1421.0040	E 10

IGNITIONS

CHAPTER F

When ordering parts proceed as follows:

- 1) Refer to the engine parts list to establish Part. No. of Magneto Assy. This will show the page number (within this chapter) on which the exploded view can be found.
- 2) When more than one magneto assy is shown an "●" indicates that a component is fitted to a certain magneto.

Numerical list of Magneto Assy.

Magneto Assy. Part. No.	Page
410.1513	F 4
411.0019	F 3
411.0020	F 3
1630.0004	F 3
1630.0005	F 3
1630.0006	F 3
1630.0007	F 3
1630.0008	F 5

CHAPTER G

Special Executions 2-Stroke engines

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AV 520 RMS Flymo	G 13
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AV 750 RMS Flymo	G 25
AV 601 RMS Toro	G 29
AV 520P for Pump & Generator	G 31
AV 600P for Pump & Generator	G 35
AV 520 RMS Carbra Posthole Borer	G 37

CHAPTER H

Two stroke engines for Outboards

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TA 634 - 636	H 3
VA 634 - 636	H 7
AH 81	H 11
AV 525	H 15
AV 605	H 19

Specifications	TA		VA		AH81		AV525		AV605	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.
Bore	50,8	2.00	53,1	2.09	63,5	2.50	53,1	2.09	53,1	2.09
Stroke	41,4	1.62	42,5	1.67	41,4	1.62	38,1	1.50	44,4	1.74
Displacement	83,7 cc.		95,0 cc.		130,8 cc.		84,5 cc.		98,4 cc.	
Timing B.T.D.C.	3,96	0.156	3,96	0.156	4,36	0.172	2,36	0.93	2,36	0.93
Points gap	0,50	.020	0,50	.020	0,50	.020	0,50	.020	0,50	.020
Plug gap	0,60	.024	0,60	.024	0,60	.024	0,60	.024	0,60	.024
R.P.M. Standard	4000-4500		4000-4500		4000-4500		4000-4500		4000-4500	

CHAPTER I

Special Execution 4-Stroke engines

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HBL-HBP 40 G - for Generators	I 7
HKB	I 11

SPECIAL TOOLS

Description

Part No.

Tool for inserting bearing
flywheel side

A



88841507

Tool for inserting bearing
flywheel side H engines

C-1



88841024

Tool for inserting oil seal
flywheel and p.t.o. side 4
stroke engines and p.t.o.
side 2 stroke engines.

D



88841023

Tool for inserting oil seal
flywheel side for TA-VA-
AV-MV engines and
inserting needle bearings
p.t.o. side for 2 stroke
engines

E-1



88841508

Sleeve for oil seal p.t.o.
side - LAV-30-35-BV 150

G



88841029

Sleeve for oil seal p.t.o.
side LAV/BV 172-TA-VA-AV-
MV

H



88841505

Punch. for bearing p.t.o.
side

M



88841027

Punch. for bearing flywheel
side

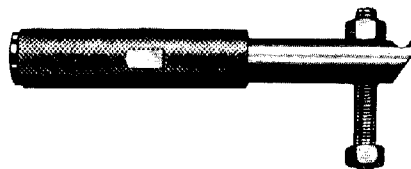
N



88841026

Puller for oil seal p.t.o. and
flywheel side

O



88841030

CONVERSION LIST

Old code	New code	Old code	New code	Old code	New code	Old code	New code
1010037	16010001	1511036	21510007	2101116	16070026	2111217	22110073
1010038	16010002	1511039	21510013	2101117	16070027	2111222	22110074
1010039	16010003	1511515	21510009	2101119	16070029	2111227	22110075
1010040	16010004	1511530	21510011	2101120	16070030	2111229	22110076
1010059	16010005	1511531	21510012	2101121	16070031	2111311	22110240
1010060	16010006	1518017	28510004	2101122	16070032	2111315	22110241
1010071	16010011	1518020	28510006	2101123	16070033	2111505	22110213
1010072	16010012	1518034	28510010	2101124	16070034	2111569	22110214
1010093	16010010	1518035	28510011	2101125	16070035	2111581	22110121
1010096	16010008	1520018	21520001	2101127	16070037	2111583	22110122
1010097	16010009	1520024	21520002	2101128	16070038	2111584	22110123
1010120	16010013	1520027	21520003	2101129	16070039	2111585	22110215
1010121	16010014	1520034	21520004	2101130	16070040	2111586	22110124
1010125	16010015	1520036	21520005	2101131	16070041	2111591	22110125
1010128	16010016	1520037	21520006	2101133	16070043	2111593	22110126
1010131	16010017	1520050	21520010	2101135	16070045	2111597	22110216
1010145	16010018	1520051	21520011	2101136	16070046	2111598	22110217
1010146	16010019	1520054	21520012	2101137	16070047	2111616	22110127
1010147	16010020	1520060	21520014	2101138	16070048	2111619	22110128
1020542	16020001	1520064	21520058	2101139	16070049	2111620	22110129
1020557	16020003	1520537	21520046	2101140	16070050	2111621	22110130
1020560	16020004	1520538	21520050	2101141	16070071	2111622	22110131
1020572	16020005	1520565	21520047	2101144	16070020	2111624	22110133
1020592	16020002	1520569	21520048	2101154	16070051	2111625	22110134
1020601	16020006	1520611	21520051	2101160	16070052	2111636	22110218
1020602	16020007	1520621	21520052	2101161	16070053	2111638	22110137
1020606	16020008	1520624	21520053	2101162	16070054	2111639	22110138
1020608	16020009	1521025	21520016	2101164	16070056	2111657	22110143
1021525	21010050	1521029	21520017	2101165	16070057	2111684	22110144
1021526	21010051	1521030	21520018	2101166	16070058	2111699	22110148
1021531	21010052	1521044	21520019	2101167	16070059	2111702	22110149
1211011	21210002	1521049	21520020	2101168	16070060	2111706	22110150
1211013	21210003	1521057	21520021	2101169	16070061	2111707	22110151
1211015	21210004	1521059	21520022	2101170	16070062	2111708	22110152
1211017	21210006	1521062	21520056	2101171	16070063	2111710	22110153
1211020	21210007	1521063	21520057	2101172	16070064	2111711	22110154
1211022	21210018	1521541	21520049	2101173	16070065	2111712	22110155
1211504	21210008	1521597	21520027	2101174	16070066	2111713	22110156
1211507	21210009	1521599	21520028	2101175	16070067	2111715	22110158
1211510	21210010	1521602	21520029	2101176	16070068	2111716	22110159
1211511	21210015	1521605	21520031	2101177	16070069	2111718	22110161
1211515	21210011	1521606	21520032	2101178	16070070	2111719	22110162
1211518	21210012	1521610	21520035	2101179	16070072	2111720	22110163
1211520	21210013	1521613	21520037	2101180	16070073	2111721	22110164
1211522	21210014	1521617	21520054	2101181	16070074	2111722	22110165
1301559	16055001	1521622	21520040	2101182	16070075	2111723	22110166
1301574	16055002	1521626	21520043	2101183	16070076	2111724	22110167
1301575	16055003	1521627	21520044	2101184	16070077	2111725	22110168
1301576	16055004	1521628	21520045	2101185	16070078	2111726	22110169
1301577	16055005	1601006	16190002	2101186	16070079	2111727	22110170
1320006	16040007	1601007	16190001	2101187	16070080	2111728	22110171
1320034	16040001	1601009	16190004	2101188	16070081	2111729	22110172
1320035	16040002	1601010	11600006	2101189	16070082	2111730	22110173
1320036	16040003	1661001	21660001	2101190	16070083	2111733	22110174
1320065	16040004	1661002	21660002	2101191	16070084	2111735	22110175
1320066	16040005	1661011	21660010	2101192	16070085	2111736	22110176
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1320109	16040009	1671004	21670003	2101195	16070088	2111741	22110179
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1320111	16040011	2101070	16070006	2101197	16070090	2111744	22110181
1320539	16065001	2101073	16070003	2101198	16070091	2111745	22110182
1320558	16065004	2101074	16070004	2101501	16080001	2111746	22110183
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1320577	16065002	2101078	16070002	2101503	16080003	2111749	22110185
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1330022	16030003	2101102	16070012	2101509	16080009	2111765	22110193
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1330065	16030009	2101107	16070017	2101514	16080014	2111780	22110205
1330066	16030010	2101108	16070018	2101515	16080015	2111781	22110206
1330067	16030011	2101109	16070019	2101516	16080016	2111782	22110207
1511010	21510001	2101111	16070021	2101517	16080017	2111783	22110208
1511011	21510002	2101112	16070022	2111133	22110024	2111784	22110209
1511018	21510003	2101113	16070023	2111157	22110036	2201010	16090004
1511023	21510004	2101114	16070024	2111174	22110047	2201011	16090007
1511025	21510005	2101115	16070025	2111208	22110088	2201012	16090005

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