

MANDATORY SERVICE BULLETIN**MSB23-01A**

Subject Matter of This Document may be Incorporated, in Whole or in Part,
in an FAA Issued Airworthiness Directive

**TECHNICAL PORTIONS
FAA APPROVED**

SUBJECT: Crankshaft counterweights

PURPOSE: Inspect affected crankshafts for proper counterweight installation.

COMPLIANCE: For Engines with **less than 200** operating hours:
Accomplish immediately; an additional five flight hours acceptable to move to a maintenance facility with minimum essential crew, if necessary. Compliance time begins upon Service Bulletin receipt
For Engines with **more than 200** operating hours:
No further action required

MODELS

AFFECTED: New and rebuilt Continental Aerospace Technologies aviation gasoline (AvGas) engines or crankshaft assemblies with serial numbers listed in Appendix 1 or Appendix 2:
IO-360-A, AB, AF, C, CB, D, DB, E, ES, G, GB, H, HB, J, JB, K, KB;
LTSIO-360-E, EB, KB, RB;
TSIO-360-A, AB, B, BB, C, CB, D, DB, E, EB, G, GB, H, HB, JB, KB, LB, MB, RB, SB;
O-470-A, B, E, G, H, J, K, L, M, N, R, S, T, U;
IO-470-D, E, G, H, J, K, L, M, N, P, R, S, T, U, V, VO;
GTSIO-520-C, D, H, K, L, M, N, S;
IO-520-A, B, BA, BB, C, CB, D, E, F, J, K, L, M, MB;
LTSIO-520-AE;
TSIO-520-A, AE, AF, B, BB, BE, C, CE, D, DB, E, EB, G, H, J, JB, K, KB, L, LB, M, NB, P, R, T, UB, VB, WB;
IO-550-A, B, C, D, E, F, G, L, N, P, R;
TSIO-550-A, B, C, E, G, K, N;
TSIOL-550-A, B, C;
TSIOF-550-K.

I. GENERAL INFORMATION

Continental discovered a potential assembly error affecting approximately 2000 crankshaft assemblies. It is possible one or more counterweight retaining rings were not properly seated in the crankshaft counterweight groove. This condition could allow the counterweight to depart from the crankshaft during engine operation resulting in catastrophic engine damage.

II. SCOPE

The engines and crankshaft assemblies affected by this bulletin are identified by Serial Number in Appendix 1 (engines) and Appendix 2 (crankshaft assemblies sold as replacement parts). Only the engine or crankshaft assembly serial numbers listed in the two tables are subject to inspection. Inspection is not required on engines and crankshaft assemblies not included in the two tables.

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The engine data plate is mounted to the 1-3-5 side of the engine. Inspect the serial number on the data plate to determine if the engine is affected by this service bulletin. The crankshaft serial number is stamped in the perimeter of the propeller flange.

III. ACTION REQUIRED

1. Locate the affected crankshaft assemblies:
 - a. For spare crankshaft assemblies, collect affected spare crankshaft assemblies from protected storage and relocate to a workbench with V-blocks and a surface plate and proceed to Section III, step 2.
 - b. For crankshaft assemblies installed in engines, remove cylinders from the odd (1-3-5) side of the crankcase according to the instructions in the primary Instructions for Continued Airworthiness (ICA). The number of cylinders required to be removed for inspection is determined by the number of and location of the counterweights on the crankshaft assembly. Crankshaft assemblies differ by engine model.

CAUTION: Cylinder removal from the crankcase relieves through-bolt preload. Use of torque plates or spacers to maintain tension on the crankcase is recommended before rotating the crankshaft with cylinders removed.

Engine Model	Cylinders to be removed
O-470-R and IO/LTSIO/TSIO-360	1
GTSIO-520	1, 3, and 5
All others	1 and 3

2. After cylinder removal, rotate the crankshaft for best access to the counterweight plates. Inspect crankshaft counterweights with an inspection mirror and flashlight for security and proper installation of the retaining clip in the counterweight groove. The following illustrations, as well as detailed disassembly, inspection, and assembly instructions are contained in M-0, Section 10-9.1.
 - a. If a counterweight retaining ring, plate, or pin is missing, terminate the inspection and remove the engine for disassembly. Inspect and repair, as necessary.
 - b. Verify the installed retaining rings are installed in counterweight grooves and match the installed specifications in Figure 2 or Figure 3.
 - 1) Refer to the installation instructions in M-0, Section 10-9.1.5 for “Crankshaft Counterweight Bushing Replacement” step 6. instructions.
 - 2) Consult online illustrated parts catalogs for assembly part numbers.

NOTE: The leading edge of the gage must contact the surface of the retaining plate squarely for an accurate measurement. Slide the gage between the retaining ring ears until the gage contacts the edge of the counterweight. Blue Dykem may be present on the counterweight assembly or the counterweight plate, or the retaining ring; removing excess Dykem is acceptable to complete the inspection. There may be slight resistance when trying to insert the gage - this is acceptable and expected.

- 3) Measure installed counterweight retaining ring minimum gap (Figure 1) between ears with a copy of the gage block manufactured to meet the specifications in Figure 4 or Figure 5. All three conditions specified in Figure 1 must be met. Inspection gages are available to borrow upon request from Continental or the tool may be locally manufactured according to the specifications provided in Figure 4 or Figure 5.

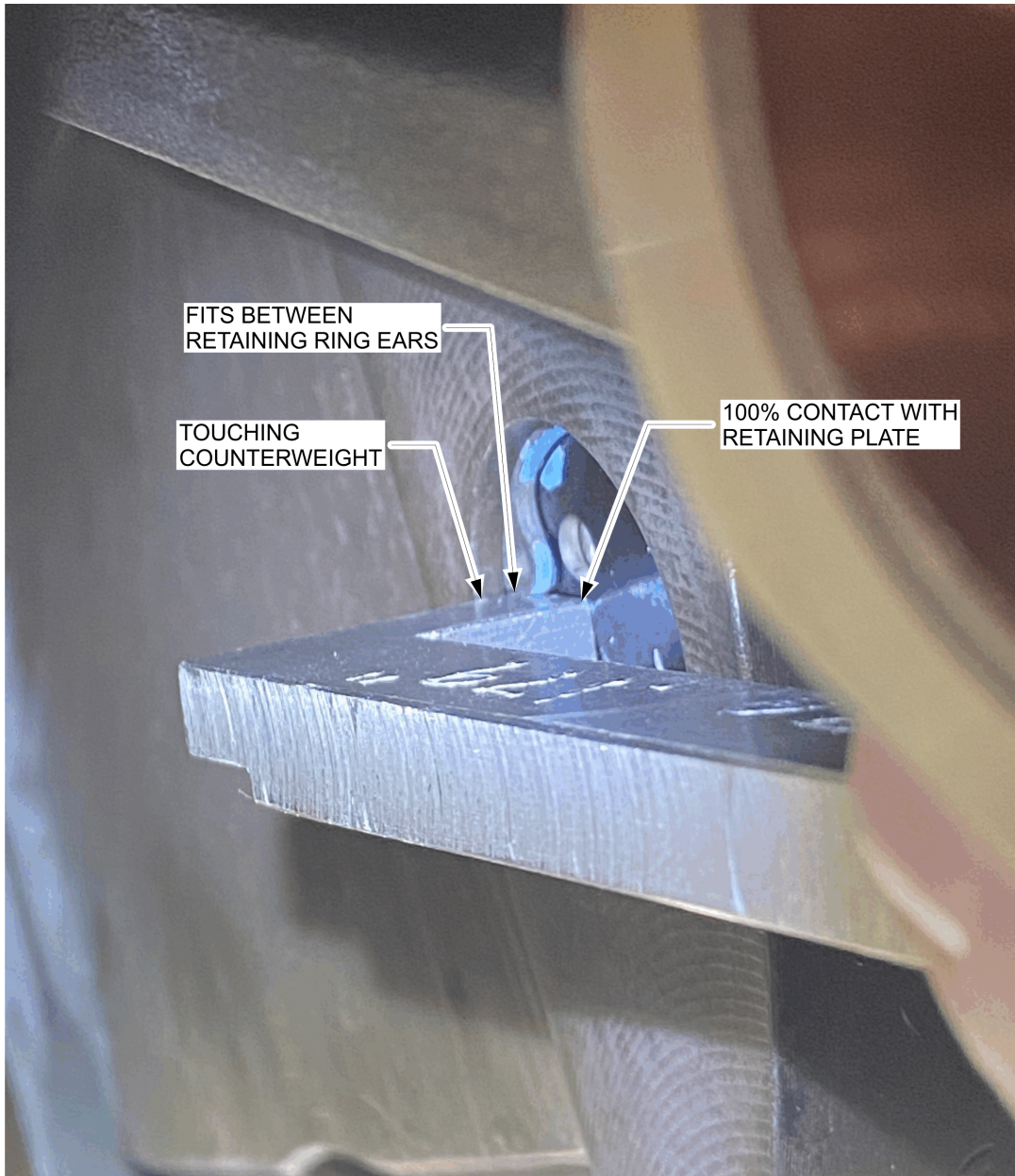


Figure 1. Gage Inserted to Measure Retaining Ring Gap

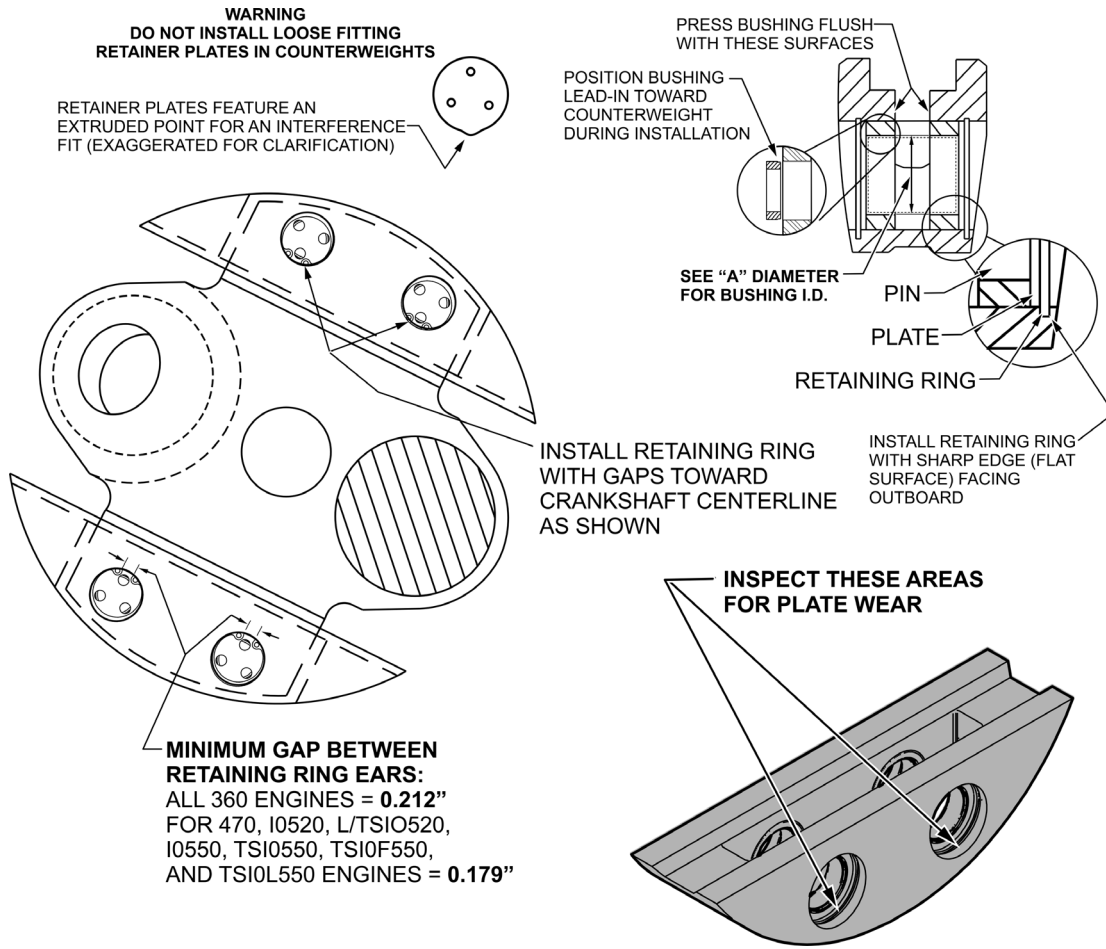


Figure 2. Counterweight Inspection
(Applicable to 360, 470, IO520, L/TSIO-520, and 550 Series Engines Only)

Figure 3 is NOT applicable to GTSIO-520 (See Figure 3)

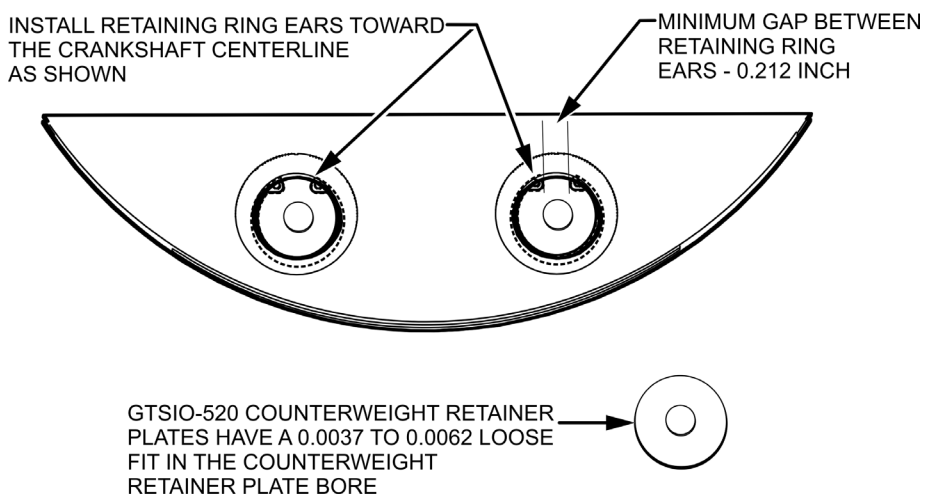


Figure 3. Counterweight Inspection
(Applicable to GTSIO-520 Only)

- c. If all the components appear to be installed but the counterweight retaining ring does not exhibit the proper orientation or the minimum distance between the retaining ring ears is not met, attempt to reposition or reseal the retaining ring with retaining ring pliers or a small drift or punch.

NOTE: If counterweight retaining ring(s) are removed from the counterweight, new retaining ring(s) are required for reassembly.

- d. If repositioning or reseating the retaining rings is not successful, remove the retaining rings, retaining plates and the counterweight pins from one side of the counterweight and remove the counterweight from the crankshaft hanger blade to determine the cause of non-conformity using the instructions in Section 10-9.1.

NOTE: Record the position from which the counterweight pins are removed. The counterweight pin part numbers determine the magnitude of vibration the counterweight is designed to inhibit. Installing incorrect pin in the counterweight assembly could increase engine vibration.

3. Rotate the crankshaft, as necessary, to gain access to the remaining counterweight assemblies on the crankshaft until all counterweight assemblies have been inspected and proper installation of the counterweight plates and retaining rings has been verified.
4. Re-install cylinders according to the instructions in the primary ICA.
5. Perform an engine start and ground run-up according to the AFM/POH to verify engine operation after installation and perform a engine visual leak check.
6. Record compliance with this service bulletin on crankshafts installed in the engine in the engine log book. For replacement crankshafts, apply a 0.375” dot of white enamel paint to the outer face of each counterweight after completing the inspection.

IV. TOOL DRAWINGS

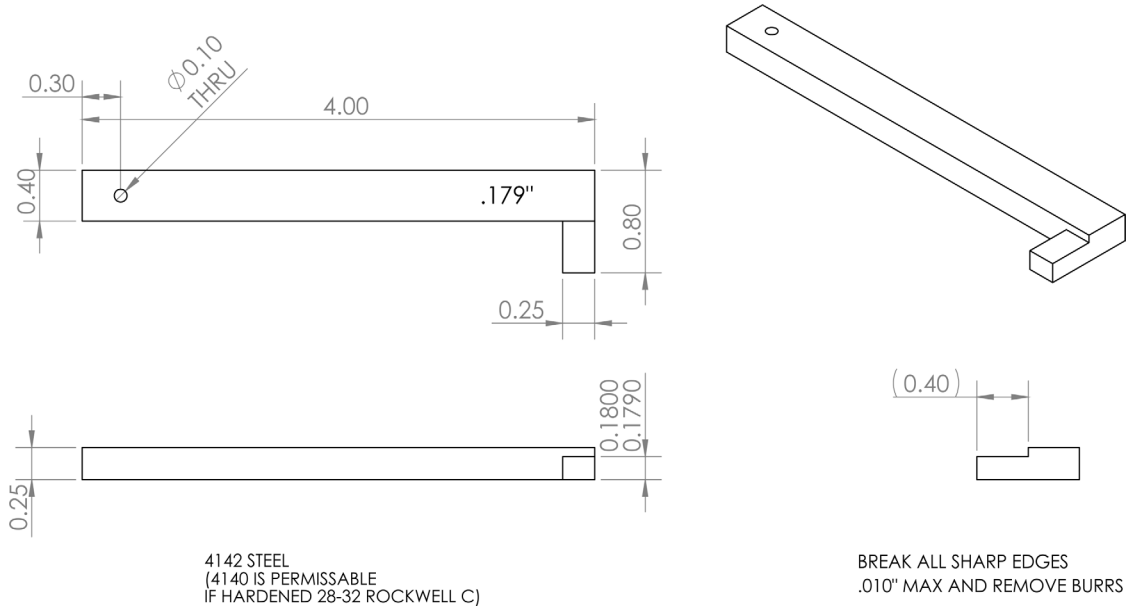


Figure 4. 0.179 Inch Gage (470, IO520, L/T5IO-520, and 550 Series Engines Only)

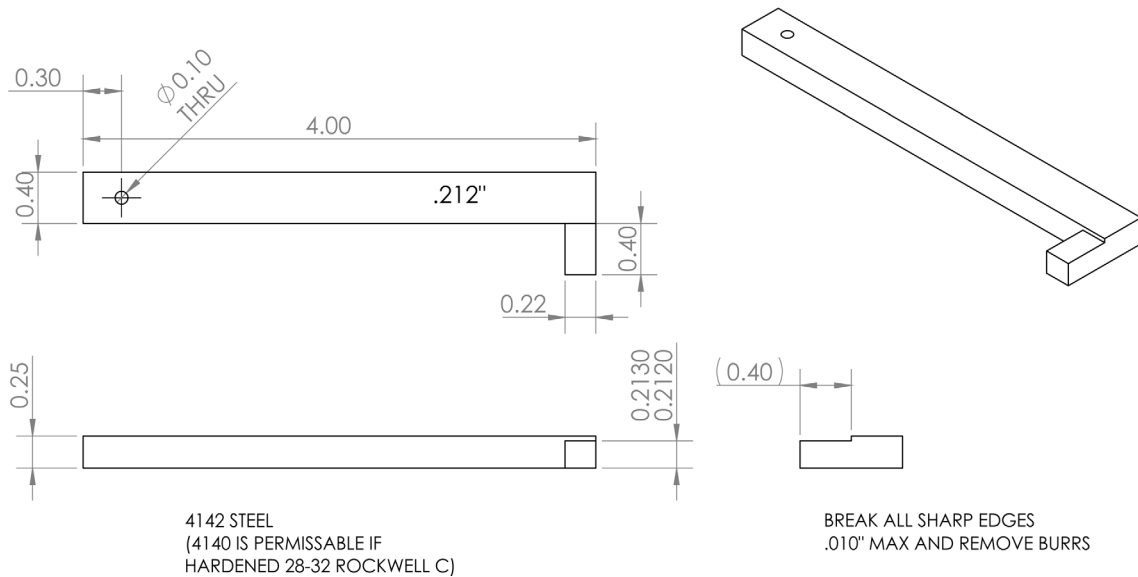


Figure 5. 0.212 Inch Gage (IO/LTSIO/TSIO-360 and GTSIO-520 Series Engines Only)

V. WARRANTY

The actions required to comply with this Service Document are covered, up to the Eligible Allowance provided for reimbursement, as shown below. Standard warranty practices apply. Visit the Continental web site at www.continental.aero to obtain copies of Continental Warranty Policies.

Please provide details of discrepancy with the completed compliance form as verification of non-conformity. Photos are preferred, a detailed description is acceptable.

Complete and email a copy of the linked [Compliance Form](#), along with a copy of the work invoice and a copy of the repair agency's W-9, for reimbursement. To prevent delays in reimbursement processing, the following information **MUST** be included in the "Details and Description of Troubleshooting" section of the compliance form.

1. Non-conformity found? Yes or No
2. If yes, what condition of non-conformity was found?

Continental reserves the right to request copies of invoices and maintenance records to verify warranty applicability.

Allowances/Reimbursements

Eligible Allowances for Reimbursement (not installed in engine)		Labor Hours ¹
1	Inspect crankshaft counterweight retaining rings (per counterweight)	0.15
2	Reposition, Reseat, or Remove and Install Crankshaft Counterweight Assemblies (per counterweight assembly)	0.25

1. at published shop rate

Eligible Allowances for Reimbursement (installed in aircraft)		Labor Hours ¹
1	Remove and install one cylinder (see table in Section III)	10.0
	Remove and install two cylinders (see table in Section III)	18.0
	Remove and install three cylinders (see table in Section III)	22.0
2	Inspect crankshaft counterweight retaining rings (per counterweight)	0.25
3	Reposition, Reseat, or Remove and Install Crankshaft Counterweight Assemblies (per counterweight assembly)	0.50

1. at published shop rate

Continental has established a dedicated telephone line and email address to field questions regarding this service document.

Direct Dial 251-441-4460
 Main Line 251-308-9100 - Option 9
 Email: MSB23Support@continental.aero

If unable to reach our representatives using the dedicated lines, the numbers below are also active:

1.888.826.5465 Toll Free in the United States
 +1.251.436.8299 International Callers

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Appendix 1. Affected Engine Serial Numbers

Affected engines and crankshafts are listed below, sorted by engine serial number and grouped under engine model headings.

0470L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042828	N12KA175

0470R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041340	N21AA291
1041398	N21AA295
1041437	N21AA293
1041530	N21AA285
1041531	N21AA296
1041560	N21AA281
1041561	N21AA274
1041562	N21AA280
1041564	N21AA297
1041938	N21BA059
1041974	N21BA071
1042336	N21BA070
1043161	N21FA203
1043162	N21FA210
1043165	N21FA211
1043181	N21FA190
1043246	N21FA197
1043271	N21FA169
1043688	N21KA247
1043696	N21KA249
1043705	N21KA255
1043799	N21KA259
1043800	N22CA193
1043858	N22CA197
1043867	N22CA198
1043945	N22CA199
1043981	N21KA228
1044021	N22CA217
1044024	N22CA220
1044382	N22CA228
1044394	N22CA221
1044395	N22CA230

0470R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044396	N22CA219
1044444	N22CA218
1044448	N22CA216
1044931	N22CA226

0470S Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041563	N21AA287
1041567	N21BA066
1043272	N21FA213
1043668	N21KA254
1043671	N21KA265

0470U Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041937	N21BA076
1043207	N21FA167
1043208	N21FA175
1043209	N21FA170
1043252	N21FA166
1043305	N21FA188
1043384	N21FA182
1043385	N21KA241
1043664	N21KA223
1043684	N21KA235
1043706	N21KA234
1043713	N21KA244
1043760	N21KA236
1044012	N21FA177
1044389	N22CA205

GTSI0520H Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042536	N21CA007
1042575	N21CA034

GTSI0520L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042500	N21CA009
1042499	N21CA035

I0360CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043507	N07HA042
1044728	N22DA076

I0360DB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044430	N22DA066

I0360ES Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042000	N20KA258
1043551	N21GA029
1044403	N22DA065
1044404	N21GA023
1044435	N22DA077
1044443	N22DA057
1044447	N22DA072

I0360GB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043390	N21GA050

I0360HB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040497	F019916N
1043391	N21GA010

I0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041994	N21BA099
1042402	N21BA109
1044538	N22DA064
1044687	N22DA058

I0470L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043227	N21FA224
1043241	N21FA216
1043249	N20FA199
1043250	N20FA198
1043251	N20FA195
1043670	N22BA016
1043784	N22BA014
1043785	N22BA015
1043786	N22BA010

I0470N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043589	N21FA225
1043789	N22BA012
1043812	N22BA025

I0520A Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044709	N21KA063

I0520BB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041898	N21BA332
1041908	N21BA348
1041969	N21BA331
1043024	N21DA204
1043206	N21DA195
1043918	N21KA147
1044035	N21KA140
1044046	N21KA144
1044586	N22IA132
1044799	N22IA170

I0520CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041894	N21BA313
1041895	N21BA298
1043163	N21DA200
1043164	N21DA202

I0520CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044042	N21DA208
1044043	N21KA149
1044581	N22IA160

I0520D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042189	N21AA248
1043260	N21FA098
1043587	N21AA250
1043639	N21AA227
1043787	N22CA080
1043882	N22CA062
1044222	N22FA121
1044234	N22CA136
1044467	N22FA158
1044695	N22CA138
1044704	N21KA091
1044708	N22FA146
1044711	N21KA092
1044712	N21KA086
1044809	N22LA008
1044878	N21KA071

I0520E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043562	N21AA260

I0520F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042342	N21AA229
1043268	N21FA072
1043674	N21FA074
1043725	N22CA103
1043779	N22CA063
1043788	N22CA086
1043801	N22CA065
1043827	N22CA107
1043906	N22CA131
1044175	N22FA125

I0520F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044178	N22FA147
1044333	N22FA134
1044557	N21AA225
1044629	N22FA118
1044694	N21KA089
1044714	N21KA088
1044772	N21KA093
1044825	N22LA009

I0520L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041465	N21AA261
1043261	N21FA084
1044215	N22FA123

I0520MB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043176	N21DA206
1043177	N21DA193
1043869	N21KA137
1044737	N22IA172
1044800	N22IA130

I0550A Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043709	N22DA203
1043711	N22DA198

I0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041409	N21BA147
1042310	N21JA118
1042374	N21JA154
1042518	N21JA141
1042618	N21JA157
1042619	N21JA052
1042671	N21FA231
1042672	N21FA233
1042712	N21JA053

I0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043000	N22AA056
1043001	N22CA045
1043068	N21KA016
1043111	N22BA086
1043150	N22BA085
1043239	N22BA087
1043248	N22BA088
1043405	N22BA105
1043470	N22CA005
1043495	N22CA050
1043500	N22CA060
1043502	N22CA240
1043503	N22CA236
1043509	N22CA055
1043511	N22CA234
1043529	N22CA252
1043545	N22CA274
1043552	N22CA039
1043576	N22CA283
1043584	N22DA015
1043630	N22DA170
1043672	N22DA188
1043673	N22DA175
1043698	N22DA197
1043749	N22EA038
1043803	N22EA055
1043849	N22EA210
1043872	N22EA246
1043950	N22EA141
1043961	N22FA030
1043971	N22EA193
1043972	N22FA020
1043975	N22EA136
1044104	N22FA096
1044196	N22GA103
1044197	N22GA110
1044198	N22GA096
1044363	N22DA196
1044374	N22DA190
1044392	N22HA084

I0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044401	N22HA176
1044449	N22FA028
1044471	N22HA117
1044473	N22CA279
1044481	N22HA132
1044486	N22HA077
1044490	N22FA005
1044495	N22HA067
1044496	N22HA104
1044497	N22HA069
1044501	N22BA092
1044511	N22HA116
1044516	N22FA081
1044572	N22HA159
1044576	N22IA056
1044579	N22IA028
1044690	N22JA038
1044723	N22JA079
1044741	N22JA107
1044760	N22KA176
1044761	N22JA026
1044900	N22KA133

I0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041264	J229911N
1042691	N21JA168
1042692	N21JA051
1042693	N21JA189
1042694	N21JA190
1042992	N21KA022
1042996	N21KA028
1042997	N22AA103
1043116	N22AA028
1043117	N22AA025
1043178	N22BA107
1043179	N22BA109
1043180	N22BA089
1043195	N22BA104

I0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043290	N22AA049
1043307	N22AA101
1043380	N22BA078
1043381	N22AA071
1043382	N22BA077
1043383	N22BA079
1043402	N22BA096
1043403	N22BA091
1043404	N22BA083
1043409	N22BA103
1043461	N22CA028
1043462	N22BA121
1043471	N22CA026
1043472	N22CA025
1043499	N22CA238
1043514	N22CA233
1043515	N22CA237
1043517	N22CA242
1043518	N22CA250
1043519	N22CA243
1043546	N22CA031
1043548	N22CA027
1043549	N22CA043
1043556	N22CA276
1043568	N22DA006
1043569	N22DA002
1043570	N22CA285
1043571	N22CA275
1043572	N22CA265
1043577	N22DA005
1043699	N22DA009
1043707	N22CA241
1043710	N22DA201
1043715	N22DA202
1043716	N22EA059
1043726	N22DA204
1043729	N22EA060
1043730	N22DA199
1043737	N22EA034

I0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043743	N22EA045
1043888	N22EA084
1043889	N22FA007
1043928	N22FA025
1043930	N22EA051
1043949	N22EA248
1043958	N22FA003
1043974	N22EA197
1043980	N22DA214
1044267	N22FA008
1044275	N22FA077
1044397	N22HA124
1044398	N22DA211
1044438	N22HA054
1044439	N22EA242
1044440	N22FA032
1044441	N22HA109
1044450	N22EA181
1044451	N22EA239
1044468	N22HA120
1044476	N22HA018
1044499	N22HA172
1044503	N22DA037
1044580	N22IA039
1044587	N22IA031
1044597	N22HA156
1044605	N22IA075
1044875	N22HA154
1044876	N22HA157

I0550D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042733	N21FA135
1042737	N21JA086
1042777	N21AA299
1042806	N21JA059
1042807	N21JA075
1042808	N21JA093
1043082	N21FA148

I0550D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043083	N21AA314
1043084	N21FA157
1043104	N21JA105
1043105	N21FA139
1043110	N21FA151
1043289	N21FA140
1043291	N21AA302
1043292	N21FA145
1043308	N21JA088
1043331	N21AA311
1043441	N21KA214
1043667	N21KA213
1043770	N21KA184
1043782	N21AA321
1043783	N21KA200
1043910	N21KA193
1043935	N21KA189
1044261	N22CA145
1044268	N22CA152
1044277	N22CA151
1044278	N22CA154
1044280	N21KA177
1044340	N22CA158
1044341	N22CA184
1044463	N22CA176
1044883	N22CA161
1044884	N22KA054
1044885	N22CA148
1044891	N22CA171
1044916	N22KA020
1044933	N22KA023

I0550E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044269	N22CA142

I0550F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042794	N21JA083
1042795	N21FA161
1042987	N21JA070
1043055	N21FA137
1043076	N21AA310
1043077	N21JA106
1043087	N21AA315
1043113	N21AA305
1043114	N21AA318
1043304	N21AA307
1043459	N21KA199
1043591	N21KA191
1043629	N21KA174
1043766	N21KA178
1043805	N21KA196
1043847	N21KA209
1043852	N21KA190
1044007	N21KA171
1044259	N22CA183
1044260	N22CA146
1044272	N22CA153
1044286	N22CA144
1044287	N22CA164
1044288	N21KA218
1044297	N21KA217
1044912	N22KA018
1044913	N22KA047

I0550G Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043460	N22GA016
1043941	N22FA013
1044491	N22CA232

I0550L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043112	N21AA303

I0550L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044008	N21KA206
1044494	N22CA149

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041311	N21BA165
1041320	N21BA166
1041484	N21BA230
1041494	N21BA142
1041504	N21BA235
1041511	N21BA229
1041878	N21BA214
1041899	N21BA247
1041920	N21BA254
1041921	N21BA237
1042044	N21DA254
1042045	N21DA226
1042046	N21DA246
1042057	N21DA225
1042058	N21DA231
1042068	N21DA244
1042070	N21DA060
1042076	N21DA004
1042091	N21DA241
1042127	N21DA103
1042146	N21DA035
1042147	N21DA213
1042149	N21DA089
1042150	N21DA104
1042151	N21DA065
1042153	N21DA063
1042156	N21DA112
1042168	N21DA098
1042204	N21DA005
1042211	N21DA110
1042214	N21DA039
1042221	N21DA047
1042222	N21DA054
1042224	N21DA108

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042226	N21DA022
1042227	N21DA040
1042249	N21DA043
1042250	N21DA075
1042280	N21DA068
1042281	N21DA011
1042282	N21DA016
1042284	N21DA021
1042285	N21DA072
1042287	N21DA071
1042288	N21DA115
1042301	N21DA131
1042311	N21DA019
1042312	N21DA129
1042319	N21DA119
1042338	N21DA029
1042341	N21DA137
1042379	N21DA136
1042443	N21JA011
1042447	N21JA022
1042448	N21JA007
1042449	N21JA001
1042452	N21JA010
1042453	N21JA024
1042476	N21JA018
1042477	N21JA107
1042581	N21JA054
1042590	N21JA043
1042605	N21JA045
1042607	N21JA156
1042608	N21JA132
1042632	N21JA142
1042638	N21JA166
1042642	N21JA160
1042644	N21JA117
1042660	N21JA046
1042662	N21JA153
1042665	N21FA236
1042709	N21JA161

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042710	N21JA047
1042711	N21JA172
1042810	N21KA001
1042811	N21JA191
1042812	N21JA199
1042985	N21JA202
1043023	N22BA094
1043033	N21KA029
1043057	N21KA027
1043058	N21KA025
1043059	N21KA023
1043085	N21KA037
1043106	N22AA011
1043120	N22AA099
1043124	N22AA009
1043146	N22AA003
1043147	N22AA026
1043151	N22AA022
1043167	N22AA029
1043168	N22AA035
1043169	N21KA041
1043170	N21JA182
1043174	N22AA014
1043175	N21JA151
1043228	N22AA046
1043229	N22AA047
1043230	N22AA050
1043231	N22AA052
1043240	N22BA106
1043277	N22AA084
1043278	N22AA041
1043306	N21JA178
1043318	N22AA108
1043323	N22AA078
1043324	N22AA080
1043335	N22AA061
1043336	N22AA072
1043354	N22AA058
1043355	N22AA110

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043356	N22AA066
1043386	N22BA084
1043387	N22AA074
1043388	N22AA069
1043389	N22BA081
1043426	N22CA006
1043448	N22BA112
1043449	N22CA015
1043450	N22CA021
1043455	N22BA108
1043457	N22BA119
1043458	N22CA017
1043474	N22CA012
1043488	N22CA033
1043520	N22CA247
1043521	N22CA030
1043525	N22CA014
1043534	N22CA259
1043536	N22CA244
1043547	N22CA040
1043550	N22CA268
1043553	N22CA272
1043555	N22CA287
1043585	N22DA035
1043590	N22CA281
1043592	N22AA090
1043593	N22DA182
1043594	N22DA176
1043595	N22CA277
1043597	N22DA017
1043605	N22DA016
1043615	N22DA018
1043618	N22DA025
1043623	N22DA022
1043638	N22DA179
1043642	N22DA168
1043643	N22DA040
1043647	N22DA039
1043648	N22DA181

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043649	N22DA023
1043650	N22DA172
1043665	N22DA194
1043669	N22DA187
1043683	N22DA192
1043685	N22DA011
1043686	N22DA189
1043691	N22DA207
1043704	N22DA206
1043712	N22DA209
1043714	N22DA213
1043734	N22EA008
1043740	N22DA220
1043747	N22EA004
1043751	N22EA037
1043755	N22EA007
1043771	N22EA005
1043790	N22EA006
1043798	N22EA009
1043819	N22EA211
1043856	N22EA245
1043857	N22EA083
1043870	N22EA068
1043879	N22EA003
1043880	N22EA116
1043885	N22EA079
1043890	N22FA010
1043891	N22FA004
1043919	N22FA024
1043924	N22EA011
1043929	N22EA236
1043940	N22EA109
1043944	N22EA240
1043948	N22EA243
1043959	N22EA088
1043966	N22EA200
1043970	N22FA014
1043979	N22FA044
1043996	N22FA062

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044009	N22FA074
1044022	N22EA169
1044023	N22EA087
1044027	N22FA061
1044031	N22FA064
1044064	N22EA199
1044066	N22FA076
1044079	N22FA102
1044080	N22FA063
1044081	N22FA045
1044082	N22FA067
1044083	N22FA091
1044089	N22GA020
1044090	N22FA055
1044095	N22FA105
1044097	N22GA017
1044105	N22FA093
1044106	N22GA071
1044110	N22FA073
1044111	N22FA083
1044151	N22GA114
1044152	N22EA178
1044153	N22GA013
1044155	N22FA097
1044181	N22GA052
1044182	N22GA100
1044225	N22DA217
1044229	N22HA024
1044231	N22HA044
1044232	N22EA189
1044276	N22FA070
1044279	N22FA146
1044281	N22FA089
1044293	N21HA015
1044293	N22HA015
1044294	N22HA001
1044295	N22FA090
1044311	N22GA094
1044319	N22HA016

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044324	N22FA072
1044327	N22EA180
1044334	N22HA087
1044335	N22HA100
1044336	N22HA020
1044337	N22EA252
1044345	N22HA032
1044360	N22HA076
1044365	N22HA103
1044366	N22FA049
1044371	N22DA171
1044372	N22HA113
1044421	N22HA105
1044422	N22EA131
1044460	N22GA067
1044461	N22HA013
1044472	N22HA128
1044482	N22CA036
1044492	N22HA163
1044498	N22HA114
1044507	N22DA041
1044514	N22IA009
1044518	N22IB102
1044534	N22HA155
1044558	N22IA033
1044561	N22IA048
1044626	N22AA068
1044655	N22JA001
1044674	N22JA077
1044677	N22JA045
1044679	N22IA098
1044691	N22JA076
1044699	N22IA094
1044725	N22JA014
1044762	N22KA136
1044763	N22JA033
1044765	N22JA096
1044768	N22JA109
1044773	N22JA098

I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044774	N22JA030
1044824	N22JA013
1044868	N22KA154
1044894	N22KA187

I0550P Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042072	N21DA233
1042631	N21FA240
1042676	N21JA176
1042677	N21JA125
1043032	N21KA019
1043118	N22AA024
1043119	N22AA027
1043232	N21FA239
1043238	N22AA100
1043392	N22AA076
1043465	N22CA022
1043501	N22CA059
1043628	N22DA046
1043700	N22DA210
1043708	N22DA186
1043772	N22EA010
1043926	N22EA241
1043947	N22EA085
1044270	N22EA167
1044362	N22HA098
1044470	N22HA178
1044484	N22HA126
1044585	N22IA057
1044599	N22IA066
1044675	N22JA022
1044688	N22JA046

LTSI0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042037	N20FA248

LTSI0360RB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042042	N21BA124
1042043	N20IA182
1042053	N20FA245
1042075	N21BA129
1042346	N20IA175
1043379	N21BA135
1044431	N21GA071
1044432	N21BA131
1044434	N21GA063

R-0470J Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040397	N15IA040
1040398	N21AA275

R-0470K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043677	N11HA173

R-0470L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040721	N21BA075
1040777	N21BA058
1040890	N21BA057
1041780	N17IA109
1042827	N17HA233
1042957	N22CA200

R-0470R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1039600	N12KA162
1040297	N21AA289
1040324	N20HA008
1040375	N21AA279
1040438	N21AA294
1040652	N21AA273
1040778	N21AA277
1040786	N21AA286
1040977	N04BA017

R-0470R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040979	N07BA071
1041201	N17HA232
1041205	N21BA065
1041269	N21BA061
1041613	N21FA194
1041615	N21FA196
1041617	N21FA209
1041618	N21FA201
1041619	N21FA214
1041620	N21BA069
1041621	N21FA215
1041622	N21FA208
1041722	N21FA200
1041781	N21FA178
1041782	N21FA193
1041783	N21FA174
1041837	N21FA181
1042741	N22CA196
1042742	N21KA243
1042743	N21BA067
1042744	N21KA242
1042745	N05DA214
1042746	N22CA191
1042764	N22CA192
1042765	N21FA176
1042766	N21KA225
1043337	N11JA238

R-0470S Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040302	N20HA018
1040887	N10DA148
1041623	N21FA206
1041838	N21FA179
1042829	N21KA263
1042830	N21KA257
1042831	N22CA202

R-0470U Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040587	N21BA073
1040590	N07HA601
1040592	N14HA287
1040618	N15LA084
1040787	N21BA062
1040888	N08LA054
1040889	N20KA042
1041145	N21BA072
1041270	N21BA060
1041469	N21BA056
1041625	N21FA171
1041627	N21FA172
1041628	N21FA186
1041784	N21FA187
1041785	N21FA168
1041786	N21FA180
1042747	N21FA173
1042832	N21KA245
1042833	N21KA224
1042834	N21KA221
1042835	N21KA238
1042836	N21KA233
1042933	N21KA222
1043050	N21KA240
1043413	N22CA194
1043720	N00IA192
1043894	N17HA226

R-GTSI0520L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040279	N21CA016
1041629	N20FA072
1042790	N21CA022
1042793	N21CA011

R-GTSI0520M Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040630	N21CA014
1040735	N21CA019

R-GTSI0520M Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040736	N20FA076
1041735	N20FA069
1041787	N21CA309
1041788	N20FA066
1042791	N21CA037
1042792	N20FA067
1042958	N20FA074
1044475	N10JA053

R-I0360CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043508	N14LA092

R-I0360DB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042065	K288908N
1040239	N07HA020
1042236	N11LA149
1042064	N14HA164
1042283	N15EA046
1041024	N20KA248
1041197	N20KA255
1041030	N21BA104
1043051	N21GA041

R-I0360ES Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040309	N20DA118
1040328	N08AA032
1040545	I119602N
1040609	N21BA084
1040670	N08AA003
1040685	N00FA197
1040754	N20KA254
1040765	N20KA256
1040845	N21BA113
1040850	N20KA251
1041314	N04AA034
1041315	N20KA235

R-I0360ES Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041550	N08AA017
1041551	N20KA252
1041634	N20KA245
1041635	N21BA088
1041789	N21BA102
1041790	N21BA114
1042256	N15LA146
1042260	N21GA033
1042366	N21GA040
1042703	N21GA006
1042838	N21GA016
1042839	N21GA018
1042840	N21GA048
1042841	N21GA008
1042842	N21GA019
1042843	N21GA046
1042844	N00AA419
1042914	N04LA123
1042915	G209909N
1043130	N14LA117
1043192	N08GA230
1043338	N02FA493

R-I0360GB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040841	N21BA110
1040843	N21BA095
1041027	N20KA244
1041028	N20CA137
1041107	N21BA083
1043952	N12FA195

R-I0360HB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040498	N20KA243
1041636	N20KA260
1044787	N22DA074

R-I0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040703	N20KA247
1041200	N21BA101
1042158	N12BA165
1042821	N07HA474
1042916	N21GA037
1042917	N21GA047
1042918	I109610N
1042919	N14CA105
1043052	N21GA026
1043220	N15JA013
1043303	N08GA242

R-I0470C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041122	N20FA210
1041245	N20FA211

R-I0470F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043513	N02LA233
1041170	N15JA164

R-I0470L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040783	N19FA141
1041549	N19FA116
1041637	N00DA171
1041638	N08LA065
1042845	N22BA019
1042847	N22BA009
1042848	N22BA007

R-I0470N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041053	N19FA135
1041548	N19FA106
1042784	N22BA008
1042849	N21BA017

R-I0520A Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042757	N22CA077
1042920	N22CA082
1043797	F269914N

R-I0520BB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040860	N20KA218
1040895	N21BA294
1041265	N21BA315
1041546	N21BA335
1041547	N21BA304
1041639	N21BA311
1041640	N21BA329
1041641	N21BA308
1041642	N21BA325
1041701	N21BA333
1041717	N21DA180
1041791	N21DA165
1041792	N21DA168
1041840	N21DA166
1042367	N21BA317
1042404	N07JA446
1042851	N00DA291
1042852	N05AA436
1042853	N21KA167
1042854	N21BA340
1042855	N21KA153
1042959	N04JA395
1042960	N21DA194
1042961	N21DA199
1044458	N22IA141

R-I0520CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040973	N21BA323
1040995	N21BA349
1041643	N21BA328
1041644	N21BA305
1041645	N21BA330

R-I0520CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041646	N21BA334
1041724	N21BA327
1041725	N21BA337
1041757	N21BA295
1041793	N21DA152
1041841	N21DA156
1041964	N21DA155
1041965	N21DA174
1042856	N21KA119
1042857	N21KA106
1042858	N21KA154
1042859	N21KA105
1042860	N21KA141
1042861	N21KA143
1042862	N21KA148
1042962	N21BA342
1042963	N19HA107
1042964	N12EA003
1043053	N21KA101
1043247	N21DA185
1043414	N21KA142
1043479	N21KA117
1043480	N21KA121
1043967	N21KA168
1043968	N21DA181
1044356	N22IA155

R-I0520D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040810	N21AA235
1041272	N14DA144
1041545	G288906N
1041647	N21AA265
1041737	N11HA087
1041738	N20AA142
1041794	N21FA105
1042257	N16IA059
1042368	N01GA035
1042731	N21AA252

R-I0520D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042934	N22CA125
1042935	N22CA067
1042965	N22CA101
1042966	N22CA104
1042967	N22CA078
1043009	N22CA132
1043155	N22CA127
1043202	N22CA073
1043412	N16GA093
1043423	N22CA112
1043425	N20AA183
1044048	F089002N
1044141	N21KA085
1044240	N00FA128
1044241	N10HA029

R-I0520E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044306	N17FA101

R-I0520F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040817	N20AA200
1040949	N14DA129
1040975	N21AA251
1040976	N02IA232
1040978	N20HA046
1041273	N20HA069
1041543	F209908N
1041544	N20HA082
1041648	N15HA088
1041649	N02DA232
1041796	N03GA039
1041797	N20AA187
1042066	N17BA088
1042540	N22CA096
1042541	N22CA072
1042937	N22CA105
1042939	N22CA095

R-I0520F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042940	N22CA079
1042941	N22CA110
1043374	N22CA123
1043481	N13GA151
1043542	N16FA006
1043583	N08BA145
1043601	N22CA111
1043721	N22FA131
1043765	N22FA109
1043895	N06JA110
1044002	N18JA185
1044168	N02AA204

R-I0520L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040959	N01HA145
1040983	N17JA128
1041253	N21BA054
1041274	N02EA227
1041475	N17FA094
1041476	N13GA176
1041477	N05AA330
1041739	N03HA038
1042362	N21FA114
1042481	N22CA121
1042968	N22CA069
1042969	N22CA084
1043012	N21AA247
1043411	K019614N
1043659	N22CA135
1043839	N06HA090
1043840	N17FA138

R-I0520MB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040809	N21BA322
1042261	N21BA345
1042647	N10EA029
1042648	N15DA096

R-I0520MB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042942	N21KA107
1042970	N21BA347
1043701	N21KA113

Engine Serial No.	Crankshaft Serial No.
1041799	N13HA076
1041800	N21DA024
1042759	N07GA164
1042760	N06FA288

R-I0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040891	N21AA140
1040971	N06FA063
1041056	N21DA251
1041085	N21BA245
1041091	N08IA119
1041150	N09KA115
1041542	N21DA250
1041650	N04BA217
1041651	N14LA036
1041653	N03AA159
1041654	N12AA058
1041773	N08JA104
1041801	N02JA124
1041802	N21DA077
1041858	N21DA015
1041859	N16IA241
1041860	N02BA513
1041862	N11BA256
1041864	N16GA188
1042166	N10JA236
1042232	N07JA483
1042254	N07JA314
1042369	N07FA275
1042405	N07GA171
1042482	N08EA105
1042542	N04EA048
1042690	N06BA076

R-I0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042824	N21JA041
1042921	N02GA073
1042922	N21JA147
1042923	N11JA114
1042943	N05BA050
1042944	N22CA269
1042945	N17AA131
1042946	N04HA348
1042947	N17AA111
1042948	N03BA427
1042971	N16IA219
1042999	N22BA095
1043132	N14FA061
1043225	N22CA020
1043432	N18KA047
1043433	N22DA042
1043722	N22FA018
1044169	N05DA232
1044459	N22IA004

R-I0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040336	N21DA257
1040550	N08EA263
1040552	N11BA240
1040784	N07KA081
1040789	N21AA143
1040790	N21AA153
1041655	N19EA094
1041656	N05GA114
1041657	N12CA144
1041658	N04JA460
1041660	N10KA060
1041661	N04GA047
1041662	N06AA083
1041663	N18IA165
1041664	N08GA166
1041665	N04JA179
1041666	N07HA386

R-I0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041966	N21DA064
1042571	N07HA346
1042772	N02AA013
1042773	N21JA196
1042774	N10LA020
1042803	N21JA185
1043129	N11KA093
1043185	N22AA023
1043188	N14GA117
1043193	N06CA462
1043219	N04CA010
1043224	N06AA382
1043302	E099906N
1043343	N04IA199
1043344	N05KA268
1043422	N06JA080
1043424	N17CA151
1043526	N22CA257
1043527	N19AA167
1043528	N09LA104
1043543	N06BA106
1043544	N17CA056
1043602	N22EA234
1043603	N22EA053
1043660	N22FA012
1043702	N22EA077
1043703	N11GA148
1043896	N22GA003
1043937	N22EA144
1044017	N22DA038
1044018	N04DA191
1044087	N18CA138
1044120	N03JA138
1044436	N22CA023

R-I0550D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040858	N20LA033
1041202	N20LA044

R-I0550D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041255	D059312N
1041312	N21JA063
1041317	N20KA007
1041478	N21JA084
1041479	N21JA094
1041480	N21HA126
1041481	N21FA121
1041505	N21FA165
1041667	N21FA160
1041668	N21JA060
1041670	N21JA080
1041671	N21JA095
1041672	N21JA081
1041673	N21JA064
1041674	N21FA124
1041675	N21FA116
1041743	N21JA085
1041803	N21JA098
1041804	N21FA146
1041805	N21FA164
1041806	N21FA117
1041842	N21FA131
1041843	N21JA087
1041846	N21AA322
1041861	N21JA058
1041916	N20LA057
1042253	N21JA101
1042255	N21JA069
1042483	C159412N
1042484	N20GA057
1042538	N21FA120
1042539	N21JA099
1042875	N21KA215
1042876	N21KA198
1042877	N21FA159
1042878	N21KA175
1042879	N21KA185
1042880	N21FA141
1042881	N21FA150
1042972	N21AA312

R-I0550D Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042973	N21FA130
1042974	N19AA117
1043054	N21FA142
1043339	N04DA314
1043340	N07EA175
1043345	N14AA057
1043346	N06AA449
1043482	N21AA319
1043678	N19CA022
1043723	N22CA189
1043992	N22CA157
1044003	N05DA209

R-I0550F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043724	N22CA160
1044143	N22CA167
1044170	N22CA165
1044171	N22CA163
1044172	N22CA162
1044173	N16HA004
1044300	N22KA051

R-I0550G Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041807	N21DA120
1041967	N21JA023
1042658	N07CA251
1042928	N04HA151

R-I0550E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040833	N20KA002
1040834	N01EA007
1041676	N21FA118
1041677	N21FA154

R-I0550L Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044512	N22KA044

R-I0550F Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041181	N20LA056
1041678	N21FA125
1041679	N21FA122
1041680	N21FA119
1041847	N20LA055
1041848	N21JA077
1041849	N21FA123
1042485	N21KA211
1042649	N21KA212
1042819	N21KA173
1042820	N21KA176
1043029	N21KA207
1043131	N21AA301
1043190	N21KA204
1043342	N21JA100
1043524	N01FA074
1043614	N16HA005

R-I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040822	N21BA013
1041138	N21DA247
1041192	N07GA151
1041199	N08HA137
1041203	N14BA058
1041468	N21DA253
1041540	N21DA255
1041541	N21DA212
1041598	E109902N
1041681	N21AA177
1041682	N21DA224
1041683	N21DA249
1041684	N21DA248
1041685	N20IA133
1041686	N04DA157
1041687	N21DA073
1041688	N05JA164
1041689	N13EA027

R-I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041690	N05AA110
1041723	N05JA118
1041808	N06EA382
1041809	N06CA072
1041810	N21DA066
1041811	N21DA046
1041851	N21DA001
1041852	N04EA031
1041853	N08EA018
1041854	N08FA082
1041863	N21DA138
1042018	N12HA219
1042019	N21DA240
1042082	N21DA121
1042084	N09DA121
1042258	N08KA171
1042262	N00GA376
1042370	N08HA151
1042406	N10IA113
1042486	N03BA151
1042569	N08FA107
1042570	N06CA432
1042572	N09GA029
1042650	N21JA012
1042688	N03JA114
1042689	N16FA137
1042864	N17AA153
1042865	N21JA181
1042867	N10AA137
1042868	N11IA046
1042869	N03EA142
1042870	H319902N
1042871	N22AA106
1042872	N02DA106
1042873	N07GA195
1042874	N22CA004
1042913	N22CA254
1042929	N22CA034
1042930	N21KA024
1043126	N16BA133

R-I0550N Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043127	N11LA078
1043218	N02JA089
1043341	N04HA340
1043375	N07GA156
1043778	N14FA042
1043802	N08EA306
1044144	N10HA032
1044147	N22GA130
1044149	N22EA190
1044314	N22DA167
1044315	N22CA044
1044590	N13HA070
1044593	N22DA014
1044650	N03IA120

R-I0550P Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040772	N21AA150
1041520	N04FA331
1041539	N08EA297
1041691	N18DA118
1041744	N21DA105
1042081	N08EA268
1043969	N22FA085

R-LTSI0360EB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040391	N14FA108
1040576	N21BA125
1040668	N10DA024
1041745	N21BA136
1042884	N21GA080
1042886	G209913N
1043128	N00LA198

R-LTSI0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040392	N20FA246
1040743	N20IA180

R-LTSI0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040985	N20FA247
1042699	N21GA058
1042910	N07EA147

R-LTSI0360RB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040439	N20IA169
1040443	N20IA179
1040999	N20FA249
1041812	N20IA170
1042911	N21GA077
1042912	N21GA079

R-TSI0360CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043270	N13BA021
1043679	N11EA033

R-TSI0360EB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040764	N21BA091
1041746	N20KA250
1042888	N04LA151
1042889	N21GA024
1043187	N17AA006

R-TSI0360FB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040771	N20KA233
1040892	N21BA115
1041029	N21BA087
1041204	N20KA241
1041538	N20DA117
1041692	N20KA242
1041693	N21BA092
1041747	N21BA105
1041813	N21BA100

R-TSI0360HB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040842	N20KA234
1040844	N21BA089
1043956	G239711N
1044051	N12JA071
1044057	N11LA138

R-TSI0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040429	N03KA026
1040986	N21BA107
1041463	N21BA090
1043599	N22FA060
1043661	N21CA281
1043809	N02FA593

R-TSI0360LB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041254	N20KA253
1042890	N21GA030

R-TSI0360RB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040957	N21BA108
1041748	N21BA112
1041814	N20KA246
1042977	G219909N
1044058	N22DA095

R-TSI0520BE Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041508	N21BA318

R-TSI0520CE Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041694	N08HA278
1042304	N10AA112
1043191	N10AA113

R-TSI0520EB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041604	N21BA341
1044145	N21KA114

R-TSI0520KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043070	N21KA169

R-TSI0520M Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041537	N08BA177
1041695	N21FA081
1042902	N22CA071
1042903	N22CA068

R-TSI0520NB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040400	N20KA220
1044159	N22IA133

R-TSI0520R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041266	N21AA238
1041318	H319304N
1041696	N21FA086
1041816	N21FA085
1042898	N13CA009
1042899	N22CA139
1042900	N22CA099

R-TSI0520T Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041005	N21BA046
1041697	N21FA076

R-TSI0520VB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040608	N21BA312
1040614	N21BA307
1040755	N20KA215

R-TSI0520VB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040756	N20KA225
1040802	N21BA302
1040803	N21BA324
1040806	N21BA300
1041198	N21BA309
1041267	N20AA017
1041536	N21BA346
1041726	N21BA321
1041749	N21BA296
1041750	N03EA021
1041751	N05DA046
1041752	N21DA163
1041753	N21DA171
1041754	N21BA343
1041755	N21BA319
1041756	N21BA326
1041817	N21DA161
1041855	N21DA176
1041856	N21DA159
1042263	N21DA154
1042264	N21DA157
1042265	N21DA179
1042266	N21DA164
1042267	N21DA169
1042268	N21DA162
1042269	N15DA103
1042459	N21DA170
1042487	N14IA141
1042488	N08AA099
1042489	N21DA188
1042490	N10BA166
1042491	N21DA183
1042493	N17LA020
1042494	N14HA062
1042495	N02LA064
1042496	N05IA096
1042497	N21BA344
1042537	N10IA020
1042651	N00IA293
1042652	N12EA011

R-TSI0520VB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043134	N21DA203
1043135	N08BA101
1043136	N21DA209
1043137	N21DA186
1043141	N22IA152
1043142	N22IA144
1043145	N21KA162
1043223	N21DA189
1043435	N21KA164
1043818	N21KA127
1044193	N21KA139
1044242	N21KA157
1044262	N21KA160
1044263	N15BA121
1044320	N22IA143
1044387	N22IA129
1044779	N22IA124
1044784	N22IA118
1044785	N22IA167
1044786	N22KA104

R-TSI0520WB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044243	N22IA117

R-TSI0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040791	N21AA157
1040848	N21AA209
1040893	N14HA099
1041466	N02JA134
1041535	N21DA222
1041698	N21DA245
1041699	N19JA165
1041857	N01DA165
1041963	N05KA322
1042363	N08EA061
1042371	N07KA090
1042892	N05DA022

R-TSI0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042893	N04IA008
1042894	N08JA142
1042896	N09FA216
1042897	N15DA067
1042909	N05GA128
1044052	N22CA253
1044174	N22IA045

R-TSI0550E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042364	N06EA403
1042904	N07JA043
1043897	N06CA078
1044301	N22HA133

R-TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042372	N07AA191
1042905	N06BA071
1042906	N07KA093
1042907	N02JA093
1043415	N22EA040
1043575	N22CA256

TSI0360CB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042418	N21BA111

TSI0360FB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042414	N20KA238
1044428	N22DA079
1044433	N22DA127

TSI0360HB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043953	N04FA010
1044550	N22DA128
1044554	N22DA062

TSI0360KB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1040392	N20FA246
1040429	N03KA026
1040743	N20IA180
1040985	N20FA247
1040986	N21BA107
1041463	N21BA090
1042037	N20FA248
1042699	N21GA058
1042910	N07EA147
1043599	N22FA060
1043661	N21CA281
1043809	N02FA593

TSI0360RB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042052	N20KA257
1042411	N20KA236
1043396	N21GA022
1043397	N21GA013
1044429	N22DA069
1044442	N22DA130
1044738	N22DA067

TSI0520EB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042408	N21DA175

TSI0520M Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041489	N21AA258
1041515	N21AA241
1042163	N21AA232
1043257	N21FA073
1043259	N21FA083
1043637	N21AA223
1043745	N22CA070
1043821	N22CA137
1043823	N22CA090
1043884	N22CA124

TSI0520M Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043886	N22CA126
1043892	N22CA074
1043916	N22CA088
1043934	N22CA114
1043989	N22CA066
1044112	N22FA136
1044123	N22FA154
1044124	N22FA126
1044156	N22FA127
1044176	N22FA153
1044213	N22FA129
1044214	N22FA119
1044247	N22FA124
1044788	N21KA072

TSI0520NB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044578	N21KA116

TSI0520P Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041490	N21AA256
1044245	N22FA144

TSI0520R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041512	N21AA257
1042025	N21AA231
1043258	N21FA077
1043347	N21IA106
1043348	N21FA066
1043349	N21FA104
1043350	N21FA068
1043633	N21AA228
1043645	N21AA224
1043754	N22CA081
1043780	N22CA093
1043781	N22CA075
1043804	N22CA089

TSI0520R Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043905	N22CA113
1043988	N22CA108
1044094	N22FA114
1044103	N22FA117
1044179	N22FA151
1044697	N21KA095
1044713	N21KA098
1044871	N22LA003

TSI0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044148	N22GA010
1044342	N22HA037
1044347	N22HA066
1044361	N22HA099

TSI0550E Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043640	N22DA180

TSI0520T Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041399	N21AA230
1043263	N21FA087
1043264	N21FA079
1043332	N21FA088
1043573	N21AA249
1043631	N21AA226
1043641	N21AA242
1043753	N22CA100
1043822	N22CA106
1044212	N22FA130
1044248	N22FA120

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041327	N21BA189
1041404	N21BA151
1041410	N21BA268
1041411	N21BA157
1041412	N21BA267
1041439	N21BA146
1041440	N21BA164
1041441	N21BA260
1041442	N21BA158
1041443	N21BA261
1041459	N21BA265
1041460	N21BA148
1041483	N21BA227
1041493	N21BA269
1041879	N21BA253
1041881	N21BA213
1041892	N21BA202
1041893	N21BA248
1041903	N19CA066
1041909	N21BA201
1041910	N21BA244
1041913	N21BA212
1041914	N21BA264
1041915	N21BA256
1041923	N21BA252
1041924	N20CA018
1041930	N21BA238
1041933	N21BA243

TSI0520UB Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042427	N21DA158
1044032	N21KA159
1044040	N21KA123

TSI0550B Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042998	N22BA095

TSI0550C Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043554	N22CA042
1043563	N22CA282
1043564	N22DA173
1043806	N22DA191

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1041934	N21BA251
1041936	N21BA250
1041939	N21BA236
1042010	N21BA215
1042011	N21BA226
1042012	N21BA160
1042015	N21BA241
1042016	N21BA176
1042055	N21DA242
1042093	N21DA236
1042094	N21DA227
1042099	N21DA228
1042101	N21DA082
1042103	N21DA087
1042104	N21DA256
1042117	N21DA081
1042129	N21DA093
1042130	N21DA084
1042131	N21DA095
1042135	N21DA100
1042136	N21AA112
1042137	N21AA154
1042138	N21DA062
1042139	N21BA143
1042148	N21AA114
1042167	N21DA056
1042175	N21DA109
1042176	N21DA010
1042177	N21DA057
1042178	N21DA059
1042186	N21BA338
1042190	N21DA006
1042191	N21DA003
1042194	N21DA002
1042195	N21DA099
1042196	N21DA032
1042210	N21DA113
1042251	N21DA020
1042252	N21DA044
1042291	N21DA134

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042292	N21DA018
1042298	N21DA048
1042299	N21DA037
1042300	N21DA133
1042308	N21DA128
1042309	N21DA125
1042318	N21DA074
1042320	N21DA026
1042331	N21DA146
1042332	N21DA127
1042335	N21DA027
1042337	N22DA139
1042345	N21DA148
1042347	N21DA135
1042348	N21DA023
1042350	N21DA150
1042378	N21JA144
1042400	N21JA009
1042454	N21JA020
1042455	N21JA006
1042456	N21JA002
1042457	N21JA008
1042458	N21JA013
1042502	N21JA114
1042503	N21JA025
1042507	N21JA015
1042508	N21JA017
1042528	N21JA038
1042559	N21JA138
1042566	N21JA126
1042585	N21JA134
1042586	N21JA137
1042587	N21JA136
1042588	N21JA123
1042589	N21JA122
1042592	N21JA127
1042609	N21JA042
1042610	N21JA140
1042629	N21JA129
1042630	N21JA040

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1042633	N21JA148
1042634	N21JA150
1042635	N21JA111
1042643	N21FA238
1042645	N21JA139
1042646	N21JA135
1042687	N21FA235
1042697	N21JA192
1042705	N21JA113
1042706	N21JA184
1042707	N21JA177
1042715	N21JA167
1042716	N21JA173
1042732	N21JA048
1042736	N21JA164
1042738	N21JA175
1042981	N21JA200
1042982	N21JA198
1043018	N22AA043
1043037	N21KA017
1043038	N21KA021
1043056	N21KA020
1043063	N21KA026
1043066	N21KA031
1043067	N21KA033
1043069	N21KA018
1043088	N21KA035
1043095	N21KA034
1043107	N21KA046
1043108	N22AA001
1043109	N21KA030
1043115	N22AA032
1043133	N22AA012
1043148	N21JA183
1043149	N22AA005
1043159	N22AA006
1043160	N22AA016
1043182	N22AA019
1043196	N22AA008
1043197	N22AA020

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043198	N22AA007
1043204	N22AA036
1043205	N22AA033
1043222	N22AA039
1043236	N22AA040
1043237	N22AA048
1043273	N22AA044
1043274	N22AA082
1043275	N22AA086
1043276	N22AA083
1043283	N22AA053
1043284	N22AA089
1043285	N22AA051
1043286	N21JA021
1043313	N22AA109
1043314	N22AA164
1043316	N22AA107
1043317	N22AA096
1043319	N22AA097
1043320	N22AA085
1043321	N22AA054
1043322	N22AA079
1043333	N22AA092
1043359	N22AA059
1043360	N22AA065
1043361	N22AA055
1043362	N22AA062
1043365	N22BA076
1043366	N22AA057
1043372	N22AA077
1043373	N22AA063
1043393	N22BA097
1043394	N22BA098
1043395	N22BA082
1043398	N22AA070
1043399	N22BA100
1043400	N22BA101
1043427	N22CA007
1043428	N22BA111
1043429	N22BA124

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043436	N22CA011
1043437	N22CA010
1043438	N22BA125
1043439	N22CA003
1043440	N22CA008
1043451	N22BA114
1043452	N22AA095
1043453	N22CA037
1043454	N22BA123
1043466	N22BA113
1043467	N22CA032
1043468	N22CA024
1043469	N22CA019
1043485	N22CA049
1043486	N22CA235
1043530	N22CA273
1043531	N22CA262
1043532	N22CA260
1043533	N22CA261
1043535	N22CA249
1043607	N22CA264
1043608	N22DA032
1043609	N22DA013
1043610	N22DA034
1043611	N22DA020
1043612	N22DA028
1043613	N22DA019
1043616	N22DA021
1043624	N22DA026
1043644	N22DA029
1043646	N22DA033
1043651	N22DA036
1043652	N22DA174
1043663	N22DA177
1043666	N22DA166
1043681	N22DA185
1043682	N22DA007
1043687	N22DA193
1043690	N22DA200
1043697	N22DA218

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043727	N22DA195
1043731	N22EA035
1043735	N22DA222
1043739	N22EA039
1043741	N22EA036
1043744	N22EA043
1043767	N22EA050
1043768	N22EA042
1043769	N22EA012
1043813	N22EA016
1043817	N22EA209
1043820	N22EA057
1043828	N22EA023
1043829	N22EA030
1043834	N22EA207
1043835	N22EA028
1043836	N22EA029
1043837	N22EA078
1043841	N22EA018
1043842	N22EA025
1043846	N22EA237
1043859	N22EA080
1043860	N22EA072
1043861	N22EA114
1043862	N22EA071
1043866	N22EA017
1043868	N22EA230
1043871	N22EA238
1043877	N22EA074
1043878	N22EA115
1043883	N22EA212
1043887	N22EA253
1043932	N22FA235
1043933	N22FA021
1043936	N22FA022
1043939	N22EA137
1043942	N22FA023
1043943	N22FA019
1043951	N22EA142
1043960	N22EA120

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1043973	N22EA194
1043982	N22FA145
1043983	N22EA228
1043985	N22EA135
1043986	N22EA171
1043990	N22FA059
1043991	N22EA202
1043993	N22EA095
1043994	N22EA251
1043995	N22FA060
1044005	N22EA133
1044010	N22FA041
1044013	N22FA066
1044019	N22FA084
1044026	N22EA191
1044028	N22EA182
1044030	N22GA001
1044039	N22EA192
1044044	N22FA092
1044065	N22FA086
1044067	N22FA038
1044071	N22FA101
1044072	N22FA047
1044073	N22FA087
1044074	N22FA098
1044107	N22FA058
1044113	N22FA094
1044114	N22FA107
1044115	N22EA206
1044116	N22FA088
1044117	N22FA053
1044122	N22FA065
1044126	N22GA116
1044150	N22GA101
1044154	N22GA126
1044157	N22GA119
1044158	N22GA121
1044177	N22GA005
1044183	N22FA002
1044184	N22GA098

TSI0550K Engine Model	
Engine Serial No.	Crankshaft Serial No.
1044185	N22GA105
1044187	N22GA128
1044189	N22FA079
1044190	N22EA231
1044191	N22GA097
1044211	N22HA006
1044220	N22HA002
1044221	N22EA148
1044223	N22HA003
1044224	N22HA011
1044226	N22GA129
1044228	N22HA052
1044230	N22HA029
1044244	N22FA069
1044271	N22EA150
1044273	N22GA054
1044274	N22GA007
1044284	N22FA106
1044285	N22GA077
1044296	N22HA047
1044325	N22GA111
1044328	N22HA038
1044329	N22HA089
1044332	N22FA078
1044338	N22HA138
1044344	N22GA107
1044354	N22HA086
1044358	N22HA042
1044373	N22HA088
1044375	N22HA060
1044377	N22HA085
1044378	N22HA028
1044379	N22HA043
1044380	N22GA033
1044381	N22HA110
1044390	N22HA049
1044414	N22HA111
1044415	N22BA099
1044416	N22HA106
1044437	N22KA094

TSI0550K Engine Model

Engine Serial No.	Crankshaft Serial No.
1044477	N22HA048
1044478	N22HA107
1044479	N22HA137
1044480	N22HA135
1044483	N22HA165
1044488	N22HA125
1044489	N22HA175
1044510	N22EA257
1044515	N22HA179
1044521	N22HA033
1044523	N22FA054
1044537	N22IA013
1044540	N22IA012
1044594	N22IA036
1044595	N22IA055
1044618	N22IA005
1044635	N22JA002
1044693	N22JA065
1044866	N22JA068
1044873	N22JA116

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Appendix 2. Affected Crankshaft Assembly Serial Numbers

NOTE: Affected crankshafts listed are sorted by part number and serial number in ascending order.

Crankshaft Part No.	Crankshaft Serial No.
646623	N21FA126
646623	N21JA057
646623	N21JA089
646623	N22KA024
646623	N22KA031
646623	N22KA034
646623	N22KA042
646623	N22KA060
649134	N21FA106
649134	N21KA064
649134	N21KA069
649134	N21KA070
649134	N21KA097
649134	N22FA128
649134	N22LA004
649134	N22LA005
649134	N22LA011
649134	N22LA012
649134	N22LA013
649134	N22LA014
649134	N22LA015
649134	N22LA017
649134	N22LA021
649134	N22LA091
649134	N22LA095
649138	N21BA064
649138	N22CA203
649138	N22CA208
649141	N21KA264
649141	N21KA268
649898	N20AA038
649898	N21DA182
649898	N21DA187
649898	N21DA190
649898	N21DA191
649898	N21DA205
649898	N21DA207

Crankshaft Part No.	Crankshaft Serial No.
649898	N21DA210
649898	N21KA102
649898	N21KA103
649898	N21KA104
649898	N21KA108
649898	N21KA109
649898	N21KA110
649898	N21KA111
649898	N21KA122
649898	N21KA129
649898	N21KA130
649898	N21KA131
649898	N21KA132
649898	N21KA133
649898	N21KA135
649898	N21KA136
649898	N21KA138
649898	N21KA146
649898	N21KA150
649898	N21KA151
649898	N21KA152
649898	N21KA158
649898	N21KA163
649898	N21KA170
649898	N22IA142
649898	N22IA154
649899-1	N18EA131
649900	N20CA002
649900	N22AA021
649900	N22AA081
649900	N22AA088
649900	N22AA104
649900	N22AA105
649900	N22BA102
649900	N22CA001
649900	N22CA009
649900	N22CA013
649900	N22CA016

Crankshaft Part No.	Crankshaft Serial No.
649900	N22DA045
649900	N22DA183
649900	N22EA020
649900	N22EA021
649900	N22EA022
649900	N22EA024
649900	N22EA026
649900	N22EA027
649900	N22EA032
649900	N22EA054
649900	N22EA075
649900	N22EA091
649900	N22EA093
649900	N22EA113
649900	N22EA117
649900	N22EA119
649900	N22EA121
649900	N22EA123
649900	N22EA124
649900	N22EA127
649900	N22EA138
649900	N22EA145
649900	N22EA146
649900	N22EA149
649900	N22EA170
649900	N22EA174
649900	N22EA179
649900	N22EA183
649900	N22EA187
649900	N22EA203
649900	N22EA232
649900	N22EA235
649900	N22EA244
649900	N22EA247
649900	N22EA249
649900	N22FA031
649900	N22FA034
649900	N22FA036
649900	N22FA037
649900	N22FA042
649900	N22FA071

Crankshaft Part No.	Crankshaft Serial No.
649900	N22FA080
649900	N22FA082
649900	N22FA095
649900	N22FA099
649900	N22FA104
649900	N22GA002
649900	N22GA004
649900	N22GA011
649900	N22GA012
649900	N22GA014
649900	N22GA023
649900	N22GA056
649900	N22GA057
649900	N22GA058
649900	N22GA072
649900	N22GA084
649900	N22GA091
649900	N22GA099
649900	N22GA115
649900	N22GA122
649900	N22GA123
649900	N22GA125
649900	N22GA127
649900	N22GA131
649900	N22HA004
649900	N22HA031
649900	N22HA034
649900	N22HA036
649900	N22HA040
649900	N22HA046
649900	N22HA053
649900	N22HA065
649900	N22HA073
649900	N22HA074
649900	N22HA080
649900	N22HA082
649900	N22HA092
649900	N22HA094
649900	N22HA108
649900	N22HA123
649900	N22HA127

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Crankshaft Part No.	Crankshaft Serial No.
649900	N22HA129
649900	N22HA147
649900	N22HA148
649900	N22HA158
649900	N22HA167
649900	N22HA169
649900	N22HA170
649900	N22HA171
649900	N22HA182
649900	N22IA019
649900	N22IA021
649900	N22IA050
649900	N22IA061
649900	N22IA074
649900	N22IA083
649900	N22IA088
649900	N22IA105
649900	N22IA110
649900	N22IA111
649900	N22JA023
649900	N22JA034
649900	N22JA050
649900	N22JA052
649900	N22JA056
649900	N22JA086
649900	N22JA097
649900	N22JA119
649900	N22KA135
649900	N22KA138
649900	N22KA139
652010	N22BA017
653020	N20FA071
653020	N20FA073
653020	N21CA039
653129	N21GA015
653129	N21GA020
653129	N21GA038
653129	N21GA042
653129	N22DA056
653129	N22DA110
653136	N20FA244

Crankshaft Part No.	Crankshaft Serial No.
653136	N20FA251
653136	N20FA252
653136	N20IA167
653136	N20IA168
653136	N20IA171
653136	N20IA172
653136	N20IA173
653136	N20IA174
653136	N20IA176
653136	N20IA177
653136	N20IA181
653136	N20IA183
653136	N20IA184
653136	N21BA123
653136	N21BA128
653136	N21BA130
653136	N21BA132
653136	N21BA134
653136	N21BA138
653136	N21BA140
653136	N21GA051
653136	N21GA057
653136	N21GA060
653136	N21GA061
653136	N21GA062
653136	N21GA064
653136	N21GA067
653136	N21GA069
653136	N21GA070
653136	N21GA074
653136	N21GA075
653136	N21GA076
R-646623M010	N07CA175
R-649133M010	N00FA157
R-649133M010	N02IA233
R-649133M010	N12GA102
R-649134M010	N02HA232
R-649134M010	N04KA293
R-649134M010	N08FA161
R-649134M010	N13JA103
R-649134M010	N16FA005

Crankshaft Part No.	Crankshaft Serial No.
R-649134M010	N16GA102
R-649134M010	N16GA110
R-649134M010	N17JA138
R-649134M010	N18AA084
R-649134M010	N18BA127
R-649138M010	N05EA354
R-649138M010	N14HA299
R-649141	N020A195
R-649895M010	N03KA154
R-649895M010	N04FA085
R-649898	N12FA003
R-649898M010	N03HA110
R-649898M010	N04FA356
R-649898M010	N14IA129
R-649898M010	N15FA163
R-649900	N00EA124
R-649900	N02CA251
R-649900	N04CA248
R-649900	N05BA262
R-649900	N07CA056
R-649900	N11IA015
R-649900	N12HA183
R-649900	N14GA090
R-649900	N16DA060
R-649900	N16EA145
R-649900	N18DA138
R-649900	N20AA106
R-649900M010	N00GA064
R-649900M010	N00KA101
R-649900M010	N00KA477
R-649900M010	N01HA067
R-649900M010	N01JA236
R-649900M010	N02GA078
R-649900M010	N02GA082
R-649900M010	N02IA201
R-649900M010	N02JA138
R-649900M010	N03AA101
R-649900M010	N03DA199
R-649900M010	N04AA153
R-649900M010	N04AA424
R-649900M010	N04FA337

Crankshaft Part No.	Crankshaft Serial No.
R-649900M010	N04GA064
R-649900M010	N05BA086
R-649900M010	N05BA111
R-649900M010	N05BA114
R-649900M010	N05DA237
R-649900M010	N05DA284
R-649900M010	N05DA316
R-649900M010	N05EA235
R-649900M010	N05FA005
R-649900M010	N05FA210
R-649900M010	N05GA108
R-649900M010	N05GA166
R-649900M010	N06EA008
R-649900M010	N06LA127
R-649900M010	N07FA284
R-649900M010	N07HA840
R-649900M010	N07KA080
R-649900M010	N08BA064
R-649900M010	N08DA119
R-649900M010	N08DA214
R-649900M010	N08FA305
R-649900M010	N08FA336
R-649900M010	N08GA085
R-649900M010	N08HA128
R-649900M010	N08JA005
R-649900M010	N08KA115
R-649900M010	N09EA263
R-649900M010	N120A173
R-649900M010	N12AA051
R-649900M010	N12EA027
R-649900M010	N13CA106
R-649900M010	N16FA125
R-649900M010	N16IA206
R-649900M010	N16IA215
R-649900M010	N17DA094
R-649900M010	N17EA120
R-649900M010	N18CA048
R-649900M010	N18CA124
R-649900M010	N21JA170
R-649900M010	N22AA021
R-649900M010	N22AA088

Crankshaft Part No.	Crankshaft Serial No.
R-653020M010	1099411N
R-653129	N12CA281
R-653129M010	N14JA071
R-653129M010	N15SA013
R-653129M010	N17HA042
R-653136	N04JA020

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