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MANDATORY

SERVICE BULLETIN

DATE: February 20, 2025 Service Bulletin No. 661

Engineering design data in this service document is FAA approved.

SUBJECT: STD-35 Plain Washer Replacement

MODELS AFFECTED: All Lycoming Reciprocating Aircraft Engines

TIME OF COMPLIANCE: At overhaul or the next maintenance event which requires removal of STD-35 plain washers, whichever occurs first.

NOTICE: Incomplete review of all the information in this document can cause errors. Read the entire Service Bulletin to make sure you have a complete understanding of the requirements.

This Service Bulletin provides Instructions for Continued Airworthiness (ICA).

Lycoming Engines has determined that certain STD-35, 5/16-inch plain washers (measures 5/16-inch ID x 9/16-inch OD x 0.064-inch thick) issued between January 1, 1998 and July 19, 2024 may be of non-conforming, low hardness. Low hardness plain washers may deform or compress, leading to possible reduction or loss of fastener torque.

This bulletin also applies to STD-35 plain washers purchased from an Authorized Lycoming Distributor, where the date found on the Lycoming-supplied FAA Form 8130-3 is between January 1, 1998 and July 19, 2024. Washers are considered suspect if a definite purchase date cannot be verified. Discontinue further installation of these washers. Remove and quarantine suspect STD-35 plain washers. Arrange for the return of unused suspect washers through the Lycoming Distributor from which they were originally procured. Order replacement inventory as needed.

⚠ CAUTION DO NOT REUSE PLAIN WASHERS THAT ARE VISIBLY DAMAGED OR DEFORMED OR IF THE LOCK WASHER HAS LEFT AN IMPRESSION IN THE PLAIN WASHER. REUSE OF DAMAGED OR DEFORMED PLAIN WASHERS MAY RESULT IN IMPROPER TORQUE OR LOSS OF TORQUE IN SERVICE. DISCARD SUSPECT STD-35 PLAIN WASHERS REMOVED FROM AFFECTED ENGINES. DO NOT REUSE IN OTHER LOCATIONS. ALWAYS USE NEW LOCK WASHERS, AS REQUIRED, DURING EACH REASSEMBLY.

NOTICE: All disassembly and reassembly must be completed in accordance with the appropriate engine maintenance manual, overhaul manual, or applicable ICA. Disassembly and reassembly of airframe items to gain access to the engine must be completed in accordance with the appropriate aircraft service documents, manuals, or ICAs.

This Service Bulletin is organized into five sections. Each section identifies affected engine models of similar configuration and a figure identifying the common locations of STD-35 plain washers on those engines.



ISSUED			REVISED			PAGE NO.	REVISION
MO	DAY	YEAR	MO	DAY	YEAR	1 of 7	--
02	20	25	--	--	--		

Required Action:

Continue all scheduled or unscheduled maintenance as required with additional attention to fastener security at locations where STD-35 plain washers are installed.

At overhaul or the next maintenance event which requires removal of STD-35 plain washers, discard and replace the STD-35 plain washers, at the locations identified in each section, with conforming STD-35 plain washers, purchased after July 19, 2024.

Section 1

Affected engine models in this section:

235 Series, 290 Series, 320 Series, 360 Series, and 390 Series engines (except VO, IVO-360 Series engines)

Figure 1 indicates common locations of STD-35 plain washers for engines in this section. Refer to the Illustrated Parts Catalog for your engine model for specific locations of the STD-35 plain washers. Refer to the appropriate engine maintenance manual, overhaul manual, or applicable ICA for torque values used during assembly.

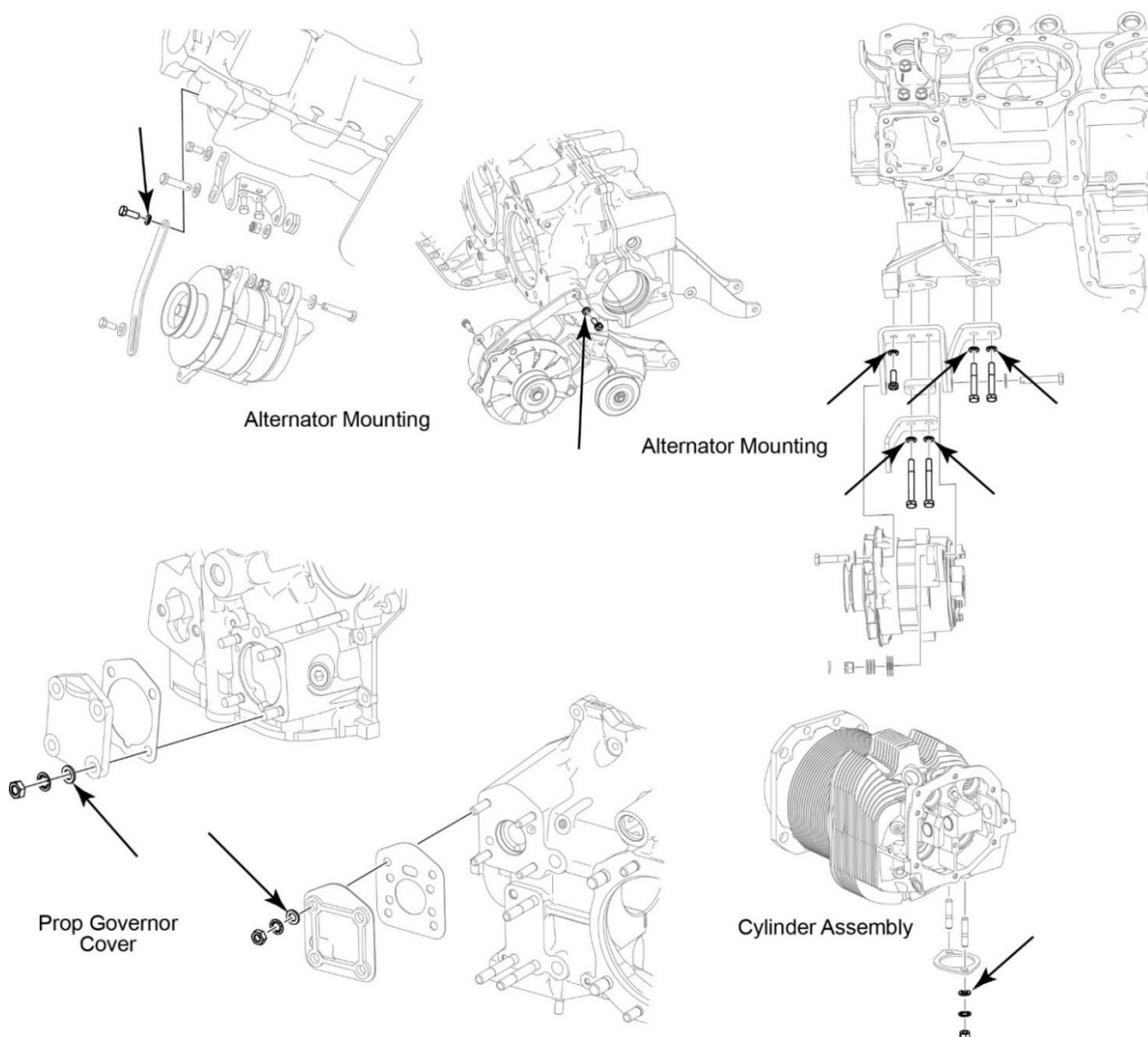


Figure 1
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR	2 of 7	--	
02	20	25	--	--	--			

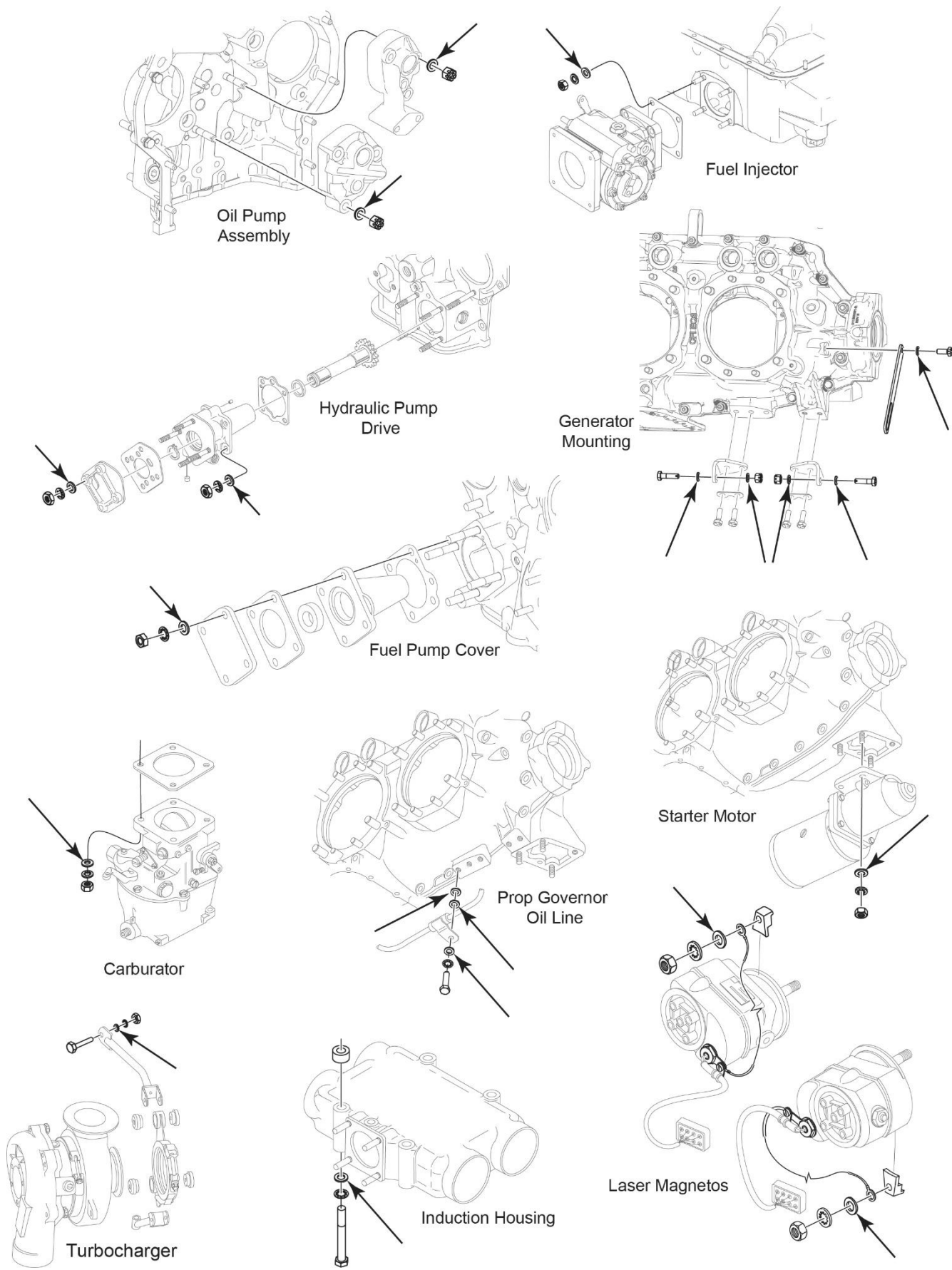


Figure 1 (Cont.)
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR			
02	20	25	--	--	--	3 of 7	--	

Section 2

Affected engine models in this section:

VO, IVO-360 Series engines and VO, TIVO-540 Series engines

Figure 2 indicates common locations of STD-35 plain washers for engines in this section. Refer to the Illustrated Parts Catalog for your engine model for specific locations of the STD-35 plain washers. Refer to the appropriate engine maintenance manual, overhaul manual, or applicable ICA for torque values used during assembly.

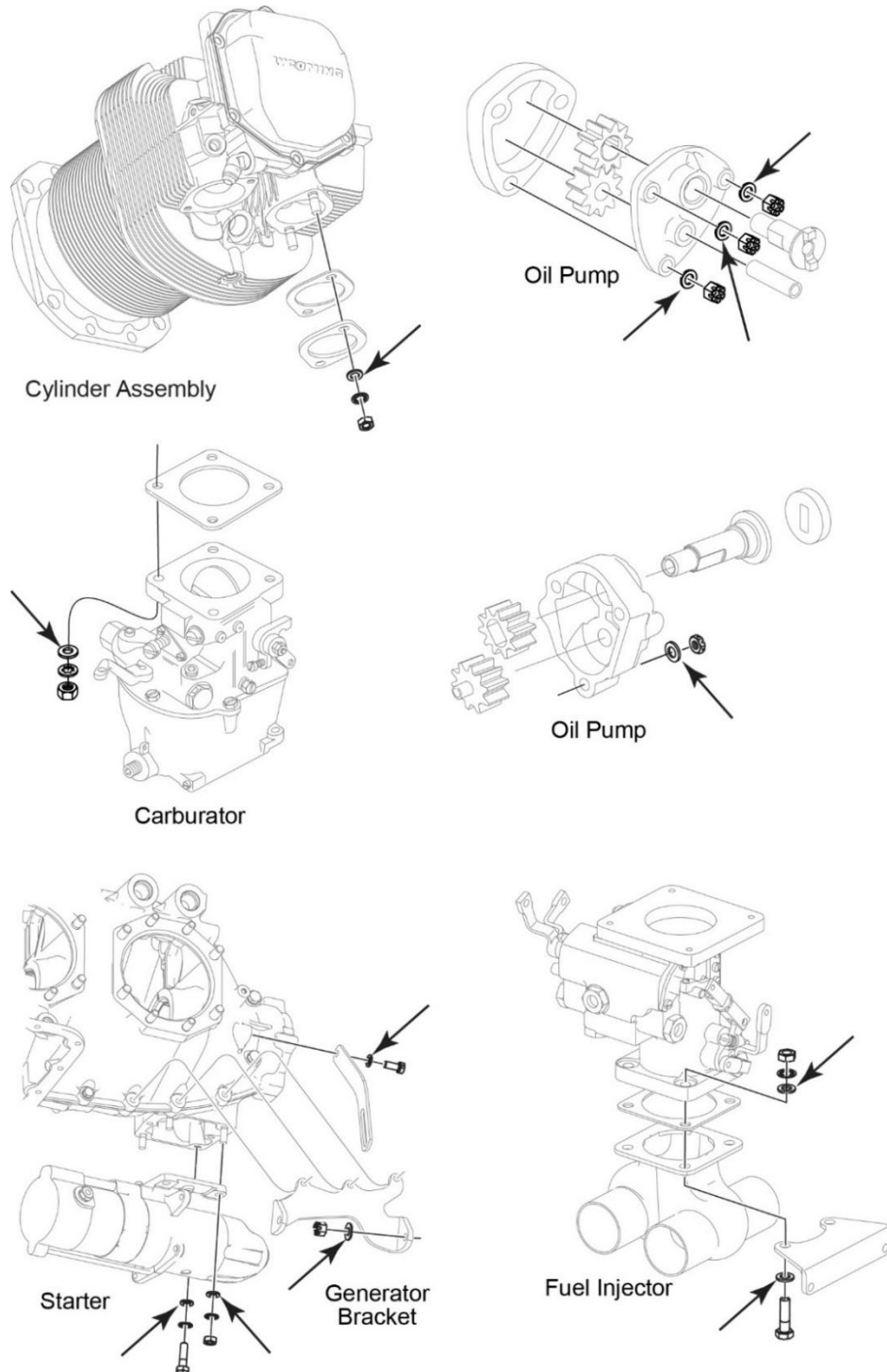


Figure 2
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR			
02	20	25	--	--	--	4 of 7	--	

Section 3

Affected engine models in this section:

GO, IGO, GSO, and IGSO-480 Series, IGO, IGSO-540 Series and TIO, TIGO-541 Series engines

Figure 3 indicates common locations of STD-35 plain washers for engines in this section. Refer to the Illustrated Parts Catalog for your engine model for specific locations of the STD-35 plain washers. Refer to the appropriate engine maintenance manual, overhaul manual, or applicable ICA for torque values used during assembly.

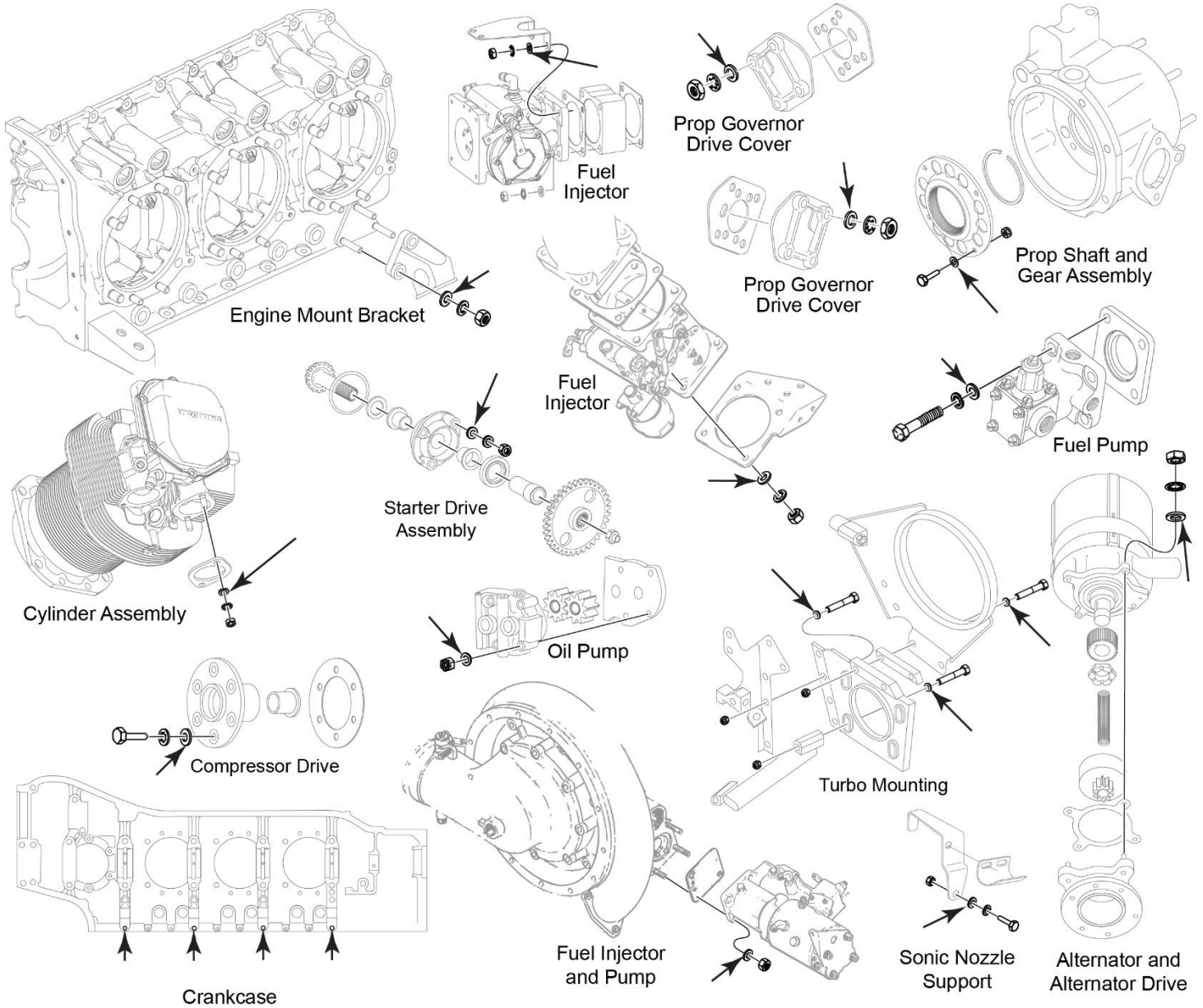


Figure 3
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR	5 of 7	--	
02	20	25	--	--	--			

Section 4

Affected engine models in this section:

540 Series and 580 Series engines (Except IGO, IGSO-540 Series and VO, IVO, TIVO-540 Series engines)

Figure 4 indicates common locations of STD-35 plain washers for engines in this section. Refer to the Illustrated Parts Catalog for your engine model for specific locations of the STD-35 plain washers. Refer to the appropriate engine maintenance manual, overhaul manual, or applicable ICA for torque values used during assembly.

NOTICE: On TEO-540-C1A engines, correct torque of the bolt that attaches the detonation sensor to the cylinder is necessary for proper sensor operation. Loss of torque could result in false detonation fault codes being indicated. Be sure to use conforming STD-35 plain washers, purchased after July 19, 2024, when installing detonation sensors. Refer to the latest revision of the *TEO-540-C1A Engine Maintenance Manual* for Fault Troubleshooting and Sensor Replacement.

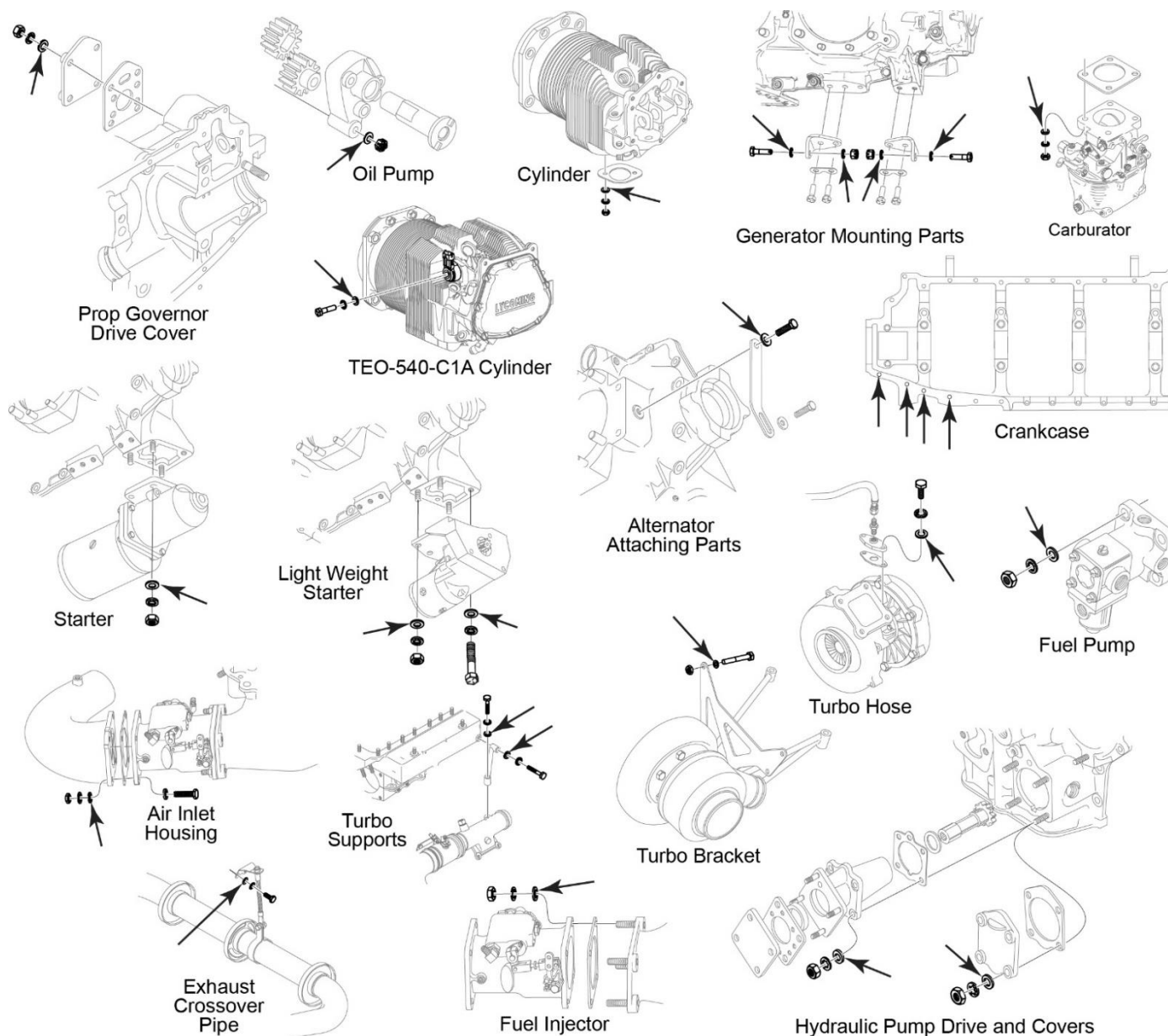


Figure 4
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR			
02	20	25	--	--	--	6 of 7	--	

Section 5

Affected engine models in this section:

IO-720 Series engines

Figure 5 indicates common locations of STD-35 plain washers for engines in this section. Refer to the Illustrated Parts Catalog for your engine model for specific locations of the STD-35 plain washers. Refer to the appropriate engine maintenance manual, overhaul manual, or applicable ICA for torque values used during assembly.

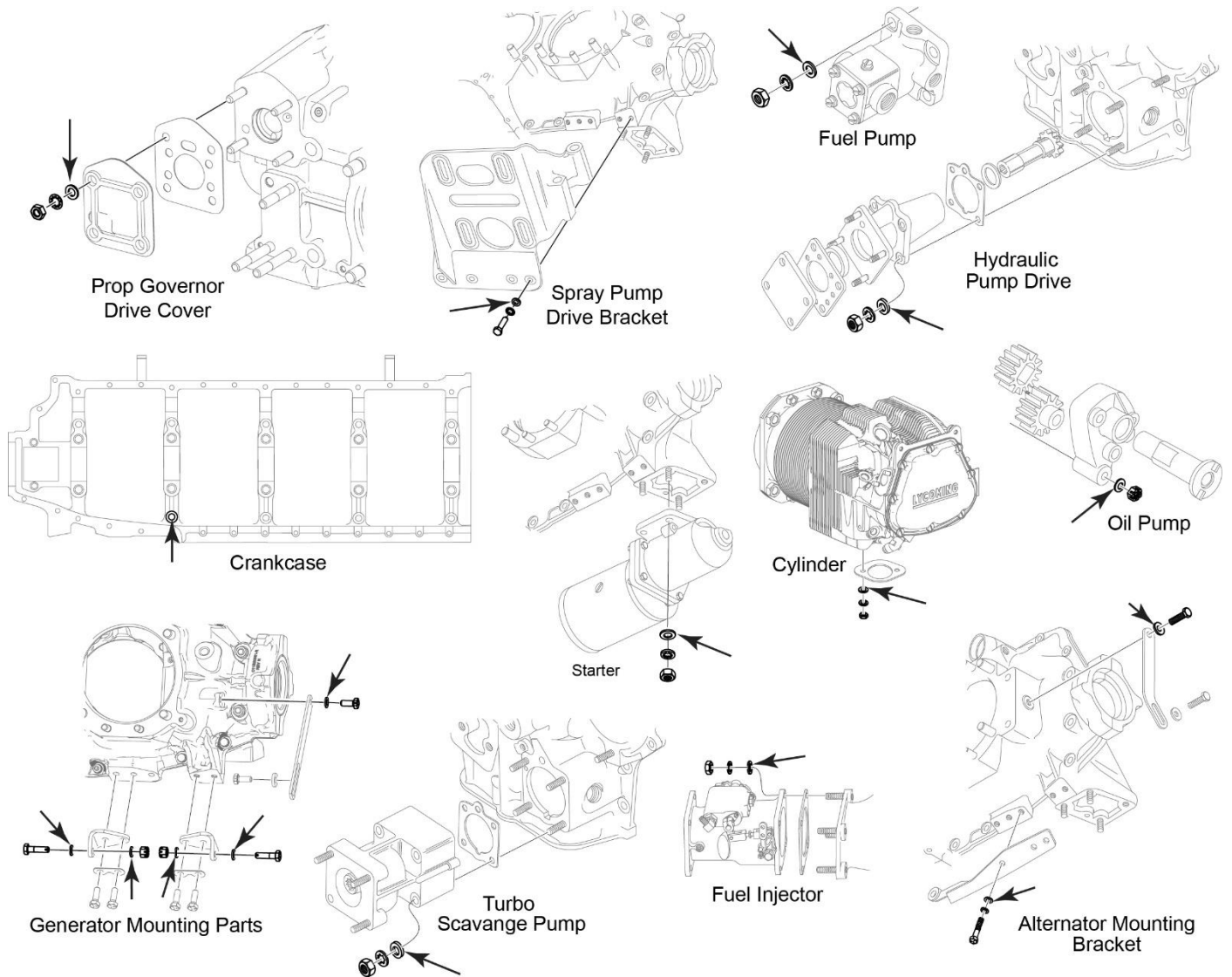


Figure 5
Locations of STD-35 Plain Washers on Engine Models in this Section

ISSUED			REVISED			PAGE NO.	REVISION	S.B. 661
MO	DAY	YEAR	MO	DAY	YEAR			
02	20	25	--	--	--	7 of 7	--	

Appendix 1

This appendix to Service Bulletin No. 661 identifies affected non-certified engines models. The Required Action in S. B. 661 must be completed for each engine in this list. The Reference Section listed for each engine indicates the Section in S.B. 661 that should be referenced for locations of the STD-35 plain washers.

Non-Certified Engines Affected by S.B. 661

Engine Model	Reference Section	Engine Model	Reference Section	Engine Model	Reference Section
YO-233-B2A	1	YIO-320-EXP205	1	YO-360-EXP4112	1
YO-233-EXP	1	YIO-320-EXP2181	1	YO-360-EXP51	1
YO-233-EXP112	1	YIO-320-EXP283	1	YO-360-EXP57	1
YIO-233-B2A	1	YIO-320-EXP2942	1	YO-360-EXP63I	1
YIO-233-EXP	1	YIO-320-EXP3032	1	YO-360-EXP751	1
YAEIO-233-EXP	1	YIO-320-EXP354	1	YO-360-EXP91	1
YAEIO-233-EXP02	1	YIO-320-EXP385	1	YO-360-EXP921	1
YO-235-C2A	1	YIO-320-EXP386	1	YO-360-EXP95	1
YO-235-EXP	1	YIO-320-EXP55	1	YO-360-J2A	1
YO-235-EXP215	1	AEIO-320-EXP	1	YIO-360-A1A	1
YO-235-EXP45	1	O-360-EXP	1	YIO-360-A1B6	1
YO-235-L2C	1	IO-360-EXP	1	YIO-360-A3B6	1
YO-235-N2C	1	IO-360-EXPS	1	YIO-360-B1B	1
YIO-235-EXP	1	YO-360-A1A	1	YIO-360-B1E	1
AEIO-235-EXP	1	YO-360-A1F6	1	YIO-360-B1ES	1
YO-320-A2B	1	YO-360-A2A	1	YIO-360-B1G6	1
YO-320-B2B	1	YO-360-A3A	1	YIO-360-C1D6	1
YO-320-B2E	1	YO-360-A4M	1	YIO-360-C1E6	1
YO-320-B3B	1	YO-360-C1A	1	YIO-360-EXP	1
YO-320-D1A	1	YO-360-C2	1	YIO-360-EXP04	1
YO-320-D2A	1	YO-360-C2A	1	YIO-360-EXP108	1
YO-320-D2G	1	YO-360-C2C	1	YIO-360-EXP117	1
YO-320-E2D	1	YO-360-C4P	1	YIO-360-EXP1201	1
YO-320-EXP	1	YO-360-EXP134	1	YIO-360-EXP1241	1
YO-320-EXP1181	1	YO-360-EXP17	1	YIO-360-EXP139	1
YO-320-EXP160	1	YO-360-EXP175	1	YIO-360-EXP1391	1
YO-320-EXP216	1	YO-360-EXP186	1	YIO-360-EXP14	1
YO-320-EXP235	1	YO-360-EXP188	1	YIO-360-EXP154	1
YO-320-EXP282	1	YO-360-EXP19	1	YIO-360-EXP155	1
YO-320-EXP284	1	YO-360-EXP224	1	YIO-360-EXP161	1
YO-320-EXP349	1	YO-360-EXP270	1	YIO-360-EXP162	1
YO-320-EXP35	1	YO-360-EXP272	1	YIO-360-EXP169	1
YO-320-EXP54	1	YO-360-EXP2781	1	YIO-360-EXP176	1
YO-320-EXP56	1	YO-360-EXP281	1	YIO-360-EXP179	1
YO-320-EXP83	1	YO-360-EXP285	1	YIO-360-EXP181	1
YO-320-EXP84	1	YO-360-EXP3002	1	YIO-360-EXP187	1
YIO-320-B1A	1	YO-360-EXP3081	1	YIO-360-EXP1991	1
YIO-320-B2A	1	YO-360-EXP314	1	YIO-360-EXP2011	1
YIO-320-D1A	1	YO-360-EXP326	1	YIO-360-EXP2121	1
YIO-320-D1B	1	YO-360-EXP356	1	YIO-360-EXP2131	1
YIO-320-EXP	1	YO-360-EXP4062	1	YIO-360-EXP214	1
YIO-320-EXP190	1	YO-360-EXP4082	1	YIO-360-EXP2211	1

Non-Certified Engines Affected by S.B. 661 (Cont.)

Engine Model	Reference Section	Engine Model	Reference Section	Engine Model	Reference Section
YIO-360-EXP2251	1	YIO-360-EXP53	1	YIO-390-EXP1271	1
YIO-360-EXP232	1	YIO-360-EXP58	1	YIO-390-EXP129	1
YIO-360-EXP24	1	YIO-360-EXP59	1	YIO-390-EXP13	1
YIO-360-EXP2421	1	YIO-360-EXP70	1	YIO-390-EXP131	1
YIO-360-EXP249	1	YIO-360-EXP771	1	YIO-390-EXP132	1
YIO-360-EXP2591	1	YIO-360-EXP80	1	YIO-390-EXP133	1
YIO-360-EXP262I	1	YIO-360-EXP82	1	YIO-390-EXP135	1
YIO-360-EXP266	1	YIO-360-EXP87	1	YIO-390-EXP136	1
YIO-360-EXP267	1	YIO-360-EXP891	1	YIO-390-EXP137	1
YIO-360-EXP268	1	YIO-360-EXP90	1	YIO-390-EXP1401	1
YIO-360-EXP2711	1	YIO-360-EXP93	1	YIO-390-EXP1421	1
YIO-360-EXP286	1	YIO-360-M1A	1	YIO-390-EXP1451	1
YIO-360-EXP287	1	YIO-360-M1B	1	YIO-390-EXP146	1
YIO-360-EXP2932	1	YHIO-360-G1A	1	YIO-390-EXP147	1
YIO-360-EXP2932	1	YLIO-360-M1A	1	YIO-390-EXP148	1
YIO-360-EXP296	1	YAEIO-360-A1B	1	YIO-390-EXP149	1
YIO-360-EXP297	1	YAEIO-360-A1E	1	YIO-390-EXP1501	1
YIO-360-EXP3021	1	YAEIO-360-EXP2231	1	YIO-390-EXP151	1
YIO-360-EXP3062	1	YAEIO-360-EXP290	1	YIO-390-EXP152	1
YIO-360-EXP307	1	YAEIO-360-EXP3622	1	YIO-390-EXP153	1
YIO-360-EXP327	1	CC363i	1	YIO-390-EXP153	1
YIO-360-EXP3282	1	CC363i-FP	1	YIO-390-EXP156	1
YIO-360-EXP329	1	CC363I-TB	1	YIO-390-EXP157	1
YIO-360-EXP330	1	IO-390-EXP	1	YIO-390-EXP1591	1
YIO-360-EXP332	1	IO-390-EXP	1	YIO-390-EXP16	1
YIO-360-EXP3322	1	YIO-390	1	YIO-390-EXP1631	1
YIO-360-EXP334	1	YIO-390-B1B6	1	YIO-390-EXP165	1
YIO-360-EXP350	1	YIO-390-EXP	1	YIO-390-EXP166	1
YIO-360-EXP3582	1	YIO-390-EXP01	1	YIO-390-EXP167	1
YIO-360-EXP365	1	YIO-390-EXP03	1	YIO-390-EXP170	1
YIO-360-EXP366	1	YIO-390-EXP07	1	YIO-390-EXP172	1
YIO-360-EXP367	1	YIO-390-EXP10	1	YIO-390-EXP1741	1
YIO-360-EXP370	1	YIO-390-EXP10	1	YIO-390-EXP1771	1
YIO-360-EXP381	1	YIO-390-EXP10	1	YIO-390-EXP178	1
YIO-360-EXP387	1	YIO-390-EXP100	1	YIO-390-EXP182	1
YIO-360-EXP388	1	YIO-390-EXP1021	1	YIO-390-EXP183	1
YIO-360-EXP389	1	YIO-390-EXP107	1	YIO-390-EXP1841	1
YIO-360-EXP39	1	YIO-390-EXP1091	1	YIO-390-EXP1851	1
YIO-360-EXP390	1	YIO-390-EXP115	1	YIO-390-EXP195	1
YIO-360-EXP391	1	YIO-390-EXP119	1	YIO-390-EXP20	1
YIO-360-EXP395	1	YIO-390-EXP119	1	YIO-390-EXP202	1
YIO-360-EXP3982	1	YIO-390-EXP119	1	YIO-390-EXP2031	1
YIO-360-EXP40	1	YIO-390-EXP12	1	YIO-390-EXP204	1
YIO-360-EXP4072	1	YIO-390-EXP121	1	YIO-390-EXP207	1
YIO-360-EXP409	1	YIO-390-EXP122	1	YIO-390-EXP208	1
YIO-360-EXP461	1	YIO-390-EXP123	1	YIO-390-EXP219	1
YIO-360-EXP52	1	YIO-390-EXP125	1	YIO-390-EXP2201	1

Non-Certified Engines Affected by S.B. 661 (Cont.)

Engine Model	Reference Section	Engine Model	Reference Section	Engine Model	Reference Section
YIO-390-EXP222	1	YIO-390-EXP3452	1	YIO-540-EXP126	4
YIO-390-EXP23	1	YIO-390-EXP3462	1	YIO-540-EXP130	4
YIO-390-EXP2331	1	YIO-390-EXP351	1	YIO-540-EXP143	4
YIO-390-EXP236	1	YIO-390-EXP360	1	YIO-540-EXP158	4
YIO-390-EXP237	1	YIO-390-EXP392	1	YIO-540-EXP164	4
YIO-390-EXP238	1	YIO-390-EXP4032	1	YIO-540-EXP168	4
YIO-390-EXP239	1	YIO-390-EXP41	1	YIO-540-EXP171	4
YIO-390-EXP240	1	YIO-390-EXP4102	1	YIO-540-EXP1801	4
YIO-390-EXP241	1	YIO-390-EXP47	1	YIO-540-EXP189	4
YIO-390-EXP2431	1	YIO-390-EXP501	1	YIO-540-EXP191	4
YIO-390-EXP244	1	YIO-390-EXP60	1	YIO-540-EXP192	4
YIO-390-EXP246	1	YIO-390-EXP62	1	YIO-540-EXP194	4
YIO-390-EXP248	1	YIO-390-EXP71	1	YIO-540-EXP196	4
YIO-390-EXP25	1	YIO-390-EXP761	1	YIO-540-EXP197	4
YIO-390-EXP253	1	YIO-390-EXP78	1	YIO-540-EXP198	4
YIO-390-EXP257	1	YIO-390-EXP88	1	YIO-540-EXP200	4
YIO-390-EXP258	1	YIO-390-EXP94	1	YIO-540-EXP2061	4
YIO-390-EXP260	1	AEIO-390-EXP	1	YIO-540-EXP210	4
YIO-390-EXP263	1	YHIO-390-EXP15	1	YIO-540-EXP211	4
YIO-390-EXP27	1	YAEIO-390-EXP	1	YIO-540-EXP217	4
YIO-390-EXP273	1	YAEIO-390-EXP09	1	YIO-540-EXP227	4
YIO-390-EXP275	1	YAEIO-390-EXP141	1	YIO-540-EXP2280	4
YIO-390-EXP276E	1	YAEIO-390-EXP193	1	YIO-540-EXP230	4
YIO-390-EXP2771	1	YAEIO-390-EXP2291	1	YIO-540-EXP231	4
YIO-390-EXP2791	1	YAEIO-390-EXP2691	1	YIO-540-EXP234	4
YIO-390-EXP288	1	YAEIO-390-EXP2691	1	YIO-540-EXP245	4
YIO-390-EXP2892	1	YAEIO-390-EXP3472	1	YIO-540-EXP247	4
YIO-390-EXP29	1	YAEIO-390-EXP3522	1	YIO-540-EXP250	4
YIO-390-EXP2912	1	YAEIO-390-EXP3632	1	YIO-540-EXP251	4
YIO-390-EXP2922	1	YAEIO-390-EXP364	1	YIO-540-EXP252	4
YIO-390-EXP295	1	YAEIO-390-EXP3842	1	YIO-540-EXP254	4
YIO-390-EXP30	1	YAEIO-390-EXP400	1	YIO-540-EXP255	4
YIO-390-EXP301	1	YAEIO-390-EXP49	1	YIO-540-EXP256	4
YIO-390-EXP310	1	IO-540-EXP	4	YIO-540-EXP264	4
YIO-390-EXP3102	1	YO-540-A4D5	4	YIO-540-EXP265	4
YIO-390-EXP312	1	YO-540-B4B5	4	YIO-540-EXP274	4
YIO-390-EXP317	1	YO-540-E4A5	4	YIO-540-EXP28	4
YIO-390-EXP33	1	YO-540-EXP26	4	YIO-540-EXP2801	4
YIO-390-EXP331	1	YO-540-EXP261	4	YIO-540-EXP298	4
YIO-390-EXP335	1	TIO-540-EXP	4	YIO-540-EXP299	4
YIO-390-EXP336	1	YIO-540-C4B5	4	YIO-540-EXP3051	4
YIO-390-EXP338	1	YIO-540-D4A5	4	YIO-540-EXP309	4
YIO-390-EXP339	1	YIO-540-D4B5	4	YIO-540-EXP318	4
YIO-390-EXP34	1	YIO-540-D4E52	4	YIO-540-EXP341	4
YIO-390-EXP3402	1	YIO-540-EXP	4	YIO-540-EXP342	4
YIO-390-EXP343	1	YIO-540-EXP11	4	YIO-540-EXP348	4
YIO-390-EXP344	1	YIO-540-EXP111	4	YIO-540-EXP357	4

Non-Certified Engines Affected by S.B. 661 (Cont.)

Engine Model	Reference Section	Engine Model	Reference Section	Engine Model	Reference Section
YIO-540-EXP359	4	YIO-540-EXP79	4	YTEO-540-EXP22	4
YIO-540-EXP361	4	YIO-540-EXP81	4	YTIO-540-EXP21	4
YIO-540-EXP3742	4	YIO-540-EXP86	4	YTIO-540-EXP226	4
YIO-540-EXP3752	4	YIO-540-EXP99	4	YTIO-540-EXP405	4
YIO-540-EXP3762	4	YIO-540-K1A5	4	YTIO-540-J2BD	4
YIO-540-EXP377	4	YIO-540-K1B5	4	YAEIO-540-EXP	4
YIO-540-EXP378	4	YIO-540-K1F5	4	YAEIO-540-EXP138	4
YIO-540-EXP380	4	YIO-540-K1G5	4	YAEIO-540-EXP96	4
YIO-540-EXP3822	4	YIO-540-K1H5	4	IO-580-EXP	4
YIO-540-EXP3832	4	YIO-540-K1J5	4	IO-580-KCEEC	4
YIO-540-EXP393	4	YIO-540-L1C5	4	YIO-580-B1A	4
YIO-540-EXP394	4	YIO-540-MX1-A	4	YIO-580-EXP	4
YIO-540-EXP396	4	YIO-540-V4A5D	4	YIO-580-EXP18	4
YIO-540-EXP3992	4	YHIO-540-EXP373	4	YIO-580-EXP404	4
YIO-540-EXP4012	4	YHIO-540-EXP379	4	AEIO-580-EXP	4
YIO-540-EXP4022	4	AEIO-540-EXP	4	AEIO-580-X197	4
YIO-540-EXP4122	4	YTEO-540	4	YAEIO-580-EXP	4
YIO-540-EXP42	4	YTEO-540-B1A	4	YAEIO-580-EXP355	4
YIO-540-EXP43	4	YTEO-540-EXP	4	YAEIO-580-EXP368	4
YIO-540-EXP44	4	YTEO-540-EXP008	4	YAEIO-580-EXP371	4