



Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida, U.S.A. 32960

SERVICE LETTER

NO. 578B

Date: July 27, 2011

(S)(M)

Service Letter 578B supersedes Service Letter 578A in its entirety.

REASON FOR REVISION:

Lycoming Service Bulletin No. 335A, distributed with Piper Service Letter No. 578A, has been replaced with Lycoming Service Bulletin No. 342F.

Lycoming Service Bulletin No. 342F expands Maintenance Procedures and includes additional engine models.

SUBJECT:

FUEL LINE (STAINLESS STEEL TUBE ASSY.) AND SUPPORT CLAMP INSPECTION AND INSTALLATION (REFERENCE ATTACHED LYCOMING SERVICE BULLETIN NO. 342F, DATED JUNE 4, 2010).

MODELS AFFECTED:

PA-23-250 Aztec/PA-23-250 Turbo Aztec

PA-24-250 Comanche
PA-24-260 Comanche/PA-24-260 Turbo Comanche
PA-24-400 Comanche
PA-28R-180 Arrow

PA-28R-200 Arrow II
PA-28R-201 Arrow III

PA-28RT-201 Arrow IV
PA-30/PA-39 Twin Comanche
PA-31/PA-31-300/325 Navajo
PA-31-350 Chieftain

PA-31-350 T-1020
PA-31P-350 Mojave
PA-32-300 Cherokee Six

PA-32R-300 Lance
PA-32RT-300 Lance II
PA-32RT-300T Turbo Lance II
PA-32S-300 Cherokee Six Seaplane

PA-32-301 Saratoga

PA-32-301FT Piper 6X
PA-32-301T Turbo Saratoga

SERIAL NUMBERS AFFECTED:

27-2000 through 27-4916; 27-7304917 through 27-8154030
24-1; 24-103 through 24-3687
24-3642; 24-4000 through 24-5034
26-2 through 26-148
28R-30002 through 28R-31270; 28R-7130001 through 28R-7130013
28R-7235001 through 28R-7635545
28R-7737002 through 28-7837317; 2837001 through 2837061; 2844001 and Up
28R-7918001 through 28R-8218026
30-1 through 30-2000; 39-1 through 39-155
31-2 through 31-8312019
31-5001 through 31-5004; 31-7305005 through 31-8452024
31-8253001 through 31-8553002
31P-8414001 through 31P-8414050
32-15; 32-21; 32-40000 through 32-40974; 32-7140001 through 32-7940290
32R-7680001 through 32R-7880068
32R-7885002 through 32R-7985106
32R-7787001, 32R-7887002 through 32R-7987126
32S-15, 32S-40000 through 32S-40974; 32S-7140001 through 32S-7240137
32-8006002 through 32-8606023; 3206001 through 3206019; 3206042 through 3206044; 3206047; 3206050 through 3206055; 3206060 through 3206088
3232001 and Up
32-8024001 through 32-8424002

ATA: 7310

(OVER)

PA-32-301XTC Piper 6XT	3255001 and Up
PA-32R-301 Saratoga II HP	3213029, 3213042 through 3213103, 3246001 through 3246017, 3246018 and Up
PA-32R-301 Saratoga SP	32R-8013001 through 32R-8613006; 3213001 through 3213030 through 3213041
PA-32R-301T Saratoga II TC	3257001 and Up
PA-32R-301T Turbo Saratoga SP	32R-8029001 through 32R-8629008; 3229001 through 3229003
PA-34-200 Seneca	34-E4; 34-7250001 through 34-7450220
PA-36-300 Pawnee Brave	36-7560001 through 36-8160023
PA-36-375 Pawnee Brave	36-7802001 through 36-8302025
PA-46-350P Malibu Mirage	4622001 through 4622200; 4636001 and Up
PA-46R-350T Malibu Matrix	4692001 and Up
PA-E23-250 Aztec/PA-E23-250 Turbo Aztec	27-2505 through 27-4917; 277304917 through 27-8154030

COMPLIANCE TIME: Comply with Lycoming Service Bulletin No. 342F every 100 hours, annual inspection, overhaul and any time engine fuel lines or clamps are serviced, removed or replaced.

PURPOSE: To minimize the hazards of fuel line damage.

INSTRUCTIONS: Comply with attached Lycoming Service Bulletin No. 342F.

MATERIAL REQUIRED: N/A

AVAILABILITY OF PARTS: N/A

EFFECTIVITY DATE: This Service Letter is effective upon receipt.

SUMMARY: Comply with Lycoming Service Bulletin No. 342F every 100 hours, annual inspection, overhaul and any time engine fuel lines or clamps are serviced, removed or replaced.

NOTE: Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960

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MANDATORY

SERVICE BULLETIN

DATE: June 4, 2010

Service Bulletin No. 342F
(Supersedes Service Bulletin No. 342E)
Engineering Aspects are
FAA Approved

SUBJECT: Fuel Line (Stainless Steel Tube Assy.) and Support Clamp Inspection and Installation

MODELS AFFECTED: All fuel injected Lycoming engines indicated in fuel line and clamping diagrams.

TIME OF COMPLIANCE: Check every 100 hours, annual inspection, overhaul and any time fuel lines or clamps are serviced, removed or replaced.

There have been instances of fuel line breakages where support clamps have been omitted during field overhaul or repair. The support clamps dampen line vibration due to the impact of cooling air and vibration from the engine and/or aircraft. Also, the fuel supply lines between the fuel injector manifold and the nozzles can become damaged and leak if they are severely bent or kinked during engine maintenance.

As a means of minimizing the hazards of fuel line damage, the following inspection of fuel lines and clamps is required.

1. The fuel lines to the nozzles are made from 1/8 inch tubing. A separate line supplies fuel to the intake port of each cylinder. Check each line visually for any evidence of physical damage such as:
 - Dents
 - Pits
 - Nicks
 - Stains caused by fuel leakage
2. Remove any line that appears faulty. Do not attempt to repair any line that leaks. Bent lines may be straightened; however, any line with an inside radius less than 5/8 inch must be replaced. Do not reuse any line that is dented; cracks can develop at the site of a dent. Also inspect solder joints at ends of lines for cracks. Replace cracked lines, they cannot be repaired. See the latest revision of Service Instruction No. 1301 for superseded fuel line identification, bending requirements and replacement information.
3. Examine the location of the clamps that secure the lines to the engine and compare them with the diagrams shown in this bulletin. If clamps are missing, replace the fuel line and install clamps as indicated. Do not use plastic tie straps. Also, examine the lines to ensure the clamps securely support the line. Also look for signs of chafing. Replace fuel lines that show indications of chafing and/or have loose clamps.
4. Older engines that used metal clamps with no cushion must use the P/N LW-12598 fuel line sleeve at each of those clamping locations. The fuel line sleeve is not used with the cushioned clamps. Any cushioned clamp, where the cushion has deteriorated or is missing, must be replaced with a new cushion clamp.
5. Compliance with the bulletin must be noted in the aircraft log book.

NOTE: If difficulty is experienced when installing clips on a cylinder fuel injector line due to aircraft baffling, the clips may be installed in positions that provide clearance. Do not permit fuel lines to contact engine or airframe baffle hardware; maintain minimum clearance of 3/16 inch between a fuel line and any engine or airframe surface.



General Aviation
Manufacturers Association

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LEGEND FOR PARTS ON DIAGRAMS 1 TO 33

(Fuel Lines, Clamps, Brackets, Attaching Hardware as shown in the following Engine Diagrams)

CALL OUT	PART NUMBER	PART NAME
1	76356	TUBE ASSY., Manifold to nozzle fuel line
2	76357	TUBE ASSY., Manifold to nozzle fuel line
3	76358	TUBE ASSY., Manifold to nozzle fuel line
4	76359	TUBE ASSY., Manifold to nozzle fuel line
5	76360	TUBE ASSY., Manifold to nozzle fuel line
6	76361	TUBE ASSY., Manifold to nozzle fuel line
7	76362	TUBE ASSY., Manifold to nozzle fuel line
8	LW-12098-0-100	TUBE ASSY., Manifold to nozzle fuel line
9	LW-12098-0-140	TUBE ASSY., Manifold to nozzle fuel line
10	LW-12098-0-150	TUBE ASSY., Manifold to nozzle fuel line
11	LW-12098-0-160	TUBE ASSY., Manifold to nozzle fuel line
12	LW-12098-0-170	TUBE ASSY., Manifold to nozzle fuel line
13	LW-12098-0-180	TUBE ASSY., Manifold to nozzle fuel line
14	LW-12098-0-190	TUBE ASSY., Manifold to nozzle fuel line
15	LW-12098-0-200	TUBE ASSY., Manifold to nozzle fuel line
16	LW-12098-0-210	TUBE ASSY., Manifold to nozzle fuel line
17	LW-12098-0-220	TUBE ASSY., Manifold to nozzle fuel line
18	LW-12098-0-230	TUBE ASSY., Manifold to nozzle fuel line
19	LW-12098-0-240	TUBE ASSY., Manifold to nozzle fuel line
20	LW-12098-0-260	TUBE ASSY., Manifold to nozzle fuel line
21	LW-12098-0-270	TUBE ASSY., Manifold to nozzle fuel line
22	LW-12098-0-280	TUBE ASSY., Manifold to nozzle fuel line
23	LW-12098-0-300	TUBE ASSY., Manifold to nozzle fuel line
24	LW-12098-0-310	TUBE ASSY., Manifold to nozzle fuel line
25	LW-12098-0-320	TUBE ASSY., Manifold to nozzle fuel line
26	LW-12098-0-340	TUBE ASSY., Manifold to nozzle fuel line
27	LW-12098-0-350	TUBE ASSY., Manifold to nozzle fuel line
28	LW-12098-0-390	TUBE ASSY., Manifold to nozzle fuel line
29	LW-12098-0-412	TUBE ASSY., Manifold to nozzle fuel line
30	LW-13995-0-202	TUBE ASSY., Manifold to nozzle fuel line
31	LW-13995-0-224	TUBE ASSY., Manifold to nozzle fuel line
32	LW-13995-0-271	TUBE ASSY., Manifold to nozzle fuel line
33	LW-13995-0-284	TUBE ASSY., Manifold to nozzle fuel line
34	AN735-26	CLAMP
35	LW-16226-10-03*	CLAMP
36	LW-16226-10-25	CLAMP
37	LW-16226-10-38*	CLAMP
38	LW-16226-10-44*	CLAMP
39	LW-16226-10-75*	CLAMP
40	LW-16226-25-13*	CLAMP
41	LW-16226-25-25*	CLAMP
42	LW-16226-25-38*	CLAMP

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LEGEND FOR PARTS ON DIAGRAMS 1 TO 33 (CONT.)

(Fuel Lines, Clamps, Brackets, Attaching Hardware as shown in the following Engine Diagrams)

CALL OUT	PART NUMBER	PART NAME
43	LW-16226-25-44*	CLAMP
44	LW-16266-25-50*	CLAMP
45	LW-16266-25-63*	CLAMP
46	LW-16266-25-75*	CLAMP
47	71824	CLAMP
48	73843**	CLAMP
49	74733	CLIP
50	STD-692	SCREW, No. 10-32 x 1/2 long
51	STD-860	SCREW, No. 10-32 x 5/8 long
52	STD-921	SCREW, No. 10-32 x 7/8 long
53	STD-1925	SCREW, 1/4-20 x 5/8 long
54	STD-425	WASHER, No. 10 plain
55	STD-28	WASHER, No. 10 plain
56	STD-670	NUT, No. 10-32 self-locking
57	72815	BRACKET, 90°, Twist
58	73136	BRACKET, 90°
59	73152	BRACKET, Support clamp
60	75837	BRACKET, Fuel line support
61	76735	BRACKET, 90°
62	LW-14875	BRACKET, 90°
63	75414	BRACKET, Fuel manifold
64	76868	BRACKET, Support clamp
65	74278	BRACKET ASSY., Fuel line support
66	73626	BRACKET, Extension
67	73318	BRACKET, Extension
68	LW-25-0.81	BOLT, 1/4-20 x 13/16 long
69	STD-8	WASHER, 1/4 plain
70	STD-160	WASHER, 1/4 lock
71	STD-1411	NUT, 1/4-20 plain
72	AN735-32	CLAMP
73	AN735-36	CLAMP
74	STD-969	SCREW, No. 10-32 x 1/2 long
75	STD-251	WASHER, No. 10 lock
76	73966	SPACER
77	STD-1916	SCREW, 1/4-20 x 1-1/8 long
78	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long
79	STD-1874	SCREW, 1/4-20 x 13/16 long
80	AN4-13A	BOLT, 1/4-28 x 1-13/32 long
81	LW-12598	SLEEVE
82	LW-25-0.50	BOLT, 1/4-20 x 1/2 long

* See page 4 for part number designation.

** P/N 73843 is superseded by P/N LW-16266-25-13

NOTE

Aircraft quality Phillips head screws of proper length may be used in place of specified Lycoming screws.

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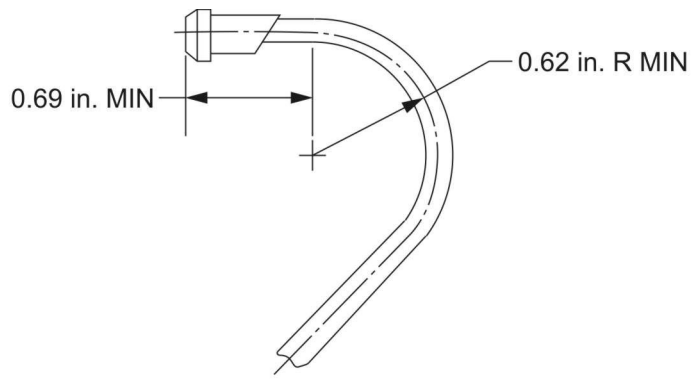


Figure 1. Fuel Line Showing Minimum Dimension for Bending

PLEASE Note ... When installing clamps, it does not matter whether the clamp is installed to the right or left of the shroud tube, only that it is clamped at that location and there is 3/16 inch clearance between the line and any engine surface.

CLAMP P/N DESIGNATION

SCREW SIZE

LW-16266-10-13

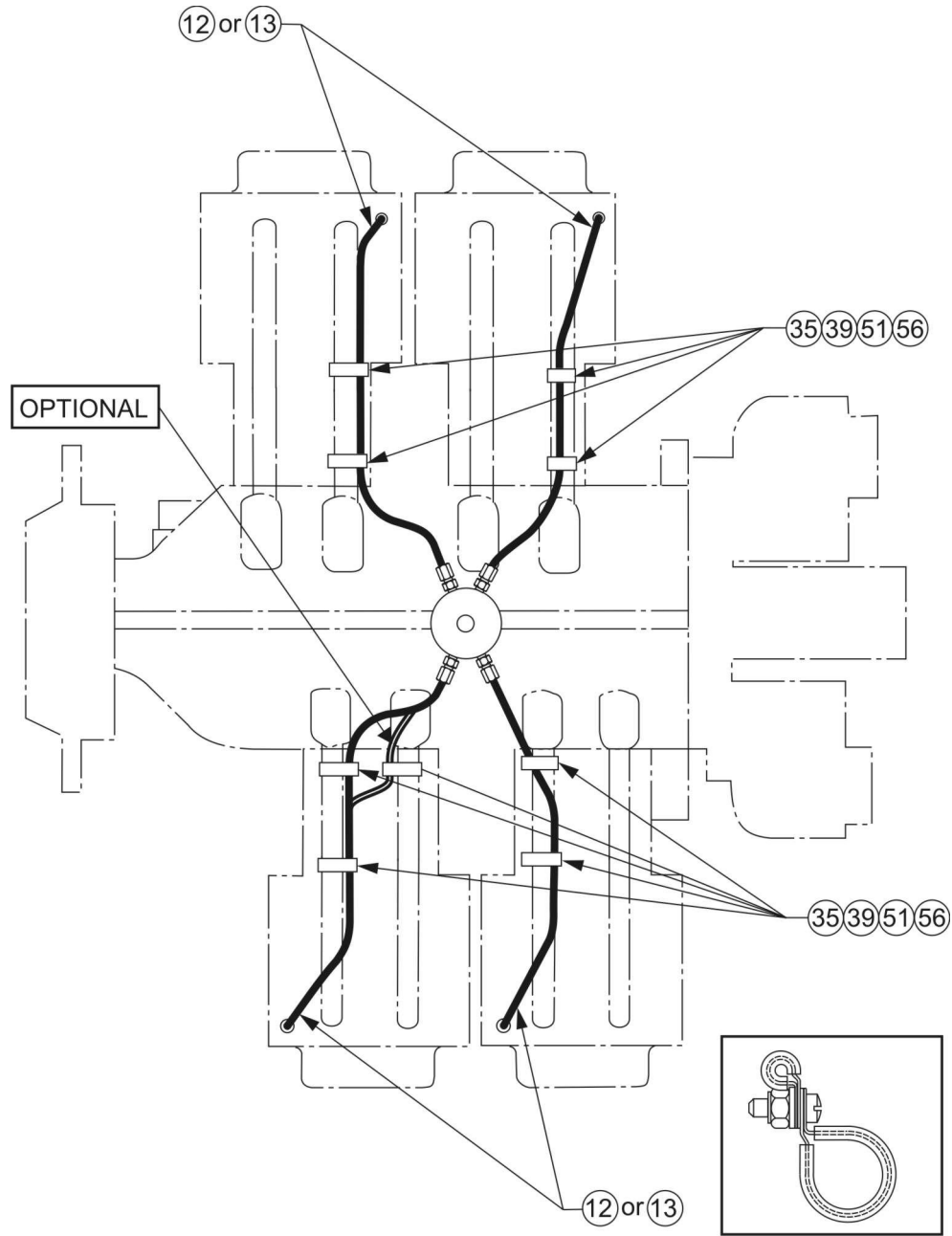
CLAMP DIAMETER

10 = #10 SCREW	-13 (.125)	
	-25 (.250)	
	-38 (.375)	
	-44 (.438)	
	-75 (.750)	
25 = 1/4" SCREW	-13 (.125)	
	-25 (.250)	
	-38 (.375)	
	-44 (.438)	
	-50 (.500)	
	-63 (.625)	
	-75 (.750)	

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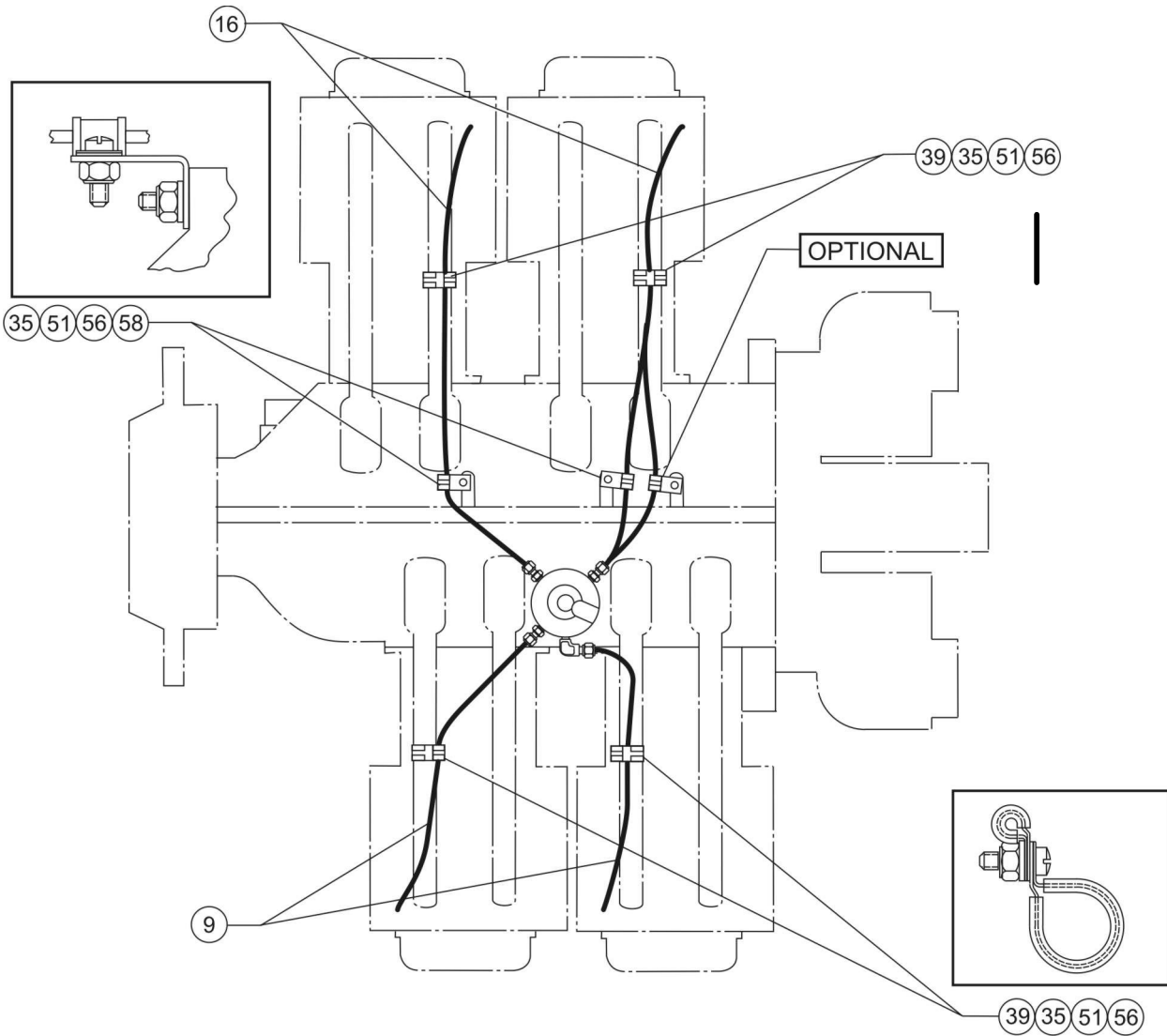
Diagram No. 1 -- IO-320-B1A
 IO-360-B1B, B1F, B2F, B2F6, B4A, F1A, L2A, M1A
 AEIO-360-B1G6, B1H, B4A, H1A, H1B
LIO-360-M1A

NOTE: Underlined engine models indicate new engine model added to the list



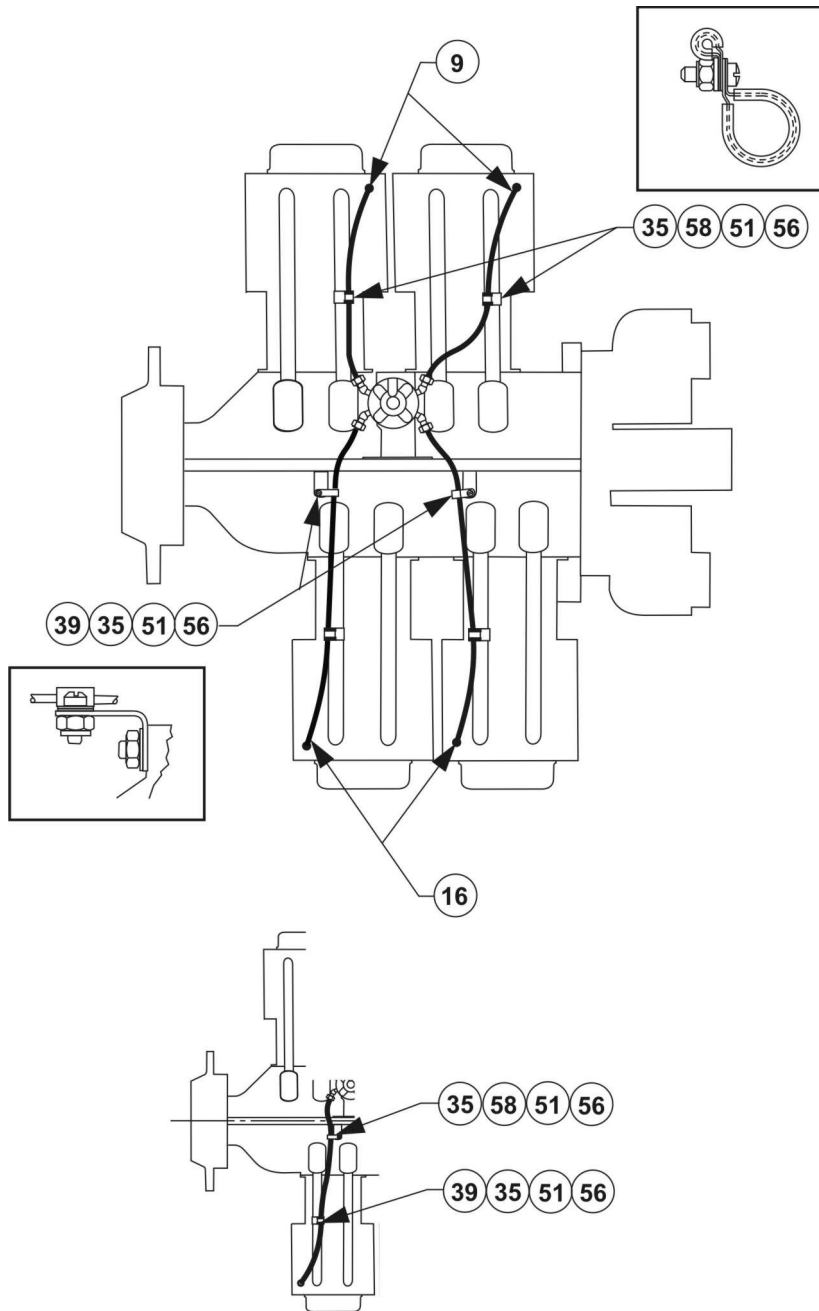
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Diagram No. 2 -- IO-320-B1A, B1C, C1A, D1A, D1B, E1A, E1B, E2A, E2B
 LIO-320-B1A, C1A
 AEIO-320-D1B, D2B, E1B, E2B
 IO-360-B1G6, C1C, C1C6, C1D6, C1E6, C1F, C1G6
 LIO-360-C1E6
 HIO-360-C1A, C1B, E1AD, E1BD, F1AD
 TIO-360-A1B



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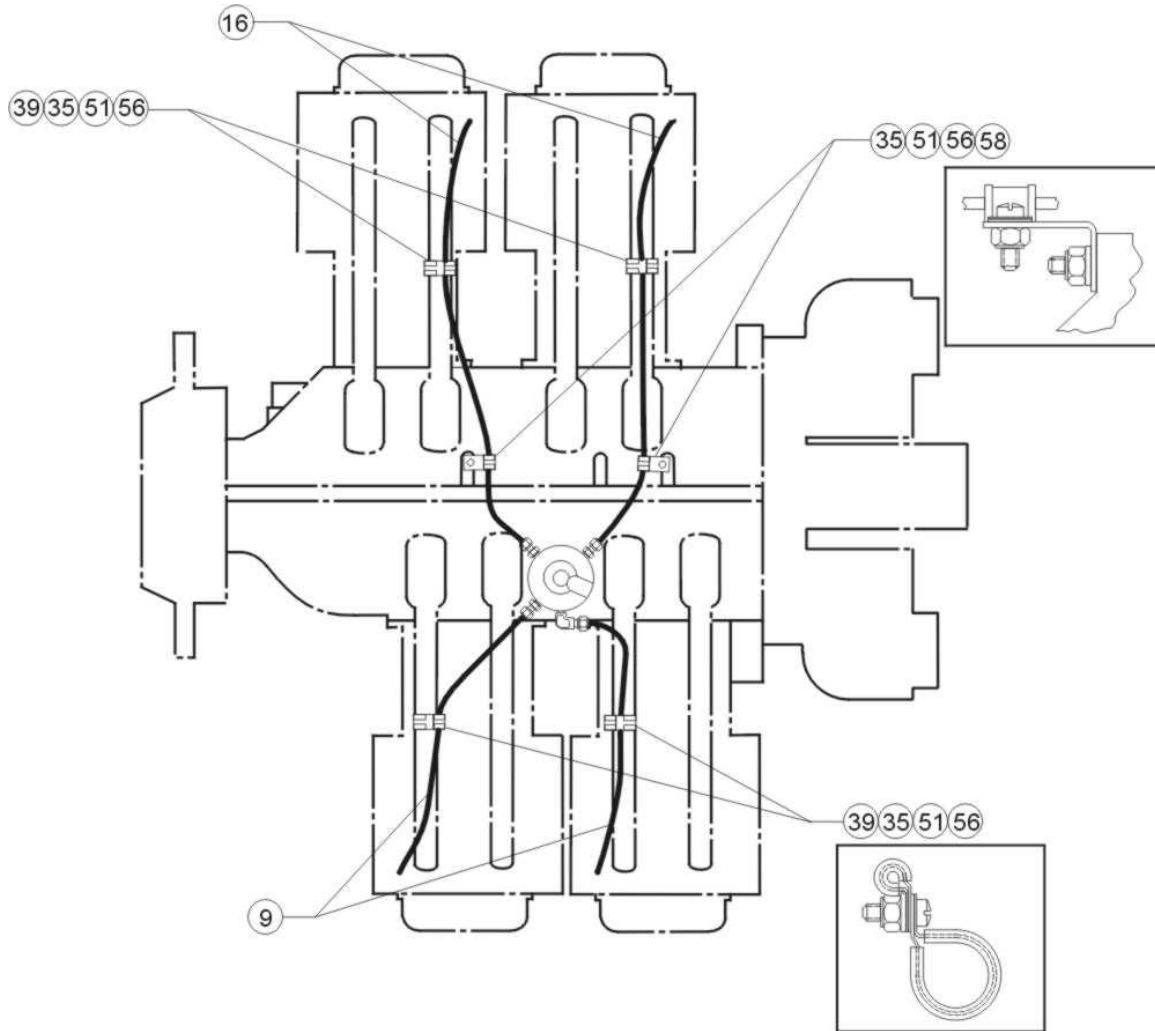
Diagram No. 3 -- IO-360-A1A, A1B, A1B6, A1B6D, A1C, A1D, A1D6, A2A, A2B, A3B6, A3B6D, B1D, B1F, B2F, C1A, C1B, C1D6, J1A6D, M1B
 HIO-360-C1A, C1B
 AEIO-360-A1A, A1B, A1B6, A1D, A1E, A1E6, B1F, B2F



**CYLINDER # 2
 CLAMPING RELOCATION**

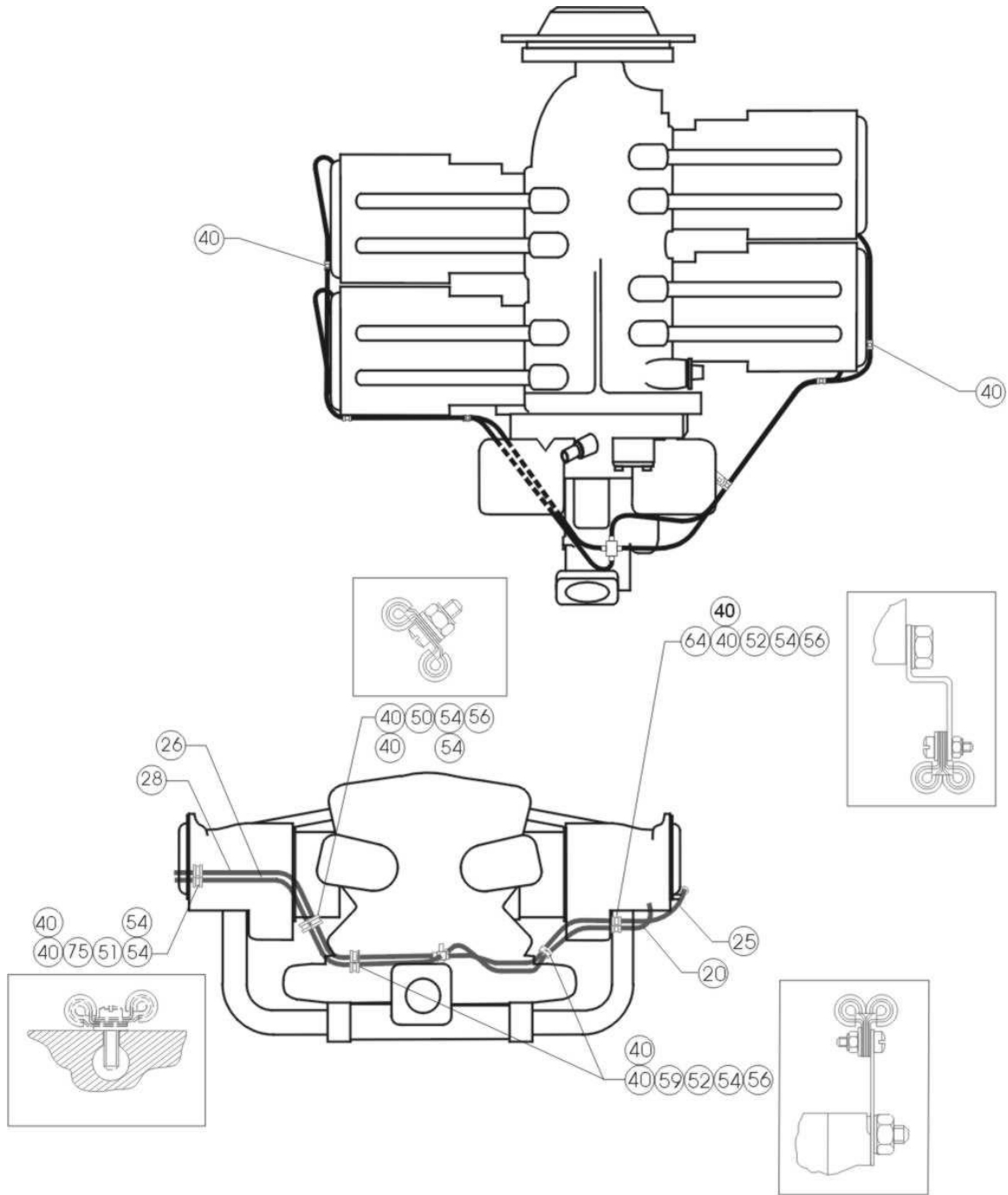
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Diagram No. 4 -- IO-360-B1E



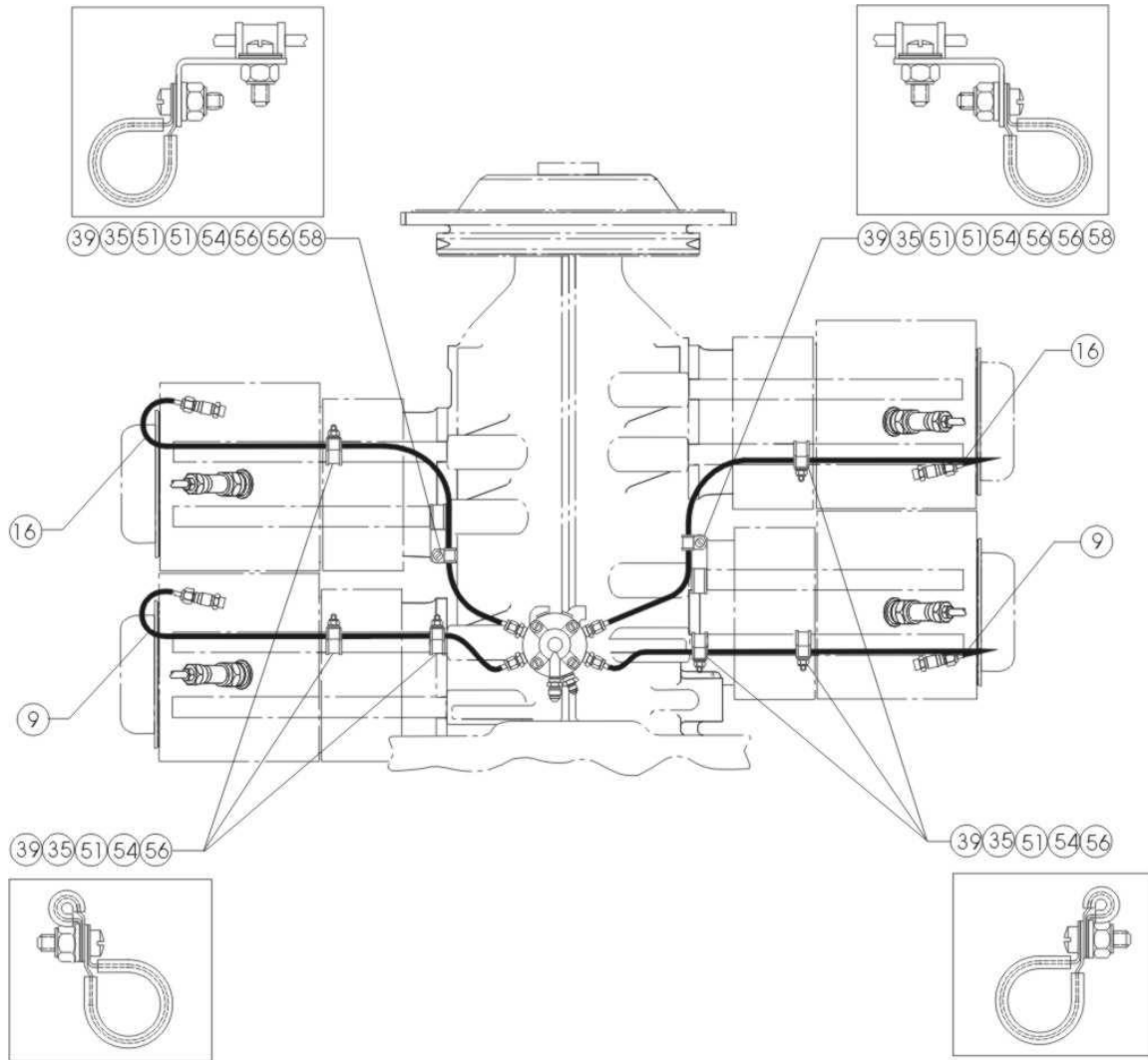
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Diagram No. 5 -- HIO-360-A1A



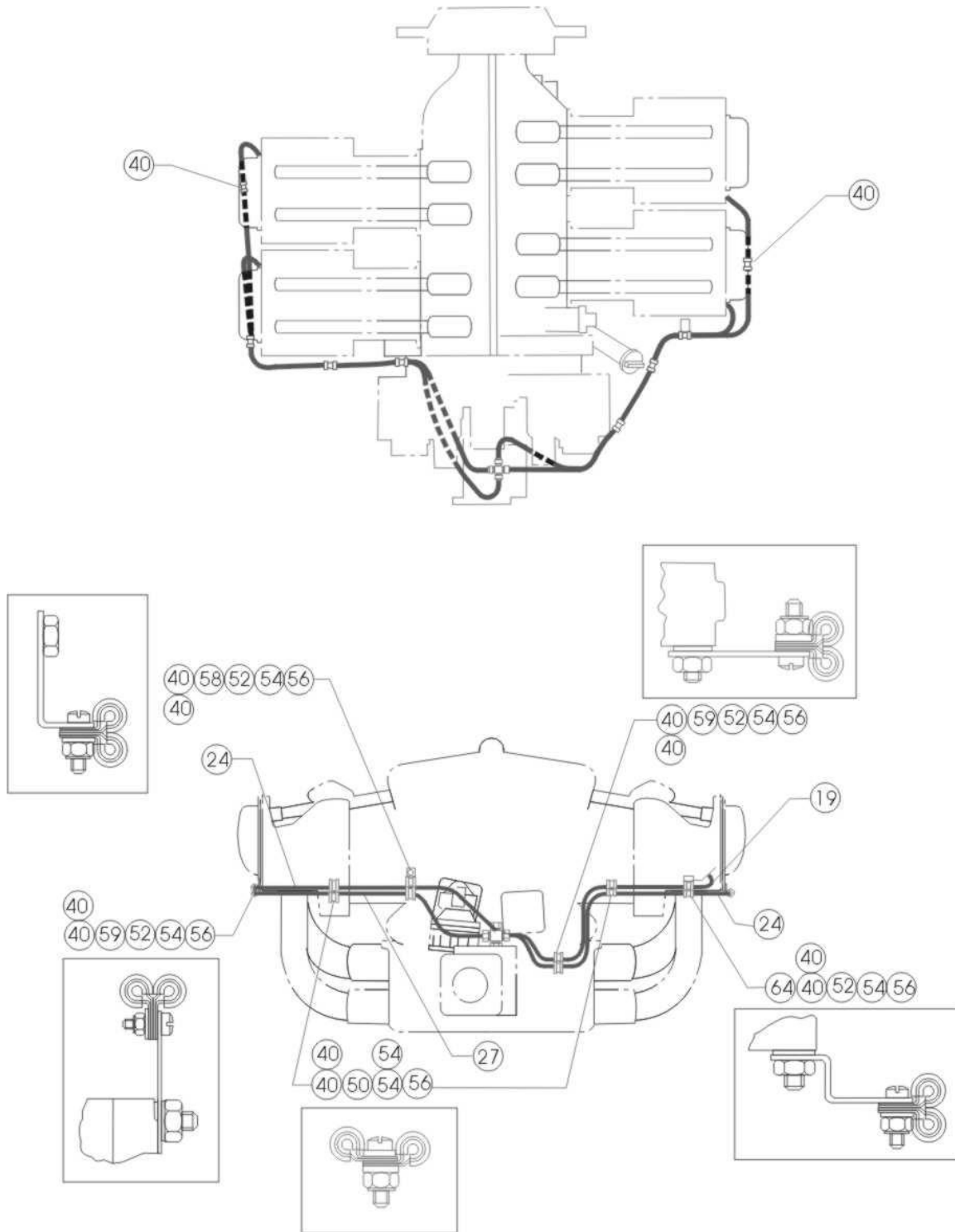
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Diagram No. 6 -- HIO-360-A1B



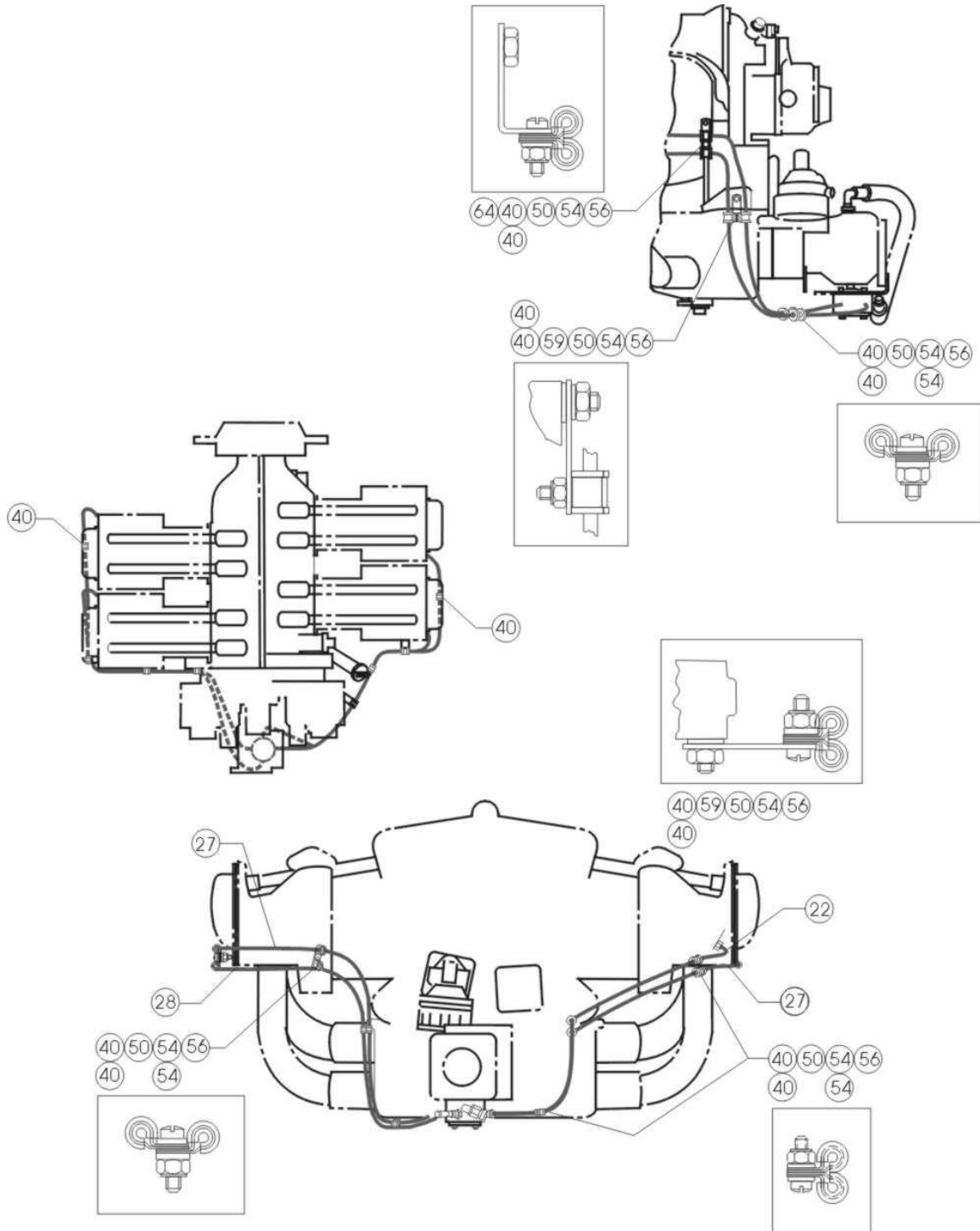
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Diagram No. 7 -- HIO-360-B1A (View 1 of 3) Rosette Installation



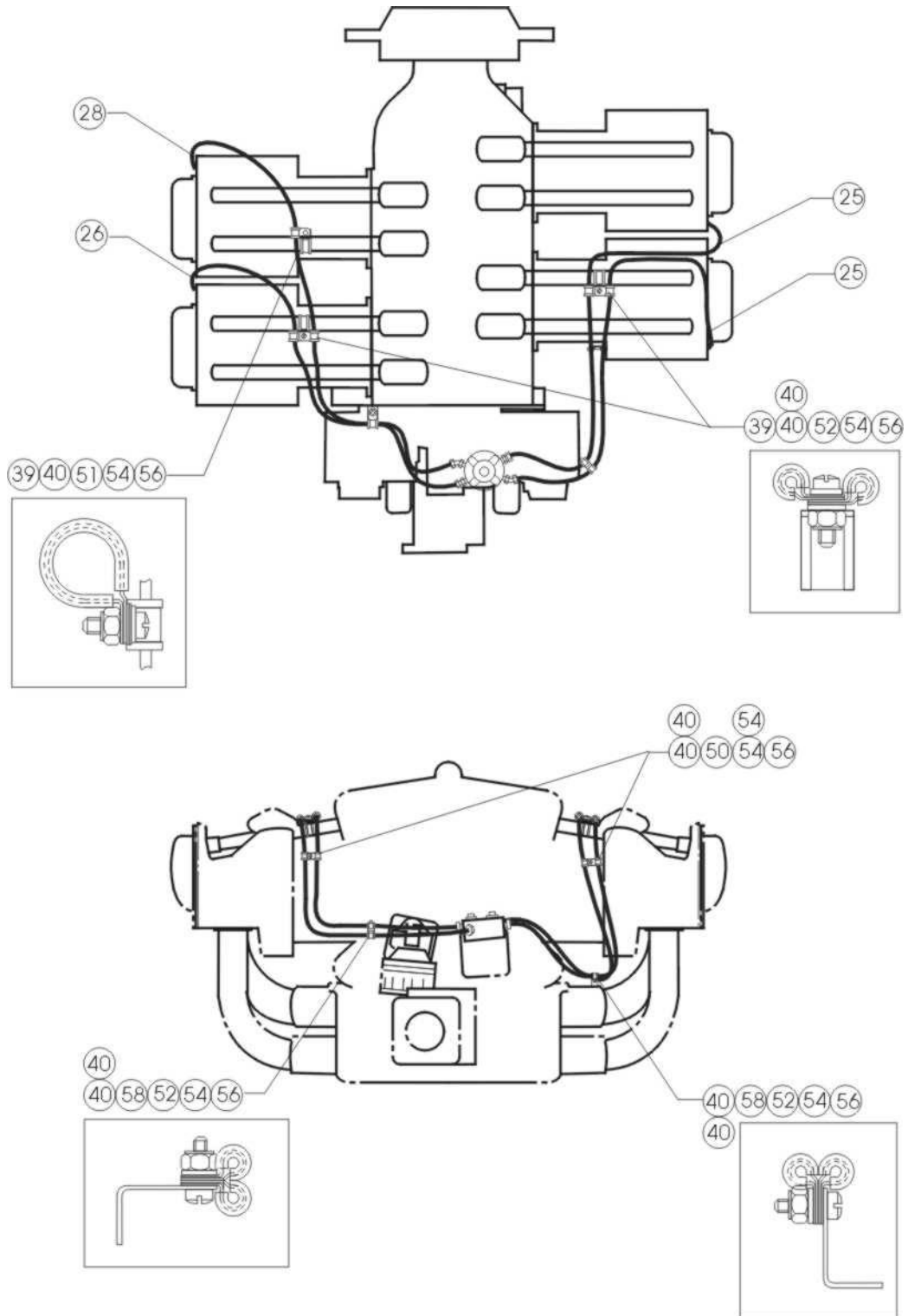
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Diagram No. 8 -- HIO-360-B1A (View 2 of 3) LW-12155 Manifold Assy., Fuel



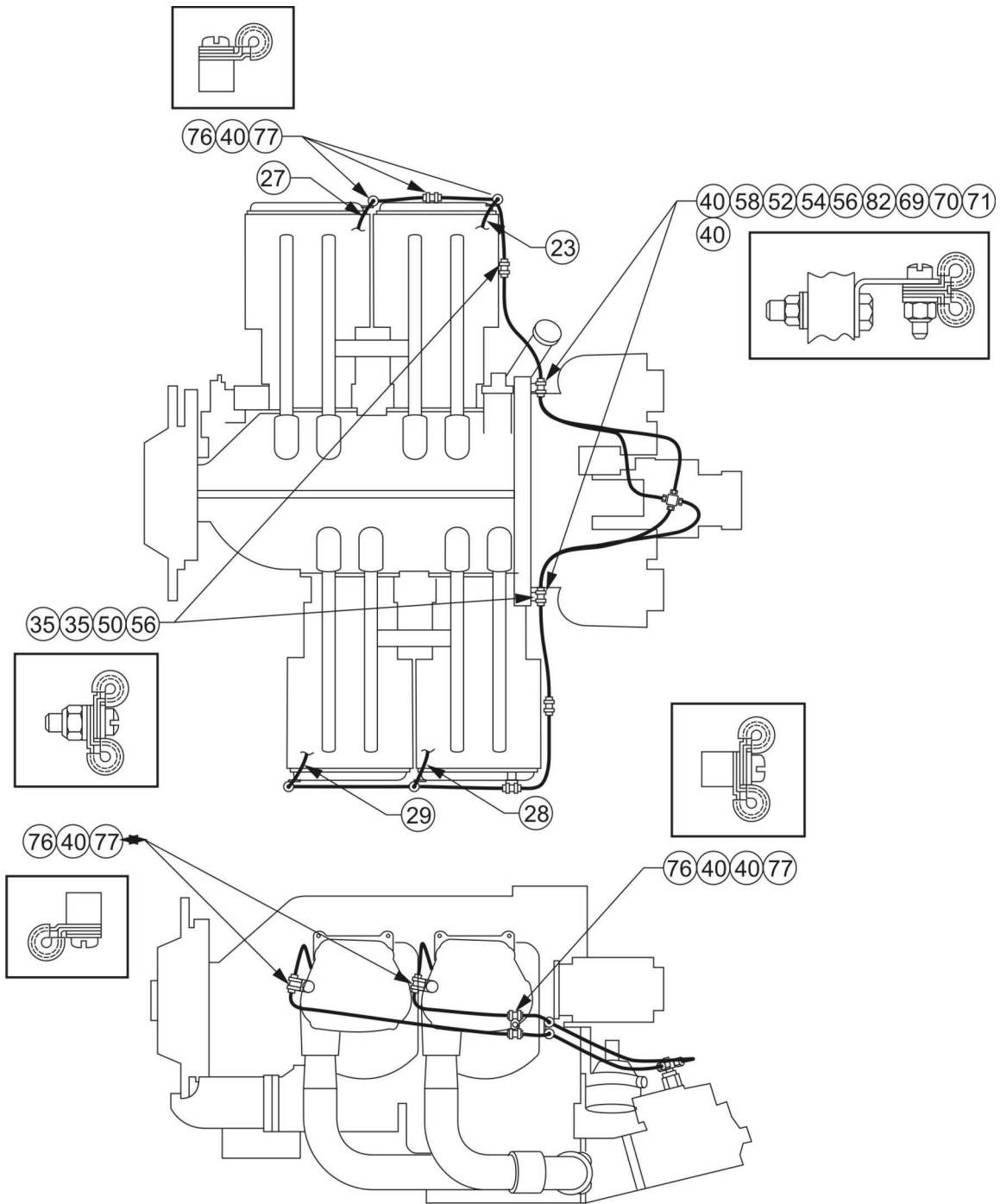
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Diagram No. 9 -- HIO-360-B1A (View 3 of 3) 75282 Manifold Assy., Fuel



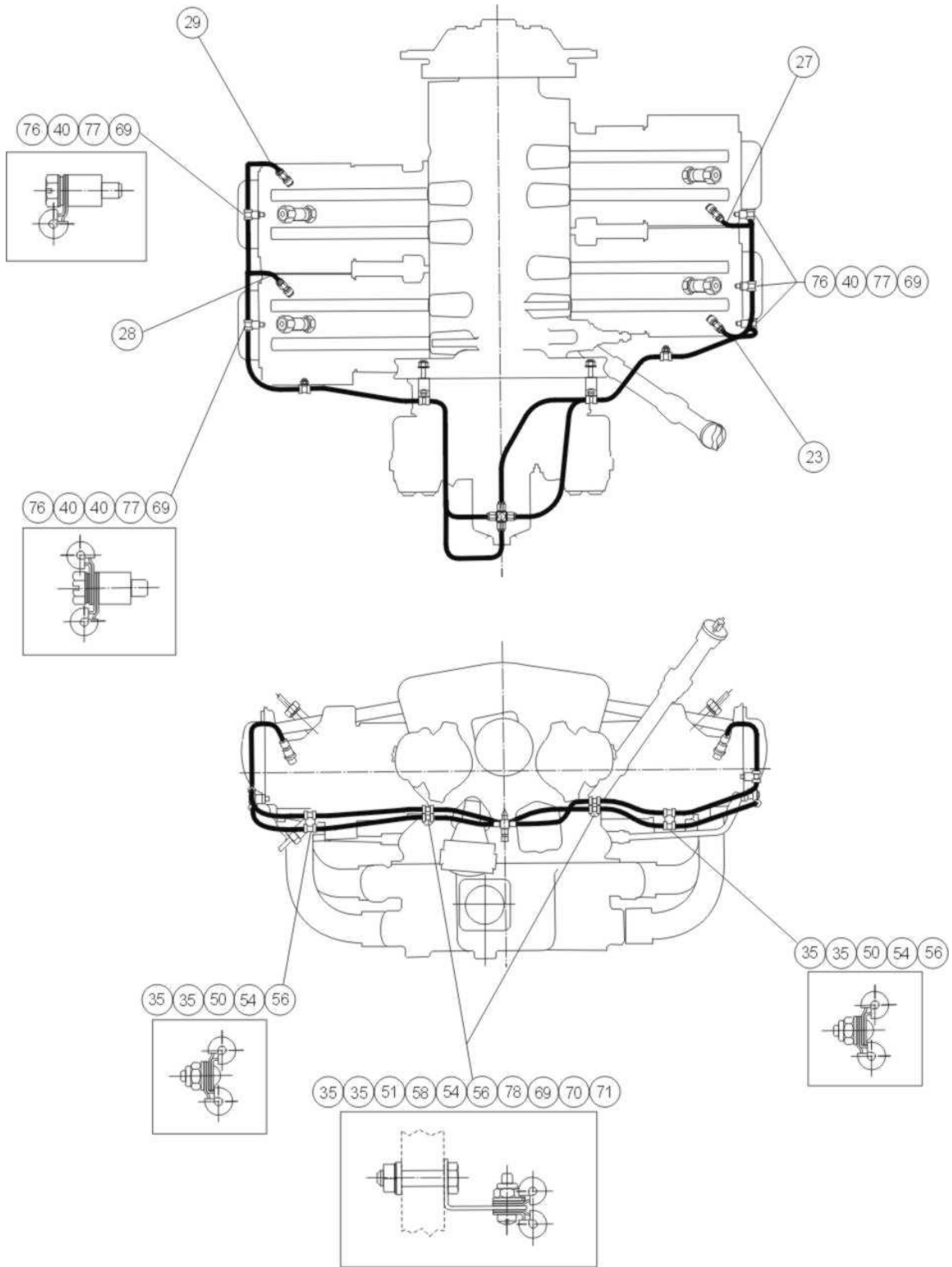
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Diagram No. 10 -- HIO-360-D1A



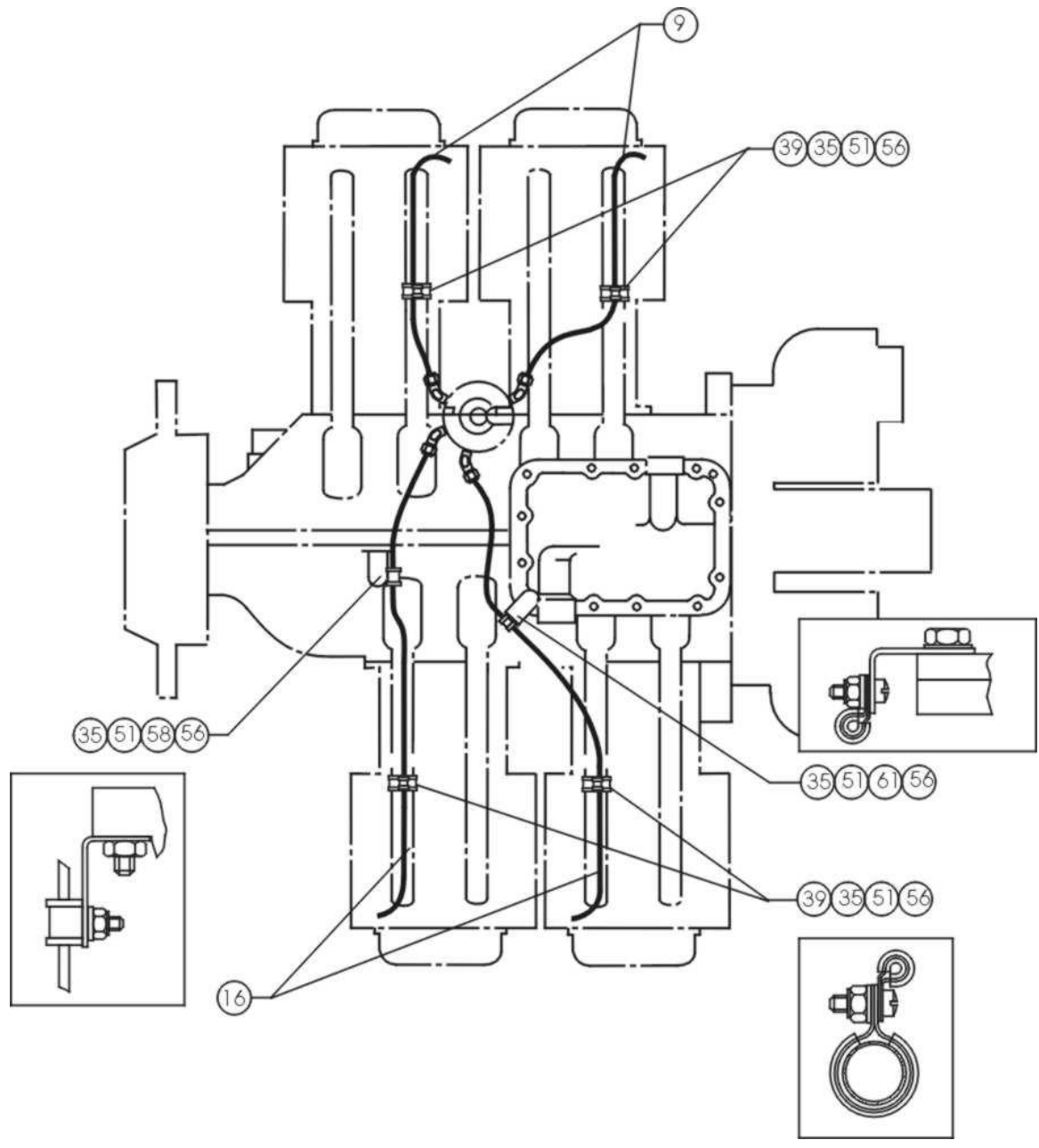
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Diagram No. 10A -- HIO-360-G1A



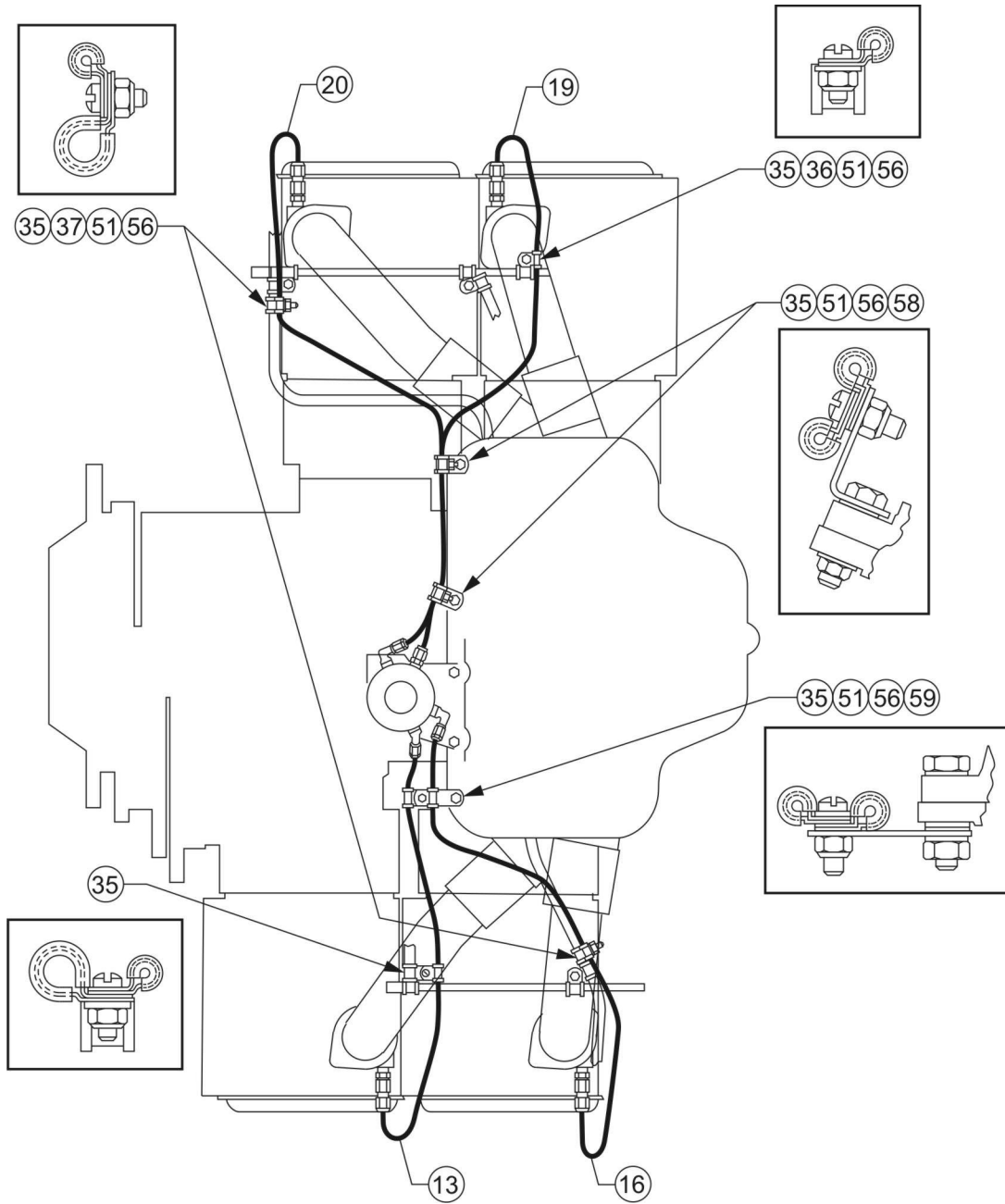
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Diagram No. 11 -- AIO-320-A1B, B1B, C1B
 AIO-360-A1A, A1B, B1B



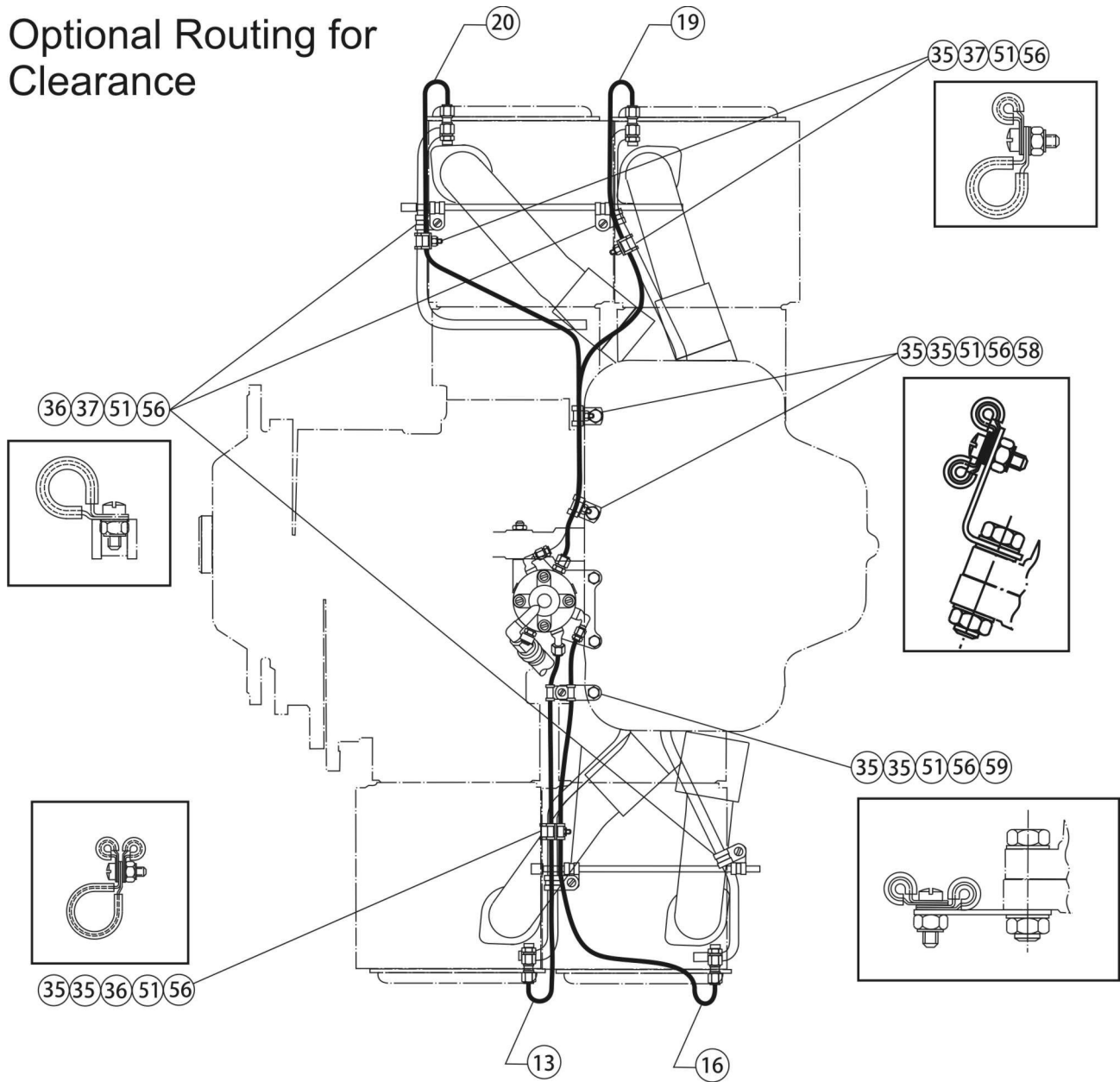
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Diagram No. 12 -- TIO-360-C1A6D (View 1 of 3)



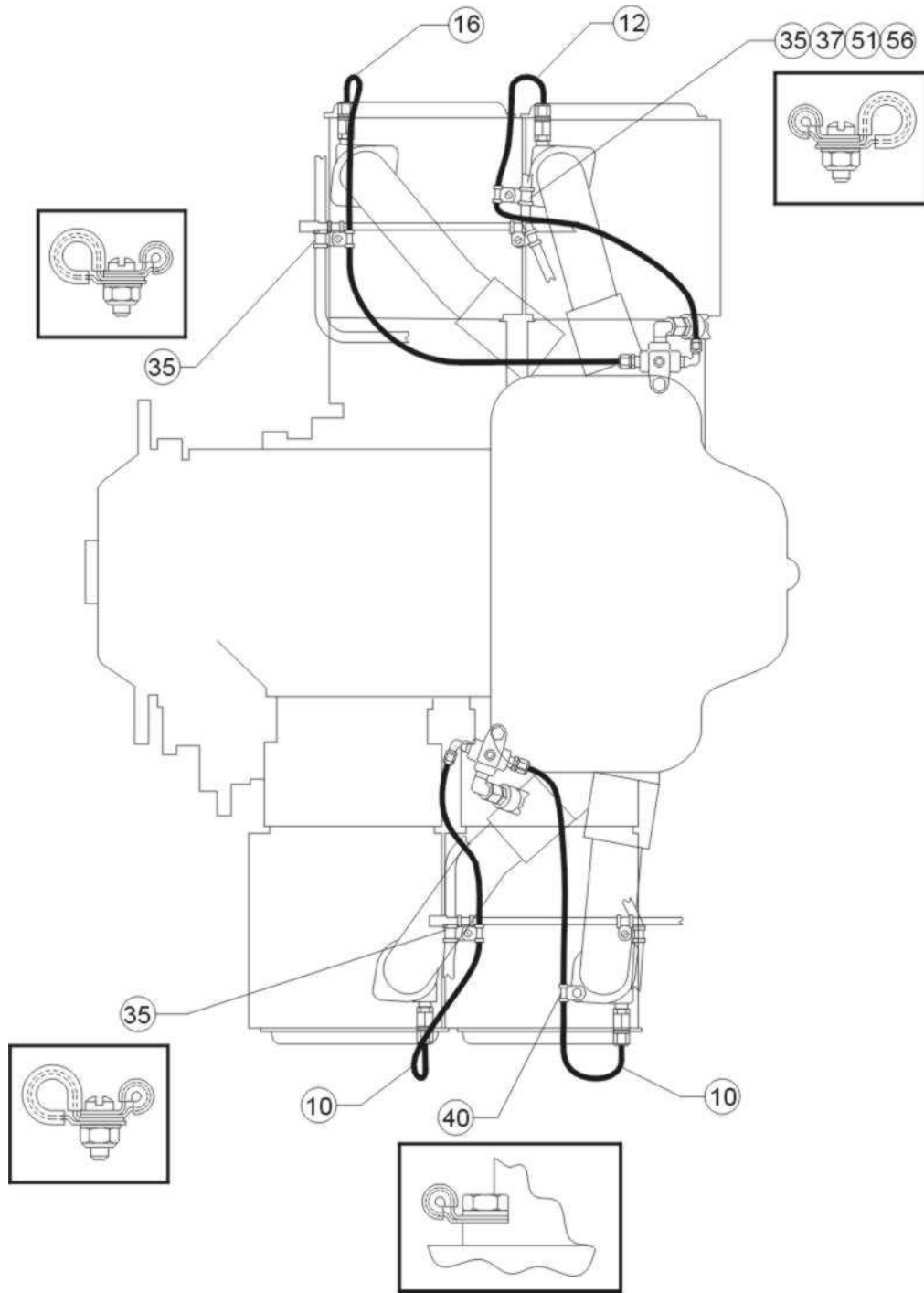
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Optional Routing for Clearance



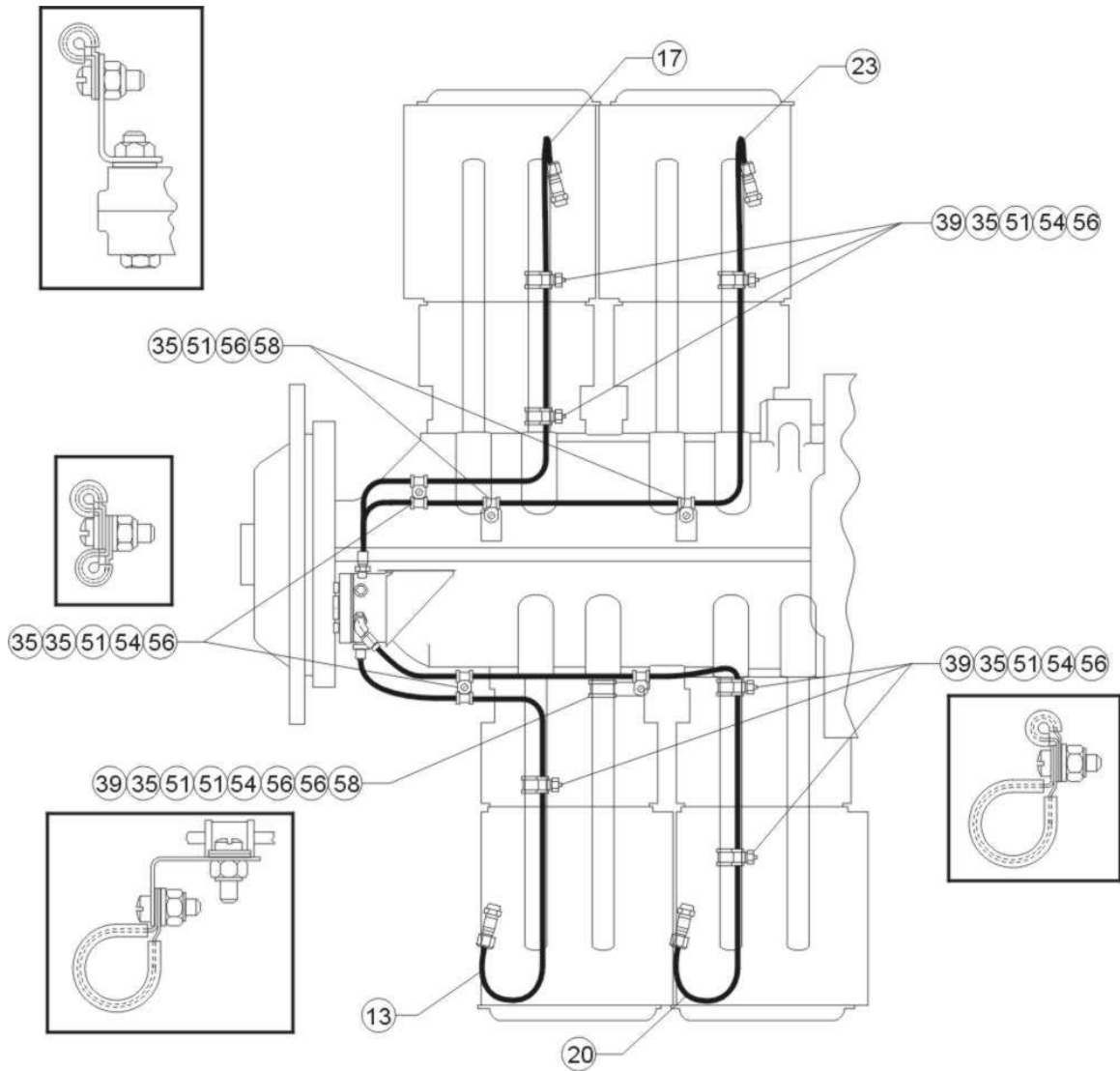
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Diagram No. 14 -- TIO-360-C1A6D (View 3 of 3)



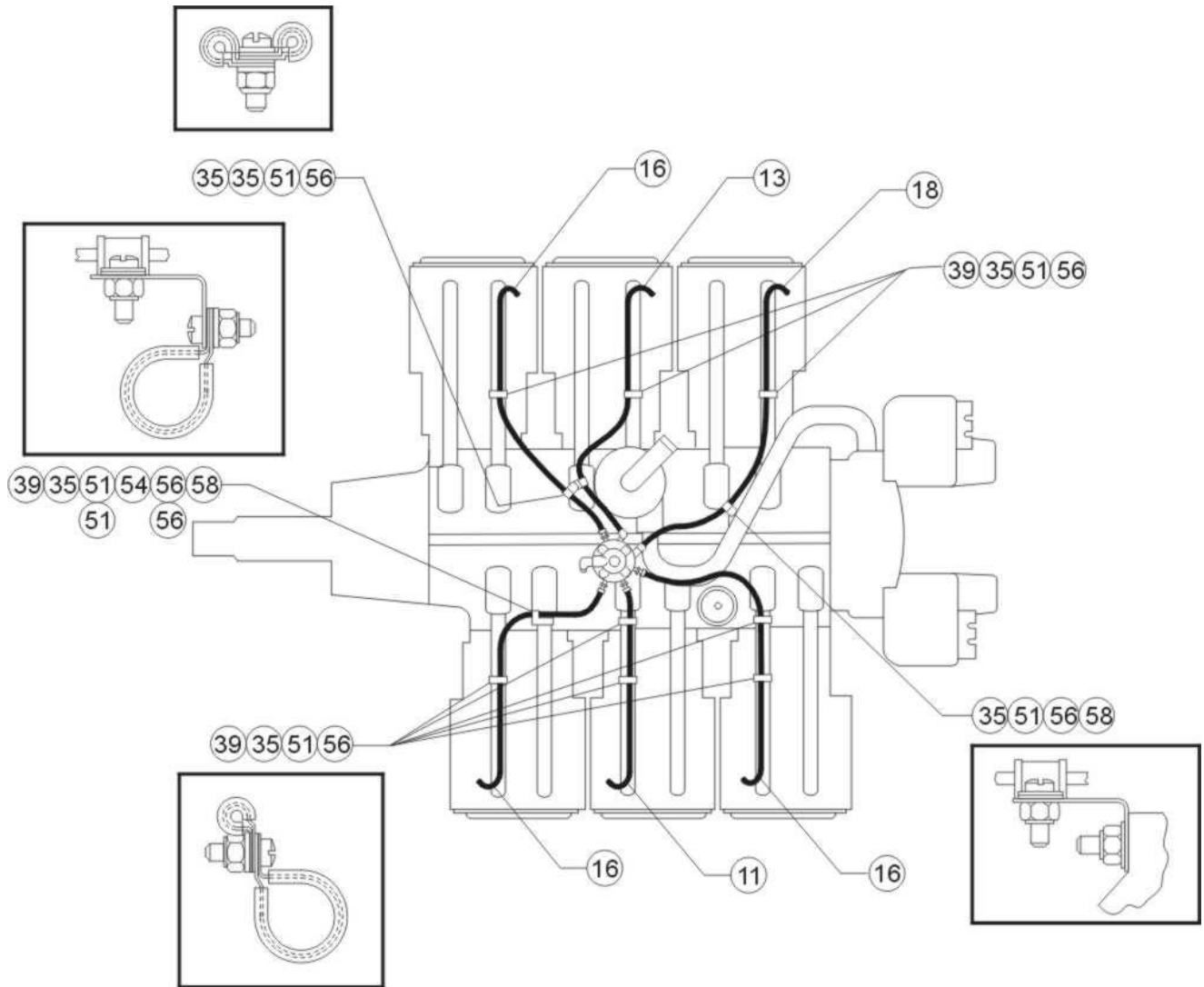
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Diagram No. 15 -- IVO-360-A1A



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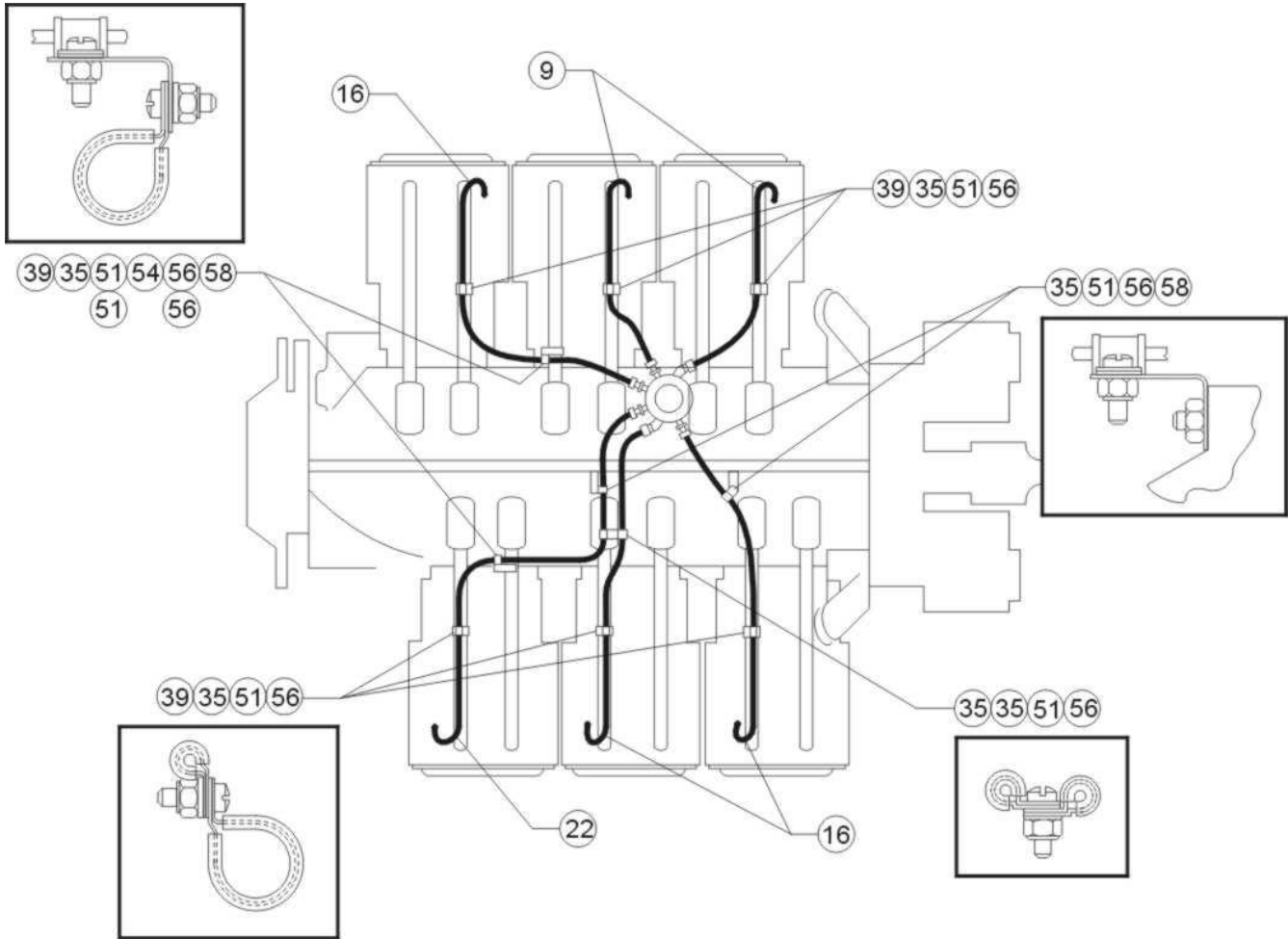
Diagram No. 16 -- IGO-480-A1B6



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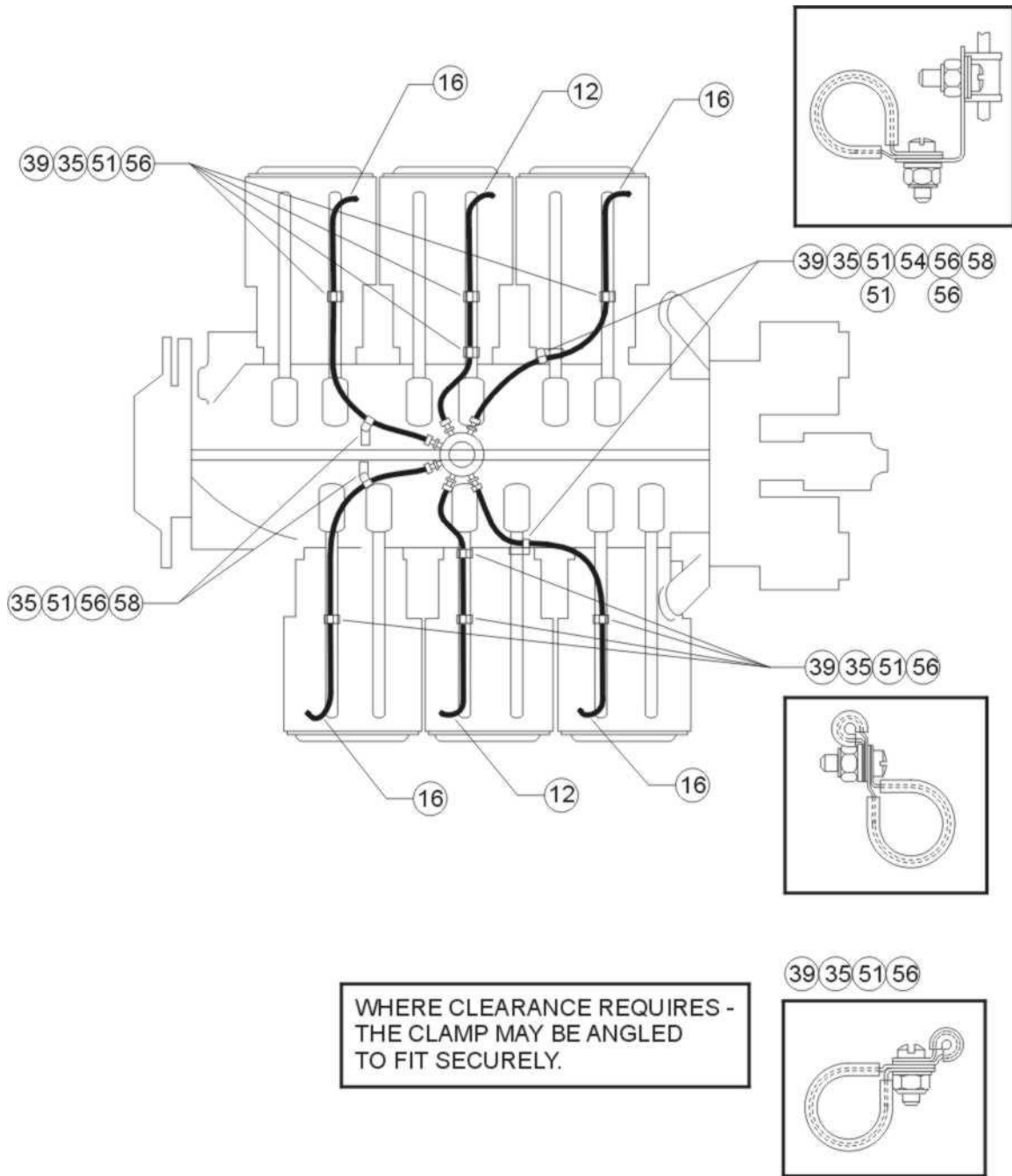
Diagram No. 17 -- IO-540-C4D5D, G1C5, K1A5, K1A5D, K1B5, K1F5, K1F5D, K1G5, K1G5D, K1H5, K1J5, K1J5D, K1K5, AA1B5

NOTE: Underlined engine models indicate new engine model added to the list



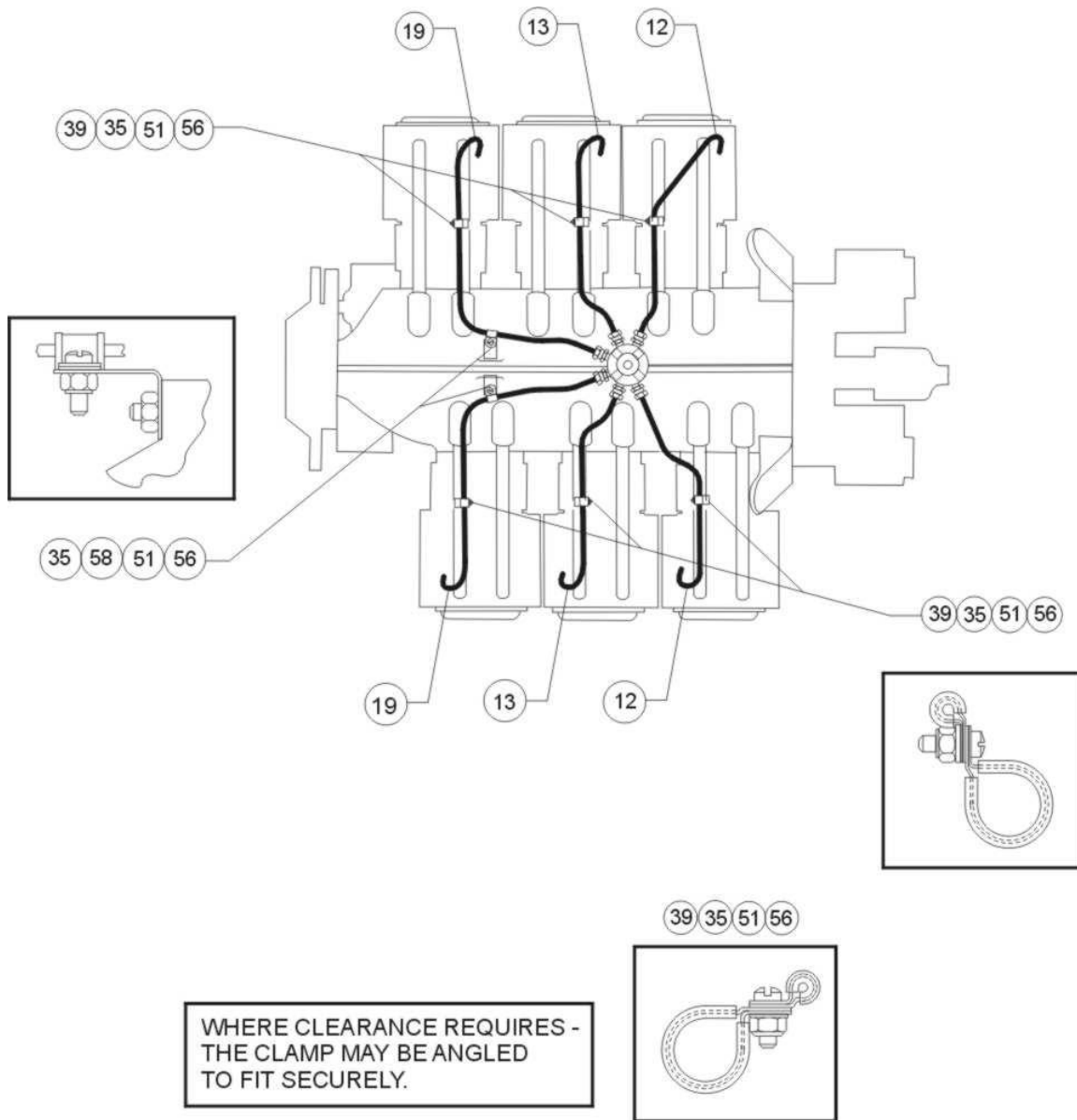
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Diagram No. 18 -- IO-540-A1A5, G1A5, G1B5, G1D5, G1E5, G1F5, K1A5, K1B5, K1C5, K1D5, K1E5, K1E5D, K1F5, K1H5, K1J5, P1A5, S1A5, T4A5D, T4B5, T4B5D, T4C5D, AA1A5
 TIO-540-U2A, AE2A, AH1A
 LTIO-540-U2A



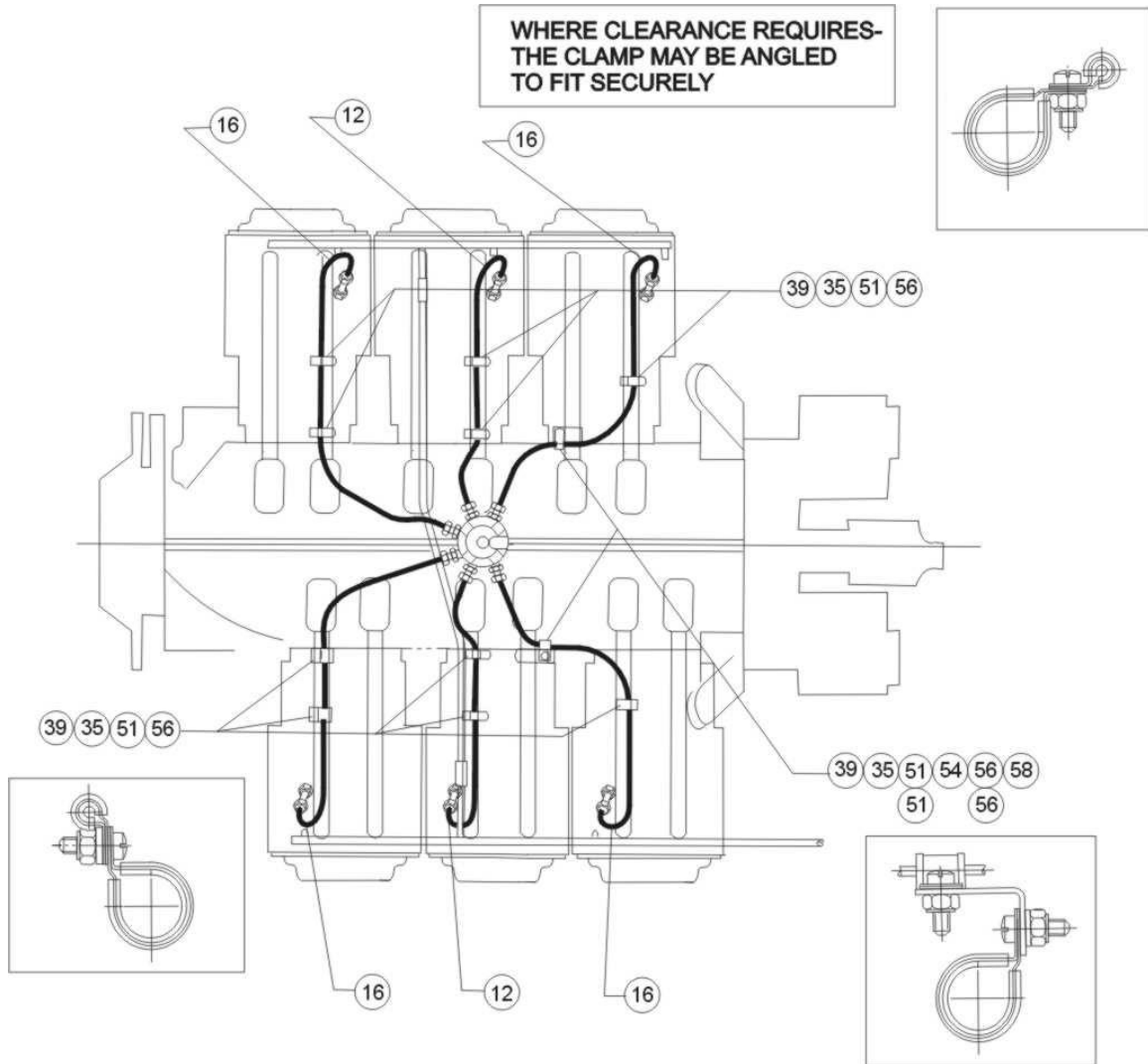
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Diagram No. 18A -- IO-540-AE1A5



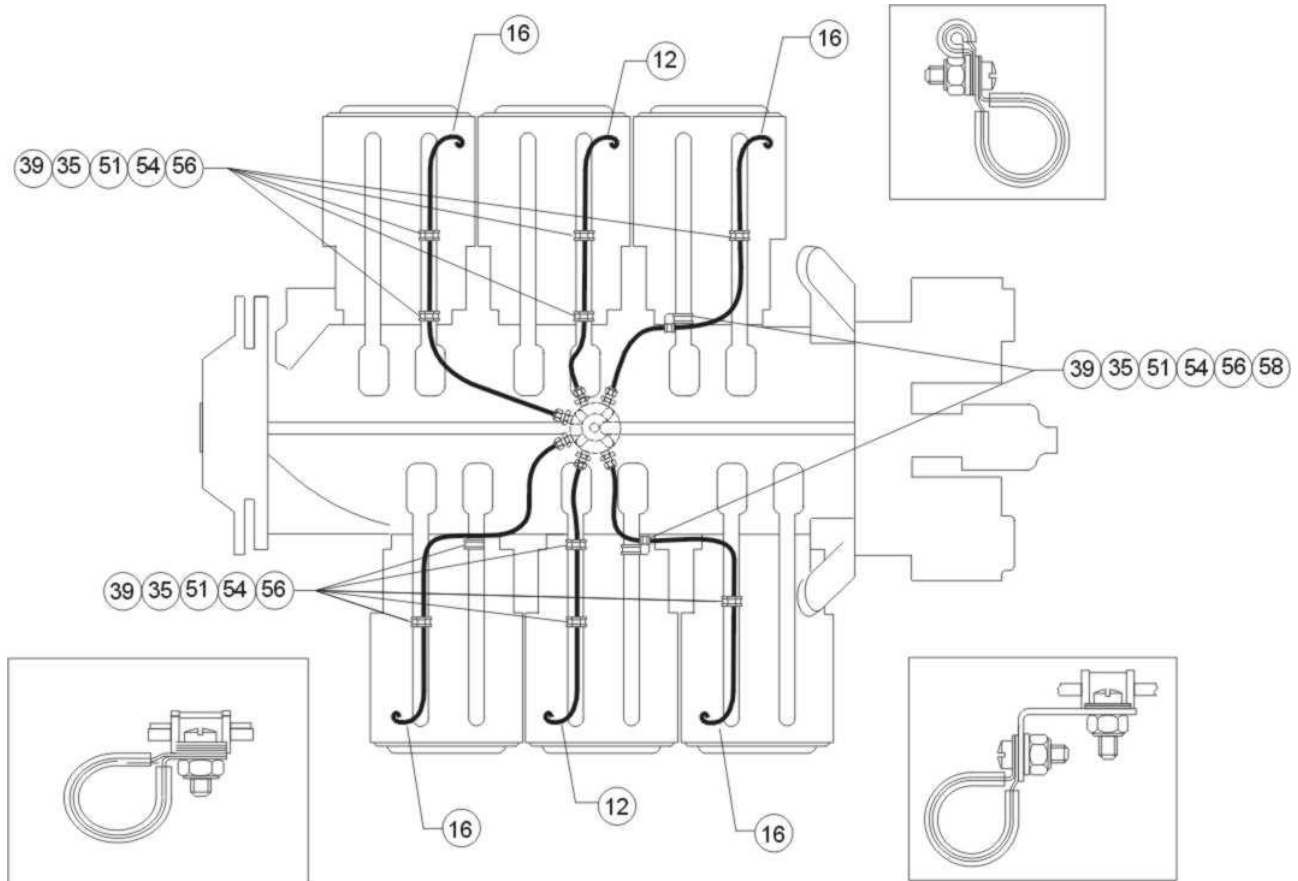
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Diagram No. 19 -- AEIO-540-D4D5
 TIO-540-AF1A, AF1B, AG1A, AA1AD, AB1BD



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03	24	72	06	04	10	25 of 42	F	

**Diagram No. 19A -- IO-540-AB1A5★
TIO-540-AK1A**

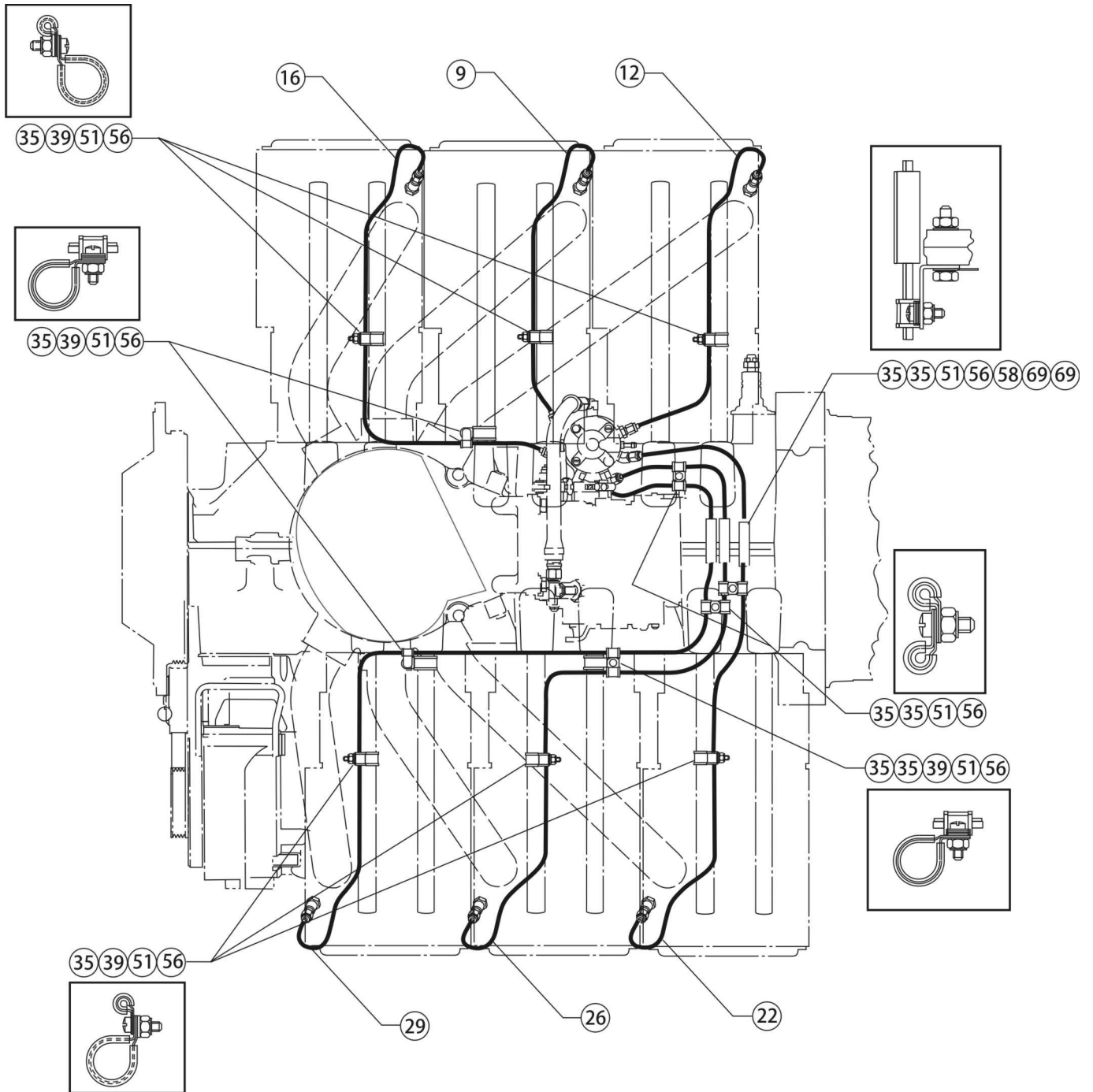


**WHERE CLEARANCE REQUIRES -
THE CLAMP MAY BE ANGLED TO
FIT SECURELY.**

★ Note manifold orientation.

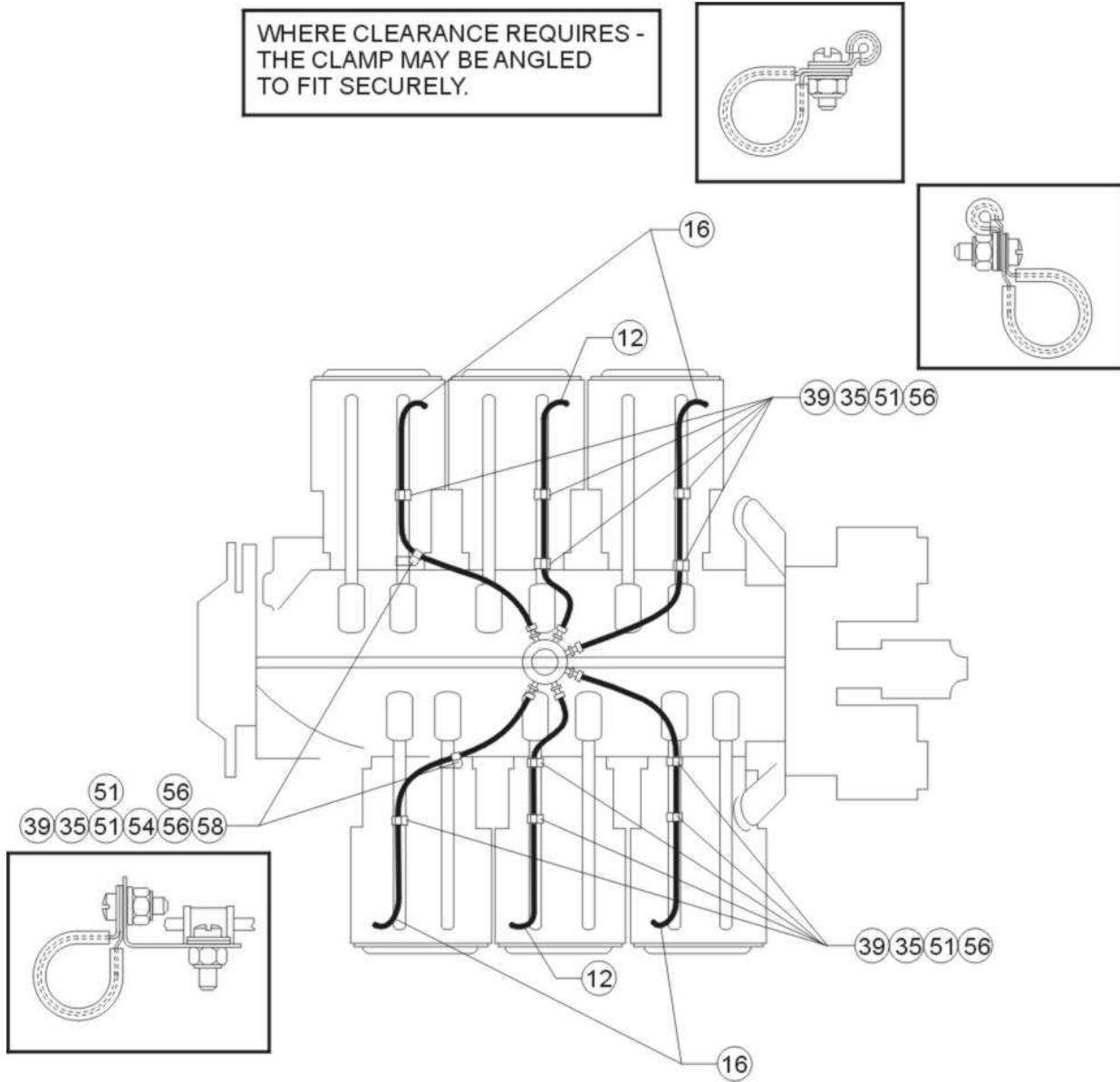
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**Diagram No. 20 -- IO-540-AC1A5
TIO-540-AJ1A**



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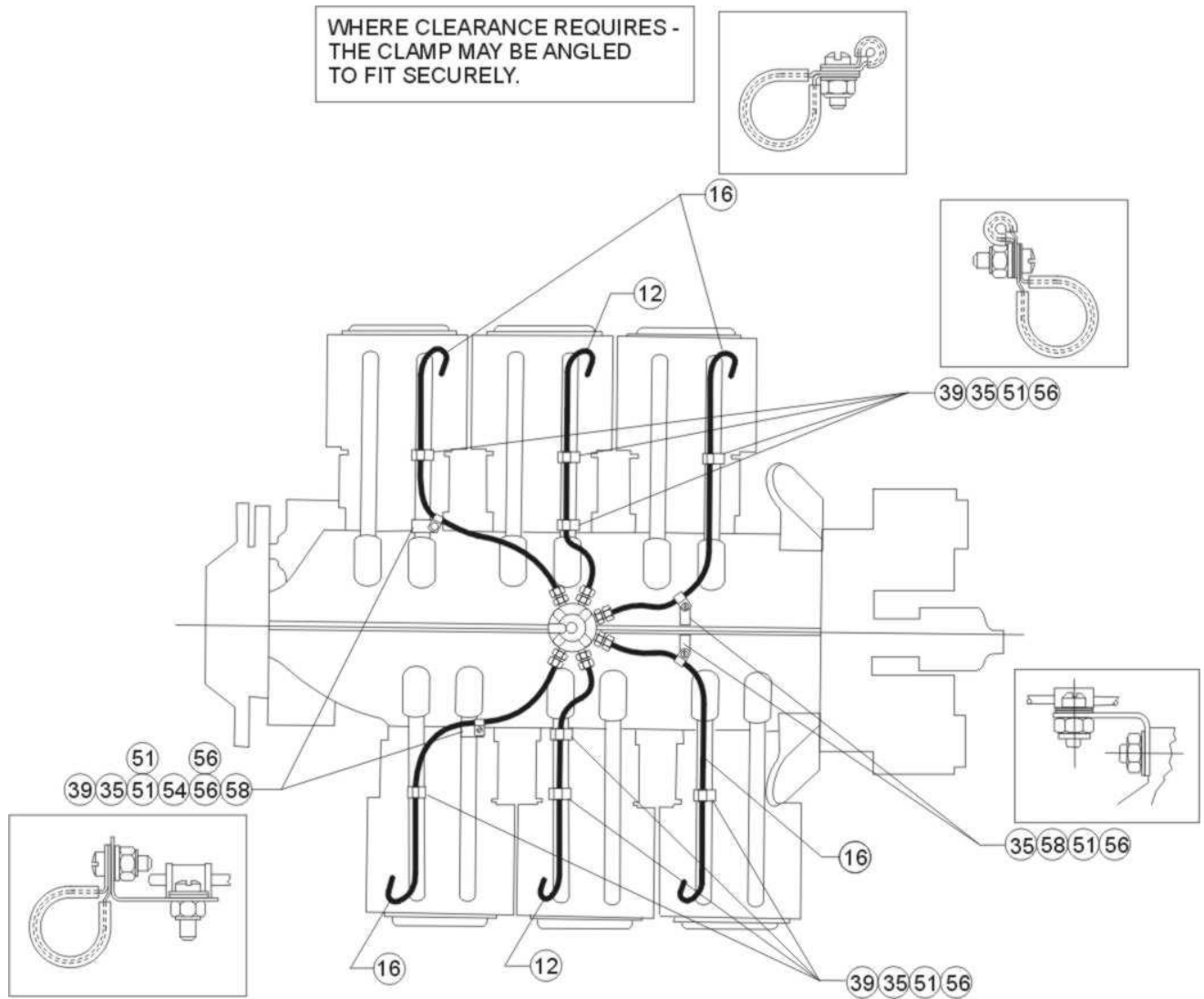
Diagram No. 21 -- IO-540-A1A5, C1B5, C1C5, C4B5, C4D5D, D4A5, J4A5, L1C5, AB1A5★
 TIO-540-C1A, E1A, G1A, AB1AD
 AEIO-540-D4A5, D4B5, L1B5, L1B5D, L1D5



★ Note manifold orientation.

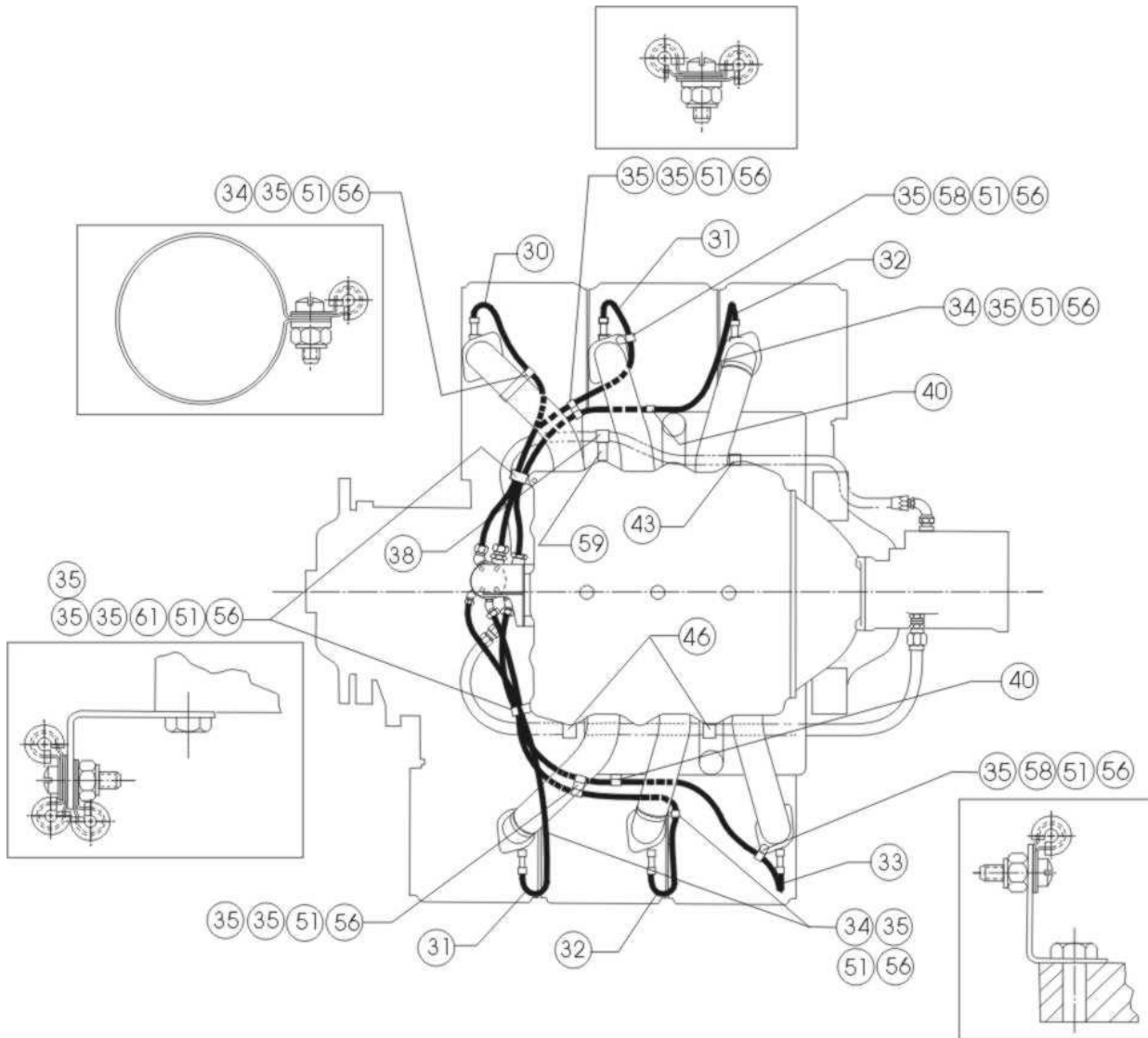
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	28 of 42	F	

Diagram No. 21A -- IO-540-N1A5, R1A5, V4A5, V4A5D, W1A5, W1A5D, W3A5D



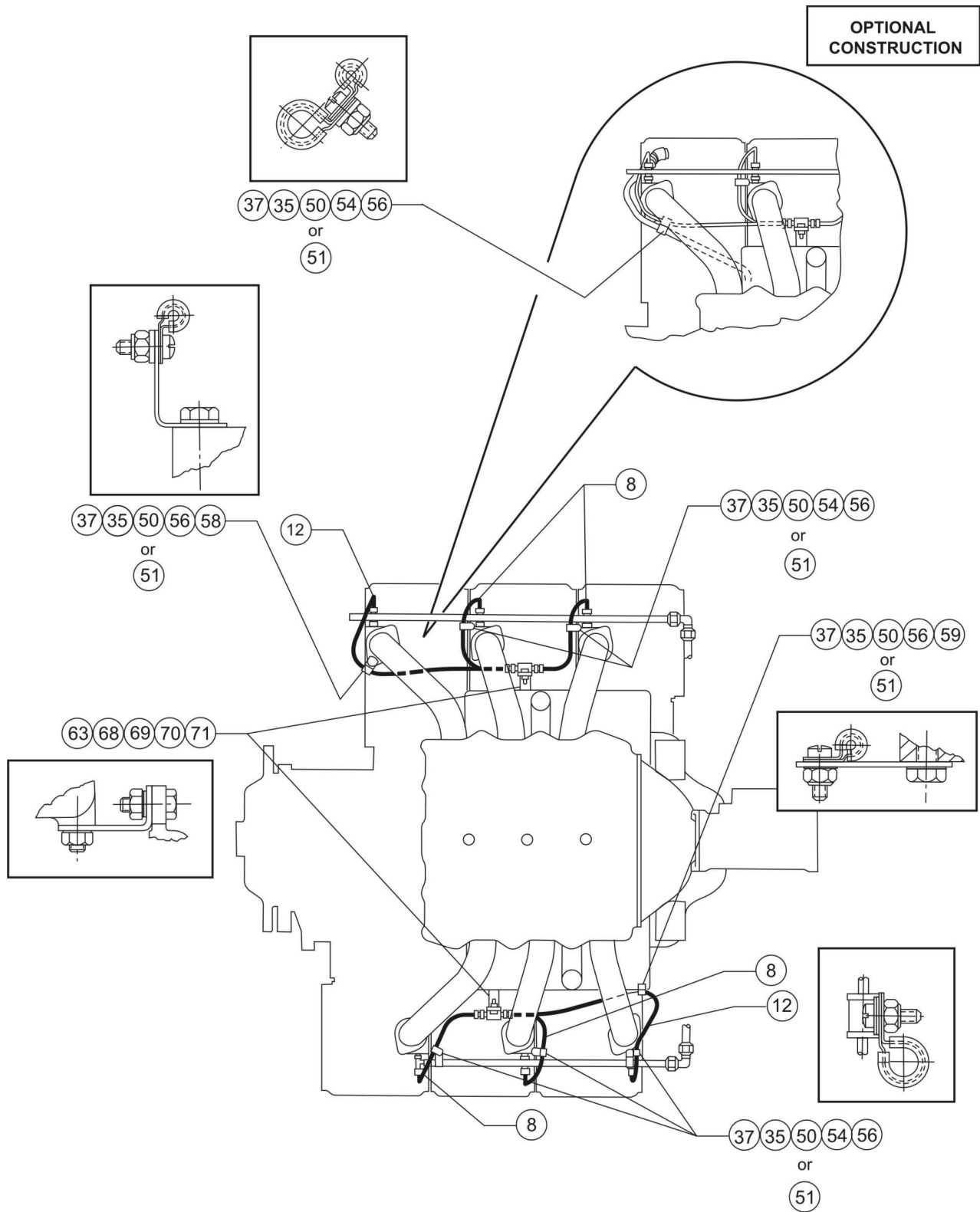
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03	24	72	06	04	10	29 of 42	F	

Diagram No. 22 -- IO-540-B1A5, B1C5, E1A5, E1B5



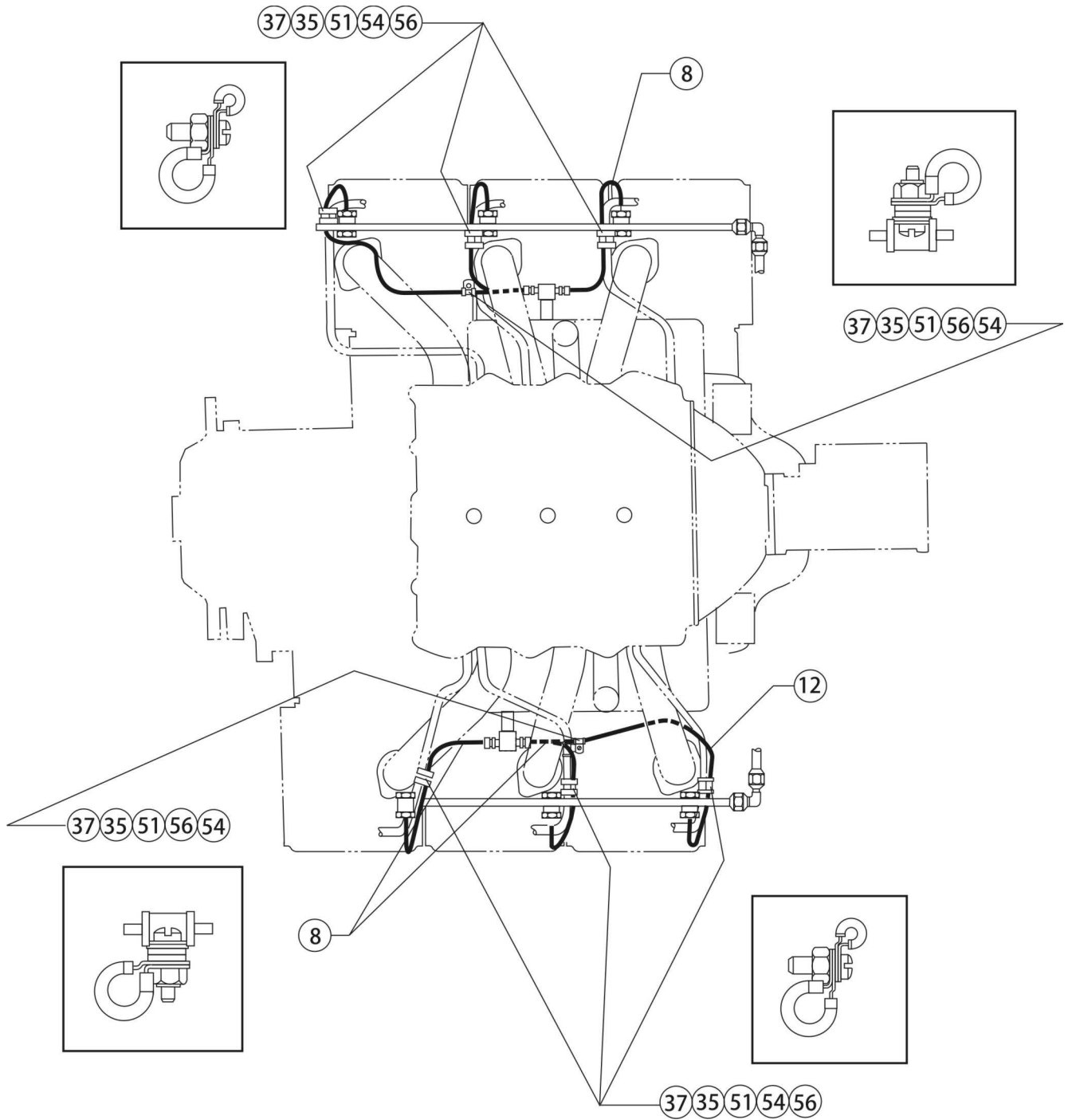
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	30 of 42	F	

Diagram No. 23 -- TIO-540-A1A, A1B, A2A, A2B, A2C, F2BD, J2B, J2BD, N2BD, R2AD
 LTIO-540-F2BD, J2B, J2BD, N2BD, R2AD



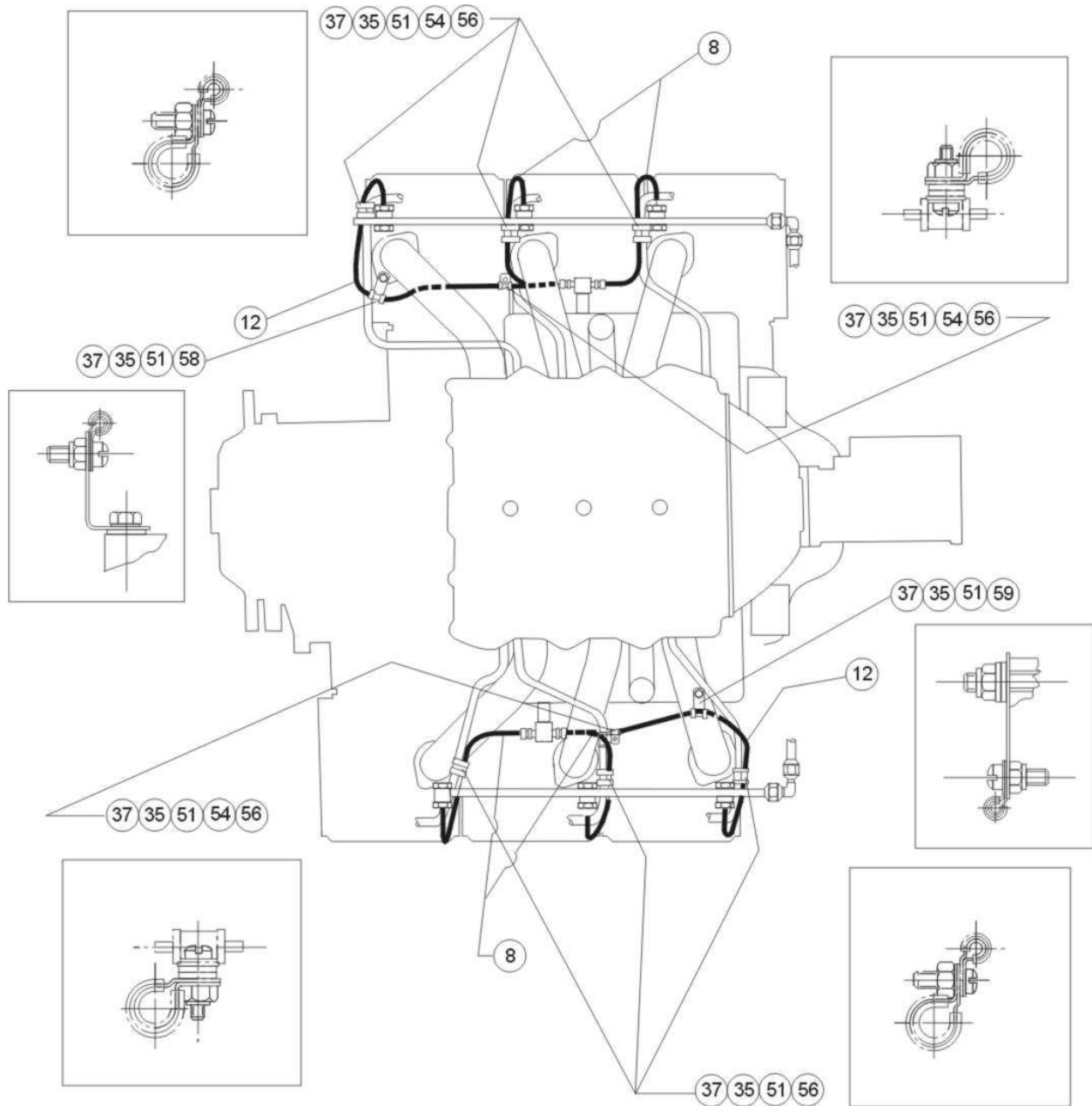
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MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	31 of 42	F	

Diagram No. 24 -- IO-540-M1A5, M1B5D



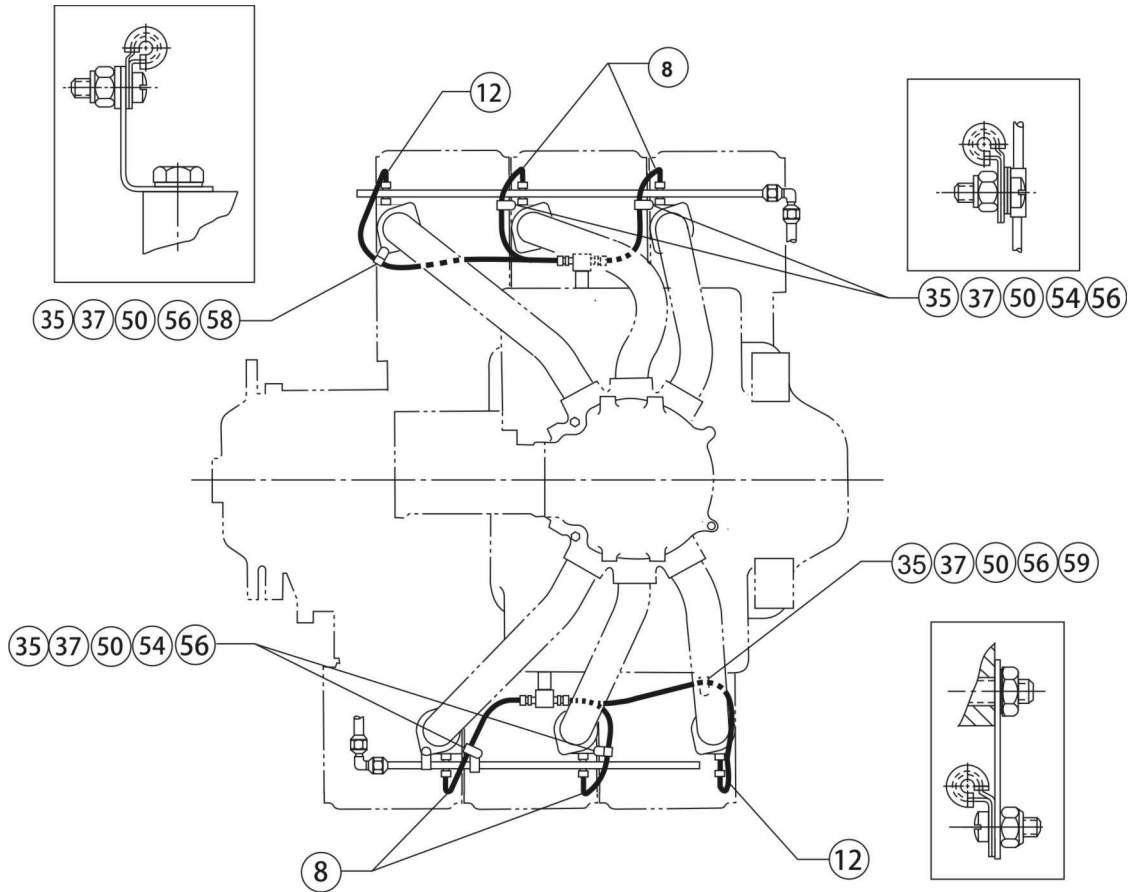
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03	24	72	06	04	10	32 of 42	F	

Diagram No. 24A -- IO-540-M1C5



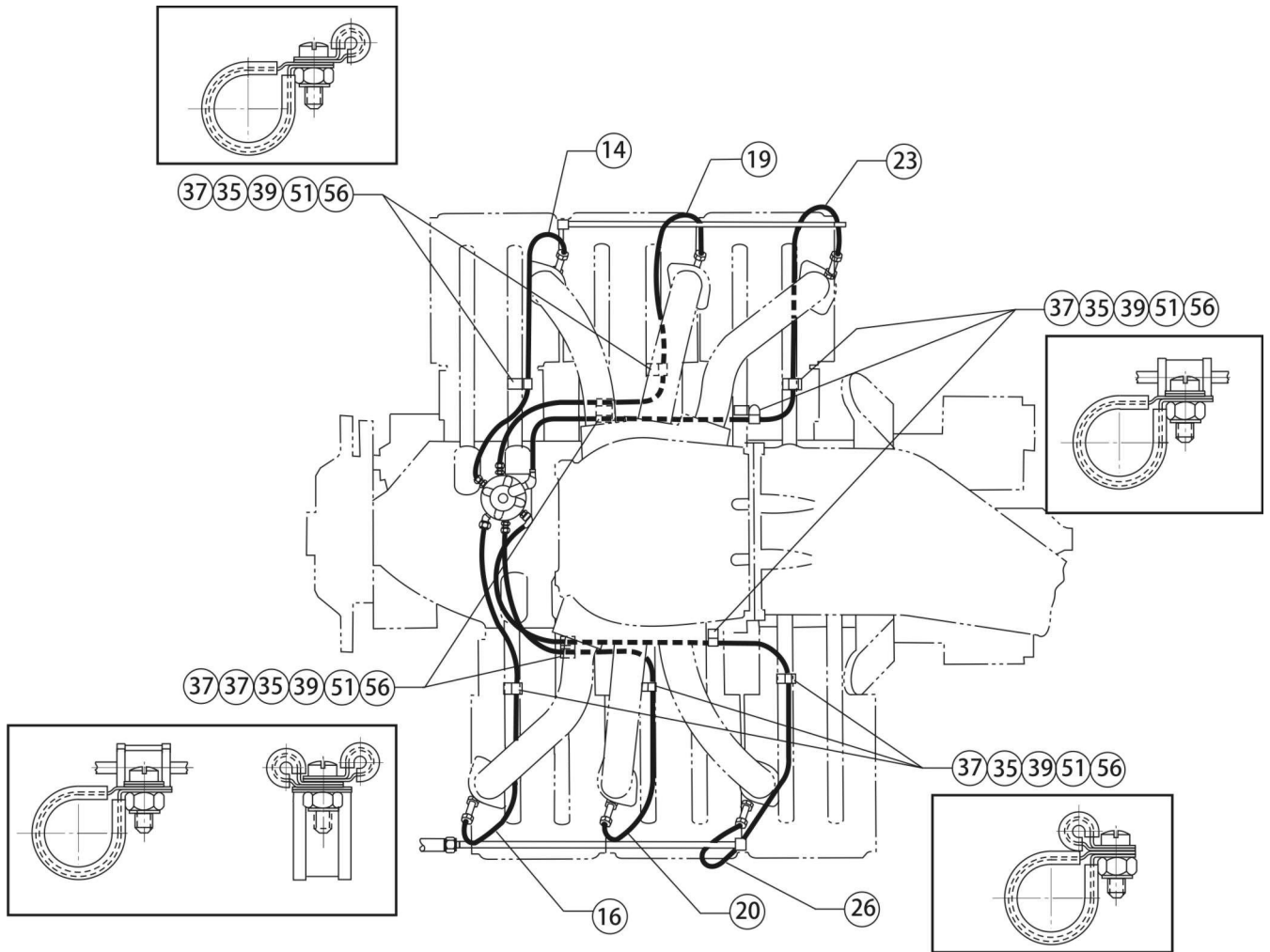
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
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03	24	72	06	04	10	33 of 42	F	

Diagram No. 25 -- TIO-540-S1AD



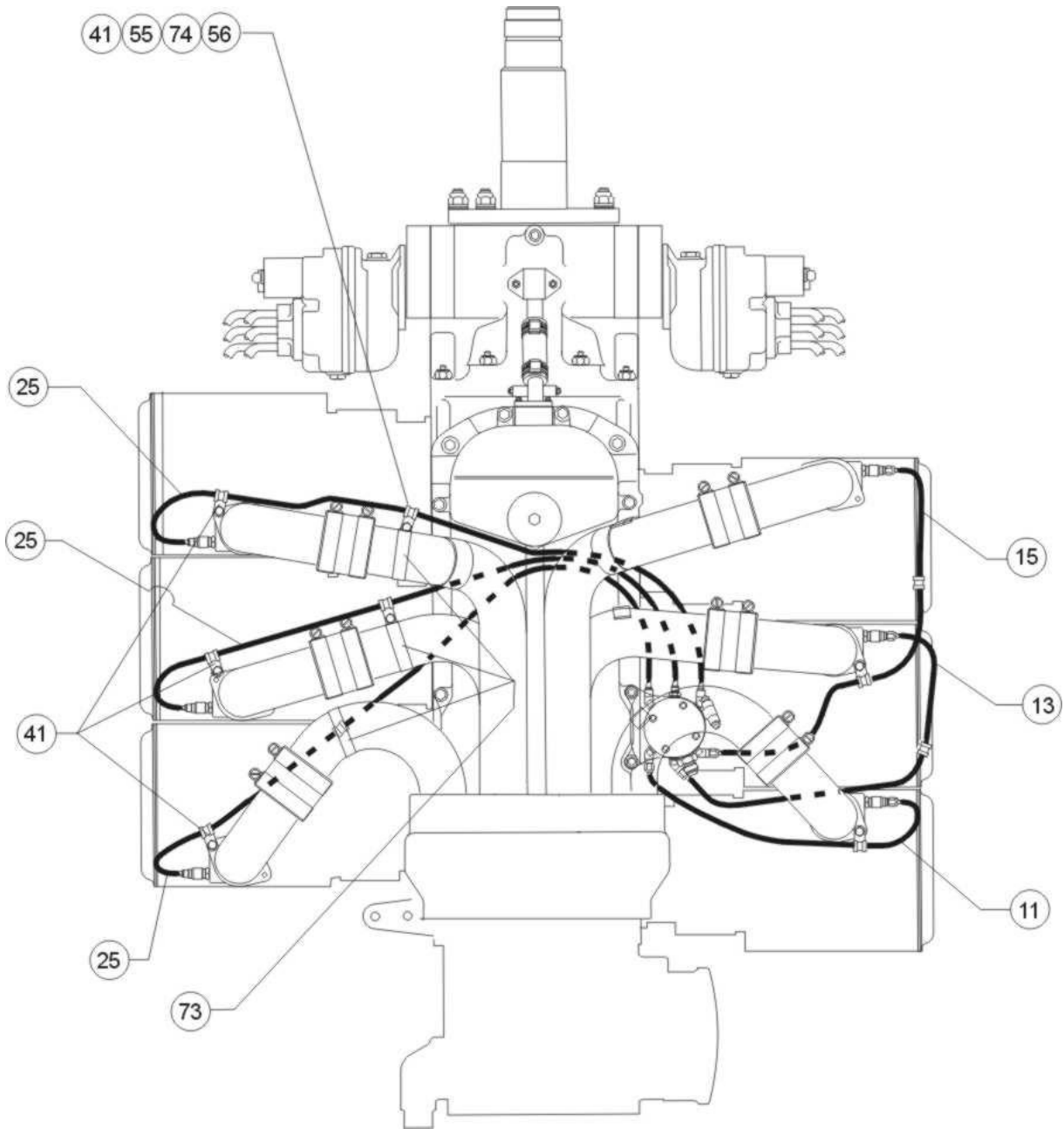
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	34 of 42	F	

Diagram No. 26 -- TIO-540-V2AD, W2A
 LTIO-540-V2AD, W2A



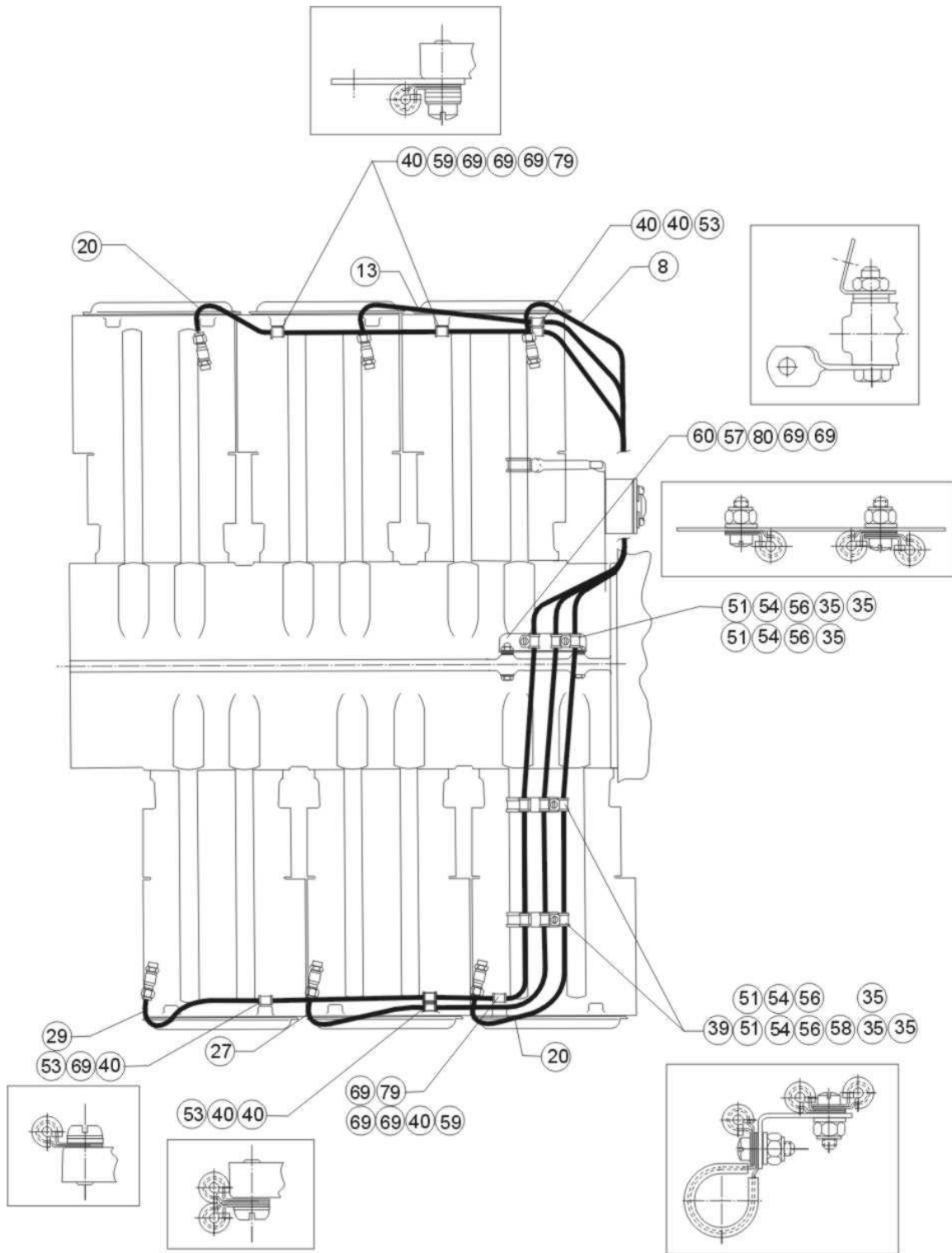
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
MO	DAY	YEAR	MO	DAY	YEAR			
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Diagram No. 27 -- IGO-540-B1A, B1C



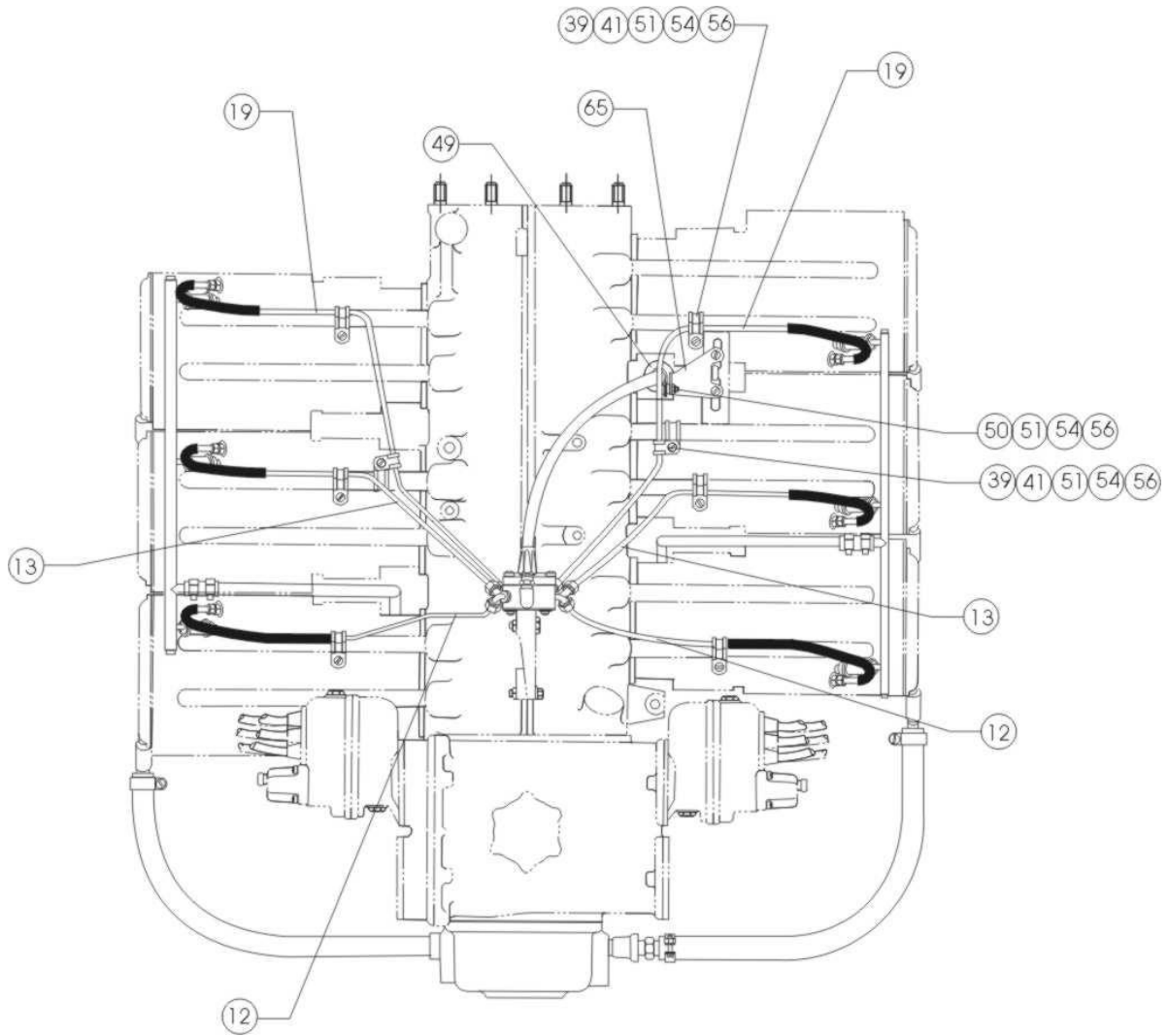
ISSUED			REVISED			PAGE NO.	REVISION	S.B. 342
MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	36 of 42	F	

Diagram No. 28 -- IVO-540-A1A



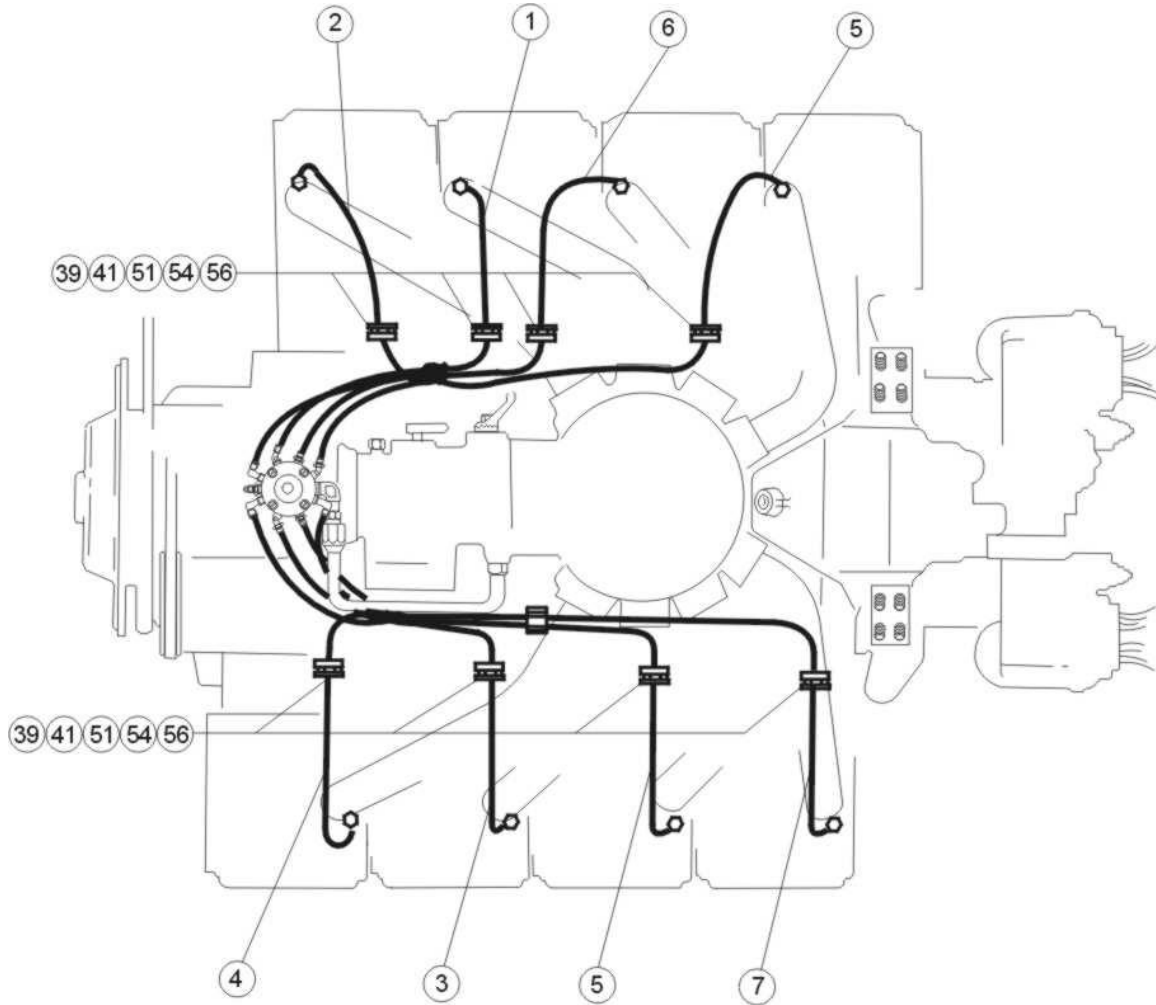
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MO	DAY	YEAR	MO	DAY	YEAR			
03	24	72	06	04	10	37 of 42	F	

Diagram No. 29 -- TIVO-540-A2A



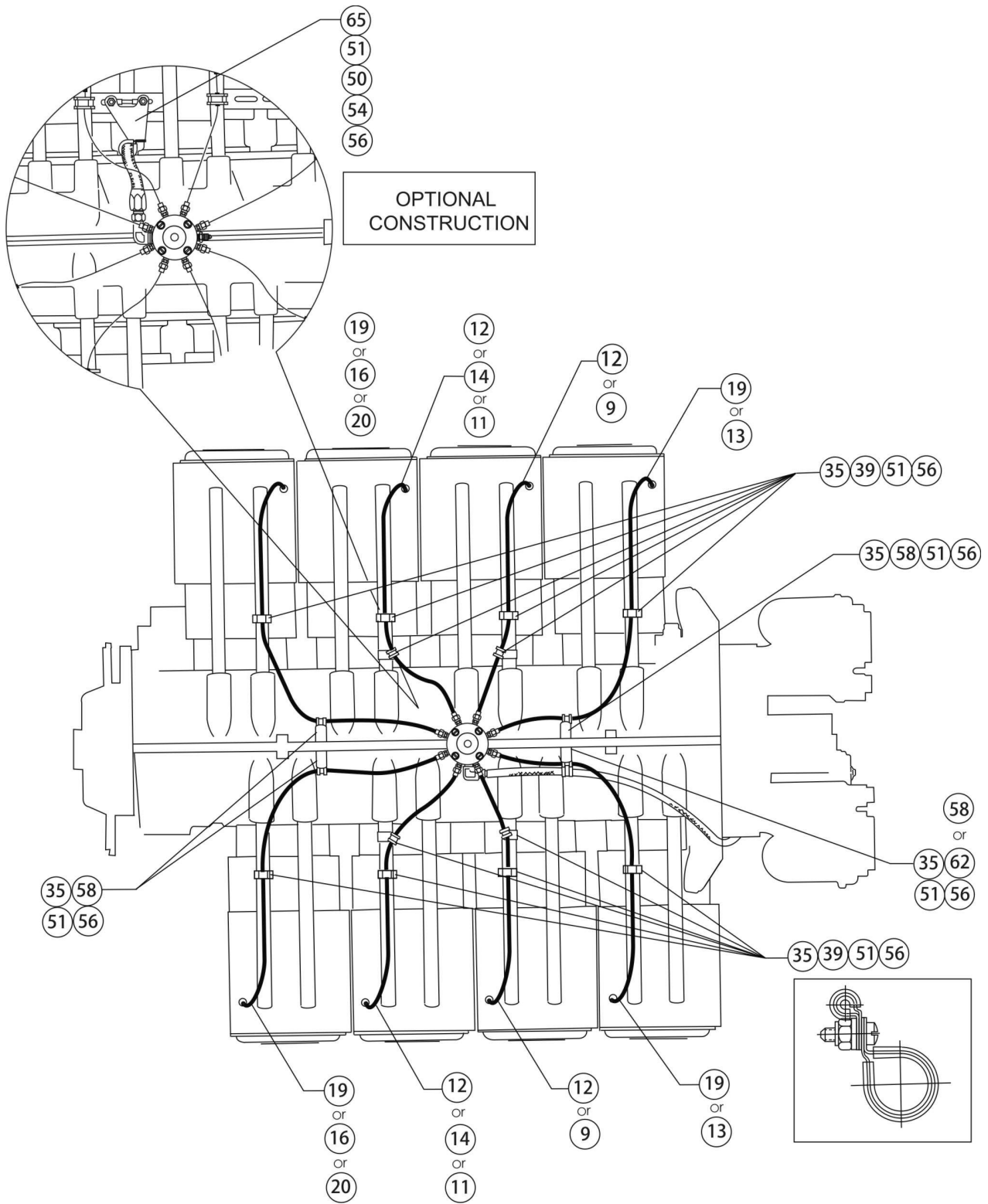
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Diagram No. 30 --IO-720-A1A (View 1 of 2)



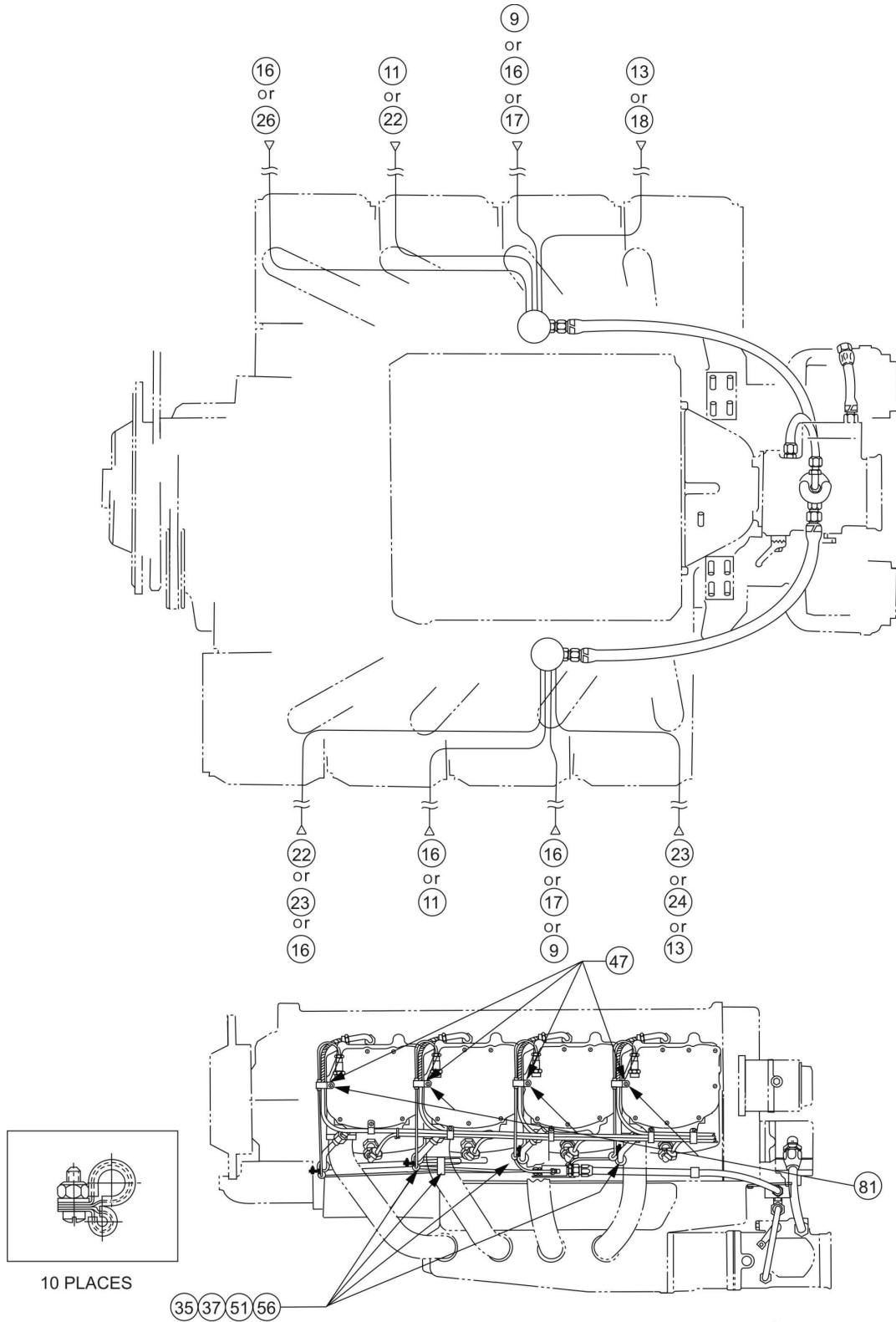
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Diagram No. 31 -- IO-720-A1A (View 2 of 2), A1B, D1B, D1BD, D1C, D1CD



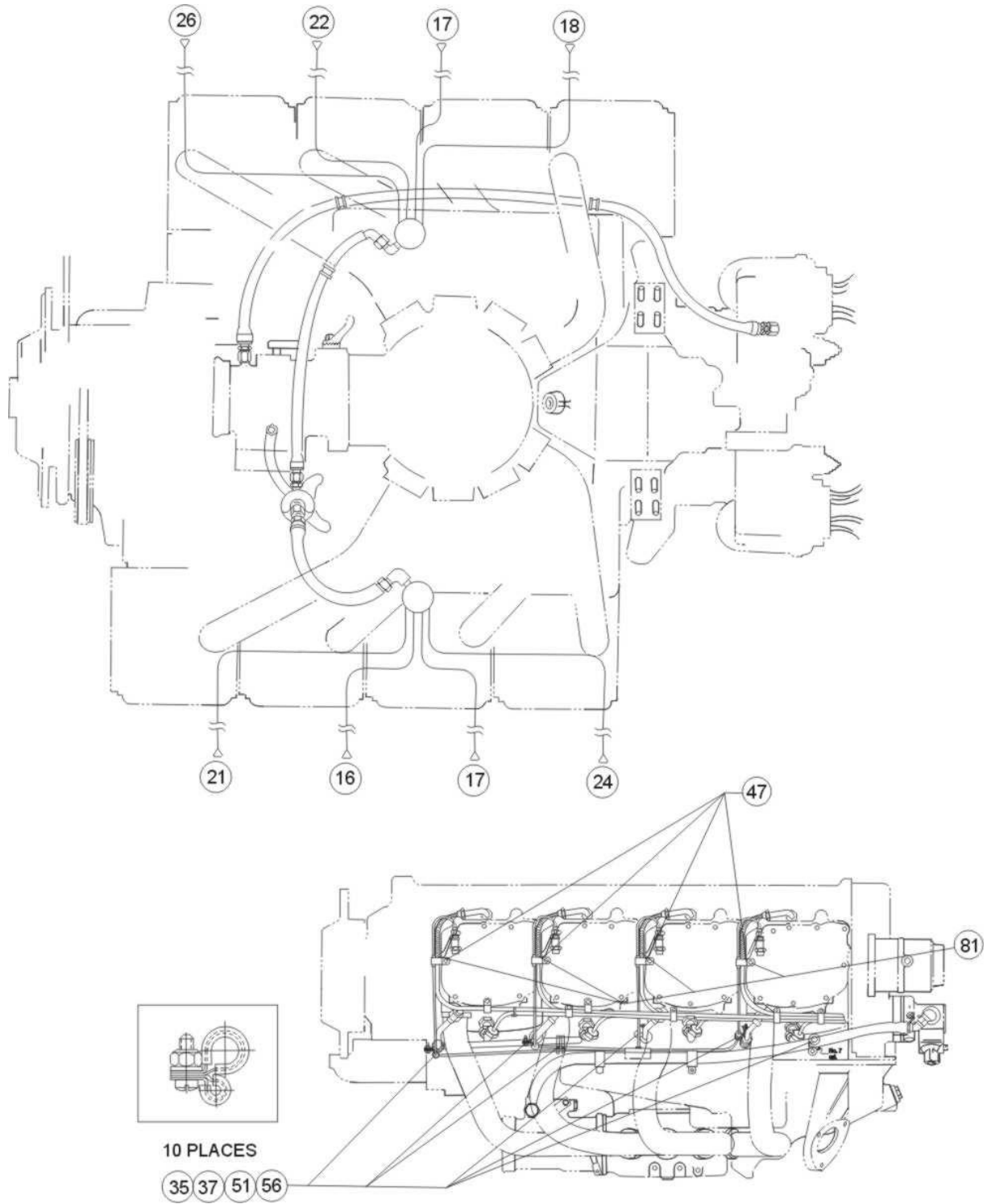
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03	24	72	06	04	10	40 of 42	F	

Diagram No. 32 -- IO-720-B1B, B1BD



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03	24	72	06	04	10	41 of 42	F	

Diagram No. 33 -- IO-720-C1B



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03	24	72	06	04	10	42 of 42	F	