

WE UPGRADE GAS ENGINES



IGNITION WIRING RAIL

Specification Table A

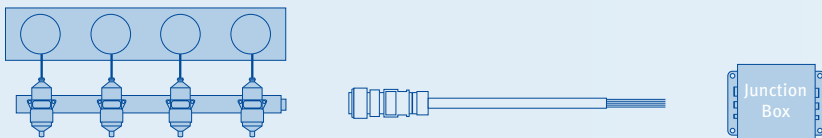


AlphaRail 
MOTORTECH IGNITION RAIL SYSTEM

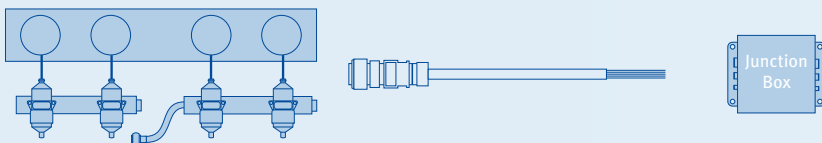
Try the alternative.
Call the nearest MOTORTECH sales partner for more information.

Configuration Help – In-Line Engine

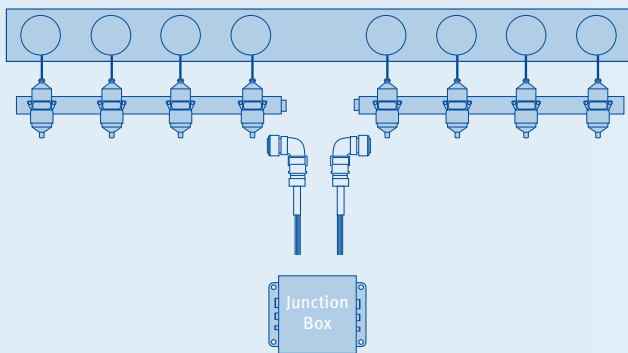
In-Line Engine – One Rail



In-Line Engine – One Double Rail

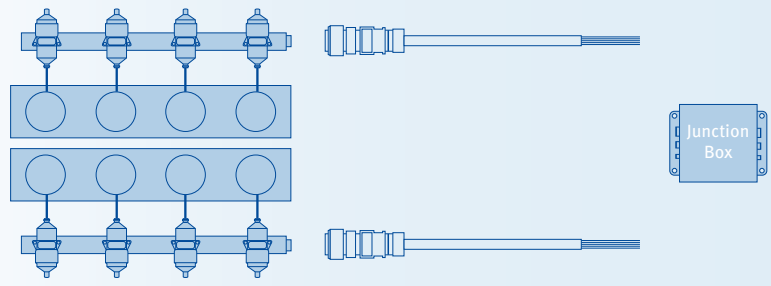


In-Line Engine – Two Rails

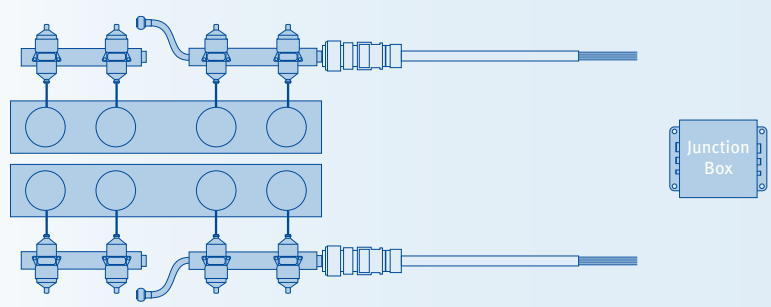


Configuration Help – V-Engine

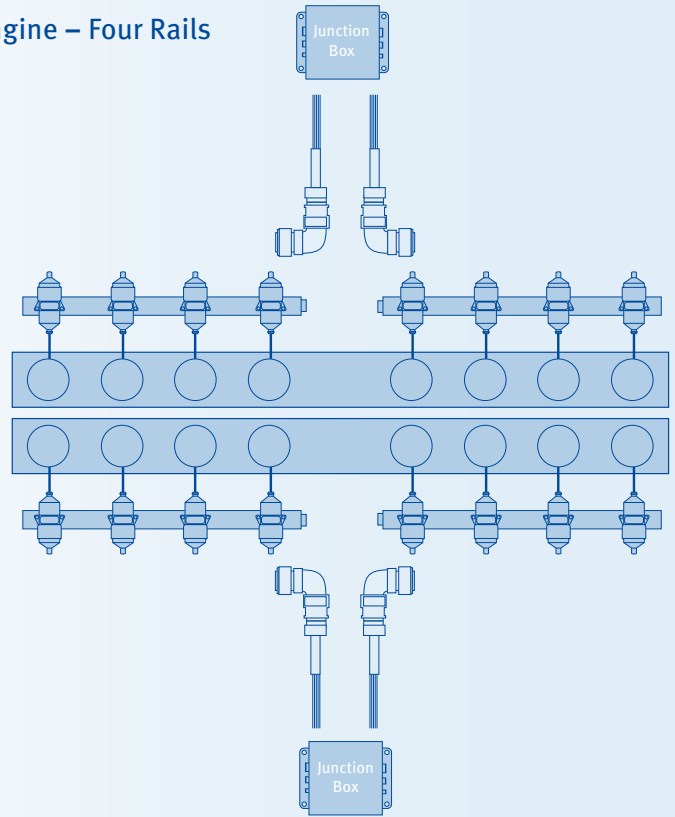
V-Engine – Two Rails



V-Engine – Two Double Rails

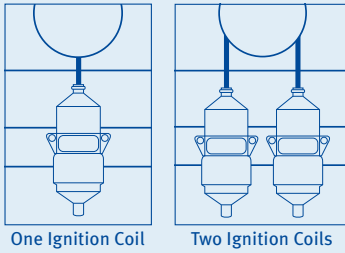


V-Engine – Four Rails



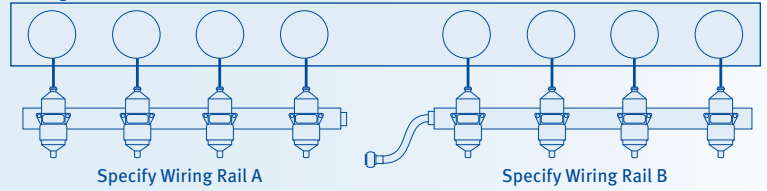
Specification Table

A = Ignition Coils per Cylinder

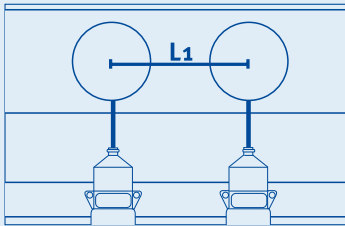


B = Number of Cylinders per Bank

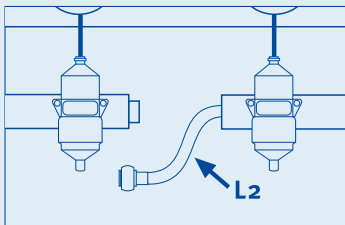
Configuration 1



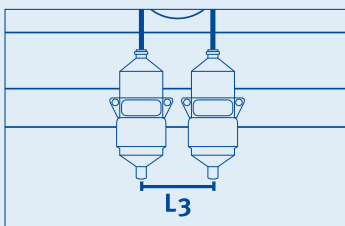
CD = Distance between the Cylinders



F = Double Rail-Length of Connecting Flex Conduit



HJ = Distance between two Ignition Coils – Only for two Ignition Coils per Cylinder



P/N 95.8A.BCD-EFG-HJ
P/N 95.8□.□□□-N□N-□□

A = Ignition Coils per Cylinder

- 6 = Engine with one ignition coil per cylinder
- 7 = Engine with two ignition coils per cylinder ¹⁾

NOTE: ¹⁾ See HJ for distance between two ignition coils.

B = Number of Cylinders per Bank

- 1 = Special version 6 = 6 cylinders
- 2 = 2 cylinders 8 = 8 cylinders
- 3 = 3 cylinders 0 = 10 cylinders
- 4 = 4 cylinders
- 5 = 5 cylinders

NOTE: If the distance between the first and last cylinder exceeds 114" or more than 12 ignition coils per bank are needed, two separate ignition rails have to be specified. For example see Configuration I.

CD = Distance between the Cylinders

- 04 = 4" 12 = 12"
- 06 = 6" 13 = 13"
- 07 = 7" 14 = 14"
- 08 = 8" 16 = 16"
- 10 = 10" 27 = 27"
- 11 = 11" 33 = 33"

Other length: _____

NOTE: Other code digits given by factory.

E = Ignition Coil Mounting

- N = STANDARD – NO ignition coil mounted

F = Double Rail-Length of Connecting Flex Conduit

- A = NO Double Rail G = 40"
- B = 12" H = 52"
- C = 16"
- D = 20"
- E = 24"
- F = 32"

NOTE: Two ignition wiring rails connected by flex conduit (12 Ignition Coils in total max.)

G = Specification of Ignition Coil

- N = STANDARD – NO ignition coil mounted

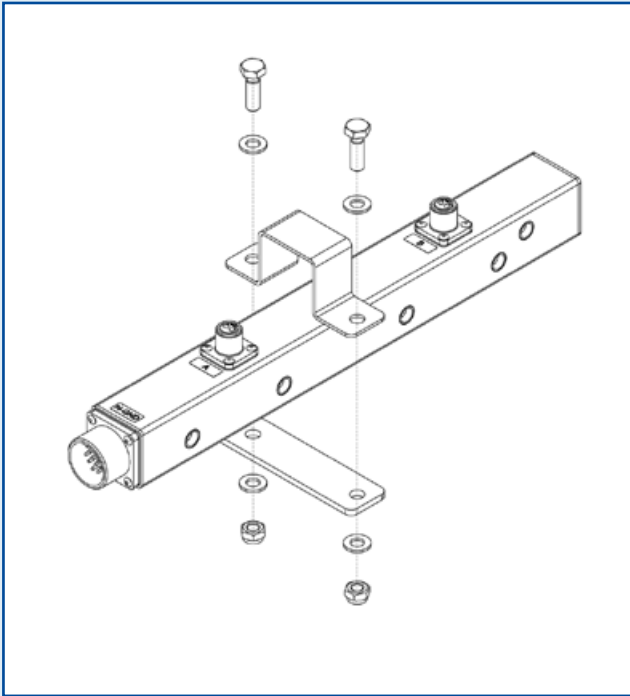
NOTE: Ignition coils have to be ordered separately (see page 8-10)

HJ = Distance between two Ignition Coils – Only for two Ignition Coils per Cylinder

- 04 = 4" 16 = 16"
- 06 = 6" 18 = 18"
- 08 = 8" 20 = 20"
- 10 = 10" 22 = 22"
- 12 = 12" 24 = 24"
- 14 = 14"

Conversion: 1" (Inch) = 25.4 mm / 1 ft. (foot) = 0.3 m

Installation Instructions



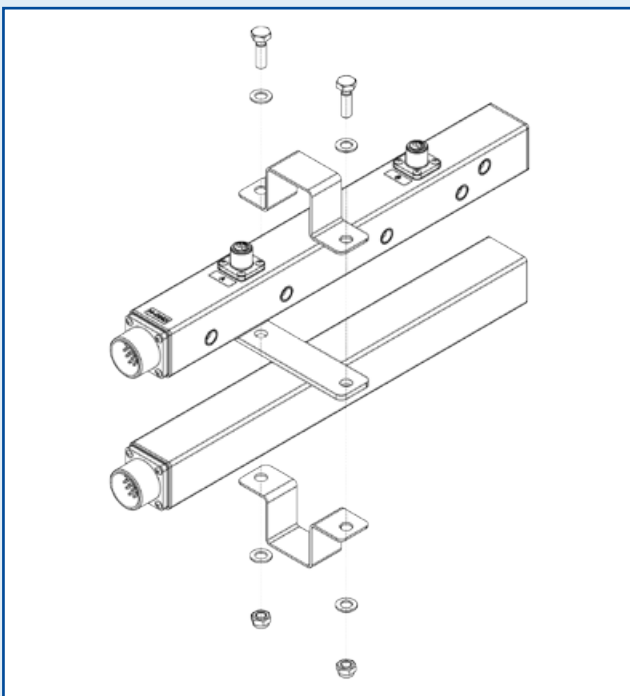
Mounting Wiring Rail

Please adhere to the following criteria, before selecting suitable brackets for fastening of the wiring rail on the engine:

- The distance between two fastening points must be a maximum of 1 m (3.28").
- The heat radiation must not be too high (max. 80 °C/176 °F).
- The selected fastening points on the engine must carry the weight of the wiring rail. Also take into account any vibrations that may occur.
- The wiring rails must be attached so that the ignition coils can be installed at the height of the respective cylinder and the primary and secondary wiring can be performed with no problem and secure (e. g. without kinks).
- When selecting the fastening location also pay attention to the ease of installation and maintenance.

Brackets will be installed, as shown in the illustration, on the wiring rails with the spacing of the chosen fastening points.





Note: Instead of the straight fastening bracket (see illustration) an angled bracket can also be used. Options of 150° or 90° are available.



Simultaneous installation of two different wiring rails

If, along with the wiring for the ignition you also carry out wiring of a detonation control via an AlphaRail, for example, both rails can be connected together as you can see on the left side.

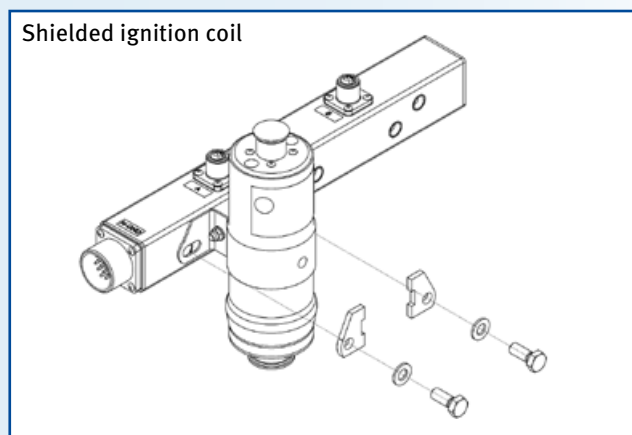
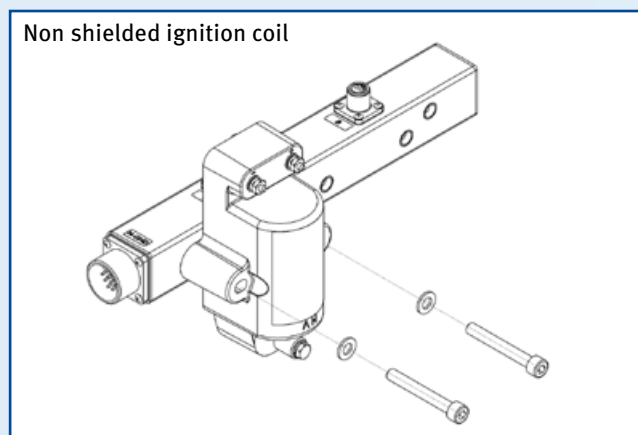
Bracket Configuration

P/N	Description	
75.10.303	bracket, 40 x 40 mm (standard)	
75.10.097	flat bar, 180° (standard)	
<i>alternative</i>		
75.10.120	flat bar, 150°	
<i>alternative</i>		
75.10.280	flat bar, 90°	

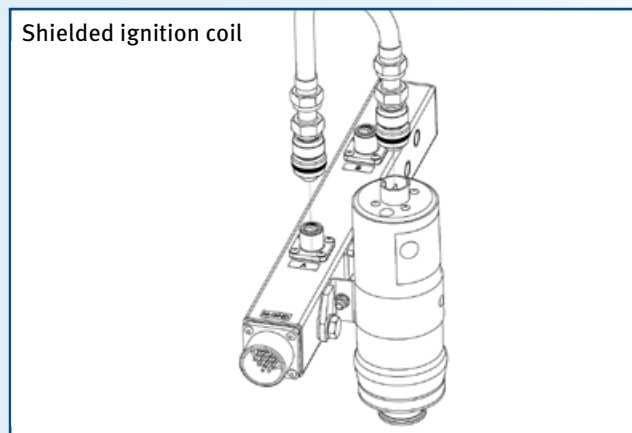
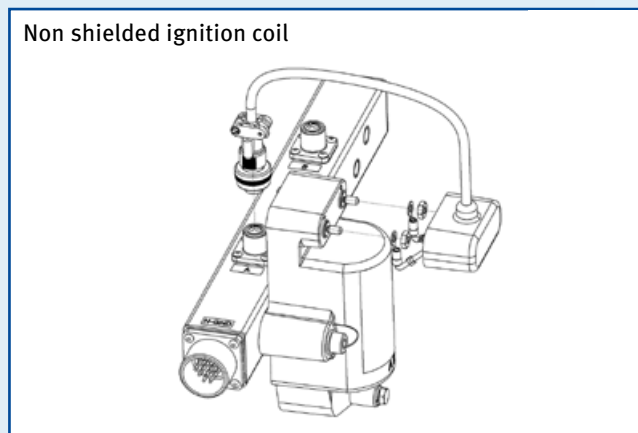
NOTE: Please order separately!

Installation Instructions

Mounting Ignition Coils



Mounting Primary Wiring



If integral coils are used, the assembly of the ignition coils on the rail and the connection to the high tension lead are not required. This type of coil is installed directly on the spark plug.

Ignition Coils

Ignition Coils – non shielded

P/N	Equivalent to	Polarity	HV Terminal	ASC	Primary Lead Kit	Compatible Ignition Controllers
06.50.003		(-) ground	M6	x	06.99.200-1	MIC500/MIC850
06.50.053 ¹⁾	291001	(+) ground	female		06.99.200-1	ALT II/DIS/CPU2000
06.50.054	591010	(-) ground	female		06.99.200-1	MIC500/ALT I/ALT III/ALT V/CD1/CD200/CD200D/DISN/CPU90/CEC
06.50.055	501061	(-) ground	female		06.99.200-1	MIC500/ALT I/ALT III/ALT V/CD1/CD200/CD200D/DISN/CPU90/CPU95/CEC
06.50.060		(-) ground	M6		06.99.200-1	MIC500/ALT I/ALT III/ALT V/CD1/CD200/DISN/CPU90/CPU95/CEC
06.50.100		(-) ground	M6	x	06.99.200-2	MIC500/MIC850
06.50.102		(-) ground	female	x	06.99.200-2	MIC500/MIC850
06.50.103	591040	(-) ground	SAE		06.99.200-3	ALT I/ALT III/ALT V/CD1/CD200/CD200D/CPU90/CEC

NOTE: ¹⁾ Polarity (+) ground

Primary Lead Kits for Ignition Coils – non shielded

P/N	Description
06.99.200-1	primary lead kit incl. fastening material for ignition coil
06.99.200-2	primary lead kit incl. fastening material for ignition coil
06.99.200-3	primary lead kit incl. fastening material for ignition coil

NOTE: Ignition coils and primary lead kits have to be ordered separately in required quantity.

Ignition Coils



Ignition Coils – shielded – externally mounted

P/N	Equivalent to	Polarity	Primary Terminal	HV Terminal	ASC	Primary Lead Kit	Compatible Ignition Controllers
95.08.003	PPT2477AD/ADL/10-382040-1	(-) ground	2 pol. military style	1"-20 UNEF	x	95.99.200-1	MIC500/MIC850
95.09.053 ¹⁾	291001-S / 10-382080	(+) ground	3 pol. military style	3/4"-20 UNEF		95.99.200-2	ALT II/CPU2000
95.09.054	591010-S	(-) ground	3 pol. military style	3/4"-20 UNEF		95.99.200-2	MIC500/ALT I/ALT III/ALT V/CD200/ CD200D/DISN/CPU90
95.09.055	501061-S	(-) ground	3 pol. military style	3/4"-20 UNEF		95.99.200-2	MIC500/ALT I/ALT III/ALT V/CD200/ CD200D/DISN/CPU90/CPU95
95.09.005		(-) ground	3 pol. military style	3/4"-20 UNEF	x	95.99.200-2	MIC500/MIC850

NOTE: ¹⁾ Polarity (+) ground



Primary Lead Kits for Ignition Coils – shielded – externally mounted

P/N	Description
95.99.200-1	primary lead kit incl. fastening material for ignition coil
95.99.200-2	primary lead kit incl. fastening material for ignition coil

NOTE: Ignition coils and primary lead kits have to be ordered separately in required quantity.



Ignition Coils – shielded – Flange Version

P/N	Equivalent to	Polarity	Primary Terminal	ASC	Compatible Ignition Controllers
06.50.034	591012 / 69694F	(-) ground	3 pol. military style		MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/CPU95/ CEC/CAT (163-6164)
06.50.035	591018 / (A)69694G	(-) ground	3 pol. military style		MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/CPU95/ CEC/CAT (163-6164)
95.09.100		(-) ground	3 pol. military style	x	MIC500/MIC850

NOTE: Ignition coils have to be ordered separately in required quantity.

Ignition Coils

Ignition Coils – shielded – Integral – 3 Pin Primary Connector Arrangement



P/N	Equivalent to	Polarity	Primary Terminal	Length	Outer Thread		Inner Thread		Compatible Ignition Controllers
					1"-20	13/16"-20	ASC		
95.09.030	591007	(-) ground	3 pol. military style	5.8"	x				MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/
95.09.031 ³⁾	591008	(+) ground	3 pol. military style	5.82"	x				ALT II/CPU90
95.09.040-6	591011A	(-) ground	3 pol. military style	5.78"			x		MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/CPU95
95.09.040-10		(-) ground	3 pol. military style	10.15"			x		MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/CPU95
95.09.040-12	591011B / 591011C	(-) ground	3 pol. military style	12.15"			x		MIC500/ALT I/ALT III/ALT V/CD200/CD200D/DISN/CPU90/CPU95
95.09.050-6		(-) ground	3 pol. military style	5.50"	x		x	x	MIC500/MIC850
95.09.060-10 ¹⁾		(-) ground	3 pol. military style	10.00"			x	x	MIC500/MIC850
95.09.060-11		(-) ground	3 pol. military style	11.00"			x	x	MIC500/MIC850
95.09.060-12 ²⁾		(-) ground	3 pol. military style	12.00"			x	x	MIC500/MIC850
95.09.060-14.5		(-) ground	3 pol. military style	14.50"			x	x	MIC500/MIC850
95.09.060-17		(-) ground	3 pol. military style	17.00"			x	x	MIC500/MIC850

NOTE: ¹⁾ for use on Waukesha VHP-GL with Rain Shield

NOTE: ²⁾ for use on Waukesha VHP-GSI with Rain Shield

NOTE: ³⁾ Polarity (+) ground

NOTE: Ignition coils have to be ordered separately in required quantity.

Ignition Coils – shielded – Integral – 2 Pin Primary Connector Arrangement



P/N	Equivalent to	Polarity	Primary Terminal	Length	Outer Thread		Inner Thread		Compatible Ignition Controllers
					1"-20	13/16"-20	ASC		
95.08.030-6	PPT2477AA6	(-) ground	2 pol. military style	5.78"			x		MIC500/MIC850
95.08.030-8	PPT2477AA8	(-) ground	2 pol. military style	8.15"			x		MIC500/MIC850
95.08.030-10	PPT2477AA10	(-) ground	2 pol. military style	10.15"			x		MIC500/MIC850
95.08.030-12	PPT2477AA12	(-) ground	2 pol. military style	12.15"			x		MIC500/MIC850
95.08.040-6	PPT2477AB6	(-) ground	2 pol. military style	5.50"	x		x	x	MIC500/MIC850
95.08.040-17	PPT2477AB17	(-) ground	2 pol. military style	17.00"	x		x	x	MIC500/MIC850
95.08.050-10 ¹⁾		(-) ground	2 pol. military style	10.00"			x	x	MIC500/MIC850
95.08.050-11		(-) ground	2 pol. military style	11.00"			x	x	MIC500/MIC850
95.08.050-12 ²⁾	PPT2477AB12	(-) ground	2 pol. military style	12.00"			x	x	MIC500/MIC850
95.08.050-14.5		(-) ground	2 pol. military style	14.50"			x	x	MIC500/MIC850
95.08.050-17		(-) ground	2 pol. military style	17.00"			x	x	MIC500/MIC850

NOTE: ¹⁾ for use on WAUKESHA VHP-GL with rain shield

NOTE: ²⁾ for use on WAUKESHA VHP-GSI with rain shield

NOTE: Ignition coils have to be ordered separately in required quantity.

Primary Leads



Primary Leads to connect Ignition wiring rail and Ignition Coil

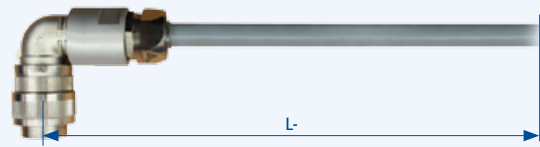
P/N	Ignition Coil Connector	Connector Style	Wiring Rail Connector	Connector Style
95.01.040-L		180°		180°
95.01.041-L		90°		180°
95.01.042-L		180°		180°
95.01.043-L		90°		180°
95.01.044-L		180°		90°
95.01.045-L		90°		90°
95.01.046-L		180°		90°
95.01.047-L		90°		90°

Harnesses

Harness to connect Ignition Wiring Rail and Junction Box – 90° Connector Style



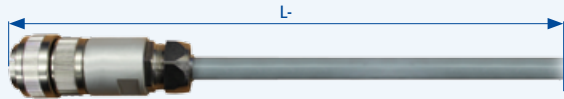
P/N	Description	Length
95.40.314-15	harness, socket	15 ft.
95.40.314-25	harness, socket	25 ft.
95.40.314-50	harness, socket	50 ft.



Harness to connect Ignition Wiring Rail and Junction Box – 180° Connector Style



P/N	Description	Length
95.40.114-15	harness, socket	15 ft.
95.40.114-25	harness, socket	25 ft.
95.40.114-50	harness, socket	50 ft.



Harnesses



P/N 95.4A.BCD-E

P/N 95.40.□□□-□

Harness to connect Ignition Controller and Junction Box

A = Harness

0 = Standard harness (with adaptor for 1/2" or 3/4" connecting flex conduit)

B = Connector Arrangement

- 1 = socket 180°
- 2 = pin 180°
- 3 = socket 90°
- 4 = pin 90°

CD = Number of Sockets / Pins in Connector

- 05 = 5-pole with adaptor for 1/2" connecting flex conduit
- 07 = 7-pole with adaptor for 1/2" connecting flex conduit
- 10 = 10-pole with adaptor for 1/2" connecting flex conduit
- 14 = 14-pole with adaptor for 1/2" connecting flex conduit
- 17 = 17-pole with adaptor for 3/4" connecting flex conduit
- 19 = 19-pole with adaptor for 3/4" connecting flex conduit
- 35 = 35-pole with adaptor for 3/4" connecting flex conduit





E = Length of Harness

- 5 = 5 ft.
- 15 = 15 ft.
- 25 = 25 ft.
- 50 = 50 ft.

NOTE: Crossover harness to connect ignition controller and ignition wiring rail, please consult factory for final part number (95.49.xxx-L).

Conversion: 1" (Inch) = 25.4 mm / 1 ft. (foot) = 0.3 m

Harnesses – Accessories

P/N	Description	
15.07.112-1	½" connecting flex conduit	
15.07.221	½" adaptor, junction box to connecting flex conduit, 180°	
15.07.134-1	¾" connecting flex conduit	
15.07.231	¾" adaptor, junction box to connecting flex conduit, 180°	
06.05.067	junction box	

NOTE: Please order separately.

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