



# Heavy duty machines

# Catalogue

Update 02/2023

FIRAD S.p.A. <sup>®</sup> - Via Barge 93, 12031 Bagnolo Piemonte (CN) - ITALY

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6	Siemens Nozzle .....	58

**OEM CODES AND PARTS NUMBERS ARE  
GIVEN FOR REFERENCE PURPOSE ONLY**

[2]



## ABBREVIATIONS

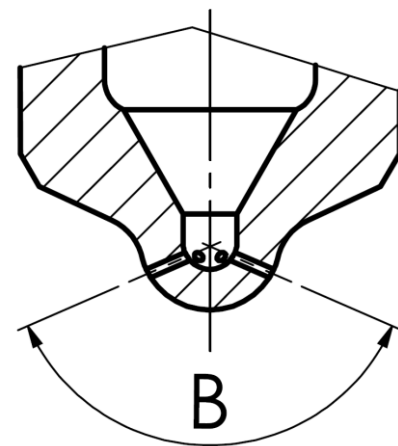
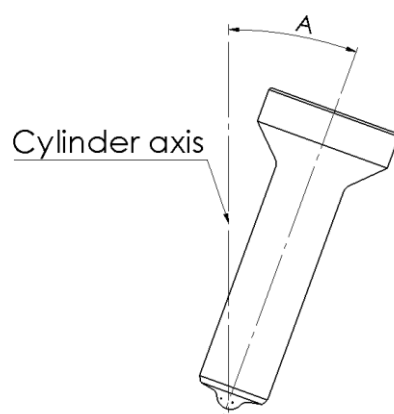
### - Holes

In this section are reported the information about how many micro holes there are and their diameter, in this following way: <N.microholes> x <Diameter microholes>

### - Angles

In this section are reported the information related to nozzle and micro holes angular position

Engine Angles	Spray Angle
A	B





# 1 Caterpillar Nozzles, Kits and Spare parts

Suitable for

CAT<sup>®</sup> C7 - C9 - C10 - C13 - C15 - 3406E – 3516E

Perkins<sup>®</sup> 3176C

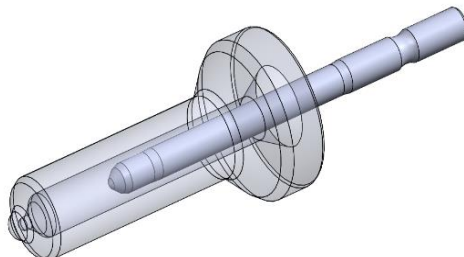
[4]

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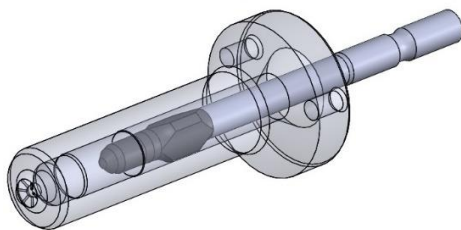
## Caterpillar Nozzles



FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C800T</b>	15°	132°	10R-4763=387-9428 10R-7225=387-9427 263-8218 20R-8066	015T396554 221F426554	C7	6 x 0,160
<b>C800U</b>	15°	132°	10R-4761=387-9430	315T426203	C7	6 x 0,140
<b>C800V</b>	0°	127°		099S423176		5 x 0,215
<b>C800W</b>	0°	127°	10R-7222=387-9433 10R-4764=387-9438 254-4339 20R-8064	330T418062	C7	5 x 0,210
			10R-7223=293-4073=387-9432 10R-7222=387-9433 10R-4764=387-9438	329T413176	C9	
<b>C800X</b>	0°	127°		264F413249		5 x 0,185
<b>C800Z</b>	0°	127°40'		123408062		5 x 0,225
<b>C801G</b>	15°	132°	10R-4762=387-9429	266F425162	C7	6 x 0,150

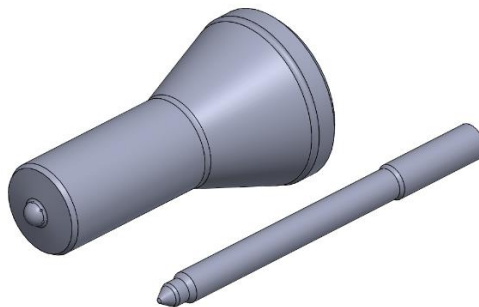
[5]





FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C800E	0°	129°	10R-7224=236-0962 235-2888	055T420553	C9	6 x 0,165





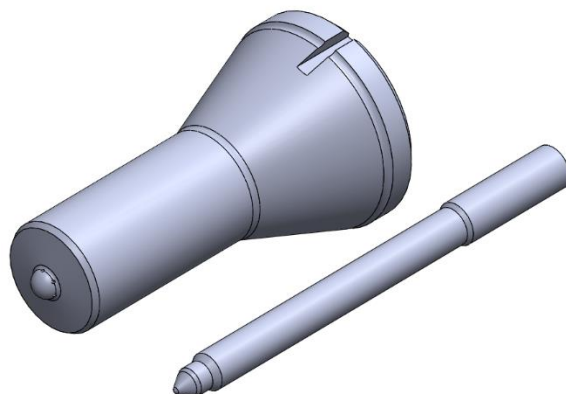
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C800A	0°	130°			3406E	6 x 0,220
C800F	0°	130°			3516E	6 x 0,295
C801B	0°	148°	10R-0725=212-3464		C10 3176C	8 x 0,200

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FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C800G</b>	0°	130°	10R-2772=253-0618 CH11945(Perkins)		3406E 2806	6 x 0,275
<b>C800GA</b>	0°	130°	10R-2772=253-0618 CH11945(Perkins)		3406E 2806	6 x 0,260
<b>C800P</b>	0°	130°			18L	6 x 0,290
<b>C800Y</b>	0°	130°	10R-8501=211-3023 10R-8501=191-3003 10R-8501=0R-9257 10R-2781=118-9030 10R-2781=0R-4894		C15, C13 3406E C16	6 x 0,215
<b>C800J</b>	0°	130°	10R-3264=253-0615		3406E	6 x 0,225
<b>C800N</b>	0°	132°		145T909108		6 x 0,160
<b>C801E</b>	0°	130°	CH12082(Perkins)		C15 3176C C10	6 x 0,240
<b>C801F</b>	0°	132°	200-1117 CH12071(Perkins) 10R-8988=295-9085	257F709083	3406E	6 x 0,320

[8]





FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C801H</b>	0°	130°	276-8307=10R-7231 CH10948(Perkins)		C18 C32	6 x 0,280
<b>C801J</b>	0°	140°	10R-0725=212-3464		C10 3176C	8 x 0,195
<b>C801N</b>	0°	127°		009T703484		6 x 0,220
<b>C801R</b>	0°	126°	20R-2284=374-0750	152S703437 3437-N2	365C	6 x 0,225
<b>C801P</b>	0°	130°	20R-2285=374-0751	191T710635		6 x 0,195
<b>C801V</b>	0°	131°	20R-0055=317-5278	323T709108		6 x 0,165
<b>C801T</b>	0°	130°30'				6 x 0,300
<b>C802G</b>	0°	131°	10R-0955=211-3025	234T733665	C15	6 x 0,250
<b>C802N</b>	0°	130°	10R-0956=211-3022		3406E	6 x 0,200
<b>C802P</b>	0°	130°	10R-0957=211-3023		3406E C15-C16	6 x 0,215
<b>C802R</b>	0°	131°	10R-0958=211-3024		3406E	6 x 0,230
<b>C802M</b>	0°	130°	10R-0963=212-3463	053F803444	C10	6 x 0,180

[9]



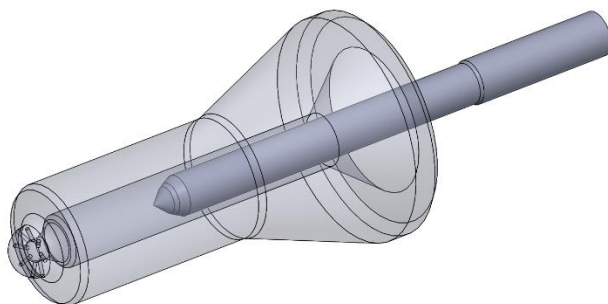
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C802S</b>	0°	130°	10R-3262=249-0713		C13 C11	6 x 0,310
<b>C802F</b>	0°	147°	10R-0967	119F723412		6 x 0,165
<b>C802T</b>	0°	125°		291F705909		6 x 0,270
<b>C802V</b>	0°	130°	211-3022 249-0713 10R-2782 10R-3262		C13 C11	6 x 0,225
<b>C802W</b>	0°	129°	350-7555=20R-0056	105T901245	C12	6 x 0,180
<b>C803B</b>	0°	136°	166-0149=0R-9530 116-8805	349S738803	C12	7 x 0,220

[10]

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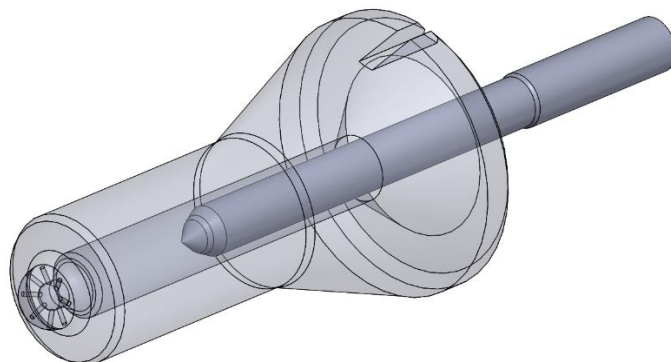
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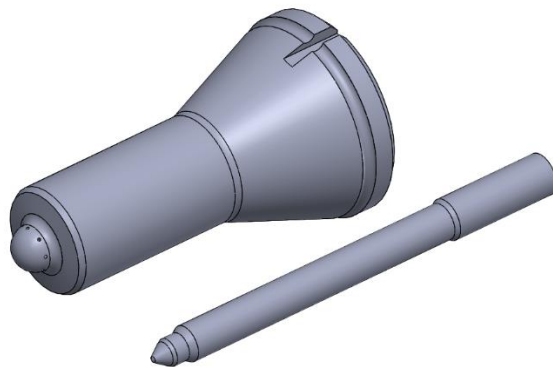
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C800H	0°	160°			3516B/E 3500B 3508B 3512B	8 x 0,290
C800R	0°	150°		265F503538		10 x 0,255
C800S	0°	150°	250-1300 229-0169		3500	10 x 0,310





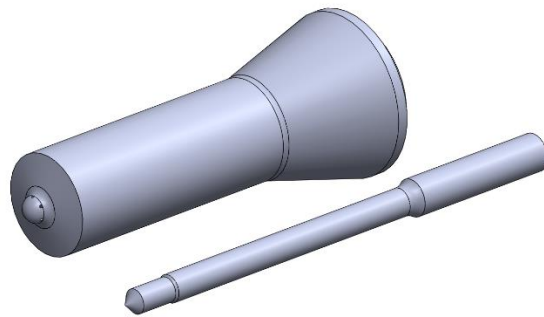
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C800C</b>	0°	160°	10R-1290=250-1311 20R-0849=392-0211 20R-1275=386-1766 392-0214	136F009455 229F400162	3516E	8 x 0,295
<b>C800D</b>	0°	160°	20R-0849=166-6006 20R-1270=148-5759		3516E	8 x 0,300
<b>C800DA</b>	0°	160°				
<b>C800DB</b>	0°	160°				
<b>C800L</b>	0°	156°		007T509455 006S509455	3516E	8 x 0,310
<b>C801S</b>	0°	140°	20R-1266=386-1754 20R-1266=392-0202 20R-1279=392-0218 20R-1279=386-1770		3500B 3508B 3521B 3516B/E	7 x 0,305
<b>C801U</b>	0°	135°		194F007746		7 x 0,295
<b>C802X</b>	0°	145°		215T377545		8 x 0,300





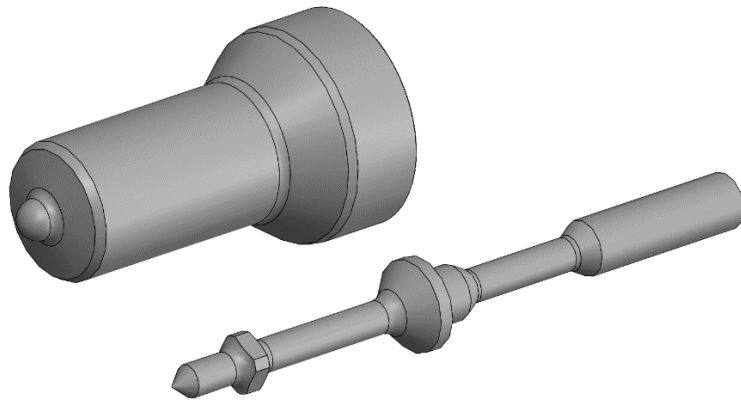
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C802H	0°	124°	10R-1273=249-0709		C15	6 x 0,205
C802J	0°	125°	10R-1000=229-5919		C15	6 x 0,215
C802L	0°	130°	10R-2977=249-0708		C13	6 x 0,195



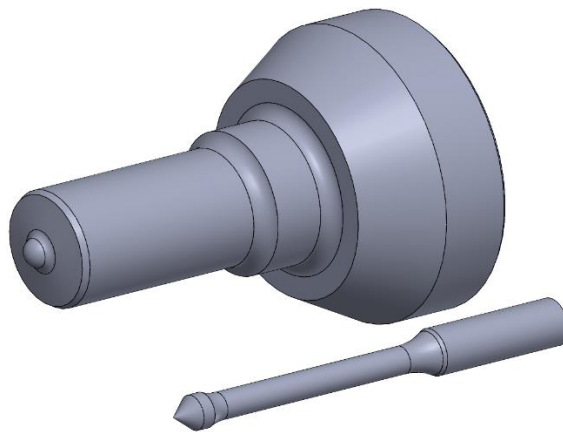


FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
<b>C800B</b>	0°	137°			3116	6 x 0,225
<b>C801A</b>	0°	155°20'	0R-8475=127-8207	7E-0506	C15	6 x 0,220
<b>C802U</b>	0°	136°				6 x 0,155
<b>C802Z</b>	0°	135°	0R-8461=127-8222	4P-1733		6 x 0,190





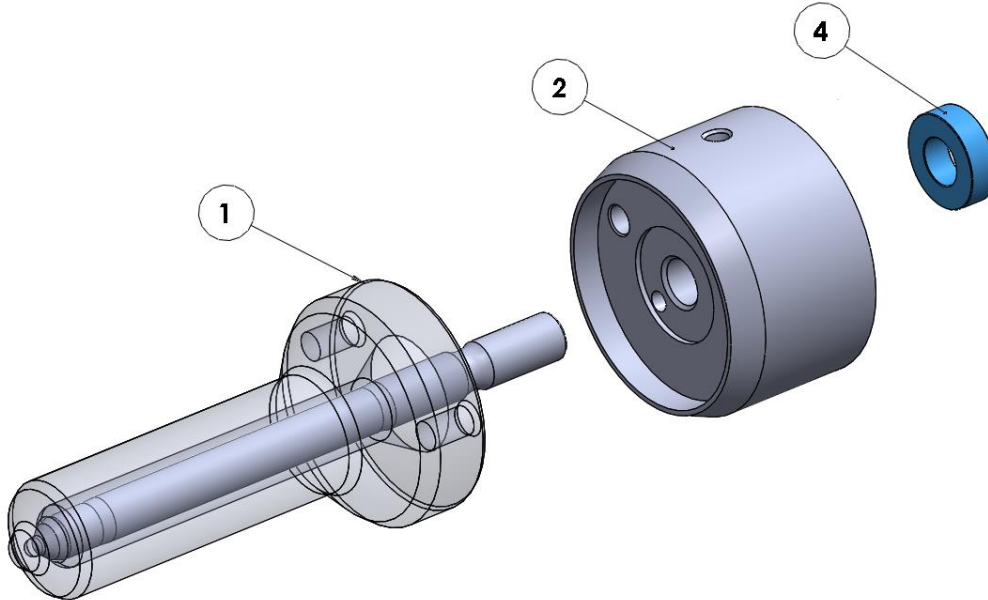
FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C700A	0°	129°30'	331-5895 =10R-8998		C175-16 793F 797F	5 x 0,375



FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Stamping	Engines	Holes
C710A	0°	131°		13817241		6 x 0,200



## Caterpillar Nozzle kits



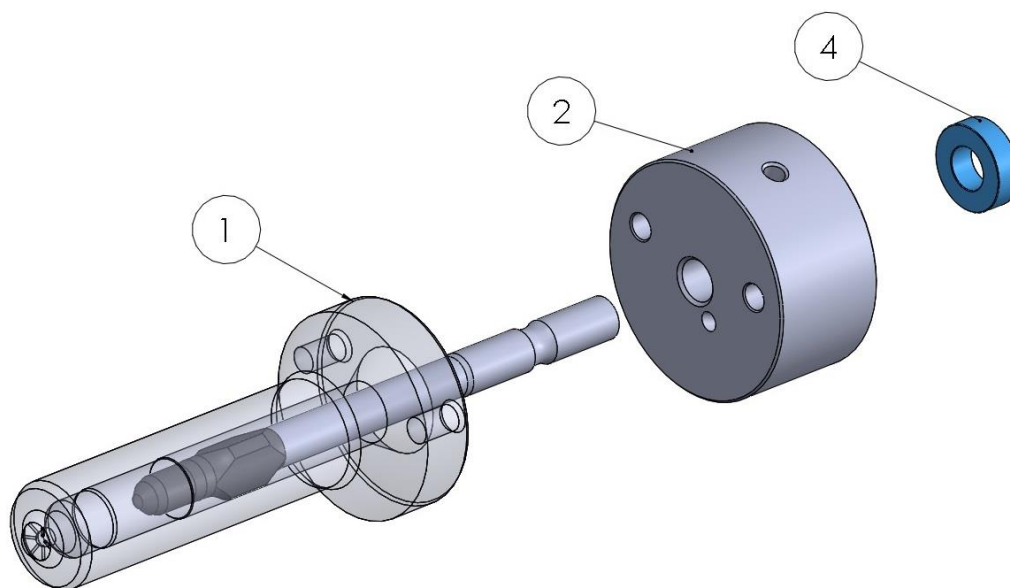
N. Part	Description	FIRAD code
1		FIRAD Nozzle
2	Bush	MCBU002
4	Gasket	MCGA001

FIRAD code kit	Firad Nozzle	CAT <sup>®</sup> Injector Part Number	Engine
FD00800T	C800T	10R-4763=387-9428 10R-7225=387-9427 263-8218	C7
FD00800U	C800U	10R-4761=387-9430	C7
FD00800W	C800W	10R-7222=387-9433 10R-4764=387-9438 254-4339	C7/C9
FD00801G	C801G	10R-4762=387-9429	C7

[16]







N. Part	Description	FIRAD code
1		FIRAD Nozzle
2	Bush	MCBU003
4	Gasket	MCGA001

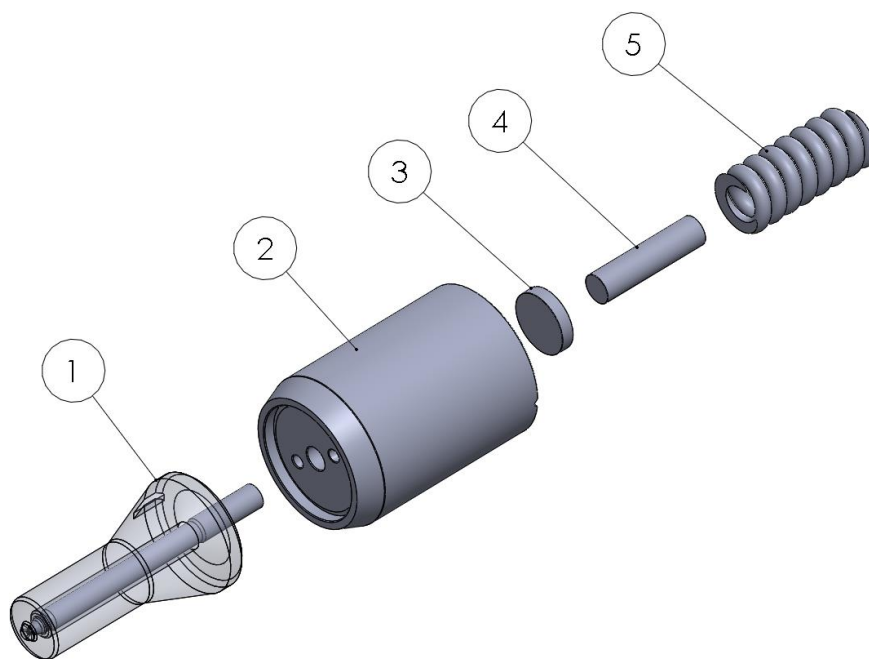
FIRAD code kit	Firad Nozzle	CAT <sup>®</sup> Injector Part Number	Engine
FD00800E	C800E	10R-7224=236-0962 235-2888	C9

[17]

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N. Part	Description	FIRAD code
1		FIRAD Nozzle
2	Bush	MCBU001
3	Shim	MCSH001-220
4	Pin	MCPN001-19210
5	Spring	MCSP001

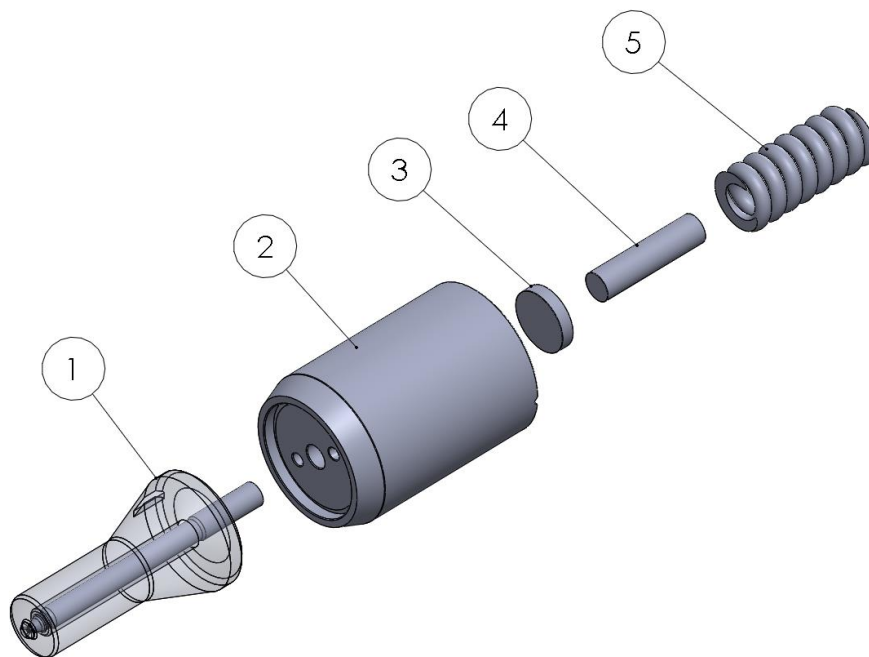
FIRAD code kit	Firad Bush	Firad Nozzle	CAT <sup>®</sup> Injector Part Number	Engine
FD150955	MCBU001-E	C802G	10R-0955=211-3025	C15
FD132977	MCBU001-C	C802L	10R-2977=249-0708	C13
FD00800G	MCBU001-E	C800G	10R-2772=253-0618 CH10948(Perkins)	3406E 2806
FD00800C	MCBU001-F	C800C	10R-1290=250-1311 20R-0849=392-0211	3516E

[18]



<b>FIRAD code kit</b>	<b>Firad Bush</b>	<b>Firad Nozzle</b>	<b>CAT<sup>®</sup> Injector Part Number</b>	<b>Engine</b>
<b>FD00800J</b>	MCBU001-D	C800J	10R-3264=253-0615	3406E
<b>FD00802S</b>	MCBU001-C	C802S	10R-3262=249-0713	C13 C11
<b>FD00801P</b>	MCBU001-D	C801P	20R-2285=374-0751	6015B
<b>FD102772</b>	MCBU001-D	C800G	10R-2772=253-0618	C15 C18
<b>FD00800D</b>	MCBU001-F	C800D	20R-0849=166-6006	5230B 5130B
<b>FD00801F</b>	MCBU001-E	C801F	10R-8988=295-9085	C18 C32
<b>FD00801R</b>	MCBU001-D	C801R	20R-2284	3406E C15 C16
<b>FD00801P</b>	MCBU001-D	C801P	20R-2285=374-0751	
<b>FD00800A</b>	MCBU001-E	C800A		
<b>FD00801E</b>	MCBU001-D	C801E	CH12082(Perkins)	C15 3176C C10
<b>FD00802W</b>	MCBU001-D	C802W	350-7555=20R-0056	C12





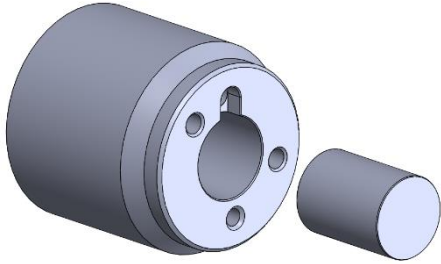
N. Part	Description	FIRAD code
1		FIRAD Nozzle
2	Bush	MCBU001
3	Shim	MCSH001-220
4	Pin	MCPN001-19050
5	Spring	MCSP001

FIRAD code kit	Firad Bush	Firad Nozzle	CAT <sup>®</sup> Injector Part Number	Engine
FD155919	MCBU001-D	C802J	10R-1000=229-5919	C15
FD00800Y	MCBU001-E	C800Y	10R-8501=211-3023	C15, C13 3406E C16
FD151273	MCBU001-D	C802H	10R-1273=249-0709	C15

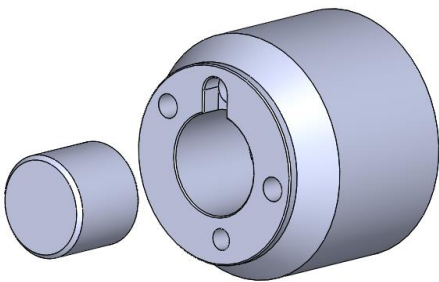
[20]



## Caterpillar plunger valve kits



FIRAD code	Engine
FDK00003	C7

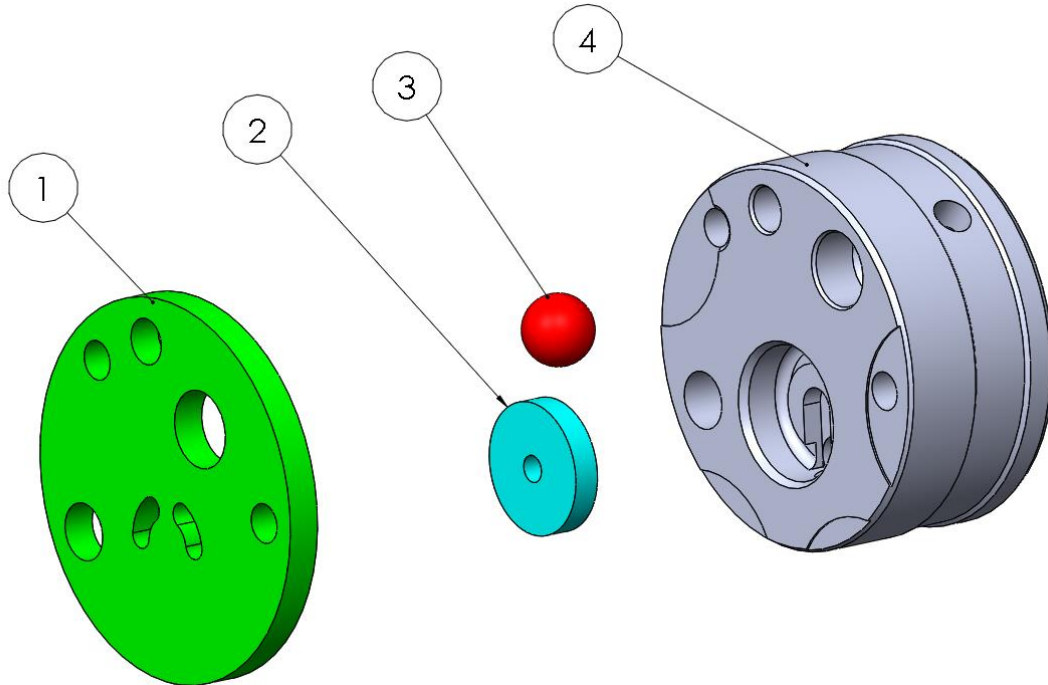


FIRAD code	Engine
FDK00002	C9

[21]



## Caterpillar one way valve kits

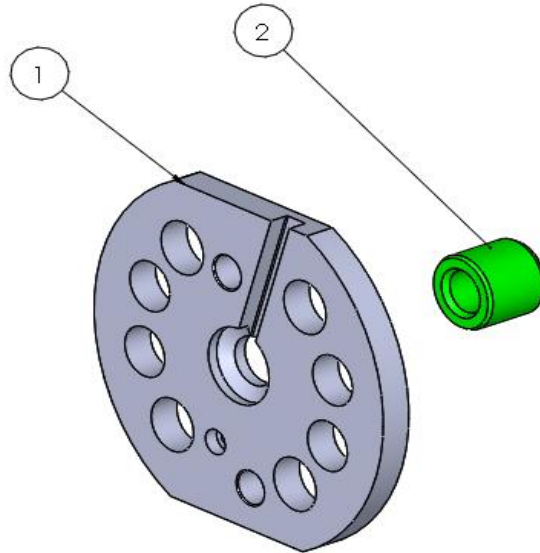


FIRAD Code	N. Part	FIRAD code	Engine
FDK00001	1	MCSA002	C9
	2	MCSA004	
	3	MCBA001	
	4	MCSA001	
FDK00005	1	MCSA005	C7
	2	MCSA004	
	3	MCBA001	
	4	MCSA006	

[22]



## Caterpillar exhaust valve kit

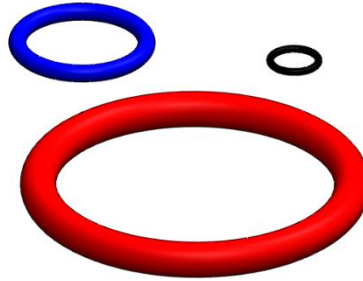


N. Part	FIRAD code
1	MCPL001
2	MCSS001

FIRAD code	Engine
FDK00004	C9



## External Seal Kit



FIRAD code	CAT <sup>®</sup> Injector Part Number	Engines
<b>MCESK001</b>	249-0713=10R-3262 253-0618=10R-2772 374-0751=20R-2285 20R-2284 276-8307=10R7231 295-9085=10R8988	3116
<b>MCESK002</b>	166-6006=20R-0849 148-5759=20R-1270	C15







FIRAD code	Engines
MCESK003	C9



FIRAD code	Engines
MCESK004	C9

[25]





FIRAD code	Engines
MCESK005	C9



FIRAD code	Engines
MCESK006	C9



**PARTS SET CAT3500-EUI**



FIRAD code	Engines
MCESK007	3500

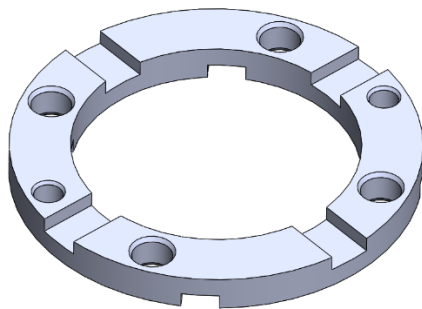
**PARTS SET CAT3516E-EUI-INT**



FIRAD code	Engines
MCESK008	3516

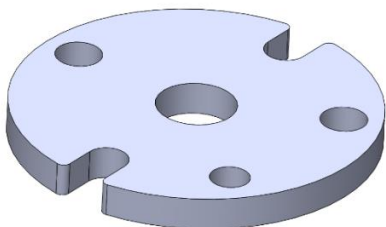


## Caterpillar spare parts



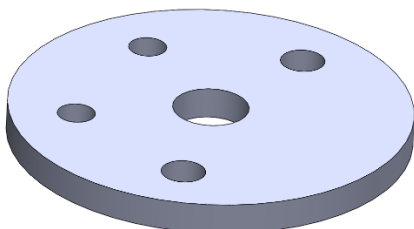
Solenoid spacer

FIRAD code	Thickness	Engine
MCSL001-288	2,88 mm	C9 – C7
MCSL001-290	2,90 mm	C9 – C7
MCSL001-292	2,92 mm	C9 – C7
MCSL001-294	2,94 mm	C9 – C7
MCSL001-296	2,96 mm	C9 – C7



Plate

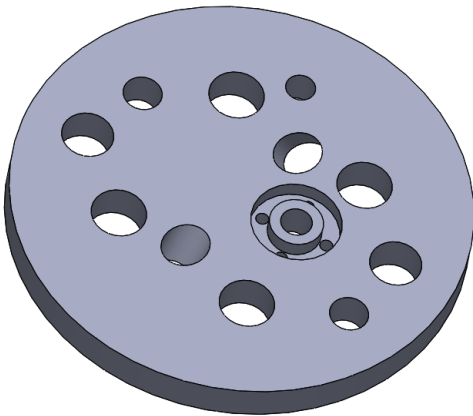
FIRAD code	Engine
MCSA003	C9



FIRAD code	Engine
MCSA007	C7

[28]

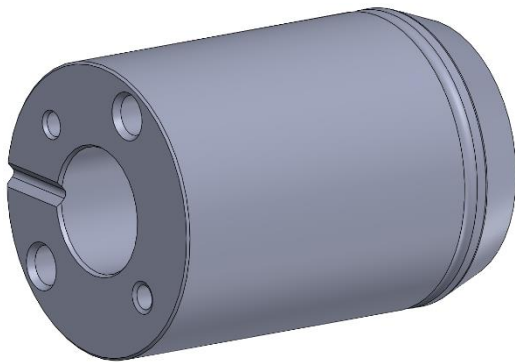




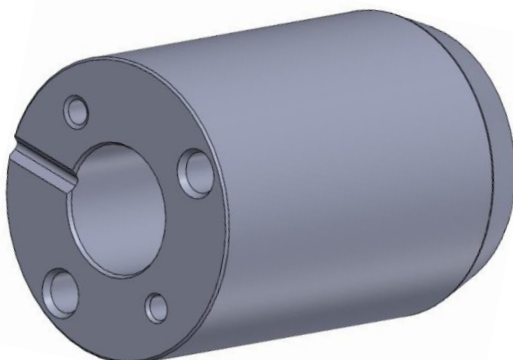
**Hydraulic flow control plate**

FIRAD code	Engine
MCPL002	C7

**Caterpillar Bush**

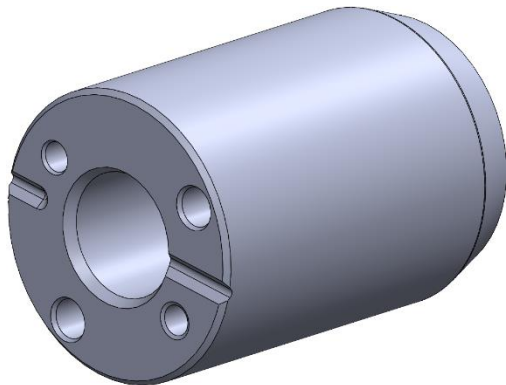


FIRAD code	Engine
MCBU001-B	3406E
	2806
	3516E
	C13 – C15
<b>Description: 1 drain, 4 holes, with outer ring</b>	

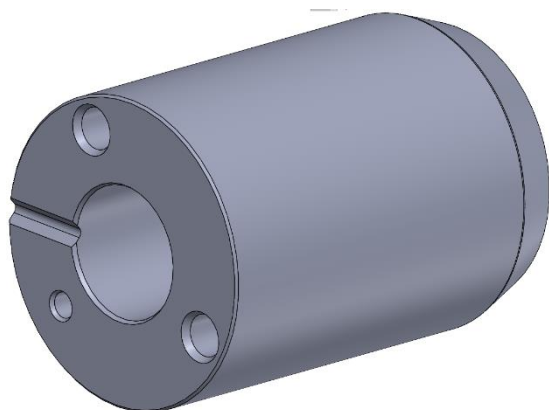


FIRAD code	Engine
MCBU001-C	3406E
	2806
	3516E
	C13 – C15
<b>Description: 1 drain, 4 holes</b>	

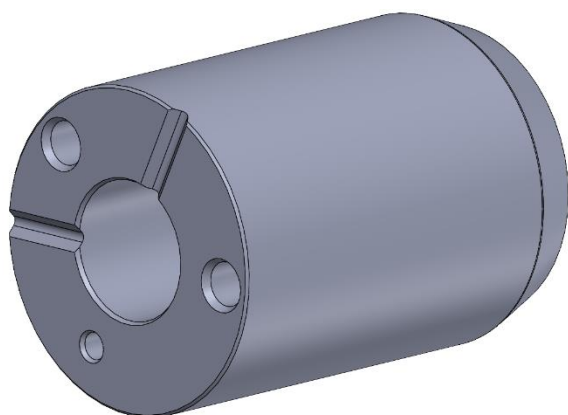




FIRAD code	Engine
MCBU001-D	3406E
	2806
	3516E
	C13 – C15
<b>Description: 2 drains, 4 holes</b>	



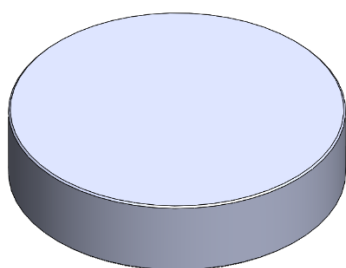
FIRAD code	Engine
MCBU001-E	3406E
	2806
	3516E
	C13 – C15
<b>Description: 1 drain, 3 holes</b>	



FIRAD code	Engine
MCBU001-F	3406E
	2806
	3516E
	C13 – C15
<b>Description: 2 drain, 3 holes</b>	

[30]



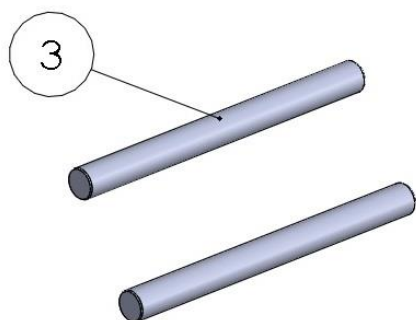


Shim

**Outer diameter: 10 mm**

FIRAD code	Thickness	Engine
MCSH001-210	2,10 mm	C13 - C15 - 3406E
MCSH001-215	2,15 mm	C13 - C15 - 3406E
MCSH001-220	2,20 mm	C13 - C15 - 3406E
MCSH001-225	2,25 mm	C13 - C15 - 3406E
MCSH001-230	2,30 mm	C13 - C15 - 3406E
MCSH001-235	2,35 mm	C13 - C15 - 3406E
MCSH001-240	2,40 mm	C13 - C15 - 3406E
MCSH001-245	2,45 mm	C13 - C15 - 3406E
MCSH001-250	2,50 mm	C13 - C15 - 3406E
MCSH001-255	2,55 mm	C13 - C15 - 3406E
MCSH001-260	2,60 mm	C13 - C15 - 3406E





N. Part	Description	FIRAD code
3	Nozzle Reference pin for C7-C9	MCCPN001

**C7-C9 Nozzle Reference pin**







## 2 Navistar Nozzles and Kits

Suitable for

Navistar<sup>®</sup> HEUI engines

Ford<sup>®</sup> Powerstroke 7.3

Caterpillar<sup>®</sup> 3126 HEUI – 3408 - 3412

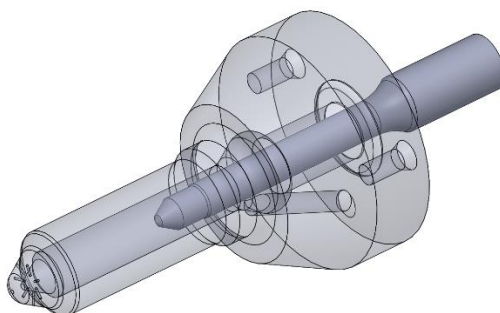
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## Navistar Nozzles



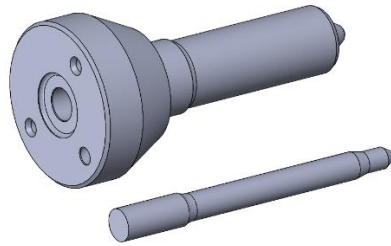
FIRAD code	Engine Angle	Spray Angle	OEM Part Number	Ford Injector	Navistar Injector	Holes
NS0AA F	7°30'	152°	AP63800AA	F81Z9E527DRM F4TZ9VE527AA RM F7TZ9E527ARM	1822800C95 1816187C3 1822801C98 1822801C99 1821836C3	7 x 0,165
NS9BE F	10°	142°	AP63809BE		1829838C94 1829926C2 1829839C93 1829839C94 1829837C2	5 x 0,220
NS1BI F	10°30'	145°	AP63811BI		1830740C92 1830560C2 1830561C92 1830562C2 1830741C92 1830741C93	6 x 0,170
NS2BJ F	10°30'	145°	AP63812BJ		1830570C92 1830571C2 1830572C92 & 93 1830573C2	6 x 0,190
NS5BK F	6°	146°	DPE41026/31			6 x 0,225
NS6BN F	9°	148°	8991056		1830691C1 1830692C91 1830693C1 1830694C91	6 x 0,205

[34]



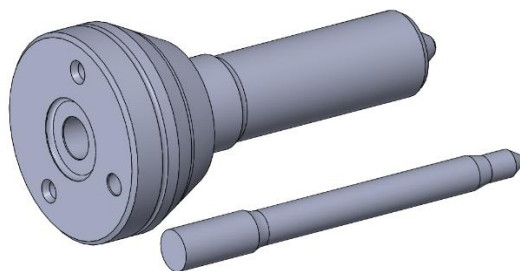
FIRAD code	Engine Angle	Spray Angle	OEM Part Number	Ford Injector	Navistar Injector	Holes
					2593597C91	
<b>NS7BD F</b>	11°	146°	8991055			5 x 0,235
<b>NS3BC F</b>	10°	142°	8991035			5 x 0,220



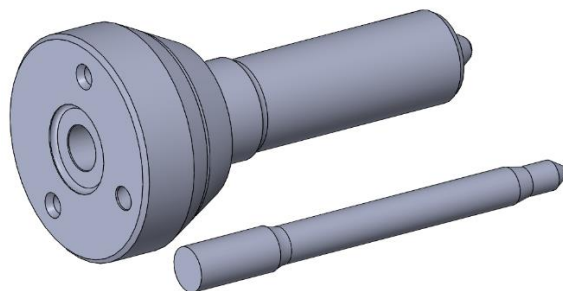


FIRAD code	Engine Angle	Spray Angle	OEM Part Number	CAT <sup>®</sup> Injector Part Number	CAT <sup>®</sup> Reman Injector Part Number	Engine	Holes
<b>CN900B</b>	16°30'	140°	DPE41026/32 (6-16)	141-7837 155-1819 169-7408 171-9704 171-9710 173-9272 173-9379 173-9380 188-1320 196-4229 222-5972 178-6342	OR-9350 OR-9348 10R-1257	3126E 3126B 3126	6 x 0,165
<b>CN900C</b>	16°30'	140°	DPE41026/32 (6-17)	173-4059 173-4061 173-9267 173-9268 196-1401 222-5963 222-5967 177-4754 177-4752	OR-9349 10R-1262 10R-0782 10R-9237	3126 3126E 3126B	6 x 0,175
<b>CN900E</b>	16°30'	140°	(6-175)	222-5966	10R-0781	3126E 3126B	6 x 0,175





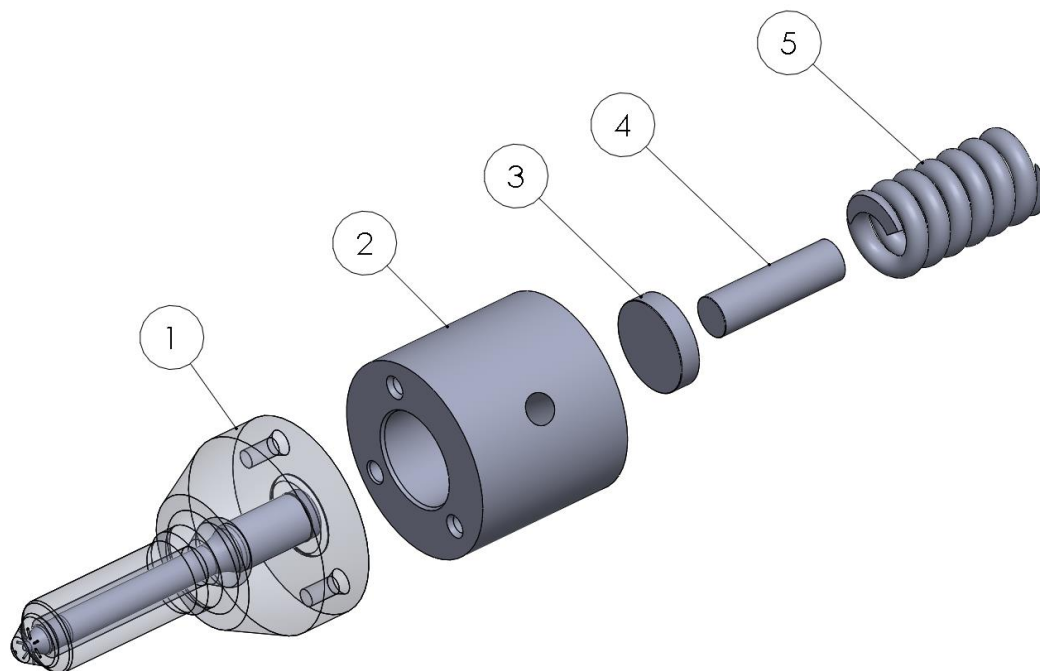
FIRAD code	Engine Angle	Spray Angle	OEM Part Number	CAT <sup>®</sup> Injector Part Number	CAT <sup>®</sup> Reman Injector Part Number	Engine	Holes
CN900A	0°	140°		174-7526 174-7527 232-1175	20R-0758	651E 657E	6 x 0,255
CN900H	0°	132°		232-1170			6 x 0,260



FIRAD code	Engine Angle	Spray Angle	OEM Part Number	CAT <sup>®</sup> Injector Part Number	CAT <sup>®</sup> Reman Injector Part Number	Engine	Holes
CN900D	0°	130°		198-6877 204-2467	20R-4147	3412E	6 x 0,260
CN900G	0°	140°		174-7526 174-7527	20R-0758	651E 657E	6 x 0,250



## Navistar Nozzle kits

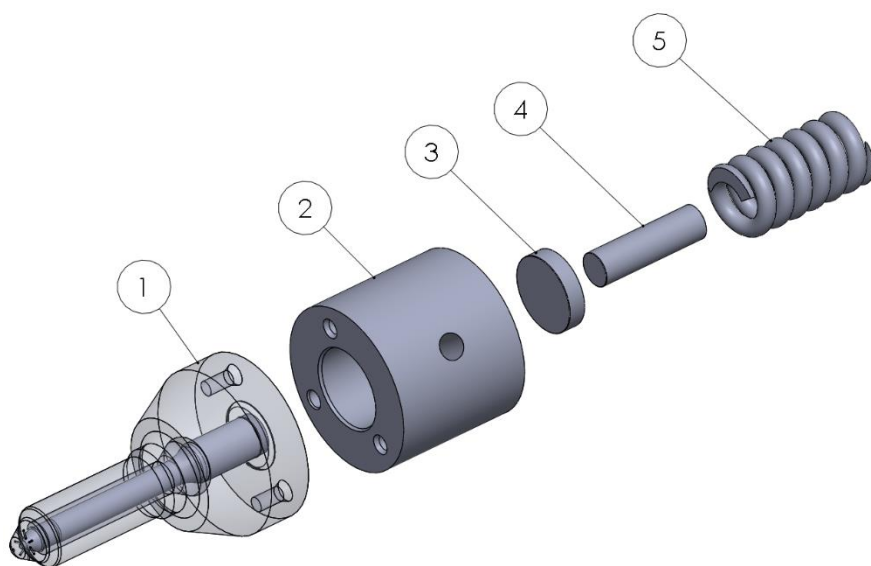


N. Part	Description	FIRAD Code
1		FIRAD Nozzle
2	Bush	MCBU004
3	Shim	MCSH002-207
4	Pin	MCPN002-1385
5	Spring	MCSP002

FIRAD code	Firad Nozzle	OEM Part Number	Ford Injector	Navistar Injector
FD0000AA	NS0AA F	AP63800AA	F81Z9E527DRM F4TZ9VE527AARM F7TZ9E527ARM	1822800C95 1816187C3 1822801C98 1822801C99 1821836C3
FD000BK	NS5BK F	DPE41026/31		

[38]





N. Part	Decription	FIRAD Code
1		FIRAD Nozzle
2	Bush	MCBU004
3	Shim	MCSH002-227
4	Pin	MCPN002-1370
5	Spring	MCSP011

FIRAD code	Firad Nozzle	OEM Part Number	Ford Injector	Navistar Injector
<b>FD0000BE</b>	NS9BE F	AP63809BE		1829838C94 1829926C2 1829839C93 1829839C94 1829837C2
<b>FD0000BI</b>	NS1BI F	AP63811BI		1830740C92 1830560C2 1830561C92 1830562C2 1830741C92 1830741C93
<b>FD0000BJ</b>	NS2BJ F	AP63812BJ		1830570C92 1830571C2 1830572C92 & 93

[39]

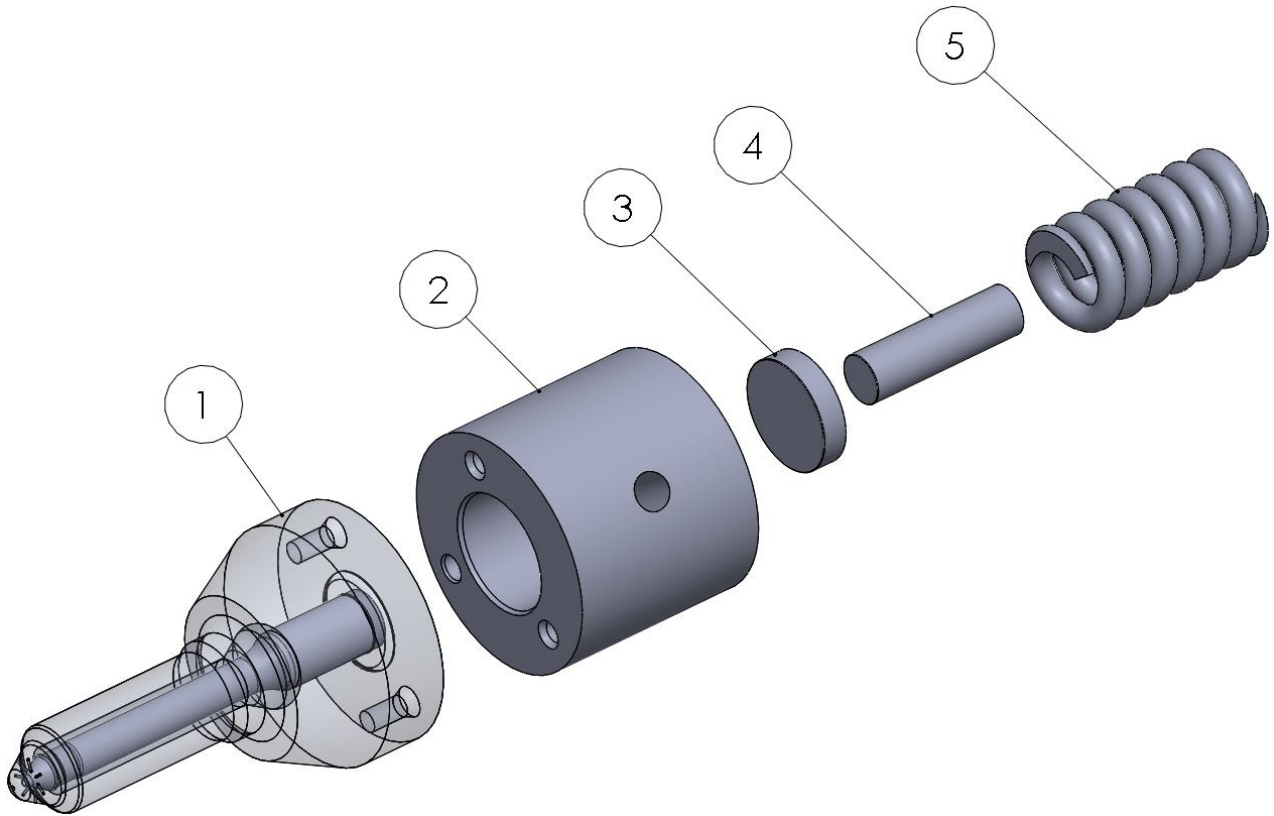


				1830573C2
<b>FD0000BN</b>	NS6BN F	8991056		1830691C1 1830692C91 1830693C1 1830694C91 2593597C91
<b>FD0000BD</b>	NS7BD F	8991055		
<b>FD0000BC</b>	NS3BC F	8991035		





## Cat Navistar Nozzle kits



N. Part	Decription	FIRAD Code
1		FIRAD Nozzle
2	Bush	MCBU004
3	Shim	MCSH002-207
4	Pin	MCPN002-1385
5	Spring	MCSP002

[41]

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FIRAD code	Firad Nozzle	OEM Part Number	CAT <sup>®</sup> Injector Part Number	CAT <sup>®</sup> Reman Injector Part Number	Engine
<b>FD00900B</b>	CN900B	DPE41026/32 (6-16)	141-7837 155-1819 169-7408 171-9704 171-9710 173-9272 173-9379 173-9380 188-1320 196-4229 222-5972 178-6342	OR-9350 OR-9348 10R-1257	3126E 3126B 3126
<b>FD00900C</b>	CN900C	DPE41026/32 (6-17)	173-4059 173-4061 173-9267 173-9268 196-1401 222-5963 222-5967 177-4754 177-4752	OR-9349 10R-1262 10R-0782 10R-9237	3126 3126E 3126B
<b>FD00900E</b>	CN900E	(6-175)	222-5966	10R-0781	3126E 3126B
<b>FD00900A</b>	CN900A		174-7526 174-7527 232-1175	20R-0758	651E 657E
<b>FD00900H</b>	CN900H		232-1170		
<b>FD00900D</b>	CN900D		198-6877 204-2467	20R-4147	3412E
<b>FD00900G</b>	CN900G		174-7526 174-7527	20R-0758	651E 657E





## 3 Cummins Nozzles

Suitable for

Cummins<sup>®</sup> M11, N14, L10, QSK, ISC, ISL, QSL, QSC engines

Scania XPI engine

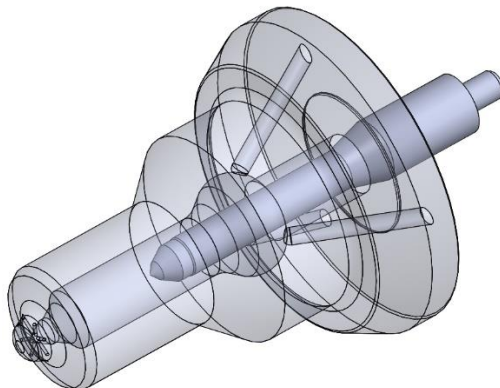
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## Cummins Nozzles



FIRAD code	Engine Angle	Spray Angle	Stamping	Injector Part Number	Engine	Holes
<b>108/CFD</b>	0°	150°	26107	3070629 3070739 3071534 3073995 3081314 3081315 3081317 3652516 3652541 3652542	N14 L10	8 x 0,215
<b>109/CFD</b>	0°	148°	26108	3084589 3087557 3411752	M11	8 x 0,170
<b>110/CFD</b>	0°	153°	26109	3083846 3087733 3087560 3411759	N14	8 x 0,200
<b>111/CFD</b>	0°	153°	26113	3411755	M11	8 x 0,160
<b>112/CFD</b>	0°	153°	26114	3411758	M11	8 x 0,215

[44]



FIRAD code	Engine Angle	Spray Angle	Stamping	Injector Part Number	Engine	Holes
<b>113/CFD</b>	0°	149°	26115	3095086 3609796 3087788	N14	8 x 0,235
<b>114/CFD</b>	0°	146°	26116	3088178	N14	8 x 0,230
<b>115/CFD</b>	0°	150°	26117	3073996 3081318 3652540	L10	8 x 0,180
<b>116/CFD</b>	0°	159°	26122	3411753 3095040	M11	8 x 0,190
<b>117/CFD</b>	0°	153°	26126	3411385 3411767	N14	8 x 0,230
<b>128/CFD</b>	0°	152°	26127	3411381 3411691 3411765	N14	8 x 0,195
<b>129/CFD</b>	0°	154°	26135	3411761	N14	8 x 0,210
<b>130/CFD</b>	0°	142°	26137	3411766	N14	8 x 0,210
<b>131/CFD</b>	0°	140°	4061854 FSP	4061851	M11	8 x 0,205
<b>132/CFD</b>	0°	140°	4026225 FSP	4026222	M11	8 x 0,220
<b>133/CFD</b>	0°	130°	4903475	4903472	M11	6 x 0,215
<b>134/CFD</b>	0°	154°	3609855 FSP	3411760	N14	8 x 0,230
<b>135/CFD</b>	0°	131°	4903322 FSP	4903319	M11	6 x 0,220

[45]

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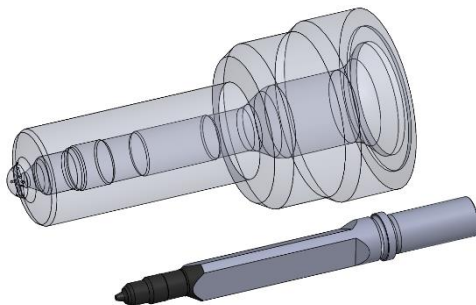
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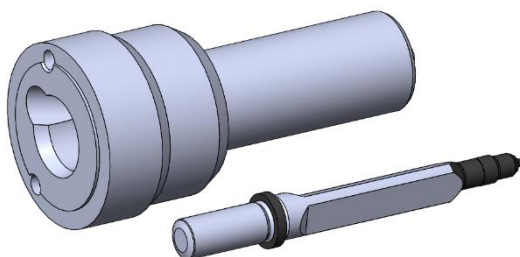
FIRAD code	Engine Angle	Spray Angle	Stamping	Injector Part Number	Engine	Holes
150/CFD	0°	154°	M-3095729			8 x 0,215
151/CFD	0°	131°			N14	6 x 0,180
152/CFD	0°	152°	FSP 4307798			6 x 0,255



## Cummins QSK Nozzles



FIRAD code	Engine Angle	Spray Angle	Cummins <sup>®</sup> Part Number	Bosch <sup>®</sup> OEM Part Number	Stamping	Engines	Holes
QKFDA 00BD	0°	148°	2867147	F00B J00 000 F00B J00 001 Y 431 K05 392	F00BD00000	QSK	6 x 0,265
QKFDA 00BD3	0°	139°	4964170	F00B L0J 019 F00B L0J 020 0 986 435 612 Y 431 K05 420	F00BD00003	QSK 19	6 x 0,270
QKFDA26 5700				Y431K05210	b4		

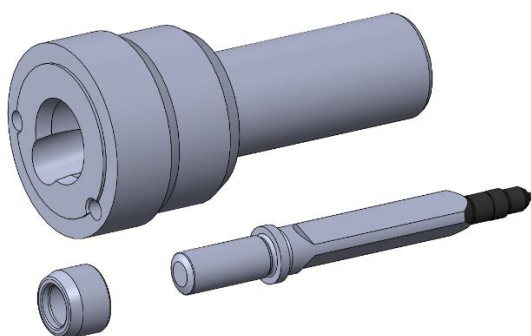


FIRAD code	Engine Angle	Spray Angle	L'Orange <sup>®</sup> Part Number	Bosch <sup>®</sup> OEM Part Number	Stamping	Engines	Holes
QKFDA 00265671	0°	149°			B 433265671	QSK	6 x 0,260

[47]



<b>QKFDA 00BD4</b>	0°	131°	X51107500005 X51107500011	F00B LOJ 004 F00B LOJ 005 F00B LOJ 011 F00B LOJ 012 Y 431 K05 350 Y 431 K05 351 Y 431 K05 210	F00BD00004	MTU	8 x 0,270
<b>QKFDA26 5700</b>	0°	133°	X00040691	Y431K05210	B433265700	MTU	8 x 0,265

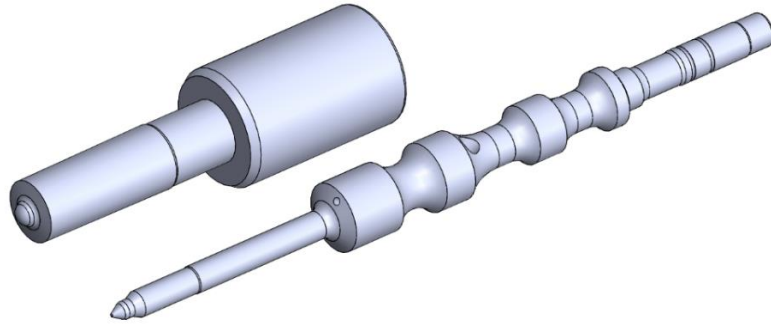


<b>FIRAD code</b>	<b>Engine Angle</b>	<b>Spray Angle</b>	<b>Cummins<sup>®</sup> Part Number</b>	<b>Bosch<sup>®</sup> OEM Part Number</b>	<b>Stamping</b>	<b>Engines</b>	<b>Holes</b>
<b>QKFDA 00265191</b>	0°	145°		Y 431 K05 194 Y 431 K05 298	B 433265191	Iveco Vector	8 x 0,245

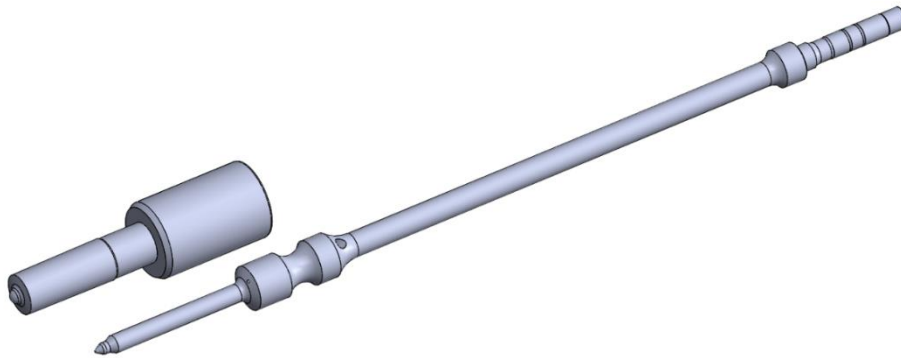




## Cummins ISC, ISL, QSL, QSC, ISX, Scania XPI Nozzles



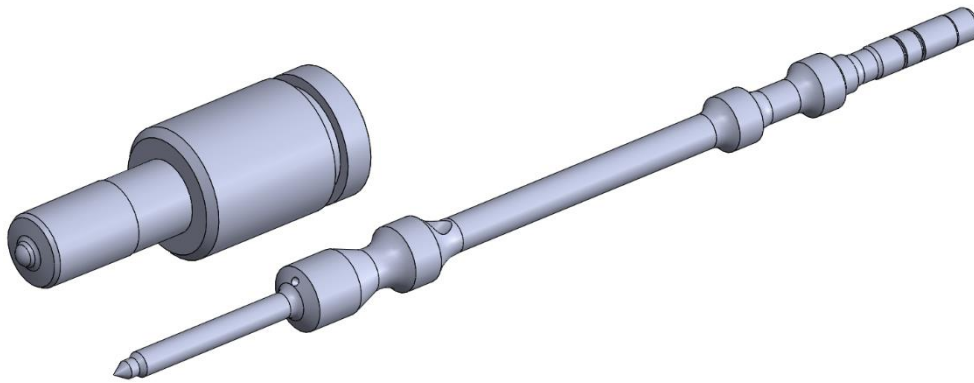
FIRAD code	Engine Angle	Spray Angle	OE Injector Part Number	Stamping	Engines	Holes
145P4928562	0°	145°	2872127 4954927	P4928562	ISC, ISL, QSL, QSC	7 x 0,180



FIRAD code	Engine Angle	Spray Angle	OE Injector Part Number	Stamping	Engines	Holes
146P4307083	0°	146°		P4307083FSW	ISX	8 x 0,190
145P5461846	0°	145°		P5461846FSW	ISX	8 x 0,175

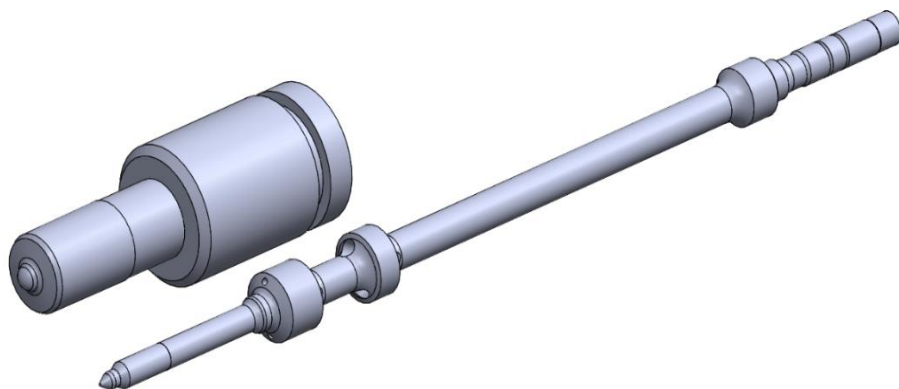
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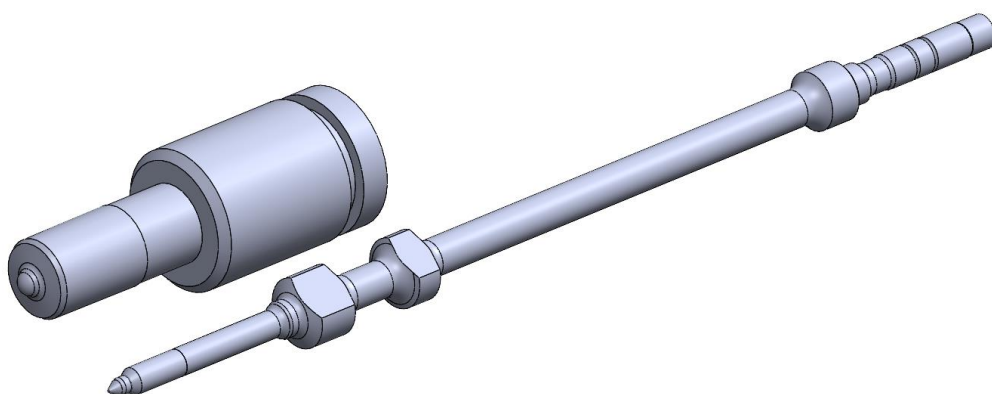


FIRAD code	Engine Angle	Spray Angle	OE Injector Part Number	Reman Injector Part Number	Stamping	Engines	Holes
<b>148P2872320</b>	0°	148°	2031835	575176	P2872320	DC9 DC13 DC16	8 x 0,160
<b>148P2872321</b>	0°	148°	2086663	575177	P2872321	DC9 DC13 DC16	8 x 0,175
<b>148P4954707</b>	0°	148°	1881564		P4954707	DC9 DC13 DC16	8 x 0,160
<b>145P4984850</b>	0°	145°	2872405	5579417	P4984850	ISX 15	8 x 0,185





FIRAD code	Engine Angle	Spray Angle	OE Injector Part Number	Reman Injector Part Number	Stamping	Engines	Holes
146P2897551	0°	146°	2057401	574423	P2897551	DC9 DC13 DC16	9 x 0,185



FIRAD code	Engine Angle	Spray Angle	OE Injector Part Number	Reman Injector Part Number	Stamping	Engines	Holes
146P4384025	0°	146°	4984369		P4384025	DC13	10 x 0,22





## 4 Detroit diesel Nozzles

Suitable for

Detroit<sup>®</sup> Diesel 50/60 series

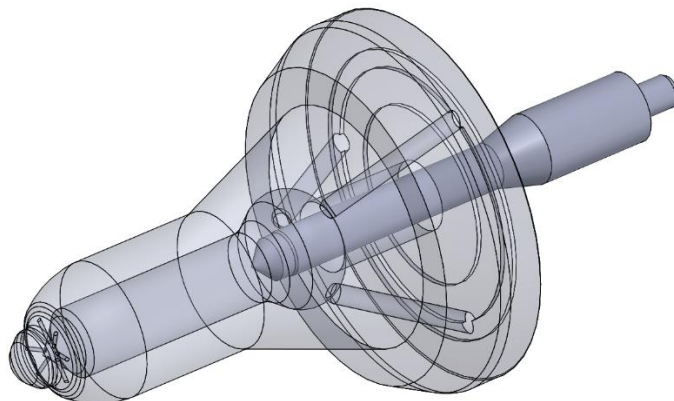
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## Detroit Nozzles



FIRAD code	Engine Angle	Spray Angle	Stamping	Injector Part Number	Engine	Holes
<b>018DFD</b>	0°	154°	26211	5235915 5237466	1,27L	8 x 0,200
<b>019DFD</b>	0°	156°	26212	5235580 5236978	11,1L	8 x 0,170
<b>020DFD</b>	0°	157°	26213	5235600 5237320 5237650	11,1L 8,50L	9 x 0,200
<b>021DFD</b>	0°	159°	26214	5235935 5235605	11,1L 12,7L	9 x 0,165
<b>022DFD</b>	0°	161°	26215	5234870 5234940	11,1L 12,7L	9 x 0,200
<b>023DFD</b>	0°	159°	26216	5234795 5234945 5234970 5235695	12,7L 11,1L	9 x 0,210
<b>024DFD</b>	0°	159°	26217	5234785	12,7L	9 x 0,200
<b>025DFD</b>	0°	158°	26218	5234865	11,1L	9 x 0,200

[53]



FIRAD code	Engine Angle	Spray Angle	Stamping	Injector Part Number	Engine	Holes
<b>026DFD</b>	0°	153°	26219			9 x 0,215
<b>027DFD</b>	0°	154°	4991525	5235550 5236977 5235575	8,50L 11,1L	8 x 0,190
<b>028DFD</b>	0°	154°	752-B4-54	5236347 5236980 5237045		8 x 0,215





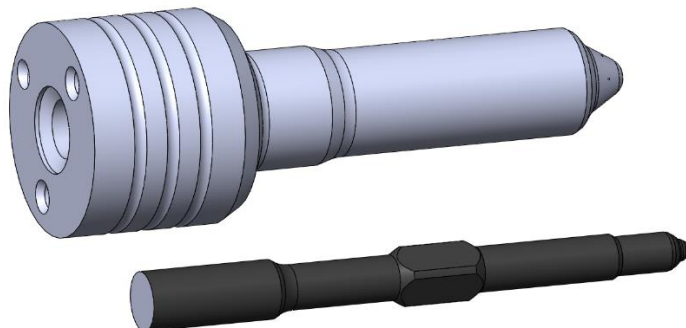
## 5 Perkins Nozzles

Suitable for  
Caterpillar<sup>®</sup> C6.6

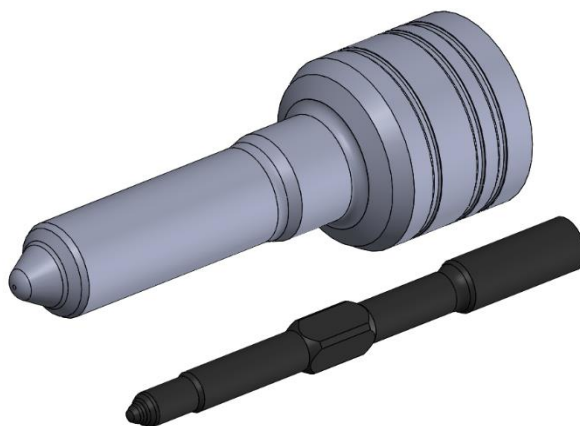
[55]



## Perkins Nozzles



FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Perkins <sup>®</sup> Injector Part Number	Stamping	Engine	Holes
<b>C500F</b>	0°	126°		2645A745	050F379458	C6.6	6 x 0,135
<b>C500E</b>	0°	130°	10R-7671 320-0677 10R-7938 321-3600 10R-7672 320-0680 306-9380	2645A746 2645A747 2645A753	248T359461	C6.6 C4.4 1104D-E44TA 1106D-E66TA	6 x 0,160
<b>C500H</b>	0°	130°		2645A751	270T799467 102F679467	C6.6	6 x 0,205
<b>C500L</b>	0°	130°	320-0690 10R-7673	2645A749	182E359464 294F389464	C6.6	6 x 0,185

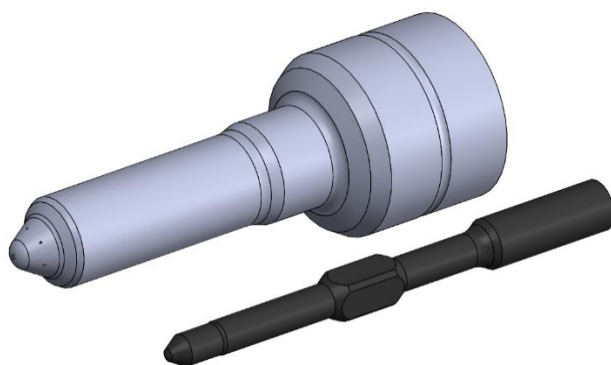


[56]





FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Perkins <sup>®</sup> Injector Part Number	Stamping	Engine	Holes
<b>C500B</b>	0°	135°	10R-7675 326-4700 095000-3200		239S379092	C6.6	6 x 0,155
<b>C500C</b>	0°	135°				C6.6	6 x 0,150
<b>C500M</b>	0°				211T359095	C6.6	6 x 0,165



FIRAD code	Engine Angle	Spray Angle	CAT <sup>®</sup> Injector Part Number	Perkins <sup>®</sup> Injector Part Number	Stamping	Engine	Holes
<b>C500A</b>	0°	130°			206T380694		6 x 0,165
<b>C500D</b>	0°	130°30'					6 x 0,185
<b>C500N</b>	0°	130°		2645A742	157F670259	C6.6	6 x 0,160

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## 6 Siemens Nozzle

Suitable for

Ford<sup>®</sup> Powerstroke 6.0

Deutz<sup>®</sup> G2.9

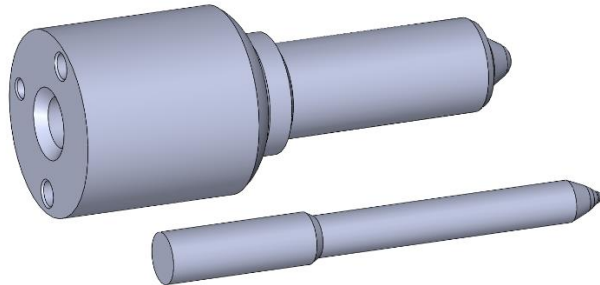
[58]

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## Siemens Nozzles



FIRAD code	Engine Angle	Spray Angle	Stamping	Ford Injector	Navistar Injector	Holes
<b>FD2000</b>	0°	150°	V 0802 P 150	3C3Z-9E527-AE 3C3Z-9E527-ABRM	1843089C91 1845879C91 1843481C94 1843481C95	6 x 0,190
<b>FD3000</b>	0°	144°	V 0803 P 144			7 x 0,195
<b>FD3001</b>	0°	150°	V 0803 P 150		AP66977 1848718C92	7 x 0,170
<b>FD3002</b>	0°	153°	V 805 P 153		AP66918 1848718C92	8 x 0,160

