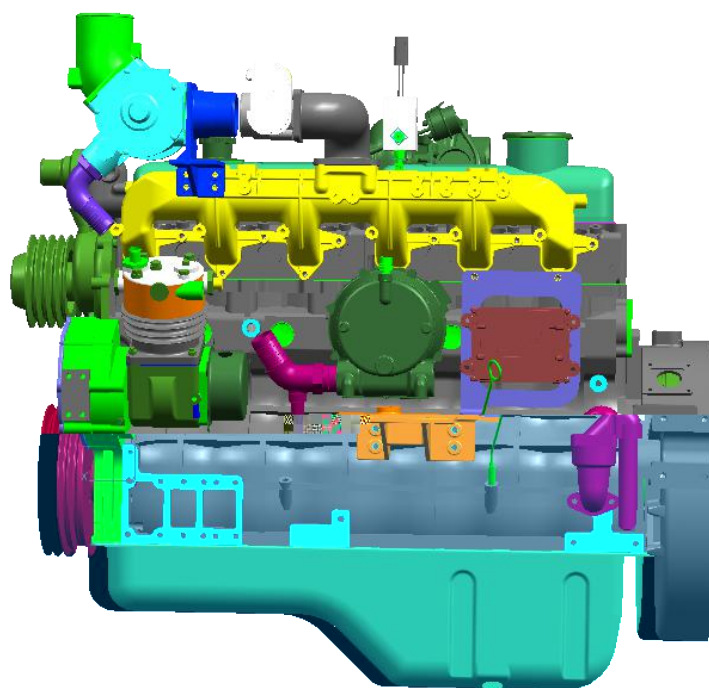


YC6J



YC6J/6B

YC6J/6B

“

”



!

1.

2.

3.

3 5

4.

3 5

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

18.

19.

20

:

YC6J/6B

21.

22.

23.

24.

1YC6J/6B

1■.....

2

2.1

2.2

3

3.1

3.2

3.3

3.4

3.5

3.6

3.7

3.8

3.9

3.10

3.11

3.12

3.13

3.14

4

5

5.1

5.2

5.3

5.4

6

6.1

6.2

6.3

6.4

6.5

6.6

6.7

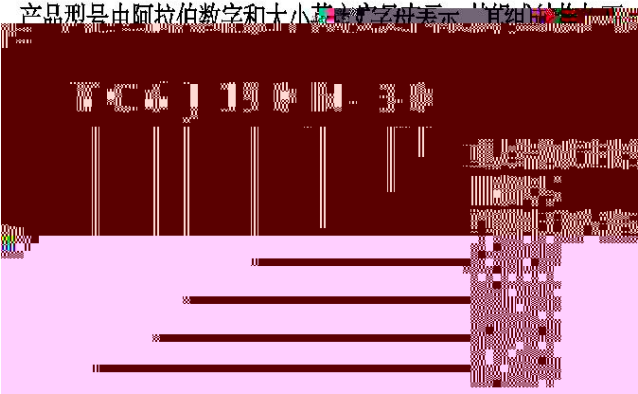


1

1.1

YC6J/6B	YC6105ZLQ					
YC6J/6B	2	3	4	5	ECI/ESI	HD EPR
YC6J/6B	YC6J					
5 15	7m 10m					

1.2



1.3

-35	40	2000		
-35	40	2500	-20℃	-35℃

2

2.1

YC6J/6B

		J5300	J5700
1		YC6J210N-20	YC6J190N-20
2		CNG	
3		—	
4		6	
5	mm	105	
6	mm	125	
7	L	6.494	
8		11:1	
9		1—5—3—6—2—4	
10	%	≤ 0.2	
11		≤ 210	
12	kW	155	140
13	r/min	2500	

14	N · m	710	650
15	r/min	1500	
16	r/min	2775 2825	
17	r/min	650 ± 20	
18		CNG	
19			
20	kg	≤ 760	
21	× ×	1126 × 803 × 1012	
22		2	

		J5400	J5500	J3A00
1		YC6J210N-30	YC6J190N-30	YC6J150N-30
2		CNG		
3		—		
4		6		
5	mm	105		
6	mm	125		
7	L	6.494		
8		11:1		12:1
9		1—5—3—6—2—4		
10	%	≤ 0.2		
11		≤ 215		≤ 220
12	kW	155	140	110
13	r/min	2500		2800
14	N · m	710	650	430
15	r/min	1500		1400 1600
16	r/min	2775 2825		3080 ± 25
17	r/min	650 ± 20		
18		CNG		
19				
20	kg	≤ 760		
21	× ×	1126 × 803 × 1012		
22		3		

7	L	6.494			
8		1—5—3—6—2—4			
9		≤ 215			
10	kW	155		140	
11	r/min	2500			
12	N · m	710		650	
13	r/min	1500			
14	r/min	2775 2825			
15	r/min	650 ± 20			
16	kg	≤ 760			
17		CNG	LNG	CNG	LNG
18					
1-					

16.		M12	100 120(N.m)
17.		M8	20 30(N.m)
18.		M10	35 55(N.m)
19.		M8 10.9	20 30(N.m)
20.		M10	35 55(N.m)
21.		M8	20 30(N.m)
22.			220 300(N.m)
23.		M8	20 30(N.m)
24.			35 55(N.m)
25.		M8	20 30(N.m)
26.			8 10

		N.m
M6	1/4	15
M8	5/16	30
M10	3/8	40
M12	7/16	90
M14	9/16	120

	NPT 1/8	NPT 1/4	NPT 3/8	NPT 1/2	NPT 3/4	NPT 1
N · m	8 14	24 34	47 68	68 95	88 102	

:

M6	M8	M10	M12	M14
8.8		10.9		N.m
8 12 10 15	18 24 20 30	28 45 35 55	65 90 85 100	90 110 110 130

3

3.1

HT250

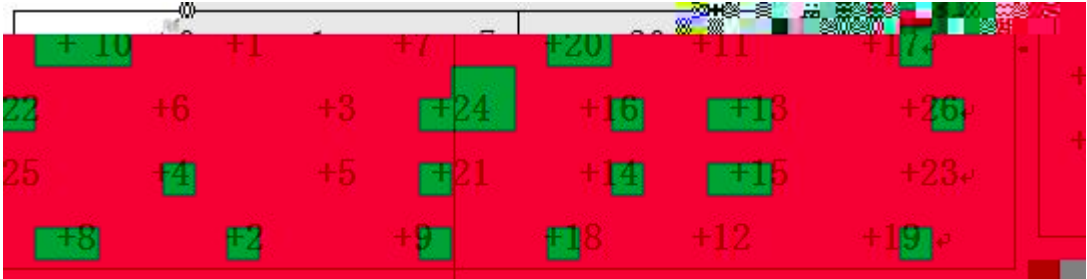
160 180N.m
230 300N.m

230 N · m 300N · m

3.2

3.2.1

	140N.m		
()330-1003019B	180 °	100N.m	150 °
330-1003013B	180 °	100N.m	120 °
330-1003012B	180 °	100N.m	120 °
330-1003014B	180 °	100N.m	120 °
()330-1003018B	180 °	110N.m	90 °



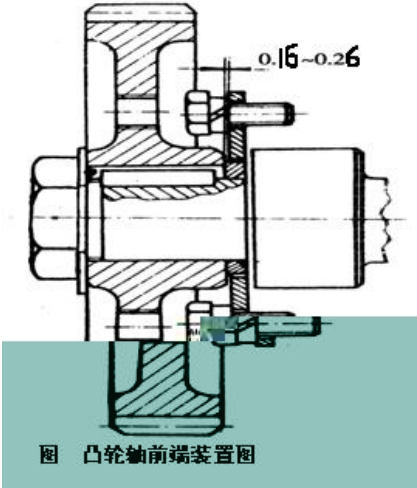
3.2.2

3.2.3

3.2.3.1

100)N.m

(0.16 0.26)mm



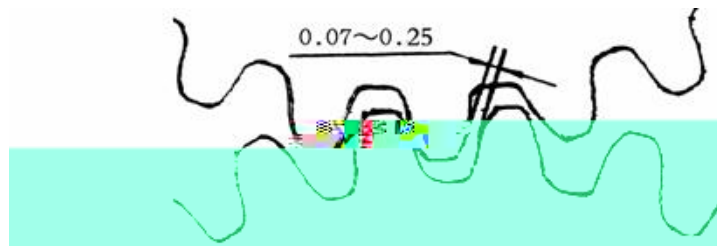
1

2

3

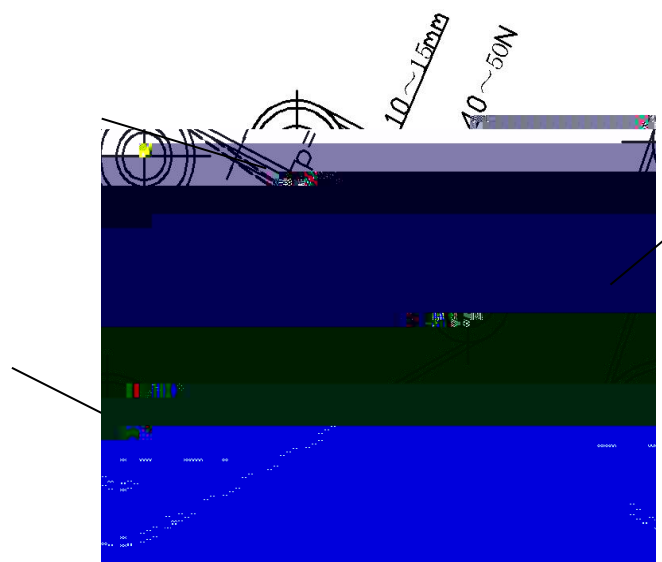
4

0.07 0.25mm



(40 50)N

(10 15)mm



3.4

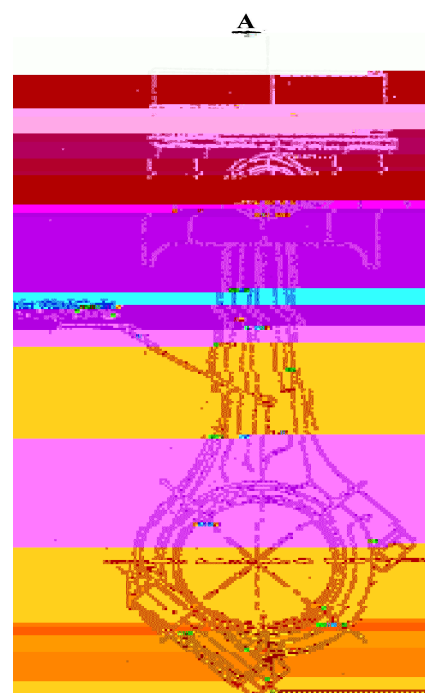
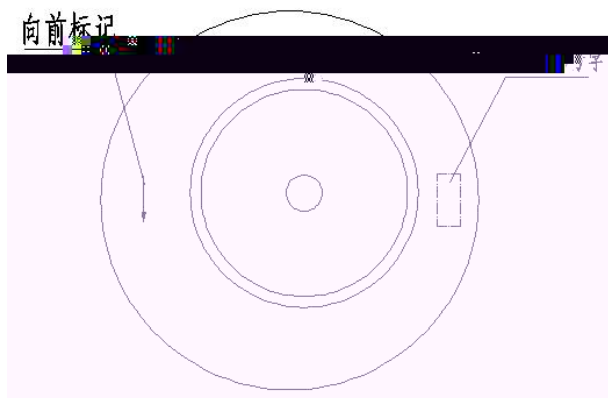


图 活塞连杆组



(190 260) N · m

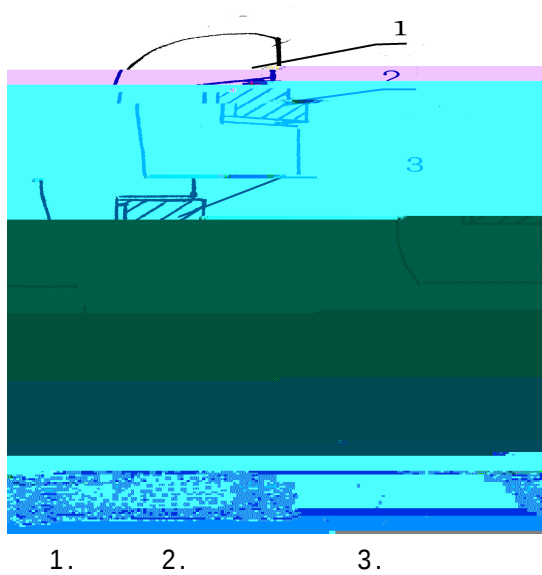
(60 80)N.m

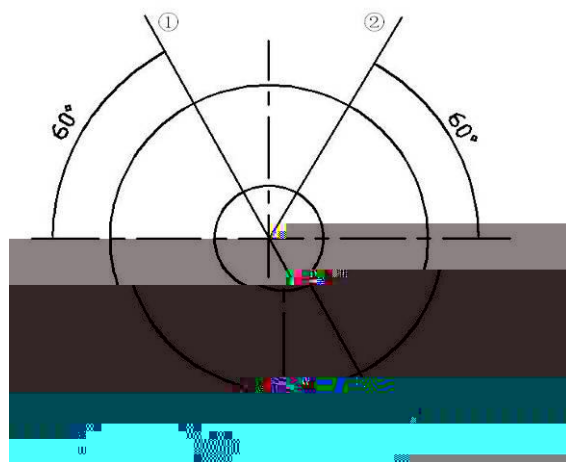
(110 130)N.m

(190 260)N.m

(190 260)N · m

“ TOP ”



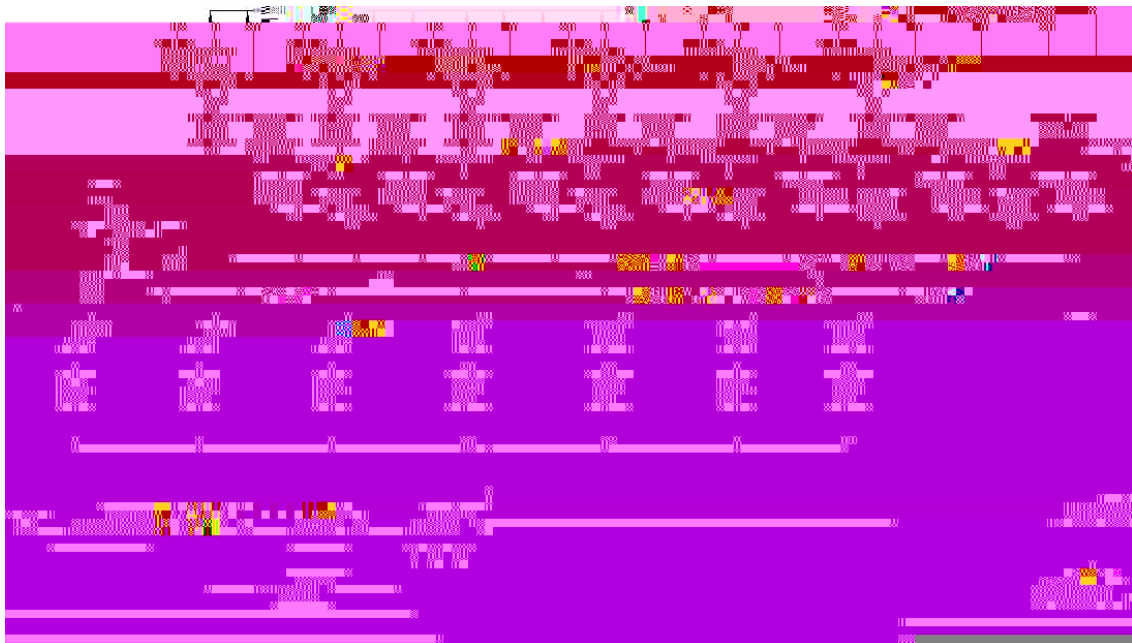


0.1 0.27mm

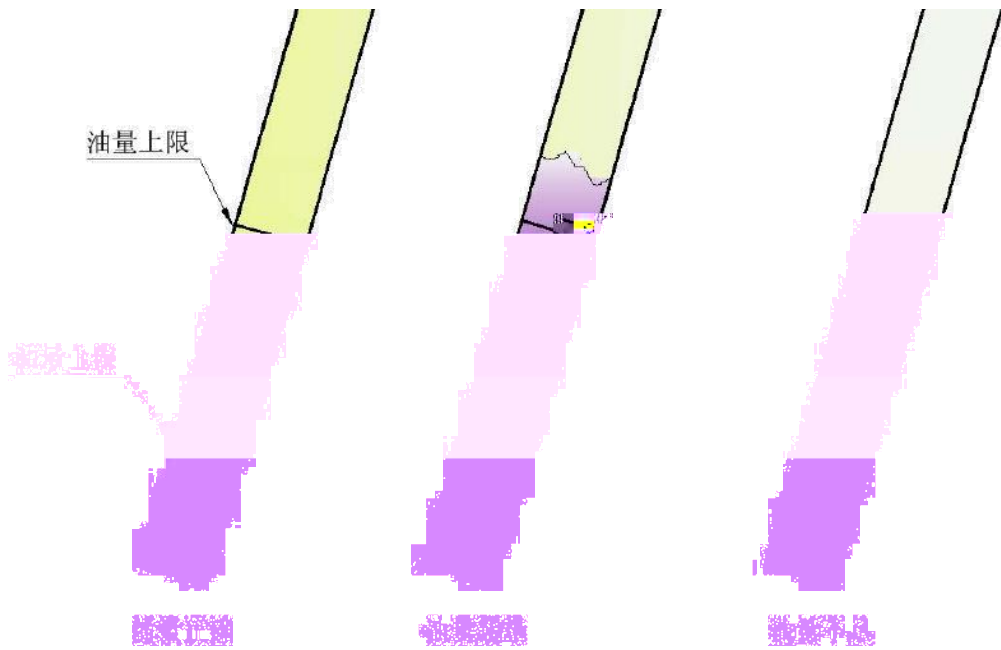
3.5

0.15MPa,

0.6MPa



10000km 250



10000km 250

1 30 8

2 30 1 30 2

m " -

	L			
	17	21	24	
	15.5	19.5	22.5	
	1.5			

3.6

3.6.1

CNG CNG

LNG

3.6.1.1

3.6.1.2

3.6.1.3

LPG

LPG

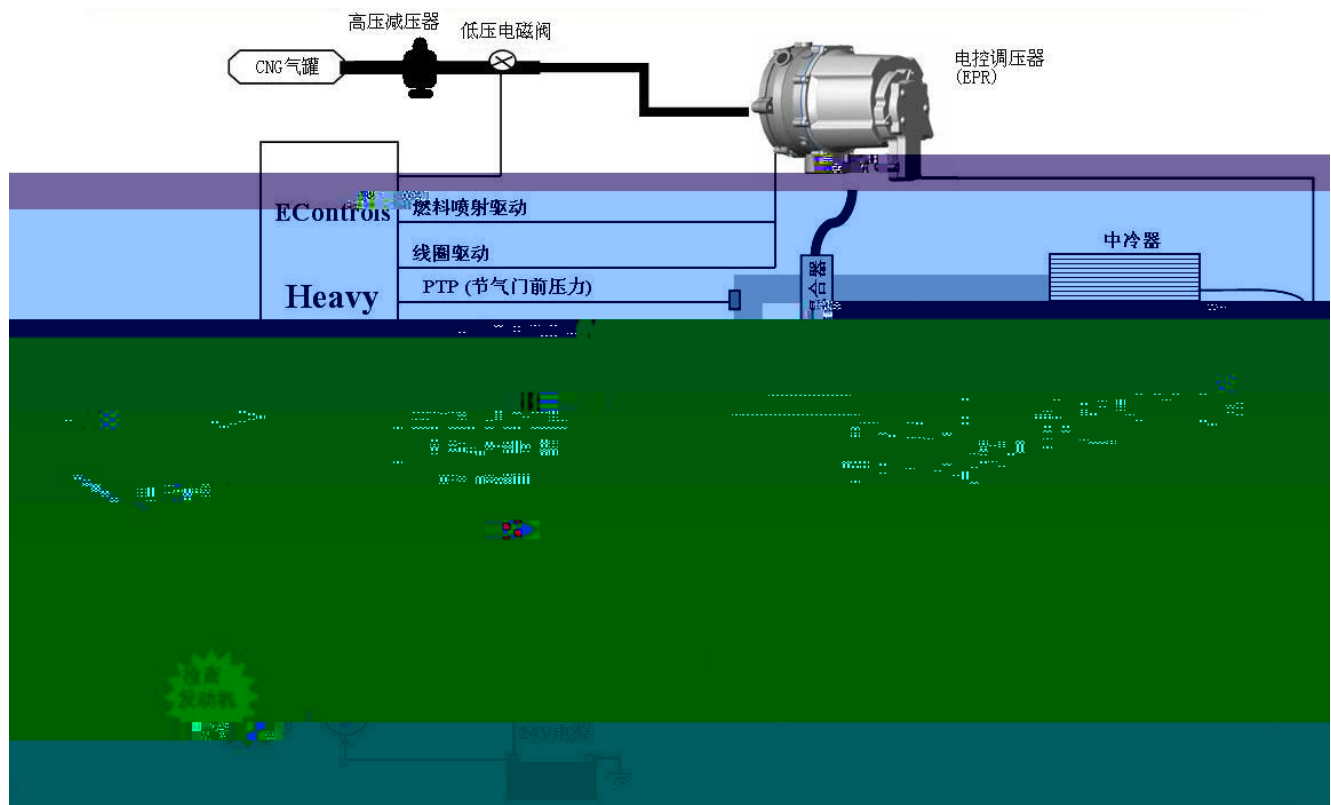
LPG

11 J3A00 12 J3B00 8.5

3.6.1.4

3.6.2

3.6.2.1 CNG



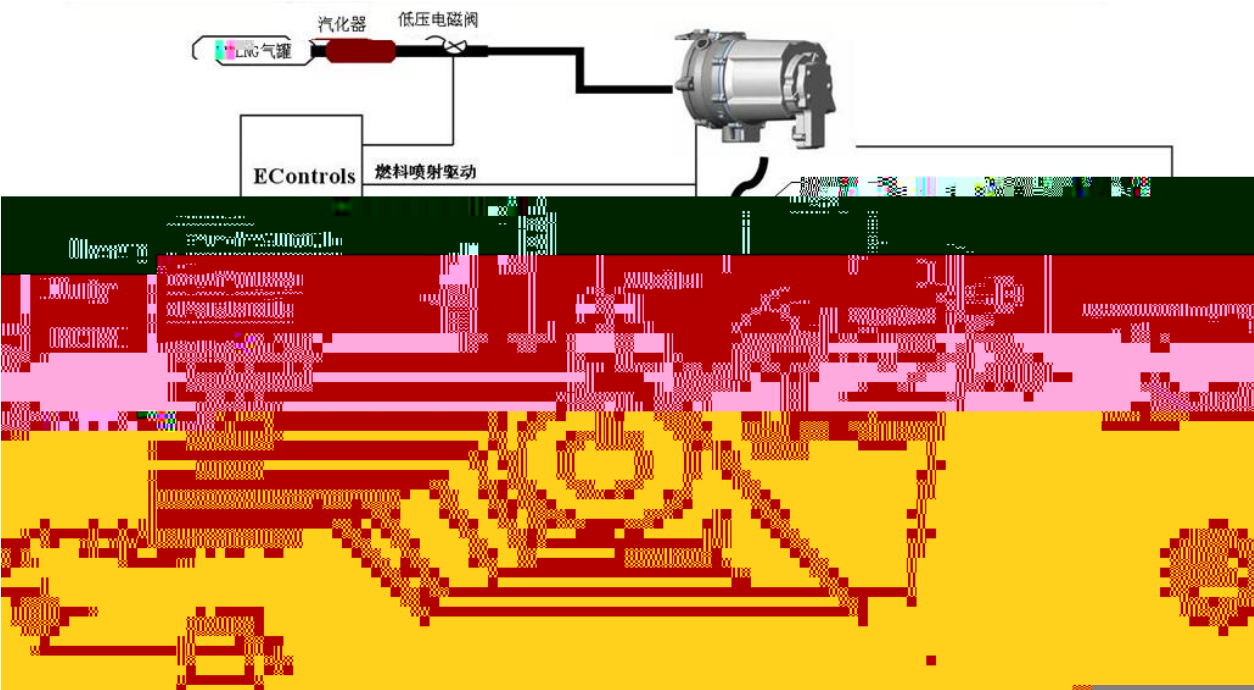
CNG

ECM
7bar - 9bar

30bar - 200bar

ECM

ECM



LNG

CNG

ECM

ECM

3.6.2.3 LPG

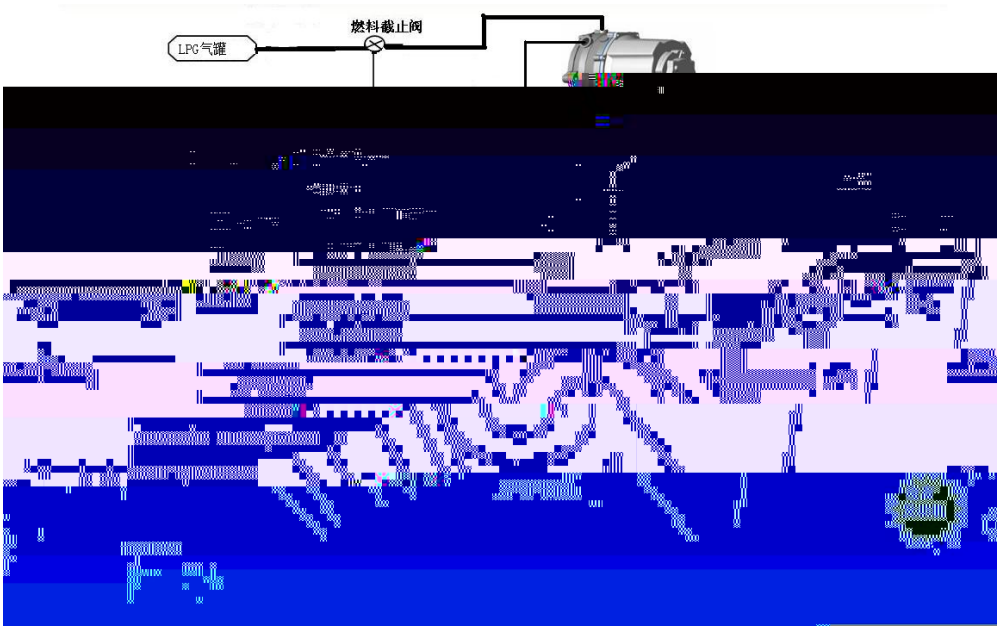
NG

LPG

LPG

LPG

NG



3.6.2.4 ESI

3.6.2.4.1 ESI CNG

玉柴ESI系统CNG天然气发动机系统原理图



3.6.2.4.2 ESI LNG

玉柴ESI系统LNG天然气发动机系统原理图



1

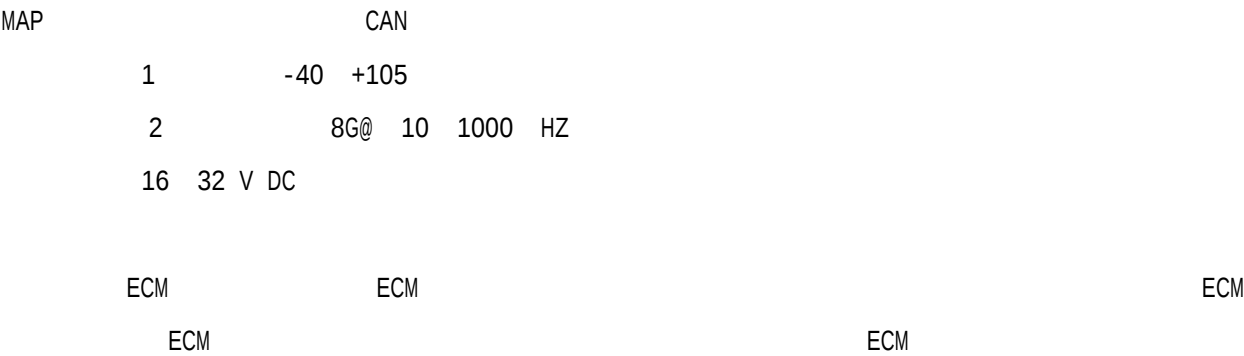
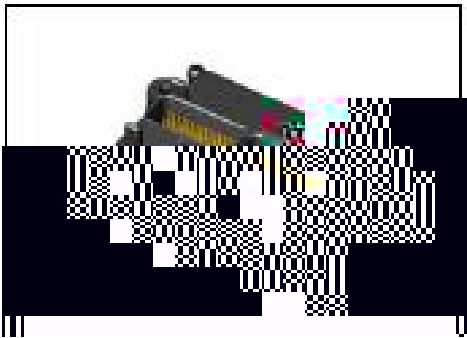
2

3.6.2.5 CFV



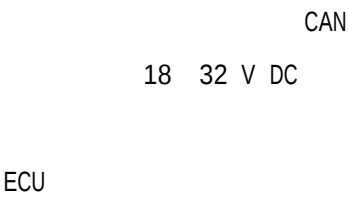
3.6.3

3.6.3.1 ECI



- ECM
- a. 20 G ECM 8 G
 - b. ECM
 - c. 4

3.6.3.2 ESI



ESI

ECU	$R \leq 80\text{m}\Omega$	$L \leq 5\mu\text{H}$

- 1)
- 2)
- 3)



ECU

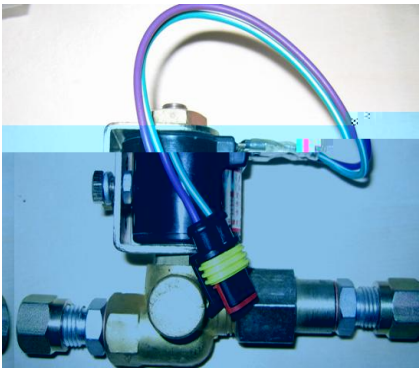
ECU

3.6.4

3.6.4.1ECI

CNG

ECM



3.6.4.2ECI CNG CNG

ECM

EPR

HD EPR

A

262

B

1/4 18 NPT

2 3

360 °

C

-40 105

3.6.4.3 CNG



ECI

3.6.4.3.1 ECI

250bar 8bar

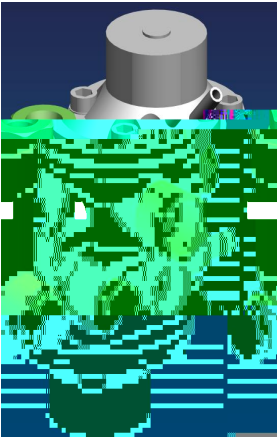
CNG

7bar -9bar

1

2

0



3
4
5

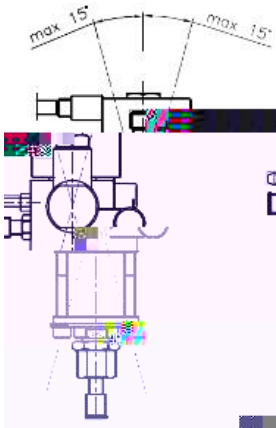
QC/T 245-1998 “ ”

3.6.4.3.2 ESI

Metatron 350kPaG(: 35barG 12kg/h)

- 1. -40~120
- 2. QC/T 245-1998 “ ”

± 15 °



3.6.4.4 LNG

A
262
B:

C

3.6.4.5 LNG LNG

CNG

ECM

EPR

HD EPR

A

262

B

C

-40 —105

3.6.4.6

EPR

ECI

HD EPR

CNG HD EPR

-18 ~+13

CNG

100 psig

200 psig

HD EPR

/

CAN

ECM

HD EPR

ECM

EPR

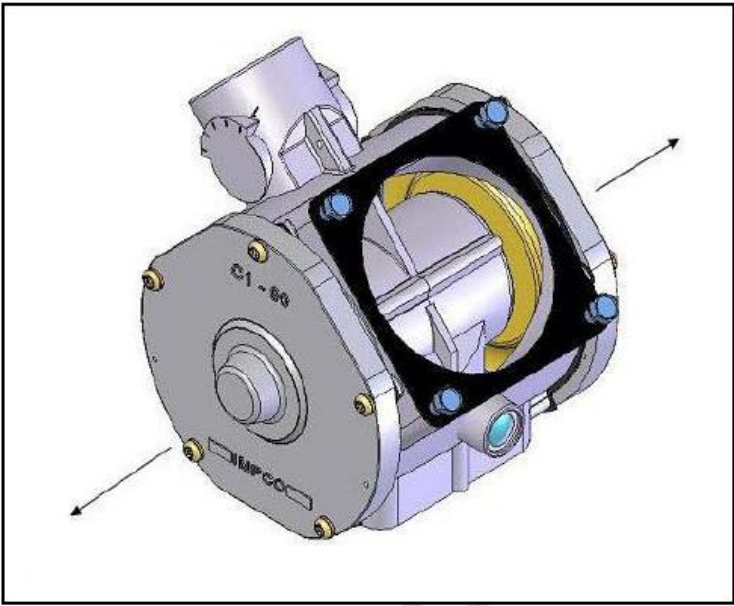
ECM

EPR

/

ECM

< 10 ms



ECI

ECI

/

200DM

I

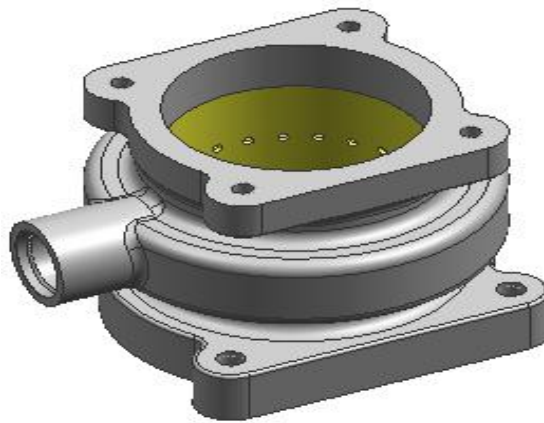
II

I

II

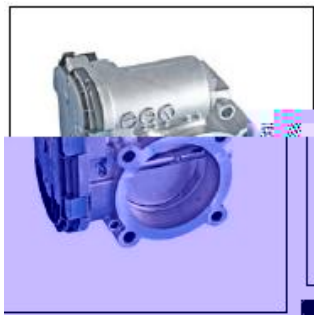


ECI



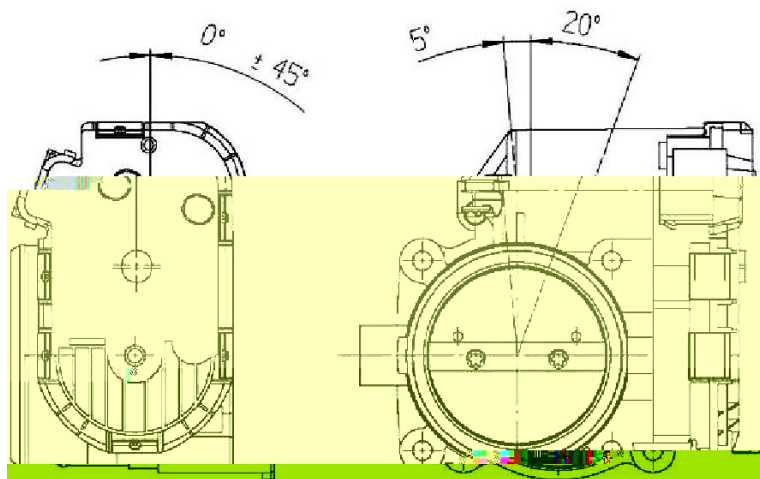
ECI

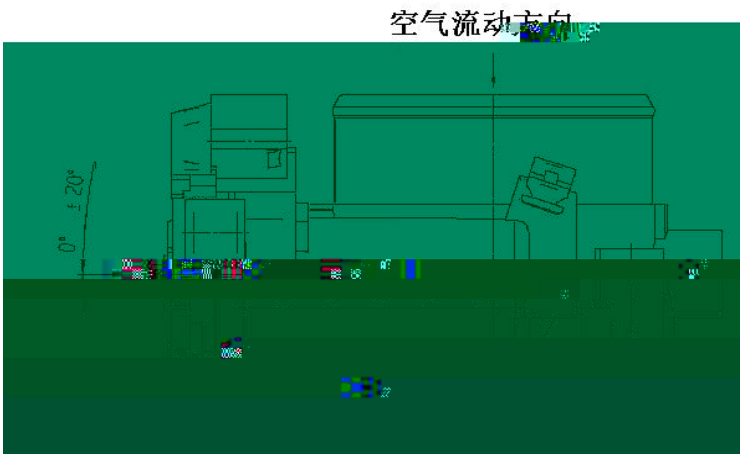
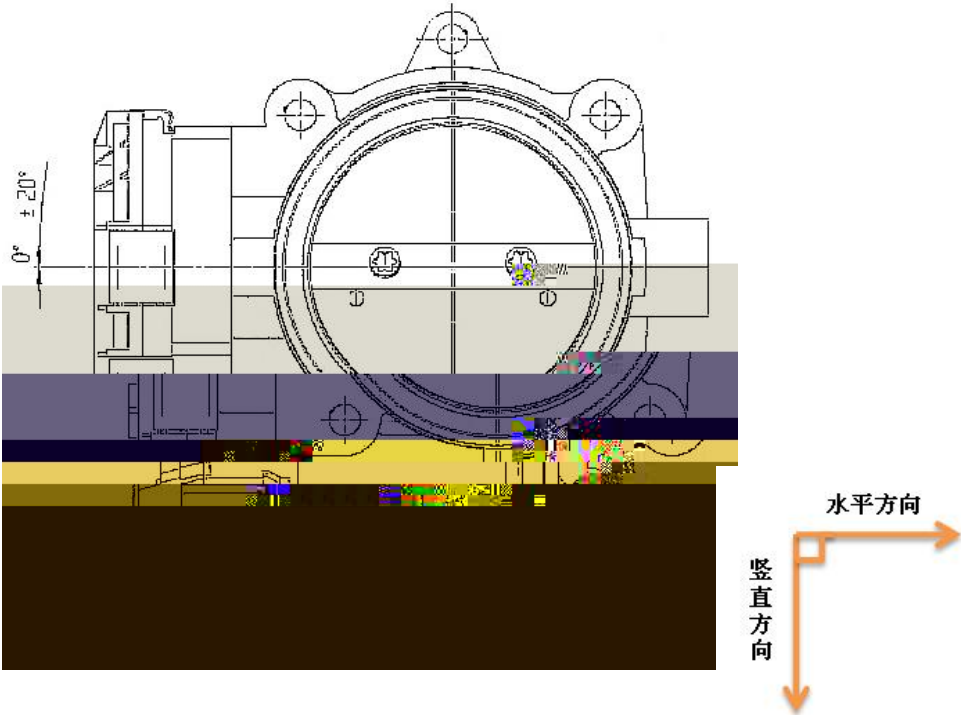
3.6.4.8

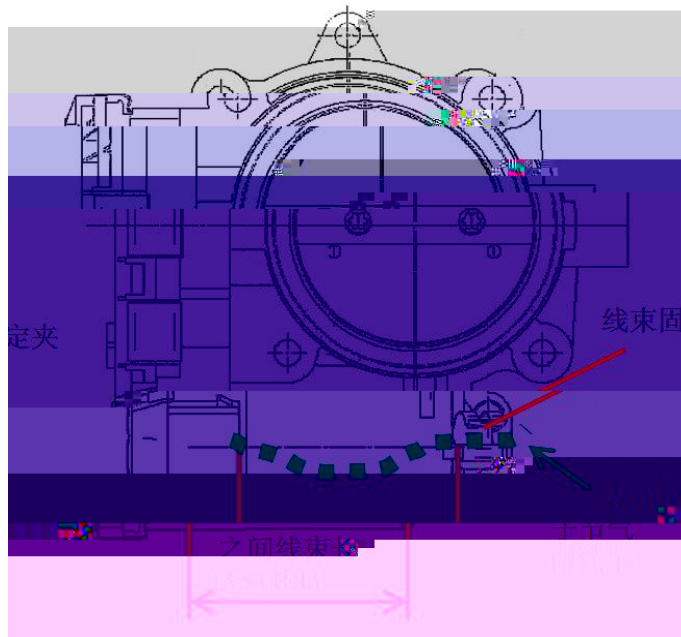


ECM ECM

1

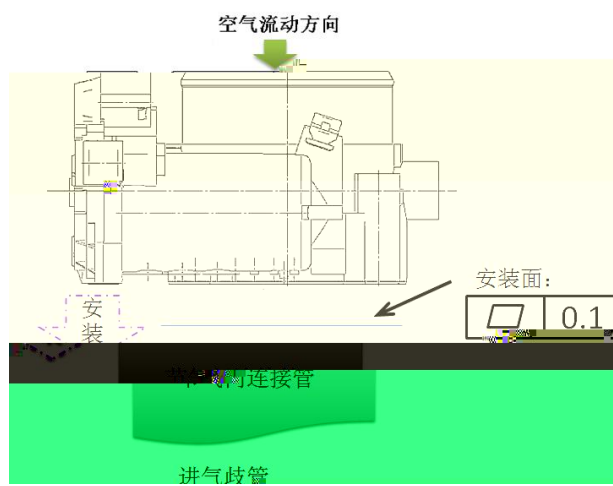




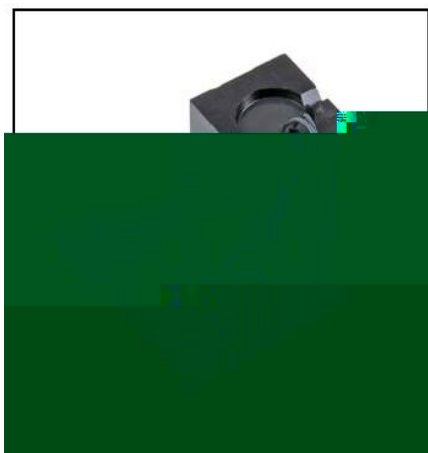


5

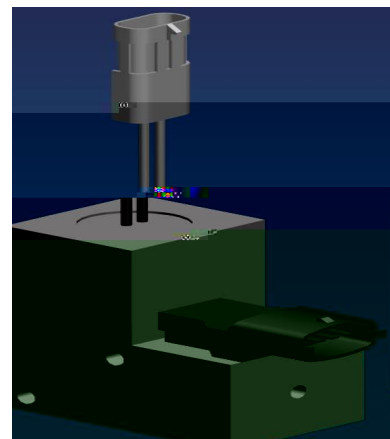
0.1mm



3.6.4.9



ECI



ECI

ECI

ECM

ECM

XX

XY

a.

0 °

60 °

b.

30

95

c.

22 /

—25 /

d.

-40 —130

e.

-40 —125

f.

6 mm 8.8

¼ " 5

g.

SAE J1926 7/16 " —20 UNF 2B

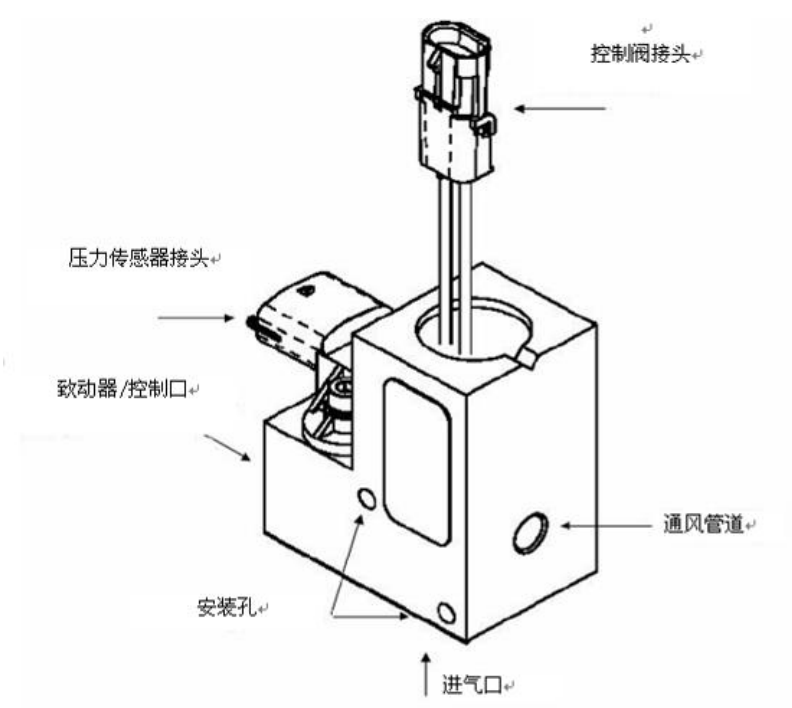
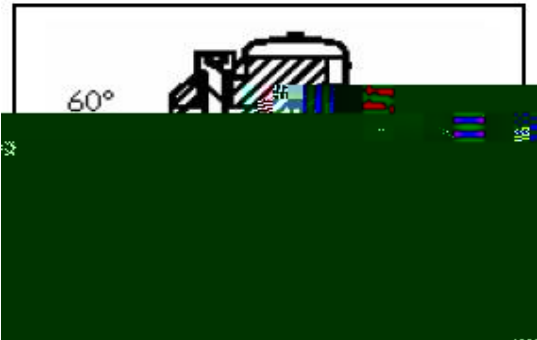
h.

/

SAE J1926 7/16 " —20 UNF 2B

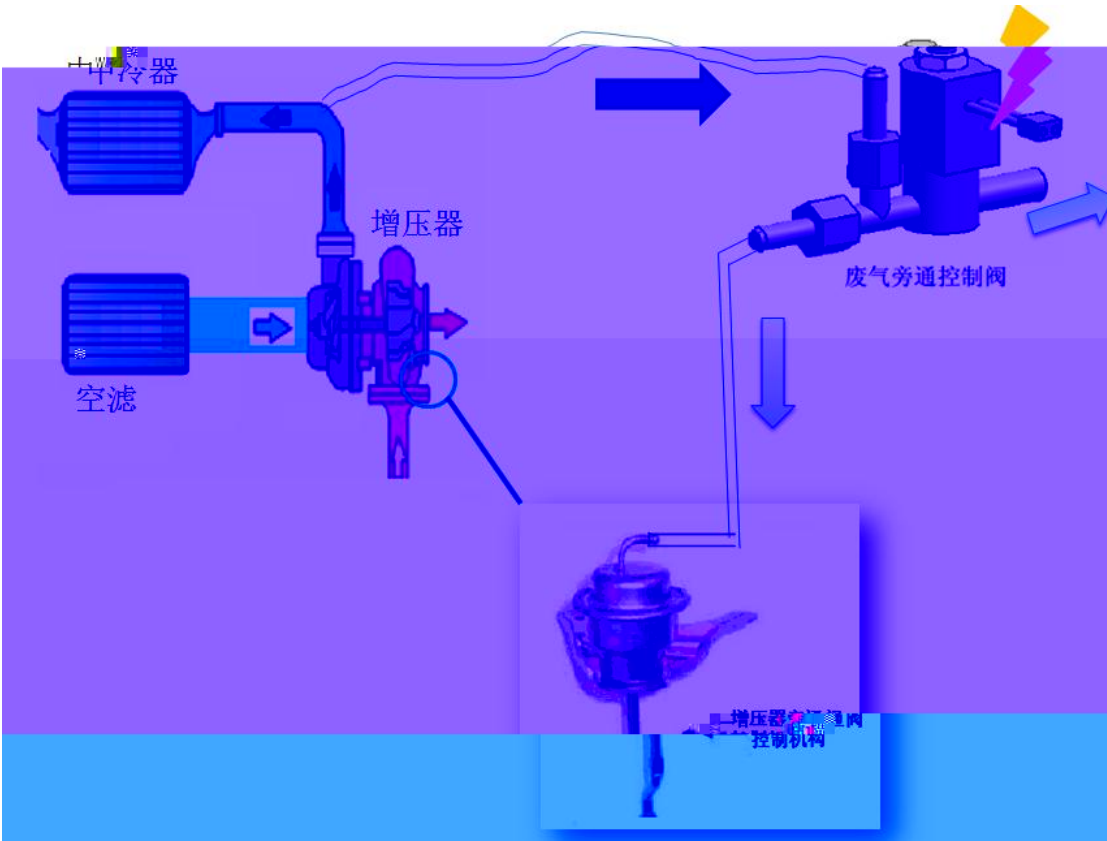
i.

SAE J1926 7/16 " —20 UNF 2B



ESI

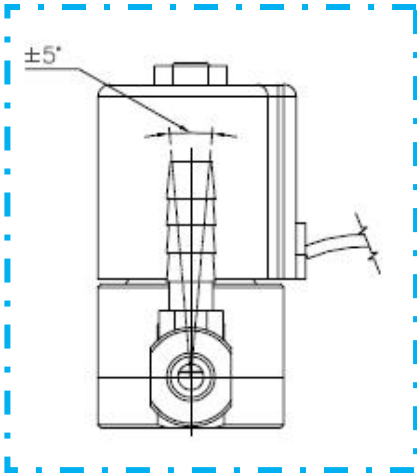
ACT



ESI

- 1
- 2

$\pm 5^\circ$

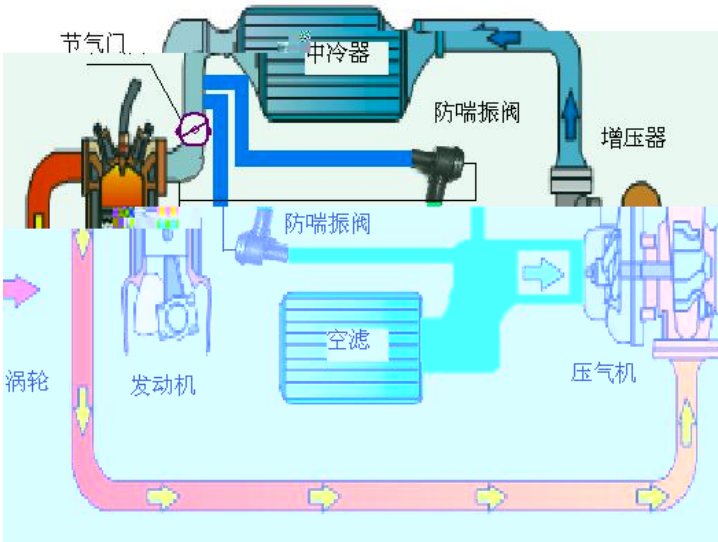


3.6.4.10



6J CNG
φ 25

φ 25



3.6.4.11



ECI

ECM

ECM

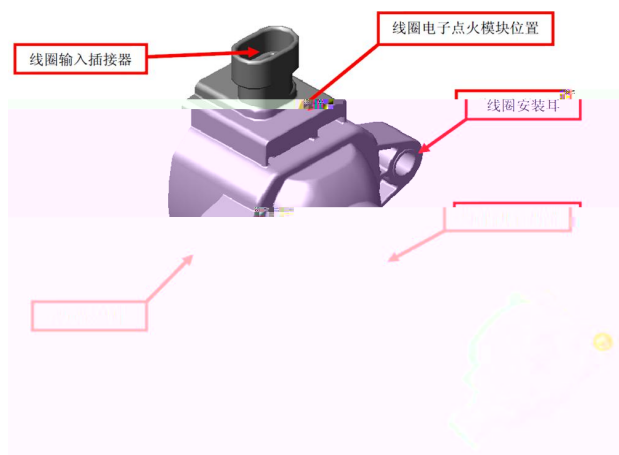
ECI

ESI

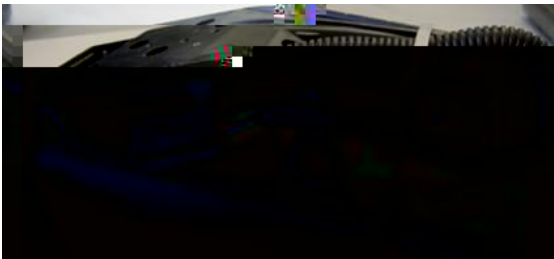
1

2

3



3.6.4.13



ECM

3.6.4.14

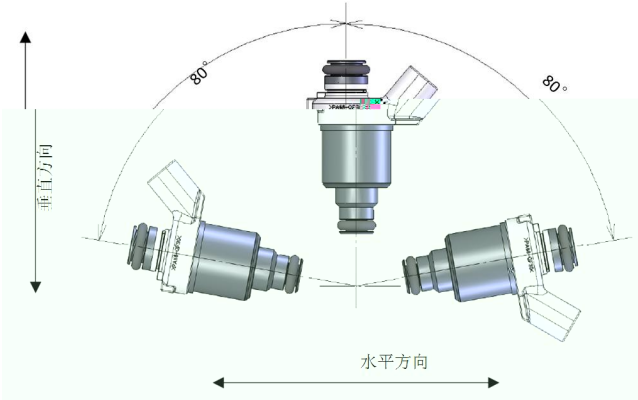
ECM/ECU ECM/ECU

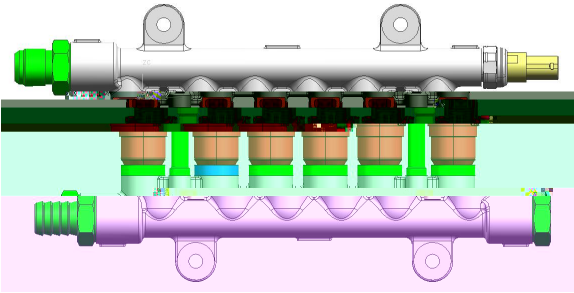
3.6.4.15 ESI

ECU

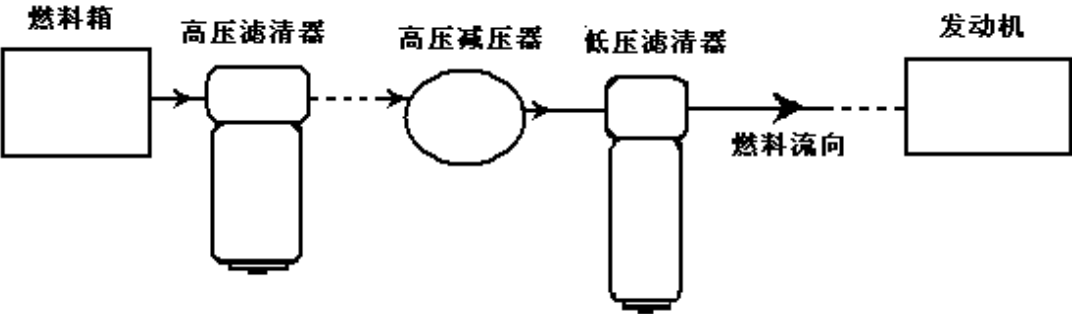
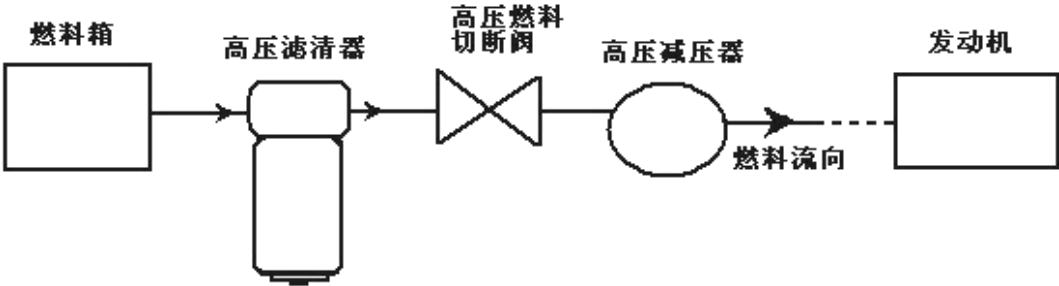
- 1
- 2
- 3
- 4

$\leq 15g$ $\pm 80^\circ$ 50 Hz 400Hz





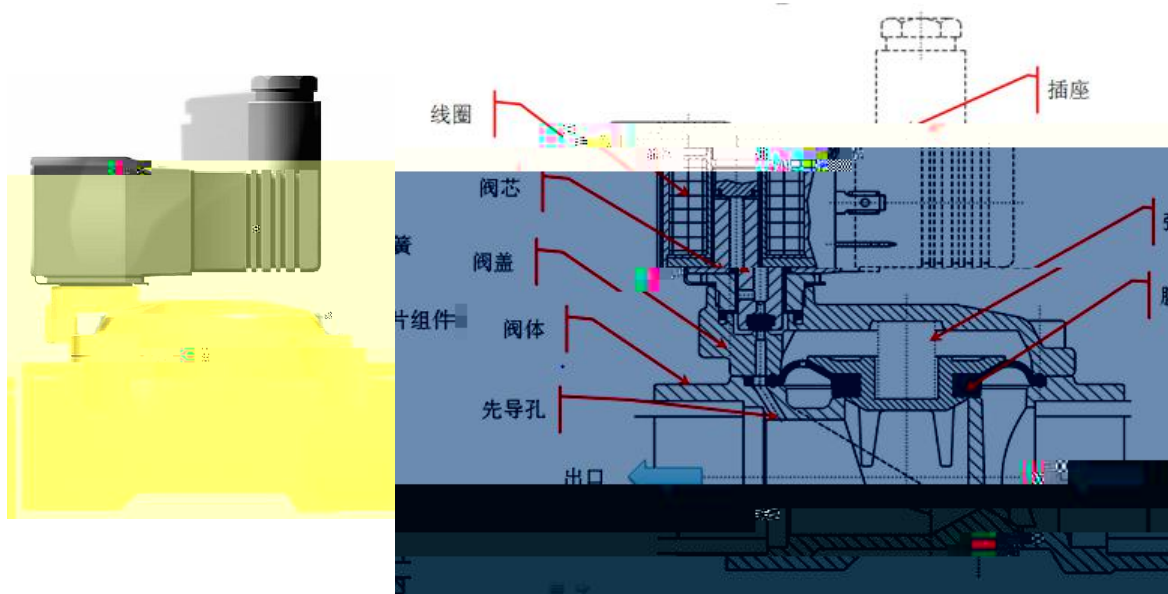
3.6.4.16 ESI /
/ CNG



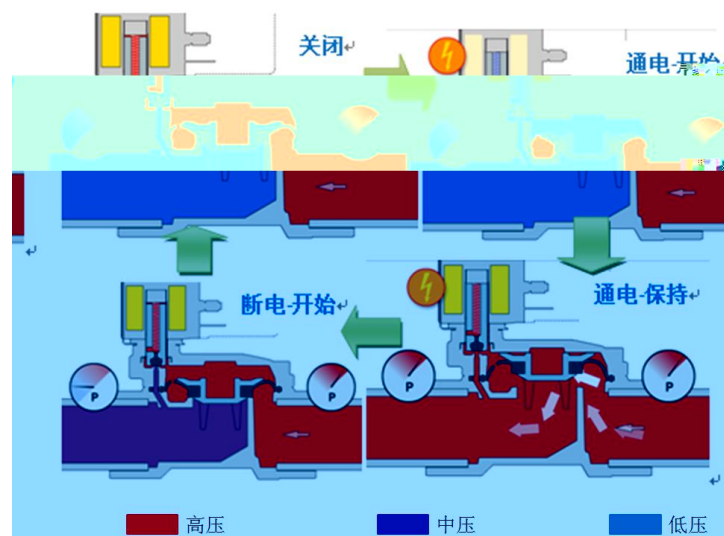
3

4

3.6.4.17 ESI



ESI



ESI

- 1)

-40~+120

2)

-40~+120

3)

≤ 30m/s² 25~500Hz

4)

5)

± 30 °

6)

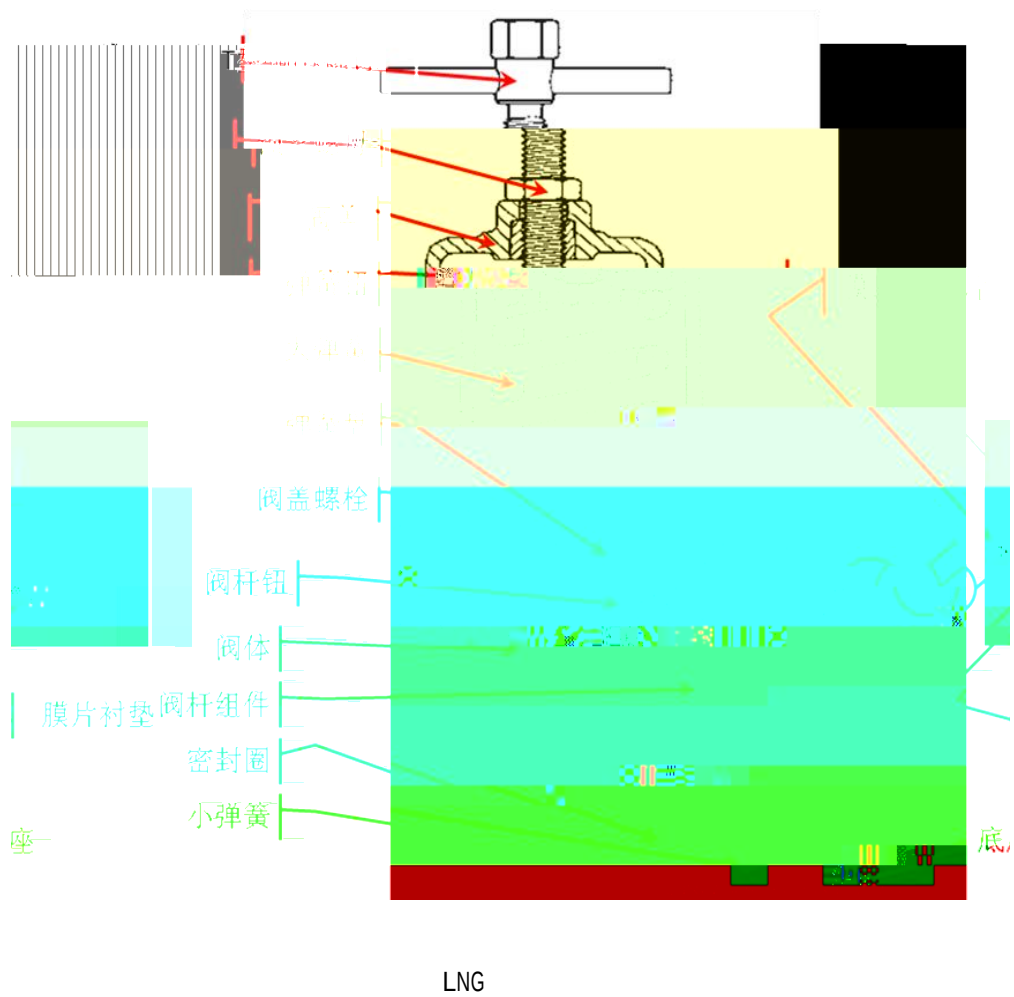
7)

8)

LNG
- Loctite 565

Loctite 567
- Loctite 592

3.6.4.18
ESI
LNG



- 1)

LNG

- 2) T
- 3) LNG
- 4) LNG

3.6.4.19

ECI

CFV

CFV Continuous Flow Valve

ECI

CFV

- 1)
 - CFV
 - CFV
- 2)
 - 2-3bar
 - CFV
 - LNG
- 3)
 - CFV
 - PWM
 - CFV

60~100psiG(
410~690kpaG)
5%
125lb/hr NG (300hp)
56.7kg/h
185lb/hr NG (450hp)
83.9kg/h
10
SAE J1616
>10ms
>30ms
-40~105 ° C
125 ° C
10%
5min
8G

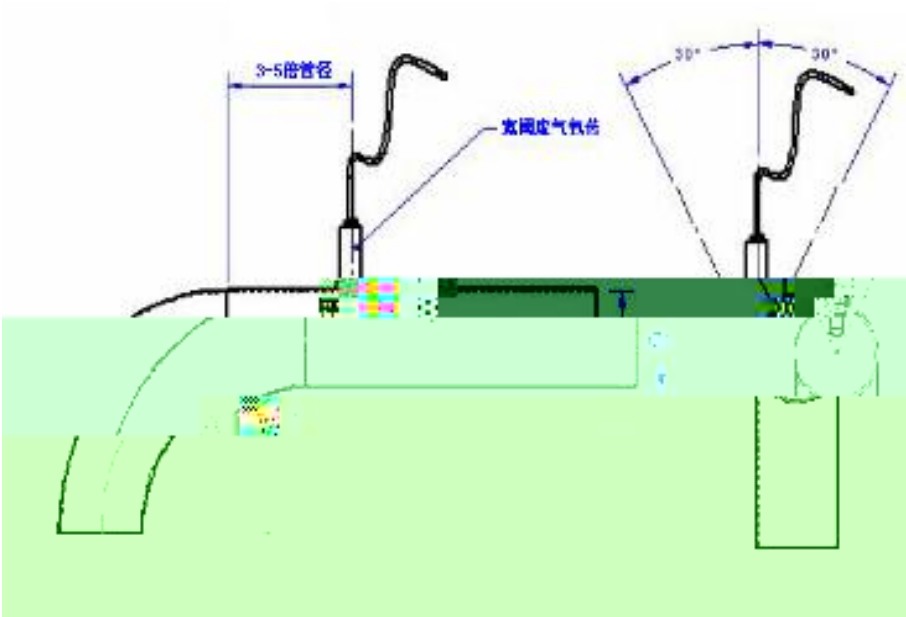


ECI

CFV

1
2 D
3

AD



(2



ECI “ Envirotech ”

CAN ECM

Envirotech

- a.
- b.
- c.
- d.

-40 105

Envirotech

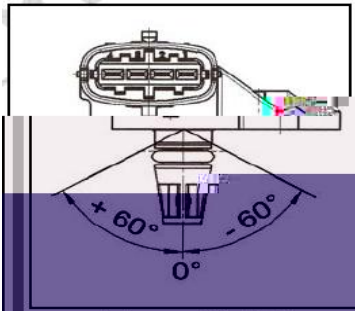
- a.
- b.
- c.

+/- 20

4

(3

/



ECI TMAP /

/ 60 ° 9.7mm 12.7mm.

ESI

1)

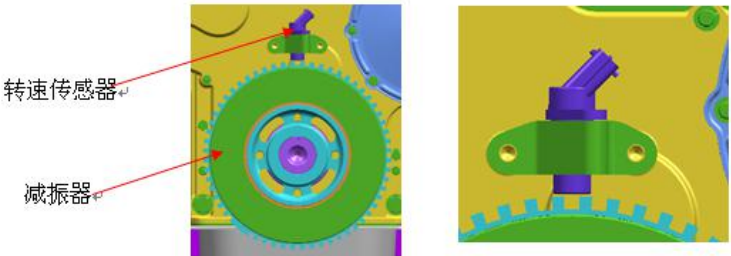
2

(4

ECM

ECM MAP

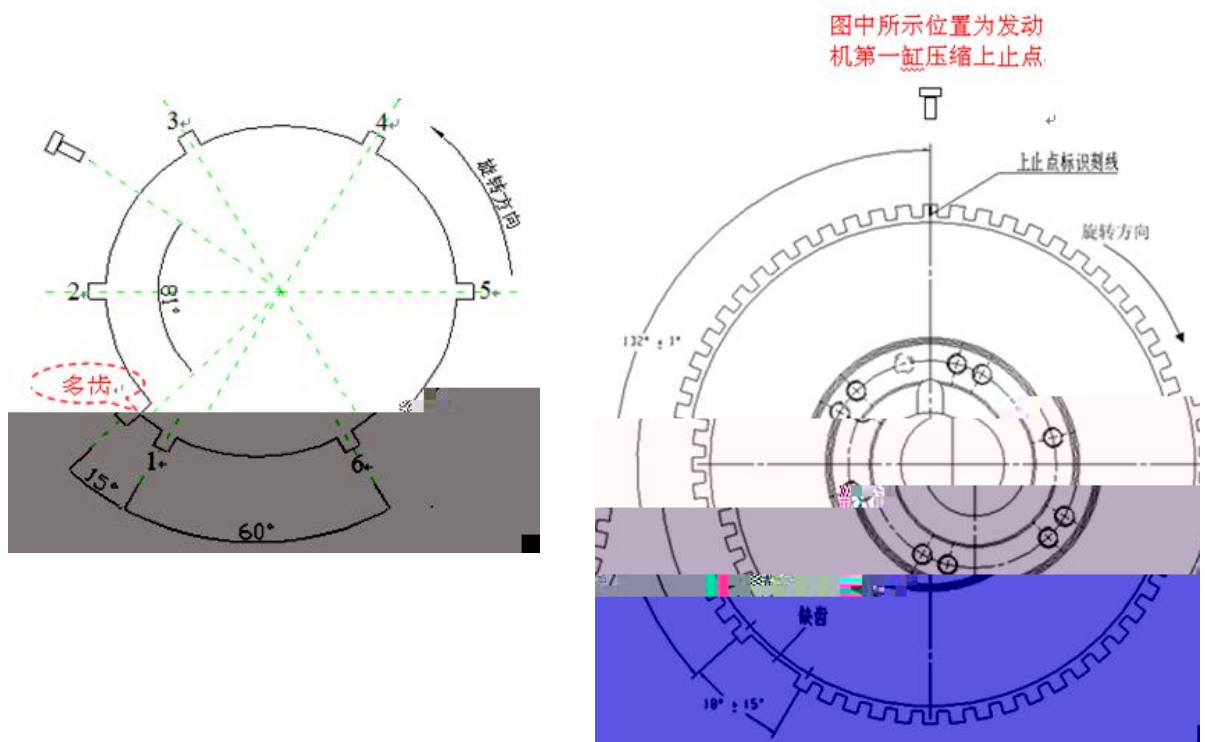
1 ± 0.3mm



曲轴转速信号盘安装示意图

1.0 ± 0.3mm

1.0 ± 0.3mm



(5)

ECM ECM

15 20 N.m



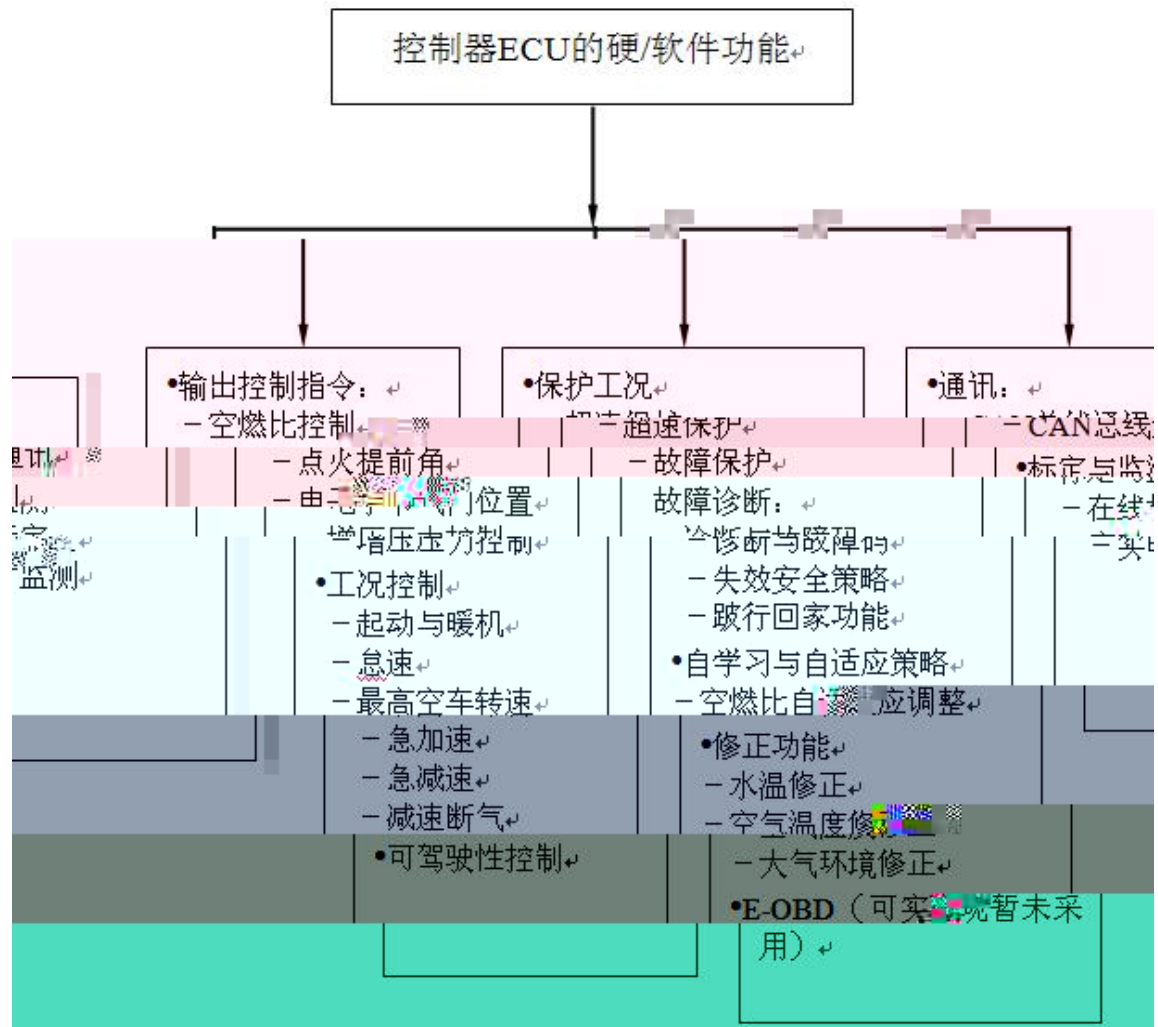
(6)

ECM

15 20 N.m



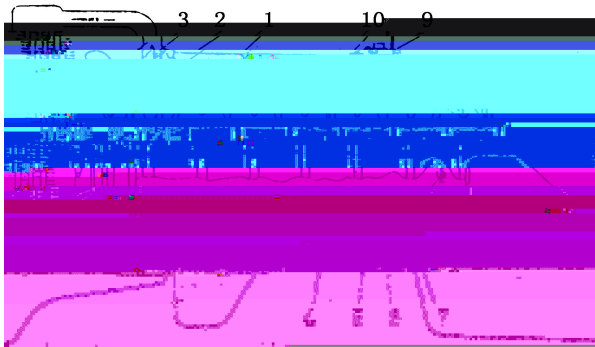
3.6.5



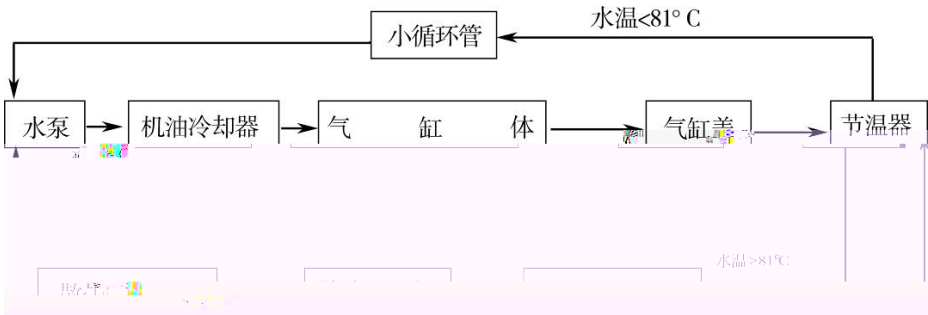
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6. 7. 8. 9. 10.



3.7.1

10000 11000 km

3.7.2

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3.7.3

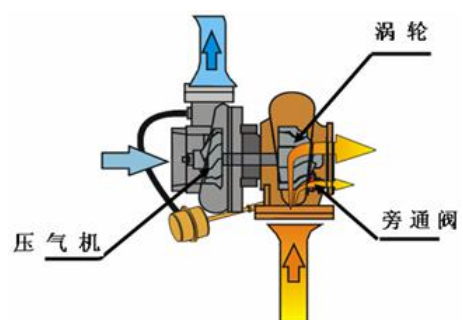
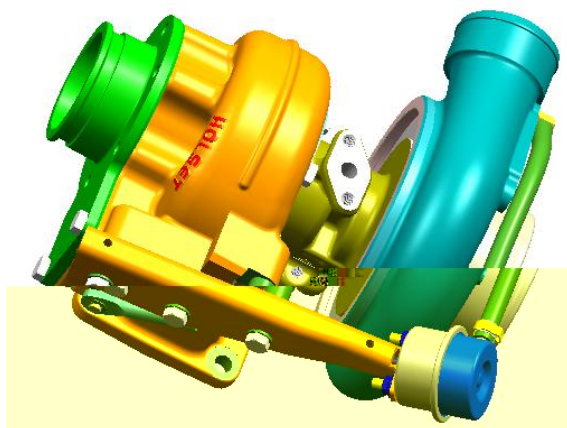
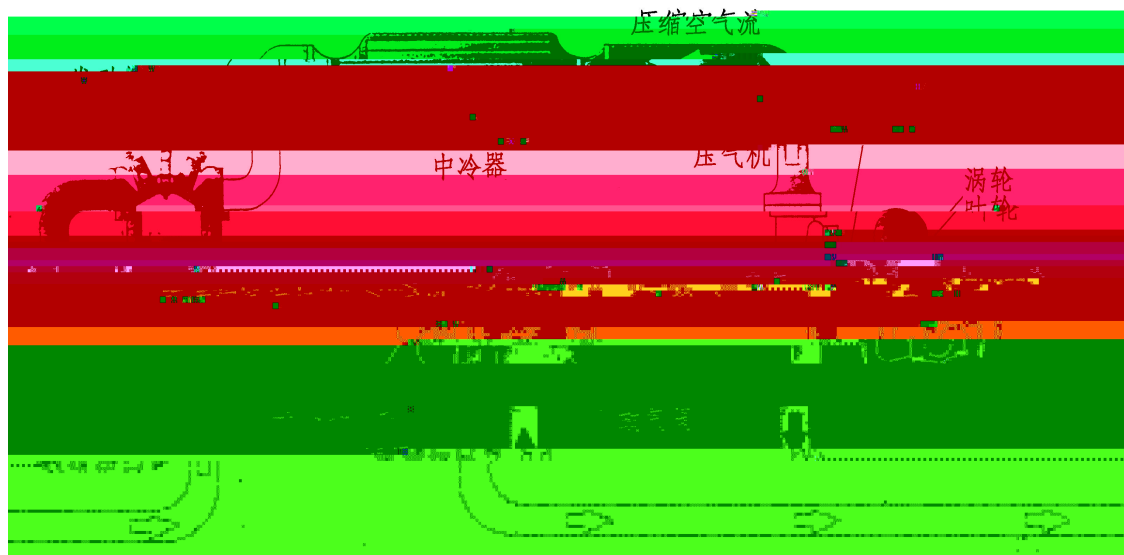
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3.8.1



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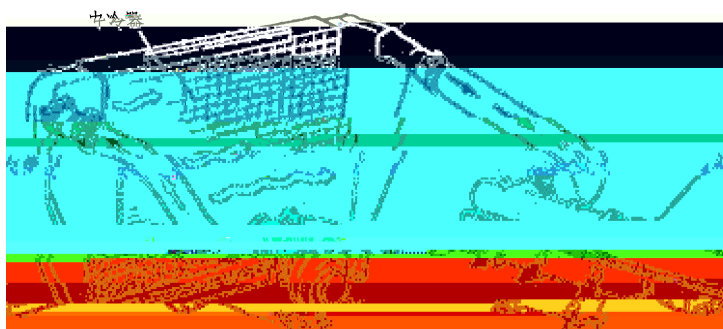
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3.8.2

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207KPa



3.9

3.9.1

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- 1. 2500 5000km
- 2. 100 200h
- 3.

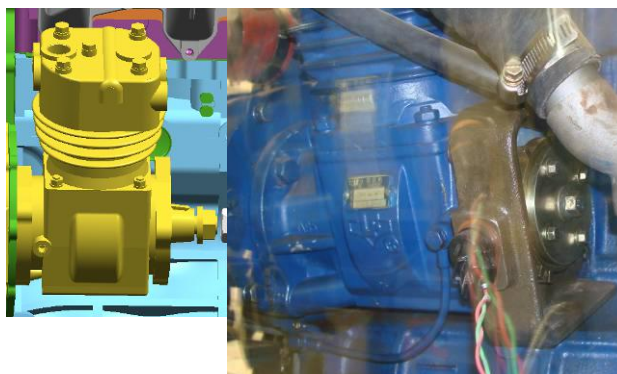
3.9.2

3.9.3

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3.10.1



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3.10.2



3.10.2.1

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3.10.2.2

- 1)0N68HM N46HM0N32HM
- 2)25 μ m“ ”
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- 5)3000km5000km
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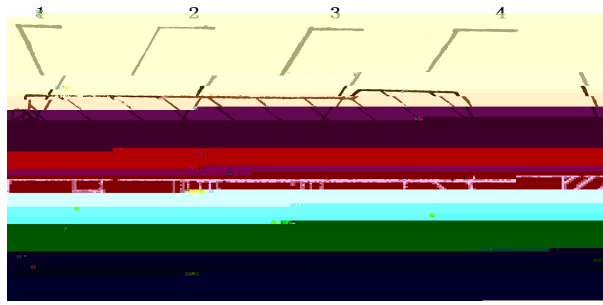
3.10.2.3

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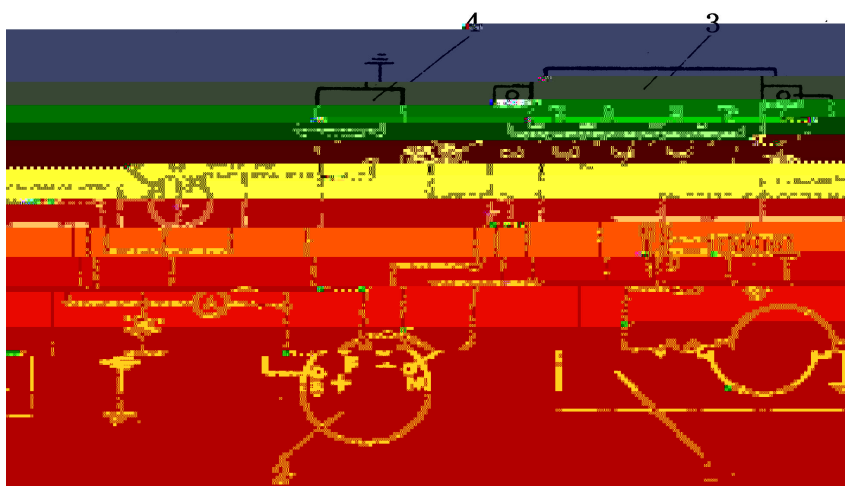
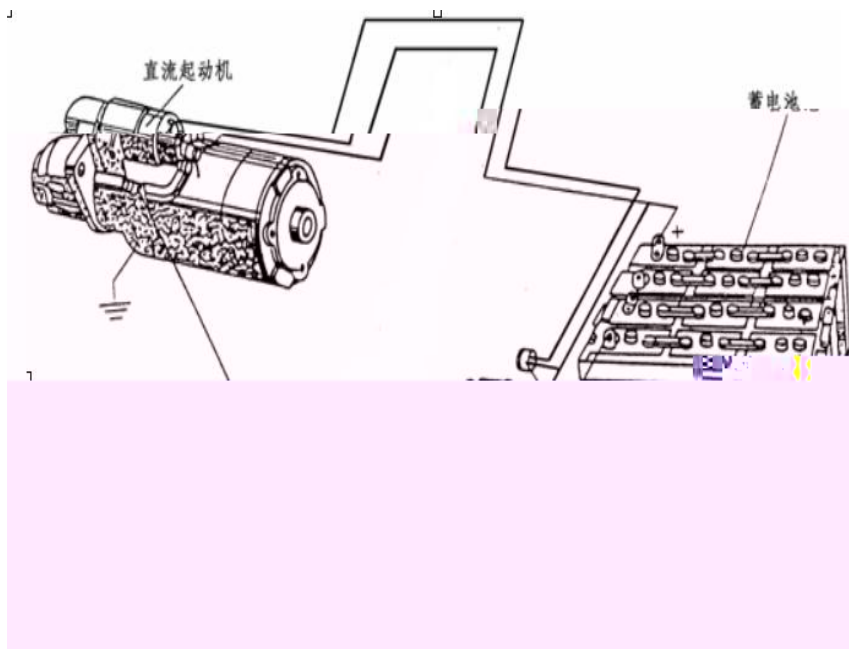
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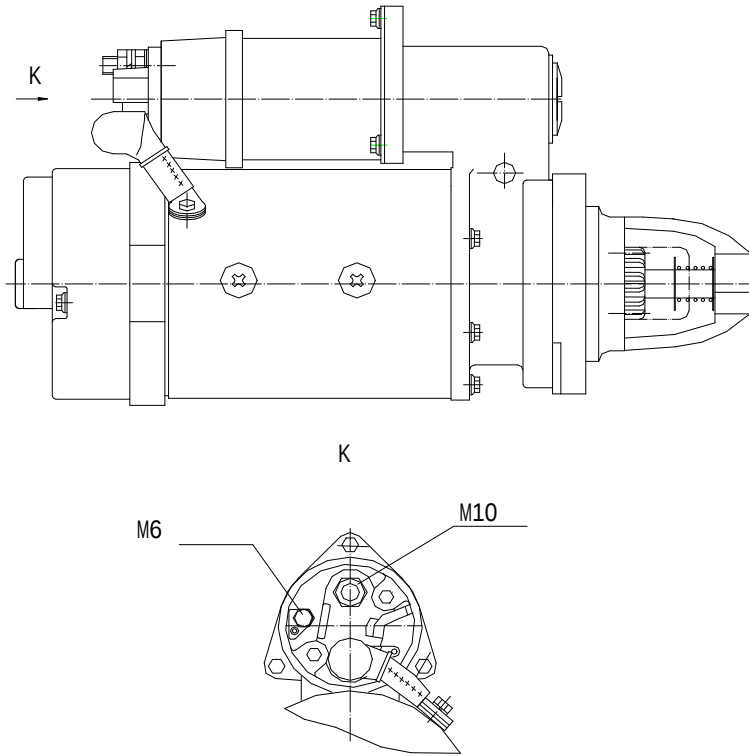
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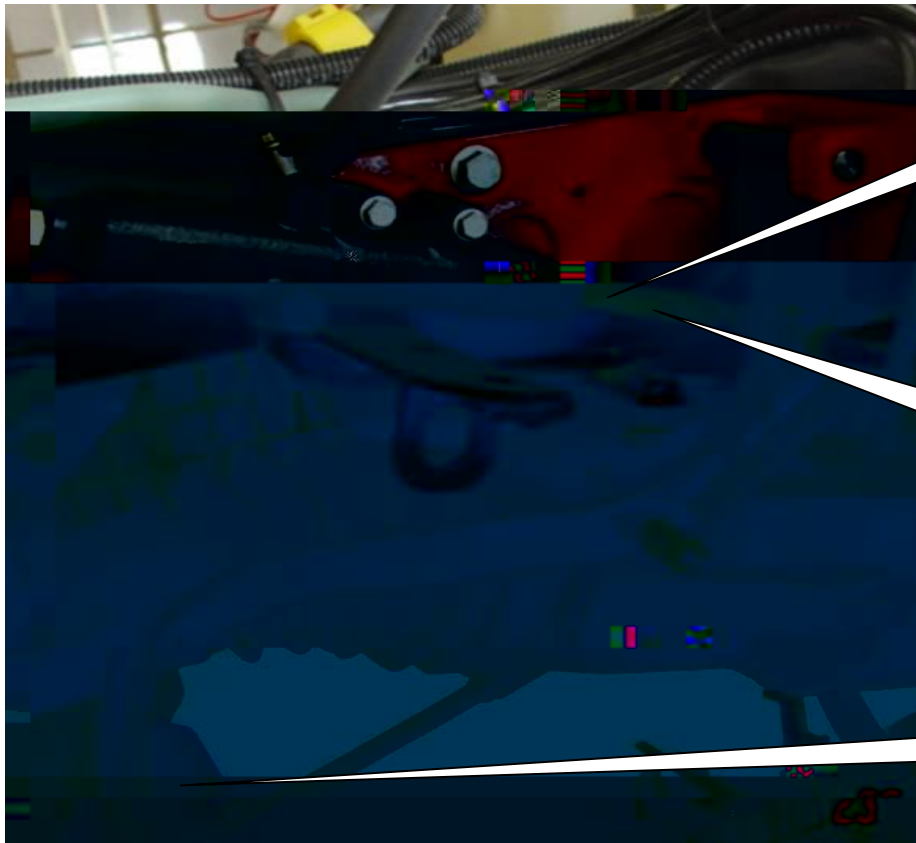
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1100r/min

1000-1100 /

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ECI	CNG	:	
108	MAP		MAP high pressure
107	MAP		MAP low voltage
238	TIP —		TIP high voltage
237	TIP —		TIP low voltage
183		FT	FT gasoline high
182			FT gasoline low
1131	—	WGP	WGP high voltage
1132	—		WGP low voltage
234			TIP control overboost
299			TIP control underboost
118		ECT	ECT / CHT high voltage
117			ECT / CHT low voltage
116			ECT higher than expected 1
217			ECT higher than expected 2
1521			CHT higher than expected 1
1522			CHT higher than expected 2
113		IAT	IAT high voltage
112			IAT low voltage
111			IAT higher than expected 1
127			IAT higher than expected 2
563		Battery Voltage	Voltage high

562			Voltage low
643	1#5V		5VE1 high voltage
642	1#5V		5VE1 low voltage
653	2#5V	5V External 5V	5VE2 high voltage
652	2#5V		5VE2 low voltage
			5VE1/2 simultaneous
1611			out-of-range
123			TPS1 high voltage
122			TPS1 low voltage
223			TPS2 high voltage
222			TPS2 low voltage
		TPS	
221			

1515			AUX analog PD1 high
1516			AUX analog PD1 low
1511	EPR	EPR	AUX analog PU1 high
1512	EPR		AUX analog PU1 low
1513			AUX analog PU2 high
1514			AUX analog PU2 low
219		Engine Speed	Max govern speed override
1111			Fuel rev limit
1112			Spark rev limit
1161	LPG		AL high LPG
1162	LPG		AL low LPG
1163	NG		AL high NG
1164	NG		AL low NG
1151	LPG		CL high LPG
1152	LPG		CL low LPG
1153	NG		CL high NG
1154	NG		CL low NG
134	EGO	EGO Sensors	EGO open / lazy pre-cat 1
160	UEGO		EGO open / lazy post-cat 2
686		Power Relay	Relay control ground short
685			Relay coil open
687			Relay coil short to power
1644	MIL	MIL	MIL control ground short
650	MIL		MIL open
1645	MIL		MIL control short to power
1171		Megajector	MegaJector delivery pressure higher than expected
1172			MegaJector delivery pressure 'lower than expected
1173			MegaJector comm lost
1174			MegaJector voltage supply high
1175			MegaJector voltage supply low

1176			MegaJector internal actuator fault detection
1177			MegaJector internal circuitry fault detection
1178			MegaJector internal comm 'fault detection
1183			MegaJector autozero / lockoff failed
342		Cam / Crank	Cam loss
337			Crank loss
341			Cam sync noise
336			Crank sync noise
16			Never crank synced at start
1626	CAN	J1939 CAN	CAN Tx failure
1627	CAN		CAN Rx failure
1628	CAN		CAN address conflict failure

ECI :LPG NG 4

1161	LPG
1162	LPG
1151	LPG
1152	LPG

CFV :

				SPN	FMI
0	P0108	MAP pressure high	108	106	16
1	P0107	MAP voltage low	107	106	4
2	P0238	TIP/TOP high voltage	238	102	3
3	P0237	TIP/TOP low voltage	237	102	4
4	P0236	TIP/TOP active	236	102	2
5	P0183	FT high voltage	183	174	3
6	P0182	FT low voltage	182	174	4
7	P0188	Gaseous fuel temperature sender high voltage	188	3468	3
8	P0187	Gaseous fuel temperature sender low voltage	187	3468	4

				SPN	FMI
9	P1131	WGP voltage high	1131	1192	3
10	P1132	WGP voltage low	1132	1192	4
11	P0234	Boost control over-boost failure	234	102	0
12	P0299	Boost control under-boost failure	299	102	1
13	P0118	ECT voltage high	118	110	3
14	P0117	ECT voltage low	117	110	4
15	P0116	ECT higher than expected stage 1	116	110	15
16	P0217	ECT higher than expected stage 2	217	110	0
17	P0113	IAT voltage high	113	105	3
18	P0112	IAT voltage low	112	105	4
19	P0111	IAT higher than expected stage 1	111	105	15
20	P0127	IAT higher than expected stage 2	127	105	0
21	P2428	EGT temperature high	2428	173	0
22	P2229	BP high pressure	2229	108	0
23	P0129	BP low pressure	129	108	1
24	P0563	Vbat voltage high	563	168	15
25	P0562	Vbat voltage low	562	168	17
26	P0643	Sensor supply voltage 1 high	643	1079	3
27	P0642	Sensor supply voltage 1 low	642	1079	4
28	P0653	Sensor supply voltage 2 high	653	1080	3
29	P0652	Sensor supply voltage 2 low	652	1080	4
30	P1611	Sensor supply voltage 1 and 2 out-of-range	1611	1079	31
31	P0123	TPS1 voltage high	123	51	3
32	P0122	TPS1 voltage low	122	51	4
33	P0223	TPS2 voltage high	223	3673	3
34	P0222	TPS2 voltage low	222	3673	4
35	P0221	TPS1-2 higher than expected	221	51	0
36	P0121	TPS1-2 lower than expected	121	51	1
37	P2112	Unable to reach higher TPS	2112	51	7
38	P2111	Unable to reach lower TPS	2111	51	7
39	P2135	TPS1/2 simultaneous voltages out-of-range	2135	51	31
40	P2122	FPP1 voltage high	2122	91	3
41	P2123	FPP1 voltage low	2123	91	4
42	P2128	FPP2 voltage high	2128	29	3

				SPN	FMI
43	P2127	FPP2 voltage low	2127	29	4
44	P2115	FPP1 higher than IVS	2115	91	0
45	P2139	FPP1 lower than IVS	2139	91	1
46	P2116	FPP2 higher than IVS	2116	29	0
47	P2140	FPP2 lower than IVS	2140	29	1
48	P2126	FPP1-2 higher than expected	2126	91	16
49	P2121	FPP1-2 lower than expected	2121	91	18
50	P2130	IVS stuck at-idle, FPP1/2 match	2130	558	5
51	P2131	IVS stuck off-idle, FPP1/2 match	2131	558	6
52	P1531	Gov1/2/3 interlock failure	1531	0	31
53	P1515	AUX analog Pull-Down 1 high voltage	1515	710	3
54	P1516	AUX analog Pull-Down 1 low voltage	1516	710	4
55	P1561	AUX analog Pull-Down 2 high voltage	1561	711	3
56	P1562	AUX analog Pull-Down 2 low voltage	1562	711	4
57	P1563	AUX analog Pull-Down 3 high voltage	1563	712	3
58	P1564	AUX analog Pull-Down 3 low voltage	1564	712	4
59	P1511	AUX analog Pull-Up 1 high voltage	1511	701	3
60	P1512	AUX analog Pull-Up 1 low voltage	1512	701	4
61	P1513	AUX analog Pull-Up 2 high voltage	1513	702	3
62	P1514	AUX analog Pull-Up 2 low voltage	1514	702	4
63	P1517	AUX analog Pull-Up 3 high voltage	1517	703	3
64	P1518	AUX analog Pull-Up 3 low voltage	1518	703	4
65	P1541	AUX analog Pull-Up/Down 1 high voltage	1541	704	3
66	P1542	AUX analog Pull-Up/Down 1 low voltage	1542	704	4
67	P1543	AUX analog Pull-Up/Down 2 high voltage	1543	705	3
68	P1544	AUX analog Pull-Up/Down 2 low voltage	1544	705	4
69	P1545	AUX analog Pull-Up/Down 3 high voltage	1545	706	3
70	P1546	AUX analog Pull-Up/Down 3 low voltage	1546	706	4
71	P1547	AUX analog Pull-Up/Down 4 high voltage	1547	713	3
72	P1548	AUX analog Pull-Up/Down 4 low voltage	1548	713	4
73	P1551	AUX digital 1 high voltage	1551	707	3
74	P1552	AUX digital 1 low voltage	1552	707	4
75	P1553	AUX digital 2 high voltage	1553	708	3
76	P1554	AUX digital 2 low voltage	1554	708	4

				SP	FMI
77	P055	Oil pressure sender high pressure	55	109	3
78	P056	Oil pressure sender low pressure	56	7	4
79	P0219	RPM higher than max allowed govern speed	219	515	15
80	P0134	ORPM above fuel rev limit level	111	515	16
81	P1112	RPM above spark rev limit level	1112	515	0
82	P0524	Oil pressure sender low pressure stage 2	524	100	1
83	P0521	Oil pressure sender high pressure	521	100	0
84	P0523	Oil pressure sender high voltage	523	100	3
85	P0522	Oil pressure sender low voltage	522	100	4
86	P0520	Oil pressure sender low pressure stage 1	520	100	18
87	P1161	Adaptive-learn LPG high	1161	4237	0
88	P1162	Adaptive-learn LPG low	1162	4237	1
89	P1163	Adaptive-learn NG high	1163	4237	0
90	P1164	Adaptive-learn NG low	1164	4237	1
91	P1151		1151	4236	0
92	P1152	Closed-loop LPG low	1152	4236	1
93	P1153	Closed-loop NG high	1153	4236	0
94	P1154	Closed-loop NG low	1154	4236	1
95	P1165	Catalyst inactive on LPG	1165	3050	11
96	P1166	Catalyst inactive on NG	1166	3050	11
97	P0133	EG01 open / lazy - "ive f"			

				SPN	FMI
111	P8911	UEGO sense cell voltage low	8911	3217	4
112	P8912	UEGO pump voltage at high drive limit	8912	3225	3
113	P8913	UEGO pump voltage at low drive limit	8913	3225	4
114	P8914	UEGO sense cell slow to warm up	8914	3222	10
115	P8915	UEGO pump cell slow to warm up	8915	3225	10
116	P8916	UEGO sense cell impedance high	8916	3222	0
117	P8917	UEGO pump cell impedance high	8917	3225	0
118	P8918	UEGO pump cell impedance low	8918	3225	1
119	P2300	Spark coil 1 primary open or short to ground	2300	1268	5
120	P2303	Spark coil 2 primary open or short to ground	2303	1269	5
121	P2306	Spark coil 3 primary open or short to ground	2306	1270	5
122	P2309	Spark coil 4 primary open or short to ground	2309	1271	5
123	P2312	Spark coil 5 primary open or short to ground	2312	1272	5
124	P2315	Spark coil 6 primary open or short to ground	2315	1273	5
125	P2318	Spark coil 7 primary open or short to ground	2318	1274	5
126	P2321	Spark coil 8 primary open or short to ground	2321	1275	5
127	P2324	Spark coil 9 primary open or short to ground	2324	1276	5
128	P2327	Spark coil 10 primary open or short to ground	2327	1277	5
129	P2301	Spark coil 1 primary shorted	2301	1268	6
130	P2304	Spark coil 2 primary shorted	2304	1269	6
131	P2307	Spark coil 3 primary shorted	2307	1270	6
132	P2310	Spark coil 4 primary shorted	2310	1271	6
133	P2313	Spark coil 5 primary shorted	2313	1272	6
134	P2316	Spark coil 6 primary shorted	2316	1273	6
135	P2319	Spark coil 7 primary shorted	2319	1274	6
136	P2322	Spark coil 8 primary shorted	2322	1275	6
137	P2325	Spark coil 9 primary shorted	2325	1276	6
138	P2328	Spark coil 10 primary shorted	2328	1277	6
139	P0686	Power relay ground short	686	1485	4
140	P0685	Power relay coil open	685	1485	5
141	P0687	Power relay coil short to power	687	1485	3
142	P0616	Start relay ground short	616	1321	4
143	P0615	Start relay coil open	615	1321	5
144	P0617	Start relay coil short to power	617	1321	3

				SPN	FMI
145	P1644	MIL control ground short	1644	1213	4
146	P0650	MIL open	650	1213	5
147	P1645	MIL control short to power	1645	1213	3
148	P2618	Tach output ground short	2618	645	4
149	P2619	Tach output short to power	2619	645	3
150	P1171	EPR/CFV delivery pressure higher than expected	1171	520260	0
151	P1172	EPR/CFV delivery pressure lower than expected	1172	520260	1
152	P1173	EPR/CFV comm lost	1173	520260	31
153	P1174	EPR/CFV voltage supply high	1174	520260	3
154	P1175	EPR/CFV voltage supply low	1175	520260	4
155	P1176	EPR/CFV internal actuator fault detection	1176	520260	12
156	P1177	EPR/CFV internal circuitry fault detection	1177	520260	12
157	P1178	EPR/CFV internal comm fault detection	1178	520260	12
158	P1183	EPR/CFV auto-zero / lock-off failure	1183	520803	31
159	P0916	Shift tactuator feedback out-of-range	916	520226	3
160	P0919	Shift unable to reach desired gear	919	520226	7
161	P0920	Shift actuator or drive circuit failed	920	520226	31
162	P1631	PWM1-Gauge1 open / ground short	1631	697	5
163	P1632	PWM1-Gauge1 short to power	1632	697	3
164	P1633	PWM2-Gauge2 open / ground short	1633	698	5
165	P1634	PWM2-Gauge2 short to power	1634	698	3
166	P1635	PWM3-Gauge3 open / ground short	1635	699	5
167	P1636	PWM3-Gauge3 short to power	1636	699	3
168	P1637	PWM4 open / ground short	1637	700	5
169	P1638	PWM4 short to power	1638	700	3
170	P1639	PWM5 open / ground short	1639	924	5
171	P1640	PWM5 short to power	1640	924	3
172	P1661	PWM6 open / ground short	1661	925	5
173	P1662	PWM6 short to power	1662	925	3
174	P1663	PWM7 open / ground short	1663	926	5
175	P1664	PWM7 short to power	1664	926	3
176	P1665	PWM8 open / ground short	1665	2646	5
177	P1666	PWM8 short to power	1666	2646	3
178	P1669	PWM9 open / ground short	1669	2647	5

				SPN	FMI
179	P1670	PWM9 short to power	1670	2647	3
180	P502	Roadspeed input loss of signal	502	84	8
181	P0342	Loss of CAM input signal	342	723	4
182	P0341	CAM input signal noise	341	723	2
183	P0336	CRANK input signal noise	336	636	2
184	P0337	Crank signal loss	337	636	4
185	P0016	rank and/or cam could not synchronize during start	16	636	8
186	P0606	Microprocessor failure - COP	606	629	31
187	P1612	Microprocessor failure - RTI 1	1612	629	31
188	P1613	Microprocessor failure - RTI 2	1613	629	31
189	P1614	Microprocessor failure - RTI 3	1614	629	31
190	P1615	Microprocessor failure - A/D	1615	629	31
191	P1616	Microprocessor failure - Interrupt	1616	629	31
192	P0601	Microprocessor failure - FLASH	601	628	13
193	P0604	Microprocessor failure - RAM	604	630	12
194	P1625	J1939 shutdown request	1625	1110	31
195	P1626	CAN-J1939 Tx fault	1626	639	12
196	P1627	CAN-J1939 Rx fault	1627	639	12
197	P1628	J1939 CAN address / engine-number conflict	1628	639	13
198	P1629	J1939 TSC1 message receipt loss	1629	695	9
199	P1630	J1939 ETC message receipt loss	1630	91	19
200	P1651	J1939 ETC message receipt loss while in-gear	1651	91	9

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5.4.1

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5.4.6

5.4.6.1

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- 2) 50000 55000km 800
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- 4) 2500km

5.4.6.2

5.4.6.2.1

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- 2)
- 3) ≤ 3bar
- 4)

5.4.6.2.2

18V 34V

22V 26V

5.4.6.2.3

5.4.6.3

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- 3)10m
- 4)
- 5)

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- 7)
- 8)

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2	✧				
				✓	
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