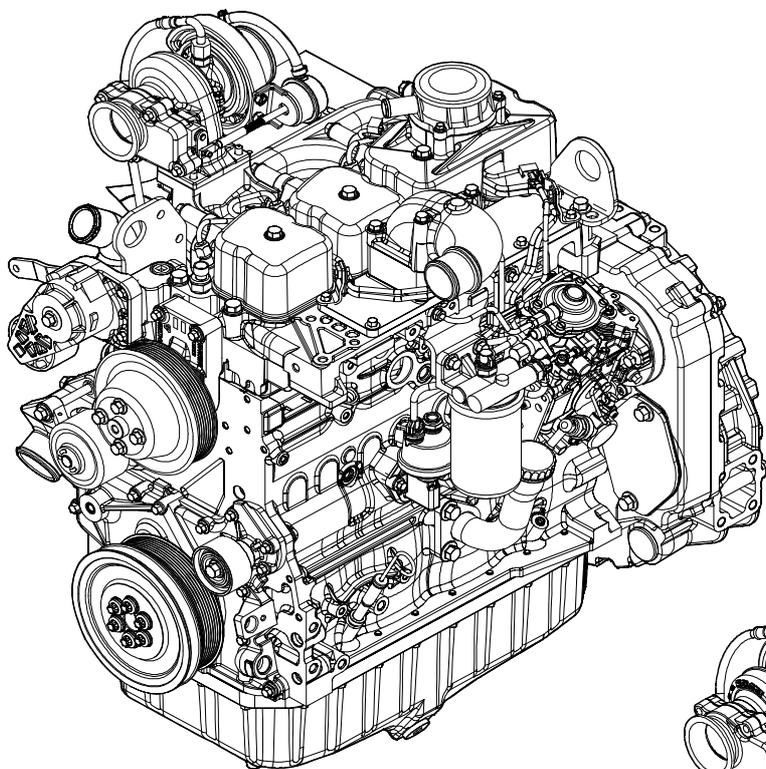
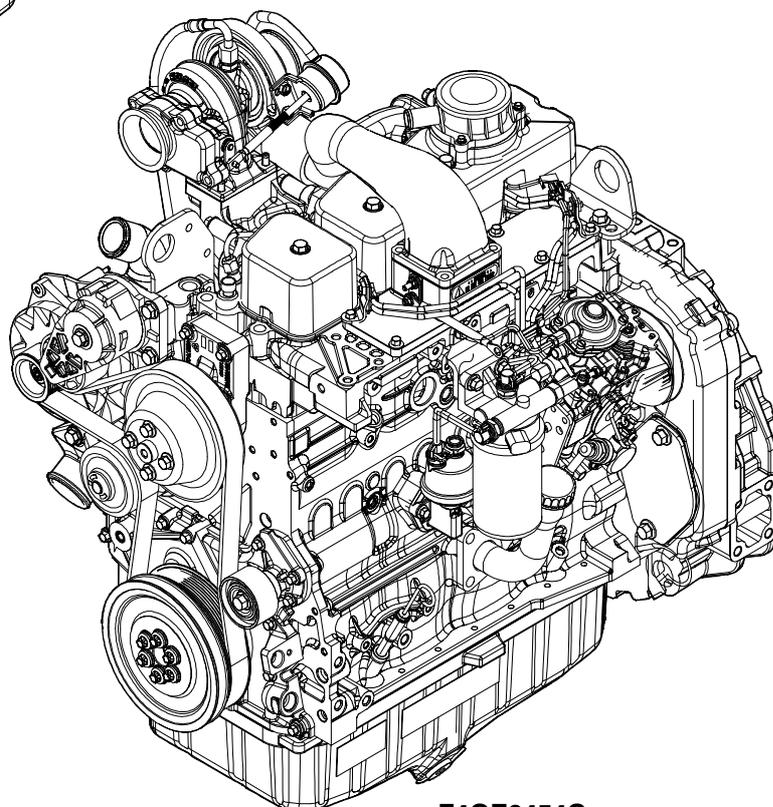


# REPAIR MANUAL FOR ENGINES

## F4GE0454C - F4GE0484G



**F4GE0484G**



**F4GE0454C**

*Every information, illustration and specification contained in the present manual is based on the most recent information available at the time of printing.*

*CNH France S.A. reserves the right to modify the text at any time without prior communication.*

Sample of manual. Download All 116 pages at:

<https://www.aresairmanual.com/downloads/case-f4ge0454cf4ge0484g-engine-service-repair-workshop-manual/>

Product: Case F4GE0454C,F4GE0484G Engine Service Repair Workshop Manual  
Full Download: <https://www.arepairmanual.com/downloads/case-f4ge0454cf4ge0484g-engine-service-repair-workshop-manual/>

Sample of manual. Download All 116 pages at:  
<https://www.arepairmanual.com/downloads/case-f4ge0454cf4ge0484g-engine-service-repair-workshop-manual/>

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## INTRODUCTION

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### TO THE READER

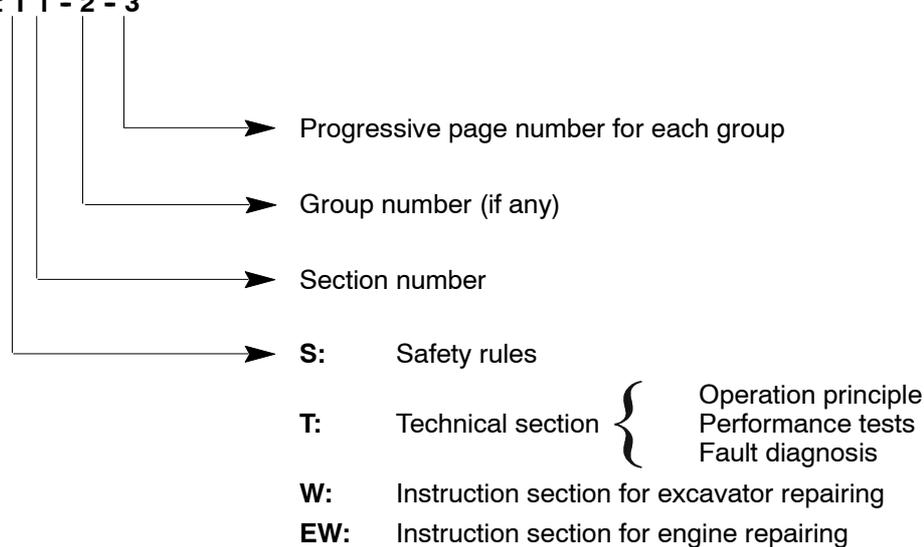
- This manual was written for a skilled technician and contains all the technical information needed to repair this vehicle.
- Read this manual carefully for the information concerning repairing operations.

### FURTHER REFERENCES

#### PAGE NUMBER

- Every page carries a number on the top right corner. Every page contains the following information:

Example: T 1 - 2 - 3




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### SYMBOLS

This manual contains safety warning symbols and indications referring to possible injuries or vehicle damages.



This symbol regards safety.

Use great care when you see this symbol because possible injuries to the personnel may occur. Strictly observe the precautions marked with this symbol.

The safety warning symbol is used also to draw attention on the weight of a component or an element. Make sure you are always using the right equipment and lifting techniques when handling heavy loads, in order to prevent injuries or damages.

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## UNIT OF MEASURE

This manual adopts the units of measure based on the International System.

The MKSA system units of measure are indicated within brackets after the units of measure of the International System.

Example: 24.5 Mpa (250 kgf/cm<sup>2</sup>).

The following table converts the International System units of measure in some of the main units belonging to other systems.

Quantity	To convert from (IS)	in (Others)	Multiply by	Quantity	To convert from (IS)	in (Others)	Multiply by
Length	mm	in	0.03937	Pressure	MPa	kgf/cm <sup>2</sup>	10.197
	mm	ft	0.003281		MPa	psi	145.0
Volume	L	US gal	0.2642	Power	kW	PS	1.360
	L	US qt	1.057		kW	HP	1.341
	m <sup>3</sup>	yd <sup>3</sup>	1.308	Temperature	°C	°F	°C x 1.8 + 32
Mass	kg	lb	2.205	Speed	km/h	mph	0.6214
Force	N	kgf	0.10197		min <sup>-1</sup>	rpm	1.0
	N	lbf	0.2248	Capacity	L/min	US gpm	0.2642
Torque	N.m	kgf.m	0.10197		mL/rev	cc/rev	1.0
	N.m	lbf.ft	0.7375				

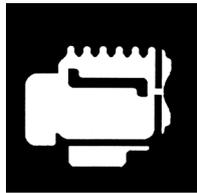
# ENGINES

## INDEX OF SECTIONS



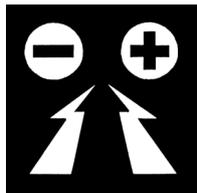
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EW-1-1



**Section 2** - Engine F4GE0454C - F4GE0484G overhaul

EW-2-1



**Section 3** - Recharging and start-up

EW-3-1



# DIAGNOSTICS



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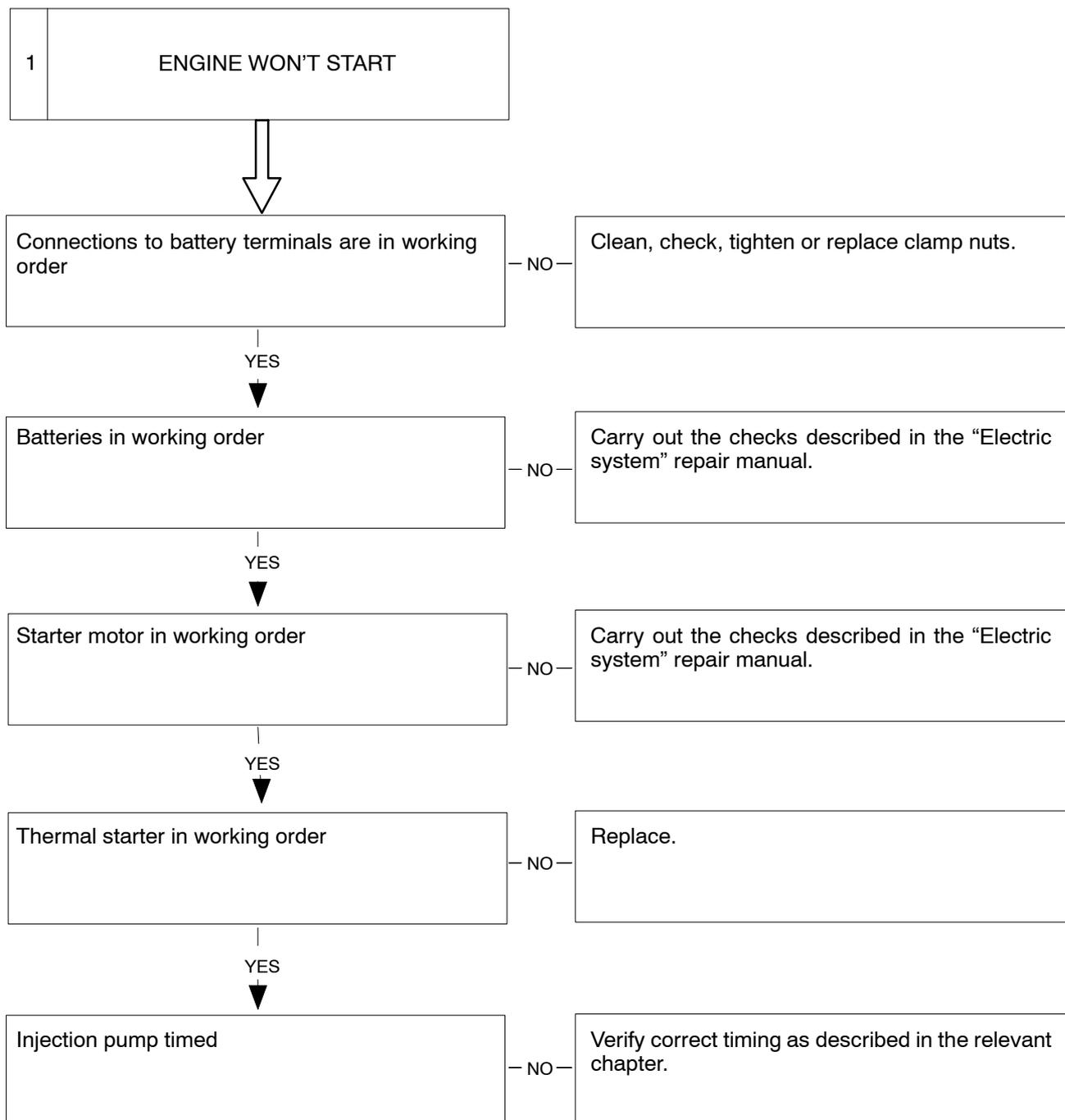
Diagnostics .....	EW-1-3
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DIAGNOSTICS

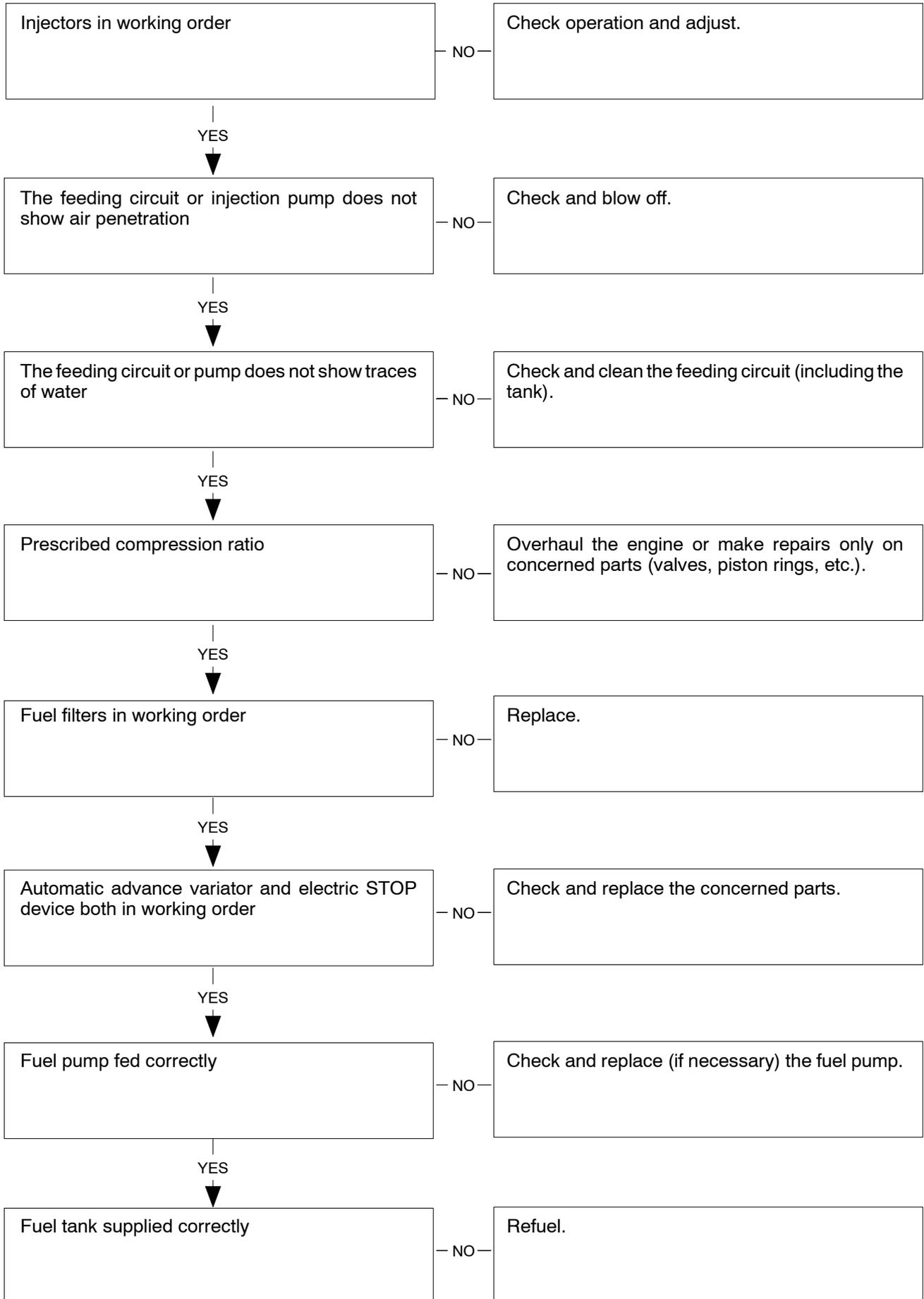
Main engine operating anomalies:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1 - Engine won't start;</li> <li>2 - Engine overheats;</li> <li>3 - Engine lacks power and works erratically;</li> <li>4 - Engine exhaust smoke black or dark grey;</li> <li>5 - Engine exhaust smoke grey (verging on white);</li> </ul> | <ul style="list-style-type: none"> <li>6 - Engine exhaust smoke light blue;</li> <li>7 - Engine knocks irregularly;</li> <li>8 - Engine stops;</li> <li>9 - Engine exceeds max. revs number;</li> <li>10 - Excessive or insufficient oil pressure;</li> <li>11 - Excessive fuel consumption;</li> <li>12 - Engine won't stop.</li> </ul> |
|--|--|

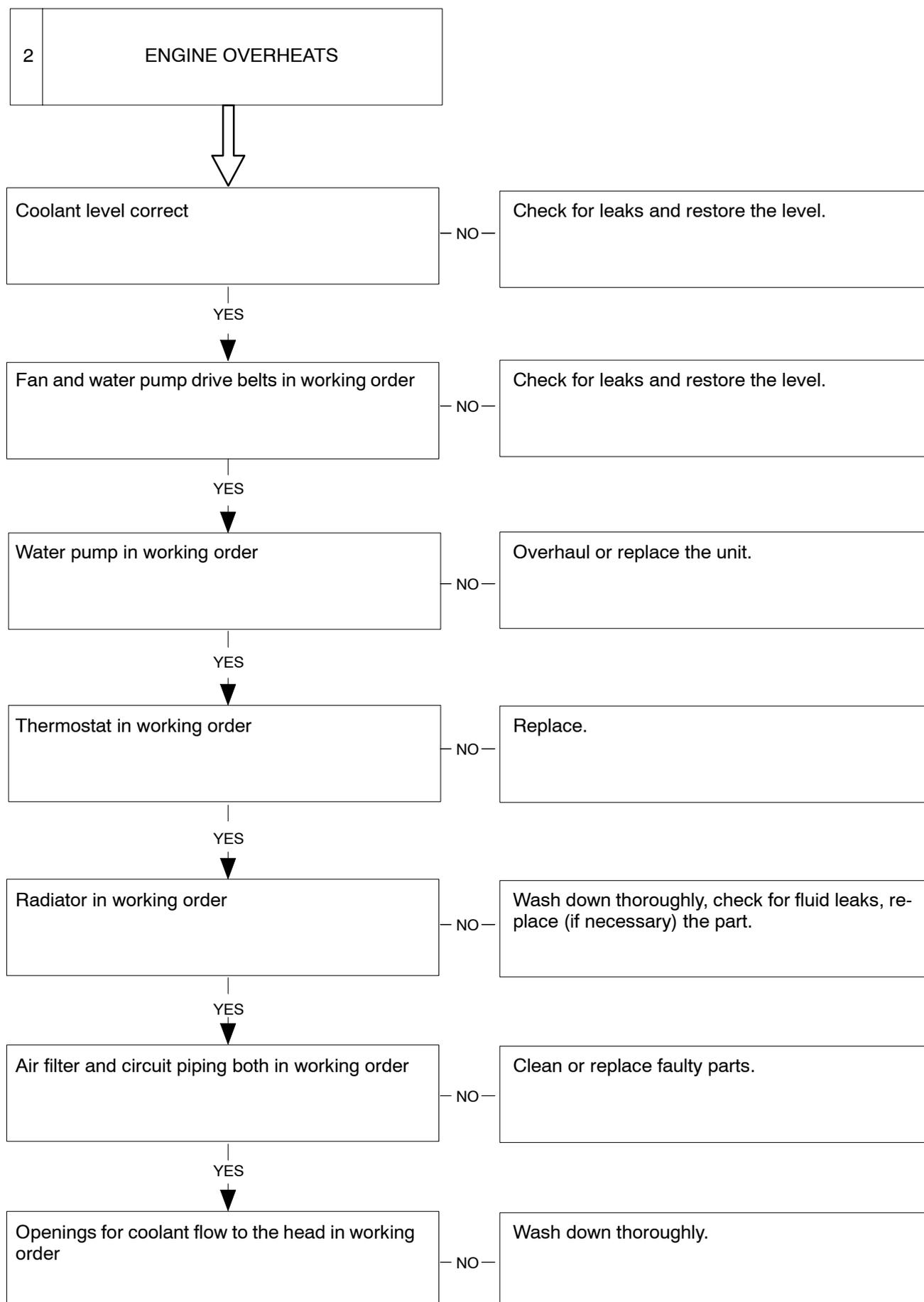


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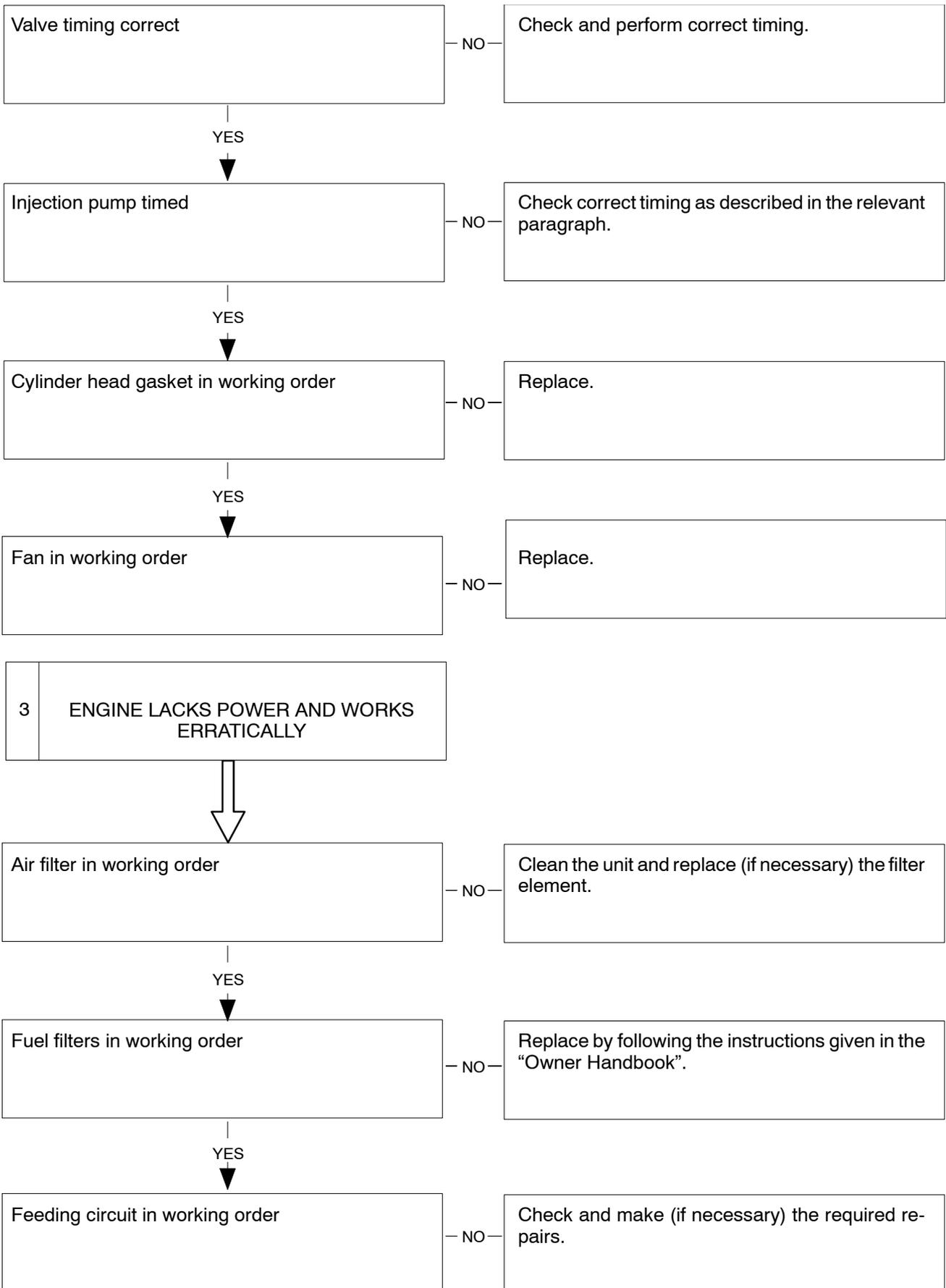
DIAGNOSTICS



## DIAGNOSTICS



DIAGNOSTICS

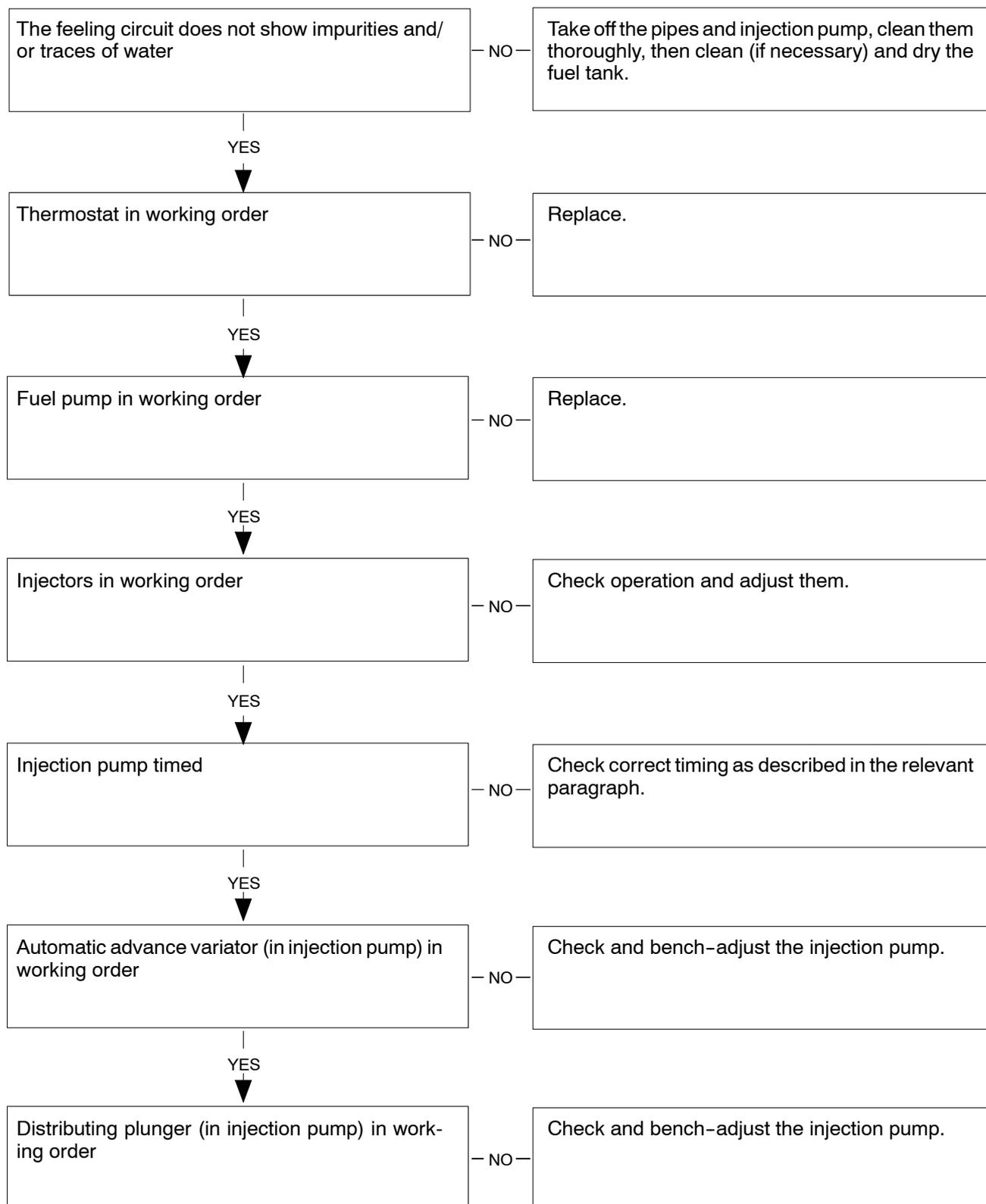


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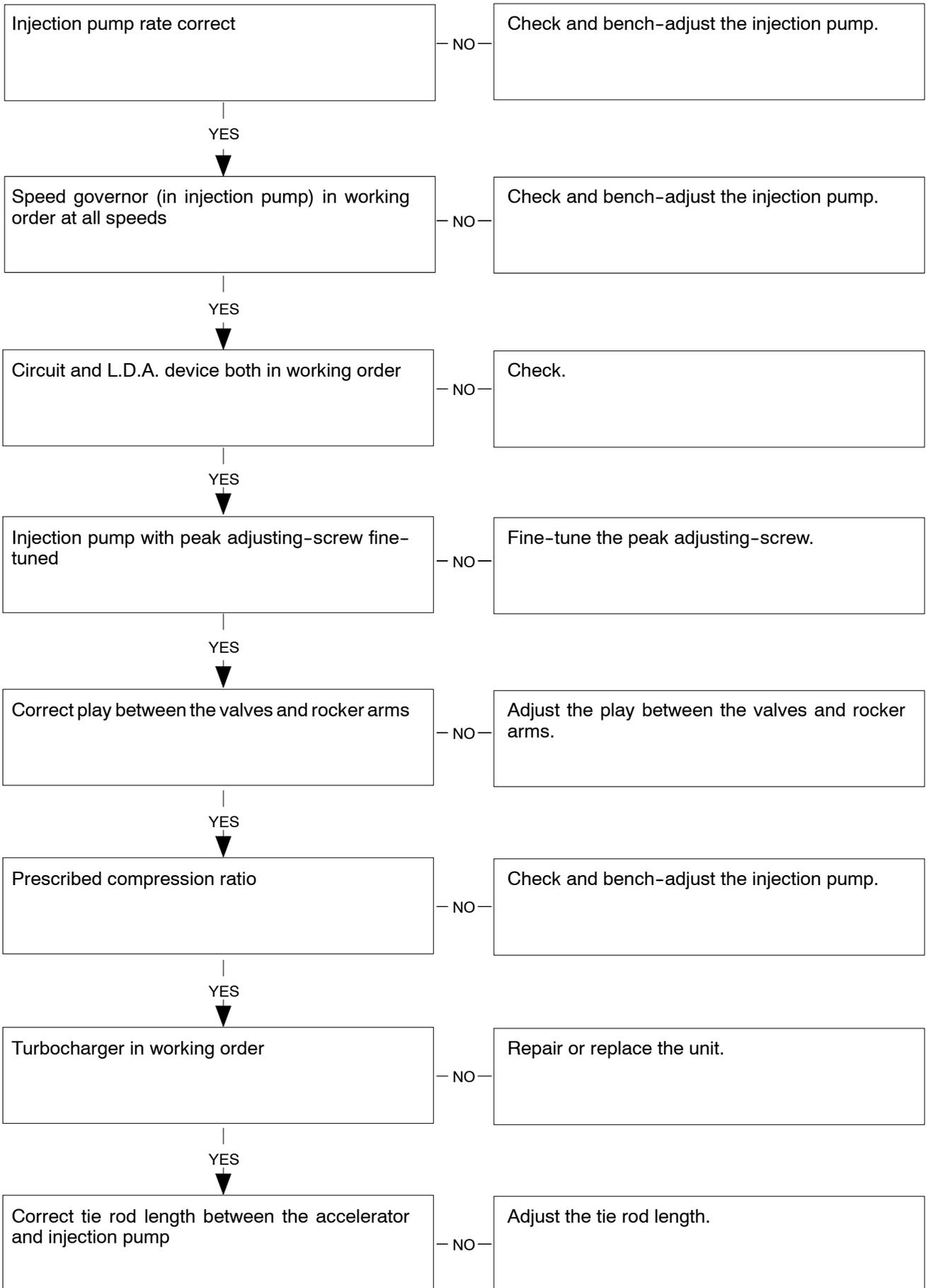
**DIAGNOSTICS**


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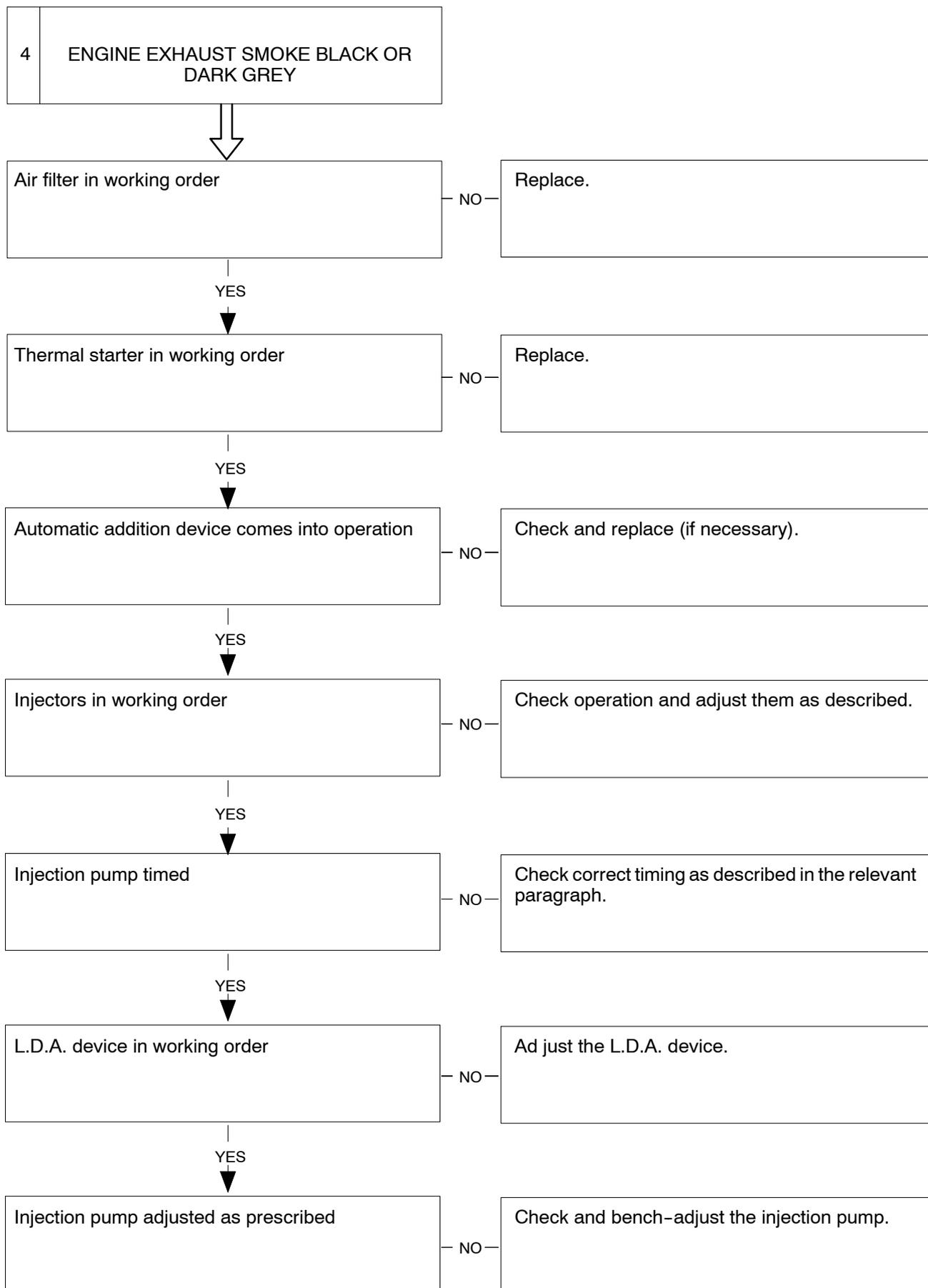


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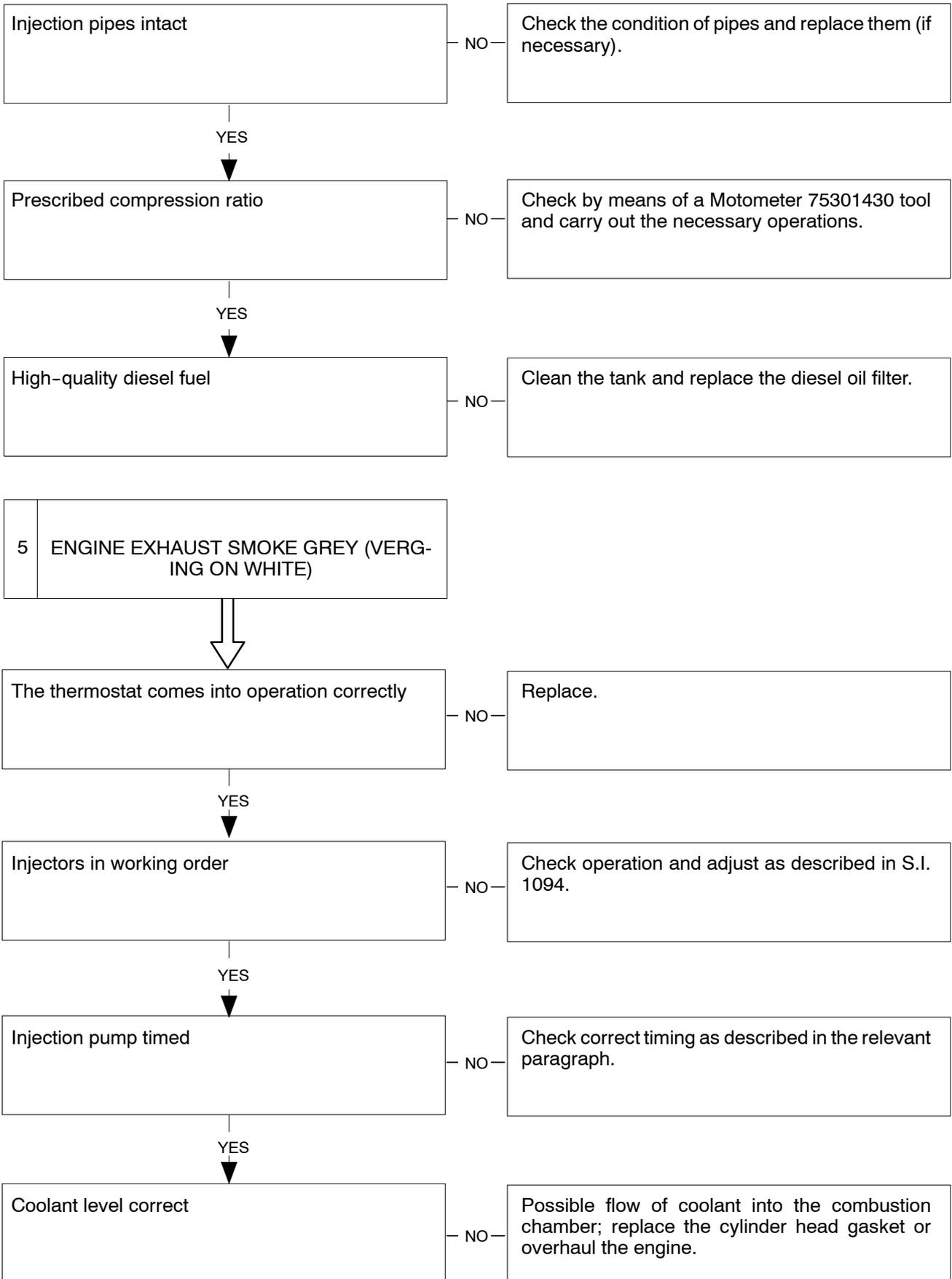


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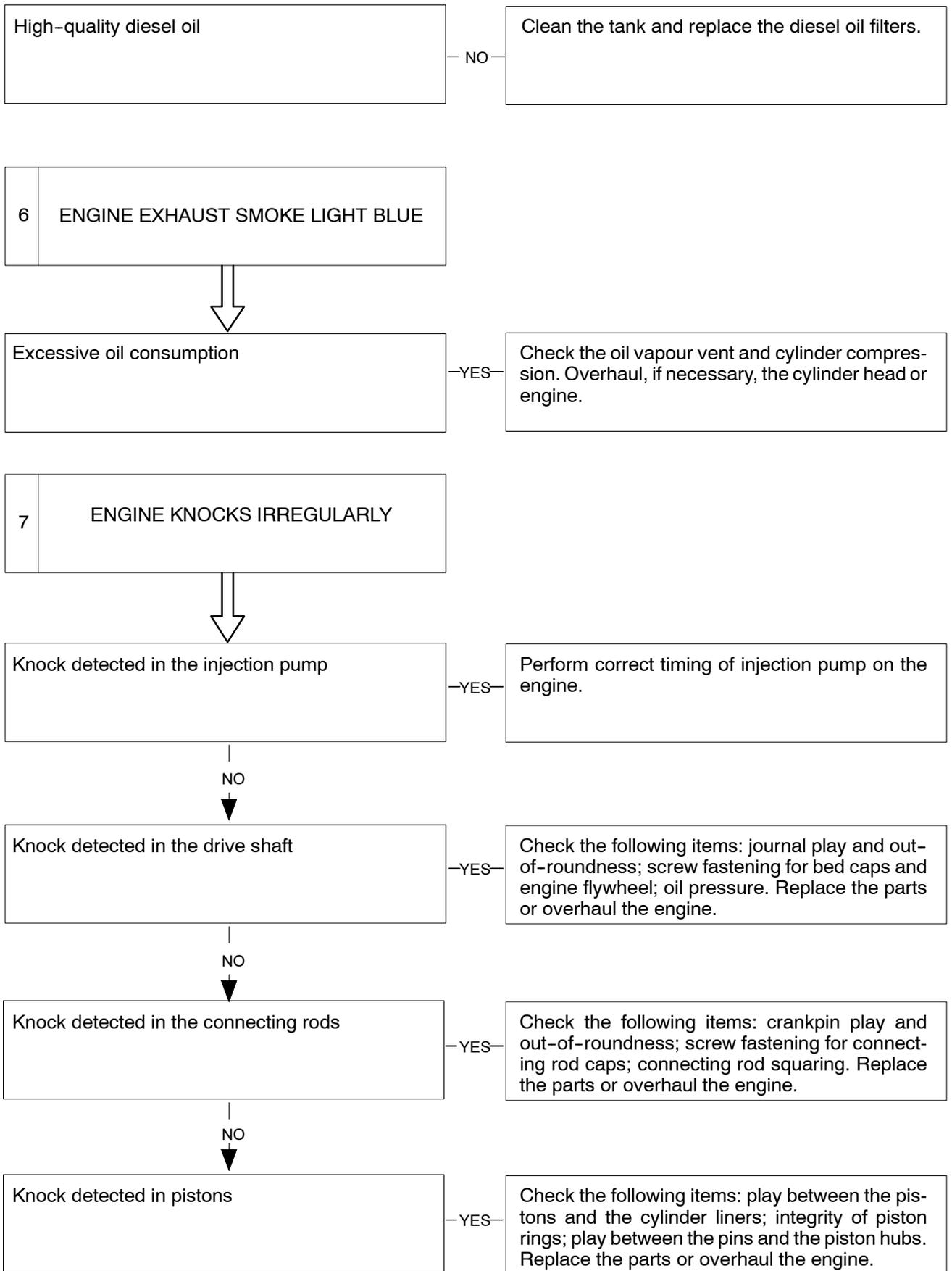
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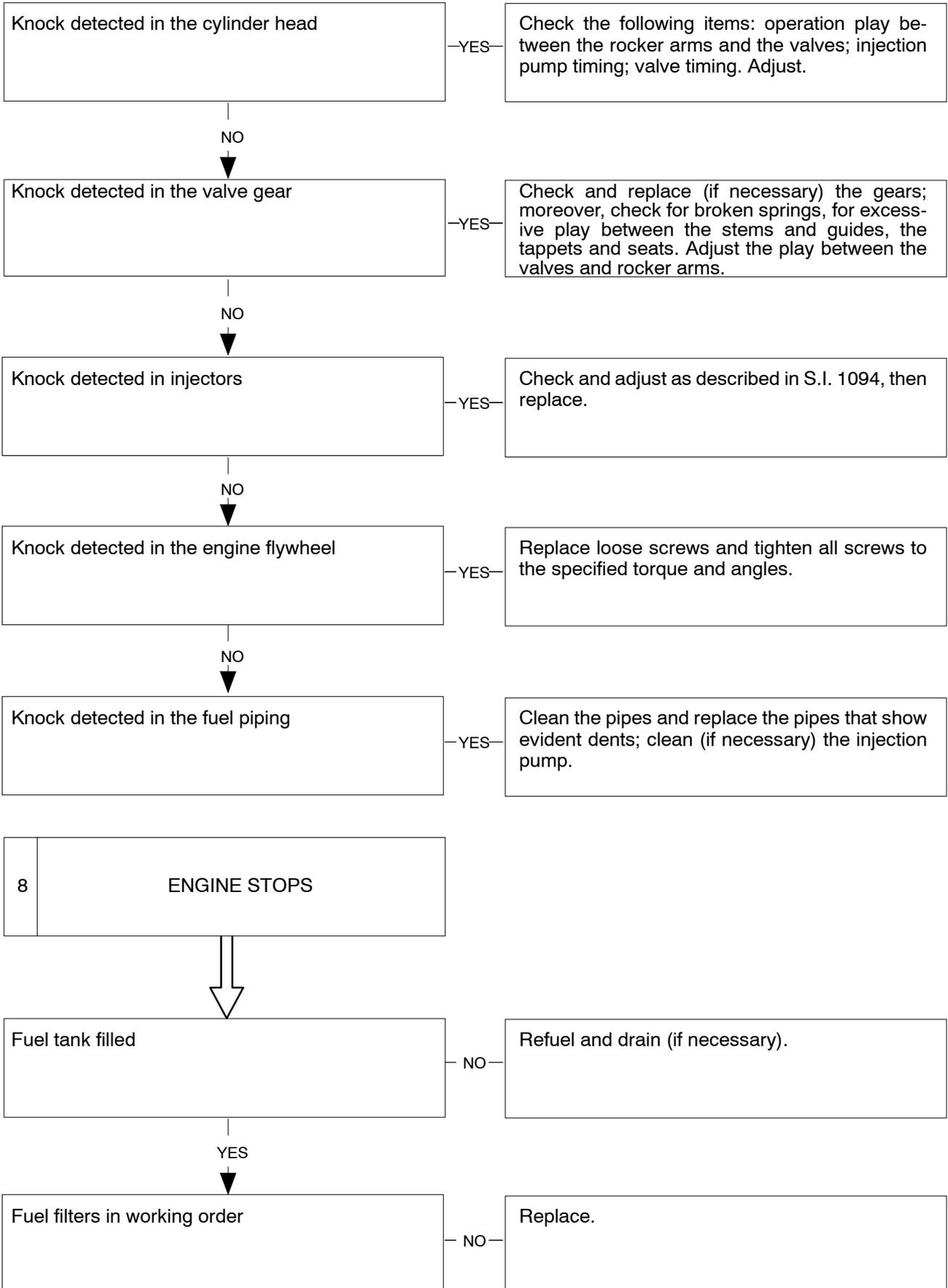
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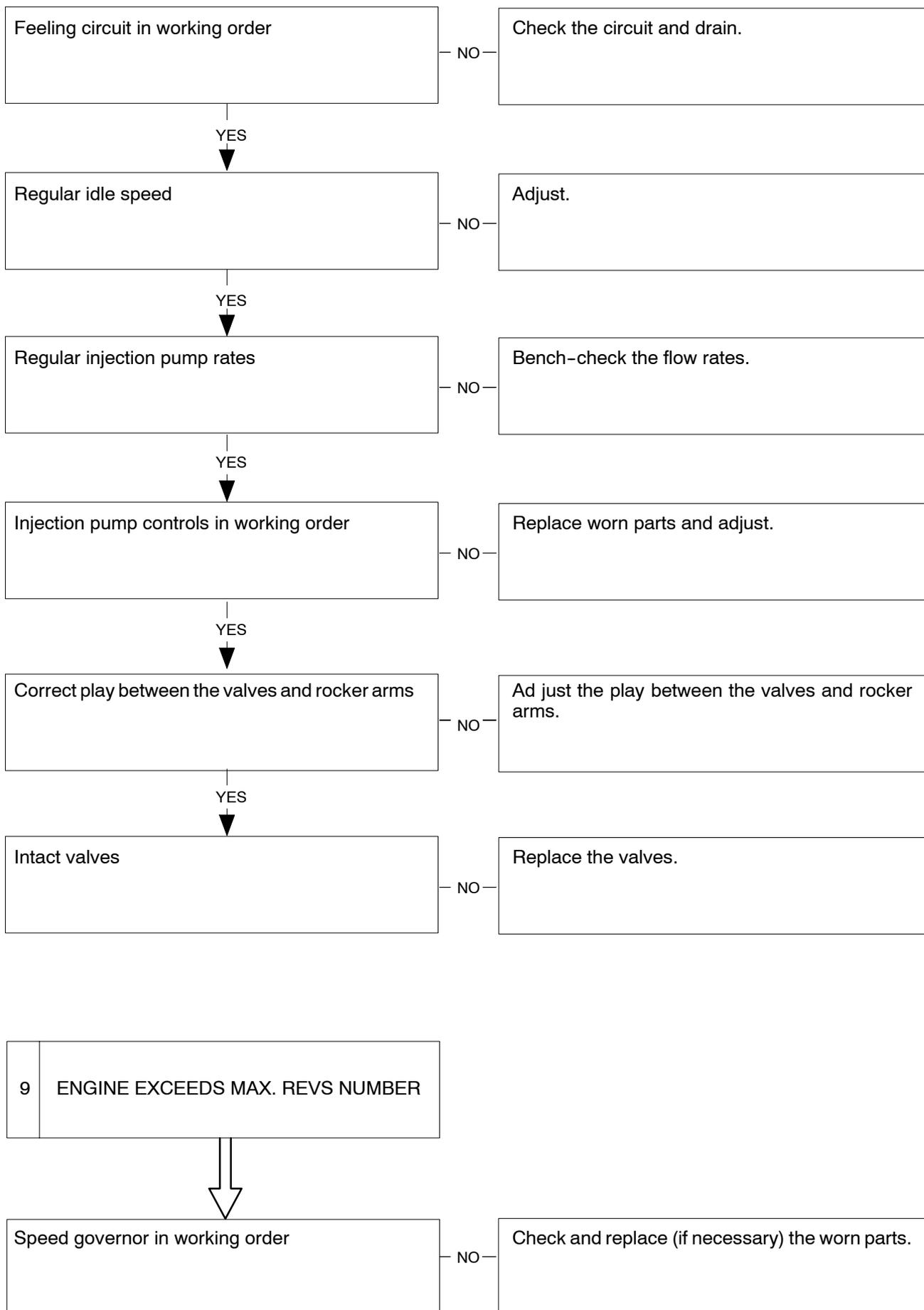
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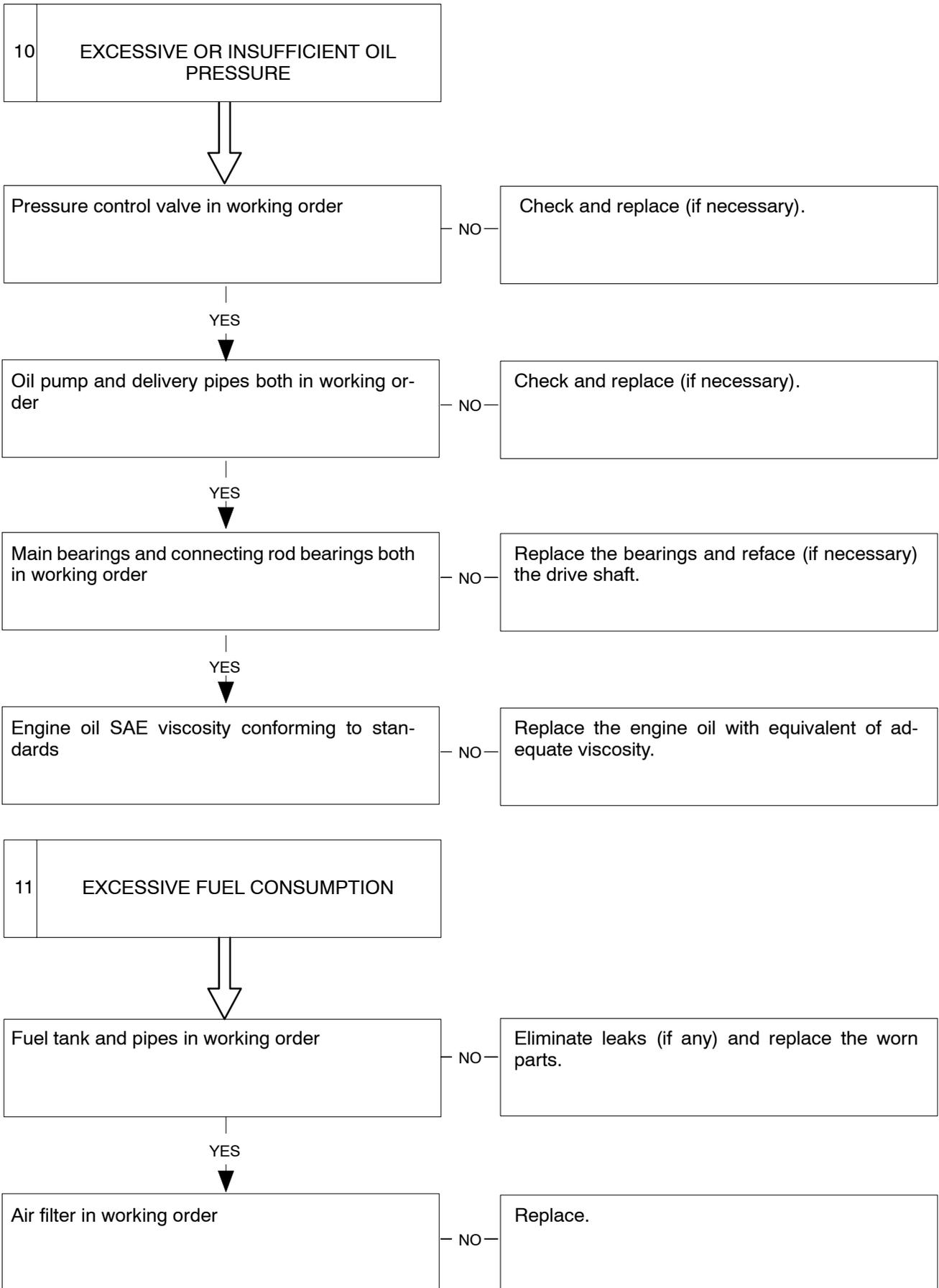


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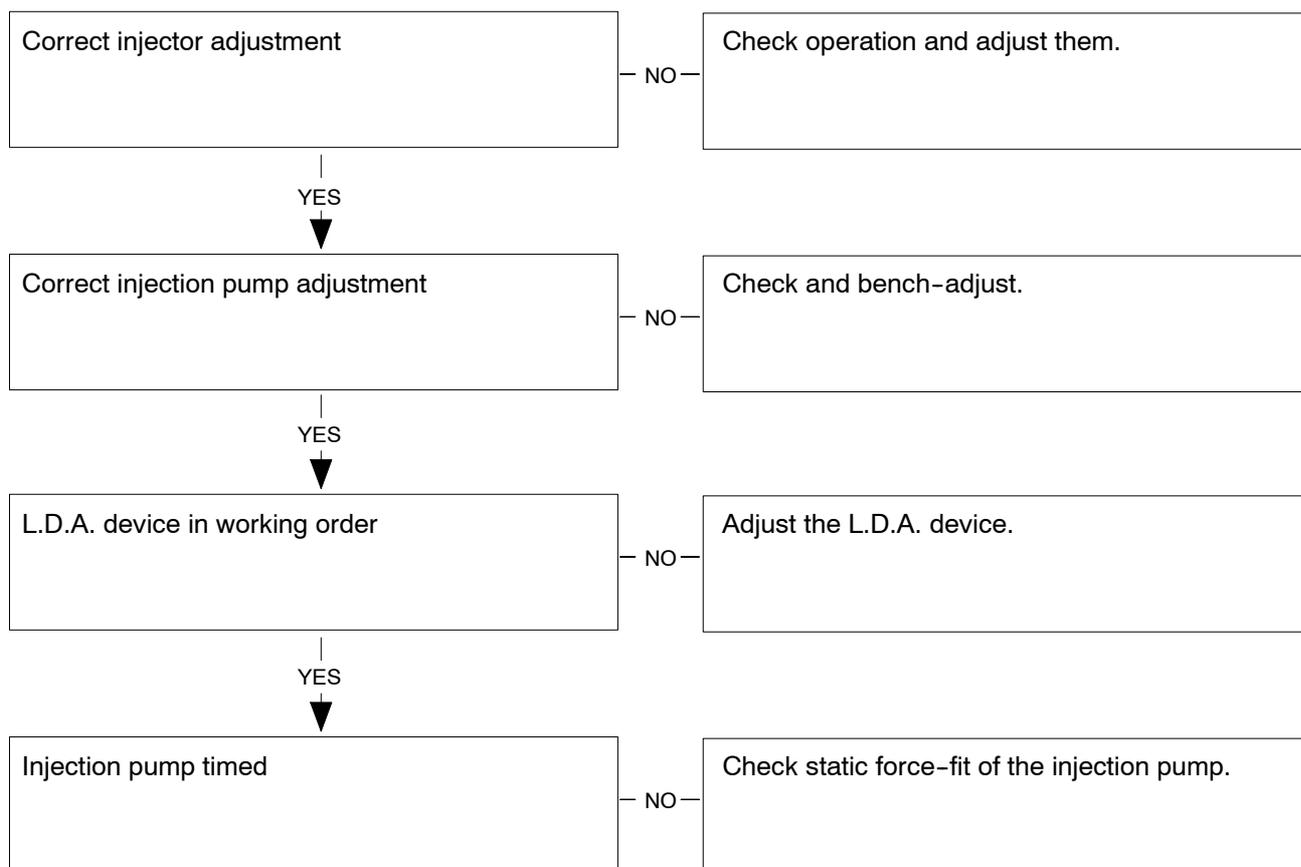


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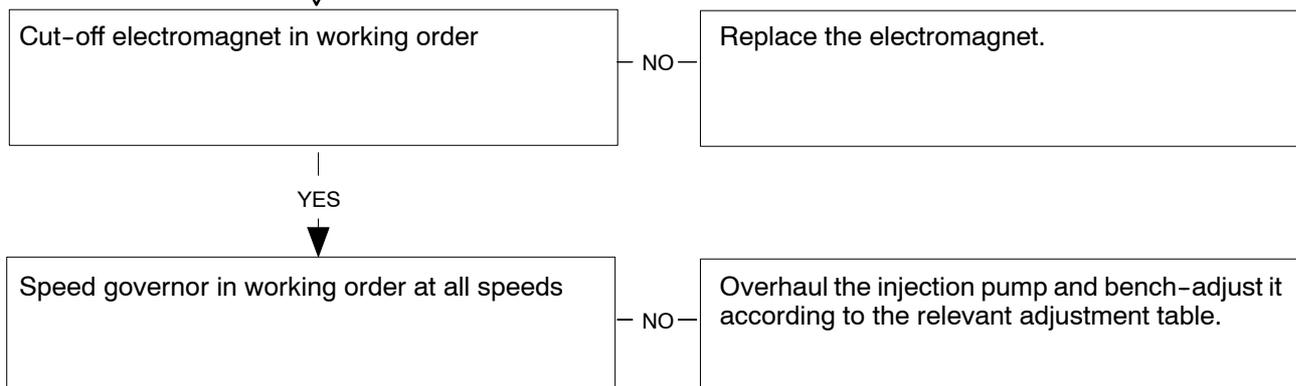


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DIAGNOSTICS



12 ENGINE WON'T STOP

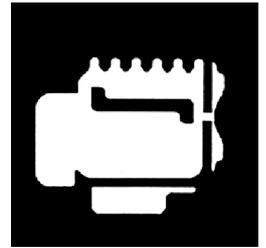


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**DIAGNOSTICS**

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# ENGINE F4GE0454C - F4GE0484G OVERHAUL



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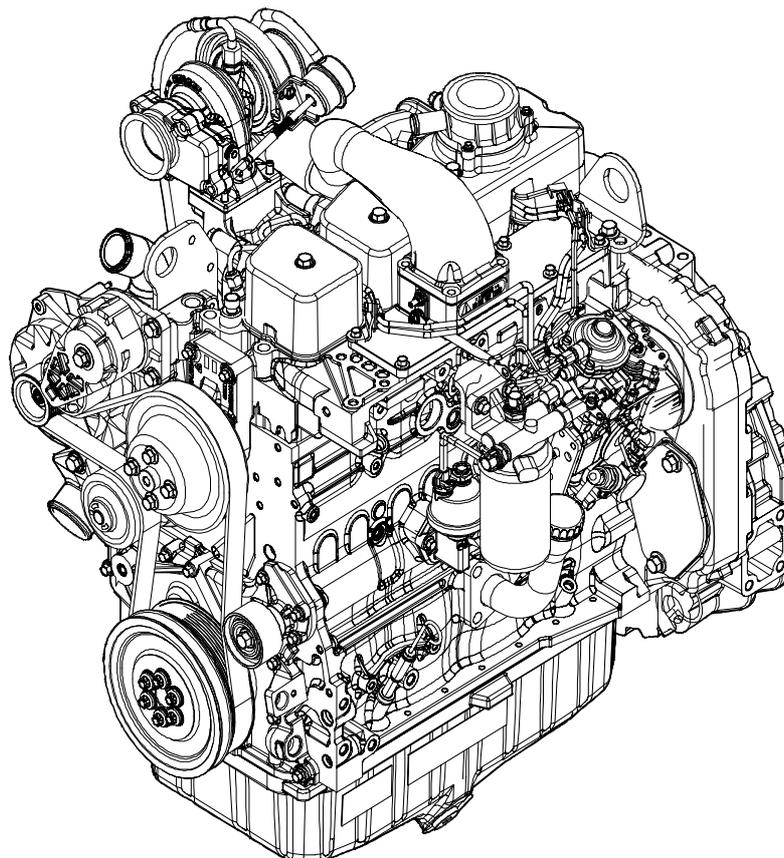
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**ENGINES F4GE0454C - F4GE0484G OVERHAUL**

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**F4GE0454C ENGINE**

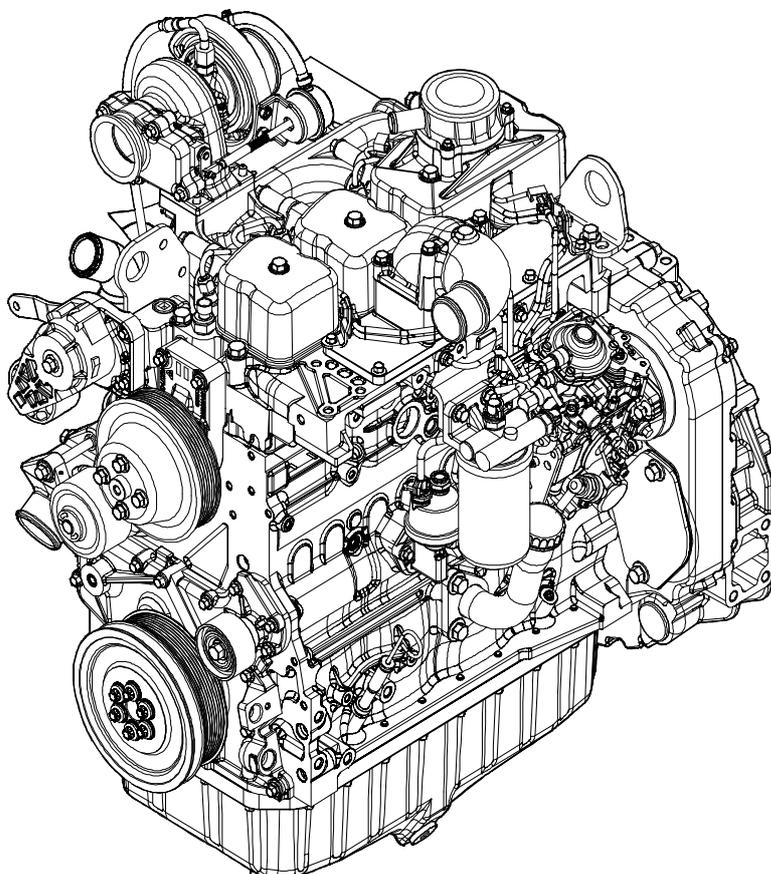
Figure 1



86607

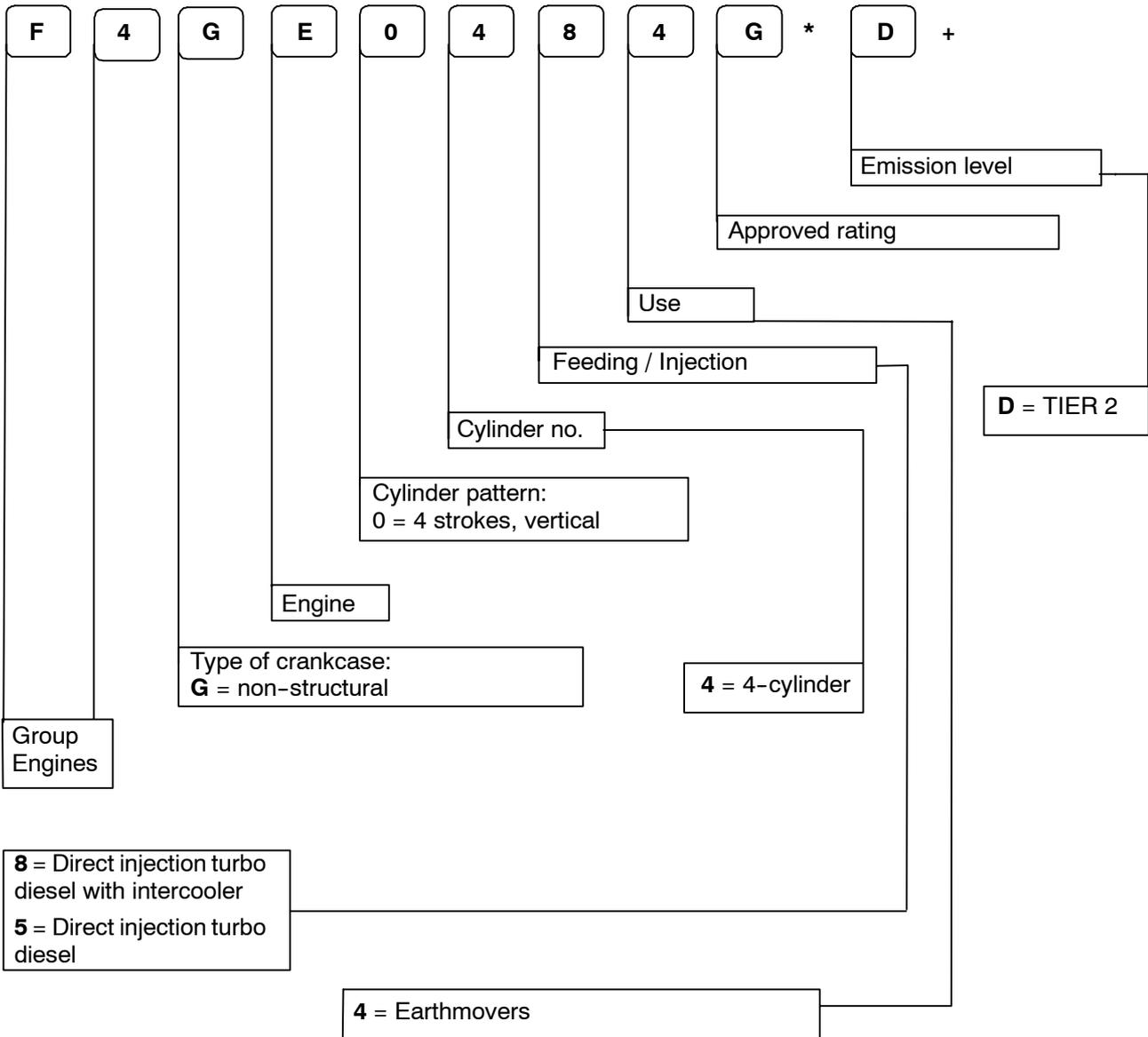
**F4GE0484G ENGINES**

Figure 2



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**CODING OF SOURCE ENGINES**



X   Y   Y

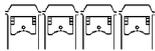
X = 6 rotary, 2-valve injection pump  
Y = Engine model

Y   Y   Y   Y   Y   Y

Manufacturing sequence number

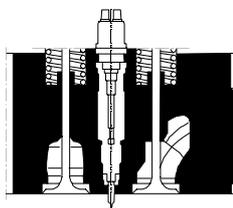
ENGINES F4GE0454C - F4GE0484G OVERHAUL

MAIN ENGINE FEATURES

<b>A</b> →			695 Super M
<b>B</b> →	FAGE0454C	FAGE0484G	FAGE0484G
<b>C</b> →	*D660		*D655
<b>D</b> →			
<b>E</b> →	4485		
<b>F</b> →	71 kW 2200 rpm	82 kW 220 rpm	

**G** →

Direct injection



**H** →

Rotary injection pump

**I** →

**T.C.**  
(turbo-blower)

**T.A.A.**  
(Boosted by intercooler)

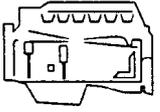
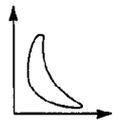
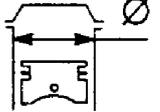
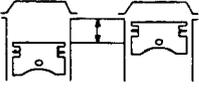
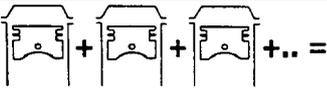
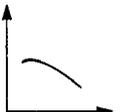
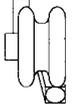
- A** Backhoe loader value application code
- B** Type of engine
- C** Engine model
- D** Number of cylinders
- E** Total displacement
- F** Max. power currently available
- G** Type of injection
- H** Injection system
- I** Air supply system

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**ENGINES F4GE0454C - F4GE0484G OVERHAUL**


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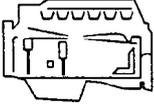
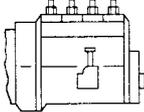
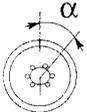
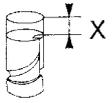
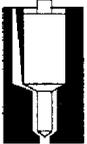
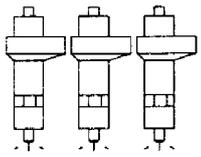
**GENERAL ENGINE FEATURES**

	Type	F4GE0484G		F4GE0454C
		*D660	*D655	*D660
	Cycle	4-stroke diesel engine		
	Feeding	Boosted by intercooler		Super-charged
	Injection	Direct		
	Number of cylinders	In-line, 4-cylinder		
	Bore	mm	104	
	Stroke	mm	132	
	Total displacement	cm <sup>3</sup>	4485	
	Compression ratio	17.5 : 1		
 	Max. rating	kW min <sup>-1</sup>	82 2000	71 2000
 	Max. torque	Nm (kgm) min <sup>-1</sup>	480 (48) 1400	398 (39.8) 1400
	No-load idle rpm	min <sup>-1</sup>	-	
	No-load peak rpm	min <sup>-1</sup>	-	
	BOOSTING Type of turbocompressor:	Con intercooler HOLSET HX25W		HOLSET HX25W
 	LUBRICATION	Forced by means of gear pump, pressure relief valve, oil filter		
	Oil pressure with hot engine: at idle rpm at peak rpm	bar bar	- -	

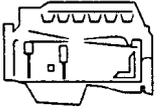
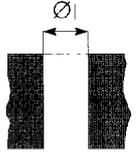
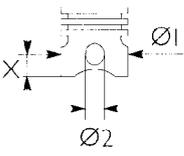
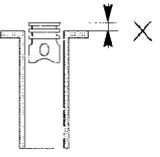
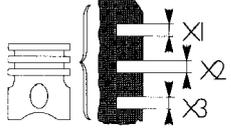
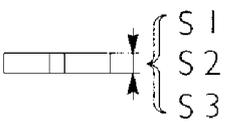
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**ENGINES F4GE0454C - F4GE0484G OVERHAUL**


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	Type	F4GE0484G		F4GE0454C
		*D660	*D665	*D660
COOLING	Water pump drive:	By fluid		
	Thermostat: Start of opening: °C	By means of belt		
		81± 2		
 Ambra Super Gold 15W40	REFUELLING			
	Full filling capacity 1°	litres	-	
		kg		
	- engine sump	litres	-	
	kg			
	- engine sump + filter	litres	7.6	
	kg			
	FEEDING Bosch-type injection	VE4 / 12 F 1100 L		
	Pump setting	0° ± 0°.5		
	Start of delivery	mm	1	
	Type of nozzle	DSLA 145 1174		
	Injection sequence	1 - 3 - 4 - 2		
 	Injection pressure (bar)	245 bar		

## ASSEMBLING PLAY - SPECIFICATIONS

	Tipo	F4GE0484G		F4GE0454C
		*D660	*D655	*D660
CRANK GEAR COMPONENTS AND CYLINDER ASSEMBLY		mm		
	Cylinder liners 	104		
	Pistons: supplied with standard spares Measurement dimension X Outer diameter $\varnothing 1$ Pin seat $\varnothing 2$	X	61 103.730 to 103.748 38.010 to 38.016	
	Piston - cylinder liners		-	
	Piston diameter $\varnothing 1$		0.5	
	Position of pistons from crankcase X	X	0.28 to 0.52	
	Gudgeon pin $\varnothing 3$	$\varnothing 3$	37.994 to 38.000	
	Gudgeon pin - Pin seat		0.010 to 0.022	
	Piston ring slots	X1 X2 X3	2.705 to 2.735 2.44 to 2.46 4.03 to 4.05	
	Piston rings	S1 S2 S3	2.560 to 2,605 2.35 to 2.38 3.97 to 3.99	
	Piston rings - Slots	1 2 3	0.100 to 0.175 0.060 to 0.110 0.040 to 0.083	
	Piston rings		0.5	