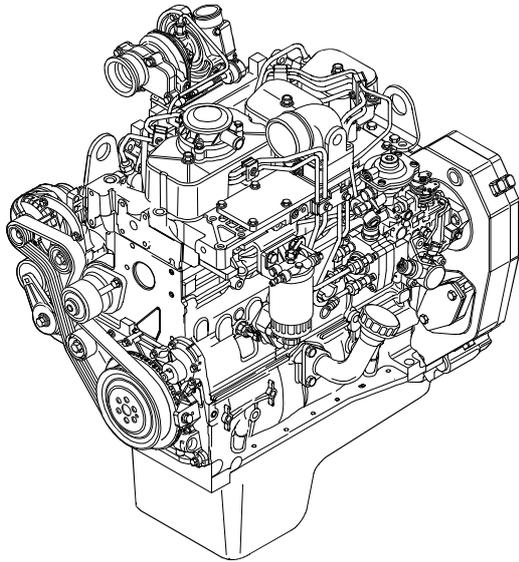
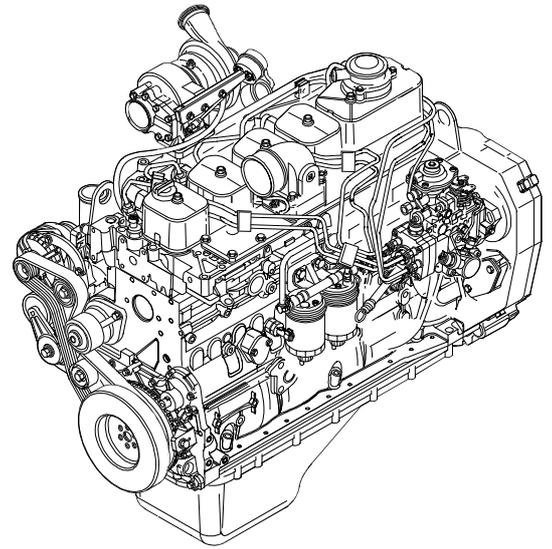


REPAIR MANUAL FOR ENGINES

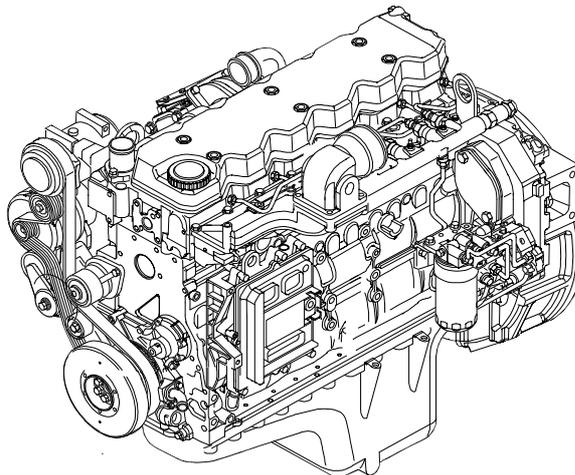
F4GE0484E - F4GE0684F - F4HE0684J



F4GE0484E



F4GE0684F



F4HE0684J

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 258 pages at:

<https://www.arepairmanual.com/downloads/case-f4ge0484ef4ge0684ff4he0684j-engine-service-repair-workshop-manual/>

Product: Case F4GE0484E,F4GE0684F,F4HE0684J Engine Service Repair Workshop Manual
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INTRODUCTION

TO THE READER

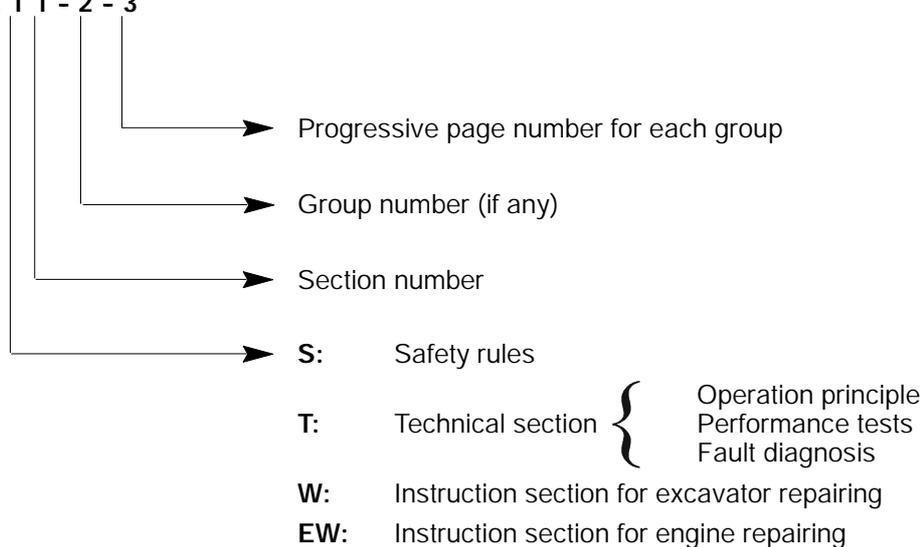
- This manual was written for a skilled technician and contains all the technical information needed to repair this vehicle.
- Read this manual carefully for the information concerning repairing operations.

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



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.

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/cm²).

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 ²	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 ³	yd ³	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 ⁻¹	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				

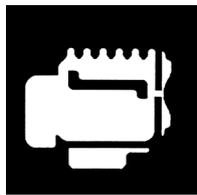
ENGINES

INDEX OF SECTIONS



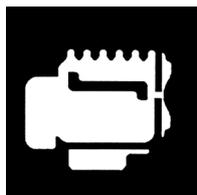
Section 1 - Diagnostics

EW-1-1



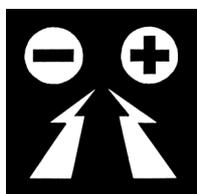
Section 2 - Engine F4GE0484E overhaul

EW-2-1



Section 3 - Engine F4GE0684F - F4HE0684J overhaul

EW-3-1



Section 4 - Recharging and start-up

EW-4-1

DIAGNOSTICS

(for engines F4GE0484E - F4G0684F)



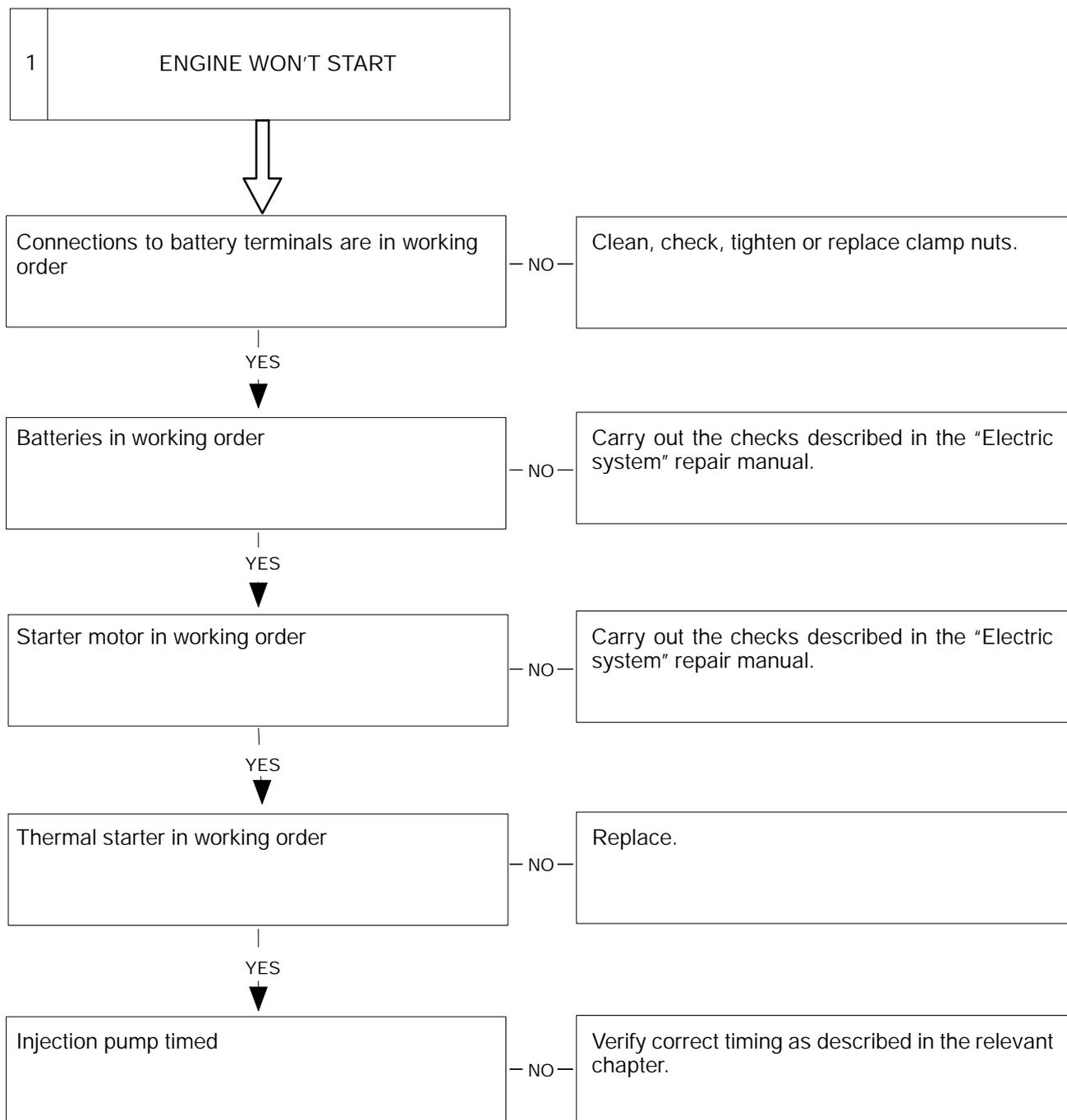
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DIAGNOSTICS

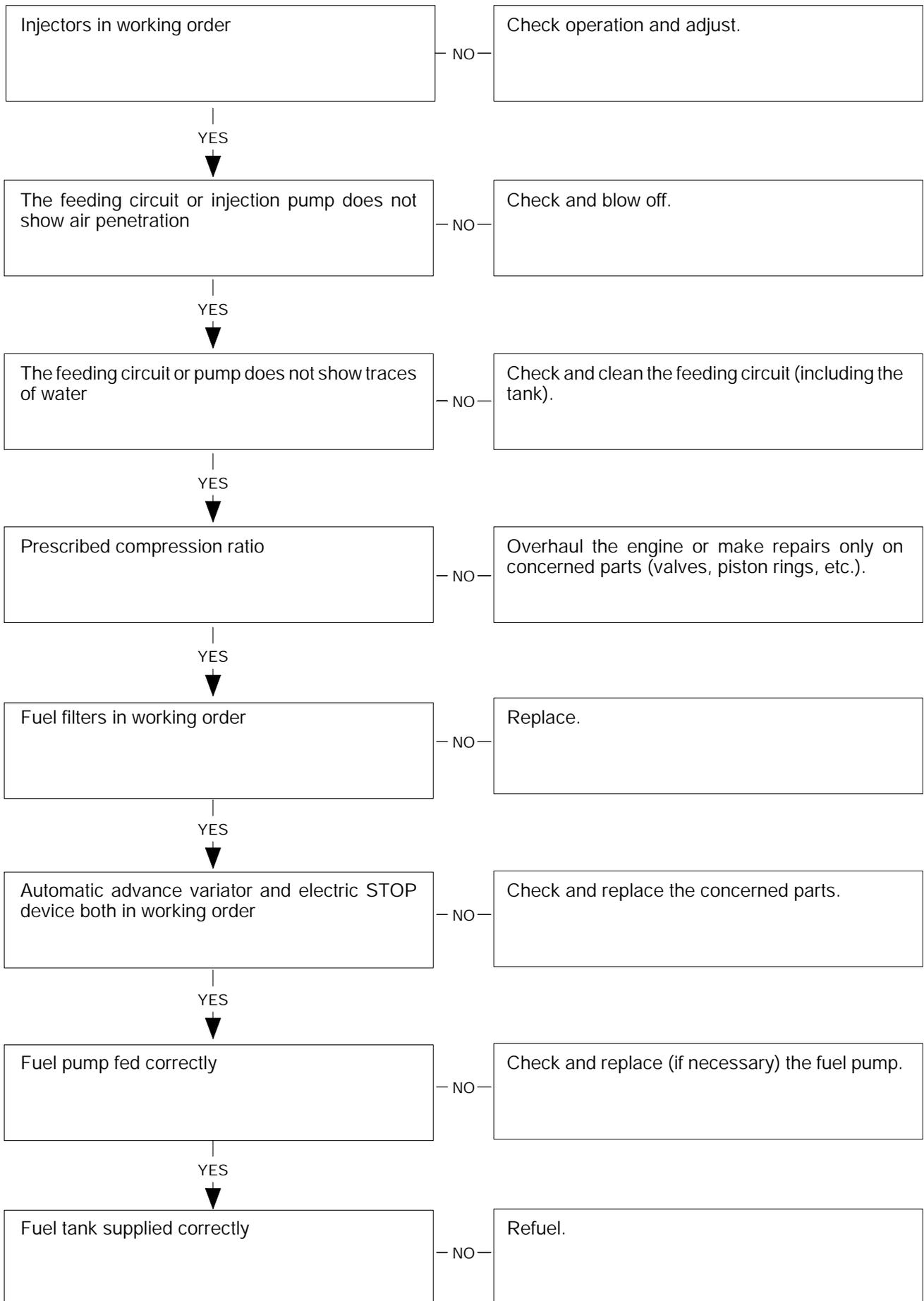
Main engine operating anomalies:

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

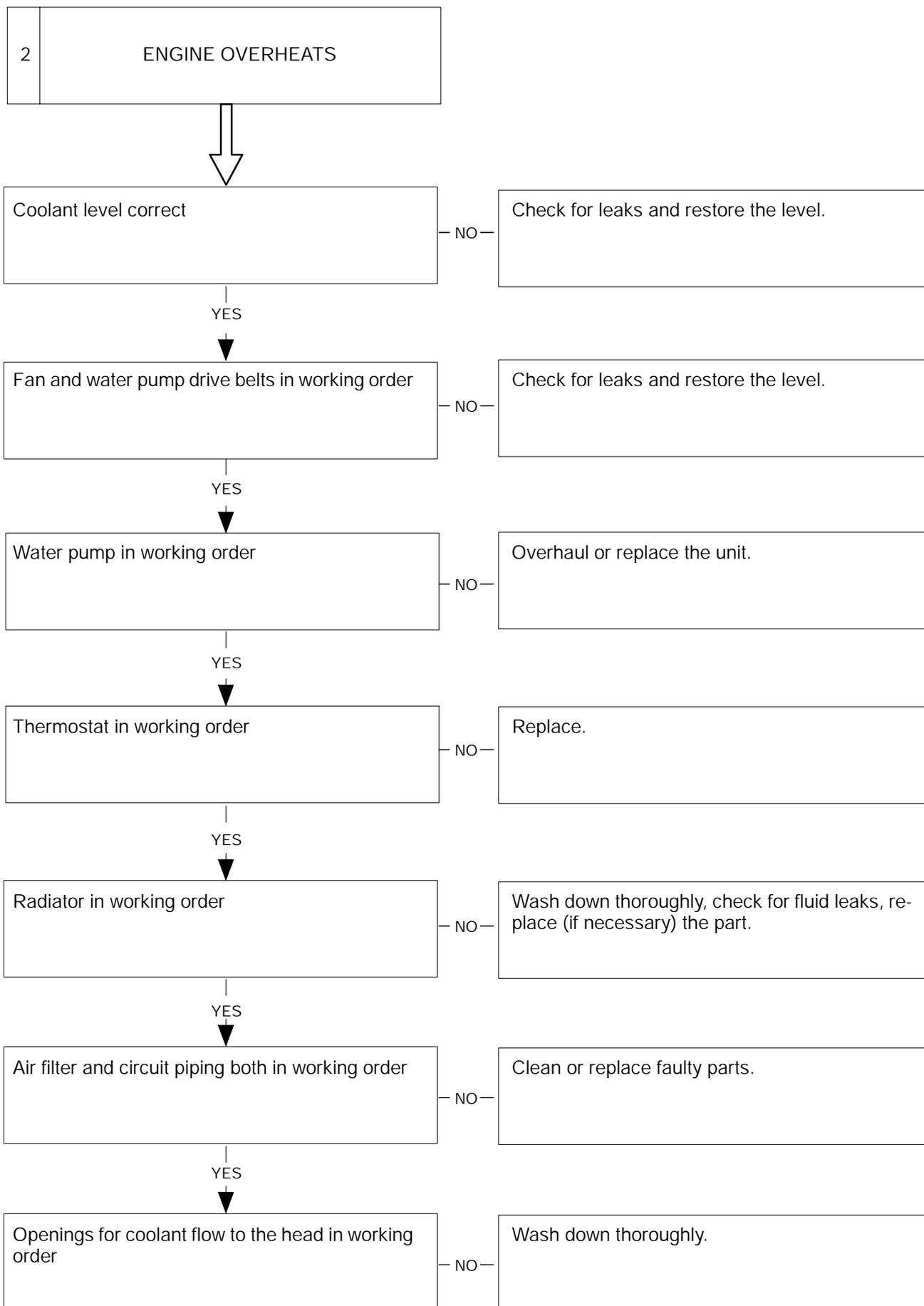


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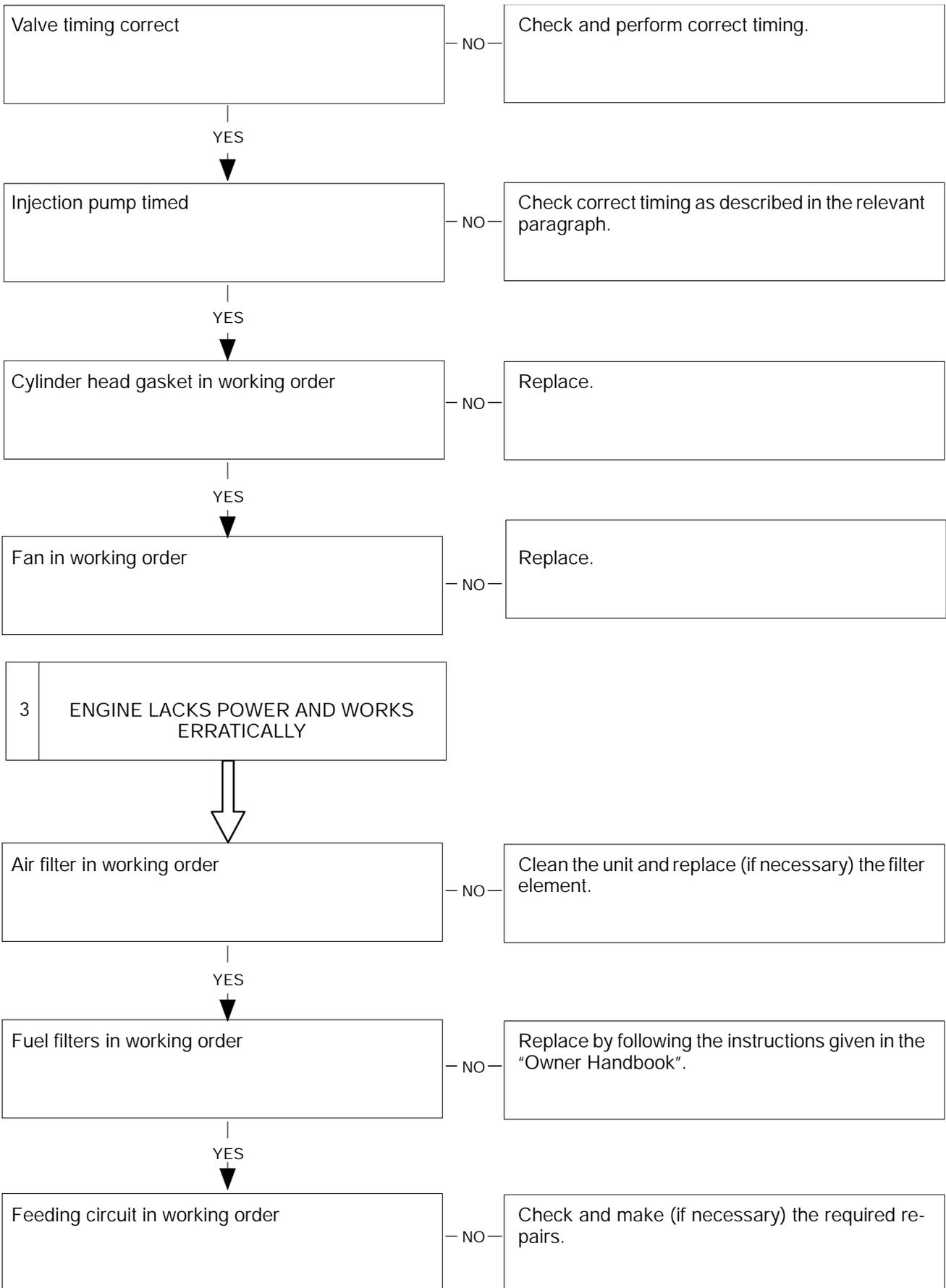
DIAGNOSTICS



DIAGNOSTICS

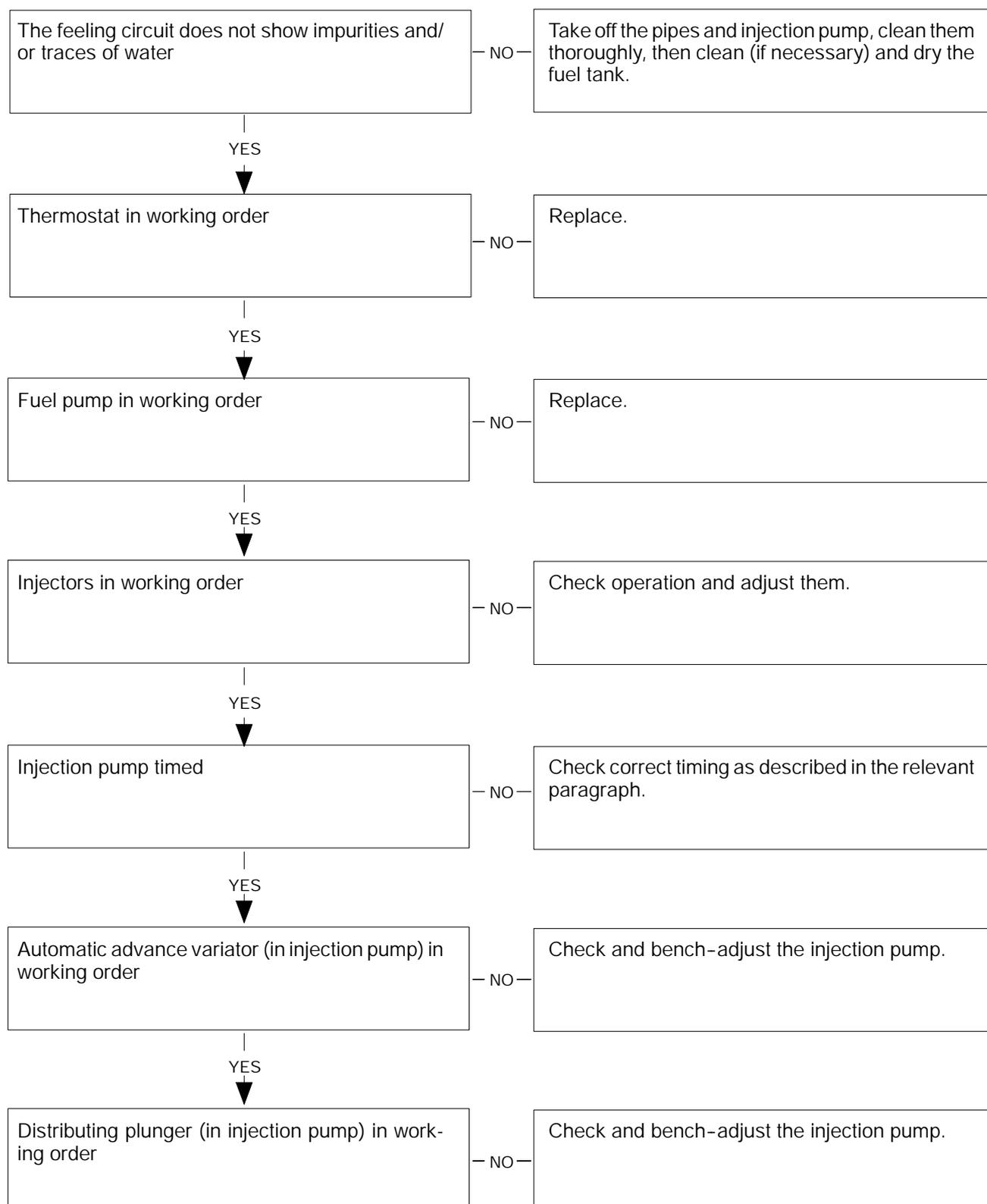


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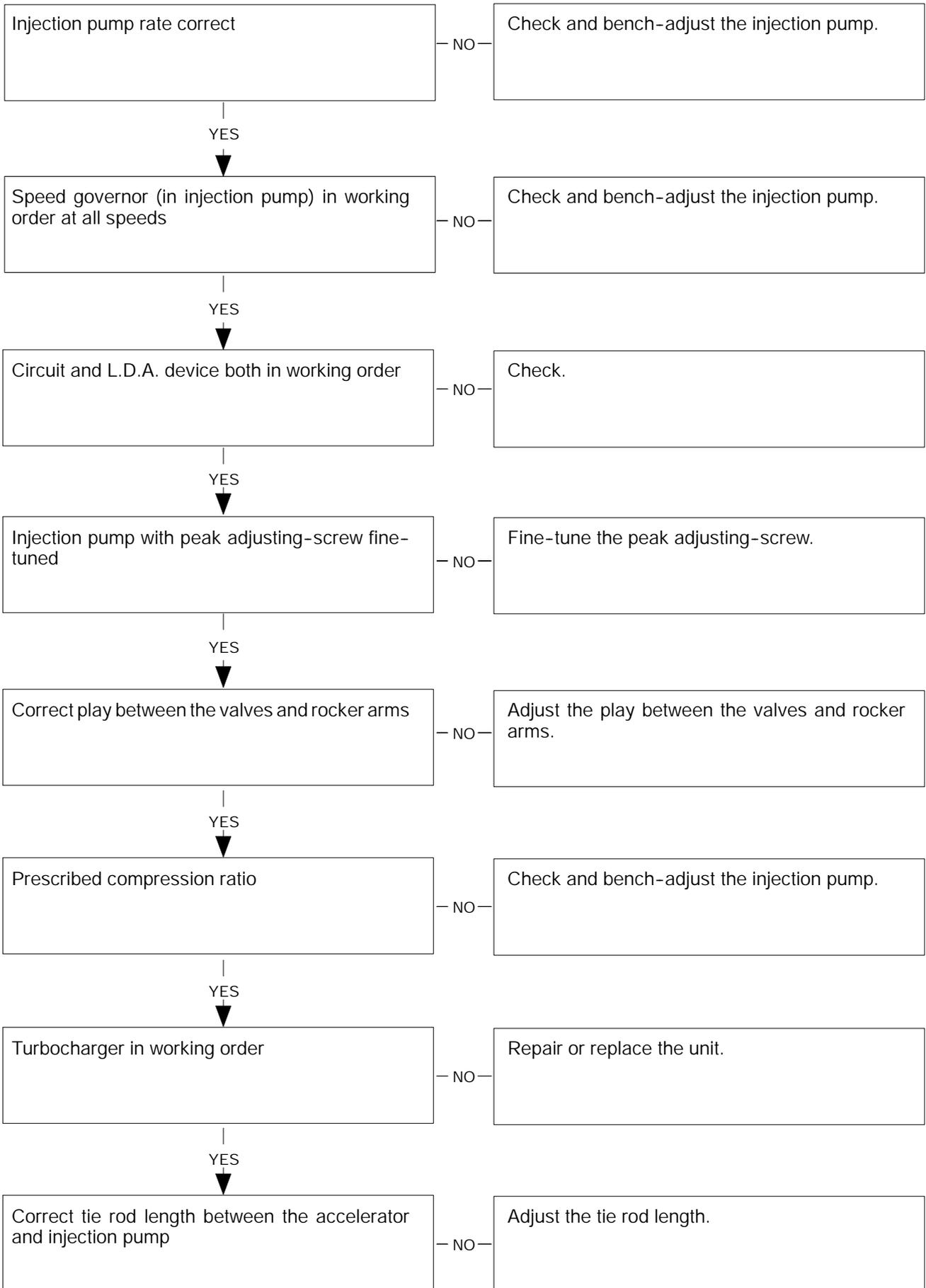
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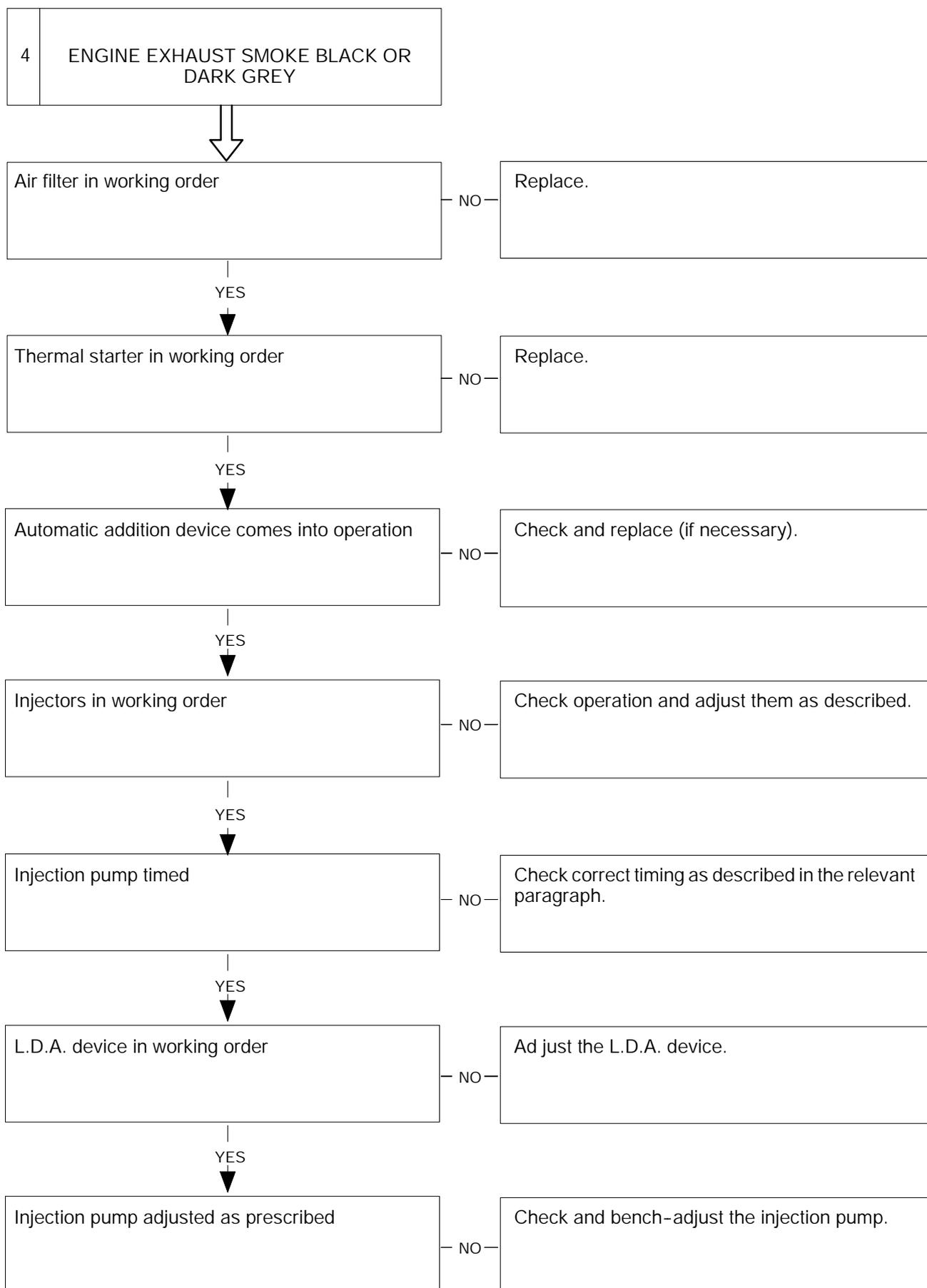


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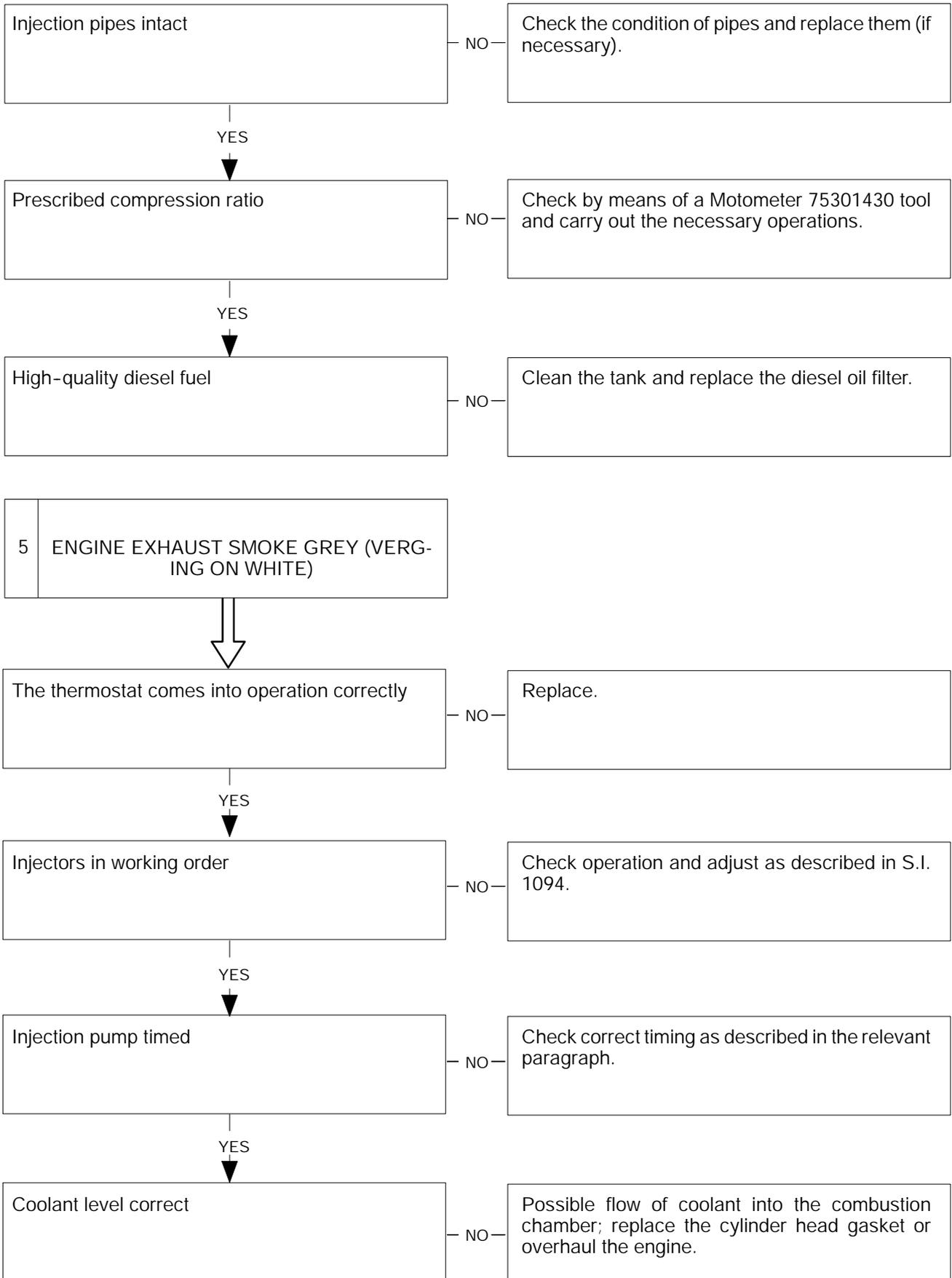


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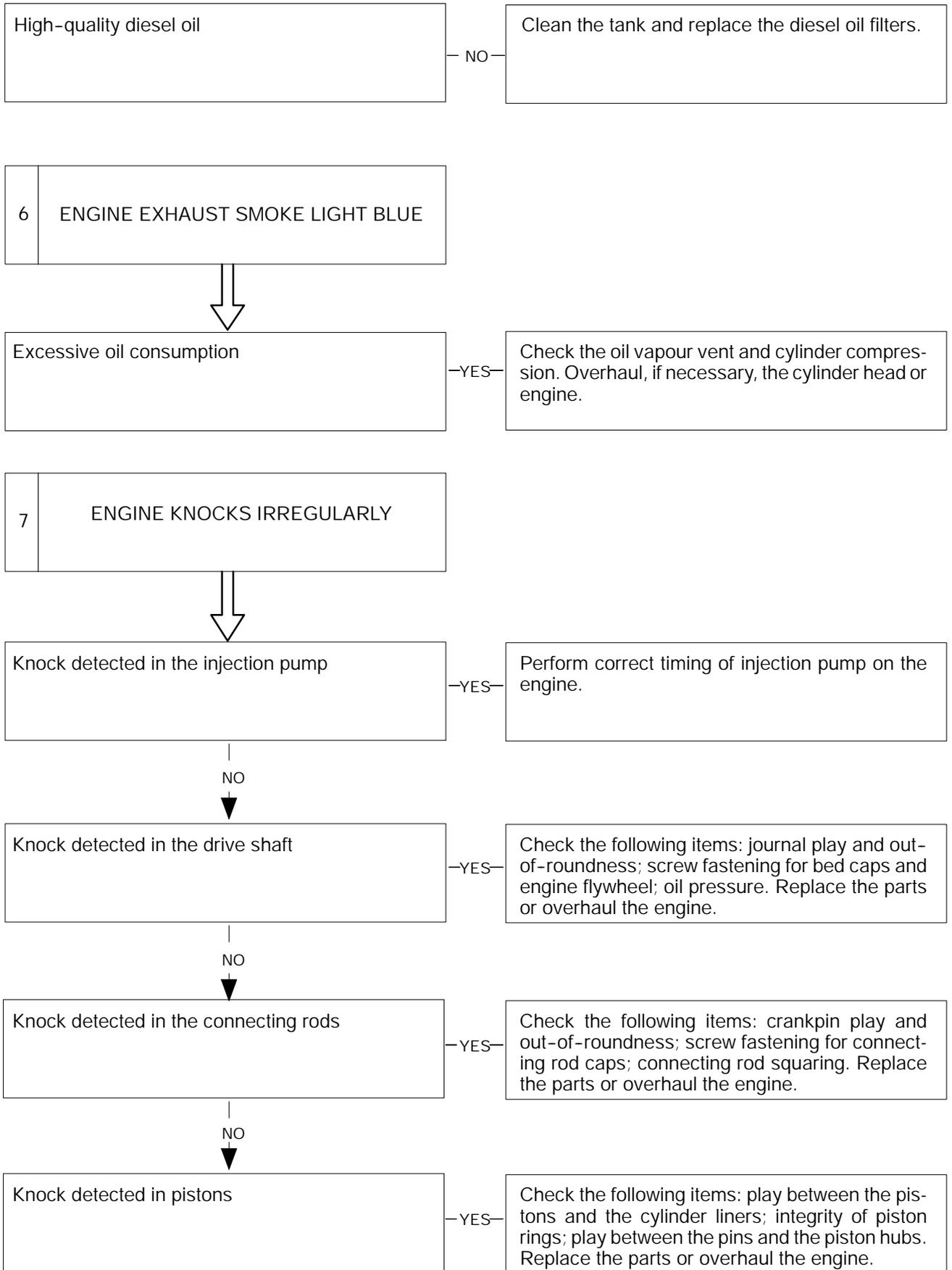
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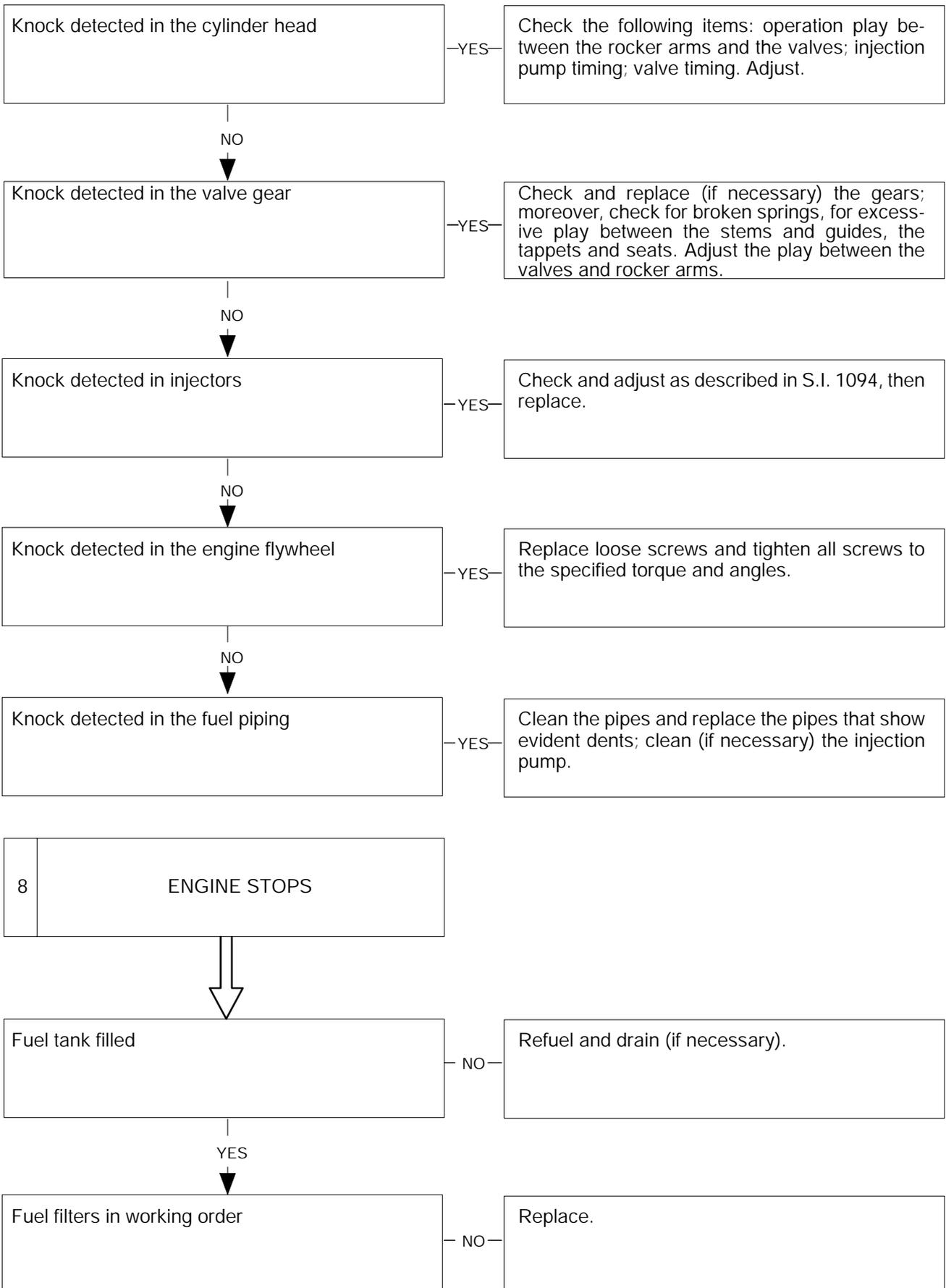
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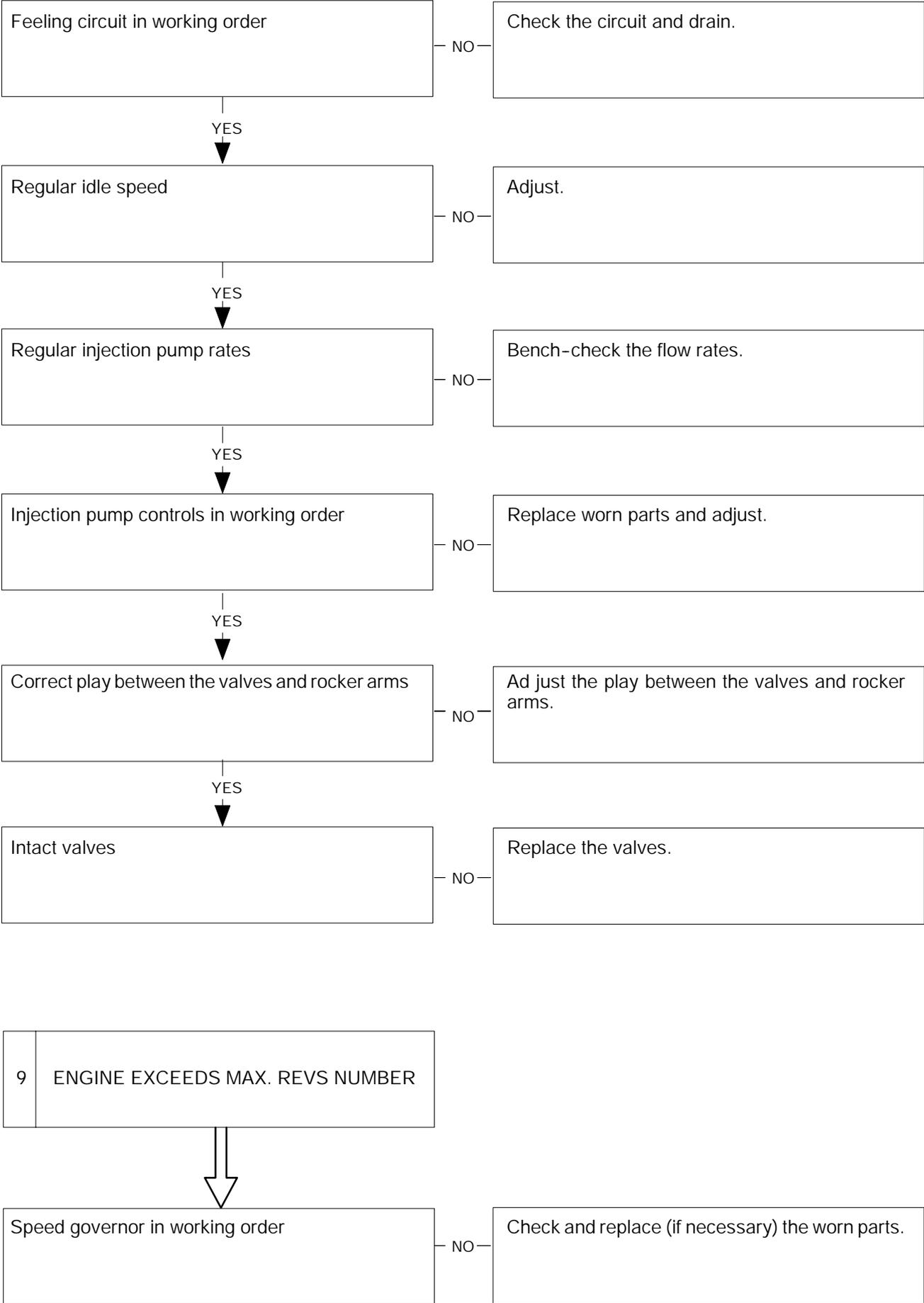
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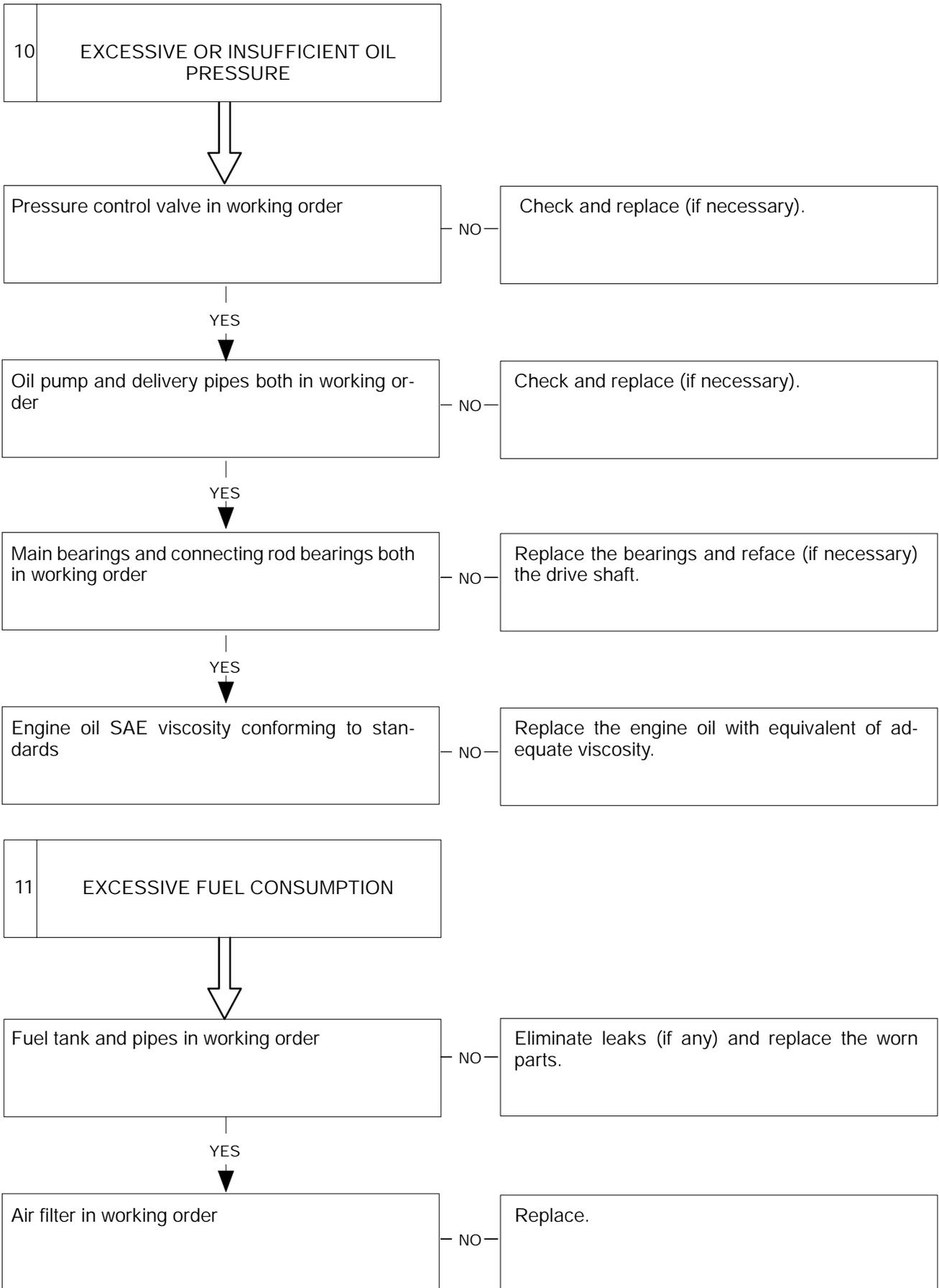


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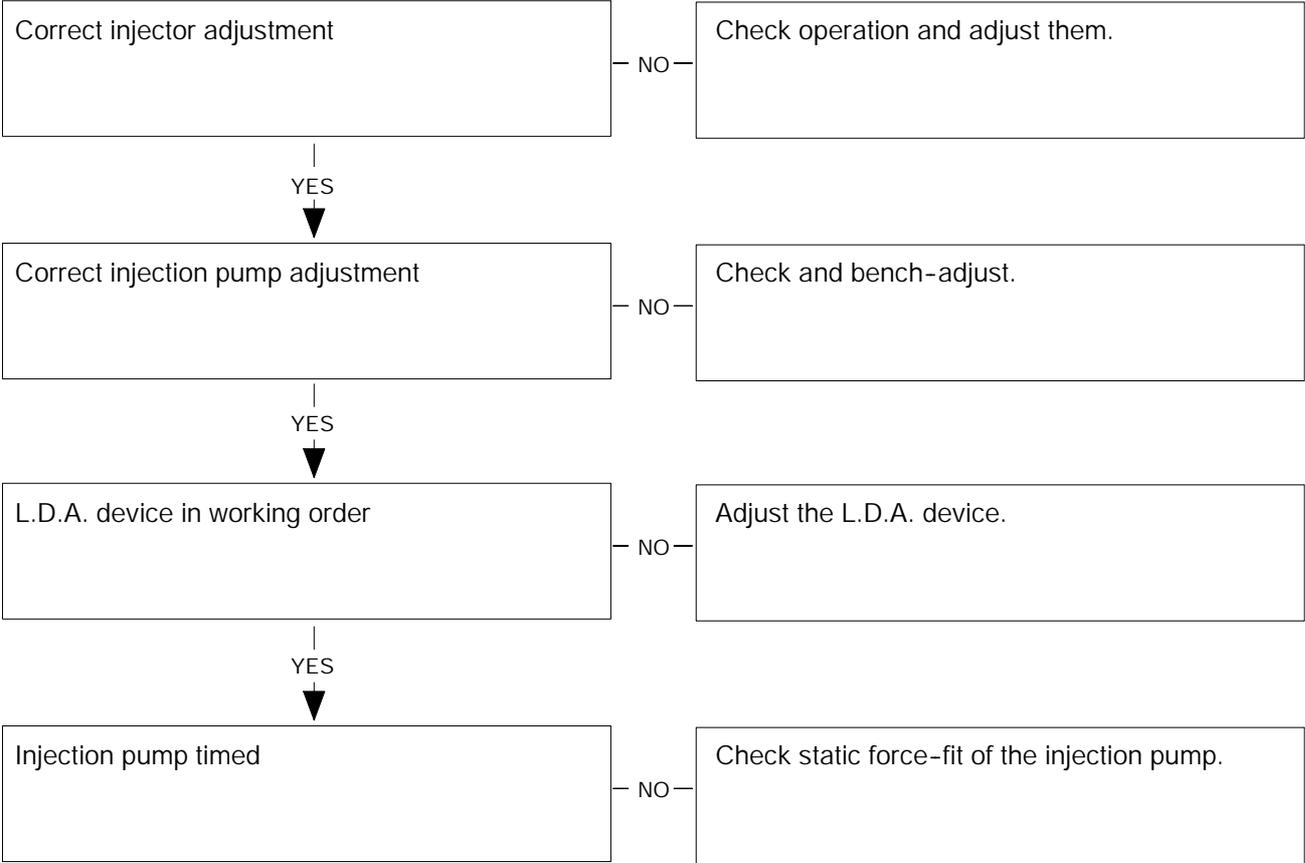


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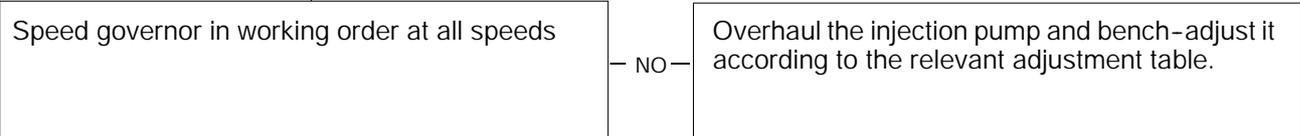
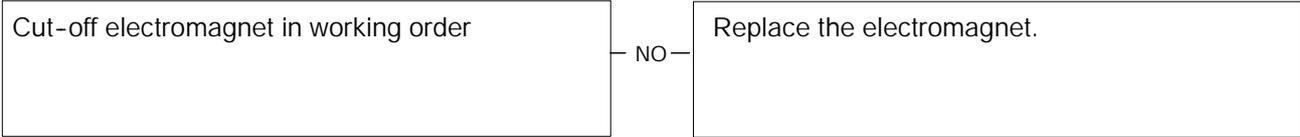
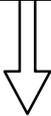


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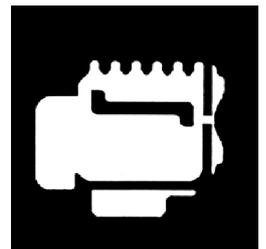
12	ENGINE WON'T STOP
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DIAGNOSTICS

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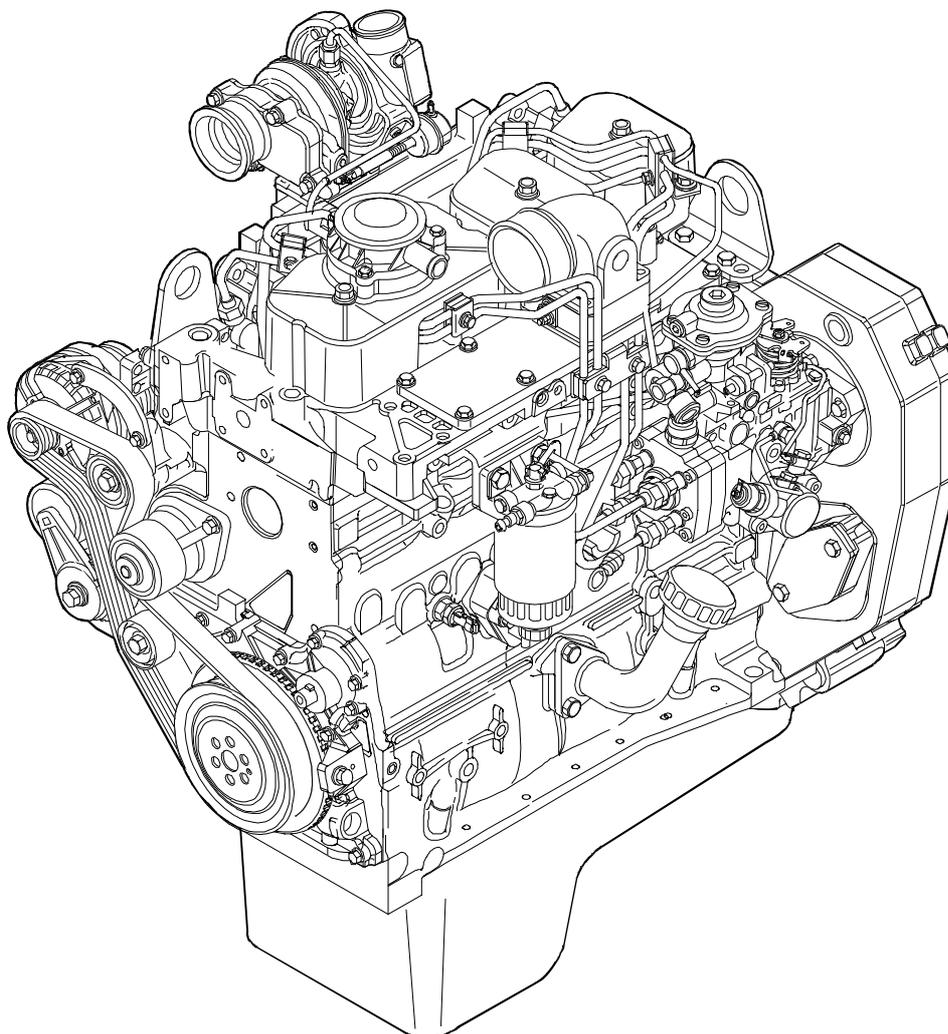
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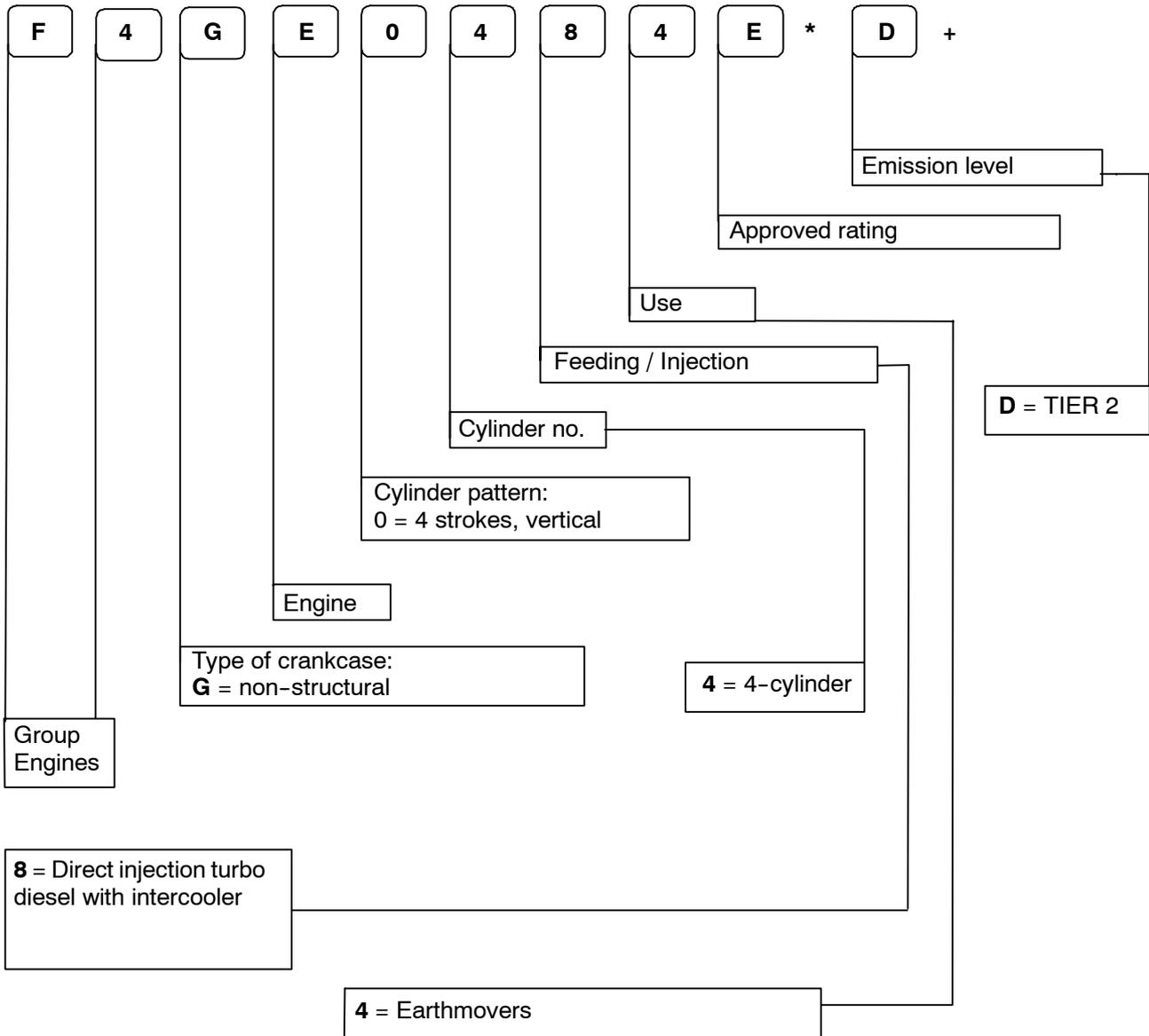
ENGINE F4GE0484E OVERHAUL

ENGINE F4GE0484E

Figure 1



CODING OF SOURCE ENGINES



X **Y** **Y**

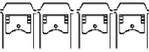
X = 6 rotary, 2-valve injection pump
Y = Engine model

Y **Y** **Y** **Y** **Y** **Y**

Manufacturing sequence number

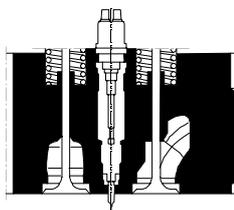
ENGINE F4GE0484E OVERHAUL

MAIN ENGINE FEATURES

A →	521D
B →	F4GE0484E
C →	*D601
D →	
E →	4485 cm ³
F →	89 kW 2,000 rpm

G →

Direct injection



H →

Rotary injection pump

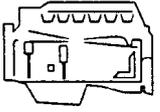
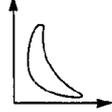
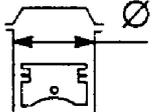
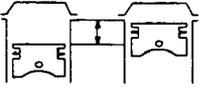
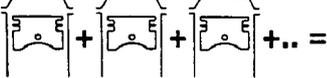
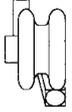
I →

T.A.A.
(Boosted by intercooler)

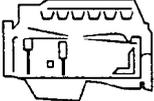
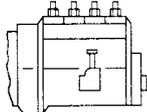
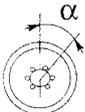
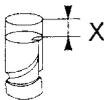
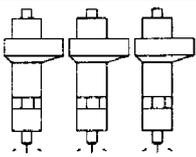
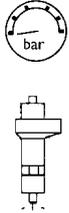
- A** Wheeled loaders
- B** Type of engine
- C** Engine model
- D** Number of cylinders
- E** Total displacement
- F** Max. power currently available
- G** Type of injection
- H** Injection system
- I** Air supply system

ENGINE F4GE0484E OVERHAUL

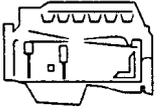
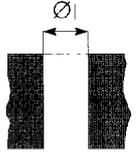
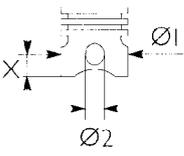
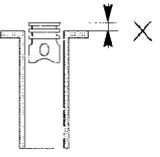
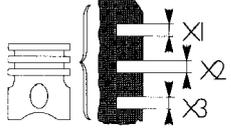
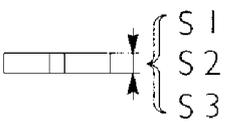
GENERAL ENGINE FEATURES

	Type	F4GE0484	
		*D601	
	Cycle	4-stroke diesel engine	
	Feeding	Boosted by intercooler	
	Injection	Direct	
	Number of cylinders	In-line, 4-cylinder	
	Bore	mm	104
	Stroke	mm	132
	Total displacement	cm ³	4485
	Compression ratio	17.5 : 1	
	Max. rating	kW min ⁻¹	89 2000
	Max. torque	Nm min ⁻¹	480 1400
	No-load idle rpm	min ⁻¹	800
	No-load peak rpm	min ⁻¹	-
	BOOSTING Type of turbocompressor:	With intercooler 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	1.2 3.8

ENGINE F4GE0484E OVERHAUL

	Type	F4GE0484E
COOLING		
Water pump drive:		By fluid
Thermostat:		By means of belt
Start of opening: °C		81 ± 2
REFUELLING		
 Ambra Super Gold 15W40 10W30	Full filling capacity 1°	litres
		kg
	- engine sump	litres
		kg
- engine sump + filter	litres	
	kg	
	FEEDING Bosch-type injection	VE4 / 12 F 1000 L 691
	Pump setting	0° ± 0°.5
	Start of delivery	mm
	Type of nozzle	DSL A 145 P1174
	Injection sequence	1 - 3 - 4 - 2
	Injection pressure (bar)	245 bar

ENGINE F4GE0484E OVERHAUL**ASSEMBLING PLAY - SPECIFICATIONS**

		Tipo		F4GE0484E	
				*D601	
CRANK GEAR COMPONENTS AND CYLINDER ASSEMBLY				mm	
	Cylinder liners	 Ø1		104	
	Pistons: supplied with standard spares			61	
	Measurement dimension	X		103.73 ÷ 103.748	
	Outer diameter	Ø1		38.016 ÷ 38.010	
	Pin seat	Ø2		-	
	Piston - cylinder liners			-	
	Piston diameter	Ø1		0,5	
	Position of pistons from crankcase X			0.28 ÷ 0.52	
	Gudgeon pin	Ø3		37.994 ÷ 38.000	
	Gudgeon pin - Pin seat			0.01 ÷ 0.022	
	Type of piston	X1*		2.705 ÷ 2.735	
	Piston ring slots	X2		2.35 ÷ 2.38	
		X3		4.03 ÷ 4.05	
				* measured on Ø of 99 mm	
	Piston rings	S1*		2.560 ÷ 2.605	
		S2		2.350 ÷ 2.380	
		S3		3.977 ÷ 3.990	
				* measured on Ø of 99 mm	
	Piston rings - Slots		1	0.100 ÷ 0.175	
			2	0.06 ÷ 0.11	
			3	0.040 ÷ 0.083	
	Piston rings			0.5	