

DIESEL ENGINES FAULT & TROUBLE SHOOTING MANUAL



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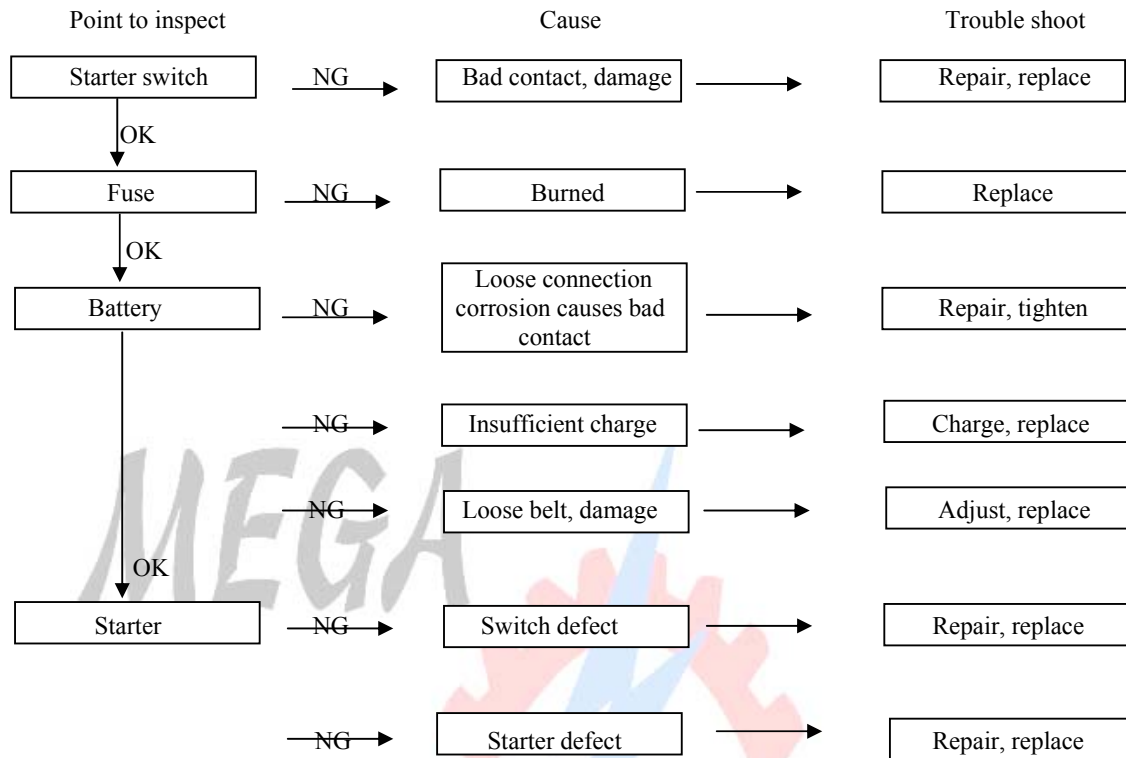
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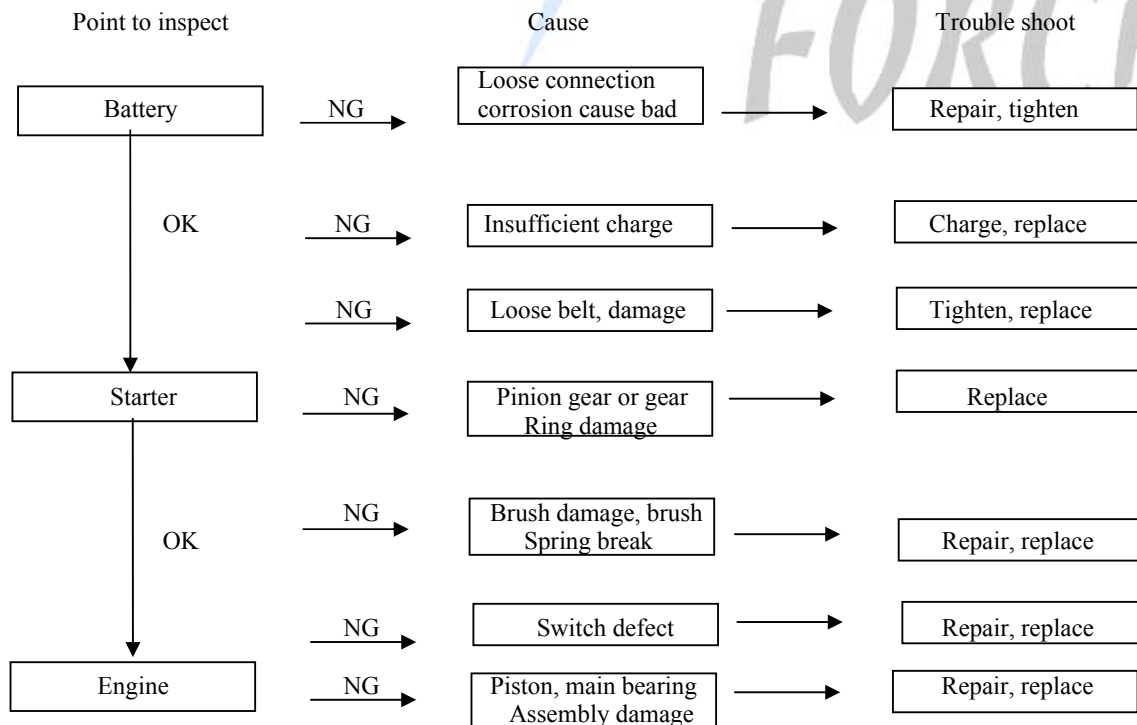
Chapter IV Diesel Fault and Trouble Shooting

a. Hard Starting

(1) Starter defect



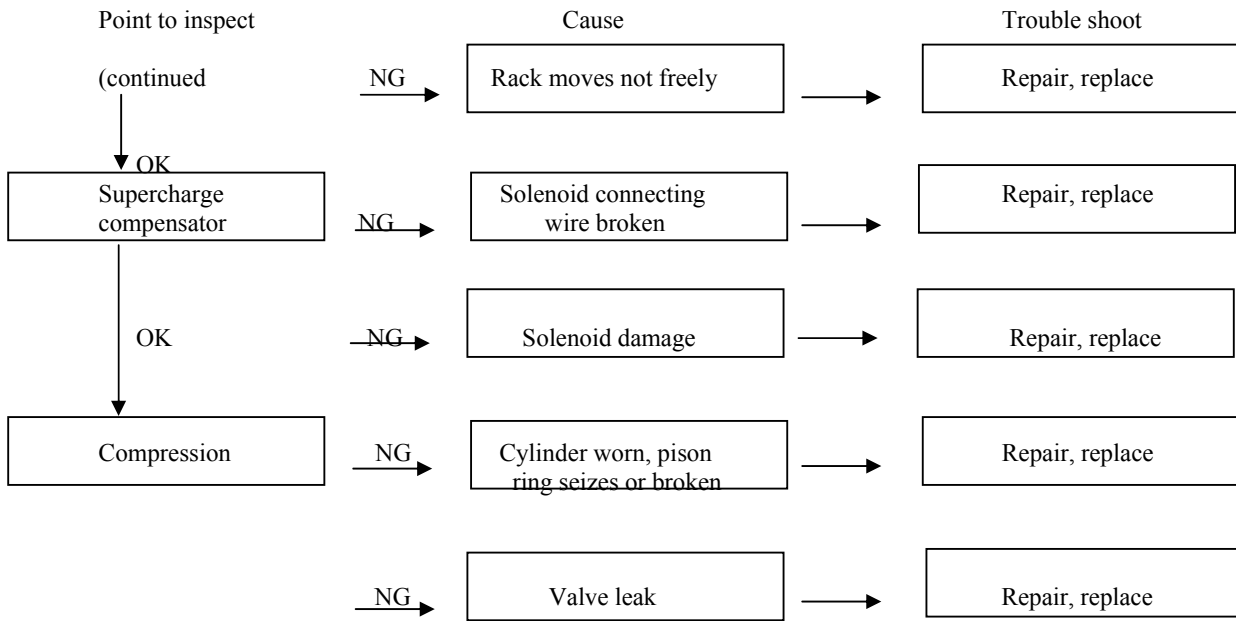
(2) Starter run, but engine do not run



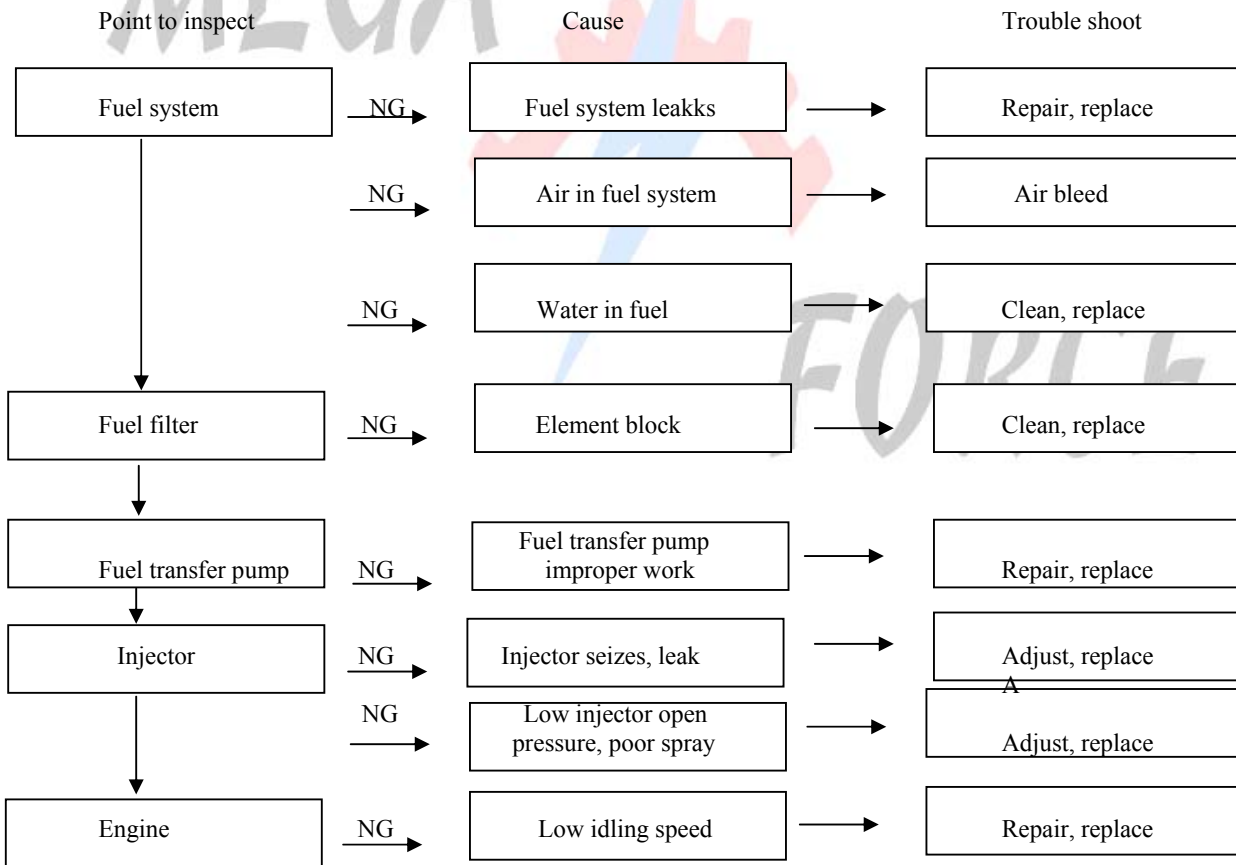
(3) Starter run, but engine fail to start
Fuel injection pump not delivery

Point to inspect	Cause	Trouble shoot
Engine stop mechanism	Improper handle adjustment	Adjust
Fuel tank	No fuel	Fill fuel
Fuel line	Line block, damage, loose connection	Repair, replace, tighten
Fuel line	Overflow valve defect	Repair, replace
	Element block	Replace
	Air in fuel system	Air bleed
Fuel system	Fuel pump inlet screen Restrict	Wash, replace
	Fuel pump improper work	Repair, replace

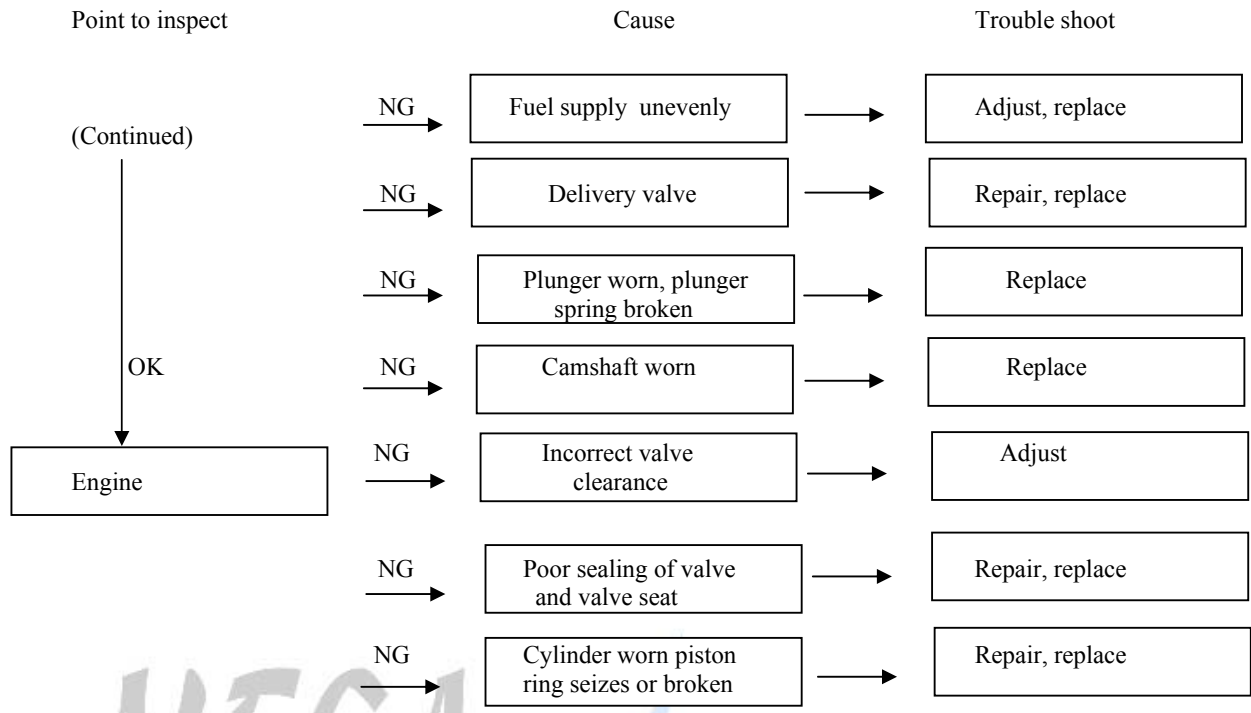
Point to inspect	Fuel injection pump delivery Cause	Trouble shoot
Fuel	Incorrect grade of fuel	Replace
	Water in fuel	Replace
Fuel system	Air in fuel line	Air bleed
Fuel supply advance	Improper fuel supply advance	Adjust
Injector	Need valve seizes or leaks	Replace
	Injector open pressure low	Adjust, replace
Injection pump	Delivery valve seizes	Repair, replace
OK (to be continued)	Plunger worn, or seizes	Repair, replace



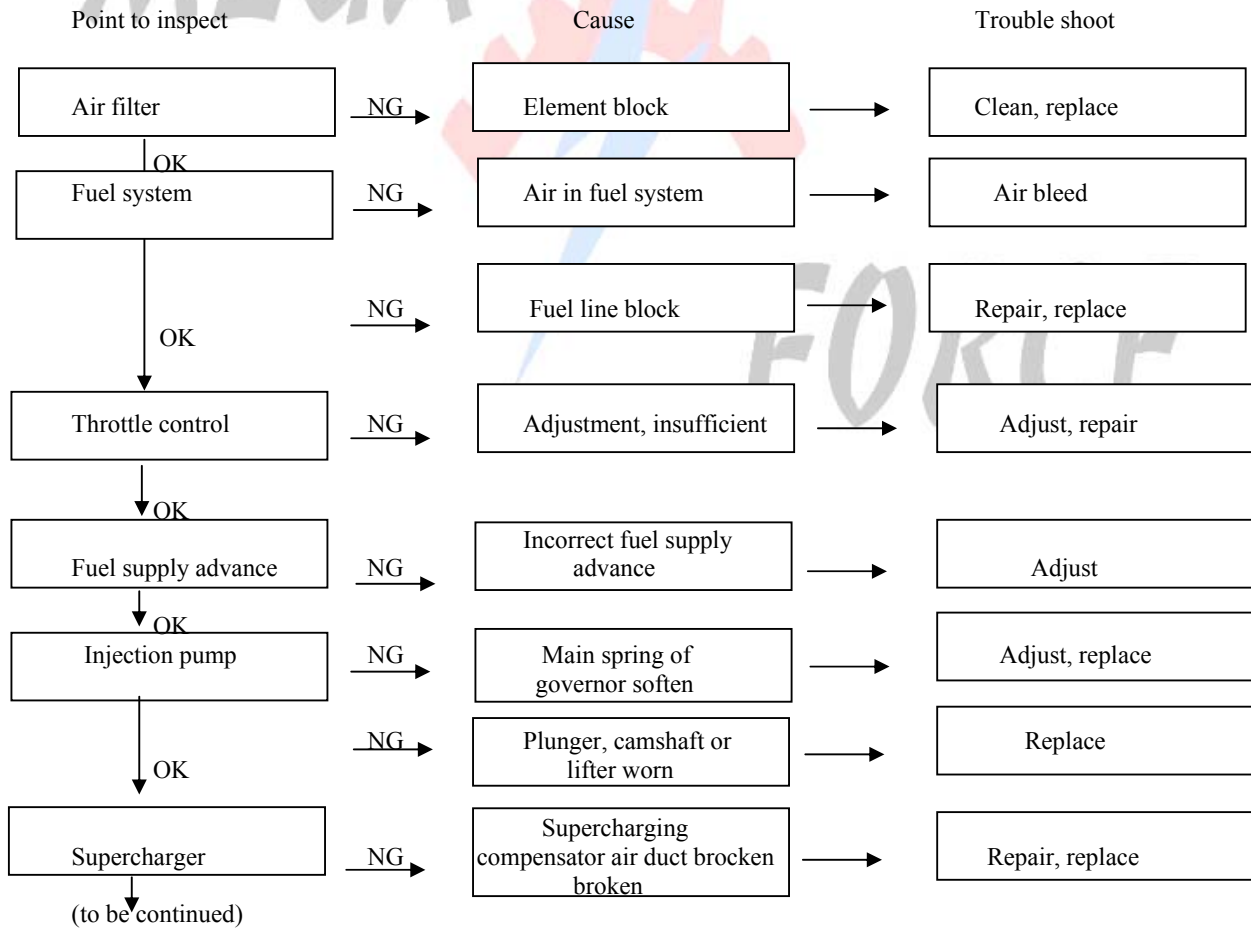
b. Unsteady Idle

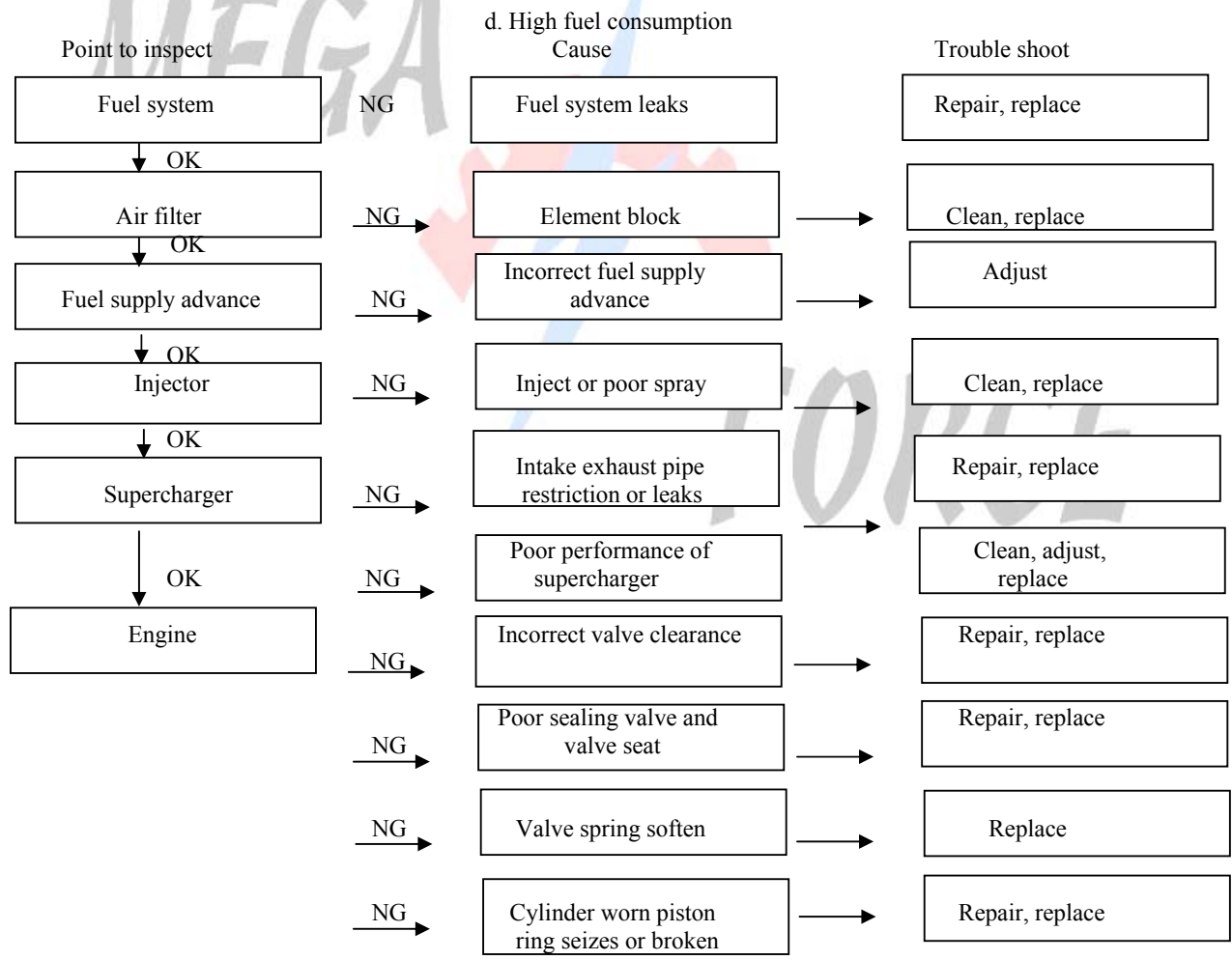
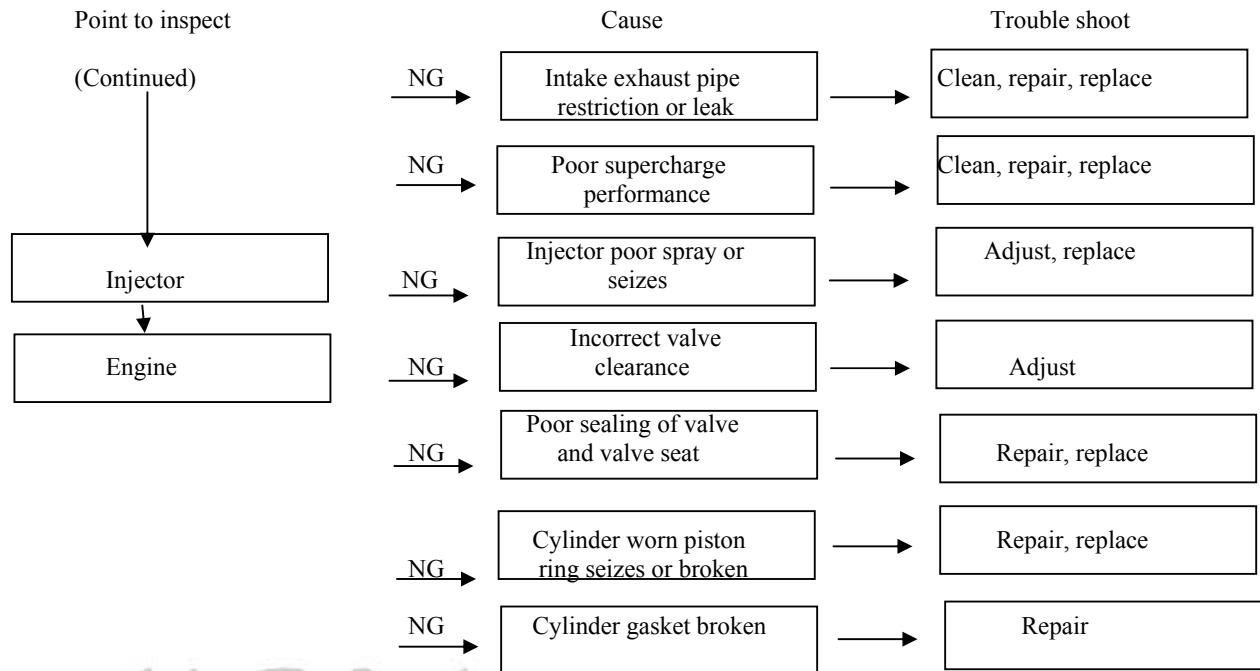


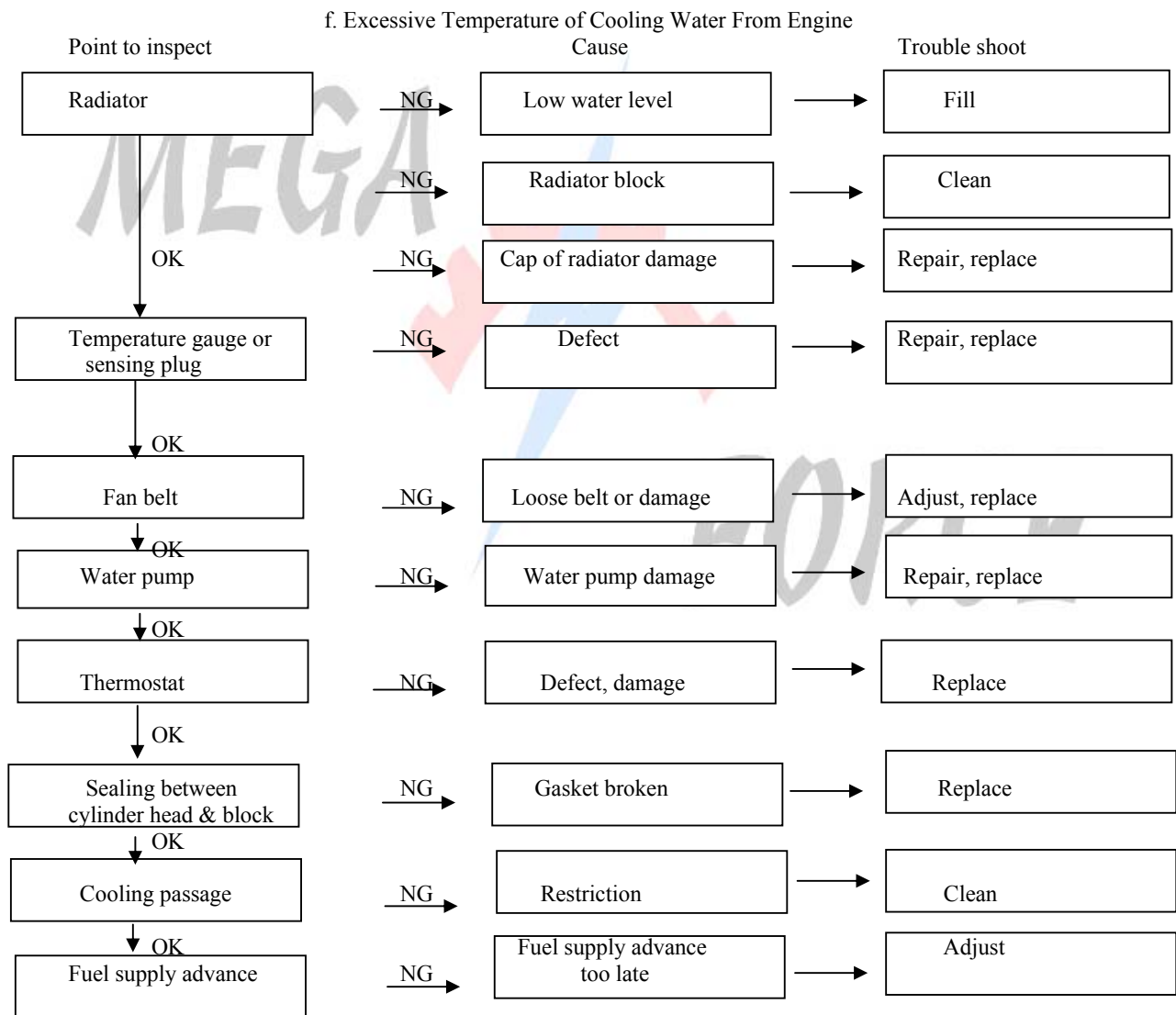
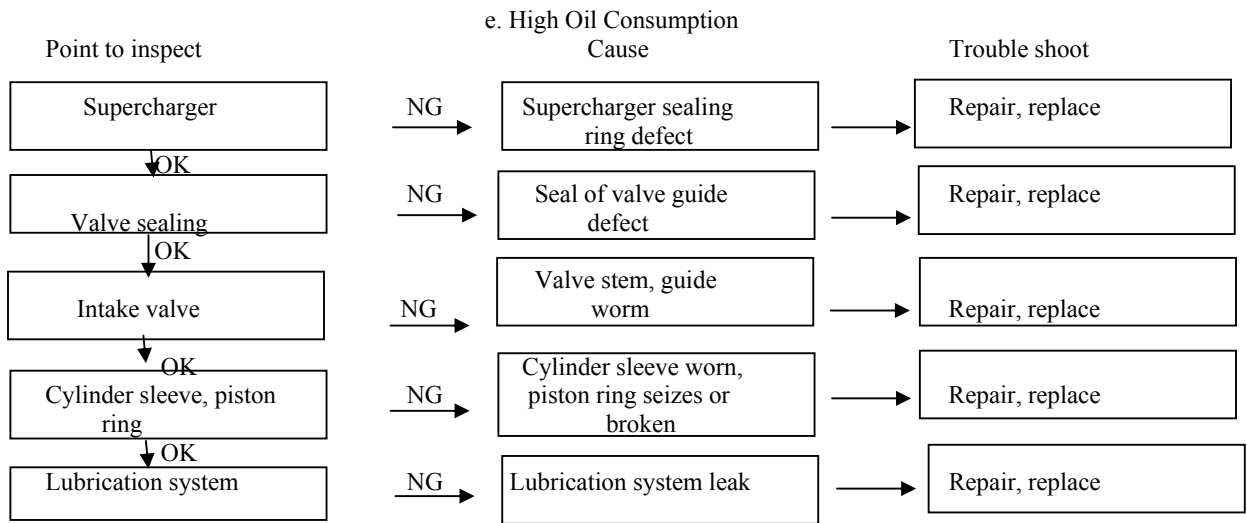
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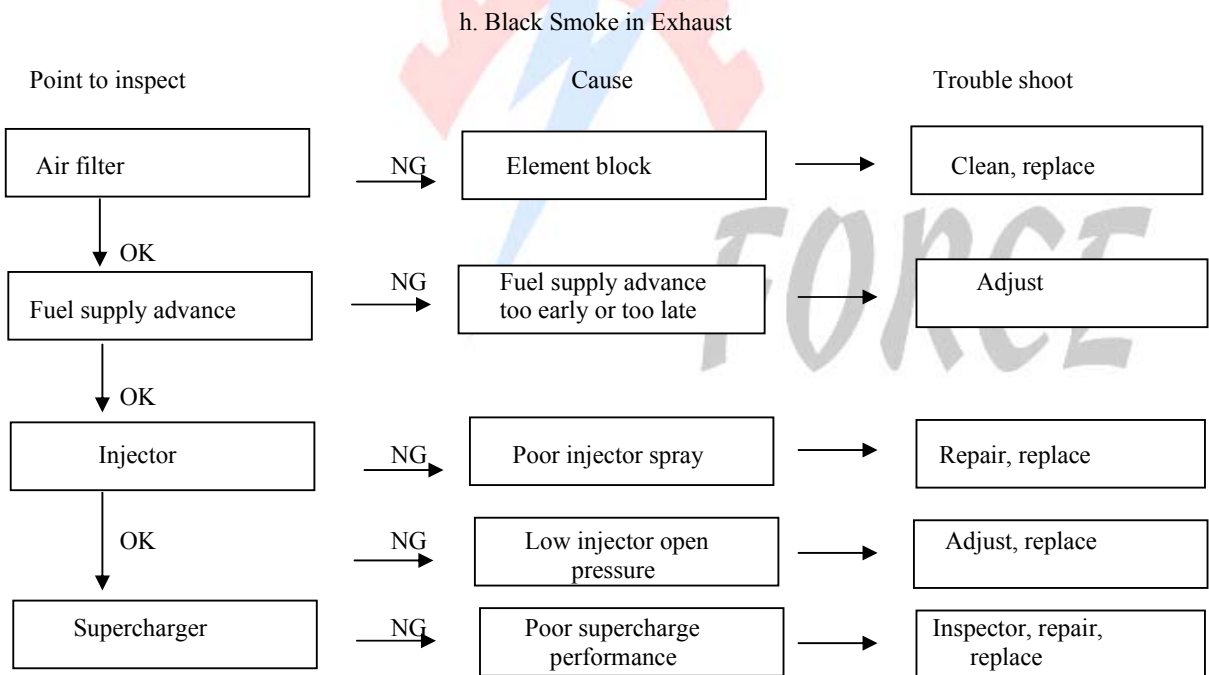
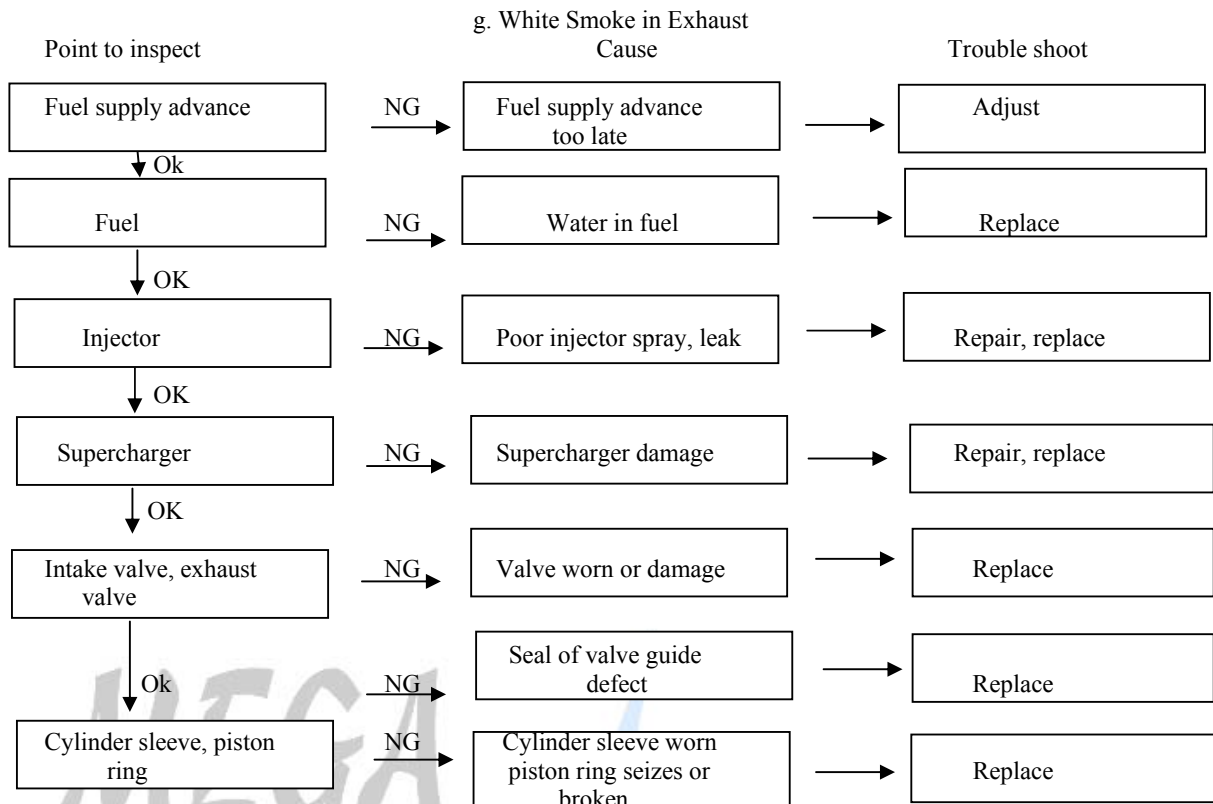


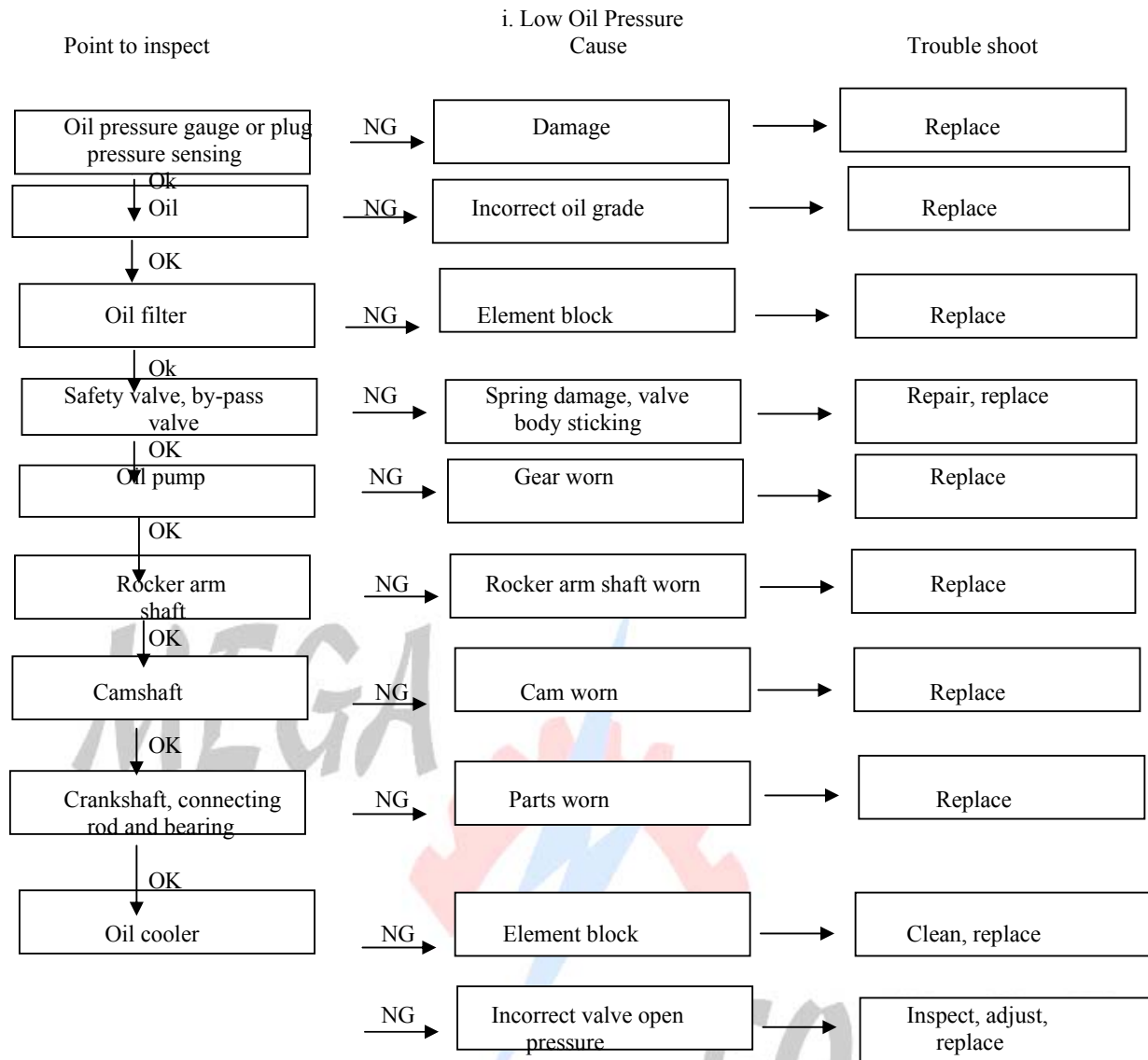
c. Power Loss



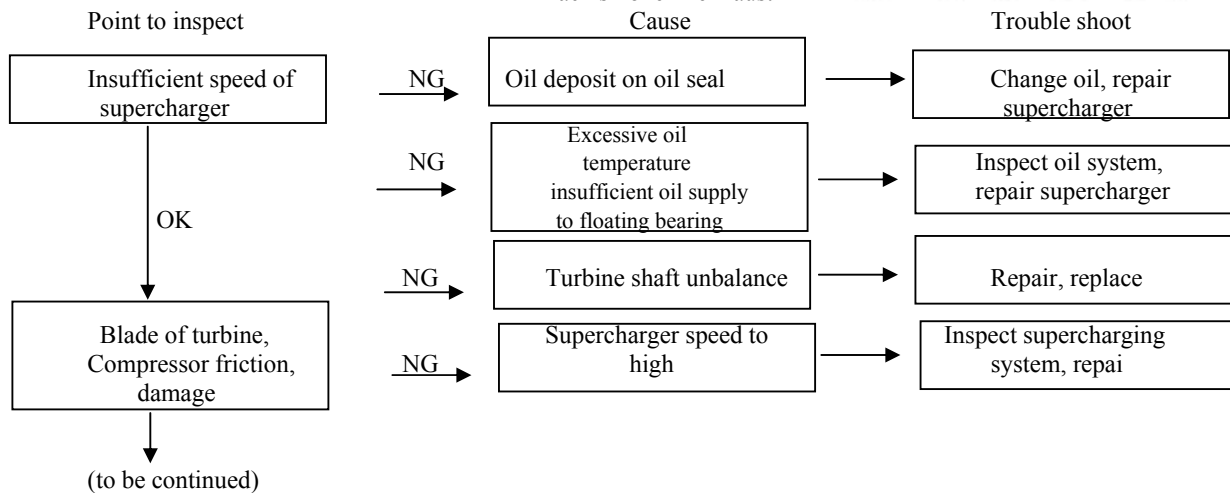








j. Fault Causes by Supercharger
(1) Power loss
Black smoke in exhaust

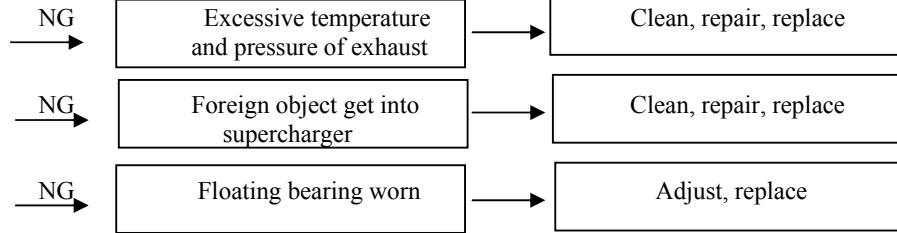


Point to inspect

Cause

Trouble shoot

(Continued)

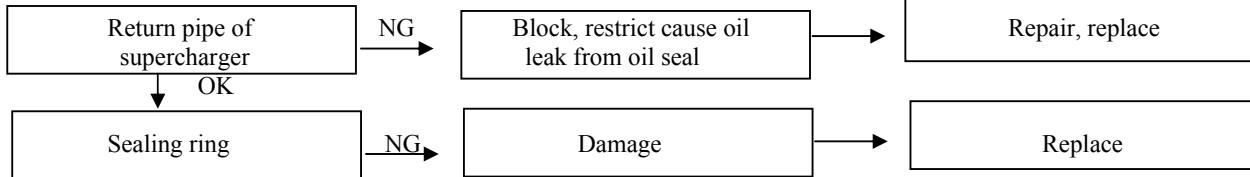


White smoke in exhaust

Point to inspect

Cause

Trouble shoot

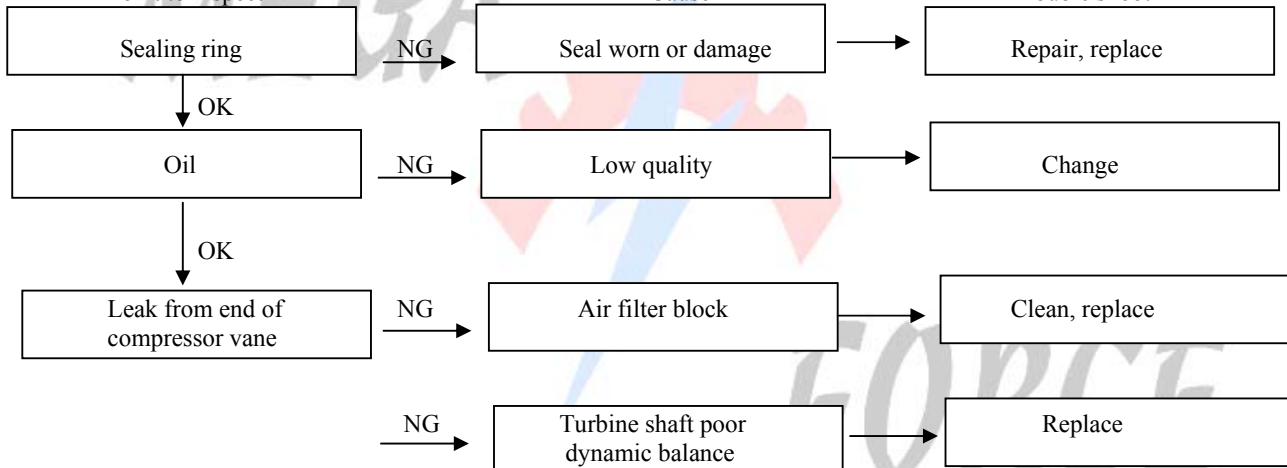


(2) High Oil Consumption

Point to inspect

Cause

Trouble shoot

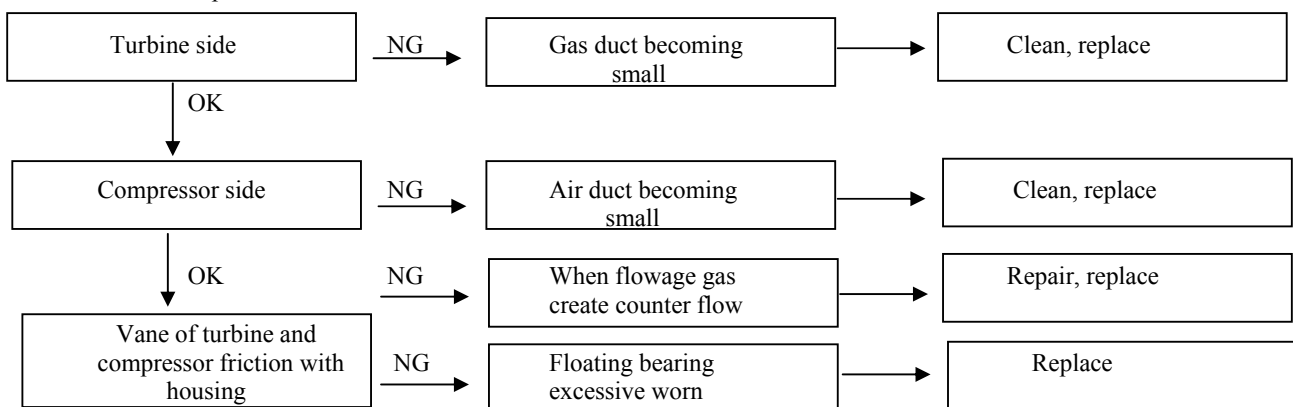


(3) Abnormal Noise

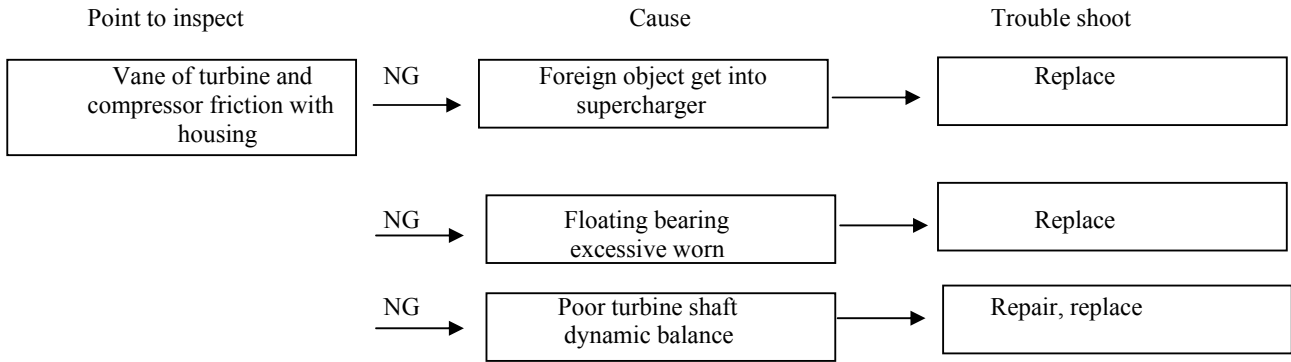
Point to inspect

Cause

Trouble shoot



(4) Vibration



Unit Designation and Conversions

ITEM	Unit designation	Conversion
Power	kW (ps)	1kW = 1.36ps
Tortue	N . m	1kgf . m = 9.81N . m
Speed of revolution	r / min	
Oil, fuel consumption	g / kW . h	1g / ps . h = 1. 36g / kW . h
Volume	L	1L = 1000ml
Area	cm ²	1m ² = 10000cm ²
Pressure	kPa, MPa	1kgf/cm ² = 9.81KPa = 0.098MPa
Force	N	1kgf = 9.81N
Length	m (mm)	1m = 1000mm
Time	min (S)	1min = 80s
Temperature	k(°C)	0°C = 273k
Voltage	V	
Current	A	
Crankshaft angle	°CA	