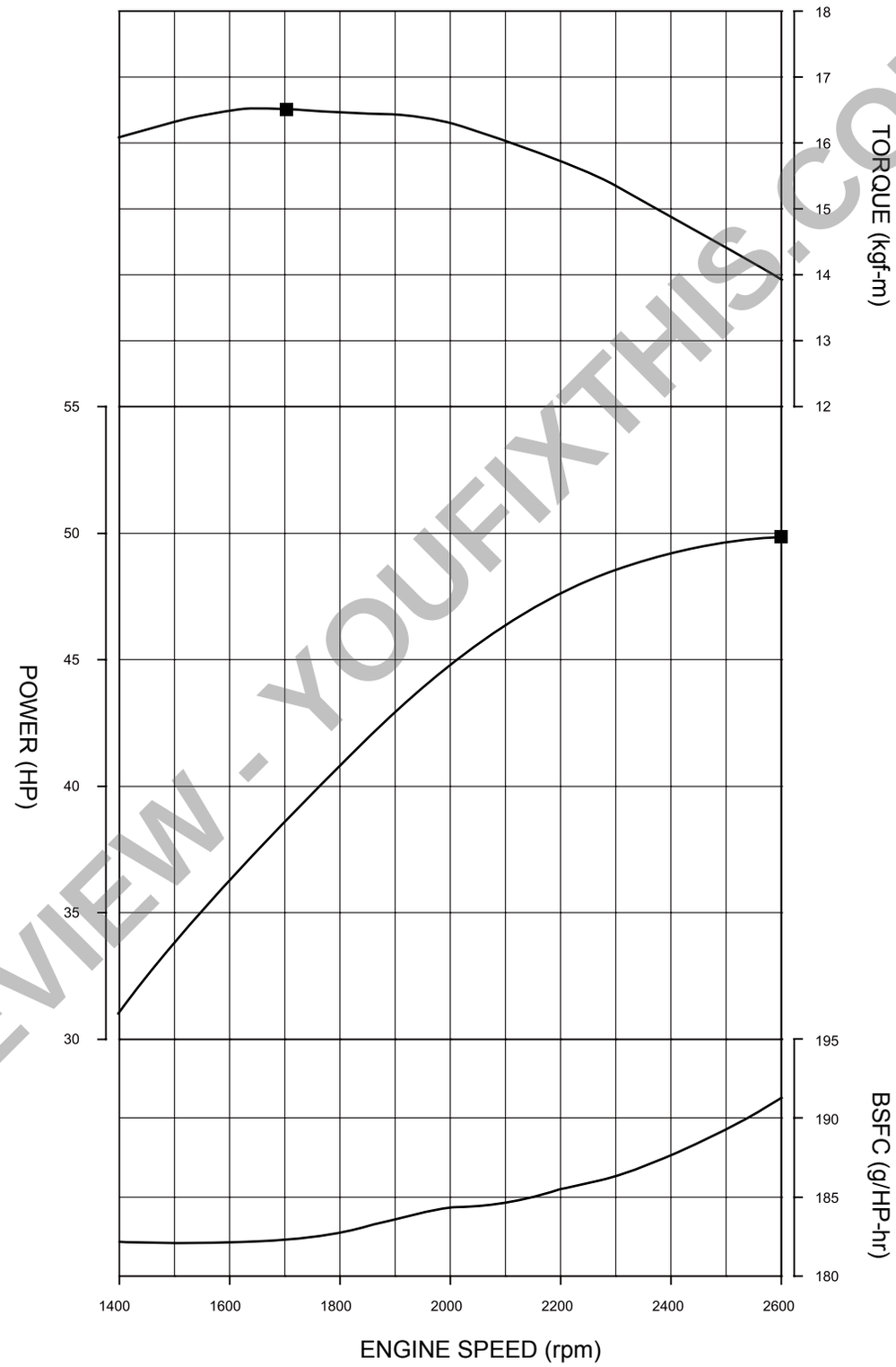
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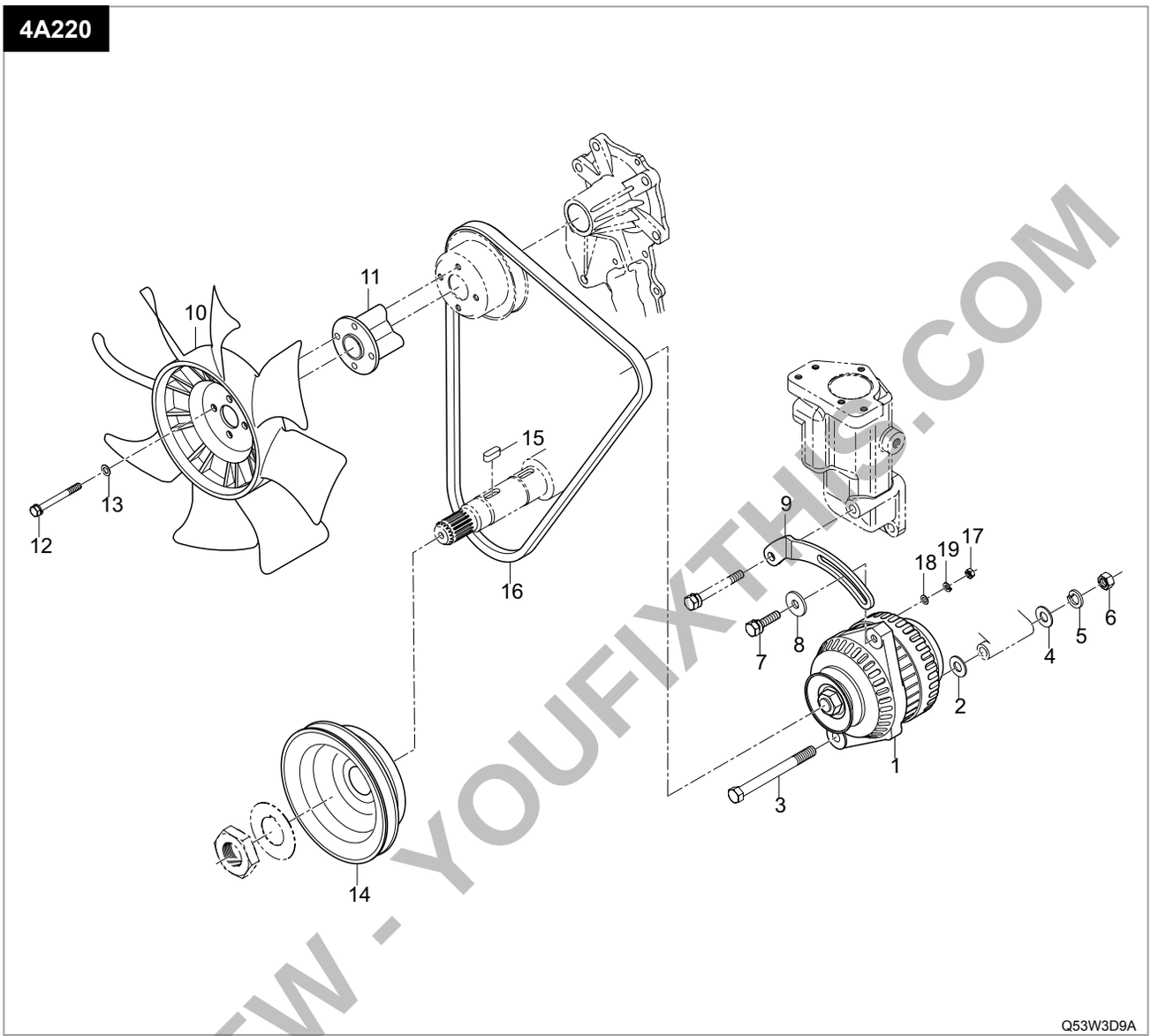
4B243LWMR(C) / 4B243LWHR(C)



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6.18 E200 ALTERNATOR

4A220



REF. NO.	PART. NO.	DESCRIPTION	REF. NO.	PART. NO.	DESCRIPTION
1	E7230-64012	Alternator Assy	11	E6302-74152	Fan Collar
2	E5800-64102	Collar, Ac Battery	12	01023-50665	Bolt, Washer
3	01173-51005	Bolt	13	04012-50060	Washer, Plain
4	04013-50100	Washer, Plain	14	E6306-74282	Pulley, Fan Drive
5	04512-50100	Washer, Spring	15	05712-00720	Key
6	02176-50100	Nut	16	E5800-72531	Belt,fan
7	01123-50832	Bolt, Washer	17	02054-50050	Nut
8	04015-50080	Washer, Plain	18	04012-50050	Washer, Plain
9	E6313-64421	Support, Alternator	19	04512-50050	Washer, Spring
10	E6302-74111	Fan, Cooling			

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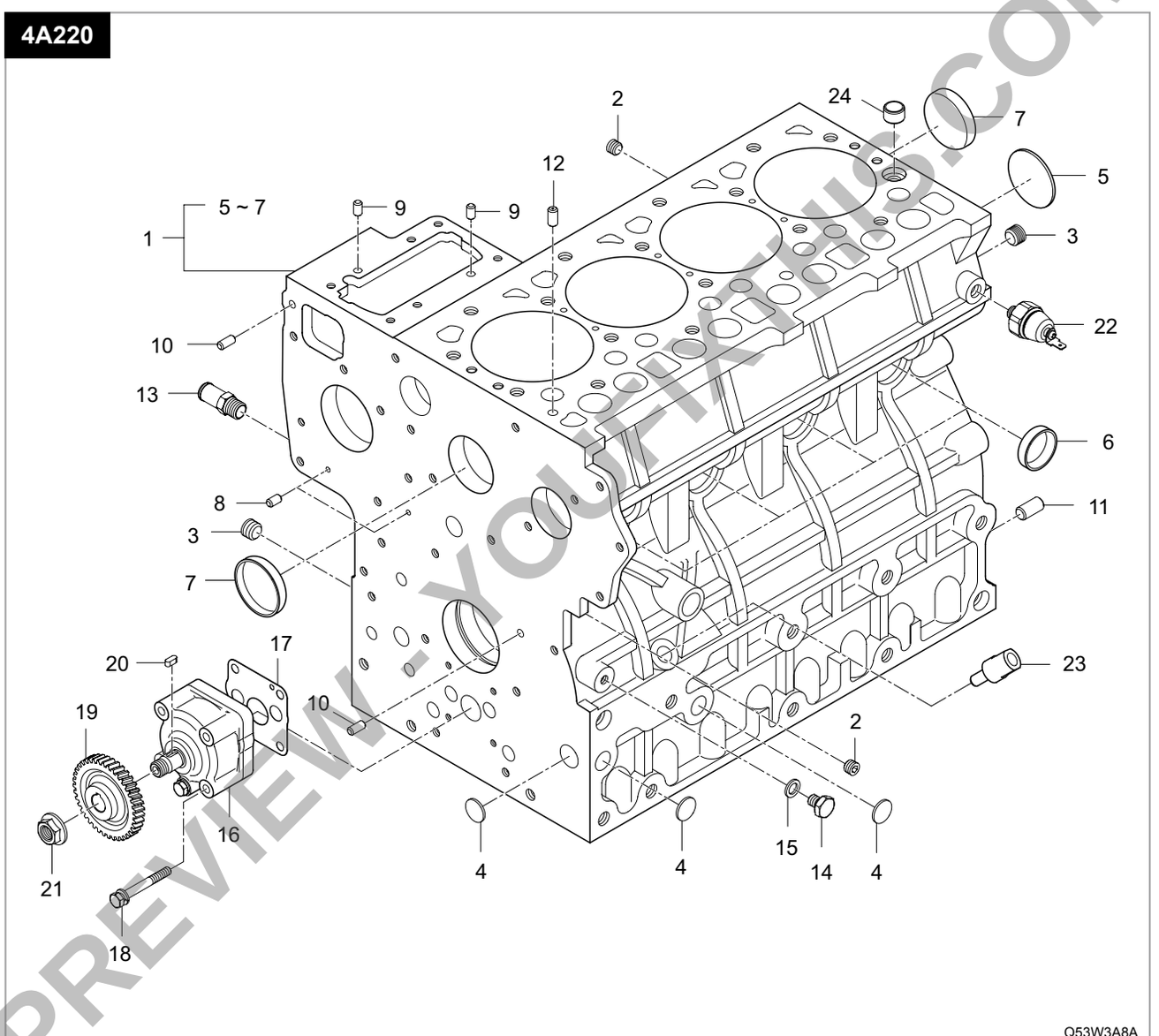
6. EXPLODED VIEW

NOTES

- **The manufacturing parts are subject to change without notice. Therefore, check the parts catalog or electronic manual for latest information.**

6.1 E010 CYLINDER BLOCK

4A220



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10. TIGHTENING TORQUE

10.1 GENERAL USE SCREWS, BOLTS AND NUTS

Screws, bolts and nuts whose tightening torques are not specified in this workshop manual should be tightened according to the table below.

Mark on bolt head	4 No-grade or 4T						7 7T						9 9T		
Bolt material	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of component part	Steel or cast iron			Aluminum			Steel or cast iron			Aluminum			Steel or cast iron		
Type \ Unit	Nm	kgf-m	lbf-ft	Nm	kgf-m	lbf-ft	Nm	kgf-m	lbf-ft	Nm	kgf-m	lbf-ft	Nm	kgf-m	lbf-ft
M6 (6 mm, 0.24 in.)	7.85 ~ 9.31	0.80 ~ 0.95	5.79 ~ 6.87	7.85 ~ 8.82	0.80 ~ 0.90	5.79 ~ 6.50	9.81 ~ 11.2	1.00 ~ 1.15	7.24 ~ 8.31	7.85 ~ 8.82	0.80 ~ 0.90	5.79 ~ 6.50	12.3 ~ 14.2	1.25 ~ 1.45	9.05 ~ 10.4
M8 (8 mm, 0.31 in.)	17.7 ~ 20.5	1.8 ~ 2.1	13.1 ~ 15.1	16.7 ~ 19.6	1.7 ~ 2.0	12.3 ~ 14.4	23.6 ~ 27.4	2.4 ~ 2.8	17.4 ~ 20.2	17.7 ~ 20.5	1.8 ~ 2.1	13.1 ~ 15.1	29.5 ~ 34.3	3.0 ~ 3.5	21.7 ~ 25.3
M10 (10 mm, 0.39 in.)	39.3 ~ 45.1	4.0 ~ 4.6	29.0 ~ 33.2	31.4 ~ 34.3	3.2 ~ 3.5	23.2 ~ 25.3	48.1 ~ 55.8	4.9 ~ 5.7	35.5 ~ 41.2	39.3 ~ 44.1	4.0 ~ 4.5	29.0 ~ 32.5	60.9 ~ 70.6	6.2 ~ 7.2	44.9 ~ 52.0
M12 (12 mm, 0.47 in.)	62.8 ~ 72.5	6.4 ~ 7.4	46.3 ~ 53.5				77.5 ~ 90.2	7.9 ~ 9.2	57.2 ~ 66.5	62.8 ~ 72.5	6.4 ~ 7.4	46.3 ~ 53.5	103 ~ 117	10.5 ~ 12.0	76.0 ~ 86.7
M14 (14 mm, 0.55 in.)	108 ~ 125	11.0 ~ 12.8	79.6 ~ 92.5				124 ~ 147	12.6 ~ 15.0	91.2 ~ 108				167 ~ 704	17.0 ~ 20.0	123 ~ 144
M16 (16 mm, 0.63 in.)	167 ~ 191	17.0 ~ 19.5	123 ~ 141				197 ~ 225	20.0 ~ 23.0	145 ~ 166				260 ~ 304	26.5 ~ 31.0	192 ~ 224
M18 (18 mm, 0.71 in.)	246 ~ 284	25.0 ~ 29.0	181 ~ 209				275 ~ 318	28.0 ~ 32.5	203 ~ 235				344 ~ 402	35.0 ~ 41.0	254 ~ 296
M20 (20 mm, 0.79 in.)	334 ~ 392	34.0 ~ 40.0	246 ~ 289				368 ~ 431	37.5 ~ 44.0	272 ~ 318				491 ~ 568	50.0 ~ 58.0	362 ~ 419

10.2 STUD BOLTS

Material of component part	Steel or cast iron			Aluminum		
Diameter \ Unit	Nm	kgf-m	lbf-ft	Nm	kgf-m	lbf-ft
M8 (8 mm, 0.31 in.)	11.6 ~ 15.6	1.2 ~ 1.6	8.68 ~ 11.5	8.82 ~ 11.6	0.90 ~ 1.2	6.51 ~ 8.67
M10 (10 mm, 0.39 in.)	24.6 ~ 31.3	2.5 ~ 3.2	18.1 ~ 23.1	19.7 ~ 25.4	2.0 ~ 2.6	14.5 ~ 18.8
M12 (12 mm, 0.47 in.)	29.5 ~ 49.0	3.0 ~ 5.0	21.7 ~ 36.1	31.4	3.2	23.1

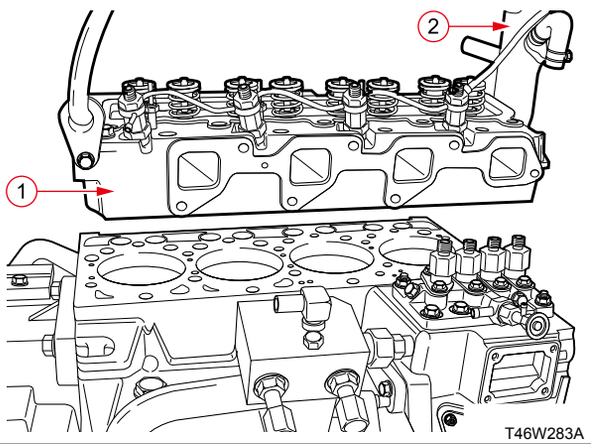
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SYMPTOM	CAUSES	REMEDY
Water in Engine Oil	• Defective cylinder head gasket • Cracked cylinder block or cylinder head	Replace Replace
Low Oil Pressure	• Insufficient engine oil • Clogged oil strainer • Clogged oil filter cartridge • Relief valve stuck with dirt • Weak or broken relief valve spring • Excessive oil clearance of crankshaft bearings • Excessive oil clearance of crank pin bearings • Excessive oil clearance of rocker arm bushings • Clogged oil passage • Improper type of oil • Defective oil pump	Add Clean Replace Clean Replace Replace Replace Replace Clean Use the specified type of oil Repair or replace
High Oil Pressure	• Improper type of oil • Defective relief valve	Use the specified type of oil Replace
Engine Overheating	• Insufficient engine oil • Damaged fan belt or improper tension • Insufficient coolant • Corroded radiator • Corroded coolant flow line • Defective radiator cap • Damaged coolant pipe • Defective thermostat • Defective coolant pipe • Overload running • Defective cylinder head gasket • Improper fuel used	Add Replace or adjust Add Clean or replace Clean or replace Replace Replace Replace Replace Reduce load Replace Use the specified fuel
Coolant leakage	• Damaged mechanical seal on water pump	Replace water pump
Frequently Discharged Battery	• Insufficient battery electrolyte • Fan belt slip • Disconnected wiring • Defective regulator or alternator • Defective battery	Add distilled water and charge Adjust fan belt tension or replace it Connect Replace Replace

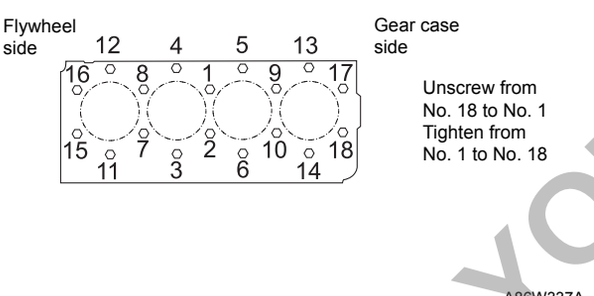
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7.6 CYLINDER HEAD

7.6.1 CYLINDER HEAD REMOVAL



Installation sequence for head bolts



(1) Cylinder head (2) Coolant flange

1. Loosen the head bolts in the reverse sequence as shown in the figure.
   (Follow the sequence in the figure when tightening them.)
2. Lift it slightly with a hoist by using the hook.
3. Remove the coolant flange (2) if necessary.
4. Remove the tappets from the cylinder block.

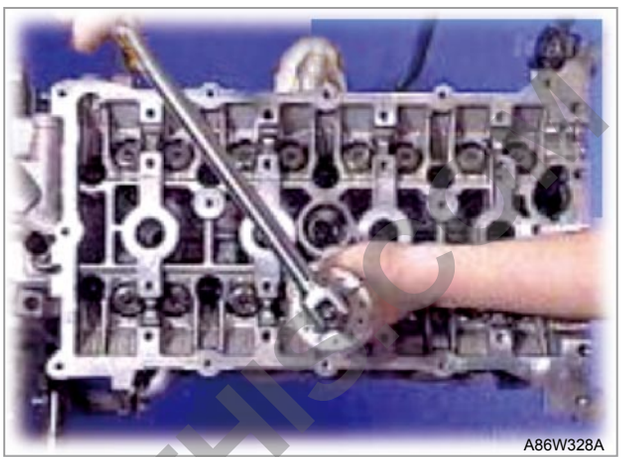
CAUTION

- **Mark the cylinder number to the tappets to prevent them from interchanging.**

REMARK

- **Before installing the tappets, apply engine oil around them.**
- **Always replace the head gasket with a new one. Pay particular attention to its direction and orientation.**

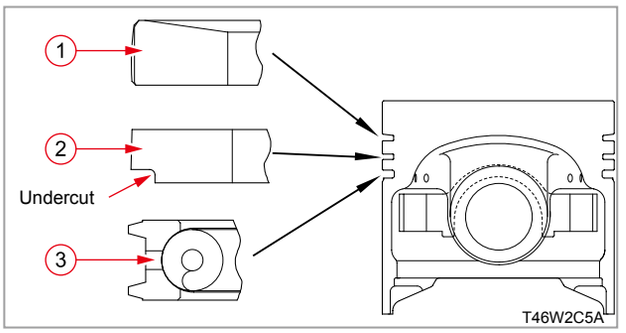
When reassembling





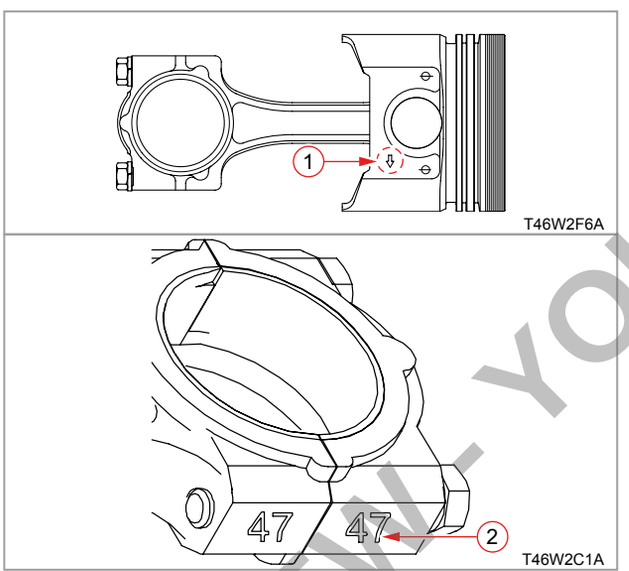
1. Add a little engine oil to the thread and bottom face of bolt head.
2. Tighten the head bolt to 4 kgf-m in accordance with head bolt tightening order.
3. Tighten every bolts 90° with angle torque wrench in accordance with tightening order.
4. Tighten bolts 80° more in accordance with tightening order.
5. Do not re-use old head bolts.

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(1) Top ring (2) 2nd ring (3) Ring

8. Make sure that the undercut of the 2nd ring faces downward.
9. Apply the oil on the crankpin bearing, cylinder wall and connecting rod cap screw.



10. Insert the connecting rod and piston assembly with the arrow mark (1) on the piston and the stamped number (2) on the connecting rod facing the fuel injection pump using a piston ring compressor.
11. Apply the engine oil to the connecting rod cover bolts and hand tighten them all the way down. Then, tighten them with a torque wrench. If they would not be tightened to the specified torque, replace the bolts. The both stamped numbers should be seen from one side.

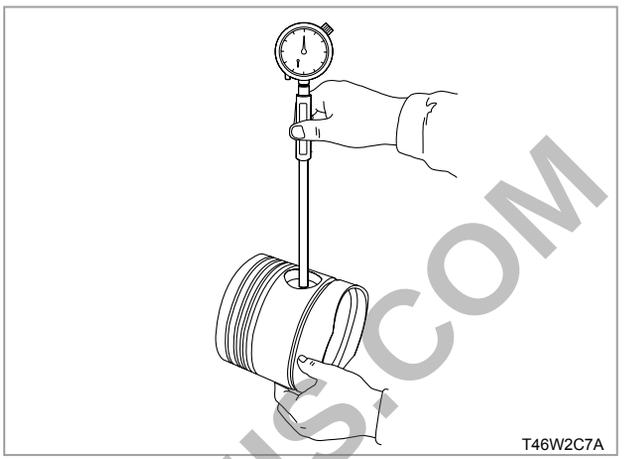
Connecting rod cover bolt 44.1 ~ 49.0 Nm
4.5 ~ 5.0 kgf-m
32.5 ~ 36.1 lb-ft

IMPORTANT

- **Mark the cylinder number on the piston and connecting rod to prevent them from interchanging.**
- **Be careful not to damage the chrome-plate area on the piston ring when pressing the piston and ring assembly into the cylinder.**

7.16 PISTON AND CONNECTING ROD CHECK

7.16.1 PISTON PIN BORE



1. Measure the I.D. of piston pin bore (lengthwise and widthwise of the piston) with a cylinder gauge.
2. If the measured value exceeds the allowable limit, replace the piston.

Piston pin bore I.D.	Specified value	25.000 ~ 25.006 mm (0.9843 ~ 0.9845 in.)
	Allowable limit	25.03 mm (0.9854 in.)

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5.7 BUBBLE TEST FOR RADIATOR

NOTES

Checking if air is leaked through the crack on the cylinder wall

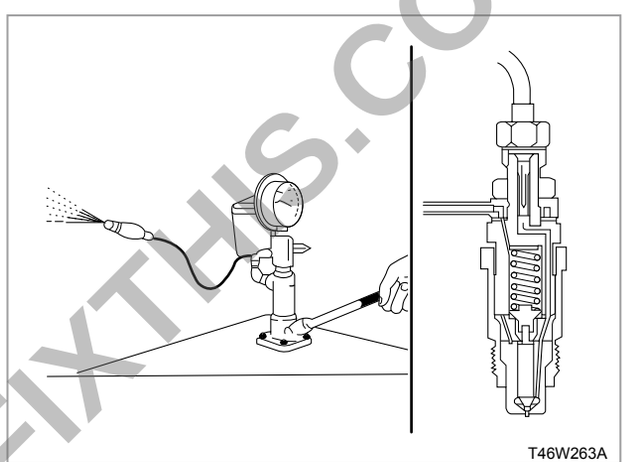
1. Check the coolant level of the radiator and the reservoir tank. Add the coolant if necessary.
2. Start the engine with the radiator cap closed and the reservoir tank cap open.
3. Check if any bubble can be seen in the overflow hose on the bottom of the reservoir tank around 5 minutes later.
4. If any bubble can be seen, remove the engine cylinder head to check the head gasket for damage, the cylinder bore for crack and the cylinder head for crack. Replace the components if necessary.

5.8 INJECTION NOZZLE INSPECTION

CAUTION

- **Never contact with spraying diesel under pressure. It may penetrate the skin and cause the serious injury.**
- **Be sure nobody is in direction of the spray.**

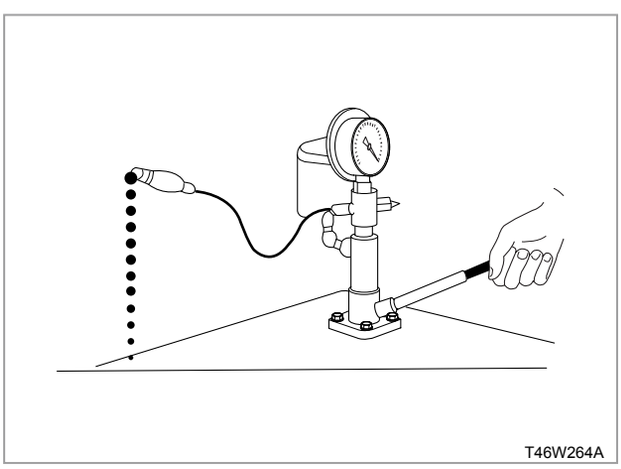
A. FUEL INJECTION PRESSURE


T46W263A

1. Set the injection nozzle to the nozzle tester.
2. Measure the injection pressure.
3. If the measurements are not within the specified range, replace the injection nozzle.

Specified value of fuel injection pressure.....14.70 ~ 15.68 MPa
150 ~ 160 kgf/cm²
2,133 ~ 2,275 psi

B. FUEL TIGHTNESS OF NEEDLE VALVE SEAT


T46W264A

1. Set the injection nozzle to the nozzle tester.
2. Apply 130 kgf/cm² of pressure consistently for 10 seconds and check if the fuel is leaked from the nozzle.
3. If the fuel is leaked, replace the nozzle.

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4. TROUBLESHOOTING

Symptom	Causes	Remedy
Engine Does Not Start	• No fuel	Add fuel
	• Air in fuel system	Bleed air
	• Water in fuel system	Change fuel and repair or flush fuel system
	• Clogged fuel pipe	Clean
	• Clogged fuel filter	Clean or replace
	• Excessively high viscosity of fuel or engine oil at low temperature	Use the specified fuel or engine oil
	• Fuel with low cetane number	Use the specified fuel
	• Fuel leak due to loose injection pipe mounting nut	Tighten nut
	• Incorrect injection timing	Adjust
	• Worn fuel camshaft	Replace
	• Clogged injection nozzle	Clean or replace
	• Defective fuel injection pump	Repair or replace
	• Defective fuel transfer pump	Repair or replace
	• Seizure of transfer pump, defective piston, cylinder bore or bearing	Repair or replace
	• Compression leak from cylinder	Replace head gasket, tighten cylinder head screws, glow plug and nozzle holder
	• Improper valve seating, damaged valve spring, valve seized	Repair or replace
	• Improper valve timing	Correct or replace timing gear
	• Worn piston ring and bore	Repair or replace
	• Excessive valve clearance	Adjust
Start motor Does Not Run	• Discharged battery	Charge
	• Defective start motor	Repair or replace
	• Defective key switch	Repair or replace
	• Disconnected wiring	Connect
Engine Running is Not Smooth	• Clogged or dirty fuel filter	Clean or replace
	• Clogged Air cleaner	Clean or replace
	• Fuel leak due to loose injection pipe mounting nut	Tighten nut
	• Defective fuel injection pump	Repair or replace
	• Incorrect nozzle opening pressure	Adjust or replace
	• Seized or clogged nozzle	Repair or replace
	• Clogged fuel overflow pipe	Clean or replace
	• Defective governor	Repair or replace
Either White or Blue Exhaust Smoke is Produced	• Excessive engine oil	Reduce to the specified level
	• Worn piston ring and bore or seized piston ring	Repair or replace
	• Incorrect injection timing	Adjust
	• Insufficient compression pressure	Adjust valve clearance
Either Black or Dark Gray Exhaust Smoke is Produced	• Overheat or overload	Reduce load
	• Low grade fuel used	Use the specified fuel
	• Clogged fuel filter	Clean or replace
	• Clogged Air cleaner	Clean or replace
Insufficient Output	• Incorrect injection timing	Adjust
	• Seized engine components	Repair or replace
	• Uneven fuel injection	Repair or replace the fuel injection pump
	• Insufficient nozzle injection	Repair or replace the nozzle
	• Compression pressure leak	Replace cylinder head gasket, check tightness of cylinder head screws and nuts, glow plug and nozzle holder

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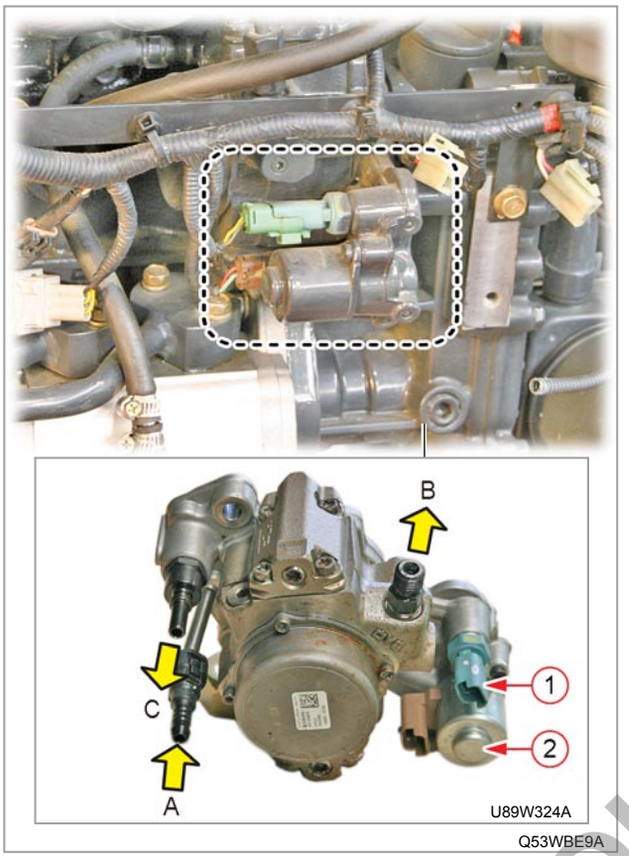
5. SPECIFICATIONS

MODEL				NX4510			
Engine	Model			3F183T - TMR4/TMC4	3F183T - THR4/THC4	4A220 LWMR/LWMC	4A220 LWHR/LWHC
	Number of cylinders			3		4	
	Total displacement	cc(cu in.)		1,826 (111.4)		2,197 (134)	
	Bore x Stroke	mm (in.)		87 X 102.4 (3.4 X 4.0)		87 X 92.4 (3.43 X 3.64)	
	Engine gross power	HP(Kw)		45 (33.6)			
	Rated revolution	(rpm)		2,600			
Capacity	Fuel tank	ℓ (U.S.gal)		56 (14.78)			
	Engine coolant	ℓ (U.S.gal)		7.7 (2.03)			
	Engine oil (with filter)	ℓ (U.S.gal)		6.0 (1.58)		8.0 (2.1)	
	Transmission case	ℓ (U.S.gal)		55 (14.53)	45 (11.89)	55 (14.53)	45 (11.89)
	Front axle support	ℓ (U.S.gal)		7.0 (1.85)			
Driving system	Clutch			Dry type single stage	None	Dry type single stage	None
	Transmission system	Shuttle		Synchro shuttle	Hydrostatic drive	Synchro shuttle	Hydrostatic drive
		Main shift		Synchro 4 stages	HST	Synchro 4 stages	HST
		Range shift		Constant-mesh 3 X 2 stages	Constant-mesh, 3	Constant-mesh 3 X 2 stages	Constant-mesh, 3
		Number of gears		F24 X R24	Continuously variable transmission	F24 X R24	Continuously variable transmission
	Speed (Agr. tire) km/h(mph)	Engine 2,600 (Standard)/ 2.800 (Max.)	F	0.17 ~ 27.22 (0.11 ~ 16.91)	0 ~ 28.63 (0 ~ 17.79)	0.18 ~ 28.65 (0.11 ~ 17.80)	0 ~ 30.14 (0 ~ 18.73)
			R	0.15 ~ 24.19 (0.09 ~ 15.03)	0 ~ 28.63 (0 ~ 17.79)	0.16 ~ 25.46 (0.10 ~ 15.82)	0 ~ 30.14 (0 ~ 18.73)
	Four wheel drive			Hydraulic dog clutch			
	Brake system			Wet multi disc			
	Differential lock			Rear standard			
Tire	Agr.	Front wheel	in.	8 - 16 / 6PR		9.5 - 16 / 6PR	
		Rear wheel	in.	13.6 - 24 / 6PR		13.6 - 26 / 6PR	
Hydraulic system	Pump oil flow			62.4	67.6	62.4	67.6
	Steering			Non-load reaction, Hydrostatic			
	Hydraulic lift control			Mech.			
	3-point hitch type			SAE Category Ⅰ			
	Max. lifting capacity kgf (lbs)	From 24 in. behind		1,441 (3,177)			
		Lift link end		1,605 (3,538)			
PTO	Type			Independent, HYD multi disc clutch			
	Rear	PTO shaft dimension	in.	1 - 3/8", 6 splines			
		PTO Speed (PTO rpm/ engine rpm)	1st rpm	540 / 2,387		540 / 2,387	540 / 2,387
			2nd rpm	-	-	540E / 2,482	-
	Mid		rpm	2,000			
Min. turning radius (when braking)			mm (in.)	3.50 (137.8)			
Weight (including cabin, excluding front weight)			kgf (lbs)	1,840 (4,056) / 1,992 (4,392)	1,915 (4,222) / 2,063 (4,548)	1,840 (4,056) / 1,992 (4,392)	1,840 (4,056) / 1,988 (4,383)
Max. Drawbar vertical load			kgf (lbs)	750 (1,655)			
Max. Trailer loading weight			kgf (lbs)	4,300 (9,480)			

NOTES: The specifications are subject to change without notice.

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3.1.2 HIGH PRESSURE FUEL PUMP (FOR INJECTION)



Q53WBE9A

(1) Fuel temperature sensor
(2) IMV

(A) From fuel filter (entrance)
(B) To fuel rail (exit)
(C) To fuel cooler (return)

The high-pressure fuel pump consists of the low-pressure pump (vane pump) which sucks fuel from the fuel tank, high-pressure pump which supplies fuel at a high pressure to the common rail, and IMV (Inlet Metering Valve) which controls the amount of fuel supplied to the high-pressure pump.

The high-pressure fuel pump is connected to and run by the idle gear which is driven by the crankshaft. It is also equipped with the pressure control valve and fuel temperature sensor, apart from the components mentioned above. The pressure control valve opens the oil passage to decrease pressure in the pump when pressure in the common rail rises excessively.

Also, the fuel temperature sensor detects the temperature at the inlet of the high-pressure fuel pump and sends this information to the ECU. Since excessively hot fuel can damage the high-pressure fuel pump, the ECU limits the amount of injected fuel to prevent the engine RPM from rising over a certain level when the fuel temperature rises over the specified value.

This high-pressure fuel pump is the high-pressure pump for the Delphi DFP 4.4 common rail and features compact and lightweight design.

REMARK

ADJUSTMENT OF HIGH-PRESSURE PUMP TIMING

- The conventional fuel injection pump pressurized and distributed fuel to each injector. In this case, the pump timing should be set as fuel is injected to the necessary position in a cycle. However, the high-pressure pump of the common-rail engine is not used for fuel injection, so it is not necessary to set its timing for the engine. However, it should be set and adjusted to synchronize the pressure drop by each injection with the peak pressure occurred by the pump in order to enhance pressure control performance. This phase setting enhances pressure stability and reduces fuel flow difference between the cylinders.

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REF. NO.	PART. NO.	DESCRIPTION	REF. NO.	PART. NO.	DESCRIPTION
1	E6340-a0012	Cylinder Blcok Assy	13	E5500-73342	Hose, Cooling Water Return
2	E5900-96021	Plug	14	15221-3361-1	Plug
3	E5900-96031	Plug	15	15021-3366-1	Gasket
4	06311-75018	Plug	16	E6200-35013	Oil Pump Assy
5	06311-75045	Plug	17	E5500-35154	Gasket, Oil Pump
6	15221-0338-3	Cap	18	01023-50650	Bolt, Washer
7	15221-0339-2	Cap	19	19202-3566-1	Gear, Oil Pump Drive
8	05012-00408	Pin, Parallel	20	05712-00410	Key
9	05012-00609	Pin, Parallel	21	E6300-35681	Nut, Flange
10	05012-00612	Pin, Parallel	22	E5500-39013	Oil Switch
11	05012-01018	Pin, Parallel	23	E5752-35692	Guide, Oil Gauge
12	15221-3365-1	Pin, Tube	24	E6301-33812	Tube Pin

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2.4 SERVICING SPECIFICATIONS

2.4.1 A SERIES ENGINE

Engine body

(4A220)

Item			Specification	Allowable limit
A. Cylinder Head	Cylinder head surface flatness		-	0.05 mm / 100 mm (0.002 in. / 3.94 in.)
	T.D.C clearance		0.750 ~ 0.9 mm (0.0294 ~ 0.0354 in.)	-
	Gasket Thickness		Tightened 1.21(0.0476 in.)	-
	Compression Pressure (When cranking with starter motor) ※ Variance of compression pressure among cylinders should be 10% or less.		3.24 ~ 3.73 MPa 33 ~ 38 kgf/cm^2 469 ~ 540 psi	2.55 MPa 26 kgf/cm^2 370 psi
B. Valves	Valve Clearance (Cold)	IN.	0.25 mm (0.010 in.)	± 0.05 mm (0.002 in.)
		EX.	0.30 mm (0.012 in.)	± 0.05 mm (0.002 in.)
	Valve Seat Angle	IN.	60° (1.047 rad.)	-
		EX.	45° (0.785 rad.)	-
	Valve Face Angle	IN.	60° (1.047 rad.)	-
		EX.	45° (0.785 rad.)	-
	Valve recess		0.2 ~ 0.5 mm (0.0079 ~ 0.0197 in.)	0.8 mm (0.0315 in.)
	Clearance Between Valve Stem and Valve Guide		0.040 ~ 0.070 mm (0.0016 ~ 0.0028 in.)	0.10 mm (0.039 in.)
	Valve Stem O.D.		7.960 ~ 7.975 mm (0.31339 ~ 0.31398 in.)	-
	Valve Stem I.D.		8.015 ~ 8.030 mm (0.3156 ~ 0.3161 in.)	-
C. Valve Timing	Intake Valve	Open	0.14 rad (8°) before T.D.C	-
		Close	0.611 rad (35°) after B.D.C	
	Exhaust Valve	Open	0.785 rad (45°) before B.D.C	-
		Close	0.140 rad (8°) after T.D.C	
D. Cylinder	Bore I.D.		87.000 ~ 87.022 mm (3.425 ~ 3.426 in.)	0.15 mm (0.0059 in.)

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8. MAINTENANCE

8.1 MAINTENANCE SCHEDULE CHART

No.	Inspection Items	Interval			Run hour								Run age		Remarks	
					50	100	200	400	600	800	1500	3000	1 year	2 years		
1	Engine oil & engine oil filter	Replace	A, B Series		⦿	●										
		Replace	F Series	Tier 3	⦿		●									
				Tier 4			●									
2	Transmission fluid filter	Replace			⦿		●									
3	Transmission fluid	Replace						●								
4	Front axle oil	Replace			⦿			●								
5	Front axle pivot	Adjust							●							
6	Engine ignition system	Check			●											
7	Greasing	Apply			●											
8	wheel bolt	Check			●											
9	Battery condition	Check				●									*3	
10	Air cleaner element	Clean				●									*1	#
		Replace											●		*2	
11	Fuel filter element	Replace					●									#
12	Fan belt	Adjust				●									*3	
13	Clutch pedal play	Adjust				●										
14	Brake pedal play	Adjust				●										
15	Radiator hose Clamp	Check					●									
		Replace												●		
16	Power steering hose and oil line	Check					●									
		Replace												●		
17	Fuel line	Check				●										#
		Replace												●		
18	Intake air hose	Check					●									
		Replace												●	*3	
19	Toe-in	Adjust					●									
20	Engine valve clearance	Adjust								●						

* Tier3: Without DPF, Tier4: With DPF

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KIOTI

NX4510(C)(H)(CH)
NX5010(C)(H)(CH)
NX5510(C)(H)(CH)
NX6010H(CH)

SAFETY FIRST

CHAPTER 1

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2. TRACTOR EXTERIOR VIEW



3. IDENTIFICATION NUMBER

3.1 TRACTOR SERIAL NUMBER



The tractor's serial number is attached on the front right side of the front axle frame.

TRACTOR SERIAL NUMBER ASSIGNMENT STANDARD

N N 3 8 0 0 0 0 2

Production serial number
Example) 0 0 0 0 2: The second chassis manufactured in that year

Model
Example)

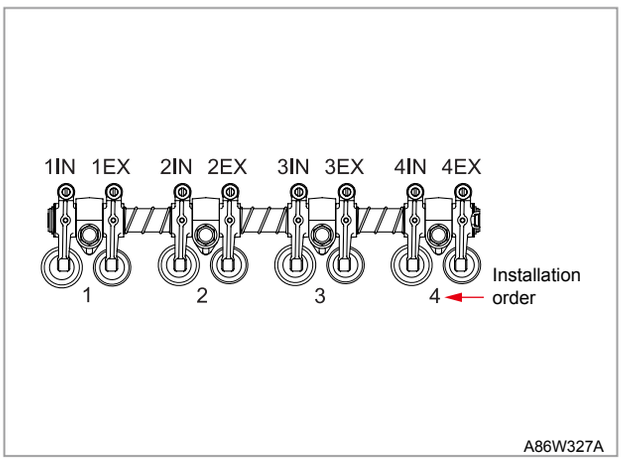
⋮	⋮
N38	NX5510CH-EU
N69	NX5510CH-AU
N39	NX6010CH
⋮	⋮

Year of manufacturing
Example)

:	:
D	2004
E	2005
F	2006
G	2007
H	2008
J	2009
K	2010
L	2011
M	2012
N	2013
:	:

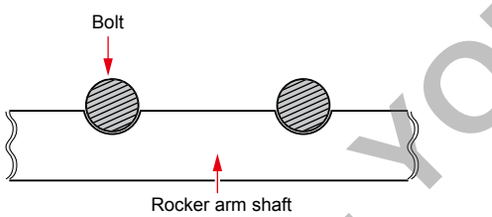
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2. Tighten the rocker arm support bolts to the specified torque in several steps with the specified sequence as shown in the figure.
3. Adjust the valve clearance after assembling the rocker arm assembly.

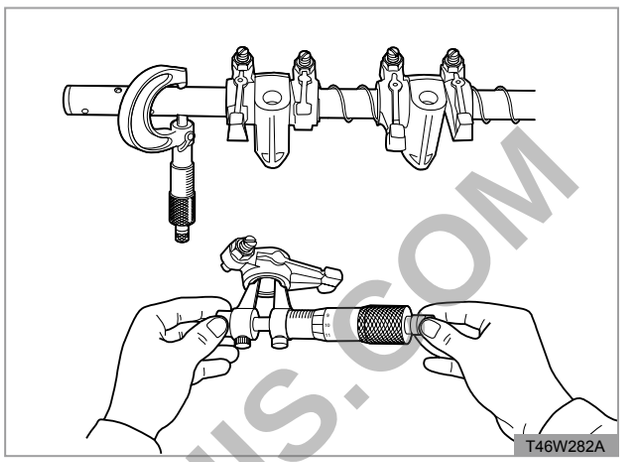
IMPORTANT



- **To tighten the rocker arm support bolt, the groove on the rocker arm shaft should face the bolt.**

Rocker arm mounting bolt
(M10) .....60.8 ~ 73.5 Nm
6.2 ~ 7.2 kgf-m
44.8 ~ 54.2 lb-ft

7.5.2 ROCKER ARM ASSEMBLY CHECK

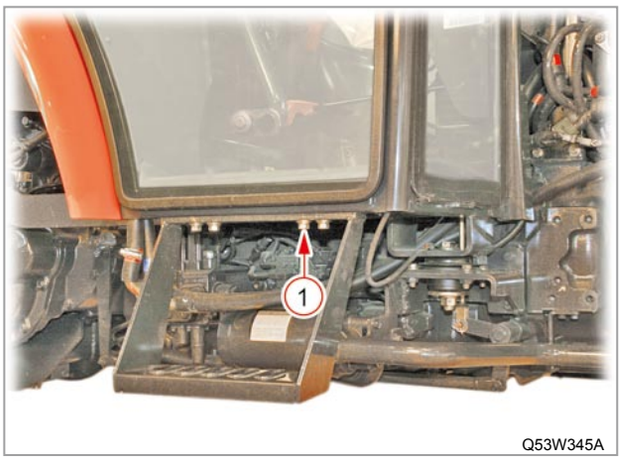


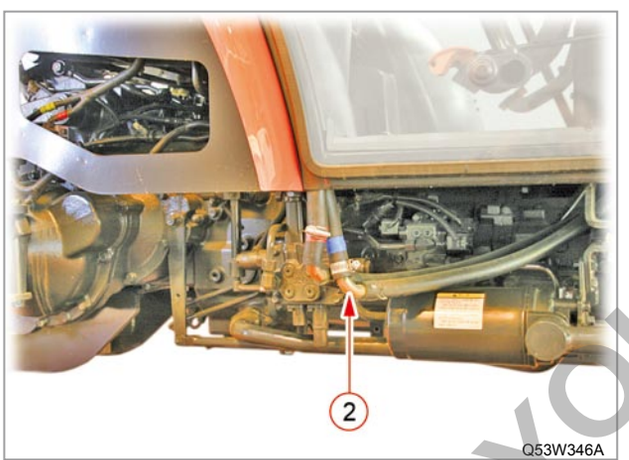
1. Measure the rocker arm I.D. with an inside micrometer.
2. Measure the rocker arm shaft O.D. with an outside micrometer.
3. If the clearance exceeds the allowable limit, replace the rocker arm.
4. If the clearance still exceeds the allowable limit after replacing the rocker arm, replace the rocker arm shaft.

Clearance	Specified size	0.020 ~ 0.070 mm (0.00079 ~ 0.00276 in.)
	Allowable limit	0.15 mm (0.0059 in.)
Rocker arm shaft O.D.	Specified size	18.955 ~ 18.980 mm (0.74626 ~ 0.74724 in.)
Rocker arm I.D.	Specified size	19.000 ~ 19.025 mm (0.74803 ~ 0.74902 in.)

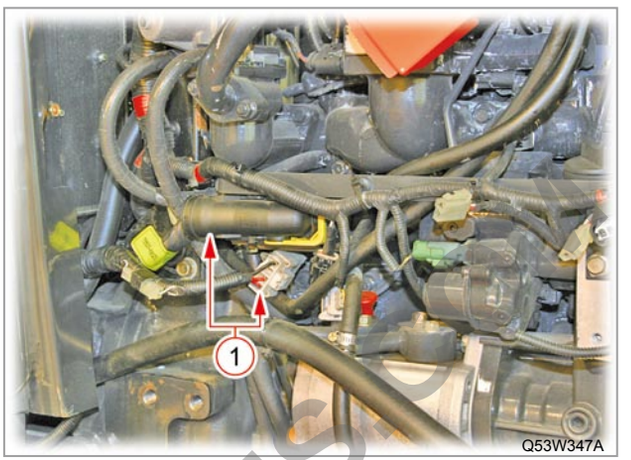
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RIGHT SIDE OF BODY

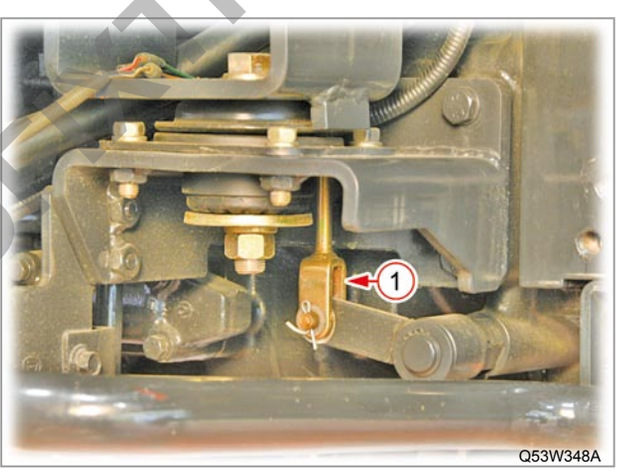




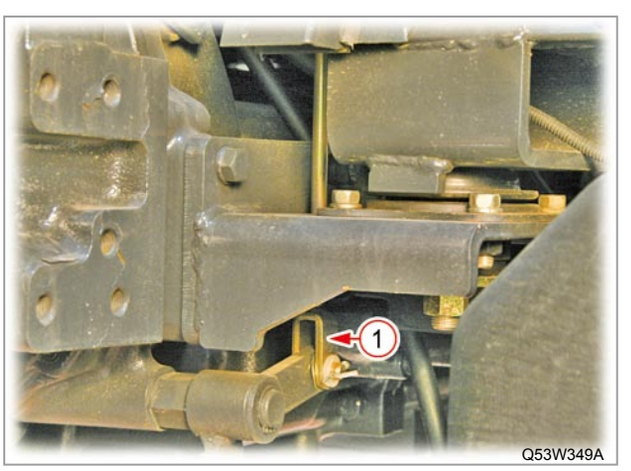
6. Unscrew the step mounting bolts (1) to remove the step (RH). Then, disconnect the heater hose connection (2) to drain coolant.



7. Disconnect the cabin wiring connector (1).

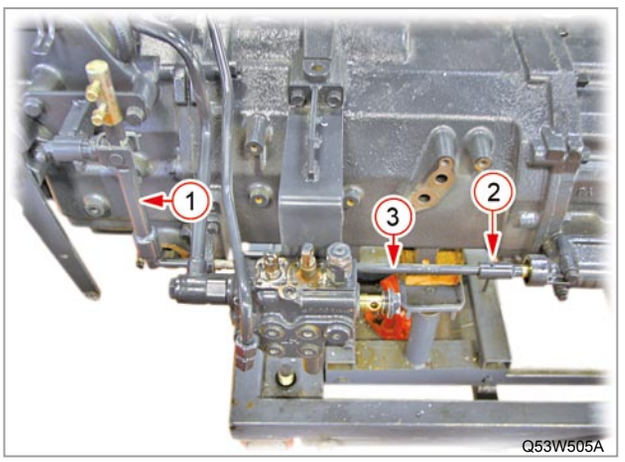


8. Remove the split pin from the brake rod (RH) (1) to disconnect the brake rod (RH).

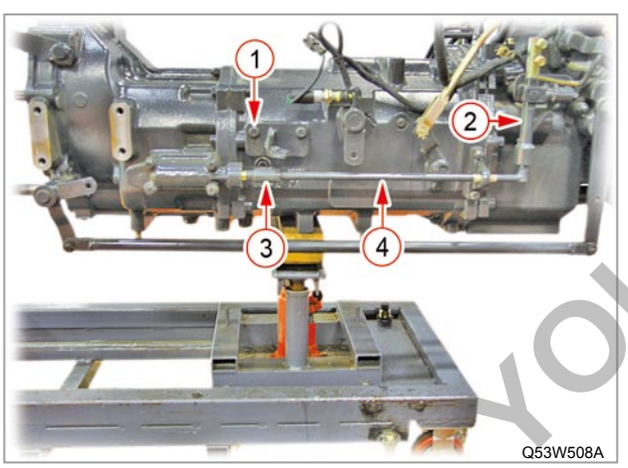


9. Remove the split pin from the brake rod (LH) (1) to disconnect the brake rod (LH).

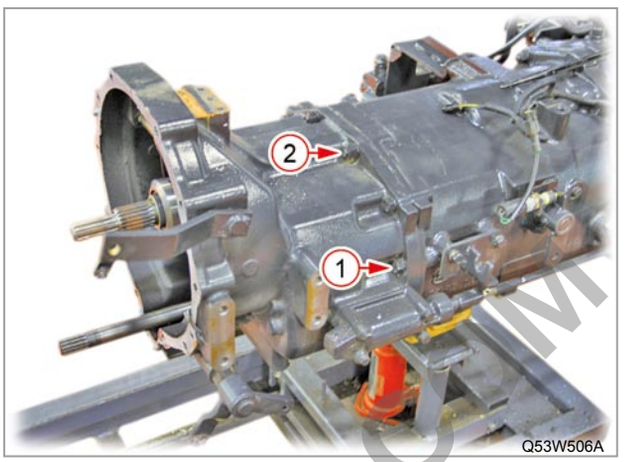
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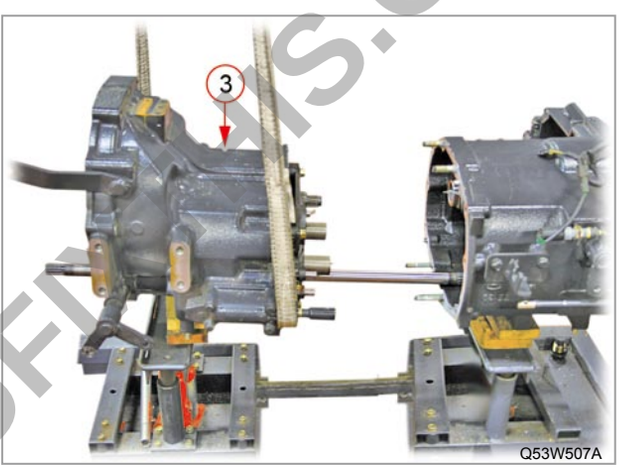


7. Remove the PTO lever 2 (1). Then, pull out the spring pin (2) and remove the PTO lever 1 (3).

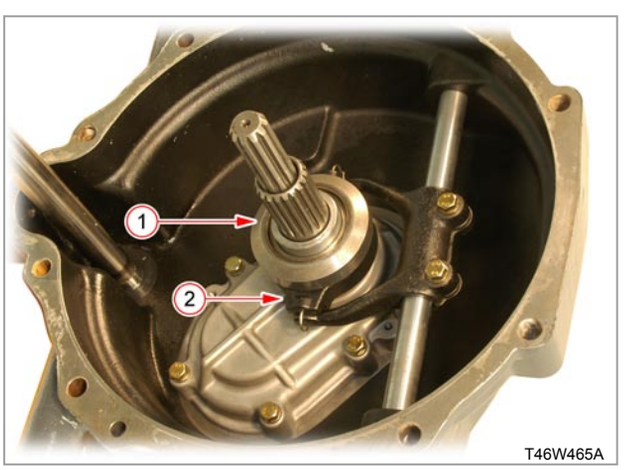


8. Undo the shuttle cable support (1) and disconnect the main shift lever (2). Then, remove the spring pin (3) to remove the main shift rod 1 (4).





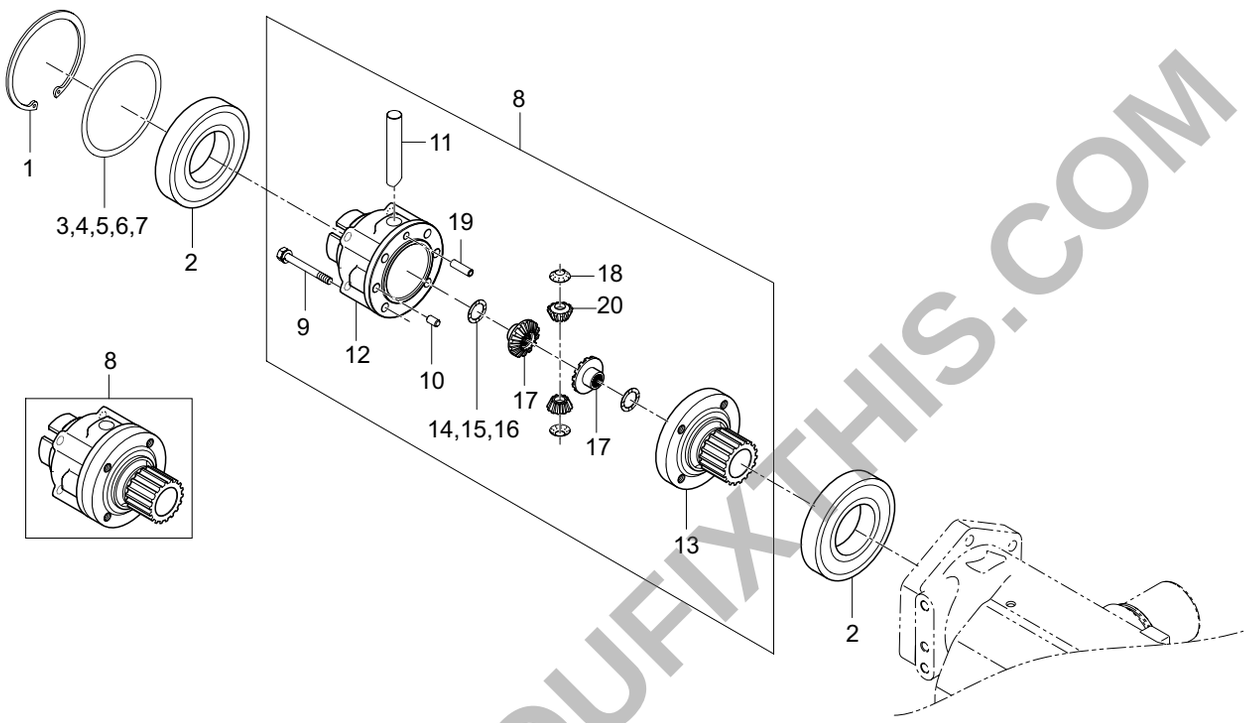
9. Unscrew the mounting bolts (1: 6 EA) and nuts (2: 4 EA) of the clutch housing and middle case to separate the clutch housing (3) from the middle case.



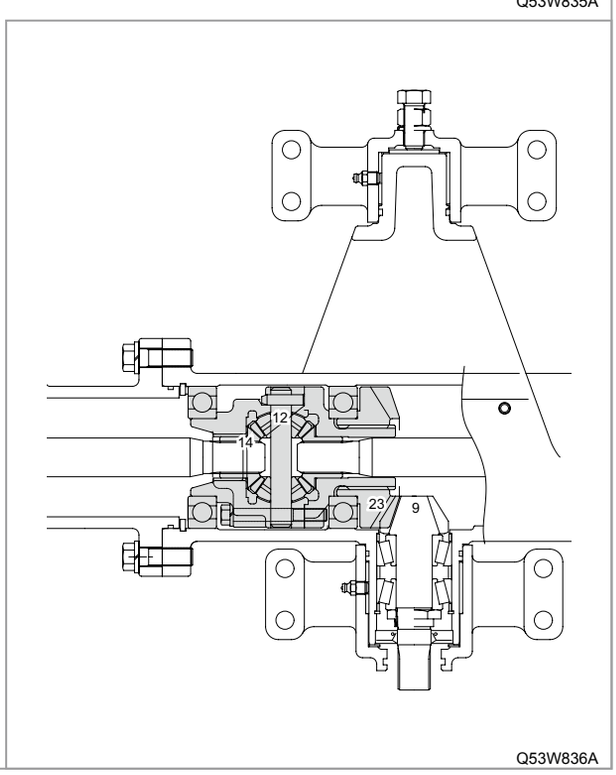
10. Remove the release bearing (1) and the clutch release hub (2) from the face of the removed clutch housing.

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5.4 G305A FRONT DIFFERENTIAL



Q53W835A

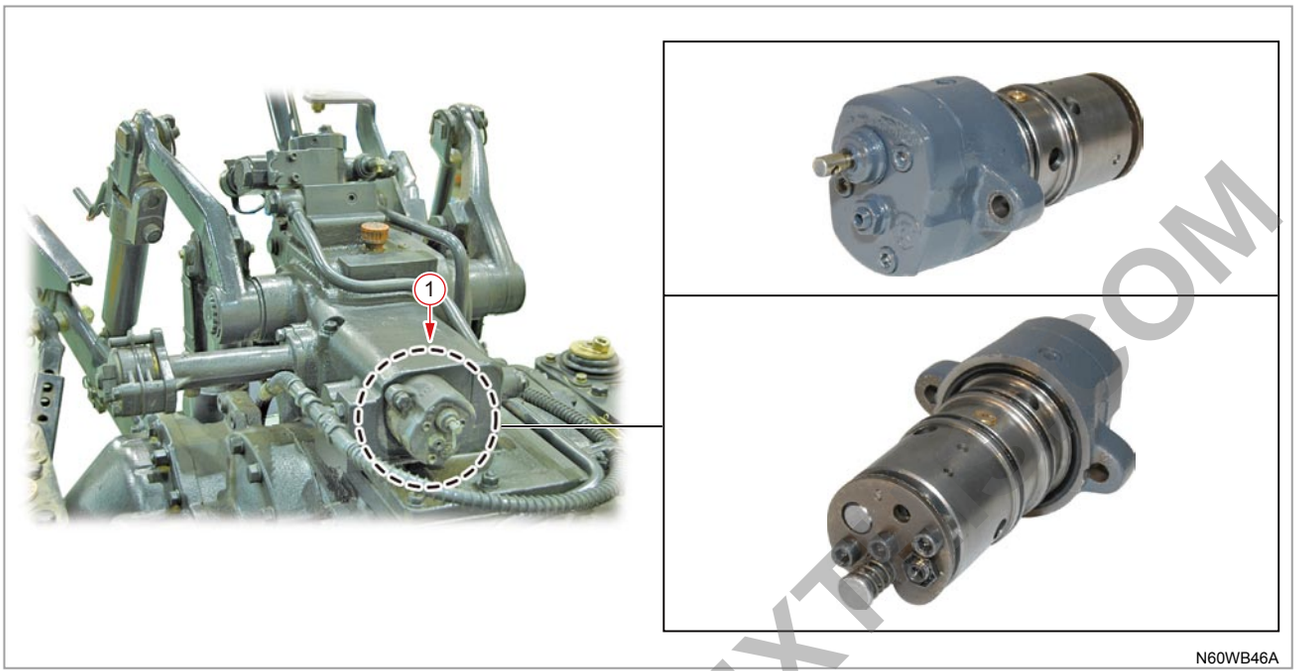


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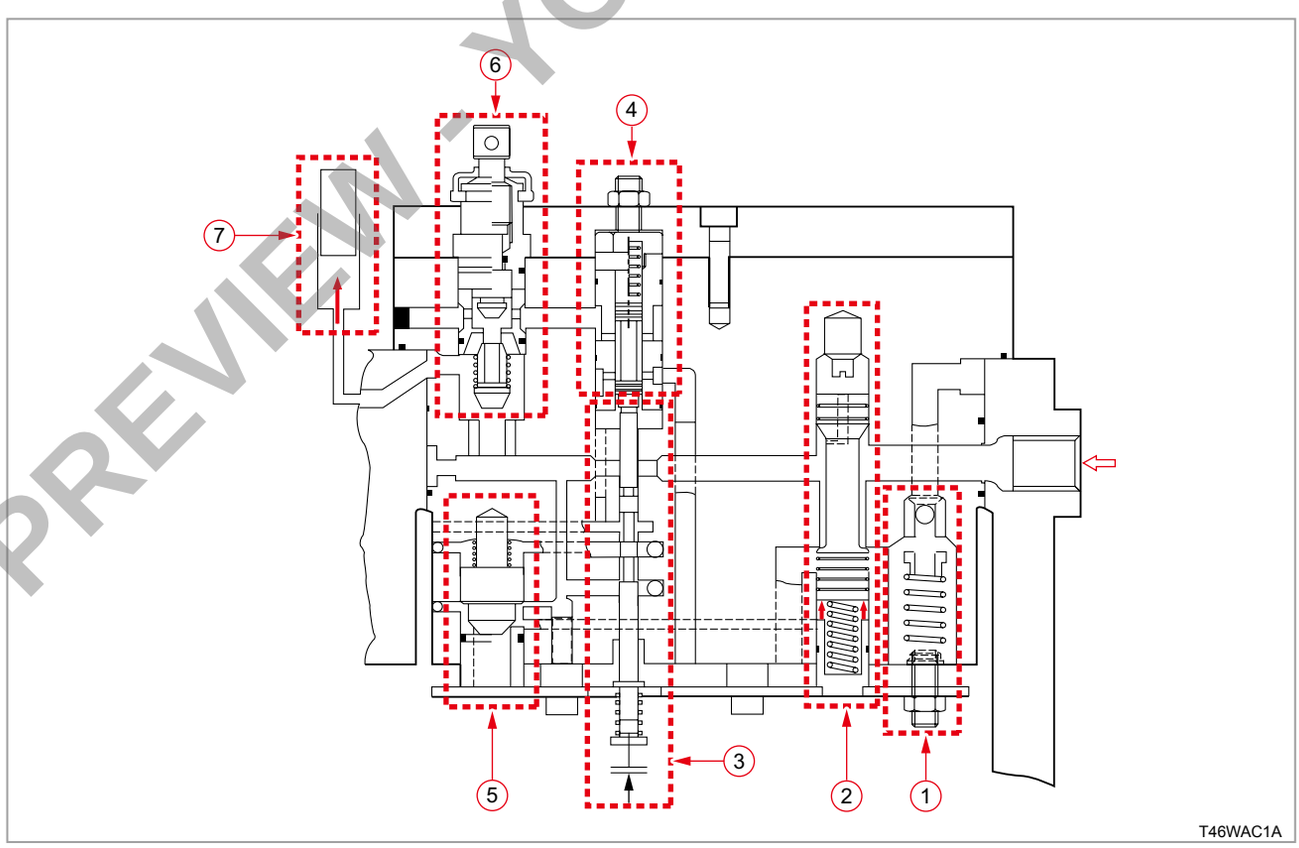
6.6 MLS VALVE REMOVAL AND REASSEMBLY

6.6.1 REMOVAL



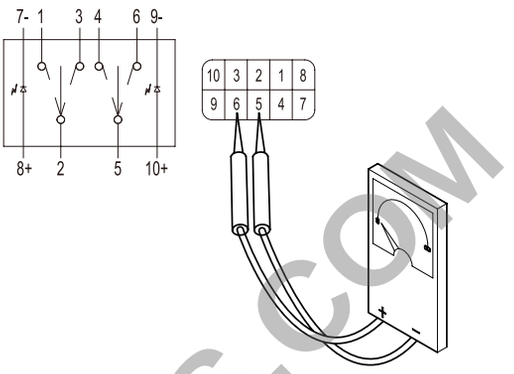
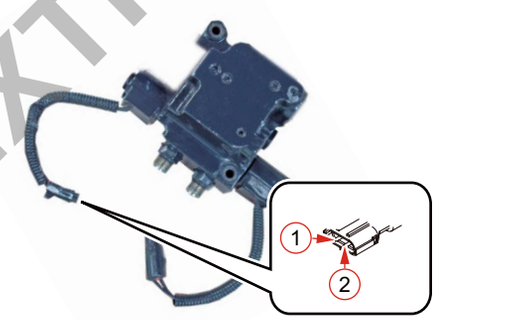
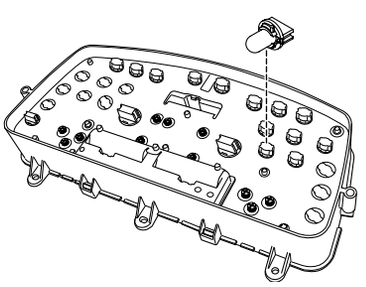
1. Remove the seat and seat pan.
2. Remove the lowering speed control rod.
3. Unscrew the bolt (1) and remove the valve.
4. Install in the reverse order of removal.
5. Do not install upside down.

6.6.2 DISASSEMBLY AND REASSEMBLY OF MLS COMPONENTS



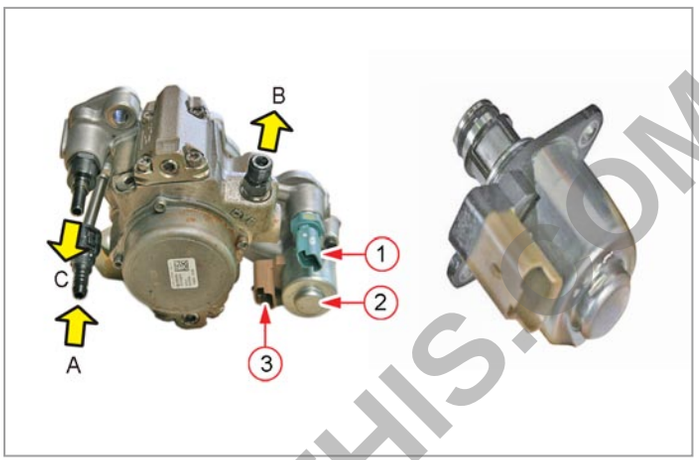
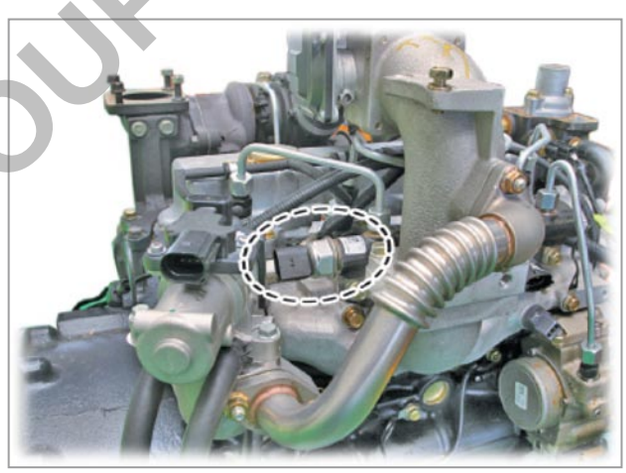
(1) Safety valve
(2) Regulator piston
(3) Control spool
(4) Discharge valve
(5) Pilot valve
(6) Lowering speed valve
(7) Lift cylinder

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CHECK POINT	CHECK METHOD	REMARKS
5. 4WD switch	1. Check the switch for proper contact - Between No. 6 and 5 terminals when 4WD function is operated: Continuity	 A03WBA7A
6. 4WD solenoid	1. Check the resistance of the solenoid - Resistance between No. 1 and 2 terminals: 9 Ω	 N60WC63A
7. Instrument panel	1. Check the bulb of the 4WD lamp	 T85WBI7A

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RAIL EXCESSIVE PRESURE

CHECK POINT	REMARK
1. RAIL PRESSURE CHECK	 (1) Fuel temp. sensor (2) IMV (Inlet Metering Valve) (3) IMV connector 1. Compare with rail pressure demand and feedback. 2. If there's no rail press, replace IMV (Inlet Metering Valve). 3. If there is hunting, replace IMV connector (contact failure).
2. RAIL PRESSURE SENSOR CHECK	 1. Pin to Pin Check (Sensor Connector, ECU Connector, Wire Harness) (*) See the Attached Wire Harness Drawings.
3. REPLACE THE RAIL	1. If there is rail press. sensor problem, replace the rail.

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