

CECTEK

**GLADIATOR
&
QUADRIFT**

SERVICE MANUAL

TOPIC

I - Power-train & Control System

Introduction.....P1

II - 500cc EFI Engine Service Manual...P20

III - GLADIATOR & QUADRIFT

Chassis Service Manual.....P80

IV - Special Tools.....P141

Power-train & Control System Introduction

Engine Specification	P2
Engine Lubrication System	P3
Engine Breather System	P4
CVT System	P5
Start System	P6
Injection System	P7
Emission Control System	P8
Cylinder Head/Block	P9
EMS System	P10
Electricity wiring Circuit	P19

500cc EFI Engine Service Manual

DISMANTLE

CVT Cover Dismantle	P21
CVT Belt Dismantle	P22
CVT Driven Pulley Dismantle	P22
CVT Driving Pulley Dismantle	P23
Rewind Starter Dismantle	P23
Timing Check	P24
Accessory Cover Dismantle.....	P26
Start Pressure Release Mechanism Dismantle..	P27
Alternator Rotor Dismantle	P28
Cam Shaft Dismantle	P29
Chain Dismantle	P31
Cylinder Head Dismantle	P32
Balancer Dismantle	P33
The Oil Pump Dismantle	P34
The Driveshaft Dismantle	P35
The Oil Main Circuit Dismantle	P37
The Cylinder Block Dismantle	P38
The Transmission Gear Dismantle	P40
The Oil Release Valve Dismantle	P42
The Crankshaft Dismantle	P43
The Piston Dismantle	P44

500cc EFI Engine Service Manual

ASSEMBLY

The Piston And Connection Rod Assembly	P45
The Balancer Assembly	P47
The Balancer Assembly	P48
The Main Shaft Assembly	P49
The Lay Shaft Assembly	P50
The Rear Driveshaft Assembly	P52
The Cylinder Head Assembly	P53
The Water Pump Assembly	P56
The Shift Drum And Fork Assembly	P57
The Transmission Gear Assembly	P58
The Gear Idle Gear Assembly	P60
The Crankcase And Cylinder Block Assembly..	P61
The Bearing And Crankshaft Assembly	P65

Chassis

Service Manual

SEAT REMOVAL.....	P81
INSTRUMENT COVER REMOVAL	P81
SADDLE REAR COVER REMOVAL.....	P83
SIDE SADDLE COVERS REMOVAL	P84
FRONT BUMPER COVER REMOVAL.....	P85
MAINTENANCE ACCESS PANEL REMOVAL....	P87
KEY POSITION COVER REMOVAL.....	P87
FRONT RACK REMOVAL.....	P88
FRONT COVER REMOVAL.....	P89
BATTERY REMOVAL.....	P92
DIRECTION INDICATION LIGHTER FLASHER REMOVAL.....	P94
FUSE BOX REMOVAL.....	P94
RELAYS REMOVAL.....	P95
REAR RACK REMOVAL.....	P96
REAR COVER REMOVAL.....	P97
LHS & RHS FOOT REST COVERS REMOVAL..	P100
PROTECTOR REMOVAL.....	P101
AIR FILTER BOX REMOVAL.....	P103
FUEL TANK REMOVAL.....	P107
EXHAUST PIPE REMOVAL.....	P111
FRONT & REAR WHEEL REMOVAL.....	P113
FRONT PROPELLER SHAFT REMOVAL.....	P114

Chassis

Service Manual

LHS & RHS STEERING LINK REMOVAL.....	P115
FRONT LHS & RHS BRAKE CALIPER REMOVAL.....	P118
FRONT LHS & RHS SHOCK ABSORBER REMOVAL.....	P119
FRONT LHS & RHS HUB REMOVAL.....	P120
FRONT LHS & RHS A-ARM ASSY. REMOVAL.....	P121
FRONT DIFFERENTIAL REMOVAL.....	P124
REAR LHS & RHS BRAKE CALIPER REMOVAL	P126
REAR LHS & RHS HUB REMOVAL.....	P127
REAR LHS & RHS SHOCK ABSORBER REMOVAL.....	P128
REAR LHS & RHS A-ARM ASSY. REMOVAL...	P129
REAR DIFFERENTIAL REMOVAL.....	P131
ECU REMOVAL.....	P133
RADIATOR REMOVAL.....	P134
INSTRUMENT REMOVAL.....	P136
FRONT BRAKE PAD REMOVAL.....	P137
REAR BRAKE PAD REMOVAL.....	P138
FOOT BRAKE PADDLE REMOVAL.....	P139



Power-Train & Control Introduction



Engine Specification



Type: 4 Stroke 、 Single Cylinder
SOHC 、 4 Valve

Displacement: 497 cc

Bore x Stroke: 90 x 78 mm

Compression Ratio: 10.0

Power: 15kW@5000rpm
(homologation)

Max Power: 30kW@7000rpm

Torque: 40Nm@5500rpm

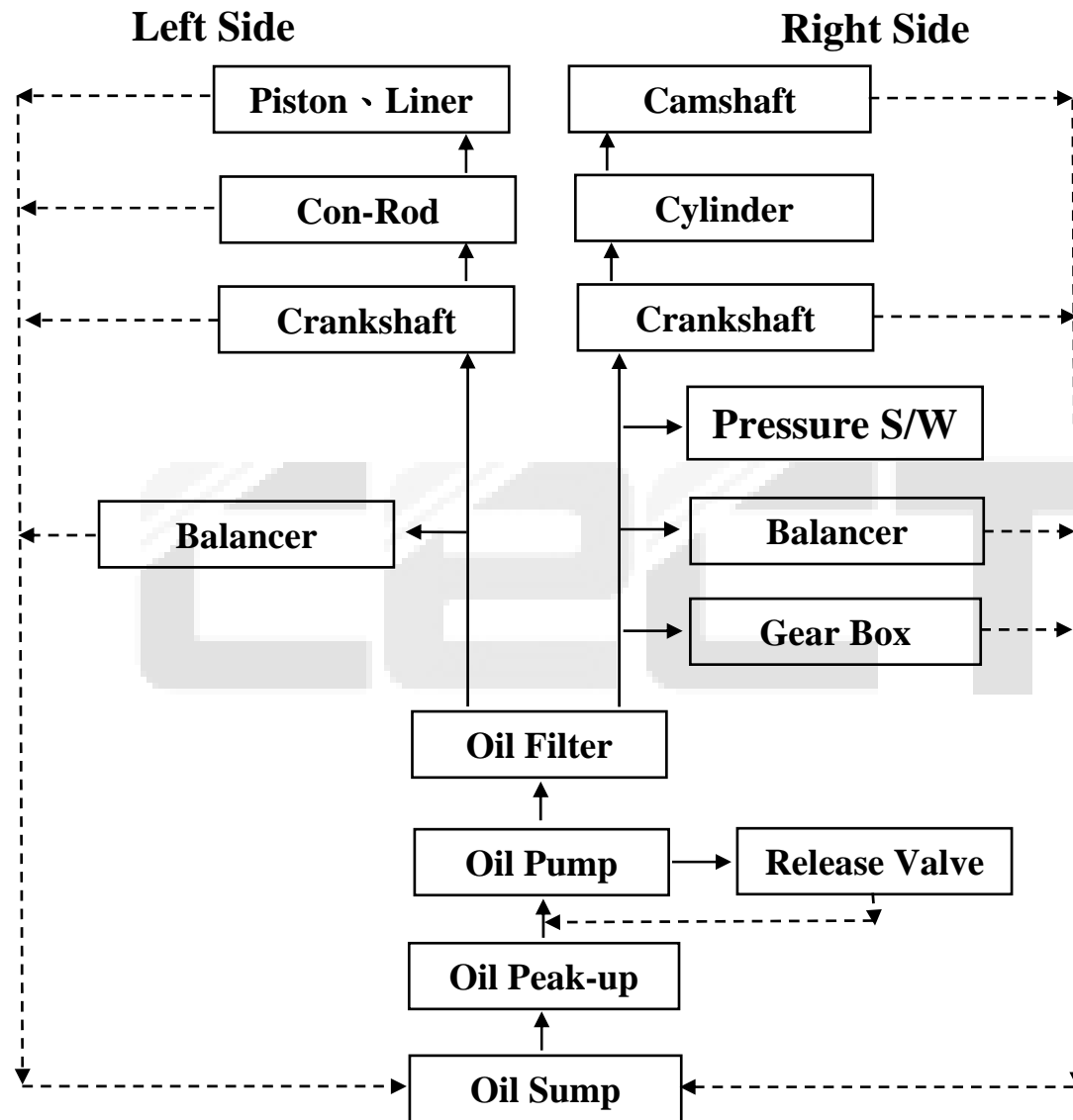
Max. rev.: 7500rpm

Transmission: CVT 、 V-belt

Emission: 2002/51/EC

Weight: 67kg

Engine Lubrication System



Lubrication: Wet Sump

Oil Pump: Rotor Type

Oil Filter: Paper Type

Oil Type: 10W40 SJ

Oil Volume: 3.0 L
3.5 L (Replace Filter)

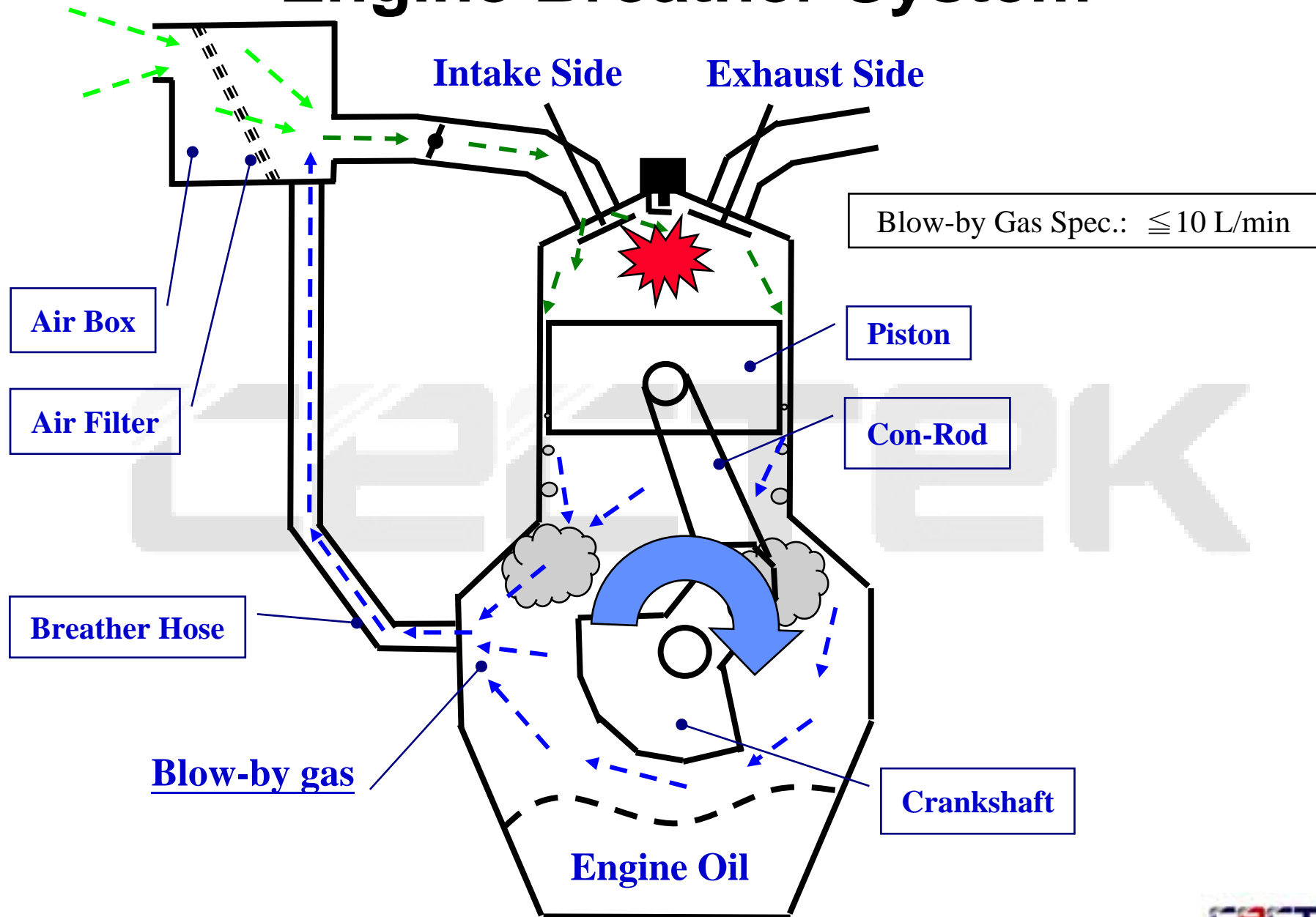
Pressure Release: 4.5 kg/cm²

Pressure S/W: 0.2 kg/cm²

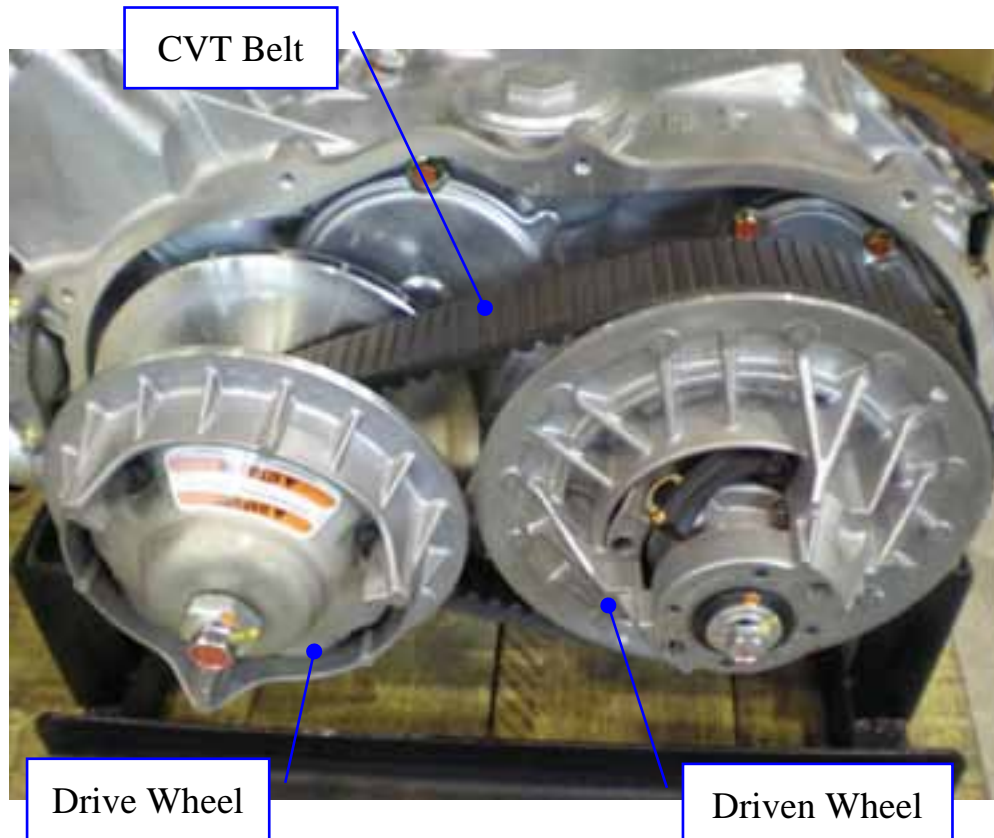
Oil Inlet: ———→

Oil Return: - - - - -→

Engine Breather System



CVT System



CVT Belt Type:

- DAYCO P/N:

Off Road: 5324

On Road: 5324

- CVT:

Drive Wheel

Tightening Torque 40~45Nm

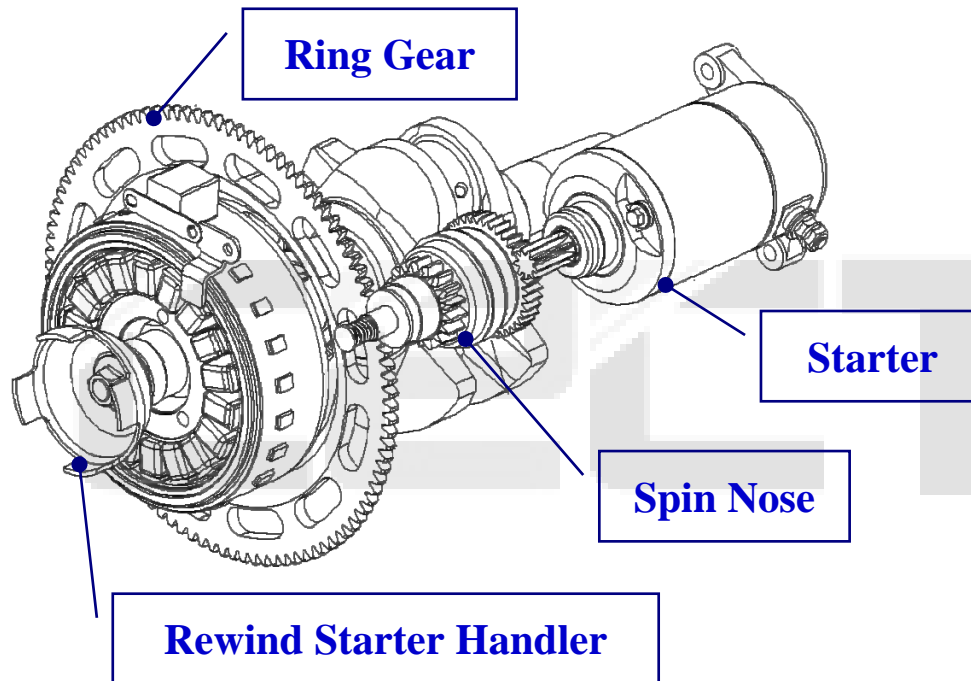
Driven Wheel

Tightening Torque 120Nm

Ratio: Min. Max.
0.316 ~ 1.581

Engine Speed Limit: 7500rpm

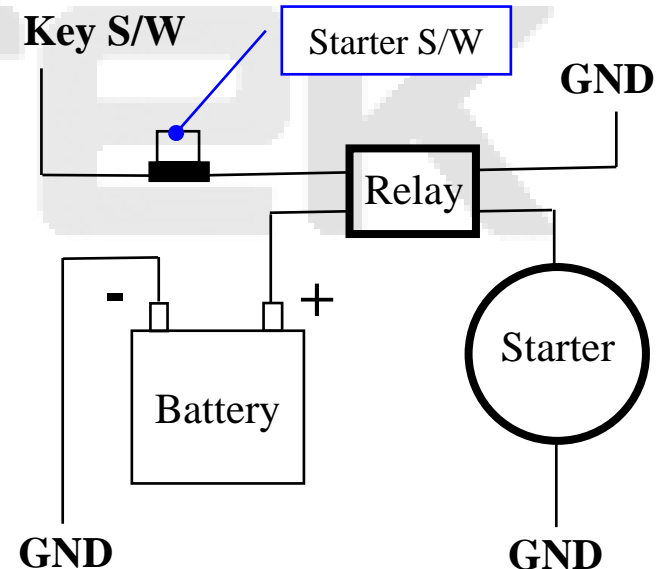
Start System



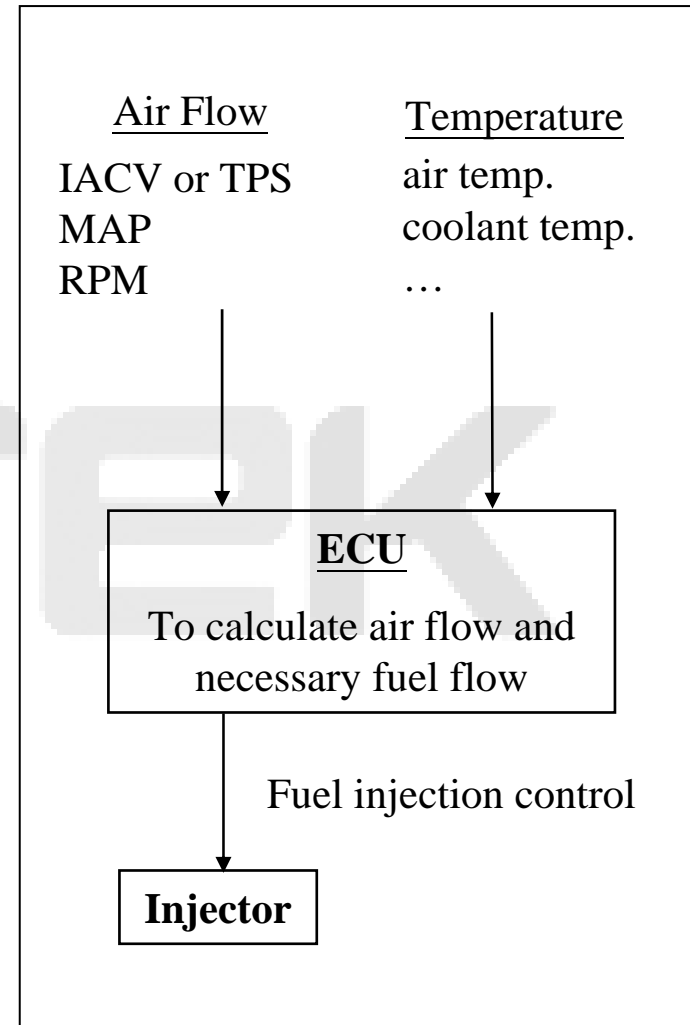
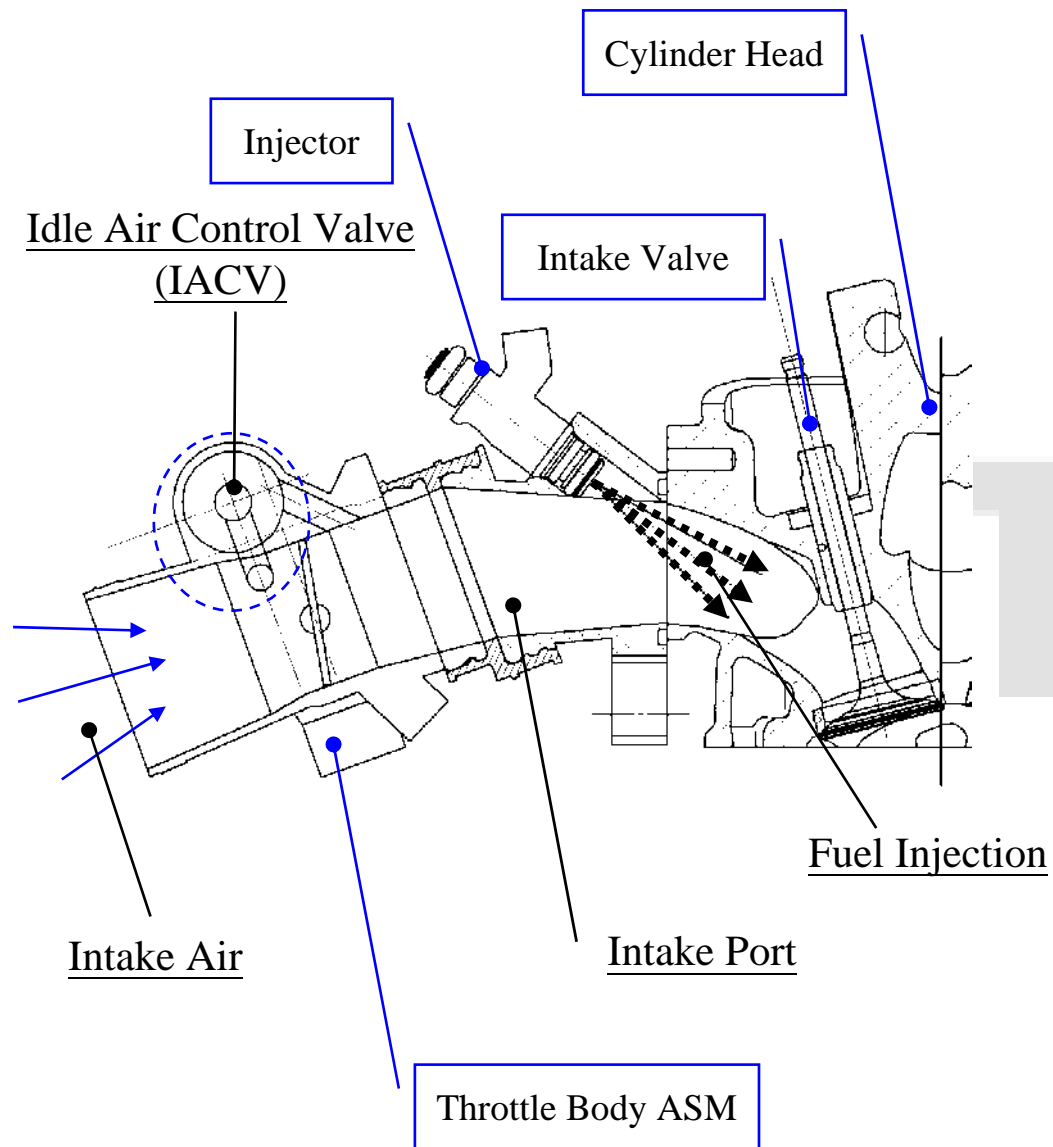
Starter Specification:

- CECTEK Type: 40196007
- Output: 0.7 kW
- Operation Voltage: 12 V
- Temperature Range: -10~+120°C

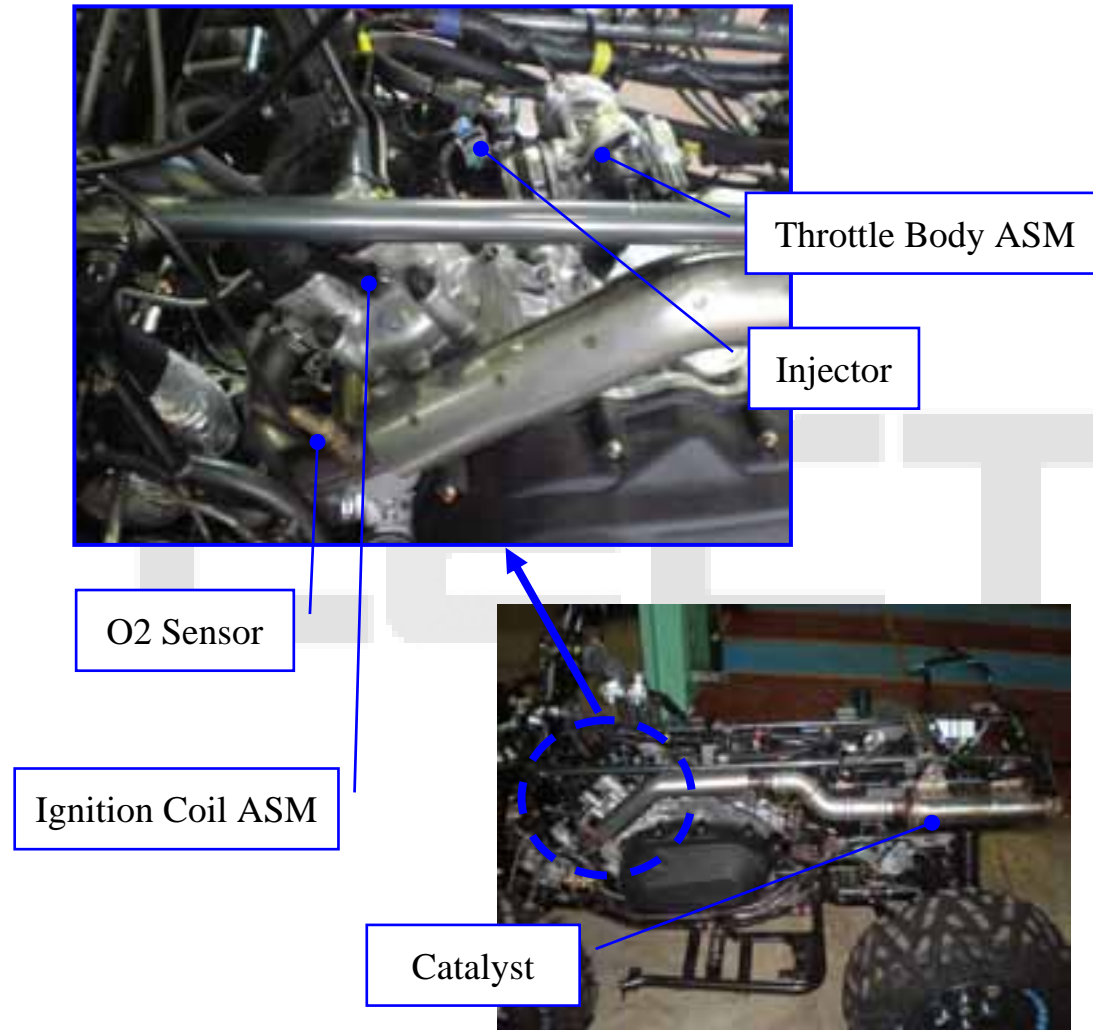
Starter Circuit Diagram :



Injection System



Emission Control System



Emission relational part:

- ECU
- Throttle Body ASM
- Injector
- Spark Plug
- Ignition Coil ASM
- O2 Sensor
- Catalyst

Catalyst :

- 100 cells/in²
- Volume: 116 cc

Emission:

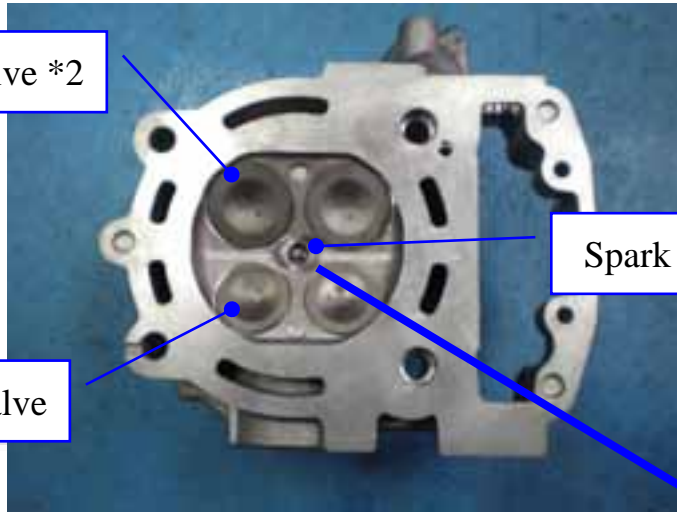
- Updated 2002/51/EC

Cylinder Head/Block

Intake Valve *2

Spark Plug

Exhaust Valve



Cylinder Head ASM

- Aluminum Alloy: AC4B+T6
- SOHC (Chain Drive)
- 4 Valves
- Spark Plug: Champion PRG7C

Cylinder Block ASM

- Liner Material: FC250
- Aluminum Alloy: ADC12



Cast-in Liner

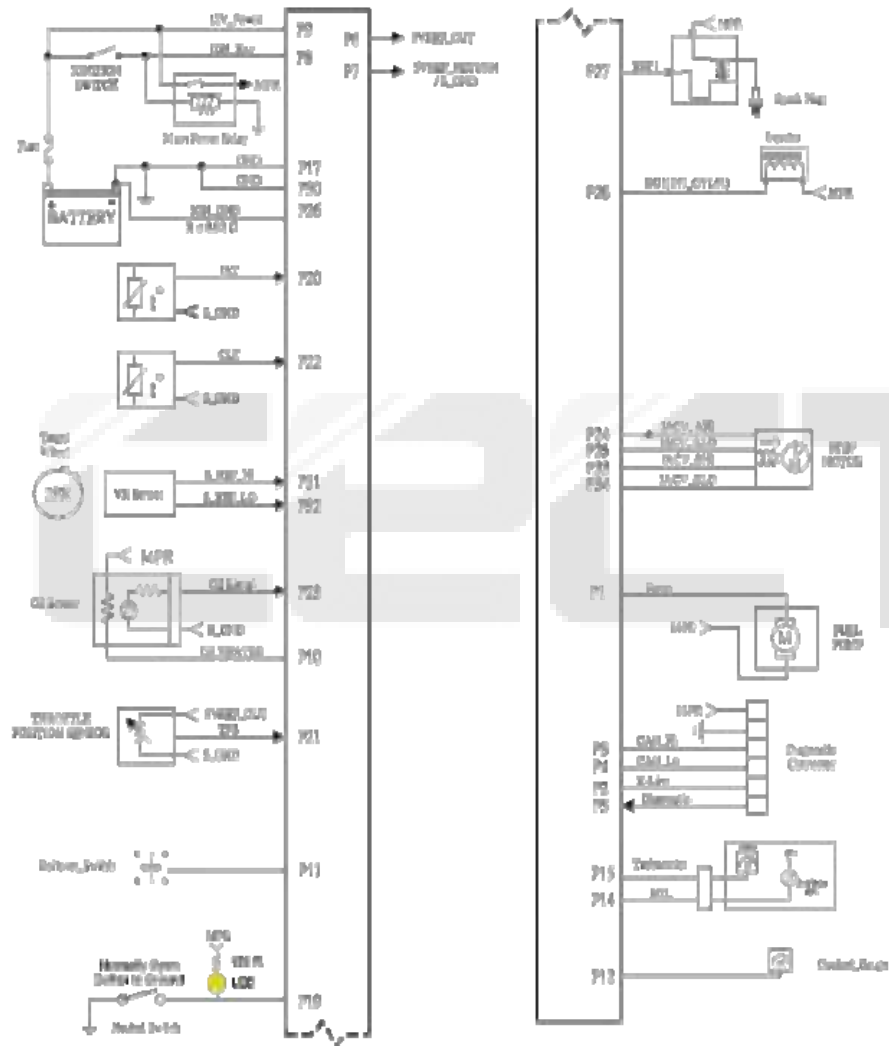


Spark Plug



EMS System

Block Diagram



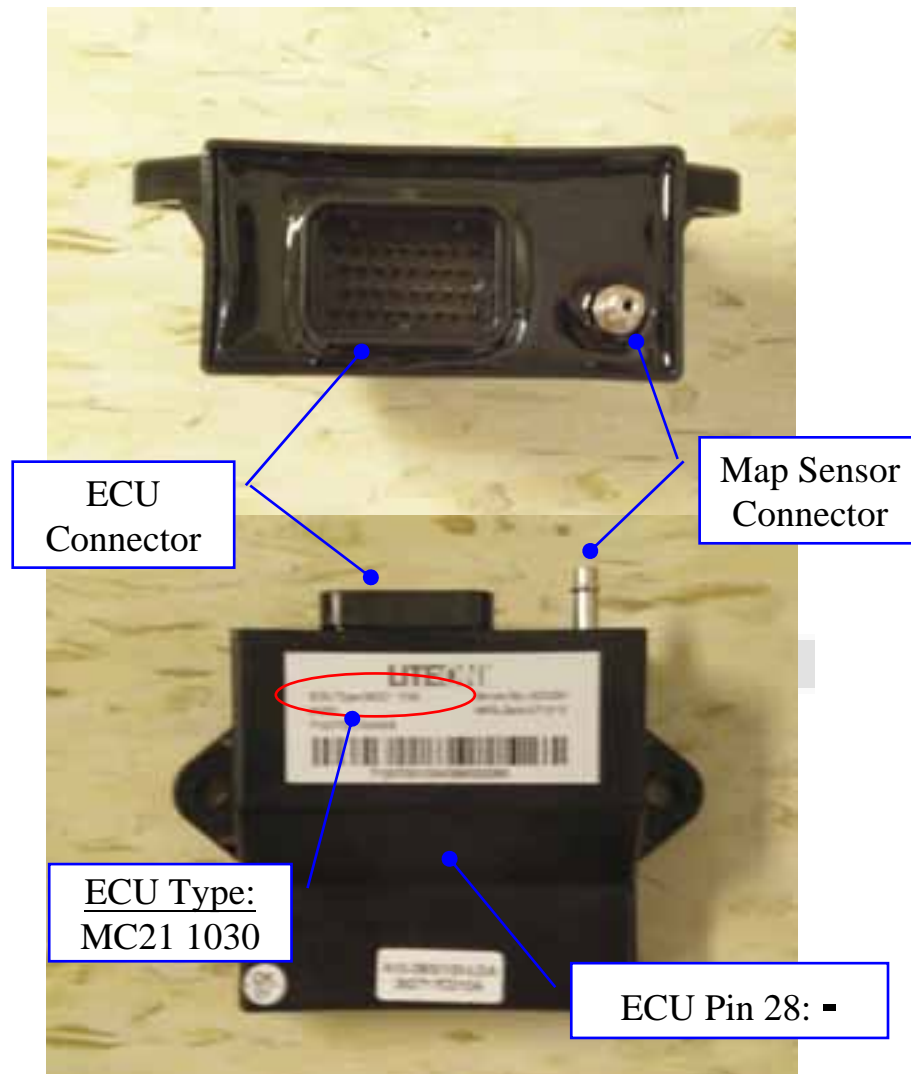
CONNECTOR:
A. ON BOARD CONNECTOR: AMP 4-1437290-0



Pin Assignment

Pin Number	Pin def	Operation Voltage			Operation Current(A) at Voltage(V)	
		Min	Normal	Max	Max	
1	PUMP	9	12	16	4000	16
2	K_LINE	0	N/C	16	500	16
3	CAN_Hi	0	N/C	4.5	100	4.5
4	CAN_Lo	0	N/C	2.25	100	2.25
5	Diagnostic	0	N/C	16	0.5	16
6	5VREF_OUT	4.81	5	5.19	50	5.19
7	5VREF_RETURN / S_GND	N/C	N/C	N/C	N/C	N/C
8	IGN_KEY	9	12	16	500	16
9	12V Power	9	12	16	1000	16
10	O2_HEATER	9	12	16	2000	16
11	Rollover_Switch	0	N/C	16	0.5	5.19
12	Coolant_Gauge	9	12	16	500	16
13	NA	N/C	N/C	N/C	N/C	N/C
14	MIL	9	12	16	500	16
15	Tachometer	9	12	16	500	16
16	NA	N/C	N/C	N/C	N/C	N/C
17	GND	N/C	N/C	N/C	N/C	N/C
18	NA	N/C	N/C	N/C	N/C	N/C
19	Neutral_Switch	0	N/C	16	0.5	5.19
20	IAT	0	N/C	16	5	5.19
21	TPS	0	N/C	16	5	5.19
22	CLT	0	N/C	16	5	5.19
23	O2 Signal	0	N/C	16	5	5.19
24	IACV_AHI	9	12	16	250	16
25	IACV_ALO	9	12	16	250	16
26	IGN_GND	N/C	N/C	N/C	N/C	N/C
27	EST1	9	12	16	13000	16
28	INJ1	9	12	16	2000	16
29	NA	N/C	N/C	N/C	N/C	N/C
30	GND	N/C	N/C	N/C	N/C	N/C
31	S_REF_Hi	0.6	12	80	250	80
32	S_REF_Lo	0.6	12	80	250	80
33	IACV_BHI	9	12	16	250	16
34	IACV_BLO	9	12	16	250	16

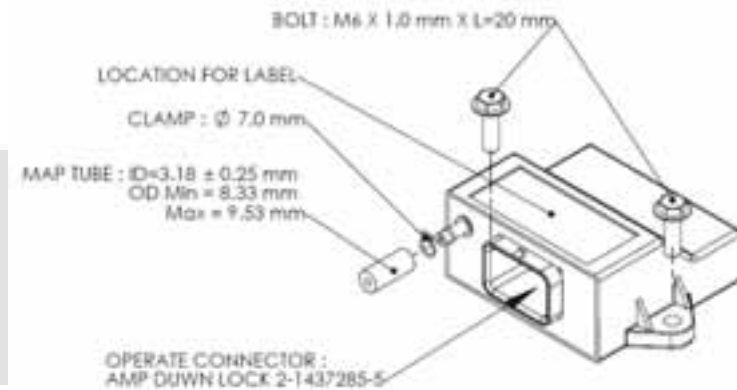
ECU



Part Introduction

ECU Type: MC21 1030

Assembly:



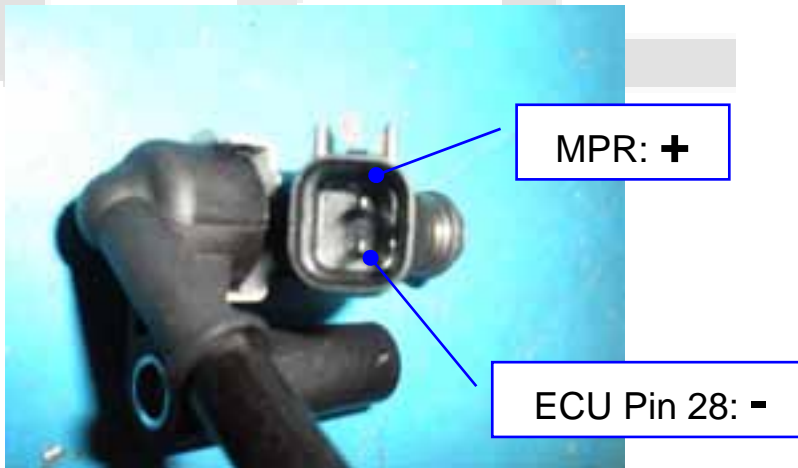
Electrical Characteristic:

Operation Voltage Range: 9~16V

Storage Temperature Range: -40~70°C

Operation Current: <500mA

Injector



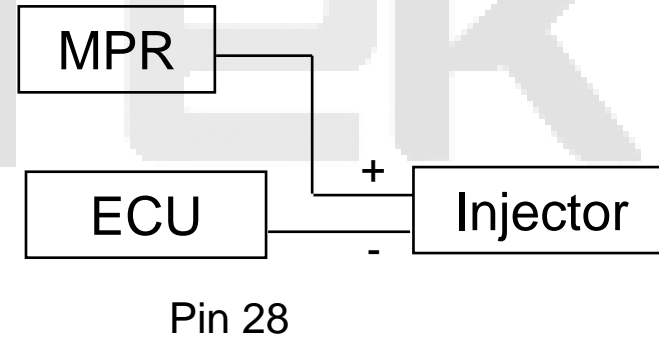
Part Introduction

Identification Code: 28140652

Injector holes: 4ea

Circuit Diagram :

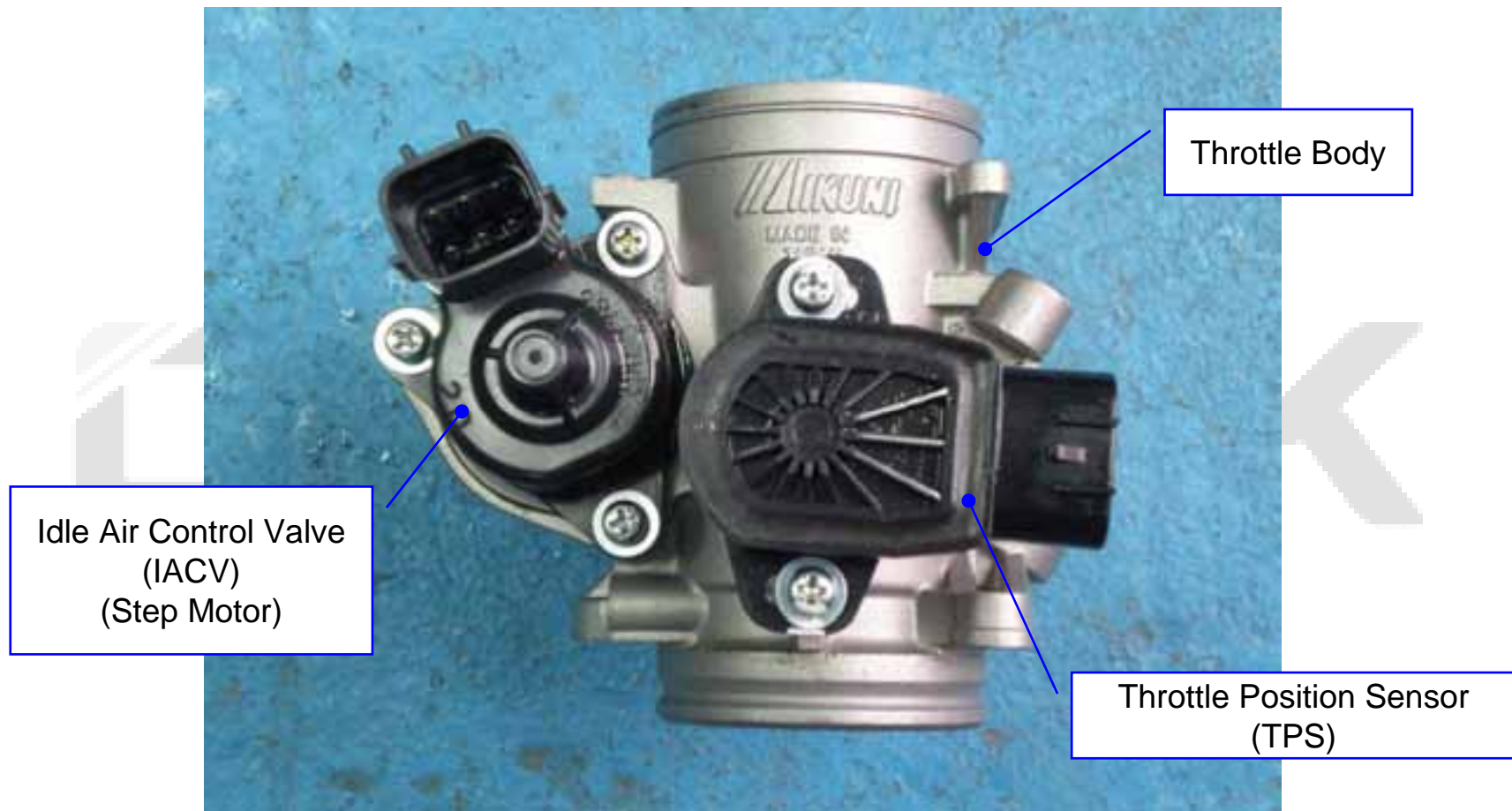
Main Power Relay



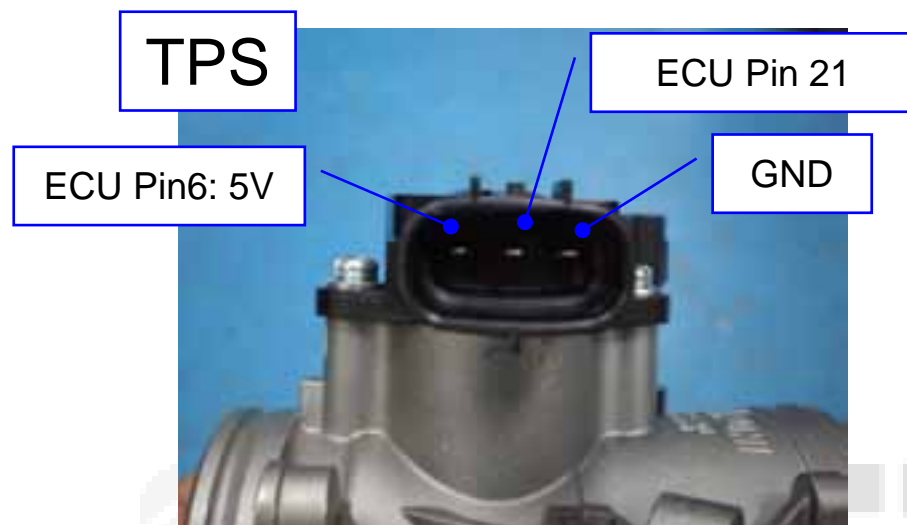
Measurement

Resistance: $12.0 \pm 0.6 \Omega$

Throttle Body ASM

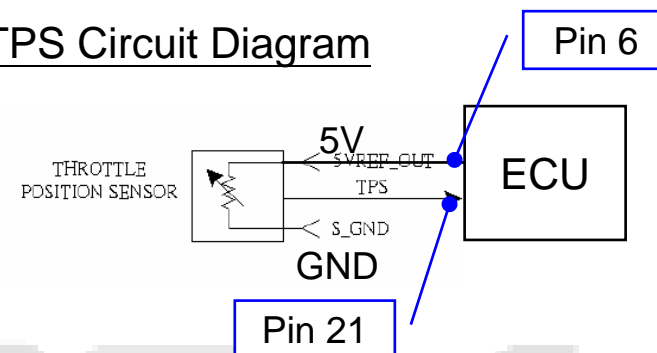


Throttle Body - TPS 、 Step Motor

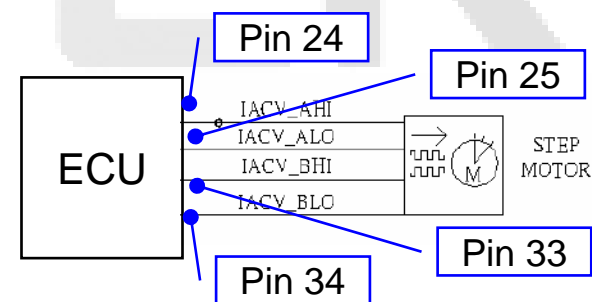


Part Introduction

TPS Circuit Diagram

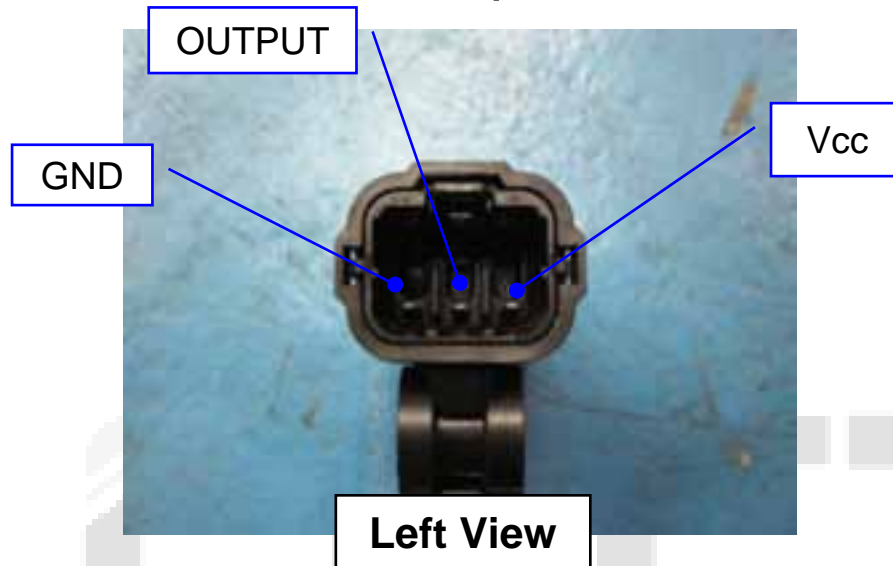


Step Motor Circuit Diagram



Measurement (ECU Pin 21 、 GND)
TPS Resistance: 1~2 k Ω

Rollover Sensor (Fuel-cut Sensor)

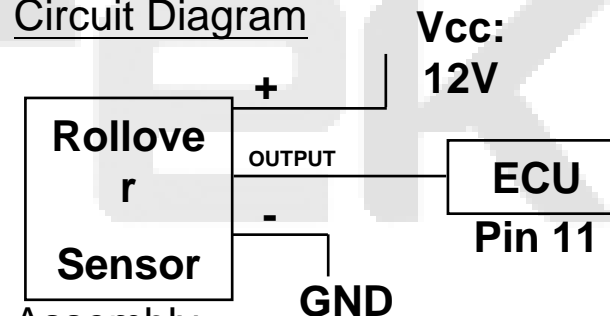


Part Introduction

Sensor Characteristic

- Voltage: 12V (Vcc)
- Pitch Angle: $65 \pm 10^\circ$
- Roll Angle: $-20 \sim +20^\circ$
- Temperature: $-10 \sim +60^\circ\text{C}$

Circuit Diagram



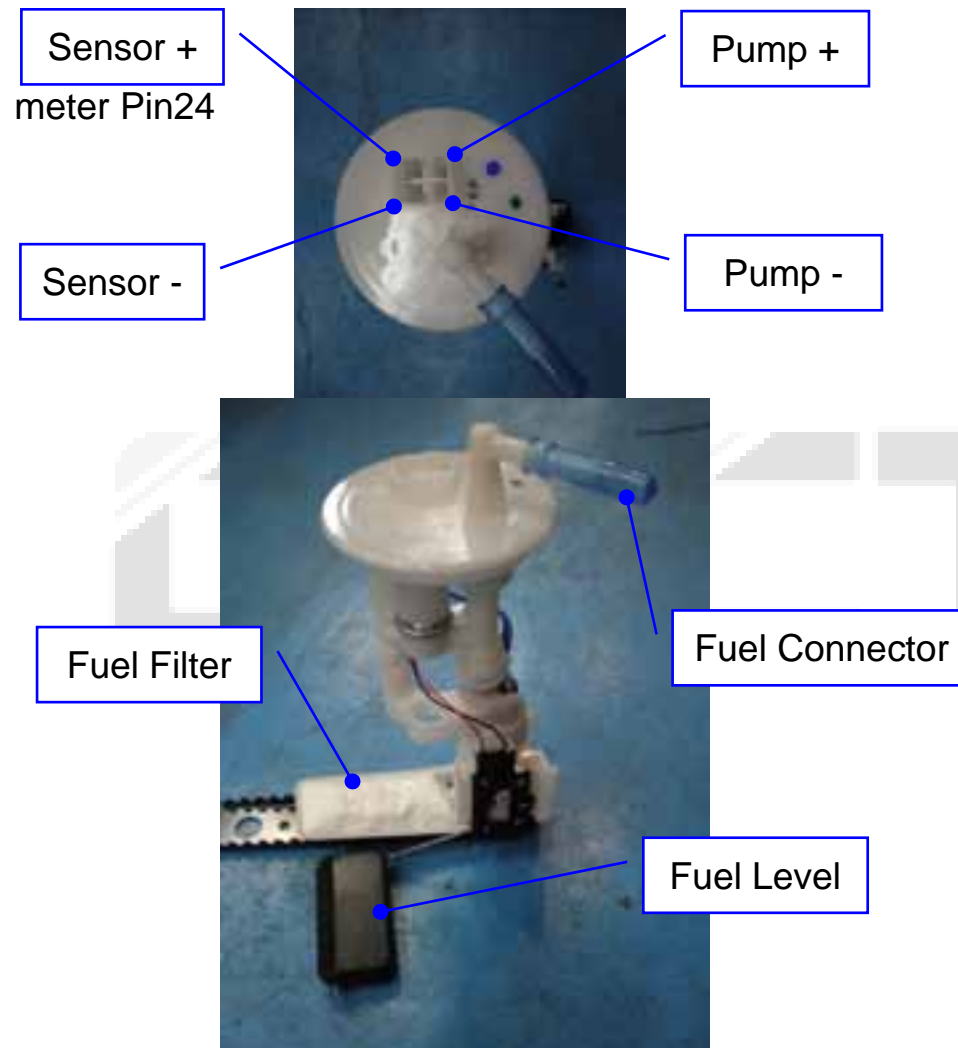
Assembly

- Bolt: M4 (2ea)
- Tighten Torque: 1.5~2.5Nm

Measurement

- Vcc-OUTPUT: $3.9\text{ k}\Omega$

Fuel Pump

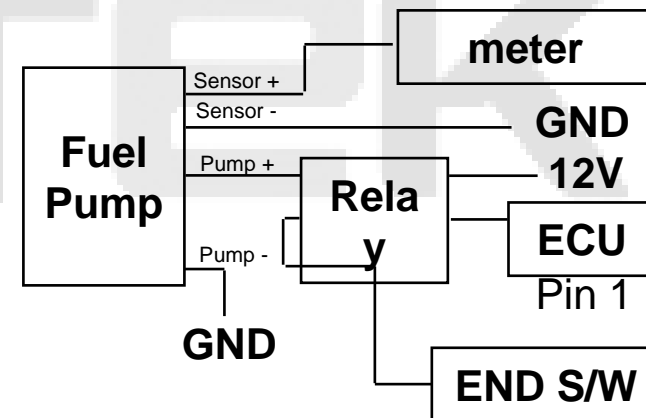


Part Introduction

Pump Characteristic

- Voltage: 12V (Pump -)
- Feed Fuel Pressure: 250 ± 10 kpa
- Feed Fuel Rate: 30.6 L/hr Min.

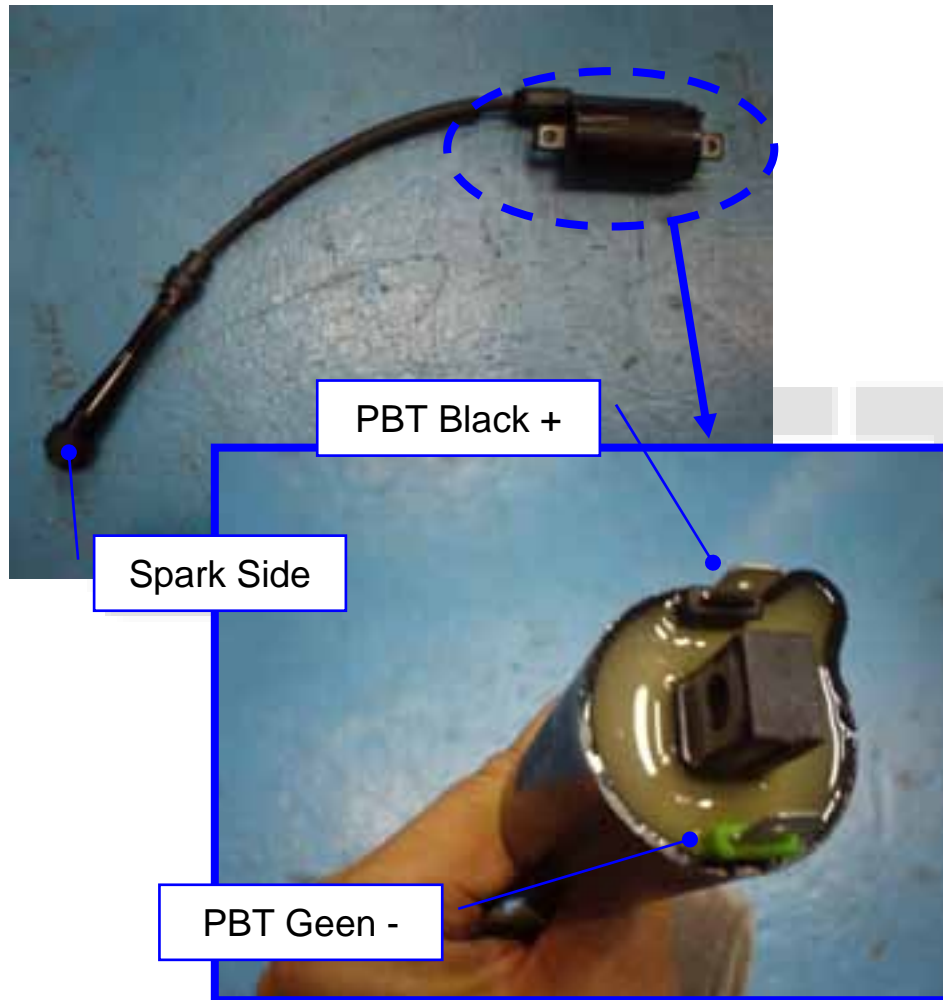
Circuit Diagram



Measurement

- Full Stop : 4~10 Ω
- Empty Stop: 93~100 Ω

Ignition Coil

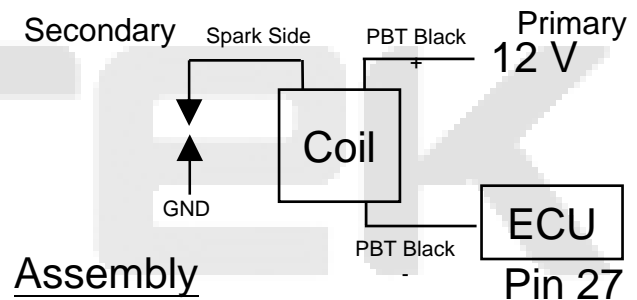


Part Introduction

Sensor Characteristic

- Voltage: 12V (Vcc)
- Temperature: -10~+60 °C

Circuit Diagram



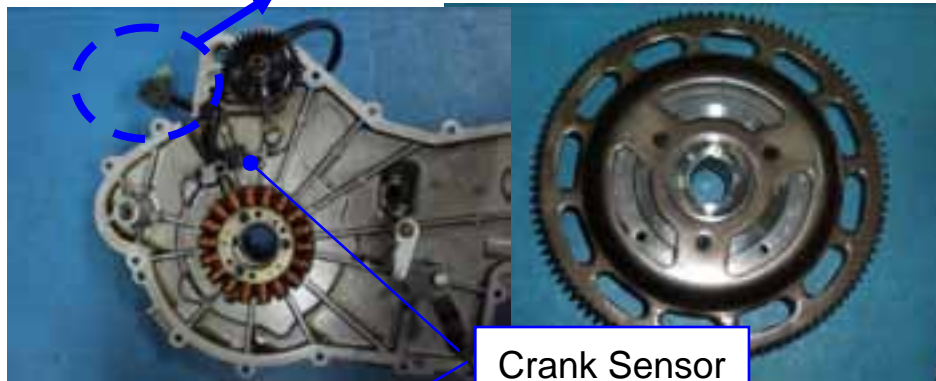
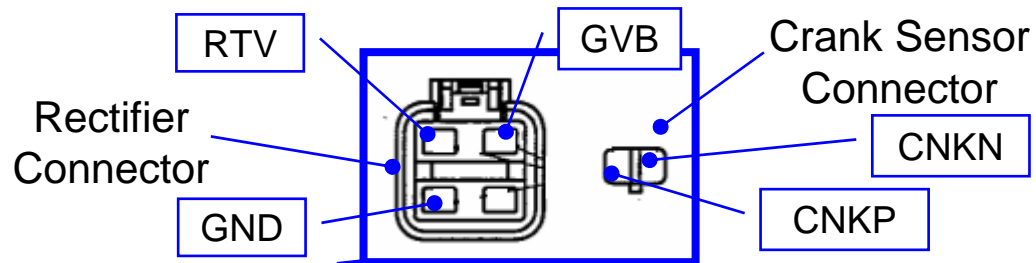
Assembly

- Bolt: M6 (2ea)
- Tighten Torque: 10±2Nm

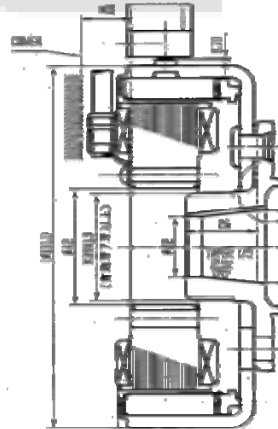
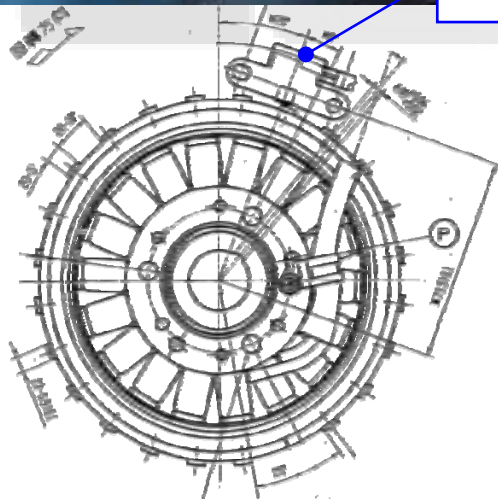
Measurement

- Primary: 2.9 $\Omega \pm 10\%$
- Secondary : 15 k $\Omega \pm 10\%$

Alternator



Crank Sensor



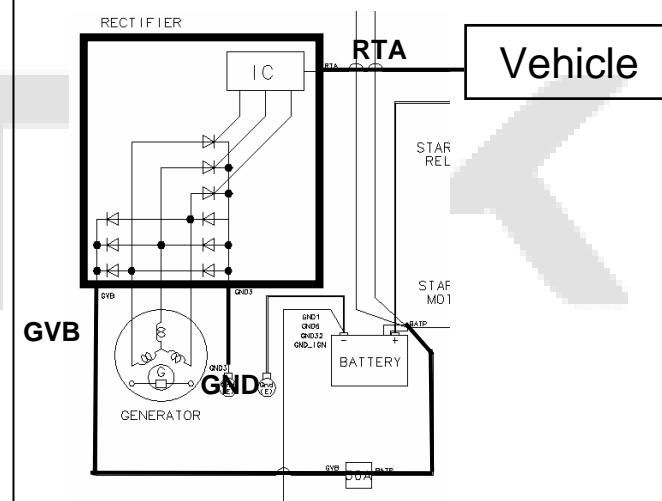
Part Introduction

Electric Characteristic

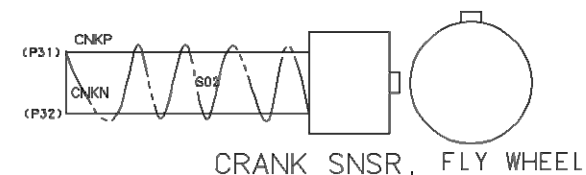
- Voltage: 12V
- Output: 16V/1500rpm ↑

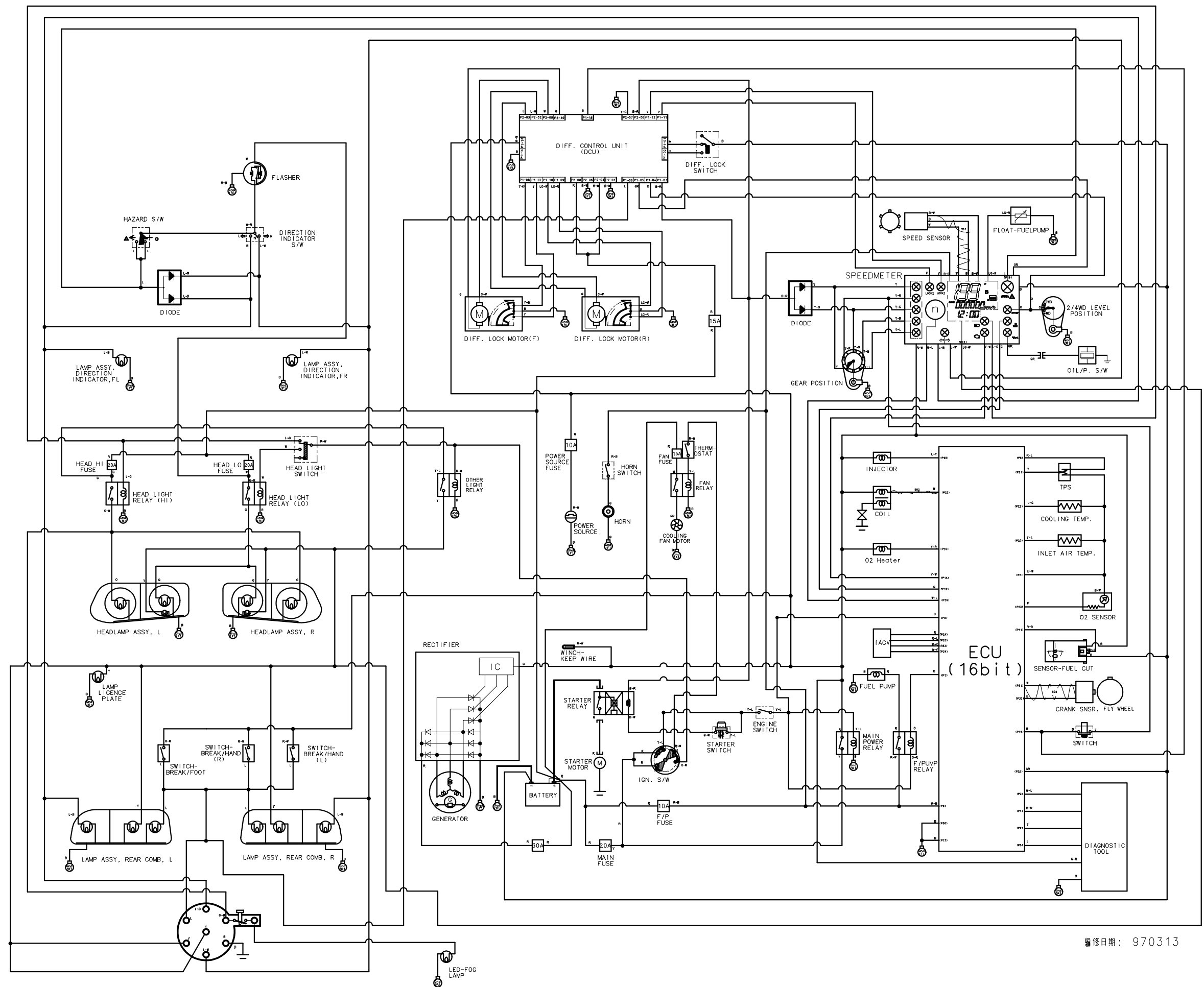
Circuit Diagram

Rectifier



Crank Sensor





編修日期： 970313

C2CTEK



SERVICE MANUAL

FOR 500cc EFI ENGINE



CECTEK 500cc EFI ENGINE

DISMANTLE

CAUTION :

Only trained and certificated technician can disassembly the CECTEK RSGA 500 EFI ENGINE. Improper disassembly may damage the engine. CECTEK can not provide the warranty to the engine which has not been properly disassembled and assembled by trained and certificated technician.

CVT COVER DISMANTLE



Loosen the CVT cover bolts*8



Remove the CVT cover



The CVT cover

CVT BELT DISMANTLE



Screw the *Belt Removal Tool* to end to open the driven pulley , then removal the belt



The belt

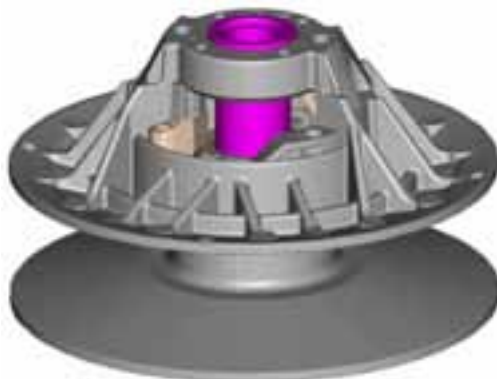
※Reinstall , the installer must can read the printed word on the belt



CVT DRIVEN PULLEY DISMANTLE



Loosen the driven pulley bolt , then remove the driven pulley



The Driven pulley

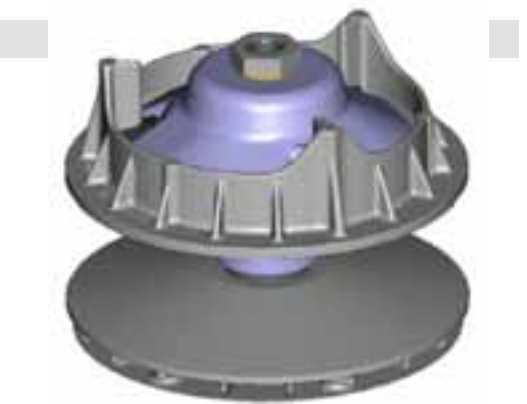
CVT DRIVING PULLEY DISMANTLE



Loosen the driving pulley bolt



Screw the CVT Puller by air wrench to remove the drive pulley



The drive pulley

REWIND STARTER DISMANTLE



Loosen the rewind starter bolt*5



The rewind starter

TIMING CHECK

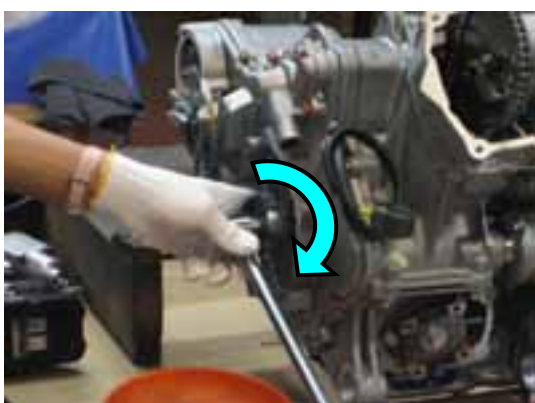
※before dismantle engine must be check the chain timing



Loosen the cam cover bolts*4 ,
then remove the cam cover



Loosen the taper plug for check
the timing



Use the *Rewind Starter Stoooper*
clockwise rotate crankshaft then
check chain timing



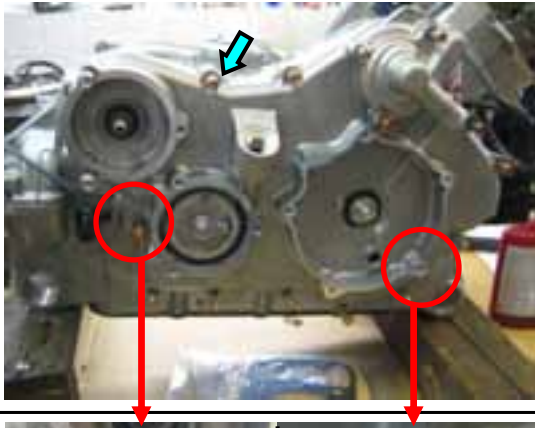
**ALT rotor mark meet the
accessory cover mark**



**When ALT mark correct , then
check cylinder head sprocket
have six pieces counter from
cylinder head**

six pieces

ACCESSORY COVER DISMANTLE



Loosen the accessory cover bolt*11

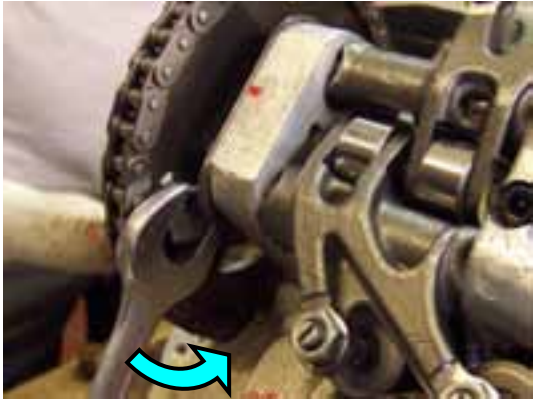


Raise the accessory cover by screwdriver from the prominence of case

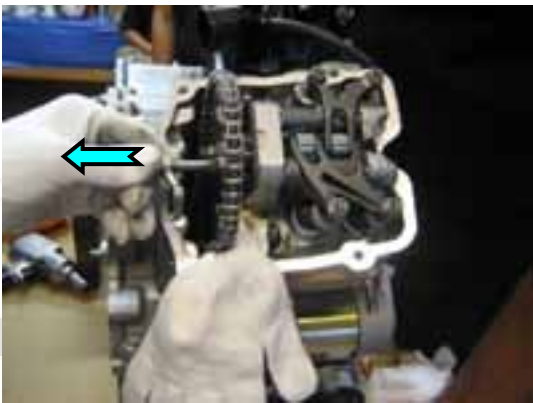


When remove the accessory cover be care the spin nose antithrust spring and washer

START PRESSURE RELEASE MECHANISM DISMANTLE



Loosen the discompressor mechanism bolt by open wrench



Pull out the discompressor mechanism



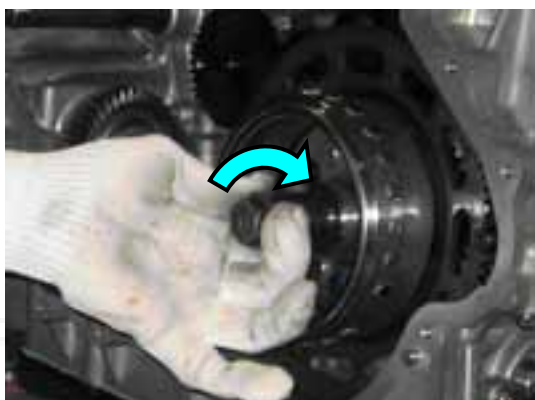
The discompressor mechanism , and notice the spring

ALTERNATOR ROTOR DISMANTLE



Loosen the ALT rotor nut by air wrench

※The socket deep 85mm



Screw Crankshaft Protector to end on crankshaft

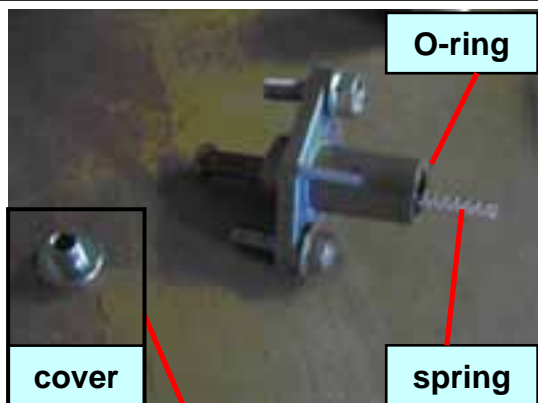


Screw the ALT Puller to end on ALT rotor



Screw the CVT Puller on ALT Puller by air wrench , then remove the ALT rotor

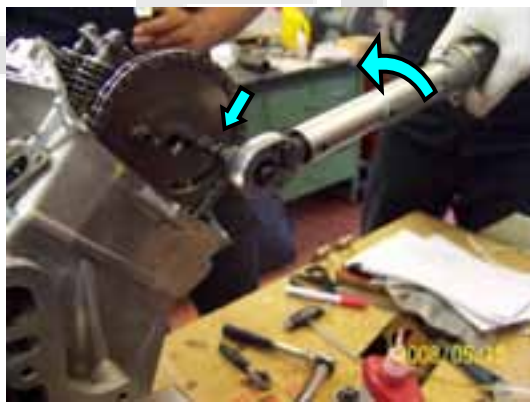
CAM SHAFT DISMANTLE



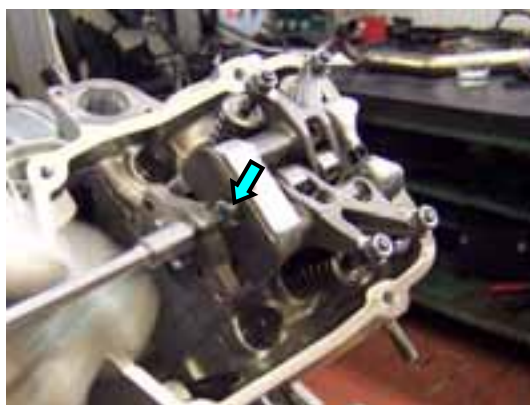
Loosen the tensioner cover , and notice the spring and O-ring



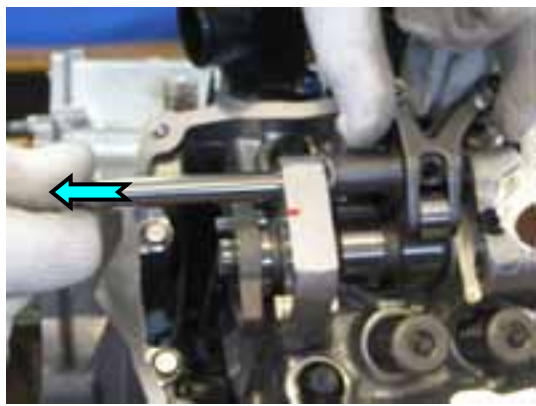
Loosen the tensioner bolts*2 , then remove the tensioner



Loosen the cam sprocket bolts*2 , then remove the cam sprocket



Loosen the cam antitrust plate Bolt , then remove the plate



Pull out intake and exhaust rock arm shaft by magnet



Pull out the cam shaft

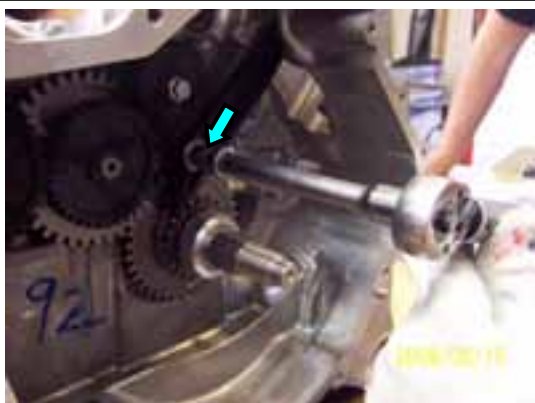


The rock arms and cam trust plate



The cam shaft

CHAIN DISMANTLE



Loosen the chain guide bolt ,
then remove the chain

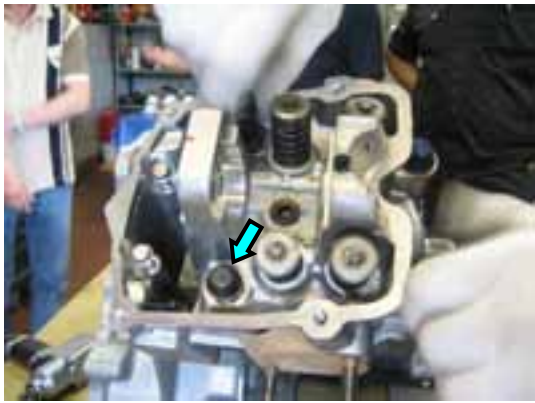


Notice the bosh

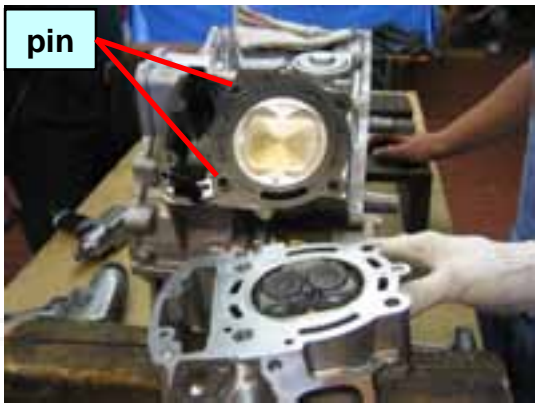


The chain

CYLINDER HEAD DISMANTLE



Loosen the cylinder head bolts*4

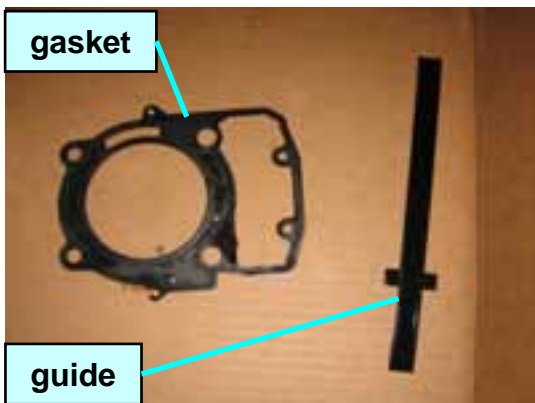


pin

Remove the cylinder head , and notice the lock pins



Remove the gasket and chain guide

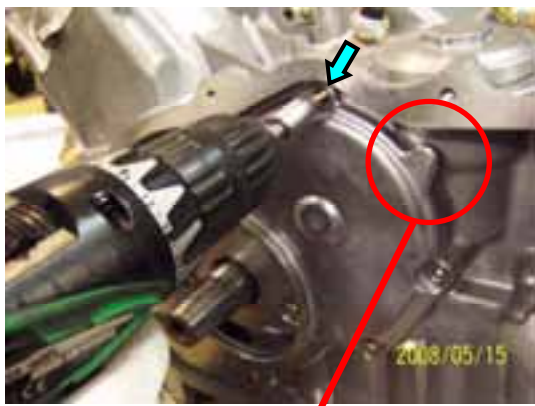


gasket

guide

The cylinder head gasket and chain guide

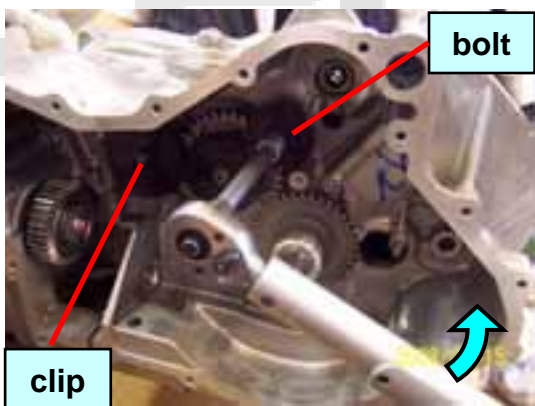
BALANCER DISMANTLE



Loosen the balancer cover bolts*8



Raise the balancer cover by screwdriver from the prominence of case



Loosen the water pump idle pulley bolt and unclip the oil pump gear clip



The oil pump gear
The water pump idle gear



Loosen the balancer bolts by use screwdriver stop the balancer



The balancer

THE OIL PUMP DISMANTLE



Loosen the oil pump bolts*3 and unclip the oil pump gear clip



The oil pump and back plate



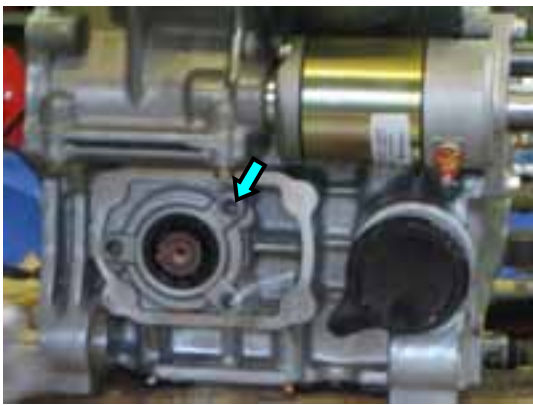
Remove the spin nose and washer



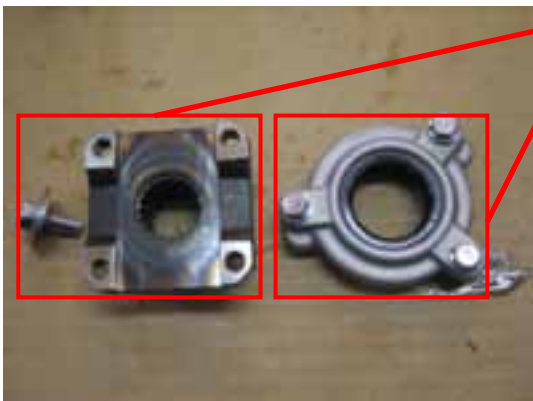
THE DRIVESHAFT DISMANTLE



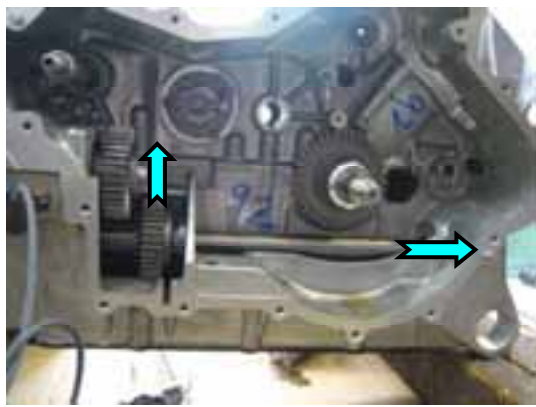
Loosen the front driveshaft yoke bolts , then remove the yoke



Loosen the front driveshaft seal cover bolt*3 , then remove the cover



The yoke
The seal cover



Use the box end (loosen ALT rotor nut) , screw the Pull the front driveshaft and remove the 4WD gear



The 4WD gear

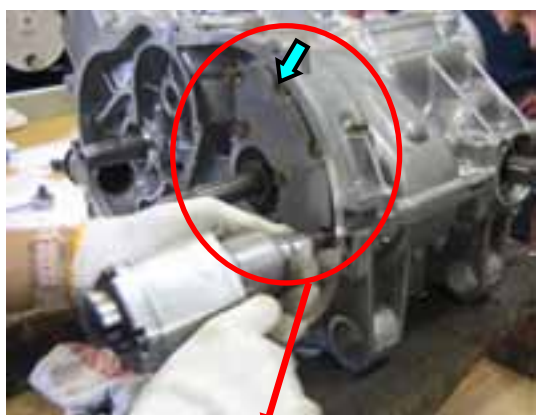


Remove the rear driveshaft yoke and seal cover
(same procedure of front driveshaft)



Loosen the starter bolts*2 , then remove the starter





Loosen the shift drum cover bolts*7



Loosen the shift drum antitrust plate

THE OIL MAIN CIRCUIT DISMANTLE



Loosen the oil filter cover



Remove the oil filter



**Loosen the main circuit bolt ,
then remove the main circuit**



The main circuit

THE CYLINDER BLOCK DISMANTLE



**Remove the rear driveshaft yoke
and seal cover**



**Reversal the engine , and loosen
the oil sump bolts*12**



Use scraper and hammer to open the oil sump



The oil sump

※When reinstall must clean the surface of the oil sump



Loosen the crankcase bolts*12



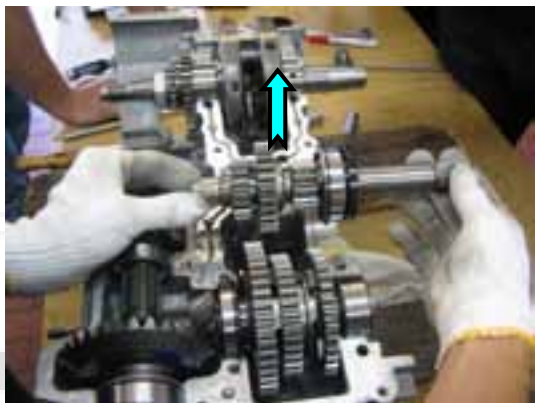
Raise the crankcase by screwdriver from the prominence of case



The crankcase

※When reinstall must clean the surface of the crankcase

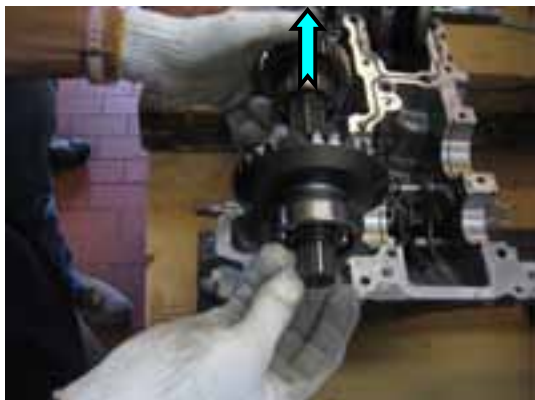
THE TRANSMISSION GEAR DISMANTLE



Remove the main shaft



Remove the layshaft

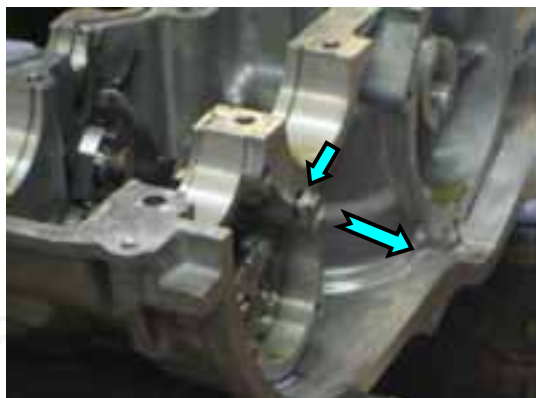


Remove the rear shaft



The cylinder block

※When reinstall must clean the surface of the crankcase



Loosen the shift fork bolt , then pull out the shift fork shaft and remove the fork




The shift fork



Loosen the shift position rotor bolt , then remove the parking shaft plate

	<p>The shift position rotor and parking shaft plate</p> <p>THE PARTS ONLY APPLY THE VEHICLE HAVE GEAR PARKING FUNCTION</p>
	<p>Pull out the shift drum from the cylinder block</p>
	<p>The shift drum</p>

THE OIL RELEASE VALVE DISMANTLE

	<p>Loosen the oil release valve bolt , then remove the oil release valve by magnet</p>
---	--



The oil release valve

THE CRANKSHAFT DISMANTLE



Loosen the connecting rod bolts*2



Remove the connecting rod cap , then remove the crankshaft



The cylinder block

※When reinstall must clean the surface of the crankcase

THE PISTON DISMANTLE



Pull out the piston

※Must clean the carbon on piston



Piston ring inspection
The second ring top side



Loosen the speed sensor bolt ,
then remove the speed sensor

CECTEK 500cc EFI ENGINE

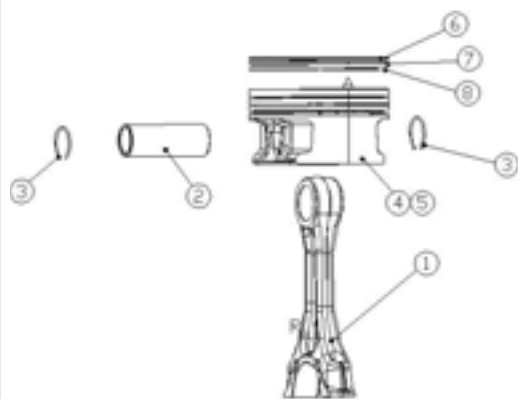
ASSEMBLY

CAUTION :

Only trained and certificated technician can disassembly the CECTEK RSGA 500 EFI ENGINE. Improper disassembly may damage the engine. CECTEK can not provide the warranty to the engine which has not been properly disassembled and assembled by trained and certificated technician.

THE PISTON AND CONNECTION ROD ASSEMBLY

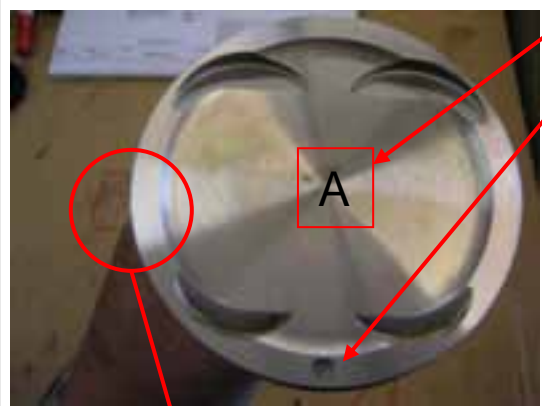


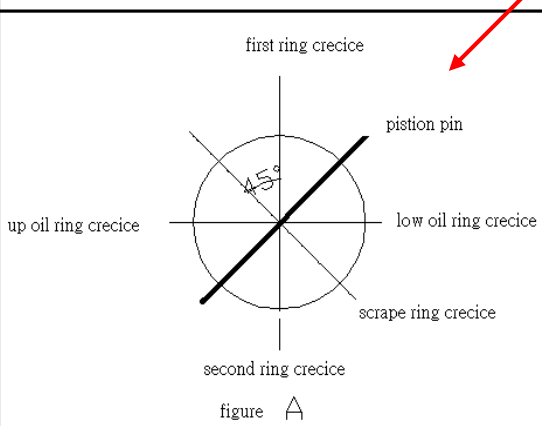
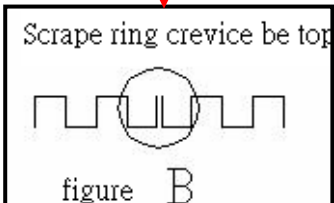
NO.	PART NAME	PART NO.
1.	CONROD ASSY.	40098013
2.	PISTON PIN	40090024
3.	CLIP	40090027
4.	PISTON-A	40096011
5.	PISTON-B	40096012
6.	PISTON RING TOP	40096013
7.	PISTON RING SECOND	40096014
8.	PISTON RING OIL CONTROL	40096015

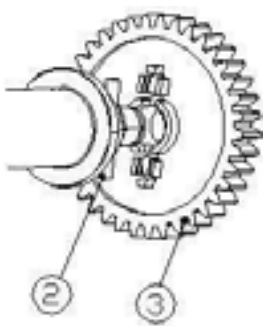
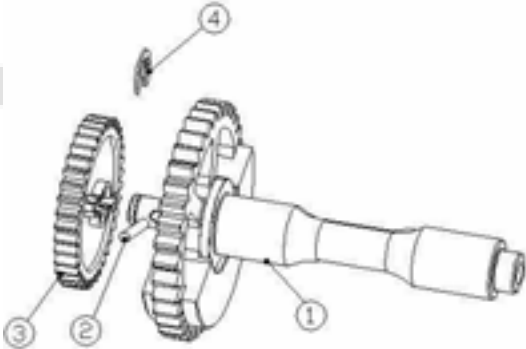


1. Before assembly, must confirm if the piston (4,5) is matching the category of liner
2. A category piston only can be installed on A category liner
3. A category piston only can be installed on B category liner

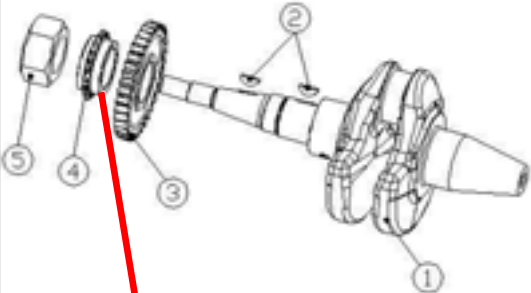
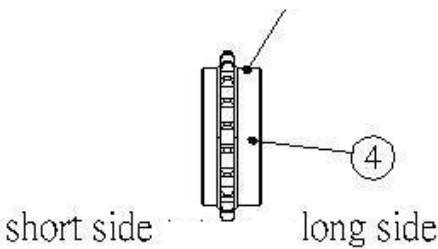


4. Make sure the liner size mark of the cylinder block

	<p>5.The piston size mark on top (A or B)</p> <p>6.Confirm : when you face the piston , the piston (4,5) exhaust mark is in the down side</p>
	<p>7.Confirm : the connecting rod (1) right side mark R is same side of piston</p> <p>8.Install one clip (3) into the piston clip groove firmly</p> <p>9.Install pin (2) into pin groove</p>
	<p>10.Install the clip (3) into the other side groove to stop the pin (2)</p> <p>11.Then sequentially install parts (8) , (7) , (6) , the crevice position of each ring as figure A shows</p>
 <p>figure A</p>	<p>12.The opening of ring (8) of spacer shall be upward as figure B shows</p> <div data-bbox="815 1760 1150 1962">  <p>figure B</p> </div>

THE BALANCER ASSEMBLY		
NO.	PART NAME	PART NO.
1.	RETAIN E-RING	RES009
2.	GEAR (37T)	40150030
3.	PIN	40130083
4.	BALANCER SHAFT ASSY.	40128004
 <p>figure A</p>		<p>1.Install pin (2) into balancer shaft (1)</p> <p>2.Install gear-oil pump driver (3) into balancer , reference to figure A</p>
		<p>3.Clip the E-ring (4) check the retain E-ring install into the groove of balancer shaft</p>

THE BALANCER ASSEMBLY		
NO.	PART NAME	PART NO.
1.	CRANKSHAFT	40110023
2.	KEY	40110108
3.	GEAR (36T)	40120018
4.	PCAM CHAIN SPROCKET	41010004
5.	NUT (M30)	40110024

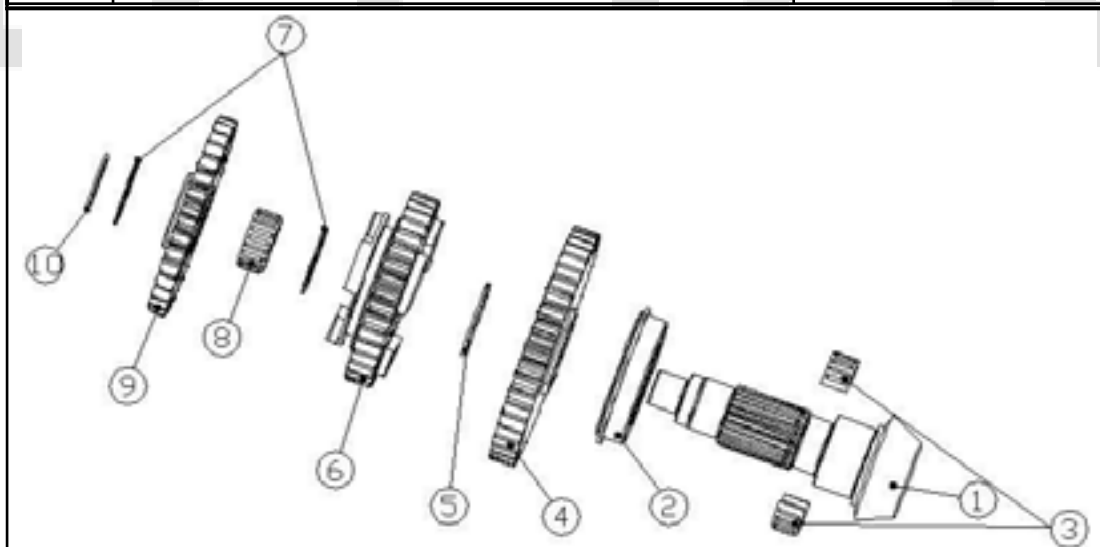
	<p>1. Install key (2) into crankshaft (1), keep the key parallel with crankshaft taper</p> <p>2. Install gear (3) into crankshaft (1), gear groove must be alignment key of crankshaft</p>
<p>install long side into gear side</p>  <p>short side long side</p> <p>figure A</p>	<p>3. Install cam chain sprocket (4) into crankshaft (1), be shall install long side into gear side of crankshaft, reference to figure A</p> <p>4. Screw nut (5) to crankshaft (1), tighten torque 250Nm</p>

THE MAIN SHAFT ASSEMBLY		
NO.	PART NAME	PART NO.
1.	MAIN SHFAT	46030001
2.	BEARING	46030034
3.	SPACER	46010003
4.	LIP SEAL	40016004
5.	RETAIN C-RING	RCS025
6.	WASHER	46030010
7.	NEEDLE BEARING (CAGE TYPE)	46030030
8.	HIGH SPEED DRIVE GEAR (27T)	46030003
9.	LOW SPEED DRIVE GEAR (18T)	46030004
10.	NEEDLE BEARING (OPEN TYPE)	46030028

Before install gear and bearing , please lubricate with 10W/40 oil

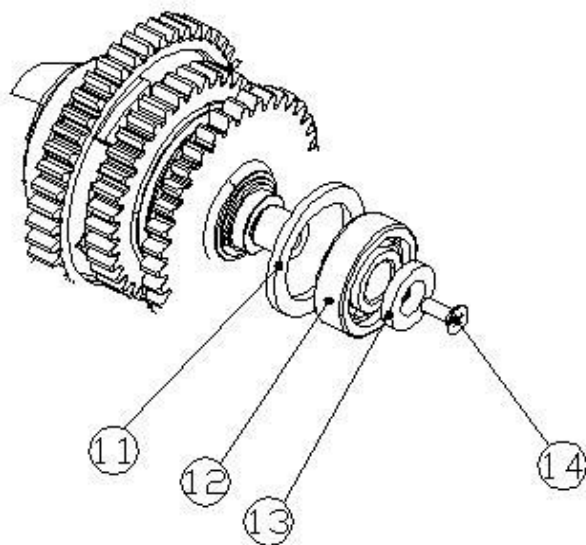
- 1.Install bearing (2) into main shaft (1) , be shall bearing of ring side install to main shaft of gear side
- 2.Install spacer (3) into main shaft , then install seal (4) into spacer (3)
- 3.Install a C-ring (5) into main shaft of groove , then put a washer (6) into main shaft
- 4.Install needle bearing (7) and high gear (8) into main shaft , be shall install high gear of raised side into main shaft of gear side
- 5.Install a washer (6) into main shaft then install C-ring (5) into main shaft of outside groove
- 6.Install low gear (9) into main shaft then install needle bearing (10) into main shaft , be shall low gear of forl groove in the outside

THE LAY SHAFT ASSEMBLY		
NO.	PART NAME	PART NO.
1.	LAY SHFAT	46030002
2.	CYLINDRICAL ROLLER BEARING	CRBNU1007NR
3.	NEEDLE BEARING (HALF CAGE TYPE)	46030031
4.	LOW SPEED DRIVEN GEAR (45T)	46030007
5.	RETAIN C-RING	RCS030
6.	HIGH SPEED DRIVEN GEAR (36T)	46030005
7.	WASHER	46030010
8.	HNEEDLE BEARING (CAGE TYPE)	46030030
9.	REVERSE DRIVEN GEAR (34T)	46030008
10.	RETAIN C-RING	RCS025
11.	ADJUSTING WASHER	46030016-26
12.	BEARING (DOUBLE ROW ANGULAR)	46030029
13.	WASHER	46030012
14.	FLAT HEAD SCREW	SCF060200883



Before install gear and bearing , please lubricate with 10W/40 oil

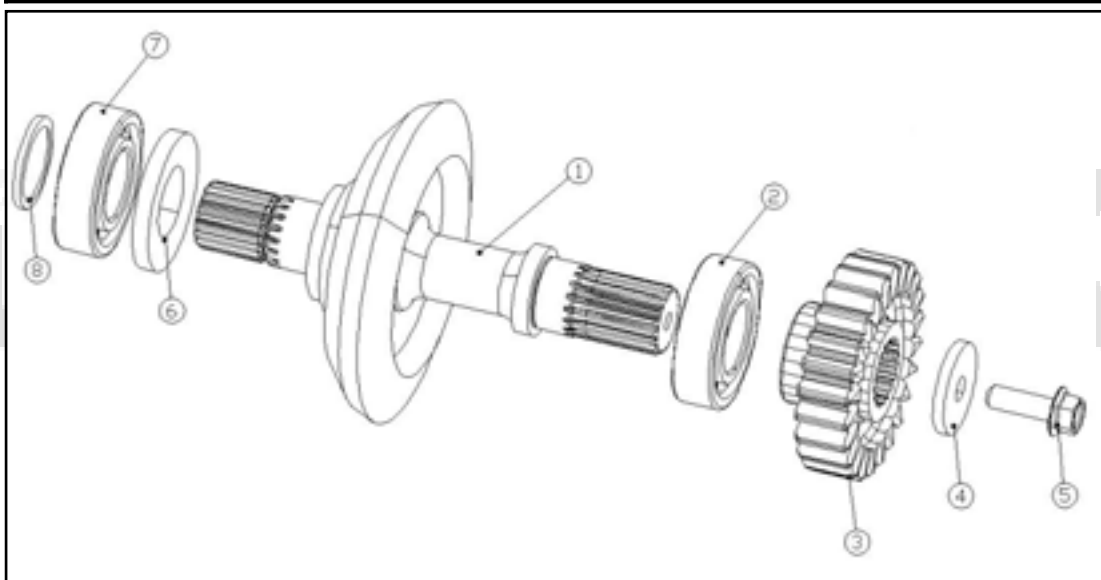
1. Install bearing (2) into lay shaft (1) , be shall install bearing of long side into bevel gear side
2. Install needle bearing (3) into lay shaft , then install low gear (4) into lay shaft , be shall install low gear (4) of plane into bevel gear side
3. Install retain C-ring (5) into lay shaft of groove
4. Install high gear (6) into lay shaft , be shall install high gear (6) of fork groove side into another bevel gear side



Before install gear and bearing , please lubricate with 10W/40 oil

- 5. Install washer (7) into lay shaft , then install needle bearing (8) into lay shaft**
- 6. Install reversal gear (9) into lay shaft , then put a washer (7) into lay shaft , be shall install reversal gear (9) of groove side into bevel gear side**
- 7. Install retain C-ring (10) into lay shaft of groove**
- 8. Measure and calculate gear back clearance , then choose and install adjusting washer (11)**
- 9. Install bearing (12) into lay shaft**
- 10. Install washer (13) and screw flat head screw (14) into lay shaft , tighten torque 9Nm**

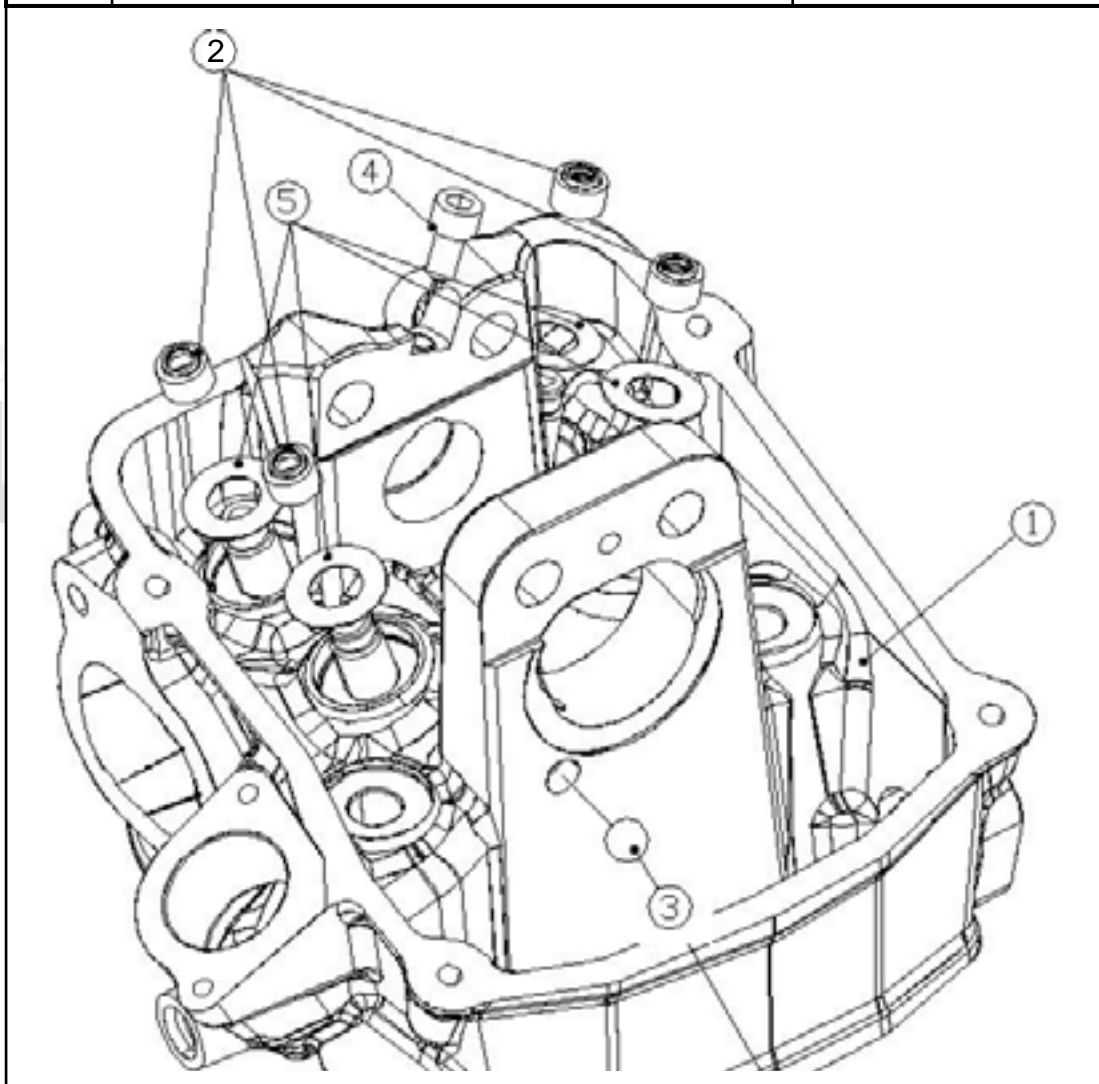
THE REAR DRIVESHAFT ASSEMBLY		
NO.	PART NAME	PART NO.
1.	DRIVE SHAFT ASSY.	46058001
2.	BEARING	DGB6205
3.	GEAR	46050023
4.	WASHER	46050007
5.	BOLT	BFH080251094
6.	WASHER	46050009-19
7.	BEARING	DGB6305
8.	O-RING	46050025



Before install gear and bearing , please lubricate with 10W/40 oil

- 1.Press the bearing (2) into the shaft (1) thoroughly.**
- 2.Install the gear (3) into shaft (1).**
- 3.Tighten the bolt(5) with washer (4) on the shaft (1) , the tighten torque 20Nm**
- 4.Install the washer (6) which thickness shall be measured in advance into shaft (1) , then press the bearing (7) into shaft (1) , finally install the O ring (8)**

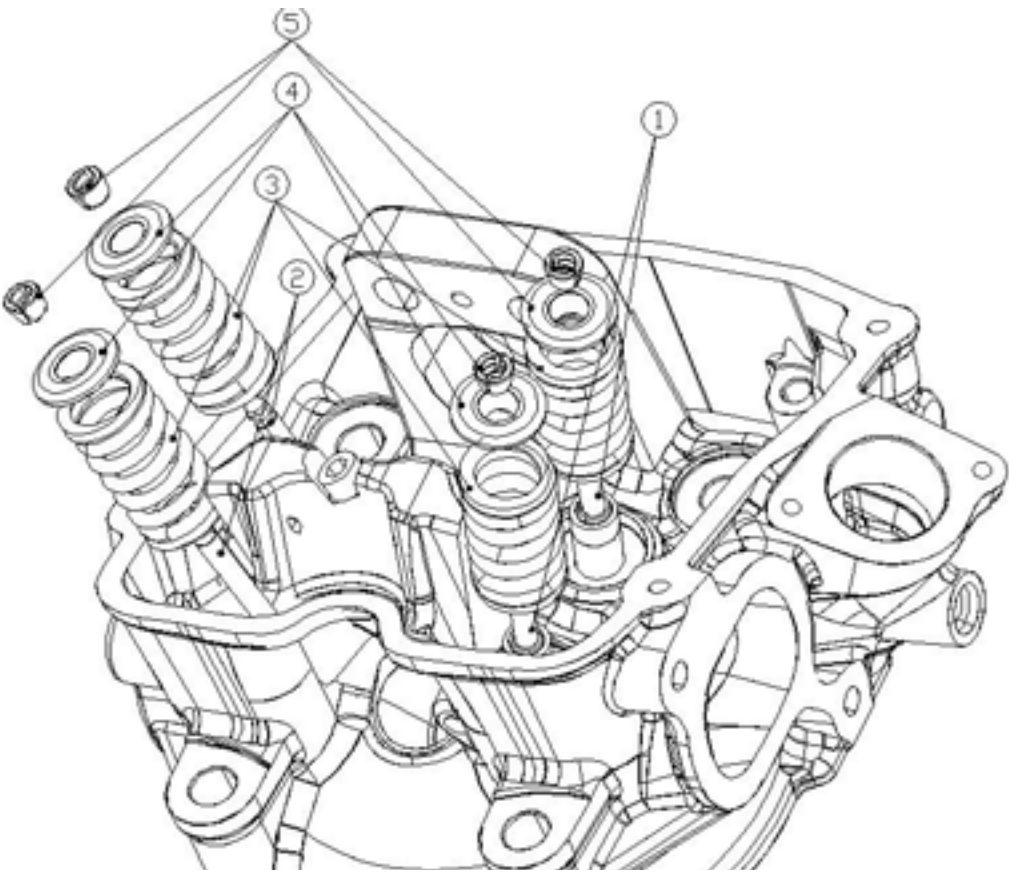
THE CYLINDER HEAD ASSEMBLY (1/3)		
NO.	PART NAME	PART NO.
1.	CYLINDER HEAD ASSY.	40058011
2.	VALVE STEM SEAL	40056002
3.	SEALING BALL	40070031
4.	HEXAGON SOCKET SCREW	SC050121291
5.	VALVE SPRING WASHER	40050140



Please clean up correlative parts and lubricate with 10W/40 oil

- 1.Knock the 2 balls (2) into cylinder head (1)**
- 2.Paste the screw (4) with LT272 , tighten to cylinder head with 5Nm**
- 3.Install the washer (5) on the valve spring seat**
- 4.knock valve stem seal (6) into valve guide , keep distance between the bottom of seal and the top of cylinder head within 12.7 ± 0.5 mm**

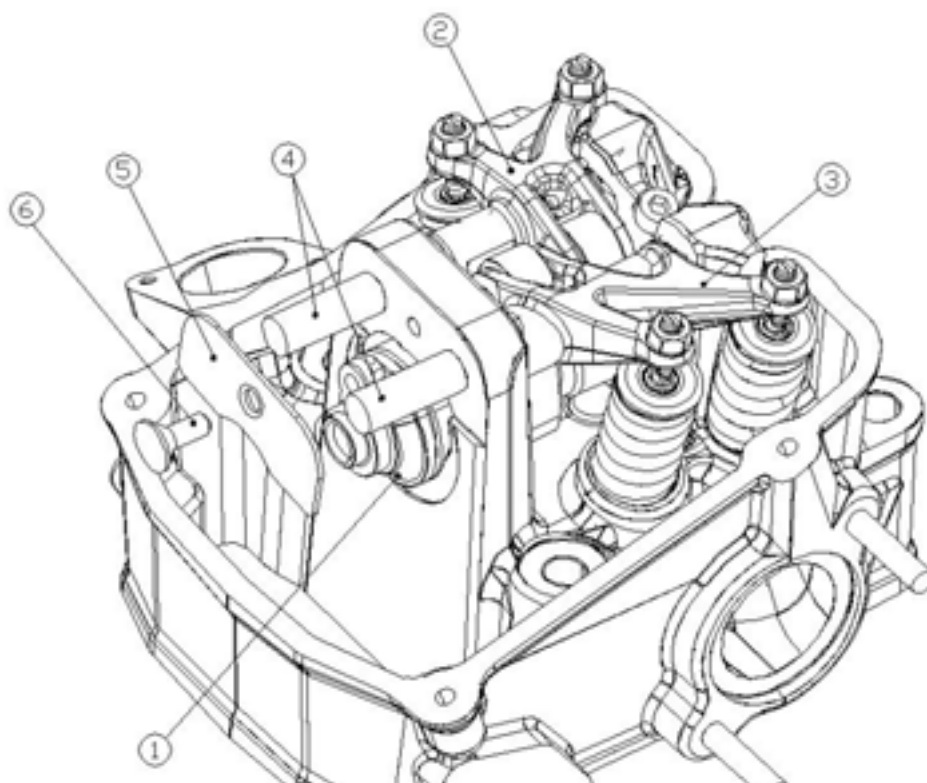
THE CYLINDER HEAD ASSEMBLY (2/3)		
NO.	PART NAME	PART NO.
1.	VALVE (INTAKE)	40050133
2.	VALVE (EXHAUST)	40050134
3.	SPRING	40050135
4.	SPRING CAP	40050136
5.	COTTER	40056003



Please clean up correlative parts and lubricate with 10W/40 oil

1. Install valve spring (3) x4 on the valve spring washer
2. Install cotter (5) x2 on the spring cap (4) (4pcs)
3. Install assembled spring cap (3) on the spring, with jig press it into the valve stems until a clear "clik" sound was heard
4. Check the cap is firmly installed on the stem with jig

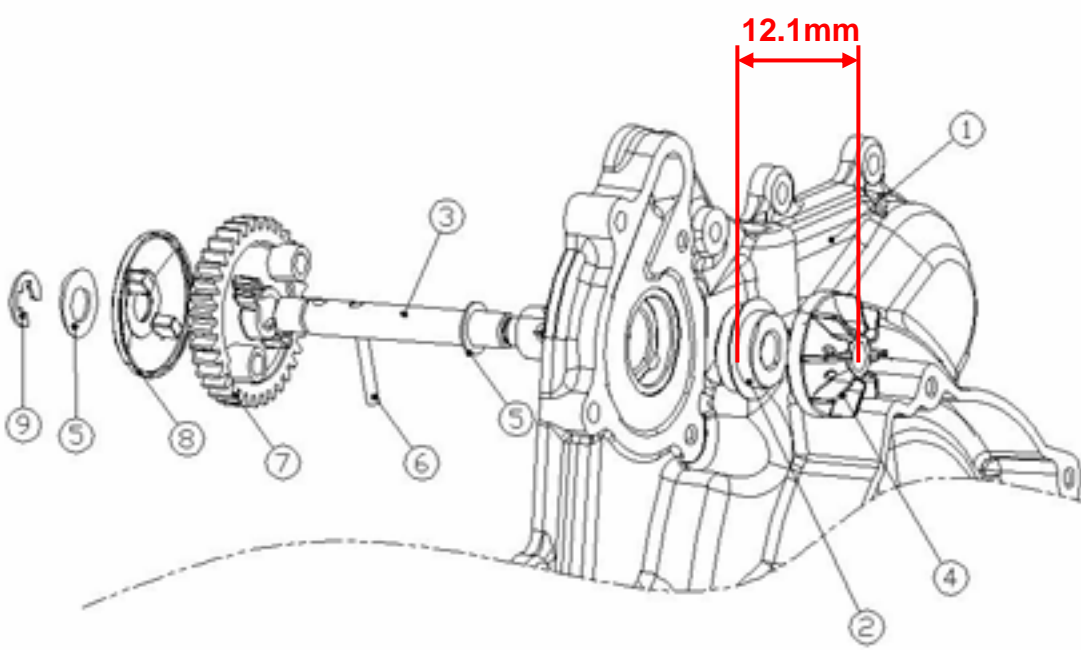
THE CYLINDER HEAD ASSEMBLY (3/3)		
NO.	PART NAME	PART NO.
1.	CAM SHAFT	40070068
2.	ROCKER ARM ASSY. (INTAKE)	40078016
3.	ROCKER ARM ASSY. (EXHAUST)	40078017
4.	SHAFT	40070063
5.	PLATE	40070065
6.	FLAT HEAD SCREW	SCF060160883



Please clean up correlative parts and lubricate with 10W/40 oil

- 1. Install cam (1) through cam bore**
- 2. Install intake rocker (2) on the cam shaft , the rocker face toward intake side.**
- 3. Install exhaust rocker (3) on the cam shaft , the rocker face toward exhaust side.**
- 4. Install shaft rocker assy (4) x2 through intake rocker (2) and exhaust rocker (3)**
- 5. Install the screw (6) through plate (5) and tighten to 9Nm , attention for the bottom of plate shall be clipped onto the groove of cam shaft.**
- 6. Adjust the intake/exhaust valve gap to 0.3 mm.**

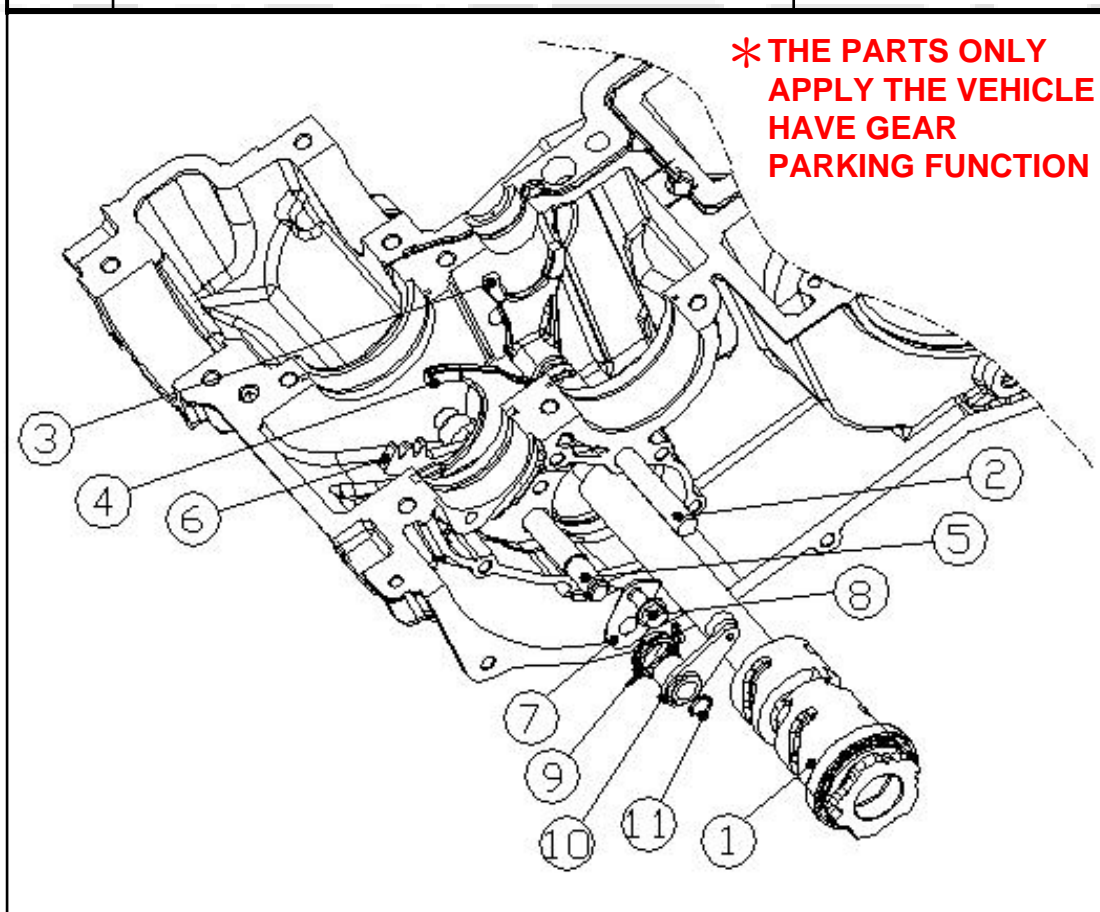
THE WATER PUMP ASSEMBLY		
NO.	PART NAME	PART NO.
1.	ACCESSORY COVER	40010053
2.	MACHANICLA SEAL	40136011
3.	SHAFT	40130075
4.	PROPELLER	40130071
5.	WASHER	40130077
6.	PIN	40130083
7.	GEAR (35T)	40130063
8.	CAP	40070064
9.	RETAIN C-RING	RCS012

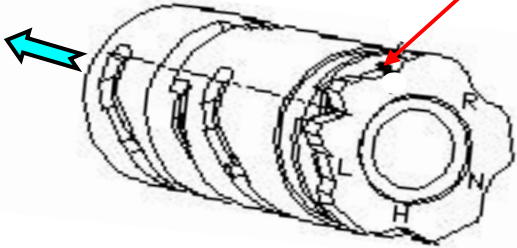



Please clean up correlative parts and keep dry


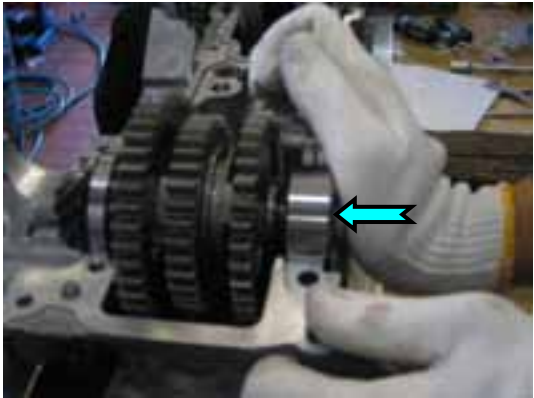
1.After install machianicla seal (2) on water pump shaft (3) and check the shaft have 12.1mm between macanicla seal and water pump shaft

THE SHIFT DRUM AND FORK ASSEMBLY		
NO.	PART NAME	PART NO.
1.	SHIFT DRUM ASSY.	46078002
2.	SHAFT (SHIFT FORK)	46070013
3.	SHIFT FORK (MAIN SHAFT)	46070001
4.	SHIFT FORK (LAY SHIFT)	46070002
5.	PARKING BREAK SHAFT *	46070005
6.	PARKING BREAK LEVEL *	46070006
7.	THRUST PLATE	46070022
8.	BOLT	BFH060120884
9.	SHIFT LOCATING SPRING	46070015
10.	SPRING BLADE	46070014
11.	RETAIN C-RING	RCS010



	<p>Shift locating rotor install position</p>
	<p>Install fork shift by plastic hammer and all parts lubricate</p>

THE TRANSMISSION GEAR ASSEMBLY

	<p>Install lay shaft to cylinder block</p>
	<p>Then push it to position</p>



Install rear drive shaft to cylinder block , then push it to position



Install main shaft and push the needle bearing to position



Lubricate oil release valve and install valve 、 spring guide into cylinder block



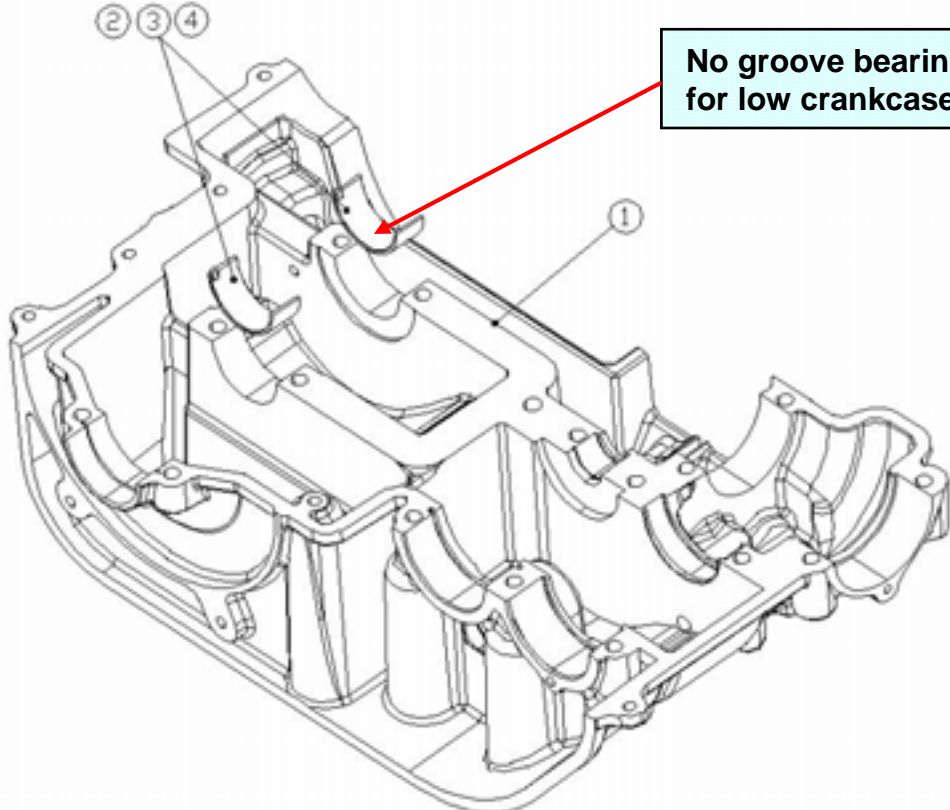
Then screw the bolt

※Torque 10Nm

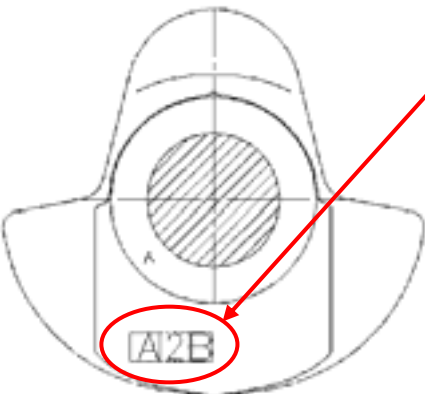
THE REAR IDLE GEAR ASSEMBLY		
NO.	PART NAME	PART NO.
1.	SHAFT	46030009
2.	O-RING	46030027
3.	NEEDLE BEARING	46030032
4.	REVERSE GEAR (27T)	46030006
5.	WASHER	46030011
6.	RETAIN C-RING	RCH020

Please clean up correlative parts and lubricate with 10W/40 oil

THE CRANKCASE AND CYLINDER BLOCK ASSEMBLY		
NO.	PART NAME	PART NO.
1.	CRANKCASE	40018014
2.	MAIN BEARING (BLACK)	888.4001.607
3.	MAIN BEARING (NO COLOR)	888.4001.608
4.	MAIN BEARING (GREEN)	888.4001.609



No groove bearing for low crankcase

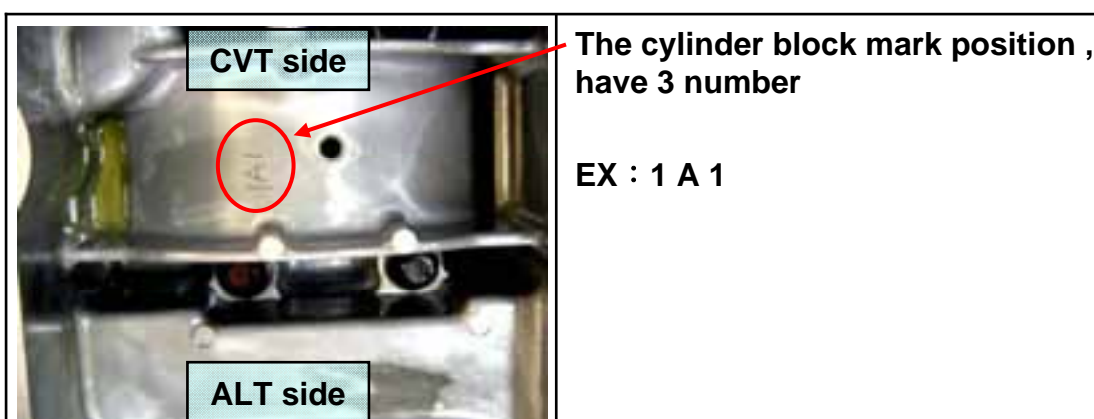


The crankshaft mark position , have 3 marks

EX : A 2 B

ALT side

CVT side



		CYLINDER BLOCK		
		1	2	3
CRANKCASE	A	N	B	B
	B	G	N	B
	C	G	G	N
N : No color		G : Green	B : Black	

Choose bearing color and install to crankcase

EX : cylinder block mark is 1 A 1
crankcase mark is A 2 B

so we choose ALT side bearing color is No color (1&A)

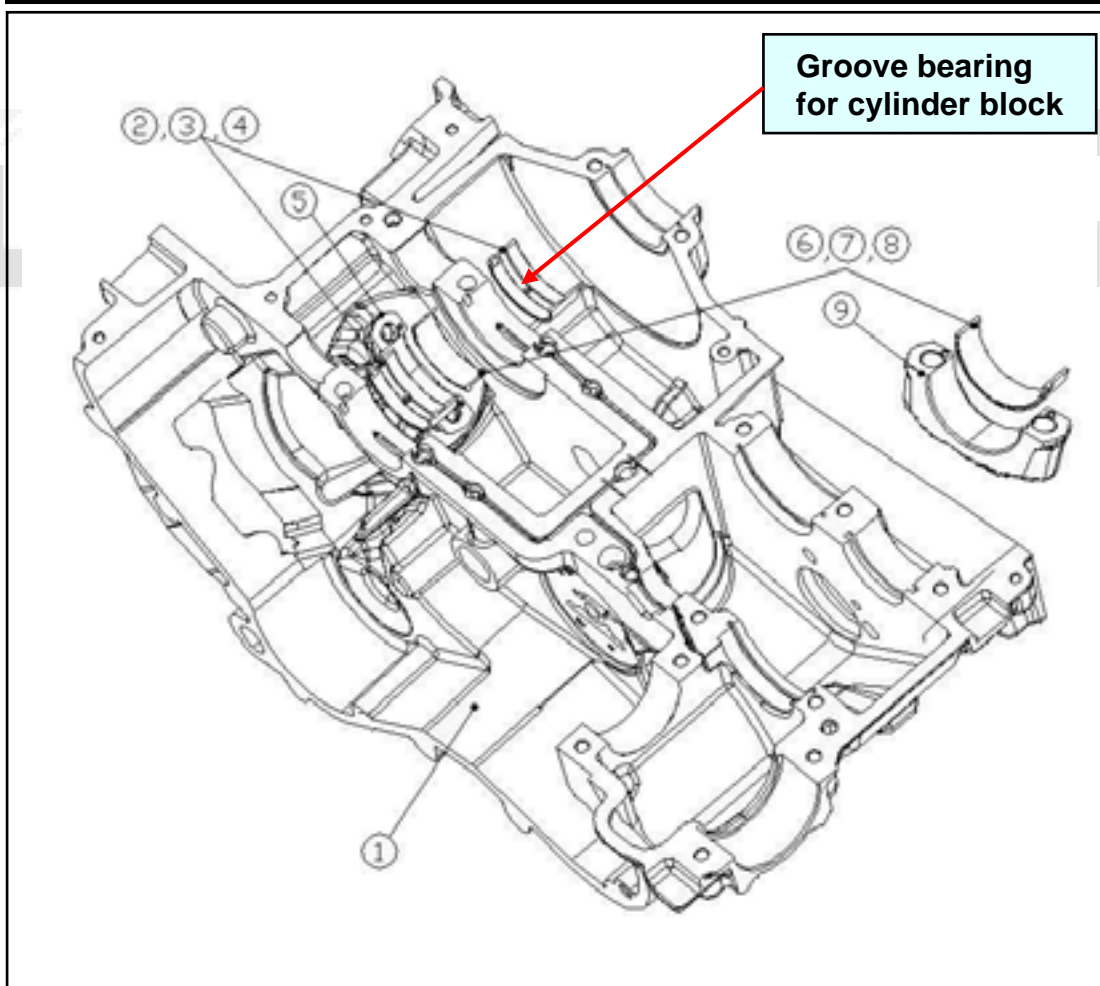
1 A 1
A 2 B

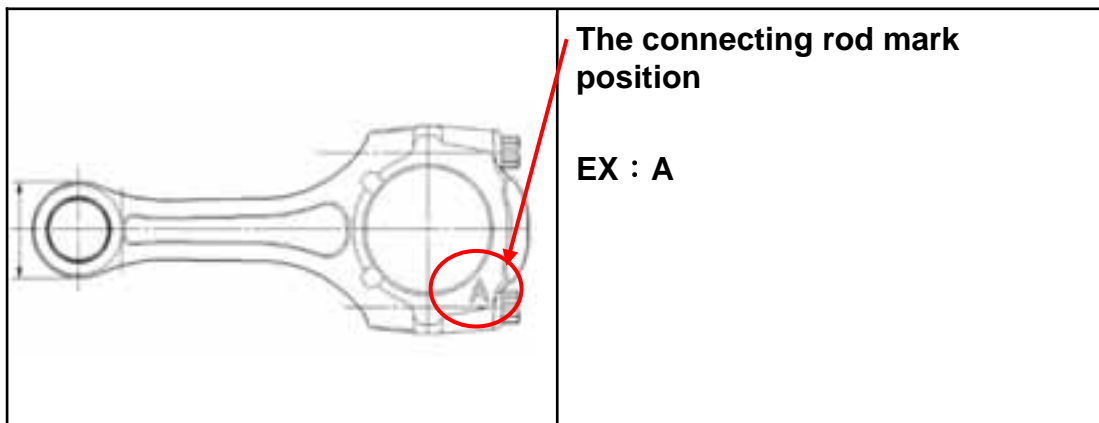
and CVT side bearing color is Green (1&B)

1 A 1
A 2 B

※up and low bearing install the same color

THE CRANKCASE AND CYLINDER BLOCK ASSEMBLY		
NO.	PART NAME	PART NO.
1.	CYLINDER BLOCK	40018014
2.	MAIN BEARING (BLACK)	888.4001.613
3.	MAIN BEARING (NO COLOR)	888.4001.614
4.	MAIN BEARING (GREEN)	888.4001.615
5.	CONROD ASSY.	40098013
6.	BEARING (BLACK)	40096025
7.	BEARING (YELLOW)	40096024
8.	BEARING (BLUE)	40096023





		CONNECTING ROD	
		A	B
CRANKCASE	1	Y	B
	2	BL	Y

Y : Yellow BL : Blue B : Black

Choose bearing color and install to connecting rod

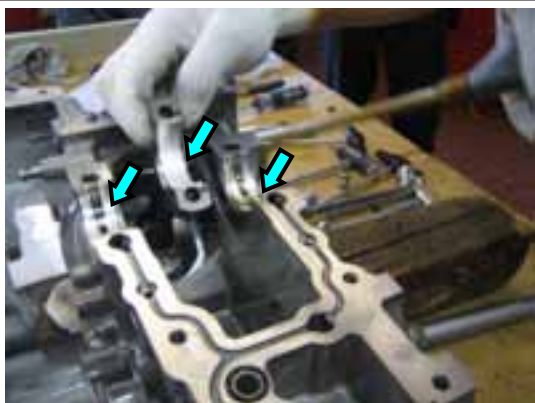
EX : connecting rod mark is A
 crankcase mark is A 2 B

so we choose the bearing color is blue (A&2)

A A
2 B

※up and low bearing install the same color

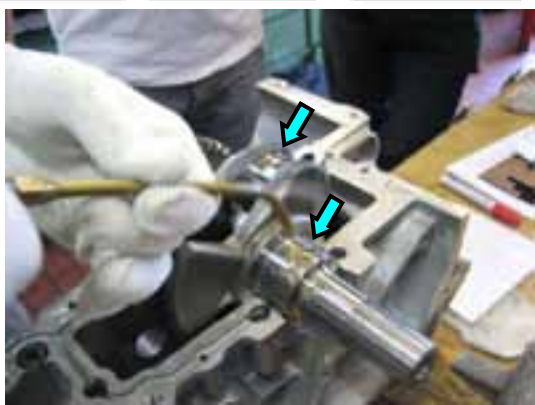
THE BEARING AND CRANKSHAFT ASSEMBLY



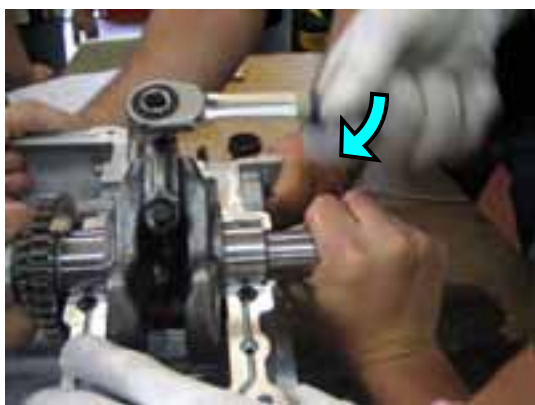
Lubricate all bearing



Install crankshaft



Lubricate all rotation position



Before screw the two bolts ,
be lubricate connecting rod bolts

※Torque 20Nm + 90° + 90°
(screw the two bolts equally)

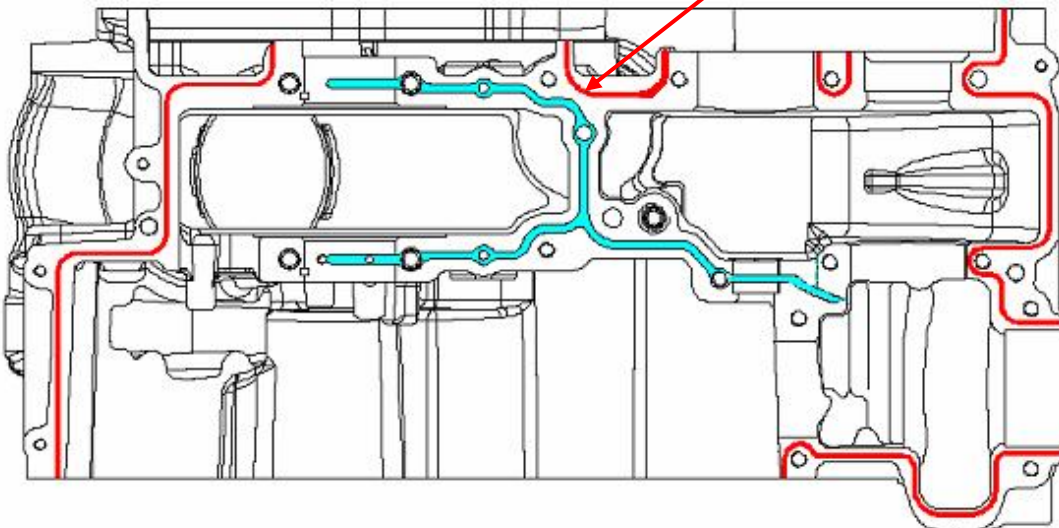


Lay the Case Assembly Glue on cylinder block according figure A and glue diameter about 1mm

Figure A

Keep away the main gallery

Lay the glue diameter about 1mm



Glue Path
 Main Gallery



Install crankcase to cylinder block



Lubricate the bolt and washer ,
then screw it

※Torque 35Nm + 90°
(screw the bolts equally)



Install the cylinder block bolts



The tighten torque 35Nm



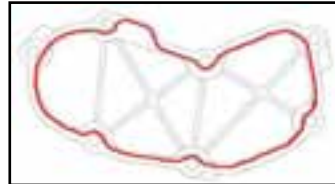
Install shift drum antithrust plate

※Torque 10Nm



Lay the Case Assembly Glue on shift drum cover

※Glue diameter about 1mm



Install the shift drum cover

※The bolts torque 10Nm



Reverse the engine , then screw the cylinder bolt

※The bolts torque 20Nm



Install the main circuit

※The bolt torque 20Nm



Lubricate the balancer



Install balancer gear , then check crankshaft gear mark to balancer half of gear position




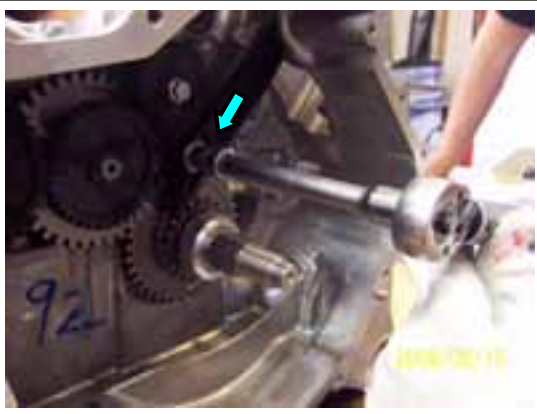


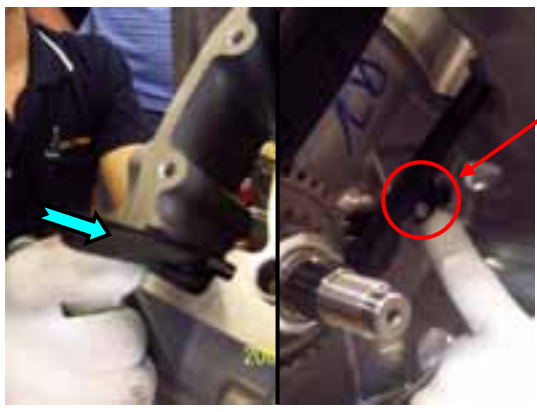
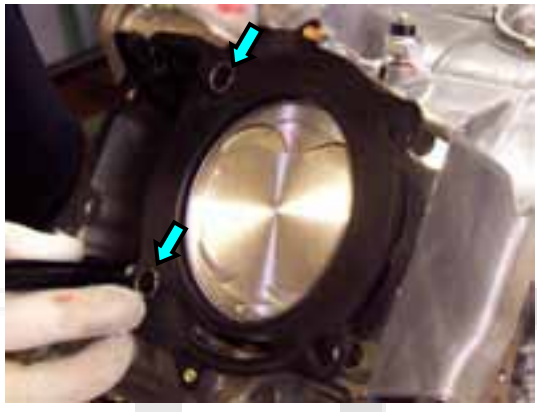


Lay the **Bolt Glue** on the bolt , then install the balancer plate

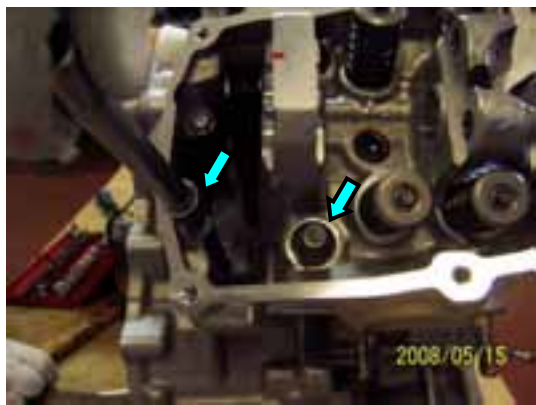
※The bolts torque 20Nm



Lubricate the oil pump and rotor

	<p>The bolts torque 10Nm</p>
	<p>Install the oil pimp gear , then clip the E-clip</p>
	<p>Install the water pump idle gear , then tighten the bolt</p> <p>※The bolts torque 10Nm</p>
	<p>Install the chain guide</p> <p>※Torque 10Nm</p>

	<p>Install the chain guide into cylinder block and notice the lock position</p>
	<p>Install the cylinder head gasket and lock pins</p>
	<p>Install the cylinder head</p>
	<p>Lubricate the cylinder head bolts and washer</p>



Screw the cylinder bolts

※Torque 35Nm + 90° + 90°
(screw the four bolts equally)

※The M6 bolts torque 10Nm



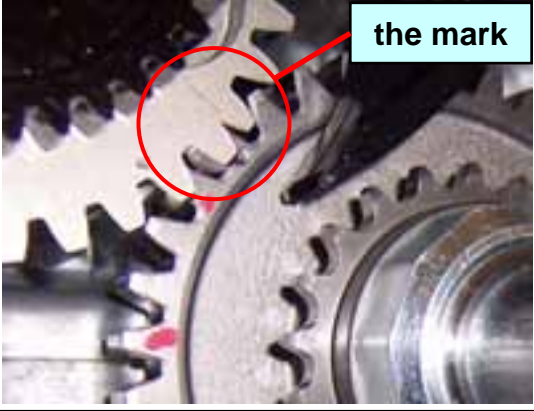
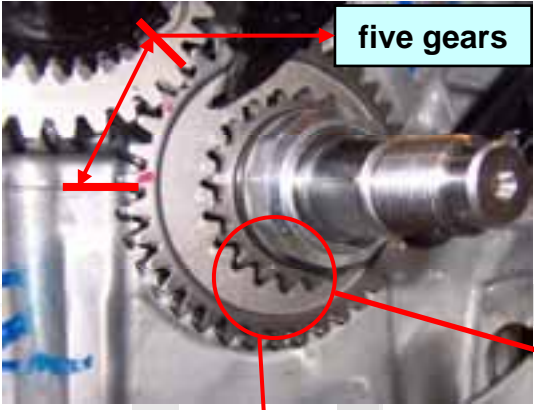

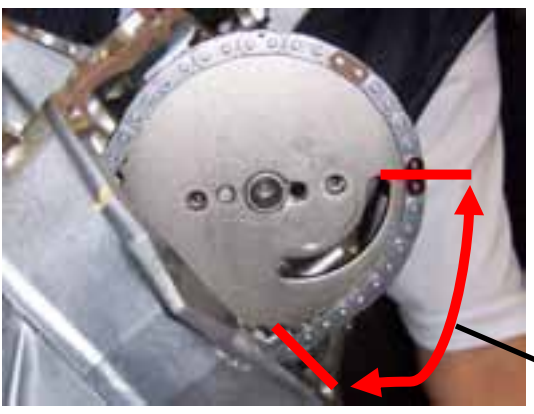
Lubricate cam shaft



Install the cam shaft into cylinder head



Lubricate the rock arms and shafts , then install into cylinder head

 <p>the mark</p>	<p>Check the crankshaft gear mark and balancer mark</p>
 <p>five gears</p> <p>crankshaft sprocket mark</p>	<p>Between balancer mark to crankcase mark line have five gears</p>
	<p>Crank sprocket mark must correct to blue mark of chain</p>
 <p>six pieces</p>	<p>When crank sprocket mark correct , then check cylinder head sprocket have six pieces counter from cylinder head</p>



Install the tensioner and screw the bolts , then put the spring and screw the cover

※The bolts torque 10Nm

※The cover torque 10Nm



Install discompressor



Lay Bolt Glue on discompressor bolt , then screw it

※Torque 5Nm



Install the thermostat

※Torque 10Nm



**Install the cylinder head cover ,
then screw the bolts**

※Torque 10Nm



Install the spark plug

※Torque 10~12Nm

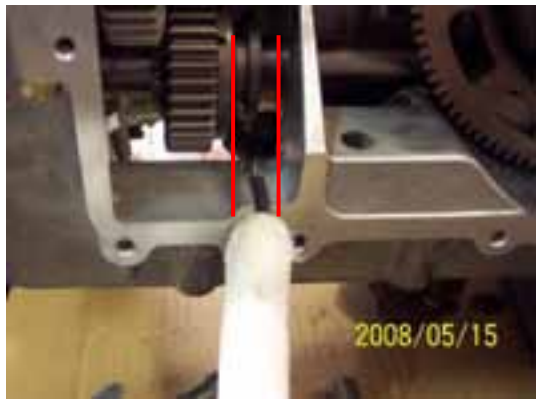


**Lubricate the spin nose and ,
then install into cylinder block**

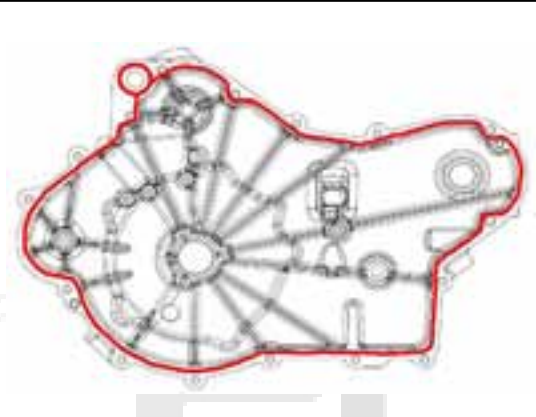


**Install the fly wheel assy. and
ALT rotor , then screw the nut**

※Torque 200Nm



Check 4WD gear groove correct to low crankcase groove



Lay the Case Assembly Glue on accessory cover

※Glue diameter about 1mm



Install accessory cover , then screw the bolts

※The bolts torque 10Nm



Install the drive shaft seal cover , then screw the bolts

※The bolts torque 10Nm



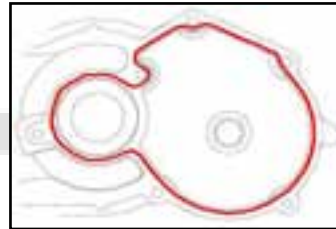
Lay the Bolt Glue on drive yoke bolt , then install drive yoke

※The bolts torque 20Nm



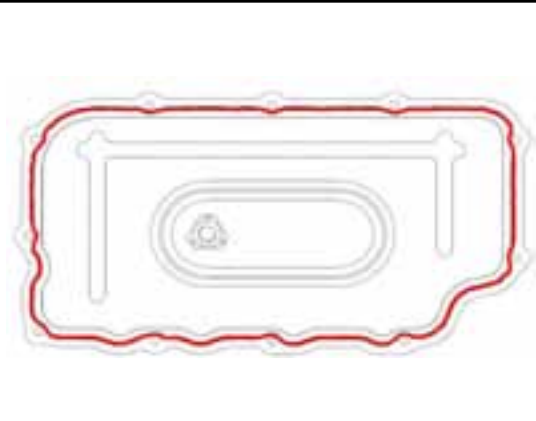
Lay the Case Assembly Glue on balancer cover

※Glue diameter about 1mm





Install balancer cover , then screw the bolts

※The bolts torque 10Nm



Lay the Case Assembly Glue on oil sump cover

※Glue diameter about 2mm

	<p>Install oil sump , then screw the bolts</p> <p>※The bolts torque 10Nm</p>
	<p>Install the CVT drive pulley , then screw the bolt</p> <p>※The bolts torque 120Nm</p>
	<p>Install the driven pulley , then screw the bolt</p> <p>※The bolts torque 45Nm</p>
	<p>Screw the <u>Belt Removal Tool</u> to end to open the driven pulley , then install the belt</p>



Then rotate driven pulley check the belt on position



Install the CVT cover , then screw the bolts

✕The bolts torque 10Nm



The engine assembly complete

C2CTEK








SERVICE MANUAL

FOR GLADIATOR & QUADRIFT CHASSIS



SEAT REMOVAL	
	<p>1. Turn the steering handle to the dead left position.</p>
	<p>2. Push the key and turn it to “SEAT OPEN” position. 3. Then you will hear the latch release sound “Click”.</p>
	<p>4. Lift the seat up and draw the seat backward to remove the seat.</p>

INSTRUMENT COVER REMOVAL	
	<p>1. Remove the 2 screws on the upper instrument covers.</p>

	<p>2. Lift the front instrument cover up from the bottom and separate it from the rear instrument cover.</p>
	<p>3. Remove the 4 screws on the rear instrument covers.</p> <p>4. The screws may fall into the chassis, be careful in catching the screws.</p>
	<p>5. Lift the rear instrument cover up and remove the seal between the instrument and the cover.</p>
	<p>6. Put the seal back on the instrument to prevent the part missing.</p>

SADDLE REAR COVER REMOVAL



1. Turn the steering handle to the dead left position.




2. Remove the screw latch on the right forward corner of saddle upper cover.






3. Remove the screw latch on the left forward corner of saddle upper cover.



4. Remove the two screws on the rear of saddle upper cover.

	<p>5. Pull the upper saddle cover backward and the lift it up to remove the cover.</p>
---	--

SIDE SADDLE COVERS REMOVAL	(LHS & RHS are in same process)
	<p>1. Must remove the upper saddle cover before removing side saddle cover. 2. Remove the frame fastening screw. 3. When install torque 10Nm.</p>
	<p>4. Remove the rear latch screw.</p>
	<p>5. Remove the front loser latch screw.</p>

	<p>6. Remove the front upper latch screw.</p>
	<p>7. Pull the cover backward (direction 1). 8. Slightly lift the cover up and pull the cover upward (direction 2) for removing the cover.</p>
<p>FRONT BUMPER COVER REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Remove the upper two screws on the cover. 2. When install torque 10Nm</p>



3. Remove the RHS screw on the cover.

4. When install torque 10Nm

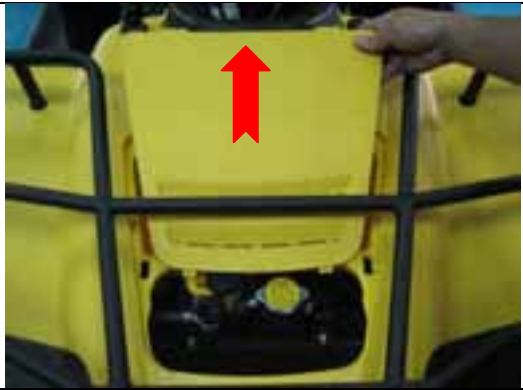



5. Remove the LHS screw on the cover.

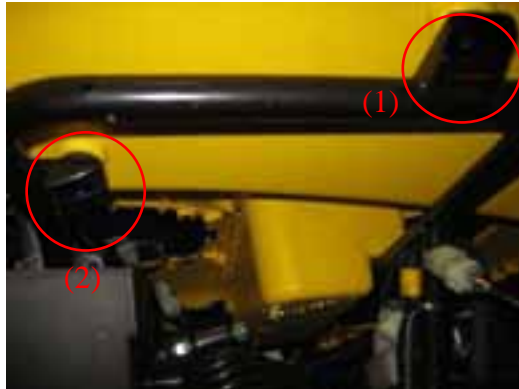
6. When install torque 10Nm

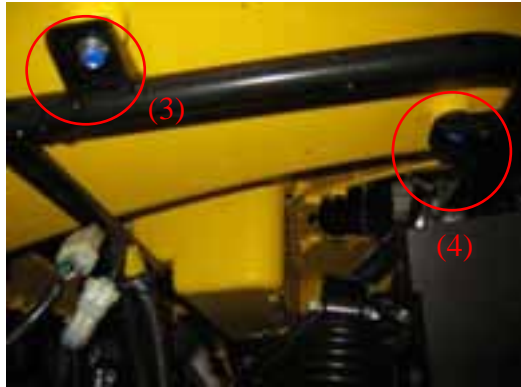




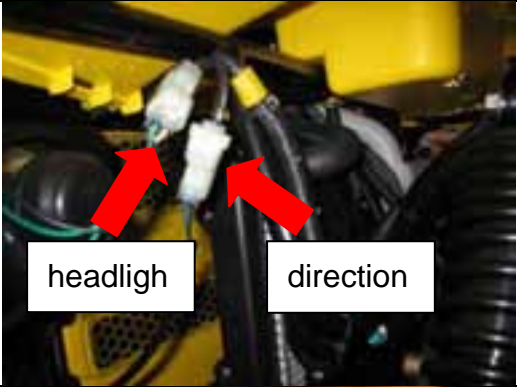



7. Pull the cover forward to remove the cover from bumper.

MAINTENANCE ACCESS PANEL REMOVAL	Reversely perform the below process to install.
	1. Insert your two fingers into the latch hole. Press the latch to release the panel.
	2. Slide the panel out under the front rack. 3. Note: for ATV QuadriFT 500 EFI, There is not rack above the maintenance access panel. You can direct lift up the panel.
KEY POSITION COVER REMOVAL	Reversely perform the below process to install.
	1. Remove the key out.

	<p>2. Hold the key position cover and turn it counterclockwise to dead left point.</p>
	<p>3. Pull the key position cover out from the key hub. It could be easier that using you finger as a stop then drawing the cover out.</p>
	<p>4. Keep the cover face up to prevent the scratch on the marks.</p>

<p>FRONT RACK REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Loosen the two bolts under the RHS front cover but not remove them.</p> <p>2. When install torque 10Nm.</p>

	<p>3. Remove the two bolts under the LHS front cover.</p> <p>4. When install torque 10Nm.</p>
	<p>5. Remove the front rack.</p>
<p>FRONT COVER REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Remove 12V accessory plug connector.</p>

	<p>2. Disconnect the headlight and direction light connectors.</p>
	<p>3. The connectors are latched, pull the latch outward and disconnect the connectors.</p>
	<p>4. Remove the RHS 3 front cover latch screws and LHS 3 front cover latch screws.</p>
	<p>5. Remove the RHS front mask cover bolt above the bumper.</p>



6. Remove the LHS front mask cover bolt above the bumper.





7. Pull the foot brake fluid reservoir out from the cover.




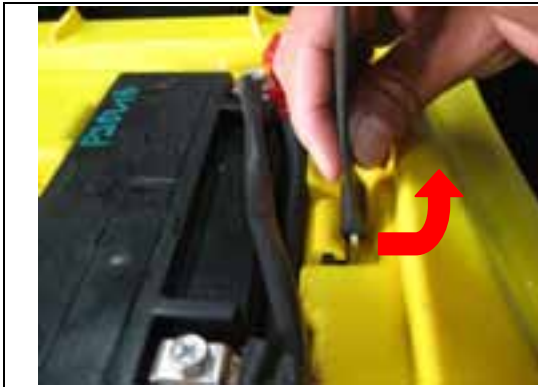
8. Release the foot brake fluid reservoir latch.



9. Pull the foot brake fluid reservoir tube out from the latch gap.

	<p>10. Put the reservoir on the upper right corner of the front cover.</p>
	<p>11. Pull the cove up and make sure and make sure there are no connected wires and tubes.</p>
	<p>12. Separate the cover and frame.</p>

<p>BATTERY REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Pull the rubber strip of battery out from the hook.</p>



2. Remove the strip form the other hook.




3. Remove the Negative(—) pole screw of harness.































4. Remove the Positive (+) pole screw of harness.





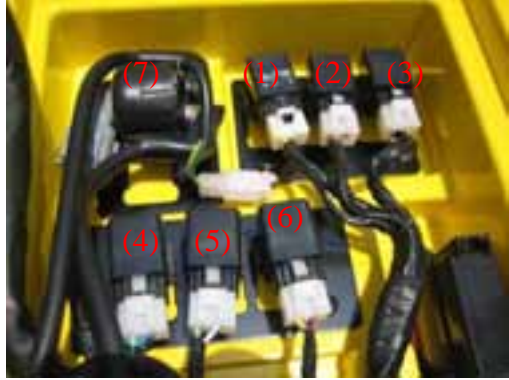
5. Pull the battery out form the chamber.

DIRECTION INDICATION LIGHTER FLASHER REMOVAL	Reversely perform the below process to install.
	<ol style="list-style-type: none"> 1. Press the connector latch down and pull the connector out form the flasher. 2. Pull the rubber mount form the cover. 3. Remove the flasher form the rubber mount.



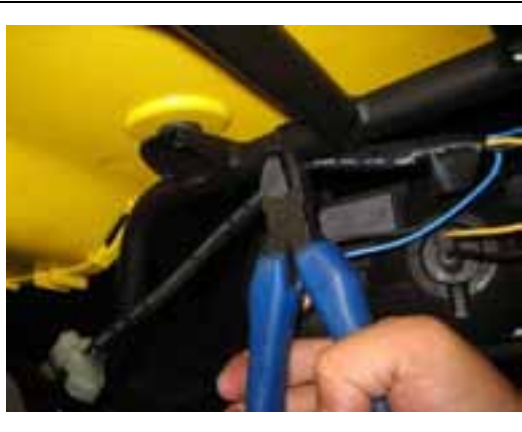

FUSE BOX REMOVAL	Reversely perform the below process to install.																																
<table><tr><td>1</td><td>30A</td><td>2</td><td>20A</td><td>3</td><td>20A</td><td>4</td><td>20A</td><td>5</td><td>10A</td><td>6</td><td>15A</td><td>7</td><td>15A</td><td>8</td><td>10A</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr></table>		1	30A	2	20A	3	20A	4	20A	5	10A	6	15A	7	15A	8	10A																
1	30A	2	20A	3	20A	4	20A	5	10A	6	15A	7	15A	8	10A																		
																																	
<p>The function and the Amp limit of each fuse are described as the lable on the fuse box.</p>																																	
	<p>1. Press down the latches on the both side of fuse box cover.</p>																																
	<p>2. Lift the cover up.</p>																																





	<p>3. Remove the Front mounting screw.</p>
	<p>4. Remove the rear mounting screw.</p>





<p>RELAYS REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Press down the relay connector latch.</p>
	<p>2.Remove the connector out form the relay.</p>





	<p>3. There are totally 7 relays in the chamber under the seats. Relay 1 to 6 are exactly same specifications. Relay 7 is the main switch relay.</p>
---	--



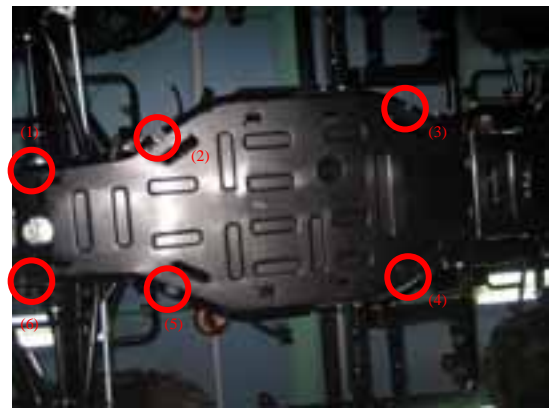
<p>REAR RACK REMOVAL</p>	<p>Reversely perform the below process to install.</p>
	<p>1. Remove 2 RHS bolts under the rear cover. 2. When install torque 10Nm</p>
	<p>3. Remove 2 LHS bolts under the rear cover. 4. When install torque 10Nm</p>
	<p>5. Lift the rear rack up to remove.</p>




REAR COVER REMOVAL	Reversely perform the below process to install.
	1. Remove the RHS tail lights connector.
	2. Remove the LHS tail lights connector.
	3. Cut the RHS & LHS taillight harness strip.
	4. Remove the latch screws between rear cover and rear fender.





	<p>5. Remove the LHS screw on the license plate frame under rear cover.</p>
	<p>6. Remove the RHS screw on the license plate frame under rear cover.</p>
	<p>7. Remove the LHS screw near the taillight.</p>
	<p>8. Remove the RHS screw near the taillight.</p>





	<p>9. Remove the fuel tank cap.</p>
	<p>10. Install the fuel tank back but under the cover.</p>
	<p>11. Pull the harness out form the rear cover.</p>
	<p>12. Remove the rear cover.</p>





LHS & RHS FOOT REST COVERS REMOVAL	Reversely perform the below process to install.
	1. Remove the screw on the passenger foot rest mount cover.
	2. Remove the passenger foot rest chamber mount cover.
	3. Remove the 5 bolts on the foot rest cover. 4. When install torque 10Nm
	5. Lift the foot rest cover up to remove it.

REAR BOTTOM PROTECTOR REMOVAL	Reversely perform the below process to install.
	<ol style="list-style-type: none"> 1. Remove the 2 bolts on the rear side of rear bottom protector. 2. When install torque 10Nm
	<ol style="list-style-type: none"> 3. Remove the 2 bolts on the LHS and RHS of rear bottom protector. 4. Pull the rear bottom protector down to remove it. 5. When install torque 10Nm.
MIDDLE BOTTOM PROTECTOR REMOVAL	Reversely perform the below process to install.
	<ol style="list-style-type: none"> 1. Remove the 6 bolts on the middle bottom protector. 2. Pull the middle bottom protector down to remove it. 3. When install torque 10Nm

FRONT LHS & RHS FENDER REMOVAL	Reversely perform the below process to install.
	1. Remove the 4 bolts on the fender and lift the fender up to remove it. 2. When install torque 10Nm
FRONT LHS & RHS A-ARM PROTECTOR REMOVAL	Reversely perform the below process to install.
	1. Remove the 2 bolts on the A-arm protector then remove the protector. 2. When install torque 10Nm.
FRONT LHS & RHS A-ARM PROTECTOR REMOVAL	Reversely perform the below process to install.
	1. Remove the 2 bolts on the A-arm protector then remove the protector. 2. Remove the bolt on the front side of rear A-arm protector then remove the rear A-arm protector. 3. When install torque 10Nm.

AIR FILTER BOX REMOVAL	Reversely perform the below process to install.
	<ol style="list-style-type: none"> 1. Remove the 2 bolts on the from seat clamp. 2. When install torque 10Nm.
	<ol style="list-style-type: none"> 3. Remove the seat clamp.
	<ol style="list-style-type: none"> 4. Release the air filter upper cover latches.
	<ol style="list-style-type: none"> 5. Remove the air filter upper cover.

	<p>6. Cover the air filter by clean lining to prevent foreign object.</p>
	<p>7. Remove the bolt in the front side of air filter box.</p>
	<p>8. Remove the LHS bolt on the lower air filter box.</p>
	<p>9. Remove the RHS bolt on the lower air filter box.</p> <p>10. When install torque 10Nm.</p>

	<p>11. Reinstall the upper air filter box</p>
	<p>12. Press the latch down and disconnect harness form the IAT sensor connector.</p>
	<p>13. Release the clamp between throttle body and inlet.</p>
	<p>14. Release the clamp on engine blow-by tube.</p>



15. Remove engine blow-by tube.



16. Cover the engine blow-by outlet by tape.



17. Turn the air filter box counterclockwise along the engine center datum.



18. Lift the air filter box up to remove it.



19. Cover the throttle body inlet by tape.

FUEL TANK REMOVAL







1. Disconnect the fuel pump power harness connector.











2. Press the latch on the both side of fuel line connector to remove fuel line from fuel pump outlet.







3. Cover the fuel line connector by tape.





	<p>4. Cover the fuel pump outlet by tape.</p>
	<p>5. Release the CVT ventilation outlet tube clamp.</p>
	<p>6. Press the CVT ventilation outlet rubber adapter to remove the CVT ventilation outlet tube.</p>
	<p>7. Remove the CVT ventilation outlet tube from the fuel tank protector.</p>


	<p>8. Pull the CVT ventilation outlet tube out form the frame.</p>
	<p>9. Cover the CVT cover outlet by tape.</p>
	<p>10. Remove RHS front fuel tank mounting bolt.</p>
	<p>11. Remove RHS rear fuel tank mounting bolt.</p>


	<p>12. Remove LHS fuel tank mounting bolt.</p> <p>13. When install torque 10Nm.</p>
	<p>14. Slightly lift the LHS of fuel tank up and push the RHS of fuel tank down.</p>
	<p>15. Slightly rotate the fuel tank along the center datum of ATV and pull the tank out from the frame.</p>
	<p>16. Remove the fuel tank.</p>





	<p>17. Confirm no fuel spilled on the frame.</p>
---	---


EXHAUST PIPE REMOVAL	
	<p>1. Release the exhaust pipe clamp bolt.</p>
	<p>2. Release the font bolt of muffler mounting but not remove. 3. When install torque 20Nm.</p>
	<p>4. Remove the rear bolt of muffler mounting but not remove.</p>




	<p>5. Hold the muffler and then remove the mounting bolts.</p>
	<p>6. Slightly rotate the muffler and pull it back to remove the muffler.</p>
	<p>7. Press the connector latch and disconnect the O2 sensor harness connector.</p>
	<p>8. Hold the front exhaust pipe and remove the mounting nut on the cylinder head.</p>




	<p>9. Confirm: the exhaust pipe gasket is complete without crack, damage, or break.</p>
---	---


<p>FRONT & REAR WHEEL REMOVAL</p>	
	<p>1. Release the wheel nut by the sequences as the mark: (1)-(2)-(3)-(4).</p>
	<p>2. Remove the wheel nut to remove the wheel from the hub.</p> <p>3. When install torque 60Nm.</p>





FRONT PROPELLER SHAFT REMOVAL	
	<p>1. Remove the cutter pin on the hub nut.</p>
	<p>2. Remove the hub nut. 3. When install torque 100Nm.</p>
	<p>4. Remove the 4 bolts on the front engine output shaft coupling. 5. When install torque 25Nm.</p>
	<p>6. Remove the front propeller universal coupling.</p>




	<p>7. Remove 4 bolts on the differential propeller shaft coupling and then remove the propeller shaft.</p>
---	--


REAR PROPELLER SHAFT REMOVAL	
	<p>1. Remove the cutter pin on the hub nut.</p>
	<p>2. Remove the hub nut. 3. When install torque 100Nm.</p>
	<p>4. Remove the 4 bolts on the rear engine output shaft coupling.</p>



	<p>5. Slide the propeller shaft out form the engine output coupling.</p>
	<p>6. Remove 4 bolts on the differential propeller shaft coupling. 7. When install torque 25Nm.</p>
	<p>8. Slide the propeller shaft out form the differential input coupling.</p>



<p>LHS & RHS STEERING LINK REMOVAL</p>	
	<p>1. Turn the steering to get the best access of ball joint nut.</p>



	<p>2. Remove the cutter pin on the ball joint mounting nut.</p> <p>3. When install torque 30Nm.</p>
	<p>4. Remove the ball joint mounting nut.</p> <p>5. When install torque 30Nm.</p>
	<p>6. Remove the nut and washer.</p>
	<p>7. Remove the ball joint form knuckle by ball joint puller.</p>



	<p>8. Remove the steering link.</p>
	<p>9. Remove the cutter pin form the ball joint nut on the steering column plate.</p>
	<p>10. Remove the ball joint nut on the steering column plate.</p> <p>11. When install torque 30Nm.</p>

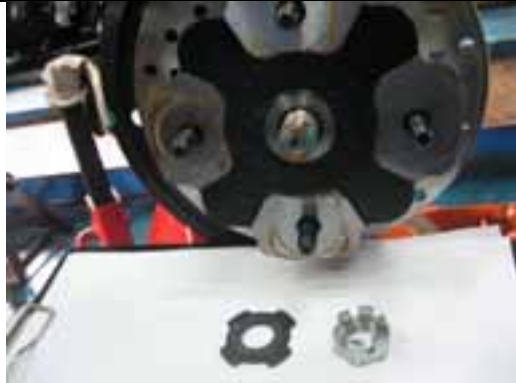

<p>FRONT LHS & RHS BRAKE CALIPER REMOVAL</p>	
	<p>1. Remove the 2 caliper mounting bolts</p> <p>2. When install torque 25Nm.</p>



	3.Release brake tube clamp.
	4.Remove the brake caliper.





FRONT LHS & RHS SHOCK ABSORBER REMOVAL	
	1. Hang the front upper A-arm by rope.
	2.Remove the shock upper mounting bolt and nut. 3.When install torque 40Nm.





	<p>4.Remove the shock lower mounting bolt and nut.</p> <p>5.When install torque 40Nm.</p>
	<p>6.Remove the shock absorber.</p>





<p>FRONT LHS & RHS HUB REMOVAL</p>	
	<p>1.Hang the front upper A-arm by rope.</p>
	<p>2.Remove the hub nut.</p> <p>3.When install torque 100Nm.</p>




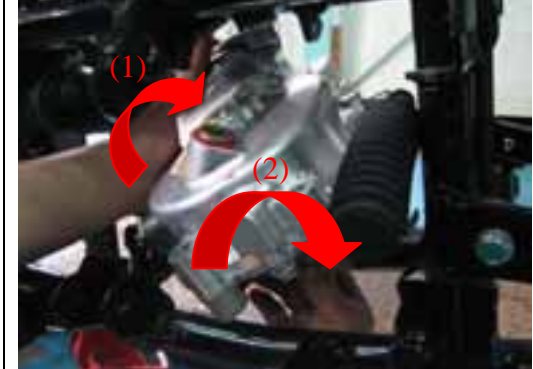
	<p>4.Remove the hub nut and washer.</p>
	<p>5.Use the hub CV joint bolt as the support to pull the hub out with the brake disk.</p>



<p>FRONT LHS & RHS A-ARM ASSY. REMOVAL</p>	
	<p>1.Remove the cutter pin on lower A-arm knuckle ball joint bolt.</p>
	<p>2.Remove the nuts and washers. 3.When install torque 30Nm.</p>



	<p>4. Use ball joint puller to remove the front knuckle from the lower A-arm.</p>
	<p>5. Remove the cotter pin on the upper A-arm ball joint bolt.</p>
	<p>6. Remove the nut and washer on the upper A-arm ball joint bolt.</p> <p>7. When install torque 30Nm.</p>
	<p>8. Remove the knuckle from the upper A-arm.</p>





	<p>9.Remove the upper A-arm mounting bolt and washer.</p>
	<p>10.Remove the upper A-arm.</p>
	<p>11.Remove the lower A-arm front mounting bolt and nut. 12.When install torque 40Nm.</p>
	<p>13.Remove the lower A-arm rear mounting bolt and nut. 14.When install torque 40Nm.</p>





FRONT DIFFERENTIAL REMOVAL	
	<p>1.Drain the differential oil.</p> <p>2.Re-add 325 ± 20c.c Recommend oil type PENNZOIL 4096 80W-90 GL-5</p>
	<p>3.Hold the drive shaft and tug the drive shaft horizontally.</p>
	<p>4.Cover the differential by tape.</p>
	<p>5.Disconnect the differential lock motor harness.</p>

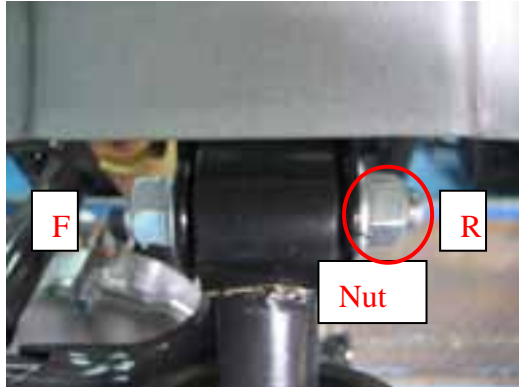
	<p>6. Remove the front differential mounting bolts.</p> <p>7. When install torque 40Nm.</p>
	<p>8. Remove the rear differential mounting bolts.</p> <p>9. When install torque 40Nm.</p>
	<p>10. Lift the differential up from the mounting bracket.</p>
	<p>11. Rotate the differential vertically and horizontally by 90 degree.</p>




	<p>12. Pull the differential out from the frame.</p>
	<p>13. Remove the differential.</p>

<p>REAR LHS & RHS BRAKE CALIPER REMOVAL</p>	
	<p>1. Remove the 2 brake caliper mounting bolts. 2. When install torque 25Nm.</p>
	<p>3. Release the brake tube clamp and remove the caliper.</p>




REAR LHS & RHS HUB REMOVAL	
	<p>1. Hang the rear A-arm by rope.</p>
	<p>2. Remove the hub nut. 3. When install torque 100Nm.</p>
	<p>4. Remove hub nut and washer.</p>
	<p>5. use the hub bolt as a support to pull the hub with disk out.</p>





REAR LHS & RHS SHOCK ABSORBER REMOVAL	
	<p>1. Hang the A-arm by rope.</p>
	<p>2. Remove the shock absorber upper mounting bolt and nut. 3. When install torque 40Nm.</p>
	<p>4. Remove the shock absorber lower mounting bolt and nut. 5. When install torque 40Nm.</p>
	<p>6. The nut of rear RHS shock upper mounting should be put toward front of ATV.</p>



	<p>7.The nut of rear LHS shock upper mounting should be put toward rear of ATV.</p>
---	---



<p>REAR LHS & RHS A-ARM ASSY. REMOVAL</p>	
	<p>1.Remove the knuckle upper mounting bolt and nut. 2.When install torque 40Nm.</p>
	<p>3.Remove the knuckle lower mounting bolt and nut. 4.When install torque 40Nm.</p>
	<p>5.Remove the A-arm upper mounting bolt and nut. 6.When install torque 40Nm.</p>




	<p>7.Remove the rear upper A-arm Assy.</p>
	<p>8.Remove the lower A-arm front mounting bolt and nut. 9.When install torque 40Nm.</p>
	<p>10.Remove the rear lower A-arm after mounting bolt and nut. 11.When install torque 40Nm.</p>
	<p>12.Remove the rear lower A-arm assy.</p>


REAR DIFFERENTIAL REMOVAL	
	<p>1.Drain the differential oil.</p> <p>2.Re-add 325 ± 20c.c</p> <p>Recommend oil type</p> <p>PENNZOIL 4096 80W-90 GL-5</p>
	<p>3.Hold the drive shaft and tug the drive shaft horizontally.</p>
	<p>4.Cover the differential by tape.</p>





	<p>1.Disconnect the rear differential lock harness.</p>
	<p>2.Remove the rear mounting bolt and nut. 3.When install torque 40Nm.</p>
	<p>4.Remove the front mounting bolt and nut. 5.When install torque 40Nm.</p>
	<p>6.Lift the differential up from the mounting bracket.</p>

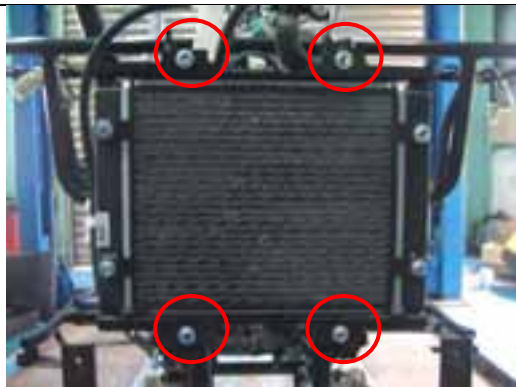

	<p>7.Rotate differential along the center datum of ATV.</p>
	<p>8.Pull the differential backward to remove it from frame.</p>



ECU REMOVAL	
	<p>1.Remove the MAP tube from the ECU.</p>
	<p>2.Press the connector latch down and pull the harness down.</p>

	<p>3.Remove the ECU harness connector.</p>
	<p>4.Remove rear ECU mounting bolts. 5.When install torque 10Nm.</p>
	<p>6.Remove front ECU mounting bolts.</p>

<p>RADIATOR REMOVAL</p>	
	<p>1.Release the lower radiator outlet tube clamp.</p>

	<p>2.Remove the lower radiator outlet tube.</p>
	<p>3.drain all of the coolant.</p>
	<p>4.Disconnect the coolant temperature sensor connector.</p>
	<p>5.Remove the radiator cap mounting bolt.</p>

	<p>6.Remove the 4 radiator mounting bolts.</p> <p>7.When install torque 40Nm.</p>
	<p>8.Pull the radiator forward to remove it.</p>

<p>INSTRUMENT REMOVAL</p>	
	<p>1.Press the connector latch down.</p>
	<p>2.Pull the harness connector down to remove it.</p>

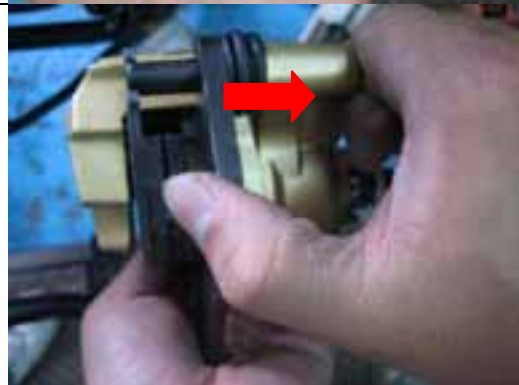


3.Remove the two mounting bolts to remove the instrument.

FRONT BRAKE PAD REMOVAL






1.Remove the 2 front brake pad mounting






2.Push the brake pad piston to retract position.









3.Pull the brake pad (1) out.

	<p>4.Remove the brake pad (1).</p>
	<p>5.Remove the brake pad (2).</p>
	<p>6.Inspect the brake pads.</p>

<p>REAR BRAKE PAD REMOVAL</p>	
	<p>1.Push the caliper bracket to retract the piston.</p>

	<p>2.Push the caliper bracket to retract the piston.</p>
	<p>3.Remove the brake pads.</p>

FOOT BRAKE PADDLE REMOVAL	
	<p>1.Remove the cutter pin on the foot brake cylinder link pin.</p>
	<p>2.Remove the foot brake cylinder link pin.</p>

	<p>3.Remove the foot brake paddle hub screw.</p> <p>4.When install torque 10Nm.</p>
	<p>5.Remove the brake switch spring.</p>
	<p>6.Push the cylinder piston back.</p>
	<p>7.Pull the paddle backward to remove it.</p>

CECTEK



SPECIAL TOOLS



TOOL PHOTO	TOOL NUMBER & NAME
	<p>991000001 EMS DIAGNOSTIC KIT ASSY.</p> <p>© Include : 991000002 991000003 991000004</p>
	<p>991000002 EMS DIAGNOSTIC SOFTWARE</p>
	<p>991000003 EMS DIAGNOSTIC CABLE</p>
	<p>991000004 EMS DIAGNOSTIC USB ADAPTOR</p>

TOOL PHOTO	TOOL NUMBER & NAME
	<p>991000005 REMOVER – ALTERNATOR ROTOR ASSY.</p> <p>© Include : 991000006 991000007 991000008</p>
	<p>991000006 CRANKSHAFT PROTECTOR</p>
	<p>991000007 HOLDER – ALTERNATOR REMOVER</p>
	<p>991000008 PULLER – CVT & ALTERNATOR</p> <p>M12 * 1.5</p>

TOOL PHOTO	TOOL NUMBER & NAME
	992000001 SPANNER – FUEL RETAINER
	992000002 REWIND STARTER STOPPER
	888.4002.653.B1 CASE ASSEMBLY GLUE (1207F) Brand : ThreeBond Type : 1207F (Liquid Gasket Black Silicone Type) Volume : 333ml
	888.4002.670.B BOLT GLUE (T272) Brand : Loctie Type : 272 Volume : 250ml