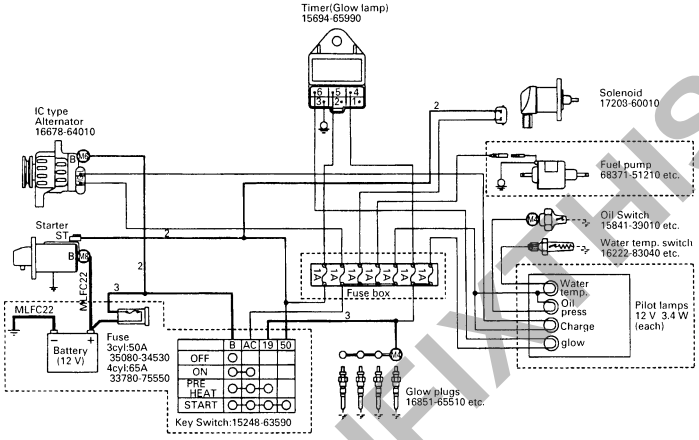
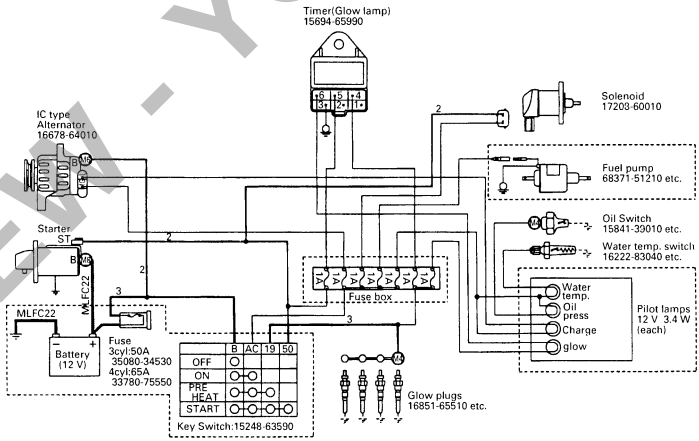
WIRING DIAGRAMS

EU standard
(Energize to run)



★ The parts boxed in ⬚ are reference, NOT equiped for standard engine spec.
★ Non marked wire dia. is 0.8~1.25 mm².

KEA/SAE standard
(Energize to run)



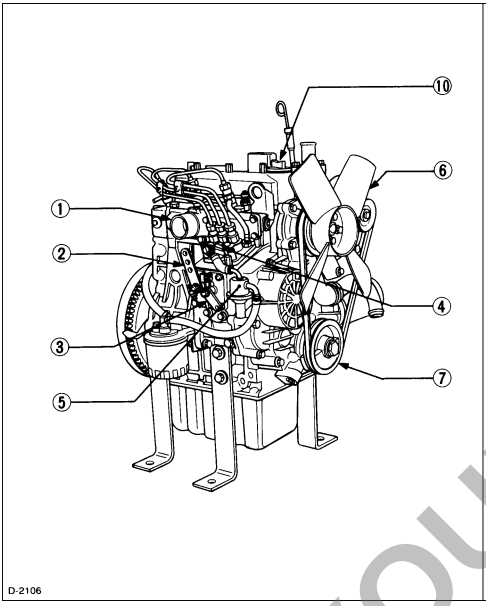
★ The parts boxed in ⬚ are reference, NOT equiped for standard engine spec.
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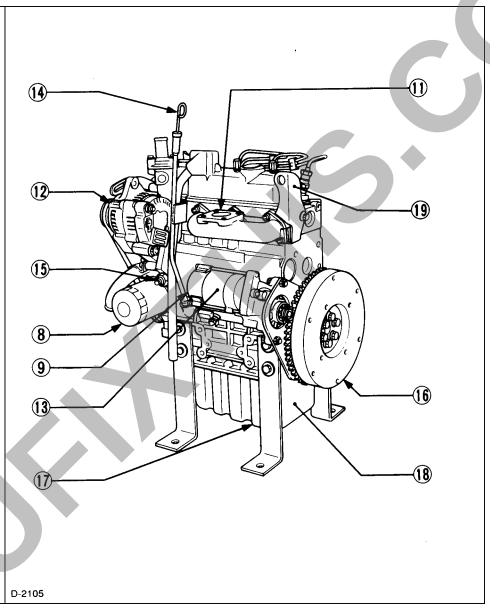
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NAMES OF PARTS



D-2106



D-2105

(1) Intake manifold
(2) Speed control lever
(3) Engine stop lever
(4) Injection pump
(5) Fuel feed pump
(6) Cooling fan
(7) Fan drive pulley
(8) Oil filter cartridge
(9) Water drain cock
(10) Oil filler plug
(11) Exhaust manifold
(12) Alternator
(13) Starter
(14) Oil level gauge
(15) Oil pressure switch
(16) Flywheel
(17) Oil drain plug
(18) Oil pan
(19) Engine hook

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TROUBLESHOOTING

If the engine does not function properly, use the following chart to identify and correct the cause.

■When it is difficult to start the engine

Cause	Countermeasures
Fuel is thick and doesn't flow.	* Check the fuel tank and fuel filter. Remove water, dirt and other impurities. * As all fuel will be filtered by the filter, if there should be water or other foreign matters on the filter, clean the filter with kerosene.
Air or water mixed in fuel system	* If air is in the fuel filter or injection lines, the fuel pump will not work properly. To attain proper fuel injection pressure, check carefully for loosened fuel line coupling, loose cap nut, etc. * Loosen joint bolt stop fuel filter and air vent screws of fuel injection pump to eliminate all the air in the fuel system.
Thick carbon deposits on orifice of injection nozzle.	* This is caused when water or dirt is mixed in the fuel. Clean the nozzle injection piece, being careful not to damege the orifice. * Check to see if nozzle is working properly or not. If not, install a new nozzle.
Engine oil becomes thick in cold weather and engine cranks slow.	* Change grade of oil according to the weather (temperature.)

■When output is insufficient

Cause	Countermeasures
Carbon stuck around orifice of nozzle piece	* Clean orifice and needle valve, being very careful not to damage the nozzle orifice. * Check nozzle to see if good. If not, replace with new parts.
Fuel is insufficient.	* Check fuel system.
Overheating of moving parts	* Check lubricating oil system. * Check to see if lubricating oil filter is working properly. * Filter element deposited with impurities would cause poor lubrication. Change element.
Air cleaner is dirty	* Clean the element every 100 hours of operation.
Injection pump wear	* Do not use poor quality fuel as it will cause wear of the pump. Only use No. 2-D diesel fuel.

NOTE :

- If the cause of trouble can not be found, contact your KUBOTA dealer.

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SPECIFICATIONS

Model		D905-E		D1005-E		D1105-E	D1105-TE
Type		Vertical, water-cooled, 4-cycle diesel engine					
Number of cylinders		3					
Bore and stroke	mm (in.)	72 × 73.6 (2.83 × 2.90)		76 × 73.6 (2.99 × 2.90)		78 × 78.4 (3.07 × 3.09)	
Total displacement	cm^3 (cu.in.)	898 (54.80)		1001 (61.08)		1123 (68.53)	
Combustion chamber		Spherical Type (E-TVCS)					
SAE NET Intermittent H.P. (SAEJ1349)	kW / min^{-1} (rpm) (HP / min^{-1} (rpm))	14.9 / 3000 (20.0 / 3000)	17.5 / 3600 (23.5 / 3600)	16.8 / 3000 (22.5 / 3000)	19.4 / 3600 (26.0 / 3600)	18.7 / 3000 (25.0 / 3000)	23.5 / 3000 (31.5 / 3000)
SAE NET Continuous H.P. (SAEJ1349)	kW / min^{-1} (rpm) (HP / min^{-1} (rpm))	12.7 / 3000 (17.0 / 3000)	15.3 / 3600 (20.5 / 3600)	14.2 / 3000 (19.0 / 3000)	16.8 / 3600 (22.5 / 3600)	16.4 / 3000 (22.0 / 3000)	20.4 / 3000 (27.4 / 3000)
Maximum bare speed	min^{-1}(rpm)	3200	3800	3200	3800	3200	
Minimum bare idling speed	min^{-1}(rpm)	850~950					
Order of firing		1-2-3					
Direction of rotation		Counter-clockwise (viewed from flywheel side)					
Injection pump		Bosch MD Type Mini Pump					
Injection pressure		13.73 MPa (140 kgf/cm^2 , 1991 psi)					
Injection timing (Before T.D.C.)		18°	21°	18°	21°	18°	
Compression ratio		23 : 1		24 : 1			
Fuel		Diesel Fuel No.2-D (ASTM D975)					
Lubricant (API classification)		above CD grade					
Dimensions (length × width × height)	mm (in.)	497.8 × 396 × 608.7 (19.60 × 15.59 × 23.96)					497.8 × 437.7 × 628.8 (19.60 × 17.23 × 24.76)
Dry weight	kg (lbs.)	93 (205.0)					97 (213.8)
Starting system		Cell starter (with glow plug)					
Starting motor		12 V, 1.0 kW					
Charging generator		12 V, 360 W					
Recommended battery capacity		12 V, 65 AH, equivalent					

NOTE :

- Specifications are subject to change without notice.

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SERVICE INTERVALS

Observe the following for service and maintenance.

Interval	Item	Ref.Page		
Every 50 hours	Check of fuel pipes and clamp bands	13		@
See NOTE:	Change of engine oil	15	◎	
Every 100 hours	Cleaning of air cleaner element	20	*1	@
	Cleaning of fuel filter	13		
	Check of fan belt tightness	23		
Every 200 hours	Check of radiator hoses and clamp bands	18		
	Replacement of oil filter cartridge	16	◎	
	Check of intake air line	-		@
Every 400 hours	Replacement of fuel filter cartridge	14		@
Every 500 hours	Removal of sediment in fuel tank	-		
	Cleaning of water jacket (radiator interior)	17 to 18		
	Replacement of fan belt	23		
Every year	Replacement of air cleaner element	20	*2	@
	Check of damage in electric wiring and loose connections	-		
Every 800 hours	Check of valve clearance	25		
Every 1500 hours	Check of fuel injection nozzle injection pressure	-	*3	@
Every 3000 hours	Check of turbo charger	-	*3	@
	Check of injection pump	-	*3	@
	Check of fuel injection timer	-	*3	@
Every two years	Change of radiator coolant (L.L.C.)	18		
	Replacement of radiator hoses and clamp bands	18		
	Replacement of fuel pipes and clamp bands	13	*3	@
	Replacement of intake air line	-	*4	@

IMPORTANT :

- The jobs indicated by ◎ must be done after the first 50 hours of operation.

*1 Air cleaner should be cleaned more often in dusty conditions than in normal conditions.
*2 After 6 times of cleaning.
*3 Consult your local KUBOTA Dealer for this service.
*4 Replace only if necessary.

- The items listed above (@ marked) are registered as emission related critical parts by KUBOTA in the U.S. EPA nonroad emission regulation. As the engine owner, you are responsible for the performance of the required maintenance on the engine according to the above instruction.
  Please see the Warranty Statement in detail.

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OPERATING THE ENGINE

STARTING THE ENGINE (NORMAL)

CAUTION

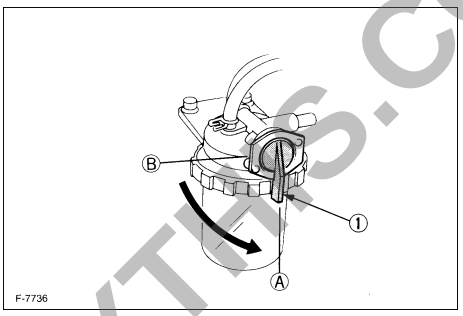
To avoid personal injury:

- **Do not allow children to approach the machine while the engine is running.**
- **Be sure to install the machine on which the engine is installed, on a flat place.**
- **Do not run the engine on gradients.**
- **Do not run the engine in an enclosed area. Exhaust gas can cause air pollution and exhaust gas poisoning.**
- **Keep your hands away from rotating parts (such as fan, pulley, belt, flywheel etc.) during operation.**
- **Do not operate the machine while under the influence of alcohol or drugs.**
- **Do not wear loose, torn or bulky clothing around the machine. It may catch on moving parts or controls, leading to the risk of accident. Use additional safety items, e.g. hard hat, safety boots or shoes, eye and hearing protection, gloves, etc., as appropriate or required.**
- **Do not wear radio or music headphones while operating engine.**
- **Check to see if it is safe around the engine before starting.**
- **Reinstall safeguards and shields securely and clear all maintenance tools when starting the engine after maintenance.**

IMPORTANT :

- Do not use ether or any starting fluid for starting the engine, or a severe damage will occur.
- When starting the engine after a long storage (of morer than 3 months), first set the stop lever to the "STOP" position and then activate the starter for about 10 seconds to allow oil to reach every engine part.

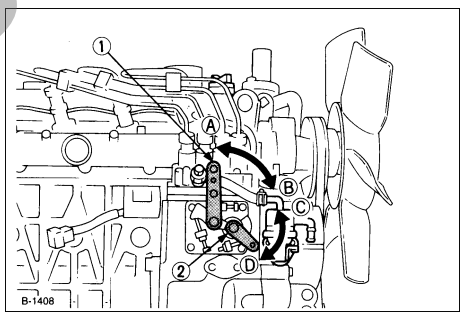
1. Set the fuel lever to "ON".



(1) Fuel lever
(A) "ON"
(B) "OFF"

2. Place the engine stop lever in the "START" position.

3. Place the speed control lever at more than half "OPERATION".



(1) Speed control lever
(2) Engine stop lever
(A) "IDLING"
(B) "OPERATION"
(C) "START"
(D) "STOP"

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SAFE OPERATION

Careful operation is your best assurance against an accident. Read and understand this section carefully before operating the engine. All operators, no matter how much experience they may have, should read this and other related manuals before operating the engine or any equipment attached to it. It is the owner's obligation to provide all operators with this information and instruct them on safe operation.

Be sure to observe the following for safe operation.

OBSERVE SAFETY INSTRUCTIONS

- Read and understand carefully this "OPERATOR'S MANUAL" and "LABELS ON THE ENGINE" before attempting to start and operate the engine.
- Learn how to operate and work safely. Know your equipment and its limitations. Always keep the engine in good condition.
- Before allowing other people to use your engine, explain how to operate and have them read this manual before operation.
- DO NOT modify the engine. UNAUTHORIZED MODIFICATIONS to the engine may impair the function and/or safety and affect engine life. If the engine does not perform properly, consult your local Kubota Engine Distributor first.



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WEAR SAFE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

- DO NOT wear loose, torn or bulky clothing around the machine that may catch on working controls and projections or into fans, pulleys and other moving parts causing personal injury.
- Use additional safety items-PPE, e.g. hard hat, safety protection, safety goggles, gloves, etc., as appropriate or required.
- DO NOT operate the machine or any equipment attached to it while under the influence of alcohol, medication, or other drugs, or while fatigued.
- DO NOT wear radio or music headphones while operating the engine.


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